

# TEXAS INSTRUMENTS

*Improving Man's Effectiveness Through Electronics*

## Model 960 Computer Maintenance Manual Communications Register Unit Volume IV

MANUAL NO. 226750-9704  
ORIGINAL ISSUE 15 FEBRUARY 1972  
REVISED . . . . . 1 JUNE 1977

**Digital Systems Division**



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## LIST OF EFFECTIVE PAGES

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Model 960 Computer Maintenance Manual Communications Register Unit Volume IV (226750-9704)

Original Issue . . . . . 15 February 1972  
Revised . . . . . 15 October 1973 (ECN 378455)  
Revised and Reissued . . . . . 31 July 1974 (ECN's 390050 and 393694)  
Revised . . . . . 1 June 1977 (ECN 419785)

Total number of pages in this publication is 412 consisting of the following:

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**SECTION II. DIAGRAMS**

**SECTION I****INTRODUCTION**

This manual contains parts lists, assembly drawings, and electrical drawings for the Communications Register Unit (CRU). The CRU is the bit-oriented input/output channel for the Model 960A or the Model 960B Computer. Refer to the following manuals for information concerning the CRU, its programming, and its relationship to the computer system.

| <b>Title</b>   | <b>TI Part Number</b> |
|--|-----------------------|
| <i>Model 960A Computer Maintenance<br/>Manual System Description</i> | 226750-9701           |
| <i>Model 960B Computer Maintenance<br/>Manual System Description</i> | 942773-9701           |
| <i>Model 960 Computer Communications<br/>Register Unit</i>           | 966313-9701           |

**SECTION II****DIAGRAMS**

This section contains assembly drawings, list of materials (LMs) and logic/schematic diagrams for the Model 960 Computer CRU modules and CRU expansion hardware.

The title and drawing number for each diagram in this section are in table 2-1.

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Table 2-1. 960B Computer CRU Drawing Index (Continued)

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| <b>Electrical Drawing</b>  | 217078           | 2-401                      |



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| PROJ NO.   | SIZE    | NEXT ASSY DWG NO. | REVISIONS |  |         |             |  |
|------------|---------|-------------------|-----------|--|---------|-------------|--|
|            |         |                   | LTR       | DESCRIPTION  | DATE    | APPD        |  |
| A          | 226722  | 226700            | A         | 370928 (C) R. Cantu  | 2-5-72  | Vitek       |  |
|            |         |                   |           | CHG 1) ALIGNMENT INSTRUCTIONS WERE:<br>"...CENTER LINE OF CARD SLOTS WITHIN<br>.008 TOTAL. THEN..."  |         |             |  |
|            |         |                   |           | ADDED 1) ITEM 6  |         |             |  |
|            |         |                   | B         | 373038 (D) John P. ... 6/1/73  | 6/1/73  | [Signature] |  |
|            |         |                   |           | DELETED 1) ITEM 2 PIN 226809<br>2) REF FOR ITEM 2<br>3) PARAGRAPH 2 SENTENCE 2 THAT<br>READ; THEN WITH CAUTION, MOULNT THE BACK PANEL<br>... FIGURE 1. |         |             |  |
|            |         |                   | C         | 380838 (D) John P. ... 7/27/73   | 8-1-73  | C. ...      |  |
|            |         |                   |           | ADDED 1) SH 2 INSTRUCTIONS TO<br>CONNECT ±15V FROM THE CPU REGULATOR<br>2) ITEM 7 AND 8  |         |             |  |
|            |         |                   | D         | CN397426 (B) W. Wulsch   | 8/30/74 | Wulsch      |  |
| REV        |         |                   |           |  |         |             |  |
| SUPL       |         |                   |           |  |         |             |  |
| SHEET      |         |                   |           |  |         |             |  |
| REV STATUS |         |                   | REV       | D  | D       | B           |  |
| OF SHEETS  |         |                   | SHEET     | 1  | 2       | 3           |  |
| DR         | 3-4-71  | APPD              | 11/1/71   | TITLE  |         |             |  |
| CKD        | 5/12/71 | APPD              | 11/1/71   | CRU EXPANDER   |         |             |  |
| ENGR       | 5/25/71 | RELEASE           | 11-4-71   | KIT, INTERNAL  |         |             |  |
|            |         |                   |           | SCALE  | SIZE    | REV         |  |
|            |         |                   |           |  | A       | D           |  |
|            |         |                   |           |  | 226722  |             |  |
|            |         |                   |           |  | SHEET   | OF 4        |  |

A 226722



30



LM

I. SCOPE:

This kit provides an additional 12 CRU ports to the 960A unit.

II. INSTRUCTIONS:

Mount CRU back panel board assy (Item 1) to the chassis with items 2, 4, & 6. Before completing mounting, be sure center line of connectors align with center line of card slots such that PW Boards may be installed. Then tighten hardware and solder down into Connect Board.

Add wire from XA9P1 (for 960B) (XA10P1 for 960A) - Pins 53, 54 to XA17P1 - Pins 53, 54 using item 7. On the XA17 end, connection may be made on the back panel interconnection board.

Add wire from XA9P1 (for 960B) (XA10P1 for 960A) - Pins 55, 56 to XA17P1 - Pins 55, 56 using item 8. On the XA17 end, connection may be made on the back panel interconnection board.



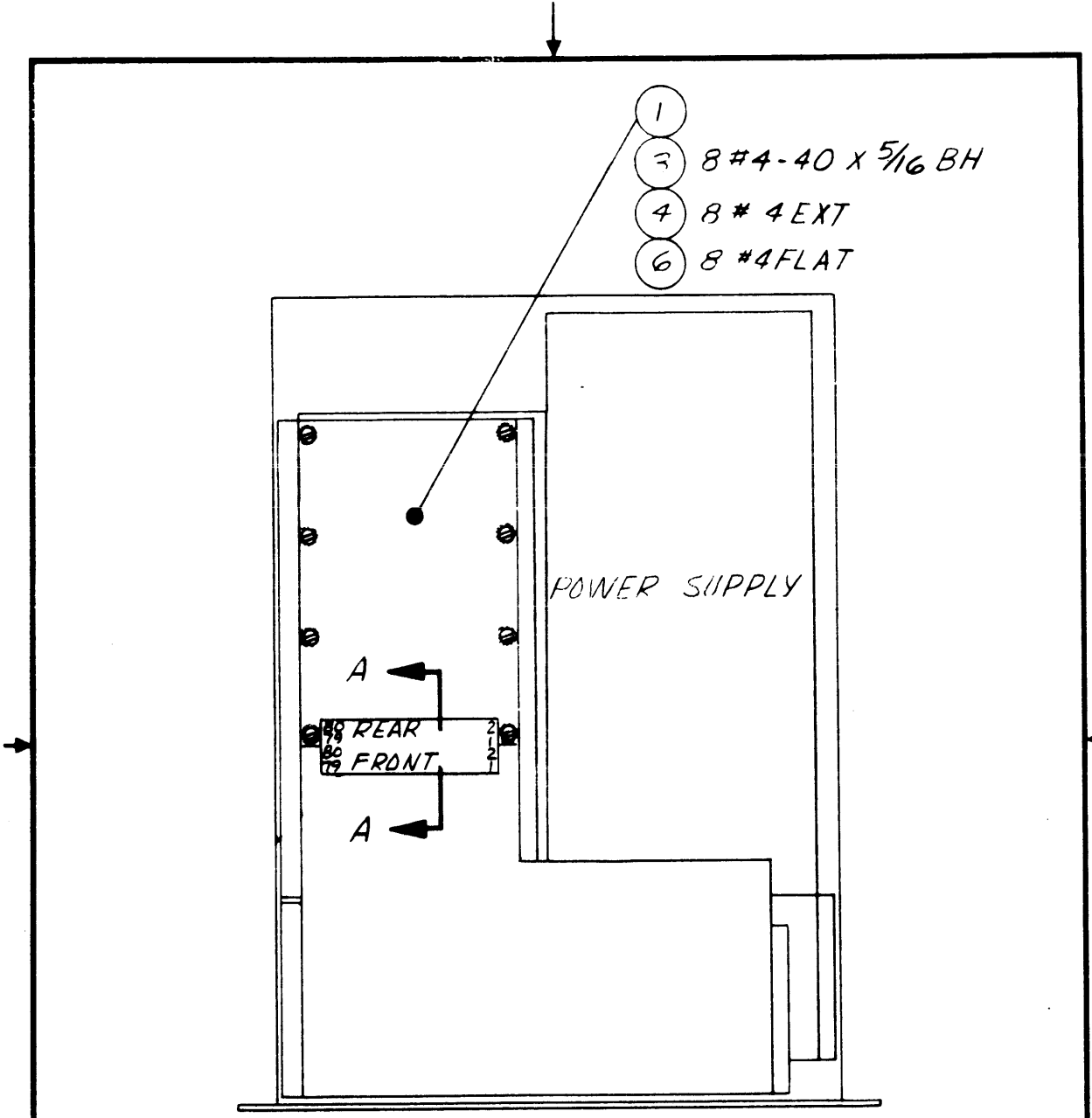
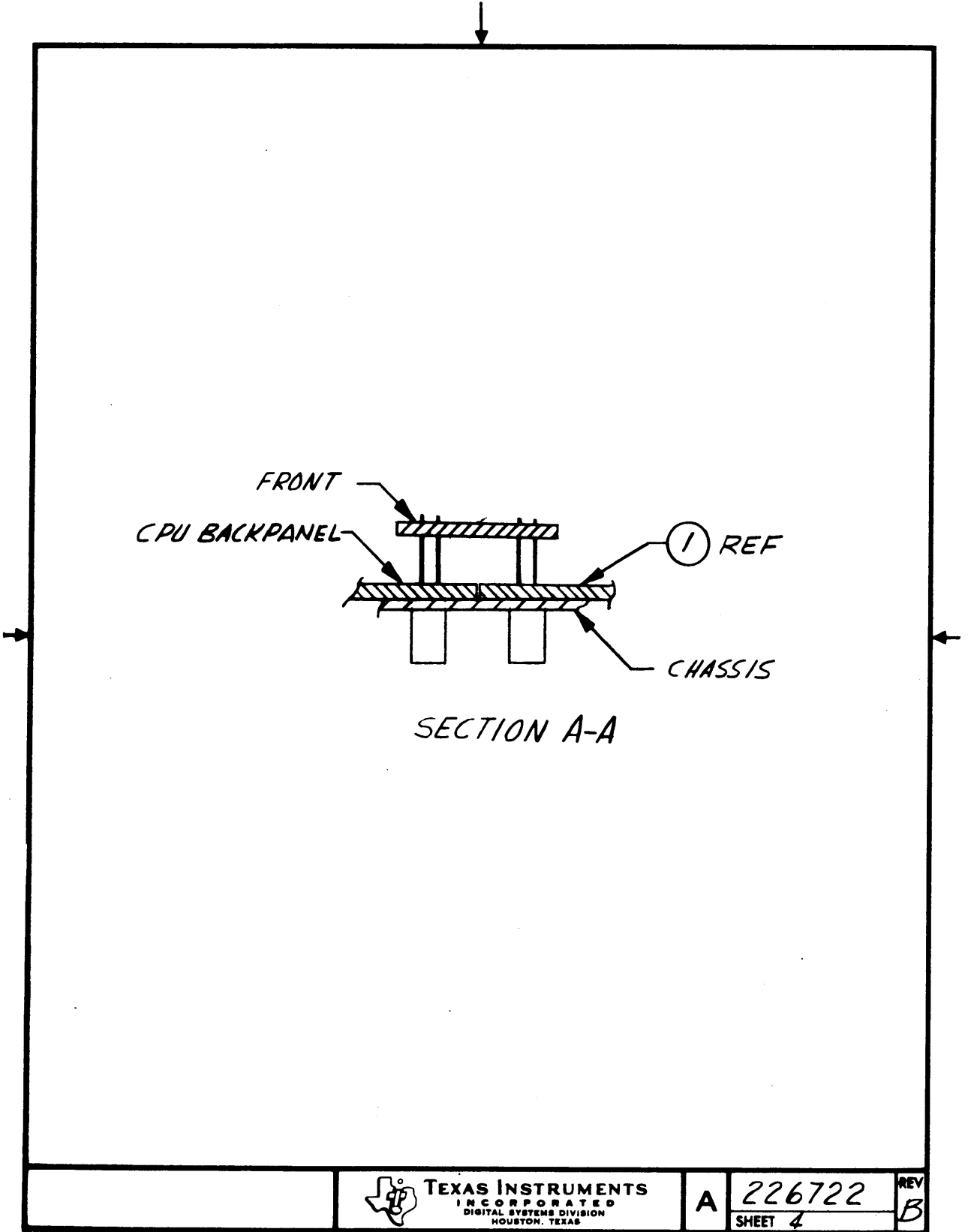


FIGURE 1  
(BOTTOM VIEW)

|   |          |                           |                  |
|---|----------|---------------------------|------------------|
|  <p>TEXAS INSTRUMENTS<br/>INCORPORATED<br/>DIGITAL SYSTEMS DIVISION<br/>HOUSTON, TEXAS</p> | <p>A</p> | <p>226722<br/>SHEET 3</p> | <p>REV<br/>B</p> |
|---|----------|---------------------------|------------------|



TEXAS INSTRUMENTS  
INCORPORATED  
DIGITAL SYSTEMS DIVISION  
HOUSTON, TEXAS

|   |         |     |
|---|---------|-----|
| A | 226722  | REV |
|   | SHEET 4 | B   |



**TEXAS INSTRUMENTS**  
INCORPORATED

DATE 05/01/75

**LIST OF MATERIAL**

PAGE 1 of

|           |                            |            |
|-----------|----------------------------|------------|
| <b>LM</b> | PART NUMBER<br>226722-0001 | REV<br>D 6 |
|-----------|----------------------------|------------|

| PRINT ITEM NUMBER | QUANTITY PER ASSEMBLY | UNIT OF ISSUE | DWG. SIZE | PART NUMBER | DESCRIPTION                             | VENDOR PART NUMBER |
|-------------------|-----------------------|---------------|-----------|-------------|---|--------------------|
| 0001              | 00001.000             | EA            |           | 226781-0001 | BOARD ASSY, PW-CRU BACK PANEL           |                    |
| 0003              | 00008.000             | EA            |           | 418293-0014 | SCREW 4-40 UNC-2A X .312 PAN HEAD CRES  | QPL- MS1957-14     |
| 0004              | 00008.000             | EA            |           | 411101-0057 | LOCKWASHER # 4 EXTERNAL TOOTH CRES      | QPL- MS35335-57    |
| 0005              | REF                   | EA            |           | 226810-9901 | DIAGRAM, SCHEMATIC-BACK PANEL INTERCONN |                    |
| 0006              | 00008.000             | EA            |           | 411027-0804 | WASHER .125 X .312 X .032 FLAT CRES     | QPL- MS15795-804   |
| 0007              | AR                    | FT            |           | 538347-2299 | WIRE HOOKUP B-24 AWG 19 STR RD/WH       | JUD- HH0112        |
| 0008              | AR                    | FT            |           | 538347-2199 | WIRE HOOKUP B-24 AWG 19 STR BN/WH       | JUD- HH0112        |

|            |      |                       |      |                 |      |                            |
|------------|------|-----------------------|------|-----------------|------|----------------------------|
| DRAFTSMAN  | DATE | CKD DRAFTSMAN         | DATE | DESIGN ENGINEER | DATE | TITLE                      |
|            |      |                       |      |                 |      | CRU EXPANDER KIT, INTERNAL |
| APPD -MFG. | DATE | APPD PROJECT ENGINEER | DATE | RELEASED        | DATE | PROJECT NO                 |
|            |      |                       |      |                 |      | 81                         |

|           |             |     |
|-----------|-------------|-----|
|           | PART NUMBER | REV |
| <b>LM</b> | 226722-0001 | D 6 |

2-10

4

41 418766 12

2

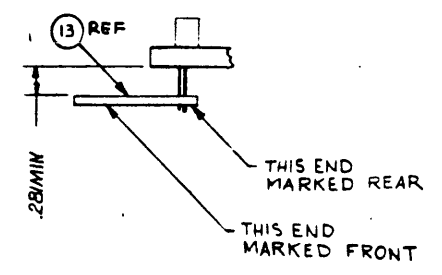
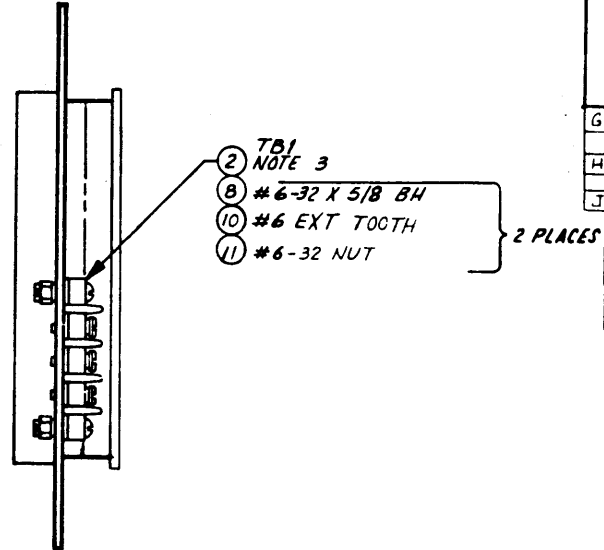
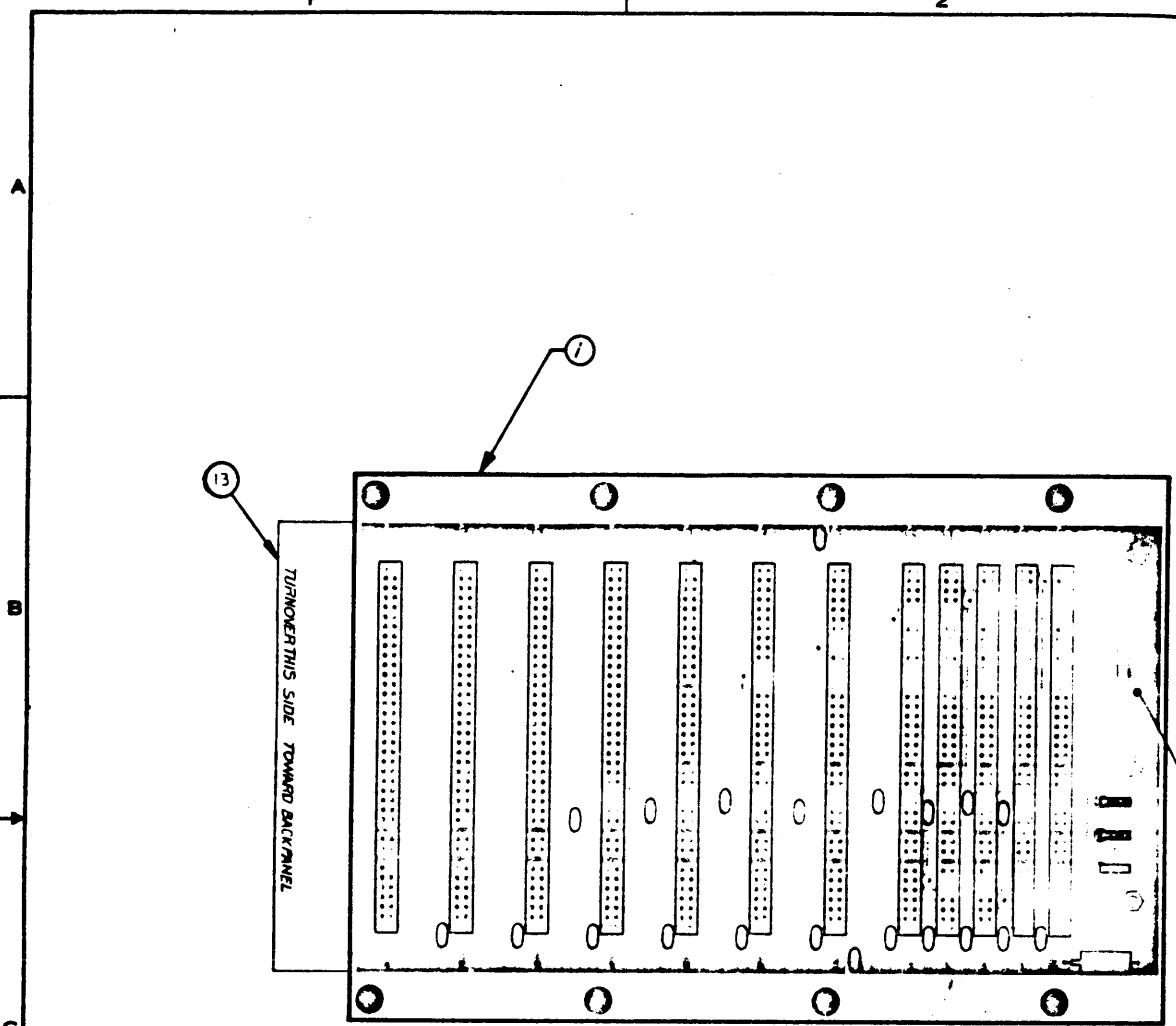
1

| REV            | DESCRIPTION   | DATE    | APP'D     |
|----------------|---|---------|-----------|
| A              | 9/21/71 C. [unclear] 1) SIGN. CRU BIT IN, +29V, CRU INTA - WERE CRU DATA IN, +30V, CRU INT - RESP |         |           |
| FORMAL RELEASE |   |         |           |
| B              | 300837(D) [unclear] - 8/21/73<br>1) DELETED +15V, -15V BUSES BETWEEN PINS 53, 54 AND 55, 56       | 8/21/73 | [unclear] |

| (XA16PI EF3) |    |              | (XA17PI EF4) |    |
|--------------|----|--------------|--------------|----|
| 2            | 1  | GRD          | 2            | 1  |
| 4            | 3  | M0DSEL EF    | 9            | 3  |
| 6            | 5  | M0DSEL FF    | 6            | 5  |
| 8            | 7  | M0DSEL ED    | 8            | 7  |
| 10           | 9  | M0DSEL FD    | 10           | 9  |
| 12           | 11 | M0DSEL EB    | 12           | 11 |
| 14           | 13 | M0DSEL FB    | 14           | 13 |
| 16           | 15 | CPU DATA OUT | 16           | 15 |
| 18           | 17 | M0DSEL EA    | 18           | 17 |
| 20           | 19 | M0DSEL FA    | 20           | 19 |
| 22           | 21 | STORECLK     | 22           | 21 |
| 24           | 23 | M0DSEL E9    | 24           | 23 |
| 26           | 25 | M0DSEL F9    | 26           | 25 |
| 27           | 27 | M0DSEL E8    | 27           | 27 |
| 30           | 29 | 30 VAC       | 30           | 29 |
| 32           | 31 | -30 VAC      | 32           | 31 |
| 34           | 33 | CRU BIT 15   | 34           | 33 |
| 36           | 35 | -5V          | 36           | 35 |
| 38           | 37 | CRU BIT 14   | 38           | 37 |
| 40           | 39 | CRU BIT 13   | 40           | 39 |
| 42           | 41 | CRU BIT 12   | 42           | 41 |
| 44           | 43 | M0DSEL FB    | 44           | 43 |
|              |    | M0DSEL E5    |              |    |
| 46           | 45 | M0DSEL E4    | 46           | 45 |
| 48           | 47 | M0DSEL F4    | 48           | 47 |
|              |    | M0DSEL F5    |              |    |
| 50           | 49 | M0DSEL F6    | 50           | 49 |
|              |    | M0DSEL F7    |              |    |
| 52           | 51 | M0DSEL E7    | 52           | 51 |
| 54           |    |              | 54           | 53 |
| 56           |    |              | 56           | 55 |
| 58           | 57 | GRD          | 58           | 57 |
| 60           | 59 | CRU BIT IN   | 60           | 59 |
| 62           | 61 | +29V         | 62           | 61 |
| 64           | 63 | GRD          | 64           | 63 |
| 66           | 65 | CRU INTA-    | 66           | 65 |
| 68           | 67 | M0DSEL EC    | 68           | 67 |
| 70           | 69 | M0DSEL FC    | 70           | 69 |
| 72           | 71 | M0DSEL EE    | 72           | 71 |
| 74           | 73 | M0DSEL FE    | 74           | 73 |
| 76           | 75 | CRU MR-      | 76           | 75 |
| 78           | 77 | +5V          | 78           | 77 |
| 80           | 79 | GRD          | 80           | 79 |

| REV   | DESCRIPTION | DATE    | APP'D     |
|---|-------------|---------|-----------|
| LIST OF MATERIALS   |             |         |           |
| PART NUMBER   |             |         |           |
| DESCRIPTION   |             |         |           |
| VENDOR PART NUMBER  |             |         |           |
| REV   | DESCRIPTION | DATE    | APP'D     |
| 1   | 226722      | 8/21/73 | [unclear] |
| PROCESS   |             |         |           |
| NONE  |             |         |           |
| UNLESS OTHERWISE SPECIFIED  |             |         |           |
| DECIMAL EX 2 OF 300 1/44 ANGLES 1/4<br>CONCENTRICITY 1/44 ANGLES 1/4<br>ALL DIMENSIONS TO BE MET BEFORE PLATING<br>SURFACES TO BE PLATED TO BE MARKED<br>SURFACES TO BE PLATED TO BE MARKED<br>ALL DIMENSIONS IN INCHES<br>SURFACES MARKED ✓ TO HAVE<br>UNLESS OTHERWISE SPECIFIED<br>013 TO 136 - .005 136 TO 316 - .003<br>316 AND ABOVE - .002 |             |         |           |
| VENDOR PART NUMBER  |             |         |           |
| TEXAS INSTRUMENTS   |             |         |           |
| INDUSTRIAL DIVISION   |             |         |           |
| MOULTON, TEXAS  |             |         |           |
| WIRE DIAGRAM, SCHEMATIC-  |             |         |           |
| BACK PANEL INTERCONN  |             |         |           |
| COMPUTER  |             |         |           |
| C 226810  |             |         |           |

226781



| REV | DESCRIPTION  | DATE     | APP'D |
|-----|--|----------|-------|
| A   | 9/15/71<br>1) UPDATED PER ENG CHG  |          |       |
| B   | 11/5/71<br>1) ADDED ITEM 12 & INSERT CHART<br>2) REVISED NOTES<br>FORMAL RELEASE   |          |       |
| C   | 371409 (E)<br>UPDATED REVISION LEVEL BLOCK   | 11-13-71 |       |
| D   | 3713038 (D)<br>DELETED 1) FROM IT 3A B1C XA19PI THRU XA28PI 2) NOTES 1 & 2 CHG. IT 3 QTY WAS 12 ADDED 17.13 UPDATED REV LEVEL BLOCK  |          |       |
| E   | 373560 (C)<br>DELETED: 1) FROM I.M. IT 18 P.N WAS 232/43 3000. 2) EDME C4 WAS INSERT LOCATION CHART.   |          |       |
| F   | 373038 (D)<br>DELETED 1) IT 13A WAS XA19PI, XA20PI, XA17PI 2) 13B WAS XA21PI, XA23PI, XA24PI, XA25PI 3) 13C WAS XA26PI, XA27PI & XA28PI<br>CHG 1) IT 3 WAS QTY 1, 2) IT 3A WAS XA17PI 3) IT 13 WAS 960714-0001<br>REVISED NOTE 1 & 2 WHICH WAS DELETED.<br>ADDED 1) NOTE 4<br>2) SIDE VIEW<br>3) IT 2 TO EXISTING TOP VIEW ZONE B1C 1 (BALLOON CALL OUT 2) |          |       |
| G   | 3711-101<br>IN 2 PLACES HAS 2 UPDATED REV LEVEL BLOCK  |          |       |
| H   | CN38379 (D)<br>LEVEL   |          |       |
| J   | CN4146 (D)<br>ADDED MAINTAINING...<br>LEVEL  |          |       |
| K   | CN4146 (D)<br>REV LEVEL BLOCK  |          |       |
| L   | CN42084 (C)<br>REV LEVEL BLK   |          |       |

NOTES:

1. MASK CONNECTOR SLOT XA17PI PRIOR TO FLOW SOLDER AND INSTALL CONNECTOR XA17PI DURING TOUCH-UP
2. MAXIMUM LEAD LENGTH FROM CONDUCTOR SIDE OF CARD IS .094 (EXCEPT ON CONNECTOR XA17PI)
3. CLINCH LEADS ON COMPONENT SIDE OF BOARD FOR STRIP (ITEM 2).
4. SOLDER ITEM 13 TO CONNECTOR XA17PI LEADS MAINTAINING A MINIMUM OF .281 INCHES BETWEEN ITEM 13 AND ITEM 1

| REVISION LEVEL                              | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 |
|---|---|---|---|---|---|---|---|---|---|----|----|----|----|
| CARD, PW FOR -0001 ASSY (226782-0001)       | * | A | A | B | B | B | B | B | B | B  | B  | B  | B  |
| DIAGRAM, SCHEM FOR -0001 ASSY (226783-9901) | * | A | A | A | A | A | A | A | A | A  | A  | A  | A  |
| ASSEMBLY                                    | * | A | B | C | D | E | F | G | H | I  | J  | K  | L  |

| PROCESS                                      | QTY  | UNIT | DESCRIPTION | REVISION | DATE | APPROVED |
|--|------|------|-------------|----------|------|----------|
| 1 RUBBER STAMP (F100) HEIGHT .09 COLOR BLACK | 8100 | A    | 226722      |          |      |          |





**TEXAS INSTRUMENTS**  
INCORPORATED

DATE 05/01/75

**LIST OF MATERIAL**

PAGE 1 of

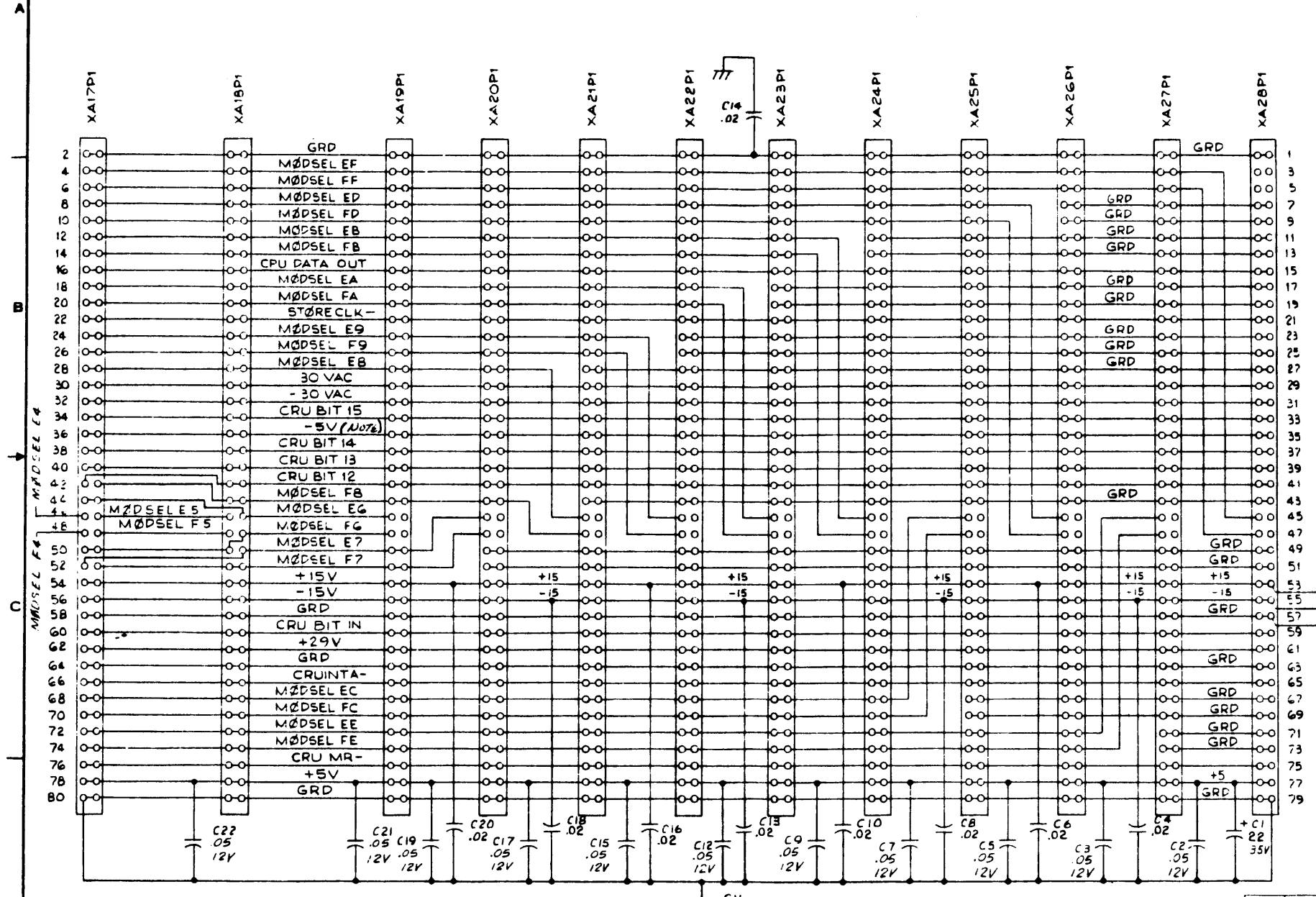
LM 226781-0001 REV L#

| PRINT ITEM NUMBER | QUANTITY PER ASSEMBLY | UNIT OF ISSUE | DWG. SIZE             | PART NUMBER | DESCRIPTION                            | VENDOR PART NUMBER    |                       |
|-------------------|-----------------------|---------------|-----------------------|-------------|--|-----------------------|-----------------------|
| 0001              | 0001.000              | EA            |                       | 226782-0001 | BOARD, PW-CRU BACK PANEL               |                       |                       |
| 0002              | 0001.000              | EA            |                       | 235466-0003 | STRIP TERMINAL Y TYPF 6-32X1/4 3-141-Y | CIN-354-18-03-001     |                       |
| 0002A             |                       |               |                       |             | TR1                                    |                       |                       |
| 0003              | 00012.000             | EA            |                       | 231257-0009 | CONNECTOR PC 80 PIN                    | ELC-00-6313080699-00  |                       |
| 0003A             |                       |               |                       |             | XA17P1 THRU XA28P1                     |                       |                       |
| 0004              | REF                   | EA            |                       | 226783-9901 | DIAGRAM, SCHEMATIC, CRU BACK PANEL     |                       |                       |
| 0005              | 00011.000             | EA            |                       | 230590-9000 | CAP .05 MF 12 V 20. % CFR TRANSCAP     | ERI-5635-000-Y5F0502M |                       |
| 0005A             |                       |               |                       |             | C2,C3,C5,C7,C9,C12,C15,C17             |                       |                       |
| 0005R             |                       |               |                       |             | C19,C21,C22                            |                       |                       |
| 0005              | 00001.000             | EA            |                       | 972924-0019 | CAP FIX TANT SOLID 22 MFD 10 % 35 VOLT | QPL-M39003/1-2306     |                       |
| 0006A             |                       |               |                       |             | C1                                     |                       |                       |
| 0007              | 00010.000             | EA            |                       | 532736-0002 | CAP FIX CERAMIC .02 MF 20/80% 25 VOLT  | CPL-20DU60E2032AC     |                       |
| 0007A             |                       |               |                       |             | C4,C6,C8,C10,C13,C14,C16,C18           |                       |                       |
| 0007R             |                       |               |                       |             | C20,C11                                |                       |                       |
| 0008              | 00002.000             | EA            |                       | 418293-0031 | SCREW 6-32 UNC-2A X .625 PAN HEAD CRCS | QPL-MS1957-31         |                       |
| 0010              | 00002.000             | EA            |                       | 411101-0058 | LOCKWASHER #6 EXTERNAL TOOTH CRCS      | QPL-MS35335-58        |                       |
| 0011              | 00002.000             | EA            |                       | 416453-0022 | NUT, PLAIN 6-32 UNC-2B HEX CRCS, SMALL | QPL-NAS671C6          |                       |
| 0013              | 0001.000              | EA            |                       | 226809-0001 | BOARD, PW-INTERCONNECTION              |                       |                       |
| DRAFTSMAN         |                       | DATE          | CKD DRAFTSMAN         | DATE        | DESIGN ENGINEER                        | DATE                  | TITLE                 |
| APPD-MFG          |                       | DATE          | APPD PROJECT ENGINEER | DATE        | RELEASED                               | DATE                  | PROJECT NO.           |
|                   |                       |               |                       |             |  |                       | 8120                  |
|                   |                       |               |                       |             |  |                       | LM 226781-0001 REV L# |

2-15/2-16

882922

REVISION  
 A 5.5  
 M0DSEL E4, E5, E6, E7, E8, E9, E10, E11, E12, E13, E14, E15, E16, E17, E18, E19, E20, E21, E22, E23, E24, E25, E26, E27, E28, E29, E30, E31, E32, E33, E34, E35, E36, E37, E38, E39, E40, E41, E42, E43, E44, E45, E46, E47, E48, E49, E50, E51, E52, E53, E54, E55, E56, E57, E58, E59, E60, E61, E62, E63, E64, E65, E66, E67, E68, E69, E70, E71, E72, E73, E74, E75, E76, E77, E78, E79, E80  
 DATA IN 3-2004, 4-18-81, 6-18-81, 8-18-81  
 WAS CRUINT-5 DELETED EFF. 11/27/81 NTC  
 FORMAL RELEASE

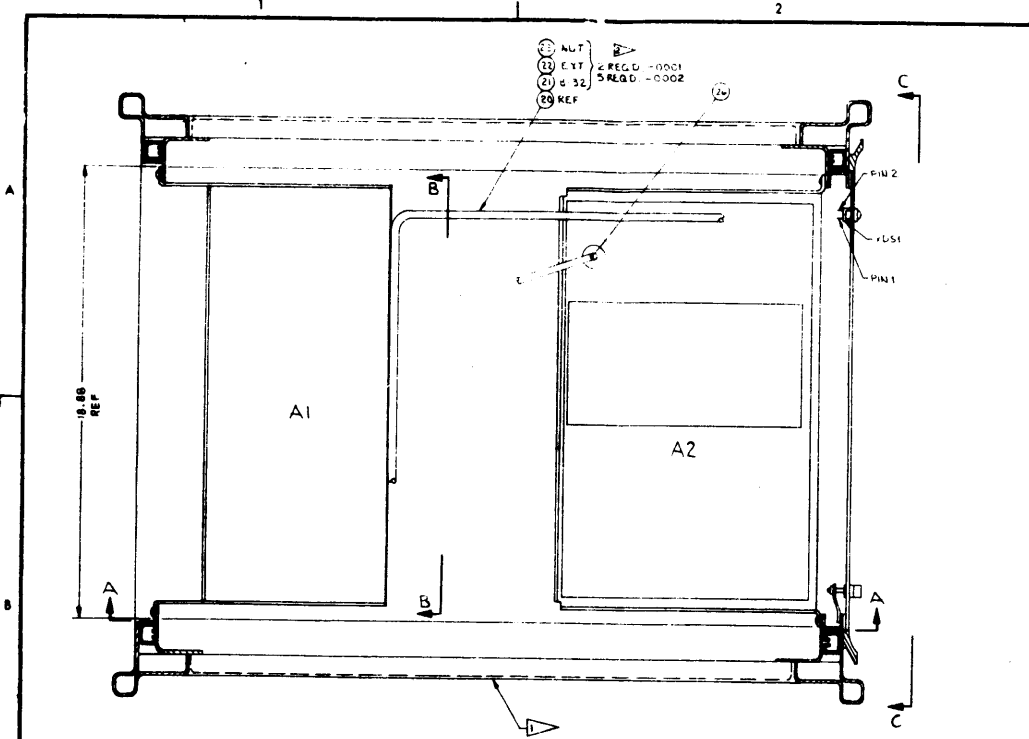


TBI-3  
 O +15V  
 TBI-2  
 O -15V  
 TBI-1  
 O GRD

NOTES: UNLESS OTHERWISE SPECIFIED:  
 1. CAPACITANCE ARE IN MICROFARADS.  
 2. CAPACITORS ARE 25 VOLTS, 80/20.

NOTE - THIS POWER SHOULD NOT BE USED  
 FOR OTHER SYSTEM APPLICATIONS

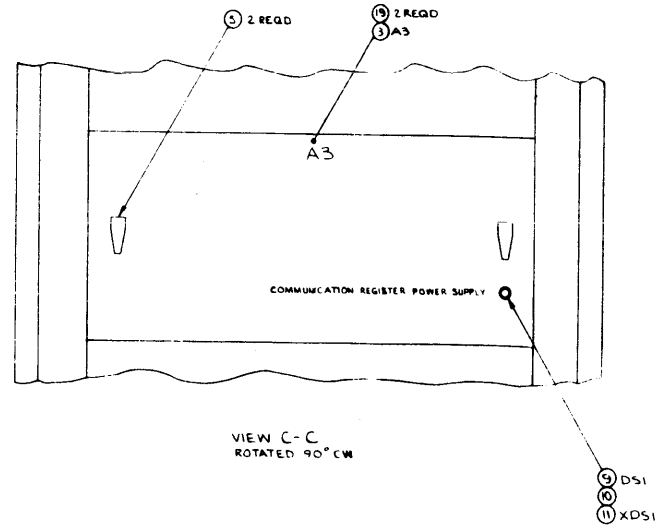
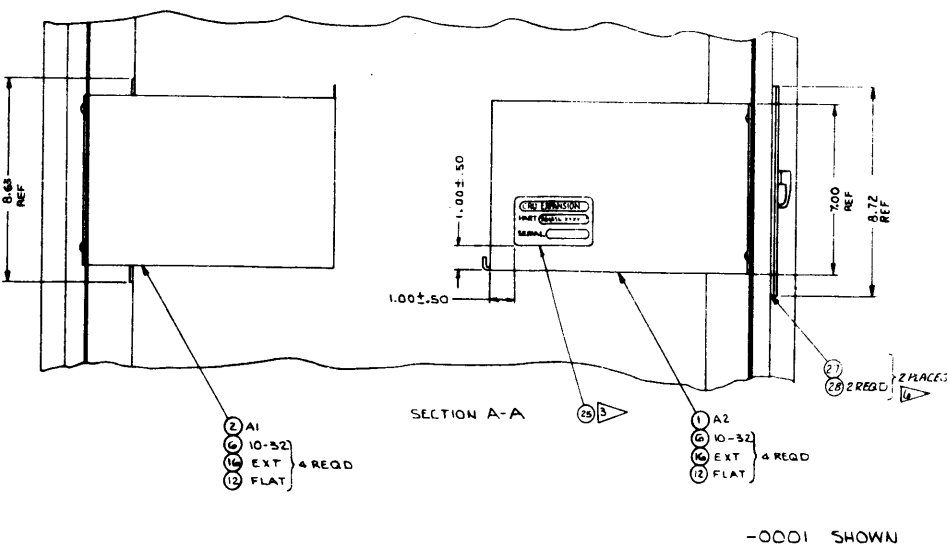
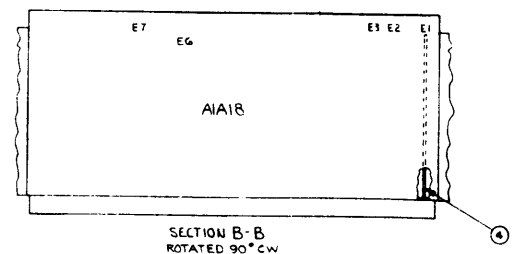
| UNLESS OTHERWISE SPECIFIED |         | PROCESS |     | LIST OF MATERIALS |     | DESCRIPTION | UNLESS OTHERWISE SPECIFIED   |
|----------------------------|---------|---------|-----|-------------------|-----|-------------|--|
| DECIMAL                    | ANGULAR | QTY     | REQ | PART NO           | REV |             |  |
| 0.125                      | 0.005   |         |     | 8100              | D   | 226-81      | <p>DIAGRAM, SCHEMATIC -<br/>CRU BACKPANEL</p> <p>COMPUTER</p> <p>D 22693 2</p> |



| WIRE NO | DESCRIPTION     | QUANTITY | SIGNATURE | COMPONENT CONNECTION FOR START STATION | COMPONENT CONNECTION FOR END STATION | REMARKS                    | LM ITEM NO. |
|---------|-----------------|----------|-----------|--|--------------------------------------|----------------------------|-------------|
| 1       | 1/4" WHT/BLK    | 15.00    |           | A2P51-V1                               | A1A1B-E1                             | INSTALL IT IS AT A2P51-V1  | 14          |
| 2       | CABLE #22 AWG   | 15.00    |           | A2P51-V2                               | A1A1B-E2                             | INSTALL IT IS AT A2P51-V2  | 14          |
| 3       | WHT/RED         | 15.00    |           | A2P51-GRD                              | A1A1B-GRD                            | INSTALL IT IS AT A2P51-GRD | 14          |
| 4       | #22 AWG WHT/RED |          |           | +5V                                    | A2P51-V1                             | A1A1B-E1                   | 20          |
| 5       | #22 AWG WHT/RED |          |           | +5 SENSE                               | A2P51-V1                             | A1A1B-E1                   | 20          |
| 6       | #22 AWG WHT/BLK |          |           | +5 RETURN                              | A2P51-V1                             | A1A1B-E1                   | 20          |
| 7       | #22 AWG WHT/BLK |          |           | +5V SENSE                              | A2P51-V1                             | A1A1B-E1                   | 20          |
| 8       | #22 AWG WHT/BLK |          |           | GRD                                    | A2P51-V1                             | A1A1B-E1                   | 20          |
| 9       | #22 AWG WHT/VIO |          |           | +5V                                    | A2P52-V1                             | A1A1B-E2                   | 20          |
| 10      | #22 AWG WHT/VIO |          |           | +5V SENSE                              | A2P52-V1                             | A1A1B-E2                   | 20          |
| 11      | #22 AWG WHT/GRN |          |           | +5V RETURN                             | A2P52-V1                             | A1A1B-E2                   | 20          |
| 12      | #22 AWG WHT/GRN |          |           | +5V                                    | A2P52-V1                             | A1A1B-E2                   | 20          |
| 13      | #22 AWG WHT/RED |          |           | +5V SENSE                              | A2P52-V1                             | A1A1B-E2                   | 20          |

| ITEM NO. | DESCRIPTION                     | QUANTITY | REVISION |
|----------|---------------------------------|----------|----------|
| 1        | ADD FOUR Wires NO. 5, 7, 10, 13 | 1        | 1/22/77  |
| 2        | ADD FOUR Wires NO. 5, 7, 10, 13 | 1        | 1/22/77  |
| 3        | ADD FOUR Wires NO. 5, 7, 10, 13 | 1        | 1/22/77  |
| 4        | ADD FOUR Wires NO. 5, 7, 10, 13 | 1        | 1/22/77  |
| 5        | ADD FOUR Wires NO. 5, 7, 10, 13 | 1        | 1/22/77  |
| 6        | ADD FOUR Wires NO. 5, 7, 10, 13 | 1        | 1/22/77  |
| 7        | ADD FOUR Wires NO. 5, 7, 10, 13 | 1        | 1/22/77  |
| 8        | ADD FOUR Wires NO. 5, 7, 10, 13 | 1        | 1/22/77  |
| 9        | ADD FOUR Wires NO. 5, 7, 10, 13 | 1        | 1/22/77  |
| 10       | ADD FOUR Wires NO. 5, 7, 10, 13 | 1        | 1/22/77  |
| 11       | ADD FOUR Wires NO. 5, 7, 10, 13 | 1        | 1/22/77  |
| 12       | ADD FOUR Wires NO. 5, 7, 10, 13 | 1        | 1/22/77  |
| 13       | ADD FOUR Wires NO. 5, 7, 10, 13 | 1        | 1/22/77  |
| 14       | ADD FOUR Wires NO. 5, 7, 10, 13 | 1        | 1/22/77  |
| 15       | ADD FOUR Wires NO. 5, 7, 10, 13 | 1        | 1/22/77  |
| 16       | ADD FOUR Wires NO. 5, 7, 10, 13 | 1        | 1/22/77  |
| 17       | ADD FOUR Wires NO. 5, 7, 10, 13 | 1        | 1/22/77  |
| 18       | ADD FOUR Wires NO. 5, 7, 10, 13 | 1        | 1/22/77  |
| 19       | ADD FOUR Wires NO. 5, 7, 10, 13 | 1        | 1/22/77  |
| 20       | ADD FOUR Wires NO. 5, 7, 10, 13 | 1        | 1/22/77  |
| 21       | ADD FOUR Wires NO. 5, 7, 10, 13 | 1        | 1/22/77  |
| 22       | ADD FOUR Wires NO. 5, 7, 10, 13 | 1        | 1/22/77  |
| 23       | ADD FOUR Wires NO. 5, 7, 10, 13 | 1        | 1/22/77  |
| 24       | ADD FOUR Wires NO. 5, 7, 10, 13 | 1        | 1/22/77  |
| 25       | ADD FOUR Wires NO. 5, 7, 10, 13 | 1        | 1/22/77  |
| 26       | ADD FOUR Wires NO. 5, 7, 10, 13 | 1        | 1/22/77  |
| 27       | ADD FOUR Wires NO. 5, 7, 10, 13 | 1        | 1/22/77  |
| 28       | ADD FOUR Wires NO. 5, 7, 10, 13 | 1        | 1/22/77  |
| 29       | ADD FOUR Wires NO. 5, 7, 10, 13 | 1        | 1/22/77  |
| 30       | ADD FOUR Wires NO. 5, 7, 10, 13 | 1        | 1/22/77  |
| 31       | ADD FOUR Wires NO. 5, 7, 10, 13 | 1        | 1/22/77  |
| 32       | ADD FOUR Wires NO. 5, 7, 10, 13 | 1        | 1/22/77  |
| 33       | ADD FOUR Wires NO. 5, 7, 10, 13 | 1        | 1/22/77  |
| 34       | ADD FOUR Wires NO. 5, 7, 10, 13 | 1        | 1/22/77  |
| 35       | ADD FOUR Wires NO. 5, 7, 10, 13 | 1        | 1/22/77  |
| 36       | ADD FOUR Wires NO. 5, 7, 10, 13 | 1        | 1/22/77  |
| 37       | ADD FOUR Wires NO. 5, 7, 10, 13 | 1        | 1/22/77  |
| 38       | ADD FOUR Wires NO. 5, 7, 10, 13 | 1        | 1/22/77  |
| 39       | ADD FOUR Wires NO. 5, 7, 10, 13 | 1        | 1/22/77  |
| 40       | ADD FOUR Wires NO. 5, 7, 10, 13 | 1        | 1/22/77  |

NOTES:  
 1. THIS DRAWING IS TO SHOW HOW TO MOUNT THE CRU IN A CABINET AND TO CALL OUT ITS MOUNTING HARDWARE.  
 2. ITEMS 2, 22 & 23 ARE USED TO ATTACH POWER SUPPLY LEADS TO LARD BACK DURING INSTALLATION OF EQUIPMENT. PLACE ITEMS 21, 22 & 23 IN AN ENVELOPE AND SHIP WITH UNIT.  
 3. MANUFACTURING ENGINEER WILL BE RESPONSIBLE FOR HAVING NAME, PART NO., REV LEVEL AND SERIAL NO. PLACED ON NAME PLATE (ITEM 26) BEFORE UNIT TEST.  
 4. LM ITEM 20 IS TO BE CONNECTED AT START STATIONS AND SHIPPED IN PLACE.  
 5. TWO SENSE LEADS OF PS- HAVE DIFFERENT REFERENCE DESIGNATION. CALLOUTS LABELED ON THE POWER SUPPLY CORRELATION CHART IS GIVEN BELOW:  
 SOURCE 1: SOURCE 2:  
 +V - OUT  
 -V - OUT  
 GRD - GRD  
 +S - SENSE  
 -S - SENSE  
 +5 - SENSE  
 -5 - SENSE  
 ITEM 21 IS FASTENED TO CABINET USING ITEM 28 PROVIDED FOR FLUSH MOUNTING OF FRONT PANELS.



| CRU EXPANSION RACK MOUNT DOCUMENTATION            | 966256-0001 |
|---|-------------|
| CRU EXPANSION RACK MOUNT, DA-A/D, 32 SELECT, 250V | 966256-0001 |
| CRU EXPANSION RACK MOUNT, SV, 32 SELECT, 250V     | 966256-0002 |
| CRU EXPANSION RACK MOUNT, DA-A/D, 32 SELECT, 250V | 966256-0003 |
| CRU EXPANSION RACK MOUNT, SV, 32 SELECT, 250V     | 966256-0004 |
| DESCRIPTION                                       | PART NO.    |
| PART NO. SCHEDULE                                 |             |

| REV | DESCRIPTION                  | DATE | BY | CHKD |
|-----|------------------------------|------|----|------|
| 1   | INITIAL RELEASE              |      |    |      |
| 2   | REVISED TO INCLUDE 10-32 EXT |      |    |      |
| 3   | REVISED TO INCLUDE 10-32 EXT |      |    |      |
| 4   | REVISED TO INCLUDE 10-32 EXT |      |    |      |
| 5   | REVISED TO INCLUDE 10-32 EXT |      |    |      |
| 6   | REVISED TO INCLUDE 10-32 EXT |      |    |      |
| 7   | REVISED TO INCLUDE 10-32 EXT |      |    |      |
| 8   | REVISED TO INCLUDE 10-32 EXT |      |    |      |
| 9   | REVISED TO INCLUDE 10-32 EXT |      |    |      |
| 10  | REVISED TO INCLUDE 10-32 EXT |      |    |      |
| 11  | REVISED TO INCLUDE 10-32 EXT |      |    |      |
| 12  | REVISED TO INCLUDE 10-32 EXT |      |    |      |
| 13  | REVISED TO INCLUDE 10-32 EXT |      |    |      |
| 14  | REVISED TO INCLUDE 10-32 EXT |      |    |      |
| 15  | REVISED TO INCLUDE 10-32 EXT |      |    |      |
| 16  | REVISED TO INCLUDE 10-32 EXT |      |    |      |
| 17  | REVISED TO INCLUDE 10-32 EXT |      |    |      |
| 18  | REVISED TO INCLUDE 10-32 EXT |      |    |      |
| 19  | REVISED TO INCLUDE 10-32 EXT |      |    |      |
| 20  | REVISED TO INCLUDE 10-32 EXT |      |    |      |
| 21  | REVISED TO INCLUDE 10-32 EXT |      |    |      |
| 22  | REVISED TO INCLUDE 10-32 EXT |      |    |      |
| 23  | REVISED TO INCLUDE 10-32 EXT |      |    |      |
| 24  | REVISED TO INCLUDE 10-32 EXT |      |    |      |
| 25  | REVISED TO INCLUDE 10-32 EXT |      |    |      |
| 26  | REVISED TO INCLUDE 10-32 EXT |      |    |      |
| 27  | REVISED TO INCLUDE 10-32 EXT |      |    |      |
| 28  | REVISED TO INCLUDE 10-32 EXT |      |    |      |
| 29  | REVISED TO INCLUDE 10-32 EXT |      |    |      |
| 30  | REVISED TO INCLUDE 10-32 EXT |      |    |      |



**TEXAS INSTRUMENTS**  
INCORPORATED

DATE 03/12/74

**LIST OF MATERIAL**

PAGE 1 of

PART NUMBER  
**LM 966556-0001** REV  
E

| PRINT ITEM NUMBER | QUANTITY PER ASSEMBLY | UNIT OF ISSUE          | DWG. SIZE | PART NUMBER     | DESCRIPTION                             | VENDOR PART NUMBER    |
|-------------------|-----------------------|------------------------|-----------|-----------------|---|-----------------------|
| 0001              | 0001.000              | EA                     |           | 966475-0001     | POWER SUPPLY, CRU-+5V                   |                       |
| 0001A             |                       |                        |           |                 | A2                                      |                       |
| 0002              | 0001.000              | EA                     |           | 216721-0002     | CARD RACK ASSY, 32 SELECT               |                       |
| 0002A             |                       |                        |           |                 | A1                                      |                       |
| 0003              | 0001.000              | EA                     |           | 966484-0001     | PANEL FRONT-CRU POWER SUPPLY            |                       |
| 0003A             |                       |                        |           |                 | A3                                      |                       |
| 0004              | 0001.000              | EA                     |           | 217378-0001     | BOARD ASSY, BUFFER MODULE-32 SELECT     |                       |
| 0005              | 00002.000             | EA                     |           | 231850-0010     | FASTENER 62-10-201-10 SOU-62-10-201-10  | 531-622-0001 94222    |
| 0006              | 00008.000             | EA                     |           | 235100-0000     | SCREW 10-32X5/16 BH SST                 |                       |
| 0007              | REF                   | EA                     |           | 217439-9901     | TEST PROC, CRU EXPANSION ASSY-32 SELECT |                       |
| 0009              | 00001.000             | EA                     |           | 232289-G100     | LAMP FLUSH FLAT TOP 6.3V .04 AMPS       | RCL-C56-2180          |
| 0010              | 00001.000             | EA                     |           | 231123-0070     | CLIP SPRING STEEL LITE                  | TEC-32-1212           |
| 0011              | 00001.000             | EA                     |           | 232349-0075     | LUG SOLDER                              | TEC-78-1056           |
| 0012              | 00008.000             | EA                     |           | 236399-0000     | WASHER #10 FLT SS 1/32 THK.             | -#10L FLAT            |
| 0014              | 00001.300             | FT                     |           | 230250-0010     | CABLE 22AWG 2COND SHLD BEL-8451         | 417-977-0001 70903    |
| 0015              | 00003.000             | EA                     |           | 232351-0004     | LUG 6 STUD RING TNG VINYL INS AWG 22-16 | AMP-2-31879-2         |
| 0016              | 00008.000             | EA                     |           | 236402-0000     | WASHER #10 EXT TOOTH LOCK SST           | * -                   |
| 0020              | 00001.000             | EA                     |           | 216147-0002     | CABLE ASSY, CRU DC POWER-5 VULT         |                       |
| 0021              | 00002.000             | EA                     |           | 235077-0001     | SCREW 8-32X1/2 BH SST                   |                       |
| 0022              | 00002.000             | EA                     |           | 236357-0000     | WASHER #8 EXT TH LOCK SST               | -#8                   |
| DATE              | DATE                  | DATE                   | DATE      | DATE            | TITLE                                   |                       |
|                   |                       | CRD. DRAFTSMAN         |           | DESIGN ENGINEER | CRU EXP, RACK MOUNT, 5V, 32 SELECT      |                       |
| DATE              | DATE                  | DATE                   | DATE      | DATE            | PROJECT NO.                             | PART NUMBER           |
|                   |                       | APPD. PROJECT ENGINEER |           | RELEASED        | 8:00                                    | <b>LM 966556-0001</b> |
|                   |                       |                        |           |                 |   | REV<br>E              |

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**TEXAS INSTRUMENTS**  
INCORPORATED

DATE 03/12/74

**LIST of MATERIAL**

PAGE 2 of

|           |                            |          |
|-----------|----------------------------|----------|
| <b>LM</b> | PART NUMBER<br>966556-0001 | REV<br>E |
|-----------|----------------------------|----------|

| PRINT<br>ITEM<br>NUMBER | QUANTITY<br>PER<br>ASSEMBLY | UNIT<br>OF<br>ISSUE | DWG.<br>SIZE | PART NUMBER | DESCRIPTION                           | VENDOR PART NUMBER |
|-------------------------|-----------------------------|---------------------|--------------|-------------|---------------------------------------|--------------------|
| 0023                    | 00002.000                   | EA                  |              | 232465-0000 | NUT 8-32X11/32 X1/8 THK               |                    |
| 0024                    | REF                         | EA                  |              | 226838-9901 | SPEC.COMMUNICATION REGISTER UNIT-960A |                    |
| 0025                    | 00001.000                   | EA                  |              | 172410-0001 | NAMEPLATE-PART/SERIAL NO              |                    |
| 0026                    | 00001.000                   | EA                  |              | 217673-0001 | CABLE ASSY,POWER SUPPLY               |                    |
| 0027                    | 00002.000                   | EA                  |              | 217259-0002 | HARDWARE KIT,PANEL SPACING            |                    |
| 0028                    | 00004.000                   | EA                  |              | 2351C1-0003 | SCREW 10-32X3/8 FLH 82 CKS            |                    |

|          |      |                        |      |                 |      |             |                                 |           |                            |          |
|----------|------|------------------------|------|-----------------|------|-------------|---------------------------------|-----------|----------------------------|----------|
| AFTSMAN  | DATE | CKD. DRAFTSMAN         | DATE | DESIGN ENGINEER | DATE | TITLE       | CRU EXP,RACK MOUNT,5V,32 SELECT |           |                            |          |
| PD.-MFG. | DATE | APPD. PROJECT ENGINEER | DATE | RELEASED        | DATE | PROJECT NO. | 8100                            | <b>LM</b> | PART NUMBER<br>966556-0001 | REV<br>E |

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**TEXAS INSTRUMENTS**  
INCORPORATED

DATE 03/12/74

**LIST OF MATERIAL**

PAGE 1 of

PART NUMBER  
**LM 966556-0002** REV  
E

| PRINT ITEM NUMBER | QUANTITY PER ASSEMBLY | UNIT OF ISSUE | DWG. SIZE              | PART NUMBER | DESCRIPTION                             | VENDOR PART NUMBER    |  |
|-------------------|-----------------------|---------------|------------------------|-------------|---|-----------------------|--|
| 0001              | 00001.000             | EA            |                        | 966475-0002 | POWER SUPPLY, CRU-+5V,+15V              |                       |  |
| 0001A             |                       |               |                        |             | A2                                      |                       |  |
| 0002              | 00001.000             | EA            |                        | 216721-0002 | CARD RACK ASSY, 32 SELECT               |                       |  |
| 0002A             |                       |               |                        |             | A1                                      |                       |  |
| 0003              | 00001.000             | EA            |                        | 966484-0001 | PANEL FRONT-CRU POWER SUPPLY            |                       |  |
| 0003A             |                       |               |                        |             | A3                                      |                       |  |
| 0004              | 00001.000             | EA            |                        | 217378-0001 | BOARD ASSY, BUFFER MODULE-32 SELECT     |                       |  |
| 0005              | 00002.000             | EA            |                        | 231850-0010 | FASTENER 62-10-201-10 SOU-62-10-201-10  | 531-622-0001          | 94222                                  |
| 0006              | 00008.000             | EA            |                        | 235100-0000 | SCREW 10-32X5/16 BH SST                 |                       |  |
| 0007              | REF                   | EA            |                        | 217439-9901 | TEST PROC, CRU EXPANSION ASSY-32 SELECT |                       |  |
| 0009              | 00001.000             | EA            |                        | 232289-0100 | LAMP FLUSH FLAT TOP 6.3V .04 AMPS       | RCL-C56-2180          |  |
| 0010              | 00001.000             | EA            |                        | 231123-0070 | CLIP SPRING STEEL LITE                  | TEC-32-1212           |  |
| 0011              | 00001.000             | EA            |                        | 232349-0075 | LUG SOLDER                              | TEC-78-1056           |  |
| 0012              | 00008.000             | EA            |                        | 236399-0000 | WASHER #10 FLT SS 1/32 THK.             | -#10L FLAT            |  |
| 0014              | 00001.300             | FT            |                        | 230250-0010 | CABLE 22AWG 2COND SHLD BEL-8451         | 417-977-0001          | 70903                                  |
| 0015              | 00003.000             | EA            |                        | 232351-0004 | LUG 6 STUD KING TNG VINYL INS AWG 22-16 | AMP-2-31879-2         |  |
| 0016              | 00008.000             | EA            |                        | 236402-0000 | WASHER #10 EXT TOOTH LOCK SST           | * -                   |  |
| 0020              | 00001.000             | EA            |                        | 216147-0001 | CABLE ASSY, CRU DC POWER-5 AND 15 VOLT  |                       |  |
| 0021              | 00005.000             | EA            |                        | 235077-0001 | SCREW 8-32X1/2 BH SST                   |                       |  |
| 0022              | 00005.000             | EA            |                        | 236397-0000 | WASHER #8 EXT TH LOCK SST               | -#8                   |  |
| DRAFTSMAN         |                       | DATE          | CKD. DRAFTSMAN         | DATE        | DESIGN ENGINEER                         | DATE                  | TITLE                                  |
|                   |                       |               | <i>[Signature]</i>     | 3/13/74     |   |                       | CRU EXP, RACK MOUNT, DA-A/O, 32 SELECT |
| PPD. MFG          |                       | DATE          | APPD. PROJECT ENGINEER | DATE        | RELEASED                                | DATE                  | PROJECT NO                             |
|                   |                       |               |                        |             |   |                       | 8100                                   |
|                   |                       |               |                        |             |   | PART NUMBER           | REV                                    |
|                   |                       |               |                        |             |   | <b>LM 966556-0002</b> | E                                      |

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|           |                            |          |
|-----------|----------------------------|----------|
| <b>LM</b> | PART NUMBER<br>966556-0002 | REV<br>E |
|-----------|----------------------------|----------|

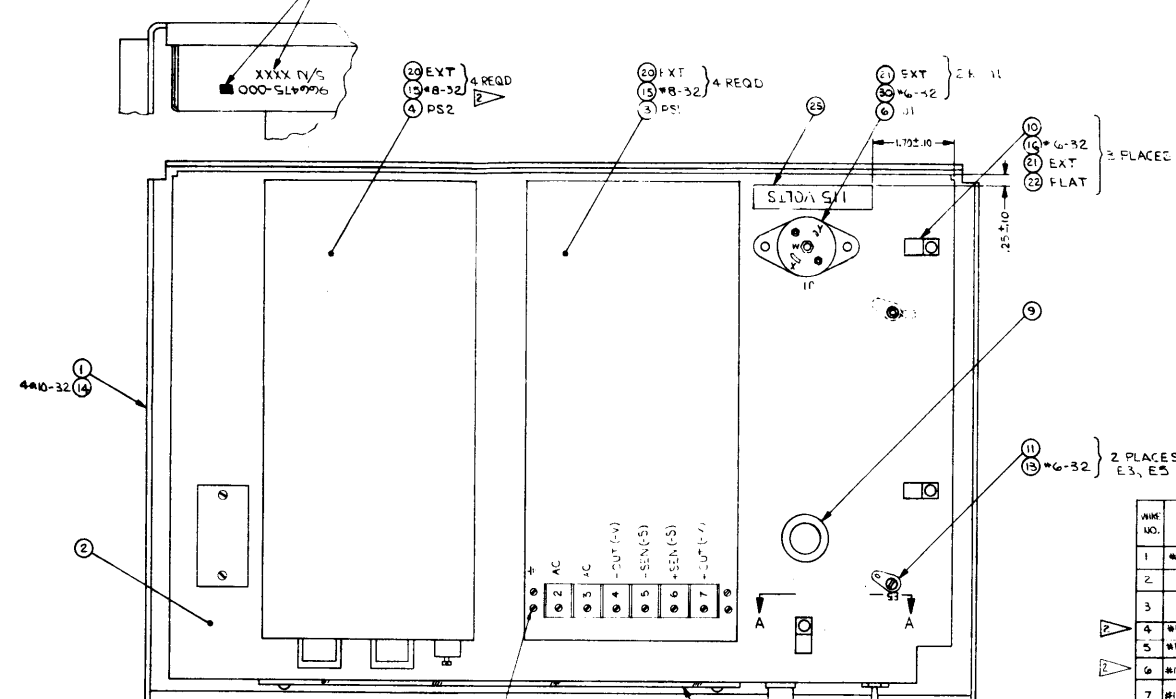
| PRINT<br>ITEM<br>NUMBER | QUANTITY<br>PER<br>ASSEMBLY | UNIT<br>OF<br>ISSUE | DWG.<br>SIZE | PART NUMBER | DESCRIPTION                           | VENDOR PART NUMBER |
|-------------------------|-----------------------------|---------------------|--------------|-------------|---------------------------------------|--------------------|
| 0023                    | 00005.000                   | EA                  |              | 232465-0000 | NUT 8-32X11/32 X1/8 THK               |                    |
| 0024                    | REF                         | EA                  |              | 226838-9901 | SPEC.COMMUNICATION REGISTER UNIT-960A |                    |
| 0025                    | 00001.000                   | EA                  |              | 172410-0001 | NAMEPLATE-PART/SERIAL NO              |                    |
| 0026                    | 00001.000                   | EA                  |              | 217673-0001 | CABLE ASSY,POWER SUPPLY               |                    |
| 0027                    | 00002.000                   | EA                  |              | 217259-0002 | HARDWARE KIT,PANEL SPACING            |                    |
| 0028                    | 00004.000                   | EA                  |              | 2351C1-0003 | SCREW 10-32X3/8 FLH 82 CKS            |                    |

|      |                        |      |                 |      |                                     |     |
|------|------------------------|------|-----------------|------|-------------------------------------|-----|
| DATE | CKD. DRAFTSMAN         | DATE | DESIGN ENGINEER | DATE | TITLE                               |     |
|      |                        |      |                 |      | CRU EXP,RACK MOUNT,DA-A/D,32 SELECT |     |
| DATE | APPD. PROJECT ENGINEER | DATE | RELEASED        | DATE | PROJECT NO.                         |     |
|      |                        |      |                 |      | 8100                                |     |
|      |                        |      |                 |      | PART NUMBER                         | REV |
|      |                        |      |                 |      | <b>LM</b> 966556-0002               | E   |

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MARK ASSY NO., REV LETTER & SERIAL NO. APPROX WHERE SHOWN PER PROCESS 1



NOTES:
1. INSTALL JUMPERS USING ITEMS 294 & 24 IF TERMINAL BLOCKS ARE NOT EQUIPPED WITH JUMPERS...
2. WIRE NUMBER 10 USED ON -0001 ONLY...
3. REMOVE OVERVOLTAGE PROTECTION AT THE...
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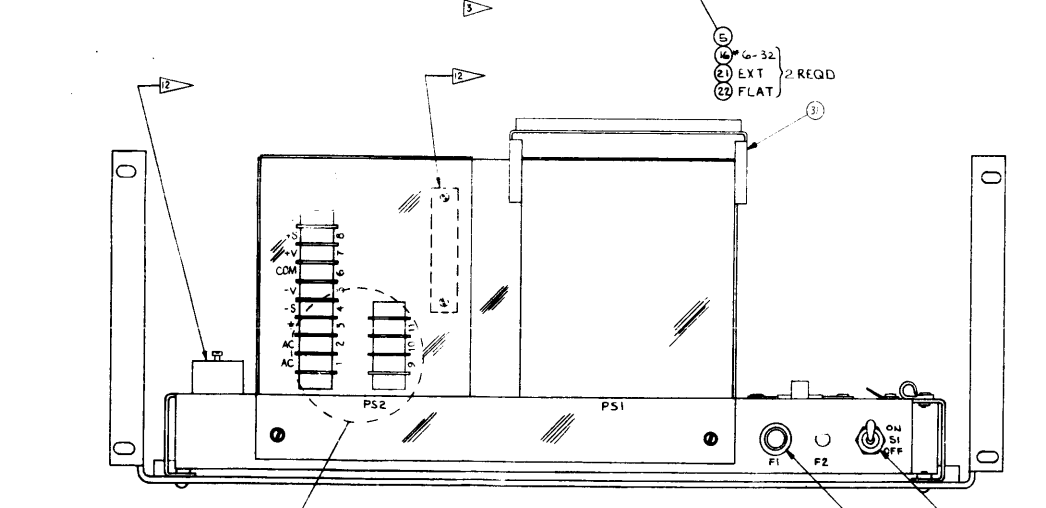
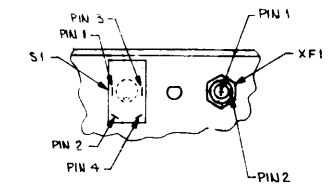
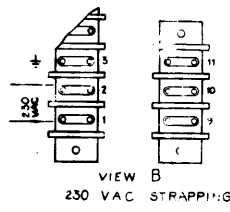


Table with columns: WIRE NO., DESCRIPTION, TOTAL LENGTH, SIGNATURE, COMPONENT CONNECTION FOR START STATION, COMPONENT CONNECTION FOR FINISH STATION, REMARKS, LM ITEM NO.



SECTION A-A ROTATED 180°



VIEW B 230 VAC STRAPPING

-0002 SHOWN

Table with columns: DESCRIPTION, PART NO. Includes items like POWER SUPPLY, CRU ±15V and POWER SUPPLY, CRU ±15V, ±15V.

Table with columns: QTY, PART NO., DESCRIPTION, UNIT PRICE. Includes items like L MARK PER F-100, TYPE I THRU X, and POWER SUPPLY, CRU.





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| PART NUMBER     | REV |
| LM 0966475-0001 | G   |

| PRINT ITEM NUMBER | QUANTITY PER ASSEMBLY | UNIT OF ISSUE          | DWG. SIZE | PART NUMBER     | DESCRIPTION                             | VENDOR PART NUMBER    |     |
|-------------------|-----------------------|------------------------|-----------|-----------------|---|-----------------------|-----|
| 0001              | 00001.000             | EA                     |           | 0966472-C001    | BRACKET, MTG                            |                       |     |
| 0002              | 00001.000             | EA                     |           | 0966472-0001    | BRACKET, MTG P/S                        |                       |     |
| 0003              | 00001.000             | EA                     |           | 0972197-C089    | POWER SUPPLY, CEM 5V 17A W/CVP & COVER  | ACJ -0EM5N17-1-2-36   |     |
| 0003A             |                       |                        |           |                 | PS1                                     |                       |     |
| 0005              | 00001.000             | EA                     |           | 0966474-C001    | COVER, CRU P/S                          |                       |     |
| 0006              | 00001.000             | EA                     |           | 0231241-C086    | CONNECTOR 7486                          | HUL -7486             |     |
| 0006A             |                       |                        |           |                 | J1                                      |                       |     |
| 0007              | 00001.000             | EA                     |           | 0232092-0003    | FOLDER FLSE HKP-FH                      | BUS -HKP-HH           |     |
| 0007A             |                       |                        |           |                 | XF1                                     |                       |     |
| 0008              | 00001.000             | EA                     |           | 0539760-C002    | SWITCH, CPST 13A 125/250V .25 QIK CCNN  | MIC -12TS95-2         |     |
| 0008A             |                       |                        |           |                 | S1                                      |                       |     |
| 0009              | 00001.000             | FT                     |           | 0087346-C003    | GRMMET-CATERPILLAR METAL THK.085 TO.128 |                       |     |
| 0010              | 00003.000             | EA                     |           | 0085913-C004    | CLAMP 1/4 PLASTIC CABLE                 |                       |     |
| 0011              | 00002.000             | EA                     |           | 0412297-C006    | TERMINAL, LUG #6 12-20 AWG              | QPL -MS77069-2        |     |
| 0011A             |                       |                        |           |                 | E3, E5                                  |                       |     |
| 0012              | 00001.000             | EA                     |           | 0772995-0002    | FUSE 3 AMP SLOW BLOW 1/4X1-1/4 IN       | BUS -MDA3.0           |     |
| 0012A             |                       |                        |           |                 | F1                                      |                       |     |
| 0013              | 00002.000             | EA                     |           | 0972988-C026    | SCREW 6-32 X .250 FAN HEAD CRES         |                       |     |
| 0014              | 00004.000             | EA                     |           | 0972986-C010    | SCREW 10-32 .500 FAN HEAD CRES          |                       |     |
| 0015              | 00008.000             | EA                     |           | 0972988-C043    | SCREW 8-32 X .375 FAN HEAD CRES         |                       |     |
| DRAFTSMAN         | DATE                  | CKD. DRAFTSMAN         | DATE      | DESIGN ENGINEER | DATE                                    | TITLE                 |     |
|                   |                       | <i>[Signature]</i>     | 3-9-77    |                 |   | POWER SUPPLY, CRU-+5V |     |
| APPD. MFG         | DATE                  | APPD. PROJECT ENGINEER | DATE      | RELEASED        | DATE                                    | PROJECT NO            |     |
|                   |                       |                        |           |                 |   | 10/7507               |     |
|                   |                       |                        |           |                 |   | PART NUMBER           | REV |
|                   |                       |                        |           |                 |   | LM 0966475-0001       | G   |

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|                       |     |
|-----------------------|-----|
| PART NUMBER           | REV |
| <b>LM</b> 0966475-001 | G   |

| PRINT ITEM NUMBER | QUANTITY PER ASSEMBLY | UNIT OF ISSUE | DWG. SIZE | PART NUMBER  | DESCRIPTION                              | VENDOR PART NUMBER |
|-------------------|-----------------------|---------------|-----------|--------------|--|--------------------|
| 0016              | 0005.000              | EA            |           | 0972988-0028 | SCREW 6-32 X .375 PAN HEAD CRES          |                    |
| 0018              | 0001.000              | EA            |           | 0410854-0044 | LOCKWASHER 7/16 INTERNAL TOOTH CRES      | SHA - 1722-01      |
| 0020              | 0008.000              | EA            |           | 0411101-0059 | LOCKWASHER # 3 EXTERNAL TOOTH CRES       | QPL - MS35335-59   |
| 0021              | 0007.000              | EA            |           | 0411101-0058 | LOCKWASHER #6 EXTERNAL TOOTH CRES        | QPL - MS35335-58   |
| 0022              | 0005.000              | EA            |           | 0416622-0013 | WASHER #6 FLAT                           | QPL - AN96006L     |
| 0023              | 0004.000              | EA            |           | 0235833-0211 | TERMINAL RECP PRE-INS BLUE TIN PLTD BRAS | AMP -42332-4 TAPE  |
| 0024              | 00011.000             | EA            |           | 0232351-0004 | LUG 6 STUD RING TNG VINYL INS AWG 22-16  | AMP -2-31879-2     |
| 0025              | 0001.000              | SH            |           | 0232355-0001 | MARKER VOLTAGE 115V SELF STICKING        | BPD -CV-20         |
| 0026              | 0002.500              | FT            |           | 0417682-5099 | WIRE HOOKUP 15 AWG TYPE B INS BK/WH      | JUD - HH0205       |
| 0027              | 0002.500              | FT            |           | 0417682-5999 | WIRE HOOKUP 15 AWG TYPE B INS WHITE      | JUD - HH0205       |
| 0028              | 0002.500              | FT            |           | 0417682-9599 | WIRE HOOKUP 15 AWG TYPE B INS GN/WH      | JUD - HH0205       |
| 0029              | 0000.300              | FT            |           | 0538347-2299 | WIRE HOOKUP 8-22 AWG 19 STR RD/WH        | JUD - HH0115       |
| 0030              | 0002.000              | EA            |           | 0972988-0027 | SCREW 6-32 X .312 PAN HEAD CRES          |                    |
| 0031              | 0001.000              | EA            |           | 0973653-0001 | COVER, TERMINAL BOARD                    |                    |

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|           |      |                        |      |                 |      |                       |
|-----------|------|------------------------|------|-----------------|------|-----------------------|
| DRAFTSMAN | DATE | CKD DRAFTSMAN          | DATE | DESIGN ENGINEER | DATE | TITLE                 |
|           |      |                        |      |                 |      | POWER SUPPLY, CRU-+5V |
| APPD. MFG | DATE | APPD. PROJECT ENGINEER | DATE | RELEASED        | DATE | PROJECT NO            |
|           |      |                        |      |                 |      |                       |

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| PART NUMBER           | REV |
| <b>LM</b> 0966475-001 | G   |



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**LM 0966475-0002** REV G

| PRINT ITEM NUMBER | QUANTITY PER ASSEMBLY | UNIT OF ISSUE | DWG SIZE              | PART NUMBER  | DESCRIPTION                              | VENDOR PART NUMBER     |                             |
|-------------------|-----------------------|---------------|-----------------------|--------------|--|------------------------|-----------------------------|
| 0001              | 00001.000             | EA            |                       | 0966472-CC01 | BRACKET, MTC                             |                        |                             |
| 0002              | 00001.000             | EA            |                       | 0966472-0001 | BRACKET, MTC P/S                         |                        |                             |
| 0003              | 00001.000             | EA            |                       | 0972197-0089 | POWER SUPPLY, DEM 5V 17A W/CVP & COVER   | ACD -05M5N17-1-2-3     |                             |
| 0003A             |                       |               |                       |              | PS1                                      |                        |                             |
| 0004              | 00001.000             | EA            |                       | 0966365-0002 | POWER SUPPLY, MODULAR 15V                | LXD-CC--152            |                             |
| 0004A             |                       |               |                       |              | PS2                                      |                        |                             |
| 0005              | 00001.000             | EA            |                       | 0966474-0001 | COVER, CRU P/S                           |                        |                             |
| 0006              | 00001.000             | EA            |                       | 0231241-0086 | CONNECTOR 7486                           | HJL -7486              |                             |
| 0006A             |                       |               |                       |              | J1                                       |                        |                             |
| 0007              | 00001.000             | EA            |                       | 0232092-0003 | HOLDER FUSE HKP-FH                       | BUS -HKP-FH            |                             |
| 0007A             |                       |               |                       |              | XF1                                      |                        |                             |
| 0008              | 00001.000             | EA            |                       | 0539760-0002 | SWITCH, DPST 15A 125/250V .25 CIK CONN   | MIC -12TS95-2          |                             |
| 0008A             |                       |               |                       |              | S1                                       |                        |                             |
| 0009              | 00001.000             | FT            |                       | 0087346-0003 | GROMMET-CATERPILLAR METAL THK.085 TO.128 |                        |                             |
| 0010              | 00003.000             | EA            |                       | 0085913-0006 | CLAMP 3/8 PLASTIC CABLE                  |                        |                             |
| 0011              | 00002.000             | EA            |                       | 0412257-0006 | TERMINAL, LLC 16 12-20 AWG               | QPL - MS77068-2        |                             |
| 0011A             |                       |               |                       |              | E3, E5                                   |                        |                             |
| 0012              | 00001.000             | EA            |                       | 0772995-0005 | FUSE 6.25 AMP SLOW BLOW 1/4X1-1/4 IN     | BUS -MDA6.25           |                             |
| 0012A             |                       |               |                       |              | F1                                       |                        |                             |
| 0013              | 00002.000             | EA            |                       | 0972998-0026 | SCREW 6-32 X .250 PAN HEAD CRES          |                        |                             |
| DRAFTSMAN         |                       | DATE          | CKD DRAFTSMAN         | DATE         | DESIGN ENGINEER                          | DATE                   | TITLE                       |
|                   |                       |               |                       |              |  |                        | POWER SUPPLY, CRU-+5V, +15V |
| APPD MFG          |                       | DATE          | APPD PROJECT ENGINEER | DATE         | RELEASED                                 | DATE                   | PROJECT NO                  |
|                   |                       |               |                       |              |  |                        |                             |
|                   |                       |               |                       |              |  | PART NUMBER            | REV                         |
|                   |                       |               |                       |              |  | <b>LM 0966475-0002</b> | G                           |

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| PART NUMBER            | REV |
| <b>LM 0966475-0002</b> | G   |

| PRINT ITEM NUMBER | QUANTITY PER ASSEMBLY | UNIT OF ISSUE | DWG. SIZE | PART NUMBER  | DESCRIPTION                              | VENDOR PART NUMBER |
|-------------------|-----------------------|---------------|-----------|--------------|--|--------------------|
| 0014              | 00004.000             | EA            |           | 09729E6-CC10 | SCREW 10-32 .30J PAN HEAD CRES           |                    |
| 0015              | 00008.000             | EA            |           | 09729E8-0043 | SCREW 8-32 x .375 PAN HEAD CRES          |                    |
| 0016              | 00005.000             | EA            |           | 09729E8-0028 | SCREW 6-32 x .375 PAN HEAD CRES          |                    |
| 0018              | 00001.000             | EA            |           | 0410894-0044 | LOCKWASHER 7/16 INTERNAL TOOTH CRES      | SHA - 1722-01      |
| 0020              | 00003.000             | EA            |           | 04111C1-CC59 | LOCKWASHER # 3 EXTERNAL TOOTH CRES       | QPL - MS35335-59   |
| 0021              | 00007.000             | EA            |           | 04111C1-0058 | LOCKWASHER #6 EXTERNAL TOOTH CRES        | QPL - MS35335-58   |
| 0022              | 00005.000             | EA            |           | 0416622-0013 | WASHER #6 FLAT                           | QPL - AN960C6L     |
| 0023              | 00004.000             | EA            |           | 0235833-0211 | TERMINAL RECP PRE-INS BLUE TIN PLTD BPAS | AMP -42332-4 TAPE  |
| 0024              | 00017.000             | EA            |           | 0232351-CCC4 | LUG 6 STUD RING TNG VINYL INS AWG 22-16  | AMP -2-31879-2     |
| 0025              | 00001.000             | SH            |           | 0232385-0001 | MARKER VOLTAGE 115V SELF STICKING        | BRD -CV-2C         |
| 0026              | 00004.000             | FT            |           | 04176E2-9C99 | WIRE HOOKUP 15 AWG TYPE B INS BK/WH      | JUD - HH0205       |
| 0027              | 00003.500             | FT            |           | 04176E2-9999 | WIRE HOOKUP 16 AWG TYPE B INS WHITE      | JUD - HH0205       |
| 0028              | 00002.500             | FT            |           | 04176E2-9599 | WIRE HOOKUP 15 AWG TYPE B INS GN/WH      | JUD - HH0205       |
| 0029              | 00000.600             | FT            |           | 0538347-3299 | WIRE HOOKUP B-22 AWG 19 STR RD/WH        | JUD - HH0115       |
| 0030              | 00002.000             | EA            |           | 09729E8-0027 | SCREW 6-32 x .312 PAN HEAD CRES          |                    |
| 0031              | 00001.000             | EA            |           | 0973693-CC01 | COVER, TERMINAL BOARD                    |                    |

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|           |      |                       |      |                 |      |                             |     |
|-----------|------|-----------------------|------|-----------------|------|-----------------------------|-----|
| DRAFTSMAN | DATE | CKD DRAFTSMAN         | DATE | DESIGN ENGINEER | DATE | TITLE                       |     |
|           |      |                       |      |                 |      | POWER SUPPLY, CRU-+5V, +15V |     |
| APPD MFG  | DATE | APPD PROJECT ENGINEER | DATE | RELEASED        | DATE | PROJECT NO.                 |     |
|           |      |                       |      |                 |      |                             |     |
|           |      |                       |      |                 |      | PART NUMBER                 | REV |
|           |      |                       |      |                 |      | <b>LM 0966475-0002</b>      | G   |



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| <b>LM</b> | PART NUMBER<br>0966475-0003 | REV<br>G |
|-----------|-----------------------------|----------|

| PRINT ITEM NUMBER | QUANTITY PER ASSEMBLY | UNIT OF ISSUE | DWG. SIZE | PART NUMBER  | DESCRIPTION                               | VENDOR PART NUMBER |
|-------------------|-----------------------|---------------|-----------|--------------|---|--------------------|
| 0001              | 00001.000             | EA            |           | 0966473-C001 | BRACKET, MTG                              |                    |
| 0002              | 00001.000             | EA            |           | 0966472-C001 | BRACKET, MTG P/S                          |                    |
| 0004              | 00001.000             | EA            |           | 0966365-C002 | POWER SUPPLY, MODULAR 15V                 | LXD-CC--152        |
| 0004A             |                       |               |           |              | PS2                                       |                    |
| 0005              | 00001.000             | EA            |           | 0966474-C001 | COVER, CRU P/S                            |                    |
| 0006              | 00001.000             | EA            |           | 0231241-CC86 | CONNECTOR 7486                            | HJL -7486          |
| 0006A             |                       |               |           |              | J1  |                    |
| 0007              | 00001.000             | EA            |           | 0232052-CCC3 | HOLDER FUSE HKP-HH                        | BUS -HKP-HH        |
| 0007A             |                       |               |           |              | XF1                                       |                    |
| 0008              | 00001.000             | EA            |           | 0539760-C002 | SWITCH, DPST 15A 125/250V .25 QIK CONN    | MIC -12TS95-2      |
| 0008A             |                       |               |           |              | S1  |                    |
| 0009              | 00001.000             | FT            |           | 0087346-0003 | GRCMET-CATERPILLAR METAL THK. .085 TO.128 |                    |
| 0010              | 00003.000             | EA            |           | 0085913-C006 | CLAMP 3/8 PLASTIC CABLE                   |                    |
| 0011              | 00002.000             | EA            |           | 0412257-0006 | TERMINAL, LUG #6 12-20 AWG                | QPL - MS77068-2    |
| 0011A             |                       |               |           |              | E3 E5                                     |                    |
| 0012              | 00001.000             | EA            |           | 0772955-0005 | FUSE 6.25 AMP SLOW BLOW 1/4X1-1/4 IN      | BUS -MDA6.25       |
| 0012A             |                       |               |           |              | F1  |                    |
| 0013              | 00002.000             | EA            |           | 0972988-C026 | SCREW 6-32 X .250 PAN HEAD CRES           |                    |
| 0014              | 00004.000             | EA            |           | 0972986-C010 | SCREW 10-32 .500 PAN HEAD CRES            |                    |
| 0015              | 00008.000             | EA            |           | 0972988-CC43 | SCREW 8-32 X .375 PAN HEAD CRES           |                    |

|           |      |                       |      |                 |      |            |           |                             |          |
|-----------|------|-----------------------|------|-----------------|------|------------|-----------|-----------------------------|----------|
| DRAFTSMAN | DATE | CKD DRAFTSMAN         | DATE | DESIGN ENGINEER | DATE | TITLE      |           |                             |          |
| APPD MFG  | DATE | APPD PROJECT ENGINEER | DATE | RELEASED        | DATE | PROJECT NO |           |                             |          |
|           |      |                       |      |                 |      |            | <b>LM</b> | PART NUMBER<br>0966475-0003 | REV<br>G |

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**TEXAS INSTRUMENTS**  
INCORPORATED

DATE 03/07/77

**LIST OF MATERIAL**

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|                        |          |
|------------------------|----------|
| <b>LM</b> 0966475-0003 | REV<br>G |
|------------------------|----------|

| PRINT ITEM NUMBER | QUANTITY PER ASSEMBLY | UNIT OF ISSUE | DWG SIZE | PART NUMBER  | DESCRIPTION                              | VENDOR PART NUMBER |
|-------------------|-----------------------|---------------|----------|--------------|--|--------------------|
| 0016              | 00005.000             | EA            |          | 0972988-0028 | SCREW 6-32 X .375 PAN HEAD CRES          |                    |
| 0018              | 00001.000             | EA            |          | 0410894-C044 | LOCKWASHER 7/16 INTERNAL TOOTH CRES      | SHA - 1722-01      |
| 0020              | 00008.000             | EA            |          | 0411101-0059 | LOCKWASHER # 3 EXTERNAL TOOTH CRES       | QPL - MS35335-59   |
| 0021              | 00007.000             | EA            |          | 0411101-C058 | LOCKWASHER #6 EXTERNAL TOOTH CRES        | QPL - MS35335-58   |
| 0022              | 00005.000             | EA            |          | 0416622-C013 | WASHER #6 FLAT                           | QPL - AN960C6L     |
| 0023              | 00004.000             | EA            |          | 0235833-0211 | TERMINAL RECP PRE-INS BLUE TIN PLTD BRAS | AMP -42332-4 TAPE  |
| 0024              | 00017.000             | EA            |          | 0232351-C004 | LUG 6 STUD RING TNG VINYL INS AWG 22-16  | AMP -2-31879-2     |
| 0025              | 00001.000             | SH            |          | 0232385-0001 | MARKER VOLTAGE 115V SELF STICKING        | BRD -CV-2C         |
| 0026              | 00004.000             | FT            |          | 0417682-9099 | WIRE HOOKUP 16 AWG TYPE B INS BK/WH      | JUD - HH0205       |
| 0027              | 00003.500             | FT            |          | 0417682-9999 | WIRE HOOKUP 16 AWG TYPE B INS WHITE      | JUD - HH0205       |
| 0028              | 00002.500             | FT            |          | 0417682-9599 | WIRE HOOKUP 16 AWG TYPE B INS GN/WH      | JUD - HH0205       |
| 0029              | 00000.600             | FT            |          | 0538347-3299 | WIRE HOOKUP 16 AWG 19 STR RD/WH          | JUD - HH0115       |
| 0030              | 00002.000             | EA            |          | 0972988-0027 | SCREW 6-32 X .312 PAN HEAD CRES          |                    |
| 0031              | 00001.000             | EA            |          | 0973693-C001 | COVER, TERMINAL BOARD                    |                    |


  

|           |      |                       |      |                 |      |                            |
|-----------|------|-----------------------|------|-----------------|------|----------------------------|
| DRAFTSMAN | DATE | CKD DRAFTSMAN         | DATE | DESIGN ENGINEER | DATE | TITLE                      |
|           |      |                       |      |                 |      | POWER SUPPLY, CRU +1F- 15V |
| APPD MFG  | DATE | APPD PROJECT ENGINEER | DATE | RELEASED        | DATE | PROJECT NO                 |
|           |      |                       |      |                 |      |                            |

|                        |          |
|------------------------|----------|
| <b>LM</b> 0966475-0003 | REV<br>G |
|------------------------|----------|

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| PROJ NO.  | SIZE               | NEXT ASSY DWG NO. | REVISIONS  |  |         |                    |  |  |             |  |  |  |  |  |  |             |  |  |  |  |  |  |          |             |  |  |  |
|---|--------------------|-------------------|--|--|---------|--------------------|--|--|-------------|--|--|--|--|--|--|-------------|--|--|--|--|--|--|----------|-------------|--|--|--|
|   |                    |                   | LTR  | DESCRIPTION  | DATE    | APPD               |  |  |             |  |  |  |  |  |  |             |  |  |  |  |  |  |          |             |  |  |  |
| 8100  | E                  | 966556            |  |  |         |                    |  |  |             |  |  |  |  |  |  |             |  |  |  |  |  |  |          |             |  |  |  |
| 7500  | E                  | 966556            | A  | CN390485 (D) - <i>Handwritten</i>                    | 4/8/74  | <i>Handwritten</i> |  |  |             |  |  |  |  |  |  |             |  |  |  |  |  |  |          |             |  |  |  |
|   |                    |                   | B  | CN394224 (C) - <i>Handwritten</i>                    | 1/20/75 | <i>Handwritten</i> |  |  |             |  |  |  |  |  |  |             |  |  |  |  |  |  |          |             |  |  |  |
|   |                    |                   | C  | CN394174 (C)   | 2/24/75 | <i>Handwritten</i> |  |  |             |  |  |  |  |  |  |             |  |  |  |  |  |  |          |             |  |  |  |
|   |                    |                   | D  | CN422603 (C) <i>Handwritten</i><br>(1) ADDED SHEET 6 | 12-8-76 | <i>Handwritten</i> |  |  |             |  |  |  |  |  |  |             |  |  |  |  |  |  |          |             |  |  |  |
| <table border="1"> <tr> <td colspan="2"></td> <td>966557-0002</td> <td colspan="4">MODIFICATION KIT, CRU-230 VOLT OPERATION, DA-A/D</td> </tr> <tr> <td colspan="2"></td> <td>966557-0001</td> <td colspan="4">MODIFICATION KIT, CRU-230 VOLT OPERATION, 5V</td> </tr> <tr> <td colspan="2"></td> <td>PART NO.</td> <td colspan="4">DESCRIPTION</td> </tr> </table> |                    |                   |  |  |         |                    |  |  | 966557-0002 | MODIFICATION KIT, CRU-230 VOLT OPERATION, DA-A/D |  |  |  |  |  | 966557-0001 | MODIFICATION KIT, CRU-230 VOLT OPERATION, 5V |  |  |  |  |  | PART NO. | DESCRIPTION |  |  |  |
|   |                    | 966557-0002       | MODIFICATION KIT, CRU-230 VOLT OPERATION, DA-A/D |  |         |                    |  |  |             |  |  |  |  |  |  |             |  |  |  |  |  |  |          |             |  |  |  |
|   |                    | 966557-0001       | MODIFICATION KIT, CRU-230 VOLT OPERATION, 5V     |  |         |                    |  |  |             |  |  |  |  |  |  |             |  |  |  |  |  |  |          |             |  |  |  |
|   |                    | PART NO.          | DESCRIPTION                                      |  |         |                    |  |  |             |  |  |  |  |  |  |             |  |  |  |  |  |  |          |             |  |  |  |
| REV   |                    |                   |  |  |         |                    |  |  |             |  |  |  |  |  |  |             |  |  |  |  |  |  |          |             |  |  |  |
| SUPL SHEET  |                    |                   |  |  |         |                    |  |  |             |  |  |  |  |  |  |             |  |  |  |  |  |  |          |             |  |  |  |
| REV   |                    |                   |  |  |         |                    |  |  |             |  |  |  |  |  |  |             |  |  |  |  |  |  |          |             |  |  |  |
| SHEET   |                    |                   |  |  |         |                    |  |  |             |  |  |  |  |  |  |             |  |  |  |  |  |  |          |             |  |  |  |
| REV STATUS OF SHEETS  | REV SHEET          | D                 | D  | D  | A       | B                  | D  |  |             |  |  |  |  |  |  |             |  |  |  |  |  |  |          |             |  |  |  |
|   |                    | 1                 | 2  | 3  | 4       | 5                  | 6  |  |             |  |  |  |  |  |  |             |  |  |  |  |  |  |          |             |  |  |  |
| DR  | 10-24-72           | APPD              | TITLE  |  |         |                    |  <b>TEXAS INSTRUMENTS</b><br>INCORPORATED<br>DIGITAL SYSTEMS DIVISION<br>HOUSTON, TEXAS |  |             |  |  |  |  |  |  |             |  |  |  |  |  |  |          |             |  |  |  |
| CKD   | <i>Handwritten</i> | APPD              | MODIFICATION KIT, CRU-230 VOLT OPERATION         |  |         |                    |  |  |             |  |  |  |  |  |  |             |  |  |  |  |  |  |          |             |  |  |  |
| ENGR  | 10/26/72           | RELEASE           |  |  |         |                    |  |  |             |  |  |  |  |  |  |             |  |  |  |  |  |  |          |             |  |  |  |
| SCALE   | SIZE               | SHEET 1 OF 6      |  | REV  |         |                    |  |  |             |  |  |  |  |  |  |             |  |  |  |  |  |  |          |             |  |  |  |
| NONE  | A                  |                   |  | D  |         |                    |  |  |             |  |  |  |  |  |  |             |  |  |  |  |  |  |          |             |  |  |  |

966557

A

TI-4260-C

LM

SCOPE:

THIS KIT PROVIDES INSTRUCTIONS AND HARDWARE TO CONVERT 115V CRU POWER SUPPLY (966556) TO 230V OPERATION.

INSTRUCTIONS:

1. REMOVE 115 VOLT LABEL FROM POWER SUPPLY MOUNTING BRACKET AND ATTACH 230 VOLT LABEL (ITEM 2).
2. REMOVE POWER SUPPLY MOUNTING BRACKET FROM THE MOUNTING BRACKET.
3. INSTALL FUSE HOLDER (ITEM 4) AS SHOWN IN FIGURE 3.
4. REMOVE WHT NO 16 GA WIRE CONNECTING J1-X TO PS1(-3) TERMINAL BOARD FROM PS1(-3) TERMINAL BOARD. CUT THIS WIRE TO PROPER LENGTH, INSTALL TERMINAL LUG (ITEM 5) TO END OF WIRE AND CONNECT TO XF2-1. (REF FIGURE 3, VIEW A-A).
5. REMOVE F1. INSTALL NEW FUSES (ITEM 1).
6. THE FOLLOWING CHANGES APPLY TO (PS2) LAMBDA POWER SUPPLY MODEL LX-CC-152-RV-4733-3.
  - A. REMOVE JUMPER BETWEEN TERMINALS (1) AND (9) OF (PS2) TERMINAL BLOCKS. REMOVE JUMPER BETWEEN TERMINALS (10) AND (11) OF (PS2) AND INSTALL REMOVED JUMPER BETWEEN TERMINALS (9) AND (10) OF (PS2) TERMINAL BLOCK. REFER TO FIGURE 4 OR ~~SECTION B-8,~~ ASSY. DWG. NO. 966475.
  - B. RECONNECT THE NO. 16 GA. WHT/BLK WIRE TO PS2-1.

~~7. FOLLOWING CHANGES APPLY TO FARATRON POWER SUPPLY MODEL FRT434:~~

- ~~A. REMOVE TWO JUMPERS AT 115 VOLT MARKING ON PS2 TERMINAL BLOCK. REINSTALL ONE JUMPER AT 230 VOLT MARKING ON PS2 TERMINAL BLOCK.~~
- ~~B. RECONNECT THE NO 16 GA WHT/BK WIRE TO PS2-1.~~
- ~~C. RECONNECT THE NO 16 GA WHT WIRE FROM PS2-4 TO PS1-3.~~

|       |               |            |
|-------|---------------|------------|
| SIZE  | CODE IDENT NO | DRAWING NO |
| A     | 96214         | 966557     |
| SCALE | REV           | D          |
|       |               | SHEET 2    |



INSTRUCTIONS: CONTINUED

8. FOLLOWING CHANGES APPLY TO PS1 ACDC POWER SUPPLY MODEL OEM5N17-1-2-36:
  - A. REMOVE 6 POWER SUPPLY MOUNTING SCREWS.
  - B. REMOVE COVER MOUNTING SCREWS AND REMOVE COVER FROM POWER SUPPLY.
  - C. REMOVE JUMPERS FROM BETWEEN PINS 1 AND 3 AND PINS 2 AND 4 OF TRANSFORMER TERMINAL STRIP. REINSTALL A JUMPER BETWEEN PINS 2 AND 3.
  - D. REINSTALL COVER, COVER MOUNTING SCREWS, AND REINSTALL POWER SUPPLY TO MOUNTING BRACKET.
  - E. INSTALL TERMINAL LUG (ITEM 5) AND RING LUG (ITEM 6) TO SUFFICIENT LENGTH OF WHT NO 16 GA WIRE (ITEM 7) AND CONNECT TO S1-4 AND PS1-3.
  - F. INSTALL 2 TERMINAL LUGS (ITEM 5) TO SUFFICIENT LENGTH OF WHT NO 16 GA WIRE (ITEM 7) AND CONNECT TO XF2-2 AND S1-3.
9. REMOVE 115V, 15A PLUG BY CUTTING THE POWER CORD. REMOVE OUTER COVER AND WIRE INSULATION AS SHOWN IN FIGURE 1. INSTALL 250V, 15A PLUG (ITEM 3) INSURING THE GREEN WIRE IS CONNECTED AS SHOWN IN FIGURE 2.
10. REPLACE NAMEPLATE - PART/SERIAL NO. THE NEW NAMEPLATE PART NO SHOULD BE CHANGED TO THE PROPER DASH NUMBER FOR THE PRESENT ASSEMBLY.
11. SYSTEM SHOULD UNDERGO FINAL SYSTEM TEST AFTER MODIFICATION FROM 115V TO 230V HAS BEEN MADE.

| SIZE  | CODE IDENT NO | DRAWING NO |
|-------|---------------|------------|
| A     | 96214         | 966557     |
| SCALE | REV           | SHEET 3    |
|       | D             |            |

TI-7913C

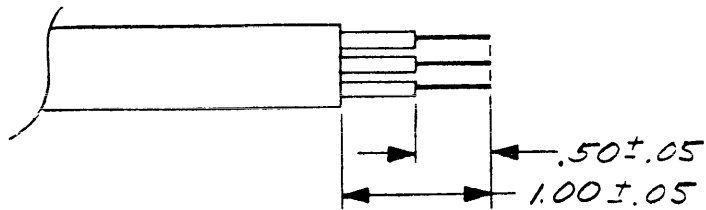


FIGURE 1



FIGURE 2

|       |               |            |         |
|-------|---------------|------------|---------|
| SIZE  | CODE IDENT NO | DRAWING NO |         |
| A     | 96214         | 966557     |         |
| SCALE | REV           | A          | SHEET 4 |

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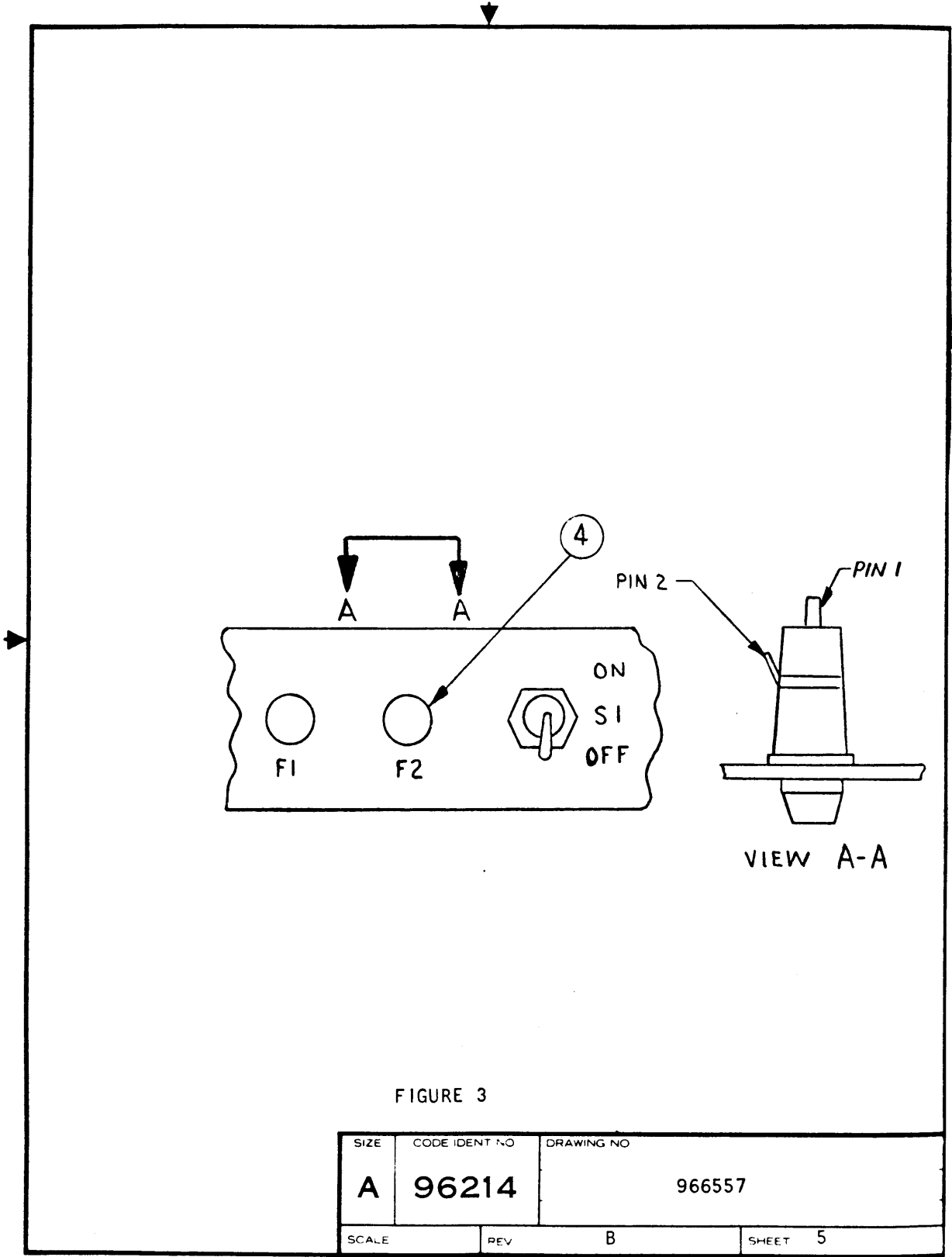
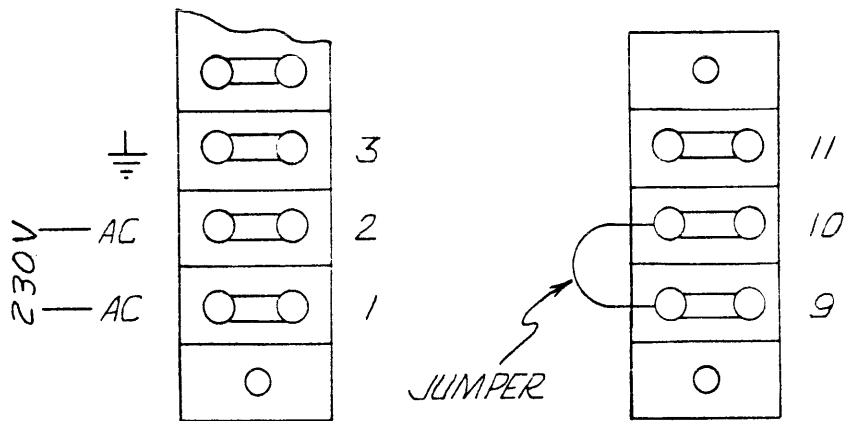


FIGURE 3

|       |               |            |         |
|-------|---------------|------------|---------|
| SIZE  | CODE IDENT NO | DRAWING NO |         |
| A     | 96214         | 966557     |         |
| SCALE | REV           | B          | SHEET 5 |

TI-7915C



PS2 (230 VAC STRAPPING)

FIGURE 4

| SIZE           | CODE IDENT NO | DRAWING NO |
|----------------|---------------|------------|
| A              | 96214         | 966557     |
| SCALE 1/10"=1" | REV D         | SHEET 6    |



**TEXAS INSTRUMENTS**  
INCORPORATED

DATE 05/01/75

**LIST OF MATERIAL**

PAGE 1 of

**LM** PART NUMBER 966557-0001 REV D 4

| PRINT ITEM NUMBER | QUANTITY PER ASSEMBLY | UNIT OF ISSUE | DWG. SIZE | PART NUMBER | DESCRIPTION                              | VENDOR PART NUMBER   |
|-------------------|-----------------------|---------------|-----------|-------------|--|----------------------|
| 0001              | 00002.000             | EA            |           | 772995-0001 | FUSE 1.5 AMP SLO BLOW 1/4X1-1/4 IN       | BUS-MDA1.5           |
| 0002              | 00001.000             | EA            |           | 772969-0001 | MARKER, ELECTRICAL 230V 1/2 X21/4 IN     | TRW-DEM-15C          |
| 0003              | 00001.000             | EA            |           | 972529-0002 | CONNECTOR, PLUG-3 WIRE GRND-250 V 15     | HUL- 5666C           |
| 0004              | 00001.000             | EA            |           | 232092-0003 | HOLDER FUSE HKP-HH                       | BUS-HKP-HH           |
| 0005              | 00002.000             | EA            |           | 235833-0211 | TERMINAL RECP PRE-INS BLUE TIN PLTD BRAS | AMP-42332-4 TAPE FOR |
| 0006              | 00001.000             | EA            |           | 232351-0003 | LUG #6 STD RING TONGUE INSULATED         | AMP-31879            |
| 0007              | 00002.000             | FT            |           | 417682-9999 | WIRE HOOKUP 16 AWG TYPE B INS WHITE      | JUD- HH0205          |
| 0008              | 00001.000             | EA            |           | 172410-0001 | NAMEPLATE-PART/SERIAL NO                 |                      |

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|           |      |                        |      |                 |      |   |
|-----------|------|------------------------|------|-----------------|------|---|
| DRAFTSMAN | DATE | CKD. DRAFTSMAN         | DATE | DESIGN ENGINEER | DATE | TITLE                                     |
|           |      |                        |      |                 |      | MOD KIT, CRU-230 VOLT OPERATION, 5V       |
| APPD. MFG | DATE | APPD. PROJECT ENGINEER | DATE | RELEASED        | DATE | PROJECT NO                                |
|           |      |                        |      |                 |      | 8150                                      |
|           |      |                        |      |                 |      | <b>LM</b> PART NUMBER 966557-0001 REV D 4 |



TEXAS INSTRUMENTS  
INCORPORATED

DATE 05/01/75

LIST OF MATERIAL

PAGE 1 of

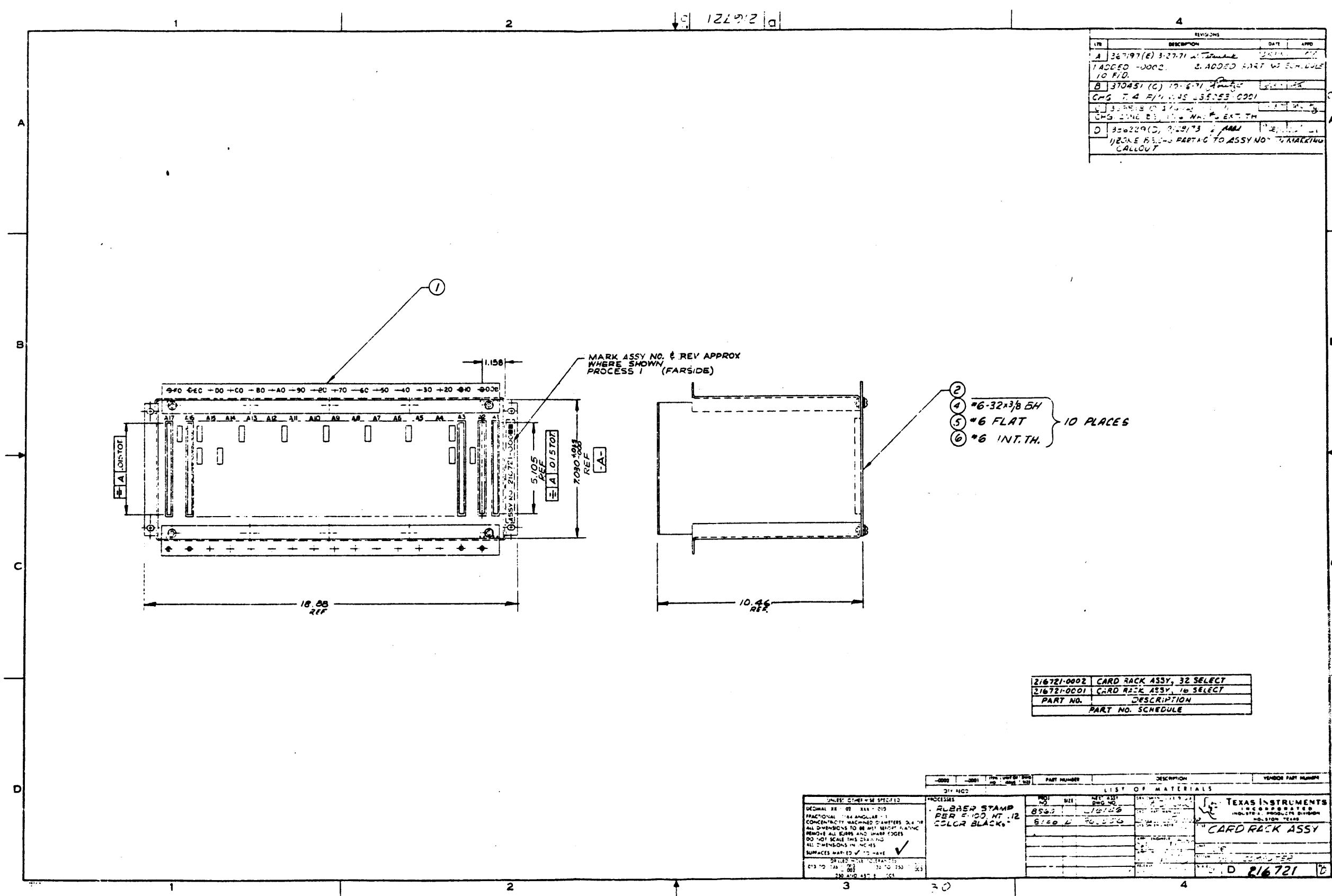
LM PART NUMBER REV  
966557-0002 D

| PRINT ITEM NUMBER | QUANTITY PER ASSEMBLY | UNIT OF ISSUE | DWG SIZE | PART NUMBER | DESCRIPTION                              | VENDOR PART NUMBER   |
|-------------------|-----------------------|---------------|----------|-------------|--|----------------------|
| 0001              | 00002.000             | EA            |          | 772995-0002 | FUSE 3 AMP SLOW BLOW 1/4X1-1/4 IN        | WIS-10A3.0           |
| 0002              | 00001.000             | EA            |          | 772969-0001 | MARKER, ELECTRICAL 230V 1/2 X21/4 IN     | TOW-DEM-1+C          |
| 0003              | 00001.000             | EA            |          | 972529-0002 | CONNECTOR, PLUG-3 WIRE GRND-250 V 15     | HUL-56660            |
| 0004              | 00001.000             | EA            |          | 232092-0003 | HOLDER FUSE HKP-HH                       | HUS-HKP-HH           |
| 0005              | 00002.000             | EA            |          | 235833-0211 | TERMINAL RECP PRE-INS BLUE TIN PLTD BRAS | AMP-42332-4 TAPE PCB |
| 0006              | 00001.000             | EA            |          | 232351-0003 | LUG #6 STUD RING TONGUE INSULATED        | AMP-31879            |
| 0007              | 00002.000             | FT            |          | 417682-9999 | WIRE HOOKUP 16 AWG TYPE B INS WHITE      | JOB-1040205          |
| 0008              | 00001.000             | EA            |          | 172410-0001 | NAMEPLATE-PART/SERIAL NO                 |                      |

|           |      |                       |      |                 |      |   |
|-----------|------|-----------------------|------|-----------------|------|---|
| DRAFTSMAN | DATE | CRD DRAFTSMAN         | DATE | DESIGN ENGINEER | DATE | TITLE                                   |
| APPD -MFG | DATE | APPD PROJECT ENGINEER | DATE | RELEASED        | DATE | PROJECT NO.                             |
|           |      |                       |      |                 |      | MOD KIT, CRU-230 VOLT OPERATION, DA-4/D |
|           |      |                       |      |                 |      | LM PART NUMBER REV<br>966557-0002 D     |

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| REVISIONS |                                       |      |      |
|-----------|---------------------------------------|------|------|
| REV       | DESCRIPTION                           | DATE | APPD |
| A         | 367197(E) 3-27-71                     |      |      |
|           | 1. ADDED -0002                        |      |      |
|           | 2. ADDED PART W/ SCHEDULE TO F.I.D.   |      |      |
| B         | 370451 (C) 10-6-71                    |      |      |
|           | CHG T. A. P. 11.115 35-253 0001       |      |      |
|           | 3. PARTS CHANGED                      |      |      |
|           | CHG DIMS BEING MADE EXT TH            |      |      |
| D         | 350229(D) 2-29-73                     |      |      |
|           | 1. DONE BEING PART TO ASSY NO. 216721 |      |      |
|           | 2. MARKING CALCU                      |      |      |

|             |                           |
|-------------|---------------------------|
| 216721-0002 | CARD RACK ASSY, 32 SELECT |
| 216721-0001 | CARD RACK ASSY, 10 SELECT |
| PART NO.    | DESCRIPTION               |
|             | PART NO. SCHEDULE         |

| UNLESS OTHERWISE SPECIFIED |            | PROCESSES |     | LIST OF MATERIALS |      | VENDOR PART NUMBER |     |
|----------------------------|------------|-----------|-----|-------------------|------|--------------------|-----|
| DECIMAL FR. OF INCH        | FRAC. INCH | NO.       | MEI | QTY               | UNIT | NO.                | NO. |
| 0.001                      | 1/1000     |           |     |                   |      |                    |     |
| 0.005                      | 1/200      |           |     |                   |      |                    |     |
| 0.010                      | 1/100      |           |     |                   |      |                    |     |
| 0.015                      | 3/200      |           |     |                   |      |                    |     |
| 0.020                      | 1/50       |           |     |                   |      |                    |     |
| 0.030                      | 3/100      |           |     |                   |      |                    |     |
| 0.040                      | 1/25       |           |     |                   |      |                    |     |
| 0.050                      | 1/20       |           |     |                   |      |                    |     |
| 0.060                      | 3/50       |           |     |                   |      |                    |     |
| 0.070                      | 7/100      |           |     |                   |      |                    |     |
| 0.080                      | 2/25       |           |     |                   |      |                    |     |
| 0.090                      | 9/100      |           |     |                   |      |                    |     |
| 0.100                      | 1/10       |           |     |                   |      |                    |     |
| 0.125                      | 1/8        |           |     |                   |      |                    |     |
| 0.150                      | 3/20       |           |     |                   |      |                    |     |
| 0.1875                     | 3/16       |           |     |                   |      |                    |     |
| 0.250                      | 1/4        |           |     |                   |      |                    |     |
| 0.3125                     | 5/16       |           |     |                   |      |                    |     |
| 0.375                      | 3/8        |           |     |                   |      |                    |     |
| 0.500                      | 1/2        |           |     |                   |      |                    |     |
| 0.625                      | 5/8        |           |     |                   |      |                    |     |
| 0.750                      | 3/4        |           |     |                   |      |                    |     |
| 0.875                      | 7/8        |           |     |                   |      |                    |     |
| 1.000                      | 1          |           |     |                   |      |                    |     |
| 1.250                      | 5/4        |           |     |                   |      |                    |     |
| 1.500                      | 3/2        |           |     |                   |      |                    |     |
| 1.750                      | 7/4        |           |     |                   |      |                    |     |
| 2.000                      | 2          |           |     |                   |      |                    |     |
| 2.500                      | 5/2        |           |     |                   |      |                    |     |
| 3.000                      | 3          |           |     |                   |      |                    |     |
| 3.500                      | 7/2        |           |     |                   |      |                    |     |
| 4.000                      | 4          |           |     |                   |      |                    |     |
| 4.500                      | 9/2        |           |     |                   |      |                    |     |
| 5.000                      | 5          |           |     |                   |      |                    |     |
| 5.500                      | 11/2       |           |     |                   |      |                    |     |
| 6.000                      | 6          |           |     |                   |      |                    |     |
| 6.500                      | 13/2       |           |     |                   |      |                    |     |
| 7.000                      | 7          |           |     |                   |      |                    |     |
| 7.500                      | 15/2       |           |     |                   |      |                    |     |
| 8.000                      | 8          |           |     |                   |      |                    |     |
| 8.500                      | 17/2       |           |     |                   |      |                    |     |
| 9.000                      | 9          |           |     |                   |      |                    |     |
| 9.500                      | 19/2       |           |     |                   |      |                    |     |
| 10.000                     | 10         |           |     |                   |      |                    |     |
| 10.500                     | 21/2       |           |     |                   |      |                    |     |
| 11.000                     | 11         |           |     |                   |      |                    |     |
| 11.500                     | 23/2       |           |     |                   |      |                    |     |
| 12.000                     | 12         |           |     |                   |      |                    |     |
| 12.500                     | 25/2       |           |     |                   |      |                    |     |
| 13.000                     | 13         |           |     |                   |      |                    |     |
| 13.500                     | 27/2       |           |     |                   |      |                    |     |
| 14.000                     | 14         |           |     |                   |      |                    |     |
| 14.500                     | 29/2       |           |     |                   |      |                    |     |
| 15.000                     | 15         |           |     |                   |      |                    |     |
| 15.500                     | 31/2       |           |     |                   |      |                    |     |
| 16.000                     | 16         |           |     |                   |      |                    |     |
| 16.500                     | 33/2       |           |     |                   |      |                    |     |
| 17.000                     | 17         |           |     |                   |      |                    |     |
| 17.500                     | 35/2       |           |     |                   |      |                    |     |
| 18.000                     | 18         |           |     |                   |      |                    |     |
| 18.500                     | 37/2       |           |     |                   |      |                    |     |
| 19.000                     | 19         |           |     |                   |      |                    |     |
| 19.500                     | 39/2       |           |     |                   |      |                    |     |
| 20.000                     | 20         |           |     |                   |      |                    |     |
| 20.500                     | 41/2       |           |     |                   |      |                    |     |
| 21.000                     | 21         |           |     |                   |      |                    |     |
| 21.500                     | 43/2       |           |     |                   |      |                    |     |
| 22.000                     | 22         |           |     |                   |      |                    |     |
| 22.500                     | 45/2       |           |     |                   |      |                    |     |
| 23.000                     | 23         |           |     |                   |      |                    |     |
| 23.500                     | 47/2       |           |     |                   |      |                    |     |
| 24.000                     | 24         |           |     |                   |      |                    |     |
| 24.500                     | 49/2       |           |     |                   |      |                    |     |
| 25.000                     | 25         |           |     |                   |      |                    |     |
| 25.500                     | 51/2       |           |     |                   |      |                    |     |
| 26.000                     | 26         |           |     |                   |      |                    |     |
| 26.500                     | 53/2       |           |     |                   |      |                    |     |
| 27.000                     | 27         |           |     |                   |      |                    |     |
| 27.500                     | 55/2       |           |     |                   |      |                    |     |
| 28.000                     | 28         |           |     |                   |      |                    |     |
| 28.500                     | 57/2       |           |     |                   |      |                    |     |
| 29.000                     | 29         |           |     |                   |      |                    |     |
| 29.500                     | 59/2       |           |     |                   |      |                    |     |
| 30.000                     | 30         |           |     |                   |      |                    |     |



**TEXAS INSTRUMENTS**  
INCORPORATED

DATE 10/14/71

**LIST OF MATERIAL**

PAGE 1 of 1

PART NUMBER  
**LM 216721-0001**

REV  
2

| PRINT ITEM NUMBER | QUANTITY PER ASSEMBLY | UNIT OF ISSUE | DWG. SIZE | PART NUMBER | DESCRIPTION               | VENDOR PART NUMBER |
|-------------------|-----------------------|---------------|-----------|-------------|---------------------------|--------------------|
| 0001              | 00001.000             | EA            |           | 214129-0001 | CARD RACK ASSY 01+03+04   |                    |
| 0002              | 00001.000             | EA            |           | 214143-0001 | CONNECTOR MODULE ASSY     |                    |
| 0004              | 00010.000             | EA            |           | 235054-0001 | SCREW 6-32X3/8 BH SST     |                    |
| 0005              | 00010.000             | EA            |           | 236385-0000 | WASHER #6 FLT SS 1/32 THK | -#6 FLAT           |
| 0006              | 00010.000             | EA            |           | 236387-0000 | WASHER #6 INT TOOTH SS    | -#6 INT. TOOTH     |

|          |                        |          |                 |      |                           |     |
|----------|------------------------|----------|-----------------|------|---------------------------|-----|
| DATE     | CKD. DRAFTSMAN         | DATE     | DESIGN ENGINEER | DATE | TITLE                     |     |
| 10-16-71 | <i>J. Letts</i>        | 10-10-71 |                 |      | CARD RACK ASSY, 16 SELECT |     |
| DATE     | APPD. PROJECT ENGINEER | DATE     | RELEASED        | DATE | PROJECT NO.               |     |
|          |                        |          |                 |      | 8960,8100                 |     |
|          |                        |          |                 |      | PART NUMBER               | REV |
|          |                        |          |                 |      | <b>LM 216721-0001</b>     | 2   |

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**TEXAS INSTRUMENTS**  
INCORPORATED

DATE 10/14/71

**LIST OF MATERIAL**

PAGE 1 of 1

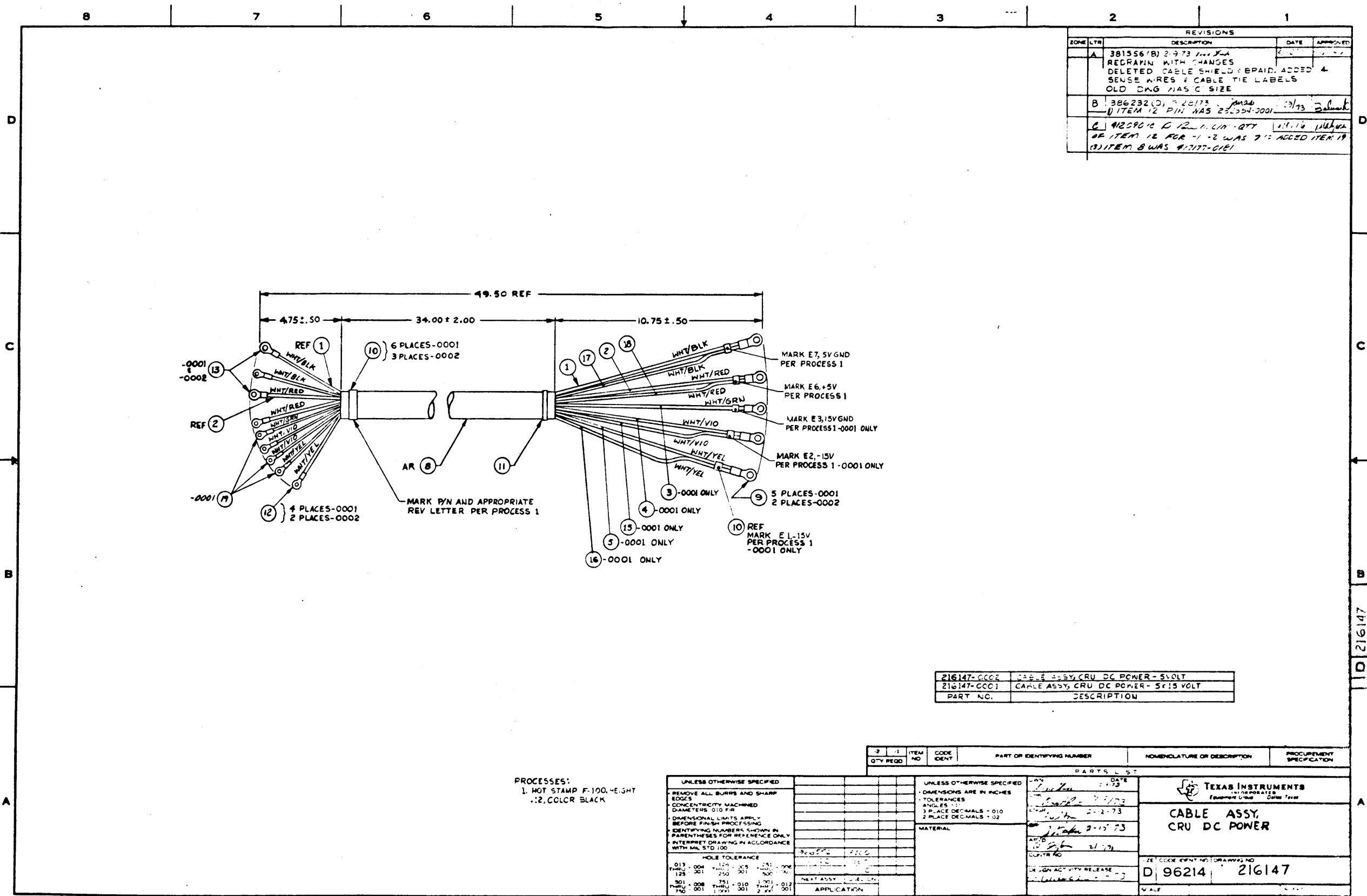
PART NUMBER  
**LM 216721-0002** REV *D*

| PRINT ITEM NUMBER | QUANTITY PER ASSEMBLY | UNIT OF ISSUE | DWG. SIZE | PART NUMBER | DESCRIPTION                  | VENDOR PART NUMBER |
|-------------------|-----------------------|---------------|-----------|-------------|------------------------------|--------------------|
| 0001              | 00001.000             | EA            |           | 214129-0001 | CARD RACK ASSY 01+03+04      |                    |
| 0002              | 00001.000             | EA            |           | 217392-0001 | BOARD ASSY, CONNECTOR MODULE |                    |
| 0004              | 00010.000             | EA            |           | 235054-0001 | SCREW 6-32X3/8 RH SST        |                    |
| 0005              | 00010.000             | EA            |           | 236385-0000 | WASHER #6 FLT SS 1/32 THK    | -#6 FLAT           |
| 0006              | 00010.000             | EA            |           | 236387-0000 | WASHER #6 INT TOOTH SS       | -#6 INT. TOOTH     |

|                 |                        |                 |                 |                       |                           |
|-----------------|------------------------|-----------------|-----------------|-----------------------|---------------------------|
| DATE            | CKD DRAFTSMAN          | DATE            | DESIGN ENGINEER | DATE                  | TITLE                     |
| <i>10-16-71</i> | <i>J. K. ...</i>       | <i>10-15-71</i> |                 |                       | CARD RACK ASSY, 32 SELECT |
| DATE            | APPD. PROJECT ENGINEER | DATE            | RELEASED        | DATE                  | PROJECT NO                |
|                 |                        |                 |                 |                       | 8960,8100                 |
|                 |                        |                 |                 | DATE                  | REV                       |
|                 |                        |                 |                 | <b>LM 216721-0002</b> | <i>D</i>                  |

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| REVISIONS |     |  |          |
|-----------|-----|--|----------|
| ZONE      | LTR | DESCRIPTION  | DATE     |
| A         |     | 381556(B) 2-9-73 <i>John</i><br>REDRAWN WITH CHANGES<br>DELETED CABLE SHIELD REPAID. ADDED 4<br>SENSE WIRES & CABLE TIE LABELS<br>OLD DNG WAS C SIZE | 2-9-73   |
| B         |     | 386232(D) 7-20-73 <i>mas</i><br>ITEM 12 PIN WAS 23-334-0001  | 7-20-73  |
| C         |     | 412090(B) 10-12-73 <i>L. L. LIT - QTY</i><br>OF ITEM 12 FOR -1-2 WAS 7. ADDED ITEM 19<br>(3) ITEM 8 WAS 4-177-0161                                   | 10-12-73 |

|             |  |
|-------------|--|
| 216147-0002 | CABLE ASSY, CRU DC POWER - 5VOLT       |
| 216147-0001 | CABLE ASSY, CRU DC POWER - 5 & 15 VOLT |
| PART NO.    | DESCRIPTION                            |

PROCESSES:  
 1. HOT STAMP F-100, HEIGHT  
 .02, COLOR BLACK

UNLESS OTHERWISE SPECIFIED  
 REMOVE ALL BURRS AND SHARP  
 EDGES  
 CONCENTRICITY MACHINED  
 DIAMETERS .010 P/R  
 DIMENSIONAL LIMITS APPLY  
 BEFORE FINISH PROCESSING  
 IDENTIFYING NUMBERS SHOWN IN  
 PARENTHESES FOR REFERENCE ONLY  
 INTERPRET DRAWING IN ACCORDANCE  
 WITH MIL STD 100

HOLE TOLERANCE  
 .013 THRU .124 .0015 .0015  
 .125 THRU .250 .002 .002  
 .251 THRU .500 .003 .003  
 .501 THRU .100 .004 .004  
 .101 THRU .150 .005 .005

UNLESS OTHERWISE SPECIFIED  
 DIMENSIONS ARE IN INCHES  
 TOLERANCES  
 ANGLES .01  
 3 PLACE DECIMALS - .010  
 2 PLACE DECIMALS - .02

| QTY | REQD | ITEM NO | CODE IDENT | PART OR IDENTIFYING NUMBER | ABBREVIATION OR DESCRIPTION | PROCUREMENT SPECIFICATION |
|-----|------|---------|------------|----------------------------|-----------------------------|---------------------------|
|     |      |         |            |                            |                             |                           |

|                          |  |  |
|--------------------------|--|--|
| DATE<br><i>2-9-73</i>    |  | <br>TEXAS INSTRUMENTS<br><small>INCORPORATED</small><br>Equipment Group Dallas Texas |
| DATE<br><i>2-2-73</i>    |  |  |
| DATE<br><i>2-15-73</i>   |  | <b>CABLE ASSY,<br/>       CRU DC POWER</b>   |
| DATE<br><i>2-1-73</i>    |  |  |
| SIGNATURE<br><i>John</i> |  | 2E CODE IDENT NO: DRAWING NO<br><b>D 96214 216147</b>                                |



**TEXAS INSTRUMENTS**  
INCORPORATED

DATE 06/02/76

**LIST OF MATERIAL**

PAGE 1 of

|                       |             |     |
|-----------------------|-------------|-----|
| <b>LM</b> 216147-0001 | PART NUMBER | REV |
|                       |             | C   |

| UNIT ITEM NUMBER | QUANTITY PER ASSEMBLY | UNIT OF ISSUE | DWG SIZE | PART NUMBER | DESCRIPTION                              | VENDOR PART NUMBER |
|------------------|-----------------------|---------------|----------|-------------|--|--------------------|
| 0001             | 00004.000             | FT            |          | 417682-C099 | WIRE HCCKLP 14 AWG TYPE B INS BK/WH      | JUD- HH1201        |
| 0002             | 00004.000             | FT            |          | 417682-0299 | WIRE HCCKLP 14 AWG TYPE B INS RD/WH      | JUD- HH1201        |
| 0003             | 00004.000             | FT            |          | 417682-9599 | WIRE HCCKLP 16 AWG TYPE B INS GN/WH      | JUD- HH0205        |
| 0004             | 00004.000             | FT            |          | 417682-5759 | WIRE HCCKLP 16 AWG TYPE B INS VI/WH      | JUD- HH0205        |
| 0005             | 00004.000             | FT            |          | 417682-9499 | WIRE HCCKLP 16 AWG TYPE B INS YL/WH      | JUD- HH0205        |
| 0008             | 00002.900             | EA            |          | 972436-0017 | INSULATION SLEEVING 3/8 X .375 PVC       | MKL- HT-105C-1/8   |
| 0009             | 00005.000             | EA            |          | 232352-0000 | LUG #8 RING TONGUE VINYL INSUL AWG 16-14 | AMP-31902          |
| 0010             | 00006.000             | EA            |          | 418201-0001 | STRAP, MARKER, ADJUSTABLE, PLASTIC       | QPL- MS3368-1-9    |
| 0011             | 00001.000             | EA            |          | 418212-0040 | STRAP, TIEDOWN, ADJUSTABLE, PLASTIC      | QPL- MS3367-4-9    |
| 0012             | 00004.000             | EA            |          | 232355-0110 | LUG #6 26-22 AWG RING TONGUE             | AMP-321020         |
| 0013             | 00002.000             | EA            |          | 232355-0100 | LUG #5/#6 RING TONG NYLON INS AWG 16-14  | AMP-320561         |
| 0015             | 00004.000             | FT            |          | 538347-2799 | WIRE HCCKLP 8-24 AWG 19 STR VI/WH        | JUD- HH0112        |
| 0016             | 00004.000             | FT            |          | 538347-2499 | WIRE HCCKLP 8-24 AWG 19 STR YL/WH        | JUD- HH0112        |
| 0017             | 00004.000             | FT            |          | 538347-2099 | WIRE HCCKLP 8-24 AWG 19 STR BK/WH        | JUD- HH0112        |
| 0018             | 00004.000             | FT            |          | 538347-2299 | WIRE HCCKLP 8-24 AWG 19 STR RD/WH        | JUD- HH0112        |
| 0019             | 00003.000             | EA            |          | 539882-0002 | LUG #6 AWG.22-16 RING TONGUE VINYL INSUL | AMP-2-31882-3      |

247

|           |      |                       |               |                 |      |  |
|-----------|------|-----------------------|---------------|-----------------|------|--|
| DRAFTSMAN | DATE | CKD DRAFTSMAN         | DATE          | DESIGN ENGINEER | DATE | TITLE                                  |
|           |      | <i>M. Galina</i>      | <i>6/2/76</i> |                 |      | CABLE ASSY, CRU DC POWER-5 AND 15 VOLT |
| APPD MFG  | DATE | APPD PROJECT ENGINEER | DATE          | RELEASED        | DATE | PROJECT NO                             |
|           |      |                       |               |                 |      | <i>8100</i>                            |
|           |      |                       |               |                 |      | PART NUMBER                            |
|           |      |                       |               |                 |      | <b>LM</b> 216147-0001                  |
|           |      |                       |               |                 |      | REV                                    |
|           |      |                       |               |                 |      | C                                      |



**TEXAS INSTRUMENTS**  
INCORPORATED

DATE **CE/03/76**

**LIST OF MATERIAL**

PAGE 1 of

**LM** PART NUMBER **216147-C002** REV **C**

| PRINT ITEM NUMBER | QUANTITY PER ASSEMBLY | UNIT OF ISSUE | DWG SIZE | PART NUMBER | DESCRIPTION                              | VENDOR PART NUMBER |
|-------------------|-----------------------|---------------|----------|-------------|--|--------------------|
| 0001              | 00004.000             | FT            |          | 4176E2-C059 | WIRE FCCKLP 14 AWG TYPE B INS BK/WH      | JUD- HH1201        |
| 0002              | 00004.000             | FT            |          | 4176E2-C299 | WIRE FCCKLP 14 AWG TYPE B INS RD/WH      | JUD- HH1201        |
| 0008              | 00002.900             | EA            |          | 9724E6-C017 | INSULATION SLEEVING 3/8 X .375 PVC       | MKL- HT-105C-1/8   |
| 0009              | 00002.000             | EA            |          | 2323E2-C000 | LUG #8 RING TONGUE VINYL INSUL AWG 16-14 | AMP-31902          |
| 0010              | 00003.000             | EA            |          | 4182C1-C001 | STRAP, MARKER, ADJUSTABLE, PLASTIC       | QPL- MS3368-1-9    |
| 0011              | 00001.000             | EA            |          | 418212-C040 | STRAP, TIE DOWN, ADJUSTABLE, PLASTIC     | QPL- MS3367-4-9    |
| 0012              | 00002.000             | EA            |          | 2323E5-0110 | LUG #6 26-22 AWG RING TONGUE             | AMP-321020         |
| 0013              | 00002.000             | EA            |          | 2323E5-0100 | LUG #5/#6 RING TONG NYLON INS AWG 16-14  | AMP-320561         |
| 0017              | 00004.000             | FT            |          | 538347-2059 | WIRE FCCKLP 18-24 AWG 19 STR BK/WH       | JUD- HH0112        |
| 0018              | 00004.000             | FT            |          | 538347-2299 | WIRE FCCKLP 18-24 AWG 19 STR RD/WH       | JUD- HH0112        |
| 0019              | 00003.000             | EA            |          | 5358E2-C002 | LUG #6 AWG.22-16 RING TONGUE VINYL INSUL | AMP-2-31882-3      |

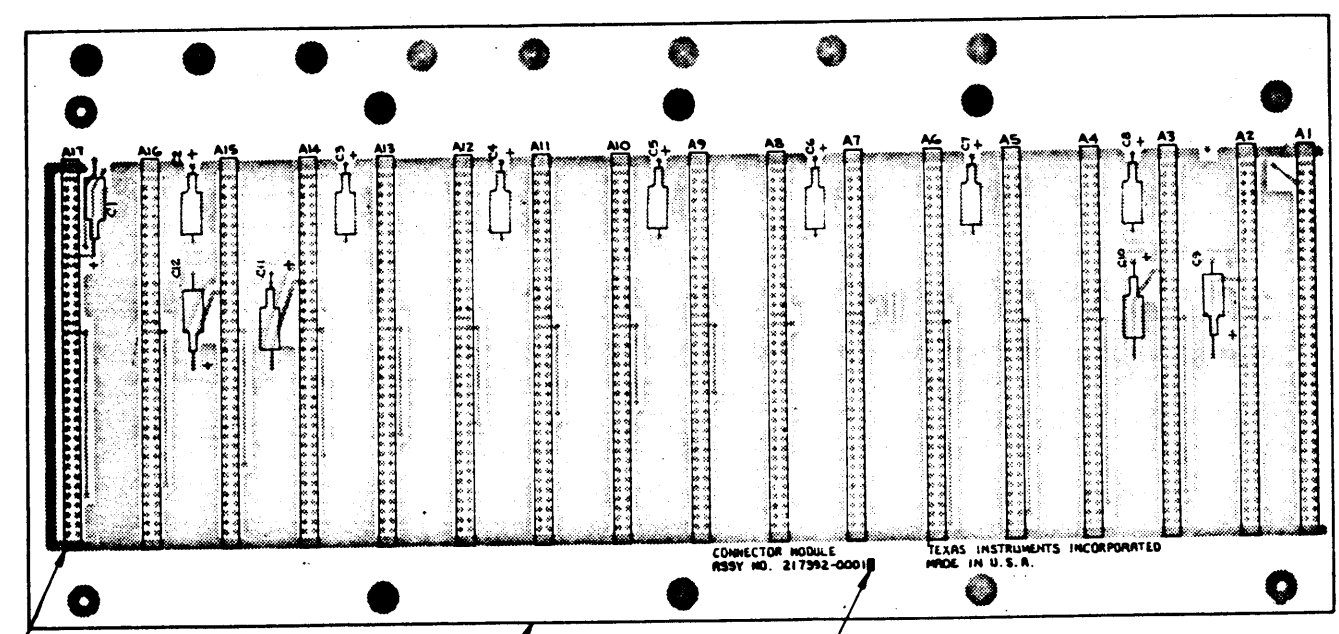
2-48

|           |      |                       |      |                 |      |            |           |                                |              |
|-----------|------|-----------------------|------|-----------------|------|------------|-----------|--------------------------------|--------------|
| DRAFTSMAN | DATE | CKD DRAFTSMAN         | DATE | DESIGN ENGINEER | DATE | TITLE      |           |                                |              |
| APPD MFG  | DATE | APPD PROJECT ENGINEER | DATE | RELEASED        | DATE | PROJECT NO |           |                                |              |
|           |      |                       |      |                 |      |            | <b>LM</b> | PART NUMBER <b>216147-0002</b> | REV <b>C</b> |

26E117

NOTES:  
 1. REVISION \* P.W. BOARD (LM ITEM 1) MUST BE ASSEMBLED USING REVISION A OF ASSEMBLY DRAWING (THIS DRAWING)

| REV  | DESCRIPTION                   | DATE | BY |
|--|-------------------------------|------|----|
| A  | 371834 (C) J. P. ... 11-18-71 |      |    |
| ADDED: 1) ZONE D2, CALLOUT FOR IT 6 & 7<br>2) WIRE ROUTING TO F/D<br>3) IT. 7 TO LM<br>4) TO REMARKS FOR WIRE #17 IN W/L<br>SEE VIEW A-A<br>5) VIEW A-A  |                               |      |    |
| B  | 371840 (E) ... 1/18/72        |      |    |
| REVISED WITH CHANGES - MADE 3-LAYER BOARD TO REMOVE JUMPER WIRES<br>CHG -<br>1. F/D TO AGREE WITH ARTWORK CHG<br>DELETED -<br>1. ITEM 6: P/N 236532-0009, QTY AR<br>2. ITEM 7: P/N 235463-0001, QTY G<br>3. VIEW A-A<br>4. WIRE LIST |                               |      |    |
| C  | 4073301C * ... 11/16/76       |      |    |
| MARKING TO AGREE WITH AN/121 ADDED<br>REV LEVEL BLOCK  |                               |      |    |
| D  | CN 417150 (E) A ... 11-20-76  |      |    |
| REV LEVEL BLOCK  |                               |      |    |



PIN 1  
17 PLACES

MARK APPROPRIATE  
REVISION LETTER



.062  
SHEAR PINS TO  
DIM. SHOWN

|     |                  |      |    |
|-----|------------------|------|----|
| REV | DESCRIPTION      | DATE | BY |
| A   | PAB (217391) ... |      |    |
| B   | ASSEMBLY ...     |      |    |

| QTY | UNIT  | PART NUMBER   | DESCRIPTION      | VENDOR PART NUMBER |
|-----|-------|---------------|------------------|--------------------|
| 1   | F-100 | 9960 E 216721 | BOARD ASSY       |                    |
|     |       |               | CONNECTOR MODULE |                    |
|     |       |               | COMPUTER         |                    |



INCORPORATED

DATE 05/01/75

LIST OF MATERIAL

PAGE 1 of

LM PART NUMBER 217392-0001 REV 08

| PRINT ITEM NUMBER | QUANTITY PER ASSEMBLY | UNIT OF ISSUE | DWG SIZE | PART NUMBER | DESCRIPTION                            | VENDOR PART NUMBER   |
|-------------------|-----------------------|---------------|----------|-------------|--|----------------------|
| 0001              | 0001.000              | EA            |          | 217391-0001 | PW BOARD,CONNECTOR MODULE              |                      |
| 0002              | 0017.000              | EA            |          | 231257-0009 | CONNECTOR PC 80 PIN                    | ELC-00-6313080699-00 |
| 0002A             |                       |               |          |             | XA1 THRU XA17                          |                      |
| 0003              | 0005.000              | EA            |          | 972924-0020 | CAP FIX TANT SOLID 47 MFD 10 % 35 VOLT | QPL-M39003/1-2312    |
| 0003A             |                       |               |          |             | C1 C9 THRU C12                         |                      |
| 0004              | 0007.000              | EA            |          | 230841-0001 | CAP 50.00 MF 16V                       | SPR-TE-1160          |
| 0004A             |                       |               |          |             | C2 THRU C8                             |                      |
| 0005              | REF                   | EA            |          | 955367-9901 | WIRE LIST,PT-TO-PT-CONNECTOR MODULE    |                      |

|           |      |                       |      |                 |      |                             |
|-----------|------|-----------------------|------|-----------------|------|-----------------------------|
| DRAFTSMAN | DATE | CKD DRAFTSMAN         | DATE | DESIGN ENGINEER | DATE | TITLE                       |
|           |      |                       |      |                 |      | BOARD ASSY,CONNECTOR MODULE |
| APPD MFG  | DATE | APPD PROJECT ENGINEER | DATE | RELEASED        | DATE | PROJECT NO                  |
|           |      |                       |      |                 |      | 8960                        |
|           |      |                       |      |                 |      | PART NUMBER                 |
|           |      |                       |      |                 |      | LM 217392-0001              |
|           |      |                       |      |                 |      | REV 08                      |

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955367  
A


| PROJ NO. | SIZE | NEXT ASSY DWG NO. | REVISIONS |             |      |      |
|----------|------|-------------------|-----------|-------------|------|------|
|          |      |                   | LTR       | DESCRIPTION | DATE | APPD |
| 960      | D    | 217392            |           |             |      |      |
| 8181     |      |                   |           |             |      |      |
|          |      |                   |           |             |      |      |
|          |      |                   |           |             |      |      |
|          |      |                   |           |             |      |      |
|          |      |                   |           |             |      |      |
|          |      |                   |           |             |      |      |
|          |      |                   |           |             |      |      |
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|          |      |                   |           |             |      |      |
|          |      |                   |           |             |      |      |
|          |      |                   |           |             |      |      |
|          |      |                   |           |             |      |      |
|          |      |                   |           |             |      |      |
|          |      |                   |           |             |      |      |
|          |      |                   |           |             |      |      |
|          |      |                   |           |             |      |      |
|          |      |                   |           |             |      |      |
|          |      |                   |           |             |      |      |
|          |      |                   |           |             |      |      |
|          |      |                   |           |             |      |      |
|          |      |                   |           |             |      |      |
|          |      |                   |           |             |      |      |
|          |      |                   |           |             |      |      |
|          |      |                   |           |             |      |      |
|          |      |                   |           |             |      |      |
|          |      |                   |           |             |      |      |
|          |      |                   |           |             |      |      |
|          |      |                   |           |             |      |      |
|          |      |                   |           |             |      |      |
|          |      |                   |           |             |      |      |
|          |      |                   |           |             |      |      |
|          |      |                   |           |             |      |      |
|          |      |                   |           |             |      |      |



|                      |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |  |
|----------------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|--|--|
| REV                  |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |  |
| SUM SHEET            |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |  |
| REV                  |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |  |
| SHEET                | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 |    |    |    |    |    |    |  |  |
| REV STATUS OF SHEETS |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |  |
| REV SHEET            |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |  |
|                      | 1  | 2  | 3  | 4  | 5  | 6  | 7  | 8  | 9  | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |  |  |

DR *Randell* 1-4-71  
 CKD  
 ENGR *B. Chang* 1-27-70  
 APPD *M. J....* 12-1-71  
 APPD *D. ...* 11/1/71  
 RELEASE *H. ...* 12-1-71

TITLE **WIRE LIST,  
POINT TO POINT-  
CONNECTOR  
MODULE**



**TEXAS INSTRUMENTS**  
INCORPORATED  
INDUSTRIAL PRODUCTS DIVISION  
HOUSTON, TEXAS

SCALE **NONE**    SIZE **A**    955367    REV

SHEET **1** OF **40**

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| WIRE NO. | DESCRIPTION | TOTAL LENGTH | SIGNATURE | COMPONENT CONNECTION FOR START STATION | COMPONENT CONNECTION FOR FINISH STATION | REMARKS | N/A LM ITEM NO. |
|----------|-------------|--------------|-----------|--|---|---------|-----------------|
|          |             |              | + 15 V    | E1                                     | XA17-53                                 |         |                 |
| 1        |             |              |           | XA17-53                                | XA17-54                                 |         |                 |
| 2        |             |              |           | XA17-54                                | XA16-53                                 |         |                 |
| 3        |             |              |           | XA16-53                                | XA16-54                                 |         |                 |
| 4        |             |              |           | XA16-54                                | XA15-53                                 |         |                 |
| 5        |             |              |           | XA15-53                                | + C12                                   |         |                 |
| 6        |             |              |           | XA15-53                                | XA15-54                                 |         |                 |
| 7        |             |              |           | XA15-54                                | XA14-53                                 |         |                 |
| 8        |             |              |           | XA14-53                                | XA14-54                                 |         |                 |
| 9        |             |              |           | XA13-54                                | XA13-53                                 |         |                 |
| 10       |             |              |           | XA13-53                                | XA13-54                                 |         |                 |
| 11       |             |              |           | XA13-54                                | XA12-53                                 |         |                 |
| 12       |             |              |           | XA12-53                                | XA12-54                                 |         |                 |
| 13       |             |              |           | XA12-54                                | XA11-53                                 |         |                 |
| 14       |             |              |           | XA11-53                                | XA11-54                                 |         |                 |
| 15       |             |              |           | XA11-54                                | XA10-53                                 |         |                 |
| 16       |             |              |           | XA10-53                                | XA10-54                                 |         |                 |
| 17       |             |              |           | XA10-54                                | XA9-53                                  |         |                 |
| 18       |             |              |           | XA9-53                                 | XA9-54                                  |         |                 |
| 19       |             |              |           | XA9-54                                 | XA8-53                                  |         |                 |
| 20       |             |              |           | XA8-53                                 | XA8-54                                  |         |                 |
| 21       |             |              |           | XA8-54                                 | XA7-53                                  |         |                 |
| 22       |             |              |           | XA7-53                                 | XA7-54                                  |         |                 |
| 23       |             |              |           | XA7-54                                 | XA6-53                                  |         |                 |
| 24       |             |              |           |  |   |         |                 |


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| WIRE NO. | DESCRIPTION | TOTAL LENGTH | SIGNATURE | COMPONENT CONNECTION FOR START STATION | COMPONENT CONNECTION FOR FINISH STATION | REMARKS | N/A LM ITEM NO. |
|----------|-------------|--------------|-----------|--|---|---------|-----------------|
| 1        |             |              |           | XA6-53                                 | XA6-54                                  |         |                 |
| 2        |             |              |           | XA6-54                                 | XA5-53                                  |         |                 |
| 3        |             |              |           | XA5-53                                 | XA5-54                                  |         |                 |
| 4        |             |              |           | XA5-54                                 | XA4-53                                  |         |                 |
| 5        |             |              |           | XA4-53                                 | XA4-54                                  |         |                 |
| 6        |             |              |           | XA4-54                                 | XA3-53                                  |         |                 |
| 7        |             |              |           | XA3-53                                 | XA3-54                                  |         |                 |
| 8        |             |              |           | XA3-54                                 | XA2-53                                  |         |                 |
| 9        |             |              |           | XA2-53                                 | +C9                                     |         |                 |
| 10       |             |              |           | XA2-53                                 | XA2-54                                  |         |                 |
| 11       |             |              |           | XA2-54                                 | XA1-53                                  |         |                 |
| 12       |             |              |           | XA1-53                                 | XA1-54                                  |         |                 |
| 13       |             |              |           |  |   |         |                 |
| 14       |             |              | - 15 V    | E2                                     | XA17-55                                 |         |                 |
| 15       |             |              |           | XA17-55                                | XA17-56                                 |         |                 |
| 16       |             |              |           | XA17-56                                | XA16-55                                 |         |                 |
| 17       |             |              |           | XA16-55                                | XA16-56                                 |         |                 |
| 18       |             |              |           | XA16-56                                | XA15-55                                 |         |                 |
| 19       |             |              |           | XA15-55                                | XA15-56                                 |         |                 |
| 20       |             |              |           | XA15-56                                | XA14-55                                 |         |                 |
| 21       |             |              |           | XA14-55                                | - C11                                   |         |                 |
| 22       |             |              |           | XA14-55                                | XA14-56                                 |         |                 |
| 23       |             |              |           | XA14-56                                | XA13-55                                 |         |                 |
| 24       |             |              |           | XA13-55                                | XA13-56                                 |         |                 |


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REV

| WIRE NO. | DESCRIPTION | TOTAL LENGTH | SIGNATURE | COMPONENT CONNECTION FOR START STATION | COMPONENT CONNECTION FOR FINISH STATION | REMARKS | N/A LM ITEM NO. |
|----------|-------------|--------------|-----------|--|---|---------|-----------------|
| 1        |             |              |           | XA13-56                                | XA12-55                                 |         |                 |
| 2        |             |              |           | XA12-55                                | XA12-56                                 |         |                 |
| 3        |             |              |           | XA12-56                                | XA11-55                                 |         |                 |
| 4        |             |              |           | XA11-55                                | XA11-56                                 |         |                 |
| 5        |             |              |           | XA11-56                                | XA10-55                                 |         |                 |
| 6        |             |              |           | XA10-55                                | XA10-56                                 |         |                 |
| 7        |             |              |           | XA10-56                                | XA9-55                                  |         |                 |
| 8        |             |              |           | XA9-55                                 | XA9-56                                  |         |                 |
| 9        |             |              |           | XA9-56                                 | XA8-55                                  |         |                 |
| 10       |             |              |           | XA8-55                                 | XA8-56                                  |         |                 |
| 11       |             |              |           | XA8-56                                 | XA7-55                                  |         |                 |
| 12       |             |              |           | XA7-55                                 | XA7-56                                  |         |                 |
| 13       |             |              |           | XA7-56                                 | XA6-55                                  |         |                 |
| 14       |             |              |           | XA6-55                                 | XA6-56                                  |         |                 |
| 15       |             |              |           | XA6-56                                 | XA5-55                                  |         |                 |
| 16       |             |              |           | XA5-55                                 | XA5-56                                  |         |                 |
| 17       |             |              |           | XA5-56                                 | XA4-55                                  |         |                 |
| 18       |             |              |           | XA4-55                                 | XA4-56                                  |         |                 |
| 19       |             |              |           | XA4-56                                 | XA3-55                                  |         |                 |
| 20       |             |              |           | XA3-55                                 | - C10                                   |         |                 |
| 21       |             |              |           | XA3-55                                 | XA3-56                                  |         |                 |
| 22       |             |              |           | XA3-56                                 | XA2-55                                  |         |                 |
| 23       |             |              |           | XA2-55                                 | XA2-56                                  |         |                 |
| 24       |             |              |           | XA2-56                                 | XA1-55                                  |         |                 |



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| WIRE NO | DESCRIPTION | TOTAL LENGTH | SIGNATURE  | COMPONENT CONNECTION FOR START STATION | COMPONENT CONNECTION FOR FINISH STATION | REMARKS | N/A LM ITEM NO. |
|---------|-------------|--------------|------------|--|---|---------|-----------------|
| 1       |             |              |            | XA1-55                                 | XA1-56                                  |         |                 |
| 2       |             |              |            |  |   |         |                 |
| 3       |             |              | 15V RETURN | E3                                     | XA17-57                                 |         |                 |
| 4       |             |              |            | XA17-57                                | XA17-58                                 |         |                 |
| 5       |             |              |            | XA17-58                                | XA16-57                                 |         |                 |
| 6       |             |              |            | XA16-57                                | XA16-58                                 |         |                 |
| 7       |             |              |            | XA16-58                                | - C12                                   |         |                 |
| 8       |             |              |            | XA16-58                                | XA15-57                                 |         |                 |
| 9       |             |              |            | XA15-57                                | XA15-58                                 |         |                 |
| 10      |             |              |            | XA15-58                                | + C11                                   |         |                 |
| 11      |             |              |            | XA15-58                                | XA14-57                                 |         |                 |
| 12      |             |              |            | XA14-57                                | XA14-58                                 |         |                 |
| 13      |             |              |            | XA14-58                                | XA13-57                                 |         |                 |
| 14      |             |              |            | XA13-57                                | XA13-58                                 |         |                 |
| 15      |             |              |            | XA13-58                                | XA12-57                                 |         |                 |
| 16      |             |              |            | XA12-57                                | XA12-58                                 |         |                 |
| 17      |             |              |            | XA12-58                                | XA11-57                                 |         |                 |
| 18      |             |              |            | XA11-57                                | XA11-58                                 |         |                 |
| 19      |             |              |            | XA11-58                                | XA10-57                                 |         |                 |
| 20      |             |              |            | XA10-57                                | XA10-58                                 |         |                 |
| 21      |             |              |            | XA10-58                                | XA9-57                                  |         |                 |
| 22      |             |              |            | XA9-57                                 | XA9-58                                  |         |                 |
| 23      |             |              |            | XA9-58                                 | XA8-57                                  |         |                 |
| 24      |             |              |            | XA8-57                                 | XA8-58                                  |         |                 |


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REV


| WIRE NO. | DESCRIPTION | TOTAL LENGTH | SIGNATURE | COMPONENT CONNECTION FOR START STATION | COMPONENT CONNECTION FOR FINISH STATION | REMARKS | N/A LM ITEM NO. |
|----------|-------------|--------------|-----------|--|---|---------|-----------------|
| 1        |             |              |           | XA8-58                                 | XA7-57                                  |         |                 |
| 2        |             |              |           | XA7-57                                 | XA7-58                                  |         |                 |
| 3        |             |              |           | XA7-58                                 | XA6-57                                  |         |                 |
| 4        |             |              |           | XA6-57                                 | XA6-58                                  |         |                 |
| 5        |             |              |           | XA6-58                                 | XA5-57                                  |         |                 |
| 6        |             |              |           | XA5-57                                 | XA5-58                                  |         |                 |
| 7        |             |              |           | XA5-58                                 | XA4-57                                  |         |                 |
| 8        |             |              |           | XA4-57                                 | XA4-58                                  |         |                 |
| 9        |             |              |           | XA4-58                                 | +C10                                    |         |                 |
| 10       |             |              |           | XA4-58                                 | XA3-57                                  |         |                 |
| 11       |             |              |           | XA3-57                                 | XA3-58                                  |         |                 |
| 12       |             |              |           | XA3-58                                 | -C9                                     |         |                 |
| 13       |             |              |           | XA3-58                                 | XA2-57                                  |         |                 |
| 14       |             |              |           | XA2-57                                 | XA2-58                                  |         |                 |
| 15       |             |              |           | XA2-58                                 | XA1-57                                  |         |                 |
| 16       |             |              |           | XA1-57                                 | XA1-58                                  |         |                 |
| 17       |             |              |           |  |   |         |                 |
| 18       |             |              | 30 V      | E4                                     | XA17-61                                 |         |                 |
| 19       |             |              |           | XA17-61                                | XA17-62                                 |         |                 |
| 20       |             |              |           | XA17-62                                | XA16-61                                 |         |                 |
| 21       |             |              |           | XA16-61                                | XA16-62                                 |         |                 |
| 22       |             |              |           | XA16-62                                | XA15-61                                 |         |                 |
| 23       |             |              |           | XA15-61                                | XA15-62                                 |         |                 |
| 24       |             |              |           | XA15-62                                | XA14-61                                 |         |                 |


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| WIRE NO. | DESCRIPTION | TOTAL LENGTH | SIGNATURE | COMPONENT CONNECTION FOR START STATION | COMPONENT CONNECTION FOR FINISH STATION | REMARKS | N/A LM ITEM NO. |
|----------|-------------|--------------|-----------|--|---|---------|-----------------|
| 1        |             |              |           | XA14-61                                | XA14-62                                 |         |                 |
| 2        |             |              |           | XA14-62                                | XA13-61                                 |         |                 |
| 3        |             |              |           | XA13-61                                | XA13-62                                 |         |                 |
| 4        |             |              |           | XA13-62                                | XA12-61                                 |         |                 |
| 5        |             |              |           | XA12-61                                | XA12-62                                 |         |                 |
| 6        |             |              |           | XA12-62                                | XA11-61                                 |         |                 |
| 7        |             |              |           | XA11-61                                | XA11-62                                 |         |                 |
| 8        |             |              |           | XA11-62                                | XA10-61                                 |         |                 |
| 9        |             |              |           | XA10-61                                | XA10-62                                 |         |                 |
| 10       |             |              |           | XA10-62                                | XA9-61                                  |         |                 |
| 11       |             |              |           | XA9-61                                 | XA9-62                                  |         |                 |
| 12       |             |              |           | XA9-62                                 | XA8-61                                  |         |                 |
| 13       |             |              |           | XA8-61                                 | XA8-62                                  |         |                 |
| 14       |             |              |           | XA8-62                                 | XA7-61                                  |         |                 |
| 15       |             |              |           | XA7-61                                 | XA7-62                                  |         |                 |
| 16       |             |              |           | XA7-62                                 | XA6-61                                  |         |                 |
| 17       |             |              |           | XA6-61                                 | XA6-62                                  |         |                 |
| 18       |             |              |           | XA6-62                                 | XA5-61                                  |         |                 |
| 19       |             |              |           | XA5-61                                 | XA5-62                                  |         |                 |
| 20       |             |              |           | XA5-62                                 | XA4-61                                  |         |                 |
| 21       |             |              |           | XA4-61                                 | XA4-62                                  |         |                 |
| 22       |             |              |           | XA4-62                                 | XA3-61                                  |         |                 |
| 23       |             |              |           | XA3-61                                 | XA3-62                                  |         |                 |
| 24       |             |              |           | XA3-62                                 | XA2-61                                  |         |                 |



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| WIRE NO. | DESCRIPTION | TOTAL LENGTH | SIGNATURE     | COMPONENT CONNECTION FOR START STATION | COMPONENT CONNECTION FOR FINISH STATION | REMARKS | N/A LM ITEM NO. |
|----------|-------------|--------------|---------------|--|---|---------|-----------------|
| 1        |             |              |               | XA2-61                                 | XA2-62                                  |         |                 |
| 2        |             |              |               | XA2-62                                 | XA1-61                                  |         |                 |
| 3        |             |              |               | XA1-61                                 | XA1-62                                  |         |                 |
| 4        |             |              |               |  |   |         |                 |
| 5        |             |              | 30V RETURN E5 |  | XA17-63                                 |         |                 |
| 6        |             |              |               | XA17-63                                | XA17-64                                 |         |                 |
| 7        |             |              |               | XA17-64                                | XA16-63                                 |         |                 |
| 8        |             |              |               | XA16-63                                | XA16-64                                 |         |                 |
| 9        |             |              |               | XA16-64                                | XA15-63                                 |         |                 |
| 10       |             |              |               | XA15-63                                | XA15-64                                 |         |                 |
| 11       |             |              |               | XA15-64                                | XA14-63                                 |         |                 |
| 12       |             |              |               | XA14-63                                | XA14-64                                 |         |                 |
| 13       |             |              |               | XA14-64                                | XA13-63                                 |         |                 |
| 14       |             |              |               | XA13-63                                | XA13-64                                 |         |                 |
| 15       |             |              |               | XA13-64                                | XA12-63                                 |         |                 |
| 16       |             |              |               | XA12-63                                | XA12-64                                 |         |                 |
| 17       |             |              |               | XA12-64                                | XA11-63                                 |         |                 |
| 18       |             |              |               | XA11-63                                | XA11-64                                 |         |                 |
| 19       |             |              |               | XA11-64                                | XA10-63                                 |         |                 |
| 20       |             |              |               | XA10-63                                | XA10-64                                 |         |                 |
| 21       |             |              |               | XA10-64                                | XA9-63                                  |         |                 |
| 22       |             |              |               | XA9-63                                 | XA9-64                                  |         |                 |
| 23       |             |              |               | XA9-64                                 | XA8-63                                  |         |                 |
| 24       |             |              |               | XA8-63                                 | XA8-64                                  |         |                 |


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
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REV

2-59

| WIRE NO. | DESCRIPTION | TOTAL LENGTH | SIGNATURE | COMPONENT CONNECTION FOR START STATION | COMPONENT CONNECTION FOR FINISH STATION | REMARKS | N/A LM ITEM NO. |
|----------|-------------|--------------|-----------|--|---|---------|-----------------|
| 1        |             |              |           | XA8-64                                 | XA7-63                                  |         |                 |
| 2        |             |              |           | XA7-63                                 | XA7-64                                  |         |                 |
| 3        |             |              |           | XA7-64                                 | XA6-63                                  |         |                 |
| 4        |             |              |           | XA6-63                                 | XA6-64                                  |         |                 |
| 5        |             |              |           | XA6-64                                 | XA5-63                                  |         |                 |
| 6        |             |              |           | XA5-63                                 | XA5-64                                  |         |                 |
| 7        |             |              |           | XA5-64                                 | XA4-63                                  |         |                 |
| 8        |             |              |           | XA4-63                                 | XA4-64                                  |         |                 |
| 9        |             |              |           | XA4-64                                 | XA3-63                                  |         |                 |
| 10       |             |              |           | XA3-63                                 | XA3-64                                  |         |                 |
| 11       |             |              |           | XA3-64                                 | XA2-63                                  |         |                 |
| 12       |             |              |           | XA2-63                                 | XA2-64                                  |         |                 |
| 13       |             |              |           | XA2-64                                 | XA1-63                                  |         |                 |
| 14       |             |              |           | XA1-63                                 | XA1-64                                  |         |                 |
| 15       |             |              |           | XA1-64                                 | XA1-63                                  |         |                 |
| 16       |             |              |           |  |   |         |                 |
| 17       |             |              | VCC       | E6                                     | XA17-77                                 |         |                 |
| 18       |             |              |           | XA17-77                                | XA17-78                                 |         |                 |
| 19       |             |              |           | XA17-78                                | XA16-77                                 |         |                 |
| 20       |             |              |           | XA16-77                                | XA16-78                                 |         |                 |
| 21       |             |              |           | XA16-78                                | XA15-77                                 |         |                 |
| 22       |             |              |           | XA15-77                                | XA15-78                                 |         |                 |
| 23       |             |              |           | XA15-78                                | XA14-77                                 |         |                 |
| 24       |             |              |           | XA14-77                                | XA14-78                                 |         |                 |



**TEXAS INSTRUMENTS**  
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 HOUSTON, TEXAS

**A**

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RE:

| WIRE NO. | DESCRIPTION | TOTAL LENGTH | SIGNATURE | COMPONENT CONNECTION FOR START STATION | COMPONENT CONNECTION FOR FINISH STATION | REMARKS | N/A LM ITEM NO. |
|----------|-------------|--------------|-----------|--|---|---------|-----------------|
| 1        |             |              |           | XA 14 - 78                             | XA 13 - 77                              |         |                 |
| 2        |             |              |           | XA 13 - 77                             | XA 13 - 78                              |         |                 |
| 3        |             |              |           | XA 13 - 78                             | XA 12 - 77                              |         |                 |
| 4        |             |              |           | XA 12 - 77                             | XA 12 - 78                              |         |                 |
| 5        |             |              |           | XA 12 - 78                             | XA 11 - 77                              |         |                 |
| 6        |             |              |           | XA 11 - 77                             | XA 11 - 78                              |         |                 |
| 7        |             |              |           | XA 11 - 78                             | XA 10 - 77                              |         |                 |
| 8        |             |              |           | XA 10 - 77                             | XA 10 - 78                              |         |                 |
| 9        |             |              |           | XA 10 - 78                             | XA 9 - 77                               |         |                 |
| 10       |             |              |           | XA 9 - 77                              | XA 9 - 78                               |         |                 |
| 11       |             |              |           | XA 9 - 78                              | XA 8 - 77                               |         |                 |
| 12       |             |              |           | XA 8 - 77                              | XA 8 - 78                               |         |                 |
| 13       |             |              |           | XA 8 - 78                              | XA 7 - 77                               |         |                 |
| 14       |             |              |           | XA 7 - 77                              | XA 7 - 78                               |         |                 |
| 15       |             |              |           | XA 7 - 78                              | XA 6 - 77                               |         |                 |
| 16       |             |              |           | XA 6 - 77                              | XA 6 - 78                               |         |                 |
| 17       |             |              |           | XA 6 - 78                              | XA 5 - 77                               |         |                 |
| 18       |             |              |           | XA 5 - 77                              | XA 5 - 78                               |         |                 |
| 19       |             |              |           | XA 5 - 78                              | XA 4 - 77                               |         |                 |
| 20       |             |              |           | XA 4 - 77                              | XA 4 - 78                               |         |                 |
| 21       |             |              |           | XA 4 - 78                              | XA 3 - 77                               |         |                 |
| 22       |             |              |           | XA 3 - 77                              | XA 3 - 78                               |         |                 |
| 23       |             |              |           | XA 3 - 78                              | XA 2 - 77                               |         |                 |
| 24       |             |              |           | XA 2 - 77                              | XA 2 - 78                               |         |                 |


  
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| WIRE NO. | DESCRIPTION | TOTAL LENGTH | SIGNATURE | COMPONENT CONNECTION FOR START STATION | COMPONENT CONNECTION FOR FINISH STATION | REMARKS   | N/A LM ITEM NO. |
|----------|-------------|--------------|-----------|--|---|---|-----------------|
| 1        |             |              |           | XA 2-78                                | XA 1-77                                 |   |                 |
| 2        |             |              |           | XA 1-77                                | XA 1-78                                 |   |                 |
| 3        |             |              |           |  |   |   |                 |
| 4        |             |              |           |  |   |   |                 |
| 5        |             |              | GND       | E7                                     | XA17-79                                 |   |                 |
| 6        |             |              |           | XA17-79                                | XA17-80                                 | }   |                 |
| 7        |             |              |           | XA17-80                                | XA16-79                                 |   |                 |
| 8        |             |              |           | XA16-79                                | XA16-80                                 |   |                 |
| 9        |             |              |           | XA16-80                                | XA15-79                                 |   |                 |
| 10       |             |              |           | XA15-79                                | XA15-80                                 |   |                 |
| 11       |             |              |           | XA15-80                                | XA14-79                                 |   |                 |
| 12       |             |              |           | XA14-79                                | XA14-80                                 |   |                 |
| 13       |             |              |           | XA14-80                                | XA13-79                                 | } CONNECTED TO GND PLANE ON COMPONENT SIDE OF BOARD |                 |
| 14       |             |              |           | XA13-79                                | XA13-80                                 |   |                 |
| 15       |             |              |           | XA13-80                                | XA12-79                                 |   |                 |
| 16       |             |              |           | XA12-79                                | XA12-80                                 |   |                 |
| 17       |             |              |           | XA12-80                                | XA11-79                                 |   |                 |
| 18       |             |              |           | XA11-79                                | XA11-80                                 |   |                 |
| 19       |             |              |           | XA11-80                                | XA10-79                                 |   |                 |
| 20       |             |              |           | XA10-79                                | XA10-80                                 |   |                 |
| 21       |             |              |           | XA10-80                                | XA9-79                                  |   |                 |
| 22       |             |              |           | XA9-79                                 | XA9-80                                  |   |                 |
| 23       |             |              |           | XA9-80                                 | XA8-79                                  |   |                 |
| 24       |             |              | GND       | XA8-79                                 | XA8-80                                  |   |                 |

TEXAS INSTRUMENTS  
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 INDUSTRIAL PRODUCTS DIVISION  
 HOUSTON, TEXAS

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| WIRE NO. | DESCRIPTION | TOTAL LENGTH | SIGNATURE | COMPONENT CONNECTION FOR START STATION | COMPONENT CONNECTION FOR FINISH STATION | REMARKS   | N/A LM ITEM NO. |
|----------|-------------|--------------|-----------|--|---|---|-----------------|
| 1        |             |              | GND       | XA8-80                                 | XA7-79                                  |   |                 |
| 2        |             |              |           | XA7-79                                 | XA7-80                                  |   |                 |
| 3        |             |              |           | XA7-80                                 | XA6-79                                  |   |                 |
| 4        |             |              |           | XA6-79                                 | XA6-80                                  |   |                 |
| 5        |             |              |           | XA6-80                                 | XA5-79                                  |   |                 |
| 6        |             |              |           | XA5-79                                 | XA5-80                                  |   |                 |
| 7        |             |              |           | XA5-80                                 | XA4-79                                  |   |                 |
| 8        |             |              |           | XA4-79                                 | XA4-80                                  |   |                 |
| 9        |             |              |           | XA4-80                                 | XA3-79                                  |   |                 |
| 10       |             |              |           | XA3-79                                 | XA3-80                                  | CONNECTED TO<br>GROUND PLANE<br>ON COMPONENT<br>SIDE OF BOARD |                 |
| 11       |             |              |           | XA3-80                                 | XA2-79                                  |   |                 |
| 12       |             |              |           | XA2-79                                 | XA2-80                                  |   |                 |
| 13       |             |              |           | XA2-80                                 | XA1-79                                  |   |                 |
| 14       |             |              |           | XA1-79                                 | XA1-80                                  |   |                 |
| 15       |             |              |           | XA1-80                                 | XA1-2                                   |   |                 |
| 16       |             |              |           | XA1-2                                  | XA1-1                                   |   |                 |
| 17       |             |              |           | XA1-1                                  | XA2-2                                   |   |                 |
| 18       |             |              |           | XA2-2                                  | XA2-1                                   |   |                 |
| 19       |             |              |           | XA2-1                                  | XA3-2                                   |   |                 |
| 20       |             |              |           | XA3-2                                  | XA3-1                                   |   |                 |
| 21       |             |              |           | XA3-1                                  | XA4-2                                   |   |                 |
| 22       |             |              |           | XA4-2                                  | XA4-1                                   |   |                 |
| 23       |             |              |           | XA4-1                                  | XA5-2                                   |   |                 |
| 24       |             |              | GND       | XA5-2                                  | XA5-1                                   |   |                 |


  
 LINCO REPROATED  
 INDUSTRIAL PRODUCTS DIVISION  
 HOUSTON, TEXAS

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 SHEET 2  
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| WIRE NO. | DESCRIPTION | TOTAL LENGTH | SIGNATURE | COMPONENT CONNECTION FOR START STATION | COMPONENT CONNECTION FOR FINISH STATION | REMARKS   | N/A LM ITEM NO. |
|----------|-------------|--------------|-----------|--|---|---|-----------------|
| 1        |             |              | GND       | XA 5-1                                 | XA 6-2                                  |   |                 |
| 2        |             |              |           | XA 6-2                                 | XA 6-1                                  |   |                 |
| 3        |             |              |           | XA 6-1                                 | XA 7-2                                  |   |                 |
| 4        |             |              |           | XA 7-2                                 | XA 7-1                                  |   |                 |
| 5        |             |              |           | XA 7-1                                 | XA 8-2                                  |   |                 |
| 6        |             |              |           | XA 8-2                                 | XA 8-1                                  |   |                 |
| 7        |             |              |           | XA 8-1                                 | XA 9-2                                  |   |                 |
| 8        |             |              |           | XA 9-2                                 | XA 9-1                                  |   |                 |
| 9        |             |              |           | XA 9-1                                 | XA 10-2                                 |   |                 |
| 10       |             |              |           | XA 10-2                                | XA 10-1                                 |   |                 |
| 11       |             |              |           | XA 10-1                                | XA 11-2                                 | CONNECTED TO<br>GROUND PLANE<br>ON COMPONENT<br>SIDE OF BOARD |                 |
| 12       |             |              |           | XA 11-2                                | XA 11-1                                 |   |                 |
| 13       |             |              |           | XA 11-1                                | XA 12-2                                 |   |                 |
| 14       |             |              |           | XA 12-2                                | XA 12-1                                 |   |                 |
| 15       |             |              |           | XA 12-1                                | XA 13-2                                 |   |                 |
| 16       |             |              |           | XA 13-2                                | XA 13-1                                 |   |                 |
| 17       |             |              |           | XA 13-1                                | XA 14-2                                 |   |                 |
| 18       |             |              |           | XA 14-2                                | XA 14-1                                 |   |                 |
| 19       |             |              |           | XA 14-1                                | XA 15-2                                 |   |                 |
| 20       |             |              |           | XA 15-2                                | XA 15-1                                 |   |                 |
| 21       |             |              |           | XA 15-1                                | XA 16-2                                 |   |                 |
| 22       |             |              |           | XA 16-2                                | XA 16-1                                 |   |                 |
| 23       |             |              |           | XA 16-1                                | XA 17-2                                 |   |                 |
| 24       |             |              | GND       | XA 17-2                                | XA 17-1                                 |   |                 |

USEL 11


 TEXAS INSTRUMENTS  
 INCORPORATED  
 INDUSTRIAL PRODUCTS DIVISION  
 HOUSTON, TEXAS

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 DATE

| WIRE NO. | DESCRIPTION | TOTAL LENGTH | SIGNATURE | COMPONENT CONNECTION FOR START STATION | COMPONENT CONNECTION FOR FINISH STATION | REMARKS | N/A LM ITEM NO. |
|----------|-------------|--------------|-----------|--|---|---------|-----------------|
| 1        |             |              | CRUSEL 4- | XA 6-48                                | XA 1-7                                  |         |                 |
| 2        |             |              | CRUSEL 4L | XA 1-3                                 | XA 2-4                                  |         |                 |
| 3        |             |              |           | XA 2-4                                 | XA 2-3                                  |         |                 |
| 4        |             |              |           | XA 2-3                                 | XA 3-4                                  |         |                 |
| 5        |             |              |           | XA 3-4                                 | XA 3-3                                  |         |                 |
| 6        |             |              |           | XA 3-3                                 | XA 4-4                                  |         |                 |
| 7        |             |              |           | XA 4-4                                 | XA 4-3                                  |         |                 |
| 8        |             |              |           | XA 4-3                                 | XA 5-4                                  |         |                 |
| 9        |             |              |           | XA 5-4                                 | XA 5-3                                  |         |                 |
| 10       |             |              |           | XA 5-3                                 | XA 6-46                                 |         |                 |
| 11       |             |              |           | XA 6-46                                | XA 6-45                                 |         |                 |
| 12       |             |              |           |  |   |         |                 |
| 13       |             |              | CRUSEL 3- | XA 5-48                                | XA 5-47                                 |         |                 |
| 14       |             |              | CRUSEL 3L | XA 1-5                                 | XA 2-6                                  |         |                 |
| 15       |             |              |           | XA 2-6                                 | XA 2-5                                  |         |                 |
| 16       |             |              |           | XA 2-5                                 | XA 3-6                                  |         |                 |
| 17       |             |              |           | XA 3-6                                 | XA 3-5                                  |         |                 |
| 18       |             |              |           | XA 3-5                                 | XA 4-6                                  |         |                 |
| 19       |             |              |           | XA 4-6                                 | XA 4-5                                  |         |                 |
| 20       |             |              |           | XA 4-5                                 | XA 5-46                                 |         |                 |
| 21       |             |              |           | XA 5-46                                | XA 5-45                                 |         |                 |
| 22       |             |              |           |  |   |         |                 |
| 23       |             |              | CRUSEL 2- | XA 4-48                                | XA 4-47                                 |         |                 |
| 24       |             |              | CRUSEL 2L | XA 1-7                                 | XA 2-8                                  |         |                 |

  
 TEXAS INSTRUMENTS  
 INCORPORATED  
 INDUSTRIAL PRODUCTS DIVISION  
 HOUSTON, TEXAS

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| WIRE NO. | DESCRIPTION | TOTAL LENGTH | SIGNATURE   | COMPONENT CONNECTION FOR START STATION | COMPONENT CONNECTION FOR FINISH STATION | REMARKS | N/A LM ITEM NO. |
|----------|-------------|--------------|-------------|--|---|---------|-----------------|
| 1        |             |              |             | XA2-8                                  | XA2-7                                   |         |                 |
| 2        |             |              |             | XA2-7                                  | XA3-8                                   |         |                 |
| 3        |             |              |             | XA3-8                                  | XA3-8                                   |         |                 |
| 4        |             |              |             | XA3-7                                  | XA4-46                                  |         |                 |
| 5        |             |              |             | XA4-46                                 | XA4-45                                  |         |                 |
| 6        |             |              |             |  |   |         |                 |
| 7        |             |              | CRUSEL 1-   | XA3-48                                 | XA3-47                                  |         |                 |
| 8        |             |              | CRUSEL 1'-  | XA1-9                                  | XA2-10                                  |         |                 |
| 9        |             |              |             | XA2-10                                 | XA2-9                                   |         |                 |
| 10       |             |              |             | XA2-7                                  | XA3-46                                  |         |                 |
| 11       |             |              |             | XA3-46                                 | XA3-45                                  |         |                 |
| 12       |             |              |             |  |   |         |                 |
| 13       |             |              | CRUSEL 15-  | XA17-48                                | XA17-47                                 |         |                 |
| 14       |             |              | CRUSEL 15'- | XA1-11                                 | XA2-12                                  |         |                 |
| 15       |             |              |             | XA2-12                                 | XA2-11                                  |         |                 |
| 16       |             |              |             | XA2-11                                 | XA3-12                                  |         |                 |
| 17       |             |              |             | XA3-12                                 | XA3-11                                  |         |                 |
| 18       |             |              |             | XA3-11                                 | XA4-12                                  |         |                 |
| 19       |             |              |             | XA4-12                                 | XA4-11                                  |         |                 |
| 20       |             |              |             | XA4-11                                 | XA5-12                                  |         |                 |
| 21       |             |              |             | XA5-12                                 | XA5-11                                  |         |                 |
| 22       |             |              |             | XA5-11                                 | XA6-12                                  |         |                 |
| 23       |             |              |             | XA6-12                                 | XA6-11                                  |         |                 |
| 24       |             |              |             | XA6-11                                 | XA7-12                                  |         |                 |





**TEXAS INSTRUMENTS**  
 INTEGRATED CIRCUITS DIVISION  
 HOUSTON, TEXAS

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| WIRE NO. | DESCRIPTION | TOTAL LENGTH | SIGNATURE  | COMPONENT CONNECTION FOR START STATION | COMPONENT CONNECTION FOR FINISH STATION | REMARKS | N/A LM ITEM NO. |
|----------|-------------|--------------|------------|--|---|---------|-----------------|
| 1        |             |              |            | XA 7 12                                | XA 7-11                                 |         |                 |
| 2        |             |              |            | XA 7-11                                | XA 8-12                                 |         |                 |
| 3        |             |              |            | XA 8-12                                | XA 8-11                                 |         |                 |
| 4        |             |              |            | XA 8-11                                | XA 9-12                                 |         |                 |
| 5        |             |              |            | XA 7-12                                | XA 9-11                                 |         |                 |
| 6        |             |              |            | XA 9-11                                | XA 10-12                                |         |                 |
| 7        |             |              |            | XA 10-12                               | XA 10-11                                |         |                 |
| 8        |             |              |            | XA 10-11                               | XA 11-12                                |         |                 |
| 9        |             |              |            | XA 11-12                               | XA 11-11                                |         |                 |
| 10       |             |              |            | XA 11-11                               | XA 12-12                                |         |                 |
| 11       |             |              |            | XA 12-12                               | XA 12-11                                |         |                 |
| 12       |             |              |            | XA 12-11                               | XA 13-12                                |         |                 |
| 13       |             |              |            | XA 13-12                               | XA 13-11                                |         |                 |
| 14       |             |              |            | XA 13-11                               | XA 14-12                                |         |                 |
| 15       |             |              |            | XA 14-12                               | XA 14-11                                |         |                 |
| 16       |             |              |            | XA 14-11                               | XA 15-12                                |         |                 |
| 17       |             |              |            | XA 15-12                               | XA 15-11                                |         |                 |
| 18       |             |              |            | XA 15-11                               | XA 16-12                                |         |                 |
| 19       |             |              |            | XA 16-12                               | XA 16-11                                |         |                 |
| 20       |             |              |            | XA 16-11                               | XA 17 46                                |         |                 |
| 21       |             |              |            | XA 17-46                               | XA 17 45                                |         |                 |
| 22       |             |              |            |  |   |         |                 |
| 23       |             |              |            |  |   |         |                 |
| 24       |             |              | CRUSEL 14- | XA16-48                                | XA16-47                                 |         |                 |
|          |             |              | CRUSEL 14' | XA1-13                                 | XA2-14                                  |         |                 |


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 INCO PETROLEUM PRODUCTS DIVISION  
 HOUSTON, TEXAS

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| WIRE NO. | DESCRIPTION | TOTAL LENGTH | SIGNATURE | COMPONENT CONNECTION FOR START STATION | COMPONENT CONNECTION FOR FINISH STATION | REMARKS | N/A LM ITEM NO. |
|----------|-------------|--------------|-----------|--|---|---------|-----------------|
| 1        |             |              |           | XA2-14                                 | XA2-13                                  |         |                 |
| 2        |             |              |           | XA2-13                                 | XA3-14                                  |         |                 |
| 3        |             |              |           | XA3-14                                 | XA3-13                                  |         |                 |
| 4        |             |              |           | XA3-13                                 | XA4-14                                  |         |                 |
| 5        |             |              |           | XA4-14                                 | XA4-13                                  |         |                 |
| 6        |             |              |           | XA4-13                                 | XA5-14                                  |         |                 |
| 7        |             |              |           | XA5-14                                 | XA5-13                                  |         |                 |
| 8        |             |              |           | XA5-13                                 | XA6-14                                  |         |                 |
| 9        |             |              |           | XA6-14                                 | XA6-13                                  |         |                 |
| 10       |             |              |           | XA6-13                                 | XA7-14                                  |         |                 |
| 11       |             |              |           | XA7-14                                 | XA7-13                                  |         |                 |
| 12       |             |              |           | XA7-13                                 | XA8-14                                  |         |                 |
| 13       |             |              |           | XA8-14                                 | XA8-13                                  |         |                 |
| 14       |             |              |           | XA8-13                                 | XA9-14                                  |         |                 |
| 15       |             |              |           | XA9-14                                 | XA9-13                                  |         |                 |
| 16       |             |              |           | XA9-13                                 | XA10-14                                 |         |                 |
| 17       |             |              |           | XA10-14                                | XA10-13                                 |         |                 |
| 18       |             |              |           | XA10-13                                | XA11-14                                 |         |                 |
| 19       |             |              |           | XA11-14                                | XA11-13                                 |         |                 |
| 20       |             |              |           | XA11-13                                | XA12-14                                 |         |                 |
| 21       |             |              |           | XA12-14                                | XA12-13                                 |         |                 |
| 22       |             |              |           | XA12-13                                | XA13-14                                 |         |                 |
| 23       |             |              |           | XA13-14                                | XA13-13                                 |         |                 |
| 24       |             |              |           | XA13-13                                | XA14-14                                 |         |                 |


  
 TEXAS INDUSTRIAL HOUSE

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| QTY | DESCRIPTION | TOTAL LENGTH | SIGNATURE    | COMPONENT CONNECTION FOR START STATION | COMPONENT CONNECTION FOR FINISH STATION | REMARKS | N/A LM ITEM NO. |
|-----|-------------|--------------|--------------|--|---|---------|-----------------|
| 1   |             |              |              | XA 14-14                               | XA 14-13                                |         |                 |
| 2   |             |              |              | XA 14-13                               | XA 15-14                                |         |                 |
| 3   |             |              |              | XA 15-14                               | XA 15-13                                |         |                 |
| 4   |             |              |              | XA 15-13                               | XA 16-46                                |         |                 |
| 5   |             |              |              | XA 16-46                               | XA 16-45                                |         |                 |
| 6   |             |              |              |  |   |         |                 |
| 7   |             |              | CPU DATA OUT | XA 1-16                                | XA 1-15                                 |         |                 |
| 8   |             |              |              | XA 1-15                                | XA 2-16                                 |         |                 |
| 9   |             |              |              | XA 2-16                                | XA 2-15                                 |         |                 |
| 10  |             |              |              | XA 2-15                                | XA 3-16                                 |         |                 |
| 11  |             |              |              | XA 3-16                                | XA 3-15                                 |         |                 |
| 12  |             |              |              | XA 3-15                                | XA 4-16                                 |         |                 |
| 13  |             |              |              | XA 4-16                                | XA 4-15                                 |         |                 |
| 14  |             |              |              | XA 4-15                                | XA 5-16                                 |         |                 |
| 15  |             |              |              | XA 5-16                                | XA 5-15                                 |         |                 |
| 16  |             |              |              | XA 5-15                                | XA 6-16                                 |         |                 |
| 17  |             |              |              | XA 6-16                                | XA 6-15                                 |         |                 |
| 18  |             |              |              | XA 6-15                                | XA 7-16                                 |         |                 |
| 19  |             |              |              | XA 7-16                                | XA 7-15                                 |         |                 |
| 20  |             |              |              | XA 7-15                                | XA 8-16                                 |         |                 |
| 21  |             |              |              | XA 8-16                                | XA 8-15                                 |         |                 |
| 22  |             |              |              | XA 8-15                                | XA 9-16                                 |         |                 |
| 23  |             |              |              | XA 9-16                                | XA 9-15                                 |         |                 |
| 24  |             |              |              | XA 9-15                                | XA 10-16                                |         |                 |


**TEXAS INSTRUMENTS**  
 NATIONAL OPERATIONS  
 INDUSTRIAL PRODUCTS DIVISION  
 HOUSTON, TEXAS

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T-1-3118

| WIRE NO. | DESCRIPTION | TOTAL LENGTH | SIGNATURE  | COMPONENT CONNECTION FOR START STATION | COMPONENT CONNECTION FOR FINISH STATION | REMARKS | N/A LM ITEM NO. |
|----------|-------------|--------------|------------|--|---|---------|-----------------|
| 1        |             |              |            | XA10-16                                | XA10-15                                 |         |                 |
| 2        |             |              |            | XA10-15                                | XA11-16                                 |         |                 |
| 3        |             |              |            | XA11-16                                | XA11-15                                 |         |                 |
| 4        |             |              |            | XA11-15                                | XA12-16                                 |         |                 |
| 5        |             |              |            | XA12-16                                | XA12-15                                 |         |                 |
| 6        |             |              |            | XA12-15                                | XA13-16                                 |         |                 |
| 7        |             |              |            | XA13-16                                | XA13-15                                 |         |                 |
| 8        |             |              |            | XA13-15                                | XA14-16                                 |         |                 |
| 9        |             |              |            | XA14-16                                | XA14-15                                 |         |                 |
| 10       |             |              |            | XA14-15                                | XA15-16                                 |         |                 |
| 11       |             |              |            | XA15-16                                | XA15-15                                 |         |                 |
| 12       |             |              |            | XA15-15                                | XA16-16                                 |         |                 |
| 13       |             |              |            | XA16-16                                | XA16-15                                 |         |                 |
| 14       |             |              |            | XA16-15                                | XA17-16                                 |         |                 |
| 15       |             |              |            | XA17-16                                | XA17-15                                 |         |                 |
| 16       |             |              |            |  |   |         |                 |
| 17       |             |              | CRUSEL 13- | XA15-48                                | XA15-47                                 |         |                 |
| 18       |             |              | CRUSEL 13- | XA1-17                                 | XA2-18                                  |         |                 |
| 19       |             |              |            | XA2-18                                 | XA2-17                                  |         |                 |
| 20       |             |              |            | XA2-17                                 | XA3-18                                  |         |                 |
| 21       |             |              |            | XA3-18                                 | XA3-17                                  |         |                 |
| 22       |             |              |            | XA3-17                                 | XA4-18                                  |         |                 |
| 23       |             |              |            | XA4-18                                 | XA4-17                                  |         |                 |
| 24       |             |              |            | XA4-17                                 | XA5-18                                  |         |                 |


**TEXAS INSTRUMENTS**  
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 INDUSTRIAL PRODUCTS DIVISION  
 HOUSTON, TEXAS

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| WIRE NO | DESCRIPTION | TOTAL LENGTH | SIGNATURE   | COMPONENT CONNECTION FOR START STATION | COMPONENT CONNECTION FOR FINISH STATION | REMARKS | N/A LM ITEM NO. |
|---------|-------------|--------------|-------------|--|---|---------|-----------------|
| 1       |             |              |             | XA5-18                                 | XAS-17                                  |         |                 |
| 2       |             |              |             | XA5-17                                 | XA6-18                                  |         |                 |
| 3       |             |              |             | XA6-18                                 | XA6-17                                  |         |                 |
| 4       |             |              |             | XA6-17                                 | XA7-18                                  |         |                 |
| 5       |             |              |             | XA7-18                                 | XA7-17                                  |         |                 |
| 6       |             |              |             | XA7-17                                 | XA8-18                                  |         |                 |
| 7       |             |              |             | XA8-18                                 | XA8-17                                  |         |                 |
| 8       |             |              |             | XA8-17                                 | XA9-18                                  |         |                 |
| 9       |             |              |             | XA9-18                                 | XA9-17                                  |         |                 |
| 10      |             |              |             | XA9-17                                 | XA10-18                                 |         |                 |
| 11      |             |              |             | XA10-18                                | XA10-17                                 |         |                 |
| 12      |             |              |             | XA10-17                                | XA11-18                                 |         |                 |
| 13      |             |              |             | XA11-18                                | XA11-17                                 |         |                 |
| 14      |             |              |             | XA11-17                                | XA12-18                                 |         |                 |
| 15      |             |              |             | XA12-18                                | XA12-17                                 |         |                 |
| 16      |             |              |             | XA12-17                                | XA13-18                                 |         |                 |
| 17      |             |              |             | XA13-18                                | XA13-17                                 |         |                 |
| 18      |             |              |             | XA13-17                                | XA14-18                                 |         |                 |
| 19      |             |              |             | XA14-18                                | XA14-17                                 |         |                 |
| 20      |             |              |             | XA14-17                                | XA15-46                                 |         |                 |
| 21      |             |              |             | XA15-46                                | XA15-45                                 |         |                 |
| 22      |             |              |             |  |   |         |                 |
| 23      |             |              | CRUSEL 12-  | XA14-48                                | XA14-47                                 |         |                 |
| 24      |             |              | CRUSEL 12'- | XA1-19                                 | XA2-20                                  |         |                 |

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| WIRE NO. | DESCRIPTION | TOTAL LENGTH | SIGNATURE | COMPONENT CONNECTION FOR START STATION | COMPONENT CONNECTION FOR FINISH STATION | REMARKS | N/A LM ITEM NO. |
|----------|-------------|--------------|-----------|--|---|---------|-----------------|
| 1        |             |              |           | XA 2-20                                | XA 2-19                                 |         |                 |
| 2        |             |              |           | XA 2-19                                | XA 3-20                                 |         |                 |
| 3        |             |              |           | XA 3-20                                | XA 3-19                                 |         |                 |
| 4        |             |              |           | XA 3-19                                | XA 4-20                                 |         |                 |
| 5        |             |              |           | XA 4-20                                | XA 4-19                                 |         |                 |
| 6        |             |              |           | XA 4-19                                | XA 5-20                                 |         |                 |
| 7        |             |              |           | XA 5-20                                | XA 5-19                                 |         |                 |
| 8        |             |              |           | XA 5-19                                | XA 6-20                                 |         |                 |
| 9        |             |              |           | XA 6-20                                | XA 6-19                                 |         |                 |
| 10       |             |              |           | XA 6-19                                | XA 7-20                                 |         |                 |
| 11       |             |              |           | XA 7-20                                | XA 7-19                                 |         |                 |
| 12       |             |              |           | XA 7-19                                | XA 8-20                                 |         |                 |
| 13       |             |              |           | XA 8-20                                | XA 8-19                                 |         |                 |
| 14       |             |              |           | XA 8-19                                | XA 9-20                                 |         |                 |
| 15       |             |              |           | XA 9-20                                | XA 9-19                                 |         |                 |
| 16       |             |              |           | XA 9-19                                | XA 10-20                                |         |                 |
| 17       |             |              |           | XA 10-20                               | XA 10-19                                |         |                 |
| 18       |             |              |           | XA 10-19                               | XA 11-20                                |         |                 |
| 19       |             |              |           | XA 11-20                               | XA 11-19                                |         |                 |
| 20       |             |              |           | XA 11-19                               | XA 12-20                                |         |                 |
| 21       |             |              |           | XA 12-20                               | XA 12-19                                |         |                 |
| 22       |             |              |           | XA 12-19                               | XA 13-20                                |         |                 |
| 23       |             |              |           | XA 13-20                               | XA 13-19                                |         |                 |
| 24       |             |              |           | XA 13-19                               | XA 14-46                                |         |                 |


**TEXAS INSTRUMENTS**  
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| WIRE NO. | DESCRIPTION | TOTAL LENGTH | SIGNATURE   | COMPONENT CONNECTION FOR START STATION | COMPONENT CONNECTION FOR FINISH STATION | REMARKS | N/A LM ITEM NO. |
|----------|-------------|--------------|-------------|--|---|---------|-----------------|
| 1        |             |              |             | XA14-26                                | XA14-25                                 |         |                 |
| 2        |             |              |             |  |   |         |                 |
| 3        |             |              |             |  |   |         |                 |
| 4        |             |              | STORE CLOCK | XA1-22                                 | XA1-21                                  |         |                 |
| 5        |             |              |             | XA1-21                                 | XA2-22                                  |         |                 |
| 6        |             |              |             | XA2-22                                 | XA2-21                                  |         |                 |
| 7        |             |              |             | XA2-21                                 | XA3-22                                  |         |                 |
| 8        |             |              |             | XA3-22                                 | XA3-21                                  |         |                 |
| 9        |             |              |             | XA3-21                                 | XA4-22                                  |         |                 |
| 10       |             |              |             | XA4-22                                 | XA4-21                                  |         |                 |
| 11       |             |              |             | XA4-21                                 | XA5-22                                  |         |                 |
| 12       |             |              |             | XA5-22                                 | XA5-21                                  |         |                 |
| 13       |             |              |             | XA5-21                                 | XA6-22                                  |         |                 |
| 14       |             |              |             | XA6-22                                 | XA6-21                                  |         |                 |
| 15       |             |              |             | XA6-21                                 | XA7-22                                  |         |                 |
| 16       |             |              |             | XA7-22                                 | XA7-21                                  |         |                 |
| 17       |             |              |             | XA7-21                                 | XA8-22                                  |         |                 |
| 18       |             |              |             | XA8-22                                 | XA8-21                                  |         |                 |
| 19       |             |              |             | XA8-21                                 | XA9-22                                  |         |                 |
| 20       |             |              |             | XA9-22                                 | XA9-21                                  |         |                 |
| 21       |             |              |             | XA9-21                                 | XA10-22                                 |         |                 |
| 22       |             |              |             | XA10-22                                | XA10-21                                 |         |                 |
| 23       |             |              |             | XA10-21                                | XA11-22                                 |         |                 |
| 24       |             |              |             | XA11-22                                | XA11-21                                 |         |                 |
|          |             |              |             | XA11-21                                | XA12-22                                 |         |                 |



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| WIRE NO | DESCRIPTION | TOTAL LENGTH | SIGNATURE  | COMPONENT CONNECTION FOR START STATION | COMPONENT CONNECTION FOR FINISH STATION | REMARKS | N/A LM ITEM NO. |
|---------|-------------|--------------|------------|--|---|---------|-----------------|
| 1       |             |              |            | XA12-22                                | XA12-21                                 |         |                 |
| 2       |             |              |            | XA12-21                                | XA13-22                                 |         |                 |
| 3       |             |              |            | XA13-22                                | XA13-21                                 |         |                 |
| 4       |             |              |            | XA13-21                                | XA14-22                                 |         |                 |
| 5       |             |              |            | XA14-22                                | XA14-21                                 |         |                 |
| 6       |             |              |            | XA14-21                                | XA15-22                                 |         |                 |
| 7       |             |              |            | XA15-22                                | XA15-21                                 |         |                 |
| 8       |             |              |            | XA15-21                                | XA16-22                                 |         |                 |
| 9       |             |              |            | XA16-22                                | XA16-21                                 |         |                 |
| 10      |             |              |            | XA16-21                                | XA17-22                                 |         |                 |
| 11      |             |              |            | XA17-22                                | XA17-21                                 |         |                 |
| 12      |             |              |            |  |   |         |                 |
| 13      |             |              | CRUSEL 11' | XA13-24                                | XA13-23                                 |         |                 |
| 14      |             |              | CRUSEL 11' | XA1-23                                 | XA2-24                                  |         |                 |
| 15      |             |              |            | XA2-24                                 | XA2-23                                  |         |                 |
| 16      |             |              |            | XA2-23                                 | XA3-24                                  |         |                 |
| 17      |             |              |            | XA3-24                                 | XA3-23                                  |         |                 |
| 18      |             |              |            | XA3-23                                 | XA4-24                                  |         |                 |
| 19      |             |              |            | XA4-24                                 | XA4-23                                  |         |                 |
| 20      |             |              |            | XA4-23                                 | XA5-24                                  |         |                 |
| 21      |             |              |            | XA5-24                                 | XA5-23                                  |         |                 |
| 22      |             |              |            | XA5-23                                 | XA6-24                                  |         |                 |
| 23      |             |              |            | XA6-24                                 | XA6-23                                  |         |                 |
| 24      |             |              |            | XA6-23                                 | XA7-24                                  |         |                 |



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| WIRE NO. | DESCRIPTION | TOTAL LENGTH | SIGNATURE  | COMPONENT CONNECTION FOR START STATION | COMPONENT CONNECTION FOR FINISH STATION | REMARKS | N/A LM ITEM NO. |
|----------|-------------|--------------|------------|--|---|---------|-----------------|
| 1        |             |              |            | XA7-24                                 | XA7-23                                  |         |                 |
| 2        |             |              |            | XA7-23                                 | XA8-24                                  |         |                 |
| 3        |             |              |            | XA8-24                                 | XA8-23                                  |         |                 |
| 4        |             |              |            | XA8-23                                 | XA9-24                                  |         |                 |
| 5        |             |              |            | XA9-24                                 | XA9-23                                  |         |                 |
| 6        |             |              |            | XA9-23                                 | XA10-24                                 |         |                 |
| 7        |             |              |            | XA10-24                                | XA10-23                                 |         |                 |
| 8        |             |              |            | XA10-23                                | XA11-24                                 |         |                 |
| 9        |             |              |            | XA11-24                                | XA11-23                                 |         |                 |
| 10       |             |              |            | XA11-23                                | XA12-24                                 |         |                 |
| 11       |             |              |            | XA12-24                                | XA12-23                                 |         |                 |
| 12       |             |              |            | XA12-23                                | XA13-46                                 |         |                 |
| 13       |             |              |            | XA13-46                                | XA13-45                                 |         |                 |
| 14       |             |              |            |  |   |         |                 |
| 15       |             |              | CRUSEL 10- | XA12-48                                | XA12-47                                 |         |                 |
| 16       |             |              | CRUSEL 10' | XA1-25                                 | XA2-26                                  |         |                 |
| 17       |             |              |            | XA2-26                                 | XA2-25                                  |         |                 |
| 18       |             |              |            | XA2-25                                 | XA3-26                                  |         |                 |
| 19       |             |              |            | XA3-26                                 | XA3-25                                  |         |                 |
| 20       |             |              |            | XA3-25                                 | XA4-26                                  |         |                 |
| 21       |             |              |            | XA4-26                                 | XA4-25                                  |         |                 |
| 22       |             |              |            | XA4-25                                 | XA5-26                                  |         |                 |
| 23       |             |              |            | XA5-26                                 | XA5-25                                  |         |                 |
| 24       |             |              |            | XA5-25                                 | XA6-26                                  |         |                 |



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TI-13210

|    | DESCRIPTION | TOTAL LENGTH | SIGNATURE | COMPONENT CONNECTION FOR START STATION | COMPONENT CONNECTION FOR FINISH STATION | REMARKS | N/A LM ITEM NO. |
|----|-------------|--------------|-----------|--|---|---------|-----------------|
| 1  |             |              |           | XA6-26                                 | XA6-25                                  |         |                 |
| 2  |             |              |           | XA6-25                                 | XA7-26                                  |         |                 |
| 3  |             |              |           | XA7-26                                 | XA7-25                                  |         |                 |
| 4  |             |              |           | XA7-25                                 | XA8-26                                  |         |                 |
| 5  |             |              |           | XA8-26                                 | XA8-25                                  |         |                 |
| 6  |             |              |           | XA8-25                                 | XA9-26                                  |         |                 |
| 7  |             |              |           | XA9-26                                 | XA9-25                                  |         |                 |
| 8  |             |              |           | XA9-25                                 | XA10-26                                 |         |                 |
| 9  |             |              |           | XA10-26                                | XA10-25                                 |         |                 |
| 10 |             |              |           | XA10-25                                | XA11-26                                 |         |                 |
| 11 |             |              |           | XA11-26                                | XA11-25                                 |         |                 |
| 12 |             |              |           | XA11-25                                | XA12-46                                 |         |                 |
| 13 |             |              |           | XA12-46                                | XA12-45                                 |         |                 |
| 14 |             |              |           |  |   |         |                 |
| 15 |             |              | CRUSEL 9- | XA11-48                                | XA11-47                                 |         |                 |
| 16 |             |              | CRUSEL 9' | XA1-27                                 | XA2-28                                  |         |                 |
| 17 |             |              |           | XA2-28                                 | XA2-27                                  |         |                 |
| 18 |             |              |           | XA2-27                                 | XA3-28                                  |         |                 |
| 19 |             |              |           | XA3-28                                 | XA3-27                                  |         |                 |
| 20 |             |              |           | XA3-27                                 | XA4-28                                  |         |                 |
| 21 |             |              |           | XA4-28                                 | XA4-27                                  |         |                 |
| 22 |             |              |           | XA4-27                                 | XA5-28                                  |         |                 |
| 23 |             |              |           | XA5-28                                 | XA5-27                                  |         |                 |
| 24 |             |              |           |  |   |         |                 |


  
 NSTRUMENTS  
 R.P. ORR ATTORNEY  
 INDUSTRIAL PRODUCTS DIVISION  
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| WIRE NO. | DESCRIPTION | TOTAL LENGTH | SIGNATURE  | COMPONENT CONNECTION FOR START STATION | COMPONENT CONNECTION FOR FINISH STATION | REMARKS | N/A LM ITEM NO. |
|----------|-------------|--------------|------------|--|---|---------|-----------------|
| 1        |             |              |            | XA5-27                                 | XA6-28                                  |         |                 |
| 2        |             |              |            | XA6-28                                 | XA6-27                                  |         |                 |
| 3        |             |              |            | XA6-27                                 | XA7-28                                  |         |                 |
| 4        |             |              |            | XA7-28                                 | XA7-27                                  |         |                 |
| 5        |             |              |            | XA7-27                                 | XA8-28                                  |         |                 |
| 6        |             |              |            | XA8-28                                 | XA8-27                                  |         |                 |
| 7        |             |              |            | XA8-27                                 | XA9-28                                  |         |                 |
| 8        |             |              |            | XA9-28                                 | XA9-27                                  |         |                 |
| 9        |             |              |            | XA9-27                                 | XA10-28                                 |         |                 |
| 10       |             |              |            | XA10-28                                | XA10-28                                 |         |                 |
| 11       |             |              |            | XA10-27                                | XA11-46                                 |         |                 |
| 12       |             |              |            | XA11-46                                | XA11-45                                 |         |                 |
| 13       |             |              |            |  |   |         |                 |
| 14       |             |              | CRUSEL 8-- | XA10-48                                | XA10-47                                 |         |                 |
| 15       |             |              | CRUSEL 8'- | XA1-29                                 | XA2-30                                  |         |                 |
| 16       |             |              |            | XA2-30                                 | XA2-29                                  |         |                 |
| 17       |             |              |            | XA2-29                                 | XA3-30                                  |         |                 |
| 18       |             |              |            | XA3-30                                 | XA3-29                                  |         |                 |
| 19       |             |              |            | XA3-29                                 | XA4-30                                  |         |                 |
| 20       |             |              |            | XA4-30                                 | XA4-29                                  |         |                 |
| 21       |             |              |            | XA4-29                                 | XA5-30                                  |         |                 |
| 22       |             |              |            | XA5-30                                 | XA5-29                                  |         |                 |
| 23       |             |              |            | XA5-29                                 | XA6-30                                  |         |                 |
| 24       |             |              |            | XA6-30                                 | XA6-29                                  |         |                 |


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| LINE | DESCRIPTION | TOTAL LENGTH | SIGNATURE  | COMPONENT CONNECTION FOR START STATION | COMPONENT CONNECTION FOR FINISH STATION | REMARKS | N/A<br>LA<br>ITEM<br>NO. |
|------|-------------|--------------|------------|--|---|---------|--------------------------|
| 1    |             |              |            | XA6-29                                 | XA7-30                                  |         |                          |
| 2    |             |              |            | XA7-30                                 | XA7-29                                  |         |                          |
| 3    |             |              |            | XA7-29                                 | XA8-30                                  |         |                          |
| 4    |             |              |            | XA8-30                                 | XA8-29                                  |         |                          |
| 5    |             |              |            | XA8-29                                 | XA9-30                                  |         |                          |
| 6    |             |              |            | XA9-30                                 | XA9-29                                  |         |                          |
| 7    |             |              |            | XA9-29                                 | XA10-46                                 |         |                          |
| 8    |             |              |            | XA10-46                                | XA10-45                                 |         |                          |
| 9    |             |              |            |  |   |         |                          |
| 10   |             |              | CRUSEL 7-  | XA9-48                                 | XA9-47                                  |         |                          |
| 11   |             |              | CRUSEL 7'- | XA1-31                                 | XA2-32                                  |         |                          |
| 12   |             |              |            | XA2-32                                 | XA2-31                                  |         |                          |
| 13   |             |              |            | XA2-31                                 | XA3-32                                  |         |                          |
| 14   |             |              |            | XA3-32                                 | XA3-31                                  |         |                          |
| 15   |             |              |            | XA3-31                                 | XA4-32                                  |         |                          |
| 16   |             |              |            | XA4-32                                 | XA4-31                                  |         |                          |
| 17   |             |              |            | XA4-31                                 | XA5-32                                  |         |                          |
| 18   |             |              |            | XA5-32                                 | XA5-31                                  |         |                          |
| 19   |             |              |            | XA5-31                                 | XA6-32                                  |         |                          |
| 20   |             |              |            | XA6-32                                 | XA6-31                                  |         |                          |
| 21   |             |              |            | XA6-31                                 | XA7-32                                  |         |                          |
| 22   |             |              |            | XA7-32                                 | XA7-31                                  |         |                          |
| 23   |             |              |            | XA7-31                                 | XA8-32                                  |         |                          |
| 24   |             |              |            | XA8-32                                 | XA8-31                                  |         |                          |




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| WIRE NO. | DESCRIPTION | TOTAL LENGTH | SIGNATURE   | COMPONENT CONNECTION FOR START STATION | COMPONENT CONNECTION FOR FINISH STATION | REMARKS | N/A LM ITEM NO. |
|----------|-------------|--------------|-------------|--|---|---------|-----------------|
| 1        |             |              |             | XA8-31                                 | XA9-46                                  |         |                 |
| 2        |             |              |             | XA9-46                                 | YA9-45                                  |         |                 |
| 3        |             |              |             |  |   |         |                 |
| 4        |             |              | CRU BIT 15- | XA1-34                                 | XA1-33                                  |         |                 |
| 5        |             |              |             | XA1-33                                 | XA2-34                                  |         |                 |
| 6        |             |              |             | XA2-34                                 | XA2-33                                  |         |                 |
| 7        |             |              |             | XA2-33                                 | XA3-34                                  |         |                 |
| 8        |             |              |             | XA3-34                                 | XA3-33                                  |         |                 |
| 9        |             |              |             | XA3-33                                 | XA4-34                                  |         |                 |
| 10       |             |              |             | XA4-34                                 | XA4-33                                  |         |                 |
| 11       |             |              |             | XA4-33                                 | XA5-34                                  |         |                 |
| 12       |             |              |             | XA5-34                                 | XA5-33                                  |         |                 |
| 13       |             |              |             | XA5-33                                 | XA6-34                                  |         |                 |
| 14       |             |              |             | XA6-34                                 | XA6-33                                  |         |                 |
| 15       |             |              |             | XA6-33                                 | XA7-34                                  |         |                 |
| 16       |             |              |             | XA7-34                                 | XA7-33                                  |         |                 |
| 17       |             |              |             | XA7-33                                 | XA8-34                                  |         |                 |
| 18       |             |              |             | XA8-34                                 | XA8-33                                  |         |                 |
| 19       |             |              |             | XA8-33                                 | XA9-34                                  |         |                 |
| 20       |             |              |             | XA9-34                                 | XA9-33                                  |         |                 |
| 21       |             |              |             | XA9-33                                 | XA10-34                                 |         |                 |
| 22       |             |              |             | XA10-34                                | XA10-33                                 |         |                 |
| 23       |             |              |             | XA10-33                                | XA11-34                                 |         |                 |
| 24       |             |              |             | XA11-34                                | XA11-33                                 |         |                 |


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| WIRE NO. | DESCRIPTION | TOTAL LENGTH | SIGNATURE  | COMPONENT CONNECTION FOR START STATION | COMPONENT CONNECTION FOR FINISH STATION | REMARKS | N/A LM ITEM NO. |
|----------|-------------|--------------|------------|--|---|---------|-----------------|
| 1        |             |              |            | XA 11-33                               | XA 12-34                                |         |                 |
| 2        |             |              |            | XA 12-34                               | XA 12-33                                |         |                 |
| 3        |             |              |            | XA 12-33                               | XA 13-34                                |         |                 |
| 4        |             |              |            | XA 13-34                               | XA 13-33                                |         |                 |
| 5        |             |              |            | XA 13-33                               | YA 14-34                                |         |                 |
| 6        |             |              |            | XA 14-34                               | XA 14-33                                |         |                 |
| 7        |             |              |            | XA 14-33                               | XA 15-34                                |         |                 |
| 8        |             |              |            | XA 15-34                               | XA 15-33                                |         |                 |
| 9        |             |              |            | XA 15-33                               | XA 16-34                                |         |                 |
| 10       |             |              |            | XA 16-34                               | XA 16-33                                |         |                 |
| 11       |             |              |            | XA 16-33                               | XA 17-34                                |         |                 |
| 12       |             |              |            | XA 17-34                               | XA 17-33                                |         |                 |
| 13       |             |              |            |  |   |         |                 |
| 14       |             |              | CRUBIT 14- | XA 1-38                                | XA 1-37                                 |         |                 |
| 15       |             |              |            | XA 1-37                                | XA 2-38                                 |         |                 |
| 16       |             |              |            | XA 2-38                                | XA 2-37                                 |         |                 |
| 17       |             |              |            | XA 2-37                                | XA 3-38                                 |         |                 |
| 18       |             |              |            | XA 3-38                                | XA 3-37                                 |         |                 |
| 19       |             |              |            | XA 3-37                                | XA 4-38                                 |         |                 |
| 20       |             |              |            | XA 4-38                                | XA 4-37                                 |         |                 |
| 21       |             |              |            | XA 4-37                                | XA 5-38                                 |         |                 |
| 22       |             |              |            | XA 5-38                                | XA 5-37                                 |         |                 |
| 23       |             |              |            | XA 5-37                                | XA 6-38                                 |         |                 |
| 24       |             |              |            | XA 6-38                                | XA 6-37                                 |         |                 |


  
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| LINE NO. | DESCRIPTION | TOTAL LENGTH | SIGNATURE   | COMPONENT CONNECTION FOR START STATION | COMPONENT CONNECTION FOR FINISH STATION | REMARKS | N/A LM ITEM NO. |
|----------|-------------|--------------|-------------|--|---|---------|-----------------|
| 1        |             |              |             | XA6- 37                                | XA7- 38                                 |         |                 |
| 2        |             |              |             | XA7- 38                                | XA7- 37                                 |         |                 |
| 3        |             |              |             | XA7- 37                                | XA8- 38                                 |         |                 |
| 4        |             |              |             | XA8- 38                                | XA8- 37                                 |         |                 |
| 5        |             |              |             | XA8- 37                                | XA9- 38                                 |         |                 |
| 6        |             |              |             | XA9- 38                                | XA9- 37                                 |         |                 |
| 7        |             |              |             | XA9- 37                                | XA10- 38                                |         |                 |
| 8        |             |              |             | XA10- 38                               | XA10- 37                                |         |                 |
| 9        |             |              |             | XA10- 37                               | XA11- 38                                |         |                 |
| 10       |             |              |             | XA11- 38                               | XA11- 37                                |         |                 |
| 11       |             |              |             | XA11- 37                               | XA12- 38                                |         |                 |
| 12       |             |              |             | XA12- 38                               | XA12- 37                                |         |                 |
| 13       |             |              |             | XA12- 37                               | XA13- 38                                |         |                 |
| 14       |             |              |             | XA13- 38                               | XA13- 37                                |         |                 |
| 15       |             |              |             | XA13- 37                               | XA14- 38                                |         |                 |
| 16       |             |              |             | XA14- 38                               | XA14- 37                                |         |                 |
| 17       |             |              |             | XA14- 37                               | XA15- 38                                |         |                 |
| 18       |             |              |             | XA15- 38                               | XA15- 37                                |         |                 |
| 19       |             |              |             | XA15- 37                               | XA16- 38                                |         |                 |
| 20       |             |              |             | XA16- 38                               | XA16- 37                                |         |                 |
| 21       |             |              |             | XA16- 37                               | XA17- 38                                |         |                 |
| 22       |             |              |             | XA17- 38                               | XA17- 37                                |         |                 |
| 23       |             |              |             |  |   |         |                 |
| 24       |             |              | CRU BIT 13- | XA1- 40                                | XA1- 39                                 |         |                 |


  
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|    | DESCRIPTION | TOTAL LENGTH | SIGNATURE | COMPONENT CONNECTION FOR START STATION | COMPONENT CONNECTION FOR FINISH STATION | REMARKS | N/A LM ITEM NO. |
|----|-------------|--------------|-----------|--|---|---------|-----------------|
| 1  |             |              |           | XA1-39                                 | XA2-40                                  |         |                 |
| 2  |             |              |           | XA2-40                                 | XA2-39                                  |         |                 |
| 3  |             |              |           | XA2-39                                 | XA3-40                                  |         |                 |
| 4  |             |              |           | XA3-40                                 | XA3-39                                  |         |                 |
| 5  |             |              |           | XA3-39                                 | XA4-40                                  |         |                 |
| 6  |             |              |           | XA4-40                                 | XA4-39                                  |         |                 |
| 7  |             |              |           | XA4-39                                 | XA5-40                                  |         |                 |
| 8  |             |              |           | XA5-40                                 | XA5-39                                  |         |                 |
| 9  |             |              |           | XA5-39                                 | XA6-40                                  |         |                 |
| 10 |             |              |           | XA6-40                                 | XA6-39                                  |         |                 |
| 11 |             |              |           | XA6-39                                 | XA7-40                                  |         |                 |
| 12 |             |              |           | XA7-40                                 | XA7-39                                  |         |                 |
| 13 |             |              |           | XA7-39                                 | XA8-40                                  |         |                 |
| 14 |             |              |           | XA8-40                                 | XA8-39                                  |         |                 |
| 15 |             |              |           | XA8-39                                 | XA9-40                                  |         |                 |
| 16 |             |              |           | XA9-40                                 | XA9-39                                  |         |                 |
| 17 |             |              |           | XA9-39                                 | XA10-40                                 |         |                 |
| 18 |             |              |           | XA10-40                                | XA10-39                                 |         |                 |
| 19 |             |              |           | XA10-39                                | XA11-40                                 |         |                 |
| 20 |             |              |           | XA11-40                                | XA11-39                                 |         |                 |
| 21 |             |              |           | XA11-39                                | XA12-40                                 |         |                 |
| 22 |             |              |           | XA12-40                                | XA12-39                                 |         |                 |
| 23 |             |              |           | XA12-39                                | XA13-40                                 |         |                 |
| 24 |             |              |           | XA13-40                                | XA13-39                                 |         |                 |


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| WIR<br>NO. | DESCRIPTION | TOTAL<br>LENGTH | SIGNATURE   | COMPONENT<br>CONNECTION<br>FOR START<br>STATION | COMPONENT<br>CONNECTION<br>FOR FINISH<br>STATION | REMARKS | N/A<br>LM<br>ITEM<br>NO. |
|------------|-------------|-----------------|-------------|---|--|---------|--------------------------|
| 1          |             |                 |             | XA13- 39  | XA14- 40   |         |                          |
| 2          |             |                 |             | XA14- 40  | XA14- 39   |         |                          |
| 3          |             |                 |             | XA14- 39  | XA15- 40   |         |                          |
| 4          |             |                 |             | XA15- 40  | XA15- 39   |         |                          |
| 5          |             |                 |             | XA15- 39  | XA16- 40   |         |                          |
| 6          |             |                 |             | XA16- 40  | XA16- 39   |         |                          |
| 7          |             |                 |             | XA16- 39  | XA17- 40   |         |                          |
| 8          |             |                 |             | XA17- 40  | XA17- 39   |         |                          |
| 9          |             |                 |             |   |  |         |                          |
| 10         |             |                 | CRU BIT 12- | XA1- 42   | XA1- 41  |         |                          |
| 11         |             |                 |             | XA1- 41   | XA2- 42  |         |                          |
| 12         |             |                 |             | XA2- 42   | XA2- 41  |         |                          |
| 13         |             |                 |             | XA2- 41   | XA3- 42  |         |                          |
| 14         |             |                 |             | XA3- 42   | XA3- 41  |         |                          |
| 15         |             |                 |             | XA3- 41   | XA4- 42  |         |                          |
| 16         |             |                 |             | XA4- 42   | XA4- 41  |         |                          |
| 17         |             |                 |             | XA4- 41   | XA5- 42  |         |                          |
| 18         |             |                 |             | XA5- 42   | XA5- 41  |         |                          |
| 19         |             |                 |             | XA5- 41   | XA6- 42  |         |                          |
| 20         |             |                 |             | XA6- 42   | XA6- 41  |         |                          |
| 21         |             |                 |             | XA6- 41   | XA7- 42  |         |                          |
| 22         |             |                 |             | XA7- 42   | XA7- 41  |         |                          |
| 23         |             |                 |             | XA7- 41   | XA8- 42  |         |                          |
| 24         |             |                 |             | XA8- 42   | XA8- 41  |         |                          |

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| WIRE NO. | DESCRIPTION | TOTAL LENGTH | SIGNATURE  | COMPONENT CONNECTION FOR START STATION | COMPONENT CONNECTION FOR FINISH STATION | REMARKS | N/A LM ITEM NO. |
|----------|-------------|--------------|------------|--|---|---------|-----------------|
| 1        |             |              |            | XA8-41                                 | XA9-42                                  |         |                 |
| 2        |             |              |            | XA9-42                                 | XA9-41                                  |         |                 |
| 3        |             |              |            | XA9-41                                 | XA10-42                                 |         |                 |
| 4        |             |              |            | XA10-42                                | XA10-41                                 |         |                 |
| 5        |             |              |            | XA10-41                                | XA11-42                                 |         |                 |
| 6        |             |              |            | XA11-42                                | XA11-41                                 |         |                 |
| 7        |             |              |            | XA11-41                                | XA12-42                                 |         |                 |
| 8        |             |              |            | XA12-42                                | XA12-41                                 |         |                 |
| 9        |             |              |            | XA12-41                                | XA13-42                                 |         |                 |
| 10       |             |              |            | XA13-42                                | XA13-41                                 |         |                 |
| 11       |             |              |            | XA13-41                                | XA14-42                                 |         |                 |
| 12       |             |              |            | XA14-42                                | XA14-41                                 |         |                 |
| 13       |             |              |            | XA14-41                                | XA15-42                                 |         |                 |
| 14       |             |              |            | XA15-42                                | XA15-41                                 |         |                 |
| 15       |             |              |            | XA15-41                                | XA16-42                                 |         |                 |
| 16       |             |              |            | XA16-42                                | XA16-41                                 |         |                 |
| 17       |             |              |            | XA16-41                                | XA17-42                                 |         |                 |
| 18       |             |              |            | XA17-42                                | XA17-41                                 |         |                 |
| 19       |             |              |            |  |   |         |                 |
| 20       |             |              | CRUSEL 0-  | XA2-48                                 | XA2-47                                  |         |                 |
| 21       |             |              | CRUSEL 0'- | XA1-47                                 | XA2-46                                  |         |                 |
| 22       |             |              |            | XA2-46                                 | XA2-45                                  |         |                 |
| 23       |             |              |            |  |   |         |                 |
| 24       |             |              | CRUSEL 6-  | XA8-48                                 | XA8-47                                  |         |                 |



  
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| LINE NO. | DESCRIPTION | TOTAL LENGTH | SIGNATURE  | COMPONENT CONNECTION FOR START STATION | COMPONENT CONNECTION FOR FINISH STATION | REMARKS | N/A ITEM NO. |
|----------|-------------|--------------|------------|--|---|---------|--------------|
| 1        |             |              | CRUSEL 6'- | XA1-49                                 | XA2-50                                  |         |              |
| 2        |             |              |            | XA2-50                                 | XA2-49                                  |         |              |
| 3        |             |              |            | XA2-49                                 | XA3-50                                  |         |              |
| 4        |             |              |            | XA3-50                                 | XA3-49                                  |         |              |
| 5        |             |              |            | XA3-49                                 | XA4-50                                  |         |              |
| 6        |             |              |            | XA4-50                                 | XA4-49                                  |         |              |
| 7        |             |              |            | XA4-49                                 | XA5-50                                  |         |              |
| 8        |             |              |            | XA5-50                                 | XA5-49                                  |         |              |
| 9        |             |              |            | XA5-49                                 | XA6-50                                  |         |              |
| 10       |             |              |            | XA6-50                                 | XA6-49                                  |         |              |
| 11       |             |              |            | XA6-49                                 | XA7-50                                  |         |              |
| 12       |             |              |            | XA7-50                                 | XA7-49                                  |         |              |
| 13       |             |              |            | XA7-49                                 | XA8-46                                  |         |              |
| 14       |             |              |            | XA8-46                                 | XA8-45                                  |         |              |
| 15       |             |              |            |  |   |         |              |
| 16       |             |              | CRUSEL 5'- | XA7-48                                 | XA7-47                                  |         |              |
| 17       |             |              | CRUSEL 5'- | XA1-51                                 | XA2-52                                  |         |              |
| 18       |             |              |            | XA2-52                                 | XA2-51                                  |         |              |
| 19       |             |              |            | XA2-51                                 | XA3-52                                  |         |              |
| 20       |             |              |            | XA3-52                                 | XA3-51                                  |         |              |
| 21       |             |              |            | XA3-51                                 | XA4-52                                  |         |              |
| 22       |             |              |            | XA4-52                                 | XA4-51                                  |         |              |
| 23       |             |              |            | XA4-51                                 | XA5-52                                  |         |              |
| 24       |             |              |            | XA5-52                                 | XA5-51                                  |         |              |

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| WIRE NO. | DESCRIPTION | TOTAL LENGTH | SIGNATURE   | COMPONENT CONNECTION FOR START STATION | COMPONENT CONNECTION FOR FINISH STATION | REMARKS | N/A LM ITEM NO. |
|----------|-------------|--------------|-------------|--|---|---------|-----------------|
| 1        |             |              |             | XA5- 51                                | XA6- 52                                 |         |                 |
| 2        |             |              |             | XA6- 52                                | XA6- 51                                 |         |                 |
| 3        |             |              |             | XA6- 51                                | XA7- 46                                 |         |                 |
| 4        |             |              |             | XA7- 46                                | XA7- 45                                 |         |                 |
| 5        |             |              |             |  |   |         |                 |
| 6        |             |              | CRU DATA IN | XA1- 60                                | XA1- 59                                 |         |                 |
| 7        |             |              |             | XA1- 59                                | XA2- 60                                 |         |                 |
| 8        |             |              |             | XA2- 60                                | XA2- 59                                 |         |                 |
| 9        |             |              |             | XA2- 59                                | XA3- 60                                 |         |                 |
| 10       |             |              |             | XA3- 60                                | XA3- 59                                 |         |                 |
| 11       |             |              |             | XA3- 59                                | XA4- 60                                 |         |                 |
| 12       |             |              |             | XA4- 60                                | XA4- 59                                 |         |                 |
| 13       |             |              |             | XA4- 59                                | XA5- 60                                 |         |                 |
| 14       |             |              |             | XA5- 60                                | XA5- 59                                 |         |                 |
| 15       |             |              |             | XA5- 59                                | XA6- 60                                 |         |                 |
| 16       |             |              |             | XA6- 60                                | XA6- 59                                 |         |                 |
| 17       |             |              |             | XA6- 59                                | XA7- 60                                 |         |                 |
| 18       |             |              |             | XA7- 60                                | XA7- 59                                 |         |                 |
| 19       |             |              |             | XA7- 59                                | XA8- 60                                 |         |                 |
| 20       |             |              |             | XA8- 60                                | XA8- 59                                 |         |                 |
| 21       |             |              |             | XA8- 59                                | XA9- 60                                 |         |                 |
| 22       |             |              |             | XA9- 60                                | XA9- 59                                 |         |                 |
| 23       |             |              |             | XA9- 59                                | XA10- 60                                |         |                 |
| 24       |             |              |             | XA10- 60                               | XA10- 59                                |         |                 |





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| LINE NO. | DESCRIPTION | TOTAL LENGTH | SIGNATURE | COMPONENT CONNECTION FOR START STATION | COMPONENT CONNECTION FOR FINISH STATION | REMARKS | N/A LM ITEM NO. |
|----------|-------------|--------------|-----------|--|---|---------|-----------------|
| 1        |             |              |           | XA10-59                                | XA11-60                                 |         |                 |
| 2        |             |              |           | XA11-60                                | XA11-59                                 |         |                 |
| 3        |             |              |           | XA11-59                                | XA12-60                                 |         |                 |
| 4        |             |              |           | XA12-60                                | XA12-59                                 |         |                 |
| 5        |             |              |           | XA12-59                                | XA13-60                                 |         |                 |
| 6        |             |              |           | XA13-60                                | XA13-59                                 |         |                 |
| 7        |             |              |           | XA13-59                                | XA14-60                                 |         |                 |
| 8        |             |              |           | XA14-60                                | XA14-59                                 |         |                 |
| 9        |             |              |           | XA14-59                                | XA15-60                                 |         |                 |
| 10       |             |              |           | XA15-60                                | XA15-59                                 |         |                 |
| 11       |             |              |           | XA15-59                                | XA16-60                                 |         |                 |
| 12       |             |              |           | XA16-60                                | XA16-59                                 |         |                 |
| 13       |             |              |           | XA16-59                                | XA17-60                                 |         |                 |
| 14       |             |              |           | XA17-60                                | XA17-59                                 |         |                 |
| 15       |             |              |           |  |   |         |                 |
| 16       |             |              | CRU INT - | XA1-66                                 | XA1-65                                  |         |                 |
| 17       |             |              |           | XA1-65                                 | XA2-66                                  |         |                 |
| 18       |             |              |           | XA2-66                                 | XA2-65                                  |         |                 |
| 19       |             |              |           | XA2-65                                 | XA3-66                                  |         |                 |
| 20       |             |              |           | XA3-66                                 | XA3-65                                  |         |                 |
| 21       |             |              |           | XA3-65                                 | XA4-66                                  |         |                 |
| 22       |             |              |           | XA4-66                                 | XA4-65                                  |         |                 |
| 23       |             |              |           | XA4-65                                 | XA5-66                                  |         |                 |
| 24       |             |              |           | XA5-66                                 | XA5-65                                  |         |                 |


  
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| WIRE NO. | DESCRIPTION | TOTAL LENGTH | SIGNATURE | COMPONENT CONNECTION FOR START STATION | COMPONENT CONNECTION FOR FINISH STATION | REMARKS | N/A LM ITEM NO. |
|----------|-------------|--------------|-----------|--|---|---------|-----------------|
| 1        |             |              |           | XA5-65                                 | XA6-66                                  |         |                 |
| 2        |             |              |           | XA6-66                                 | XA6-65                                  |         |                 |
| 3        |             |              |           | XA6-65                                 | XA7-66                                  |         |                 |
| 4        |             |              |           | XA7-66                                 | XA7-65                                  |         |                 |
| 5        |             |              |           | XA7-65                                 | XA8-66                                  |         |                 |
| 6        |             |              |           | XA8-66                                 | XA8-65                                  |         |                 |
| 7        |             |              |           | XA8-65                                 | XA9-66                                  |         |                 |
| 8        |             |              |           | XA9-66                                 | XA9-65                                  |         |                 |
| 9        |             |              |           | XA9-65                                 | XA10-66                                 |         |                 |
| 10       |             |              |           | XA10-66                                | XA10-65                                 |         |                 |
| 11       |             |              |           | XA10-65                                | XA11-66                                 |         |                 |
| 12       |             |              |           | XA11-66                                | XA11-65                                 |         |                 |
| 13       |             |              |           | XA11-65                                | XA12-66                                 |         |                 |
| 14       |             |              |           | XA12-66                                | XA12-65                                 |         |                 |
| 15       |             |              |           | XA12-65                                | XA13-66                                 |         |                 |
| 16       |             |              |           | XA13-66                                | XA13-65                                 |         |                 |
| 17       |             |              |           | XA13-65                                | XA14-66                                 |         |                 |
| 18       |             |              |           | XA14-66                                | XA14-65                                 |         |                 |
| 19       |             |              |           | XA14-65                                | XA15-66                                 |         |                 |
| 20       |             |              |           | XA15-66                                | XA15-65                                 |         |                 |
| 21       |             |              |           | XA15-65                                | XA16-66                                 |         |                 |
| 22       |             |              |           | XA16-66                                | XA16-65                                 |         |                 |
| 23       |             |              |           | XA16-65                                | XA17-66                                 |         |                 |
| 24       |             |              |           | XA17-66                                | XA17-65                                 |         |                 |


  
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|    | DESCRIPTION | TOTAL LENGTH | SIGNATURE | COMPONENT CONNECTION FOR START STATION | COMPONENT CONNECTION FOR FINISH STATION | REMARKS | N/A LM ITEM NO. |
|----|-------------|--------------|-----------|--|---|---------|-----------------|
| 1  |             |              | CRUMR     | XA1-76                                 | XA1-75                                  |         |                 |
| 2  |             |              |           | XA1-75                                 | XA2-76                                  |         |                 |
| 3  |             |              |           | XA2-76                                 | XA2-75                                  |         |                 |
| 4  |             |              |           | XA2-75                                 | XA3-76                                  |         |                 |
| 5  |             |              |           | XA3-76                                 | XA3-75                                  |         |                 |
| 6  |             |              |           | XA3-75                                 | XA4-76                                  |         |                 |
| 7  |             |              |           | XA4-76                                 | XA4-75                                  |         |                 |
| 8  |             |              |           | XA4-75                                 | XA5-76                                  |         |                 |
| 9  |             |              |           | XA5-76                                 | XA5-75                                  |         |                 |
| 10 |             |              |           | XA5-75                                 | XA6-76                                  |         |                 |
| 11 |             |              |           | XA6-76                                 | XA6-75                                  |         |                 |
| 12 |             |              |           | XA6-75                                 | XA7-76                                  |         |                 |
| 13 |             |              |           | XA7-76                                 | XA7-75                                  |         |                 |
| 14 |             |              |           | XA7-75                                 | XA8-76                                  |         |                 |
| 15 |             |              |           | XA8-76                                 | XA8-75                                  |         |                 |
| 16 |             |              |           | XA8-75                                 | XA9-76                                  |         |                 |
| 17 |             |              |           | XA9-76                                 | XA9-75                                  |         |                 |
| 18 |             |              |           | XA9-75                                 | XA10-76                                 |         |                 |
| 19 |             |              |           | XA10-76                                | XA10-75                                 |         |                 |
| 20 |             |              |           | XA10-75                                | XA11-76                                 |         |                 |
| 21 |             |              |           | XA11-76                                | XA11-75                                 |         |                 |
| 22 |             |              |           | XA11-75                                | XA12-76                                 |         |                 |
| 23 |             |              |           | XA12-76                                | XA12-75                                 |         |                 |
| 24 |             |              |           | XA12-75                                | XA13-76                                 |         |                 |

| WIRE NO. | DESCRIPTION | TOTAL LENGTH | SIGNATURE   | COMPONENT CONNECTION FOR START STATION | COMPONENT CONNECTION FOR FINISH STATION | REMARKS | N/A LM ITEM NO. |
|----------|-------------|--------------|-------------|--|---|---------|-----------------|
| 1        |             |              |             | XA13-76                                | XA13-75                                 |         |                 |
| 2        |             |              |             | XA13-75                                | XA14-76                                 |         |                 |
| 3        |             |              |             | XA14-76                                | XA14-75                                 |         |                 |
| 4        |             |              |             | XA14-75                                | XA15-76                                 |         |                 |
| 5        |             |              |             | XA15-76                                | XA15-75                                 |         |                 |
| 6        |             |              |             | XA15-75                                | XA16-76                                 |         |                 |
| 7        |             |              |             | XA16-76                                | XA16-75                                 |         |                 |
| 8        |             |              |             | XA16-75                                | XA17-76                                 |         |                 |
| 9        |             |              |             | XA17-76                                | XA17-75                                 |         |                 |
| 10       |             |              |             |  |   |         |                 |
| 11       |             |              | POWER RESET | XA1-74                                 | XA1-73                                  |         |                 |
| 12       |             |              |             | XA1-73                                 | E8                                      |         |                 |
| 13       |             |              |             |  |   |         |                 |
| 14       |             |              | +30V        | E4                                     | +C1                                     |         |                 |
| 15       |             |              |             |  |   |         |                 |
| 16       |             |              | 30V RETURN  | -C1                                    | E5                                      |         |                 |
| 17       |             |              |             |  |   |         |                 |
| 18       |             |              | VCC         | E6                                     | +C2                                     |         |                 |
| 19       |             |              |             | +C2                                    | +C3                                     |         |                 |
| 20       |             |              |             | +C3                                    | +C4                                     |         |                 |
| 21       |             |              |             | +C4                                    | +C5                                     |         |                 |
| 22       |             |              |             | +C5                                    | +C6                                     |         |                 |
| 23       |             |              |             | +C6                                    | +C7                                     |         |                 |
| 24       |             |              |             | +C7                                    | +C8                                     |         |                 |



TEXAS INDUSTRIAL PRODUCTS CORPORATION  
INDUSTRIAL PRODUCTS DIVISION  
HOUSTON, TEXAS

A

SHEET 39  
955367

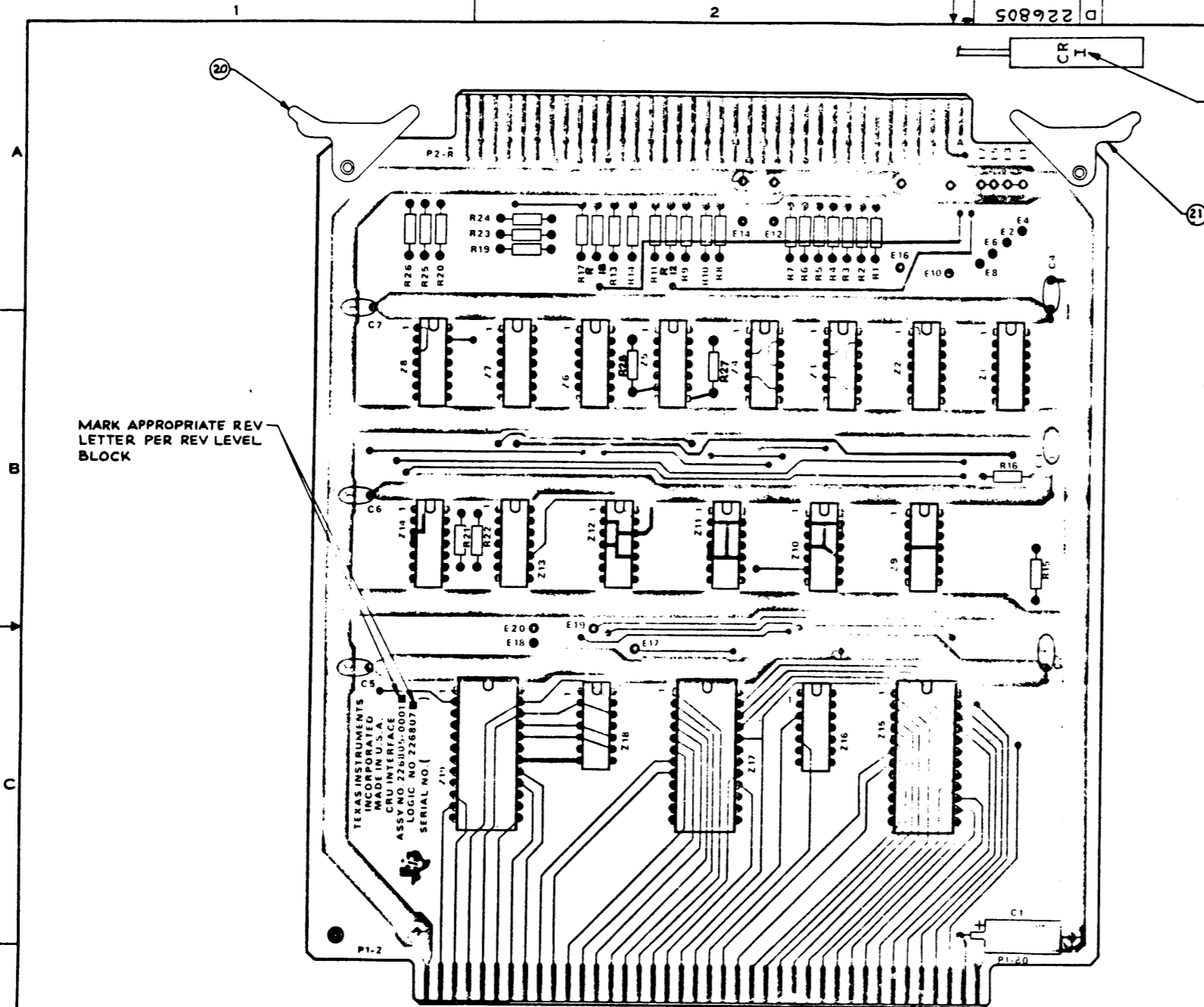
| WIRE NO. | DESCRIPTION | TOTAL LENGTH | SIGNATURE | COMPONENT CONNECTION FOR START STATION | COMPONENT CONNECTION FOR FINISH STATION | REMARKS | N/A LM ITEM NO. |
|----------|-------------|--------------|-----------|--|---|---------|-----------------|
| 1        |             |              |           | -C8                                    | -C7                                     |         |                 |
| 2        |             |              |           | -C7                                    | -C6                                     |         |                 |
| 3        |             |              |           | -C6                                    | -C5                                     |         |                 |
| 4        |             |              |           | -C5                                    | -C4                                     |         |                 |
| 5        |             |              |           | -C4                                    | -C3                                     |         |                 |
| 6        |             |              |           | -C3                                    | -C2                                     |         |                 |
| 7        |             |              |           | -C2                                    | E7                                      |         |                 |
| 8        |             |              |           |  |   |         |                 |
| 9        |             |              |           |  |   |         |                 |
| 10       |             |              |           |  |   |         |                 |
| 11       |             |              |           |  |   |         |                 |
| 12       |             |              |           |  |   |         |                 |
| 13       |             |              |           |  |   |         |                 |
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| 15       |             |              |           |  |   |         |                 |
| 16       |             |              |           |  |   |         |                 |
| 17       |             |              |           |  |   |         |                 |
| 18       |             |              |           |  |   |         |                 |
| 19       |             |              |           |  |   |         |                 |
| 20       |             |              |           |  |   |         |                 |
| 21       |             |              |           |  |   |         |                 |
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| 23       |             |              |           |  |   |         |                 |
| 24       |             |              |           |  |   |         |                 |


**TEXAS INSTRUMENTS**  
 INCORPORATED  
 INDUSTRIAL PRODUCTS DIVISION  
 HOUSTON, TEXAS

**A**

955367

SHEET 40



| REV   | DESCRIPTION   | DATE | APP'D |
|---|---|------|-------|
| A   | 1) DELETED NOTE 1 removed<br>2) DELETED NOTE 2 removed<br>3) ADDED KEYS |      |       |
| <b>FORMAL RELEASE</b>   |   |      |       |
| B   | 364773 (C) J. P. ... 2-10-72  |      |       |
| <b>UPDATED REV. LEVEL BLOCK</b>   |   |      |       |
| C   | 370924 (B) J. P. ... 3-10-72  |      |       |
| <b>UPDATED REV. LEVEL BLOCK</b>   |   |      |       |
| D   | 373592 (C) C. ... 9-26-72   |      |       |
| <b>UPDATED REV. LEVEL BLOCK</b>   |   |      |       |
| E   | 580678 (E) ... 3/1/73   |      |       |
| <b>1) ADDED ITEM 22</b>   |   |      |       |
| F   | 380853 (E) C. ... 6-15-73   |      |       |
| <b>QTY OF IT. 10 WAS 22; UPDATE REV BLOCK LEVEL; CHG PICTORIAL PER CHANGES. ADDED R22 &amp; R28</b> |   |      |       |
| G   | 378636 (D) ... 2/11/73  |      |       |
| <b>1) WIRE LIST CHG. DESCRIPTION WAS '24 WHT'<br/>2) ITEM 16 PIN, HAS '236531-0009'</b>             |   |      |       |
| H   | ... NOTE 2<br>HEIGHT WAS 1.312 & NOTE 3<br>LENGTH WAS .062              |      |       |
| I   | ... NOTE 5, (2) REVISED REVISION<br>BLOCK                               |      |       |
| J   | ... UPDATED REV<br>LEVEL BLOCK  |      |       |
| K   | ... ITEM 16<br>PIN WAS 417671-3999                                      |      |       |
| L   | ... ADDED TEST PROC & UPDATED REV<br>LEVEL BLOCK                        |      |       |
| M   | ... UPDATED REV<br>LEVEL BLOCK (2) ITEM 16 WAS 417671-3999              |      |       |

**NOTES:**

- DO NOT SOLDER ON COMPONENT SIDE
- MAXIMUM COMPONENT HEIGHT FROM COMPONENT SIDE OF CARD IS .31
- MAXIMUM LEAD LENGTH FROM CONDUCTOR SIDE OF CARD IS .075
- TO PREVENT SOLDER FROM WICKING DOWN CONNECTOR FINGERS WHEN SOLDERING, MASK ALL CONNECTOR FINGERS ON BOTH SIDES OF CARD
- LEAVE JUMPERS ON E4 AND E12 LOOSE (DO NOT SOLDER) UNTIL AFTER UNIT TEST

| ITEM | DESCRIPTION | START | FINISH | REMARKS | LM |
|------|-------------|-------|--------|---------|----|
| 1    | #28 WHITE   | E1    | E4     |         | 16 |
| 2    | #28 WHITE   | E3    | E2     |         |    |
| 3    | #28 WHITE   | E5    | E6     |         |    |
| 4    | #28 WHITE   | E7    | E8     |         |    |
| 5    | #28 WHITE   | E9    | E10    |         |    |
| 6    | #28 WHITE   | E11   | E12    |         |    |
| 7    | #28 WHITE   | E13   | E14    |         |    |
| 8    | #28 WHITE   | E15   | E16    |         |    |
| 9    | #28 WHITE   | E17   | E18    |         |    |
| 10   | #28 WHITE   | E19   | E20    |         | 16 |

| REV LEVEL | TEST PROC. RE (226808-9901)                | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|-----------|--|---|---|---|---|---|---|---|---|---|----|
|           | CARD PW FOR -0001 ASSY (226806-0001)       | * | * | A | B | C | D | E | F | G |    |
|           | LOGIC DIAGRAM FOR -0001 ASSY (226807-9901) | * | A | A | A | A | A | A | A | B |    |
|           | ASSEMBLY                                   | * | * | A | A | B | C | D | E | F |    |

PROCESSES CONT.  
3. HOT STAMP F100, HEIGHT .12, COLOR BLACK

| QTY  | UNIT | DESCRIPTION   | REVISION | DATE | BY | CHKD |
|------|------|---|----------|------|----|------|
| 9100 | A    | 22670   |          |      |    |      |
|      |      | 1) SOLDER ALL ELEC COMPONENTS PER HOUSTON QA STD SECT 3 STD 3&4 |          |      |    |      |
|      |      | 2) RUBBER STAMP F-100 HEIGHT .09 COLOR BLACK                    |          |      |    |      |



**TEXAS INSTRUMENTS**  
INCORPORATED

DATE 03/31/77

**LIST OF MATERIAL**

PAGE 1 of

|                        |     |
|------------------------|-----|
| PART NUMBER            | REV |
| <b>LM</b> 0226805-0001 | M   |

| PRINT ITEM NUMBER | QUANTITY PER ASSEMBLY | UNIT OF ISSUE | DWG SIZE               | PART NUMBER  | DESCRIPTION                             | VENDOR PART NUMBER |                             |     |
|-------------------|-----------------------|---------------|------------------------|--------------|---|--------------------|-----------------------------|-----|
| 0001              | 0001.000              | EA            |                        | 0226806-0001 | CARD, PW-CRU INTERFACE                  |                    |                             |     |
| 0002              | 0005.000              | EA            |                        | 022222-7404  | NETWORK SN7404N                         |                    |                             |     |
| 0002A             |                       |               |                        |              | Z3 Z4 Z5 Z8 Z13                         |                    |                             |     |
| 0003              | 0001.000              | FA            |                        | 0240000-7404 | NETWORK SN74H04N                        |                    |                             |     |
| 0003A             |                       |               |                        |              | Z16                                     |                    |                             |     |
| 0004              | 0002.000              | FA            |                        | 022222-7405  | NETWORK SN7405N                         |                    |                             |     |
| 0004A             |                       |               |                        |              | Z1 Z2                                   |                    |                             |     |
| 0005              | 0002.000              | EA            |                        | 0240000-7411 | NETWORK-SN74H11N                        |                    |                             |     |
| 0005A             |                       |               |                        |              | Z9 Z14                                  |                    |                             |     |
| 0006              | 0001.000              | EA            |                        | 0240000-7420 | NETWORK-SN74H20N                        |                    |                             |     |
| 0006A             |                       |               |                        |              | Z18                                     |                    |                             |     |
| 0007              | 0002.000              | EA            |                        | 022222-7440  | NETWORK SN7440N                         | -SN7440N           |                             |     |
| 0007A             |                       |               |                        |              | Z6 Z7                                   |                    |                             |     |
| 0008              | 0003.000              | EA            |                        | 0240000-7440 | NETWORK-SN74H40N                        |                    |                             |     |
| 0008A             |                       |               |                        |              | Z10 Z11 Z12                             |                    |                             |     |
| 0009              | 0003.000              | EA            |                        | 022222-7154  | NETWORK SN74154N                        | -SN74154N          |                             |     |
| 0009A             |                       |               |                        |              | Z15 Z17 Z19                             |                    |                             |     |
| 0010              | 0024.000              | EA            |                        | 0972946-0039 | RES FIX 82.0 OHMS 5 % .25 W CARBON FILM | ROH - P-25         |                             |     |
| 0010A             |                       |               |                        |              | R1 THRU R14 R17 R18 R19 R20             |                    |                             |     |
| 0010B             |                       |               |                        |              | R23 THRU R28                            |                    |                             |     |
| DRAFTSMAN         |                       | DATE          | CKD DRAFTSMAN          | DATE         | DESIGN ENGINEER                         | DATE               | TITLE                       |     |
|                   |                       |               | <i>J.A. ...</i>        | 4-1-77       |   |                    | CARD ASSY, PW-CPU INTERFACE |     |
| APPD. MFG         |                       | DATE          | APPD. PROJECT ENGINEER | DATE         | RELEASED                                | DATE               | PROJECT NO                  |     |
|                   |                       |               |                        |              |   |                    |                             |     |
|                   |                       |               |                        |              |   |                    | PART NUMBER                 | REV |
|                   |                       |               |                        |              |   |                    | <b>LM</b> 0226805-0001      | M   |

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**TEXAS INSTRUMENTS**  
INCORPORATED

DATE 03/31/77

**LIST OF MATERIAL**

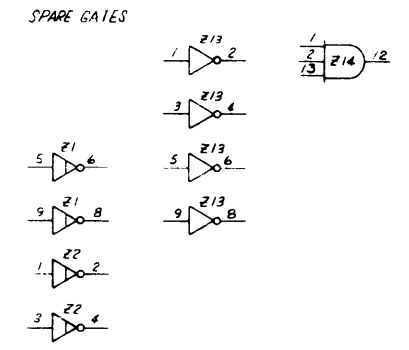
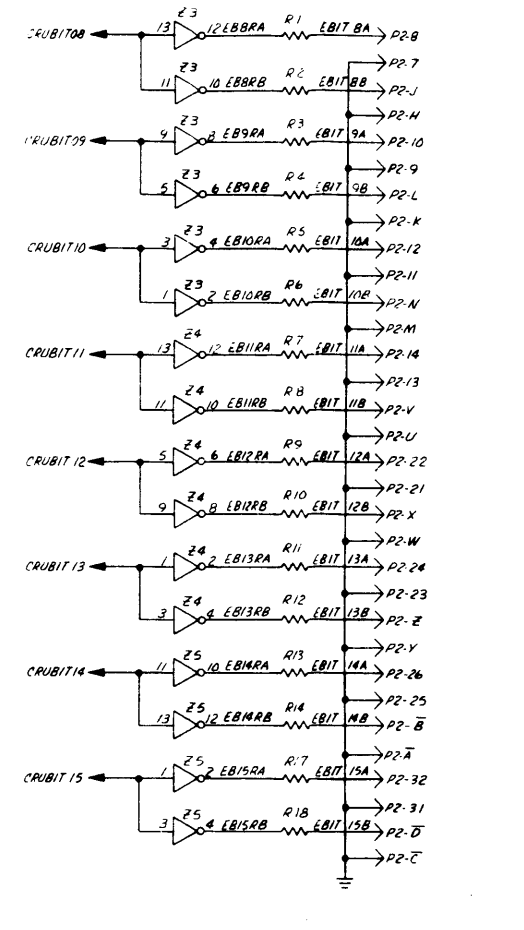
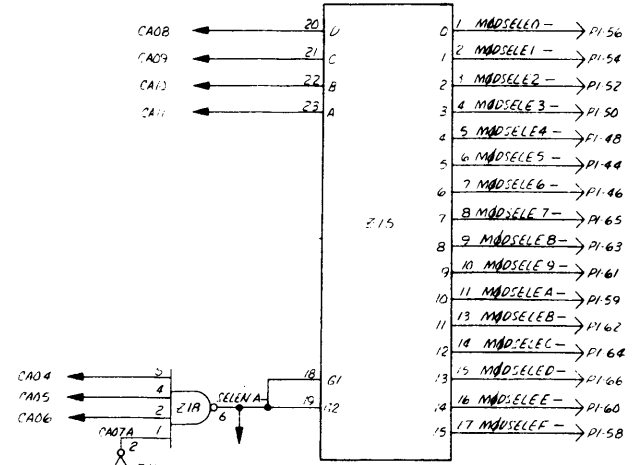
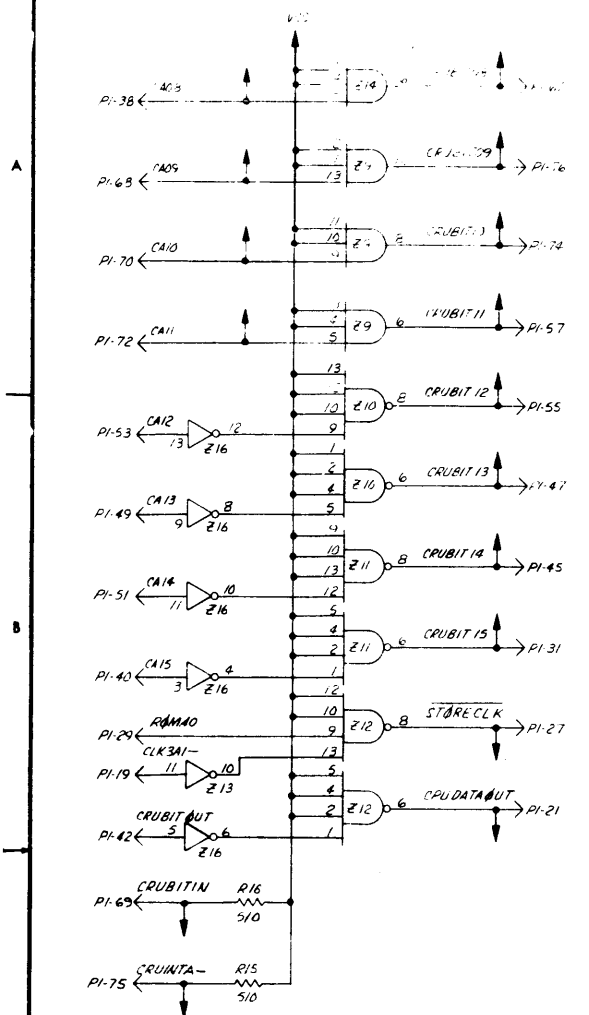
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|                        |          |
|------------------------|----------|
| PART NUMBER            | REV      |
| <b>LM 0226805-0001</b> | <b>M</b> |

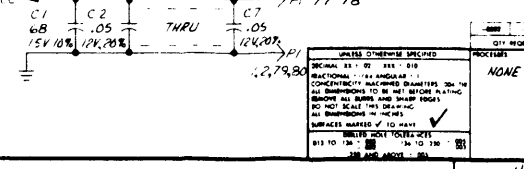
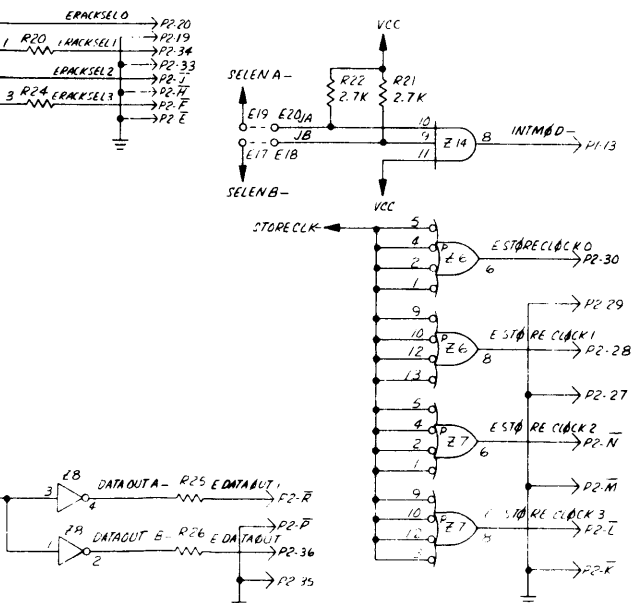
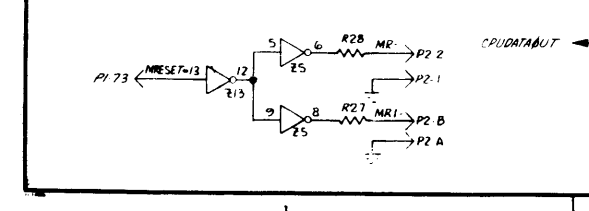
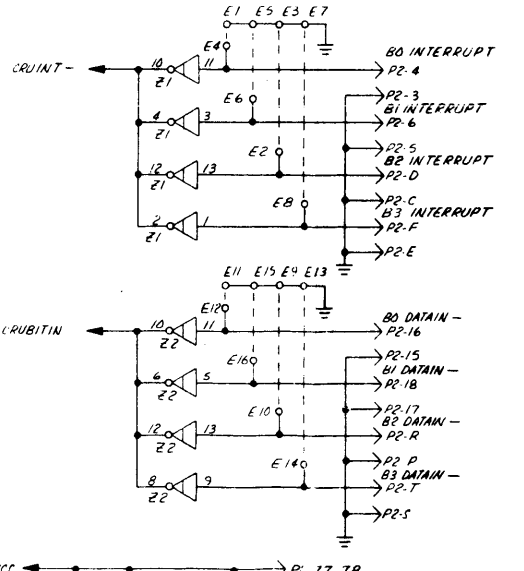
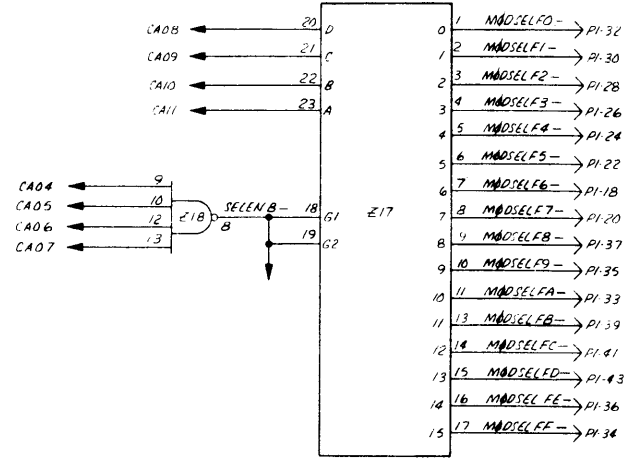
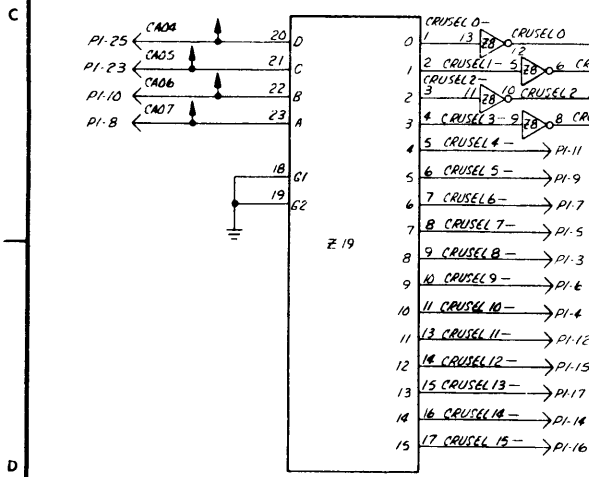
| PRINT ITEM NUMBER | QUANTITY PER ASSEMBLY | UNIT OF ISSUE | DWG SIZE              | PART NUMBER  | DESCRIPTION                              | VENDOR PART NUMBER     |                             |
|-------------------|-----------------------|---------------|-----------------------|--------------|--|------------------------|-----------------------------|
| 0011              | 00002.000             | EA            |                       | 0972946-0058 | RES FIX 510 OHM 5 % .25 W CARBON FILM    | ROH - R-25             |                             |
| 0011A             |                       |               |                       |              | R15 R16                                  |                        |                             |
| 0013              | 00002.000             | EA            |                       | 0972946-0075 | PES FIX 2.7K OHM 5 % .25 W CARBON FILM   | ROH - R-25             |                             |
| 0013A             |                       |               |                       |              | R21 R22                                  |                        |                             |
| 0014              | 00001.000             | EA            |                       | 0972924-0011 | CAP FIX TANT SOLID 68 MFD 10 % 15 VOLT   | QPL -M39C03/1-2274     |                             |
| 0014A             |                       |               |                       |              | C1                                       |                        |                             |
| 0015              | 00006.000             | EA            |                       | J230590-9000 | CAP .05 MF 12 V 20. % CER TRANSCAP       | ERI -5635-000-Y5FC5    |                             |
| 0015A             |                       |               |                       |              | C2 THRU C7                               |                        |                             |
| 0016              | 00001.000             | FT            |                       | 0538592-4999 | WIRE #20 AWG SOLID WHITE TYPE ETFE       | - M22759/XX-20-        |                             |
| 0018              | REF                   | EA            |                       | 0226807-9901 | DIAGRAM, LOGIC-CRU INTERFACE             |                        |                             |
| 0019              | REF                   | EA            |                       | 0226808-9901 | TEST PROCEDURE, CRU INTERFACE            |                        |                             |
| 0020              | 00001.000             | EA            |                       | 0533887-0001 | EJECTOR, PCB, NON-LOCKING, WHITE         | SCA -S-202 WHITE       |                             |
| 0021              | 00001.000             | EA            |                       | 0533887-0009 | EJECTOR, PCB, NON-LOCKING, GREEN         | SCA -S-202 GREEN       |                             |
| 0022              | 00020.000             | EA            |                       | 0235818-0030 | TERMINAL BIFURCATED .062 BOARD THICKNESS | USC -2065B             |                             |
| 0022A             |                       |               |                       |              | E1 THRU E20                              |                        |                             |
| RAFTSMAN          |                       | DATE          | CKD DRAFTSMAN         | DATE         | DESIGN ENGINEER                          | DATE                   | TITLE                       |
|                   |                       |               |                       |              |  |                        | CARD ASSY, PW-CRU INTERFACE |
| P/O -MFG          |                       | DATE          | APPD PROJECT ENGINEER | DATE         | RELEASED                                 | DATE                   | PROJECT NO                  |
|                   |                       |               |                       |              |  |                        |                             |
|                   |                       |               |                       |              |  | PART NUMBER            | REV                         |
|                   |                       |               |                       |              |  | <b>LM 0226805-0001</b> | <b>M</b>                    |

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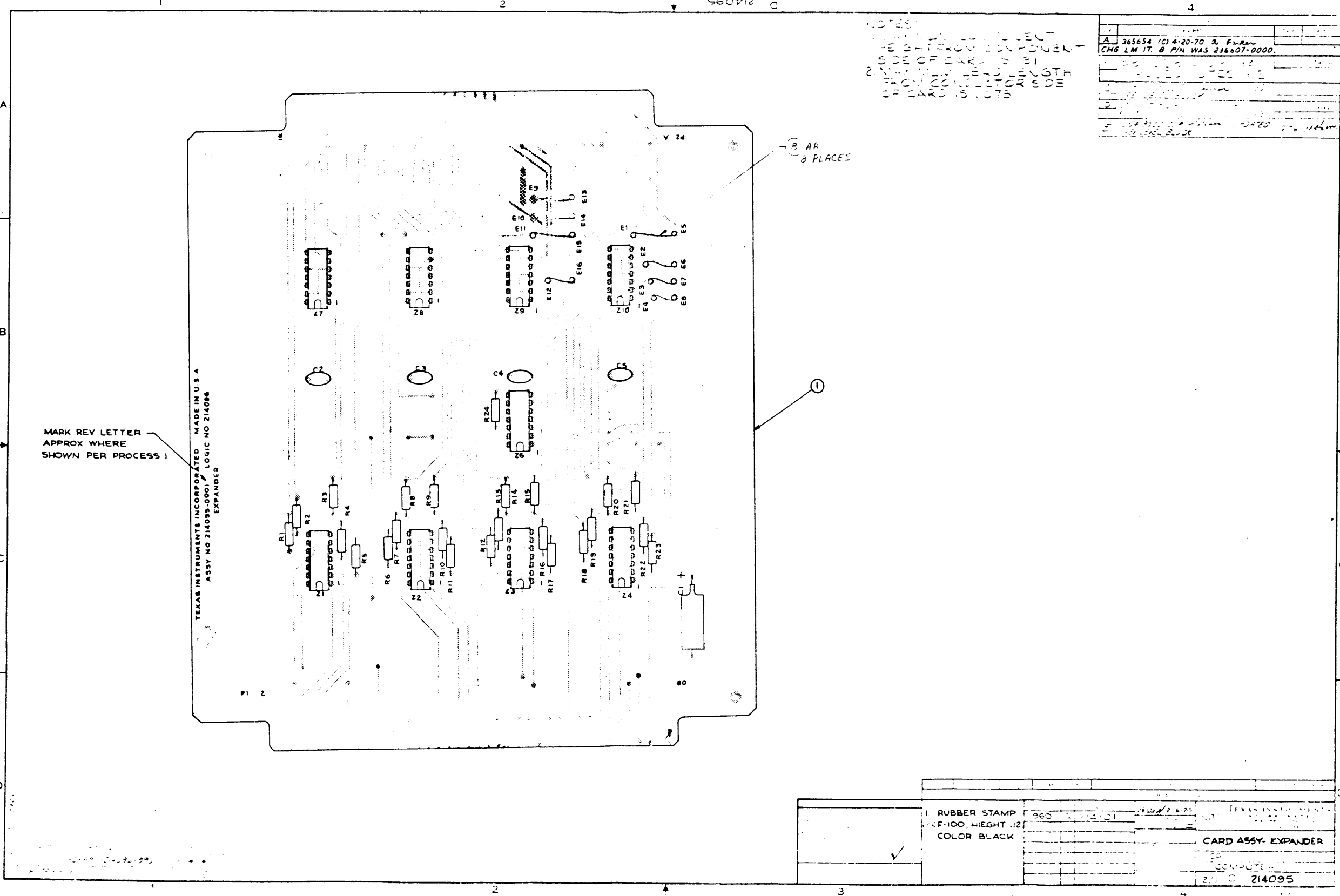
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| 2   | REVISION 1   |      |     |
| 3   | REVISION 2   |      |     |
| 4   | REVISION 3   |      |     |
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| 6   | REVISION 5   |      |     |
| 7   | REVISION 6   |      |     |
| 8   | REVISION 7   |      |     |
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| 15  | REVISION 14  |      |     |
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| 17  | REVISION 16  |      |     |
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| 98  | REVISION 97  |      |     |
| 99  | REVISION 98  |      |     |
| 100 | REVISION 99  |      |     |
| 101 | REVISION 100 |      |     |



NOTES: UNLESS OTHERWISE SPECIFIED  
1. RESISTANCE VALUES ARE IN OHMS  
2. CAPACITANCE VALUES ARE IN MICROFARADS  
3. RESISTORS ARE 02 OHMS, .25 WATT, 5%  
4. NETWORKS ARE AS FOLLOWS:  
A. Z3, Z4, Z5, Z8, AND Z13 ARE SNT400N  
B. Z16 IS A SNT400N  
C. Z1 AND Z7 ARE SNT400N  
D. Z4 AND Z4 ARE SNT400N  
E. Z18 IS A SNT400N  
F. Z6 AND Z7 ARE SNT400N  
G. Z10, Z11, AND Z12 ARE SNT400N  
H. Z15, Z17, AND Z19 ARE SNT400N



| QTY | UNIT | DESCRIPTION                    | REVISION |
|-----|------|--------------------------------|----------|
|     |      | NONE                           |          |
|     |      | DIAGRAM, LOGIC - CPU INTERFACE |          |
|     |      | DATE: 11/27/78                 |          |
|     |      | DESIGNED BY: [Name]            |          |
|     |      | CHECKED BY: [Name]             |          |
|     |      | APPROVED BY: [Name]            |          |



NOTES  
 1. BOARD TO BE USED IN THE  
 SYSTEM OF CARDS TO BE USED  
 IN THE SYSTEM OF CARDS TO BE USED  
 IN THE SYSTEM OF CARDS TO BE USED  
 IN THE SYSTEM OF CARDS TO BE USED

|                                   |                   |    |         |
|-----------------------------------|-------------------|----|---------|
| REV                               | DATE              | BY | CHKD    |
| A                                 | 365654 1014-20-70 | 2  | 2/20/70 |
| CHG LM IT. 8 PIN WAS 236607-0000. |                   |    |         |
|                                   |                   |    |         |
|                                   |                   |    |         |
|                                   |                   |    |         |
|                                   |                   |    |         |
|                                   |                   |    |         |
|                                   |                   |    |         |

|   |                    |     |         |                     |
|---|--------------------|-----|---------|---------------------|
| ✓ | RUBBER STAMP       | 960 | 2/20/70 | TEXAS INSTRUMENTS   |
|   | CF-100, HEIGHT .12 |     |         |                     |
|   | COLOR BLACK        |     |         | CARD ASSY- EXPANDER |
|   |                    |     |         | COMPUTER            |
|   |                    |     |         | 214095              |



**TEXAS INSTRUMENTS**  
INCORPORATED

DATE 02/26/76

**LIST OF MATERIAL**

PAGE 1 of

PART NUMBER  
**LM 214095-0001** REV  
**E**

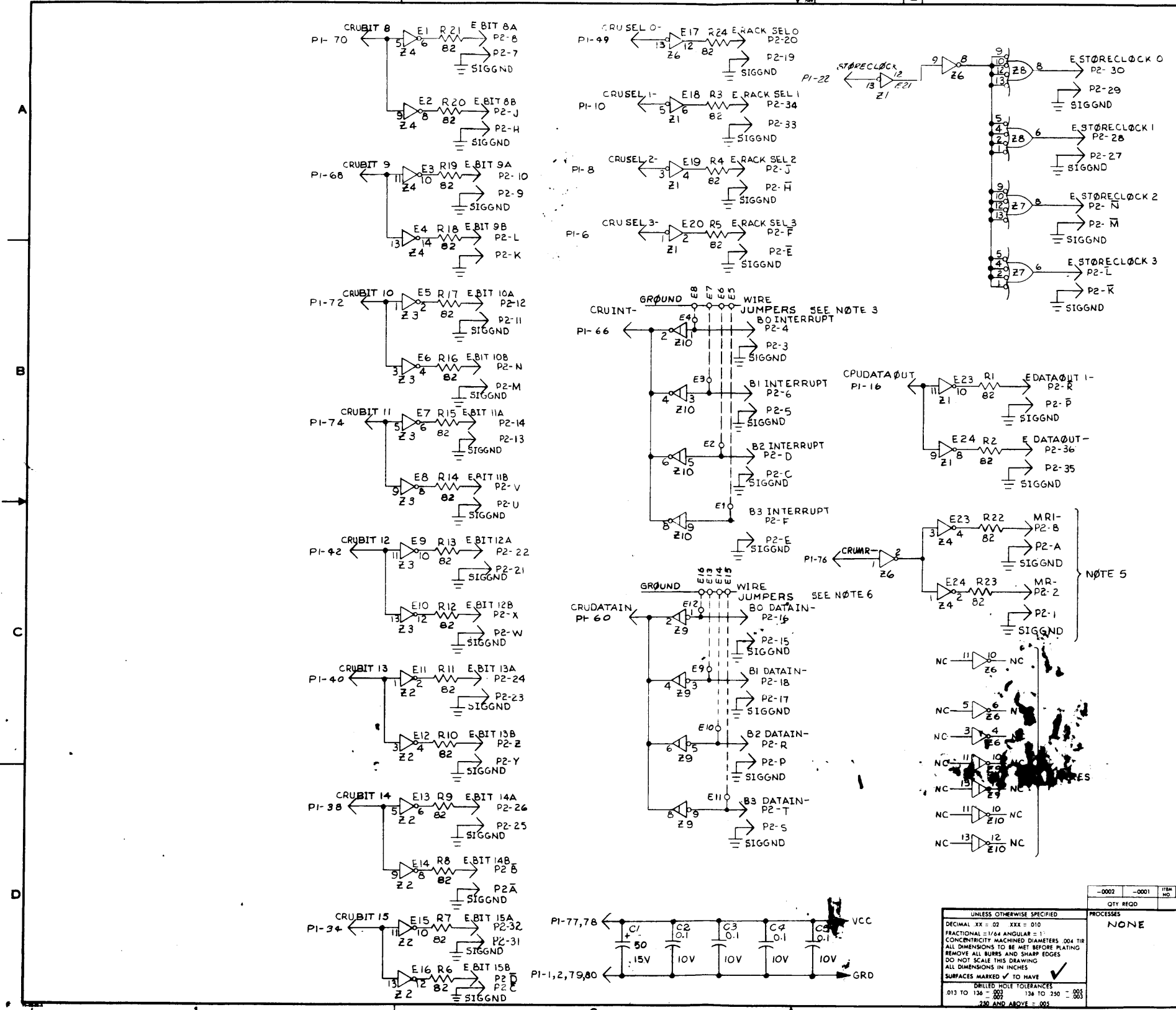
| PRINT ITEM NUMBER | QUANTITY PER ASSEMBLY | UNIT OF ISSUE | DWG SIZE | PART NUMBER | DESCRIPTION                             | VENDOR PART NUMBER |
|-------------------|-----------------------|---------------|----------|-------------|---|--------------------|
| 0001              | 00001.000             | EA            |          | 214094-0001 | PRINTED WIRING BOARD, EXPANDER          |                    |
| 0002              | 00024.000             | EA            |          | 972946-0039 | RES FIX 82.0 OHMS 5 % .25 W CARBON FILM | ROH- R-25          |
| 0002A             |                       |               |          |             | R1 THRU R24                             |                    |
| 0003              | 00004.000             | EA            |          | 534348-0001 | CAP FIX CERAMIC .10 MF 20/80 % 10V      | CRL- UK10-104      |
| 0003A             |                       |               |          |             | C2 THRU C5                              |                    |
| 0004              | 00001.000             | EA            |          | 230841-0001 | CAP 50.00 MF 16V                        | SPR-TE-1160        |
| 0004A             |                       |               |          |             | C1                                      |                    |
| 0005              | 00005.000             | EA            |          | 222222-7404 | NETWORK SN7404N                         |                    |
| 0005A             |                       |               |          |             | Z1 Z2 Z3 Z4 Z6                          |                    |
| 0006              | 00002.000             | EA            |          | 222222-7440 | NETWORK SN7440N                         | -SN7440N           |
| 0006A             |                       |               |          |             | Z7 Z8                                   |                    |
| 0007              | 00002.000             | EA            |          | 222222-7405 | NETWORK SN7405N                         |                    |
| 0007A             |                       |               |          |             | Z9 Z10                                  |                    |
| 0008              | AR                    | FT            |          | 236528-0000 | WIRE 22 AWG 1 COND WHITE TEFLON SOLID   |                    |
| 0009              | REF                   | EA            |          | 214096-9901 | DIAGRAM, LOGIC DETAIL-EXPANDER          |                    |
| 0010              | REF                   | EA            |          | 943755-9901 | TEST PROC, CARD ASSY-EXPANDER           |                    |

|           |      |                        |        |                 |      |  |
|-----------|------|------------------------|--------|-----------------|------|--|
| RAFTSMAN  | DATE | CKD DRAFTSMAN          | DATE   | DESIGN ENGINEER | DATE | TITLE  |
|           |      | <i>R. Halger</i>       | 7/1/76 |                 |      | CARD ASSY, EXPANDER                                  |
| PPD -MFG. | DATE | APPD. PROJECT ENGINEER | DATE   | RELEASED        | DATE | PROJECT NO.  |
|           |      |                        |        |                 |      | 8-160  |
|           |      |                        |        |                 |      | PART NUMBER<br><b>LM 214095-0001</b> REV<br><b>E</b> |

2-101/2-102

| REVISIONS |             |      |      |
|-----------|-------------|------|------|
| LT        | DESCRIPTION | DATE | APPD |
|           |             |      |      |



| REFERENCE DESIGNATORS USED          |          |
|-------------------------------------|----------|
| USED                                | NOT USED |
| Z1, Z2, Z3, Z4, Z6, Z7, Z8, Z9, Z10 | Z5       |

- NOTES:
- UNLESS OTHERWISE SPECIFIED; RESISTORS ARE .25 W ± 5%.
  - RESISTANCE VALUES ARE IN OHMS.
  - CAPACITANCE VALUES IN MICROFARADS.
  - NETWORKS ARE AS FOLLOWS:
    - A) Z7, Z8, ARE SN7440N.
    - B) Z9 & Z10 ARE SN7405N.
    - C) Z1, Z2, Z3, Z4, & Z6 SN7404.
  - THESE OUTPUTS TO BE USED ONLY ON SPECIAL SYSTEMS WHERE APPLICABLE.
  - CUT JUMPER IF INPUT IS TO BE USED. JUMPER REMOVALS ALLOW EXPANSION TO 4 CRU RACKS FROM 1 EXPANDER BOARD. SEE SPEC #217329 FOR JUMPER SCHEDULE.

| QTY | REQD | PROCESSES | DESCRIPTION | VENDOR PART NUMBER |
|-----|------|-----------|-------------|--------------------|
|     |      | NONE      |             |                    |

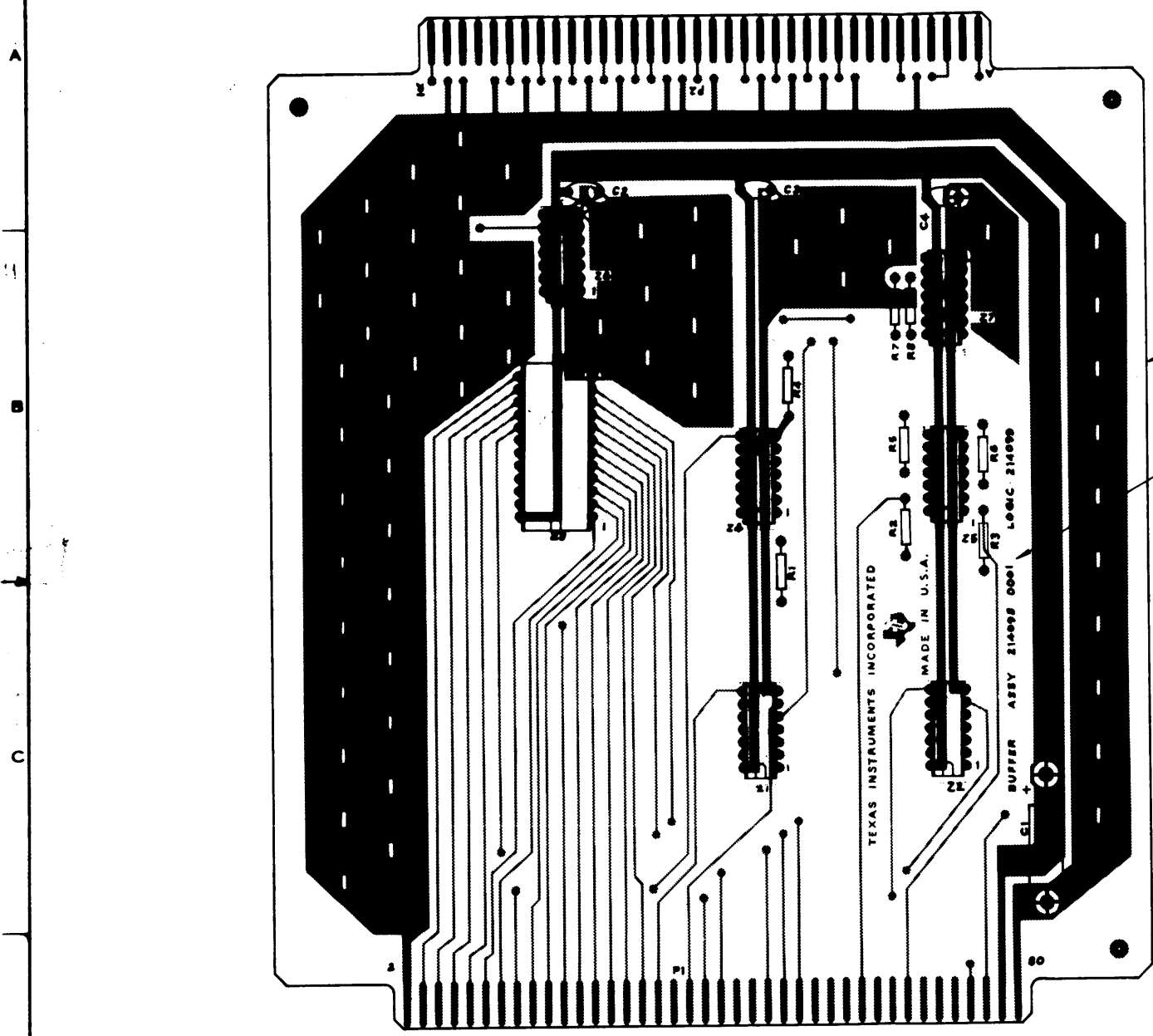
| LIST OF MATERIALS |      |           |             |                    |
|-------------------|------|-----------|-------------|--------------------|
| QTY               | REQD | PROCESSES | DESCRIPTION | VENDOR PART NUMBER |
| 7502              |      |           |             |                    |

|                                  |   |
|----------------------------------|---|
| UNLESS OTHERWISE SPECIFIED       | DECIMAL XX = 02 XXX = 010                 |
| FRACTIONAL = 1/64 ANGULAR = 1°   | CONCENTRICITY MACHINED DIAMETERS .004 TIR |
| REMOVE ALL BURRS AND SHARP EDGES | DO NOT SCALE THIS DRAWING                 |
| ALL DIMENSIONS IN INCHES         | SURFACES MARKED ✓ TO HAVE                 |
| DRILLED HOLE TOLERANCES          | 013 TO 136 = .002                         |
| 138 TO 250 = .003                | 250 AND ABOVE = .005                      |

214098 D

| REVISIONS |                        |         |    |
|-----------|------------------------|---------|----|
| REV       | DESCRIPTION            | DATE    | BY |
| A         | 384040 (C) 9/4/70      | 9/17/70 |    |
| B         | CHG VALUE OF C1 AND R2 |         |    |
| C         | ADJUSTED               |         |    |
| D         | REVISED                |         |    |



MARK REV LETTER  
APPROX. WHERE SHOWN PER  
PROCESS 1

| REV | DESCRIPTION                 | DATE | BY |
|-----|-----------------------------|------|----|
| D   | PWB (214097-0001)           |      |    |
| A   | LOGIC DIAGRAM (214099-9901) |      |    |
| A   | ASSEMBLY                    |      |    |

| PART NUMBER       |      | DESCRIPTION  |     | VENDOR PART NUMBER |              |
|-------------------|------|--------------|-----|--------------------|--------------|
| LIST OF MATERIALS |      |              |     |                    |              |
| QTY               | UNIT | DESCRIPTION  | QTY | UNIT               | DESCRIPTION  |
| 1                 | PCB  | RUBBER STAMP | 1   | PCB                | RUBBER STAMP |
|                   |      | PER F-100    |     |                    |              |
|                   |      | HEIGHT .12   |     |                    |              |
|                   |      | COLOR BLACK  |     |                    |              |



**TEXAS INSTRUMENTS**  
INCORPORATED

DATE 05/01/75

**LIST OF MATERIAL**

PAGE 1 of

|                       |          |
|-----------------------|----------|
| <b>LM</b> 214098-0001 | REV<br>B |
|-----------------------|----------|

| PRINT ITEM NUMBER | QUANTITY PER ASSEMBLY | UNIT OF ISSUE | DWG. SIZE             | PART NUMBER | DESCRIPTION                             | VENDOR PART NUMBER    |                         |
|-------------------|-----------------------|---------------|-----------------------|-------------|---|-----------------------|-------------------------|
| 0001              | 00001.000             | EA            |                       | 214097-0001 | BOARD, PRINTED WIRING-BUFFER            |                       |                         |
| 0002              | 00001.000             | EA            |                       | 222222-7154 | NETWORK SN74154N                        | -SN74154N             |                         |
| 0002A             |                       |               |                       |             | Z3                                      |                       |                         |
| 0003              | 00001.000             | EA            |                       | 222222-7400 | NETWORK SN7400N                         | -SN7400N              |                         |
| 0003A             |                       |               |                       |             | Z5                                      |                       |                         |
| 0004              | 00001.000             | EA            |                       | 222222-7404 | NETWORK SN7404N                         |                       |                         |
| 0004A             |                       |               |                       |             | Z6                                      |                       |                         |
| 0005              | 00004.000             | EA            |                       | 240000-7440 | NETWORK-SN74H40N                        |                       |                         |
| 0005A             |                       |               |                       |             | Z1,Z2,Z4,Z7                             |                       |                         |
| 0006              | 00002.000             | EA            |                       | 972946-0039 | RES FIX 82.0 OHMS 5 % .25 W CARBON FILM | ROH- R-25             |                         |
| 0006A             |                       |               |                       |             | R5,R6                                   |                       |                         |
| 0007              | 00002.000             | EA            |                       | 972946-0069 | RES FIX 1.5K OHM 5 % .25 W CARBON FILM  | ROH- R-25             |                         |
| 0007A             |                       |               |                       |             | R2 R3                                   |                       |                         |
| 0008              | 00001.000             | EA            |                       | 972946-0051 | RES FIX 270 OHM 5 % .25 W CARBON FILM   | ROH- R-25             |                         |
| 0008A             |                       |               |                       |             | R4                                      |                       |                         |
| 0009              | 00001.000             | EA            |                       | 972946-0047 | RES FIX 180 OHM 5 % .25 W CARBON FILM   | ROH- R-25             |                         |
| 0009A             |                       |               |                       |             | R1                                      |                       |                         |
| 0010              | 00002.000             | EA            |                       | 972946-0065 | RES FIX 1.0K OHM 5 % .25 W CARBON FILM  | ROH- R-25             |                         |
| 0010A             |                       |               |                       |             | R7 R8                                   |                       |                         |
| 0011              | 00001.000             | EA            |                       | 230823-0001 | CAP 33.000 MF 10V 10% CASE SIZE B       | MIL-CS13BC336K        |                         |
| DRAFTSMAN         |                       | DATE          | CKD DRAFTSMAN         | DATE        | DESIGN ENGINEER                         | DATE                  | TITLE                   |
|                   |                       |               |                       |             |   |                       | CARD ASSY, BUFFER (CRU) |
| APPD MFG          |                       | DATE          | APPD PROJECT ENGINEER | DATE        | RELEASED                                | DATE                  | PROJECT NO.             |
|                   |                       |               |                       |             |   |                       | 8960                    |
|                   |                       |               |                       |             |   | PART NUMBER           | REV                     |
|                   |                       |               |                       |             |   | <b>LM</b> 214098-0001 | B                       |

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**TEXAS INSTRUMENTS**  
INCORPORATED

DATE 05/01/75

**LIST OF MATERIAL**

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|           |                            |          |
|-----------|----------------------------|----------|
| <b>LM</b> | PART NUMBER<br>214098-0001 | REV<br>B |
|-----------|----------------------------|----------|

| PRINT ITEM NUMBER | QUANTITY PER ASSEMBLY | UNIT OF ISSUE | DWG. SIZE | PART NUMBER | DESCRIPTION                        | VENDOR PART NUMBER |
|-------------------|-----------------------|---------------|-----------|-------------|------------------------------------|--------------------|
| 0011A             |                       |               |           |             | C1                                 |                    |
| 0012              | 00003.000             | EA            |           | 534348-0001 | CAP FIX CERAMIC .10 MF 20/80 % 10V | CRL- UK10-104      |
| 0012A             |                       |               |           |             | C2 C3 C4                           |                    |
| 0013              | REF                   | EA            |           | 214099-9901 | DIAGRAM, LOGIC DETAIL-BUFFER (CRU) |                    |
| 0014              | REF                   | EA            |           | 217162-9901 | TEST PROCEDURE-BUFFER (CRU)        |                    |

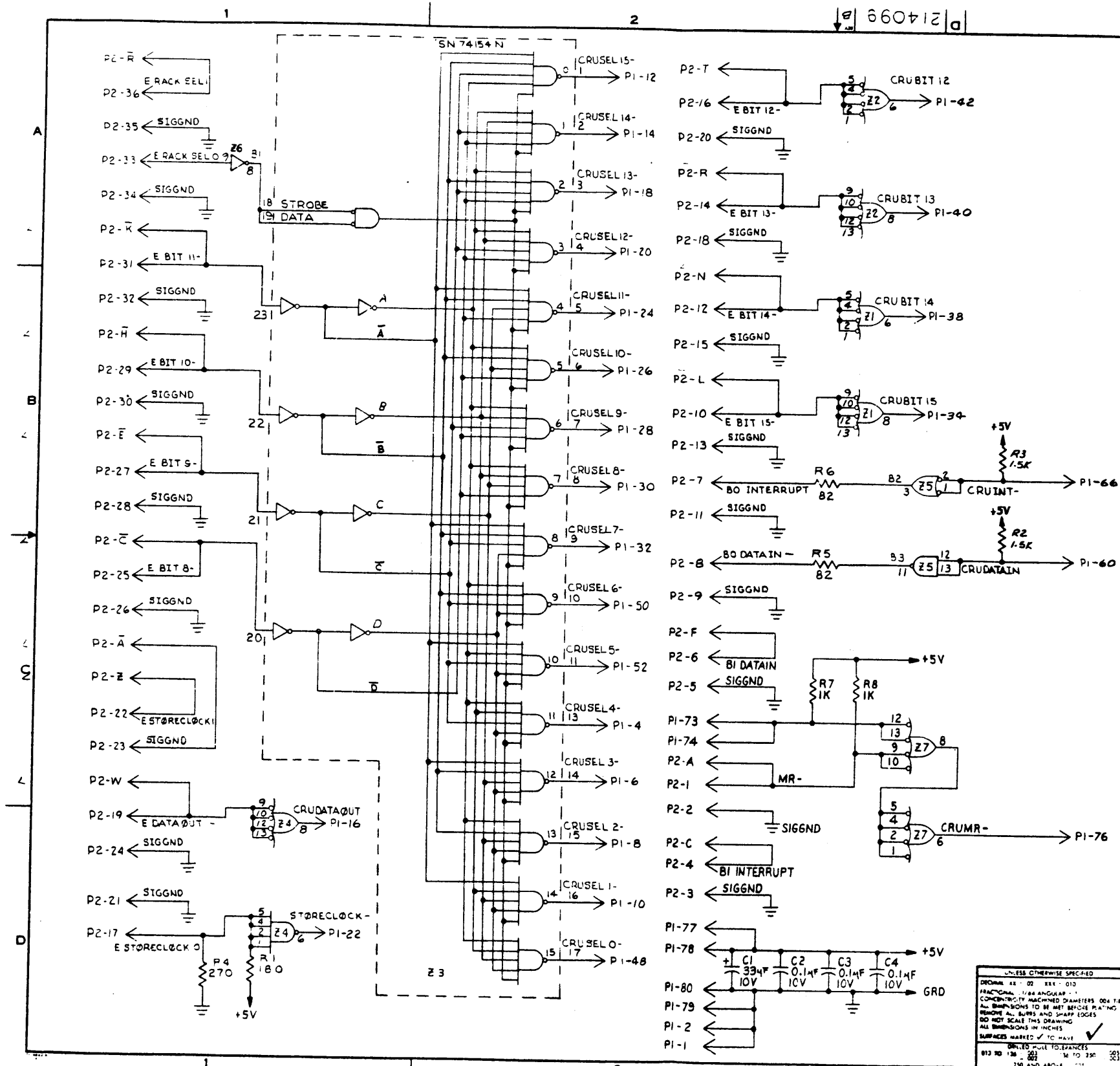
|             |      |                        |      |                 |      |                                |
|-------------|------|------------------------|------|-----------------|------|--------------------------------|
| DRAFTSMAN   | DATE | CKD. DRAFTSMAN         | DATE | DESIGN ENGINEER | DATE | TITLE                          |
|             |      |                        |      |                 |      | <b>CARD ASSY, BUFFER (CRU)</b> |
| APPD. -MFG. | DATE | APPD. PROJECT ENGINEER | DATE | RELEASED        | DATE | PROJECT NO.                    |
|             |      |                        |      |                 |      |                                |

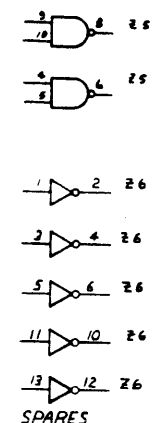
|           |                            |          |
|-----------|----------------------------|----------|
| <b>LM</b> | PART NUMBER<br>214098-0001 | REV<br>B |
|-----------|----------------------------|----------|

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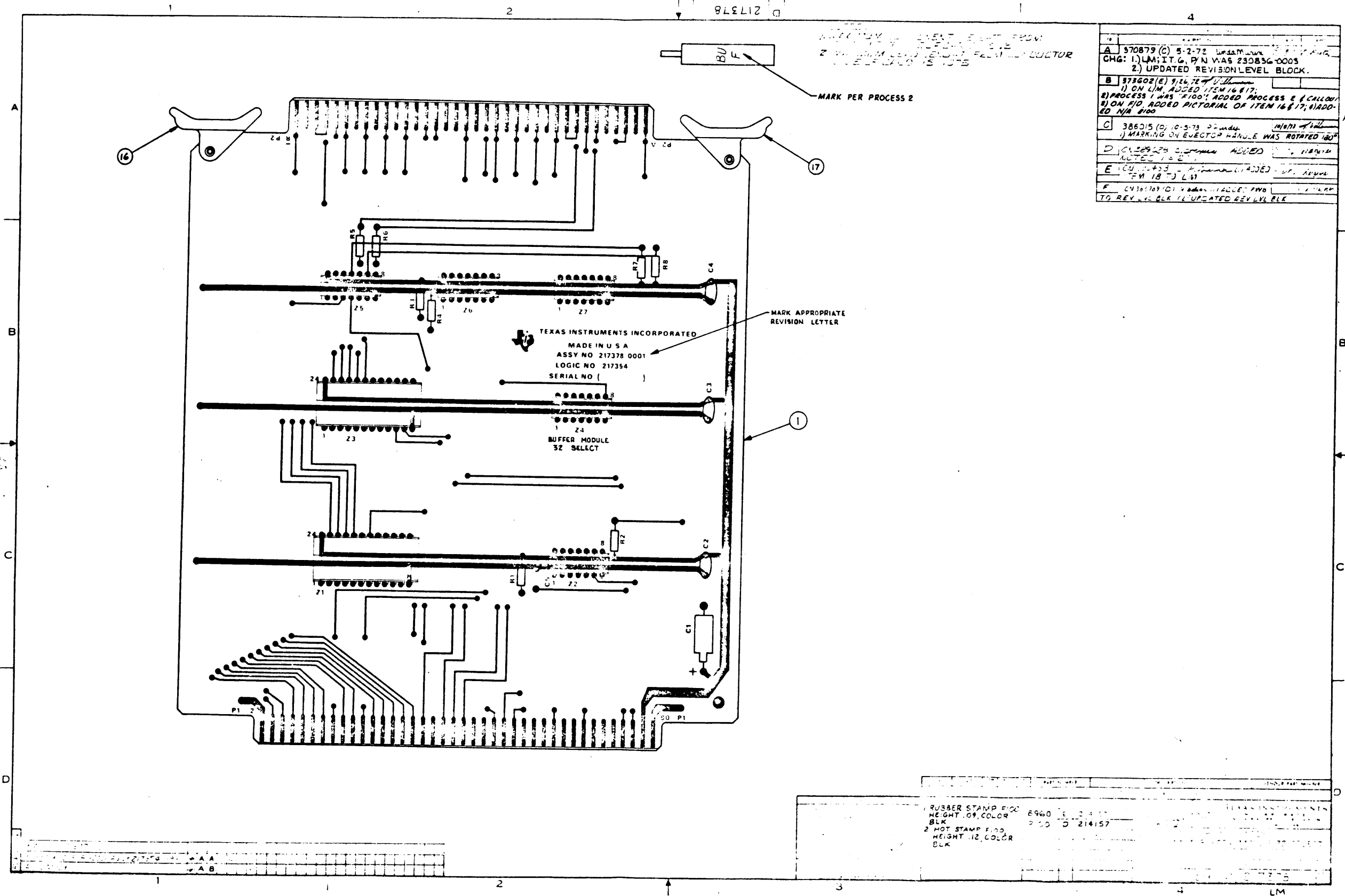
| REV | DESCRIPTION                       | DATE    | APPD |
|-----|-----------------------------------|---------|------|
| A   | 1-30-70                           |         |      |
| B   | 364040 (C) 9/17/70 Bannett        | 9/17/70 |      |
|     | CHG 1) VALUE OF C1 WAS 50μF, 15V. |         |      |



NOTES:  
 1. UNLESS OTHERWISE SPECIFIED  
 1. RESISTANCE VALUES ARE IN OHMS.  
 2. RESISTORS ARE .25 W ± 5%.  
 3. NETWORKS ARE AS FOLLOWS:

- A) Z3 15 A SN74154N
- B) Z5 15 A SN7400N
- C) Z6 15 A SN7404N
- D) Z1, Z2, Z4, Z7 ARE SN74H40

| QTY | MOD | PART NUMBER |      |           |                    | DESCRIPTION         | VENDOR PART NUMBER |
|-----|-----|-------------|------|-----------|--------------------|---------------------|--------------------|
|     |     | NO.         | SIZE | MEET ASSY | DATE               |                     |                    |
| 1   |     | 39          | D    | 214099    | DIAGRAM LOGIC      | TEXAS INSTRUMENTS   |                    |
| 1   |     |             |      |           | DETAIL-ED - BUFFER | INDUSTRIAL PRODUCTS |                    |



|      |   |                         |
|------|---|-------------------------|
| A    | 570879 (C) 5-2-72   | Update from 230836-0005 |
| CHG: | 1) LM; IT.G. P/N WAS 230836-0005                              |                         |
|      | 2) UPDATED REVISION LEVEL BLOCK.                              |                         |
| B    | 373602 (E) 9/26/72  | Update from 230836-0005 |
|      | 1) ON LHM, ADDED ITEM 16 & 17;                                |                         |
|      | 2) PROCESS 1 WAS "F100"; ADDED PROCESS 2 & CALLOWAY           |                         |
|      | 3) ON F10, ADDED PICTORIAL OF ITEM 16 & 17; 4) ADDED N/A #100 |                         |
| C    | 386215 (D) 10-5-73  | Update from 230836-0005 |
|      | 1) MARKING ON EJECTOR HANDLE WAS ROTATED 180°                 |                         |
| D    | 4028925 (E) 11/1/73   | Update from 230836-0005 |
|      | ADDED ITEM 18 TO LHM  |                         |
| E    | 4028925 (E) 11/1/73   | Update from 230836-0005 |
|      | ADDED ITEM 18 TO LHM  |                         |
| F    | 4028925 (E) 11/1/73   | Update from 230836-0005 |
|      | ADDED PWB TO REV. LVL. BLK (UPDATED REV. LVL. BLK)            |                         |



**TEXAS INSTRUMENTS**  
INCORPORATED

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**LIST OF MATERIAL**

PAGE 1 of

|                       |            |
|-----------------------|------------|
| <b>LM</b> 217378-0001 | REV<br>F 5 |
|-----------------------|------------|

| PRINT ITEM NUMBER | QUANTITY PER ASSEMBLY | UNIT OF ISSUE          | DWG. SIZE | PART NUMBER     | DESCRIPTION                               | VENDOR PART NUMBER    |
|-------------------|-----------------------|------------------------|-----------|-----------------|---|-----------------------|
| 0001              | 00001.000             | EA                     |           | 217377-0001     | PRINTED WIRING BD, BUFFER MODULE-32SELECT |                       |
| 0003              | 00001.000             | EA                     |           | 222222-7404     | NETWORK SN7404N                           |                       |
| 0003A             |                       |                        |           |                 | Z5  |                       |
| 0004              | 00002.000             | EA                     |           | 222222-7154     | NETWORK SN74154N                          | -SN74154N             |
| 0004A             |                       |                        |           |                 | Z1 Z3                                     |                       |
| 0005              | 00004.000             | EA                     |           | 240000-7440     | NETWORK-SN74H40N                          |                       |
| 0005A             |                       |                        |           |                 | Z2 Z4 Z6 Z7                               |                       |
| 0006              | 00001.000             | EA                     |           | 230823-0001     | CAP 33.000 MF 10V 10% CASE SIZE B         | MIL-CS13RC336K        |
| 0006A             |                       |                        |           |                 | C1  |                       |
| 0007              | 00003.000             | EA                     |           | 534348-0001     | CAP FIX CERAMIC .10 MF 20/80 % 10V        | CRL- UK10-104         |
| 0007A             |                       |                        |           |                 | C2 C3 C4                                  |                       |
| 0008              | 00001.000             | EA                     |           | 399999-9710     | CAP SELECTED BY CUSTOMER (NO DRAWING)     |                       |
| 0008A             |                       |                        |           |                 | C5  |                       |
| 0009              | 00002.000             | EA                     |           | 972946-0039     | RES FIX 82.0 OHMS 5 % .25 W CARBON FILM   | ROH- R-25             |
| 0009A             |                       |                        |           |                 | R5 R6                                     |                       |
| 0010              | 00001.000             | EA                     |           | 972946-0047     | RES FIX 180 OHM 5 % .25 W CARBON FILM     | ROH- R-25             |
| 0010A             |                       |                        |           |                 | R3  |                       |
| 0011              | 00001.000             | EA                     |           | 972946-0051     | RES FIX 270 OHM 5 % .25 W CARBON FILM     | ROH- R-25             |
| 0011A             |                       |                        |           |                 | R4  |                       |
| 0012              | 00002.000             | EA                     |           | 972946-0065     | RES FIX 1.0K OHM 5 % .25 W CARBON FILM    | ROH- P-25             |
| DRAFTSMAN         | DATE                  | CKD DRAFTSMAN          | DATE      | DESIGN ENGINEER | DATE                                      | TITLE                 |
| APPD. MFG         | DATE                  | APPD. PROJECT ENGINEER | DATE      | RELEASED        | DATE                                      | PROJECT NO            |
|                   |                       |                        |           |                 |   | 8960                  |
|                   |                       |                        |           |                 |   | <b>LM</b> 217378-0001 |
|                   |                       |                        |           |                 |   | REV<br>F 5            |

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**TEXAS INSTRUMENTS**  
INCORPORATED

DATE 05/01/75

**LIST OF MATERIAL**

PAGE 2 of

|           |                            |            |
|-----------|----------------------------|------------|
| <b>LM</b> | PART NUMBER<br>217378-0001 | REV<br>F 3 |
|-----------|----------------------------|------------|

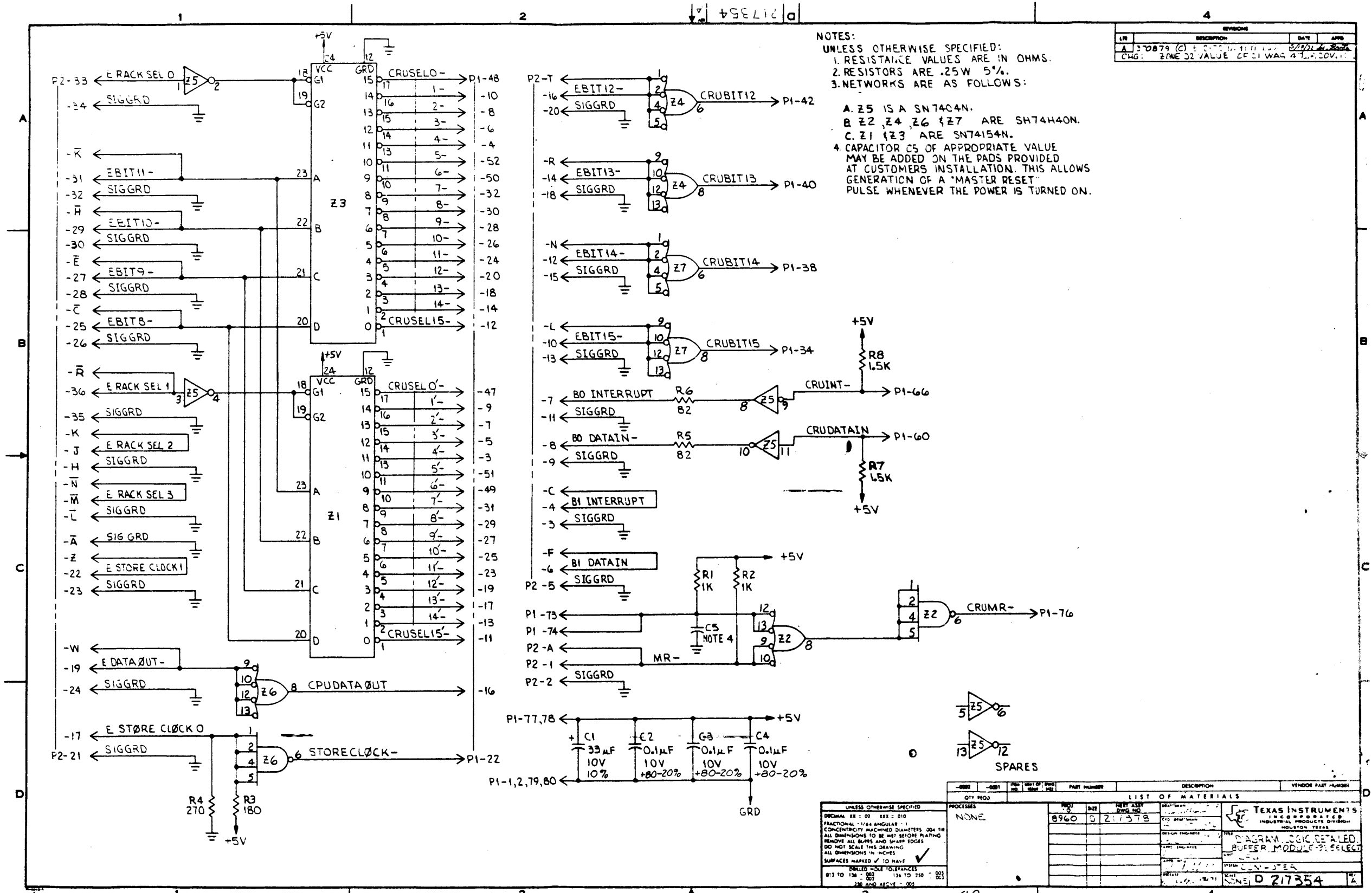
| PRINT ITEM NUMBER | QUANTITY PER ASSEMBLY | UNIT OF ISSUE | DWG SIZE | PART NUMBER | DESCRIPTION                              | VENDOR PART NUMBER           |
|-------------------|-----------------------|---------------|----------|-------------|--|------------------------------|
| 0012A             |                       |               |          |             | F1 P2                                    |                              |
| 0013              | 00002.000             | EA            |          | 972946-0069 | RES FIX 1.5K OHM 5 % .25 W CARBON FILM   | ROH- R-25                    |
| 0013A             |                       |               |          |             | P7 P8                                    |                              |
| 0014              | REF                   | EA            |          | 217354-9901 | DIAGRAM, LOGIC DET-BUFFER MOD, 32 SELECT |                              |
| 0015              | REF                   | EA            |          | 217430-9901 | SPECIFICATION-32 SELECT BUFFER MODULE    |                              |
| 0016              | 00001.000             | EA            |          | 231802-0100 | EJECTOR, PC BD WHITE                     | SCA-S-202 533-887-0001 18677 |
| 0017              | 00001.000             | EA            |          | 231802-0105 | EJECTOR, PC BD GREEN                     | SCA-S-202 533-887-0009 18677 |
| 0018              | REF                   | EA            |          | 973582-9901 | TEST PROCEDURE, BUFFER MODULE-32 SELECT  |                              |

2-114

|           |      |                       |      |                 |      |                                     |
|-----------|------|-----------------------|------|-----------------|------|-------------------------------------|
| DRAFTSMAN | DATE | CKD DRAFTSMAN         | DATE | DESIGN ENGINEER | DATE | TITLE                               |
|           |      |                       |      |                 |      | BOARD ASSY, BUFFER MODULE-32 SELECT |
| APPD MFG  | DATE | APPD PROJECT ENGINEER | DATE | RELEASED        | DATE | PROJECT NO                          |
|           |      |                       |      |                 |      |                                     |

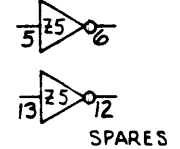
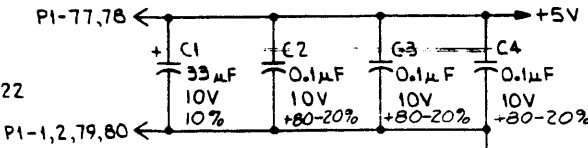
|           |                            |            |
|-----------|----------------------------|------------|
| <b>LM</b> | PART NUMBER<br>217378-0001 | REV<br>F 3 |
|-----------|----------------------------|------------|

217354



NOTES:  
 UNLESS OTHERWISE SPECIFIED:  
 1. RESISTANCE VALUES ARE IN OHMS.  
 2. RESISTORS ARE .25W 5%.  
 3. NETWORKS ARE AS FOLLOWS:  
 A. Z5 IS A SN7404N.  
 B. Z2, Z4, Z6, Z7 ARE SN74H40N.  
 C. Z1, Z3 ARE SN74154N.  
 4. CAPACITOR C5 OF APPROPRIATE VALUE MAY BE ADDED ON THE PADS PROVIDED AT CUSTOMERS INSTALLATION. THIS ALLOWS GENERATION OF A "MASTER RESET" PULSE WHENEVER THE POWER IS TURNED ON.

| REV | DESCRIPTION                        | DATE | APP'D |
|-----|------------------------------------|------|-------|
| A   | 370879 (C) + 5770 1111 100 5/19/71 |      |       |
|     | CHG: 2ND VALUE OF 21 WAS 47. 20V.  |      |       |



| QTY | PROJ | REV | DATE | DESCRIPTION | VENDOR PART NUMBER |
|-----|------|-----|------|-------------|--------------------|
| 90  |      |     |      | SPARES      |                    |

| UNLESS OTHERWISE SPECIFIED |             | LIST OF MATERIALS |             |
|----------------------------|-------------|-------------------|-------------|
| QTY                        | DESCRIPTION | QTY               | DESCRIPTION |
| 90                         | SPARES      | 1                 | 217354      |

TEXAS INSTRUMENTS INCORPORATED  
 INDUSTRIAL PRODUCTS DIVISION  
 HOUSTON, TEXAS  
 DIAGRAM LOGIC DETAILED  
 BUFFER MODULE P1-SELEG  
 DATE: 5/19/71  
 DRAWN: JEN-STER  
 CHECKED: JEN-STER  
 APPROVED: JEN-STER  
 PART NUMBER: 217354

214103

214103

MARK PER PROCESS 2

MARK PER PROCESS 2

0004

0001

27

28

4

SOLDER PER PROCESS 3

1

6 REF SOLDER PER PROCESS

32 PLACES

1-0001 SHOWN

REV. 214103-0004

217163

PRINTED WIRING BOARD (214 02-000)

33 C. D. AS FOR DATA ASSY (214 01-000)

34 C. D. AS FOR DATA ASSY (214 01-000)

35 C. D. AS FOR DATA ASSY (214 01-000)

36 C. D. AS FOR DATA ASSY (214 01-000)

37 C. D. AS FOR DATA ASSY (214 01-000)

38 C. D. AS FOR DATA ASSY (214 01-000)

39 C. D. AS FOR DATA ASSY (214 01-000)

40 C. D. AS FOR DATA ASSY (214 01-000)

41 C. D. AS FOR DATA ASSY (214 01-000)

42 C. D. AS FOR DATA ASSY (214 01-000)

43 C. D. AS FOR DATA ASSY (214 01-000)

44 C. D. AS FOR DATA ASSY (214 01-000)

45 C. D. AS FOR DATA ASSY (214 01-000)

46 C. D. AS FOR DATA ASSY (214 01-000)

47 C. D. AS FOR DATA ASSY (214 01-000)

48 C. D. AS FOR DATA ASSY (214 01-000)

49 C. D. AS FOR DATA ASSY (214 01-000)

50 C. D. AS FOR DATA ASSY (214 01-000)

51 C. D. AS FOR DATA ASSY (214 01-000)

52 C. D. AS FOR DATA ASSY (214 01-000)

53 C. D. AS FOR DATA ASSY (214 01-000)

54 C. D. AS FOR DATA ASSY (214 01-000)

55 C. D. AS FOR DATA ASSY (214 01-000)

56 C. D. AS FOR DATA ASSY (214 01-000)

57 C. D. AS FOR DATA ASSY (214 01-000)

58 C. D. AS FOR DATA ASSY (214 01-000)

59 C. D. AS FOR DATA ASSY (214 01-000)

60 C. D. AS FOR DATA ASSY (214 01-000)

61 C. D. AS FOR DATA ASSY (214 01-000)

62 C. D. AS FOR DATA ASSY (214 01-000)

63 C. D. AS FOR DATA ASSY (214 01-000)

64 C. D. AS FOR DATA ASSY (214 01-000)

65 C. D. AS FOR DATA ASSY (214 01-000)

66 C. D. AS FOR DATA ASSY (214 01-000)

67 C. D. AS FOR DATA ASSY (214 01-000)

68 C. D. AS FOR DATA ASSY (214 01-000)

69 C. D. AS FOR DATA ASSY (214 01-000)

70 C. D. AS FOR DATA ASSY (214 01-000)

71 C. D. AS FOR DATA ASSY (214 01-000)

72 C. D. AS FOR DATA ASSY (214 01-000)

73 C. D. AS FOR DATA ASSY (214 01-000)

74 C. D. AS FOR DATA ASSY (214 01-000)

75 C. D. AS FOR DATA ASSY (214 01-000)

76 C. D. AS FOR DATA ASSY (214 01-000)

77 C. D. AS FOR DATA ASSY (214 01-000)

78 C. D. AS FOR DATA ASSY (214 01-000)

79 C. D. AS FOR DATA ASSY (214 01-000)

80 C. D. AS FOR DATA ASSY (214 01-000)

81 C. D. AS FOR DATA ASSY (214 01-000)

82 C. D. AS FOR DATA ASSY (214 01-000)

83 C. D. AS FOR DATA ASSY (214 01-000)

84 C. D. AS FOR DATA ASSY (214 01-000)

85 C. D. AS FOR DATA ASSY (214 01-000)

86 C. D. AS FOR DATA ASSY (214 01-000)

87 C. D. AS FOR DATA ASSY (214 01-000)

88 C. D. AS FOR DATA ASSY (214 01-000)

89 C. D. AS FOR DATA ASSY (214 01-000)

90 C. D. AS FOR DATA ASSY (214 01-000)

91 C. D. AS FOR DATA ASSY (214 01-000)

92 C. D. AS FOR DATA ASSY (214 01-000)

93 C. D. AS FOR DATA ASSY (214 01-000)

94 C. D. AS FOR DATA ASSY (214 01-000)

95 C. D. AS FOR DATA ASSY (214 01-000)

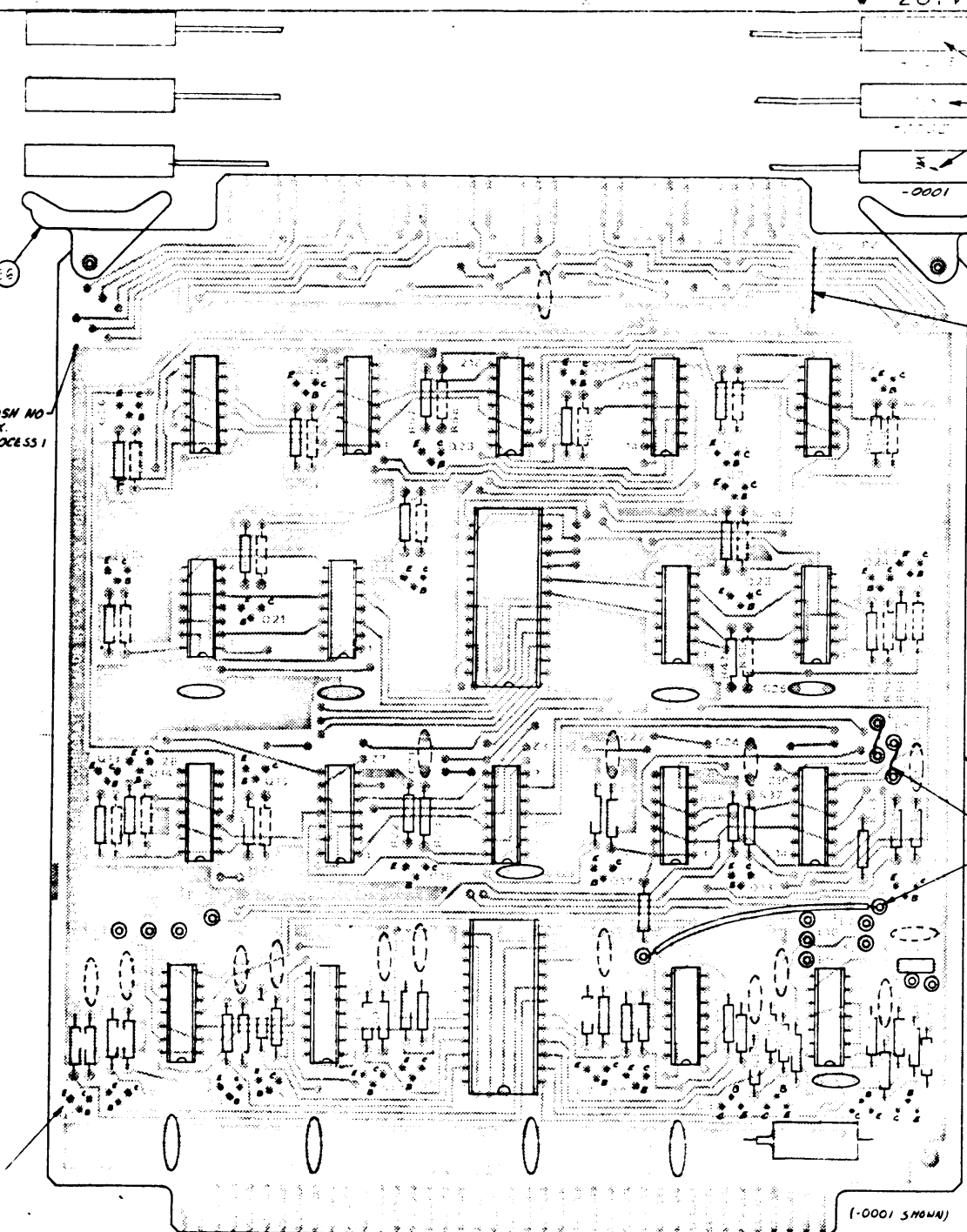
96 C. D. AS FOR DATA ASSY (214 01-000)

97 C. D. AS FOR DATA ASSY (214 01-000)

98 C. D. AS FOR DATA ASSY (214 01-000)

99 C. D. AS FOR DATA ASSY (214 01-000)

100 C. D. AS FOR DATA ASSY (214 01-000)



| CAPACITOR & RESISTOR USE SCHEDULE -0001L-0004   |  |
|---|--|
| USED  | NOT USED   |
| R1 THRU R26, R28, R30, R32 THRU R41, R43, R45, R47, R49, R51, R53, R55, R57, R59, R61, R63, R65, C6, C9, C10, C13, C16, C19, C20, C23, C25, C27, C28, R67, R68, R69         | C1, C2, C4, C5, C7, C8, C11, C12, C14, C15, C17, C18, C21, C22, C24, C26, R27, R46, R48, R50, R52, R54, R56, R58, R60, R62, R64, R66 |
| SEE NOTE 1 & 2  |  |
| CAPACITOR & RESISTOR USE SCHEDULE -0002E-0005   |  |
| USED  | NOT USED   |
| R1 THRU R39, R41 THRU R49, R51, R53 THRU R66, C3, C6, C9, C10, C13, C16, C19, C20, C23, C25, C27, C28, R67, R68, R69  | C1, C2, C4, C5, C7, C8, C11, C12, C14, C15, C17, C18, C21, C22, C24, C26, R50, R52, R40  |
| SEE NOTE 1 & 2  |  |
| CAPACITOR & RESISTOR USE SCHEDULE -0003E-0006   |  |
| USED  | NOT USED   |
| R1 THRU R26, R28, R30, R32 THRU R39, R41, R43, R44, R45, R46, R47, R49, R51, R53 THRU R63, R65, R66, C3, C6, C9, C10, C13, C16, C19, C20, C23, C25, C27, C28, R67, R68, R69 | C1, C2, C4, C5, C7, C8, C11, C12, C14, C15, C17, C18, C21, C22, C24, C26, R27, R29, R31, R43, R48, R50, R52, R64, R40                |
| SEE NOTE 1 & 2  |  |

| PART NO     | DESCRIPTION                              |
|-------------|--|
| 214103-0004 | CARD ASSY, DATA MODULE - A T I           |
| 214103-0003 | CARD ASSY, DATA MODULE - INVERTING INPUT |
| 214103-0002 | CARD ASSY, DATA MODULE - INPUT           |
| 214103-0001 | CARD ASSY, DATA MODULE - DATA STORAGE    |
| 214103-0005 | CARD ASSY DATA MODULE                    |

REV CONT EONE A-1

NOTES CONTD:

4. MAXIMUM COMPONENT HEIGHT FROM COMPONENT SIDE OF CARD IS .31
5. MAXIMUM LEAD LENGTH FROM CONDUCTOR SIDE OF CARD IS .075
6. SEE LOGIC DIAGRAM FOR JUMPER OPTIONS

PROCESSES CONTD:

3. HAND SOLDER PER F-127

NOTES:

1. OUTPUTS ARE NORMALLY ON-OFF TRANSISTOR SWITCHES SINKING UP TO 50 MA & HOLDING OFF UP TO 30 V. HOWEVER, PROVISION IS MADE ON THE BOARD TO ADD A 5K Ω RESISTOR FROM EACH COLLECTOR TO VCC.
2. FILTER CAPACITORS TO GROUND MAY BE ADDED, ON THE PADS PROVIDED, AT INSTALLATION.
3. ITEM 25 IS TO BE USED ON ALL CONNECTIONS FROM -0001-0001, -0002, -0003 & -0004 ASSYS.

RUBBER STAMP PER F-127 HEIGHT .01 MIN. BLOCK

5460 A 214101

CARD ASSY, DATA MODULE

214103

LN



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|-----------------------|-----------------|
| <b>LM</b> 214103-0001 | PART NUMBER     |
|                       | REV<br>AC<br>AE |

| PRINT<br>ITEM<br>NUMBER | QUANTITY<br>PER<br>ASSEMBLY | UNIT<br>OF<br>ISSUE    | DWG.<br>SIZE   | PART NUMBER     | DESCRIPTION                            | VENDOR PART NUMBER     |
|-------------------------|-----------------------------|------------------------|----------------|-----------------|--|------------------------|
| CO01                    | 00001.000                   | EA                     |                | 214102-0001     | PRINTED WIRING BRD, DATA MODULE        |                        |
| 0002                    | 00016.000                   | EA                     |                | 972946-CC71     | RES FIX 1.8K OHM 5 % .25 W CARBON FILM | ROH- R-25              |
| 0002A                   |                             |                        |                |                 | R26, R28, R30, R41, R43, R45, R47,     |                        |
| 0002B                   |                             |                        |                |                 | R49, R51, R53, R57, R59, R61, R63,     |                        |
| 0002C                   |                             |                        |                |                 | & R65, R55                             |                        |
| 0003                    | 00032.000                   | EA                     |                | 972946-C054     | RES FIX 360 OHM 5 % .25 W CARBON FILM  | ROH- R-25              |
| 0003A                   |                             |                        |                |                 | R1 THRU R20 R22 THRU R25, R32          |                        |
| 0003B                   |                             |                        |                |                 | THRU R37, R39 & R40                    |                        |
| 0005                    | 00003.000                   | EA                     |                | 972946-C076     | RES FIX 3.0K OHM 5 % .25 W CARBON FILM | ROH- R-25              |
| 0005A                   |                             |                        |                |                 | R21 R38 R68                            |                        |
| 0006                    | 00032.000                   | EA                     |                | 972057-CCC1     | TRANSISTOR-A5T2222 NPN SILICON         | TI--A5T2222            |
| 0006A                   |                             |                        |                |                 | Q1 THRU Q32                            |                        |
| 0007                    | 00005.000                   | EA                     |                | 222222-7400     | NETWORK SN7400N                        | -SN7400N               |
| 0007A                   |                             |                        |                |                 | Z5, Z7, Z11, Z15, & Z19                |                        |
| 0008                    | 00001.000                   | EA                     |                | 222222-7401     | NETWORK SN7401N                        |                        |
| 0008A                   |                             |                        |                |                 | Z4                                     |                        |
| 0009                    | 00003.000                   | EA                     |                | 222222-7404     | NETWORK SN7404N                        |                        |
| 0009A                   |                             |                        |                |                 | Z8, Z12, & Z14                         |                        |
| 0010                    | 00001.000                   | EA                     |                | 222222-7440     | NETWORK SN7440N                        | -SN7440N               |
| 0010A                   |                             |                        |                |                 | Z2                                     |                        |
| DRAFTSMAN               | DATE                        | CKD. DRAFTSMAN         | DATE           | DESIGN ENGINEER | DATE                                   | TITLE                  |
|                         |                             | <i>R. K. ...</i>       | <i>6/24/76</i> |                 |  | CARD ASSY, DATA MODULE |
| APPD. MFG               | DATE                        | APPD. PROJECT ENGINEER | DATE           | RELEASED        | DATE                                   | PROJECT NO             |
|                         |                             |                        |                |                 |  | <i>8100</i>            |
|                         |                             |                        |                |                 |  | PART NUMBER            |
|                         |                             |                        |                |                 |  | <b>LM</b> 214103-0001  |
|                         |                             |                        |                |                 |  | REV                    |
|                         |                             |                        |                |                 |  | AC<br>AE               |

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| <b>LM</b> 214103-0001 | PART NUMBER     |
|                       | REV<br>AC<br>AC |

| PRINT ITEM NUMBER | QUANTITY PER ASSEMBLY | UNIT OF ISSUE | DWG. SIZE             | PART NUMBER | DESCRIPTION                               | VENDOR PART NUMBER    |                        |
|-------------------|-----------------------|---------------|-----------------------|-------------|---|-----------------------|------------------------|
| 0011              | 00003.000             | EA            |                       | 22222-7474  | NETWCRK SN7474N                           | -SN7474N              |                        |
| 0011A             |                       |               |                       |             | Z1, Z6, Z9, Z10, Z16, Z17, Z18, &         |                       |                        |
| 0011B             |                       |               |                       |             | Z20                                       |                       |                        |
| 0012              | 00001.000             | FA            |                       | 22222-7150  | NETWCRK SN74150N                          |                       |                        |
| 0012A             |                       |               |                       |             | Z3  |                       |                        |
| 0013              | 00001.000             | EA            |                       | 22222-7154  | NETWCRK SN74154N                          | -SN74154N             |                        |
| 0013A             |                       |               |                       |             | Z13                                       |                       |                        |
| 0014              | 00010.000             | EA            |                       | 230590-9000 | CAP .05 MF 12 V 20. % CER TRANSCAP        | ERI-5635-000-Y5F0503M |                        |
| 0014A             |                       |               |                       |             | C3 C6 C9 C10 C13 C16 C19                  |                       |                        |
| 0014B             |                       |               |                       |             | C20 C23 C25                               |                       |                        |
| 0015              | 00001.000             | EA            |                       | 972924-0015 | CAP FIX TANT SOLID 47 MFD 10 % 20 VOLT    | QPL-M39003/1-2295     |                        |
| 0015A             |                       |               |                       |             | C27                                       |                       |                        |
| 0016              | AR                    | FT            |                       | 457313-0006 | WIRE 24 AWG SOLID, TEFLON, WHITE          | QPL- MIL-W-16878/4E   |                        |
| 0016A             |                       |               |                       |             | E1 THRU E10                               |                       |                        |
| 0018              | REF                   | EA            |                       | 214104-9901 | DIAGRAM, LOGIC DETAIL-DATA MODULE         |                       |                        |
| 0020              | 00002.000             | EA            |                       | 972946-0081 | RES FIX 4.7K OHM 5 % .25 W CARBON FILM    | POH- R-25             |                        |
| 0020A             |                       |               |                       |             | R67 R69                                   |                       |                        |
| 0023              | REF                   | EA            |                       | 217761-9901 | WIRE LIST, PT-TO-PT-DATA MOD DATE STORAGE |                       |                        |
| 0024              | 00001.000             | EA            |                       | 972929-0397 | CAP FIX CERAMIC .001 UF 10% 200V          | QPL-M39014/01-1397    |                        |
| 0024A             |                       |               |                       |             | C28                                       |                       |                        |
| DRAFTSMAN         |                       | DATE          | CKD DRAFTSMAN         | DATE        | DESIGN ENGINEER                           | DATE                  | TITLE                  |
|                   |                       |               |                       |             |   |                       | CARD ASSY, DATA MODULE |
| APPD MFG          |                       | DATE          | APPD PROJECT ENGINEER | DATE        | RELEASED                                  | DATE                  | PROJECT NO             |
|                   |                       |               |                       |             |   |                       |                        |
|                   |                       |               |                       |             |   | PART NUMBER           | REV                    |
|                   |                       |               |                       |             |   | <b>LM</b> 214103-0001 | AC<br>AC               |

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| PART NUMBER           | REV      |
| <b>LM 214103-0001</b> | AC<br>21 |

| PRINT ITEM NUMBER | QUANTITY PER ASSEMBLY | UNIT OF ISSUE | DWG SIZE | PART NUMBER | DESCRIPTION                      | VENDOR PART NUMBER |
|-------------------|-----------------------|---------------|----------|-------------|----------------------------------|--------------------|
| 0026              | 00001.000             | EA            |          | 5338E7-CC01 | EJECTOR, PCB, NON-LOCKING, WHITE | SCA-S-202 WHITE    |
| 0027              | 00001.000             | EA            |          | 5338E7-CCC9 | EJECTOR, PCB, NON-LOCKING, GREEN | SCA-S-202 GREEN    |
| 0029              | 00032.000             | EA            |          | 9725C7-CC01 | INSULATOR DISC: TO-18            | THR--7717-220      |
| 0033              | REF                   | EA            |          | 2171E3-9901 | TEST PROCEDURE-DATA MODULE       |                    |

|           |      |                       |      |                 |      |                        |
|-----------|------|-----------------------|------|-----------------|------|------------------------|
| DRAFTSMAN | DATE | CKD DRAFTSMAN         | DATE | DESIGN ENGINEER | DATE | TITLE                  |
|           |      |                       |      |                 |      | CARD ASSY, DATA MODULE |
| APPD MFG  | DATE | APPD PROJECT ENGINEER | DATE | RELEASED        | DATE | PROJECT NO.            |
|           |      |                       |      |                 |      |                        |

|                       |          |
|-----------------------|----------|
| PART NUMBER           | REV      |
| <b>LM 214103-0001</b> | AC<br>21 |

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| PART NUMBER    | REV      |
| LM 214103-0002 | AC<br>AC |

| PRINT ITEM NUMBER | QUANTITY PER ASSEMBLY | UNIT OF ISSUE | DWG. SIZE              | PART NUMBER | DESCRIPTION                            | VENDOR PART NUMBER |                              |
|-------------------|-----------------------|---------------|------------------------|-------------|--|--------------------|------------------------------|
| 0001              | 0001.000              | EA            |                        | 214102-0001 | PRINTED WIRING BRD, DATA MODULE        |                    |                              |
| 0002              | 00016.000             | EA            |                        | 972946-0071 | RES FIX 1.8K OHM 5 % .25 W CARBON FILM | ROH- R-25          |                              |
| 0002A             |                       |               |                        |             | R26, R28, R30, R41, R43, R45, R47      |                    |                              |
| C002B             |                       |               |                        |             | R49, R51, R53, R57, R59, R61, R63      |                    |                              |
| C002C             |                       |               |                        |             | R65, R55                               |                    |                              |
| 0003              | 00031.000             | EA            |                        | 972946-0054 | RES FIX 360 OHM 5 % .25 W CARBON FILM  | ROH- R-25          |                              |
| C003A             |                       |               |                        |             | R1 THRU R20, R22 THRU R25, R32         |                    |                              |
| 0003B             |                       |               |                        |             | THRU R27, R39                          |                    |                              |
| 0005              | 00003.000             | EA            |                        | 972946-0076 | RES FIX 3.0K OHM 5 % .25 W CARBON FILM | ROH- R-25          |                              |
| C005A             |                       |               |                        |             | R21 R38 R68                            |                    |                              |
| 0006              | 00032.000             | EA            |                        | 972057-0001 | TRANSISTOR-A5T2222 NPN SILICON         | T1--A5T2222        |                              |
| C006A             |                       |               |                        |             | Q1 THRU Q32                            |                    |                              |
| 0007              | 00005.000             | EA            |                        | 222222-7400 | NETWCRK SN7400N                        | -SN7400N           |                              |
| C007A             |                       |               |                        |             | Z5, Z7, Z11, Z15, Z19                  |                    |                              |
| C008              | 00001.000             | EA            |                        | 222222-7401 | NETWCRK SN7401N                        |                    |                              |
| C008A             |                       |               |                        |             | Z4                                     |                    |                              |
| C009              | 00003.000             | EA            |                        | 222222-7404 | NETWCRK SN7404N                        |                    |                              |
| C009A             |                       |               |                        |             | Z8, Z12, Z14                           |                    |                              |
| C010              | 00001.000             | EA            |                        | 222222-7440 | NETWCRK SN7440N                        | -SN7440N           |                              |
| 0010A             |                       |               |                        |             | Z2                                     |                    |                              |
| DRAFTSMAN         |                       | DATE          | CKD DRAFTSMAN          | DATE        | DESIGN ENGINEER                        | DATE               | TITLE                        |
|                   |                       |               |                        |             |  |                    | CARD ASSY, DATA MODULE-INPUT |
| APPD. MFG         |                       | DATE          | APPD. PROJECT ENGINEER | DATE        | RELEASED                               | DATE               | PROJECT NO                   |
|                   |                       |               |                        |             |  |                    |                              |
|                   |                       |               |                        |             |  | PART NUMBER        | REV                          |
|                   |                       |               |                        |             |  | LM 214103-0002     | AC<br>AC                     |

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| PART NUMBER           | REV                    |
| <b>LM 214103-0002</b> | <b>AC</b><br><b>AE</b> |

| PRINT ITEM NUMBER | QUANTITY PER ASSEMBLY | UNIT OF ISSUE         | DWG. SIZE | PART NUMBER     | DESCRIPTION                            | VENDOR PART NUMBER           |
|-------------------|-----------------------|-----------------------|-----------|-----------------|--|------------------------------|
| 0011              | 00008.000             | EA                    |           | 222222-7474     | NETWORK SN7474N                        | -S1:7474N                    |
| 0011A             |                       |                       |           |                 | Z1, Z6, Z9, Z10, Z16, Z17, Z18, Z20    |                              |
| 0012              | 00001.000             | EA                    |           | 222222-7150     | NETWORK SN74150N                       |                              |
| 0012A             |                       |                       |           |                 | Z3                                     |                              |
| 0013              | 00001.000             | EA                    |           | 222222-7154     | NETWORK SN74154N                       | -SN74154N                    |
| 0013A             |                       |                       |           |                 | Z13                                    |                              |
| 0014              | 00010.000             | EA                    |           | 230590-9000     | CAP .05 MF 12 V 20. % CER TRANSCAP     | ERI-5635-000-Y5F0503M        |
| 0014A             |                       |                       |           |                 | C3 C6 C9 C10 C13 C16 C19               |                              |
| 0014B             |                       |                       |           |                 | C20 C23 C25                            |                              |
| 0015              | 00001.000             | EA                    |           | 972924-0015     | CAP FIX TANT SOLID 47 MFD 10 % 20 VOLT | QPL-M39003/1-2295            |
| 0015A             |                       |                       |           |                 | C27                                    |                              |
| 0016              | AR                    | FT                    |           | 457313-0006     | WIRE 24 AWG SOLID, TEFLON, WHITE       | QPL- MIL-W-16878/4E          |
| 0016A             |                       |                       |           |                 | E1 THRU E13                            |                              |
| 0013              | REF                   | EA                    |           | 214104-9901     | DIAGRAM, LCCIC DETAIL-DATA MODULE      |                              |
| 0020              | 00002.000             | EA                    |           | 972946-0081     | RES FIX 4.7K OHM 5 % .25 W CARBON FILM | ROH- R-25                    |
| 0020A             |                       |                       |           |                 | R67 R69                                |                              |
| 0021              | REF                   | EA                    |           | 217762-9901     | WIRE LIST, PT-TO-PT- DATA MOD, INPUT   |                              |
| 0022              | 00014.000             | EA                    |           | 972946-0083     | RES FIX 5.6K OHM 5 % .25 W CARBON FILM | ROH- R-25                    |
| 0022A             |                       |                       |           |                 | R27, R29, R31, R42, R44, R46, R48      |                              |
| 0022B             |                       |                       |           |                 | R54, R56, R58, R60, R62, R64, R66      |                              |
| DRAFTSMAN         | DATE                  | CKD DRAFTSMAN         | DATE      | DESIGN ENGINEER | DATE                                   | TITLE                        |
|                   |                       |                       |           |                 |  | CARD ASSY, DATA MODULE-INPUT |
| APPD MFG          | DATE                  | APPD PROJECT ENGINEER | DATE      | RELEASED        | DATE                                   | PROJECT NO                   |
|                   |                       |                       |           |                 |  |                              |
|                   |                       |                       |           |                 |  | PART NUMBER                  |
|                   |                       |                       |           |                 |  | <b>LM 214103-0002</b>        |
|                   |                       |                       |           |                 |  | REV                          |
|                   |                       |                       |           |                 |  | <b>AC</b><br><b>AE</b>       |

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| PART NUMBER           | REV                 |
| <b>LM 214103-0002</b> | <del>AC</del><br>AC |

| PRINT ITEM NUMBER | QUANTITY PER ASSEMBLY | UNIT OF ISSUE | DWG. SIZE | PART NUMBER | DESCRIPTION                              | VENDOR PART NUMBER |
|-------------------|-----------------------|---------------|-----------|-------------|--|--------------------|
| 0024              | 00001.000             | EA            |           | 972929-0397 | CAP FIX CERAMIC .001 UF 10% 200V         | GPL-M39014/01-1397 |
| 0024 A            |                       |               |           |             | C28                                      |                    |
| 0026              | 00001.000             | EA            |           | 533887-C001 | EJECTOR,PCB,NON-LOCKING,WHITE            | SCA-S-202 WHITE    |
| 0027              | 00001.000             | EA            |           | 533887-CCC9 | EJECTOR,PCB,NON-LOCKING,GREEN            | SCA-S-202 GREEN    |
| 0029              | 00032.000             | EA            |           | 9725C7-C001 | INSULATOR CISC: T0-18                    | THR--7717-220      |
| 0030              | REF                   | EA            |           | 973589-9901 | UNIT TEST PRCC, 16 I/O DATA MOD, SPECIAL |                    |

|            |      |                        |      |                 |      |                              |
|------------|------|------------------------|------|-----------------|------|------------------------------|
| DRAFTSMAN  | DATE | CKD DRAFTSMAN          | DATE | DESIGN ENGINEER | DATE | TITLE                        |
|            |      |                        |      |                 |      | CARD ASSY, DATA MODULE-INPUT |
| APPD -MFG. | DATE | APPD. PROJECT ENGINEER | DATE | RELEASED        | DATE | PROJECT NO.                  |
|            |      |                        |      |                 |      |                              |

|                       |                     |
|-----------------------|---------------------|
| PART NUMBER           | REV                 |
| <b>LM 214103-C002</b> | <del>AC</del><br>AC |

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| PART NUMBER           | REV      |
| <b>LM</b> 214103-C003 | AC<br>AE |

| PRINT ITEM NUMBER | QUANTITY PER ASSEMBLY | UNIT OF ISSUE | DWG SIZE | PART NUMBER | DESCRIPTION                            | VENDOR PART NUMBER |
|-------------------|-----------------------|---------------|----------|-------------|--|--------------------|
| 0001              | 00001.000             | EA            |          | 214102-CCC1 | PRINTED WIFING BRD,CATA MODULE         |                    |
| 0002              | 00016.000             | EA            |          | 972946-C071 | RES FIX 1.8K OHM 5 % .25 W CARBON FILM | ROH- R-25          |
| 0002A             |                       |               |          |             | R26,R28,R30,R41,R43,R45,R47,           |                    |
| 0002B             |                       |               |          |             | R49,R51,R53,R57,R59,R61,R63,           |                    |
| 0002C             |                       |               |          |             | R65,R55                                |                    |
| 0003              | 00031.000             | EA            |          | 972946-0054 | RES FIX 360 OHM 5 % .25 W CARBON FILM  | ROH- R-25          |
| 0003A             |                       |               |          |             | R1 THRU R20,R22 THRU R25,R32           |                    |
| 0003B             |                       |               |          |             | THRU R37,R39                           |                    |
| 0005              | 00003.000             | EA            |          | 972946-C076 | RES FIX 3.0K OHM 5 % .25 W CARBON FILM | ROH- R-25          |
| 0005A             |                       |               |          |             | R21 R38 R68                            |                    |
| 0006              | 00032.000             | EA            |          | 972057-CC01 | TRANSISTOR-A5T222 NPN SILICON          | TI--A5T2222        |
| 0006A             |                       |               |          |             | Q1 THRU Q32                            |                    |
| 0007              | 00005.000             | EA            |          | 222222-7400 | NETWORK SN7400N                        | -SN7400N           |
| 0007A             |                       |               |          |             | Z5,Z7,Z11,Z15,Z19                      |                    |
| 0008              | 00001.000             | EA            |          | 222222-7401 | NETWORK SN7401N                        |                    |
| 0008A             |                       |               |          |             | Z4                                     |                    |
| 0009              | 00003.000             | EA            |          | 222222-7404 | NETWORK SN7404N                        |                    |
| 0009A             |                       |               |          |             | Z8,Z12,Z14                             |                    |
| 0010              | 00001.000             | EA            |          | 222222-7440 | NETWORK SN7440N                        | -SN7440N           |
| 0010A             |                       |               |          |             | Z2                                     |                    |

|           |      |                       |      |                 |      |                                 |
|-----------|------|-----------------------|------|-----------------|------|---------------------------------|
| DRAFTSMAN | DATE | CKD DRAFTSMAN         | DATE | DESIGN ENGINEER | DATE | TITLE                           |
|           |      |                       |      |                 |      | CARD ASSY,DATA MODULE-INV INPUT |
| APPR MFG  | DATE | APPD PROJECT ENGINEER | DATE | RELEASED        | DATE | PROJECT NO                      |
|           |      |                       |      |                 |      |                                 |

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|-----------------------|----------|
| PART NUMBER           | REV      |
| <b>LM</b> 214103-0003 | AC<br>AE |

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| PART NUMBER           | REV      |
| <b>LM 214103-0003</b> | AG<br>AE |

| PRINT ITEM NUMBER | QUANTITY PER ASSEMBLY | UNIT OF ISSUE         | DWG. SIZE | PART NUMBER     | DESCRIPTION                              | VENDOR PART NUMBER               |
|-------------------|-----------------------|-----------------------|-----------|-----------------|--|----------------------------------|
| 0011              | 00008.000             | EA                    |           | 222222-7474     | NETWORK SN7474N                          | -SN7474N                         |
| C011A             |                       |                       |           |                 | Z1, Z6, Z9, Z10, Z16, Z17, Z18, Z20      |                                  |
| 0012              | 00001.000             | EA                    |           | 222222-7150     | NETWORK SN74150N                         |                                  |
| 0012A             |                       |                       |           |                 | Z3                                       |                                  |
| 0013              | 00001.000             | EA                    |           | 222222-7154     | NETWORK SN74154N                         | -SN74154N                        |
| 0013A             |                       |                       |           |                 | Z13                                      |                                  |
| 0014              | 00010.000             | EA                    |           | 230590-9000     | CAP .05 MF 12 V 20. % CER TRANSCAP       | ERI-5635-000-Y5F0503             |
| 0014A             |                       |                       |           |                 | C3 C6 C9 C10 C13 C16 C19                 |                                  |
| 0014B             |                       |                       |           |                 | C20 C23 C25                              |                                  |
| 0015              | 00001.000             | EA                    |           | 972924-0015     | CAP FIX TANT SOLID 47 MFD 10 % 20 VOLT   | QPL-M39003/1-2295                |
| 0015A             |                       |                       |           |                 | C27                                      |                                  |
| 0016              | AR                    | FT                    |           | 457313-0006     | WIRE 24 AWG SOLID, TEFLON, WHITE         | QPL- MIL-W-16878/4E              |
| C016A             |                       |                       |           |                 | E1 THRU E13                              |                                  |
| 0018              | REF                   | EA                    |           | 214104-9901     | DIAGRAM, LOGIC DETAIL-DATA MODULE        |                                  |
| 0020              | 00002.000             | EA                    |           | 972946-0081     | RES FIX 4.7K OHM 5 % .25 W CARBON FILM   | ROH- R-25                        |
| C020A             |                       |                       |           |                 | R67 R69                                  |                                  |
| 0021              | REF                   | EA                    |           | 217763-9901     | WIRE LIST, PT-TO-PT- DATA MOD, INV INPUT |                                  |
| 0022              | 00008.000             | EA                    |           | 972946-0083     | RES FIX 5.6K OHM 5 % .25 W CARBON FILM   | ROH- R-25                        |
| 0022A             |                       |                       |           |                 | R44, R46, R54, R56, R58,                 |                                  |
| C022B             |                       |                       |           |                 | R60, R62, R66                            |                                  |
| DRAFTSMAN         | DATE                  | CKD DRAFTSMAN         | DATE      | DESIGN ENGINEER | DATE                                     | TITLE                            |
|                   |                       |                       |           |                 |  | CARD ASSY, DATA MODULE-INV INPUT |
| APPD -MFG         | DATE                  | APPD PROJECT ENGINEER | DATE      | RELEASED        | DATE                                     | PROJECT NO                       |
|                   |                       |                       |           |                 |  |                                  |
|                   |                       |                       |           |                 |  | PART NUMBER                      |
|                   |                       |                       |           |                 |  | <b>LM 214103-0003</b>            |
|                   |                       |                       |           |                 |  | REV                              |
|                   |                       |                       |           |                 |  | AG<br>AE                         |

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| PRINT ITEM NUMBER | QUANTITY PER ASSEMBLY | UNIT OF ISSUE | DWG SIZE | PART NUMBER | DESCRIPTION                              | VENDOR PART NUMBER |
|-------------------|-----------------------|---------------|----------|-------------|--|--------------------|
| 0024              | 00001.000             | EA            |          | 972929-0357 | CAP FIX CERAMIC .001 UF 10% 200V         | QPL-M39014/01-1397 |
| 0024A             |                       |               |          |             | C28                                      |                    |
| 0026              | 00001.000             | EA            |          | 5338E7-C001 | EJECTOR,PCB,NON-LOCKING,WHITE            | SCA-S-202 WHITE    |
| 0027              | 00001.000             | EA            |          | 5338E7-CCC9 | EJECTOR,PCB,NON-LOCKING,GREEN            | SCA-S-202 GREEN    |
| 0029              | 00032.000             | EA            |          | 9725C7-C001 | INSULATOR DISC: TO-18                    | THR--7717-220      |
| 0030              | REF                   | EA            |          | 973589-9901 | UNIT TEST PROC, 16 I/O DATA MOD, SPECIAL |                    |

|           |      |                       |      |                 |      |                                 |
|-----------|------|-----------------------|------|-----------------|------|---------------------------------|
| DRAFTSMAN | DATE | CKD DRAFTSMAN         | DATE | DESIGN ENGINEER | DATE | TITLE                           |
|           |      |                       |      |                 |      | CARD ASSY,DATA MODULE-INV INPUT |
| APPD MFG  | DATE | APPD PROJECT ENGINEER | DATE | RELEASED        | DATE | PROJECT NO                      |
|           |      |                       |      |                 |      |                                 |

|                       |           |
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| PART NUMBER           | REV       |
| <b>LM 214103-0003</b> | <b>40</b> |

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| PRINT ITEM NUMBER     | QUANTITY PER ASSEMBLY | UNIT OF ISSUE | DWG SIZE              | PART NUMBER | DESCRIPTION                            | VENDOR PART NUMBER |  |             |     |                       |    |
|-----------------------|-----------------------|---------------|-----------------------|-------------|--|--------------------|--|-------------|-----|-----------------------|----|
| 0001                  | 00001.000             | EA            |                       | 214102-0001 | PRINTED WIRING BRD, DATA MODULE        |                    |  |             |     |                       |    |
| 0002                  | 00016.000             | EA            |                       | 972946-0071 | RES FIX 1.8K OHM 5 % .25 W CARBON FILM | ROH- R-25          |  |             |     |                       |    |
| 0002A                 |                       |               |                       |             | R26 R28 R30 R41 R43 R45 R47            |                    |  |             |     |                       |    |
| C002B                 |                       |               |                       |             | R49 R51 R53 R57 R59 R61 R63            |                    |  |             |     |                       |    |
| C002C                 |                       |               |                       |             | R65 R55                                |                    |  |             |     |                       |    |
| 0003                  | 00016.000             | EA            |                       | 972946-0054 | RES FIX 360 OHM 5 % .25 W CARBON FILM  | ROH- R-25          |  |             |     |                       |    |
| C003A                 |                       |               |                       |             | R1 R3 R5 R7 R9 R11 R13 R15             |                    |  |             |     |                       |    |
| C003B                 |                       |               |                       |             | R17 R19 R22 R24 R32 R34 R36            |                    |  |             |     |                       |    |
| C003C                 |                       |               |                       |             | R39                                    |                    |  |             |     |                       |    |
| 0004                  | 00019.000             | EA            |                       | 972946-0076 | RES FIX 3.0K OHM 5 % .25 W CARBON FILM | ROH- R-25          |  |             |     |                       |    |
| C004A                 |                       |               |                       |             | R2 R4 R6 R8 R10 R12 R14 R16            |                    |  |             |     |                       |    |
| 0004B                 |                       |               |                       |             | R18 R20 R21 R23 R25 R33 R35            |                    |  |             |     |                       |    |
| 0004C                 |                       |               |                       |             | R37 R38 R4C R68                        |                    |  |             |     |                       |    |
| 0006                  | 00032.000             | EA            |                       | 972057-0001 | TRANSISTOR-A5T2222 NPN SILICCN         | TI--A5T2222        |  |             |     |                       |    |
| 0006A                 |                       |               |                       |             | Q1 THRU C22                            |                    |  |             |     |                       |    |
| 0007                  | 00005.000             | EA            |                       | 222222-7400 | NETWRK SN7400N                         | -SN7400N           |  |             |     |                       |    |
| C007A                 |                       |               |                       |             | Z5 Z7 Z11 Z15 Z19                      |                    |  |             |     |                       |    |
| C008                  | 00001.000             | EA            |                       | 222222-7401 | NETWRK SN7401N                         |                    |  |             |     |                       |    |
| C008A                 |                       |               |                       |             | Z4                                     |                    |  |             |     |                       |    |
| C009                  | 00003.000             | EA            |                       | 222222-7404 | NETWRK SN7404N                         |                    |  |             |     |                       |    |
| DRAFTSMAN             |                       | DATE          | CKD DRAFTSMAN         | DATE        | DESIGN ENGINEER                        | DATE               | TITLE  |             |     |                       |    |
| APPD -MFG             |                       | DATE          | APPD PROJECT ENGINEER | DATE        | RELEASED                               | DATE               | PROJECT NO.  |             |     |                       |    |
|                       |                       |               |                       |             |  |                    | <table border="1"> <tr> <td>PART NUMBER</td> <td>REV</td> </tr> <tr> <td><b>LM 214103-0004</b></td> <td>AC</td> </tr> </table> | PART NUMBER | REV | <b>LM 214103-0004</b> | AC |
| PART NUMBER           | REV                   |               |                       |             |  |                    |  |             |     |                       |    |
| <b>LM 214103-0004</b> | AC                    |               |                       |             |  |                    |  |             |     |                       |    |

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| LM 214103-0004 | AC<br>AC |

| PRINT ITEM NUMBER | QUANTITY PER ASSEMBLY | UNIT OF ISSUE | DWG SIZE              | PART NUMBER | DESCRIPTION                            | VENDOR PART NUMBER    |                           |
|-------------------|-----------------------|---------------|-----------------------|-------------|--|-----------------------|---------------------------|
| CO01A             |                       |               |                       |             | Z8 Z12 Z14                             |                       |                           |
| CO10              | 00001.000             | EA            |                       | 222222-7440 | NETWRK SN7440N                         | -SN7440N              |                           |
| 0010A             |                       |               |                       |             | Z2                                     |                       |                           |
| 0011              | 00008.000             | EA            |                       | 222222-7474 | NETWRK SN7474N                         | -SN7474N              |                           |
| CO11A             |                       |               |                       |             | Z1 Z6 Z5 Z10 Z16 Z17 Z18 Z20           |                       |                           |
| 0012              | 00001.000             | EA            |                       | 222222-7150 | NETWRK SN74150N                        |                       |                           |
| 0012A             |                       |               |                       |             | Z3                                     |                       |                           |
| CO13              | 00001.000             | EA            |                       | 222222-7154 | NETWRK SN74154N                        | -SN74154N             |                           |
| 0013A             |                       |               |                       |             | Z13                                    |                       |                           |
| 0014              | 00010.000             | EA            |                       | 230590-9000 | CAP .05 MF 12 V 20. % CER TRANSCAP     | ERI-5635-000-Y5F0503M |                           |
| 0014A             |                       |               |                       |             | C3 C6 C9 C10 C13 C16 C19               |                       |                           |
| 0014B             |                       |               |                       |             | C20 C23 C25                            |                       |                           |
| 0015              | 00001.000             | EA            |                       | 972924-0015 | CAP FIX TANT SOLID 47 MFD 10 % 20 VOLT | QPL-M39003/1-2295     |                           |
| CO15A             |                       |               |                       |             | C27                                    |                       |                           |
| 0016              | AR                    | FT            |                       | 457313-C006 | WIRE 24 AWG SOLID,TEFLON,WHITE         | QPL- MIL-W-16878/4E   |                           |
| CO16A             |                       |               |                       |             | E1 THRL E10                            |                       |                           |
| 0018              | REF                   | EA            |                       | 214104-99C1 | DIAGRAM,LCCIC DETAIL-DATA MODULE       |                       |                           |
| 0020              | 00002.000             | EA            |                       | 972946-C081 | RES FIX 4.7K OHM 5 % .25 W CARBON FILM | ROH- R-25             |                           |
| CO20A             |                       |               |                       |             | R67 R65                                |                       |                           |
| CO23              | REF                   | EA            |                       | 966571-99C1 | WIRE LIST,PT-PT,DATA MOD-4TI           |                       |                           |
| DRAFTSMAN         |                       | DATE          | CKD DRAFTSMAN         | DATE        | DESIGN ENGINEER                        | DATE                  | TITLE                     |
|                   |                       |               |                       |             |  |                       | CARD ASSY,DATA MODULE-4TI |
| UPD MFG           |                       | DATE          | APPD PROJECT ENGINEER | DATE        | RELEASED                               | DATE                  | PROJECT NO                |
|                   |                       |               |                       |             |  |                       |                           |
|                   |                       |               |                       |             |  | PART NUMBER           | REV                       |
|                   |                       |               |                       |             |  | LM 214103-0004        | AC<br>AC                  |

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| PART NUMBER           | REV      |
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| PRINT<br>ITEM<br>NUMBER | QUANTITY<br>PER<br>ASSEMBLY | UNIT<br>OF<br>ISSUE | DWG.<br>SIZE | PART NUMBER | DESCRIPTION                                | VENDOR PART NUMBER |
|-------------------------|-----------------------------|---------------------|--------------|-------------|--|--------------------|
| 0024                    | 00001.000                   | EA                  |              | 972929-0357 | CAP FIX CERAMIC .001 UF 10% 200V           | QPL-M39014/01-1397 |
| 0024A                   |                             |                     |              |             | C28  |                    |
| 0026                    | 00001.000                   | EA                  |              | 533887-0001 | EJECTOR, PCB, NON-LOCKING, WHITE           | SCA-S-202 WHITE    |
| 0027                    | 00001.000                   | EA                  |              | 533887-0009 | EJECTOR, PCB, NON-LOCKING, GREEN           | SCA-S-202 GREEN    |
| 0028                    | AR                          | FT                  |              | 535578-0044 | WIRE, PICKUP 30 AWG SOLID, YELLOW WIREWRAP | QEN- SPCX130K6     |
| 0028A                   |                             |                     |              |             | F1   |                    |
| 0029                    | 00032.000                   | EA                  |              | 972507-0001 | INSULATOR DISC: TO-18                      | THR--7717-220      |
| 0030                    | REF                         | EA                  |              | 217163-9901 | TEST PROCEDURE-DATA MODULE                 |                    |

|           |      |                       |      |                 |      |                            |
|-----------|------|-----------------------|------|-----------------|------|----------------------------|
| DRAFTSMAN | DATE | CKD DRAFTSMAN         | DATE | DESIGN ENGINEER | DATE | TITLE                      |
|           |      |                       |      |                 |      | CARD ASSY, DATA MODULE-4TI |
| APPD MFG  | DATE | APPD PROJECT ENGINEER | DATE | RELEASED        | DATE | PROJECT NO                 |
|           |      |                       |      |                 |      |                            |

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| PART NUMBER           | REV      |
| <b>LM</b> 214103-0004 | AC<br>AE |

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| PART NUMBER           | REV                    |
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| PRINT ITEM NUMBER | QUANTITY PER ASSEMBLY | UNIT OF ISSUE | DWG SIZE              | PART NUMBER | DESCRIPTION                            | VENDOR PART NUMBER    |                        |
|-------------------|-----------------------|---------------|-----------------------|-------------|--|-----------------------|------------------------|
| C001              | 00001.000             | EA            |                       | 214102-CC01 | PRINTED WIPING BRD, DATA MODULE        |                       |                        |
| C002              | 00016.000             | EA            |                       | 972946-C071 | RES FIX 1.8K OHM 5 % .25 W CARBON FILM | ROH- R-25             |                        |
| C002A             |                       |               |                       |             | R26, R28, R30, R41, R43, R45, R47      |                       |                        |
| C002B             |                       |               |                       |             | R49, R51, R53, R57, R59, R61, R63      |                       |                        |
| C002C             |                       |               |                       |             | R65, R55                               |                       |                        |
| C003              | 00031.000             | EA            |                       | 972946-0054 | RES FIX 360 OHM 5 % .25 W CARBON FILM  | ROH- P-25             |                        |
| C003A             |                       |               |                       |             | R1 THRU R20, R22 THRU R25, R32         |                       |                        |
| C003B             |                       |               |                       |             | THRU R37, R39                          |                       |                        |
| C005              | 00003.000             | EA            |                       | 972946-0076 | RES FIX 3.0K OHM 5 % .25 W CARBON FILM | ROH- R-25             |                        |
| C005A             |                       |               |                       |             | R21, R38, R6E                          |                       |                        |
| C006              | 00032.000             | EA            |                       | 972057-CCC1 | TRANSISTOR-A5T2222 NPN SILICON         | TI--A5T2222           |                        |
| C006A             |                       |               |                       |             | Q1 THRU Q32                            |                       |                        |
| C007              | 00005.000             | EA            |                       | 222222-7400 | NETWORK SN7400N                        | -SN7400N              |                        |
| C007A             |                       |               |                       |             | Z5, Z7, Z11, Z15, Z19                  |                       |                        |
| C008              | 00001.000             | EA            |                       | 222222-7401 | NETWORK SN7401N                        |                       |                        |
| C008A             |                       |               |                       |             | Z4                                     |                       |                        |
| C009              | 00003.000             | EA            |                       | 222222-7404 | NETWORK SN7404N                        |                       |                        |
| C009A             |                       |               |                       |             | Z8, Z12, Z14                           |                       |                        |
| C010              | 00001.000             | EA            |                       | 222222-7440 | NETWORK SN7440N                        | -SN7440N              |                        |
| C010A             |                       |               |                       |             | Z2                                     |                       |                        |
| DRAFTSMAN         |                       | DATE          | CKD DRAFTSMAN         | DATE        | DESIGN ENGINEER                        | DATE                  | TITLE                  |
|                   |                       |               |                       |             |  |                       | CARD ASSY, DATA MODULE |
| PRD MFG           |                       | DATE          | APPD PROJECT ENGINEER | DATE        | RELEASED                               | DATE                  | PROJECT NO             |
|                   |                       |               |                       |             |  |                       |                        |
|                   |                       |               |                       |             |  | PART NUMBER           | REV                    |
|                   |                       |               |                       |             |  | <b>LM 214103-0005</b> | <b>AC</b><br><i>AC</i> |

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| PRINT ITEM NUMBER | QUANTITY PER ASSEMBLY | UNIT OF ISSUE | DWG. SIZE | PART NUMBER | DESCRIPTION                            | VENDOR PART NUMBER    |
|-------------------|-----------------------|---------------|-----------|-------------|--|-----------------------|
| 0011              | 00008.000             | EA            |           | 222222-7474 | NETWCRK SN7474N                        | -SN7474N              |
| 0011A             |                       |               |           |             | Z1,Z6,Z9,Z10,Z16,Z17,Z18,Z20           |                       |
| 0012              | 00001.000             | EA            |           | 222222-7150 | NETWCRK SN74150N                       |                       |
| 0012A             |                       |               |           |             | Z3                                     |                       |
| 0013              | 00001.000             | EA            |           | 222222-7154 | NETWCRK SN74154N                       | -SN74154N             |
| 0013A             |                       |               |           |             | Z13                                    |                       |
| 0014              | 00010.000             | EA            |           | 230590-9000 | CAP .05 MF 12 V 20. % CER TRANSCAP     | ERI-5635-000-Y5F0503M |
| 0014A             |                       |               |           |             | C3,C6,C9,C10,C13,C16,C19               |                       |
| 0014B             |                       |               |           |             | C20,C23,C25                            |                       |
| 0015              | 00001.000             | EA            |           | 972924-0015 | CAP FIX TANT SOLID 47 MFD 10 % 20 VOLT | QPL-M39003/1-2295     |
| 0015A             |                       |               |           |             | C27                                    |                       |
| 0016              | AR                    | FT            |           | 457313-0006 | WIRE 24 AWG SOLID,TEFLON,WHITE         | QPL- MIL-W-16878/4E   |
| 0016A             |                       |               |           |             | E1 THRU E13                            |                       |
| 0018              | REF                   | EA            |           | 214104-9901 | DIAGRAM,LCCIC DETAIL-DATA MODULE       |                       |
| 0020              | 00002.000             | EA            |           | 972946-0081 | RES FIX 4.7K OHM 5 % .25 W CARBON FILM | ROH- R-25             |
| 0020A             |                       |               |           |             | R67,R69                                |                       |
| 0021              | REF                   | EA            |           | 973550-9901 | WIRE LIST,DATA MODULE                  |                       |
| 0022              | 00014.000             | EA            |           | 972946-0083 | RES FIX 5.6K OHM 5 % .25 W CARBON FILM | ROH- R-25             |
| 0022A             |                       |               |           |             | R27,R29,R31,R42,R44,R46,R48            |                       |
| 0022B             |                       |               |           |             | R54,R56,R58,R60,R62,R64,R66            |                       |

|           |      |                        |      |                 |      |             |                        |                        |
|-----------|------|------------------------|------|-----------------|------|-------------|------------------------|------------------------|
| DRAFTSMAN | DATE | CKD DRAFTSMAN          | DATE | DESIGN ENGINEER | DATE | TITLE       | CARD ASSY, DATA MODULE |                        |
| APPD. MFG | DATE | APPD. PROJECT ENGINEER | DATE | RELEASED        | DATE | PROJECT NO. | PART NUMBER            | REV                    |
|           |      |                        |      |                 |      |             | <b>LM 214103-0005</b>  | <b>AC</b><br><b>BE</b> |

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|-----------------------|-------------|-----------------|

| PRINT ITEM NUMBER | QUANTITY PER ASSEMBLY | UNIT OF ISSUE | DWG SIZE | PART NUMBER | DESCRIPTION                              | VENDOR PART NUMBER |
|-------------------|-----------------------|---------------|----------|-------------|--|--------------------|
| 0024              | 00001.000             | EA            |          | 972929-0397 | CAP FIX CERAMIC .001 UF 10% 200V         | QPL-M39014/01-1397 |
| 0024A             |                       |               |          |             | C28                                      |                    |
| 0026              | 00001.000             | EA            |          | 533887-00C1 | EJECTOR,PCB,NON-LOCKING,WHITE            | SCA-S-202 WHITE    |
| 0027              | 00001.000             | EA            |          | 533887-CCC9 | EJECTOR,PCB,NON-LOCKING,GREEN            | SCA-S-202 GREEN    |
| 0029              | 00032.000             | EA            |          | 972507-C0C1 | INSULATOR DISC: TO-18                    | THR--7717-220      |
| 0030              | REF                   | EA            |          | 973594-9901 | UNIT TEST PROC, 16I/O DATA MODULE,-5ASSY |                    |

|           |      |                        |      |                 |      |                        |
|-----------|------|------------------------|------|-----------------|------|------------------------|
| DRAFTSMAN | DATE | CKD DRAFTSMAN          | DATE | DESIGN ENGINEER | DATE | TITLE                  |
|           |      |                        |      |                 |      | CARD ASSY, DATA MODULE |
| APPD. MFG | DATE | APPD. PROJECT ENGINEER | DATE | RELEASED        | DATE | PROJECT NO.            |
|           |      |                        |      |                 |      |                        |

|                       |             |                 |
|-----------------------|-------------|-----------------|
| <b>LM</b> 214103-0005 | PART NUMBER | REV<br>AC<br>HE |
|-----------------------|-------------|-----------------|

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**TEXAS INSTRUMENTS**  
INCORPORATED

DATE 06/24/76

**LIST OF MATERIAL**

PAGE 1 of

PART NUMBER  
**LM 214103-0006** RE-  
AC  
AE

| REF. ITEM NUMBER | Q. ANTY PER ASSEMBLY | UN. OF MEAS. | DWG. SIZE              | PART NUMBER | DESCRIPTION                            | VENDOR PART NUMBER    |                        |
|------------------|----------------------|--------------|------------------------|-------------|--|-----------------------|------------------------|
| 0001             | 00001.000            | EA           |                        | 214102-0001 | PRINTED WIRING BRD, DATA MODULE        |                       |                        |
| 0002             | 00016.000            | EA           |                        | 972946-0071 | RES FIX 1.8K OHM 5 % .25 W CARBON FILM | ROH- R-25             |                        |
| 0002A            |                      |              |                        |             | R26 R28 R30 R41 R43 R45 R47            |                       |                        |
| 0002B            |                      |              |                        |             | R49 R51 R53 R55 R57 R59 R61            |                       |                        |
| 0002C            |                      |              |                        |             | R63 R65                                |                       |                        |
| 0003             | 00031.000            | EA           |                        | 972946-0054 | RES FIX 360 OHM 5 % .25 W CARBON FILM  | ROH- R-25             |                        |
| 0003A            |                      |              |                        |             | R1 THRU R20 R22 THRU R25               |                       |                        |
| 0003B            |                      |              |                        |             | R32 THRU R37 R39                       |                       |                        |
| 0005             | 00003.000            | EA           |                        | 972946-0076 | RES FIX 3.0K OHM 5 % .25 W CARBON FILM | ROH- R-25             |                        |
| 0005A            |                      |              |                        |             | R21 R38 R66                            |                       |                        |
| 0006             | 00032.000            | EA           |                        | 972057-0001 | TRANSISTOR-A5T2222 NPN SILICON         | TI--A5T2222           |                        |
| 0006A            |                      |              |                        |             | Q1 THRU Q32                            |                       |                        |
| 0007             | 00005.000            | EA           |                        | 222222-7400 | NETWCRK SN7400N                        | -SN7400N              |                        |
| 0007A            |                      |              |                        |             | Z5 Z7 Z11 Z15 Z19                      |                       |                        |
| 0008             | 00001.000            | EA           |                        | 222222-7401 | NETWCRK SN7401N                        |                       |                        |
| 0008A            |                      |              |                        |             | Z4                                     |                       |                        |
| 0009             | 00003.000            | EA           |                        | 222222-7404 | NETWCRK SN7404N                        |                       |                        |
| 0009A            |                      |              |                        |             | Z8 Z12 Z14                             |                       |                        |
| 0010             | 00001.000            | EA           |                        | 222222-7440 | NETWCRK SN7440N                        | -SN7440N              |                        |
| 0010A            |                      |              |                        |             | Z2                                     |                       |                        |
| DRAFTSMAN        |                      | DATE         | CHK. DRAFTSMAN         | DATE        | DESIGN ENGINEER                        | DATE                  | TITLE                  |
|                  |                      |              |                        |             |  |                       | CARD ASSY, DATA MODULE |
| APPD. MFG        |                      | DATE         | APPD. PROJECT ENGINEER | DATE        | RELEASED                               | DATE                  | PROJECT NO.            |
|                  |                      |              |                        |             |  |                       |                        |
|                  |                      |              |                        |             |  | PART NUMBER           | RE-                    |
|                  |                      |              |                        |             |  | <b>LM 214103-0006</b> | AC<br>AE               |

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|                      |          |
|----------------------|----------|
| PART NUMBER          | REV      |
| <b>LM</b> 214103-006 | AE<br>AL |

| PRINT ITEM NUMBER | QUANTITY PER ASSEMBLY | UNIT OF ISSUE         | DWG. SIZE | PART NUMBER     | DESCRIPTION                            | VENDOR PART NUMBER     |          |
|-------------------|-----------------------|-----------------------|-----------|-----------------|--|------------------------|----------|
| CC11              | 00008.000             | EA                    |           | 222222-7474     | NETWORK SN7474N                        | -SN7474N               |          |
| 0011A             |                       |                       |           |                 | Z1 Z6 Z9 Z10 Z16 Z17 Z18 Z20           |                        |          |
| CC12              | 00001.000             | EA                    |           | 222222-7150     | NETWORK SN74150N                       |                        |          |
| 0012A             |                       |                       |           |                 | Z3                                     |                        |          |
| 0013              | 00001.000             | EA                    |           | 222222-7154     | NETWORK SN74154N                       | -SN74154N              |          |
| 0013A             |                       |                       |           |                 | Z13                                    |                        |          |
| 0014              | 00010.000             | EA                    |           | 230590-9000     | CAP .05 MF 12 V 20. % CER TRANSCAP     | ERI-5635-000-Y5F0503M  |          |
| 0014A             |                       |                       |           |                 | C3 C6 C9 C10 C13 C16 C19 C20           |                        |          |
| 0014B             |                       |                       |           |                 | C23 C25                                |                        |          |
| 0015              | 00001.000             | EA                    |           | 972924-0015     | CAP FIX TANT SOLID 47 MFD 10 % 20 VOL  | QPL-M39003/1-2295      |          |
| 0015A             |                       |                       |           |                 | C27                                    |                        |          |
| 0016              | AR                    | FT                    |           | 457313-0006     | WIRE 24 AWG SOLID, TEFLON, WHITE       | QPL- MIL-W-16878/4E    |          |
| 0018              | REF                   | EA                    |           | 214104-9901     | DIAGRAM, LCGIC DETAIL-DATA MODULE      |                        |          |
| 0020              | 00002.000             | EA                    |           | 972946-0081     | RES FIX 4.7K OHM 5 % .25 W CARBON FILM | ROH- R-25              |          |
| 0020A             |                       |                       |           |                 | R67 R69                                |                        |          |
| 0021              | REF                   | EA                    |           | 840955-9901     | INCOMING TEST PROC, 2230/2260 LINE PTR |                        |          |
| 0022              | 00008.000             | EA                    |           | 972946-0083     | RES FIX 5.6K OHM 5 % .25 W CARBON FILM | ROH- P-25              |          |
| 0022A             |                       |                       |           |                 | R44 R46 R54 R56 R58 R60 R62            |                        |          |
| 0022B             |                       |                       |           |                 | R66                                    |                        |          |
| 0024              | 00001.000             | EA                    |           | 972929-C397     | CAP FIX CERAMIC .001 UF 10% 200V       | QPL-M39014/01-1397     |          |
| DRAFTSMAN         | DATE                  | CKD DRAFTSMAN         | DATE      | DESIGN ENGINEER | DATE                                   | TITLE                  |          |
|                   |                       |                       |           |                 |  | CARD ASSY, DATA MODULE |          |
| APPD MFG          | DATE                  | APPD PROJECT ENGINEER | DATE      | RELEASED        | DATE                                   | PROJECT NO             |          |
|                   |                       |                       |           |                 |  |                        |          |
|                   |                       |                       |           |                 |  | PART NUMBER            | REV      |
|                   |                       |                       |           |                 |  | <b>LM</b> 214103-006   | AC<br>AE |

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INCORPORATED

DATE 06/24/76

**LIST OF MATERIAL**

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PART NUMBER  
**LM 214103-0006** REV.  
AE  
ALC

| REF. NO.<br>PART NUMBER | QUANTITY<br>OR<br>ASSEMBLY | UNIT<br>OF<br>MEASURE | DWG<br>SIZE | PART NUMBER | DESCRIPTION                              | VENDOR PART NUMBER |
|-------------------------|----------------------------|-----------------------|-------------|-------------|--|--------------------|
| C024A                   |                            |                       |             |             | C28                                      |                    |
| 0026                    | 00001.000                  | EA                    |             | 533887-CC01 | EJECTOR, PCB, NON-LOCKING, WHITE         | SCA-S-202 WHITE    |
| 0027                    | 00001.000                  | EA                    |             | 533887-CCC9 | EJECTOR, PCB, NON-LOCKING, GREEN         | SCA-S-202 GREEN    |
| 0029                    | 00032.000                  | EA                    |             | 972507-CC01 | INSULATOR DISC: TC-18                    | THR--7717-220      |
| 0030                    | REF                        | EA                    |             | 973589-9901 | UNIT TEST FRCC, 16 I/O DATA MOD, SPECIAL |                    |

DRAFTSMAN \_\_\_\_\_ DATE CKD DRAFTSMAN \_\_\_\_\_ DATE DESIGN ENGINEER \_\_\_\_\_ DATE TITLE \_\_\_\_\_  
CARD ASSY, DATA MODULE

APPD MFG \_\_\_\_\_ DATE APPD PROJECT ENGINEER \_\_\_\_\_ DATE RELEASED \_\_\_\_\_ DATE PROJECT NO \_\_\_\_\_

PART NUMBER  
**LM 214103-0006** REV.  
AE  
ALC

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|                       |          |
|-----------------------|----------|
| PART NUMBER           | REV      |
| <b>LM 214103-0960</b> | AC<br>AT |

| PRINT ITEM NUMBER | QUANTITY PER ASSEMBLY | UNIT OF ISSUE | DWG SIZE | PART NUMBER | DESCRIPTION                             | VENDOR PART NUMBER |
|-------------------|-----------------------|---------------|----------|-------------|---|--------------------|
| 0001              | 0001.000              | EA            |          | 966366-5701 | MANUAL, CRL 16IN/16OUT DATA MODULE 960A |                    |

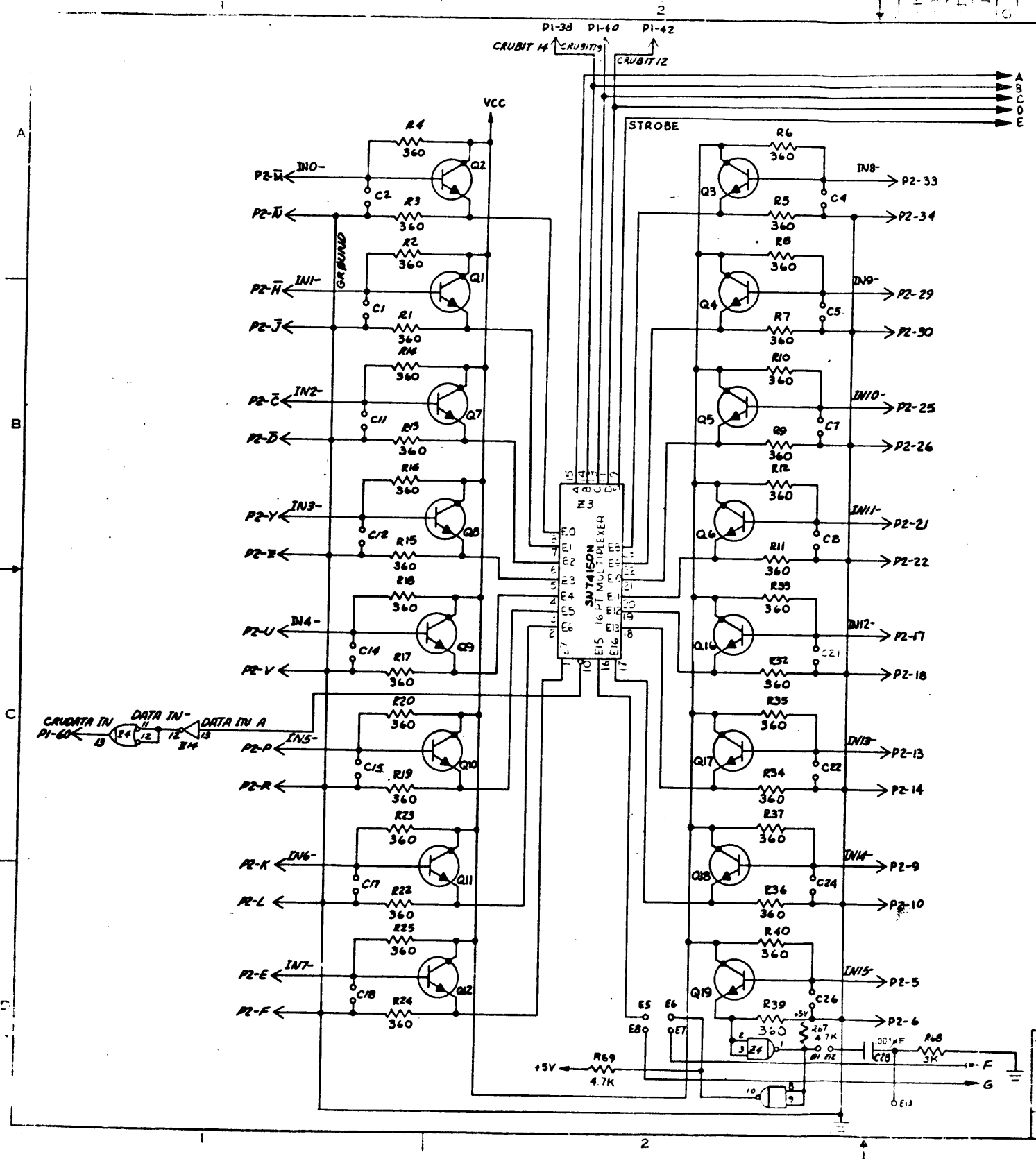
  

|          |      |                       |      |                 |      |                                      |
|----------|------|-----------------------|------|-----------------|------|--------------------------------------|
| DRFTSMAN | DATE | CRD DRAFTSMAN         | DATE | DESIGN ENGINEER | DATE | TITLE                                |
|          |      |                       |      |                 |      | CARD ASSY, DATA MODULE-DOCUMENTATION |
| APPD MFG | DATE | APPD PROJECT ENGINEER | DATE | RELEASED        | DATE | PROJECT NO.                          |
|          |      |                       |      |                 |      |                                      |

|                       |          |
|-----------------------|----------|
| PART NUMBER           | REV      |
| <b>LM 214103-0960</b> | AC<br>AT |

2-137/2-138



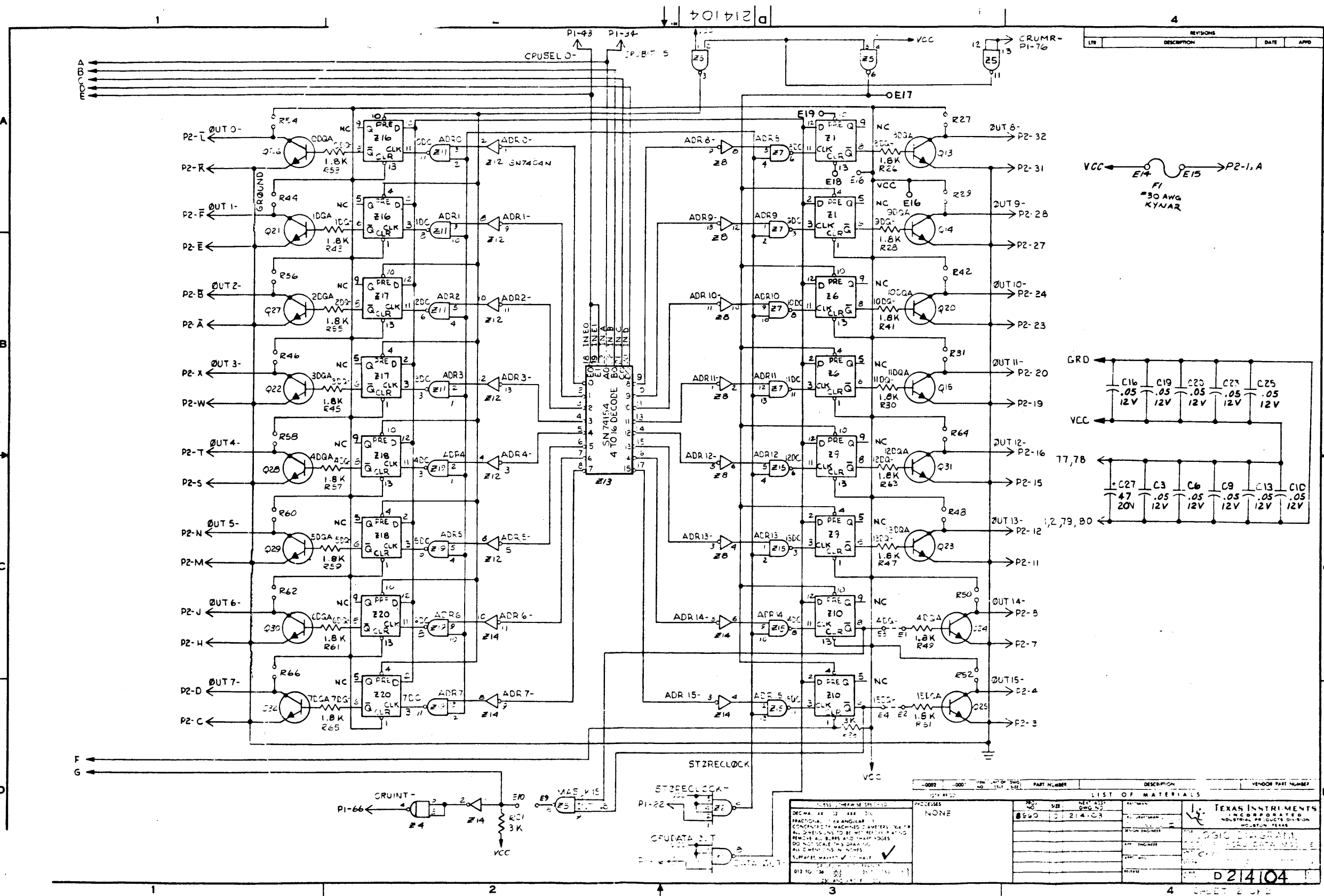
- NOTES:  
 UNLESS OTHERWISE SPECIFIED  
 1. RESISTANCE VALUES ARE IN OHMS.  
 2. RESISTORS ARE .25W ± 5%.  
 3. CAPACITANCE VALUES ARE IN MICROFARADS.  
 4. TRANSISTORS ARE 2N2222  
 5. NETWORKS Z1, Z6, Z9, E10, Z16, Z17, Z18 AND Z20 ARE SN7474N.  
 6. NETWORKS Z5, Z7, Z11, Z15 AND Z19 ARE SN7400N.  
 7. NETWORK Z4 IS SN7401N.  
 8. NETWORKS Z8, Z12 AND Z14 ARE SN7404N.  
 9. NETWORK Z3 IS SN7440N.  
 10. NETWORK Z2 IS SN74150N.  
 11. NETWORK Z13 IS SN74154N.  
 12. FILTER CAPACITORS TO GROUND MAY BE ADDED ON THE PADS PROVIDED, AT INSTALLATION.  
 13. FF'S ARE RESET TO OUTPUT DATA.  
 14. OUTPUTS ARE NORMALLY ON-OFF TRANSISTOR SWITCHES SINKING UP TO 80MA AND HOLDING OFF UP TO 30 VOLTS. HOWEVER, PROVISION IS MADE ON THE BOARD TO ADD A 3K-OHM RESISTOR FROM EACH COLLECTOR TO VCC.  
 15. ASSEMBLY 214103-0001  
 JUMPER CONNECTIONS  
 E1-E3 E17-E19  
 E2-E4 E16-E18  
 E5-E6 E7-E13  
 Z10 IS USED AS A DATA OUTPUT STORAGE DEVICE  
 16. ASSEMBLY 214103-0002  
 JUMPER CONNECTIONS  
 E1-E3 E16-E18  
 E2-E4 E17-E19  
 E5-E6 E9-E10  
 E6-E12 E7-E13  
 R40 NOT INSTALLED  
 R27, R29, R31, R42, R44, R46, R48, R54, R56, R58, R60, R62, R64 AND R66 ARE 5.6K  
 E10 USED AS AN INTERRUPT AND MASK  
 IN15 IS DIFFERENTIATED  
 17. ASSEMBLY 214103-0003  
 JUMPER CONNECTIONS  
 E1-E3 E9-E10 E16-E18  
 E2-E4 E11-E12 E17-E19  
 E5-E6 E7-E13  
 R40 NOT INSTALLED  
 R44, R46, R56, R58, R60, R62 AND R66 ARE 5.6K  
 IN15 IS INVERTED AND DIFFERENTIATED  
 18. ASSEMBLY 214103-0004  
 JUMPER CONNECTIONS  
 E1-E3 E16-E18  
 E2-E4 E17-E19  
 E5-E6 E14-E15  
 E14-E15 4.0.5 INCH OF 30GA KYNAR WIRE (FUSE)  
 R2, R4, R6, R8, R10, R12, R14, R16, R18, R20, R23, R25, R35, R37, R39 AND R40 ARE 3K  
 VCC IS CONNECTED TO EDGE CONNECTOR BY FUSE WIRE BETWEEN E14 AND E15  
 19. ASSEMBLY 214103-0005  
 JUMPER CONNECTIONS  
 E1-E3 E17-E19  
 E2-E4 E5-E6  
 E9-E10 E6-E12  
 E7-E13 E16-E19  
 SAME RESISTOR SCHEDULE AS FOR -0002  
 INPUTS TO E1, PRESET, P14, P10 AND CLEAR, P11 ARE REVERSED  
 20. ASSEMBLY 214103-0006  
 JUMPER CONNECTIONS:  
 E1-E3 E17-E19  
 E2-E4 E16-E18  
 E5-E6 E9-E10  
 E6-E12 E7-E13  
 E14-E15 4.0.5 INCH OF 30GA KYNAR WIRE (FUSE)  
 R2, R4, R6, R8, R10, R12, R14, R16, R18, R20, R23, R25, R35, R37, R39 AND R40 ARE 3K  
 VCC IS CONNECTED TO EDGE CONNECTOR BY FUSE WIRE BETWEEN E14 AND E15

371844 (B) 10-29-71  
 CHG: 1) SH 1, ZONES D1,2; R67 WAS 1K, C28 WAS 100PF, R68 WAS 27K  
 2) SH 2, ZONE D3, R38 WAS 27K  
 317836 (C) 11-20-71 R. P. H.  
 CHG 1) SH 1 NOTE 4 "ZNS449" WAS "ZNS222"  
 2) SH 2 ZONE C4, VALUE OF C27 WAS 50 F15V.  
 3) SH 2 ZONES B4 & C4, VALUE OF C3, C6, C9, C10, C13, C16, C19, C20, C23 & C25 WAS 0.1E 10V.  
 296647 (C) 1-4-72 J. J. J.  
 1) SH 1, ZONE D2, ADDED R69 (24-8,9,10 TO F1D)  
 2) SH 1, ZONE D2, EG WAS CONNECTED TO 24-263  
 3) SH 2 ZONE C4, 24-8,9,10 WERE A SPARE GATE  
 372416 (C) 3-2-72  
 ADDED: NOTE 15  
 1) SH 1, ZONE D2 ADDED NOTE 20  
 2) SH 2, ZONE A4 ADDED E4 & E5 JUMPER CONNECTIONS  
 H) 372416 (C) 3-2-72  
 1) DELETED JUMPER CONNECTIONS BETWEEN Z1-13 TO VCC AND Z10 TO Z5-6 AND ADDED E4 & E5 TO 24-8,9,10 THESE RELATIVE LOCATIONS  
 2) DELETED 5K OHM FROM NOTE 14.3. DELETED NOTE 20  
 3) RE-USED NOTES 17-20, 19  
 (5) CAPACITORS RESISTOR SCHEDULE OPTIONAL HAS NOT USED  
 (6) ADDED 2100 TO PROLOGO.  
 J) 372416 (C) 3-2-72 SHI NOTE 4 WAS "TRANSISTORS ARE 2N2222"  
 A  
 B  
 C  
 L

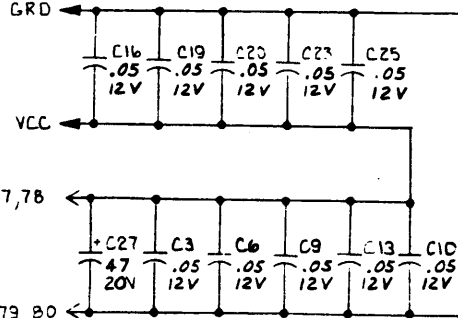
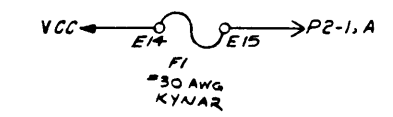
CAPACITOR & RESISTOR USE SCHEDULE

| USED            | OPTIONAL           |
|-----------------|--------------------|
| P1 THRU R26     | C1, C2, C4, C5, C7 |
| R28, R30, R32   | C8, C11, C12, C14  |
| H40, R41, R43   | C15, C17, C18, C21 |
| R45, R47, R49   | C22, C24, C26, C27 |
| R51, R53, R57   | C28, C29, C30, C31 |
| R59, R61, R63   | C32, C33, C34, C35 |
| R65, R67, C69   | R27, R29, R31, R33 |
| R71, R73, C73   | R35, R37, R39, R41 |
| R75, C77, R79   | R43, R45, R47, R49 |
| R81, R83, R85   | R51, R53, R55, R57 |
| R87, R89, R91   | R59, R61, R63, R65 |
| R93, R95, R97   | R67, R69, R71, R73 |
| R99, R101, R103 | R75, R77, R79, R81 |

LOGIC DIAGRAM,  
 DETAILED: CRU DATA MICRO  
 WITH R11  
 360 COMPUTER  
 214104  
 1 OF 2



| REV | DESCRIPTION | DATE | APPD |
|-----|-------------|------|------|
|     |             |      |      |



| REV | DESCRIPTION | DATE | APPD |
|-----|-------------|------|------|
|     |             |      |      |

| REV | DESCRIPTION | DATE | APPD |
|-----|-------------|------|------|
|     |             |      |      |

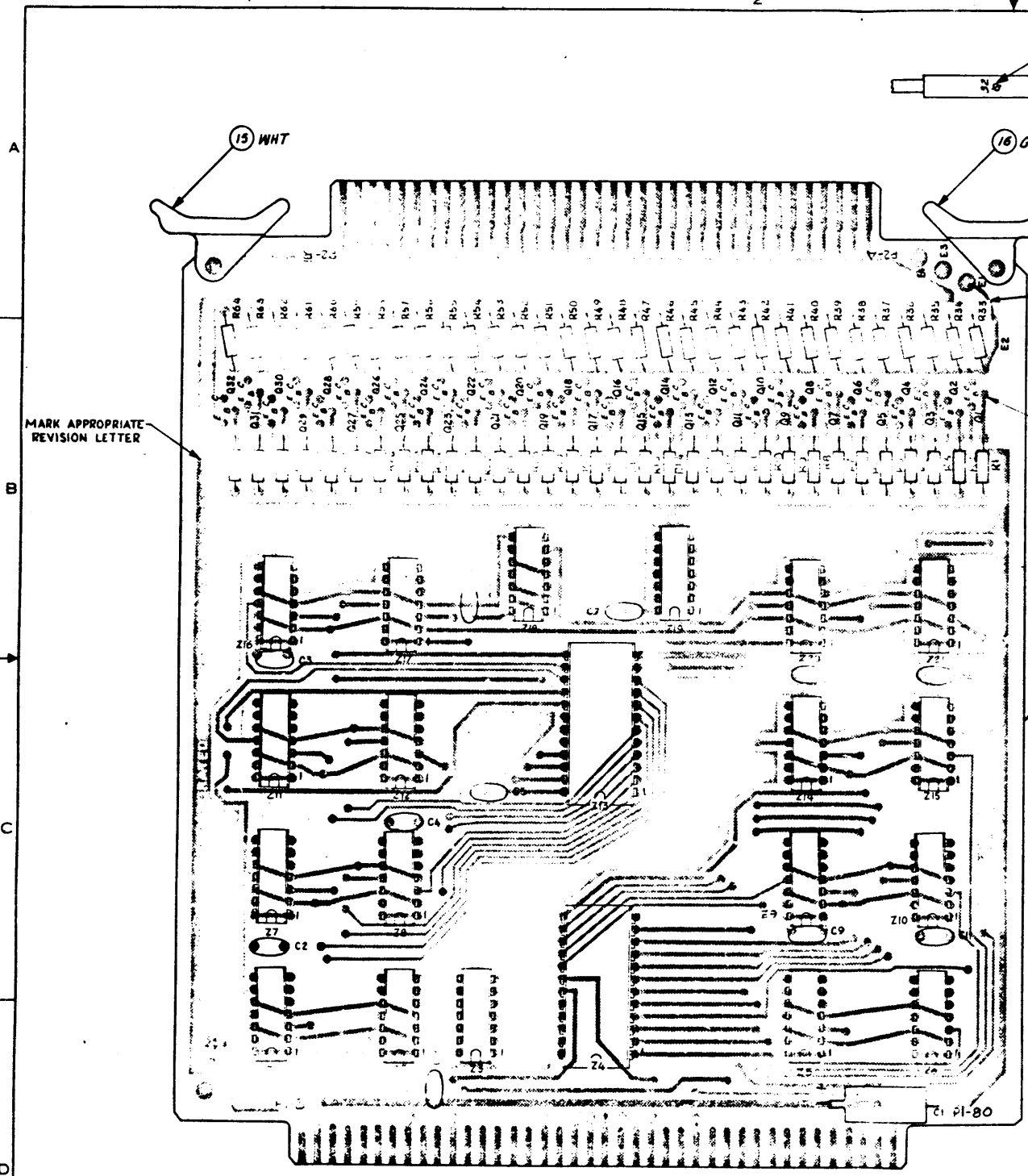
  

| REV | DESCRIPTION | DATE | APPD |
|-----|-------------|------|------|
|     |             |      |      |

| REV | DESCRIPTION | DATE | APPD |
|-----|-------------|------|------|
|     |             |      |      |

089L12 d  
217380



- NOTES:
1. MAXIMUM COMPONENT HEIGHT FROM COMPONENT SIDE OF CARD IS .31
  2. MAXIMUM LEAD LENGTH FROM CONDUCTOR SIDE OF CARD IS .075

MARK PER PROCESS 2

MARK APPROPRIATE REVISION LETTER

|   |                     |   |
|---|---------------------|---|
| A | 373594(E) 10-3-72   | ADDED ITEM 15 (16)  |
| B | 373594(E) 10-3-72   | ADDED ITEM 15 (16)  |
| C | 380795 (C) 10-23-73 | DELETED ITEM 15 (16) IN ITS PLACE PIN 399999-3702, QTY 32. SA WAS R33 T-RU R64. ADDED 1) -0002 LM 2) BALLOON IT.17 TO F/D ZONE A-3 3) PIN SCHEDULE  |
| D | 389028 (E) 11-1-73  | ADDED NOTES 1 & 2   |
| E | 390053 (E) 11-1-73  | -0002 ADDED ITEM 18 (2), ADDED PROCESS 3 (3) ADDED "SOLDER PER PROCESS 3" TO ZONE B3 (4), ADDED BALLOON 18 TO ERS (5), CA Q1 THRU Q3L ADDED PIN NOS. C18 & AND DELETED OUTLINE OF TRANSISTORS |
| F | 390434 (E) 11-1-73  | -0001 & -0002 ITEM 10 WAS 236091-5449. DELETED REV LEVEL BLOCK  |
| G | 390434 (E) 11-1-73  | -0001 & -0002 ITEM 10 WAS 236091-5449. DELETED REV LEVEL BLOCK  |
| H | 390434 (E) 11-1-73  | -0001 & -0002 ITEM 10 WAS 236091-5449. DELETED REV LEVEL BLOCK  |
| I | 390434 (E) 11-1-73  | -0001 & -0002 ITEM 10 WAS 236091-5449. DELETED REV LEVEL BLOCK  |
| J | 390434 (E) 11-1-73  | -0001 & -0002 ITEM 10 WAS 236091-5449. DELETED REV LEVEL BLOCK  |
| K | 390434 (E) 11-1-73  | -0001 & -0002 ITEM 10 WAS 236091-5449. DELETED REV LEVEL BLOCK  |
| L | 390434 (E) 11-1-73  | -0001 & -0002 ITEM 10 WAS 236091-5449. DELETED REV LEVEL BLOCK  |

|  |             |
|--|-------------|
| BOARD ASSY, OUTPUT DATA MODULE V/PULL UPS    | 217380-0002 |
| BOARD ASSY, OUTPUT DATA MODULE+DOCUMENTATION | 217380-0003 |
| BOARD ASSY, OUTPUT DATA MODULE               | 217380-0001 |
| DESCRIPTION                                  | PART NO     |

|                                     |
|-------------------------------------|
| TEST PROC 27432                     |
| MANUFACTURING PROC-000: 4537 217355 |
| ASSEMBLY                            |

|  |      |   |        |                                |
|--|------|---|--------|--------------------------------|
| 1. RUBBER STAMP F100, HEIGHT .09 COLOR BLK | 960  | A | 21410  | TRANSISTOR MOUNT               |
| 2. HOT STAMP F102, HEIGHT .12, COLOR BLK   | 8120 | A | 226700 | BOARD ASSY, OUTPUT DATA MODULE |
|  |      |   |        | COMPUTER                       |
|  |      |   |        | 217380                         |



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**LM** PART NUMBER 217380-0001 REV L 4

| PRINT ITEM NUMBER | QUANTITY PER ASSEMBLY | UNIT OF ISSUE | DWG. SIZE | PART NUMBER | DESCRIPTION                            | VENDOR PART NUMBER   |
|-------------------|-----------------------|---------------|-----------|-------------|--|----------------------|
| C001              | 00001.000             | EA            |           | 217379-C001 | PW BOARD, OUTPUT DATA MODULE           |                      |
| 0002              | 00032.000             | EA            |           | 972946-C071 | RES FIX 1.8K OHM 5 % .25 W CARBON FILM | ROH- R-25            |
| C002A             |                       |               |           |             | R1 THRU R32                            |                      |
| 0003              | 00001.000             | EA            |           | 972924-0015 | CAP FIX TANT SOLID 47 MFD 10 % 20 VOLT | QPL-M39003/1-2295    |
| C003A             |                       |               |           |             | C1                                     |                      |
| 0004              | 00011.000             | EA            |           | 230590-9000 | CAP .05 MF 12 V 20. % CER TRANSCAP     | ERI-5635-(00-Y5F0503 |
| C004A             |                       |               |           |             | C2 THRU C12                            |                      |
| C006              | 00002.000             | EA            |           | 222222-7154 | NETWRK SN74154N                        | -SN74154N            |
| C006A             |                       |               |           |             | Z4 & Z13                               |                      |
| 0007              | 00002.000             | EA            |           | 240000-7440 | NETWRK-SN74H40N                        |                      |
| C007A             |                       |               |           |             | Z18 & Z19                              |                      |
| 0008              | 00016.000             | EA            |           | 222222-7474 | NETWRK SN7474N                         | -SN7474N             |
| 0008A             |                       |               |           |             | Z1, Z2, Z5 THRU Z12, Z14 THRU          |                      |
| C008B             |                       |               |           |             | Z17 Z20 Z21                            |                      |
| 0009              | 00001.000             | EA            |           | 222222-7404 | NETWRK SN7404N                         |                      |
| C009A             |                       |               |           |             | Z3                                     |                      |
| 0010              | 00032.000             | EA            |           | 972057-C001 | TRANSISTOR-A5T2222 NPN SILICON         | TI--A5T2222          |
| 0010A             |                       |               |           |             | C1 THRU C32                            |                      |
| 0012              | REF                   | EA            |           | 217355-9901 | DIAGRAM, LOGIC DET-OUTPUT DATA MODULE  |                      |
| 0013              | REF                   | EA            |           | 217432-9901 | SPECS-OUTPUT DATA MODULE               |                      |

|           |      |                       |         |                 |      |                                |
|-----------|------|-----------------------|---------|-----------------|------|--------------------------------|
| DRAFTSMAN | DATE | CHKD DRAFTSMAN        | DATE    | DESIGN ENGINEER | DATE | TITLE                          |
|           |      | <i>[Signature]</i>    | 6/27/76 |                 |      | BOARD ASSY, OUTPUT DATA MODULE |
| APPD MFG  | DATE | APPD PROJECT ENGINEER | DATE    | RELEASED        | DATE | PROJECT NO                     |
|           |      |                       |         |                 |      |                                |

**LM** PART NUMBER 217380-0001 REV L 4

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| <b>LM</b> | PART NUMBER<br>217380-000 | REV<br>L 4 |
|-----------|---------------------------|------------|

| PRINT ITEM NUMBER | QUANTITY PER ASSEMBLY | UNIT OF ISSUE | DWG. SIZE | PART NUMBER | DESCRIPTION                        | VENDOR PART NUMBER |
|-------------------|-----------------------|---------------|-----------|-------------|------------------------------------|--------------------|
| 0014              | REF                   | EA            |           | 217438-9901 | TEST PROCEDURE, OUTPUT DATA MODULE |                    |
| 0015              | 00001.000             | EA            |           | 533887-0001 | EJECTCR, PCB, NON-LOCKING, WHITE   | SCA-S-202 WHITE    |
| 0016              | 00001.000             | EA            |           | 533887-0009 | EJECTCR, PCB, NON-LOCKING, GREEN   | SCA-S-202 GREEN    |
| 0018              | 00032.000             | EA            |           | 972507-0001 | INSULATOR DISC: TO-18              | THP--7717-220      |

|            |      |                        |      |                 |      |             |                                |                           |
|------------|------|------------------------|------|-----------------|------|-------------|--------------------------------|---------------------------|
| DRAFTSMAN  | DATE | CKD DRAFTSMAN          | DATE | DESIGN ENGINEER | DATE | TITLE       | BOARD ASSY, OUTPUT DATA MODULE |                           |
| APPD. MFG. | DATE | APPD. PROJECT ENGINEER | DATE | RELEASED        | DATE | PROJECT NO. | <b>LM</b>                      | PART NUMBER<br>217380-000 |
|            |      |                        |      |                 |      |             | REV                            | L 4                       |

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LM 217380-0003 L REV

| PRINT ITEM NUMBER | QUANTITY PER ASSEMBLY | UNIT OF ISSUE | DWG SIZE               | PART NUMBER | DESCRIPTION                            | VENDOR PART NUMBER   |   |
|-------------------|-----------------------|---------------|------------------------|-------------|--|----------------------|---|
| 0001              | 00001.000             | EA            |                        | 217379-0001 | PW BOARD, OUTPUT DATA MODULE           |                      |   |
| 0002              | 00032.000             | EA            |                        | 972946-0071 | RES FIX 1.8K OHM 5 % .25 W CARBON FILM | ROH- P-25            |   |
| 0002A             |                       |               |                        |             | R1 THRU R32                            |                      |   |
| 0003              | 00001.000             | EA            |                        | 972924-0015 | CAP FIX TANT SOLID 47 MFD 10 % 20 VOLT | QPL-M39003/1-2295    |   |
| 0003A             |                       |               |                        |             | C1                                     |                      |   |
| 0004              | 00011.000             | EA            |                        | 230590-9000 | CAP .05 MF 12 V 20. % CER TRANSCAP     | ERI-5635-000-Y5F0500 |   |
| 0004A             |                       |               |                        |             | C2 THRU C12                            |                      |   |
| 0005              | 00032.000             | EA            |                        | 972946-0082 | RES FIX 5.1K OHM 5 % .25 W CARBON FILM | ROH- P-25            |   |
| 0005A             |                       |               |                        |             | R33 THRU R64                           |                      |   |
| 0006              | 00002.000             | EA            |                        | 222222-7154 | NETWCRK SN74154N                       | -SN74154N            |   |
| 0006A             |                       |               |                        |             | Z4 & Z13                               |                      |   |
| 0007              | 00002.000             | EA            |                        | 240000-7440 | NETWORK-SN74H40N                       |                      |   |
| 0007A             |                       |               |                        |             | Z18 & Z19                              |                      |   |
| 0008              | 00016.000             | EA            |                        | 222222-7474 | NETWCRK SN7474N                        | -SN7474N             |   |
| 0008A             |                       |               |                        |             | Z1, Z2, Z5, THRU Z12, Z14 THRU         |                      |   |
| 0008B             |                       |               |                        |             | Z17, Z20, Z21                          |                      |   |
| 0009              | 00001.000             | EA            |                        | 222222-7404 | NETWCRK SN7404N                        |                      |   |
| 0009A             |                       |               |                        |             | Z3                                     |                      |   |
| 0010              | 00032.000             | EA            |                        | 972057-0001 | TRANSISTOR-A5T2222 NPN SILICON         | TI--A5T2222          |   |
| 0010A             |                       |               |                        |             | Q1 THRU Q32                            |                      |   |
| DRAFTSMAN         |                       | DATE          | CKD DRAFTSMAN          | DATE        | DESIGN ENGINEER                        | DATE                 | TITLE                                     |
|                   |                       |               |                        |             |  |                      | BOARD ASSY, OUTPUT DATA MODULE W/PULL-UPS |
| APPD -MFG         |                       | DATE          | APPD. PROJECT ENGINEER | DATE        | RELEASED                               | DATE                 | PROJECT NO                                |
|                   |                       |               |                        |             |  |                      |   |
|                   |                       |               |                        |             |  | LM                   | PART NUMBER 217380-0003 REV L             |

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| <b>LM</b> | PART NUMBER | REV |
|           | 217380-0002 | L 4 |

| PRINT ITEM NUMBER | QUANTITY PER ASSEMBLY | UNIT OF ISSUE | DWG. SIZE | PART NUMBER | DESCRIPTION                           | VENDOR PART NUMBER |
|-------------------|-----------------------|---------------|-----------|-------------|---------------------------------------|--------------------|
| 0012              | REF                   | EA            |           | 217355-99C1 | DIAGRAM, LCGIC DET-OUTPUT DATA MODULE |                    |
| 0013              | REF                   | EA            |           | 217422-99C1 | SPECS-OUTPUT DATA MODULE              |                    |
| 0014              | REF                   | EA            |           | 217438-99C1 | TEST PROCEDURE, OUTPUT DATA MODULE    |                    |
| 0015              | 00001.000             | EA            |           | 533887-C0C1 | EJECTOR, PCB, NON-LOCKING, WHITE      | SCA-S-202 WHITE    |
| 0016              | 00001.000             | EA            |           | 533887-C009 | EJECTOR, PCB, NON-LOCKING, GREEN      | SCA-S-202 GREEN    |
| 0017              | 00000.500             | FT            |           | 538347-3999 | WIRE TUCKER B-22 AWG 19 STR WHITE     | JUD- HH0115        |
| 0018              | 00032.000             | EA            |           | 972507-C0C1 | INSULATOR DISC: TO-18                 | THR--7717-220      |

|           |      |                       |      |                 |      |   |
|-----------|------|-----------------------|------|-----------------|------|---|
| DRAFTSMAN | DATE | CKD DRAFTSMAN         | DATE | DESIGN ENGINEER | DATE | TITLE                                     |
|           |      |                       |      |                 |      | BOARD ASSY, OUTPUT DATA MODULE W/PULL-UPS |
| APPD MFG  | DATE | APPD PROJECT ENGINEER | DATE | RELEASED        | DATE | PROJECT NO                                |
|           |      |                       |      |                 |      |   |

|           |             |     |
|-----------|-------------|-----|
| <b>LM</b> | PART NUMBER | REV |
|           | 217380-0002 | L 4 |

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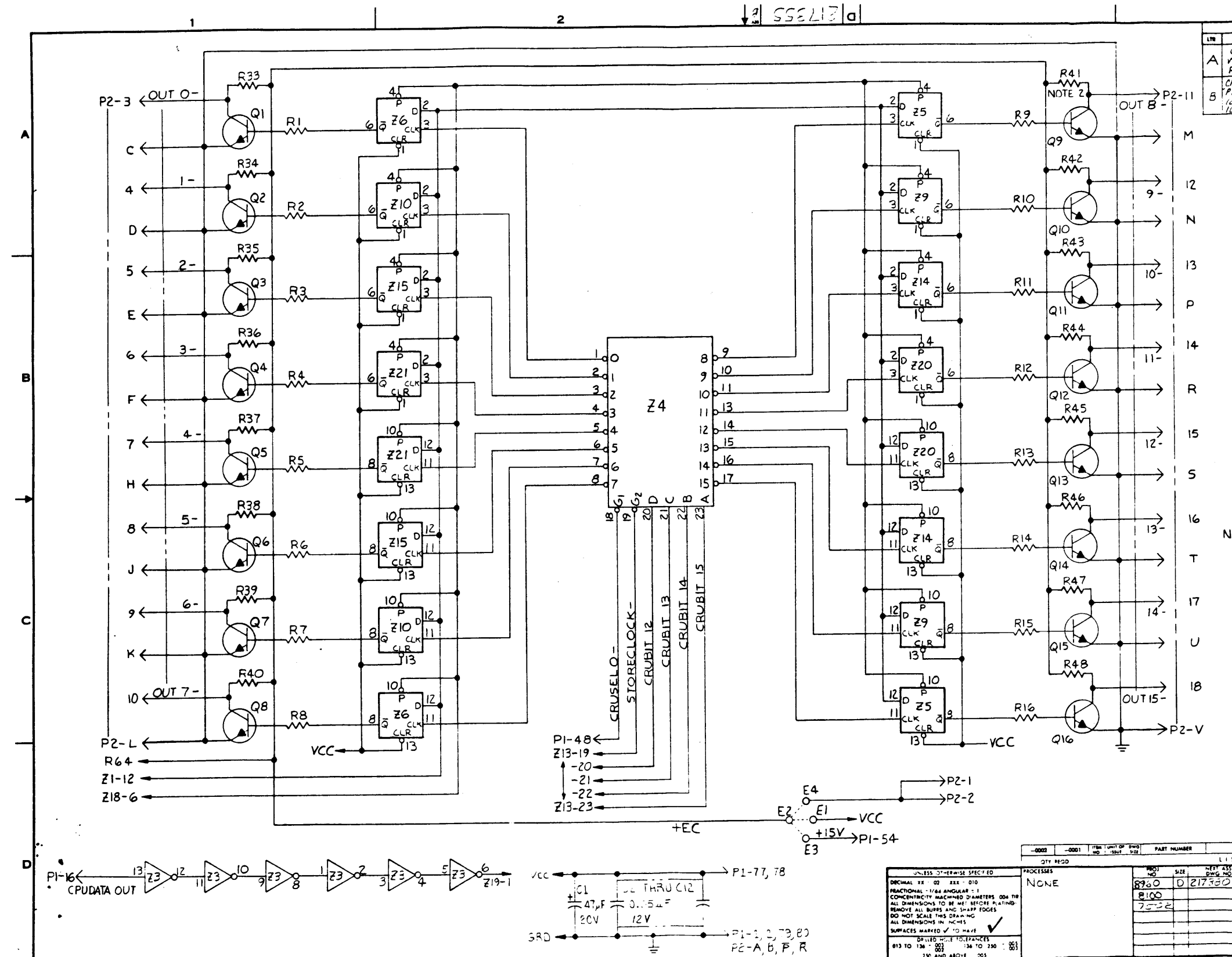
**LIST of MATERIAL**

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PART NUMBER REV  
**LM** 217390-096 L 4

| PRINT ITEM NUMBER | QUANTITY PER ASSEMBLY | UNIT OF ISSUE | DWG. SIZE             | PART NUMBER | DESCRIPTION                               | VENDOR PART NUMBER   |            |
|-------------------|-----------------------|---------------|-----------------------|-------------|---|----------------------|------------|
| 0001              | 00001.000             | EA            |                       | 966368-5701 | MANUAL, CRU 32 OUT DATA MODULE 960A CORR. |                      |            |
| DRAFTSMAN         |                       | DATE          | CKD DRAFTSMAN         | DATE        | DESIGN ENGINEER                           | DATE                 | TITLE      |
| APPD MFG          |                       | DATE          | APPD PROJECT ENGINEER | DATE        | RELEASED                                  | DATE                 | PROJECT NO |
|                   |                       |               |                       |             |   | <b>LM</b> 217390-096 | L 4        |

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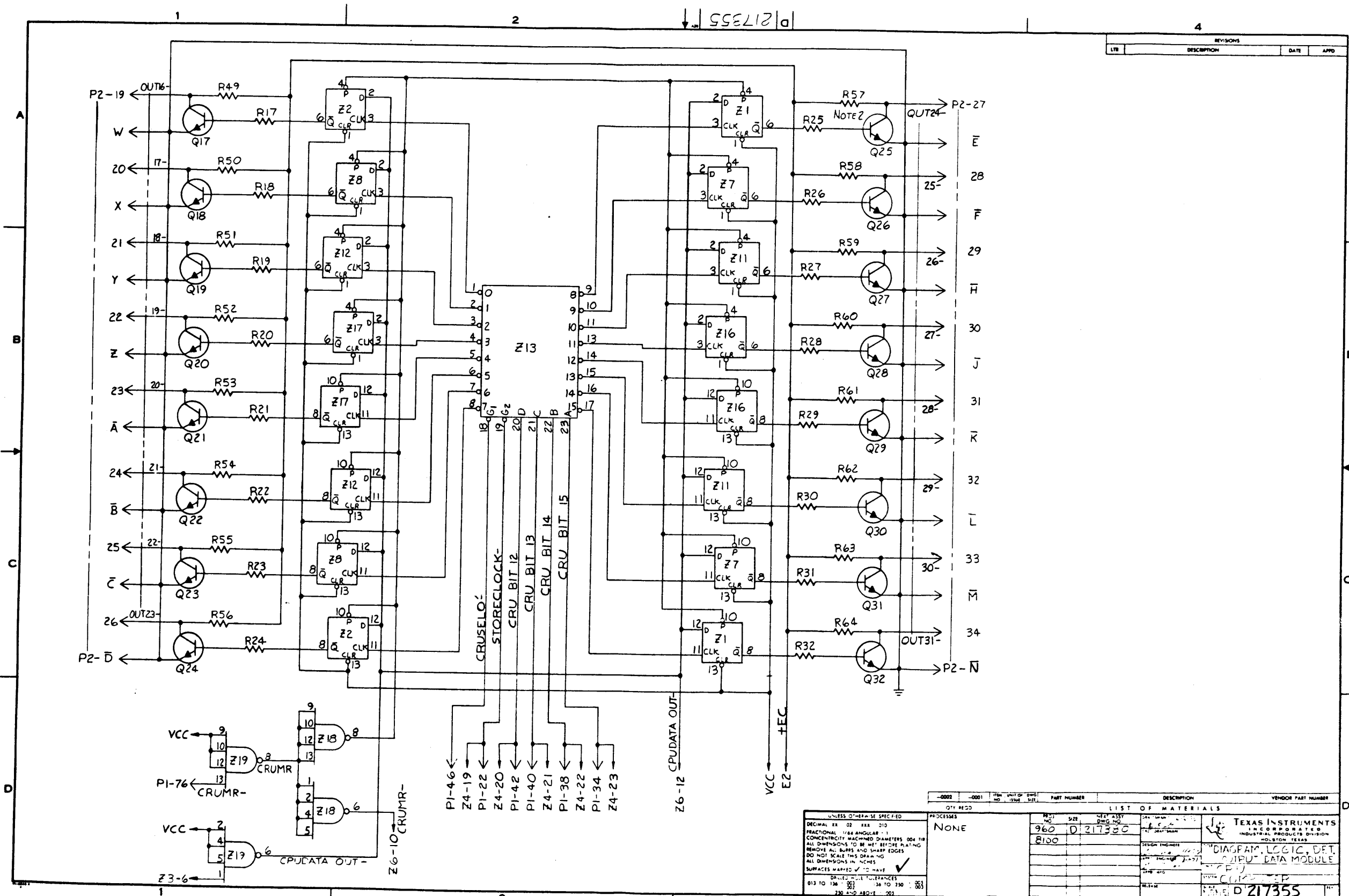


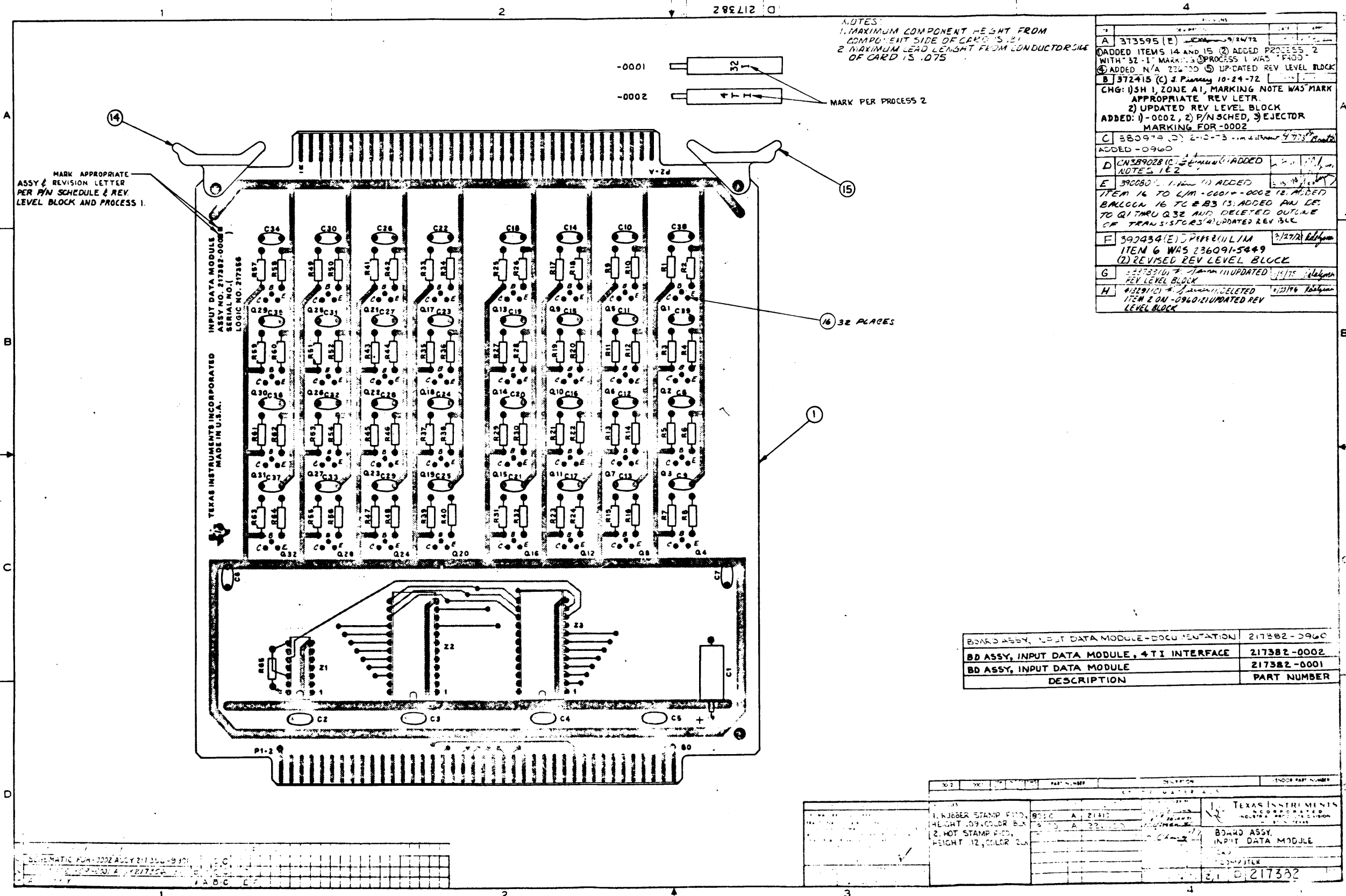
| REVISIONS |  |          |             |
|-----------|--|----------|-------------|
| LT#       | DESCRIPTION  | DATE     | APP#        |
| A         | CN 390435 (E) Z20 (1) NOTE 4 WAS ... ZN5449(2) ADDED PROJ. NO. 2100                    |          |             |
| B         | CN 390435 (E) Z20 (1) ADDED Z2-A B P R IN ZONE D3 10% ZONE D-2, 22 THRU 23 WAS 2MF 10V | 10/15/50 | J. H. H. R. |

- NOTES:**  
 UNLESS OTHERWISE SPECIFIED  
 1. RESISTORS, R1 THRU R32, ARE 1800 OHM .25W±5%  
 2. OUTPUTS ARE NORMALLY ON-OFF TRANSISTOR SWITCHES SINKING UP TO 50MA AND HOLDING OFF UP TO 30V. A PROVISION IS MADE ON THE BOARD TO ADD A 5.1K OHM .25W±5% RESISTOR, R33 THRU R64, FROM EACH COLLECTOR TO A PLUS BUSS OF EITHER OF THE FOLLOWING  
 A. VCC CONNECT E2/E1  
 B. +15V CONNECT E2/E3  
 C. EXT. VOLTAGE CONNECT E2/E4  
 3. NETWORKS ARE AS FOLLOWS:  
 A. Z1, Z2, Z5 THRU Z12, Z14 THRU Z17, Z20, Z21 ARE SN7474N  
 B. Z4 & Z13 ARE SN74154N  
 C. Z18 & Z19 ARE SN74H40N  
 D. Z3 IS A SN7404N  
 4. ALL TRANSISTORS ARE A5T2222

| QTY   | PRCD | DESCRIPTION  | PART NUMBER | LIST OF MATERIALS | VENDOR PART NUMBER |         |      |           |        |      |   |        |  |      |  |  |  |      |  |  |  |
|---|------|--|-------------|-------------------|--------------------|---------|------|-----------|--------|------|---|--------|--|------|--|--|--|------|--|--|--|
|   |      | PROCESSOR  | NONE        |                   |                    |         |      |           |        |      |   |        |  |      |  |  |  |      |  |  |  |
|   |      | <table border="1"> <tr> <th>PROJ NO</th> <th>SIZE</th> <th>HEET ASSY</th> <th>DWG NO</th> </tr> <tr> <td>8700</td> <td>D</td> <td>217350</td> <td></td> </tr> <tr> <td>8100</td> <td></td> <td></td> <td></td> </tr> <tr> <td>7532</td> <td></td> <td></td> <td></td> </tr> </table> |             |                   |                    | PROJ NO | SIZE | HEET ASSY | DWG NO | 8700 | D | 217350 |  | 8100 |  |  |  | 7532 |  |  |  |
| PROJ NO   | SIZE | HEET ASSY  | DWG NO      |                   |                    |         |      |           |        |      |   |        |  |      |  |  |  |      |  |  |  |
| 8700  | D    | 217350   |             |                   |                    |         |      |           |        |      |   |        |  |      |  |  |  |      |  |  |  |
| 8100  |      |  |             |                   |                    |         |      |           |        |      |   |        |  |      |  |  |  |      |  |  |  |
| 7532  |      |  |             |                   |                    |         |      |           |        |      |   |        |  |      |  |  |  |      |  |  |  |
| <p>UNLESS OTHERWISE SPECIFIED<br/>           DECIMAL XX .02 XXX .010<br/>           FRACTIONAL 1/8 IN ANGULAR ± .1<br/>           CONCENTRICITY MACHINED DIAMETERS .004 TR<br/>           ALL DIMENSIONS TO BE MET BEFORE PLATING<br/>           REMOVE ALL BURRS AND SHARP EDGES<br/>           DO NOT SCALE THIS DRAWING<br/>           ALL DIMENSIONS IN INCHES<br/>           SURFACES MARKED ✓ TO HAVE<br/>           ALL DIMENSIONS TO BE MET BEFORE PLATING<br/>           813 TO 134 803 134 TO 230 803<br/>           2X AND ABOVE 203</p> |      |  |             |                   |                    |         |      |           |        |      |   |        |  |      |  |  |  |      |  |  |  |
| <b>TEXAS INSTRUMENTS</b><br>INDUSTRIAL PRODUCTS DIVISION<br>HOUSTON, TEXAS<br><b>DIAGRAM, LOGIC, DET. OUTPUT DATA MODULE</b><br>D 217355  |      |  |             |                   |                    |         |      |           |        |      |   |        |  |      |  |  |  |      |  |  |  |

4 SHEET 1 OF 2





| BOARD ASSY, INPUT DATA MODULE-DOCUMENTATION | 217382-0960 |
|---|-------------|
| BD ASSY, INPUT DATA MODULE, 4 TI INTERFACE  | 217382-0002 |
| BD ASSY, INPUT DATA MODULE                  | 217382-0001 |
| DESCRIPTION                                 | PART NUMBER |

|   |              |                     |   |
|---|--------------|---------------------|---|
| A | 373595 (E)   | 12/12/72            | ADDED ITEMS 14 AND 15 (2) ADDED PROCESS 2 WITH *32-1* MARKING (3) PROCESS 1 WAS *FR00   |
| B | 372415 (C)   | 3 Planning 10-24-72 | ADDED N/A 22600 (2) UPDATED REV LEVEL BLOCK   |
| C | 380975 (D)   | 2-10-73             | CHG: (1) SH 1, ZONE A1, MARKING NOTE WAS MARK APPROPRIATE REV LETR.<br>ADDED: (1) -0002, (2) P/N SCHED, (3) EJECTOR MARKING FOR -0002     |
| D | CA389028 (C) | 12/15/72            | ADDED -0960   |
| E | 390801 (E)   | 1/16/73             | ITEM 16 TO L/M -0001-0002 (2) ADDED BALLOC 16 TO B3 (3) ADDED AN LE TO Q1 THRU Q32 AND DELETED OUTLINE OF TRANSISTORS (4) UPDATED REV BLK |
| F | 392434 (E)   | 2/27/73             | ITEM 6 WAS 236091-5449 (2) REVISED REV LEVEL BLOCK  |
| G | 393310 (E)   | 3/15/73             | REV LEVEL BLOCK   |
| H | 4029101 (E)  | 5/21/74             | ITEM 2 ON -0960 (2) UPDATED REV LEVEL BLOCK   |

| NO.                                       | QTY. | UNIT         | DESCRIPTION           | INSTR. PART NUMBER |
|---|------|--------------|-----------------------|--------------------|
| 1.  | 1    | KUBBER STAMP | HEIGHT .09, COLOR BLK | 9026 A 21415       |
| 2.  | 1    | HOT STAMP    | HEIGHT .12, COLOR BLK | 9026 A 21415       |
| BOARD ASSY, INPUT DATA MODULE<br>COMPUTER |      |              |                       | 217382             |



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LM PART NUMBER 217382-0001 REV H

| PRINT ITEM NUMBER | QUANTITY PER ASSEMBLY | UNIT OF ISSUE | DWG. SIZE              | PART NUMBER | DESCRIPTION                            | VENDOR PART NUMBER |                               |
|-------------------|-----------------------|---------------|------------------------|-------------|--|--------------------|-------------------------------|
| 0001              | 00001.000             | EA            |                        | 217381-0001 | PW BOARD, INPUT DATA MODULE            |                    |                               |
| 0002              | 00002.000             | EA            |                        | 222222-7150 | NETWORK SN74150N                       |                    |                               |
| 0002A             |                       |               |                        |             | 22,23                                  |                    |                               |
| 0004              | 00001.000             | EA            |                        | 222222-7403 | NETWORK SN7403N                        |                    |                               |
| 0004A             |                       |               |                        |             | 21                                     |                    |                               |
| 0005              | 00064.000             | EA            |                        | 972946-0054 | RES FIX 360 OHM 5 % .25 W CARBON FILM  | POH- R-25          |                               |
| 0005A             |                       |               |                        |             | R1 THRU R64                            |                    |                               |
| 0006              | 00032.000             | EA            |                        | 972057-0001 | TRANSISTOR-A5T2222 NPN SILICON         | TI--A5T2222        |                               |
| 0006A             |                       |               |                        |             | Q1 THRU Q32                            |                    |                               |
| 0007              | 00001.000             | EA            |                        | 972924-0015 | CAP FIX TANT SOLID 47 MFD 10 % 20 VOLT | WPL-M39003/1-2295  |                               |
| 0007A             |                       |               |                        |             | C1                                     |                    |                               |
| 0008              | 00006.000             | EA            |                        | 534348-0001 | CAP FIX CERAMIC .10 MF 20/80 % 10V     | CRL- UK10-104      |                               |
| 0008A             |                       |               |                        |             | C2,C3,C4,C5,C6,C7                      |                    |                               |
| 0009              | 00032.000             | EA            |                        | 399999-9710 | CAP SELECTED BY CUSTOMER (NO DRAWING)  |                    |                               |
| 0009A             |                       |               |                        |             | CBTHRU C39                             |                    |                               |
| 0010              | REF                   | EA            |                        | 217356-9901 | DIAGRAM, LOGIC DET-INPUT DATA MODULE   |                    |                               |
| 0011              | REF                   | EA            |                        | 217431-9901 | SPECS, INPLT DATA MODULE               |                    |                               |
| 0012              | 00001.000             | EA            |                        | 972946-0065 | RES FIX 1.0K OHM 5 % .25 W CARBON FILM | POH- R-25          |                               |
| 0012A             |                       |               |                        |             | R65                                    |                    |                               |
| 0013              | REF                   | EA            |                        | 217437-9901 | TEST PROCEDURE, 32 INPUT DATA MODULE   |                    |                               |
| DRAFTSMAN         |                       | DATE          | CKD DRAFTSMAN          | DATE        | DESIGN ENGINEER                        | DATE               | TITLE                         |
|                   |                       |               | <i>Robertson</i>       | 6/22/76     |  |                    | BOARD ASSY, INPUT DATA MODULE |
| APPD-MFG          |                       | DATE          | APPD. PROJECT ENGINEER | DATE        | RELEASED                               | DATE               | PROJECT NO.                   |
|                   |                       |               |                        |             |  |                    | 8100                          |
|                   |                       |               |                        |             |  | PART NUMBER        | REV                           |
|                   |                       |               |                        |             |  | LM 217382-0001     | H                             |

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| <b>LM</b> | PART NUMBER | REV |
|           | 217382-0001 | H   |

| PRINT ITEM NUMBER | QUANTITY PER ASSEMBLY | UNIT OF ISSUE | DWG. SIZE | PART NUMBER | DESCRIPTION                      | VENDOR PART NUMBER |
|-------------------|-----------------------|---------------|-----------|-------------|----------------------------------|--------------------|
| 0014              | 00001.000             | EA            |           | 533867-0001 | EJECTOR, PCB, NON-LOCKING, WHITE | SCA-S-202 WHITE    |
| 0015              | 00001.000             | EA            |           | 533867-0009 | EJECTOR, PCB, NON-LOCKING, GREEN | SCA-S-202 GREEN    |
| 0016              | 00032.000             | EA            |           | 972507-0001 | INSULATOR DISC: TO-18            | THR--7717-220      |

|           |      |                       |      |                 |      |            |
|-----------|------|-----------------------|------|-----------------|------|------------|
| DRAFTSMAN | DATE | CKD DRAFTSMAN         | DATE | DESIGN ENGINEER | DATE | TITLE      |
| APPD MFG  | DATE | APPD PROJECT ENGINEER | DATE | RELEASED        | DATE | PROJECT NO |

|                               |  |  |  |  |  |             |               |
|-------------------------------|--|--|--|--|--|-------------|---------------|
| BOARD ASSY, INPUT DATA MODULE |  |  |  |  |  | PART NUMBER | REV           |
|                               |  |  |  |  |  | <b>LM</b>   | 217382-0001 H |

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| PRINT ITEM NUMBER | QUANTITY PER ASSEMBLY | UNIT OF ISSUE | DWG. SIZE | PART NUMBER            | DESCRIPTION                                       | VENDOR PART NUMBER           |
|-------------------|-----------------------|---------------|-----------|------------------------|---|------------------------------|
| 0001              | 00001.000             | EA            |           | 217381-0001            | PW BOARD, INPLT DATA MGDULE                       |                              |
| 0002              | 00002.000             | EA            |           | 222222-7150            | NETWCPK SN74150N                                  |                              |
| 0002A             |                       |               |           |                        | Z2 Z3   |                              |
| 0003              | 00032.000             | EA            |           | 972946-0076            | RES FIX 3.0K OHM 5 % .25 W CARBON FILM            | POH- R-25                    |
| 0003A             |                       |               |           |                        | R1 R3 R5 R7 R9 R11 R13 R15                        |                              |
| 0003B             |                       |               |           |                        | R17 R19 R21 R23 R25 R27 R29                       |                              |
| 0003C             |                       |               |           |                        | R31 R33 R35 R37 R39 R41 R43                       |                              |
| 0003D             |                       |               |           |                        | R45 R47 R49 R51 R53 R55 R57                       |                              |
| 0003E             |                       |               |           |                        | R59 R61 R63                                       |                              |
| 0004              | 00001.000             | EA            |           | 222222-7403            | NETWORK SN7403N                                   |                              |
| 0004A             |                       |               |           |                        | Z1  |                              |
| 0005              | 00032.000             | EA            |           | 972946-0054            | RES FIX 360 OHM 5 % .25 W CARBON FILM             | POH- R-25                    |
| 0005A             |                       |               |           |                        | R2 R4 R6 R8 R10 R12 R14 R16                       |                              |
| 0005B             |                       |               |           |                        | R18 R20 R22 R24 R26 R28 R30                       |                              |
| 0005C             |                       |               |           |                        | R32 R34 R36 R38 R40 R42 R44                       |                              |
| 0005D             |                       |               |           |                        | R46 R48 R50 R52 R54 R56 R58                       |                              |
| 0005E             |                       |               |           |                        | R60 R62 R64                                       |                              |
| 0006              | 00032.000             | EA            |           | 972057-0001            | TRANSISTOR-A5T2222 NPN SILICON                    | TI--A5T2222                  |
| 0006A             |                       |               |           |                        | Q1 THRU Q32                                       |                              |
| <del>0007</del>   | <del>00001.000</del>  | <del>EA</del> |           | <del>972928-0011</del> | <del>CAP FIX TANT SOLID 47 MFD 10 % 20 VOLT</del> | <del>CPL-M39003/1-2295</del> |

|           |      |               |      |                 |      |            |   |             |             |     |
|-----------|------|---------------|------|-----------------|------|------------|---|-------------|-------------|-----|
| DRAFTSMAN | DATE | CKD DRAFTSMAN | DATE | DESIGN ENGINEER | DATE | PROJECT NO | BOARD ASSY, INPUT DATA MDL, AT1 INTERFACE | LM          | PART NUMBER | REV |
|           |      |               |      |                 |      |            |   | 217382-0002 | H           |     |

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| POINT ITEM NUMBER | QUANTITY PER ASSEMBLY | UNIT OF ISSUE | DWG SIZE               | PART NUMBER | DESCRIPTION                            | VENDOR PART NUMBER |   |
|-------------------|-----------------------|---------------|------------------------|-------------|--|--------------------|---|
| C0C7A             |                       |               |                        |             | C1                                     |                    |   |
| 0003              | 00006.000             | EA            |                        | 534346-0001 | CAP FIX CERAMIC .10 MF 20/80 % 10V     | CRL- UK10-104      |   |
| C0C8A             |                       |               |                        |             | C2 C3 C4 C5 C6 C7                      |                    |   |
| 0009              | 00032.000             | EA            |                        | 395959-9710 | CAP SELECTED BY CUSTOMER (NO DRAWING)  |                    |   |
| 00C9A             |                       |               |                        |             | C8 THRU C39                            |                    |   |
| 0010              | REF                   | FA            |                        | 217356-9901 | DIAGRAM, LOGIC DET-INPUT DATA MODULE   |                    |   |
| 0011              | REF                   | EA            |                        | 217421-9901 | SPECS, INPLT DATA MODULE               |                    |   |
| 0012              | 00001.000             | EA            |                        | 972946-0065 | RES FIX 1.0K OHM 5 % .25 W CARBON FILM | ROH- R-25          |   |
| 0012A             |                       |               |                        |             | R65                                    |                    |   |
| 0013              | REF                   | EA            |                        | 217437-9901 | TEST PROCEDURE, 32 INPUT DATA MODULE   |                    |   |
| C014              | 00001.000             | EA            |                        | 533887-C001 | EJECTOR, PCB, NON-LOCKING, WHITE       | SCA-S-202 WHITE    |   |
| 0015              | 00001.000             | EA            |                        | 533887-C009 | EJECTOR, PCB, NON-LOCKING, GREEN       | SCA-S-202 GREEN    |   |
| 0016              | 00032.000             | EA            |                        | 972507-C001 | INSULATOR DISC: TQ-18                  | THR-- 7717-220     |   |
| DRAFTSMAN         |                       | DATE          | CKD DRAFTSMAN          | DATE        | DESIGN ENGINEER                        | DATE               | TITLE                                     |
| APPD. MFG         |                       | DATE          | APPD. PROJECT ENGINEER | DATE        | RELEASED                               | DATE               | PROJECT NO                                |
|                   |                       |               |                        |             |  |                    | BOARD ASSY, INPUT DATA MOD, 4TI INTERFACE |
|                   |                       |               |                        |             |  |                    | LM PART NUMBER 217382-002 REV H           |

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INCORPORATED

DATE 05/21/76

LIST OF MATERIAL

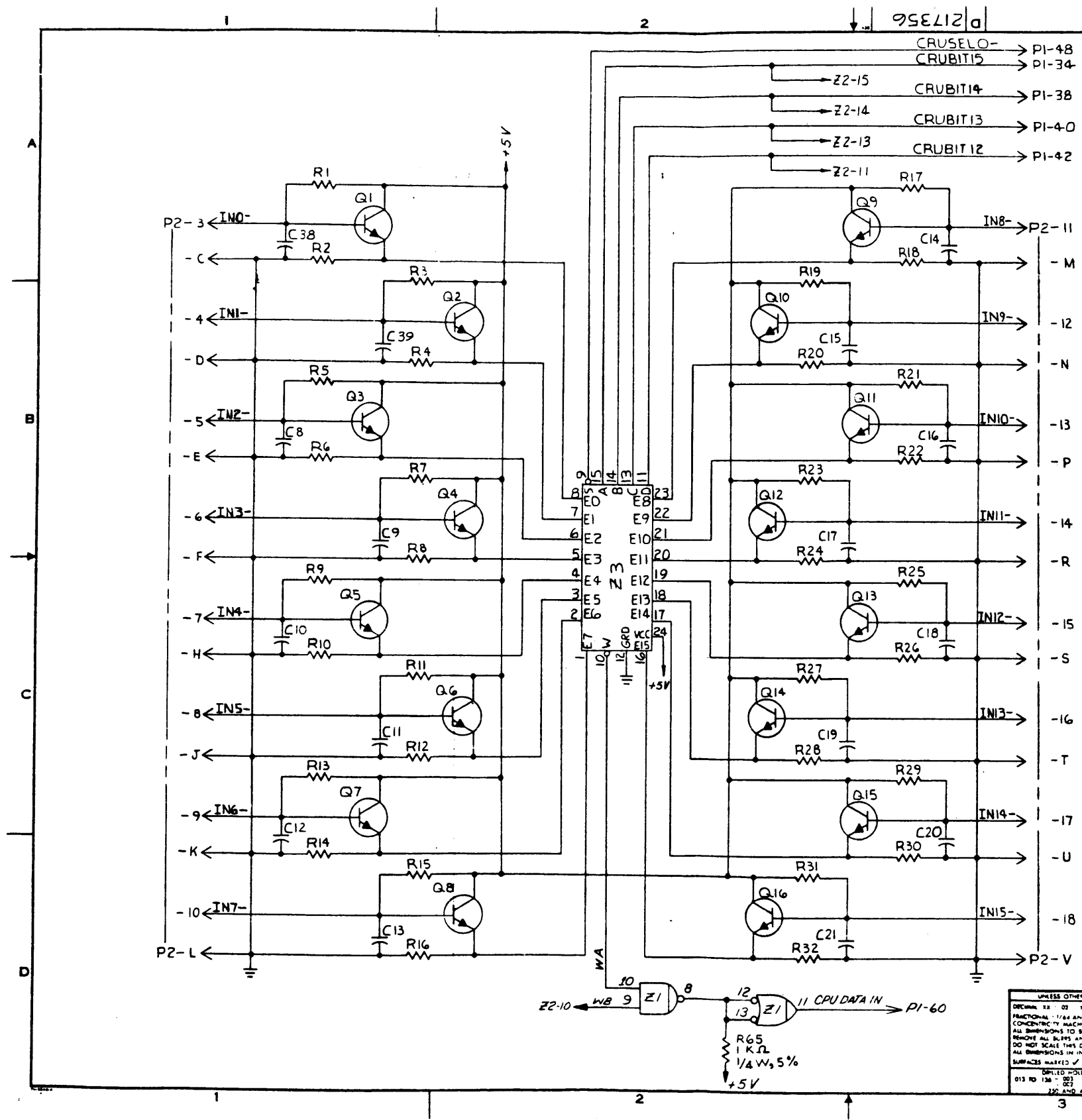
PAGE 1 of

|           |             |     |
|-----------|-------------|-----|
| <b>LM</b> | PART NUMBER | REV |
|           | 217382-0960 | H   |

| PRINT ITEM NUMBER | QUANTITY PER ASSEMBLY | UNIT OF ISSUE | DWG SIZE               | PART NUMBER | DESCRIPTION                             | VENDOR PART NUMBER |             |
|-------------------|-----------------------|---------------|------------------------|-------------|---|--------------------|-------------|
| 0001              | 00001.000             | EA            |                        | 966367-9701 | MANUAL,CRL 32IN DATA MODULE 960A CCOMP. |                    |             |
| DRAFTSMAN         |                       | DATE          | CKD DRAFTSMAN          | DATE        | DESIGN ENGINEER                         | DATE               | TITLE       |
| APPD -MFG         |                       | DATE          | APPD. PROJECT ENGINEER | DATE        | RELEASED                                | DATE               | PROJECT NO. |
|                   |                       |               |                        |             |   | <b>LM</b>          | PART NUMBER |
|                   |                       |               |                        |             |   |                    | 217382-0960 |
|                   |                       |               |                        |             |   |                    | REV         |
|                   |                       |               |                        |             |   |                    | H           |

T.I. 13849

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- NOTES:  
 UNLESS OTHERWISE SPECIFIED:  
 1. ALL RESISTORS ARE 360 OHM, .25W, 5%  
 2. CAPACITANCE VALUES ARE IN MICROFARADES.  
 3. TRANSISTORS ARE 2N2222  
 4. NETWORKS ARE AS FOLLOWS:  
 A. Z2 & Z3 ARE SN74150N.  
 B. Z1 IS A SN7403N.  
 5. FILTER CAPACITORS C8 THRU C39 MAY BE ADDED ON THE PADS PROVIDED AT CUSTOMERS INSTALLATION.  
 6. FOR -0001 ASSY ALL RESISTORS ARE 360 OHM  
 7. FOR -0002 ASSY ALL ODD NO. RESISTORS (R1 THRU R16) ARE 3K Ω; ALL EVEN NO. RESISTORS (R2 THRU R64) ARE 360 Ω. THIS ASSY FOR USE WITH 4 T.I. MODULES

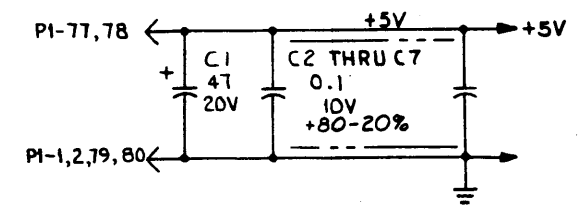
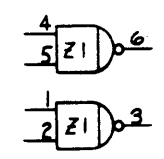
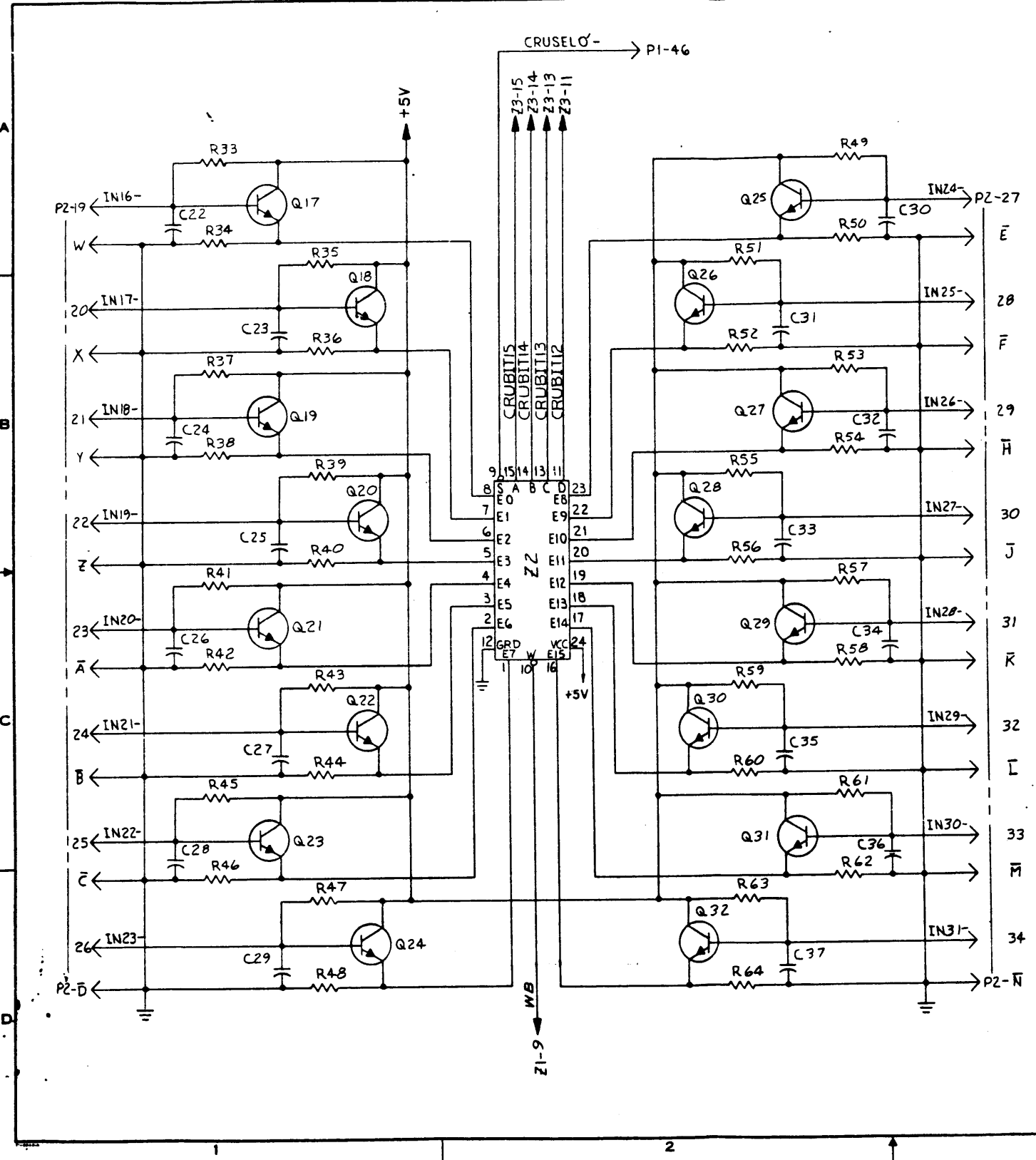
| REVISIONS |  |      |       |
|-----------|--|------|-------|
| REV       | DESCRIPTION  | DATE | APP'D |
| A         | REVISED W/CHG DELETING Z4 & ADDED R65. Z1 WAS SN7403N, AND TRANSISTORS WERE 2N2222 |      |       |
| B         | FORMAL RELEASE   |      |       |
| C         | DELETED FROM NOTE 1, 360 OHM ADDED NOTES 6 & 7                                     |      |       |
| D         | CN390435 (5) R24 & R25 WAS ... 2N5449 (2) ADDED PROJ. NO. 8100                     |      |       |

| UNLESS OTHERWISE SPECIFIED |      | LIST OF MATERIALS |          |
|----------------------------|------|-------------------|----------|
| QTY                        | FEED | QTY               | FEED     |
| NONE                       |      | 8960              | D 217382 |
|                            |      | 8100              |          |

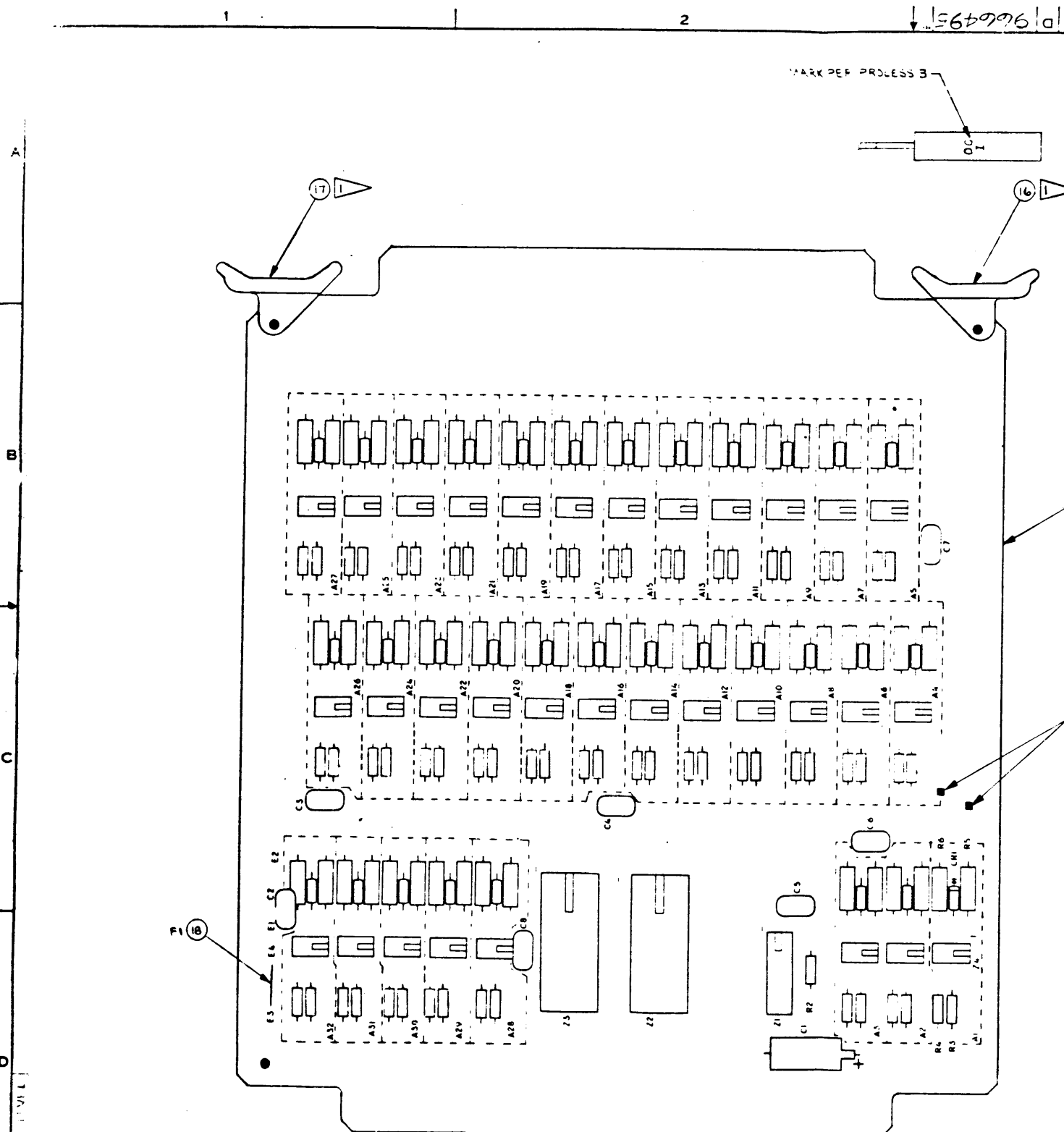
TEXAS INSTRUMENTS  
 INDUSTRIAL PRODUCTS DIVISION  
 DALLAS, TEXAS  
 DIAGRAM 10611 DET-  
 INPUT DATA MODULE  
 CRU  
 COMPUTER  
 REV D 217356

0217356

| REV | DESCRIPTION | DATE | APP |
|-----|-------------|------|-----|
| 1   |             |      |     |
| 2   |             |      |     |
| 3   |             |      |     |
| 4   |             |      |     |



| UNLESS OTHERWISE SPECIFIED |      | LIST OF MATERIALS |   |
|----------------------------|------|-------------------|---|
| QTY                        | REQD | PART NUMBER       | DESCRIPTION   |
|                            |      |                   | TEXAS INSTRUMENTS INCORPORATED INDUSTRIAL PRODUCTS DIVISION HOUSTON TEXAS |
|                            |      |                   | DIAGRAM LOGIC, SET-INPUT DATA MODULE                                      |
|                            |      |                   | COMPUTER  |
|                            |      |                   | NONE D217356  |



- NOTES:
1. CONNECTORS (ITEM 6 & 17) TO BE INSTALLED AFTER PROCESS 1
  2. MAXIMUM COMPONENT HEIGHT FROM COMPONENT SIDE OF CARD IS .31
  3. MAXIMUM LEAD LENGTH FROM CONDUCTOR SIDE OF CARD IS .075

|  |                             |
|--|-----------------------------|
| 4-18-73 Texas Instruments  |                             |
| DELETED - 0004-0005-0006-0007-0008-0009-0010-0011-0012-0013-0014-0015-0016-0017-0018-0019-0020-0021-0022-0023-0024-0025-0026-0027-0028-0029-0030-0031-0032-0033-0034-0035-0036-0037-0038-0039-0040-0041-0042-0043-0044-0045-0046-0047-0048-0049-0050-0051-0052-0053-0054-0055-0056-0057-0058-0059-0060-0061-0062-0063-0064-0065-0066-0067-0068-0069-0070-0071-0072-0073-0074-0075-0076-0077-0078-0079-0080-0081-0082-0083-0084-0085-0086-0087-0088-0089-0090-0091-0092-0093-0094-0095-0096-0097-0098-0099-0100 |                             |
| FORMAL RELEASE   |                             |
| B  | 380792 (C) R. Johnson 0-573 |
| LM-0001 & -0002 ITEM P/N WAS: 96659-0001   |                             |
| C  | 383574 (C) R. Johnson 0-573 |
| ON LHM FOR-0003 DELETED FROM   |                             |
| WAS: PRINTED WIRING BOARD FOR OCT DATA MODULE  |                             |
| 2-0960 TITLE BLOCK WAS DOCUMENTATION KIT   |                             |
| OCT DATA MODULE (3)-000011 PMAAS 96659-0001  |                             |
| 4-00-3 DELETED: IT 66 GA P/N 246 10000 QTY 1 R1  |                             |
| 5-00-3 DELETED: IN ZONE D-2 RESISTOR R1  |                             |
| 6-00-3 DELETED: CAPACITOR C9 FROM 52 PLACES (A1-A32)   |                             |
| 7-00-3 DELETED: REVISION LEVEL UPDATED.  |                             |
| D  | 389028 (C) R. Johnson 0-573 |
| (1) ADDED NOTES 2, 3   |                             |
| E  | 389029 (C) R. Johnson 0-573 |
| PWB TO REV LEVEL BLOCK   |                             |
| F  | 412624 (C) R. Johnson 0-573 |
| REV LEVEL BLOCK  |                             |
| G  | 412625 (C) R. Johnson 0-573 |
| ITEM 2 ON-1966 LHM UPDATED   |                             |
| REV LEVEL BLOCK  |                             |

|                                    |                    |
|------------------------------------|--------------------|
| DOCUMENTATION KIT, OCI DATA MODULE | 966495-0360        |
| OCI DATA MODULE                    | -24-DC 966495-0360 |
| OCI DATA MODULE                    | -12-DC 966495-0360 |
| OCI DATA MODULE                    | -5VDC 966495-0360  |
| DESCRIPTION                        |                    |

PRINTED WIRING BOARD-0001  
 LOGIC DIAGRAM FOR-0001 THRU-0012 ASSY 966497-9901  
 ASSEMBLY

| QTY | UNIT | DESCRIPTION               | VENDOR PART NUMBER |
|-----|------|---------------------------|--------------------|
| 1   | PCB  | PRINTED WIRING BOARD-0001 | 966495-0360        |
| 1   | IC   | 74181N                    | 74181N             |
| 1   | IC   | 74182N                    | 74182N             |
| 1   | IC   | 74183N                    | 74183N             |
| 1   | IC   | 74184N                    | 74184N             |
| 1   | IC   | 74185N                    | 74185N             |
| 1   | IC   | 74186N                    | 74186N             |
| 1   | IC   | 74187N                    | 74187N             |
| 1   | IC   | 74188N                    | 74188N             |
| 1   | IC   | 74189N                    | 74189N             |
| 1   | IC   | 74190N                    | 74190N             |
| 1   | IC   | 74191N                    | 74191N             |
| 1   | IC   | 74192N                    | 74192N             |
| 1   | IC   | 74193N                    | 74193N             |
| 1   | IC   | 74194N                    | 74194N             |
| 1   | IC   | 74195N                    | 74195N             |
| 1   | IC   | 74196N                    | 74196N             |
| 1   | IC   | 74197N                    | 74197N             |
| 1   | IC   | 74198N                    | 74198N             |
| 1   | IC   | 74199N                    | 74199N             |
| 1   | IC   | 74200N                    | 74200N             |
| 1   | IC   | 74201N                    | 74201N             |
| 1   | IC   | 74202N                    | 74202N             |
| 1   | IC   | 74203N                    | 74203N             |
| 1   | IC   | 74204N                    | 74204N             |
| 1   | IC   | 74205N                    | 74205N             |
| 1   | IC   | 74206N                    | 74206N             |
| 1   | IC   | 74207N                    | 74207N             |
| 1   | IC   | 74208N                    | 74208N             |
| 1   | IC   | 74209N                    | 74209N             |
| 1   | IC   | 74210N                    | 74210N             |
| 1   | IC   | 74211N                    | 74211N             |
| 1   | IC   | 74212N                    | 74212N             |
| 1   | IC   | 74213N                    | 74213N             |
| 1   | IC   | 74214N                    | 74214N             |
| 1   | IC   | 74215N                    | 74215N             |
| 1   | IC   | 74216N                    | 74216N             |
| 1   | IC   | 74217N                    | 74217N             |
| 1   | IC   | 74218N                    | 74218N             |
| 1   | IC   | 74219N                    | 74219N             |
| 1   | IC   | 74220N                    | 74220N             |
| 1   | IC   | 74221N                    | 74221N             |
| 1   | IC   | 74222N                    | 74222N             |
| 1   | IC   | 74223N                    | 74223N             |
| 1   | IC   | 74224N                    | 74224N             |
| 1   | IC   | 74225N                    | 74225N             |
| 1   | IC   | 74226N                    | 74226N             |
| 1   | IC   | 74227N                    | 74227N             |
| 1   | IC   | 74228N                    | 74228N             |
| 1   | IC   | 74229N                    | 74229N             |
| 1   | IC   | 74230N                    | 74230N             |
| 1   | IC   | 74231N                    | 74231N             |
| 1   | IC   | 74232N                    | 74232N             |
| 1   | IC   | 74233N                    | 74233N             |
| 1   | IC   | 74234N                    | 74234N             |
| 1   | IC   | 74235N                    | 74235N             |
| 1   | IC   | 74236N                    | 74236N             |
| 1   | IC   | 74237N                    | 74237N             |
| 1   | IC   | 74238N                    | 74238N             |
| 1   | IC   | 74239N                    | 74239N             |
| 1   | IC   | 74240N                    | 74240N             |
| 1   | IC   | 74241N                    | 74241N             |
| 1   | IC   | 74242N                    | 74242N             |
| 1   | IC   | 74243N                    | 74243N             |
| 1   | IC   | 74244N                    | 74244N             |
| 1   | IC   | 74245N                    | 74245N             |
| 1   | IC   | 74246N                    | 74246N             |
| 1   | IC   | 74247N                    | 74247N             |
| 1   | IC   | 74248N                    | 74248N             |
| 1   | IC   | 74249N                    | 74249N             |
| 1   | IC   | 74250N                    | 74250N             |
| 1   | IC   | 74251N                    | 74251N             |
| 1   | IC   | 74252N                    | 74252N             |
| 1   | IC   | 74253N                    | 74253N             |
| 1   | IC   | 74254N                    | 74254N             |
| 1   | IC   | 74255N                    | 74255N             |
| 1   | IC   | 74256N                    | 74256N             |
| 1   | IC   | 74257N                    | 74257N             |
| 1   | IC   | 74258N                    | 74258N             |
| 1   | IC   | 74259N                    | 74259N             |
| 1   | IC   | 74260N                    | 74260N             |
| 1   | IC   | 74261N                    | 74261N             |
| 1   | IC   | 74262N                    | 74262N             |
| 1   | IC   | 74263N                    | 74263N             |
| 1   | IC   | 74264N                    | 74264N             |
| 1   | IC   | 74265N                    | 74265N             |
| 1   | IC   | 74266N                    | 74266N             |
| 1   | IC   | 74267N                    | 74267N             |
| 1   | IC   | 74268N                    | 74268N             |
| 1   | IC   | 74269N                    | 74269N             |
| 1   | IC   | 74270N                    | 74270N             |
| 1   | IC   | 74271N                    | 74271N             |
| 1   | IC   | 74272N                    | 74272N             |
| 1   | IC   | 74273N                    | 74273N             |
| 1   | IC   | 74274N                    | 74274N             |
| 1   | IC   | 74275N                    | 74275N             |
| 1   | IC   | 74276N                    | 74276N             |
| 1   | IC   | 74277N                    | 74277N             |
| 1   | IC   | 74278N                    | 74278N             |
| 1   | IC   | 74279N                    | 74279N             |
| 1   | IC   | 74280N                    | 74280N             |
| 1   | IC   | 74281N                    | 74281N             |
| 1   | IC   | 74282N                    | 74282N             |
| 1   | IC   | 74283N                    | 74283N             |
| 1   | IC   | 74284N                    | 74284N             |
| 1   | IC   | 74285N                    | 74285N             |
| 1   | IC   | 74286N                    | 74286N             |
| 1   | IC   | 74287N                    | 74287N             |
| 1   | IC   | 74288N                    | 74288N             |
| 1   | IC   | 74289N                    | 74289N             |
| 1   | IC   | 74290N                    | 74290N             |
| 1   | IC   | 74291N                    | 74291N             |
| 1   | IC   | 74292N                    | 74292N             |
| 1   | IC   | 74293N                    | 74293N             |
| 1   | IC   | 74294N                    | 74294N             |
| 1   | IC   | 74295N                    | 74295N             |
| 1   | IC   | 74296N                    | 74296N             |
| 1   | IC   | 74297N                    | 74297N             |
| 1   | IC   | 74298N                    | 74298N             |
| 1   | IC   | 74299N                    | 74299N             |
| 1   | IC   | 74300N                    | 74300N             |



**TEXAS INSTRUMENTS**  
INCORPORATED

DATE **06/29/76** **LIST OF MATERIAL**

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**LM** PART NUMBER **966495-0001** REV **G**

| PRINT ITEM NUMBER | QUANTITY PER ASSEMBLY | UNIT OF ISSUE | DWG. SIZE | PART NUMBER | DESCRIPTION                              | VENDOR PART NUMBER    |
|-------------------|-----------------------|---------------|-----------|-------------|--|-----------------------|
| C001              | 00001.000             | EA            |           | 966495-0001 | PWB, 32 INFLT OCI DATA MODULE            |                       |
| C002              | 00007.000             | EA            |           | 230590-9000 | CAP .05 MF 12 V 20. % CER TRANSCAP       | ERI-5635-000-Y5F0503M |
| 0002A             |                       |               |           |             | C2 THRU CE                               |                       |
| C003              | 00001.000             | EA            |           | 972924-0015 | CAP FIX TANT SOLID 47 MFD 10 % 20 VOLT   | QPL-M39003/1-2295     |
| C003A             |                       |               |           |             | C1                                       |                       |
| 0004              | 00032.000             | EA            |           | 972932-0001 | DIOCE, IN914B SWITCHING 75V PIV 75MA 4NS | TI - IN914B           |
| C004A             |                       |               |           |             | A1CR1 THRU A32CR1                        |                       |
| 0005              | 00064.000             | EA            |           | 972947-0039 | RES FIX 82 OHM 5% .5 W CARBON FILM       | ROH- R-50             |
| C005A             |                       |               |           |             | A1R5 THRU A32R5, A1R6 THRU               |                       |
| C005B             |                       |               |           |             | A32R6                                    |                       |
| C007              | 00032.000             | EA            |           | 972946-0085 | RES FIX 10 K OHM 5 % .25 W CARBON FILM   | ROH- R-25             |
| C007A             |                       |               |           |             | A1R3 THRU A32R3                          |                       |
| C008              | 00032.000             | EA            |           | 972946-0121 | RES FIX 220K OHM 5 % .25 W CARBON FILM   | ROH- R-25             |
| C008A             |                       |               |           |             | A1R4 THRU A32R4                          |                       |
| C009              | 00001.000             | EA            |           | 222222-7403 | NETWORK SN7403N                          |                       |
| C009A             |                       |               |           |             | Z1                                       |                       |
| 0010              | 00002.000             | EA            |           | 222222-7150 | NETWORK SN74150N                         |                       |
| C010A             |                       |               |           |             | Z2, Z3                                   |                       |
| 0011              | 00032.000             | EA            |           | 971000-0001 | IC, OPTICALLY COUPLED ISOLATOR           | TI -TIL111            |
| C011A             |                       |               |           |             | A1Z4 THRU A32Z4                          |                       |

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|      |                        |                |                 |      |                                 |          |
|------|------------------------|----------------|-----------------|------|---------------------------------|----------|
| DATE | CRD. DRAFTSMAN         | DATE           | DESIGN ENGINEER | DATE | TITLE                           |          |
|      | <i>R. M. Gentry</i>    | <i>6/30/76</i> |                 |      | OCI DATA MODULE, 32 INPUT -5VDC |          |
| DATE | APPD. PROJECT ENGINEER | DATE           | RELEASED        | DATE | PROJECT NO.                     |          |
|      |                        |                |                 |      | <i>8100</i>                     |          |
|      |                        |                |                 |      | PART NUMBER                     | REV      |
|      |                        |                |                 |      | <b>LM</b> 966495-0001           | <b>G</b> |



**TEXAS INSTRUMENTS**  
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DATE 06/29/76

**LIST OF MATERIAL**

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| <b>LM</b> | PART NUMBER<br>966495-0001 | REV<br>G |
|-----------|----------------------------|----------|

| PRINT ITEM NUMBER | QUANTITY PER ASSEMBLY | UNIT OF ISSUE | DWG SIZE | PART NUMBER | DESCRIPTION                              | VENDOR PART NUMBER |
|-------------------|-----------------------|---------------|----------|-------------|--|--------------------|
| CO12              | REF                   | EA            |          | 966457-5501 | DIAGRAM, LCCIC, DETAILED-OCI DATA MODULE |                    |
| CO13              | REF                   | EA            |          | 966459-5501 | TEST PROCEDURE, OCI DATA MODULE          |                    |
| CO14              | REF                   | EA            |          | 966458-5501 | SPECIFICATION OCI DATA MODULE            |                    |
| 0016              | 00001.000             | EA            |          | 5338E7-CCC9 | EJECTOR, PCB, NON-LOCKING, GREEN         | SCA-S-202 GREEN    |
| 0017              | 00001.000             | EA            |          | 5338E7-CC01 | EJECTOR, PCB, NON-LOCKING, WHITE         | SCA-S-202 WHITE    |
| 0018              | 00000.100             | FT            |          | 535578-0058 | WIRE ELEC., SCLID, "KYNAR" INSUL #30 AWG |                    |
| CO18A             |                       |               |          |             | F1                                       |                    |
| 0019              | 00001.000             | EA            |          | 972546-0065 | RES FIX 1.0K OHM 5% .25 W CARBON FILM    | ROH- R-25          |
| CO19A             |                       |               |          |             | R2                                       |                    |

|           |      |                       |      |                 |      |            |                                |                            |
|-----------|------|-----------------------|------|-----------------|------|------------|--------------------------------|----------------------------|
| DRAFTSMAN | DATE | CKD DRAFTSMAN         | DATE | DESIGN ENGINEER | DATE | TITLE      | OCI DATA MODULE, 32 INPUT-5VDC |                            |
| APPD MFG  | DATE | APPD PROJECT ENGINEER | DATE | RELEASED        | DATE | PROJECT NO |                                |                            |
|           |      |                       |      |                 |      |            | <b>LM</b>                      | PART NUMBER<br>966495-0001 |
|           |      |                       |      |                 |      |            |                                | REV<br>G                   |

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**TEXAS INSTRUMENTS**  
INCORPORATED

DATE 06/29/76

**LIST OF MATERIAL**

PAGE 1 of

|           |                            |          |
|-----------|----------------------------|----------|
| <b>LM</b> | PART NUMBER<br>966495-0002 | REV<br>G |
|-----------|----------------------------|----------|

| PRINT ITEM NUMBER | QUANTITY PER ASSEMBLY | UNIT OF ISSUE         | DWG SIZE | PART NUMBER     | DESCRIPTION                             | VENDOR PART NUMBER                      |
|-------------------|-----------------------|-----------------------|----------|-----------------|---|---|
| C001              | 0001.000              | EA                    |          | 566456-CCC1     | PWB,32 INPLT OCI DATA MODULE            |   |
| 0002              | 0007.000              | EA                    |          | 230590-9CC0     | CAP .05 MF 12 V 20. % CER TRANSCAP      | ERI-5635-000-Y5F0503                    |
| C002A             |                       |                       |          |                 | C2 THRU C6                              |   |
| 0003              | 00001.000             | EA                    |          | 972924-0015     | CAP FIX TANT SOLID 47 MFD 10 % 20 VOLT  | QPL-M39003/1-2295                       |
| C003A             |                       |                       |          |                 | C1                                      |   |
| 0004              | 00032.000             | EA                    |          | 972932-0001     | DIODE,1N914B SWITCHING 75V PIV 75MA 4NS | TI - IN914B                             |
| C004A             |                       |                       |          |                 | A1CR1 THRU A32CR1                       |   |
| 0005              | 00064.000             | EA                    |          | 972947-0050     | RES FIX 240 OHM 5% .5 W CARBON FILM     | ROH- R-50                               |
| 0005A             |                       |                       |          |                 | A1R5 THRU A32R5,A1R6 THRU               |   |
| C005B             |                       |                       |          |                 | A32R6                                   |   |
| 0007              | 00032.000             | EA                    |          | 972946-0089     | RES FIX 10 K OHM 5 % .25 W CARBON FILM  | ROH- R-25                               |
| C007A             |                       |                       |          |                 | A1R3 THRU A32R3                         |   |
| 0008              | 00032.000             | EA                    |          | 972946-0121     | RES FIX 220K OHM 5 % .25 W CARBON FILM  | ROH- R-25                               |
| C008A             |                       |                       |          |                 | A1R4 THRU A32R4                         |   |
| 0009              | 00001.000             | EA                    |          | 222222-7403     | NETWCRK SN7403N                         |   |
| C009A             |                       |                       |          |                 | Z1                                      |   |
| 0010              | 00002.000             | EA                    |          | 222222-7150     | NETWCRK SN74150N                        |   |
| C010A             |                       |                       |          |                 | Z2,Z3                                   |   |
| 0011              | 00032.000             | EA                    |          | 971000-0001     | IC,CPTICALLY COUPLED ISOLATOR           | TI -TIL111                              |
| 0011A             |                       |                       |          |                 | A1Z4 THRU A32Z4                         |   |
| DRAFTSMAN         | DATE                  | CKD DRAFTSMAN         | DATE     | DESIGN ENGINEER | DATE                                    | TITLE                                   |
|                   |                       |                       |          |                 |   | OCI DATA MODULE,32 INPUT-12VDC          |
| APPD MFG          | DATE                  | APPD PROJECT ENGINEER | DATE     | RELEASED        | DATE                                    | PROJECT NO.                             |
|                   |                       |                       |          |                 |   |   |
|                   |                       |                       |          |                 |   | <b>LM</b> PART NUMBER 966495-0002 REV G |

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INCORPORATED

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|           |                            |          |
|-----------|----------------------------|----------|
| <b>LM</b> | PART NUMBER<br>966495-0002 | REV<br>G |
|-----------|----------------------------|----------|

| PRINT ITEM NUMBER | QUANTITY PER ASSEMBLY | UNIT OF ISSUE | DWG. SIZE | PART NUMBER | DESCRIPTION                               | VENDOR PART NUMBER |
|-------------------|-----------------------|---------------|-----------|-------------|---|--------------------|
| C012              | REF                   | EA            |           | 966457-5901 | DIAGRAM, LCC IC, DETAILED-OCI DATA MODULE |                    |
| 0013              | REF                   | EA            |           | 966459-5901 | TEST PROCEDURE, OCI DATA MODULE           |                    |
| 0014              | REF                   | EA            |           | 966458-5901 | SPECIFICATION OCI DATA MODULE             |                    |
| 0016              | 00001.000             | EA            |           | 533867-0009 | EJECTOR, PCB, NCN-LOCKING, GREEN          | SCA-S-202 GREEN    |
| 0017              | 00001.000             | EA            |           | 533867-0001 | EJECTOR, PCB, NON-LOCKING, WHITE          | SCA-S-202 WHITE    |
| 0018              | 00000.100             | FT            |           | 535578-0058 | WIRE ELEC., SOLID, "KYNAR" INSUL #30 AWG  |                    |
| C018A             |                       |               |           |             | F1  |                    |
| C019              | 00001.000             | EA            |           | 972946-0065 | RES FIX 1.0K OHM 5% .25 W CARBON FILM     | ROH- R-25          |
| C019A             |                       |               |           |             | R2  |                    |

|           |      |                       |      |                 |      |                                 |
|-----------|------|-----------------------|------|-----------------|------|---------------------------------|
| DRAFTSMAN | DATE | CKD DRAFTSMAN         | DATE | DESIGN ENGINEER | DATE | TITLE                           |
|           |      |                       |      |                 |      | OCI DATA MODULE, 32 INPUT-12VDC |
| APPD MFG  | DATE | APPD PROJECT ENGINEER | DATE | RELEASED        | DATE | PROJECT NO                      |
|           |      |                       |      |                 |      |                                 |

|           |             |     |
|-----------|-------------|-----|
|           | PART NUMBER | REV |
| <b>LM</b> | 966495-0002 | G   |

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| <b>LM</b> | PART NUMBER | REV |
|           | 966495-0003 | G   |

| PRINT ITEM NUMBER | QUANTITY PER ASSEMBLY | UNIT OF ISSUE | DWG. SIZE             | PART NUMBER | DESCRIPTION                             | VENDOR PART NUMBER    |                                |     |
|-------------------|-----------------------|---------------|-----------------------|-------------|---|-----------------------|--------------------------------|-----|
| C0C1              | 00001.000             | EA            |                       | 966495-C0C1 | PWB,32 INFLT OCI DATA MODULE            |                       |                                |     |
| 0002              | 00007.000             | EA            |                       | 230590-9C00 | CAP .05 MF 12 V 20. % CER TRANSCAP      | ERI-5635-000-Y5F0503M |                                |     |
| C002A             |                       |               |                       |             | C2 THRU C8                              |                       |                                |     |
| 0003              | 00001.000             | EA            |                       | 972924-0015 | CAP FIX TANT SOLID 47 MFD 10 % 20 VOLT  | QPL-M39003/1-2295     |                                |     |
| C0C3A             |                       |               |                       |             | C1                                      |                       |                                |     |
| 0004              | 00032.000             | EA            |                       | 972932-G0C1 | DIODE,1N914B SWITCHING 75V PIV 75MA 4NS | TI - IN914B           |                                |     |
| 0004A             |                       |               |                       |             | A1C1 THRU A32C1                         |                       |                                |     |
| 0005              | 00064.000             | EA            |                       | 972947-C058 | RES FIX 510 OHM 5% .5 W CARBON FILM     | ROH- R-50             |                                |     |
| C005A             |                       |               |                       |             | A1R5 THRU A32R5,A1R6 THRU               |                       |                                |     |
| C005B             |                       |               |                       |             | A32R6                                   |                       |                                |     |
| 0007              | 00032.000             | EA            |                       | 972946-0089 | RES FIX 10 K OHM 5 % .25 W CARBON FILM  | ROH- R-25             |                                |     |
| C0C7A             |                       |               |                       |             | A1R3 THRU A32R3                         |                       |                                |     |
| C0C8              | 00032.000             | EA            |                       | 972946-0121 | RES FIX 220K OHM 5 % .25 W CARBON FILM  | ROH- R-25             |                                |     |
| C0C8A             |                       |               |                       |             | A1R4 THRU A32R4                         |                       |                                |     |
| 0009              | 00001.000             | EA            |                       | 222222-7403 | NETWCRK SN7403N                         |                       |                                |     |
| C0C9A             |                       |               |                       |             | Z1                                      |                       |                                |     |
| 0010              | 00002.000             | EA            |                       | 222222-7150 | NETWCRK SN74150N                        |                       |                                |     |
| C010A             |                       |               |                       |             | Z2,Z3                                   |                       |                                |     |
| 0011              | 00032.000             | EA            |                       | 971000-C001 | IC,OPTICALLY COUPLED ISOLATOR           | TI -TIL111            |                                |     |
| 0011A             |                       |               |                       |             | A1Z4 THRU A32Z4                         |                       |                                |     |
| DRAFTSMAN         |                       | DATE          | CKD DRAFTSMAN         | DATE        | DESIGN ENGINEER                         | DATE                  | TITLE                          |     |
|                   |                       |               |                       |             |   |                       | OCI DATA MODULE,32 INPUT-24VDC |     |
| APPD MFG          |                       | DATE          | APPD PROJECT ENGINEER | DATE        | RELEASED                                | DATE                  | PROJECT NO                     |     |
|                   |                       |               |                       |             |   |                       |                                |     |
|                   |                       |               |                       |             |   |                       | PART NUMBER                    | REV |
|                   |                       |               |                       |             |   |                       | <b>LM</b> 966495-0003          | G   |

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| PART NUMBER    |  | REV |
| LM 966495-0003 |  | G   |

| PRINT ITEM NUMBER | QUANTITY PER ASSEMBLY | UNIT OF ISSUE | DWG SIZE | PART NUMBER | DESCRIPTION                              | VENDOR PART NUMBER |
|-------------------|-----------------------|---------------|----------|-------------|--|--------------------|
| 0012              | REF                   | EA            |          | 966497-9901 | DIAGRAM, LCCIC, DETAILED-OCI DATA MODULE |                    |
| 0013              | REF                   | EA            |          | 966499-9901 | TEST PROCEDURE, OCI DATA MODULE          |                    |
| 0014              | REF                   | EA            |          | 966498-9901 | SPECIFICATION OCI DATA MODULE            |                    |
| 0016              | 00001.000             | EA            |          | 533867-CCC9 | EJECTOR, PCB, NON-LOCKING, GREEN         | SCA-S-202 GREEN    |
| 0017              | 00001.000             | EA            |          | 533867-G001 | EJECTOR, PCB, NON-LOCKING, WHITE         | SCA-S-202 WHITE    |
| 0018              | 00000.100             | FT            |          | 535978-C058 | WIRE ELEC., SCLID, "KYNAR" INSUL #30 AWG |                    |
| C018A             |                       |               |          |             | F1                                       |                    |
| 0019              | 00001.000             | EA            |          | 972946-C065 | RES FIX 1.0K OHM 5 % .25 W CARBON FILM   | ROH- R-25          |
| 0019A             |                       |               |          |             | R2                                       |                    |

|            |      |                       |      |                 |      |                                 |
|------------|------|-----------------------|------|-----------------|------|---------------------------------|
| DRAFTSMAN  | DATE | CKD DRAFTSMAN         | DATE | DESIGN ENGINEER | DATE | TITLE                           |
|            |      |                       |      |                 |      | OCI DATA MODULE, 32 INPUT-24VDC |
| APPL. MFR. | DATE | APPD PROJECT ENGINEER | DATE | RELEASED        | DATE | PROJECT NO                      |
|            |      |                       |      |                 |      |                                 |

|                |  |     |
|----------------|--|-----|
| PART NUMBER    |  | REV |
| LM 966495-0003 |  | G   |

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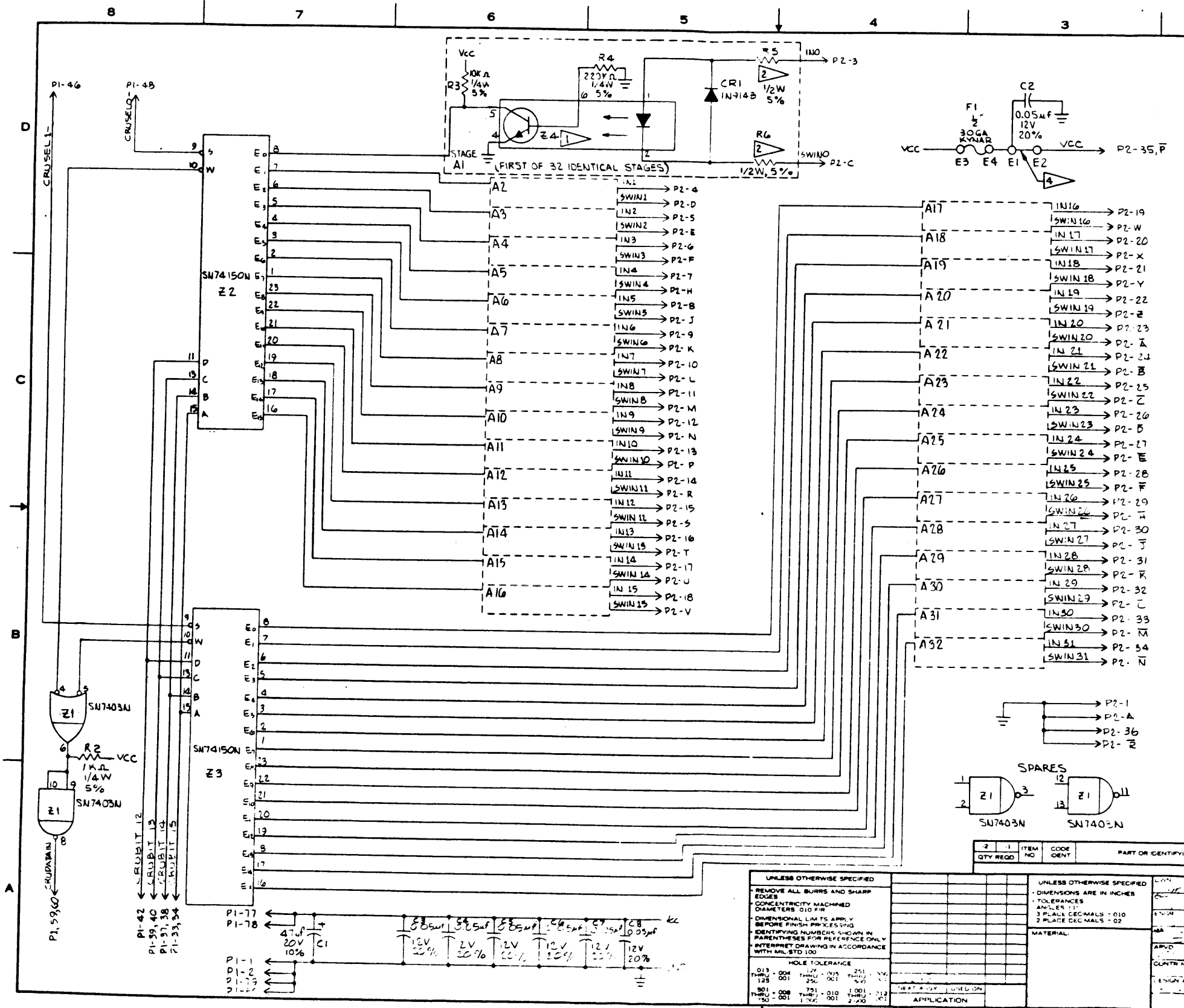
**LIST OF MATERIAL**

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|           |                            |          |
|-----------|----------------------------|----------|
| <b>LM</b> | PART NUMBER<br>966495-0960 | REV<br>G |
|-----------|----------------------------|----------|

| PRINT ITEM NUMBER | QUANTITY PER ASSEMBLY | UNIT OF ISSUE | DWG. SIZE              | PART NUMBER | DESCRIPTION                      | VENDOR PART NUMBER |                                   |
|-------------------|-----------------------|---------------|------------------------|-------------|----------------------------------|--------------------|-----------------------------------|
| 0001              | 00001.000             | EA            |                        | 395959-9711 | COPY CF CWC(S) BELOW             | -BOGUS P/N, NO DWG |                                   |
| 0001A             |                       |               |                        |             | 566497,566498                    |                    |                                   |
| 0003              | 00001.000             | EA            |                        | 963541-9901 | PD,CCICFK,CCI I/O CHECK-OUT-960A |                    |                                   |
| 0003A             |                       |               |                        |             | SHIP A CCFY CF ABOVE DWG         |                    |                                   |
| DRAFTSMAN         |                       | DATE          | CKD DRAFTSMAN          | DATE        | DESIGN ENGINEER                  | DATE               | TITLE                             |
| APPD. MFG         |                       | DATE          | APPD. PROJECT ENGINEER | DATE        | RELEASED                         | DATE               | PROJECT NO.                       |
|                   |                       |               |                        |             |                                  |                    | DOCUMENTATION KIT,OCI DATA MODULE |
|                   |                       |               |                        |             |                                  | <b>LM</b>          | PART NUMBER<br>966495-0960        |
|                   |                       |               |                        |             |                                  |                    | REV<br>G                          |

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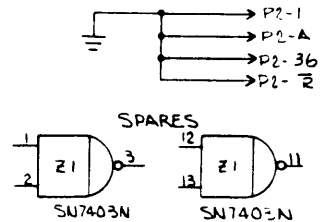


| REVISIONS |             |      |          |
|-----------|-------------|------|----------|
| ZONE LTR  | DESCRIPTION | DATE | APPROVED |
| A         | ...         | ...  | ...      |
| B         | ...         | ...  | ...      |

| HIGHEST REFERENCE DESIGNATIONS |     |     |    |
|--------------------------------|-----|-----|----|
| CB                             | R6  | A32 | Z4 |
| P2                             | CR1 |     |    |

| PART NO.    | R5   | R6   |
|-------------|------|------|
| 966495-0001 | 32Ω  | 52Ω  |
| 966495-0002 | 240Ω | 240Ω |
| 966495-0003 | 510Ω | 510Ω |

- NOTES:
- 1. A124 THRU A324 ARE TIL III SEE TABLE I FOR R5 AND R6 VALUES
  - 2. STAGES A17 THRU A32 AND NETWORK Z5 NOT USED ON 966495-0001, 966495-0002, 966495-0003, 966495-0004, 966495-0005, 966495-0006, 966495-0007, 966495-0008 ASSEMBLIES
  - 3. TO CONNECT P2-35, P TO VCC, INSTALL JUMPER WIRE BETWEEN E1 AND E2
  - 4. A124 THRU A324 NOT USED ON 966495-0001 THRU 966495-0002 ASSEMBLIES
  - 5. BAR INDICATES OPEN COLLECTOR



| QTY | REQD | ITEM NO | CODE IDENT | PART OR IDENTIFYING NUMBER | NOMENCLATURE OR DESCRIPTION | PROCUREMENT SPECIFICATION |
|-----|------|---------|------------|----------------------------|-----------------------------|---------------------------|
| 2   |      | 1       |            |                            |                             |                           |
| 1   |      | 2       |            |                            |                             |                           |

| UNLESS OTHERWISE SPECIFIED                         |   | UNLESS OTHERWISE SPECIFIED |                         |
|--|---|----------------------------|-------------------------|
| REMOVE ALL BURRS AND SHARP EDGES                   | CONCENTRICITY MACHINED DIAMETERS 0.10 FIR                   | DIMENSIONS ARE IN INCHES   | ANGLES - 11             |
| DIMENSIONAL LIMITS APPLY BEFORE FINISH PHOSPHORING | IDENTIFYING NUMBERS SHOWN IN PARENTHESES FOR REFERENCE ONLY | 3 PLACE DECIMALS - 0.010   | 2 PLACE DECIMALS - 0.02 |
| INTERPRET DRAWING IN ACCORDANCE WITH MIL-STD-100   |   | MATERIAL:                  |                         |

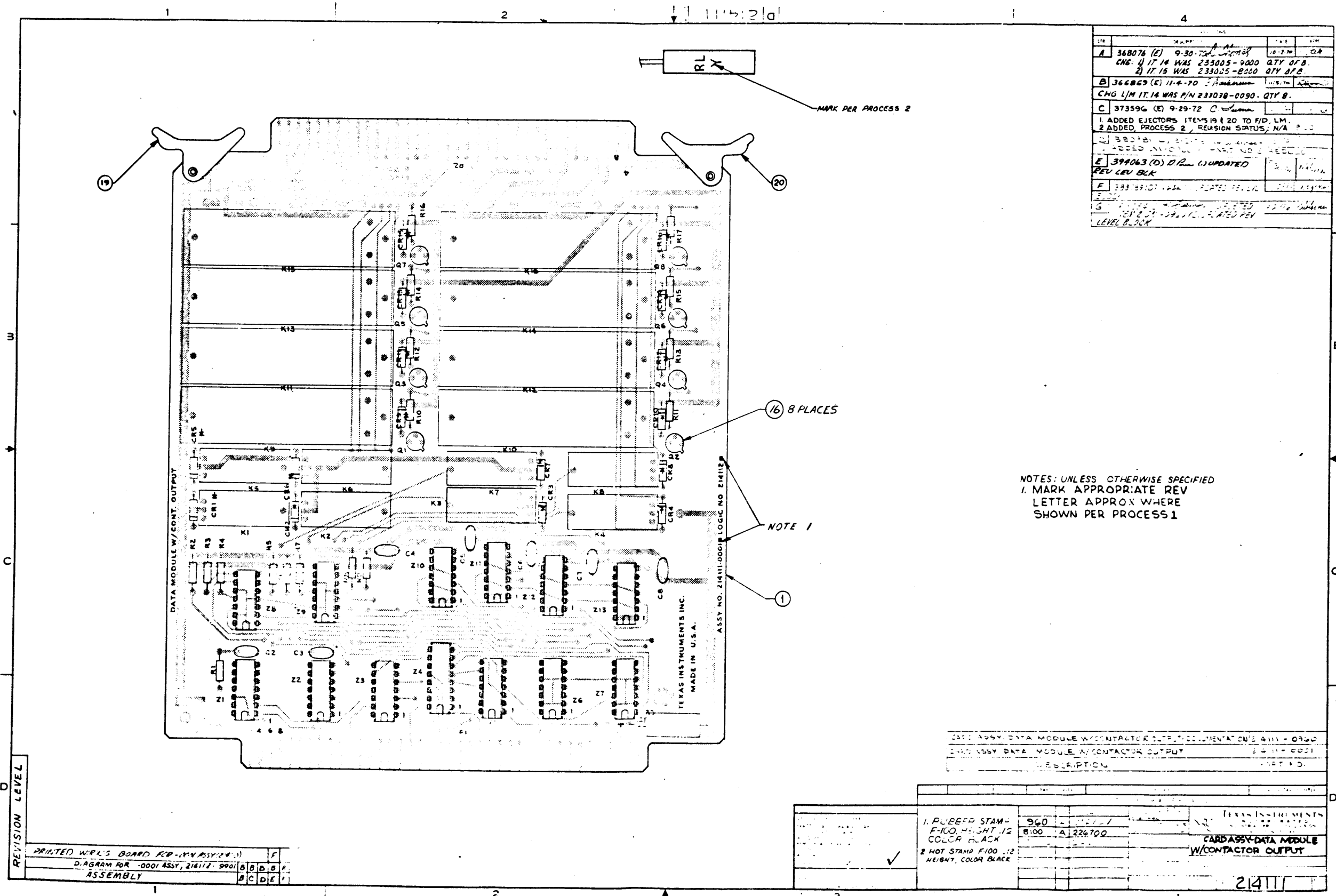
| HOLE TOLERANCE |              |              |              |
|----------------|--------------|--------------|--------------|
| 0.13 - 0.04    | 0.125 - 0.01 | 0.125 - 0.01 | 0.125 - 0.01 |
| THRU 0.01      | THRU 0.01    | THRU 0.01    | THRU 0.01    |

| PARTS LIST |      | DATE |      |
|------------|------|------|------|
| DATE       | DATE | DATE | DATE |
| DATE       | DATE | DATE | DATE |

| TEXAS INSTRUMENTS                        |                                |
|--|--------------------------------|
| DIAGRAM LOGIC DETAILED - OCI DATA MODULE | SIZE LOGIC IDENT NO DRAWING NO |
| D 96214                                  | 966497                         |



|  |                    |           |     |
|--|--------------------|-----------|-----|
| REV  | DATE               | BY        | APP |
| A  | 368076 (E) 9-30-72 | W. J. ... | ... |
| CHG: 1) IT 14 WAS 233005-9000 QTY OF B.<br>2) IT 15 WAS 233005-B500 QTY OF B.            |                    |           |     |
| B  | 368869 (E) 11-4-70 | ...       | ... |
| CHG L/H IT. 14 WAS P/N 233038-0090. QTY B.   |                    |           |     |
| C  | 373596 (E) 9-29-72 | ...       | ... |
| 1. ADDED EJECTORS ITEMS 19 & 20 TO FID. L.M.<br>2. ADDED PROCESS 2, REVISION STATUS; N/A |                    |           |     |
| E 399063 (D) D.R. (UPDATED)<br>REV LEV BLK   |                    |           |     |
| F 399063 (D) D.R. (UPDATED)<br>REV LEV BLK   |                    |           |     |
| G 399063 (D) D.R. (UPDATED)<br>REV LEV BLK   |                    |           |     |

NOTES: UNLESS OTHERWISE SPECIFIED  
1. MARK APPROPRIATE REV  
LETTER APPROX WHERE  
SHOWN PER PROCESS 1

REVISION LEVEL

|   |   |
|---|---|
| PRINTED WRL'S BOARD FOR (REV ASSY 24-3) | F |
| D. PROGRAM FOR -0001 ASSY, 214112-9901  | B |
| ASSEMBLY                                | C |
|   | D |
|   | E |

|   |  |
|---|--|
| ASSY DATA MODULE W/CONTACTOR OUTPUT DOCUMENTATION 4111-0960 | ...  |
| ASSY DATA MODULE W/CONTACTOR OUTPUT                         | ...  |
| DESCRIPTION   | ...  |
| 1. PUFFED STAMP<br>F-100 HEIGHT .12<br>COLOR BLACK          | 960<br>8.100 A 226700  |
| 2. HOT STAMP F100 .12<br>HEIGHT, COLOR BLACK                |  |
|   | TEXAS INSTRUMENTS<br>CARD ASSY DATA MODULE<br>W/CONTACTOR OUTPUT |
|   | 214111   |



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| <b>LM</b> | PART NUMBER | REV |
|           | 214111-0001 | G   |

| PRINT ITEM NUMBER | QUANTITY PER ASSEMBLY | UNIT OF ISSUE | DWG SIZE              | PART NUMBER | DESCRIPTION                               | VENDOR PART NUMBER |   |
|-------------------|-----------------------|---------------|-----------------------|-------------|---|--------------------|---|
| 0001              | 00001.000             | EA            |                       | 214110-C001 | BOARE, Pw-DATA MOD W/CCNT OUTPUT          |                    |   |
| C002              | 00001.000             | EA            |                       | 230841-C001 | CAP 50.00 MF 16V                          | SPR-TE-1160        |   |
| C002A             |                       |               |                       |             | C1  |                    |   |
| 0003              | 00007.000             | EA            |                       | 534348-C001 | CAP FIX CERAMIC .10 MF 20/80 % 10V        | CRL- UK10-104      |   |
| C003A             |                       |               |                       |             | C2 THRU C6                                |                    |   |
| C004              | 00001.000             | EA            |                       | 972946-C076 | RES FIX 3.0K OHM 5 % .25 W CARBON FILM    | ROH- R-25          |   |
| C004A             |                       |               |                       |             | R1  |                    |   |
| C005              | 00008.000             | EA            |                       | 972946-C065 | RES FIX 1.0K OHM 5 % .25 W CARBON FILM    | ROH- P-25          |   |
| C005A             |                       |               |                       |             | R2 THRU R5                                |                    |   |
| C006              | 00008.000             | EA            |                       | 972946-C071 | RES FIX 1.8K OHM 5 % .25 W CARBON FILM    | ROH- R-25          |   |
| C006A             |                       |               |                       |             | R10 THRU R17                              |                    |   |
| 0007              | 00008.000             | EA            |                       | 972948-C002 | TRANSISTOR, 2N2222A NPN GEN PURP SW TO-18 | TI - 2N2222A       |   |
| 0007A             |                       |               |                       |             | C1 THRU C6                                |                    |   |
| C008              | 00016.000             | EA            |                       | 972932-C001 | DIODE, IN914B SWITCHING 75V PIV 75MA 4NS  | TI - IN914B        |   |
| C008A             |                       |               |                       |             | CR1 THRU CR16                             |                    |   |
| C009              | 00002.000             | EA            |                       | 222222-7400 | NETWORK SN7400N                           | -SN7400N           |   |
| C009A             |                       |               |                       |             | Z6, Z7                                    |                    |   |
| C010              | 00003.000             | EA            |                       | 222222-7401 | NETWORK SN7401N                           |                    |   |
| C010A             |                       |               |                       |             | Z2, Z8, Z5                                |                    |   |
| C011              | 00001.000             | EA            |                       | 222222-7442 | NETWORK-SN7442N                           |                    |   |
| DRAFTSMAN         |                       | DATE          | CKD DRAFTSMAN         | DATE        | DESIGN ENGINEER                           | DATE               | TITLE                                     |
|                   |                       |               | <i>R. G. Green</i>    | 6/17/76     |   |                    | CARD ASSY, DATA MODULE W/CONTACTOR OUTPUT |
| APPD MFG          |                       | DATE          | APPD PROJECT ENGINEER | DATE        | RELEASED                                  | DATE               | PROJECT NO                                |
|                   |                       |               |                       |             |   |                    | 8100                                      |
|                   |                       |               |                       |             |   |                    | PART NUMBER                               |
|                   |                       |               |                       |             |   |                    | <b>LM</b> 214111-0001                     |
|                   |                       |               |                       |             |   |                    | REV                                       |
|                   |                       |               |                       |             |   |                    | G   |

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| <b>LM</b> | PART NUMBER | REV |
|           | 214111-0001 | G   |

| PRINT ITEM NUMBER | QUANTITY PER ASSEMBLY | UNIT OF ISSUE | DWG. SIZE              | PART NUMBER | DESCRIPTION                                | VENDOR PART NUMBER |   |
|-------------------|-----------------------|---------------|------------------------|-------------|--|--------------------|---|
| C011A             |                       |               |                        |             | Z4   |                    |   |
| C012              | 00003.CCC             | EA            |                        | 222222-7404 | NETWCRK SN7404N                            |                    |   |
| C012A             |                       |               |                        |             | Z1,Z3,Z5                                   |                    |   |
| 0013              | 00004.CCC             | EA            |                        | 222222-7474 | NETWCRK SN7474N                            | -SN7474N           |   |
| C013A             |                       |               |                        |             | Z10 THRU Z13                               |                    |   |
| 0014              | 00008.CCC             | EA            |                        | 233005-9000 | RELAY SPST-NO 6V 200 CHMS 10W DRY REED     | P&B-JRM-1000       |   |
| 0014A             |                       |               |                        |             | K1 THRU K8                                 |                    |   |
| 0015              | 00008.CCC             | EA            |                        | 233028-0100 | RELAY REED 1500HM 3AMP 50W                 | NPE-208-8-1        |   |
| C015A             |                       |               |                        |             | K9 THRU K16                                |                    |   |
| C016              | 00008.CCC             | EA            |                        | 185113-C001 | X SPACER XST TU-18 CASE                    | * -                |   |
| C017              | REF                   | EA            |                        | 214112-9901 | DIAGRAM, LOGIC DETAIL-DATA MOD W/CONT OUTP |                    |   |
| C018              | REF                   | EA            |                        | 217165-9901 | TEST PROCEDURE-DATA MOD W/CONT OUTPUT      |                    |   |
| C019              | 00001.000             | EA            |                        | 533867-CCC1 | EJECTOR, PCB, NCN-LOCKING, WHITE           | SCA-S-202 WHITE    |   |
| 0020              | 00001.000             | EA            |                        | 533867-CC09 | EJECTOR, PCB, NCN-LOCKING, GREEN           | SCA-S-202 GREEN    |   |
| DRAFTSMAN         |                       | DATE          | CKD DRAFTSMAN          | DATE        | DESIGN ENGINEER                            | DATE               | TITLE                                     |
|                   |                       |               |                        |             |  |                    | CARD ASSY, DATA MODULE W/CONTACTOR OUTPUT |
| APPD. MFG         |                       | DATE          | APPD. PROJECT ENGINEER | DATE        | RELEASED                                   | DATE               | PROJECT NO                                |
|                   |                       |               |                        |             |  |                    |   |
|                   |                       |               |                        |             |  |                    | <b>LM</b> PART NUMBER 214111-C001 REV G   |

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| <b>LM</b> 214111-0960 | REV<br>G |
|-----------------------|----------|

| PRINT ITEM NUMBER | QUANTITY PER ASSEMBLY | UNIT OF ISSUE | DWG SIZE | PART NUMBER | DESCRIPTION                            | VENDOR PART NUMBER |
|-------------------|-----------------------|---------------|----------|-------------|--|--------------------|
| CU01              | 0001.000              | EA            |          | 966369-9701 | MANUAL, CRL CONTACTOR DATA MODULE 960A |                    |

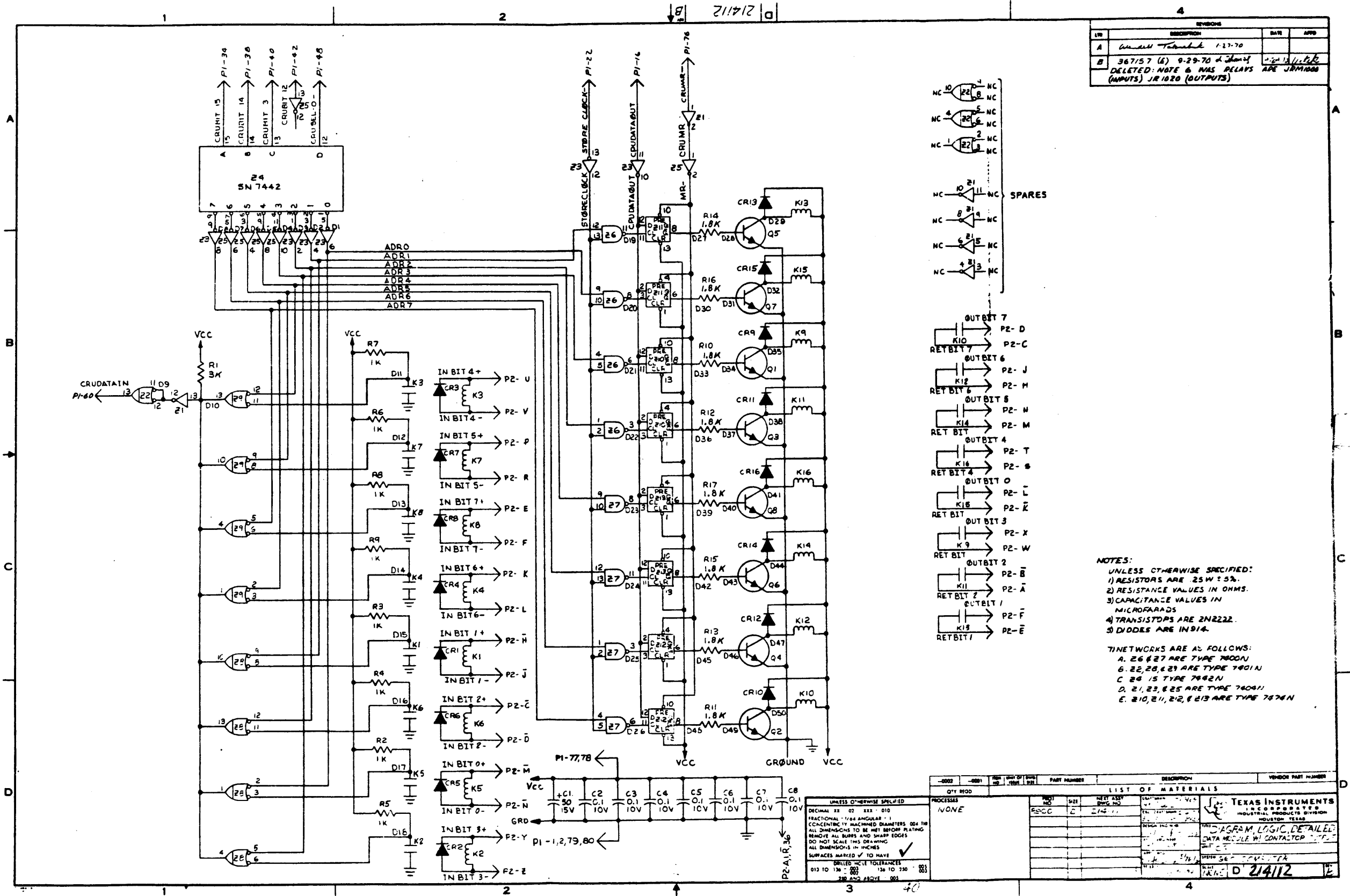
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|-----------|------|------------------------|------|-----------------|------|--|
| DRAFTSMAN | DATE | CKD DRAFTSMAN          | DATE | DESIGN ENGINEER | DATE | TITLE                                      |
|           |      |                        |      |                 |      | CARD ASSY, DATA MODULE W/CONTOR OUTPUT-DOC |
| APPD -MFG | DATE | APPD. PROJECT ENGINEER | DATE | RELEASED        | DATE | PROJECT NO.                                |
|           |      |                        |      |                 |      |  |

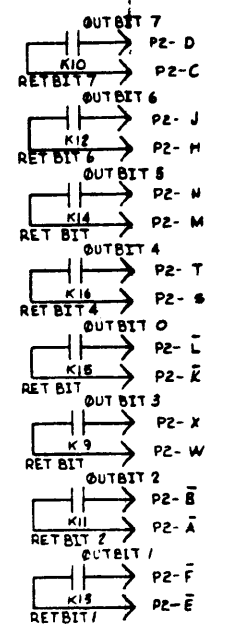
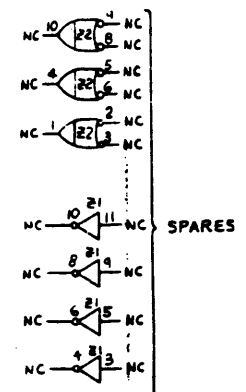
|                       |          |
|-----------------------|----------|
| <b>LM</b> 214111-0960 | REV<br>G |
|-----------------------|----------|

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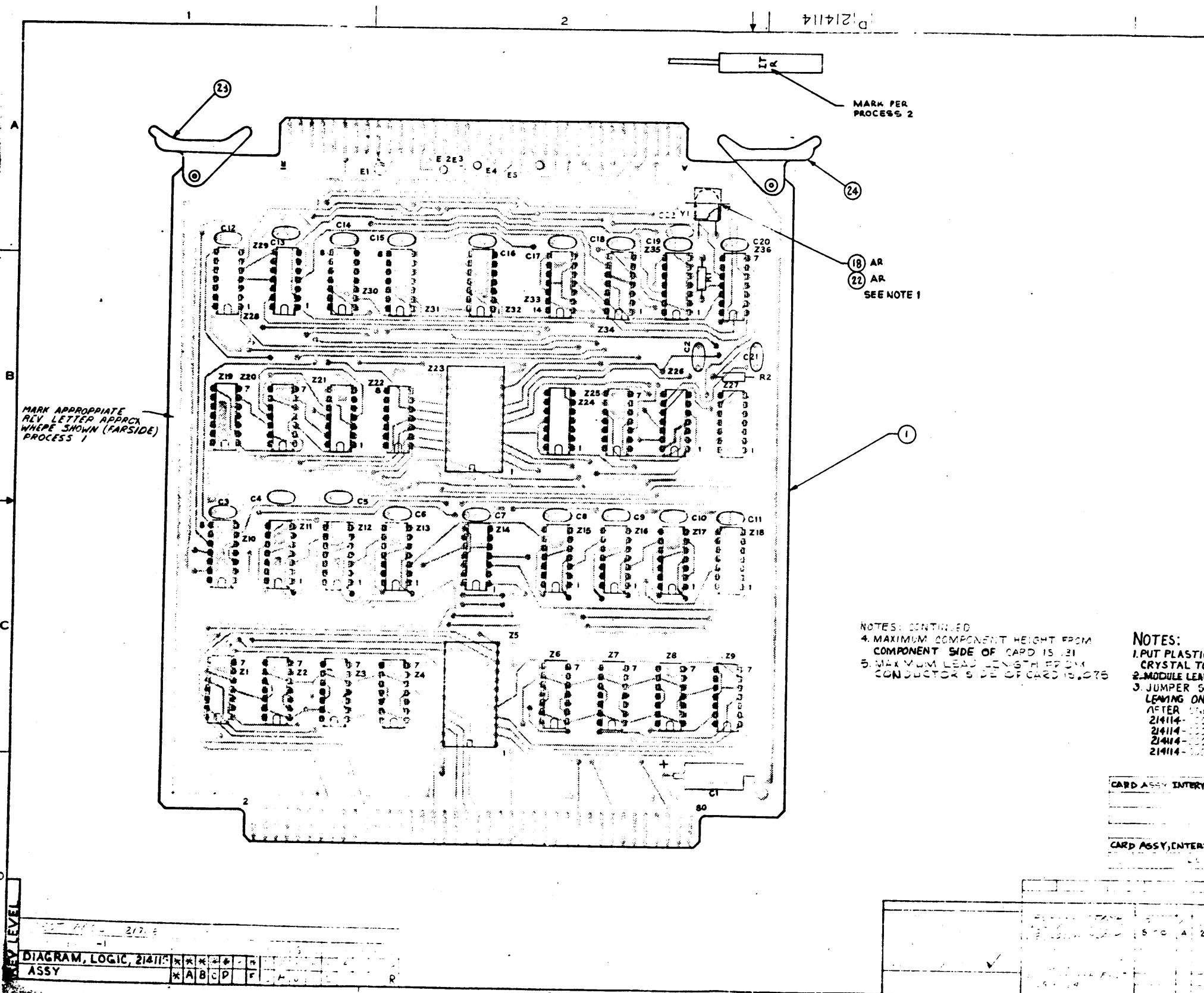
| REV | DESCRIPTION  | DATE    | APP'D |
|-----|--|---------|-------|
| A   | Initial Draft  | 1-27-70 |       |
| B   | 367157 (E) 9-29-70 & 10-1-70<br>DELETED: NOTE 6 HAS RELAYS<br>(INPUTS) JR 1020 (OUTPUTS) | 10-1-70 |       |



NOTES:  
 UNLESS OTHERWISE SPECIFIED:  
 1) RESISTORS ARE 25W ± 5%  
 2) RESISTANCE VALUES IN OHMS.  
 3) CAPACITANCE VALUES IN MICROFARADS  
 4) TRANSISTORS ARE 2N2222.  
 5) DIODES ARE 1N914.

TIN NETWORKS ARE AS FOLLOWS:  
 A. 26 & 27 ARE TYPE 7800N  
 B. 22, 28, & 29 ARE TYPE 7801N  
 C. 24 IS TYPE 7802N  
 D. 21, 23, & 25 ARE TYPE 7804N  
 E. 210, 211, 212, & 213 ARE TYPE 7874N

| QTY | REQD | REV | DATE | BY | DESCRIPTION   | VENDOR PART NUMBER |
|-----|------|-----|------|----|---|--------------------|
|     |      |     |      |    | LIST OF MATERIALS   |                    |
|     |      |     |      |    | UNLESS OTHERWISE SPECIFIED:<br>DECIMAL 25 07 222 010<br>FRACTIONAL 1/64 ANGULAR .1<br>CONCENTRICITY MACHINED DIAMETERS .004 DIA<br>ALL DIMENSIONS TO BE MET BEFORE PLATING<br>REMOVE ALL BURRS AND SHARP EDGES<br>DO NOT SCALE THIS DRAWING<br>ALL DIMENSIONS IN INCHES<br>SURFACES MARKED V TO HAVE<br>DRILLED HOLE TOLERANCES<br>.013 TO .124 - .001<br>.125 AND ABOVE .001 |                    |
|     |      |     |      |    | PROCESSING<br>NONE  |                    |
|     |      |     |      |    | TEXAS INSTRUMENTS<br>11000 GREENBERRY DRIVE<br>INDUSTRIAL PRODUCTS DIVISION<br>HOUSTON, TEXAS   |                    |
|     |      |     |      |    | DIAGRAM, LOGIC, DETAILED<br>DATA MISC. W/ CONTACTOR   |                    |
|     |      |     |      |    | DATE 5-2-70   |                    |
|     |      |     |      |    | DR. D 21412   |                    |



|   |                    |   |
|---|--------------------|---|
| A | 367126 (C) 8-11-70 | CHG, L/M. ITEM 20 WAS 21766-9901, TEST PROCEDURE  |
| B | 372107 (C) 3-2-71  | ADD: IT 22 DELETED IT 21 FROM BD DELETED NOTE 2 FROM DMS. NOTE 1 WAS TIE CRYSTAL TO BD WITH LACING CORD IT 18 ADDED REV LEVEL BLOCK                             |
| C | 366850 (C) 3-21-72 | CHG: ITEM 21 WAS P/N 236525-0005 ADDED: 1) -0002, -0004, -0008; 2) TO JUMPER SCHED (NOTE 3) -8801, -8002, -0004, -0008 CHG: REV LEVEL BLOCK SCHEM NO. WAS 21118 |
| D | 313599 (E) 9/26/72 | 1) ADDED ITEMS 23 & 24 2) ADDED PROCESS 2 3) ADDED TO NEXT ASSY B100   A   2126100  |
| E | 380923 (C) 1/11/73 | 1) P/N IN PIN SCHEDULE WAS 214960   |
| F | 390078 (C) 1/11/73 | 1) ITEM 22 DELETED 2) ITEM 20 QTY WAS 2, ITEM 21 DELETED 3) ITEM 22 QTY ADDED 4) NOTES 4 & 5 DELETED 5) OUTLINE REF DES ABOVE C. 9.4.2 REISED REV LEVEL BLOCK   |
| G | 390078 (C) 1/11/73 | 1) ITEM 22 DELETED 2) ITEM 20 QTY WAS 2, ITEM 21 DELETED 3) ITEM 22 QTY ADDED 4) NOTES 4 & 5 DELETED 5) OUTLINE REF DES ABOVE C. 9.4.2 REISED REV LEVEL BLOCK   |
| H | 390078 (C) 1/11/73 | 1) ITEM 22 DELETED 2) ITEM 20 QTY WAS 2, ITEM 21 DELETED 3) ITEM 22 QTY ADDED 4) NOTES 4 & 5 DELETED 5) OUTLINE REF DES ABOVE C. 9.4.2 REISED REV LEVEL BLOCK   |
| I | 390078 (C) 1/11/73 | 1) ITEM 22 DELETED 2) ITEM 20 QTY WAS 2, ITEM 21 DELETED 3) ITEM 22 QTY ADDED 4) NOTES 4 & 5 DELETED 5) OUTLINE REF DES ABOVE C. 9.4.2 REISED REV LEVEL BLOCK   |
| J | 390078 (C) 1/11/73 | 1) ITEM 22 DELETED 2) ITEM 20 QTY WAS 2, ITEM 21 DELETED 3) ITEM 22 QTY ADDED 4) NOTES 4 & 5 DELETED 5) OUTLINE REF DES ABOVE C. 9.4.2 REISED REV LEVEL BLOCK   |
| K | 390078 (C) 1/11/73 | 1) ITEM 22 DELETED 2) ITEM 20 QTY WAS 2, ITEM 21 DELETED 3) ITEM 22 QTY ADDED 4) NOTES 4 & 5 DELETED 5) OUTLINE REF DES ABOVE C. 9.4.2 REISED REV LEVEL BLOCK   |
| L | 390078 (C) 1/11/73 | 1) ITEM 22 DELETED 2) ITEM 20 QTY WAS 2, ITEM 21 DELETED 3) ITEM 22 QTY ADDED 4) NOTES 4 & 5 DELETED 5) OUTLINE REF DES ABOVE C. 9.4.2 REISED REV LEVEL BLOCK   |
| M | 390078 (C) 1/11/73 | 1) ITEM 22 DELETED 2) ITEM 20 QTY WAS 2, ITEM 21 DELETED 3) ITEM 22 QTY ADDED 4) NOTES 4 & 5 DELETED 5) OUTLINE REF DES ABOVE C. 9.4.2 REISED REV LEVEL BLOCK   |
| N | 390078 (C) 1/11/73 | 1) ITEM 22 DELETED 2) ITEM 20 QTY WAS 2, ITEM 21 DELETED 3) ITEM 22 QTY ADDED 4) NOTES 4 & 5 DELETED 5) OUTLINE REF DES ABOVE C. 9.4.2 REISED REV LEVEL BLOCK   |
| O | 390078 (C) 1/11/73 | 1) ITEM 22 DELETED 2) ITEM 20 QTY WAS 2, ITEM 21 DELETED 3) ITEM 22 QTY ADDED 4) NOTES 4 & 5 DELETED 5) OUTLINE REF DES ABOVE C. 9.4.2 REISED REV LEVEL BLOCK   |
| P | 390078 (C) 1/11/73 | 1) ITEM 22 DELETED 2) ITEM 20 QTY WAS 2, ITEM 21 DELETED 3) ITEM 22 QTY ADDED 4) NOTES 4 & 5 DELETED 5) OUTLINE REF DES ABOVE C. 9.4.2 REISED REV LEVEL BLOCK   |
| Q | 390078 (C) 1/11/73 | 1) ITEM 22 DELETED 2) ITEM 20 QTY WAS 2, ITEM 21 DELETED 3) ITEM 22 QTY ADDED 4) NOTES 4 & 5 DELETED 5) OUTLINE REF DES ABOVE C. 9.4.2 REISED REV LEVEL BLOCK   |
| R | 390078 (C) 1/11/73 | 1) ITEM 22 DELETED 2) ITEM 20 QTY WAS 2, ITEM 21 DELETED 3) ITEM 22 QTY ADDED 4) NOTES 4 & 5 DELETED 5) OUTLINE REF DES ABOVE C. 9.4.2 REISED REV LEVEL BLOCK   |

NOTES: CONTINUED  
 4. MAXIMUM COMPONENT HEIGHT FROM COMPONENT SIDE OF CARD IS .21  
 5. MAXIMUM LEAD LENGTH FROM CONDUCTOR SIDE OF CARD IS .075

NOTES:  
 1. PUT PLASTIC SLEEVING (ITEM 22) OVER CRYSTAL AND TIE CRYSTAL TO BOARD WITH LACING CORD ITEM 18  
 2. MODULE LEAVES FACTORY WITH NO JUMPER ESTABLISHED AT INSTALLATION  
 3. JUMPER SCHEDULE JUMPERS TO BE INSTALLED PRIOR TO UNIT TEST LEAVING ONE END LOOSE. LOOSE END WILL BE SOLDERED AFTER UNIT TEST  
 214114-001 CONNECT ONLY E3 TO E5 1MS  
 214114-002 CONNECT ONLY E4 TO E5 2MS  
 214114-004 CONNECT ONLY E2 TO E5 4MS  
 214114-008 CONNECT ONLY E1 TO E5 2MS

|  |             |
|--|-------------|
| CARD ASSY, INTERVAL TIMER MODULE - DOCUMENTATION | 214114-0960 |
| -0MS   | 214114-0008 |
| -4MS   | 214114-0004 |
| -2MS   | 214114-0005 |
| CARD ASSY, INTERVAL TIMER MODULE - E3 TO E5      | 214114-0001 |

CARD ASSY- INTERVAL TIMER MODULE

214114  
LM



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| PART NUMBER           | REV |
| <b>LM</b> 214114-0001 | R   |

| PRINT ITEM NUMBER | QUANTITY PER ASSEMBLY | UNIT OF ISSUE | DWG. SIZE | PART NUMBER | DESCRIPTION                           | VENDOR PART NUMBER |
|-------------------|-----------------------|---------------|-----------|-------------|---------------------------------------|--------------------|
| CG01              | 0001.000              | EA            |           | 214113-0001 | PRINTED WIPING BD. INTERVAL TIMER     |                    |
| CG02              | 0002.000              | EA            |           | 972946-0057 | RES FIX 470 OHM 5 % .25 W CARBON FILM | ROH- R-25          |
| CG02A             |                       |               |           |             | R1,P2                                 |                    |
| CG03              | 00017.000             | EA            |           | 534348-0001 | CAP FIX CERAMIC .10 MF 20/80 % 10V    | CRL- UK10-104      |
| CG03A             |                       |               |           |             | C3 THRU C18,C20                       |                    |
| CG04              | 00001.000             | EA            |           | 730841-0001 | CAP 50.00 MF 16V                      | SPR-TE-1160        |
| CG04A             |                       |               |           |             | C1                                    |                    |
| CG05              | 00002.000             | EA            |           | 972926-0015 | CAP FIX MICA 50JV 33.0 PF 5 %         | QPL-CM04E330JND    |
| CG05A             |                       |               |           |             | C21,C22                               |                    |
| CG06              | 00002.000             | EA            |           | 532736-0002 | CAP FIX CERAMIC .02 MF 20/80% 25 VOLT | CRL- 2DDU60E203ZAC |
| CG06A             |                       |               |           |             | C2,C19                                |                    |
| CG07              | 00004.000             | EA            |           | 222222-7402 | NETWCRK SN7402N                       | TI--SN7402N        |
| CG07A             |                       |               |           |             | Z1,Z9,Z10,Z14                         |                    |
| CG08              | 00010.000             | EA            |           | 222222-7400 | NETWCRK SN7400N                       | -SN7400N           |
| CG08A             |                       |               |           |             | Z2,Z3,Z4,Z6,Z7,Z8,Z20,Z27,Z29         |                    |
| CG08B             |                       |               |           |             | Z35                                   |                    |
| CG09              | 00001.000             | EA            |           | 222222-7154 | NETWCRK SN74154N                      | -SN74154N          |
| CG09A             |                       |               |           |             | Z5                                    |                    |
| CG10              | 00010.000             | EA            |           | 222222-7474 | NETWCRK SN7474N                       | -SN7474N           |
| CG10A             |                       |               |           |             | Z11,Z12,Z13,Z15,Z16,Z17,Z21           |                    |

|           |      |                       |      |                    |      |  |     |
|-----------|------|-----------------------|------|--------------------|------|--|-----|
| DRAFTSMAN | DATE | CKD DRAFTSMAN         | DATE | DESIGN ENGINEER    | DATE | TITLE                                    |     |
|           |      | <i>[Signature]</i>    |      | <i>[Signature]</i> |      | CARD ASSY-INTERVAL TIMER MODULE.E3 TO E5 |     |
| APPD MFG  | DATE | APPD PROJECT ENGINEER | DATE | RELEASED           | DATE | PROJECT NO                               |     |
|           |      |                       |      |                    |      | 8/11/76                                  |     |
|           |      |                       |      |                    |      | PART NUMBER                              | REV |
|           |      |                       |      |                    |      | <b>LM</b> 214114-0001                    | R   |

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| PART NUMBER           | REV |
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| PRINT ITEM NUMBER | QUANTITY PER ASSEMBLY | UNIT OF ISSUE | DWG. SIZE              | PART NUMBER | DESCRIPTION                              | VENDOR PART NUMBER    |   |
|-------------------|-----------------------|---------------|------------------------|-------------|--|-----------------------|---|
| CO10R             |                       |               |                        |             | Z26,Z33,Z34                              |                       |   |
| G011              | 00001.000             | EA            |                        | 222222-7401 | NETWORK SN7401N                          |                       |   |
| CO11A             |                       |               |                        |             | Z18                                      |                       |   |
| CO12              | 00001.000             | EA            |                        | 222222-7150 | NETWORK SN74150N                         |                       |   |
| CO12A             |                       |               |                        |             | Z23                                      |                       |   |
| 0013              | 00002.000             | EA            |                        | 222222-7404 | NETWORK SN7404N                          |                       |   |
| 0013A             |                       |               |                        |             | Z25,Z36                                  |                       |   |
| 0014              | 00003.000             | EA            |                        | 222222-7453 | NETWORK-SN7493N                          |                       |   |
| 0014A             |                       |               |                        |             | Z30,Z31,Z32                              |                       |   |
| 0015              | 00002.000             | EA            |                        | 222222-7440 | NETWORK SN7440N                          | -SN7440N              |   |
| CO15A             |                       |               |                        |             | Z19,Z28                                  |                       |   |
| 0016              | 00002.000             | EA            |                        | 222222-7430 | NETWORK SN7430N                          | -SN7430N              |   |
| CO16A             |                       |               |                        |             | Z22,Z24                                  |                       |   |
| 0017              | 00001.000             | EA            |                        | 231642-3025 | CRYSTAL 4096.KC + OR - 0.005% W/WIRE LDS | MIL-CR64/U-HC18/U     |   |
| CO17A             |                       |               |                        |             | Y1                                       |                       |   |
| 0018              | AR                    | RL            |                        | 231579-C000 | CORD LACE .090X.0125-500Y                | -#18 BLK.             |   |
| 0019              | REF                   | EA            |                        | 214115-9901 | LOGIC DIACPAM DETAILED, INTERVAL TIMER   |                       |   |
| 0020              | REF                   | EA            |                        | 217118-9901 | TEST PROCEDURE-INTERVAL TIMER            |                       |   |
| 0021              | AR                    | FT            |                        | 538347-3999 | WIRE HOOKUP 8-22 AWG 19 STR WHITE        | JUD- HH0115           |   |
| 0022              | AR                    | FT            |                        | 236277-C000 | TUBING 3/8 CLEAR PLASTIC                 |                       |   |
| DRAFTSMAN         |                       | DATE          | CKD DRAFTSMAN          | DATE        | DESIGN ENGINEER                          | DATE                  | TITLE                                     |
|                   |                       |               |                        |             |  |                       | CARD ASSY-INTERVAL TIMER MODULE, E3 TO E5 |
| APPD. MFG         |                       | DATE          | APPD. PROJECT ENGINEER | DATE        | RELEASED                                 | DATE                  | PROJECT NO                                |
|                   |                       |               |                        |             |  |                       |   |
|                   |                       |               |                        |             |  | PART NUMBER           | REV                                       |
|                   |                       |               |                        |             |  | <b>LM</b> 214114-0001 | R   |

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| <b>LM</b> 214114-0001 | REV<br>R |
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| PRINT ITEM NUMBER | QUANTITY PER ASSEMBLY | UNIT OF ISSUE | DWG SIZE | PART NUMBER | DESCRIPTION                      | VENDOR PART NUMBER |
|-------------------|-----------------------|---------------|----------|-------------|----------------------------------|--------------------|
| 0023              | 00001.000             | EA            |          | 533887-0001 | EJECTOR, FCP, NCN-LOCKING, WHITE | SCA-S-202 WHITE    |
| 0024              | 00001.000             | EA            |          | 533887-0009 | EJECTOR, PCP, NCN-LOCKING, GREEN | SCA-S-202 GREEN    |

|          |      |                        |      |                 |      |   |
|----------|------|------------------------|------|-----------------|------|---|
| RAFTSMAN | DATE | CKD DRAFTSMAN          | DATE | DESIGN ENGINEER | DATE | TITLE                                     |
|          |      |                        |      |                 |      | CARD ASSY-INTERVAL TIMER MODULE, E3 TO E5 |
| PPD-MFG  | DATE | APPD. PROJECT ENGINEER | DATE | RELEASED        | DATE | PROJECT NO.                               |
|          |      |                        |      |                 |      |   |

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| <b>LM</b> 214114-0001 | REV<br>R |
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| PART NUMBER           | REV |
| <b>LM</b> 214114-0002 | R   |

| PRINT ITEM NUMBER | QUANTITY PER ASSEMBLY | UNIT OF ISSUE | DWG SIZE              | PART NUMBER | DESCRIPTION                           | VENDOR PART NUMBER    |                                      |
|-------------------|-----------------------|---------------|-----------------------|-------------|---------------------------------------|-----------------------|--------------------------------------|
| C001              | 00001.000             | EA            |                       | 214113-0001 | PRINTED WIRING BD, INTERVAL TIMER     |                       |                                      |
| 0002              | 00002.000             | EA            |                       | 972946-0057 | RES FIX 470 OHM 5 % .25 W CARBON FILM | ROH- F-25             |                                      |
| C002A             |                       |               |                       |             | R1 R2                                 |                       |                                      |
| 0003              | 00017.000             | EA            |                       | 534348-0001 | CAP FIX CERAMIC .10 MF 20/80 % 10V    | CRL- UK10-104         |                                      |
| C003A             |                       |               |                       |             | C3 THRU C18, C20                      |                       |                                      |
| 0004              | 00001.000             | EA            |                       | 230841-0001 | CAP 50.00 MF 16V                      | SPR-TE-1160           |                                      |
| 0004A             |                       |               |                       |             | C1                                    |                       |                                      |
| 0005              | 00002.000             | EA            |                       | 972926-0015 | CAP FIX MICA 500V 33.0 PF 5 %         | QPL-CM04E330J00       |                                      |
| C005A             |                       |               |                       |             | C21, C22                              |                       |                                      |
| 0006              | 00002.000             | EA            |                       | 532736-0002 | CAP FIX CERAMIC .02 MF 20/80% 25 VOLT | CRL- 2DDU60E203ZAC    |                                      |
| C006A             |                       |               |                       |             | C2, C19                               |                       |                                      |
| 0007              | 00004.000             | EA            |                       | 222222-7402 | NETWCRK SN7402N                       | TI--SN7402N           |                                      |
| C007A             |                       |               |                       |             | Z1 Z5 Z10 Z14                         |                       |                                      |
| 0008              | 00010.000             | EA            |                       | 222222-7400 | NETWCRK SN7400N                       | -SN7400N              |                                      |
| C008A             |                       |               |                       |             | Z2 Z3 Z4 Z6 Z7 Z8 Z20 Z27 Z29         |                       |                                      |
| 0008B             |                       |               |                       |             | Z35                                   |                       |                                      |
| 0009              | 00001.000             | EA            |                       | 222222-7154 | NETWCRK SN74154N                      | -SN74154N             |                                      |
| C009A             |                       |               |                       |             | Z5                                    |                       |                                      |
| 0010              | 00010.000             | EA            |                       | 222222-7474 | NETWCRK SN7474N                       | -SN7474N              |                                      |
| 0010A             |                       |               |                       |             | Z11 Z12 Z13 Z15 Z16 Z17 Z21           |                       |                                      |
| RAFTSMAN          |                       | DATE          | CKD DRAFTSMAN         | DATE        | DESIGN ENGINEER                       | DATE                  | TITLE                                |
|                   |                       |               |                       |             |                                       |                       | CARD ASSY, INTERVAL TIMER MODULE-2MS |
| PPD MFG           |                       | DATE          | APPD PROJECT ENGINEER | DATE        | RELEASED                              | DATE                  | PROJECT NO                           |
|                   |                       |               |                       |             |                                       |                       |                                      |
|                   |                       |               |                       |             |                                       | PART NUMBER           | REV                                  |
|                   |                       |               |                       |             |                                       | <b>LM</b> 214114-0002 | R                                    |

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| <b>LM</b> | PART NUMBER<br>214114-C002 | REV<br>R |
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| PRINT ITEM NUMBER | QUANTITY PER ASSEMBLY | UNIT OF ISSUE | DWG. SIZE             | PART NUMBER | DESCRIPTION                              | VENDOR PART NUMBER |                                      |          |
|-------------------|-----------------------|---------------|-----------------------|-------------|--|--------------------|--------------------------------------|----------|
| CJ10B             |                       |               |                       |             | Z26 Z33 Z34                              |                    |                                      |          |
| C011              | 00001.000             | EA            |                       | 222222-7401 | NETWCRK SN7401N                          |                    |                                      |          |
| 0011A             |                       |               |                       |             | Z18                                      |                    |                                      |          |
| 0012              | 00001.000             | EA            |                       | 222222-7150 | NETWCRK SN74150N                         |                    |                                      |          |
| 0012A             |                       |               |                       |             | Z23                                      |                    |                                      |          |
| 0013              | 00002.000             | EA            |                       | 222222-7404 | NETWCRK SN7404N                          |                    |                                      |          |
| 0013A             |                       |               |                       |             | Z25, Z36                                 |                    |                                      |          |
| 0014              | 00003.000             | EA            |                       | 222222-7493 | NETWCRK-SN7493N                          |                    |                                      |          |
| C014A             |                       |               |                       |             | Z30 Z31 Z32                              |                    |                                      |          |
| 0015              | 00002.000             | EA            |                       | 222222-7440 | NETWCRK SN7440N                          | -SN7440N           |                                      |          |
| 0015A             |                       |               |                       |             | Z19 Z28                                  |                    |                                      |          |
| 0016              | 00002.000             | EA            |                       | 222222-7430 | NETWCRK SN7430N                          | -SN7430N           |                                      |          |
| 0016A             |                       |               |                       |             | Z22 Z24                                  |                    |                                      |          |
| 0017              | 00001.000             | EA            |                       | 231642-3025 | CRYSTAL 4CS6.KC + DR - 0.005% W/WIRE LDS | MIL-CR64/U-HC18/U  |                                      |          |
| 0017A             |                       |               |                       |             | Y1                                       |                    |                                      |          |
| 0018              | AR                    | RL            |                       | 231579-0000 | CARD LACE .090X.0125-500Y                | -#18 BLK.          |                                      |          |
| C019              | REF                   | EA            |                       | 214115-9901 | LOGIC DIAGRAM DETAILED, INTERVAL TIMER   |                    |                                      |          |
| 0020              | REF                   | EA            |                       | 217118-9901 | TEST PROCEDURE-INTERVAL TIMER            |                    |                                      |          |
| 0021              | AR                    | FT            |                       | 538347-3099 | WIRE PICKUP B-22 AWG 19 STR WHITE        | JUD- HH0115        |                                      |          |
| 0022              | AR                    | FT            |                       | 236277-C000 | TUBING 3/8 CLEAR PLASTIC                 |                    |                                      |          |
| DRAFTSMAN         |                       | DATE          | CKD DRAFTSMAN         | DATE        | DESIGN ENGINEER                          | DATE               | TITLE                                |          |
|                   |                       |               |                       |             |  |                    | CARD ASSY, INTERVAL TIMER MODULE-2MS |          |
| PPD MFG           |                       | DATE          | APPD PROJECT ENGINEER | DATE        | RELEASED                                 | DATE               | PROJECT NO                           |          |
|                   |                       |               |                       |             |  |                    |                                      |          |
|                   |                       |               |                       |             |  | <b>LM</b>          | PART NUMBER<br>214114-0002           | REV<br>R |

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| PART NUMBER            | REV      |
| <b>LM 214114-C 002</b> | <b>R</b> |

| PRINT ITEM NUMBER | QUANTITY PER ASSEMBLY | UNIT OF ISSUE | DWG. SIZE | PART NUMBER | DESCRIPTION                      | VENDOR PART NUMBER |
|-------------------|-----------------------|---------------|-----------|-------------|----------------------------------|--------------------|
| 0023              | 00001.000             | EA            |           | 533887-CCC1 | EJECTOR, PCB, NON-LOCKING, WHITE | SCA-S-202 WHITE    |
| 0024              | 00001.000             | EA            |           | 533887-CCC9 | EJECTOR, PCB, NON-LOCKING, GREEN | SCA-S-202 GREEN    |

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|           |      |                        |      |                 |      |                                      |                       |          |
|-----------|------|------------------------|------|-----------------|------|--------------------------------------|-----------------------|----------|
| DRAFTSMAN | DATE | CKD. DRAFTSMAN         | DATE | DESIGN ENGINEER | DATE | TITLE                                |                       |          |
|           |      |                        |      |                 |      | CARD ASSY, INTERVAL TIMER MODULE-2MS |                       |          |
| APPD. MFG | DATE | APPD. PROJECT ENGINEER | DATE | RELEASED        | DATE | PROJECT NO.                          | PART NUMBER           | REV      |
|           |      |                        |      |                 |      |                                      | <b>LM 214114-0002</b> | <b>R</b> |





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| <b>LM</b> | PART NUMBER | REV |
|           | 214114-0004 | R   |

| PRINT ITEM NUMBER | QUANTITY PER ASSEMBLY | UNIT OF ISSUE | DWG SIZE              | PART NUMBER | DESCRIPTION                           | VENDOR PART NUMBER                   |             |
|-------------------|-----------------------|---------------|-----------------------|-------------|---------------------------------------|--------------------------------------|-------------|
| C001              | 0001.000              | EA            |                       | 214113-0001 | PRINTED WIRING BO, INTERVAL TIMER     |                                      |             |
| 0002              | 0002.000              | EA            |                       | 972946-0057 | RES FIX 470 OHM 5 % .25 W CARBON FILM | ROH- R-25                            |             |
| 0002A             |                       |               |                       |             | R1 R2                                 |                                      |             |
| 0003              | 00017.000             | EA            |                       | 534348-0001 | CAP FIX CERAMIC .10 MF 20/80 % 10V    | CRL- UK10-104                        |             |
| 0003A             |                       |               |                       |             | C3 THRU C19, C20                      |                                      |             |
| 0004              | 00001.000             | EA            |                       | 230841-0001 | CAP 50.00 MF 16V                      | SPR-TE-1160                          |             |
| 0004A             |                       |               |                       |             | C1                                    |                                      |             |
| 0005              | 00002.000             | EA            |                       | 972926-0015 | CAP FIX MICA 500V 33.0 PF 5 %         | QPL-CM04E330J00                      |             |
| 0005A             |                       |               |                       |             | C21 C22                               |                                      |             |
| 0006              | 00002.000             | EA            |                       | 532736-0002 | CAP FIX CERAMIC .02 MF 20/80% 25 VOLT | CRL- 200060E203ZAC                   |             |
| 0006A             |                       |               |                       |             | C2 C19                                |                                      |             |
| 0007              | 00004.000             | EA            |                       | 222222-7402 | NETWRK SN7402N                        | TI--SN7402N                          |             |
| 0007A             |                       |               |                       |             | Z1 Z9 Z10 Z14                         |                                      |             |
| 0008              | 00010.000             | EA            |                       | 222222-7400 | NETWRK SN7400N                        | -SN7400N                             |             |
| 0008A             |                       |               |                       |             | Z2 Z3 Z4 Z6 Z7 Z8 Z20 Z27 Z29         |                                      |             |
| 0008B             |                       |               |                       |             | Z35                                   |                                      |             |
| 0009              | 00001.000             | EA            |                       | 222222-7154 | NETWORK SN74154N                      | -SN74154N                            |             |
| 0009A             |                       |               |                       |             | Z5                                    |                                      |             |
| 0010              | 00010.000             | EA            |                       | 222222-7474 | NETWORK SN7474N                       | -SN7474N                             |             |
| 0010A             |                       |               |                       |             | Z11 Z12 Z13 Z15 Z16 Z17 Z21           |                                      |             |
| DRAFTSMAN         |                       | DATE          | CKD DRAFTSMAN         | DATE        | DESIGN ENGINEER                       | DATE                                 | TITLE       |
| APPD MFG          |                       | DATE          | APPD PROJECT ENGINEER | DATE        | RELEASED                              | DATE                                 | PROJECT NO. |
|                   |                       |               |                       |             |                                       | CARD ASSY, INTERVAL TIMER MODULE-4MS |             |
|                   |                       |               |                       |             |                                       | <b>LM</b>                            | PART NUMBER |
|                   |                       |               |                       |             |                                       | 214114-0004                          | REV         |
|                   |                       |               |                       |             |                                       |                                      | R           |

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**LM** PART NUMBER 214114-0004 REV R

| PRINT ITEM NUMBER | QTY PER ASSEMBLY | UNIT OF ISSUE | DWG. SIZE             | PART NUMBER | DESCRIPTION                              | VENDOR PART NUMBER                |                                      |
|-------------------|------------------|---------------|-----------------------|-------------|--|-----------------------------------|--------------------------------------|
| 0010A             |                  |               |                       |             | 726 Z33 Z34                              |                                   |                                      |
| 0011              | 00001.000        | EA            |                       | 22222-7401  | NETWORK SN7401N                          |                                   |                                      |
| 0011A             |                  |               |                       |             | Z18                                      |                                   |                                      |
| 0012              | 00001.000        | EA            |                       | 22222-7150  | NETWORK SN74150N                         |                                   |                                      |
| 0012A             |                  |               |                       |             | Z23                                      |                                   |                                      |
| 0013              | 00002.000        | EA            |                       | 22222-7404  | NETWORK SN7404N                          |                                   |                                      |
| 0013A             |                  |               |                       |             | Z25 Z36                                  |                                   |                                      |
| 0014              | 00003.000        | EA            |                       | 22222-7493  | NETWORK-SN7493N                          |                                   |                                      |
| 0014A             |                  |               |                       |             | Z30 Z31 Z32                              |                                   |                                      |
| 0015              | 00002.000        | EA            |                       | 22222-7440  | NETWORK SN7440N                          | -SN7440N                          |                                      |
| 0015A             |                  |               |                       |             | Z19 Z28                                  |                                   |                                      |
| 0016              | 00002.000        | EA            |                       | 22222-7430  | NETWORK SN7430N                          | -SN7430N                          |                                      |
| 0016A             |                  |               |                       |             | Z22 Z24                                  |                                   |                                      |
| 0017              | 00001.000        | EA            |                       | 231642-3025 | CRYSTAL 4096.KC + DR - 0.005% W/WIRE LDS | MIL-CR64/U-HC13/U                 |                                      |
| 0017A             |                  |               |                       |             | Y1                                       |                                   |                                      |
| 0018              | AR               | RL            |                       | 231579-0000 | CORD LACE .090X.0125-500Y                | -#18 BLK.                         |                                      |
| 0019              | RF               | FA            |                       | 214115-9901 | LOGIC DIAGRAM DETAILED, INTERVAL TIMER   |                                   |                                      |
| 0020              | PF               | EA            |                       | 217118-9901 | TEST PROCEDURE-INTERVAL TIMER            |                                   |                                      |
| 0021              | AR               | FT            |                       | 538347-3959 | WIRE HOOKUP B-22 AWG 19 STR WHITE        | JUD- H40115                       |                                      |
| 0022              | AR               | FT            |                       | 236277-0000 | TUBING 3/8 CLEAR PLASTIC                 |                                   |                                      |
| DRAFTSMAN         |                  | DATE          | CKD DRAFTSMAN         | DATE        | DESIGN ENGINEER                          | DATE                              | TITLE                                |
|                   |                  |               |                       |             |  |                                   | CARD ASSY, INTERVAL TIMER MODULE-4MS |
| PPD -MFG          |                  | DATE          | APPD PROJECT ENGINEER | DATE        | RELEASED                                 | DATE                              | PROJECT NO                           |
|                   |                  |               |                       |             |  |                                   |                                      |
|                   |                  |               |                       |             |  | <b>LM</b> PART NUMBER 214114-0004 | REV R                                |

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**LM** PART NUMBER 214114-0004 REV R

| PRINT ITEM NUMBER | QUANTITY PER ASSEMBLY | UNIT OF ISSUE | DWG SIZE | PART NUMBER | DESCRIPTION                      | VENDOR PART NUMBER |
|-------------------|-----------------------|---------------|----------|-------------|----------------------------------|--------------------|
| 0023              | 11101.000             | EA            |          | 533887-0001 | EJECTOR, PCB, NON-LOCKING, WHITE | SCA-S-202 WHITE    |
| 0024              | 00001.000             | EA            |          | 533887-0009 | EJECTOR, PCB, NON-LOCKING, GREEN | SCA-S-202 GREEN    |

|           |      |                       |      |                 |      |                                      |
|-----------|------|-----------------------|------|-----------------|------|--------------------------------------|
| DRAFTSMAN | DATE | CKD DRAFTSMAN         | DATE | DESIGN ENGINEER | DATE | TITLE                                |
|           |      |                       |      |                 |      | CARD ASSY, INTERVAL TIMER MODULE-4MS |
| APPD MFG  | DATE | APPD PROJECT ENGINEER | DATE | RELEASED        | DATE | PROJECT NO                           |
|           |      |                       |      |                 |      |                                      |

|           |                         |       |
|-----------|-------------------------|-------|
| <b>LM</b> | PART NUMBER 214114-0004 | REV R |
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**LM** PART NUMBER 214114-0003 REV R

| PRINT ITEM NUMBER | QUANTITY PER ASSEMBLY | UNIT OF ISSUE | DWG. SIZE              | PART NUMBER | DESCRIPTION                           | VENDOR PART NUMBER  |                                      |
|-------------------|-----------------------|---------------|------------------------|-------------|---------------------------------------|---------------------|--------------------------------------|
| C001              | 00001.000             | EA            |                        | 214113-C001 | PRINTED WIPING BD, INTERVAL TIMER     |                     |                                      |
| 0002              | 00002.000             | FA            |                        | 972946-0057 | RES FIX 470 OHM 5 % .25 W CARBON FILM | R0H- R-25           |                                      |
| C002A             |                       |               |                        |             | P1 P2                                 |                     |                                      |
| 0003              | 00017.000             | EA            |                        | 534348-0001 | CAP FIX CEPAMIC .10 MF 20/80 % 10V    | CRL- UK10-104       |                                      |
| C003A             |                       |               |                        |             | C3 THRU C18, C20                      |                     |                                      |
| 0004              | 00001.000             | EA            |                        | 230841-C001 | CAP 50.00 MF 16V                      | SPR-TE-1160         |                                      |
| C004A             |                       |               |                        |             | C1                                    |                     |                                      |
| 0005              | 00002.000             | FA            |                        | 972926-0015 | CAP FIX MICA 500V 33.0 PF 5 %         | QPL-CM04E330J00     |                                      |
| C005A             |                       |               |                        |             | C21, C22                              |                     |                                      |
| 0006              | 00002.000             | EA            |                        | 532736-C002 | CAP FIX CEPAMIC .02 MF 20/80% 25 VOLT | CRL- 2000160F203ZAC |                                      |
| C006A             |                       |               |                        |             | C2, C19                               |                     |                                      |
| 0007              | 00004.000             | FA            |                        | 222222-7402 | NETWORK SN7402N                       | TI--SN7402N         |                                      |
| C007A             |                       |               |                        |             | Z1 Z9 Z10 Z14                         |                     |                                      |
| 0008              | 00010.000             | EA            |                        | 222222-7400 | NETWCPK SN7400N                       | -SN7400N            |                                      |
| C008A             |                       |               |                        |             | Z2 Z3 Z4 Z6 Z7 Z8 Z20 Z27 Z29         |                     |                                      |
| C008B             |                       |               |                        |             | Z35                                   |                     |                                      |
| 0009              | 00001.000             | EA            |                        | 222222-7154 | NETWORK SN74154N                      | -SN74154N           |                                      |
| C009A             |                       |               |                        |             | Z5                                    |                     |                                      |
| 0010              | 00010.000             | EA            |                        | 222222-7474 | NETWORK SN7474N                       | -SN7474N            |                                      |
| C010A             |                       |               |                        |             | Z11 Z12 Z13 Z15 Z16 Z17 Z21           |                     |                                      |
| DRAFTSMAN         |                       | DATE          | CKD. DRAFTSMAN         | DATE        | DESIGN ENGINEER                       | DATE                | TITLE                                |
|                   |                       |               |                        |             |                                       |                     | CARD ASSY, INTERVAL TIMER MODULE-RMS |
| PPD -MFG          |                       | DATE          | APPD. PROJECT ENGINEER | DATE        | RELEASED                              | DATE                | PROJECT NO.                          |
|                   |                       |               |                        |             |                                       |                     |                                      |
|                   |                       |               |                        |             |                                       | <b>LM</b>           | PART NUMBER 214114-0003 REV R        |

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LM PART NUMBER 214114-0009 REV R

| PRINT ITEM NUMBER | QUANTITY PER ASSEMBLY | UNIT OF ISSUE | DWG SIZE              | PART NUMBER | DESCRIPTION                              | VENDOR PART NUMBER |                                      |
|-------------------|-----------------------|---------------|-----------------------|-------------|--|--------------------|--------------------------------------|
| 0010A             |                       |               |                       |             | Z26 Z33 Z34                              |                    |                                      |
| 0011              | 00001.000             | EA            |                       | 222222-7401 | NETWORK SN7401N                          |                    |                                      |
| 0011A             |                       |               |                       |             | Z18                                      |                    |                                      |
| 0012              | 00001.000             | EA            |                       | 222222-7150 | NETWORK SN74150N                         |                    |                                      |
| 0012A             |                       |               |                       |             | Z23                                      |                    |                                      |
| 0013              | 00002.000             | EA            |                       | 222222-7404 | NETWORK SN7404N                          |                    |                                      |
| 0013A             |                       |               |                       |             | Z25 Z36                                  |                    |                                      |
| 0014              | 00003.000             | EA            |                       | 222222-7493 | NETWORK-SN7493N                          |                    |                                      |
| 0014A             |                       |               |                       |             | Z30 Z31 Z32                              |                    |                                      |
| 0015              | 00002.000             | EA            |                       | 222222-7440 | NETWORK SN7440N                          | -SN7440N           |                                      |
| 0015A             |                       |               |                       |             | Z19 Z28                                  |                    |                                      |
| 0016              | 00002.000             | EA            |                       | 222222-7430 | NETWORK SN7430N                          | -SN7430N           |                                      |
| 0016A             |                       |               |                       |             | Z22 Z24                                  |                    |                                      |
| 0017              | 00001.000             | EA            |                       | 231642-3025 | CRYSTAL 4096.KC + DR - 0.005% W/WIRE LDS | MIL-CF64/U-HC18/U  |                                      |
| 0017A             |                       |               |                       |             | Y1                                       |                    |                                      |
| 0018              | AR                    | RL            |                       | 231579-0000 | CORD LACE .090X.0125-500Y                | -#18 BLK.          |                                      |
| 0019              | RF                    | FA            |                       | 214115-9901 | LOGIC DIAGRAM DETAILED, INTERVAL TIMER   |                    |                                      |
| 0020              | RF                    | EA            |                       | 217118-9901 | TEST PROCEDURE-INTERVAL TIMER            |                    |                                      |
| 0021              | AR                    | FT            |                       | 538347-2999 | WIPE HOOKUP R-22 AWG 19 STR WHITE        | JUN- HH0115        |                                      |
| 0022              | AR                    | FT            |                       | 230277-0000 | TUBING 3/8 CLEAR PLASTIC                 |                    |                                      |
| DRAFTSMAN         |                       | DATE          | CKD DRAFTSMAN         | DATE        | DESIGN ENGINEER                          | DATE               | TITLE                                |
|                   |                       |               |                       |             |  |                    | CARD ASSY, INTERVAL TIMER MODULE-RMS |
| PRD MFG           |                       | DATE          | APPD PROJECT ENGINEER | DATE        | RELEASED                                 | DATE               | PROJECT NO                           |
|                   |                       |               |                       |             |  |                    |                                      |
|                   |                       |               |                       |             |  | LM                 | PART NUMBER 214114-0009 REV R        |

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|           |                            |          |
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| <b>LM</b> | PART NUMBER<br>214114-0009 | REV<br>R |
|-----------|----------------------------|----------|

| PRINT ITEM NUMBER | QUANTITY PER ASSEMBLY | UNIT OF ISSUE | DWG. SIZE | PART NUMBER | DESCRIPTION                      | VENDOR PART NUMBER |
|-------------------|-----------------------|---------------|-----------|-------------|----------------------------------|--------------------|
| 0023              | 0001.000              | FA            |           | 533887-0001 | EJECTOR, PCB, NON-LOCKING, WHITE | SCA-S-202 WHITE    |
| 0024              | 0001.000              | FA            |           | 533887-0009 | EJECTOR, PCB, NON-LOCKING, GREEN | SCA-S-202 GREEN    |

|           |      |                       |      |                 |      |             |                                      |                            |
|-----------|------|-----------------------|------|-----------------|------|-------------|--------------------------------------|----------------------------|
| DRAFTSMAN | DATE | CKD DRAFTSMAN         | DATE | DESIGN ENGINEER | DATE | TITLE       | CARD ASSY, INTERVAL TIMER MODULE-BMS |                            |
| PPD-MFG   | DATE | APPD PROJECT ENGINEER | DATE | RELEASED        | DATE | PROJECT NO. | <b>LM</b>                            | PART NUMBER<br>214114-0009 |
|           |      |                       |      |                 |      |             | REV                                  | R                          |

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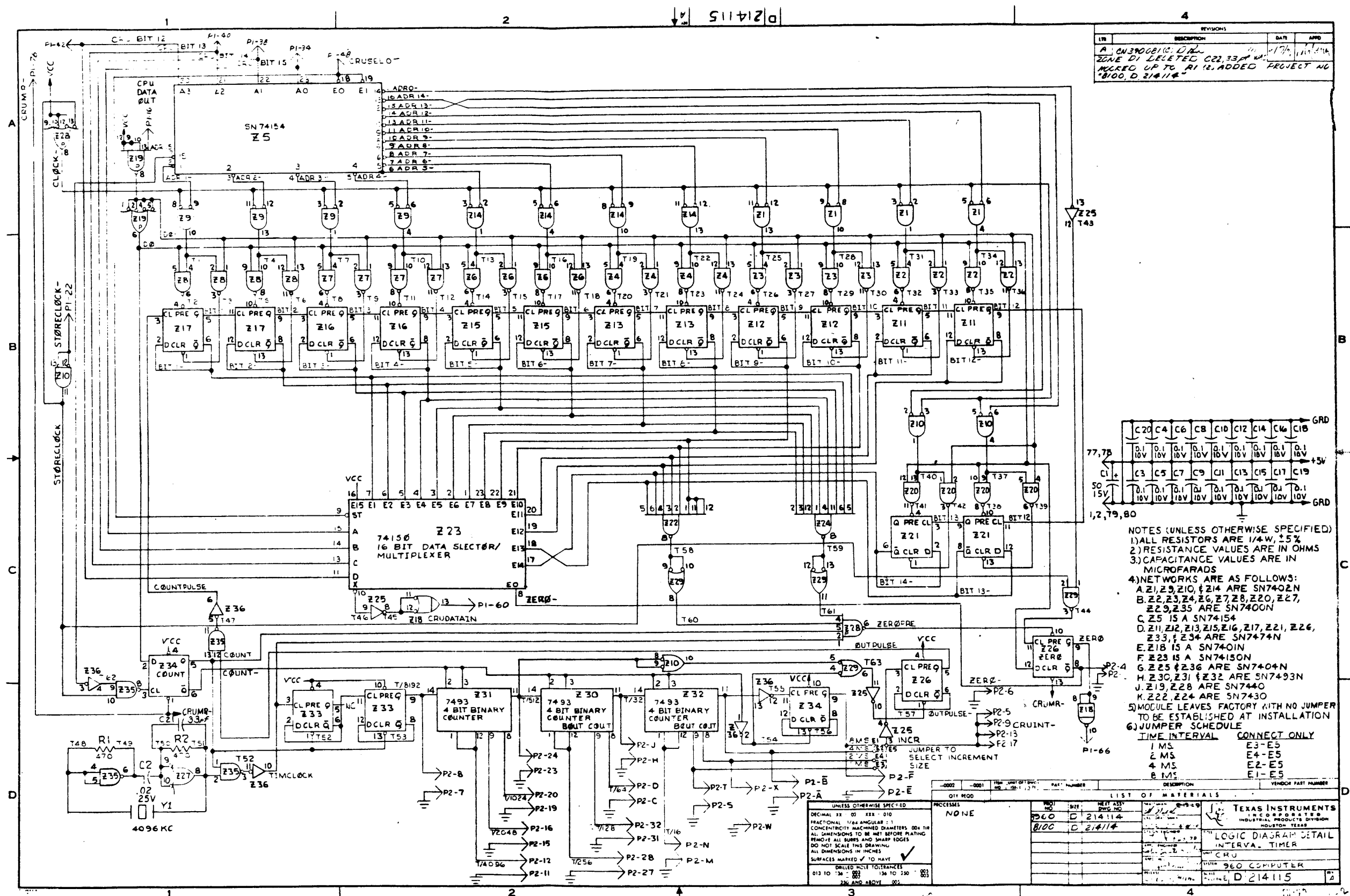
PAGE 1 of

|                       |          |
|-----------------------|----------|
| <b>LM</b> 214114-0960 | REV<br>R |
|-----------------------|----------|

| PRINT ITEM NUMBER | QUANTITY PER ASSEMBLY | UNIT OF ISSUE | DWG SIZE | PART NUMBER | DESCRIPTION                           | VENDOR PART NUMBER |
|-------------------|-----------------------|---------------|----------|-------------|---------------------------------------|--------------------|
| 0001              | 00001.000             | FA            |          | 966374-9701 | MANUAL,CRL INTERVAL TIMER MODULE 960A |                    |
| 0003              | 00001.000             | EA            |          | 942715-9901 | PD,ITMS6C,INTERVAL TIMER-PDT960       |                    |
| 0004              | 00001.000             | EA            |          | 942715-9902 | AL,,ITMS6C,INTERVAL TIMER-PDT960      |                    |

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|          |      |                       |      |                 |      |             |                                      |          |
|----------|------|-----------------------|------|-----------------|------|-------------|--------------------------------------|----------|
| RAFTSMAN | DATE | CKD DRAFTSMAN         | DATE | DESIGN ENGINEER | DATE | TITLE       | CARD ASSY, INTERVAL TIMER MODULE-DOC |          |
| PPD MFG  | DATE | APPD PROJECT ENGINEER | DATE | RELEASED        | DATE | PROJECT NO. | <b>LM</b> 214114-0960                | REV<br>R |

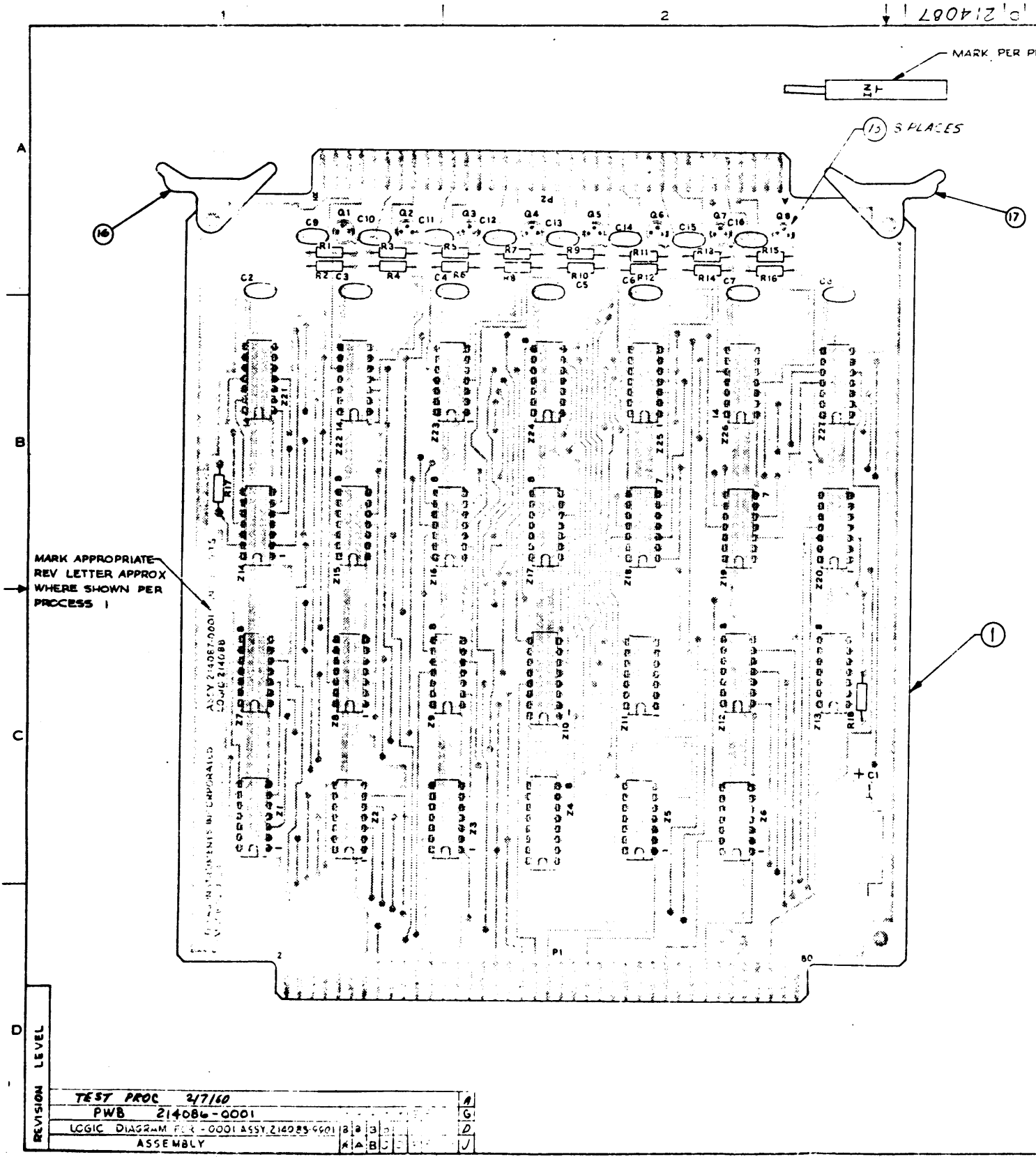


| REV | DESCRIPTION   | DATE     | APP'D    |
|-----|---|----------|----------|
| 1   | AS SHOWN IN ORIGINAL DRAWING                        | 11/17/64 | J. W. B. |
| 2   | ZONE D1 DELETED C22, Z33, R1                        | 11/17/64 | J. W. B. |
| 3   | ADDED UP TO R1 IN ADDED PROJECT NO. 8100, D. 214114 |          |          |

- NOTES (UNLESS OTHERWISE SPECIFIED)
- 1) ALL RESISTORS ARE 1/4 W, ±5%
  - 2) RESISTANCE VALUES ARE IN OHMS
  - 3) CAPACITANCE VALUES ARE IN MICROFARADS
  - 4) NETWORKS ARE AS FOLLOWS:
    - A. Z1, Z3, Z10, Z14 ARE SN7402N
    - B. Z2, Z3, Z4, Z6, Z7, Z8, Z20, Z27, Z29, Z35 ARE SN7400N
    - C. Z5 IS A SN74154
    - D. Z11, Z12, Z13, Z15, Z16, Z17, Z21, Z26, Z33, Z34 ARE SN7401N
    - E. Z18 IS A SN7401N
    - F. Z23 IS A SN74150N
    - G. Z25, Z36 ARE SN7404N
    - H. Z30, Z31, Z32 ARE SN7493N
    - I. Z19, Z21, Z22 ARE SN7440
    - J. Z22, Z24 ARE SN7430
  - 5) MODULE LEAVES FACTORY WITH NO JUMPER TO BE ESTABLISHED AT INSTALLATION
  - 6) JUMPER SCHEDULE
- | TIME INTERVAL | CONNECT ONLY |
|---------------|--------------|
| 1 MS          | E3-E5        |
| 2 MS          | E4-E5        |
| 4 MS          | E2-E5        |
| 8 MS          | E1-E5        |

| QTY REQD | QTY ON HAND | UNIT OF MEAS | DESCRIPTION          | VENOR PART NUMBER |
|----------|-------------|--------------|----------------------|-------------------|
|          |             |              | PROCESSOR            |                   |
|          |             |              | LIST OF MATERIALS    |                   |
|          |             |              | 960                  | 214114            |
|          |             |              | 8100                 | 214114            |
|          |             |              | LOGIC DIAGRAM DETAIL |                   |
|          |             |              | INTERVAL TIMER       |                   |
|          |             |              | 960 COMPUTER         |                   |
|          |             |              | ZONE D 214114        |                   |





|   |                               |
|---|-------------------------------|
| A   | 373597 (E) D. Williams 9-2-72 |
| ADDED 1) IT 16 E17 (2) PROCESS 2 3) ELECTORS TO F/D 4) N/A 5) 100/D/217089 5) REVISION LEVEL BLOCK                                |                               |
| B   | 380983 (D) T. H. Ross 2-12-73 |
| CHG 1) REV STATUS BLOCK, LOGIC DIAGRAM DWG NO. WAS 214086-9901<br>2) N/A NO. WAS 217089<br>ADDED 1) -0960<br>2) PART NO. SCHEDULE |                               |
| C   | 387900 (E) J. J. ...          |
| D   | 387900 (E) J. J. ...          |
| E   | 389042 (E) J. J. ...          |
| N/A 2200270000 TRANSISTOR, 2N2222, 48-378-1002 DPL 1950C<br>ADDED PWB TO REV LEVEL BLOCK, 3) LOCATED REV LEVEL BLK                |                               |
| F   | ...                           |
| G   | ...                           |
| REV LEVEL BLOCK IS CHANGED AS FOLLOWS:<br>1) REV ITEM 2) ...  |                               |
| H   | ...                           |
| CH 217089 ...   |                               |
| U   | ...                           |

| CAPACITOR USE SCHEDULE |             |
|------------------------|-------------|
| USED                   | NOT USED    |
| C1 THRU C8             | C9 THRU C16 |
|                        | SEE NOTE 1  |

- NOTES: UNLESS OTHERWISE SPECIFIED
1. FILTER CAPACITORS, C9 THRU C16 MAY BE ADDED, AT THE TIME OF INSTALLATION, AT CUSTOMERS DISCRETION
  2. MAXIMUM COMPONENT HEIGHT FROM COMPONENT SIDE OF CARD IS .31
  3. MAXIMUM LEAD LENGTH FROM CONDUCTOR SIDE OF CARD IS .075

|             |                                    |
|-------------|------------------------------------|
| 214087-0560 | CARD ASSY- INTERRUPT DOCUMENTATION |
| 214087-0001 | CARD ASSY- INTERRUPTS              |
| PART NO.    | DESCRIPTION                        |

|  |   |
|--|---|
| TEST PROC 2/7/60                         | A |
| PWB 214086-0001                          | G |
| LOGIC DIAGRAM FOR -0001 ASSY 214089-9901 | D |
| ASSEMBLY                                 | J |

|  |   |                       |
|--|---|-----------------------|
| 1 RUBBER STAMP PER F-100, HEIGHT 12, COLOR BLACK | 2 NOT STAMP F-100, HEIGHT 12, COLOR BLACK | CARD ASSY- INTERRUPTS |
|  |   | 214087                |



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| <b>LM</b> 214087-0001 | PART NUMBER | REV<br>JM |
|-----------------------|-------------|-----------|

| PRINT ITEM NUMBER | QUANTITY PER ASSEMBLY | UNIT OF ISSUE | DWG SIZE               | PART NUMBER | DESCRIPTION                           | VENDOR PART NUMBER    |                       |
|-------------------|-----------------------|---------------|------------------------|-------------|---------------------------------------|-----------------------|-----------------------|
| 0001              | 00001.000             | EA            |                        | 214086-0001 | PRINTED WIRING BOARD, INTERRUPTS      |                       |                       |
| 0002              | 00008.000             | EA            |                        | 222222-7400 | NETWRK SN7400N                        | -SN7400N              |                       |
| 0002A             |                       |               |                        |             | Z1, Z5, Z12, Z18, Z20, Z21, Z24, Z27  |                       |                       |
| 0003              | 00005.000             | EA            |                        | 222222-7401 | NETWRK SN7401N                        |                       |                       |
| 0003A             |                       |               |                        |             | Z6, Z13, Z14, Z16, Z19                |                       |                       |
| 0004              | 00003.000             | EA            |                        | 222222-7404 | NETWRK SN7404N                        |                       |                       |
| 0004A             |                       |               |                        |             | Z2, Z11, Z17                          |                       |                       |
| 0005              | 00001.000             | EA            |                        | 222222-7440 | NETWRK SN7440N                        | -SN7440N              |                       |
| 0005A             |                       |               |                        |             | Z3                                    |                       |                       |
| 0006              | 00002.000             | EA            |                        | 222222-7442 | NETWORK-SN7442N                       |                       |                       |
| 0006A             |                       |               |                        |             | Z4, Z10                               |                       |                       |
| 0007              | 00008.000             | EA            |                        | 222222-7474 | NETWRK SN7474N                        | -SN7474N              |                       |
| 0007A             |                       |               |                        |             | Z7 Z8 Z9 Z15 Z22 Z23 Z25 Z26          |                       |                       |
| 0008              | 00001.000             | EA            |                        | 230841-C001 | CAP 50.00 MF 16V                      | SPP-TE-1160           |                       |
| 0008A             |                       |               |                        |             | C1                                    |                       |                       |
| 0009              | 00007.000             | EA            |                        | 534348-C001 | CAP FIX CERAMIC .10 MF 20/80 % 10V    | CRL- UK10-104         |                       |
| 0009A             |                       |               |                        |             | C2 THRU C8                            |                       |                       |
| 0010              | 00008.000             | EA            |                        | 972057-C001 | TRANSISTOR-A5T2222 NPN SILICON        | TI--A5T2222           |                       |
| 0010A             |                       |               |                        |             | C1 THRU Q8                            |                       |                       |
| 0011              | 00016.000             | EA            |                        | 972946-C054 | RES FIX 360 OHM 5 % .25 W CARBON FILM | ROH- R-25             |                       |
| DRAFTSMAN         |                       | DATE          | CKD. DRAFTSMAN         | DATE        | DESIGN ENGINEER                       | DATE                  | TITLE                 |
|                   |                       |               | <i>PA [Signature]</i>  |             | <i>[Signature]</i>                    |                       | CARD ASSY, INTERRUPTS |
| APPD. MFG         |                       | DATE          | APPD. PROJECT ENGINEER | DATE        | RELEASED                              | DATE                  | PROJECT NO            |
|                   |                       |               |                        |             |                                       |                       | 8100                  |
|                   |                       |               |                        |             |                                       | PART NUMBER           | REV                   |
|                   |                       |               |                        |             |                                       | <b>LM</b> 214087-0001 | JM                    |

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|----------------|-----|
| PART NUMBER    | REV |
| LM 214087-0001 | J*  |

| PRINT ITEM NUMBER | QUANTITY PER ASSEMBLY | UNIT OF ISSUE | DWG. SIZE | PART NUMBER | DESCRIPTION                           | VENDOR PART NUMBER |
|-------------------|-----------------------|---------------|-----------|-------------|---------------------------------------|--------------------|
| C011A             |                       |               |           |             | R1 THRU R16                           |                    |
| 0012              | 00002.000             | EA            |           | 972946-0C76 | RES FIX 3.0K OHM 5% .25 W CARBON FILM | ROH- R-25          |
| C012A             |                       |               |           |             | R17 R18                               |                    |
| 0013              | 00008.000             | EA            |           | 185113-CCG1 | X SPACER MXT TO-18 CASE               | * -                |
| C014              | REF                   | EA            |           | 214088-99C1 | DIAGRAM, LOGIC DETAIL-INTERRUPTS      |                    |
| 0015              | REF                   | EA            |           | 217160-99C1 | TEST PROCEDURE-INTERRUPTS             |                    |
| C016              | 00001.000             | EA            |           | 533887-COC1 | EJECTOR, PCB, NON-LOCKING, WHITE      | SCA-S-202 WHITE    |
| C017              | 00001.000             | EA            |           | 533887-CCC9 | EJECTOR, PCB, NON-LOCKING, GREEN      | SCA-S-202 GREEN    |
| C018              | REF                   | EA            |           | 943762-9901 | SPECIFICATION, 960 INTERRUPT MODULE   |                    |

|           |      |                        |      |                 |      |                       |
|-----------|------|------------------------|------|-----------------|------|-----------------------|
| DRAFTSMAN | DATE | CKD DRAFTSMAN          | DATE | DESIGN ENGINEER | DATE | TITLE                 |
|           |      |                        |      |                 |      | CARD ASSY, INTERRUPTS |
| APPD. MFG | DATE | APPD. PROJECT ENGINEER | DATE | RELEASED        | DATE | PROJECT NO            |
|           |      |                        |      |                 |      |                       |

|                |     |
|----------------|-----|
| PART NUMBER    | REV |
| LM 214087-0001 | J*  |

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**TEXAS INSTRUMENTS**  
INCORPORATED

DATE 06/24/76

**LIST OF MATERIAL**

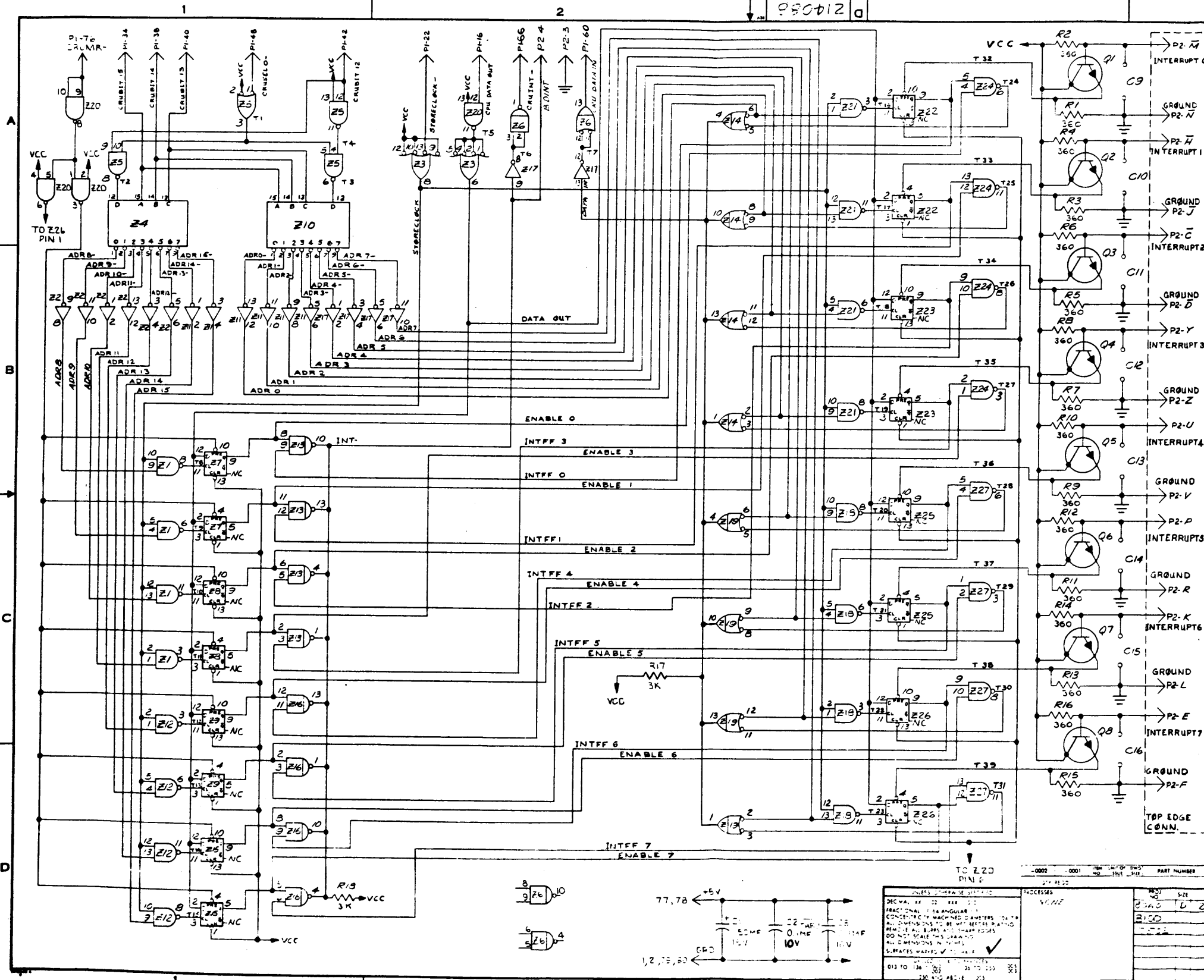
PAGE 1 of

PART NUMBER  
**LM 214087-0960** REV J

| PRINT ITEM NUMBER | QUANTITY PER ASSEMBLY | UNIT OF ISSUE | DWG. SIZE             | PART NUMBER | DESCRIPTION               | VENDOR PART NUMBER    |            |
|-------------------|-----------------------|---------------|-----------------------|-------------|---------------------------|-----------------------|------------|
| 0002              | 0001.000              | EA            |                       | 359959-5711 | COPY OF DWG(S) BELOW      | -RIGUS P/N, NO DWG    |            |
| 002A              |                       |               |                       |             | 214088 LCGIC, 214087 ASSY |                       |            |
| 002B              |                       |               |                       |             | 555809-5902 AL, IPTCKA    |                       |            |
| 002C              |                       |               |                       |             | 555809-5901 PD, IPTCKA    |                       |            |
| 002D              |                       |               |                       |             | 943762-5501, SPEC         |                       |            |
| DRAFTSMAN         |                       | DATE          | CKD DRAFTSMAN         | DATE        | DESIGN ENGINEER           | DATE                  | TITLE      |
| VPD MFG           |                       | DATE          | APPD PROJECT ENGINEER | DATE        | RELEASED                  | DATE                  | PROJECT NO |
|                   |                       |               |                       |             |                           | PART NUMBER           | REV        |
|                   |                       |               |                       |             |                           | <b>LM 214087-0960</b> | J          |

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2-209/2-210

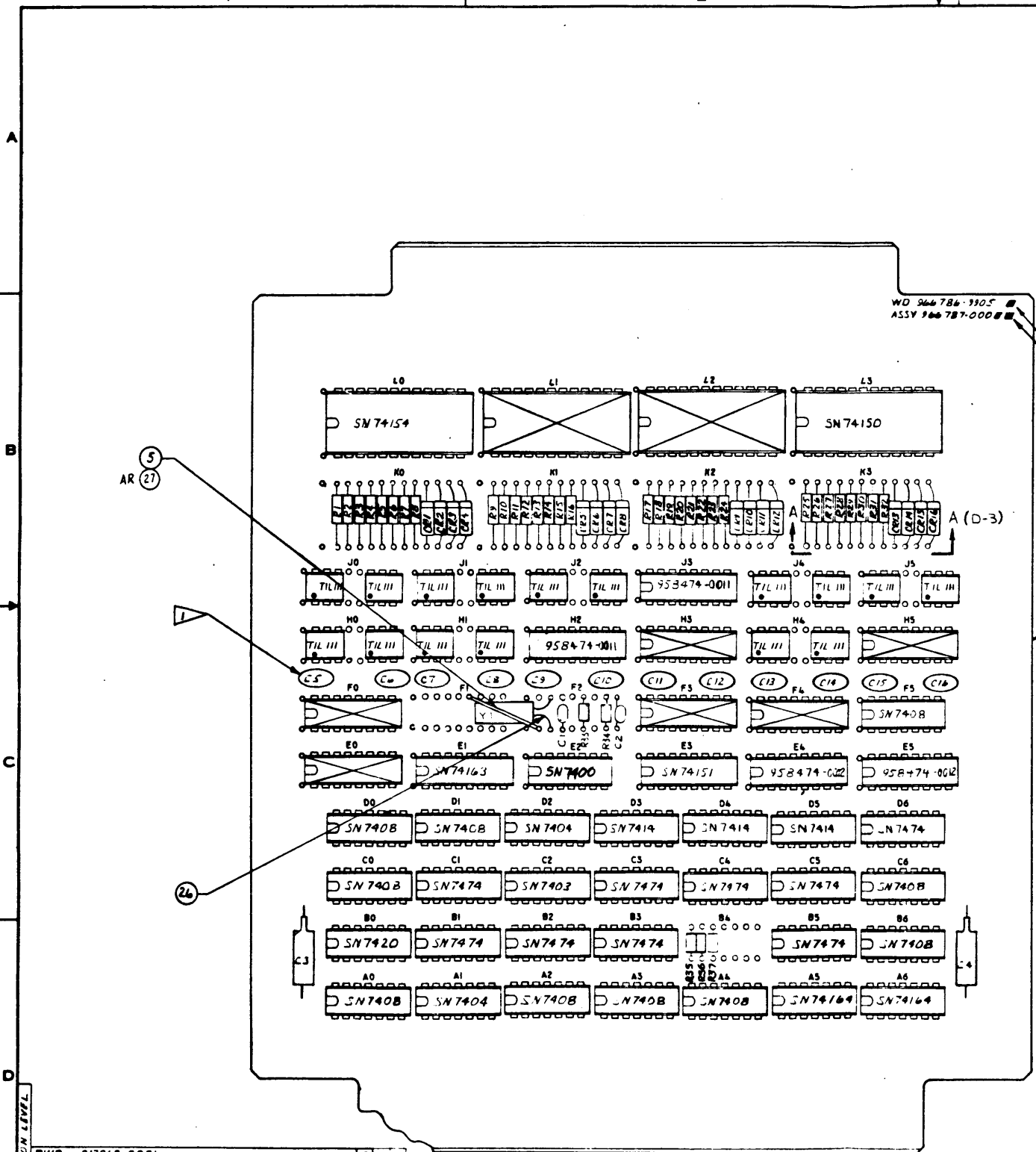


| REV | DESCRIPTION                                   | DATE   | APP'D |
|-----|---|--------|-------|
| A   |   |        |       |
| B   | REVISED TO ADD P2-4 TO P2-7 INTERRUPT LINES   | 7-9-70 |       |
| C   | REVISED TO ADD P2-8 TO P2-15 INTERRUPT LINES  |        |       |
| D   | REVISED TO ADD P2-16 TO P2-23 INTERRUPT LINES |        |       |

- NOTES:
- UNLESS OTHERWISE SPECIFIED RESISTANCE VALUES ARE IN OHMS
  - RESISTORS ARE  $\pm 5\%$
  - CAPACITANCE VALUES ARE IN MICROFARADS
  - SET MASK ENABLES INTERRUPT
  - SET INT. FLIP/FLP IS TRUE DATA
  - NETWORKS ARE AS FOLLOWS:
- A) Z1, Z5, Z12, Z18, Z20, Z21, Z24, Z27 ARE SH7400N  
 B) Z6, Z13, Z14, Z16, Z19 ARE SH7401N  
 C) Z2, Z11, Z17 ARE SH7400N  
 D) Z3 IS SH7420  
 E) Z4 & Z10 ARE SH7442N  
 F) Z7, Z8, Z9, Z22, Z23, Z25, Z26 ARE SH7401N  
 G) Z28 THROUGH Z39 MAY BE INSTALLED BY CUSTOMER  
 H) TRANSISTORS Q1 THRU Q8 ARE 2N2222

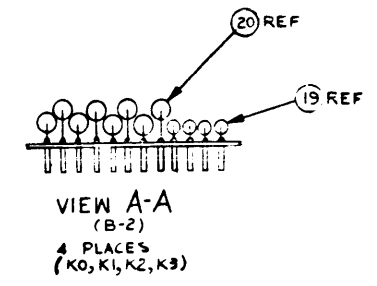
| QTY | DESCRIPTION | PART NUMBER | MANUFACTURER |
|-----|-------------|-------------|--------------|
| 1   | 7410        | 7410        | TI           |
| 1   | 7414        | 7414        | TI           |
| 1   | 7424        | 7424        | TI           |
| 1   | 7428        | 7428        | TI           |
| 1   | 7400        | 7400        | TI           |
| 1   | 7401        | 7401        | TI           |
| 1   | 7402        | 7402        | TI           |
| 1   | 7403        | 7403        | TI           |
| 1   | 7404        | 7404        | TI           |
| 1   | 7405        | 7405        | TI           |
| 1   | 7406        | 7406        | TI           |
| 1   | 7407        | 7407        | TI           |
| 1   | 7408        | 7408        | TI           |
| 1   | 7409        | 7409        | TI           |
| 1   | 7411        | 7411        | TI           |
| 1   | 7412        | 7412        | TI           |
| 1   | 7413        | 7413        | TI           |
| 1   | 7415        | 7415        | TI           |
| 1   | 7416        | 7416        | TI           |
| 1   | 7417        | 7417        | TI           |
| 1   | 7418        | 7418        | TI           |
| 1   | 7419        | 7419        | TI           |
| 1   | 7420        | 7420        | TI           |
| 1   | 7421        | 7421        | TI           |
| 1   | 7422        | 7422        | TI           |
| 1   | 7423        | 7423        | TI           |
| 1   | 7425        | 7425        | TI           |
| 1   | 7426        | 7426        | TI           |
| 1   | 7427        | 7427        | TI           |
| 1   | 7429        | 7429        | TI           |
| 1   | 7430        | 7430        | TI           |
| 1   | 7431        | 7431        | TI           |
| 1   | 7432        | 7432        | TI           |
| 1   | 7433        | 7433        | TI           |
| 1   | 7434        | 7434        | TI           |
| 1   | 7435        | 7435        | TI           |
| 1   | 7436        | 7436        | TI           |
| 1   | 7437        | 7437        | TI           |
| 1   | 7438        | 7438        | TI           |
| 1   | 7439        | 7439        | TI           |
| 1   | 7440        | 7440        | TI           |
| 1   | 7441        | 7441        | TI           |
| 1   | 7442        | 7442        | TI           |
| 1   | 7443        | 7443        | TI           |
| 1   | 7444        | 7444        | TI           |
| 1   | 7445        | 7445        | TI           |
| 1   | 7446        | 7446        | TI           |
| 1   | 7447        | 7447        | TI           |
| 1   | 7448        | 7448        | TI           |
| 1   | 7449        | 7449        | TI           |
| 1   | 7450        | 7450        | TI           |
| 1   | 7451        | 7451        | TI           |
| 1   | 7452        | 7452        | TI           |
| 1   | 7453        | 7453        | TI           |
| 1   | 7454        | 7454        | TI           |
| 1   | 7455        | 7455        | TI           |
| 1   | 7456        | 7456        | TI           |
| 1   | 7457        | 7457        | TI           |
| 1   | 7458        | 7458        | TI           |
| 1   | 7459        | 7459        | TI           |
| 1   | 7460        | 7460        | TI           |
| 1   | 7461        | 7461        | TI           |
| 1   | 7462        | 7462        | TI           |
| 1   | 7463        | 7463        | TI           |
| 1   | 7464        | 7464        | TI           |
| 1   | 7465        | 7465        | TI           |
| 1   | 7466        | 7466        | TI           |
| 1   | 7467        | 7467        | TI           |
| 1   | 7468        | 7468        | TI           |
| 1   | 7469        | 7469        | TI           |
| 1   | 7470        | 7470        | TI           |
| 1   | 7471        | 7471        | TI           |
| 1   | 7472        | 7472        | TI           |
| 1   | 7473        | 7473        | TI           |
| 1   | 7474        | 7474        | TI           |
| 1   | 7475        | 7475        | TI           |
| 1   | 7476        | 7476        | TI           |
| 1   | 7477        | 7477        | TI           |
| 1   | 7478        | 7478        | TI           |
| 1   | 7479        | 7479        | TI           |
| 1   | 7480        | 7480        | TI           |
| 1   | 7481        | 7481        | TI           |
| 1   | 7482        | 7482        | TI           |
| 1   | 7483        | 7483        | TI           |
| 1   | 7484        | 7484        | TI           |
| 1   | 7485        | 7485        | TI           |
| 1   | 7486        | 7486        | TI           |
| 1   | 7487        | 7487        | TI           |
| 1   | 7488        | 7488        | TI           |
| 1   | 7489        | 7489        | TI           |
| 1   | 7490        | 7490        | TI           |
| 1   | 7491        | 7491        | TI           |
| 1   | 7492        | 7492        | TI           |
| 1   | 7493        | 7493        | TI           |
| 1   | 7494        | 7494        | TI           |
| 1   | 7495        | 7495        | TI           |
| 1   | 7496        | 7496        | TI           |
| 1   | 7497        | 7497        | TI           |
| 1   | 7498        | 7498        | TI           |
| 1   | 7499        | 7499        | TI           |
| 1   | 7500        | 7500        | TI           |

966787



NOTES: UNLESS OTHERWISE SPECIFIED  
 1. PARTS LISTED TO BE INSTALLED PRIOR TO WIRE WRAP  
 2. ALL OTHER COMPONENTS TO BE INSTALLED AFTER WIRE WRAP  
 3. CRYSTAL LEADS MUST BE LONG ENOUGH TO ALLOW TO LIE FLAT ON BOARD

MARK ASSY PART NUMBER WIRE DECK NUMBER AND APPROPRIATE REV LETTERS PER REV LEVEL BLOCK APPROX WHERE SHOWN PER PROCESS 1



| REV | DESCRIPTION   | DATE     | APPD    |
|-----|---|----------|---------|
| A   | 366277 (C) Deleted LM 96078-0360<br>ADDED 966787-0360 | 11/11/73 | Kashner |
| B   | 366277 (C) Deleted LM 96078-0360<br>ADDED 966787-0360 | 11/11/73 | Kashner |
| C   | 366277 (C) Deleted LM 96078-0360<br>ADDED 966787-0360 | 11/11/73 | Kashner |
| D   | 366277 (C) Deleted LM 96078-0360<br>ADDED 966787-0360 | 11/11/73 | Kashner |
| E   | 366277 (C) Deleted LM 96078-0360<br>ADDED 966787-0360 | 11/11/73 | Kashner |
| F   | 366277 (C) Deleted LM 96078-0360<br>ADDED 966787-0360 | 11/11/73 | Kashner |
| G   | 366277 (C) Deleted LM 96078-0360<br>ADDED 966787-0360 | 11/11/73 | Kashner |
| H   | 366277 (C) Deleted LM 96078-0360<br>ADDED 966787-0360 | 11/11/73 | Kashner |
| I   | 366277 (C) Deleted LM 96078-0360<br>ADDED 966787-0360 | 11/11/73 | Kashner |
| J   | 366277 (C) Deleted LM 96078-0360<br>ADDED 966787-0360 | 11/11/73 | Kashner |

| DESCRIPTION                         | PART NO     |
|-------------------------------------|-------------|
| 16 INPUT OCI INTERRUPT MODULE - DOC | 966787-0360 |
| 16 INPUT OCI INTERRUPT MODULE-24VDC | 966787-0003 |
| 16 INPUT OCI INTERRUPT MODULE-12VDC | 966787-0002 |
| 16 INPUT OCI INTERRUPT MODULE-5VDC  | 966787-0001 |

| REV | DESCRIPTION   | DATE     | APPD    |
|-----|---|----------|---------|
| A   | 366277 (C) Deleted LM 96078-0360<br>ADDED 966787-0360 | 11/11/73 | Kashner |

| PROCESS | DESCRIPTION   | DATE     | APPD    |
|---------|---|----------|---------|
| 1       | 366277 (C) Deleted LM 96078-0360<br>ADDED 966787-0360 | 11/11/73 | Kashner |



**TEXAS INSTRUMENTS**  
INCORPORATED

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**LIST OF MATERIAL**

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PART NUMBER  
**LM 966787-0001** REV J

| PRINT ITEM NUMBER | QUANTITY PER ASSEMBLY | UNIT OF ISSUE          | DWG SIZE | PART NUMBER     | DESCRIPTION                            | VENDOR PART NUMBER                         |
|-------------------|-----------------------|------------------------|----------|-----------------|--|--|
| C001              | 0001.000              | EA                     |          | 217863-001      | LOGIC BOARD-CBL ENDED WIRE WRAP        |  |
| C002              | REF                   | EA                     |          | 966766-9905     | WIRE DECK, 16 INPUT OCT INTERRUPT      |  |
| C003              | 0002.000              | EA                     |          | 972924-C010     | CAP FIX TANT SOLID 22 MFD 10 & 15 VOLT | QPL-M39003/1-2271                          |
| C003A             |                       |                        |          |                 | C3 C4                                  |  |
| C004              | 0012.000              | EA                     |          | 230590-9000     | CAP .05 MF 12 V 20. & CER TRANSCAP     | ERI-5635-000-Y5F0503M                      |
| C004A             |                       |                        |          |                 | C5 THRU C16                            |  |
| C005              | 0000.500              | FT                     |          | 538347-1999     | WIRE PCK LP B-26 AWG 19 STR WHITE      | JUD- HH0109                                |
| C006              | 0010.000              | EA                     |          | 222222-7408     | NETWRK-SN7408N                         |  |
| C006A             |                       |                        |          |                 | LOCATION-A0 A2 A3 A4 B6 C0             |  |
| C006B             |                       |                        |          |                 | C6 C7 C1 F5                            |  |
| C007              | 0002.000              | EA                     |          | 222222-7164     | NETWRK SN74164N                        | TI--SN74164N                               |
| C007A             |                       |                        |          |                 | LOCATION-A5 A6                         |  |
| C008              | 0009.000              | EA                     |          | 222222-7474     | NETWRK SN7474N                         | -SN7474N                                   |
| C008A             |                       |                        |          |                 | LOCATION-E1 B2 B3 B5 C1 C3 C4          |  |
| C008B             |                       |                        |          |                 | C5 C6                                  |  |
| C009              | 0001.000              | EA                     |          | 222222-7420     | NETWRK SN7420N                         | -SN7420N                                   |
| C009A             |                       |                        |          |                 | LOCATION-EC                            |  |
| C010              | 0001.000              | EA                     |          | 222222-7403     | NETWRK SN7403N                         |  |
| C010A             |                       |                        |          |                 | LOCATION-C2                            |  |
| C011              | 0003.000              | EA                     |          | 222222-7414     | NETWRK SN7414N                         |  |
| DRAFTSMAN         | DATE                  | CKD. DRAFTSMAN         | DATE     | DESIGN ENGINEER | DATE                                   | TITLE                                      |
|                   |                       | <i>R. N. Stinson</i>   | 6/30/76  |                 |  | 16 INPUT OCT INTERRUPT MODULE-5VDC         |
| APPD. MFG         | DATE                  | APPD. PROJECT ENGINEER | DATE     | RELEASED        | DATE                                   | PROJECT NO                                 |
|                   |                       |                        |          |                 |  | 5100                                       |
|                   |                       |                        |          |                 |  | PART NUMBER<br><b>LM 966787-0001</b> REV J |

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**LIST OF MATERIAL**

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PART NUMBER REV  
**LM 966787-0001** J 4

| PRINT ITEM NUMBER | QUANTITY PER ASSEMBLY | UNIT OF ISSUE | DWG. SIZE             | PART NUMBER | DESCRIPTION                              | VENDOR PART NUMBER    |                                    |
|-------------------|-----------------------|---------------|-----------------------|-------------|--|-----------------------|------------------------------------|
| C011A             |                       |               |                       |             | LOCATICK-C3 D4 D5                        |                       |                                    |
| C012              | 00002.000             | EA            |                       | 222222-7404 | NETWCRK SN7404N                          |                       |                                    |
| 0012A             |                       |               |                       |             | LOCATICK-A1 D2                           |                       |                                    |
| 0013              | 00001.000             | EA            |                       | 222222-7163 | NETWCRK SN74163N                         |                       |                                    |
| 0013A             |                       |               |                       |             | LOCATICK-E1                              |                       |                                    |
| C014              | 00001.000             | EA            |                       | 222222-7151 | NETWCRK SN74151N                         |                       |                                    |
| 0014A             |                       |               |                       |             | LOCATICK-E3                              |                       |                                    |
| 0015              | 00001.000             | EA            |                       | 222222-7154 | NETWCRK SN74154N                         | -SN74154N             |                                    |
| 0015A             |                       |               |                       |             | LOCATICK-L0                              |                       |                                    |
| 0016              | 00001.000             | EA            |                       | 222222-7150 | NETWCRK SN74150N                         |                       |                                    |
| C016A             |                       |               |                       |             | LOCATICK-L3                              |                       |                                    |
| 0017              | 00002.000             | EA            |                       | 958474-0011 | TERMINATION BOARD-C16-11                 |                       |                                    |
| C017A             |                       |               |                       |             | LOCATICK-F2 J3                           |                       |                                    |
| C018              | 00002.000             | EA            |                       | 958474-0012 | TERMINATION BOARD-C16-12                 |                       |                                    |
| 0018A             |                       |               |                       |             | LOCATICK-E4 E5                           |                       |                                    |
| 0019              | 00016.000             | EA            |                       | 972932-0001 | DIODE, 1N914B SWITCHING 75V PIV 75MA 4NS | TI - IN914B           |                                    |
| C019A             |                       |               |                       |             | CR1 THRU CR16                            |                       |                                    |
| 0020              | 00032.000             | EA            |                       | 972947-0039 | RES FIX 82 OHM 5% .5 W CARBON FILM       | ROH- R-50             |                                    |
| C020A             |                       |               |                       |             | R1 THRU R32                              |                       |                                    |
| 0021              | 00003.000             | EA            |                       | 972946-0081 | RES FIX 4.7K OHM 5% .25 W CARBON FILM    | ROH- R-25             |                                    |
| DRAFTSMAN         |                       | DATE          | CKD DRAFTSMAN         | DATE        | DESIGN ENGINEER                          | DATE                  | TITLE                              |
|                   |                       |               |                       |             |  |                       | 16 INPUT OCT INTERRUPT MODULE-5VDC |
| APPD MFG          |                       | DATE          | APPD PROJECT ENGINEER | DATE        | RELEASED                                 | DATE                  | PROJECT NO                         |
|                   |                       |               |                       |             |  |                       |                                    |
|                   |                       |               |                       |             |  | PART NUMBER           | REV                                |
|                   |                       |               |                       |             |  | <b>LM 966787-0001</b> | J 4                                |

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**LIST OF MATERIAL**

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|                       |     |
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| PART NUMBER           | REV |
| <b>LM</b> 966787-0001 | J 8 |

| PRINT ITEM NUMBER | QUANTITY PER ASSEMBLY | UNIT OF ISSUE | DWG SIZE | PART NUMBER | DESCRIPTION                             | VENDOR PART NUMBER |
|-------------------|-----------------------|---------------|----------|-------------|---|--------------------|
| C021A             |                       |               |          |             | R35 R36 R37                             |                    |
| 0022              | 00001.000             | EA            |          | 226591-C001 | CRYSTAL UNIT, QUARTZ 12MHZ +OR- .05%    |                    |
| C022A             |                       |               |          |             | Y1                                      |                    |
| 0023              | 00001.000             | EA            |          | 532736-C002 | CAP FIX CERAMIC .02 MF 20/80% 25 VOLT   | CRL- 2DDU60E203ZAC |
| C023A             |                       |               |          |             | C1                                      |                    |
| 0024              | 00001.000             | EA            |          | 972927-C006 | CAP FIX MICA 500V 10.0 PF +/- 0.5 PF    | QPL-CM05C100D0D    |
| C024A             |                       |               |          |             | C2                                      |                    |
| 0025              | 00002.000             | EA            |          | 972946-C057 | RES FIX 470 OHM 5 % .25 W CARBON FILM   | ROH- R-25          |
| C025A             |                       |               |          |             | R33 R34                                 |                    |
| 0026              | 00000.500             | FT            |          | 410499-0007 | INSULATION SLEEVING, TEFLON #20 NATURAL | QPL-81349          |
| 0027              | 00000.500             | FT            |          | 236280-CCC7 | TUBING 3/4 HEAT SHRINABLE               | ALP-FIT-105-304    |
| 0028              | 00016.000             | EA            |          | 232149-9955 | ISOLATOR XL111 OPTICALLY COUPLED        | TI--L111           |
| C028A             |                       |               |          |             | LOCATION F0 F1 H4 J0 J1 J2 J4           |                    |
| C028B             |                       |               |          |             | J5                                      |                    |
| 0029              | 00001.000             | EA            |          | 222222-7400 | NETWORK SN7400N                         | -SN7400N           |
| 0029A             |                       |               |          |             | LOCATION-E2                             |                    |

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|           |      |                      |      |                 |      |   |  |     |
|-----------|------|----------------------|------|-----------------|------|---|--|-----|
| DRAFTSMAN | DATE | CKD DRAFTSMAN        | DATE | DESIGN ENGINEER | DATE | TITLE                                     |  |     |
| APPD MFG  | DATE | APP PROJECT ENGINEER | DATE | RELEASED        | DATE | PROJECT NO.                               |  |     |
|           |      |                      |      |                 |      | <b>16 INPUT OCT INTERRUPT MODULE-5VDC</b> |  |     |
|           |      |                      |      |                 |      | <b>LM</b> 966787-0001                     |  | J 8 |



**TEXAS INSTRUMENTS**  
INCORPORATED

DATE 06/29/76

**LIST OF MATERIAL**

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|           |                            |            |
|-----------|----------------------------|------------|
| <b>LM</b> | PART NUMBER<br>966787-0002 | REV<br>J M |
|-----------|----------------------------|------------|

| PRINT ITEM NUMBER | QUANTITY PER ASSEMBLY | UNIT OF ISSUE | DWG. SIZE | PART NUMBER | DESCRIPTION                            | VENDOR PART NUMBER   |
|-------------------|-----------------------|---------------|-----------|-------------|--|----------------------|
| C001              | 00001.000             | EA            |           | 217863-C001 | LCGIC BCAPC-CBL ENDED WIRE WRAP        |                      |
| 0002              | REF                   | EA            |           | 966786-5905 | WIRE DECK, 16 INPUT OCT INTERRUPT      |                      |
| 0003              | 00002.000             | EA            |           | 972924-0010 | CAP FIX TANT SOLID 22 MFD 10 % 15 VOLT | QPL-M39003/1-2271    |
| C003A             |                       |               |           |             | C3 C4                                  |                      |
| 0004              | 00012.000             | EA            |           | 230590-9000 | CAP .05 MF 12 V 20. % CER TRANSCAP     | ERI-5635-000-Y5F0503 |
| C004A             |                       |               |           |             | C5 THRU C16                            |                      |
| 0005              | 00000.500             | FT            |           | 538347-1999 | WIRE SOCK LP B-26 AWG 19 STR WHITE     | JUD- HM0109          |
| C006              | 00010.000             | EA            |           | 222222-7408 | NETWCRK-SN7408N                        |                      |
| C006A             |                       |               |           |             | LOCATICN-A0 A2 A3 A4 B6 C0             |                      |
| C006B             |                       |               |           |             | C6 C0 C1 F5                            |                      |
| 0007              | 00002.000             | EA            |           | 222222-7164 | NETWCRK SN74164N                       | TI--SN74164N         |
| C007A             |                       |               |           |             | LOCATICN-A5 A6                         |                      |
| 0008              | 00009.000             | EA            |           | 222222-7474 | NETWCRK SN7474N                        | -SN7474N             |
| C008A             |                       |               |           |             | LOCATICN-E1 B2 B3 B5 C1 C3 C4          |                      |
| C008B             |                       |               |           |             | C5 C6                                  |                      |
| 0009              | 00001.000             | EA            |           | 222222-7420 | NETWCRK SN7420N                        | -SN7420N             |
| C009A             |                       |               |           |             | LOCATICN-E0                            |                      |
| C010              | 00001.000             | EA            |           | 222222-7403 | NETWCRK SN7403N                        |                      |
| 0010A             |                       |               |           |             | LOCATICN-C2                            |                      |
| 0011              | 00003.000             | EA            |           | 222222-7414 | NETWCRK SN7414N                        |                      |

|           |      |                       |      |                 |      |             |                                     |                       |     |
|-----------|------|-----------------------|------|-----------------|------|-------------|-------------------------------------|-----------------------|-----|
| DRAFTSMAN | DATE | CKD DRAFTSMAN         | DATE | DESIGN ENGINEER | DATE | TITLE       | 16 INPUT OCT INTERRUPT MODULE-12VDC |                       |     |
| APPD MFG  | DATE | APPD PROJECT ENGINEER | DATE | RELEASED        | DATE | PROJECT NO. |                                     | PART NUMBER           | REV |
|           |      |                       |      |                 |      |             |                                     | <b>LM</b> 966787-0002 | J M |

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PART NUMBER **LM 966787-0002** REV **J #**

| PRINT ITEM NUMBER | QUANTITY PER ASSEMBLY | UNIT OF ISSUE | DWG SIZE              | PART NUMBER | DESCRIPTION                              | VENDOR PART NUMBER |  |
|-------------------|-----------------------|---------------|-----------------------|-------------|--|--------------------|--|
| CC11A             |                       |               |                       |             | LOCATICA-C3 C4 D5                        |                    |  |
| C012              | 00002.000             | EA            |                       | 222222-7404 | NETWRK SN7404N                           |                    |  |
| C012A             |                       |               |                       |             | LOCATICA-A1 C2                           |                    |  |
| 0013              | 00001.000             | EA            |                       | 222222-7163 | NETWRK SN74163N                          |                    |  |
| C013A             |                       |               |                       |             | LOCATICA-E1                              |                    |  |
| 0014              | 00001.000             | EA            |                       | 222222-7151 | NETWRK SN74151N                          |                    |  |
| C014A             |                       |               |                       |             | LOCATICA-E3                              |                    |  |
| 0015              | 00001.000             | EA            |                       | 222222-7154 | NETWRK SN74154N                          | -SN74154N          |  |
| C015A             |                       |               |                       |             | LOCATICA-L0                              |                    |  |
| C016              | 00001.000             | EA            |                       | 222222-7150 | NETWRK SN74150N                          |                    |  |
| 0016A             |                       |               |                       |             | LOCATICA-L3                              |                    |  |
| 0017              | 00002.000             | EA            |                       | 958474-CC11 | TERMINATION BOARD-C16-11                 |                    |  |
| C017A             |                       |               |                       |             | LOCATICA-F2 J3                           |                    |  |
| 0018              | 00002.000             | EA            |                       | 958474-C012 | TERMINATION BOARD-C16-12                 |                    |  |
| 0018A             |                       |               |                       |             | LOCATICA-E4 E5                           |                    |  |
| 0019              | 00016.000             | EA            |                       | 972932-0001 | DIODE, IN914B SWITCHING 75V PIV 75MA 4NS | TI - IN914B        |  |
| 0019A             |                       |               |                       |             | CR1 THRU CR16                            |                    |  |
| 0020              | 00032.000             | EA            |                       | 972947-C051 | RES FIX 270 OHM 5% .5 W CARBON FILM      | ROH- R-50          |  |
| 0020A             |                       |               |                       |             | R1 THRU R32                              |                    |  |
| 0021              | 00003.000             | EA            |                       | 972946-CC01 | RES FIX 4.7K OHM 5% .25 W CARBON FILM    | ROH- R-25          |  |
| DRAFTSMAN         |                       | DATE          | CKD DRAFTSMAN         | DATE        | DESIGN ENGINEER                          | DATE               | TITLE  |
| APPD MFG          |                       | DATE          | APPD PROJECT ENGINEER | DATE        | RELEASED                                 | DATE               | PROJECT NO                                       |
|                   |                       |               |                       |             |  |                    | <b>16 INPUT OCT INTERRUPT MODULE-12VDC</b>       |
|                   |                       |               |                       |             |  |                    | PART NUMBER <b>LM 966787-0002</b> REV <b>J #</b> |

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**TEXAS INSTRUMENTS**  
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| PART NUMBER           | REV |
| <b>LM 966787-0002</b> | J 8 |

| PRINT ITEM NUMBER | QUANTITY PER ASSEMBLY | UNIT OF ISSUE | DWG. SIZE | PART NUMBER | DESCRIPTION                             | VENDOR PART NUMBER |
|-------------------|-----------------------|---------------|-----------|-------------|---|--------------------|
| 0021A             |                       |               |           |             | R25 R26 R27                             |                    |
| 0022              | 00001.000             | EA            |           | 226591-C001 | CRYSTAL UNIT, QUARTZ 12MHZ +/- .05%     |                    |
| 0022A             |                       |               |           |             | Y1                                      |                    |
| 0023              | 00001.000             | EA            |           | 532736-C002 | CAP FIX CERAMIC .02 MF 20/80% 25 VOLT   | CRL- 2DDU60E203ZAC |
| 0023A             |                       |               |           |             | C1                                      |                    |
| 0024              | 00001.000             | EA            |           | 972927-C006 | CAP FIX MICA 500V 10.0 PF +/- 0.5 PF    | QPL-CM05C10000D    |
| 0024A             |                       |               |           |             | C2                                      |                    |
| 0025              | 00002.000             | EA            |           | 972946-0057 | RES FIX 470 OHM 5 % .25 W CARBON FILM   | ROH- R-25          |
| 0025A             |                       |               |           |             | R33 R34                                 |                    |
| 0026              | 00000.500             | FT            |           | 410499-C007 | INSULATION SLEEVING, TEFLON #20 NATURAL | QPL-81349          |
| 0027              | 00000.500             | FT            |           | 236280-C007 | TUBING 3/4 HEAT SHRINABLE               | ALP-FIT-105-304    |
| 0028              | 00016.000             | EA            |           | 232149-9955 | ISOLATOR XL111 OPTICALLY COUPLED        | TI--L111           |
| 0028A             |                       |               |           |             | LOCATION F0 H1 H4 J0 J1 J2 J4           |                    |
| 0028B             |                       |               |           |             | J5                                      |                    |
| 0029              | 00001.000             | EA            |           | 222222-7400 | NETWORK SN7400N                         | -SN7400N           |
| 0029A             |                       |               |           |             | LOCATION E2                             |                    |

|           |      |                       |      |                 |      |  |
|-----------|------|-----------------------|------|-----------------|------|--|
| DRAFTSMAN | DATE | CKD DRAFTSMAN         | DATE | DESIGN ENGINEER | DATE | TITLE                                      |
|           |      |                       |      |                 |      | <b>16 INPUT OCT INTERRUPT MODULE-12VDC</b> |
| APPD MFG  | DATE | APPD PROJECT ENGINEER | DATE | RELEASED        | DATE | PROJECT NO                                 |
|           |      |                       |      |                 |      |  |

|                       |     |
|-----------------------|-----|
| PART NUMBER           | REV |
| <b>LM 966787-0002</b> | J 8 |

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| PART NUMBER           | REV |
| <b>LM 966787-0003</b> | J 4 |

| PRINT ITEM NUMBER | QUANTITY PER ASSEMBLY | UNIT OF ISSUE | DWG SIZE              | PART NUMBER | DESCRIPTION                            | VENDOR PART NUMBER    |  |
|-------------------|-----------------------|---------------|-----------------------|-------------|--|-----------------------|--|
| C0C1              | 000C1.000             | EA            |                       | 217863-C0C1 | LCGIC BCARC-[BL ENDED WIRE WRAP        |                       |  |
| 0002              | REF                   | EA            |                       | 966786-9905 | WIRE DECK, 16 INPUT OCT INTERRUPT      |                       |  |
| 0003              | 00002.000             | EA            |                       | 972924-0010 | CAP FIX TANT SOLID 22 MFD 10 X 15 VOLT | QPL-M39003/1-2271     |  |
| 0003A             |                       |               |                       |             | C3 C4                                  |                       |  |
| C0C4              | 00012.000             | EA            |                       | 230590-9000 | CAP .05 MF 12 V 20. % CER TRANSCAP     | ERI-5635-000-Y5F0503  |  |
| 0004A             |                       |               |                       |             | C5 THRU C16                            |                       |  |
| C0C5              | 00000.500             | FT            |                       | 538347-1595 | WIRE SOCK LP B-26 AWG 19 STR WHITE     | JUD- HH0109           |  |
| C0C6              | 00010.000             | EA            |                       | 222222-7408 | NETWCRK-SN7408N                        |                       |  |
| C0C6A             |                       |               |                       |             | LOCATIONN-A0 A2 A3 A4 B6 C0            |                       |  |
| 00C6B             |                       |               |                       |             | C6 C0 C1 F5                            |                       |  |
| C0C7              | 00002.000             | EA            |                       | 222222-7164 | NETWORK SN74164N                       | TI--SN74164N          |  |
| C0C7A             |                       |               |                       |             | LOCATIONN-A5 A6                        |                       |  |
| C0C8              | 00009.000             | EA            |                       | 222222-7474 | NETWCRK SN7474N                        | -SN7474N              |  |
| C0C8A             |                       |               |                       |             | LOCATIONN-E1 B2 B3 B5 C1 C3 C4         |                       |  |
| C0C8B             |                       |               |                       |             | C5 C6                                  |                       |  |
| C0C9              | 00001.000             | EA            |                       | 222222-7420 | NETWCRK SN7420N                        | -SN7420N              |  |
| C0C9A             |                       |               |                       |             | LOCATIONN-B0                           |                       |  |
| C010              | 00001.000             | EA            |                       | 222222-7403 | NETWCRK SN7403N                        |                       |  |
| 0010A             |                       |               |                       |             | LOCATIONN-C2                           |                       |  |
| C011              | 00003.000             | EA            |                       | 222222-7414 | NETWCRK SN7414N                        |                       |  |
| DRAFTSMAN         |                       | DATE          | CKD DRAFTSMAN         | DATE        | DESIGN ENGINEER                        | DATE                  | TITLE                                      |
|                   |                       |               |                       |             |  |                       | <b>16 INPUT OCT INTERRUPT MODULE-24VDC</b> |
| APPD -MFG         |                       | DATE          | APPD PROJECT ENGINEER | DATE        | RELEASED                               | DATE                  | PROJECT NO                                 |
|                   |                       |               |                       |             |  |                       |  |
|                   |                       |               |                       |             |  | PART NUMBER           | REV  |
|                   |                       |               |                       |             |  | <b>LM 966787-0003</b> | J 4  |

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PART NUMBER REV  
**LM 966787-0003** J

| PRINT ITEM NUMBER | QUANTITY PER ASSEMBLY | UNIT OF ISSUE | DWG. SIZE              | PART NUMBER | DESCRIPTION                             | VENDOR PART NUMBER    |                                     |
|-------------------|-----------------------|---------------|------------------------|-------------|---|-----------------------|-------------------------------------|
| 0011A             |                       |               |                        |             | LOCATICN-C3 C4 D5                       |                       |                                     |
| 0012              | 00002.000             | EA            |                        | 222222-74C4 | NETWCRK SN74C4N                         |                       |                                     |
| 0012A             |                       |               |                        |             | LOCATICN-A1 C2                          |                       |                                     |
| 0013              | 00001.000             | EA            |                        | 222222-7163 | NETWCRK SN74163N                        |                       |                                     |
| 0013A             |                       |               |                        |             | LOCATICN-E1                             |                       |                                     |
| 0014              | 00001.000             | EA            |                        | 222222-7151 | NETWCRK SN74151N                        |                       |                                     |
| 0014A             |                       |               |                        |             | LOCATICN-E3                             |                       |                                     |
| 0015              | 00001.000             | EA            |                        | 222222-7154 | NETWCRK SN74154N                        | -SN74154N             |                                     |
| 0015A             |                       |               |                        |             | LOCATICN-L0                             |                       |                                     |
| 0016              | 00001.000             | EA            |                        | 222222-7150 | NETWCRK SN74150N                        |                       |                                     |
| 0016A             |                       |               |                        |             | LOCATICN-L3                             |                       |                                     |
| 0017              | 00002.000             | EA            |                        | 95E474-GC11 | TERMINATION BOARD-C16-11                |                       |                                     |
| 0017A             |                       |               |                        |             | LOCATICN-T2 J3                          |                       |                                     |
| 0018              | 00002.000             | EA            |                        | 95E474-GC12 | TERMINATION BOARD-C16-12                |                       |                                     |
| 0018A             |                       |               |                        |             | LOCATICN-E4 E5                          |                       |                                     |
| 0019              | 00016.000             | EA            |                        | 972922-CC01 | DIODE,1N914B SWITCHING 75V PIV 75MA 4NS | TI - IN914B           |                                     |
| 0019A             |                       |               |                        |             | CR1 THRU CR16                           |                       |                                     |
| 0020              | 00032.000             | EA            |                        | 972947-C058 | RES FIX 510 OHM 5% .5 W CARBON FILM     | ROH- R-50             |                                     |
| 0020A             |                       |               |                        |             | R1 THRU R32                             |                       |                                     |
| 0021              | 00003.000             | EA            |                        | 972946-CC81 | RES FIX 4.7K OHM 5% .25 W CARBON FILM   | ROH- R-25             |                                     |
| DRAFTSMAN         |                       | DATE          | CKD. DRAFTSMAN         | DATE        | DESIGN ENGINEER                         | DATE                  | TITLE                               |
|                   |                       |               |                        |             |   |                       | 16 INPUT OCT INTERRUPT MODULE-24VDC |
| PD. MFG           |                       | DATE          | APPD. PROJECT ENGINEER | DATE        | RELEASED                                | DATE                  | PROJECT NO.                         |
|                   |                       |               |                        |             |   |                       |                                     |
|                   |                       |               |                        |             |   | PART NUMBER           | REV                                 |
|                   |                       |               |                        |             |   | <b>LM 966787-0003</b> | J                                   |

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| PART NUMBER           | REV |
| <b>LM 966787-0003</b> | J 8 |

| PRINT ITEM NUMBER | QUANTITY PER ASSEMBLY | UNIT OF ISSUE | DWG SIZE | PART NUMBER | DESCRIPTION                             | VENDOR PART NUMBER |
|-------------------|-----------------------|---------------|----------|-------------|---|--------------------|
| 0021A             |                       |               |          |             | R35 R36 R37                             |                    |
| C022              | 00001.000             | EA            |          | 226551-C001 | CRYSTAL UNIT, QUARTZ 12MHZ +OR- .05%    |                    |
| C022A             |                       |               |          |             | Y1                                      |                    |
| 0023              | 00001.000             | EA            |          | 532736-C002 | CAP FIX CERAMIC .02 MF 20/80% 25 VOLT   | CRL- 2DDU60E203ZAC |
| C023A             |                       |               |          |             | C1                                      |                    |
| 0024              | 00001.000             | EA            |          | 972927-C006 | CAP FIX MICA 500V 10.0 PF +/- 0.5 PF    | QPL-CM05C100D00    |
| C024A             |                       |               |          |             | C2                                      |                    |
| 0025              | 00002.000             | EA            |          | 972946-C057 | RES FIX 470 OHM 5 % .25 W CARBON FILM   | ROH- R-25          |
| C025A             |                       |               |          |             | R33 R34                                 |                    |
| 0026              | 00000.500             | FT            |          | 410499-C007 | INSULATION SLEEVING, TEFLON #20 NATURAL | QPL-81349          |
| 0027              | 00000.500             | FT            |          | 236280-C007 | TUBING 3/4 HEAT SHRINABLE               | ALP-FIT-105-304    |
| C028              | 00016.000             | EA            |          | 232149-9955 | ISOLATOR XL111 OPTICALLY COUPLED        | TI--L111           |
| C028A             |                       |               |          |             | LOCATIONS F0 H1 H4 J0 J1 J2 J4          |                    |
| C028E             |                       |               |          |             | J5                                      |                    |
| 0029              | 00001.000             | EA            |          | 222222-7400 | NETWORK SN7400N                         | -SN7400N           |
| 0029A             |                       |               |          |             | LOCATIONS-E2                            |                    |

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|           |      |                       |      |                 |      |  |     |     |
|-----------|------|-----------------------|------|-----------------|------|--|-----|-----|
| DRAFTSMAN | DATE | CKD DRAFTSMAN         | DATE | DESIGN ENGINEER | DATE | TITLE                                      |     |     |
| APPD MFG  | DATE | APPD PROJECT ENGINEER | DATE | RELEASED        | DATE | PROJECT NO.                                |     |     |
|           |      |                       |      |                 |      | <b>16 INPUT OCT INTERRUPT MODULE-24VDC</b> |     |     |
|           |      |                       |      |                 |      | <b>LM 966787-0003</b>                      | REV | J 8 |



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| PART NUMBER           | REV        |
| <b>LM 966787-0960</b> | <b>J #</b> |

| PRINT ITEM NUMBER | QUANTITY PER ASSEMBLY | UNIT OF ISSUE | DWG. SIZE | PART NUMBER | DESCRIPTION          | VENDOR PART NUMBER |
|-------------------|-----------------------|---------------|-----------|-------------|----------------------|--------------------|
| 0003              | 00001.000             | EA            |           | 399959-9711 | COPY OF CWC(S) BELOW | -BOGUS P/N, NO DWG |
| C003A             |                       |               |           |             | 966787 ASSY          |                    |
| C003B             |                       |               |           |             | 966789 DIAGRAM       |                    |
| C003C             |                       |               |           |             | 966790 SPEC          |                    |
| C003D             |                       |               |           |             | 955851-99C1 PD       |                    |
| C003E             |                       |               |           |             | 955851-99C2 AL       |                    |

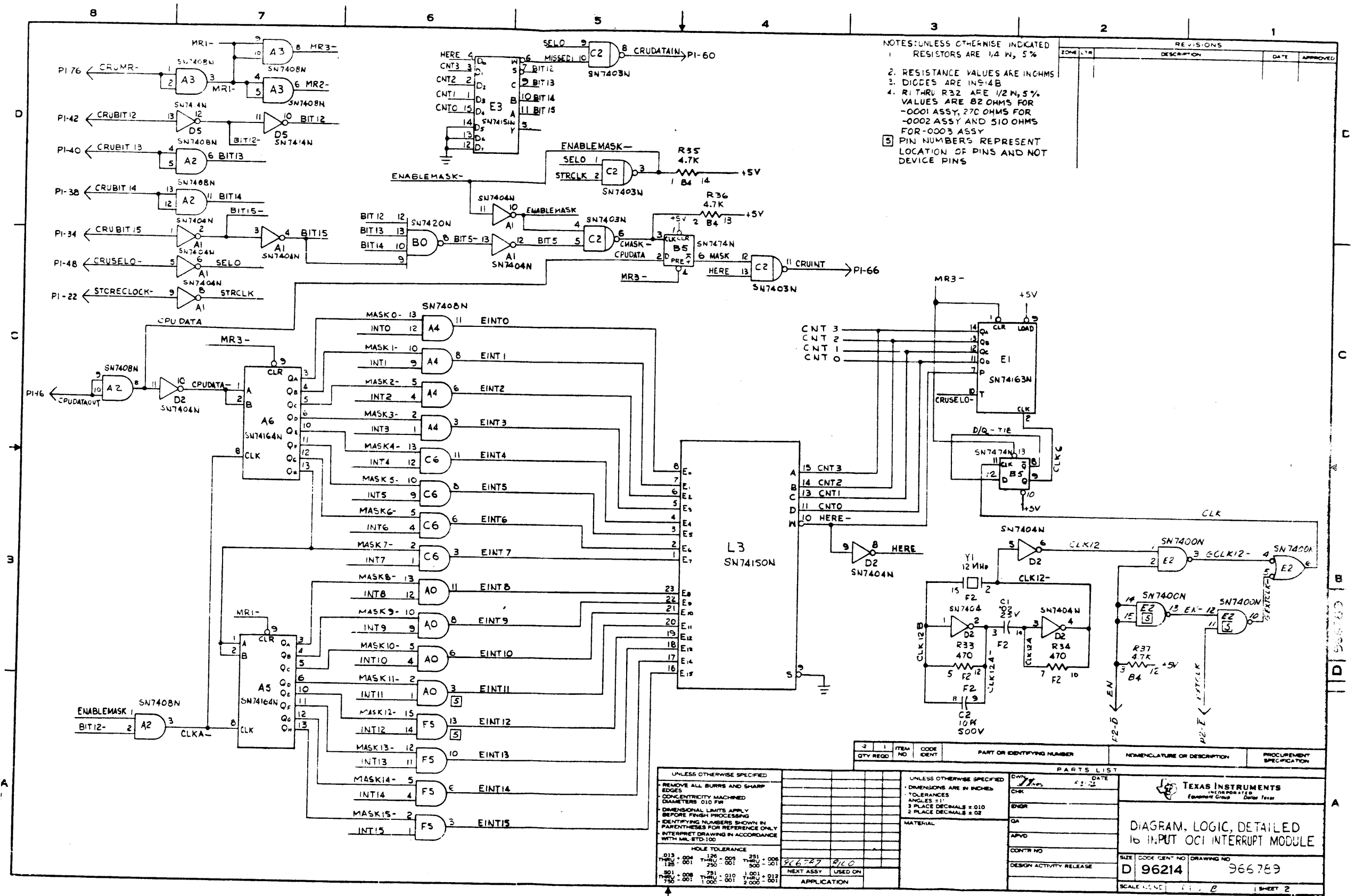
|           |      |                       |      |                 |      |  |
|-----------|------|-----------------------|------|-----------------|------|--|
| DRAFTSMAN | DATE | CKD DRAFTSMAN         | DATE | DESIGN ENGINEER | DATE | TITLE  |
|           |      |                       |      |                 |      | <b>DOCUMENTATION KIT, 16 INPUT CCT INTERRUPT</b> |
| APPLD MFC | DATE | APPD PROJECT ENGINEER | DATE | RELEASED        | DATE | PROJECT NO                                       |
|           |      |                       |      |                 |      |  |

|                       |            |
|-----------------------|------------|
| PART NUMBER           | REV        |
| <b>LM 966787-0960</b> | <b>J #</b> |

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NOTES: UNLESS OTHERWISE INDICATED  
 1. RESISTORS ARE 1/4 W, 5%  
 2. RESISTANCE VALUES ARE IN OHMS  
 3. DIGGES ARE IN INCHES  
 4. R1 THRU R32 ARE 1/2 W, 5%  
 VALUES ARE 82 OHMS FOR  
 -0001 ASSY, 270 OHMS FOR  
 -0002 ASSY AND 510 OHMS  
 FOR -0003 ASSY  
 5. PIN NUMBERS REPRESENT  
 LOCATION OF PINS AND NOT  
 DEVICE PINS

| ZONE | REV | DESCRIPTION | DATE | APPROVED |
|------|-----|-------------|------|----------|
|      |     |             |      |          |

| QTY | REQD | ITEM NO | CODE IDENT | PART OR IDENTIFYING NUMBER | NOMENCLATURE OR DESCRIPTION | PROUREMENT SPECIFICATION |
|-----|------|---------|------------|----------------------------|-----------------------------|--------------------------|
|     |      |         |            |                            |                             |                          |

| PARTS LIST |  | DATE   |
|------------|--|--------|
|            |  | 4-2-72 |

|   |   |                            |                         |
|---|---|----------------------------|-------------------------|
| UNLESS OTHERWISE SPECIFIED                        |   | UNLESS OTHERWISE SPECIFIED |                         |
| REMOVE ALL BURRS AND SHARP EDGES                  | CONCENTRICITY MACHINED DIAMETERS 0.10 FW                    | DIMENSIONS ARE IN INCHES   | TOLERANCES              |
| DIMENSIONAL LIMITS APPLY BEFORE FINISH PROCESSING | IDENTIFYING NUMBERS SHOWN IN PARENTHESES FOR REFERENCE ONLY | ANGLES 2:1                 | 3 PLACE DECIMALS ± 0.10 |
| INTERPRET DRAWING IN ACCORDANCE WITH MIL-STD-100  |   | 2 PLACE DECIMALS ± 0.2     |                         |

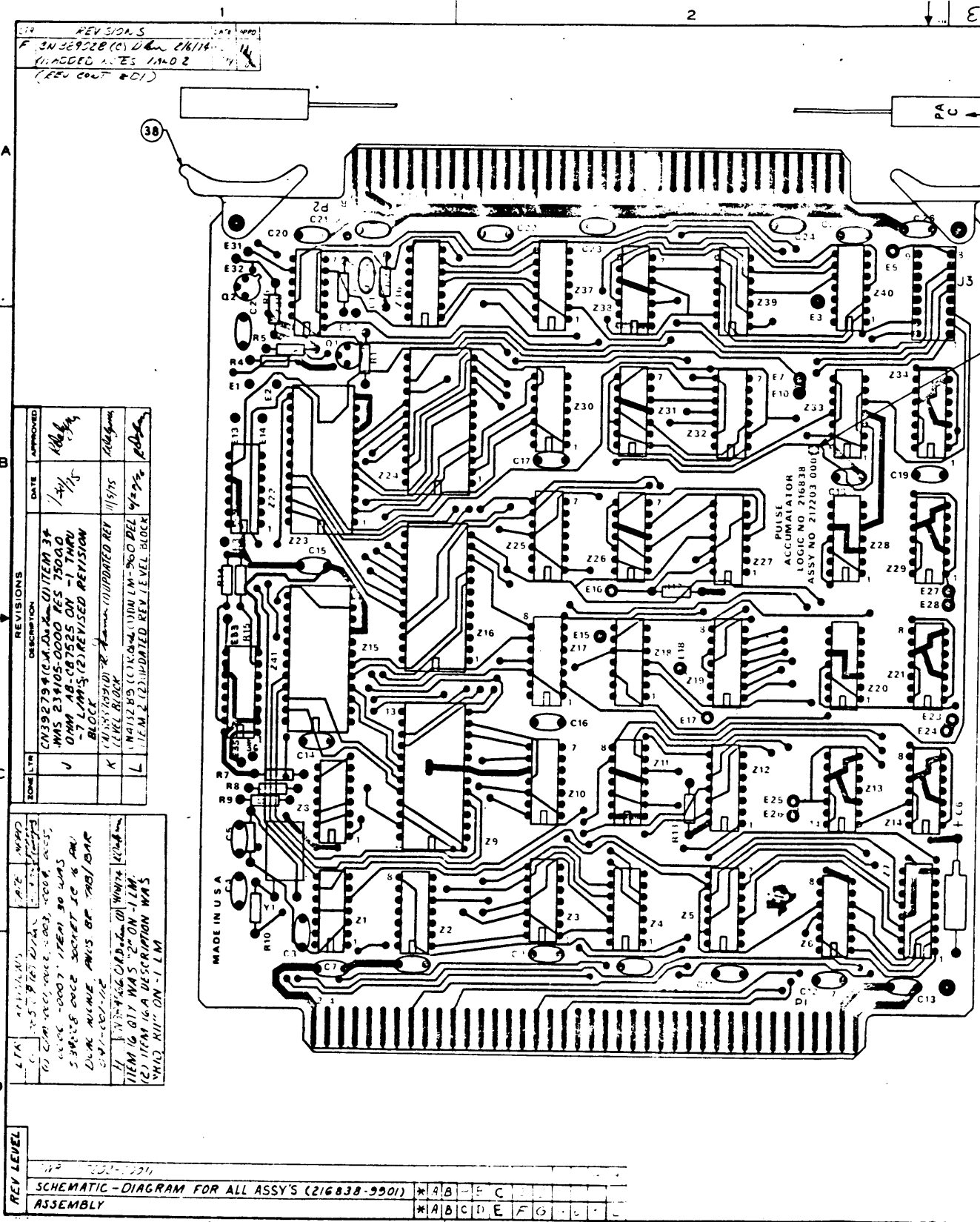
|          |  |          |  |
|----------|--|----------|--|
| MATERIAL |  | MATERIAL |  |
|          |  |          |  |

|                         |      |        |
|-------------------------|------|--------|
| TXS                     | DATE | 4-2-72 |
| CHK                     |      |        |
| ENGR                    |      |        |
| QA                      |      |        |
| APVD                    |      |        |
| CONTR NO                |      |        |
| DESIGN ACTIVITY RELEASE |      |        |

|   |                        |
|---|------------------------|
| TEXAS INSTRUMENTS<br>INCORPORATED<br>Equipment Group Dallas Texas |                        |
| DIAGRAM, LOGIC, DETAILED<br>16 INPUT OC INTERRUPT MODULE          |                        |
| SIZE  | CODE GEN NO DRAWING NO |
| D 96214   | 966789                 |
| SCALE   | 1:1                    |



REVISIONS

| REV | DATE     | DESCRIPTION |
|-----|----------|-------------|
| 1   | 11/11/72 | ASSEMBLY    |

REVISIONS

| REV | DATE     | DESCRIPTION   |
|-----|----------|---------------|
| 1   | 11/11/72 | ASSEMBLY      |
| 2   | 12/15/72 | ADDED ITEM 34 |
| 3   | 1/15/73  | ADDED ITEM 35 |
| 4   | 1/15/73  | ADDED ITEM 36 |
| 5   | 1/15/73  | ADDED ITEM 37 |
| 6   | 1/15/73  | ADDED ITEM 38 |
| 7   | 1/15/73  | ADDED ITEM 39 |

REVISIONS

1) ITEM 34 WAS "2" ON -1 LM

2) ITEM 35 WAS "2" ON -1 LM

3) ITEM 36 WAS "2" ON -1 LM

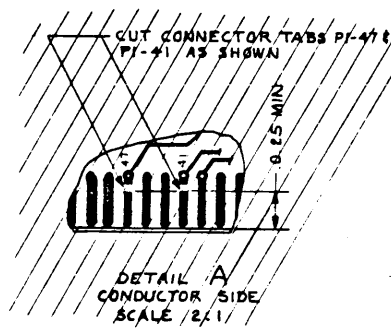
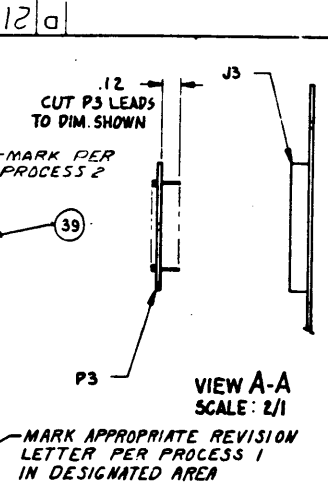
4) ITEM 37 WAS "2" ON -1 LM

5) ITEM 38 WAS "2" ON -1 LM

6) ITEM 39 WAS "2" ON -1 LM

REVISIONS

| REV | DATE     | DESCRIPTION   |
|-----|----------|---------------|
| 1   | 11/11/72 | ASSEMBLY      |
| 2   | 12/15/72 | ADDED ITEM 34 |
| 3   | 1/15/73  | ADDED ITEM 35 |
| 4   | 1/15/73  | ADDED ITEM 36 |
| 5   | 1/15/73  | ADDED ITEM 37 |
| 6   | 1/15/73  | ADDED ITEM 38 |
| 7   | 1/15/73  | ADDED ITEM 39 |



NOTES:

- CUT CONNECTOR TABS P1-41 AS SHOWN PER DETAIL A (ON PWB 217203-0001 REV F-04/72).
- MAXIMUM COMPONENT HEIGHT FROM COMPONENT SIDE OF BOARD IS .31
- MAXIMUM LEAD LENGTH FROM CONDUCTOR SIDE OF BOARD IS .075

REVISIONS

| REV | DATE     | DESCRIPTION  |
|-----|----------|--|
| A   | 3-8-72   | UPDATED FID TO AGREE WITH ARTWORK CHANGES 2) ADDED ITEMS 33 & 34 3) ADDED REV LEVEL BLOCK  |
| B   | 7-10-72  | ADDED: WIRES #17 & #18. UPDATED WIRE LIST FROM TEFLON TO IPVC. UPDATED REVISION LEVEL BLOCK. CHANGED L/M AS FOLLOWS: (1) P/N ITEM 17 WAS 234153-0000 (2) P/N ITEM 24 WAS 230841-0000 (3) P/N ITEM 29 WAS 236533-0000. (4) ITEM 30 WAS 232699-0004. REF DESIGNATOR WAS P3 (5) ADDED ITEMS 35, 36 & 37. (6) DELETED ITEM 19, P/N WAS 233438-0000, QTY WAS 2, REF DESIGNATORS WERE R1 & R5. (7) DELETED ITEM 23, P/N WAS 230470-0000, QTY WAS 2, REF DESIGNATORS WERE C1 & C2. ADDED VIEW A-A |
| C   | 7-24-72  | ADDED: NOTE 1 & DETAIL A   |
| D   | 9-29-72  | 1) ADDED ITEMS 38, 39, PROCESS 2 ELECTRODES 2) ADDED BIGO A 228766 IC IN A BLOCK 3) UPDATED REV LEVEL BLOCK 4) REMOVED KEYWAY, DETAIL A & NOTE 1 5) ADDED PROCESS 2  |
| E   | 11/11/72 | ADDED: NOTE 1 & DETAIL A   |

REQUIRED WIRING FOR -0001 THRU -0007 ASSYS

| WIRE NO | DESCRIPTION  | TOTAL LENGTH | SIGNATURE | COMPONENT CONNECTION FOR START STATION | COMPONENT CONNECTION FOR FINISH STATION | REMARKS | N/A ITEM NO |
|---------|--------------|--------------|-----------|--|---|---------|-------------|
| 1       | #24 IPVC WHT | AR           |           | E3                                     | E4                                      |         | 29          |
| 2       |              |              |           | E5                                     | E6                                      |         |             |
| 3       |              |              |           | E7                                     | E8                                      |         |             |
| 4       |              |              |           | E9                                     | E10                                     |         |             |
| 5       |              |              |           | E11                                    | E12                                     |         |             |
| 6       |              |              |           | E13                                    | E14                                     |         |             |
| 7       |              |              |           | E15                                    | E16                                     |         |             |
| 8       |              |              |           | E17                                    | E18                                     |         |             |
| 9       |              |              |           | E19                                    | E20                                     |         |             |
| 10      |              |              |           | E21                                    | E22                                     |         |             |
| 11      |              |              |           | E23                                    | E24                                     |         |             |
| 12      |              |              |           | E25                                    | E26                                     |         | 29          |
| 13      |              |              |           | E27                                    | E28                                     |         | 29          |
| 14      |              |              |           | E29                                    | E30                                     |         | 29          |
| 15      |              |              |           | E31                                    | E32                                     |         | 29          |
| 16      | #24 IPVC WHT | AR           |           | E33                                    | E34                                     |         | 29          |
| 17      | #24 IPVC WHT | AR           | RO        | P3-6                                   | P3-7                                    |         | 29          |
| 18      | #24 IPVC WHT | AR           | R1        | P3-3                                   | P3-4                                    |         | 29          |

JUMPER SCHEDULE

| PART NUMBER | DESCRIPTION   | CONNECT E5 TO | CONNECT E6 TO | CONNECT P3-1 TO | CONNECT P3-2 TO | CONNECT P3-3 TO | CONNECT P3-4 TO | CONNECT P3-5 TO | CONNECT P3-6 TO | CONNECT P3-7 TO |
|-------------|---------------|---------------|---------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| 217203-0001 | MODE I        | E5            | E6            | P3-1            | P3-2            | P3-3            | P3-4            | P3-5            | P3-6            | P3-7            |
| 217203-0002 | 0.1ms         | E5            | E6            | P3-1            | P3-2            | P3-3            | P3-4            | P3-5            | P3-6            | P3-7            |
| 217203-0003 | 10ms          | E5            | E6            | P3-1            | P3-2            | P3-3            | P3-4            | P3-5            | P3-6            | P3-7            |
| 217203-0004 | 1ms           | E5            | E6            | P3-1            | P3-2            | P3-3            | P3-4            | P3-5            | P3-6            | P3-7            |
| 217203-0005 | 0.05ms        | E5            | E6            | P3-1            | P3-2            | P3-3            | P3-4            | P3-5            | P3-6            | P3-7            |
| 217203-0006 | 1.0sec        | E5            | E6            | P3-1            | P3-2            | P3-3            | P3-4            | P3-5            | P3-6            | P3-7            |
| 217203-0007 | 0.5sec        | E5            | E6            | P3-1            | P3-2            | P3-3            | P3-4            | P3-5            | P3-6            | P3-7            |
| 217203-0008 | DOCUMENTATION |               |               |                 |                 |                 |                 |                 |                 |                 |

U-ASS OTHER-SPECIFIED

1) JUMPER STAMP PER F-100, HT, IR, COLOR BLACK

2) HOT STAMP F-100, HT, IR, COLOR BLACK

3) HOT STAMP F-100, HT, IR, COLOR BLACK

QTY MOD

8360 A 217203

TEXAS INSTRUMENTS

BOARD ASSY PULSE ACCUMULATOR

217203



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**LM 217203-0001**

REV  
**L**

| PRINT ITEM NUMBER | QUANTITY PER ASSEMBLY | UNIT OF ISSUE         | DWG. SIZE | PART NUMBER     | DESCRIPTION                   | VENDOR PART NUMBER                    |
|-------------------|-----------------------|-----------------------|-----------|-----------------|-------------------------------|---------------------------------------|
| C001              | 00001.000             | EA                    |           | 217202-0001     | PRT WRG PC, PULSE ACCUMULATOR |                                       |
| C002              | 00003.000             | EA                    |           | 222222-7408     | NETWCRK-SN7408N               |                                       |
| 0002A             |                       |                       |           |                 | Z5 Z27 Z32                    |                                       |
| C003              | 00001.000             | EA                    |           | 222222-7401     | NETWCRK SN7401N               |                                       |
| C003A             |                       |                       |           |                 | Z8                            |                                       |
| C005              | 00006.000             | EA                    |           | 222222-7474     | NETWCRK SN7474N               | -SN7474N                              |
| C005A             |                       |                       |           |                 | Z11 Z22 Z26 Z31 Z33 Z38       |                                       |
| C006              | 00001.000             | EA                    |           | 222222-7451     | NETWORK SN7451N               | -SN7451N                              |
| C006A             |                       |                       |           |                 | Z39                           |                                       |
| C007              | 00008.000             | EA                    |           | 222222-7453     | NETWCRK-SN7493N               |                                       |
| C007A             |                       |                       |           |                 | Z3 Z10 Z17 Z20 Z25 Z28 Z30    |                                       |
| C007B             |                       |                       |           |                 | Z37                           |                                       |
| C009              | 00005.000             | EA                    |           | 222222-7450     | NETWCRK-SN7490N               |                                       |
| C009A             |                       |                       |           |                 | Z13 Z14 Z21 Z29 Z34           |                                       |
| C009              | 00001.000             | EA                    |           | 222222-7442     | NETWCRK-SN7442N               |                                       |
| C009A             |                       |                       |           |                 | Z7                            |                                       |
| C010              | 00001.000             | EA                    |           | 222222-7413     | NETWCRK SN7413N               |                                       |
| C010A             |                       |                       |           |                 | Z35                           |                                       |
| C011              | 00001.000             | EA                    |           | 222222-7420     | NETWCRK SN7420N               | -SN7420N                              |
| C011A             |                       |                       |           |                 | Z4                            |                                       |
| DRAFTSMAN         | DATE                  | CKD DRAFTSMAN         | DATE      | DESIGN ENGINEER | DATE                          | TITLE                                 |
|                   |                       | <i>R. [Signature]</i> | 6/24/76   |                 |                               | BOARD ASSY, PULSE ACCUMULATOR-MODE II |
| APPD MFG          | DATE                  | APPD PROJECT ENGINEER | DATE      | RELEASED        | DATE                          | PROJECT NO.                           |
|                   |                       |                       |           |                 |                               | 8100                                  |
|                   |                       |                       |           |                 |                               | PART NUMBER                           |
|                   |                       |                       |           |                 |                               | <b>LM 217203-0001</b>                 |
|                   |                       |                       |           |                 |                               | REV                                   |
|                   |                       |                       |           |                 |                               | <b>L</b>                              |

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| PRINT ITEM NUMBER | QUANTITY PER ASSEMBLY | UNIT OF ISSUE         | DWG SIZE | PART NUMBER     | DESCRIPTION                            | VENDOR PART NUMBER                    |
|-------------------|-----------------------|-----------------------|----------|-----------------|--|---------------------------------------|
| 0012              | 00002.000             | EA                    |          | 222222-7430     | NETWRK SN7430N                         | -SN7430N                              |
| C012A             |                       |                       |          |                 | Z2 Z36                                 |                                       |
| 0013              | 00003.000             | EA                    |          | 222222-7100     | NETWORK SN74100N                       |                                       |
| C013A             |                       |                       |          |                 | Z9 Z16 Z24                             |                                       |
| 0014              | 00002.000             | EA                    |          | 222222-7150     | NETWRK SN74150N                        |                                       |
| C014A             |                       |                       |          |                 | Z15 Z23                                |                                       |
| 0015              | 00004.000             | EA                    |          | 222222-7404     | NETWRK SN7404N                         |                                       |
| C015A             |                       |                       |          |                 | Z1 Z6 Z12 Z40                          |                                       |
| 0016              | 00004.000             | EA                    |          | 972946-0057     | RES FIX 470 OHM 5 % .25 W CARBON FILM  | ROH- R-25                             |
| C016A             |                       |                       |          |                 | R1, R4, R10, R11                       |                                       |
| 0018              | 00002.000             | EA                    |          | 972946-0054     | RES FIX 360 OHM 5 % .25 W CARBON FILM  | ROH- R-25                             |
| C018A             |                       |                       |          |                 | R3 R6                                  |                                       |
| 0020              | 00005.000             | EA                    |          | 972946-0065     | RES FIX 1.0K OHM 5 % .25 W CARBON FILM | ROH- R-25                             |
| 0020A             |                       |                       |          |                 | R7 R8 R9 R12 R13                       |                                       |
| 0021              | 00002.000             | EA                    |          | 972927-0015     | CAP FIX MICA 500V 33.0 PF 5 %          | QPL-CM05E330J00                       |
| 0021A             |                       |                       |          |                 | C4 C5                                  |                                       |
| 0022              | 00001.000             | EA                    |          | 972927-0044     | CAP FIX MICA 300V 510 PF 5 %           | QPL-CM05F511J00                       |
| C022A             |                       |                       |          |                 | C3                                     |                                       |
| 0024              | 00001.000             | EA                    |          | 972924-0015     | CAP FIX TANT SOLID 47 MFD 10 % 20 VOLT | QPL-M39003/1-2295                     |
| C024A             |                       |                       |          |                 | C6                                     |                                       |
| DRAFTSMAN         | DATE                  | CKD DRAFTSMAN         | DATE     | DESIGN ENGINEER | DATE                                   | TITLE                                 |
|                   |                       |                       |          |                 |  | BOARD ASSY, PULSE ACCUMULATOR-MODE II |
| APPD MFG          | DATE                  | APPD PROJECT ENGINEER | DATE     | RELEASED        | DATE                                   | PROJECT NO.                           |
|                   |                       |                       |          |                 |  |                                       |
|                   |                       |                       |          |                 |  | PART NUMBER<br>LM 217203-0001         |
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| PRINT ITEM NUMBER | QUANTITY PER ASSEMBLY | UNIT OF ISSUE | DWG SIZE               | PART NUMBER | DESCRIPTION                              | VENDOR PART NUMBER |             |
|-------------------|-----------------------|---------------|------------------------|-------------|--|--------------------|-------------|
| 0025              | 00020.000             | EA            |                        | 534348-C0C1 | CAP FIX CERAMIC .10 MF 2C/80 % 10V       | CRL- UK10-104      |             |
| 0025A             |                       |               |                        |             | C7 THRU C26                              |                    |             |
| C026              | REF                   | EA            |                        | 216838-99C1 | DIAGRAM, LCGIC-PULSE ACCUMULATOR         |                    |             |
| 0027              | 00001.000             | EA            |                        | 231642-3080 | CRYSTAL 5120.KC +/- .005% W/WIRE LDS     | MIL-CR60/U-HC18/U  |             |
| C027A             |                       |               |                        |             | Y1                                       |                    |             |
| C028              | 00002.000             | EA            |                        | 222222-7400 | NETWORK SN7400N                          | -SN7400N           |             |
| C028A             |                       |               |                        |             | Z18 Z19                                  |                    |             |
| 0029              | 00005.000             | FT            |                        | 417836-C005 | WIRE PICKUP B-24 AWG SOLID WHITE         | JUD- MH0110        |             |
| 0030              | 00001.000             | EA            |                        | 539544-C002 | SOCKET, 16PIN IC LOW PROFILE SOLDER TAIL | TI -C93-16-02      |             |
| C030A             |                       |               |                        |             | J3                                       |                    |             |
| 0031              | REF                   | EA            |                        | 216839-9901 | TEST PROCEDURE, PULSE ACCUMULATOR        |                    |             |
| C032              | REF                   | EA            |                        | 216738-9901 | SPECS, PULSE ACCUMULATOR- 960 CRU        |                    |             |
| 0033              | 00001.000             | EA            |                        | 222222-7123 | NETWORK SN74123N                         |                    |             |
| C033A             |                       |               |                        |             | Z41                                      |                    |             |
| 0034              | 00002.000             | EA            |                        | 972946-0091 | RES FIX 12 K OHM 5 % .25 W CARBON FILM   | ROH- R-25          |             |
| C034A             |                       |               |                        |             | R14, R15                                 |                    |             |
| 0035              | 00001.000             | EA            |                        | 772312-00C2 | PLUG, IC CLAL IN-LINE 16 PIN .0165X.0165 | SSW-3000-177       |             |
| C035A             |                       |               |                        |             | P3                                       |                    |             |
| C036              | 00002.000             | EA            |                        | 972955-0001 | XSTR 2N2369A, NPN, HIGH SPEED SW, TO-18  | MOT- 2N2369A       |             |
| C036A             |                       |               |                        |             | Q1 Q2                                    |                    |             |
| DRAFTSMAN         |                       | DATE          | CKD. DRAFTSMAN         | DATE        | DESIGN ENGINEER                          | DATE               | TITLE       |
| APPD. MFG         |                       | DATE          | APPD. PROJECT ENGINEER | DATE        | RELEASED                                 | DATE               | PROJECT NO. |
|                   |                       |               |                        |             |  | PART NUMBER        | REV         |
|                   |                       |               |                        |             |  | LM 217203-0001     | L           |



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| PRINT ITEM NUMBER | QUANTITY PER ASSEMBLY | UNIT OF ISSUE | DWG SIZE | PART NUMBER | DESCRIPTION                   | VENDOR PART NUMBER |
|-------------------|-----------------------|---------------|----------|-------------|-------------------------------|--------------------|
| 0037              | 00002.000             | EA            |          | 185113-C0C1 | X SPACER XST TO-18 CASE       | * -                |
| 0038              | 00001.000             | EA            |          | 5338E7-C001 | EJECTOR,PCB,NON-LOCKING,WHITE | SCA-S-202 WHITE    |
| 0039              | 00001.000             | EA            |          | 5338E7-CCC9 | EJECTOR,PCB,NON-LOCKING,GREEN | SCA-S-202 GREEN    |

|           |      |                       |      |                 |      |                                      |
|-----------|------|-----------------------|------|-----------------|------|--------------------------------------|
| DRAFTSMAN | DATE | CKD DRAFTSMAN         | DATE | DESIGN ENGINEER | DATE | TITLE                                |
|           |      |                       |      |                 |      | BCARD ASSY,PULSE ACCUMULATOR-MODE II |
| APPD MFG  | DATE | APPD PROJECT ENGINEER | DATE | RELEASED        | DATE | PROJECT NO                           |
|           |      |                       |      |                 |      |                                      |

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| PRINT ITEM NUMBER | QUANTITY PER ASSEMBLY | UNIT OF ISSUE         | DWG. SIZE | PART NUMBER     | DESCRIPTION                  | VENDOR PART NUMBER                  |
|-------------------|-----------------------|-----------------------|-----------|-----------------|------------------------------|-------------------------------------|
| 0001              | 00001.000             | EA                    |           | 217202-0001     | PRT WRG EC,PULSE ACCUMULATOR |                                     |
| 0002              | 00003.000             | EA                    |           | 22222-7408      | NETWCRK-SN7408N              |                                     |
| 0002A             |                       |                       |           |                 | Z5 Z27 Z32                   |                                     |
| 0003              | 00001.000             | EA                    |           | 22222-7401      | NETWCRK SN7401N              |                                     |
| 0003A             |                       |                       |           |                 | Z8                           |                                     |
| 0005              | 00006.000             | EA                    |           | 22222-7474      | NETWCRK SN7474N              | -SN7474N                            |
| 0005A             |                       |                       |           |                 | Z11 Z22 Z26 Z31 Z33 Z38      |                                     |
| 0006              | 00001.000             | EA                    |           | 22222-7451      | NETWCRK SN7451N              | -SN7451N                            |
| 0006A             |                       |                       |           |                 | Z39                          |                                     |
| 0007              | 00008.000             | EA                    |           | 22222-7493      | NETWCRK-SN7493N              |                                     |
| 0007A             |                       |                       |           |                 | Z3 Z10 Z17 Z20               |                                     |
| 0007B             |                       |                       |           |                 | Z25 Z28 Z30 Z37              |                                     |
| 0008              | 00005.000             | EA                    |           | 22222-7490      | NETWCRK-SN7490N              |                                     |
| 0008A             |                       |                       |           |                 | Z13 Z14 Z21 Z29 Z34          |                                     |
| 0009              | 00001.000             | EA                    |           | 22222-7442      | NETWCRK-SN7442N              |                                     |
| 0009A             |                       |                       |           |                 | Z7                           |                                     |
| 0010              | 00001.000             | EA                    |           | 22222-7413      | NETWCRK SN7413N              |                                     |
| 0010A             |                       |                       |           |                 | Z35                          |                                     |
| 0011              | 00001.000             | EA                    |           | 22222-7420      | NETWCRK SN7420N              | -SN7420N                            |
| 0011A             |                       |                       |           |                 | Z4                           |                                     |
| DRAFTSMAN         | DATE                  | CKD DRAFTSMAN         | DATE      | DESIGN ENGINEER | DATE                         | TITLE                               |
|                   |                       |                       |           |                 |                              | BOARD ASSY,PULSE ACCUMULATOR 0.1 MS |
| APPD -MFG         | DATE                  | APPD PROJECT ENGINEER | DATE      | RELEASED        | DATE                         | PROJECT NO                          |
|                   |                       |                       |           |                 |                              |                                     |
|                   |                       |                       |           |                 |                              | PART NUMBER                         |
|                   |                       |                       |           |                 |                              | LM 217203-0002                      |
|                   |                       |                       |           |                 |                              | REV                                 |
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| PRINT ITEM NUMBER | QUANTITY PER ASSEMBLY | UNIT OF ISSUE         | DWG. SIZE | PART NUMBER     | DESCRIPTION                            | VENDOR PART NUMBER                   |
|-------------------|-----------------------|-----------------------|-----------|-----------------|--|--------------------------------------|
| 0012              | 00002.000             | EA                    |           | 222222-7430     | NETWORK SN7430N                        | -SN7430N                             |
| C012A             |                       |                       |           |                 | Z2 Z36                                 |                                      |
| 0013              | 00003.000             | EA                    |           | 222222-7100     | NETWORK SN74100N                       |                                      |
| C013A             |                       |                       |           |                 | Z9 Z16 Z24                             |                                      |
| C014              | 00002.000             | EA                    |           | 222222-7150     | NETWORK SN74150N                       |                                      |
| 0014A             |                       |                       |           |                 | Z15 Z23                                |                                      |
| 0015              | 00004.000             | EA                    |           | 222222-7404     | NETWORK SN7404N                        |                                      |
| C015A             |                       |                       |           |                 | Z1 Z6 Z12 Z40                          |                                      |
| C016              | 00004.000             | EA                    |           | 972946-0057     | RES FIX 470 OHM 5 % .25 W CARBON FILM  | ROH- R-25                            |
| C016A             |                       |                       |           |                 | R1 R4 R10 R11                          |                                      |
| 0018              | 00002.000             | EA                    |           | 972946-0054     | RES FIX 360 OHM 5 % .25 W CARBON FILM  | ROH- R-25                            |
| C018A             |                       |                       |           |                 | R3 R6                                  |                                      |
| 0020              | 00005.000             | EA                    |           | 972946-0065     | RES FIX 1.0K OHM 5 % .25 W CARBON FILM | ROH- R-25                            |
| C020A             |                       |                       |           |                 | R7 R8 R9 R12 R13                       |                                      |
| 0021              | 00002.000             | EA                    |           | 972927-0015     | CAP FIX MICA 500V 33.0 PF 5 %          | QPL-CM05F330J00                      |
| C021A             |                       |                       |           |                 | C4 C5                                  |                                      |
| 0022              | 00001.000             | EA                    |           | 972927-0044     | CAP FIX MICA 300V 510 PF 5 %           | QPL-CM05F511J00                      |
| 0022A             |                       |                       |           |                 | C3                                     |                                      |
| 0024              | 00001.000             | EA                    |           | 972924-0015     | CAP FIX TANT SOLID 47 MFD 10 % 20 VOLT | QPL-M39003/L-2295                    |
| C024A             |                       |                       |           |                 | C6                                     |                                      |
| DRAFTSMAN         | DATE                  | CKD DRAFTSMAN         | DATE      | DESIGN ENGINEER | DATE                                   | TITLE                                |
|                   |                       |                       |           |                 |  | BOARD ASSY, PULSE ACCUMULATOR 0.1 MS |
| APPD MFG          | DATE                  | APPD PROJECT ENGINEER | DATE      | RELEASED        | DATE                                   | PROJECT NO                           |
|                   |                       |                       |           |                 |  |                                      |
|                   |                       |                       |           |                 |  | PART NUMBER                          |
|                   |                       |                       |           |                 |  | <b>LM</b> 217203-0002                |
|                   |                       |                       |           |                 |  | REV                                  |
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| PRINT ITEM NUMBER | QUANTITY PER ASSEMBLY | UNIT OF ISSUE | DWG SIZE               | PART NUMBER | DESCRIPTION                             | VENDOR PART NUMBER |                                     |
|-------------------|-----------------------|---------------|------------------------|-------------|---|--------------------|-------------------------------------|
| C025              | 0002.000              | EA            |                        | 534348-C001 | CAP FIX CERAMIC .10 MF 20/80 % 10V      | CRL- UK10-104      |                                     |
| C025A             |                       |               |                        |             | C7 THRU C26                             |                    |                                     |
| C026              | REF                   | EA            |                        | 216838-9901 | DIAGRAM,LCCIC-PULSE ACCUMULATOR         |                    |                                     |
| 0027              | 00001.000             | EA            |                        | 231642-3080 | CRYSTAL 5120.KC +/- .005% W/WIRE LDS    | MIL-CR60/U-HC18/U  |                                     |
| C027A             |                       |               |                        |             | Y1                                      |                    |                                     |
| 0028              | 00002.000             | EA            |                        | 222222-7400 | NETWORK SN7400N                         | -SN7400N           |                                     |
| C028A             |                       |               |                        |             | Z18 Z19                                 |                    |                                     |
| 0029              | 00005.000             | FT            |                        | 417836-C005 | WIRE TCKKLP B-24 AWG SOLID WHITE        | JUD- HH0110        |                                     |
| C030              | 00001.000             | EA            |                        | 539544-C002 | SOCKET,16PIN IC LOW PROFILE SOLDER TAIL | TI -C93-16-02      |                                     |
| 0030A             |                       |               |                        |             | J3                                      |                    |                                     |
| 0031              | REF                   | EA            |                        | 216839-9901 | TEST PROCEDURE,PULSE ACCUMULATOR        |                    |                                     |
| 0032              | REF                   | EA            |                        | 216738-9901 | SPECS,PULSE ACCUMULATOR- 960 CRU        |                    |                                     |
| C033              | 00001.000             | EA            |                        | 222222-7123 | NETWORK SN74123N                        |                    |                                     |
| C033A             |                       |               |                        |             | Z41                                     |                    |                                     |
| 0034              | 00002.000             | EA            |                        | 972946-0091 | RES FIX 12 K OHM 5 % .25 W CARBON FILM  | ROH- R-25          |                                     |
| 0034A             |                       |               |                        |             | R14,R15                                 |                    |                                     |
| C035              | 00001.000             | EA            |                        | 772312-C002 | PLUG,IC DUAL IN-LINE 16 PIN .0165X.0165 | SSW-3000-177       |                                     |
| 0035A             |                       |               |                        |             | P3                                      |                    |                                     |
| C036              | 00002.000             | EA            |                        | 972955-0001 | XSTR 2N2369A,NPN,HIGH SPEED SW,T0-18    | MOT- 2N2369A       |                                     |
| 0036A             |                       |               |                        |             | Q1 Q2                                   |                    |                                     |
| DRAFTSMAN         |                       | DATE          | CKD DRAFTSMAN          | DATE        | DESIGN ENGINEER                         | DATE               | TITLE                               |
|                   |                       |               |                        |             |   |                    | BOARD ASSY,PULSE ACCUMULATOR 0.1 MS |
| APPD. MFG         |                       | DATE          | APPD. PROJECT ENGINEER | DATE        | RELEASED                                | DATE               | PROJECT NO                          |
|                   |                       |               |                        |             |   |                    |                                     |
|                   |                       |               |                        |             |   | PART NUMBER        | REV                                 |
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| PRINT ITEM NUMBER | QUANTITY PER ASSEMBLY | UNIT OF ISSUE | DWG. SIZE | PART NUMBER | DESCRIPTION                   | VENDOR PART NUMBER |
|-------------------|-----------------------|---------------|-----------|-------------|-------------------------------|--------------------|
| 0037              | 00002.000             | EA            |           | 185113-C001 | X SPACER XST TO-18 CASE       | * -                |
| 0038              | 00001.000             | EA            |           | 533887-C001 | EJECTOR,PCB,NCN-LOCKING,WHITE | SCA-S-202 WHITE    |
| 0039              | 00001.000             | EA            |           | 533887-C009 | EJECTOR,PCB,NON-LOCKING,GREEN | SCA-S-202 GREEN    |

|           |      |                       |      |                 |      |                                     |
|-----------|------|-----------------------|------|-----------------|------|-------------------------------------|
| DRAFTSMAN | DATE | CKD DRAFTSMAN         | DATE | DESIGN ENGINEER | DATE | TITLE                               |
|           |      |                       |      |                 |      | BOARD ASSY,PULSE ACCUMULATOR 0.1 MS |
| APPD MFG  | DATE | APPD PROJECT ENGINEER | DATE | RELEASED        | DATE | PROJECT NO.                         |
|           |      |                       |      |                 |      |                                     |

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| PRINT ITEM NUMBER | QUANTITY PER ASSEMBLY | UNIT OF ISSUE | DWG. SIZE             | PART NUMBER | DESCRIPTION                  | VENDOR PART NUMBER |                                     |
|-------------------|-----------------------|---------------|-----------------------|-------------|------------------------------|--------------------|-------------------------------------|
| C001              | 00001.000             | EA            |                       | 217202-0001 | PRT WRG PC,PULSE ACCUMULATOR |                    |                                     |
| 0002              | 00003.000             | EA            |                       | 222222-7408 | NETWORK-SN7408N              |                    |                                     |
| 0002A             |                       |               |                       |             | Z5 Z27 Z32                   |                    |                                     |
| 0003              | 00001.000             | EA            |                       | 222222-7401 | NETWCRK SN7401N              |                    |                                     |
| C003A             |                       |               |                       |             | Z8                           |                    |                                     |
| 0005              | 00006.000             | EA            |                       | 222222-7474 | NETWCRK SN7474N              | -SN7474N           |                                     |
| C005A             |                       |               |                       |             | Z11 Z22 Z26 Z31 Z33 Z38      |                    |                                     |
| C006              | 00001.000             | EA            |                       | 222222-7451 | NETWCRK SN7451N              | -SN7451N           |                                     |
| 0006A             |                       |               |                       |             | Z39                          |                    |                                     |
| C007              | 00008.000             | EA            |                       | 222222-7453 | NETWCRK-SN7493N              |                    |                                     |
| C007A             |                       |               |                       |             | Z3 Z10 Z17 Z20               |                    |                                     |
| 0007B             |                       |               |                       |             | Z25 Z28 Z30 Z37              |                    |                                     |
| C008              | 00005.000             | EA            |                       | 222222-7450 | NETWCRK-SN7490N              |                    |                                     |
| C008A             |                       |               |                       |             | Z13 Z14 Z21 Z29 Z34          |                    |                                     |
| C009              | 00001.000             | EA            |                       | 222222-7442 | NETWORK-SN7442N              |                    |                                     |
| C009A             |                       |               |                       |             | Z7                           |                    |                                     |
| 0010              | 00001.000             | EA            |                       | 222222-7413 | NETWCRK SN7413N              |                    |                                     |
| C010A             |                       |               |                       |             | Z35                          |                    |                                     |
| 0011              | 00001.000             | EA            |                       | 222222-7420 | NETWCRK SN7420N              | -SN7420N           |                                     |
| C011A             |                       |               |                       |             | Z4                           |                    |                                     |
| DRAFTSMAN         |                       | DATE          | CKD DRAFTSMAN         | DATE        | DESIGN ENGINEER              | DATE               | TITLE                               |
| APPD MFG          |                       | DATE          | APPD PROJECT ENGINEER | DATE        | RELEASED                     | DATE               | PROJECT NO                          |
|                   |                       |               |                       |             |                              |                    | BOARD ASSY,PULSE ACCUMULATOR 1.0 MS |
|                   |                       |               |                       |             |                              |                    | PART NUMBER                         |
|                   |                       |               |                       |             |                              |                    | <b>LM 217203-0003</b>               |
|                   |                       |               |                       |             |                              |                    | REV                                 |
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| PRINT ITEM NUMBER | QUANTITY PER ASSEMBLY | UNIT OF ISSUE          | DWG. SIZE | PART NUMBER     | DESCRIPTION                            | VENDOR PART NUMBER                   |
|-------------------|-----------------------|------------------------|-----------|-----------------|--|--------------------------------------|
| C012              | 00002.000             | EA                     |           | 22222-7430      | NETWCRK SN7430N                        | -SN7430N                             |
| C012A             |                       |                        |           |                 | Z2 Z36                                 |                                      |
| 0013              | 00003.000             | EA                     |           | 22222-7100      | NETWCRK SN74100N                       |                                      |
| 0013A             |                       |                        |           |                 | Z9 Z16 Z24                             |                                      |
| C014              | 00002.000             | EA                     |           | 22222-7150      | NETWCRK SN74150N                       |                                      |
| 0014A             |                       |                        |           |                 | Z15 Z23                                |                                      |
| C015              | 00004.000             | EA                     |           | 22222-7404      | NETWCRK SN7404N                        |                                      |
| 0015A             |                       |                        |           |                 | Z1 Z6 Z12 Z40                          |                                      |
| 0016              | 00004.000             | EA                     |           | 972946-0057     | RES FIX 470 OHM 5 % .25 W CARBON FILM  | ROH- R-25                            |
| 0016A             |                       |                        |           |                 | R1 R4 R10 R11                          |                                      |
| 0018              | 00002.000             | EA                     |           | 972946-0054     | RES FIX 360 OHM 5 % .25 W CARBON FILM  | ROH- R-25                            |
| 0018A             |                       |                        |           |                 | R3 R6                                  |                                      |
| C020              | 00005.000             | EA                     |           | 972946-0065     | RES FIX 1.0K OHM 5 % .25 W CARBON FILM | ROH- R-25                            |
| C020A             |                       |                        |           |                 | R7 R8 R9 R12 R13                       |                                      |
| 0021              | 00002.000             | EA                     |           | 972927-0015     | CAP FIX MICA 500V 33.0 PF 5 %          | QPL-CM05E330J00                      |
| 0021A             |                       |                        |           |                 | C4 C5                                  |                                      |
| C022              | 00001.000             | EA                     |           | 972927-0044     | CAP FIX MICA 300V 510 PF 5 %           | QPL-CM05F511J00                      |
| 0022A             |                       |                        |           |                 | C3                                     |                                      |
| C024              | 00001.000             | EA                     |           | 972924-0015     | CAP FIX TANT SOLID 47 MFD 10 % 20 VOLT | QPL-M390.3/1-2295                    |
| C024A             |                       |                        |           |                 | C6                                     |                                      |
| DRAFTSMAN         | DATE                  | CKD DRAFTSMAN          | DATE      | DESIGN ENGINEER | DATE                                   | TITLE                                |
|                   |                       |                        |           |                 |  | BOARD ASSY, PULSE ACCUMULATOR 1.0 MS |
| APPD. MFG         | DATE                  | APPD. PROJECT ENGINEER | DATE      | RELEASED        | DATE                                   | PROJECT NO                           |
|                   |                       |                        |           |                 |  |                                      |
|                   |                       |                        |           |                 |  | <b>LM</b> 217203-0003                |
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| PRINT ITEM NUMBER | QUANTITY PER ASSEMBLY | UNIT OF ISSUE | DWG SIZE               | PART NUMBER | DESCRIPTION                              | VENDOR PART NUMBER |             |
|-------------------|-----------------------|---------------|------------------------|-------------|--|--------------------|-------------|
| 0025              | 00020.000             | EA            |                        | 534348-0001 | CAP FIX CERAMIC .10 MF 20/80 % 10V       | CRL- UK10-104      |             |
| C025A             |                       |               |                        |             | C7 THRU C26                              |                    |             |
| 0026              | REF                   | EA            |                        | 216838-9901 | DIAGRAM, LOGIC-PULSE ACCUMULATOR         |                    |             |
| C027              | 00001.000             | EA            |                        | 231642-3C80 | CRYSTAL 5120.KC +/- .005% W/WIRE LDS     | MIL-CR60/U-HC18/U  |             |
| 0027A             |                       |               |                        |             | Y1                                       |                    |             |
| C028              | 00002.000             | EA            |                        | 222222-7400 | NETWORK SN7400N                          | -SN7400N           |             |
| 0028A             |                       |               |                        |             | Z18 Z19                                  |                    |             |
| 0029              | 00005.000             | FT            |                        | 417836-C005 | WIRE SOCKLP B-24 AWG SOLID WHITE         | JUD- HH0110        |             |
| 0030              | 00001.000             | EA            |                        | 539544-C002 | SOCKET, 16PIN IC LOW PROFILE SOLDER TAIL | TI -C93-16-02      |             |
| C030A             |                       |               |                        |             | J3                                       |                    |             |
| 0031              | REF                   | EA            |                        | 216839-9901 | TEST PROCEDURE, PULSE ACCUMULATOR        |                    |             |
| 0032              | REF                   | EA            |                        | 216738-9901 | SPECS, PULSE ACCUMULATOR- 960 CRU        |                    |             |
| 0033              | 00001.000             | EA            |                        | 222222-7123 | NETWORK SN74123N                         |                    |             |
| C033A             |                       |               |                        |             | Z41                                      |                    |             |
| 0034              | 00002.000             | EA            |                        | 972946-C091 | RES FIX 12 K OHM 5 % .25 W CARBON FILM   | ROH- R-25          |             |
| C034A             |                       |               |                        |             | R14, R15                                 |                    |             |
| 0035              | 00001.000             | EA            |                        | 772312-0002 | PLUG, IC DUAL IN-LINE 16 PIN .0165X.0165 | SSW-3000-177       |             |
| C035A             |                       |               |                        |             | P3                                       |                    |             |
| 0036              | 00002.000             | EA            |                        | 972955-0001 | XSTR 2N2369A, NPN, HIGH SPEED SW, TO-18  | MDT- 2N2369A       |             |
| 0036A             |                       |               |                        |             | C1 C2                                    |                    |             |
| DRAFTSMAN         |                       | DATE          | CKD DRAFTSMAN          | DATE        | DESIGN ENGINEER                          | DATE               | TITLE       |
| APPD. MFG         |                       | DATE          | APPD. PROJECT ENGINEER | DATE        | RELEASED                                 | DATE               | PROJECT NO. |
|                   |                       |               |                        |             |  | PART NUMBER        | REV         |
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| PRINT ITEM NUMBER | QUANTITY PER ASSEMBLY | UNIT OF ISSUE | DWG. SIZE | PART NUMBER | DESCRIPTION                      | VENDOR PART NUMBER |
|-------------------|-----------------------|---------------|-----------|-------------|----------------------------------|--------------------|
| 0037              | 0002.000              | EA            |           | 185113-0001 | X SPACER XST TO-18 CASE          | * -                |
| 0038              | 0001.000              | EA            |           | 533887-C001 | EJECTOR, PCB, NCN-LOCKING, WHITE | SCA-S-202 WHITE    |
| 0039              | 0001.000              | EA            |           | 533887-CC09 | EJECTOR, PCB, NON-LOCKING, GREEN | SCA-S-202 GREEN    |

|           |      |                       |      |                 |      |                                      |
|-----------|------|-----------------------|------|-----------------|------|--------------------------------------|
| DRAFTSMAN | DATE | CKD DRAFTSMAN         | DATE | DESIGN ENGINEER | DATE | TITLE                                |
|           |      |                       |      |                 |      | BOARD ASSY, PULSE ACCUMULATOR 1.0 MS |
| APPD MFG  | DATE | APPD PROJECT ENGINEER | DATE | RELEASED        | DATE | PROJECT NO                           |
|           |      |                       |      |                 |      |                                      |

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| PRINT ITEM NUMBER | QUANTITY PER ASSEMBLY | UNIT OF ISSUE | DWG. SIZE             | PART NUMBER | DESCRIPTION                  | VENDOR PART NUMBER                 |             |
|-------------------|-----------------------|---------------|-----------------------|-------------|------------------------------|------------------------------------|-------------|
| C001              | 00001.000             | EA            |                       | 217202-0001 | PRT WRG PC,PULSE ACCUMULATOR |                                    |             |
| 0002              | 00003.000             | EA            |                       | 222222-7408 | NETWCRK-SN7408N              |                                    |             |
| C002A             |                       |               |                       |             | Z5 Z27 Z32                   |                                    |             |
| 0003              | 00001.000             | EA            |                       | 222222-7401 | NETWCRK SN7401N              |                                    |             |
| C003A             |                       |               |                       |             | Z8                           |                                    |             |
| 0005              | 00006.000             | EA            |                       | 222222-7474 | NETWCRK SN7474N              | -SN7474N                           |             |
| C005A             |                       |               |                       |             | Z11 Z22 Z26 Z31 Z33 Z38      |                                    |             |
| 0006              | 00001.000             | EA            |                       | 222222-7451 | NETWCRK SN7451N              | -SN7451N                           |             |
| C006A             |                       |               |                       |             | Z39                          |                                    |             |
| 0007              | 00008.000             | EA            |                       | 222222-7493 | NETWCRK-SN7493N              |                                    |             |
| C007A             |                       |               |                       |             | Z3 Z10 Z17 Z20               |                                    |             |
| C007B             |                       |               |                       |             | Z25 Z28 Z30 Z37              |                                    |             |
| C008              | 00005.000             | EA            |                       | 222222-7490 | NETWCRK-SN7490N              |                                    |             |
| C008A             |                       |               |                       |             | Z13 Z14 Z21 Z29 Z34          |                                    |             |
| C009              | 00001.000             | EA            |                       | 222222-7442 | NETWCRK-SN7442N              |                                    |             |
| C009A             |                       |               |                       |             | Z7                           |                                    |             |
| 0010              | 00001.000             | EA            |                       | 222222-7413 | NETWCRK SN7413N              |                                    |             |
| C010A             |                       |               |                       |             | Z35                          |                                    |             |
| 0011              | 00001.000             | EA            |                       | 222222-7420 | NETWCRK SN7420N              | -SN7420N                           |             |
| C011A             |                       |               |                       |             | Z4                           |                                    |             |
| DRAFTSMAN         |                       | DATE          | CKD DRAFTSMAN         | DATE        | DESIGN ENGINEER              | DATE                               | TITLE       |
| APPD-MFG          |                       | DATE          | APPD PROJECT ENGINEER | DATE        | RELEASED                     | DATE                               | PROJECT NO. |
|                   |                       |               |                       |             |                              | BOARD ASSY,PULSE ACCUMULATOR 10 MS |             |
|                   |                       |               |                       |             |                              | PART NUMBER                        |             |
|                   |                       |               |                       |             |                              | <b>LM</b> 217203-0004              |             |
|                   |                       |               |                       |             |                              | REV                                |             |
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| PRINT ITEM NUMBER | QUANTITY PER ASSEMBLY | UNIT OF ISSUE | DWG. SIZE             | PART NUMBER | DESCRIPTION                            | VENDOR PART NUMBER    |                                    |
|-------------------|-----------------------|---------------|-----------------------|-------------|--|-----------------------|------------------------------------|
| 0012              | 00002.000             | EA            |                       | 222222-7430 | NETWRK SN7430N                         | -SN7430N              |                                    |
| C012A             |                       |               |                       |             | Z2 Z36                                 |                       |                                    |
| 0013              | 00003.000             | EA            |                       | 222222-7100 | NETWRK SN74100N                        |                       |                                    |
| 0013A             |                       |               |                       |             | Z9 Z16 Z24                             |                       |                                    |
| 0014              | 00002.000             | EA            |                       | 222222-7150 | NETWRK SN74150N                        |                       |                                    |
| C014A             |                       |               |                       |             | Z15 Z23                                |                       |                                    |
| C015              | 00004.000             | EA            |                       | 222222-7404 | NETWORK SN7404N                        |                       |                                    |
| C015A             |                       |               |                       |             | Z1 Z6 Z12 Z40                          |                       |                                    |
| 0016              | 00004.000             | EA            |                       | 972946-0057 | RES FIX 470 OHM 5 % .25 W CARBON FILM  | ROH- R-25             |                                    |
| 0016A             |                       |               |                       |             | R1 R4 R10 R11                          |                       |                                    |
| C018              | 00002.000             | EA            |                       | 972946-0054 | RES FIX 360 OHM 5 % .25 W CARBON FILM  | ROH- R-25             |                                    |
| 0018A             |                       |               |                       |             | R3 R6                                  |                       |                                    |
| C020              | 00005.000             | EA            |                       | 972946-0065 | RES FIX 1.0K OHM 5 % .25 W CARBON FILM | ROH- R-25             |                                    |
| 0020A             |                       |               |                       |             | R7 R8 R9 R12 R13                       |                       |                                    |
| C021              | 00002.000             | EA            |                       | 972927-0015 | CAP FIX MICA 500V 33.0 PF 5 %          | QPL-CM05E330J00       |                                    |
| C021A             |                       |               |                       |             | C4 C5                                  |                       |                                    |
| 0022              | 00001.000             | EA            |                       | 972927-0044 | CAP FIX MICA 300V 510 PF 5 %           | QPL-CM05F511J00       |                                    |
| 0022A             |                       |               |                       |             | C3                                     |                       |                                    |
| C024              | 00001.000             | EA            |                       | 972924-0015 | CAP FIX TANT SOLID 47 MFD 10 % 20 VOLT | QPL-M39003/1-2295     |                                    |
| C024A             |                       |               |                       |             | C6                                     |                       |                                    |
| DRAFTSMAN         |                       | DATE          | CKD DRAFTSMAN         | DATE        | DESIGN ENGINEER                        | DATE                  | TITLE                              |
|                   |                       |               |                       |             |  |                       | BOARD ASSY,PULSE ACCUMULATOR 10 MS |
| APPD MFG          |                       | DATE          | APPD PROJECT ENGINEER | DATE        | RELEASED                               | DATE                  | PROJECT NO                         |
|                   |                       |               |                       |             |  |                       |                                    |
|                   |                       |               |                       |             |  | PART NUMBER           | REV                                |
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| PRINT ITEM NUMBER | QUANTITY PER ASSEMBLY | UNIT OF ISSUE | DWG. SIZE              | PART NUMBER | DESCRIPTION                              | VENDOR PART NUMBER    |                                     |
|-------------------|-----------------------|---------------|------------------------|-------------|--|-----------------------|-------------------------------------|
| 0025              | 0020.000              | EA            |                        | 534340-0001 | CAP FIX CERAMIC .10 MF 20/80 % 10V       | CRL- UK10-104         |                                     |
| C025A             |                       |               |                        |             | C7 THRU C26                              |                       |                                     |
| 0026              | REF                   | EA            |                        | 216838-9901 | DIAGRAM, LCGIC-PULSE ACCUMULATOR         |                       |                                     |
| 0027              | 00001.000             | EA            |                        | 231642-3080 | CRYSTAL 5120.KC +/- .005% W/WIRE LDS     | MIL-CR60/U-HC18/U     |                                     |
| 0027A             |                       |               |                        |             | Y1                                       |                       |                                     |
| 0028              | 00002.000             | EA            |                        | 222222-7400 | NETWORK SN7400N                          | -SN7400N              |                                     |
| 0028A             |                       |               |                        |             | Z18 Z19                                  |                       |                                     |
| 0029              | 00005.000             | FT            |                        | 417836-0005 | WIRE TACKLER 8-24 AWG SOLID WHITE        | JUD- HH0110           |                                     |
| 0030              | 00001.000             | EA            |                        | 539544-0002 | SOCKET, 16PIN IC LOW PROFILE SOLDER TAIL | TI -C93-16-02         |                                     |
| C030A             |                       |               |                        |             | J3                                       |                       |                                     |
| 0031              | REF                   | EA            |                        | 216839-9901 | TEST PROCEDURE, PULSE ACCUMULATOR        |                       |                                     |
| 0032              | REF                   | EA            |                        | 216738-9901 | SPECS, PULSE ACCUMULATOR- 960 CRU        |                       |                                     |
| 0033              | 00001.000             | EA            |                        | 222222-7123 | NETWORK SN74123N                         |                       |                                     |
| C033A             |                       |               |                        |             | Z41                                      |                       |                                     |
| 0034              | 00002.000             | EA            |                        | 972946-0091 | RES FIX 12 K OHM 5 % .25 W CARBON FILM   | ROH- R-25             |                                     |
| C034A             |                       |               |                        |             | R14, R15                                 |                       |                                     |
| 0035              | 00001.000             | EA            |                        | 772312-0002 | PLUG, IC DUAL IN-LINE 16 PIN .0165X.0165 | SSW-3000-177          |                                     |
| C035A             |                       |               |                        |             | P3                                       |                       |                                     |
| 0036              | 00002.000             | EA            |                        | 972955-0001 | XSTR 2N2369A, NPN, HIGH SPEED SW, TO-18  | MOT- 2N2369A          |                                     |
| 0036A             |                       |               |                        |             | Q1 C2                                    |                       |                                     |
| DRAFTSMAN         |                       | DATE          | CKD DRAFTSMAN          | DATE        | DESIGN ENGINEER                          | DATE                  | TITLE                               |
|                   |                       |               |                        |             |  |                       | BOARD ASSY, PULSE ACCUMULATOR 10 MS |
| APPD -MFG         |                       | DATE          | APPD. PROJECT ENGINEER | DATE        | RELEASED                                 | DATE                  | PROJECT NO.                         |
|                   |                       |               |                        |             |  |                       |                                     |
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|-------------------|-----------------------|---------------|-----------|-------------|----------------------------------|--------------------|
| 0037              | 00002.000             | EA            |           | 185113-0001 | X SFACER XST TO-18 CASE          | * -                |
| 0038              | 00001.000             | EA            |           | 533887-0001 | EJECTOR, PCB, NON-LOCKING, WHITE | SCA-S-202 WHITE    |
| 0039              | 00001.000             | EA            |           | 533887-0009 | EJECTOR, PCB, NON-LOCKING, GREEN | SCA-S-202 GREEN    |

|           |      |                       |      |                 |      |                                     |
|-----------|------|-----------------------|------|-----------------|------|-------------------------------------|
| DRAFTSMAN | DATE | CKD DRAFTSMAN         | DATE | DESIGN ENGINEER | DATE | TITLE                               |
|           |      |                       |      |                 |      | BOARD ASSY, PULSE ACCUMULATOR 10 MS |
| APPD MFG  | DATE | APPD PROJECT ENGINEER | DATE | RELEASED        | DATE | PROJECT NO.                         |
|           |      |                       |      |                 |      |                                     |

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| PRINT ITEM NUMBER | QUANTITY PER ASSEMBLY | UNIT OF ISSUE | DWG. SIZE              | PART NUMBER | DESCRIPTION                   | VENDOR PART NUMBER    |                                      |
|-------------------|-----------------------|---------------|------------------------|-------------|-------------------------------|-----------------------|--------------------------------------|
| 0001              | 00001.000             | EA            |                        | 217202-0001 | PRT WRG EC, PULSE ACCUMULATOR |                       |                                      |
| C002              | 00003.000             | EA            |                        | 222222-7408 | NETWORK-SN7408N               |                       |                                      |
| 0002A             |                       |               |                        |             | Z5 Z27 Z32                    |                       |                                      |
| C003              | 00001.000             | EA            |                        | 222222-7401 | NETWORK SN7401N               |                       |                                      |
| 0003A             |                       |               |                        |             | Z8                            |                       |                                      |
| C005              | 00006.000             | EA            |                        | 222222-7474 | NETWORK SN7474N               | -SN7474N              |                                      |
| 0005A             |                       |               |                        |             | Z11 Z22 Z26 Z31 Z33 Z38       |                       |                                      |
| C006              | 00001.000             | EA            |                        | 222222-7451 | NETWORK SN7451N               | -SN7451N              |                                      |
| 0006A             |                       |               |                        |             | Z39                           |                       |                                      |
| C007              | 00008.000             | EA            |                        | 222222-7453 | NETWORK-SN7493N               |                       |                                      |
| C007A             |                       |               |                        |             | Z3 Z10 Z17 Z20                |                       |                                      |
| 0007B             |                       |               |                        |             | Z25 Z28 Z30 Z37               |                       |                                      |
| C008              | 00005.000             | EA            |                        | 222222-7450 | NETWORK-SN7490N               |                       |                                      |
| 0008A             |                       |               |                        |             | Z13 Z14 Z21 Z29 Z34           |                       |                                      |
| C009              | 00001.000             | EA            |                        | 222222-7442 | NETWORK-SN7442N               |                       |                                      |
| 0009A             |                       |               |                        |             | Z7                            |                       |                                      |
| C010              | 00001.000             | EA            |                        | 222222-7413 | NETWORK SN7413N               |                       |                                      |
| 0010A             |                       |               |                        |             | Z35                           |                       |                                      |
| C011              | 00001.000             | EA            |                        | 222222-7420 | NETWORK SN7420N               | -SN7420N              |                                      |
| 0011A             |                       |               |                        |             | Z4                            |                       |                                      |
| DRAFTSMAN         |                       | DATE          | CKD DRAFTSMAN          | DATE        | DESIGN ENGINEER               | DATE                  | TITLE                                |
|                   |                       |               |                        |             |                               |                       | BOARD ASSY, PULSE ACCUMULATOR 100 MS |
| APPD. MFG.        |                       | DATE          | APPD. PROJECT ENGINEER | DATE        | RELEASED                      | DATE                  | PROJECT NO.                          |
|                   |                       |               |                        |             |                               |                       |                                      |
|                   |                       |               |                        |             |                               | PART NUMBER           | REV                                  |
|                   |                       |               |                        |             |                               | <b>LM 217203-0005</b> | <b>L</b>                             |

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| PRINT ITEM NUMBER | QUANTITY PER ASSEMBLY | UNIT OF ISSUE | DWG SIZE              | PART NUMBER | DESCRIPTION                            | VENDOR PART NUMBER |                                     |
|-------------------|-----------------------|---------------|-----------------------|-------------|--|--------------------|-------------------------------------|
| C012              | 00002.000             | EA            |                       | 222222-7430 | NETWCRK SN7430N                        | -SN7430N           |                                     |
| C012A             |                       |               |                       |             | Z2 Z36                                 |                    |                                     |
| C013              | 00003.000             | EA            |                       | 222222-7100 | NETWCRK SN74100N                       |                    |                                     |
| C013A             |                       |               |                       |             | Z9 Z16 Z24                             |                    |                                     |
| 0014              | 00002.000             | EA            |                       | 222222-7150 | NETWCRK SN74150N                       |                    |                                     |
| C014A             |                       |               |                       |             | Z15 Z23                                |                    |                                     |
| 0015              | 00004.000             | EA            |                       | 222222-7404 | NETWORK SN7404N                        |                    |                                     |
| C015A             |                       |               |                       |             | Z1 Z6 Z12 Z40                          |                    |                                     |
| 0016              | 00004.000             | EA            |                       | 972946-0057 | RES FIX 470 OHM 5 % .25 W CARBON FILM  | ROH- R-25          |                                     |
| C016A             |                       |               |                       |             | R1 R4 R10 R11                          |                    |                                     |
| 0018              | 00002.000             | EA            |                       | 972946-0054 | RES FIX 360 OHM 5 % .25 W CARBON FILM  | ROH- R-25          |                                     |
| C018A             |                       |               |                       |             | R3 R6                                  |                    |                                     |
| C020              | 00005.000             | EA            |                       | 972946-0065 | RES FIX 1.0K OHM 5 % .25 W CARBON FILM | ROH- R-25          |                                     |
| C020A             |                       |               |                       |             | R7 R8 R9 F12 R13                       |                    |                                     |
| 0021              | 00002.000             | EA            |                       | 972927-0015 | CAP FIX MICA 500V 33.0 PF 5 %          | QPL-CM05E330J00    |                                     |
| C021A             |                       |               |                       |             | C4 C5                                  |                    |                                     |
| C022              | 00001.000             | EA            |                       | 972927-0044 | CAP FIX MICA 300V 510 PF 5 %           | QPL-CM05F511J00    |                                     |
| C022A             |                       |               |                       |             | C3                                     |                    |                                     |
| 0024              | 00001.000             | EA            |                       | 972924-0015 | CAP FIX TANT SOLID 47 MFD 10 % 20 VOLT | QPL-M39003/1-2295  |                                     |
| C024A             |                       |               |                       |             | C6                                     |                    |                                     |
| DRAFTSMAN         |                       | DATE          | CKD DRAFTSMAN         | DATE        | DESIGN ENGINEER                        | DATE               | TITLE                               |
|                   |                       |               |                       |             |  |                    | BOARD ASSY,PULSE ACCUMULATOR 100 MS |
| APPD MFG          |                       | DATE          | APPD PROJECT ENGINEER | DATE        | RELEASED                               | DATE               | PROJECT NO                          |
|                   |                       |               |                       |             |  |                    |                                     |
|                   |                       |               |                       |             |  | PART NUMBER        | REV                                 |
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| PRINT<br>ITEM<br>NUMBER | QUANTITY<br>PER<br>ASSEMBLY | UNIT<br>OF<br>ISSUE | DWG.<br>SIZE           | PART NUMBER | DESCRIPTION                              | VENDOR PART NUMBER    |             |
|-------------------------|-----------------------------|---------------------|------------------------|-------------|--|-----------------------|-------------|
| C025                    | 00020.000                   | EA                  |                        | 534348-C001 | CAP FIX CERAMIC .10 MF 20/80 % 10V       | CRL- UK10-104         |             |
| 0025A                   |                             |                     |                        |             | C7 THRU C26                              |                       |             |
| 0026                    | REF                         | EA                  |                        | 216838-9901 | DIAGRAM, LCGIC-PULSE ACCUMULATOR         |                       |             |
| C027                    | 00001.000                   | EA                  |                        | 231642-3080 | CRYSTAL 5120.KC +/- .005% W/WIRE LDS     | MIL-CR60/U-HC18/U     |             |
| C027A                   |                             |                     |                        |             | Y1                                       |                       |             |
| C023                    | 00002.000                   | EA                  |                        | 222222-7400 | NETWCRK SN7400N                          | -SN7400N              |             |
| C028A                   |                             |                     |                        |             | Z18 Z19                                  |                       |             |
| 0029                    | 00005.000                   | FT                  |                        | 417836-C005 | WIRE SOCKLP B-24 AWG SOLID WHITE         | JUD- HH0110           |             |
| 0030                    | 00001.000                   | EA                  |                        | 539544-C002 | SOCKET, 16PIN IC LOW PROFILE SOLDER TAIL | TI -C93-16-02         |             |
| C030A                   |                             |                     |                        |             | J3                                       |                       |             |
| 0031                    | REF                         | EA                  |                        | 216839-9901 | TEST PROCEDURE, PULSE ACCUMULATOR        |                       |             |
| 0032                    | REF                         | EA                  |                        | 216738-9901 | SPECS, PULSE ACCUMULATOR- 960 CRU        |                       |             |
| 0033                    | 00001.000                   | EA                  |                        | 222222-7123 | NETWCRK SN74123N                         |                       |             |
| 0033A                   |                             |                     |                        |             | Z41                                      |                       |             |
| 0034                    | 00002.000                   | EA                  |                        | 972946-C091 | RES FIX 12 K OHM 5 % .25 W CARBON FILM   | ROH- R-25             |             |
| 0034A                   |                             |                     |                        |             | R14, R15                                 |                       |             |
| 0035                    | 00001.000                   | EA                  |                        | 772312-0002 | PLUG, IC DUAL IN-LINE 16 PIN .0165X.0165 | SSW-3000-177          |             |
| 0035A                   |                             |                     |                        |             | P3                                       |                       |             |
| C036                    | 00002.000                   | EA                  |                        | 972955-C001 | XSTR 2N2369A, NPN, HIGH SPEED SW, TO-18  | MOT- 2N2369A          |             |
| 0036A                   |                             |                     |                        |             | Q1 C2                                    |                       |             |
| DRAFTSMAN               |                             | DATE                | CKD DRAFTSMAN          | DATE        | DESIGN ENGINEER                          | DATE                  | TITLE       |
| APPD -MFG               |                             | DATE                | APPD. PROJECT ENGINEER | DATE        | RELEASED                                 | DATE                  | PROJECT NO. |
|                         |                             |                     |                        |             |  | PART NUMBER           | REV         |
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| PRINT ITEM NUMBER | QUANTITY PER ASSEMBLY | UNIT OF ISSUE | DWG. SIZE | PART NUMBER | DESCRIPTION                   | VENDOR PART NUMBER |
|-------------------|-----------------------|---------------|-----------|-------------|-------------------------------|--------------------|
| 0037              | 00002.000             | EA            |           | 185113-0001 | X SPACER XST TO-18 CASE       | -                  |
| 0038              | 00001.000             | EA            |           | 533887-0001 | EJECTOR,PCE,NCN-LOCKING,WHITE | SCA-S-202 WHITE    |
| 0039              | 00001.000             | EA            |           | 533887-0009 | EJECTOR,PCE,NCN-LOCKING,GREEN | SCA-S-202 GREEN    |

|           |      |                       |      |                 |      |                                     |
|-----------|------|-----------------------|------|-----------------|------|-------------------------------------|
| DRAFTSMAN | DATE | CKD DRAFTSMAN         | DATE | DESIGN ENGINEER | DATE | TITLE                               |
|           |      |                       |      |                 |      | B7ARD ASSY,PULSE ACCUMULATOR 100 MS |
| APPD MFG  | DATE | APPD PROJECT ENGINEER | DATE | RELEASED        | DATE | PROJECT NO                          |
|           |      |                       |      |                 |      |                                     |

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| PRINT ITEM NUMBER | QUANTITY PER ASSEMBLY | UNIT OF ISSUE         | DWG. SIZE | PART NUMBER     | DESCRIPTION                  | VENDOR PART NUMBER                   |
|-------------------|-----------------------|-----------------------|-----------|-----------------|------------------------------|--------------------------------------|
| C001              | 00001.000             | EA                    |           | 217202-00C1     | PRT WRG PC,PULSE ACCUMULATOR |                                      |
| C002              | 00003.000             | EA                    |           | 222222-74C8     | NETWCRK-SN74C8N              |                                      |
| C002A             |                       |                       |           |                 | Z5 Z27 Z32                   |                                      |
| 0003              | 00001.000             | EA                    |           | 222222-74C1     | NETWCRK SN7401N              |                                      |
| C003A             |                       |                       |           |                 | Z8                           |                                      |
| 0005              | 00006.000             | EA                    |           | 222222-7474     | NETWCRK SN7474N              | -SN7474N                             |
| C005A             |                       |                       |           |                 | Z11 Z22 Z26 Z31 Z33 Z38      |                                      |
| 0006              | 00001.000             | EA                    |           | 222222-7451     | NETWCRK SN7451N              | -SN7451N                             |
| C006A             |                       |                       |           |                 | Z39                          |                                      |
| C007              | 00008.000             | EA                    |           | 222222-7493     | NETWCRK-SN7493N              |                                      |
| C007A             |                       |                       |           |                 | Z3 Z10 Z17 Z20               |                                      |
| C007B             |                       |                       |           |                 | Z25 Z28 Z30 Z37              |                                      |
| 0008              | 00005.000             | EA                    |           | 222222-7490     | NETWCRK-SN7490N              |                                      |
| C008A             |                       |                       |           |                 | Z13 Z14 Z21 Z29 Z34          |                                      |
| 0009              | 00001.000             | EA                    |           | 222222-7442     | NETWCRK-SN7442N              |                                      |
| C009A             |                       |                       |           |                 | Z7                           |                                      |
| 0010              | 00001.000             | EA                    |           | 222222-7413     | NETWCRK SN7413N              |                                      |
| C010A             |                       |                       |           |                 | Z35                          |                                      |
| C011              | 00001.000             | EA                    |           | 222222-7420     | NETWCRK SN7420N              | -SN7420N                             |
| C011A             |                       |                       |           |                 | Z4                           |                                      |
| DRAFTSMAN         | DATE                  | CKD DRAFTSMAN         | DATE      | DESIGN ENGINEER | DATE                         | TITLE                                |
|                   |                       |                       |           |                 |                              | BOARD ASSY,PULSE ACCUMULATOR 1.0 SEC |
| APPD MFG          | DATE                  | APPD PROJECT ENGINEER | DATE      | RELEASED        | DATE                         | PROJECT NO                           |
|                   |                       |                       |           |                 |                              |                                      |
|                   |                       |                       |           |                 |                              | PART NUMBER                          |
|                   |                       |                       |           |                 |                              | <b>LM</b> 217203-0006                |
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|-------------------|-----------------------|---------------|-----------------------|-------------|--|--------------------|---------------------------------------|-----|
| C012              | 00002.000             | EA            |                       | 222222-7430 | NETWRK SN7430N                         | -SN7430N           |                                       |     |
| C012A             |                       |               |                       |             | Z2 Z36                                 |                    |                                       |     |
| C013              | 00003.000             | EA            |                       | 222222-7100 | NETWRK SN74100N                        |                    |                                       |     |
| 0013A             |                       |               |                       |             | Z9 Z16 Z24                             |                    |                                       |     |
| C014              | 00002.000             | EA            |                       | 222222-7150 | NETWRK SN74150N                        |                    |                                       |     |
| C014A             |                       |               |                       |             | Z15 Z23                                |                    |                                       |     |
| C015              | 00004.000             | EA            |                       | 222222-7404 | NETWRK SN7404N                         |                    |                                       |     |
| C015A             |                       |               |                       |             | Z1 Z6 Z12 Z40                          |                    |                                       |     |
| C016              | 00004.000             | EA            |                       | 972946-0057 | RES FIX 470 OHM 5 % .25 W CARBON FILM  | ROH- R-25          |                                       |     |
| 0016A             |                       |               |                       |             | R1 R4 R10 R11                          |                    |                                       |     |
| C018              | 00002.000             | EA            |                       | 972946-0054 | RES FIX 360 OHM 5 % .25 W CARBON FILM  | ROH- R-25          |                                       |     |
| C018A             |                       |               |                       |             | R3 R6                                  |                    |                                       |     |
| C020              | 00005.000             | EA            |                       | 972946-0065 | RES FIX 1.0K OHM 5 % .25 W CARBON FILM | ROH- R-25          |                                       |     |
| 0020A             |                       |               |                       |             | R7 R8 R9 R12 R13                       |                    |                                       |     |
| C021              | 00002.000             | EA            |                       | 972927-0015 | CAP FIX MICA 500V 33.0 PF 5 %          | QPL-CM05E330J00    |                                       |     |
| C021A             |                       |               |                       |             | C4 C5                                  |                    |                                       |     |
| C022              | 00001.000             | EA            |                       | 972927-0044 | CAP FIX MICA 300V 510 PF 5 %           | QPL-CM05F511J00    |                                       |     |
| C022A             |                       |               |                       |             | C3                                     |                    |                                       |     |
| 0024              | 00001.000             | EA            |                       | 972924-0015 | CAP FIX TANT SOLID 47 MFD 10 % 20 VOLT | QPL-M39003/1-2295  |                                       |     |
| C024A             |                       |               |                       |             | C6                                     |                    |                                       |     |
| DRAFTSMAN         |                       | DATE          | CKD DRAFTSMAN         | DATE        | DESIGN ENGINEER                        | DATE               | TITLE                                 |     |
|                   |                       |               |                       |             |  |                    | BOARD ASSY, PULSE ACCUMULATOR 1.0 SFC |     |
| APPD MFG          |                       | DATE          | APPD PROJECT ENGINEER | DATE        | RELEASED                               | DATE               | PROJECT NO                            |     |
|                   |                       |               |                       |             |  |                    |                                       |     |
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|-------------------|-----------------------|---------------|-----------------------|-------------|--|--------------------|---------------------------------------|-----|
| 0025              | 00020.000             | EA            |                       | 534348-C001 | CAP FIX CERAMIC .10 MF 20/80 % 10V       | CRL- UK10-104      |                                       |     |
| C025A             |                       |               |                       |             | C7 THRU C26                              |                    |                                       |     |
| 0026              | REF                   | EA            |                       | 216838-9901 | DIAGRAM, LCGIC-PULSE ACCUMULATOR         |                    |                                       |     |
| C027              | 00001.000             | FA            |                       | 231642-3080 | CRYSTAL 5120.KC +/- .005% W/WIRE LDS     | MIL-CP60/U-HC18/U  |                                       |     |
| C027A             |                       |               |                       |             | Y1                                       |                    |                                       |     |
| C028              | 00002.000             | EA            |                       | 222222-7400 | NETWORK SN7400N                          | -SN7400N           |                                       |     |
| C028A             |                       |               |                       |             | Z18 Z19                                  |                    |                                       |     |
| C029              | 00005.000             | FT            |                       | 417836-C005 | WIRE FCKLP B-24 AWG SOLID WHITE          | JUD- HH0110        |                                       |     |
| C030              | 00001.000             | EA            |                       | 539544-C002 | SOCKET, 16PIN IC LOW PROFILE SOLDER TAIL | TI -C93-16-02      |                                       |     |
| C030A             |                       |               |                       |             | J3                                       |                    |                                       |     |
| C031              | REF                   | EA            |                       | 216839-9901 | TEST PROCEDURE, PULSE ACCUMULATOR        |                    |                                       |     |
| 0032              | REF                   | EA            |                       | 216738-9901 | SPECS, PULSE ACCUMULATOR- 960 CRU        |                    |                                       |     |
| C033              | 00001.000             | EA            |                       | 222222-7123 | NETWORK SN74123N                         |                    |                                       |     |
| C033A             |                       |               |                       |             | Z41                                      |                    |                                       |     |
| C034              | 00002.000             | EA            |                       | 972946-0091 | RES FIX 12 K OHM 5 % .25 W CARBON FILM   | ROH- R-25          |                                       |     |
| C034A             |                       |               |                       |             | R14, R15                                 |                    |                                       |     |
| 0035              | 00001.000             | EA            |                       | 772312-C002 | PLUG, IC DUAL IN-LINE 16 PIN .0165X.0165 | SSW-3000-177       |                                       |     |
| C035A             |                       |               |                       |             | P3                                       |                    |                                       |     |
| C036              | 00002.000             | EA            |                       | 972955-C001 | XSTR 2N2369A, NPN, HIGH SPEED SW, T0-18  | MOT- 2N2369A       |                                       |     |
| C036A             |                       |               |                       |             | Q1 Q2                                    |                    |                                       |     |
| DRAFTSMAN         |                       | DATE          | CKD DRAFTSMAN         | DATE        | DESIGN ENGINEER                          | DATE               | TITLE                                 |     |
|                   |                       |               |                       |             |  |                    | BOARD ASSY, PULSE ACCUMULATOR 1.0 SEC |     |
| APPD MFG          |                       | DATE          | APPD PROJECT ENGINEER | DATE        | RELEASED                                 | DATE               | PROJECT NO.                           |     |
|                   |                       |               |                       |             |  |                    |                                       |     |
|                   |                       |               |                       |             |  |                    | PART NUMBER                           | REV |
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| PRINT ITEM NUMBER | QUANTITY PER ASSEMBLY | UNIT OF ISSUE | DWG. SIZE | PART NUMBER | DESCRIPTION                   | VENDOR PART NUMBER |
|-------------------|-----------------------|---------------|-----------|-------------|-------------------------------|--------------------|
| C037              | 00002.000             | EA            |           | 185113-0001 | X SPACER XST TD-18 CASE       | * -                |
| C038              | 00001.000             | EA            |           | 533887-CCC1 | EJECTOR,PCE,NON-LOCKING,WHITE | SCA-S-202 WHITE    |
| 0039              | 00001.000             | EA            |           | 533887-CCC9 | EJECTOR,PCE,NON-LOCKING,GREEN | SCA-S-202 GREEN    |

|           |      |                       |      |                 |      |                                      |
|-----------|------|-----------------------|------|-----------------|------|--------------------------------------|
| DRAFTSMAN | DATE | CKD DRAFTSMAN         | DATE | DESIGN ENGINEER | DATE | TITLE                                |
|           |      |                       |      |                 |      | BOARD ASSY,PULSE ACCUMULATOR 1.0 SEC |
| APPD MFG  | DATE | APPD PROJECT ENGINEER | DATE | RELEASED        | DATE | PROJECT NO.                          |
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|-------------------|-----------------------|---------------|------------------------|-------------|------------------------------|-----------------------|-------------------------------------|
| C001              | 00001.000             | EA            |                        | 217202-0001 | PRT WRG EC,PULSE ACCUMULATOR |                       |                                     |
| 0002              | 00003.000             | EA            |                        | 222222-7408 | NETWCRK-SN7408N              |                       |                                     |
| C002A             |                       |               |                        |             | Z5 Z27 Z32                   |                       |                                     |
| C003              | 00001.000             | EA            |                        | 222222-7401 | NETWCRK SN7401N              |                       |                                     |
| C003A             |                       |               |                        |             | Z8                           |                       |                                     |
| 0005              | 00006.000             | EA            |                        | 222222-7474 | NETWORK SN7474N              | -SN7474N              |                                     |
| C005A             |                       |               |                        |             | Z11 Z22 Z26 Z31 Z33 Z38      |                       |                                     |
| 0006              | 00001.000             | EA            |                        | 222222-7451 | NETWCRK SN7451N              | -SN7451N              |                                     |
| C006A             |                       |               |                        |             | Z39                          |                       |                                     |
| C007              | 00008.000             | EA            |                        | 222222-7453 | NETWCRK-SN7453N              |                       |                                     |
| C007A             |                       |               |                        |             | Z3 Z10 Z17 Z20               |                       |                                     |
| 0007B             |                       |               |                        |             | Z25 Z28 Z30 Z37              |                       |                                     |
| C008              | 00005.000             | EA            |                        | 222222-7490 | NETWCRK-SN7490N              |                       |                                     |
| C008A             |                       |               |                        |             | Z13 Z14 Z21 Z29 Z34          |                       |                                     |
| C009              | 00001.000             | EA            |                        | 222222-7442 | NETWCRK-SN7442N              |                       |                                     |
| 0009A             |                       |               |                        |             | Z7                           |                       |                                     |
| C010              | 00001.000             | EA            |                        | 222222-7413 | NETWCRK SN7413N              |                       |                                     |
| C010A             |                       |               |                        |             | Z35                          |                       |                                     |
| C011              | 00001.000             | EA            |                        | 222222-7420 | NETWCRK SN7420N              | -SN7420N              |                                     |
| C011A             |                       |               |                        |             | Z4                           |                       |                                     |
| DRAFTSMAN         |                       | DATE          | CKD DRAFTSMAN          | DATE        | DESIGN ENGINEER              | DATE                  | TITLE                               |
|                   |                       |               |                        |             |                              |                       | BOARD ASSY,PULSE ACCUMULATOR 10 SEC |
| APPD MFG          |                       | DATE          | APPD. PROJECT ENGINEER | DATE        | RELEASED                     | DATE                  | PROJECT NO.                         |
|                   |                       |               |                        |             |                              |                       |                                     |
|                   |                       |               |                        |             |                              | PART NUMBER           | REV                                 |
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| PART NUMBER    | REV |
| LM 217203-0007 | L   |

| PRINT ITEM NUMBER | QUANTITY PER ASSEMBLY | UNIT OF ISSUE | DWG SIZE              | PART NUMBER | DESCRIPTION                            | VENDOR PART NUMBER |                                      |
|-------------------|-----------------------|---------------|-----------------------|-------------|--|--------------------|--------------------------------------|
| 0012              | 00002.000             | EA            |                       | 222222-7430 | NETWRK SN7430N                         | -SN7430N           |                                      |
| C012A             |                       |               |                       |             | Z2 Z36                                 |                    |                                      |
| 0013              | 00003.000             | EA            |                       | 222222-7100 | NETWRK SN74100N                        |                    |                                      |
| C013A             |                       |               |                       |             | Z9 Z16 Z24                             |                    |                                      |
| 0014              | 00002.000             | EA            |                       | 222222-7150 | NETWRK SN74150N                        |                    |                                      |
| C014A             |                       |               |                       |             | Z15 Z23                                |                    |                                      |
| 0015              | 00004.000             | EA            |                       | 222222-7404 | NETWORK SN7404N                        |                    |                                      |
| C015A             |                       |               |                       |             | Z1 Z6 Z12 Z40                          |                    |                                      |
| 0016              | 00004.000             | EA            |                       | 972946-0057 | RES FIX 470 OHM 5 % .25 W CARBON FILM  | ROH- R-25          |                                      |
| C016A             |                       |               |                       |             | R1 R4 R10 R11                          |                    |                                      |
| 0018              | 00002.000             | EA            |                       | 972946-0054 | RES FIX 360 OHM 5 % .25 W CARBON FILM  | ROH- R-25          |                                      |
| C018A             |                       |               |                       |             | R3 R6                                  |                    |                                      |
| 0020              | 00005.000             | EA            |                       | 972946-0065 | RES FIX 1.0K OHM 5 % .25 W CARBON FILM | ROH- R-25          |                                      |
| C020A             |                       |               |                       |             | R7 R8 R9 R12 R13                       |                    |                                      |
| 0021              | 00002.000             | EA            |                       | 972927-0015 | CAP FIX MICA 500V 33.0 PF 5 %          | QPL-CM05E330J00    |                                      |
| C021A             |                       |               |                       |             | C4 C5                                  |                    |                                      |
| 0022              | 00001.000             | EA            |                       | 972927-0044 | CAP FIX MICA 300V 510 PF 5 %           | QPL-CM05F511J00    |                                      |
| C022A             |                       |               |                       |             | C3                                     |                    |                                      |
| 0024              | 00001.000             | EA            |                       | 972924-0015 | CAP FIX TANT SOLID 47 MFD 10 % 20 VOLT | QPL-M39003/1-2295  |                                      |
| C024A             |                       |               |                       |             | C6                                     |                    |                                      |
| DRAFTSMAN         |                       | DATE          | CKD DRAFTSMAN         | DATE        | DESIGN ENGINEER                        | DATE               | TITLE                                |
|                   |                       |               |                       |             |  |                    | BOARD ASSY, PULSE ACCUMULATOR 10 SEC |
| APPD MFG          |                       | DATE          | APPD PROJECT ENGINEER | DATE        | RELEASED                               | DATE               | PROJECT NO.                          |
|                   |                       |               |                       |             |  |                    |                                      |
|                   |                       |               |                       |             |  | PART NUMBER        | REV                                  |
|                   |                       |               |                       |             |  | LM 217203-0007     | L                                    |

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**LM 217203-0007**REV  
**L**

| PRINT<br>ITEM<br>NUMBER | QUANTITY<br>PER<br>ASSEMBLY | UNIT<br>OF<br>ISSUE | DWG.<br>SIZE          | PART NUMBER | DESCRIPTION                              | VENDOR PART NUMBER    |                                      |
|-------------------------|-----------------------------|---------------------|-----------------------|-------------|--|-----------------------|--------------------------------------|
| C025                    | 00020.000                   | EA                  |                       | 534348-C001 | CAP FIX CERAMIC .10 MF 20/80 % 10V       | CRL- UK10-104         |                                      |
| 0025A                   |                             |                     |                       |             | C7 TRPL C26                              |                       |                                      |
| 0026                    | REF                         | EA                  |                       | 216838-9901 | DIAGRAM, LCGIC-PULSE ACCUMULATOR         |                       |                                      |
| 0027                    | 00001.000                   | EA                  |                       | 231642-3080 | CRYSTAL 5120.KC +/- .005% W/WIRE LDS     | MIL-CR60/U-HC18/U     |                                      |
| C027A                   |                             |                     |                       |             | Y1                                       |                       |                                      |
| 0028                    | 00002.000                   | EA                  |                       | 222222-7400 | NETWRK SN7400N                           | -SN7400N              |                                      |
| C028A                   |                             |                     |                       |             | Z18 Z19                                  |                       |                                      |
| 0029                    | 00005.000                   | FT                  |                       | 417836-CC05 | WIRE FCCKLP 8-24 AWG SOLID WHITE         | JUD- HH0110           |                                      |
| 0030                    | 00001.000                   | EA                  |                       | 539544-C002 | SOCKET, 16PIN IC LOW PROFILE SOLDER TAIL | TI -C93-16-02         |                                      |
| 0030A                   |                             |                     |                       |             | J3                                       |                       |                                      |
| 0031                    | REF                         | EA                  |                       | 216839-9901 | TEST PROCEDURE, PULSE ACCUMULATOR        |                       |                                      |
| 0032                    | REF                         | EA                  |                       | 216738-9901 | SPECS, PULSE ACCUMULATOR- 960 CRU        |                       |                                      |
| C033                    | 00001.000                   | EA                  |                       | 222222-7123 | NETWRK SN74123N                          |                       |                                      |
| 0033A                   |                             |                     |                       |             | Z41                                      |                       |                                      |
| 0034                    | 00002.000                   | EA                  |                       | 972946-CC91 | RES FIX 12 K OHM 5 % .25 W CARBON FILM   | ROH- R-25             |                                      |
| C034A                   |                             |                     |                       |             | R14, R15                                 |                       |                                      |
| 0035                    | 00001.000                   | EA                  |                       | 772312-C002 | PLUG, IC DUAL IN-LINE 16 PIN .0165X.0165 | SSW-3000-177          |                                      |
| C035A                   |                             |                     |                       |             | P3                                       |                       |                                      |
| 0036                    | 00002.000                   | EA                  |                       | 972955-0001 | XSTR 2N2369A, NPN, HIGH SPEED SW, TO-18  | MOT- 2N2369A          |                                      |
| C036A                   |                             |                     |                       |             | C1 C2                                    |                       |                                      |
| DRAFTSMAN               |                             | DATE                | CRD DRAFTSMAN         | DATE        | DESIGN ENGINEER                          | DATE                  | TITLE                                |
|                         |                             |                     |                       |             |  |                       | BOARD ASSY, PULSE ACCUMULATOR 10 SEC |
| APPD -MFG               |                             | DATE                | APPD PROJECT ENGINEER | DATE        | RELEASED                                 | DATE                  | PROJECT NO.                          |
|                         |                             |                     |                       |             |  |                       |                                      |
|                         |                             |                     |                       |             |  | PART NUMBER           | REV                                  |
|                         |                             |                     |                       |             |  | <b>LM 217203-0007</b> | <b>L</b>                             |

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| PART NUMBER           | REV |
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| PRINT ITEM NUMBER | QUANTITY PER ASSEMBLY | UNIT OF ISSUE | DWG SIZE | PART NUMBER | DESCRIPTION                   | VENDOR PART NUMBER |
|-------------------|-----------------------|---------------|----------|-------------|-------------------------------|--------------------|
| 0037              | 00002.000             | EA            |          | 185113-C0C1 | X SPACER XST TO-18 CASE       | * -                |
| 0038              | 00001.000             | EA            |          | 533887-C001 | EJECTOR,PCB,NON-LOCKING,WHITE | SCA-S-202 WHITE    |
| 0039              | 00001.000             | EA            |          | 533887-C009 | EJECTOR,PCB,NON-LOCKING,GREEN | SCA-S-202 GREEN    |

|            |      |                        |      |                 |      |                                     |
|------------|------|------------------------|------|-----------------|------|-------------------------------------|
| DRAFTSMAN  | DATE | CKD. DRAFTSMAN         | DATE | DESIGN ENGINEER | DATE | TITLE                               |
|            |      |                        |      |                 |      | BOARD ASSY,PULSE ACCUMULATOR 10 SEC |
| APPD. MFG. | DATE | APPD. PROJECT ENGINEER | DATE | RELEASED        | DATE | PROJECT NO.                         |
|            |      |                        |      |                 |      |                                     |

|                       |     |
|-----------------------|-----|
| PART NUMBER           | REV |
| <b>LM 217203-0007</b> | L   |

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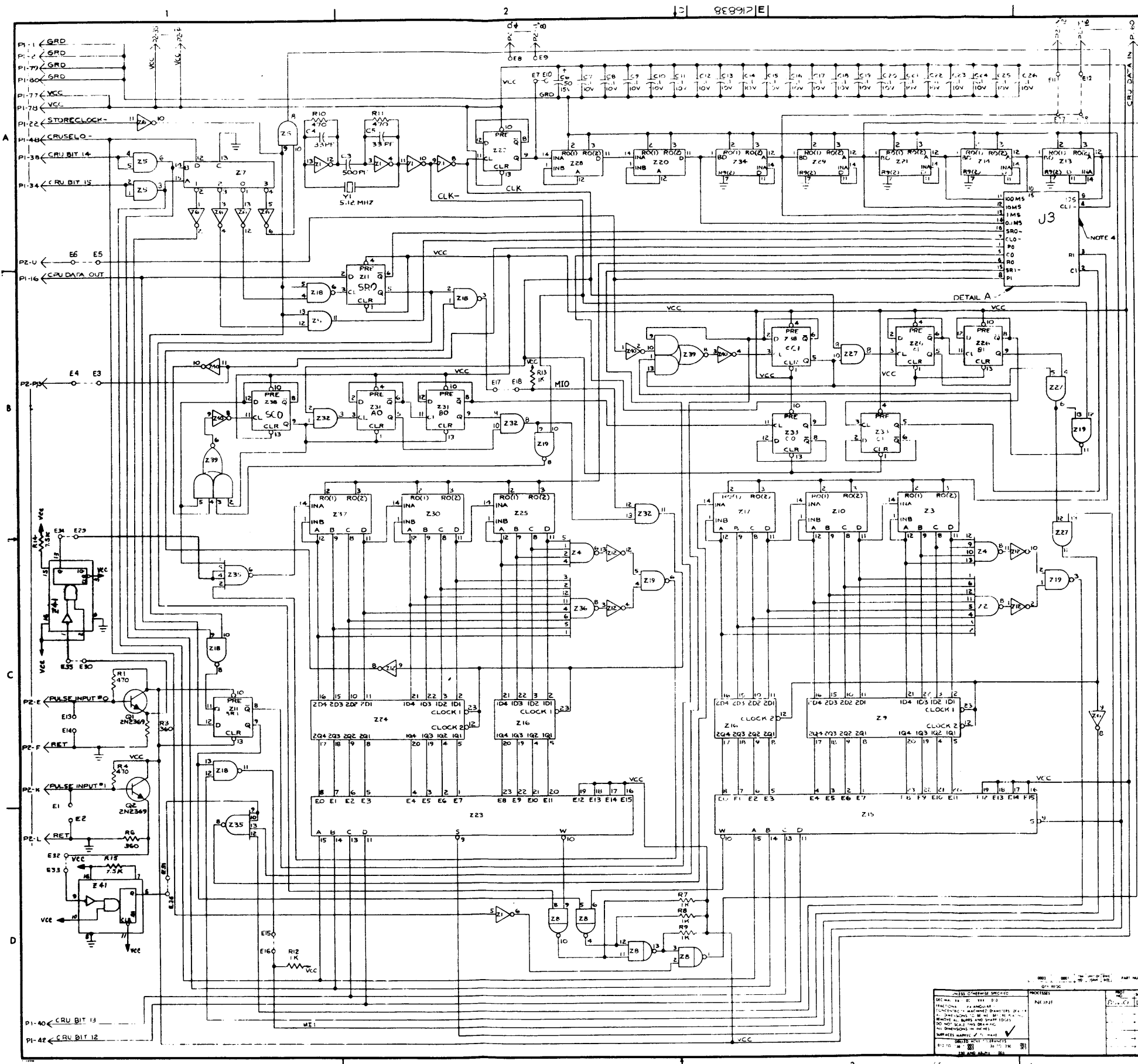
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|-----------------------|-------------|
| <b>LM</b> 217203-0960 | PART NUMBER |
| L                     | REV         |

| PRINT ITEM NUMBER | QUANTITY PER ASSEMBLY | UNIT OF ISSUE | DWG. SIZE | PART NUMBER | DESCRIPTION                    | VENDOR PART NUMBER  |
|-------------------|-----------------------|---------------|-----------|-------------|--------------------------------|---------------------|
| 0003              | 00001.000             | EA            |           | 399999-5711 | COPY OF DWG(S) BELOW           | -BORGUS P/N, NO DWG |
| 0003A             |                       |               |           |             | 216838 LOGIC, 216839 TEST PROC |                     |
| 0003B             |                       |               |           |             | 217203 ASSY, 216738 SPEC       |                     |

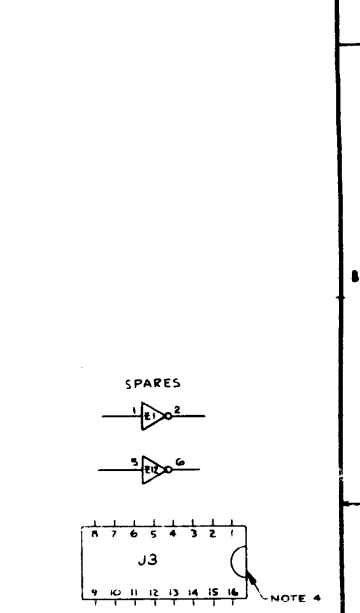
|           |      |                       |      |                 |      |   |
|-----------|------|-----------------------|------|-----------------|------|---|
| DRAFTSMAN | DATE | CKD DRAFTSMAN         | DATE | DESIGN ENGINEER | DATE | TITLE                                   |
|           |      |                       |      |                 |      | BOARD ASSY, PULSE ACCUMULATOR-DOCUMENT. |
| APPD MFG  | DATE | APPD PROJECT ENGINEER | DATE | RELEASED        | DATE | PROJECT NO                              |
|           |      |                       |      |                 |      |   |

|                       |             |
|-----------------------|-------------|
| <b>LM</b> 217203-0960 | PART NUMBER |
| L                     | REV         |

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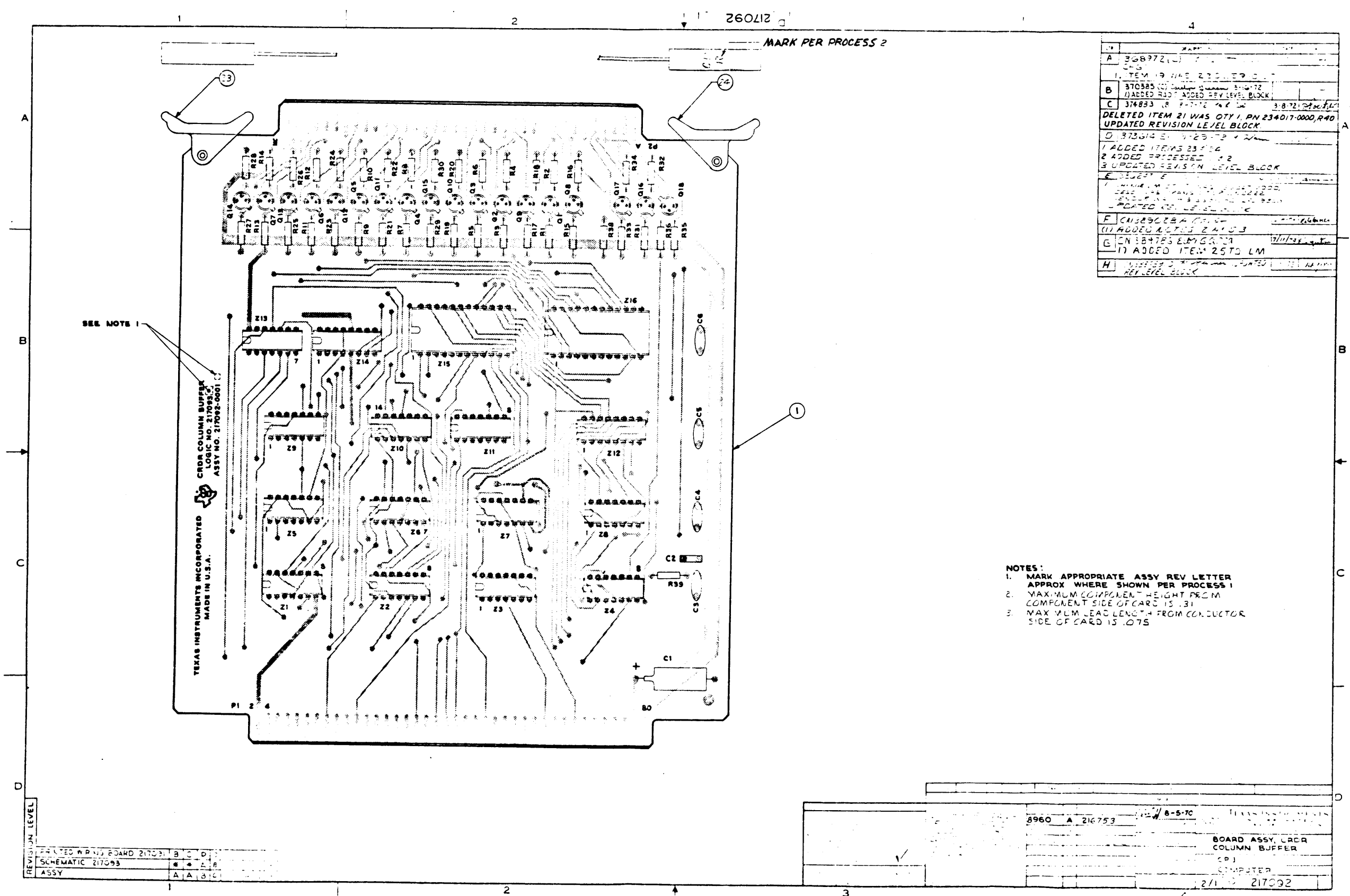
A 372108(E) 2-5-72 JC TANKER 3/7/72 1A 6-32  
 ADDED: NETWORK 841 IN PLACE OF  
 INVERTORS 21, 22 & 25; R14 & R15  
 B STAB: (B) UNDER 7172  
 DELETED: C, G, R, P, S, W, X, Y, Z, 1, 100, 1  
 AT 20, 25, 26, 27  
 CHG EDNE C, P & R4 WERE 10A  
 C23 E9  
 E24 E20  
 E25 E21 P2-B  
 E26 E22 P2-L  
 J3  
 NOTE 4  
 1) NOTE 5, SECOND SENTENCE.  
 2) NOTE 5, THIRD SENTENCE.  
 3) DELETED THIRD SENTENCE OF NOTE 5.  
 4) FROM SENTENCE 3, CHANGED BLOCK 13 TO BLOCK  
 13-13 NOTE 5.



NOTES:  
 1. ALL RESISTORS 1/4 W 1%; ALL RESISTANCE  
 IN OHMS.  
 2. ALL CAPACITANCE IN MICROFARADS UNLESS  
 OTHERWISE STATED.  
 3. NETWORKS ARE AS FOLLOWS:  
 Z1, Z2, Z12, Z40 ARE SN7400N. Z21  
 Z26 ARE SN7400N. Z3, Z10, Z17, Z20,  
 Z25, Z27, Z30, Z37 ARE SN7400N.  
 Z4, Z5, Z14, Z15, Z22, Z23, Z24, Z28  
 SN7400N. Z7 IS SN7400N. Z8 IS  
 SN7400N. Z9, Z18, Z24 ARE SN7400N.  
 Z11, Z14, Z15, Z16, Z17, Z18, Z19, Z20, Z21, Z22, Z23, Z24, Z25, Z26, Z27, Z28, Z29, Z30, Z31, Z32, Z33, Z34, Z35 ARE SN7400N.  
 Z13, Z13A ARE SN7400N. Z18 (Z18A)  
 ARE SN7400N. Z35 IS SN7400N. Z39 IS  
 SN7400N. Z41 IS SN7400N.  
 4. VARIABLE CONNECTIONS  
 ARE BROUGHT TO A 16 PIN IC SOCKET  
 WHERE A PLUG-IN DEVICE ESTABLISHES  
 THE CONNECTION.  
 5. USER APPLICATION NOTE:  
 THIS MODULE MAY BE OPERATED IN THE 2 MODES  
 DESCRIBED IN SPEC 216738. JUMPERS FOR  
 EACH ACCUMULATOR SELECT MODE 1 IF  
 INSTALLED. MODIFIED-DATE: 10-1-72  
 1. REMOVE MODE 1 JUMPER (8) AND/OR (1)  
 2. CONNECT PERIOD INPUTS 1 AND/OR 8 TO  
 PERIOD SOURCE PIN 1  
 PERIOD SOURCE PIN 1 10 11 12 13 14  
 PERIOD 10 SEC 1 SEC 100 NS 10 MS 1 MS 0.1 MS  
 3. CONNECT "NO" PINS 6 AND/OR 3 TO  
 PINS 5 AND/OR 2 RESPECTIVELY.  
 MODE II:  
 1. REMOVE MODE I JUMPERS (8) AND/OR (1)  
 2. CONNECT PERIOD INPUTS 1 AND/OR 8 TO  
 PINS 16 AND/OR 18 RESPECTIVELY.  
 3. CONNECT "NO" PINS 6 AND/OR 3 TO  
 PINS 7 AND/OR 4 RESPECTIVELY.

| NO. | QTY | DESCRIPTION | SYMBOL | PART NUMBER | VENOR PART NUMBER |
|-----|-----|-------------|--------|-------------|-------------------|
| 1   | 1   | 74100       | Z19    | 74100       |                   |
| 2   | 1   | 74101       | Z20    | 74101       |                   |
| 3   | 1   | 74101       | Z21    | 74101       |                   |
| 4   | 1   | 74101       | Z22    | 74101       |                   |
| 5   | 1   | 74101       | Z23    | 74101       |                   |
| 6   | 1   | 74101       | Z24    | 74101       |                   |
| 7   | 1   | 74101       | Z25    | 74101       |                   |
| 8   | 1   | 74101       | Z26    | 74101       |                   |
| 9   | 1   | 74101       | Z27    | 74101       |                   |
| 10  | 1   | 74101       | Z28    | 74101       |                   |
| 11  | 1   | 74101       | Z29    | 74101       |                   |
| 12  | 1   | 74101       | Z30    | 74101       |                   |
| 13  | 1   | 74101       | Z31    | 74101       |                   |
| 14  | 1   | 74101       | Z32    | 74101       |                   |
| 15  | 1   | 74101       | Z33    | 74101       |                   |
| 16  | 1   | 74101       | Z34    | 74101       |                   |
| 17  | 1   | 74101       | Z35    | 74101       |                   |





|   |            |  |
|---|------------|--|
| A | 36872 (1)  |  |
| B | 370385 (1) | ADDED REV LEVEL BLOCK  |
| C | 374883 (1) | ADDED REV LEVEL BLOCK  |
| D | 373614 (1) | DELETED ITEM 21 WAS QTY 1, PN 234017-0000, R40<br>UPDATED REVISION LEVEL BLOCK |
| E |            | ADDED ITEMS 23, 24<br>ADDED PROCESSED 2<br>UPDATED REVISION LEVEL BLOCK        |
| F |            | ADDED ITEM 25 TO LM  |
| G |            | ADDED ITEM 25 TO LM  |
| H |            | ADDED ITEM 25 TO LM  |

- NOTES:
1. MARK APPROPRIATE ASSY REV LETTER APPROX WHERE SHOWN PER PROCESS 1
  2. MAXIMUM COMPONENT HEIGHT FROM COMPONENT SIDE OF CARD IS .31
  3. MAXIMUM LEAD LENGTH FROM CONDUCTOR SIDE OF CARD IS .075

|                |   |   |   |
|----------------|---|---|---|
| REVISION LEVEL |   |   |   |
| 1              | A | B | C |
| 2              | A | B | C |
| 3              | A | B | C |
| 4              | A | B | C |

|      |   |        |        |                                |
|------|---|--------|--------|--------------------------------|
| 9960 | A | 216753 | 8-5-70 | TEXAS INSTRUMENTS              |
|      |   |        |        | BOARD ASSY, CRDR COLUMN BUFFER |
|      |   |        |        | COMPUTER                       |
|      |   |        |        | 217092                         |



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| <b>LM</b> | PART NUMBER | REV |
|           | 217092-0001 | H 8 |

| PRINT ITEM NUMBER | QUANTITY PER ASSEMBLY | UNIT OF ISSUE | DWG SIZE              | PART NUMBER | DESCRIPTION                   | VENDOR PART NUMBER |                               |
|-------------------|-----------------------|---------------|-----------------------|-------------|-------------------------------|--------------------|-------------------------------|
| 0001              | 0001.000              | EA            |                       | 217091-0001 | PPT WPG RD,CRDR COLUMN BUFFER |                    |                               |
| 0002              | 0002.000              | EA            |                       | 222222-7400 | NETWORK SN7400N               | -SN7400N           |                               |
| 0002A             |                       |               |                       |             | Z1 Z13                        |                    |                               |
| 0003              | 0001.000              | EA            |                       | 222222-7401 | NETWORK SN7401N               |                    |                               |
| 0003A             |                       |               |                       |             | Z3                            |                    |                               |
| 0004              | 0002.000              | EA            |                       | 222222-7404 | NETWORK SN7404N               |                    |                               |
| 0004A             |                       |               |                       |             | Z8 Z10                        |                    |                               |
| 0005              | 0003.000              | EA            |                       | 222222-7408 | NETWORK-SN7408N               |                    |                               |
| 0005A             |                       |               |                       |             | Z2 Z5 Z9                      |                    |                               |
| 0006              | 0001.000              | EA            |                       | 222222-7442 | NETWORK-SN7442N               |                    |                               |
| 0006A             |                       |               |                       |             | Z17                           |                    |                               |
| 0007              | 0001.000              | EA            |                       | 222222-7451 | NETWORK SN7451N               | -SN7451N           |                               |
| 0007A             |                       |               |                       |             | Z11                           |                    |                               |
| 0009              | 0003.000              | EA            |                       | 222222-7474 | NETWORK SN7474N               | -SN7474N           |                               |
| 0008A             |                       |               |                       |             | Z4 Z6 Z7                      |                    |                               |
| 0009              | 0001.000              | EA            |                       | 222222-7475 | NETWORK-SN7475N               |                    |                               |
| 0009A             |                       |               |                       |             | Z14                           |                    |                               |
| 0010              | 0001.000              | EA            |                       | 222222-7100 | NETWORK SN74100N              |                    |                               |
| 0010A             |                       |               |                       |             | Z16                           |                    |                               |
| 0011              | 0001.000              | EA            |                       | 222222-7150 | NETWORK SN74150N              |                    |                               |
| DRAFTSMAN         |                       | DATE          | CKD DRAFTSMAN         | DATE        | DESIGN ENGINEER               | DATE               | TITLE                         |
|                   |                       |               |                       |             |                               |                    | BOARD ASSY,CRDR COLUMN BUFFER |
| APPD MFG          |                       | DATE          | APPD PROJECT ENGINEER | DATE        | RELEASED                      | DATE               | PROJECT NO                    |
|                   |                       |               |                       |             |                               |                    | 2160/8100                     |
|                   |                       |               |                       |             |                               |                    | <b>LM</b> 217092-0001 H 8     |

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| PART NUMBER           | REV |
| <b>LM</b> 217092-0001 | H●  |

| PRINT<br>ITEM<br>NUMBER | QUANTITY<br>PER<br>ASSEMBLY | UNIT<br>OF<br>ISSUE | DWG.<br>SIZE          | PART NUMBER | DESCRIPTION                             | VENDOR PART NUMBER           |                                |
|-------------------------|-----------------------------|---------------------|-----------------------|-------------|---|------------------------------|--------------------------------|
| 0011A                   |                             |                     |                       |             | Z15                                     |                              |                                |
| 0012                    | 00001.000                   | EA                  |                       | 972924-0015 | CAP FIX TANT SOLID 47 MFD 10 % 20 VOLT  | QPL-M39003/1-2295            |                                |
| 0012A                   |                             |                     |                       |             | C1                                      |                              |                                |
| 0013                    | 00004.000                   | EA                  |                       | 534348-0001 | CAP FIX CERAMIC .10 MF 20/80 % 10V      | CRL- UK10-104                |                                |
| 0013A                   |                             |                     |                       |             | C3 THRU C6                              |                              |                                |
| 0014                    | 00034.000                   | EA                  |                       | 972946-0054 | RES FIX 360 OHM 5 % .25 W CARBON FILM   | ROH- R-25                    |                                |
| 0014A                   |                             |                     |                       |             | R1 THRU R34                             |                              |                                |
| 0015                    | 00003.000                   | EA                  |                       | 972946-0065 | RES FIX 1.0K OHM 5 % .25 W CARBON FILM  | ROH- R-25                    |                                |
| 0015A                   |                             |                     |                       |             | R35 P38 R39                             |                              |                                |
| 0016                    | 00001.000                   | EA                  |                       | 972946-0071 | RES FIX 1.8K OHM 5 % .25 W CARBON FILM  | ROH- R-25                    |                                |
| 0016A                   |                             |                     |                       |             | R36                                     |                              |                                |
| 0017                    | 00018.000                   | EA                  |                       | 972057-0001 | TRANSISTOR-A52222 NPN SILICON           | TI--A5T2222                  |                                |
| 0017A                   |                             |                     |                       |             | Q1 THRU Q18                             |                              |                                |
| 0018                    | REF                         | EA                  |                       | 217093-9901 | DIAGRAM, SCHFOMATIC-CRDR COLUMN BUFFER  |                              |                                |
| 0019                    | 00001.000                   | EA                  |                       | 230660-0010 | CAP .4700 MF 50V 20 ER1-8131050651474   | 535-937-0025 18796           |                                |
| 0019A                   |                             |                     |                       |             | C7                                      |                              |                                |
| 0020                    | 00018.000                   | EA                  |                       | 185113-0001 | SPACER XST TO-18 CASE                   | * -                          |                                |
| 0022                    | REF                         | EA                  |                       | 961770-9901 | MODIFICATION PROCEDURE CRDR COL. BUFFER |                              |                                |
| 0023                    | 00001.000                   | EA                  |                       | 231802-0100 | EJECTOR, PC BD WHITE                    | SCA-S-202 533-887-0001 18677 |                                |
| 0024                    | 00001.000                   | EA                  |                       | 231802-0105 | EJECTOR, PC BD GREEN                    | SCA-S-202 533-887-0009 18677 |                                |
| DRAFTSMAN               |                             | DATE                | CRD DRAFTSMAN         | DATE        | DESIGN ENGINEER                         | DATE                         | TITLE                          |
| APPD MFG                |                             | DATE                | APPD PROJECT ENGINEER | DATE        | RELEASED                                | DATE                         | PROJECT NO                     |
|                         |                             |                     |                       |             |   |                              | BOARD ASSY, CRDR COLUMN BUFFER |
|                         |                             |                     |                       |             |   | PART NUMBER                  | REV                            |
|                         |                             |                     |                       |             |   | <b>LM</b> 217092-0001        | H●                             |

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| <b>LM</b> | PART NUMBER<br>217092-0001 | REV<br>H 0 |
|-----------|----------------------------|------------|

| PRINT ITEM NUMBER | QUANTITY PER ASSEMBLY | UNIT OF ISSUE | DWG SIZE | PART NUMBER | DESCRIPTION                               | VENDOR PART NUMBER |
|-------------------|-----------------------|---------------|----------|-------------|---|--------------------|
| 0025              | REF                   | EA            |          | 973650-9901 | TEST PROCEDURE, CRDR COLUMN BUFFER MODULE |                    |

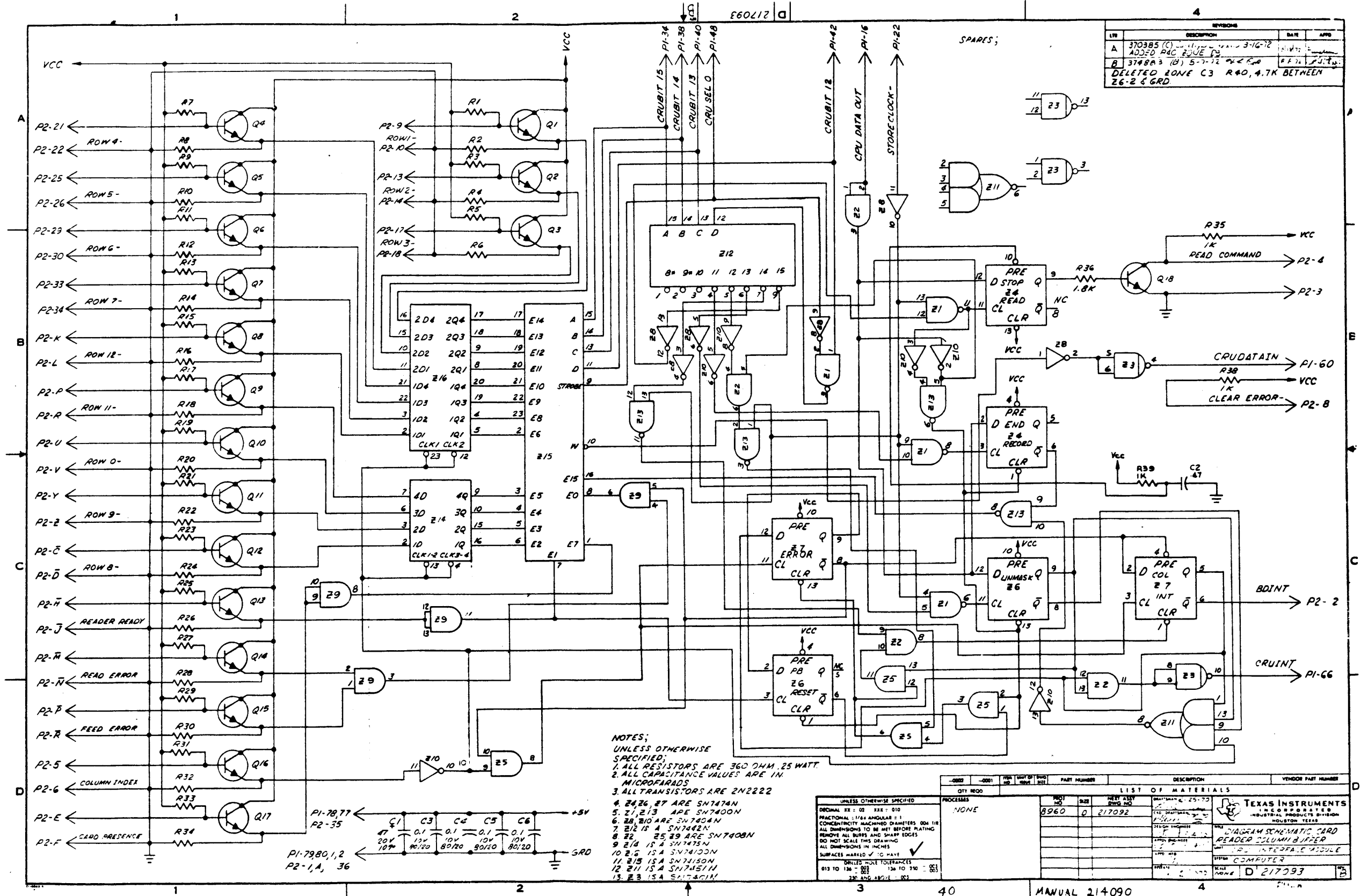
  

|           |      |                       |      |                 |      |                                |
|-----------|------|-----------------------|------|-----------------|------|--------------------------------|
| DRAFTSMAN | DATE | CKD DRAFTSMAN         | DATE | DESIGN ENGINEER | DATE | TITLE                          |
|           |      |                       |      |                 |      | BOARD ASSY, CRDR COLUMN BUFFER |
| APPD MFG  | DATE | APPD PROJECT ENGINEER | DATE | RELEASED        | DATE | PROJECT NO                     |
|           |      |                       |      |                 |      |                                |

|           |                            |            |
|-----------|----------------------------|------------|
| <b>LM</b> | PART NUMBER<br>217092-0001 | REV<br>H 0 |
|-----------|----------------------------|------------|

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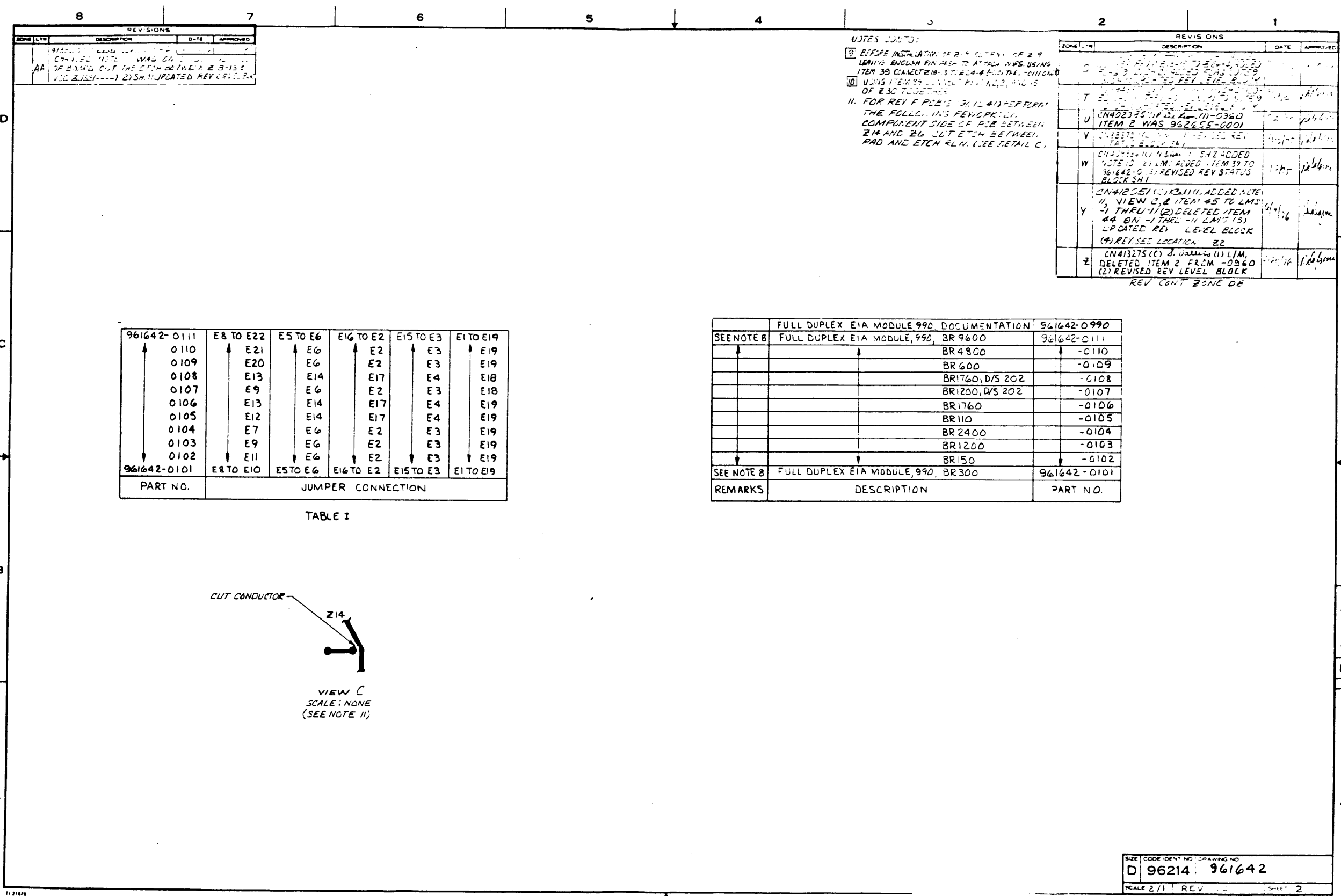
| REV | DESCRIPTION  | DATE | APP'D |
|-----|--|------|-------|
| A   | 370385 (C) 3-16-72<br>ADDED P4C ROWS P2                          |      |       |
| B   | 3748A3 (B) 5-7-72<br>DELETED ROW C3 R40, 4.7K BETWEEN Z6-2 & GRD |      |       |

- NOTES;  
UNLESS OTHERWISE SPECIFIED:  
1. ALL RESISTORS ARE 360 OHM, 25 WATT.  
2. ALL CAPACITANCE VALUES ARE IN MICROFARADS  
3. ALL TRANSISTORS ARE 2N2222  
4. Z4, Z6, Z7 ARE SN7474N  
5. Z1, Z13 ARE SN7400N  
6. Z8, Z10 ARE SN7404N  
7. Z12 IS A SN7482N  
8. Z2, Z5, Z9 ARE SN7408N  
9. Z14 IS A SN7475N  
10. Z16 IS A SN74100N  
11. Z15 IS A SN7410N  
12. Z11 IS A SN74151N  
13. Z3 IS A SN7430N

| QTY REQD | DESCRIPTION            | PART NUMBER | VENDOR PART NUMBER   |
|----------|------------------------|-------------|--|
| 8960     | DIAGRAM SCHEMATIC CARD | 217092      | TEXAS INSTRUMENTS INCORPORATED INDUSTRIAL PRODUCTS DIVISION HOUSTON, TEXAS |
|          | READER COLUMN BUFFER   |             |  |
|          | INTERFACIAL MODULE     |             |  |
|          | COMPUTER               |             |  |
|          |                        | 217093      |  |

MANUAL 214090





| REVISIONS |   |      |          |
|-----------|---|------|----------|
| ZONE/LTR  | DESCRIPTION   | DATE | APPROVED |
| AA        | CHANGED NOTE 11 TO READ: 'WAS ON THE BOARD BUT THE ETCH BETWEEN Z14 AND Z15 WAS BURNED OFF' (SEE REV. 11) |      |          |

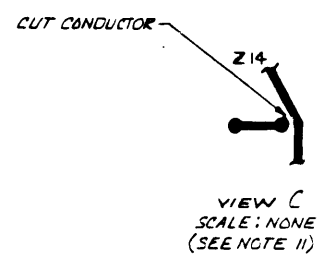
NOTES CONT'D:  
 (9) BEFORE INSTALLATION OF P.C. BOARD OF Z 9 LEAVE ENOUGH FINISH TO ATTACH WIRES USING ITEM 39 CONNECTOR. (SEE Z 4 AND Z 4A TO CONNECT USING ITEM 39 TO CONNECT PINS 1, 2, 3, AND 15 OF Z 30 TOGETHER.  
 11. FOR REV F PCB'S (3112-41) REPERMITS THE FOLLOWING WORK: (1) COMPONENT SIDE OF PCB BETWEEN Z14 AND Z16 CUT ETCH BETWEEN PAD AND ETCH R.L.H. (SEE DETAIL C)

| REVISIONS |   |      |          |
|-----------|---|------|----------|
| ZONE/LTR  | DESCRIPTION   | DATE | APPROVED |
| S         | CHANGED NOTE 11 TO READ: 'WAS ON THE BOARD BUT THE ETCH BETWEEN Z14 AND Z15 WAS BURNED OFF' (SEE REV. 11) |      |          |
| T         | CHANGED NOTE 11 TO READ: 'WAS ON THE BOARD BUT THE ETCH BETWEEN Z14 AND Z15 WAS BURNED OFF' (SEE REV. 11) |      |          |
| U         | CHANGED NOTE 11 TO READ: 'WAS ON THE BOARD BUT THE ETCH BETWEEN Z14 AND Z15 WAS BURNED OFF' (SEE REV. 11) |      |          |
| V         | CHANGED NOTE 11 TO READ: 'WAS ON THE BOARD BUT THE ETCH BETWEEN Z14 AND Z15 WAS BURNED OFF' (SEE REV. 11) |      |          |
| W         | CHANGED NOTE 11 TO READ: 'WAS ON THE BOARD BUT THE ETCH BETWEEN Z14 AND Z15 WAS BURNED OFF' (SEE REV. 11) |      |          |
| Y         | CHANGED NOTE 11 TO READ: 'WAS ON THE BOARD BUT THE ETCH BETWEEN Z14 AND Z15 WAS BURNED OFF' (SEE REV. 11) |      |          |
| Z         | CHANGED NOTE 11 TO READ: 'WAS ON THE BOARD BUT THE ETCH BETWEEN Z14 AND Z15 WAS BURNED OFF' (SEE REV. 11) |      |          |

| 961642-0111 | E8 TO E22         | E5 TO E6 | E16 TO E2 | E15 TO E3 | E1 TO E19 |
|-------------|-------------------|----------|-----------|-----------|-----------|
| 0110        | E21               | E6       | E2        | E3        | E19       |
| 0109        | E20               | E6       | E2        | E3        | E19       |
| 0108        | E13               | E14      | E17       | E4        | E18       |
| 0107        | E9                | E6       | E2        | E3        | E18       |
| 0106        | E13               | E14      | E17       | E4        | E19       |
| 0105        | E12               | E14      | E17       | E4        | E19       |
| 0104        | E7                | E6       | E2        | E3        | E19       |
| 0103        | E9                | E6       | E2        | E3        | E19       |
| 0102        | E11               | E6       | E2        | E3        | E19       |
| 961642-0101 | E8 TO E10         | E5 TO E6 | E16 TO E2 | E15 TO E3 | E1 TO E19 |
| PART NO.    | JUMPER CONNECTION |          |           |           |           |

TABLE I

| FULL DUPLEX EIA MODULE 990 DOCUMENTATION 961642-0990 |                                      |             |
|--|--------------------------------------|-------------|
| SEE NOTE 8   | FULL DUPLEX EIA MODULE, 990, BR 9600 | 961642-0111 |
|  | BR 4800                              | -0110       |
|  | BR 600                               | -0109       |
|  | BR1760, D/S 202                      | -0108       |
|  | BR1200, D/S 202                      | -0107       |
|  | BR1760                               | -0106       |
|  | BR110                                | -0105       |
|  | BR 2400                              | -0104       |
|  | BR1200                               | -0103       |
|  | BR150                                | -0102       |
| SEE NOTE 8   | FULL DUPLEX EIA MODULE, 990, BR 300  | 961642-0101 |
| REMARKS  | DESCRIPTION                          | PART NO.    |



|       |                |             |
|-------|----------------|-------------|
| SIZE  | CODE IDENT NO. | DRAWING NO. |
| D     | 96214          | 961642      |
| SCALE | 2/1            | REV SHEET 2 |



**TEXAS INSTRUMENTS**  
INCORPORATED

DATE 06/24/76

**LIST OF MATERIAL**

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|                       |           |
|-----------------------|-----------|
| PART NUMBER           | REV       |
| <b>LM 961642-0001</b> | <b>AA</b> |

| PRINT ITEM NUMBER | QUANTITY PER ASSEMBLY | UNIT OF ISSUE | DWG SIZE              | PART NUMBER | DESCRIPTION                     | VENDOR PART NUMBER    |                                    |
|-------------------|-----------------------|---------------|-----------------------|-------------|---------------------------------|-----------------------|------------------------------------|
| 0001              | 00001.000             | EA            |                       | 961641-0001 | PWR, FULL DUPLEX TTY/EIA MODULE |                       |                                    |
| 0002              | 00003.000             | EA            |                       | 222222-7400 | NETWCRK SN7400N                 | -SN7400N              |                                    |
| 0002A             |                       |               |                       |             | Z16, Z20, Z35                   |                       |                                    |
| 0003              | 00003.000             | EA            |                       | 222222-7404 | NETWCRK SN7404N                 |                       |                                    |
| 0003A             |                       |               |                       |             | Z10, Z26, Z29                   |                       |                                    |
| 0004              | 00003.000             | EA            |                       | 222222-7408 | NETWCRK-SN7408N                 |                       |                                    |
| 0004A             |                       |               |                       |             | Z12, Z23, Z37                   |                       |                                    |
| 0005              | 00002.000             | EA            |                       | 222222-7410 | NETWCRK SN7410N                 | -SN7410N              |                                    |
| 0005A             |                       |               |                       |             | Z13, Z34                        |                       |                                    |
| 0006              | 00001.000             | EA            |                       | 222222-7438 | NETWCRK SN7438N                 |                       |                                    |
| 0006A             |                       |               |                       |             | Z33                             |                       |                                    |
| 0007              | 00001.000             | EA            |                       | 222222-7442 | NETWCRK-SN7442N                 |                       |                                    |
| 0007A             |                       |               |                       |             | Z17                             |                       |                                    |
| 0008              | 00005.000             | EA            |                       | 222222-7474 | NETWCRK SN7474N                 | -SN7474N              |                                    |
| 0008A             |                       |               |                       |             | Z18, Z21, Z22, Z24, Z25         |                       |                                    |
| 0009              | 00001.000             | EA            |                       | 222222-7123 | NETWCRK SN74123N                |                       |                                    |
| 0009A             |                       |               |                       |             | Z15                             |                       |                                    |
| 0010              | 00001.000             | EA            |                       | 222222-7150 | NETWCRK SN74150N                |                       |                                    |
| 0010A             |                       |               |                       |             | Z7                              |                       |                                    |
| 0011              | 00004.000             | EA            |                       | 222222-7163 | NETWCRK SN74163N                |                       |                                    |
| DRAFTSMAN         |                       | DATE          | CKD DRAFTSMAN         | DATE        | DESIGN ENGINEER                 | DATE                  | TITLE                              |
|                   |                       |               |                       |             |                                 |                       | FULL DUPLEX TTY/EIA MODULE, BR 300 |
| APPD MFG          |                       | DATE          | APPD PROJECT ENGINEER | DATE        | RELEASED                        | DATE                  | PROJECT NO                         |
|                   |                       |               |                       |             |                                 |                       |                                    |
|                   |                       |               |                       |             |                                 | PART NUMBER           | REV                                |
|                   |                       |               |                       |             |                                 | <b>LM 961642-0001</b> | <b>AA</b>                          |

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|                |     |
|----------------|-----|
| PART NUMBER    | REV |
| LM 961642-0001 | AA  |

| PRINT ITEM NUMBER | QTY PER ASSEMBLY | UNIT OF ISSUE | DWG. SIZE              | PART NUMBER | DESCRIPTION                            | VENDOR PART NUMBER    |                                    |
|-------------------|------------------|---------------|------------------------|-------------|--|-----------------------|------------------------------------|
| 0011A             |                  |               |                        |             | Z2,Z3,Z4,Z19                           |                       |                                    |
| 0012              | 00002.000        | EA            |                        | 222222-7164 | NETWORK SN74164N                       | TI--SN74164N          |                                    |
| 0012A             |                  |               |                        |             | Z9,Z11                                 |                       |                                    |
| 0013              | 00002.000        | EA            |                        | 222222-7175 | NETWORK SN74175N                       |                       |                                    |
| 0013A             |                  |               |                        |             | Z1,Z8                                  |                       |                                    |
| 0014              | 00004.000        | EA            |                        | 222222-7197 | NETWORK SN74197N                       |                       |                                    |
| 0014A             |                  |               |                        |             | Z5,Z6,Z27,Z36                          |                       |                                    |
| 0015              | 00002.000        | EA            |                        | 240000-7411 | NETWORK-SN74H11N                       |                       |                                    |
| 0015A             |                  |               |                        |             | Z14,Z28                                |                       |                                    |
| 0016              | 00002.000        | EA            |                        | 537948-0001 | NETWORK SN75150P                       | TI -SN75150P          |                                    |
| 0016A             |                  |               |                        |             | Z31,Z32                                |                       |                                    |
| 0017              | 00001.000        | EA            |                        | 537947-0001 | NETWORK SN75154N                       | TI -SN75154N          |                                    |
| 0017A             |                  |               |                        |             | Z30                                    |                       |                                    |
| 0018              | 00001.000        | EA            |                        | 972924-0015 | CAP FIX TANT SOLID 47 MFD 10 % 20 VOLT | QPL-M39003/1-2295     |                                    |
| 0018A             |                  |               |                        |             | C3                                     |                       |                                    |
| 0019              | 00008.000        | EA            |                        | 230590-9000 | CAP .05 MF 12 V 20. % CER TPANSCAP     | ERI-5635-000-Y5F0503M |                                    |
| 0019A             |                  |               |                        |             | C4 THRU C11                            |                       |                                    |
| 0022              | 00001.000        | EA            |                        | 972929-0388 | CAP FIX CERAMIC 330 PF 10 % 200 V      | QPL-M39014/01-1388    |                                    |
| 0022A             |                  |               |                        |             | C1                                     |                       |                                    |
| 0023              | 00001.000        | EA            |                        | 418801-C004 | CRYSTAL,QUARTZ 4.000 MHZ HC-18/U       | QPL- CR-64/U          |                                    |
| DRAFTSMAN         |                  | DATE          | CKD DRAFTSMAN          | DATE        | DESIGN ENGINEER                        | DATE                  | TITLE                              |
|                   |                  |               |                        |             |  |                       | FULL DUPLEX TTY/EIA MODULE, BR 300 |
| APPD MFG          |                  | DATE          | APPD. PROJECT ENGINEER | DATE        | RELEASED                               | DATE                  | PROJECT NO.                        |
|                   |                  |               |                        |             |  |                       |                                    |
|                   |                  |               |                        |             |  | PART NUMBER           | REV                                |
|                   |                  |               |                        |             |  | LM 961642-C001        | AA                                 |

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| <b>LM</b> | PART NUMBER | REV |
|           | 961642-0001 | AA  |

| PRINT ITEM NUMBER | QUANTITY PER ASSEMBLY | UNIT OF ISSUE | DWG SIZE              | PART NUMBER | DESCRIPTION                              | VENDOR PART NUMBER |                                    |
|-------------------|-----------------------|---------------|-----------------------|-------------|--|--------------------|------------------------------------|
| C023A             |                       |               |                       |             | Y1                                       |                    |                                    |
| 0024              | 00001.000             | EA            |                       | 972932-0001 | DIODE, 1N914B SWITCHING 75V PIV 75MA 4NS | TI - IN914B        |                                    |
| C024A             |                       |               |                       |             | CR1                                      |                    |                                    |
| 0025              | 00002.000             | EA            |                       | 231784-6002 | DIODE- 4 PELLETT, SILICON, MULTI         | GE -MPD400         |                                    |
| C025A             |                       |               |                       |             | CR2, CR3                                 |                    |                                    |
| 0026              | 00002.000             | EA            |                       | 972946-0057 | RES FIX 470 OHM 5 % .25 W CARBON FILM    | ROH- R-25          |                                    |
| C026A             |                       |               |                       |             | R3, R5                                   |                    |                                    |
| 0027              | 00002.000             | EA            |                       | 972946-0055 | RES FIX 390 OHM 5 % .25 W CARBON FILM    | ROH- R-25          |                                    |
| C027A             |                       |               |                       |             | R8, R9                                   |                    |                                    |
| 0028              | 00002.000             | EA            |                       | 972947-0045 | RES FIX 150 OHM 5% .5 W CARBON FILM      | ROH- R-50          |                                    |
| C028A             |                       |               |                       |             | R10, R1                                  |                    |                                    |
| 0029              | 00001.000             | EA            |                       | 972946-0065 | RES FIX 1.0K OHM 5 % .25 W CARBON FILM   | ROH- R-25          |                                    |
| C029A             |                       |               |                       |             | R2                                       |                    |                                    |
| 0030              | 00001.000             | EA            |                       | 972946-0049 | RES FIX 220 OHM 5 % .25 W CARBON FILM    | ROH- R-25          |                                    |
| C030A             |                       |               |                       |             | R4                                       |                    |                                    |
| 0031              | 00001.000             | EA            |                       | 972946-0081 | RES FIX 4.7K OHM 5 % .25 W CARBON FILM   | ROH- R-25          |                                    |
| C031A             |                       |               |                       |             | R6                                       |                    |                                    |
| 0032              | 00002.000             | EA            |                       | 972946-0082 | RES FIX 5.1K OHM 5 % .25 W CARBON FILM   | ROH- R-25          |                                    |
| C032A             |                       |               |                       |             | R7, R11                                  |                    |                                    |
| 0033              | 00001.000             | EA            |                       | 972057-CC01 | TRANSISTOR-A5T2222 NPN SILICON           | TI--A5T2222        |                                    |
| DRAFTSMAN         |                       | DATE          | CKD DRAFTSMAN         | DATE        | DESIGN ENGINEER                          | DATE               | TITLE                              |
|                   |                       |               |                       |             |  |                    | FULL DUPLEX TTY/EIA MODULE, BR 300 |
| APPD MFG          |                       | DATE          | APPD PROJECT ENGINEER | DATE        | RELEASED                                 | DATE               | PROJECT NO                         |
|                   |                       |               |                       |             |  |                    |                                    |
|                   |                       |               |                       |             |  |                    | PART NUMBER                        |
|                   |                       |               |                       |             |  |                    | <b>LM</b> 961642-0001              |
|                   |                       |               |                       |             |  |                    | REV                                |
|                   |                       |               |                       |             |  |                    | AA                                 |

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| PART NUMBER    | REV |
| LM 961642-0001 | AA  |

| PRINT ITEM NUMBER | QUANTITY PER ASSEMBLY | UNIT OF ISSUE | DWG. SIZE | PART NUMBER | DESCRIPTION                             | VENDOR PART NUMBER  |
|-------------------|-----------------------|---------------|-----------|-------------|---|---------------------|
| C033A             |                       |               |           |             | Q1                                      |                     |
| 0034              | REF                   | EA            |           | 961593-9901 | DIAG.LOG.DET.FULL DUPLEX TTY/EIA MODULE |                     |
| 0035              | REF                   | EA            |           | 961667-9901 | SPEC.FULL DUPLEX TTY/EIA MODULE         |                     |
| 0036              | REF                   | EA            |           | 961675-9901 | TEST PROCEDURE FULL DUPLEX TTY/EIA MOD. |                     |
| 0039              | AR                    | FT            |           | 457313-C006 | WIRE 24 AWG SOLID,TEFLON,WHITE          | QPL- MIL-W-16878/4E |
| 0040              | 00001.000             | EA            |           | 972929-0369 | CAP FIX CERAMIC 27.0 PF 10 % 200 V      | QPL-M39014/01-1369  |
| 0040A             |                       |               |           |             | C12                                     |                     |
| 0041              | 00001.000             | EA            |           | 533887-0001 | EJECTOR,PCB,NON-LOCKING,WHITE           | SCA-S-202 WHITE     |
| 0042              | 00001.000             | EA            |           | 533887-0009 | EJECTOR,PCB,NON-LOCKING,GREEN           | SCA-S-202 GREEN     |
| 0043              | 00001.000             | EA            |           | 972507-0001 | INSULATOR DISC: TO-18                   | THR--7717-220       |
| 0045              | 00024.000             | EA            |           | 083694-0003 | TERMINAL TURRET TYPE                    | USE- 20108          |
| 0045A             |                       |               |           |             | E1 THRU E22                             |                     |

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|           |      |                        |      |                 |      |            |                                    |     |
|-----------|------|------------------------|------|-----------------|------|------------|------------------------------------|-----|
| DRAFTSMAN | DATE | CKD DRAFTSMAN          | DATE | DESIGN ENGINEER | DATE | TITLE      | FULL DUPLEX TTY/EIA MODULE, BR 300 |     |
| APPD MFG  | DATE | APPD. PROJECT ENGINEER | DATE | RELEASED        | DATE | PROJECT NO | PART NUMBER                        | REV |
|           |      |                        |      |                 |      |            | LM 961642-0001                     | AA  |



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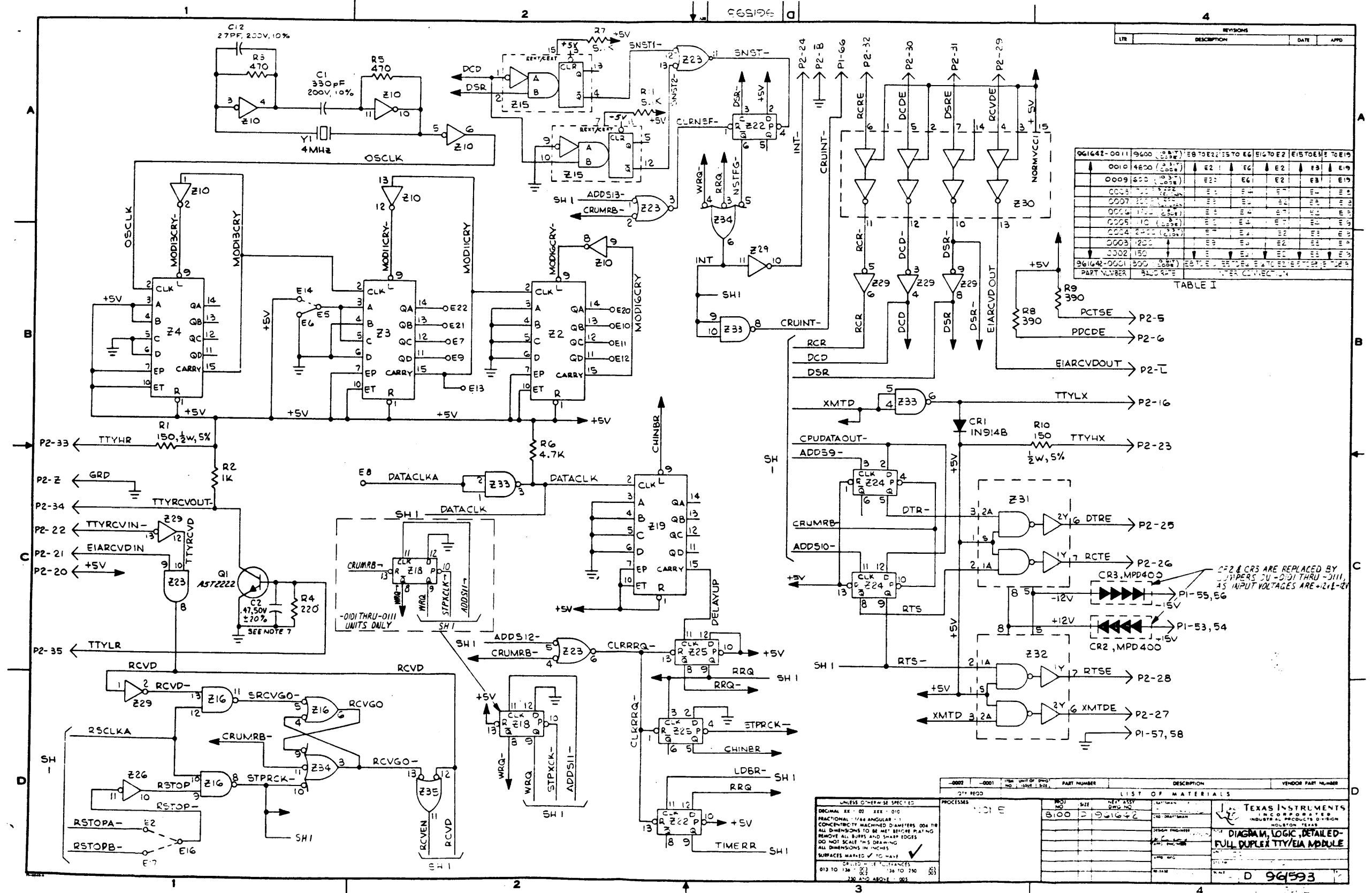
PART NUMBER REV  
**LM 961642-0960 AA 1**

| PRINT<br>ITC<br>NUMBER   | QUANTITY<br>PER<br>ASSEMBLY | UNIT<br>OF<br>ISSUE   | DWG<br>SIZE | PART NUMBER     | DESCRIPTION                             | VENDOR PART NUMBER   |             |      |                       |             |                 |      |       |  |  |  |  |  |  |  |          |      |                       |      |          |      |            |  |  |  |  |  |  |  |
|--|-----------------------------|-----------------------|-------------|-----------------|---|--|-------------|------|-----------------------|-------------|-----------------|------|-------|--|--|--|--|--|--|--|----------|------|-----------------------|------|----------|------|------------|--|--|--|--|--|--|--|
| C001   | 00001.000                   | EIA                   |             | 966375-9701     | MANUAL,CPL FULL DUPLEX COMM.MODULE 960A |  |             |      |                       |             |                 |      |       |  |  |  |  |  |  |  |          |      |                       |      |          |      |            |  |  |  |  |  |  |  |
| <table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td style="width:20%;">DRAFTSMAN</td> <td style="width:10%;">DATE</td> <td style="width:20%;">CKD DRAFTSMAN</td> <td style="width:10%;">DATE</td> <td style="width:20%;">DESIGN ENGINEER</td> <td style="width:10%;">DATE</td> <td style="width:10%;">TITLE</td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>FULL DUPLEX TTY/EIA MODULE-DOCUMENTATION</td> </tr> <tr> <td>APPD MFG</td> <td>DATE</td> <td>APPD PROJECT ENGINEER</td> <td>DATE</td> <td>RELEASED</td> <td>DATE</td> <td>PROJECT NO</td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </table> |                             |                       |             |                 |   |  | DRAFTSMAN   | DATE | CKD DRAFTSMAN         | DATE        | DESIGN ENGINEER | DATE | TITLE |  |  |  |  |  |  | FULL DUPLEX TTY/EIA MODULE-DOCUMENTATION | APPD MFG | DATE | APPD PROJECT ENGINEER | DATE | RELEASED | DATE | PROJECT NO |  |  |  |  |  |  |  |
| DRAFTSMAN  | DATE                        | CKD DRAFTSMAN         | DATE        | DESIGN ENGINEER | DATE                                    | TITLE  |             |      |                       |             |                 |      |       |  |  |  |  |  |  |  |          |      |                       |      |          |      |            |  |  |  |  |  |  |  |
|  |                             |                       |             |                 |   | FULL DUPLEX TTY/EIA MODULE-DOCUMENTATION   |             |      |                       |             |                 |      |       |  |  |  |  |  |  |  |          |      |                       |      |          |      |            |  |  |  |  |  |  |  |
| APPD MFG   | DATE                        | APPD PROJECT ENGINEER | DATE        | RELEASED        | DATE                                    | PROJECT NO   |             |      |                       |             |                 |      |       |  |  |  |  |  |  |  |          |      |                       |      |          |      |            |  |  |  |  |  |  |  |
|  |                             |                       |             |                 |   |  |             |      |                       |             |                 |      |       |  |  |  |  |  |  |  |          |      |                       |      |          |      |            |  |  |  |  |  |  |  |
|  |                             |                       |             |                 |   | <table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td style="width:20%;">PART NUMBER</td> <td style="width:20%;">REV</td> </tr> <tr> <td><b>LM 961642-0960</b></td> <td><b>AA 1</b></td> </tr> </table> | PART NUMBER | REV  | <b>LM 961642-0960</b> | <b>AA 1</b> |                 |      |       |  |  |  |  |  |  |  |          |      |                       |      |          |      |            |  |  |  |  |  |  |  |
| PART NUMBER  | REV                         |                       |             |                 |   |  |             |      |                       |             |                 |      |       |  |  |  |  |  |  |  |          |      |                       |      |          |      |            |  |  |  |  |  |  |  |
| <b>LM 961642-0960</b>  | <b>AA 1</b>                 |                       |             |                 |   |  |             |      |                       |             |                 |      |       |  |  |  |  |  |  |  |          |      |                       |      |          |      |            |  |  |  |  |  |  |  |

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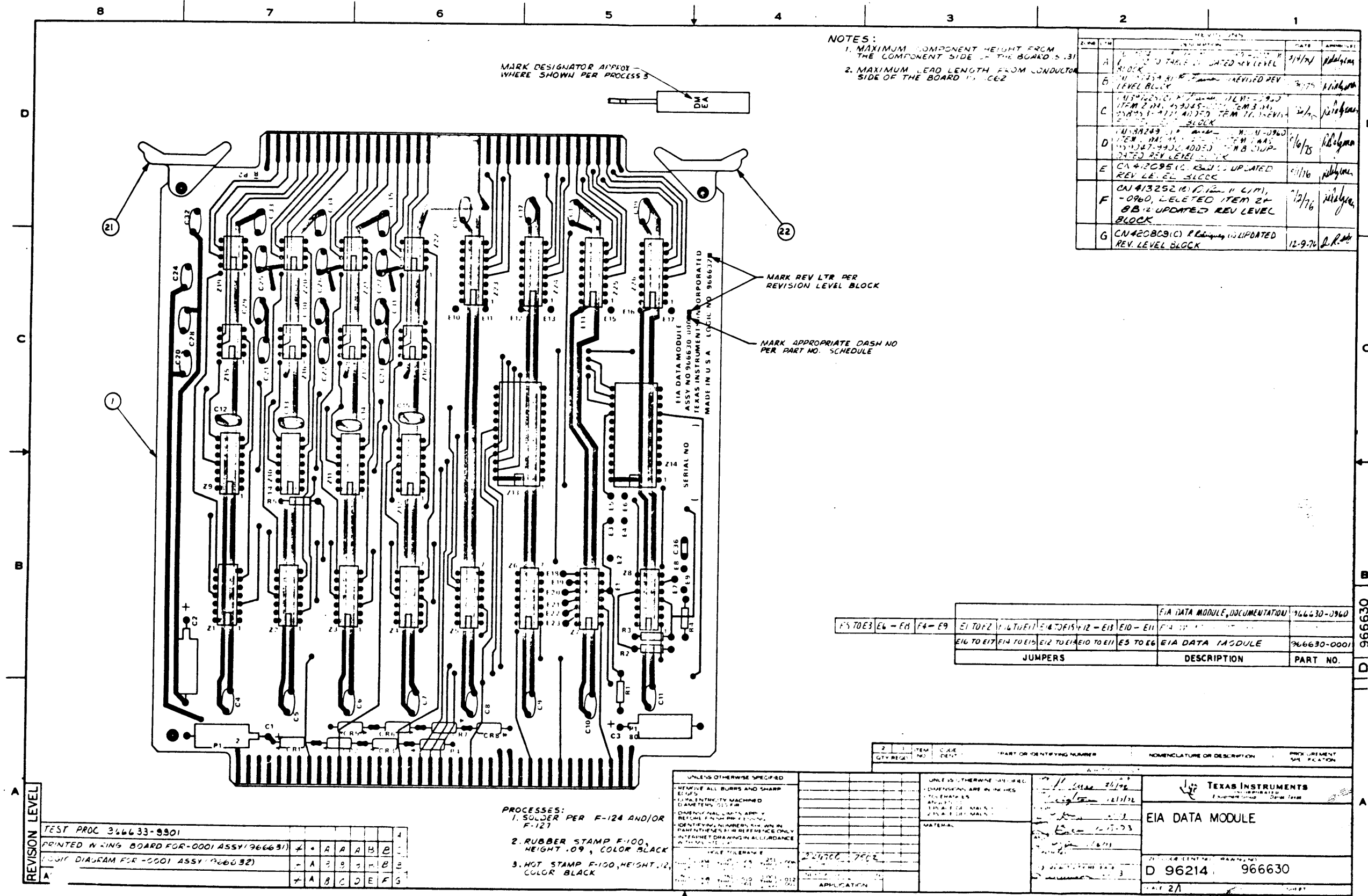


| REVISIONS |             |      |      |  |  |  |  |  |  |  |
|-----------|-------------|------|------|--|--|--|--|--|--|--|
| REV       | DESCRIPTION | DATE | APPD |  |  |  |  |  |  |  |
| 1         |             |      |      |  |  |  |  |  |  |  |
| 2         |             |      |      |  |  |  |  |  |  |  |
| 3         |             |      |      |  |  |  |  |  |  |  |
| 4         |             |      |      |  |  |  |  |  |  |  |

| TABLE I     |         |                  |      |      |      |      |      |      |      |      |
|-------------|---------|------------------|------|------|------|------|------|------|------|------|
| 961642-0011 | 9600    | 9601             | 9602 | 9603 | 9604 | 9605 | 9606 | 9607 | 9608 | 9609 |
| 0010        | 4800    | 4801             | 4802 | 4803 | 4804 | 4805 | 4806 | 4807 | 4808 | 4809 |
| 0009        | 600     | 601              | 602  | 603  | 604  | 605  | 606  | 607  | 608  | 609  |
| 0008        | 700     | 701              | 702  | 703  | 704  | 705  | 706  | 707  | 708  | 709  |
| 0007        | 800     | 801              | 802  | 803  | 804  | 805  | 806  | 807  | 808  | 809  |
| 0006        | 900     | 901              | 902  | 903  | 904  | 905  | 906  | 907  | 908  | 909  |
| 0005        | 100     | 101              | 102  | 103  | 104  | 105  | 106  | 107  | 108  | 109  |
| 0004        | 200     | 201              | 202  | 203  | 204  | 205  | 206  | 207  | 208  | 209  |
| 0003        | 300     | 301              | 302  | 303  | 304  | 305  | 306  | 307  | 308  | 309  |
| 0002        | 400     | 401              | 402  | 403  | 404  | 405  | 406  | 407  | 408  | 409  |
| 0001        | 500     | 501              | 502  | 503  | 504  | 505  | 506  | 507  | 508  | 509  |
| 961642-0001 | 600     | 601              | 602  | 603  | 604  | 605  | 606  | 607  | 608  | 609  |
| PART NUMBER | ALDRATE | PAPER CONNECTION |      |      |      |      |      |      |      |      |

| UNLESS OTHERWISE SPECIFIED:  |             | LIST OF MATERIALS |             | VENDOR PART NUMBER |             |
|--|-------------|-------------------|-------------|--------------------|-------------|
| PROCESS  | DESCRIPTION | QTY REQD          | DESCRIPTION | QTY REQD           | DESCRIPTION |
| 101 E  | PROCESS     | 1                 | PROCESS     | 1                  | PROCESS     |
| 8.00   | SIZE        | 1                 | SIZE        | 1                  | SIZE        |
| <p>TEXAS INSTRUMENTS INCORPORATED INDUSTRIAL PRODUCTS DIVISION HOUSTON, TEXAS</p> <p>DIAGRAM, LOGIC, DETAILED-FULL DUPLEX TTY/EIA MODULE</p> |             |                   |             |                    |             |
| <p>DATE: 10/15/73</p> <p>BY: D 961642</p>  |             |                   |             |                    |             |



NOTES:  
 1. MAXIMUM COMPONENT HEIGHT FROM THE COMPONENT SIDE OF THE BOARD IS .31"  
 2. MAXIMUM LEAD LENGTH FROM CONDUCTOR SIDE OF THE BOARD IS .062"

| REV. LTR. | DESCRIPTION               | DATE    | APPROVED BY |
|-----------|---------------------------|---------|-------------|
| A         | INITIAL REV. LEVEL BLOCK  | 3/4/74  | R. R. R.    |
| B         | REVISION REV. LEVEL BLOCK | 3/7/75  | R. R. R.    |
| C         | REVISION REV. LEVEL BLOCK | 3/1/76  | R. R. R.    |
| D         | REVISION REV. LEVEL BLOCK | 6/6/78  | R. R. R.    |
| E         | REVISION REV. LEVEL BLOCK | 6/1/76  | R. R. R.    |
| F         | REVISION REV. LEVEL BLOCK | 12/7/76 | R. R. R.    |
| G         | REVISION REV. LEVEL BLOCK | 12-9-76 | R. R. R.    |

| REVISION LEVEL | DESCRIPTION                                  | A | B | C | D | E | F | G |
|----------------|--|---|---|---|---|---|---|---|
| A              | TEST PROC 346633-9301                        |   |   |   |   |   |   |   |
| B              | PRINTED WIRING BOARD FOR -0001 ASSY (966631) |   |   |   |   |   |   |   |
| C              | LOGIC DIAGRAM FOR -0001 ASSY (966632)        |   |   |   |   |   |   |   |

PROCESSES:  
 1. SOLDER PER F-124 AND/OR F-127  
 2. RUBBER STAMP F-100, HEIGHT .09, COLOR BLACK  
 3. HOT STAMP F-100, HEIGHT .12, COLOR BLACK

| JUMPERS  | DESCRIPTION                    | PART NO.    |
|----------|--------------------------------|-------------|
| F5 TO E3 | EIA DATA MODULE, DOCUMENTATION | 966630-0960 |
| E6 - E8  | EIA DATA MODULE                | 966630-0001 |
| F4 - E9  | EIA DATA MODULE                | 966630-0001 |

| QTY REQD | ITEM NO | DATE | PART OR IDENTIFYING NUMBER | NOMENCLATURE OR DESCRIPTION | PRICE UNIT | REMARKS |
|----------|---------|------|----------------------------|-----------------------------|------------|---------|
|          |         |      |                            | EIA DATA MODULE             |            |         |
|          |         |      |                            | TEXAS INSTRUMENTS           |            |         |
|          |         |      |                            | D 96214                     |            |         |
|          |         |      |                            | 966630                      |            |         |

ID 966630





**TEXAS INSTRUMENTS**  
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**LIST OF MATERIAL**

PAGE 1 of

PART NUMBER **LM 966630-0001** REV **GF**

| REV. NO.  | QUANTITY PER ASSEMBLY | UNIT OF ISSUE | DWG SIZE              | PART NUMBER    | DESCRIPTION                            | VENDOR PART NUMBER |                        |
|-----------|-----------------------|---------------|-----------------------|----------------|--|--------------------|------------------------|
| CC01      | 00001.000             | EA            |                       | 966631-C001    | PRINTED WIRING BOARD, EIA DATA MODULE  |                    |                        |
| CC02      | 00001.000             | EA            |                       | 222222-7150    | NETWRK SN74150N                        |                    |                        |
| CC02A     |                       |               |                       |                | Z14                                    |                    |                        |
| CC03      | 00001.000             | EA            |                       | 222222-7154    | NETWRK SN74154N                        | -SN74154N          |                        |
| CC03A     |                       |               |                       |                | Z13                                    |                    |                        |
| CC04      | 00008.000             | EA            |                       | 222222-7474    | NETWRK SN7474N                         | -SN7474N           |                        |
| CC04A     |                       |               |                       |                | Z1, Z2, Z3, Z4, Z9, Z10, Z11, Z12      |                    |                        |
| CC05      | 00002.000             | EA            |                       | 222222-7404    | NETWRK SN7404N                         |                    |                        |
| CC05A     |                       |               |                       |                | Z6, Z7                                 |                    |                        |
| CC06      | 00001.000             | EA            |                       | 222222-7401    | NETWRK SN7401N                         |                    |                        |
| CC06A     |                       |               |                       |                | Z8                                     |                    |                        |
| CC07      | 00001.000             | EA            |                       | 222222-7437    | NETWRK SN7437N                         |                    |                        |
| CC07A     |                       |               |                       |                | Z5                                     |                    |                        |
| CC08      | 00008.000             | EA            |                       | 537948-0001    | NETWRK SN75150P                        | TI -SN75150P       |                        |
| CC08A     |                       |               |                       |                | Z15 THRU Z22                           |                    |                        |
| CC09      | 00004.000             | EA            |                       | 537947-0001    | NETWRK SN75154N                        | TI -SN75154N       |                        |
| CC09A     |                       |               |                       |                | Z23, Z24, Z25, Z26                     |                    |                        |
| CC10      | 00003.000             | EA            |                       | 972946-C076    | RES FIX 3.0K OHM 5 % .25 W CARBON FILM | ROH- R-25          |                        |
| CC10A     |                       |               |                       |                | R1, R4, R5                             |                    |                        |
| CC11      | 00002.000             | EA            |                       | 972946-CC01    | RES FIX 4.7K OHM 5 % .25 W CARBON FILM | ROH- R-25          |                        |
| DRAFTSMAN |                       | DATE          | CHKD DRAFTSMAN        | DATE           | DESIGN ENGINEER                        | DATE               | TITLE                  |
| APPD WFC  |                       | DATE          | APPD PROJECT ENGINEER | DATE           | RELEASED                               | DATE               | PROJECT NO             |
|           |                       |               | <i>[Signature]</i>    | <b>6/30/76</b> |  |                    | <b>EIA DATA MODULE</b> |
|           |                       |               |                       |                |  |                    | <b>8100</b>            |
|           |                       |               |                       |                |  |                    | <b>LM 966630-0001</b>  |
|           |                       |               |                       |                |  |                    | <b>GF</b>              |

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**TEXAS INSTRUMENTS**  
INCORPORATED

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**LIST OF MATERIAL**

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PART NUMBER  
**LM 96630-0001** REV **GF**

| PRINT ITEM NUMBER | QUANTITY PER ASSEMBLY | UNIT OF ISSUE | DWG. SIZE             | PART NUMBER | DESCRIPTION                            | VENDOR PART NUMBER   |                 |
|-------------------|-----------------------|---------------|-----------------------|-------------|--|----------------------|-----------------|
| C011A             |                       |               |                       |             | R2,R3                                  |                      |                 |
| 0012              | 00001.000             | EA            |                       | 972929-0397 | CAP FIX CERAMIC .001 UF 10% 200V       | QPL-M39014/01-1397   |                 |
| 0012A             |                       |               |                       |             | C36                                    |                      |                 |
| 0013              | 00001.000             | EA            |                       | 972924-0015 | CAP FIX TANT SOLID 47 MFD 10 % 20 VOLT | QPL-M39003/1-2295    |                 |
| 0013A             |                       |               |                       |             | C3                                     |                      |                 |
| 0014              | 00032.000             | EA            |                       | 532736-C0C2 | CAP FIX CERAMIC .02 MF 20/80% 25 VOLT  | CRL- 2DDU60E203ZAC   |                 |
| C014A             |                       |               |                       |             | C4 THRU C35                            |                      |                 |
| 0015              | AR                    | FT            |                       | 417836-C0C6 | WIRE TACKLER B-22 AWG SOLID WHITE      | JUD- HH0113          |                 |
| 0016              | REF                   | EA            |                       | 966632-9901 | LOGIC DIAGRAM,DET-EIA DATA MODULE      |                      |                 |
| 0017              | 00002.000             | EA            |                       | 972924-0019 | CAP FIX TANT SOLID 22 MFD 10 % 35 VOLT | QPL-M39003/1-2306    |                 |
| C017A             |                       |               |                       |             | C1,C2                                  |                      |                 |
| 0019              | REF                   | EA            |                       | 566633-9901 | TEST PROCEDURE EIA DATA MODULE         |                      |                 |
| C020              | 00008.000             | EA            |                       | 416377-C0C1 | DIODE 1N645                            | QPL- 1N645           |                 |
| 0020A             |                       |               |                       |             | CR1 THRU CR8                           |                      |                 |
| 0021              | 00001.000             | EA            |                       | 533887-C0C1 | EJECTOR,PCB,NON-LOCKING,WHITE          | SCA-S-202 WHITE      |                 |
| C022              | 00001.000             | EA            |                       | 533887-C0C9 | EJECTOR,PCB,NON-LOCKING,GREEN          | SCA-S-202 GREEN      |                 |
| 0023              | REF                   | EA            |                       | 964882-9901 | SPEC,EIA DATA MODULE-960A COMPUTER     |                      |                 |
| DRAFTSMAN         |                       | DATE          | CKD DRAFTSMAN         | DATE        | DESIGN ENGINEER                        | DATE                 | TITLE           |
|                   |                       |               |                       |             |  |                      | EIA DATA MODULE |
| APPD MFG          |                       | DATE          | APPD PROJECT ENGINEER | DATE        | RELEASED                               | DATE                 | PROJECT NO.     |
|                   |                       |               |                       |             |  |                      |                 |
|                   |                       |               |                       |             |  | PART NUMBER          | REV             |
|                   |                       |               |                       |             |  | <b>LM 96630-0001</b> | <b>GF</b>       |

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|                |     |
|----------------|-----|
| PART NUMBER    | REV |
| LM 966630-0002 | GF  |

| PART<br>ITEM<br>NUMBER | QUANTITY<br>PER<br>ASSEMBLY | UNIT<br>OF<br>ISSUE | DWG<br>SIZE | PART NUMBER | DESCRIPTION                            | VENDOR PART NUMBER |
|------------------------|-----------------------------|---------------------|-------------|-------------|--|--------------------|
| C001                   | 000C1.000                   | EA                  |             | 966631-C001 | PRINTED WIRING BOARD,EIA DATA MODULE   |                    |
| C002                   | 000C1.CC0                   | EA                  |             | 222222-7150 | NETWCRK SN74150N                       |                    |
| C002A                  |                             |                     |             |             | Z14                                    |                    |
| C003                   | 000C1.000                   | EA                  |             | 222222-7154 | NETWCRK SN74154N                       | -SN74154N          |
| C003A                  |                             |                     |             |             | Z13                                    |                    |
| C004                   | 0C0C8.CC0                   | EA                  |             | 222222-7474 | NETWCRK SN7474N                        | -SN7474N           |
| C004A                  |                             |                     |             |             | Z1,Z2,Z3,Z4,Z9,Z10,Z11,Z12             |                    |
| C005                   | 00002.CC0                   | EA                  |             | 222222-7404 | NETWCRK SN7404N                        |                    |
| C005A                  |                             |                     |             |             | Z6,Z7                                  |                    |
| C006                   | 000C1.0C0                   | EA                  |             | 222222-7401 | NETWCRK SN7401N                        |                    |
| C006A                  |                             |                     |             |             | Z8                                     |                    |
| C007                   | 00001.0C0                   | EA                  |             | 222222-7437 | NETWCRK SN7437N                        |                    |
| C007A                  |                             |                     |             |             | Z5                                     |                    |
| C008                   | 000C8.CC0                   | EA                  |             | 537548-C0C1 | NETWCRK SN75150P                       | TI -SN75150P       |
| C008A                  |                             |                     |             |             | Z15 TRRL Z22                           |                    |
| C009                   | 0C004.CC0                   | EA                  |             | 537947-0001 | NETWCRK SN75154N                       | TI -SN75154N       |
| C009A                  |                             |                     |             |             | Z23,Z24,Z25,Z26                        |                    |
| 0010                   | 00003.000                   | EA                  |             | 972546-0C76 | RES FIX 3.0K OHM 5 % .25 W CARBON FILM | ROH- R-25          |
| C010A                  |                             |                     |             |             | R1,R4,R5                               |                    |
| C011                   | 00002.CC0                   | EA                  |             | 972546-0C01 | RES FIX 4.7K OHM 5 % .25 W CARBON FILM | ROH- R-25          |

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|           |      |                       |      |                 |      |                       |
|-----------|------|-----------------------|------|-----------------|------|-----------------------|
| DRAFTSMAN | DATE | CKD DRAFTSMAN         | DATE | DESIGN ENGINEER | DATE | TITLE                 |
|           |      |                       |      |                 |      | EIA DM INTERRUPT DIFF |
| APPR MFG  | DATE | APPD PROJECT ENGINEER | DATE | RELEASED        | DATE | PROJECT NO            |
|           |      |                       |      |                 |      |                       |
|           |      |                       |      |                 |      | PART NUMBER           |
|           |      |                       |      |                 |      | LM 966630-0002        |
|           |      |                       |      |                 |      | REV                   |
|           |      |                       |      |                 |      | GF                    |



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**LIST OF MATERIAL**

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PART NUMBER  
**LM 966630-0002** REV  
**GF**

| PRINT ITEM NUMBER | QUANTITY PER ASSEMBLY | UNIT OF ISSUE | DWG. SIZE | PART NUMBER | DESCRIPTION                            | VENDOR PART NUMBER |
|-------------------|-----------------------|---------------|-----------|-------------|--|--------------------|
| C011A             |                       |               |           |             | R2,R3                                  |                    |
| 0012              | 00001.000             | EA            |           | 972929-0357 | CAP FIX CERAMIC .001 UF 10% 200V       | QPL-M39014/01-1397 |
| 0012A             |                       |               |           |             | C36                                    |                    |
| 0013              | 00001.000             | EA            |           | 972924-0015 | CAP FIX TANT SOLID 47 MFD 10 % 20 VOLT | QPL-M39003/1-2295  |
| 0013A             |                       |               |           |             | C3                                     |                    |
| 0014              | 00032.000             | EA            |           | 532736-C002 | CAP FIX CERAMIC .02 MF 20/80% 25 VOLT  | CRL- 2DDU60E203ZAC |
| 0014A             |                       |               |           |             | C4 THRU C35                            |                    |
| C015              | AR                    | FT            |           | 417836-C006 | WIRE SOCKLP B-22 AWG SOLID WHITE       | JUD- MH0113        |
| C016              | REF                   | EA            |           | 966632-9901 | LOGIC DIAGRAM,DET-EIA DATA MODULE      |                    |
| 0017              | 00002.000             | EA            |           | 972924-C019 | CAP FIX TANT SOLID 22 MFD 10 % 35 VOLT | QPL-M39003/1-2306  |
| 0017A             |                       |               |           |             | C1,C2                                  |                    |
| 0019              | REF                   | EA            |           | 966633-9901 | TEST PROCEDURE EIA DATA MODULE         |                    |
| 0020              | 00008.000             | EA            |           | 416377-C001 | DIODE 1N645                            | QPL- 1N645         |
| 002CA             |                       |               |           |             | CR1 THRU CR8                           |                    |
| 0021              | 00001.000             | EA            |           | 533887-C001 | EJECTOR,PCB,NON-LOCKING,WHITE          | SCA-S-202 WHITE    |
| 0022              | 00001.000             | EA            |           | 533887-CCC9 | EJECTOR,PCB,NON-LOCKING,GREEN          | SCA-S-202 GREEN    |
| 0023              | REF                   | EA            |           | 964882-9901 | SPEC,EIA DATA MODULE-960A COMPUTER     |                    |

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|           |      |                       |      |                 |      |             |                              |           |
|-----------|------|-----------------------|------|-----------------|------|-------------|------------------------------|-----------|
| DRAFTSMAN | DATE | CKD DRAFTSMAN         | DATE | DESIGN ENGINEER | DATE | TITLE       | <b>EIA DM INTERRUPT DIFF</b> |           |
| APPD-MFG  | DATE | APPD PROJECT ENGINEER | DATE | RELEASED        | DATE | PROJECT NO. | PART NUMBER                  | REV       |
|           |      |                       |      |                 |      |             | <b>LM 966630-0002</b>        | <b>GF</b> |

**AS INSTRUMENTS**  
INCORPORATED

DATE 06/29/76

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|           |                            |           |
|-----------|----------------------------|-----------|
| <b>LM</b> | PART NUMBER<br>966630-0960 | REV<br>Gf |
|-----------|----------------------------|-----------|

| PRINT ITEM NUMBER | QUANTITY PER ASSEMBLY | UNIT OF ISSUE | DWG SIZE | PART NUMBER | DESCRIPTION                           | VENDOR PART NUMBER |
|-------------------|-----------------------|---------------|----------|-------------|---------------------------------------|--------------------|
| CCC7              | 00001.000             | EA            |          | 970592-99C2 | AL, SICCMT, 16 I/O DATA MODULE-PDT960 |                    |
| COC8              | 00001.000             | EA            |          | 399999-9711 | COPY CF DWG(S) BELOW                  | -BOGUS P/N, NO DWG |
| COC8A             |                       |               |          | 970592-99C1 | PD                                    |                    |
| COC8C             |                       |               |          | 964882-99C1 | SPEC                                  |                    |
| OOC8C             |                       |               |          | 966632-99C1 | DIAGRAM                               |                    |
| OOC8E             |                       |               |          | 966630      | ASSY                                  |                    |

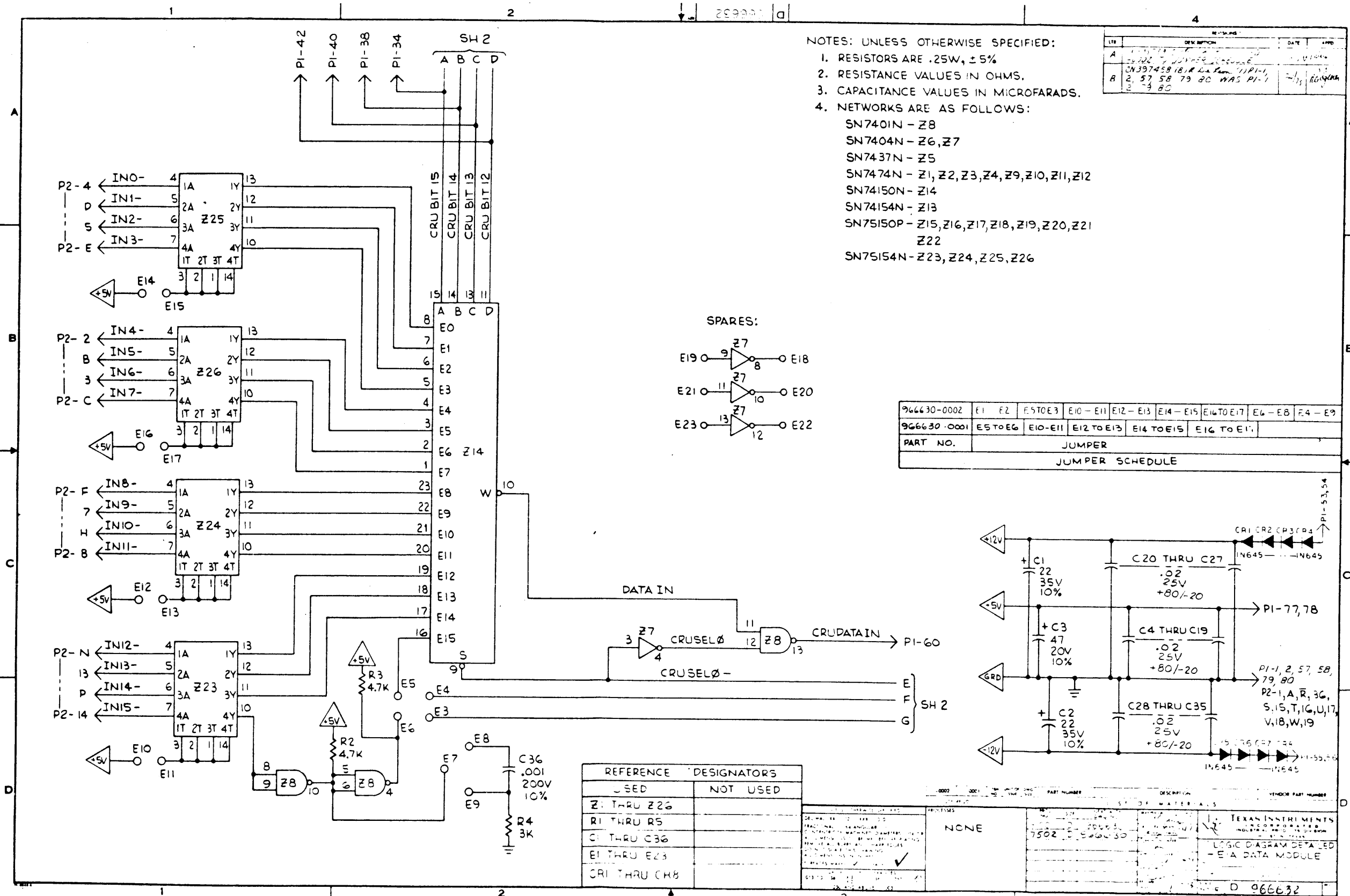
  

|           |      |                       |      |                 |      |                                       |
|-----------|------|-----------------------|------|-----------------|------|---------------------------------------|
| DRAFTSMAN | DATE | CKD DRAFTSMAN         | DATE | DESIGN ENGINEER | DATE | TITLE                                 |
|           |      |                       |      |                 |      | <b>EIA DATA MODULE, DOCUMENTATION</b> |
| APPD MFG  | DATE | APPD PROJECT ENGINEER | DATE | RELEASED        | DATE | PROJECT NO.                           |
|           |      |                       |      |                 |      |                                       |

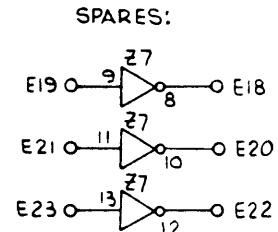
  

|           |                            |           |
|-----------|----------------------------|-----------|
| <b>LM</b> | PART NUMBER<br>966630-0960 | REV<br>Gf |
|-----------|----------------------------|-----------|

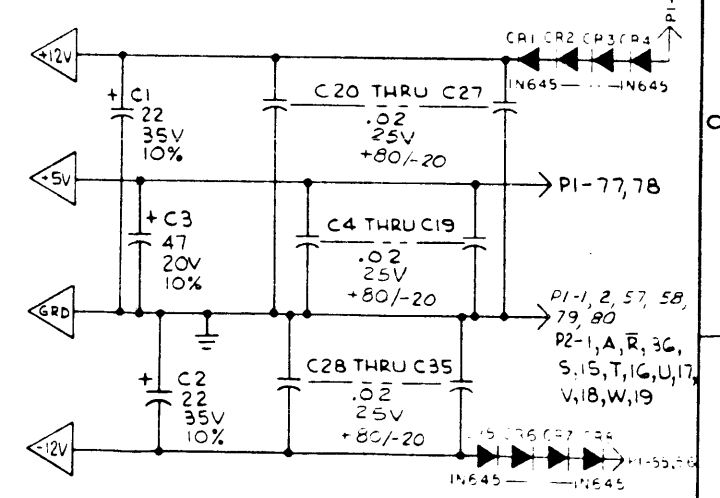
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- NOTES: UNLESS OTHERWISE SPECIFIED:
1. RESISTORS ARE .25W, ± 5%
  2. RESISTANCE VALUES IN OHMS.
  3. CAPACITANCE VALUES IN MICROFARADS.
  4. NETWORKS ARE AS FOLLOWS:
    - SN7401N - Z8
    - SN7404N - Z6, Z7
    - SN7437N - Z5
    - SN7474N - Z1, Z2, Z3, Z4, Z9, Z10, Z11, Z12
    - SN74150N - Z14
    - SN74154N - Z13
    - SN75150P - Z15, Z16, Z17, Z18, Z19, Z20, Z21, Z22
    - SN75154N - Z23, Z24, Z25, Z26

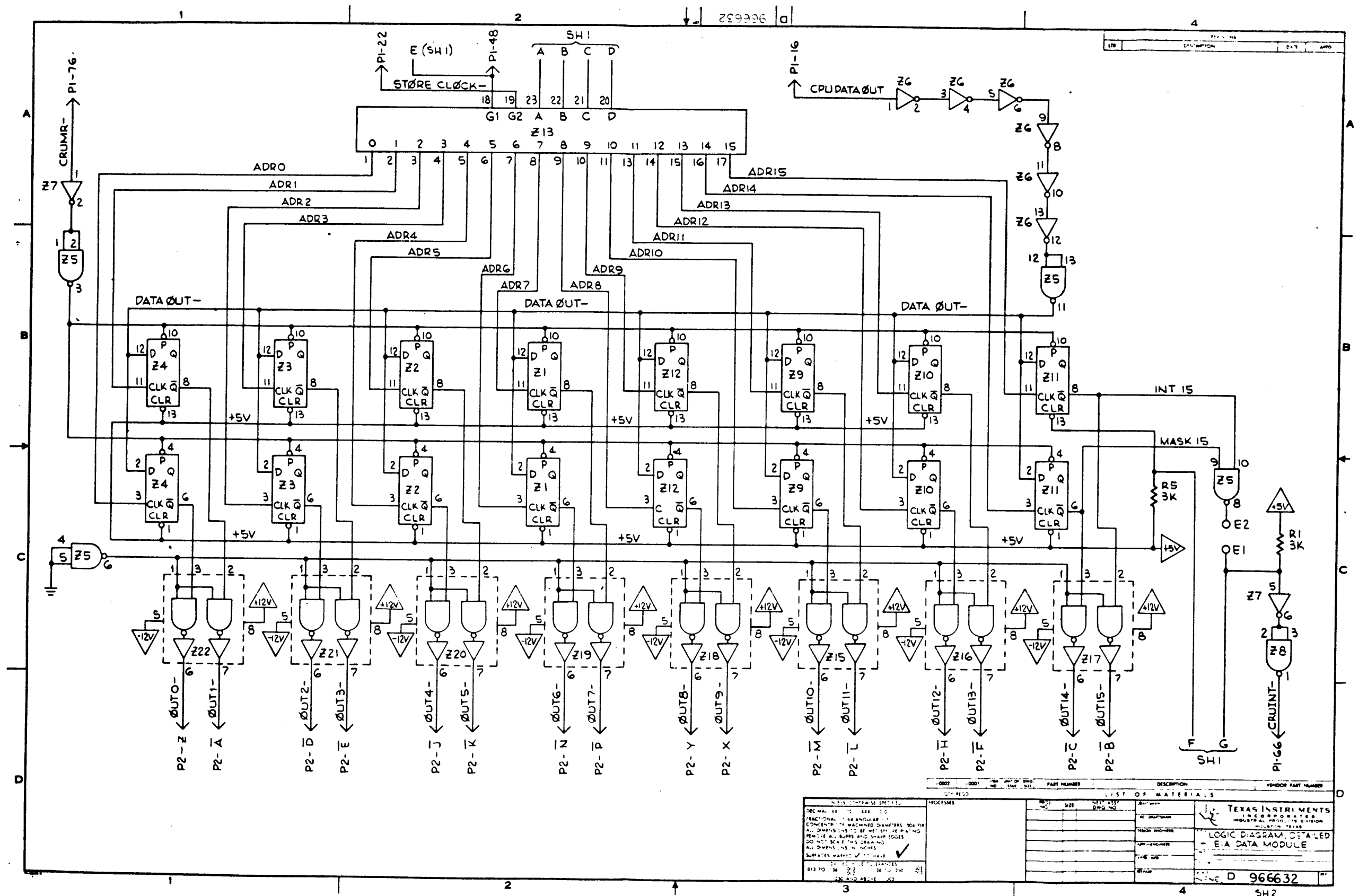


|                 |          |    |           |            |            |            |            |         |         |
|-----------------|----------|----|-----------|------------|------------|------------|------------|---------|---------|
| 966630-0002     | E1       | E2 | E5 TO E3  | E10 - E11  | E12 - E13  | E14 - E15  | E16 TO E17 | E6 - E8 | E4 - E9 |
| 966630-0001     | E5 TO E6 |    | E10 - E11 | E12 TO E13 | E14 TO E15 | E16 TO E17 |            |         |         |
| PART NO.        | JUMPER   |    |           |            |            |            |            |         |         |
| JUMPER SCHEDULE |          |    |           |            |            |            |            |         |         |

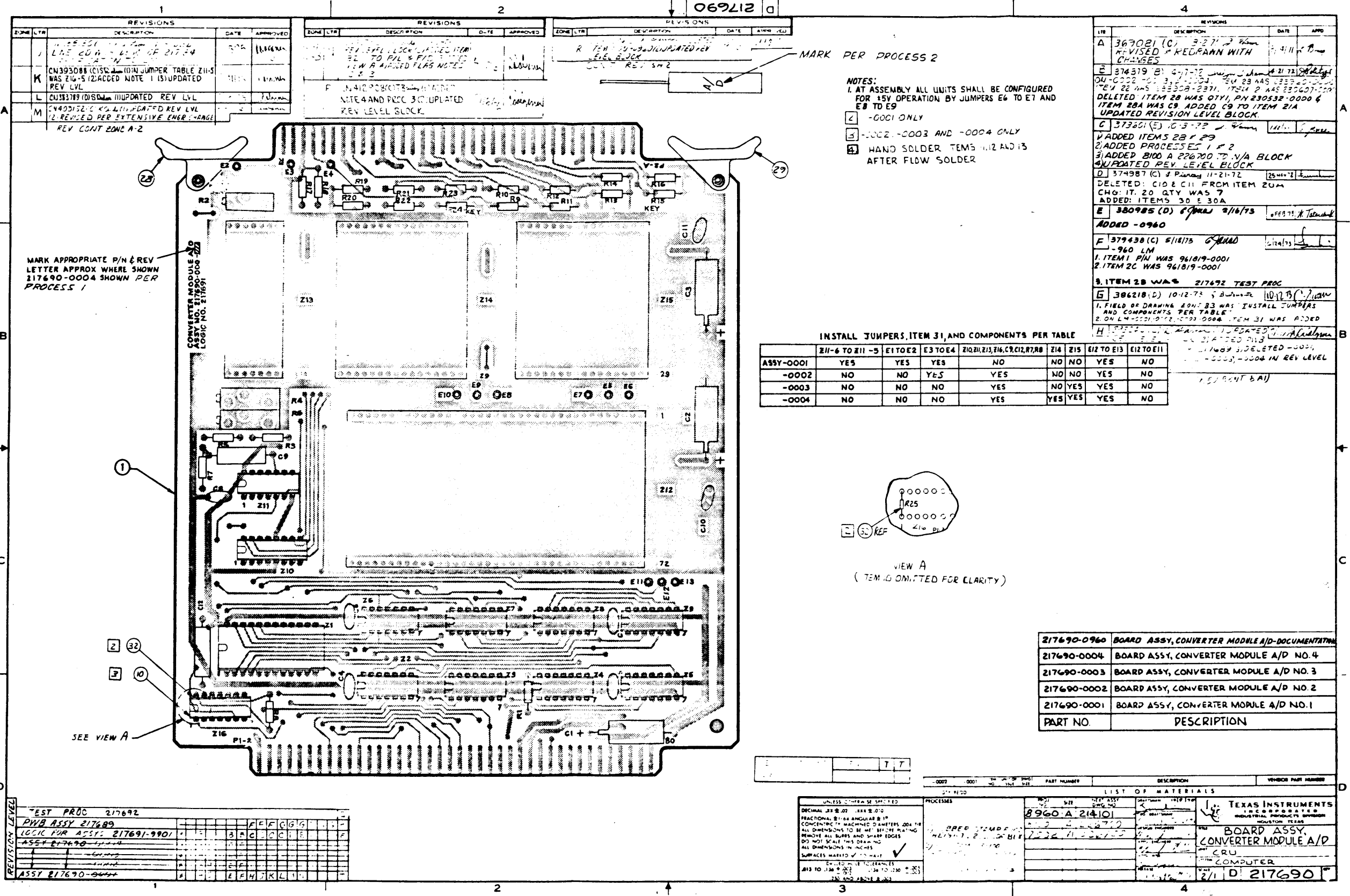


| REFERENCE DESIGNATORS USED | NOT USED |
|----------------------------|----------|
| Z1 THRU Z26                |          |
| R1 THRU R5                 |          |
| C1 THRU C36                |          |
| E1 THRU E23                |          |
| CR1 THRU CR8               |          |

|  |             |             |             |             |             |             |             |             |             |
|--|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| 966630-0002  | 966630-0001 | 966630-0003 | 966630-0004 | 966630-0005 | 966630-0006 | 966630-0007 | 966630-0008 | 966630-0009 | 966630-0010 |
| PART NUMBER  |             |             |             |             |             |             |             |             |             |
| DESCRIPTION  |             |             |             |             |             |             |             |             |             |
| MATERIALS  |             |             |             |             |             |             |             |             |             |
| VENDOR PART NUMBER   |             |             |             |             |             |             |             |             |             |
| TEXAS INSTRUMENTS<br>LOGIC DIAGRAM DETAIL - EIA DATA MODULE<br>PART NO. 966630<br>DATE 11/78<br>D 966632 |             |             |             |             |             |             |             |             |             |



| PART NUMBER  |     | DESCRIPTION            |  | VENDOR PART NUMBER |  |
|--|-----|------------------------|--|--------------------|--|
| 96632  | SH2 | LOGIC DIAGRAM OF A LED |  |                    |  |
| <p>TEXAS INSTRUMENTS<br/>INCORPORATED<br/>INDUSTRIAL PRODUCTS DIVISION<br/>DALLAS, TEXAS</p> |     |                        |  |                    |  |
| <p>LOGIC DIAGRAM OF A LED<br/>- EIA DATA MODULE</p>  |     |                        |  |                    |  |
| <p>REV. D 966632</p>   |     |                        |  |                    |  |



| ZONE | LTR | DESCRIPTION                        | DATE | APPROVED |
|------|-----|------------------------------------|------|----------|
|      |     | REVISED PER EXTENSIVE ENGR. CHANGE |      |          |
|      |     | REV. CONT. ZONE A-2                |      |          |

| ZONE | LTR | DESCRIPTION  | DATE | APPROVED |
|------|-----|--|------|----------|
|      |     | REV. LEVEL BLOCK ADDED ITEM 32 TO P/N & FLAG NOTES |      |          |
|      |     | NOTE 4 AND PROC 3 UPDATED REV. LEVEL BLOCK         |      |          |

| ZONE | LTR | DESCRIPTION  | DATE | APPROVED |
|------|-----|--|------|----------|
|      |     | REV. LEVEL BLOCK ADDED ITEM 32 TO P/N & FLAG NOTES |      |          |
|      |     | NOTE 4 AND PROC 3 UPDATED REV. LEVEL BLOCK         |      |          |

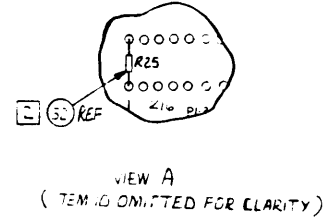
| ZONE | LTR | DESCRIPTION                     | DATE | APPROVED |
|------|-----|---------------------------------|------|----------|
|      |     | REVISED PER REPAIR WITH CHANGES |      |          |

| ZONE | LTR | DESCRIPTION                     | DATE | APPROVED |
|------|-----|---------------------------------|------|----------|
|      |     | REVISED PER REPAIR WITH CHANGES |      |          |

NOTES:  
 1. AT ASSEMBLY ALL UNITS SHALL BE CONFIGURED FOR 15V OPERATION BY JUMPERS E6 TO E7 AND E8 TO E9  
 2. -0001 ONLY  
 3. -0002, -0003 AND -0004 ONLY  
 4. HAND SOLDER TEMS W12 AND 13 AFTER FLOW SOLDER

INSTALL JUMPERS, ITEM 31, AND COMPONENTS PER TABLE

| ASSY-0001 | Z11-6 TO Z11-5 | E1 TO E2 | E3 TO E4 | Z10, Z11, Z16, C9, C12, R7, R8 | Z14 | Z15 | E12 TO E13 | E12 TO E11 |
|-----------|----------------|----------|----------|--------------------------------|-----|-----|------------|------------|
| -0001     | YES            | YES      | YES      | NO                             | NO  | NO  | YES        | NO         |
| -0002     | NO             | NO       | YES      | YES                            | NO  | NO  | YES        | NO         |
| -0003     | NO             | NO       | NO       | YES                            | NO  | YES | YES        | NO         |
| -0004     | NO             | NO       | NO       | YES                            | YES | YES | YES        | NO         |

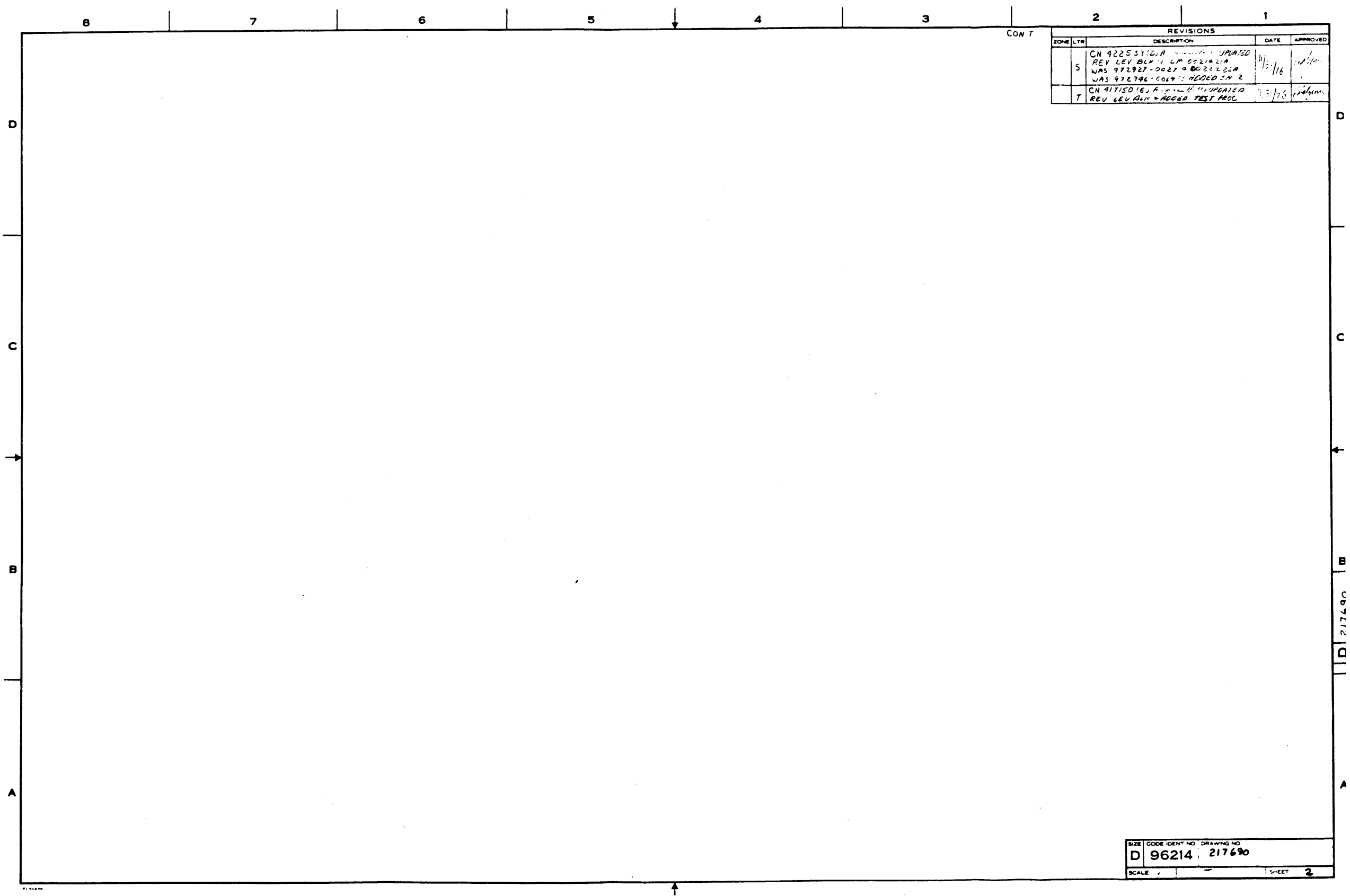


| PART NO.    | DESCRIPTION                                    |
|-------------|--|
| 217690-0960 | BOARD ASSY, CONVERTER MODULE A/D-DOCUMENTATION |
| 217690-0004 | BOARD ASSY, CONVERTER MODULE A/D NO. 4         |
| 217690-0003 | BOARD ASSY, CONVERTER MODULE A/D NO. 3         |
| 217690-0002 | BOARD ASSY, CONVERTER MODULE A/D NO. 2         |
| 217690-0001 | BOARD ASSY, CONVERTER MODULE A/D NO. 1         |

| REV. LEVEL | EST PROC | 217692 |  |  |  |  |  |  |  |  |
|------------|----------|--------|--|--|--|--|--|--|--|--|
|            |          |        |  |  |  |  |  |  |  |  |

| UNLESS OTHERWISE SPECIFIED              | PROCESSES     | LIST OF MATERIALS                |
|---|---------------|----------------------------------|
| DECIMAL 25 ± .02                        | 8960 A 214101 | TEXAS INSTRUMENTS                |
| FRACTIONAL 1/16 ANGULAR 8/16            |               | BOARD ASSY, CONVERTER MODULE A/D |
| CONCENTRIC MACHINED DIMETERS 0.015      |               | CRU                              |
| ALL DIMENSIONS TO BE MET BEFORE PLATING |               | COMPUTER                         |
| REMOVE ALL BURRS AND SHARP EDGES        |               | 217690                           |
| DO NOT SCALE THIS DRAWING               |               |                                  |
| ALL DIMENSIONS IN INCHES                |               |                                  |
| SURFACES MARKED WITH CHECK              |               |                                  |
| EXCEPT WHERE NOTED OTHERWISE            |               |                                  |
| 217690-0001 TO 217690-0004              |               |                                  |
| 1/16 AND 1/32 ± .005                    |               |                                  |





| ZONE   |   | REVISIONS |          | DATE | APPROVED |
|--------|---|-----------|----------|------|----------|
| LETTER | DESCRIPTION   | DATE      | APPROVED |      |          |
| S      | CN 9225310, A<br>REV LEV BLK 1, LM 002162A<br>WAS 972927-0027 & 0023220A<br>WAS 972926-0064: ADDED SH 2 | 11/2/16   |          |      |          |
| T      | CN 917501E, A<br>REV LEV BLK 1 ADDED TEST PROC  | 11/3/16   |          |      |          |

|       |                |             |
|-------|----------------|-------------|
| SIZE  | CODE IDENT NO. | DRAWING NO. |
| D     | 96214          | 217690      |
| SCALE | SHEET 2        |             |



**TEXAS INSTRUMENTS**  
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PART NUMBER **LM 0217690-0001** REV **T 3**

| PRINT ITEM NUMBER | QUANTITY PER ASSEMBLY | UNIT OF ISSUE | DWG SIZE              | PART NUMBER  | DESCRIPTION                             | VENDOR PART NUMBER     |  |
|-------------------|-----------------------|---------------|-----------------------|--------------|---|------------------------|--|
| 0001              | 00001.000             | EA            |                       | 0217689-0001 | PRINTED WIRING BD, CONVERTER MODULE A/D |                        |  |
| 0002              | 00001.000             | EA            |                       | 0222222-7150 | NETWRK SN74150N                         |                        |  |
| 0002A             |                       |               |                       |              | Z1                                      |                        |  |
| 0003              | 00001.000             | EA            |                       | 0222222-7402 | NETWRK SN7402N                          | TI- -SN7402N           |  |
| 0003A             |                       |               |                       |              | Z2                                      |                        |  |
| 0004              | 00001.000             | EA            |                       | 0222222-7408 | NETWRK-SN7408N                          |                        |  |
| 0004A             |                       |               |                       |              | Z3                                      |                        |  |
| 0005              | 00001.000             | EA            |                       | 0222222-7401 | NETWRK SN7401N                          |                        |  |
| 0005A             |                       |               |                       |              | Z4                                      |                        |  |
| 0006              | 00002.000             | EA            |                       | 0222222-7430 | NETWRK SN7430N                          | -SN7430N               |  |
| 0006A             |                       |               |                       |              | Z5 Z6                                   |                        |  |
| 0007              | 00002.000             | EA            |                       | 0222222-7404 | NETWRK SN7404N                          |                        |  |
| 0007A             |                       |               |                       |              | Z7 Z9                                   |                        |  |
| 0008              | 00001.000             | EA            |                       | 0222222-7420 | NETWRK SN7420N                          | -SN7420N               |  |
| 0008A             |                       |               |                       |              | Z8                                      |                        |  |
| 0010              | 00001.000             | EA            |                       | 0222222-7121 | NETWRK SN74121N                         |                        |  |
| 0010A             |                       |               |                       |              | Z11                                     |                        |  |
| 0011              | 00001.000             | EA            |                       | 0246633-0001 | CONVERTER, A/C ADC-Q                    |                        |  |
| 0011A             |                       |               |                       |              | Z12                                     |                        |  |
| 0014              | 00002.000             | EA            |                       | 0232834-0000 | RES VAR 20K                             | BEC -79P-R20K          |  |
| DRAFTSMAN         |                       | DATE          | CKD DRAFTSMAN         | DATE         | DESIGN ENGINEER                         | DATE                   | TITLE                                  |
|                   |                       |               | <i>L.R.B.</i>         | 11-11-76     |   |                        | BOARD ASSY, CONVERTER MODULE-A/D NO. 1 |
| APPD -MFG         |                       | DATE          | APPD PROJECT ENGINEER | DATE         | RELEASED                                | DATE                   | PROJECT NO.                            |
|                   |                       |               |                       |              |   |                        | 5100                                   |
|                   |                       |               |                       |              |   | PART NUMBER            | REV                                    |
|                   |                       |               |                       |              |   | <b>LM 0217690-0001</b> | <b>T 3</b>                             |

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| PART NUMBER            | REV |
| <b>LM 0217690-0001</b> | T 8 |

| PRINT ITEM NUMBER | QUANTITY PER ASSEMBLY | UNIT OF ISSUE          | DWG. SIZE | PART NUMBER     | DESCRIPTION                             | VENDOR PART NUMBER                     |     |
|-------------------|-----------------------|------------------------|-----------|-----------------|---|--|-----|
| C014A             |                       |                        |           |                 | R4 R6                                   |  |     |
| 0016              | 00001.000             | EA                     |           | 0972946-0057    | RES FIX 470 OHM 5 % .25 W CARBON FILM   | ROH - R-25                             |     |
| C016A             |                       |                        |           |                 | R1                                      |  |     |
| 0017              | 00001.000             | EA                     |           | 0972946-0121    | RES FIX 220K OHM 5 % .25 W CARBON FILM  | ROH - R-25                             |     |
| C017A             |                       |                        |           |                 | R3                                      |  |     |
| 0018              | 00001.000             | EA                     |           | 0972946-0100    | RES FIX 30 K OHM 5 % .25 W CARBON FILM  | ROH - R-25                             |     |
| 0018A             |                       |                        |           |                 | R5                                      |  |     |
| 0019              | 00003.000             | EA                     |           | 0972924-0015    | CAP FIX TANT SOLID 47 MFD 10 % 20 VOLT  | QPL -M39003/1-2295                     |     |
| C019A             |                       |                        |           |                 | C1 C2 C3                                |  |     |
| 0020              | 00005.000             | EA                     |           | 0534348-0001    | CAP FIX CERAMIC .10 MF 20/80 % 10V      | CRL - UK10-104                         |     |
| C020A             |                       |                        |           |                 | C4 THRU C8                              |  |     |
| 0021              | 00001.000             | EA                     |           | 0972754-0008    | CAP, FIXED 100PF 50VCLTS, 2%            | 071950-C50C101G                        |     |
| C021A             |                       |                        |           |                 | C9                                      |  |     |
| 0022              | 00001.000             | EA                     |           | 0539374-0402    | RES FIX FILM 1.50K OHM 1% .25 WATT      | COR - NC5                              |     |
| 0022A             |                       |                        |           |                 | R7                                      |  |     |
| 0024              | REF                   | EA                     |           | 0217691-9901    | DIAGRAM, LOGIC DET-CONVERTER MODULE A/D |  |     |
| C025              | REF                   | EA                     |           | 0217692-9901    | TEST PROCEDURE, CONVERTER MODULE A/D    |  |     |
| 0026              | REF                   | EA                     |           | 0217184-9901    | SPECS, CONVERTER MODULE A/D             |  |     |
| 0028              | 00001.000             | EA                     |           | 0533867-C001    | EJECTOR, PCB, NON-LOCKING, WHITE        | SCA -S-202 WHITE                       |     |
| 0029              | 00001.000             | EA                     |           | 0533867-C009    | EJECTOR, PCB, NON-LOCKING, GREEN        | SCA -S-202 GREEN                       |     |
| DRAFTSMAN         | DATE                  | CKD DRAFTSMAN          | DATE      | DESIGN ENGINEER | DATE                                    | TITLE                                  |     |
|                   |                       |                        |           |                 |   | BJARD ASSY, CONVERTER MODULE-A/D NO. 1 |     |
| APPD. MFG         | DATE                  | APPD. PROJECT ENGINEER | DATE      | RELEASED        | DATE                                    | PROJECT NO.                            |     |
|                   |                       |                        |           |                 |   |  |     |
|                   |                       |                        |           |                 |   | PART NUMBER                            | REV |
|                   |                       |                        |           |                 |   | <b>LM 0217690-0001</b>                 | T 5 |

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PART NUMBER **LM 0217690-0001** REV **T 3**

| PRINT<br>ITEM<br>NUMBER | QUANTITY<br>PER<br>ASSEMBLY | UNIT<br>OF<br>ISSUE | DWG<br>SIZE | PART NUMBER  | DESCRIPTION                           | VENDOR PART NUMBER |
|-------------------------|-----------------------------|---------------------|-------------|--------------|---------------------------------------|--------------------|
| C030                    | 00002.000                   | EA                  |             | 0230611-0000 | CAP .1000 MF 20V 8807-20              | CRL -UK-20-104     |
| C030A                   |                             |                     |             |              | C10 C11                               |                    |
| 0031                    | 00000.500                   | FT                  |             | 0538555-2599 | WIRE 24 AWG HOJKUP UL-1609 WHITE EFTE | QPL - M22759/18-24 |
| 0032                    | 00001.000                   | EA                  |             | 0972975-0049 | RES FIX COMP 1.0 K OHMS 5 % 1/8 WATT  | QPL - RC05G102JS   |
| C032A                   |                             |                     |             |              | R25                                   |                    |

|            |      |                       |      |                 |      |   |
|------------|------|-----------------------|------|-----------------|------|---|
| DRAFTSMAN  | DATE | CKD DRAFTSMAN         | DATE | DESIGN ENGINEER | DATE | TITLE   |
| APPD -MFG. | DATE | APPD PROJECT ENGINEER | DATE | RELEASED        | DATE | PROJECT NO.                                       |
|            |      |                       |      |                 |      | BOARD ASSY,CCNVERTER MODULE-A/D NO. 1             |
|            |      |                       |      |                 |      | PART NUMBER <b>LM 0217690-0001</b> REV <b>T 3</b> |

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| PART NUMBER     | REV |
| LM 0217690-0002 | T 8 |

| PRINT ITEM NUMBER | QUANTITY PER ASSEMBLY | UNIT OF ISSUE | DWG. SIZE             | PART NUMBER  | DESCRIPTION                             | VENDOR PART NUMBER |                 |
|-------------------|-----------------------|---------------|-----------------------|--------------|---|--------------------|-----------------|
| 0001              | 0001.000              | EA            |                       | 0217689-0001 | PRINTED WIRING BD, CONVERTER MODULE A/D |                    |                 |
| C002              | 0001.000              | EA            |                       | 022222-7150  | NETWORK SN74150N                        |                    |                 |
| 0002A             |                       |               |                       |              | Z1                                      |                    |                 |
| C003              | 0001.000              | EA            |                       | 022222-7402  | NETWORK SN7402N                         | TI - -SN7402N      |                 |
| 0003A             |                       |               |                       |              | Z2                                      |                    |                 |
| 0004              | 0001.000              | EA            |                       | 022222-7408  | NETWORK-SN7408N                         |                    |                 |
| C004A             |                       |               |                       |              | Z3                                      |                    |                 |
| C005              | 0001.000              | EA            |                       | 022222-7401  | NETWORK SN7401N                         |                    |                 |
| C005A             |                       |               |                       |              | Z4                                      |                    |                 |
| C006              | 0002.000              | EA            |                       | 022222-7430  | NETWORK SN7430N                         | -SN7430N           |                 |
| C006A             |                       |               |                       |              | Z5 Z6                                   |                    |                 |
| C007              | 0002.000              | EA            |                       | 022222-7404  | NETWORK SN7404N                         |                    |                 |
| 0007A             |                       |               |                       |              | Z7 Z9                                   |                    |                 |
| C008              | 0001.000              | EA            |                       | 022222-7420  | NETWORK SN7420N                         | -SN7420N           |                 |
| C008A             |                       |               |                       |              | Z8                                      |                    |                 |
| CC09              | 0001.000              | EA            |                       | 022222-7475  | NETWORK-SN7475N                         |                    |                 |
| C009A             |                       |               |                       |              | Z10                                     |                    |                 |
| C010              | 0002.000              | EA            |                       | 022222-7121  | NETWORK SN74121N                        |                    |                 |
| C010A             |                       |               |                       |              | Z11 Z16                                 |                    |                 |
| 0011              | 0001.000              | EA            |                       | 0246633-0001 | CONVERTER, A/C ADC-0                    |                    |                 |
| DRAFTSMAN         |                       | DATE          | CKD DRAFTSMAN         | DATE         | DESIGN ENGINEER                         | DATE               | TITLE           |
| PPD MFG           |                       | DATE          | APPD PROJECT ENGINEER | DATE         | RELEASED                                | DATE               | PROJECT NO      |
|                   |                       |               |                       |              |   |                    | LM 0217690-0002 |
|                   |                       |               |                       |              |   |                    | T 8             |

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| PART NUMBER    | REV |
| LM0217690-C002 | T 8 |

| PRINT ITEM NUMBER | QUANTITY PER ASSEMBLY | UNIT OF ISSUE | DWG. SIZE             | PART NUMBER  | DESCRIPTION                            | VENDOR PART NUMBER |  |
|-------------------|-----------------------|---------------|-----------------------|--------------|--|--------------------|--|
| C011A             |                       |               |                       |              | Z12                                    |                    |  |
| 0012              | 00001.000             | EA            |                       | 0246638-C001 | SAMPLE&FCLC AMP SHA-III                |                    |  |
| 0012A             |                       |               |                       |              | Z13                                    |                    |  |
| 0014              | 00002.000             | EA            |                       | 0232834-0000 | RES VAR 20K                            | BEC -79P-R20K      |  |
| 0014A             |                       |               |                       |              | R4 R6                                  |                    |  |
| 0015              | 00001.000             | EA            |                       | 0232817-0012 | RES VAR. 10K HEL-39P                   | BEC -89P-P10K      |  |
| C015A             |                       |               |                       |              | R2                                     |                    |  |
| 0016              | 00001.000             | EA            |                       | 0972946-0057 | RES FIX 470 OHM 5 % .25 W CARBON FILM  | ROH - R-25         |  |
| 0016A             |                       |               |                       |              | R1                                     |                    |  |
| 0017              | 00001.000             | EA            |                       | 0972946-0121 | RES FIX 220K OHM 5 % .25 W CARBON FILM | ROH - R-25         |  |
| 0017A             |                       |               |                       |              | R3                                     |                    |  |
| 0018              | 00001.000             | EA            |                       | 0972946-0100 | RES FIX 30 K OHM 5 % .25 W CARBON FILM | ROH - R-25         |  |
| 0018A             |                       |               |                       |              | R5                                     |                    |  |
| 0019              | 00003.000             | EA            |                       | 0972924-0015 | CAP FIX TANT SOLID 47 MFD 10 % 20 VOLT | QPL -M39003/1-2295 |  |
| 0019A             |                       |               |                       |              | C1 C2 C3                               |                    |  |
| 0020              | 00005.000             | EA            |                       | 0534348-0001 | CAP FIX CERAMIC .10 MF 20/80 % 10V     | CPL - UK10-104     |  |
| 0020A             |                       |               |                       |              | C4 THRU C8                             |                    |  |
| 0021              | 00002.000             | EA            |                       | 0419051-0682 | CAP FIX FILM FJIL .0068 UF 5% 200VDC   | TRW - 6630W        |  |
| 0021A             |                       |               |                       |              | C9 C12                                 |                    |  |
| 0022              | 00001.000             | EA            |                       | 0539370-0535 | RES FIX FILM 36.5K OHM 1% .25 WATT     | COR - NA55         |  |
| DRAFTSMAN         |                       | DATE          | CKD DRAFTSMAN         | DATE         | DESIGN ENGINEER                        | DATE               | TITLE                                  |
|                   |                       |               |                       |              |  |                    | BOARD ASSY, CONVERTER MODULE-A/D NO. 2 |
| APPD MFG          |                       | DATE          | APPD PROJECT ENGINEER | DATE         | RELEASED                               | DATE               | PROJECT NO                             |
|                   |                       |               |                       |              |  |                    |  |
|                   |                       |               |                       |              |  | PART NUMBER        | REV                                    |
|                   |                       |               |                       |              |  | LM0217690-0002     | T 8                                    |

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| PART NUMBER     | REV |
| LM 0217690-1002 | T 8 |

| PRINT<br>ITEM<br>NUMBER | QUANTITY<br>PER<br>ASSEMBLY | UNIT<br>OF<br>ISSUE | DWG<br>SIZE           | PART NUMBER  | DESCRIPTION                             | VENDOR PART NUMBER     |  |
|-------------------------|-----------------------------|---------------------|-----------------------|--------------|---|------------------------|--|
| C022A                   |                             |                     |                       |              | R7                                      |                        |  |
| 0023                    | 00001.000                   | EA                  |                       | 0539370-0523 | RES FIX FILM 27.4K OHM 1/4 .25 WATT     | COB -NA550-1000RM/     |  |
| C023A                   |                             |                     |                       |              | R8                                      |                        |  |
| 0024                    | REF                         | EA                  |                       | 0217691-9901 | DIAGRAM, LOGIC DET-CONVERTER MODULE A/D |                        |  |
| 0025                    | REF                         | EA                  |                       | 0217692-9901 | TEST PROCEDURE, CONVERTER MODULE A/D    |                        |  |
| 0026                    | REF                         | EA                  |                       | 0217184-9901 | SPECS, CONVERTER MODULE A/D             |                        |  |
| 0028                    | 00001.000                   | EA                  |                       | 0533887-0001 | EJECTOR, PCB, NON-LOCKING, WHITE        | SCA -S-202 WHITE       |  |
| 0029                    | 00001.000                   | EA                  |                       | 0533887-0009 | EJECTOR, PCB, NON-LOCKING, GREEN        | SCA -S-202 GREEN       |  |
| 0030                    | 00002.000                   | EA                  |                       | 0230611-0000 | CAP .1000 MF 20V 80/-20                 | CPL -UK-20-104         |  |
| C030A                   |                             |                     |                       |              | C10 C11                                 |                        |  |
| 0031                    | 00000.500                   | FT                  |                       | 0539555-2999 | WIRE 24 AWG HOJK JP UL-1609 WHITE       | EFT OPL - M22759/18-24 |  |
| DRAFTSMAN               |                             | DATE                | CKD DRAFTSMAN         | DATE         | DESIGN ENGINEER                         | DATE                   | TITLE                                  |
|                         |                             |                     |                       |              |   |                        | BOARD ASSY, CONVERTER MODULE-A/D NO. 2 |
| APPD -MFG               |                             | DATE                | APPD PROJECT ENGINEER | DATE         | RELEASED                                | DATE                   | PROJECT NO                             |
|                         |                             |                     |                       |              |   |                        |  |
|                         |                             |                     |                       |              |   | PART NUMBER            | REV                                    |
|                         |                             |                     |                       |              |   | LM 0217690-1002        | T 8                                    |

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| <b>LM</b> 0217690-0003 | <b>REV</b><br>T 3 |
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| PRINT ITEM NUMBER | QUANTITY PER ASSEMBLY | UNIT OF ISSUE | DWG SIZE | PART NUMBER  | DESCRIPTION                                | VENDOR PART NUMBER |
|-------------------|-----------------------|---------------|----------|--------------|--|--------------------|
| 0001              | 00001.000             | EA            |          | 0217689-0001 | PRINTED WIRING BOARD, CONVERTER MODULE A/D |                    |
| 0002              | 00001.000             | EA            |          | 0222222-7150 | NETWORK SN74150N                           |                    |
| 0002A             |                       |               |          |              | Z1   |                    |
| 0003              | 00001.000             | EA            |          | 0222222-7402 | NETWORK SN7402N                            | TI- -SN7402N       |
| 0003A             |                       |               |          |              | Z2   |                    |
| 0004              | 00001.000             | EA            |          | 0222222-7408 | NETWORK-SN7408N                            |                    |
| 0004A             |                       |               |          |              | Z3   |                    |
| 0005              | 00001.000             | EA            |          | 0222222-7401 | NETWORK SN7401N                            |                    |
| 0005A             |                       |               |          |              | Z4   |                    |
| 0006              | 00002.000             | EA            |          | 0222222-7430 | NETWORK SN7430N                            | -SN7430N           |
| 0006A             |                       |               |          |              | Z5 Z6                                      |                    |
| 0007              | 00002.000             | EA            |          | 0222222-7404 | NETWORK SN7404N                            |                    |
| 0007A             |                       |               |          |              | Z7 Z9                                      |                    |
| 0008              | 00001.000             | EA            |          | 0222222-7420 | NETWORK SN7420N                            | -SN7420N           |
| 0008A             |                       |               |          |              | Z8   |                    |
| 0009              | 00001.000             | EA            |          | 0222222-7475 | NETWORK-SN7475N                            |                    |
| 0009A             |                       |               |          |              | Z10  |                    |
| 0010              | 00002.000             | EA            |          | 0222222-7121 | NETWORK SN74121N                           |                    |
| 0010A             |                       |               |          |              | Z11 Z16                                    |                    |
| 0011              | 00001.000             | EA            |          | 0246633-0001 | CONVERTER, A/D ADC-3                       |                    |

|           |      |                       |      |                 |      |            |
|-----------|------|-----------------------|------|-----------------|------|------------|
| DRAFTSMAN | DATE | CKD DRAFTSMAN         | DATE | DESIGN ENGINEER | DATE | TITLE      |
| APPD-MFG  | DATE | APPD PROJECT ENGINEER | DATE | RELEASED        | DATE | PROJECT NO |

|  |  |  |  |  |                        |
|--|--|--|--|--|------------------------|
| BJARD ASSY, CONVERTER MODULE-A/D NO. 3 |  |  |  |  |                        |
|  |  |  |  |  | <b>LM</b> 0217690-0003 |
|  |  |  |  |  | <b>REV</b><br>T 3      |

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| PART NUMBER     | REV |
| LM 0217690-0003 | T 8 |

| PRINT ITEM NUMBER | QUANTITY PER ASSEMBLY | UNIT OF ISSUE          | DWG. SIZE | PART NUMBER     | DESCRIPTION                            | VENDOR PART NUMBER                     |
|-------------------|-----------------------|------------------------|-----------|-----------------|--|--|
| 0G11A             |                       |                        |           |                 | Z12                                    |  |
| 0012              | 00001.000             | EA                     |           | 0246638-0001    | SAMPLE&FCLD AMP SHA-III                |  |
| 0012A             |                       |                        |           |                 | Z13                                    |  |
| 0013              | 00001.000             | EA                     |           | 0246623-0001    | MULTIPLEXER 8 CHANNEL ANALOG MPX8A1    |  |
| 0013A             |                       |                        |           |                 | Z15                                    |  |
| 0014              | 00002.000             | EA                     |           | 0232834-0000    | RES VAR 20K                            | BEC -79P-R20K                          |
| 0014A             |                       |                        |           |                 | R4 R6                                  |  |
| 0015              | 00001.000             | EA                     |           | 0232817-0012    | RES VAR. 10K HEL-39P                   | BEC -89P-R10K                          |
| 0015A             |                       |                        |           |                 | R2                                     |  |
| 0016              | 00001.000             | EA                     |           | 0972946-0057    | RES FIX 470 OHM 5 % .25 W CARBON FILM  | ROH - R-25                             |
| 0016A             |                       |                        |           |                 | R1                                     |  |
| 0017              | 00001.000             | EA                     |           | 0972946-0121    | RES FIX 220K OHM 5 % .25 W CARBON FILM | ROH - R-25                             |
| 0017A             |                       |                        |           |                 | R3                                     |  |
| 0018              | 00001.000             | EA                     |           | 0972946-0100    | RES FIX 30 K OHM 5 % .25 W CARBON FILM | ROH - R-25                             |
| 0018A             |                       |                        |           |                 | R5                                     |  |
| 0019              | 00003.000             | EA                     |           | 0972924-0015    | CAP FIX TANT SOLID 47 MFD 10 % 20 VOLT | CPL -M39003/1-2295                     |
| 0019A             |                       |                        |           |                 | C1 C2 C3                               |  |
| 0020              | 00005.000             | EA                     |           | 0534348-0001    | CAP FIX CERAMIC .10 MF 20/80 % 10V     | CRL - UK10-104                         |
| 0020A             |                       |                        |           |                 | C4 THRU C8                             |  |
| 0021              | 00002.000             | EA                     |           | 0419051-0682    | CAP FIX FILM FOIL .0368 UF 5% 200VDC   | TRW - 663UW                            |
| DRAFTSMAN         | DATE                  | CKD DRAFTSMAN          | DATE      | DESIGN ENGINEER | DATE                                   | TITLE                                  |
|                   |                       |                        |           |                 |  | BOARD ASSY, CONVERTER MODULE-A/D NO. 3 |
| APPD.-MFG         | DATE                  | APPD. PROJECT ENGINEER | DATE      | RELEASED        | DATE                                   | PROJECT NO.                            |
|                   |                       |                        |           |                 |  |  |
|                   |                       |                        |           |                 |  | PART NUMBER                            |
|                   |                       |                        |           |                 |  | LM 0217690-0003                        |
|                   |                       |                        |           |                 |  | REV                                    |
|                   |                       |                        |           |                 |  | T 8                                    |

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| PART NUMBER    | REV |
| LM0217690-0003 | T 8 |

| PRINT ITEM NUMBER | QUANTITY PER ASSEMBLY | UNIT OF ISSUE | DWG. SIZE | PART NUMBER  | DESCRIPTION                             | VENDOR PART NUMBER     |
|-------------------|-----------------------|---------------|-----------|--------------|---|------------------------|
| C021A             |                       |               |           |              | C9 C12                                  |                        |
| 0022              | 00001.000             | EA            |           | 0539370-0535 | RES FIX FILM 36.5K OHM 1% .25 WATT      | COR - NA55             |
| 0022A             |                       |               |           |              | R7                                      |                        |
| 0023              | 00001.000             | EA            |           | 0539370-0523 | RES FIX FILM 27.4K OHM 1% .25 WATT      | COR -NA550-100PPM/4    |
| 0023A             |                       |               |           |              | R8                                      |                        |
| 0024              | REF                   | EA            |           | 0217691-9901 | DIAGRAM, LOGIC DET-CONVERTER MODULE A/D |                        |
| 0025              | REF                   | EA            |           | 0217692-9901 | TEST PROCEDURE, CONVERTER MODULE A/D    |                        |
| 0026              | REF                   | EA            |           | 0217184-9901 | SPECS, CONVERTER MODULE A/D             |                        |
| 0027              | 00008.000             | EA            |           | 0399959-9709 | RESISTOR, CUSTOMER INSTALLATION         |                        |
| 0027A             |                       |               |           |              | R9 THRU R16                             |                        |
| 0028              | 00001.000             | EA            |           | 0533887-0001 | EJECTOR, PCB, NON-LOCKING, WHITE        | SCA -S-202 WHITE       |
| 0029              | 00001.000             | EA            |           | 0533887-0009 | EJECTOR, PCB, NON-LOCKING, GREEN        | SCA -S-202 GREEN       |
| 0030              | 00002.000             | EA            |           | 0230611-0000 | CAP .1000 MF 20V 80/-20                 | CRL -UK-20-104         |
| 0030A             |                       |               |           |              | C10 C11                                 |                        |
| 0031              | 00000.500             | FT            |           | 0538555-2999 | WIRE 24 AWG HOJKUP UL-1609 WHITE        | EFT QPL - M22759/18-24 |

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|           |      |                       |      |                 |      |  |
|-----------|------|-----------------------|------|-----------------|------|--|
| DRAFTSMAN | DATE | CKD DRAFTSMAN         | DATE | DESIGN ENGINEER | DATE | TITLE                                  |
|           |      |                       |      |                 |      | BOARD ASSY. CONVERTER MODULE-A/D NO. 3 |
| APPD MFG  | DATE | APPD PROJECT ENGINEER | DATE | RELEASED        | DATE | PROJECT NO                             |
|           |      |                       |      |                 |      |  |
|           |      |                       |      |                 |      | PART NUMBER                            |
|           |      |                       |      |                 |      | LM0217690-0003                         |
|           |      |                       |      |                 |      | REV                                    |
|           |      |                       |      |                 |      | T 8                                    |



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| PART NUMBER     | REV |
| LM 0217690-0004 | T 8 |

| PRINT ITEM NUMBER | QUANTITY PER ASSEMBLY | UNIT OF ISSUE | DWG SIZE               | PART NUMBER  | DESCRIPTION                                | VENDOR PART NUMBER |  |
|-------------------|-----------------------|---------------|------------------------|--------------|--|--------------------|--|
| 0001              | 00001.000             | EA            |                        | J217689-00J1 | PRINTED WIRING BOARD, CONVERTER MODULE A/D |                    |  |
| 0002              | 00001.000             | EA            |                        | 022222-7150  | NETWORK SN74150N                           |                    |  |
| 0002A             |                       |               |                        |              | Z1   |                    |  |
| 0003              | 00001.000             | EA            |                        | 022222-7402  | NETWORK SN7402N                            | TI - -SN7402N      |  |
| 0003A             |                       |               |                        |              | Z2   |                    |  |
| 0004              | 00001.000             | EA            |                        | 022222-7408  | NETWORK-SN7408N                            |                    |  |
| 0004A             |                       |               |                        |              | Z3   |                    |  |
| 0005              | 00001.000             | EA            |                        | 022222-7401  | NETWORK SN7401N                            |                    |  |
| 0005A             |                       |               |                        |              | Z4   |                    |  |
| 0006              | 00002.000             | EA            |                        | 022222-7430  | NETWORK SN7430N                            | -SN7430N           |  |
| 0006A             |                       |               |                        |              | Z5 Z6                                      |                    |  |
| 0007              | 00002.000             | EA            |                        | 022222-7404  | NETWORK SN7404N                            |                    |  |
| 0007A             |                       |               |                        |              | Z7 Z9                                      |                    |  |
| 0008              | 00001.000             | EA            |                        | 022222-7420  | NETWORK SN7420N                            | -SN7420N           |  |
| 0008A             |                       |               |                        |              | Z8   |                    |  |
| 0009              | 00001.000             | EA            |                        | 022222-7475  | NETWORK-SN7475N                            |                    |  |
| 0009A             |                       |               |                        |              | Z10  |                    |  |
| 0010              | 00002.000             | EA            |                        | 022222-7121  | NETWORK SN74121N                           |                    |  |
| 0010A             |                       |               |                        |              | Z11 Z16                                    |                    |  |
| 0011              | 00001.000             | EA            |                        | 0246633-0001 | CONVERTER, A/D ADC-Q                       |                    |  |
| DRAFTSMAN         |                       | DATE          | CKD. DRAFTSMAN         | DATE         | DESIGN ENGINEER                            | DATE               | TITLE                                  |
|                   |                       |               |                        |              |  |                    | BJARD ASSY, CONVERTER MODULE-A/D NO. 4 |
| APPD. MFG         |                       | DATE          | APPD. PROJECT ENGINEER | DATE         | RELEASED                                   | DATE               | PROJECT NO.                            |
|                   |                       |               |                        |              |  |                    |  |
|                   |                       |               |                        |              |  | PART NUMBER        | REV                                    |
|                   |                       |               |                        |              |  | LM 0217690-0004    | T 8                                    |

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| PART NUMBER     | REV |
| LM 021769D-C004 | T 3 |

| PRINT ITEM NUMBER | QUANTITY PER ASSEMBLY | UNIT OF ISSUE | DWG SIZE               | PART NUMBER  | DESCRIPTION                            | VENDOR PART NUMBER |                                       |
|-------------------|-----------------------|---------------|------------------------|--------------|--|--------------------|---------------------------------------|
| 0011A             |                       |               |                        |              | Z12                                    |                    |                                       |
| 0012              | 00001.000             | EA            |                        | 0246623-0001 | SAMPLE&HOLD AMP SHA-III                |                    |                                       |
| 0012A             |                       |               |                        |              | Z13                                    |                    |                                       |
| 0013              | 00002.000             | EA            |                        | 0246623-0001 | MULTIPLEXER 8 CHANNEL ANALOG MPX9A1    |                    |                                       |
| 0013A             |                       |               |                        |              | Z14 Z15                                |                    |                                       |
| 0014              | 00002.000             | EA            |                        | 0232834-0000 | RES VAR 20K                            | BEC -79P-R20K      |                                       |
| 0014A             |                       |               |                        |              | R4 R6                                  |                    |                                       |
| 0015              | 00001.000             | EA            |                        | 0232817-0012 | RES VAR. 10K HEL-89P                   | BEC -89P-R10K      |                                       |
| 0015A             |                       |               |                        |              | R2                                     |                    |                                       |
| 0016              | 00001.000             | EA            |                        | 0972946-0057 | RES FIX 470 OHM 5 % .25 W CARBON FILM  | ROH - R-25         |                                       |
| 0016A             |                       |               |                        |              | R1                                     |                    |                                       |
| 0017              | 00001.000             | EA            |                        | 0972946-0121 | RES FIX 220K OHM 5 % .25 W CARBON FILM | ROH - R-25         |                                       |
| 0017A             |                       |               |                        |              | R3                                     |                    |                                       |
| 0018              | 00001.000             | EA            |                        | 0972946-0100 | RES FIX 30 K OHM 5 % .25 W CARBON FILM | ROH - R-25         |                                       |
| 0018A             |                       |               |                        |              | R5                                     |                    |                                       |
| 0019              | 00003.000             | EA            |                        | 0972924-0015 | CAP FIX TANT SOLID 47 MFD 10 % 20 VOLT | QPL -M39003/1-2295 |                                       |
| 0019A             |                       |               |                        |              | C1 C2 C3                               |                    |                                       |
| 0020              | 00005.000             | EA            |                        | 0534348-0001 | CAP FIX CERAMIC .10 MF 20/80 % 10V     | CRI - UK10-104     |                                       |
| 0020A             |                       |               |                        |              | C4 THRU C8                             |                    |                                       |
| 0021              | 00002.000             | EA            |                        | 0419051-0682 | CAP FIX FILM FOIL .0169 UF 5% 200VDC   | TPW - 663UW        |                                       |
| DRAFTSMAN         |                       | DATE          | CKD. DRAFTSMAN         | DATE         | DESIGN ENGINEER                        | DATE               | TITLE                                 |
| APPD. MFG         |                       | DATE          | APPD. PROJECT ENGINEER | DATE         | RELEASED                               | DATE               | PROJECT NO.                           |
|                   |                       |               |                        |              |  |                    | BJRD ASSY, CONVERTER MODULE-A/D NO. 4 |
|                   |                       |               |                        |              |  | PART NUMBER        | REV                                   |
|                   |                       |               |                        |              |  | LM 021769D-C004    | T 3                                   |

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| PART NUMBER           | REV        |
| <b>LM0217690-0004</b> | <b>T 8</b> |

| PRINT ITEM NUMBER | QUANTITY PER ASSEMBLY | UNIT OF ISSUE | DWG. SIZE | PART NUMBER  | DESCRIPTION                             | VENDOR PART NUMBER      |
|-------------------|-----------------------|---------------|-----------|--------------|---|-------------------------|
| 0021A             |                       |               |           |              | C9 C12                                  |                         |
| 0022              | 00001.000             | EA            |           | 0539370-0535 | RES FIX FILM 36.5K OHM 1% .25 WATT      | COR - NA55              |
| 0022A             |                       |               |           |              | R7                                      |                         |
| 0023              | 00001.000             | EA            |           | 0539370-0523 | RES FIX FILM 27.4K OHM 1% .25 WATT      | COR -NA550-100PPM/      |
| 0023A             |                       |               |           |              | R8                                      |                         |
| 0024              | REF                   | EA            |           | 0217691-9901 | DIAGRAM, LOGIC DET-CONVERTER MODULE A/D |                         |
| 0025              | REF                   | EA            |           | 0217692-9901 | TEST PROCEDURE, CONVERTER MODULE A/D    |                         |
| 0026              | REF                   | EA            |           | 0217184-9901 | SPECS, CONVERTER MODULE A/D             |                         |
| 0027              | 00016.000             | EA            |           | 0399999-9700 | RESISTOR, CUSTOMER INSTALLATION         |                         |
| 0027A             |                       |               |           |              | R9 THRU R24                             |                         |
| 0028              | 00001.000             | EA            |           | 0533887-0001 | EJECTOR, PCB, NON-LOCKING, WHITE        | SCA -S-202 WHITE        |
| 0029              | 00001.000             | EA            |           | 0533887-0009 | EJECTOR, PCB, NON-LOCKING, GREEN        | SCA -S-202 GREEN        |
| 0030              | 00002.000             | FA            |           | 0230611-0000 | CAP .1000 MF 20V 80/-20                 | CPL -UK-20-104          |
| 0030A             |                       |               |           |              | C10 C11                                 |                         |
| 0031              | 00000.500             | FT            |           | 0538555-2999 | WIRE 24 AWG HOJKJP UL-1609 WHITE        | EFTF QPL - M22759/18-24 |

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|           |      |                        |      |                 |      |  |
|-----------|------|------------------------|------|-----------------|------|--|
| DRAFTSMAN | DATE | CKD. DRAFTSMAN         | DATE | DESIGN ENGINEER | DATE | TITLE                                  |
|           |      |                        |      |                 |      | BOARD ASSY, CONVERTER MODULE-A/D NO. 4 |
| APPD. MFG | DATE | APPD. PROJECT ENGINEER | DATE | RELEASED        | DATE | PROJECT NO.                            |
|           |      |                        |      |                 |      |  |

|                       |            |
|-----------------------|------------|
| PART NUMBER           | REV        |
| <b>LM0217690-0004</b> | <b>T 8</b> |



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| PART NUMBER            | REV        |
| <b>LM 021769J-0960</b> | <b>T 1</b> |

| PRINT ITEM NUMBER | QUANTITY PER ASSEMBLY | UNIT OF ISSUE | DWG. SIZE | PART NUMBER  | DESCRIPTION               | VENDOR PART NUMBER |
|-------------------|-----------------------|---------------|-----------|--------------|---------------------------|--------------------|
| 0002              | 0001.000              | EA            |           | 0399959-5711 | COPY OF DWG(S) BELOW      | -RUSH PLAN, NO     |
| 0002A             |                       |               |           |              | 217691 LOGIC, 217690 ASSY |                    |
| 0002B             |                       |               |           |              | 955807-9902 AL, ADDCKA    |                    |
| 0002C             |                       |               |           |              | 955807-9901 PD, ADDCKA    |                    |
| 0002D             |                       |               |           |              | 217184 SPECIFICATION      |                    |

|           |      |                       |      |                 |      |                                      |
|-----------|------|-----------------------|------|-----------------|------|--------------------------------------|
| DRAFTSMAN | DATE | CKD DRAFTSMAN         | DATE | DESIGN ENGINEER | DATE | TITLE                                |
|           |      |                       |      |                 |      | BOARD ASSY, CONVERTER MODULE A/D DOC |
| APPD MFG  | DATE | APPD PROJECT ENGINEER | DATE | RELEASED        | DATE | PROJECT NO                           |
|           |      |                       |      |                 |      |                                      |

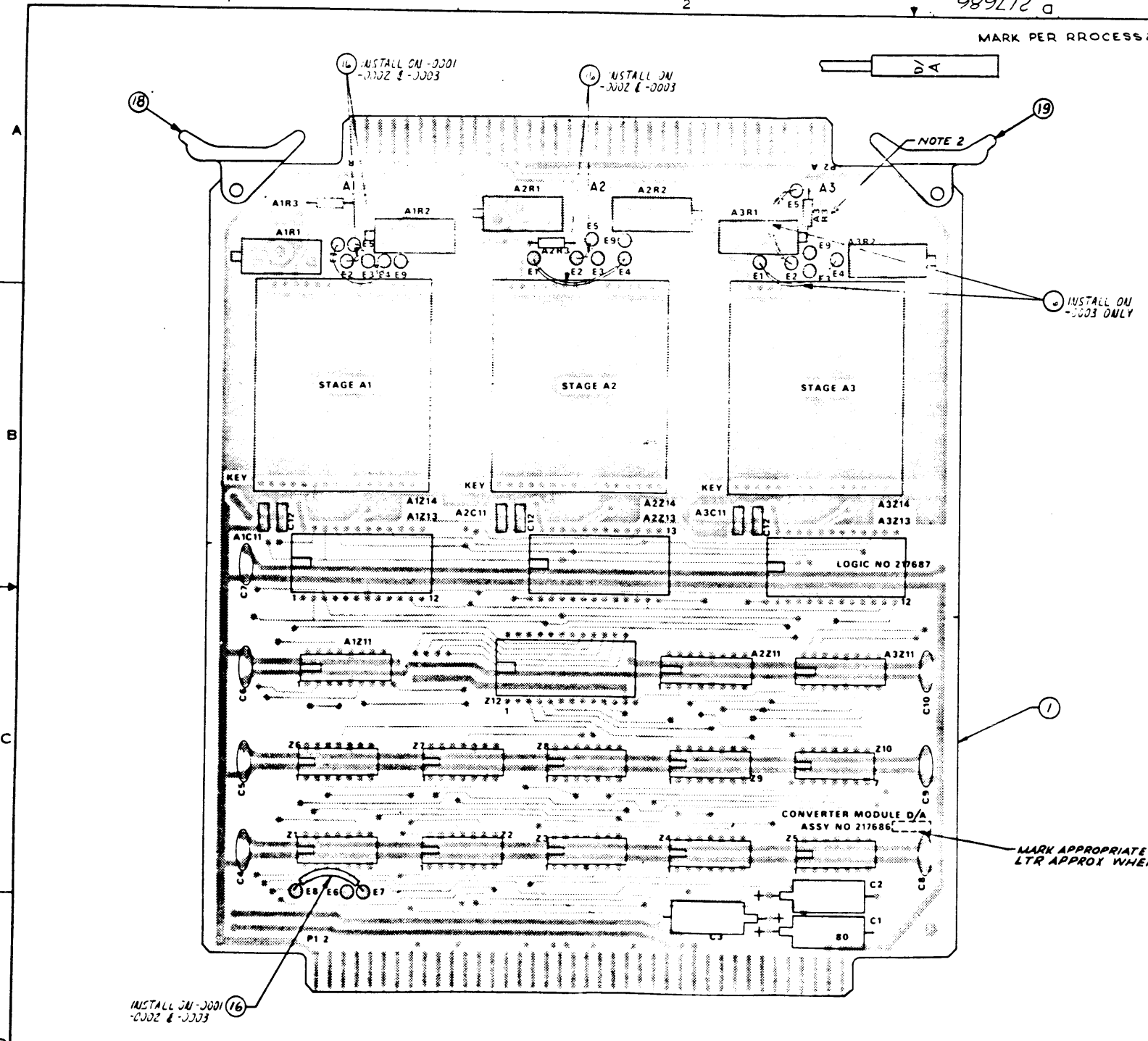
  

|                        |            |
|------------------------|------------|
| PART NUMBER            | REV        |
| <b>LM 021769J-0960</b> | <b>T 1</b> |

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989L12



| REV | DESCRIPTION  | DATE    | APPROVED          |
|-----|--|---------|-------------------|
| J   | REVISED REV LEVEL BLOCK  | 4/1/73  | J. H. [Signature] |
| K   | CU4122321 DELETED NOTE 3 AND PROCESS 3. REV. DATED REV LEVEL BLOCK | 4/1/73  | J. H. [Signature] |
| L   | CU4122321 DELETED ITEM 1-960101. DELETED REV LEVEL BLOCK           | 4/24/76 | J. H. [Signature] |
| M   | CU417150 DELETED REV LEVEL BLOCK. REVISED REV. PAUS                | 1-30-76 | J. R. [Signature] |

| REV   | DESCRIPTION  | DATE    | APPROVED          |
|---|--|---------|-------------------|
| A   | 348955 (C) 2-11-71<br>1. IN ZONE CA MOD D/A NO 1 WAS NO 3 MOD D/A NO 3 WAS NO 1<br>ON LM 217686-0001:<br>CHANGED:<br>1 ITEM 0002 WAS QTY 0003<br>2 ITEM 0005 WAS QTY 0003<br>3 ITEM 0008 WAS QTY 0003<br>4 ITEM 0011 WAS QTY 0006<br>5 ITEM 0012 WAS QTY 0006<br>DELETED:<br>1 ITEM 0020, A213, A3213<br>2 ITEM 005A, A211, A3211<br>3 ITEM 0008A, A219, A311A<br>4 ITEM 0007A, A211, A311, A312<br>5 ITEM 0019, A312<br>6 ITEM 0012, A21, A31, A22, A32 | 4/1/73  | J. H. [Signature] |
| B   | 369076 (C) Sunday 5-11-71<br>1) LM, ALL DASH NOS: ADDED IT. 16 (2) ZONE D1: ADDED IT. 16 & BALLOON (3) CHGD IT. 1 PICTORIALLY (4) ADDED NOTE 1   | 5-11-71 | J. H. [Signature] |
| C   | 374503 (B) 5-8-72<br>1) ADDED ITEM 17 TO ALL DASH NUMBERS 2) REVISED ARTWORK TO ACCOMMODATE ADDITION OF ITEM 17 3) DESCRIPTION OF -0001 WAS "D/A NO. 3" 4) DESCRIPTION OF -0003 WAS "D/A NO. 1" 5) UPDATED REVISION LEVEL BLOCK. 6) ADDED NOTE 2   | 5-9-72  | J. H. [Signature] |
| D   | 373600 (E) 4-26-72<br>1) ADD ITEMS 18 AND 19 TO LM<br>2) ADD EJECTORS ITEM 18 AND 19 TO FIELD OF DWG<br>3) ADD PROCESS 2 4) CHANGE PROCESS 1 FROM F-100 TO RUBBER STAMP F100, HEIGHT .09, COLOR BLK 5) ADD NEXT ASSY NO.   | 4-26-72 | J. H. [Signature] |
| E   | 381001 (D) 2-16-73<br>ADDED -0960  | 2-16-73 | J. H. [Signature] |
| F   | 379438 (C) 5/18/73<br>-0960 LM<br>1. ITEM 1 PIN WAS 961822-0001<br>2. ITEM 2C WAS 961822-9901 PD DAACKA<br>B. ITEM 2B WAS 217688 TEST PROC   | 5-18-73 | J. H. [Signature] |
| G   | 383549 (D) 5/24/73<br>1) LM ITEM 12 P/N WAS BEC-89P-R20K FOR VENDOR  | 5-24-73 | J. H. [Signature] |
| H   | 388248 (C) 5/24/73<br>1) ADDED ITEM 12 TO F10 P. 2) REVISED REV LEVEL BLOCK & TEST PROC  | 5-24-73 | J. H. [Signature] |
| 217686-0960 BOARD ASSY CONVERTER MOD D/A DOC    |  |         |                   |
| 217686-0003 BOARD ASSY, CONVERTER MOD D/A NO. 3 |  |         |                   |
| 217686-0002 BOARD ASSY, CONVERTER MOD D/A NO. 2 |  |         |                   |
| 217686-0001 BOARD ASSY, CONVERTER MOD D/A NO. 1 |  |         |                   |
| PART NO.  | DESCRIPTION  |         |                   |

NOTE:

- INSTALL WIRE JUMPER (ITEM 16) FROM E7 TO E8 ON ALL ASSEMBLIES.
- INSTALL ASRS BEFORE ASRI
- HAND SOLDER ITEM 8 AFTER FLOW SOLDER

| REV LEVEL | TEST PROC   | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 |
|-----------|-------------|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|
|           | 217688      |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |
|           | 217687      |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |
|           | 217686-0002 |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |
|           | 217686-0001 |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |

PROCESSES CONT:  
3. SOLDER PER F-127, METHOD 1, AND/OR F-124

| REV | DESCRIPTION                                 | DATE | APPROVED |
|-----|---|------|----------|
|     | 3. SOLDER PER F-127, METHOD 1, AND/OR F-124 |      |          |

| REV | DESCRIPTION                                 | DATE | APPROVED |
|-----|---|------|----------|
|     | 3. SOLDER PER F-127, METHOD 1, AND/OR F-124 |      |          |





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| <b>LM</b> | PART NUMBER<br>217686-0001 | REV<br>M 4 |
|-----------|----------------------------|------------|

| PRINT ITEM NUMBER | QUANTITY PER ASSEMBLY | UNIT OF ISSUE | DWG SIZE               | PART NUMBER | DESCRIPTION  | VENDOR PART NUMBER   |                                    |
|-------------------|-----------------------|---------------|------------------------|-------------|--|----------------------|------------------------------------|
| 0001              | 00001.000             | EA            |                        | 217685-CCC1 | PRINTED WIRING BD, CONVERTER MODULE D/A                  |                      |                                    |
| 0002              | 00001.000             | EA            |                        | 222222-7100 | NETWORK SN74100N   |                      |                                    |
| 0002A             |                       |               |                        |             | A1Z13  |                      |                                    |
| 0003              | 00001.000             | EA            |                        | 222222-7154 | NETWORK SN74154N   | -SN74154N            |                                    |
| 0003A             |                       |               |                        |             | Z12  |                      |                                    |
| 0004              | 00008.000             | EA            |                        | 222222-7474 | NETWORK SN7474N  | -SN7474N             |                                    |
| 0004A             |                       |               |                        |             | Z1 Z2 Z3 Z4 Z6 Z7 Z8 Z9                                  |                      |                                    |
| 0005              | 00001.000             | EA            |                        | 222222-7475 | NETWORK-SN7475N  |                      |                                    |
| 0005A             |                       |               |                        |             | A1Z11  |                      |                                    |
| 0006              | 00001.000             | EA            |                        | 222222-7408 | NETWORK-SN7408N  |                      |                                    |
| 0006A             |                       |               |                        |             | Z10  |                      |                                    |
| 0007              | 00001.000             | EA            |                        | 222222-7404 | NETWORK SN7404N  |                      |                                    |
| 0007A             |                       |               |                        |             | Z5   |                      |                                    |
| 0008              | 00001.000             | EA            |                        | 246643-0001 | CONVERTER, C/A DAC-12QS                                  |                      |                                    |
| 0008A             |                       |               |                        |             | A1Z14  |                      |                                    |
| 0009              | 00002.000             | EA            |                        | 535937-C025 | CAP, FIX, CERAMIC .47 MF 50V 20%                         | ERI- 8131-050651-474 |                                    |
| 0009A             |                       |               |                        |             | A1C11 A1C12  |                      |                                    |
| 0010              | 00007.000             | EA            |                        | 534348-C0C1 | CAP FIX CERAMIC .10 MF 20/80 % 10V                       | CRL- UK10-104        |                                    |
| 0010A             |                       |               |                        |             | C4 C5 C6 C7 C8 C9 C10                                    |                      |                                    |
| 0011              | 00003.000             | EA            |                        | 972924-0015 | CAP FIX TANT SOLID 47 MFD 10 % 20 VOLT QPL-M39003/1-2295 |                      |                                    |
| DRAFTSMAN         |                       | DATE          | CKD DRAFTSMAN          | DATE        | DESIGN ENGINEER  | DATE                 | TITLE                              |
|                   |                       |               | <i>W. Williams</i>     | 6/25/76     |  |                      | BOARD ASSY, CONVERTER MOD D/A NO.1 |
| APPD. MFG         |                       | DATE          | APPD. PROJECT ENGINEER | DATE        | RELEASED   | DATE                 | PROJECT NO                         |
|                   |                       |               |                        |             |  |                      | 8100                               |
|                   |                       |               |                        |             |  |                      | <b>LM</b> 217686-0001 M 4          |

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**LIST OF MATERIAL**

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PART NUMBER REV  
**LM** 217686-0001 1 4

| PRINT ITEM NUMBER | QUANTITY PER ASSEMBLY | UNIT OF ISSUE | DWG. SIZE | PART NUMBER | DESCRIPTION                              | VENDOR PART NUMBER     |
|-------------------|-----------------------|---------------|-----------|-------------|--|------------------------|
| 0011A             |                       |               |           |             | C1 C2 C3                                 |                        |
| 0012              | 00002.000             | EA            |           | 232834-0000 | RES VAR 20K                              | REC-75P-R20K           |
| 0012A             |                       |               |           |             | A1R1 A1R2                                |                        |
| 0013              | REF                   | EA            |           | 217687-9901 | DIAGRAM, LCGIC DET, CONVERTER MODULE D/A |                        |
| 0014              | REF                   | EA            |           | 217688-9901 | TEST PROCEDURE, CONVERTER MODULE D/A     |                        |
| 0015              | REF                   | EA            |           | 217183-9901 | SPEC, CONVERTER MODULE D/A               |                        |
| 0016              | AR                    | FT            |           | 538555-2999 | WIRE 24 AWG HOOKUP UL-1609 WHITE         | EFTC OPL- M22759/18-24 |
| 0017              | 00001.000             | EA            |           | 972946-0041 | RES FIX 100 OHM 5 % .25 W CARBON FILM    | ROH- R-25              |
| 0017A             |                       |               |           |             | A1R3                                     |                        |
| 0018              | 00001.000             | EA            |           | 533887-0001 | EJECTOR, PCB, NON-LOCKING, WHITE         | SCA-S-202 WHITE        |
| 0019              | 00001.000             | EA            |           | 533887-0009 | EJECTOR, PCB, NON-LOCKING, GREEN         | SCA-S-202 GREEN        |

|           |      |                       |      |                 |      |                                     |
|-----------|------|-----------------------|------|-----------------|------|-------------------------------------|
| DRAFTSMAN | DATE | CKD DRAFTSMAN         | DATE | DESIGN ENGINEER | DATE | TITLE                               |
|           |      |                       |      |                 |      | BOARD ASSY, CONVERTER MOD D/A NO. 1 |
| APPD MFG  | DATE | APPD PROJECT ENGINEER | DATE | RELEASED        | DATE | PROJECT NO                          |
|           |      |                       |      |                 |      |                                     |

|  |  |  |  |  |  |                           |
|--|--|--|--|--|--|---------------------------|
|  |  |  |  |  |  | PART NUMBER REV           |
|  |  |  |  |  |  | <b>LM</b> 217686-0001 1 4 |

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**LM** PART NUMBER 217686-0002 REV M 4

| PRINT ITEM NUMBER | QUANTITY PER ASSEMBLY | UNIT OF ISSUE | DWG. SIZE             | PART NUMBER | DESCRIPTION  | VENDOR PART NUMBER   |                                    |
|-------------------|-----------------------|---------------|-----------------------|-------------|--|----------------------|------------------------------------|
| C001              | 00001.000             | EA            |                       | 217685-0001 | PRINTED WIRING BD, CONVERTER MODULE D/A                  |                      |                                    |
| C002              | 00002.000             | EA            |                       | 222222-7100 | NETWORK SN74100N   |                      |                                    |
| 0002A             |                       |               |                       |             | A1Z13 A2Z13  |                      |                                    |
| C003              | 00001.000             | EA            |                       | 222222-7154 | NETWORK SN74154N   | -SN74154N            |                                    |
| C003A             |                       |               |                       |             | Z12  |                      |                                    |
| 0004              | 00008.000             | EA            |                       | 222222-7474 | NETWORK SN7474N  | -SN7474N             |                                    |
| 0004A             |                       |               |                       |             | Z1 Z2 Z3 Z4 Z6 Z7 Z8 Z9                                  |                      |                                    |
| 0005              | 00002.000             | EA            |                       | 222222-7475 | NETWORK-SN7475N  |                      |                                    |
| C005A             |                       |               |                       |             | A1Z11 Z2Z11  |                      |                                    |
| 0006              | 00001.000             | EA            |                       | 222222-7408 | NETWORK-SN7408N  |                      |                                    |
| 0006A             |                       |               |                       |             | Z10  |                      |                                    |
| 0007              | 00001.000             | EA            |                       | 222222-7404 | NETWORK SN7404N  |                      |                                    |
| 0007A             |                       |               |                       |             | Z5   |                      |                                    |
| C008              | 00002.000             | EA            |                       | 246643-0001 | CONVERTER, C/A DAC-12QS                                  |                      |                                    |
| C008A             |                       |               |                       |             | A1Z14, A2Z14   |                      |                                    |
| 0009              | 00004.000             | EA            |                       | 535937-0025 | CAP, FIX, CERAMIC .47 MF 50V 20%                         | FRI- 8131-050651-474 |                                    |
| C009A             |                       |               |                       |             | A1C11 A2C11 A1C12 A2C12                                  |                      |                                    |
| 0010              | 00007.000             | EA            |                       | 534348-0001 | CAP FIX CERAMIC .10 MF 20/80 % 10V                       | CFL- UK10-104        |                                    |
| 0010A             |                       |               |                       |             | C4 C5 C6 C7 C8 C9 C10                                    |                      |                                    |
| 0011              | 00003.000             | EA            |                       | 972924-0015 | CAP FIX TANT SOLID 47 MFD 10 % 20 VOLT QPL-M39003/1-2295 |                      |                                    |
| DRAFTSMAN         |                       | DATE          | CRD DRAFTSMAN         | DATE        | DESIGN ENGINEER  | DATE                 | TITLE                              |
|                   |                       |               |                       |             |  |                      | BOARD ASSY, CONVERTER MOD D/A NO.2 |
| APPD MFG          |                       | DATE          | APPD PROJECT ENGINEER | DATE        | RELEASED   | DATE                 | PROJECT NO                         |
|                   |                       |               |                       |             |  |                      |                                    |
|                   |                       |               |                       |             |  | <b>LM</b>            | PART NUMBER 217686-0002 REV M 4    |

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|           |                            |            |
|-----------|----------------------------|------------|
| <b>LM</b> | PART NUMBER<br>217686-0002 | REV<br>M 4 |
|-----------|----------------------------|------------|

| PRINT ITEM NUMBER | QUANTITY PER ASSEMBLY | UNIT OF ISSUE | DWG SIZE | PART NUMBER | DESCRIPTION                              | VENDOR PART NUMBER       |
|-------------------|-----------------------|---------------|----------|-------------|--|--------------------------|
| 0011A             |                       |               |          |             | C1 C2 C3                                 |                          |
| 0012              | 00004.000             | EA            |          | 232834-C000 | RES VAR 20K                              | BFC-79P-R20K             |
| 0012A             |                       |               |          |             | A1R1 A2R1 A1R2 A2R2                      |                          |
| 0013              | REF                   | EA            |          | 217687-9901 | DIAGRAM, LCGIC DET, CONVERTER MODULE D/A |                          |
| 0014              | REF                   | EA            |          | 217688-9901 | TEST PROCEDURE, CONVERTER MODULE D/A     |                          |
| 0015              | REF                   | EA            |          | 217183-9901 | SPEC, CONVERTER MODULE D/A               |                          |
| 0016              | AR                    | FT            |          | 538555-2999 | WIRE 24 AWG HOOKUP UL-1609 WHITE         | EFTC QPL- M22759/18-24-9 |
| 0017              | 00002.000             | EA            |          | 972946-0041 | RES FIX 100 OHM 5 % .25 W CARBON FILM    | RQH- P-25                |
| 0017A             |                       |               |          |             | A1R3 A2R3                                |                          |
| 0018              | 00001.000             | EA            |          | 533887-C001 | EJECTOR, PCB, NON-LOCKING, WHITE         | SCA-S-202 WHITE          |
| 0019              | 00001.000             | EA            |          | 533887-C009 | EJECTOR, PCB, NON-LOCKING, GREEN         | SCA-S-202 GREEN          |

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|           |      |                       |      |                 |      |            |                                    |  |
|-----------|------|-----------------------|------|-----------------|------|------------|------------------------------------|--|
| DRAFTSMAN | DATE | CKD DRAFTSMAN         | DATE | DESIGN ENGINEER | DATE | TITLE      | BOARD ASSY, CONVERTER MOD D/A NO.2 |  |
| APPD MFG  | DATE | APPD PROJECT ENGINEER | DATE | RELEASED        | DATE | PROJECT NO |                                    |  |

|           |                            |            |
|-----------|----------------------------|------------|
| <b>LM</b> | PART NUMBER<br>217686-0002 | REV<br>M 4 |
|-----------|----------------------------|------------|



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**LM** PART NUMBER 217686-0003 REV M 4

| PRINT ITEM NUMBER | QUANTITY PER ASSEMBLY | UNIT OF ISSUE | DWG SIZE              | PART NUMBER | DESCRIPTION                             | VENDOR PART NUMBER   |   |
|-------------------|-----------------------|---------------|-----------------------|-------------|---|----------------------|---|
| 0001              | 00001.000             | EA            |                       | 2176E5-0001 | PRINTED WIRING BD, CONVERTER MODULE D/A |                      |   |
| 0002              | 00003.000             | EA            |                       | 222222-7100 | NETWORK SN74100N                        |                      |   |
| 0002A             |                       |               |                       |             | A1Z13 A2Z12 A3Z13                       |                      |   |
| 0003              | 00001.000             | EA            |                       | 222222-7154 | NETWCRK SN74154N                        | -SN74154N            |   |
| 0003A             |                       |               |                       |             | Z12                                     |                      |   |
| 0004              | 00008.000             | EA            |                       | 222222-7474 | NETWORK SN7474N                         | -SN7474N             |   |
| 0004A             |                       |               |                       |             | Z1 Z2 Z3 Z4 Z6 Z7 Z8 Z9                 |                      |   |
| 0005              | 00003.000             | EA            |                       | 222222-7475 | NETWCRK-SN7475N                         |                      |   |
| 0005A             |                       |               |                       |             | A1Z11 A2Z11 A3Z11                       |                      |   |
| 0006              | 00001.000             | EA            |                       | 222222-7408 | NETWCRK-SN7408N                         |                      |   |
| 0006A             |                       |               |                       |             | Z10                                     |                      |   |
| 0007              | 00001.000             | EA            |                       | 222222-7404 | NETWCRK SN7404N                         |                      |   |
| 0007A             |                       |               |                       |             | Z5                                      |                      |   |
| 0008              | 00003.000             | EA            |                       | 246643-0001 | CONVERTER, C/A DAC-12QS                 |                      |   |
| 0008A             |                       |               |                       |             | A1Z14 A2Z14 A3Z14                       |                      |   |
| 0009              | 00006.000             | EA            |                       | 535937-0025 | CAP, FIX, CERAMIC .47 MF 50V 20%        | EPI- 8131-050651-474 |   |
| 0009A             |                       |               |                       |             | A1C11 A1C12 A2C11 A3C11 A2C12           |                      |   |
| 0009B             |                       |               |                       |             | A3C12                                   |                      |   |
| 0010              | 00007.000             | EA            |                       | 534348-0001 | CAP FIX CERAMIC .10 MF 20/80 % 10V      | CRL- UK10-104        |   |
| 0010A             |                       |               |                       |             | C4 C5 C6 C7 C8 C9 C10                   |                      |   |
| DRAFTSMAN         |                       | DATE          | CRD DRAFTSMAN         | DATE        | DESIGN ENGINEER                         | DATE                 | TITLE                                     |
| APPD -MFG         |                       | DATE          | APPD PROJECT ENGINEER | DATE        | RELEASED                                | DATE                 | PROJECT NO                                |
|                   |                       |               |                       |             |   |                      | <b>LM</b> PART NUMBER 217686-0003 REV M 4 |

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|-----------|----------------------------|------------|
| <b>LM</b> | PART NUMBER<br>217686-0003 | REV<br>M 4 |
|-----------|----------------------------|------------|

| PRINT ITEM NUMBER | QUANTITY PER ASSEMBLY | UNIT OF ISSUE | DWG. SIZE | PART NUMBER | DESCRIPTION                              | VENDOR PART NUMBER       |
|-------------------|-----------------------|---------------|-----------|-------------|--|--------------------------|
| 0011              | 00003.000             | EA            |           | 972924-0015 | CAP FIX TANT SOLID 47 MFD 10 % 20 VOLT   | QPL-M393371-2295         |
| 0011A             |                       |               |           |             | C1 C2 C3                                 |                          |
| 0012              | 00006.000             | EA            |           | 232834-0000 | RES VAR 20K                              | BEC-79P-R20K             |
| 0012A             |                       |               |           |             | A1R1 A1R2 A2R1 A3R1 A2R2 A3R2            |                          |
| 0013              | REF                   | EA            |           | 217687-9901 | DIAGRAM, LOGIC DET, CONVERTER MODULE D/A |                          |
| 0014              | REF                   | EA            |           | 217688-9901 | TEST PROCEDURE, CONVERTER MODULE D/A     |                          |
| 0015              | REF                   | EA            |           | 217183-9901 | SPEC, CONVERTER MODULE D/A               |                          |
| 0016              | AR                    | FT            |           | 538555-2999 | WIRE 24 AWG HOOKUP UL-1609 WHITE         | EFTE QPL- M22759/1R-24-9 |
| 0017              | 00003.000             | EA            |           | 972946-0041 | RES FIX 100 OHM 5 % .25 W CARBON FILM    | POH- P-25                |
| 0017A             |                       |               |           |             | A1R3 A2R3 A3R3                           |                          |
| 0018              | 00001.000             | EA            |           | 533887-0001 | EJECTOR, PCB, NON-LOCKING, WHITE         | SCA-S-202 WHITE          |
| 0019              | 00001.000             | EA            |           | 533887-0009 | EJECTOR, PCB, NON-LOCKING, GREEN         | SCA-S-202 GREEN          |

|           |      |                       |      |                 |      |                                    |
|-----------|------|-----------------------|------|-----------------|------|------------------------------------|
| DRAFTSMAN | DATE | CKD DRAFTSMAN         | DATE | DESIGN ENGINEER | DATE | TITLE                              |
|           |      |                       |      |                 |      | BOARD ASSY, CONVERTER MOD D/A NO.3 |
| APPD -MFG | DATE | APPD PROJECT ENGINEER | DATE | RELEASED        | DATE | PROJECT NO                         |
|           |      |                       |      |                 |      |                                    |

|           |                            |            |
|-----------|----------------------------|------------|
| <b>LM</b> | PART NUMBER<br>217686-0003 | REV<br>M 4 |
|-----------|----------------------------|------------|

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INCORPORATED

DATE 06/24/76

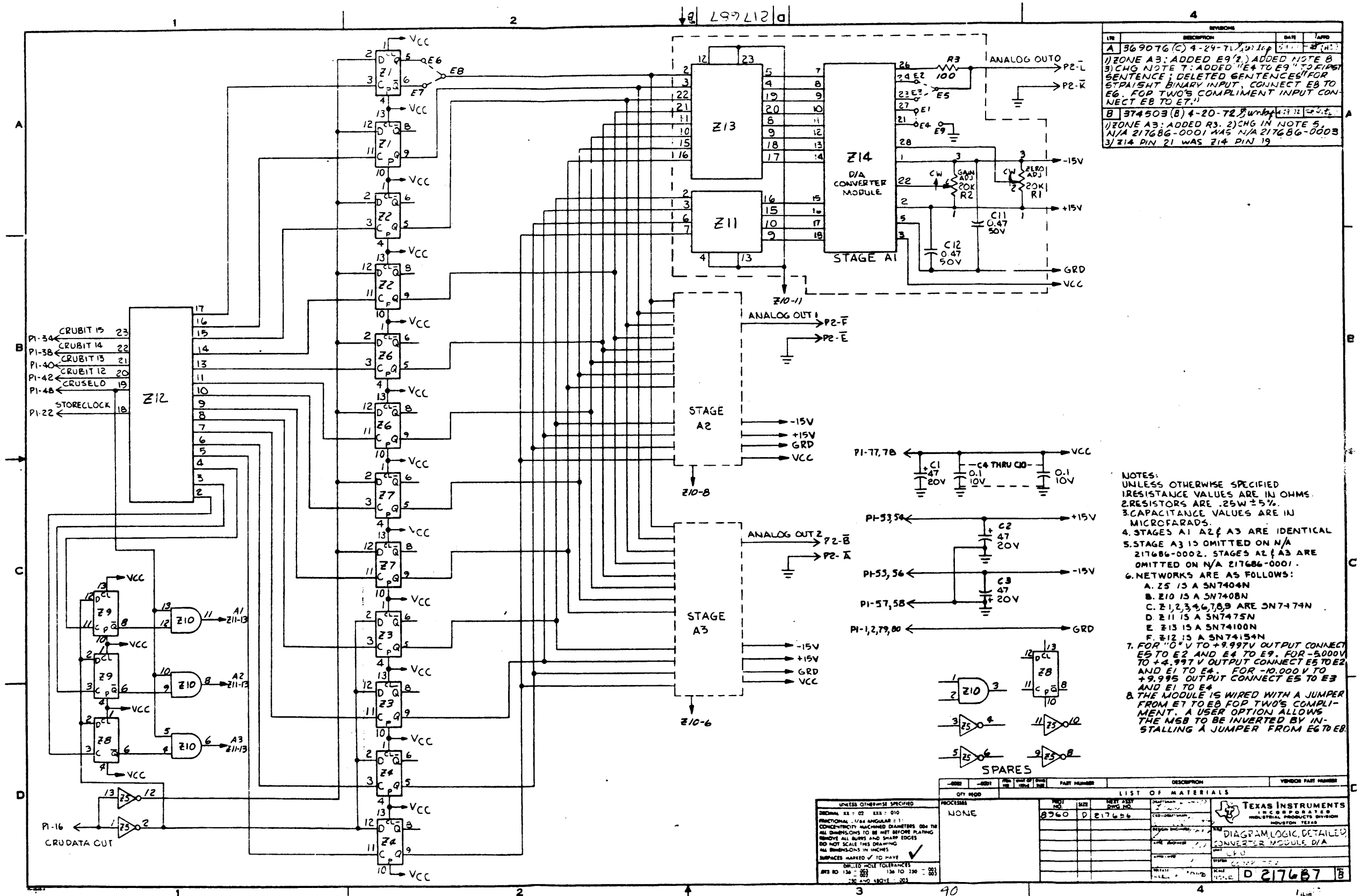
LIST OF MATERIAL

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|                       |     |
|-----------------------|-----|
| PART NUMBER           | REV |
| <b>LM 217686-0960</b> | M4  |

| PRINT ITEM NUMBER | QUANTITY PER ASSEMBLY | UNIT OF ISSUE | DWG. SIZE              | PART NUMBER | DESCRIPTION               | VENDOR PART NUMBER                   |             |
|-------------------|-----------------------|---------------|------------------------|-------------|---------------------------|--------------------------------------|-------------|
| 0002              | 0001.000              | EA            |                        | 39999-5711  | COPY OF DWG(S) BELOW      | -BOGUS P/N, NO DWG                   |             |
| C002A             |                       |               |                        |             | 217687 LCCIC, 217686 ASSY |                                      |             |
| 0002B             |                       |               |                        |             | 9558C8-99C2 AL, CAACKA    |                                      |             |
| C002C             |                       |               |                        |             | 9558C8-99C1 PD, DAACKA    |                                      |             |
| DRAFTSMAN         |                       | DATE          | CKD DRAFTSMAN          | DATE        | DESIGN ENGINEER           | DATE                                 | TITLE       |
| APPD-MFG          |                       | DATE          | APPD. PROJECT ENGINEER | DATE        | RELEASED                  | DATE                                 | PROJECT NO. |
|                   |                       |               |                        |             |                           | BOARD ASSY, CCNVERTER MODULE C/A DDC |             |
|                   |                       |               |                        |             |                           | <b>LM 217686-0960</b>                | REV<br>M4   |

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| REV | DESCRIPTION                    | DATE    | APP'D  |
|-----|--------------------------------|---------|--------|
| A   | 369076 (C) 4-24-71, 1/2, 1/6 p | 5-11-71 | 28 (H) |
| B   | 374503 (B) 4-20-72, 1/2, 1/6 p | 5-11-72 | 28 (H) |

1) ZONE A3: ADDED E9. 2) ADDED NOTE B  
 3) CHG NOTE 7: ADDED E4 TO E9 TO FIRST SENTENCE; DELETED SENTENCES FOR STRAIGHT BINARY INPUT. CONNECT EB TO E6. FOR TWO'S COMPLIMENT INPUT CONNECT EB TO E7.

1) ZONE A3: ADDED R3. 2) CHG IN NOTE 5: N/A 217686-0001 WAS N/A 217686-0003  
 3) Z14 PIN 21 WAS Z14 PIN 19

- NOTES:  
 1. UNLESS OTHERWISE SPECIFIED RESISTANCE VALUES ARE IN OHMS. RESISTORS ARE .25W ±5%.  
 2. CAPACITANCE VALUES ARE IN MICROFARADS.  
 3. STAGES A1, A2 & A3 ARE IDENTICAL.  
 4. STAGE A3 IS OMITTED ON N/A 217686-0002. STAGES A2 & A3 ARE OMITTED ON N/A 217686-0001.  
 5. NETWORKS ARE AS FOLLOWS:  
 A. Z5 IS A 5N7404N  
 B. Z10 IS A 5N7408N  
 C. Z1, 2, 3, 4, 6, 7, 8, 9 ARE 5N7474N  
 D. Z11 IS A 5N7475N  
 E. Z12 IS A 5N74100N  
 F. Z13 IS A 5N74154N  
 6. FOR +10.00V TO +9.997V OUTPUT CONNECT E5 TO E2 AND E4 TO E9. FOR -5.000V TO +4.997V OUTPUT CONNECT E5 TO E2 AND E1 TO E4. FOR -10.000V TO +9.995V OUTPUT CONNECT E5 TO E3 AND E1 TO E4.  
 7. THE MODULE IS WIRED WITH A JUMPER FROM E7 TO E6 FOR TWO'S COMPLIMENT. A USER OPTION ALLOWS THE MSB TO BE INVERTED BY INSTALLING A JUMPER FROM E6 TO E8.

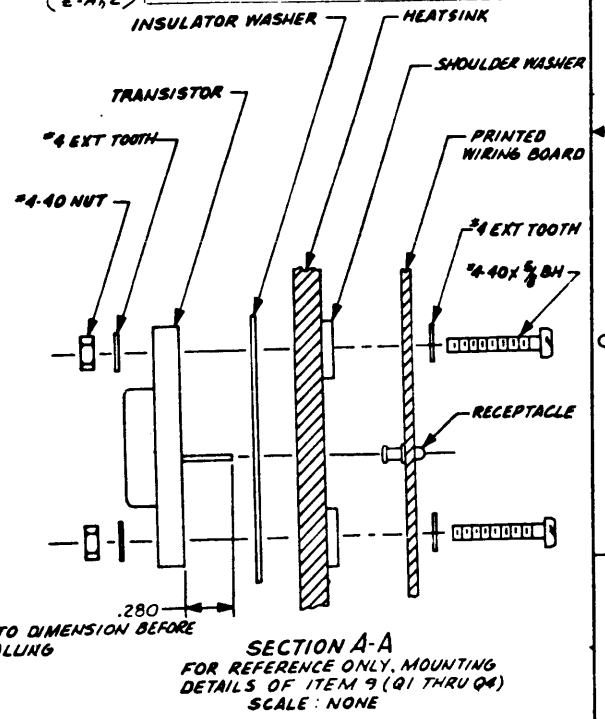
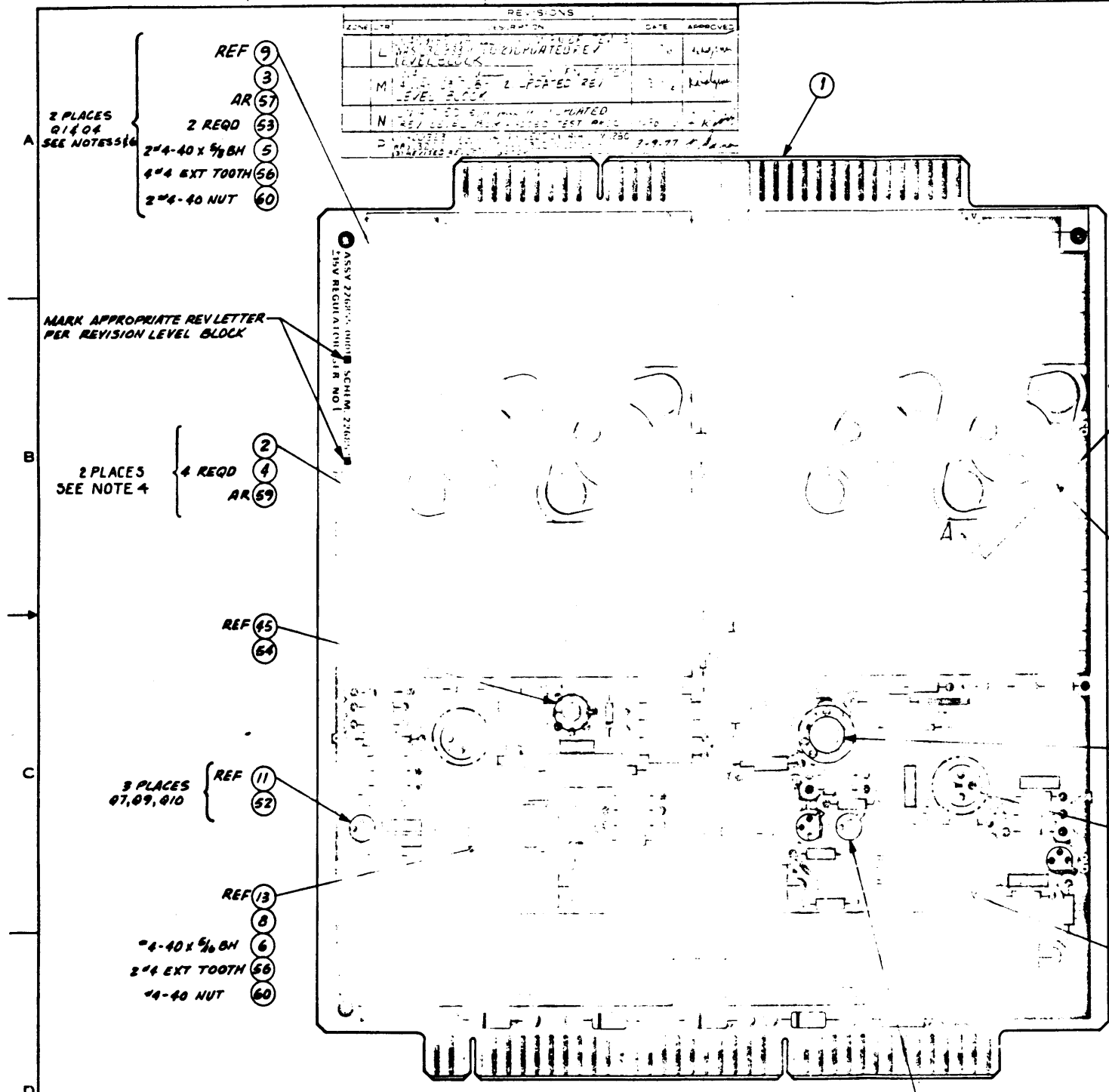
UNLESS OTHERWISE SPECIFIED  
 DIMENSION: .02 .03 .010  
 FRACTIONAL: 1/64 ANGULAR: 1:1  
 CONCENTRICITY MATCHED DIAMETERS ON THE ALL DIMENSIONS TO BE MET BEFORE PLATING  
 REMOVE ALL BURRS AND SHARP EDGES  
 DO NOT SCALE THIS DRAWING  
 ALL DIMENSIONS IN INCHES  
 DIMENSIONS MARKED ✓ TO HAVE  
 DRILLED HOLE TOLERANCES  
 .001 TO .002 .002 TO .003 .003 TO .005 .005 TO .007 .007 TO .010 .010 TO .015 .015 TO .020 .020 TO .030 .030 TO .050 .050 TO .100 .100 TO .150 .150 TO .200 .200 TO .300 .300 TO .500 .500 TO 1.000 1.000 TO 2.000 2.000 TO 3.000 3.000 TO 5.000 5.000 TO 10.000 10.000 TO 20.000 20.000 TO 50.000 50.000 TO 100.000 100.000 TO 200.000 200.000 TO 500.000 500.000 TO 1000.000 1000.000 TO 2000.000 2000.000 TO 5000.000 5000.000 TO 10000.000 10000.000 TO 20000.000 20000.000 TO 50000.000 50000.000 TO 100000.000 100000.000 TO 200000.000 200000.000 TO 500000.000 500000.000 TO 1000000.000 1000000.000 TO 2000000.000 2000000.000 TO 5000000.000 5000000.000 TO 10000000.000 10000000.000 TO 20000000.000 20000000.000 TO 50000000.000 50000000.000 TO 100000000.000 100000000.000 TO 200000000.000 200000000.000 TO 500000000.000 500000000.000 TO 1000000000.000 1000000000.000 TO 2000000000.000 2000000000.000 TO 5000000000.000 5000000000.000 TO 10000000000.000 10000000000.000 TO 20000000000.000 20000000000.000 TO 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5000.000 5000.000 TO 100.000 100.000 TO 200.000 200.000 TO 500.000 500.000 TO 1000.000 1000.000 TO 2000.000 2000.000 TO 5000.000 5000.000 TO 100.000 100.000 TO 200.000 200.000 TO 500.000 500.000 TO 1000.000 1000.000 TO 2000.000 2000.000 TO 5000.000 5000.000 TO 100.000 100.000 TO 200.000 200.000 TO 500.000 500.000 TO 1000.000 1000.000 TO 2000.000 2000.000 TO 5000.000 5000.000 TO 100.000 100.000 TO 200.000 200.000 TO 500.000 500.000 TO 1000.000 1000.000 TO 2000.000 2000.000 TO 5000.000 5000.000 TO 100.000 100.000 TO 200.000 200.000 TO 500.000 500.000 TO 1000.000 1000.000 TO 2000.000 2000.000 TO 5000.000 5000.000 TO 100.000 100.000 TO 200.



| REV | DESCRIPTION            | DATE | APPROVED |
|-----|------------------------|------|----------|
| L   | ASSEMBLY TO 226856-001 |      |          |
| M   | REVISED REV            |      |          |
| N   | REVISED REV            |      |          |

- NOTES:**
1. MAXIMUM COMPONENT HEIGHT FROM COMPONENT SIDE OF BOARD IS .812
  2. MAXIMUM LEAD LENGTH FROM CONDUCTOR SIDE OF BOARD IS .093.
  3. TO PREVENT SOLDER FROM WICKING DOWN CONNECTOR FINGERS WHEN SOLDERING, MASK ALL CONNECTOR FINGERS ON BOTH SIDES OF BOARD
  4. BEFORE INSTALLING HEATSINK (ITEM 2), ASSEMBLE SHOULDER WASHER (ITEM 4) TO HEATSINK USING CEMENT (ITEM 59)
  5. APPLY COMPOUND (ITEM 57) TO MOUNTING SURFACE OF TRANSISTOR & INSULATOR WASHER (ITEM 3), COAT OTHER SIDE OF INSULATOR. MOUNT TRANSISTOR & WIPE OFF EXCESS COMPOUND. TRANSISTOR LEADS TO BE FREE OF COMPOUND
  6. CUT TRANSISTOR LEADS (ITEM 9) .280 IN. LONG BEFORE INSTALLING. TRANSISTOR LEADS TO BE SECURED WHEN CUTTING TO PREVENT DAMAGE TO SEAL.
  7. CAPACITORS C1, C2, C16 AND C17 MUST HAVE END SEAL ENCAPSULATED WITH EPOXY (ITEM 63)

| REV | DESCRIPTION         | DATE | APPROVED |
|-----|---------------------|------|----------|
| A   | 370924 (B) 3-13-72  |      |          |
| B   | 372313(C) 3-15-72   |      |          |
| C   | 376250 (C) 7-6-72   |      |          |
| D   | 378450 (D) 7-6-72   |      |          |
| E   | 385161 (E) 1-12-73  |      |          |
| F   | 397724 (F) 1-12-73  |      |          |
| G   | 397724 (G) 1-12-73  |      |          |
| H   | 397724 (H) 1-12-73  |      |          |
| J   | 3983789 (J) 1-12-73 |      |          |



| REV                                    | DESCRIPTION | DATE        | APPROVED |
|--|-------------|-------------|----------|
| TEST PROC                              | 226856      |             |          |
| BOARD FOR -0001 ASSY (226856-0001)     | * A A A B A | D C I L     | E I E    |
| SCHEMATIC FOR -0001 ASSY (226857-9901) | * * * A B   | C C C C     |          |
| ASSEMBLY                               | * A B C D   | F J K L M P |          |

| REV | DESCRIPTION   | DATE | APPROVED |
|-----|---|------|----------|
| 1   | SOLDER ALL ELEC COMPONENTS PER 8100 A 226700 F124 AND/OR F127 |      |          |
| 2   | RUBBER STAMP F.00 HEIGHT OR COLOR BLACK                       |      |          |



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PART NUMBER **LM 226855 -0001** REV **P #**

| PRINT ITEM NUMBER | QUANTITY PER ASSEMBLY | UNIT OF ISSUE         | DWG SIZE | PART NUMBER     | DESCRIPTION                               | VENDOR PART NUMBER                                |
|-------------------|-----------------------|-----------------------|----------|-----------------|---|---|
| 0001              | 00001.000             | EA                    |          | 226856 -0001    | PW ECARE,+/- 15V REGULATOR                |   |
| 0002              | 00002.000             | EA                    |          | 226871 -0001    | HEATSINK,+/- 15V REGULATOR                |   |
| 0003              | 00004.000             | EA                    |          | 532449 -0004    | INSULATOR MICA                            | TI -10-21-024-00,                                 |
| 0004              | 00008.000             | EA                    |          | 532720 -0003    | WASHER SHOULDERED #6 NONMETALLIC          | WFK-SW-6  |
| 0005              | 00008.000             | EA                    |          | 972988 -0018    | SCREW 4-40 X .625 PAN HEAD CRES           |   |
| 0006              | 00002.000             | EA                    |          | 972588 -0014    | SCREW 4-40 X .312 PAN HEAD CRES           |   |
| 0008              | 00001.000             | EA                    |          | 232144 -1000    | INSULATOR WASHER XST TO-66                | TI -#10-21-023-022                                |
| 0009              | 00004.000             | EA                    |          | 972777 -0002    | TRANSISTOR-N-P-N POWER 2N3714             | MOT- 2N3714                                       |
| 0009A             |                       |                       |          |                 | C1, C2, C3, C4                            |   |
| 0010              | 00002.000             | EA                    |          | 972958 -0001    | TRANSISTOR, PNP, GEN. PURP. SW TO-18      | TI - 2N2905A                                      |
| 0010A             |                       |                       |          |                 | C5, C6                                    |   |
| 0011              | 00003.000             | EA                    |          | 972958 -0002    | TRANSISTOR, 2N2907A PNP GEN PURP SW TO-18 | TI - 2N2907A                                      |
| 0011A             |                       |                       |          |                 | C7, C8, C10                               |   |
| 0012              | 00001.000             | EA                    |          | 972948 -0002    | TRANSISTOR, 2N2222A NPN GEN PURP SW TO-18 | TI - 2N2222A                                      |
| 0012A             |                       |                       |          |                 | C8  |   |
| 0013              | 00002.000             | EA                    |          | 572546 -0002    | TRIAC, SILICON-12A TIC126A                |   |
| 0013A             |                       |                       |          |                 | C11 C12                                   |   |
| 0014              | 00004.000             | EA                    |          | 972164 -0001    | DIODE, MRS01                              |   |
| 0014A             |                       |                       |          |                 | CR1 THRU CR4                              |   |
| 0015              | 00001.000             | EA                    |          | 972934 -0007    | DIODE, 1N752A 5.6 V 5% SIL VOLT REG       | OPL- 1N752A                                       |
| DRAFTSMAN         | DATE                  | CKD DRAFTSMAN         | DATE     | DESIGN ENGINEER | DATE                                      | TITLE   |
|                   |                       | <i>[Signature]</i>    | 10-29-76 |                 |   | CRU MODULE, +OP-15V REGULATOR                     |
| APPD MFG          | DATE                  | APPD PROJECT ENGINEER | DATE     | RELEASED        | DATE                                      | PROJECT NO  |
|                   |                       |                       |          |                 |   | 5100  |
|                   |                       |                       |          |                 |   | PART NUMBER <b>LM 226855 -0001</b> REV <b>P #</b> |

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PART NUMBER **LM 226855 -0001** REV **p 4**

| PRINT ITEM NUMBER | QUANTITY PER ASSEMBLY | UNIT OF ISSUE         | DWG SIZE | PART NUMBER     | DESCRIPTION                             | VENDOR PART NUMBER                                |
|-------------------|-----------------------|-----------------------|----------|-----------------|---|---|
| CU15A             |                       |                       |          |                 | CR6                                     |   |
| 0016              | 00001.000             | EA                    |          | 972932 -0001    | DIODE,1N914B SWITCHING 75V PIV 75MA 4MS | TI - 1N914B                                       |
| CU16A             |                       |                       |          |                 | CR7                                     |   |
| 0017              | 00001.000             | EA                    |          | 231784 -6001    | DIODE MPC300 3 PELLET SILICON MULTI     | GE -MPC300  |
| CU17A             |                       |                       |          |                 | CR8                                     |   |
| 0018              | 00002.000             | EA                    |          | 539468 -0003    | DIODE,1N4003 1A4P 200PIV RECTIFIER      | TI - 1N4003                                       |
| CU18A             |                       |                       |          |                 | CR9,CR10                                |   |
| 0019              | 00004.000             | EA                    |          | 972934 -0011    | DIODE,1N756A 8.2 V 5% SIL VOLT REG      | OPL- 1N756A                                       |
| CU19A             |                       |                       |          |                 | CR11 THRU CR14                          |   |
| 0020              | 00002.000             | EA                    |          | 507315 -0010    | CAP 700.00 MF 50V 18%                   | SPR-390707G05GP4                                  |
| CU20A             |                       |                       |          |                 | C1,C2                                   |   |
| 0021              | 00003.000             | EA                    |          | 972924 -0021    | CAP FIX TANT SOLID 1.0 MFD 10 % 50 VOLT | OPL-M39003/1-2356                                 |
| CU21A             |                       |                       |          |                 | C3 THRU C5                              |   |
| 0022              | 00002.000             | EA                    |          | 972924 -0013    | CAP FIX TANT SOLID 2.2 MFD 10 % 20 VOLT | OPL-M39003/1-2283                                 |
| CU22A             |                       |                       |          |                 | C7,C8                                   |   |
| 0023              | 00005.000             | EA                    |          | 972965 -0024    | CAP FIX CERAMIC .100 MF 10% 100V        | OPL- CK069X104K                                   |
| CU23A             |                       |                       |          |                 | C9 C12 THRU C15                         |   |
| 0024              | 00002.000             | EA                    |          | 972924 -0019    | CAP FIX TANT SOLID 22 MFD 10 % 35 VOLT  | OPL-M39003/1-2306                                 |
| CU24A             |                       |                       |          |                 | C10,C11                                 |   |
| 0025              | 00002.000             | EA                    |          | 230917 -0010    | CAP 200.0 MF 25V 75/-10                 | SPR-300-207G025DH2                                |
| DRAFTSMAN         | DATE                  | CKD DRAFTSMAN         | DATE     | DESIGN ENGINEER | DATE                                    | TITLE   |
|                   |                       |                       |          |                 |   | CRU MODULE,+OP-15V REGULATOR                      |
| APPD MFG          | DATE                  | APPD PROJECT ENGINEER | DATE     | RELEASED        | DATE                                    | PROJECT NO  |
|                   |                       |                       |          |                 |   |   |
|                   |                       |                       |          |                 |   | PART NUMBER <b>LM 226855 -0001</b> REV <b>p 4</b> |

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| PRINT ITEM NUMBER | QUANTITY PER ASSEMBLY | UNIT OF ISSUE | DWG. SIZE             | PART NUMBER  | DESCRIPTION                             | VENDOR PART NUMBER  |                     |
|-------------------|-----------------------|---------------|-----------------------|--------------|---|---------------------|---------------------|
| 0025A             |                       |               |                       |              | C16,C17                                 |                     |                     |
| 0026              | 00001.000             | EA            |                       | 972929 -0382 | CAP 150 PF 10% 200V FXD CER STYLE CKR05 | MIL-C-39014/1C-1382 |                     |
| 0026A             |                       |               |                       |              | C18                                     |                     |                     |
| 0027              | 00006.000             | EA            |                       | 972946 -0017 | RES FIX 10.0 OHM 5% .25 W.CARBON FILM   | ROH- R-25           |                     |
| 0027A             |                       |               |                       |              | R3,R20,R22,R25,R27,R28                  |                     |                     |
| 0028              | 00002.000             | EA            |                       | 972946 -0034 | RES FIX 51.0 OHM 5% .25 W.CARBON FILM   | ROH- R-25           |                     |
| 0028A             |                       |               |                       |              | R21,R24                                 |                     |                     |
| 0029              | 00002.000             | EA            |                       | 972946 -0037 | RES FIX 68.0 OHM 5% .25 W.CARBON FILM   | ROH- R-25           |                     |
| 0029A             |                       |               |                       |              | R4,R15                                  |                     |                     |
| 0030              | 00001.000             | EA            |                       | 972946 -0045 | RES FIX 150 OHM 5% .25 W CARBON FILM    | ROH- R-25           |                     |
| 0030A             |                       |               |                       |              | R2                                      |                     |                     |
| 0031              | 00002.000             | EA            |                       | 972946 -0063 | RES FIX 820 OHM 5% .25 W CARBON FILM    | ROH- R-25           |                     |
| 0031A             |                       |               |                       |              | R23,R26                                 |                     |                     |
| 0032              | 00001.000             | EA            |                       | 972946 -0085 | RES FIX 6.8K OHM 5% .25 W CARBON FILM   | ROH- R-25           |                     |
| 0032A             |                       |               |                       |              | R16                                     |                     |                     |
| 0033              | 00001.000             | EA            |                       | 233116 -0002 | RES 1.2000 OHM .5 W 5.                  | AR -FB12G5          |                     |
| 0033A             |                       |               |                       |              | R18                                     |                     |                     |
| 0034              | 00002.000             | EA            |                       | 972947 -0006 | RES FIX 3.6 OHM 5% .5 W CARBON FILM     | ROH- R-50           |                     |
| 0034A             |                       |               |                       |              | R5,R6                                   |                     |                     |
| 0035              | 00001.000             | EA            |                       | 972947 -0082 | RES FIX 5.1K OHM 5% .5 W CARBON FILM    | ROH- R-50           |                     |
| DRAFTSMAN         |                       | DATE          | CKD DRAFTSMAN         | DATE         | DESIGN ENGINEER                         | DATE                | TITLE               |
| APPO MFG          |                       | DATE          | APPO PROJECT ENGINEER | DATE         | RELEASED                                | DATE                | PROJECT NO.         |
|                   |                       |               |                       |              |   |                     | LM 226855 -0001 P 4 |

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| PART NUMBER     | REV |
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| PRINT ITEM NUMBER | QUANTITY PER ASSEMBLY | UNIT OF ISSUE          | DWG SIZE | PART NUMBER     | DESCRIPTION                         | VENDOR PART NUMBER            |
|-------------------|-----------------------|------------------------|----------|-----------------|-------------------------------------|-------------------------------|
| CC35A             |                       |                        |          |                 | R10                                 |                               |
| 0036              | 00001.000             | EA                     |          | 53937C -0216    | RES FIX FILM 17.4 OHM 1% .25 WATT   | COR- NA55                     |
| CC36A             |                       |                        |          |                 | R7                                  |                               |
| 0037              | 00001.000             | EA                     |          | 539371 -0243    | RES FIX FILM 33.2 OHM 1% .13 WATT   | COR- NC4                      |
| 0037A             |                       |                        |          |                 | R17                                 |                               |
| 0038              | 00001.000             | EA                     |          | 539370 -0422    | RES FIX FILM 2.43K OHM 1% .25 WATT  | COR- NA55                     |
| CC38A             |                       |                        |          |                 | R11                                 |                               |
| 0039              | 00002.000             | EA                     |          | 539370 -0404    | RES FIX FILM 1.58K OHM 1% .25 WATT  | COR- NA55                     |
| CC39A             |                       |                        |          |                 | R14,R15                             |                               |
| 0040              | 00001.000             | EA                     |          | 53937C -0478    | RES FIX FILM 9.31K OHM 1% .25 WATT  | COR- NA55                     |
| 0040A             |                       |                        |          |                 | R13                                 |                               |
| 0041              | 00001.000             | EA                     |          | 53937C -0455    | RES FIX FILM 14.0K OHM 1% .25 WATT  | COR- NA55                     |
| 0041A             |                       |                        |          |                 | R12                                 |                               |
| 0042              | 00002.000             | EA                     |          | 539373 -0385    | RES FIX FILM 1.00K OHM 1% .375 WATT | COR-NA60-100FPM/C             |
| 0042A             |                       |                        |          |                 | R8,R9                               |                               |
| 0043              | 00002.000             | EA                     |          | 419368 -0002    | HEATSINK, TRANSISTOR                | WAK- NF-207                   |
| 0044              | 00001.000             | EA                     |          | 222224 -0304    | NETWORK LM304H VOLTAGE REGULATOR    | -LM304H                       |
| 0044A             |                       |                        |          |                 | AR2                                 |                               |
| 0045              | 00001.000             | EA                     |          | 222224 -0305    | NETWORK LM305H OPERATIONAL AMP      | -LM305H                       |
| 0045A             |                       |                        |          |                 | API                                 |                               |
| DRAFTSMAN         | DATE                  | CKD DRAFTSMAN          | DATE     | DESIGN ENGINEER | DATE                                | TITLE                         |
|                   |                       |                        |          |                 |                                     | CRU MODULE, +OP-15V REGULATOR |
| APPD -MFG         | DATE                  | APPD. PROJECT ENGINEER | DATE     | RELEASED        | DATE                                | PROJECT NO.                   |
|                   |                       |                        |          |                 |                                     |                               |
|                   |                       |                        |          |                 |                                     | PART NUMBER                   |
|                   |                       |                        |          |                 |                                     | LM 226855 -0001               |
|                   |                       |                        |          |                 |                                     | REV                           |
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| PRINT ITEM NUMBER | QUANTITY PER ASSEMBLY | UNIT OF ISSUE | DWG SIZE              | PART NUMBER  | DESCRIPTION                               | VENDOR PART NUMBER     |                               |
|-------------------|-----------------------|---------------|-----------------------|--------------|---|------------------------|-------------------------------|
| 0046              | 00002.000             | EA            |                       | 399999 -9702 | RESISTOR SELECTED AT UNIT TEST            |                        |                               |
| 0046A             |                       |               |                       |              | R30 R31                                   |                        |                               |
| 0047              | 00001.000             | EA            |                       | 972947 -0017 | RES FIX 10 OHM 5% .5 W CARBON FILM        | ROH- R-50              |                               |
| 0047A             |                       |               |                       |              | R29                                       |                        |                               |
| 0048              | REF                   | EA            |                       | 226857 -9901 | DIAGRAM, SCHEMATIC DET-+/- 15V REGULATOR  |                        |                               |
| 0049              | REF                   | EA            |                       | 226858 -9901 | TEST PROCEDURE, +/- 15V REGULATOR         |                        |                               |
| 0050              | REF                   | EA            |                       | 226873 -9901 | SPECS, +/- 15V REGULATOR                  |                        |                               |
| 0051              | 00002.000             | EA            |                       | 184262 -0001 | PAD, MOUNTING, TJ-5, 4 LEAD, RED          | THR- 7717-5            |                               |
| 0052              | 00004.000             | EA            |                       | 185113 -0001 | X SPACER XST TO-18 CASE                   | * -                    |                               |
| 0053              | 00008.000             | EA            |                       | 539493 -0001 | RECEPTACLE ACCEPTS LEAD SIZE.018-.040GLO  | AMP-1-380737-0         |                               |
| 0054              | 00001.000             | EA            |                       | 232583 -0005 | PAD INTEGRATED CKT. TJ-5 8 LEADS .350 DIA | THR-7717-107-N-WHT     |                               |
| 0055              | 00001.000             | EA            |                       | 538622 -0028 | PAD, MOUNTING, IC 10 LEAD, RED            | THR- 7717-119          |                               |
| 0056              | 00020.000             | EA            |                       | 411101 -0057 | LOCKWASHER # 4 EXTERNAL TOOTH CRES        | QPL- MS35335-57        |                               |
| 0057              | AR                    | EA            |                       | 231142 -9000 | COMPOUND THERMACOTE, 2 JZ JAR NON-TOXIC   | THR-250                |                               |
| 0059              | AR                    | BT            |                       | 410423 -0001 | ADHESIVE GEN PURP CYANACRYLATE TYPE 1     | SEE- TI DRAWING        |                               |
| 0060              | 00010.000             | EA            |                       | 416453 -0021 | NUT, PLAIN, 4-40 UNC-28 HEX, CRES, SMALL  | QPL- NAS671-C4         |                               |
| 0061              | 00001.000             | EA            |                       | 972934 -0013 | DIODE, 1N758A 10.0V 5% SIL VOLT REG       | QPL- 1N758A            |                               |
| 0061A             |                       |               |                       |              | CR5                                       |                        |                               |
| 0062              | 00001.000             | EA            |                       | 972154 -0083 | RES 820 OHMS 1W 5%                        | TEL--BL2               |                               |
| 0062A             |                       |               |                       |              | R1  |                        |                               |
| DRAFTSMAN         |                       | DATE          | CKD DRAFTSMAN         | DATE         | DESIGN ENGINEER                           | DATE                   | TITLE                         |
|                   |                       |               |                       |              |   |                        | CRU MODULE, +0V-15V REGULATOR |
| APPD MFG          |                       | DATE          | APPD PROJECT ENGINEER | DATE         | RELEASED                                  | DATE                   | PROJECT NO.                   |
|                   |                       |               |                       |              |   |                        |                               |
|                   |                       |               |                       |              |   | PART NUMBER            | REV                           |
|                   |                       |               |                       |              |   | <b>LM</b> 226855 -0001 | P *                           |

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| PRINT ITEM NUMBER | QUANTITY PER ASSEMBLY | UNIT OF ISSUE | DWG. SIZE | PART NUMBER  | DESCRIPTION          | VENDOR PART NUMBER  |
|-------------------|-----------------------|---------------|-----------|--------------|----------------------|---------------------|
| 0063              | AR                    | EA            |           | 41763C -0001 | ADHESIVE, EPOXY 0151 | HYS-EPOXY-PATCH-KIT |

|           |      |                       |      |                 |      |                               |
|-----------|------|-----------------------|------|-----------------|------|-------------------------------|
| DRAFTSMAN | DATE | CKD DRAFTSMAN         | DATE | DESIGN ENGINEER | DATE | TITLE                         |
|           |      |                       |      |                 |      | CRU MODULE, +CR-15V REGULATOR |
| APPD MFG  | DATE | APPD PROJECT ENGINEER | DATE | RELEASED        | DATE | PROJECT NO                    |
|           |      |                       |      |                 |      |                               |

|                        |            |
|------------------------|------------|
| PART NUMBER            | REV        |
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| PART NUMBER            | REV      |
| <b>LM 226855 -0960</b> | <b>P</b> |

| PRINT ITEM NUMBER | QUANTITY PER ASSEMBLY | UNIT OF ISSUE | DWG. SIZE | PART NUMBER  | DESCRIPTION          | VENDOR PART NUMBER |
|-------------------|-----------------------|---------------|-----------|--------------|----------------------|--------------------|
| 0001              | 00001.000             | EA            |           | 399999 -9711 | COPY CF DWG(S) BELOW | -BOGUS P/N, NO DWG |
| 0001A             |                       |               |           |              | 226855 ASSY          |                    |
| 0001B             |                       |               |           |              | 226857 SCHEMATIC     |                    |
| 0001C             |                       |               |           |              | 226873 SPEC          |                    |

|           |      |                       |      |                 |      |                                      |
|-----------|------|-----------------------|------|-----------------|------|--------------------------------------|
| DRAFTSMAN | DATE | CKD DRAFTSMAN         | DATE | DESIGN ENGINEER | DATE | TITLE                                |
|           |      |                       |      |                 |      | DOCUMENTATION KIT-CRU MDL +/-15V REG |
| APPD MFG  | DATE | APPD PROJECT ENGINEER | DATE | RELEASED        | DATE | PROJECT NO                           |
|           |      |                       |      |                 |      |                                      |

|                        |          |
|------------------------|----------|
| PART NUMBER            | REV      |
| <b>LM 226855 -0960</b> | <b>P</b> |

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| PART NUMBER            | REV        |
| <b>LM 226855 -0980</b> | <b>D 4</b> |

| PRINT<br>ITEM<br>NUMBER | QUANTITY<br>PER<br>ASSEMBLY | UNIT<br>OF<br>ISSUE | DWG<br>SIZE | PART NUMBER  | DESCRIPTION          | VENDOR PART NUMBER |
|-------------------------|-----------------------------|---------------------|-------------|--------------|----------------------|--------------------|
| 0001                    | 00J01.000                   | EA                  |             | 399999 -9711 | COPY OF DWG(S) BELOW | -HOCUS P/1,170 DWG |
| 0001A                   |                             |                     |             |              | 226855 ASSY          |                    |
| 0001B                   |                             |                     |             |              | 226857 SCHEMATIC     |                    |
| 0001C                   |                             |                     |             |              | 226873 SPEC          |                    |

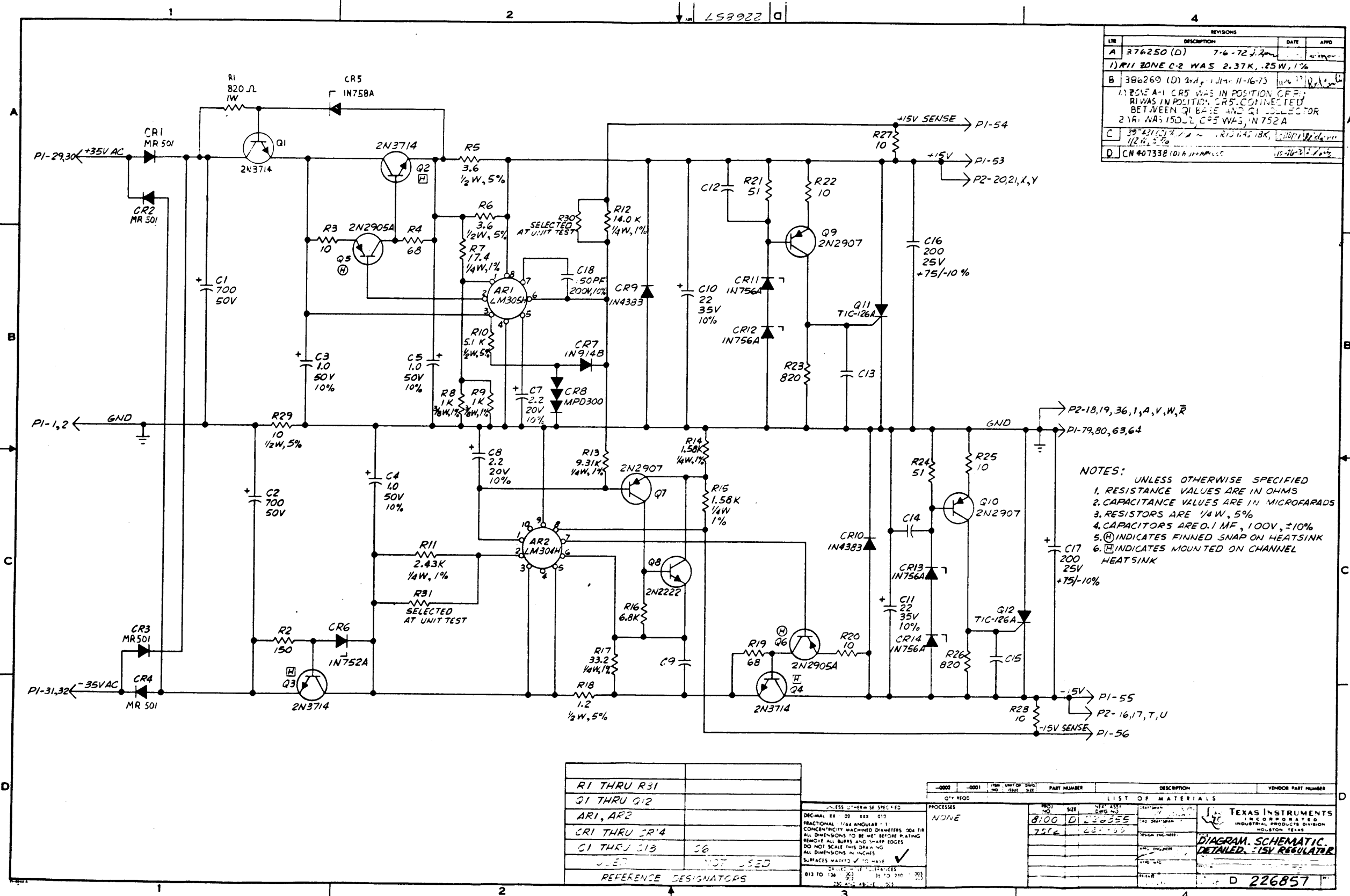
  

|           |      |                        |      |                 |      |                                      |
|-----------|------|------------------------|------|-----------------|------|--------------------------------------|
| DRAFTSMAN | DATE | CKD. DRAFTSMAN         | DATE | DESIGN ENGINEER | DATE | TITLE                                |
|           |      |                        |      |                 |      | DOCUMENTATION KIT-CRU MDL +/-15V PEG |
| APPD. MFG | DATE | APPD. PROJECT ENGINEER | DATE | RELEASED        | DATE | PROJECT NO.                          |
|           |      |                        |      |                 |      |                                      |

|                        |            |
|------------------------|------------|
| PART NUMBER            | REV        |
| <b>LM 226855 -0980</b> | <b>D 4</b> |

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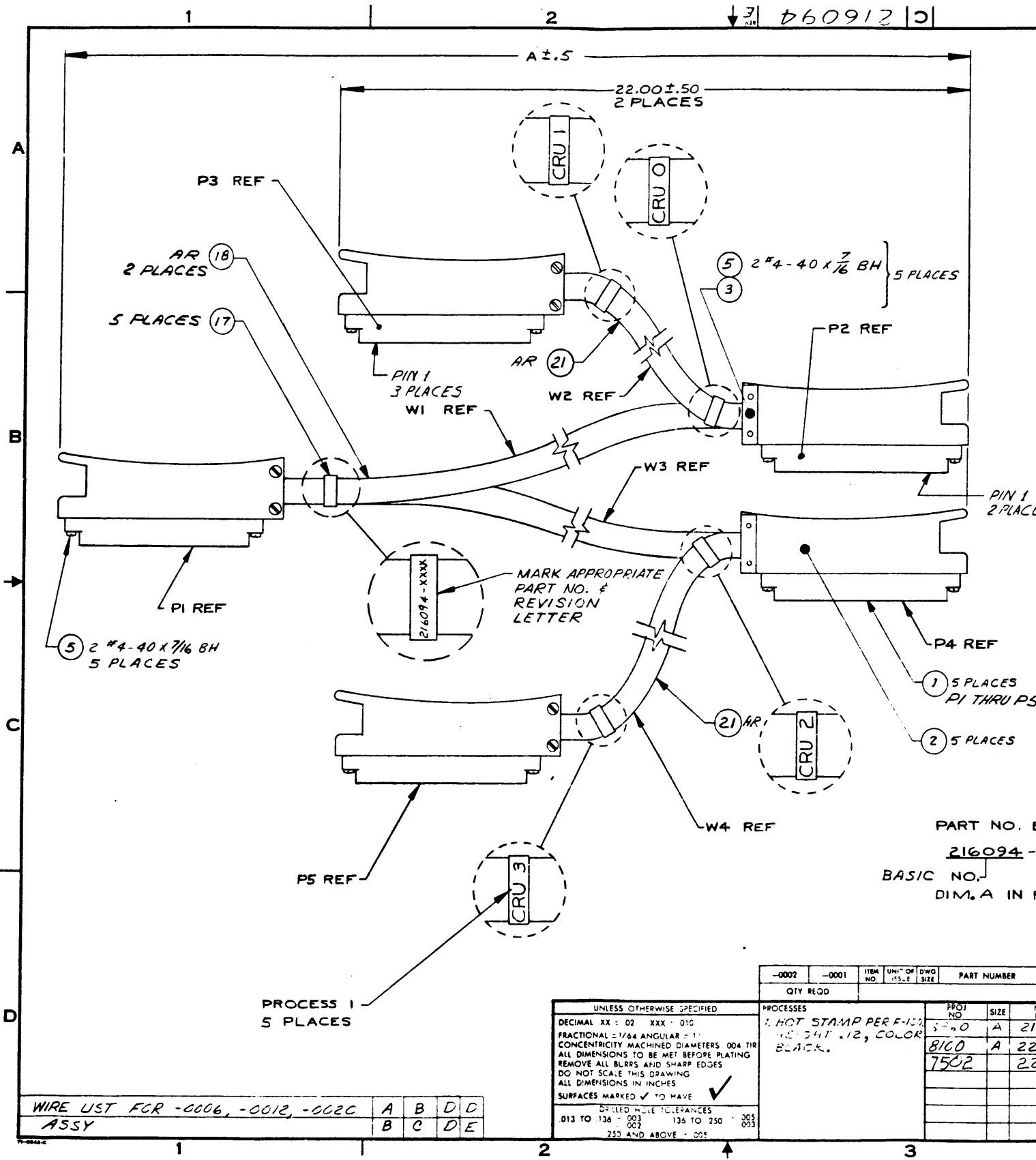
| REVISIONS  |               |          |      |
|--|---------------|----------|------|
| LTB  | DESCRIPTION   | DATE     | APPD |
| A  | 376250 (D)    | 7-6-72   |      |
| 1) R11 BONE C-2 WAS 2.37K, .25W, 1%  |               |          |      |
| B  | 386269 (D)    | 11-16-73 |      |
| 1) BONE A-1 CR5 WAS IN POSITION OF P1; R1 WAS IN POSITION CR5 CONNECTED BETWEEN Q1 BASE AND Q1 COLLECTOR 2) R1 WAS 150Ω, C15 WAS IN 752A |               |          |      |
| C  | 394310 (D)    | 12-26-73 |      |
| 1) R15 WAS 1.8K, C17 WAS 200 25V   |               |          |      |
| D  | CN 407338 (D) | 12-26-73 |      |

NOTES: UNLESS OTHERWISE SPECIFIED  
 1. RESISTANCE VALUES ARE IN OHMS  
 2. CAPACITANCE VALUES ARE IN MICROFARADS  
 3. RESISTORS ARE 1/4W, 5%  
 4. CAPACITORS ARE 0.1 MF, 100V, ±10%  
 5. ⊕ INDICATES FINNED SNAP ON HEATSINK  
 6. □ INDICATES MOUNTED ON CHANNEL HEATSINK

| QTY REQD              | REF DESIG     | SIZE | REF ASSY | DESCRIPTION | YENDOR PART NUMBER |
|-----------------------|---------------|------|----------|-------------|--------------------|
|                       | R1 THRU R31   |      |          |             |                    |
|                       | Q1 THRU Q12   |      |          |             |                    |
|                       | AR1, AR2      |      |          |             |                    |
|                       | CR1 THRU CR14 |      |          |             |                    |
|                       | C1 THRU C17   |      |          |             |                    |
|                       | USED          |      |          |             |                    |
|                       | NOT USED      |      |          |             |                    |
| REFERENCE DESIGNATORS |               |      |          |             |                    |

| PROCESS | DESCRIPTION   | YENDOR PART NUMBER |
|---------|---|--------------------|
| NONE    | TEXAS INSTRUMENTS INCORPORATED INDUSTRIAL PRODUCTS DIVISION HOUSTON TEXAS |                    |
|         | DIAGRAM, SCHEMATIC, DETAILED -15V REGULATOR                               |                    |
|         | D 226857  |                    |



| REVISIONS |   |          |      |
|-----------|---|----------|------|
| LTR       | DESCRIPTION   | DATE     | APPD |
| A         | 297079 (B) 6-11-70 R. Parker<br>CHG ZONE A2, DIM. 22.00 ± .50 WAS 36.00 ± .50.<br>2) ZONE D2, STRAP "CRU 3" WAS "CRU 4".  | 6/17/70  |      |
| B         | 366683 (C) 3-2-70 M. J. Is<br>ADDED LM 17, 22.  | 3/9/70   |      |
| C         | 380558 (D) 7-16-73 L. R. (1) ZONE C1<br>4-40x1/2 BH WAS 4-40x1/2 BH (2) ADDED REV 27, 28<br>BLK (3) ADDED NOTE 2 TO FID;<br>L/M CHANGE (1) ITEM 5 WAS 235027-0001,<br>(4-40x1/2); DELETED ITEM 22 OF L/M; DELETED<br>ITEMS 9 THRU 16 OF L/M; (2) ITEM 7 WAS 236532-0999,<br>WIRE #24 WHT/BLK (3) ITEM 8 WAS 236532-1999 WIRE<br>#24 WHT/BRN, QTY WAS 40.00 FT (4) ITEM 19 WAS<br>236517-0999 WIRE #18 BLK/WHT QTY 14.00 FT<br>(5) ADDED QTY FOR ITEM 7 FOR -0006, -0012,<br>-0020 (6) DELETED ITEM 18 OF L/M (7) ADDED<br>QTY FOR ITEM 21 FOR -0006, -0012, -0020<br>(8) ADDED PROJECT NO 8100, A, 226700 TO<br>PROJECT BLK | 11/21/73 |      |
| D         | 394203 (B) P. R. (1) L/M;<br>DELETED ITEM 4; QTY OF ITEM 5 WAS<br>10.0; ITEM 7 WAS 534958-0053 + DELETED<br>VENDOR NO.; ITEM 8 WAS 417682-4999 +<br>DESCR. WAS ... PVC 7 STRAND ... (2) 23A;<br>BALCON CALOUT 5.3 WAS 4.2 #4-40x1/2 BH; (3)<br>(3) UPDATED REV LEU BLK.   | 5/21/74  |      |
| E         | 376228 (D) O. A. (1) L/M; ADDED<br>ITEM 22  | 6/25/74  |      |

1. FOR DIM. A SEE APPROPRIATE LM TOL FOR DIM. A IN FEET
2. TWISTED PAIR TO BE TWISTED TO WITHIN ONE INCH OF TERMINATION

PART NO. EXAMPLE:  
216094-XXXX  
BASIC NO. |  
DIM. A IN FT.

|                                   |   |   |   |   |
|-----------------------------------|---|---|---|---|
| WIRE LIST FOR -0006, -0012, -0020 | A | B | D | D |
| ASSY                              | B | C | D | E |

UNLESS OTHERWISE SPECIFIED  
DECIMAL XX : 02 XXX - 010  
FRACTIONAL = 1/64 ANGULAR = 1°  
CONCENTRICITY MACHINED DIAMETERS .004 TIR  
ALL DIMENSIONS TO BE MET BEFORE PLATING  
REMOVE ALL BURRS AND SHARP EDGES  
DO NOT SCALE THIS DRAWING  
ALL DIMENSIONS IN INCHES  
SURFACES MARKED ✓ TO HAVE ✓  
DRILLED HOLE TOLERANCES  
013 TO 136 - .003 136 TO 250 - .003  
002 250 AND ABOVE - .005

| QTY REQD | PROJ NO | SIZE | NEXT ASSY DWG NO | DESCRIPTION | VENDOR PART NUMBER |
|----------|---------|------|------------------|-------------|--------------------|
|          | 8100    | A    | 226700           |             |                    |
|          | 7502    |      | 226700           |             |                    |

|           |  |                     |  |                          |  |
|-----------|--|---------------------|--|--------------------------|--|
| PROCESSES |  | HOT STAMP PER F-100 |  | NO 34T .12, COLOR BLACK. |  |
|-----------|--|---------------------|--|--------------------------|--|

|                                |  |                              |  |                |  |
|--------------------------------|--|------------------------------|--|----------------|--|
| TEXAS INSTRUMENTS INCORPORATED |  | INDUSTRIAL PRODUCTS DIVISION |  | HOUSTON, TEXAS |  |
| CABLE ASSY                     |  | CPU TO 4 CRU'S (RACK)        |  | CRU            |  |
| SYSTEM                         |  | COMPUTER                     |  | SCALE          |  |
| 1/1                            |  | C 216094                     |  |                |  |



**TEXAS INSTRUMENTS**  
INCORPORATED

DATE 05/01/75

**LIST OF MATERIAL**

PAGE 1 of

LM 216094-0006 REV E

| PRINT<br>ITEM<br>NUMBER | QUANTITY<br>PER<br>ASSEMBLY | UNIT<br>OF<br>ISSUE | DWG.<br>SIZE | PART NUMBER | DESCRIPTION                            | VENDOR PART NUMBER     |
|-------------------------|-----------------------------|---------------------|--------------|-------------|--|------------------------|
| 0001                    | 00005.000                   | EA                  |              | 231447-0800 | CONNECTOR PC 36 PIN                    | VIK-2VH-36/1CN-5       |
| 0001A                   |                             |                     |              |             | P1 THRU P5                             |                        |
| 0002                    | 00005.000                   | EA                  |              | 214080-0001 | CONNECTOR-COVER                        |                        |
| 0003                    | 00005.000                   | EA                  |              | 214081-0001 | CLAMP                                  |                        |
| 0005                    | 00020.000                   | EA                  |              | 418293-0016 | SCREW 4-40 UNC-2A X .438 PAN HEAD CRES | QPL- MS1957-16         |
| 0006                    | 00033.000                   | FT                  |              | 230261-0001 | CABLE COAX 75 OHM RG-179B/U            | 418-482-0001 QPL-0017  |
| 0007                    | 00192.000                   | FT                  |              | 966760-2896 | WIRE, TWISTED PAIR #28 WH/BLU IPVC     | UL - 1472 7STR UL ECSA |
| 0008                    | 00052.000                   | FT                  |              | 538347-1999 | WIRE HOOK UP 8-26 AWG 19 STR WHITE     | JUD- HH0109            |
| 0017                    | 00005.000                   | EA                  |              | 235463-0006 | STRAP STD MKR BUNDLE DIA 0 TO 1-3/4 IN | PND-SSM-2              |
| 0019                    | 00008.000                   | FT                  |              | 538347-3999 | WIRE HOOKUP 8-22 AWG 19 STR WHITE      | JUD- HH0115            |
| 0020                    | REF                         | EA                  |              | 217665-9901 | WIRE LIST, PT-TO-PT-CPU TO 4 CRU'S     |                        |
| 0021                    | 00016.000                   | FT                  |              | 415780-0097 | SLEEVE, VINYL .375 DIA BLACK .025 WALL | QPL- MIL-I-7444C       |
| 0022                    | REF                         | EA                  |              | 973585-9901 | UNIT TEST PROCEDURE                    |                        |

|           |      |                        |      |                 |      |                                   |
|-----------|------|------------------------|------|-----------------|------|-----------------------------------|
| DRAFTSMAN | DATE | CKD DRAFTSMAN          | DATE | DESIGN ENGINEER | DATE | TITLE                             |
|           |      |                        |      |                 |      | CABLE ASSY, CPU TO 4 CRU'S (RACK) |
| APPD. MFG | DATE | APPD. PROJECT ENGINEER | DATE | RELEASED        | DATE | PROJECT NO                        |
|           |      |                        |      |                 |      | 8100                              |
|           |      |                        |      |                 |      | LM 216094-0006                    |
|           |      |                        |      |                 |      | REV E                             |

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**TEXAS INSTRUMENTS**  
INCORPORATED

DATE 05/01/75

**LIST OF MATERIAL**

PAGE 1 of

|           |                            |          |
|-----------|----------------------------|----------|
| <b>LM</b> | PART NUMBER<br>216094-0012 | REV<br>E |
|-----------|----------------------------|----------|

| PRINT IT-M NUMBER | QUANTITY PER ASSEMBLY | UNIT OF ISSUE | DWG SIZE | PART NUMBER | DESCRIPTION                            | VENDOR PART NUMBER    |
|-------------------|-----------------------|---------------|----------|-------------|--|-----------------------|
| 0001              | 00005.000             | EA            |          | 231447-0800 | CONNECTOR PC 36 PIN                    | VIK-2VH-36/ICN-5      |
| 0001A             |                       |               |          |             | P1                                     |                       |
| 0002              | 00005.000             | EA            |          | 214080-0001 | CONNECTOR-COVER                        |                       |
| 0003              | 00005.000             | EA            |          | 214081-0001 | CLAMP                                  |                       |
| 0005              | 00020.000             | EA            |          | 418293-0016 | SCREW 4-40 UNC-2A X .438 PAN HEAD CRES | QPL- MS1957-16        |
| 0006              | 00067.000             | FT            |          | 230261-0001 | CABLE COAX 75 OHM RG-179B/U            | 418-482-0001 QPL-0017 |
| 0007              | 00192.000             | FT            |          | 966760-2896 | WIRE, TWISTED PAIR #28 WHT/BLU IPVC    | UL - 1472 7STR UL60SA |
| 0008              | 00052.000             | FT            |          | 538347-1999 | WIRE HOOK UP R-26 AWG 19 STR WHITE     | JUD- HH0109           |
| 0017              | 00005.000             | EA            |          | 235463-0006 | STPAP STD MKR BUNDLE DIA 0 TO 1-3/4 IN | PND-SSM-2             |
| 0019              | 00008.000             | FT            |          | 538347-5999 | WIRE HOOKUP R-18 AWG 19 STR WHITE      | JUD- HH0203           |
| 0020              | REF                   | EA            |          | 217665-9901 | WIRE LIST, PT-TO-PT-CPU TO 4 CRU'S     |                       |
| 0021              | 00028.000             | FT            |          | 415780-0097 | SLEEVE, VINYL .375 DIA BLACK .025 WALL | QPL- MIL-I-7444C      |
| 0022              | REF                   | EA            |          | 973585-9901 | UNIT TEST PROCEDURE                    |                       |

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|           |      |                       |      |                 |      |            |                                   |     |
|-----------|------|-----------------------|------|-----------------|------|------------|-----------------------------------|-----|
| DRAFTSMAN | DATE | CKD DRAFTSMAN         | DATE | DESIGN ENGINEER | DATE | TITLE      | CABLE ASSY, CPU TO 4 CRU'S (PACK) |     |
| APPD MFG  | DATE | APPD PROJECT ENGINEER | DATE | RELEASED        | DATE | PROJECT NO | PART NUMBER                       | REV |
|           |      |                       |      |                 |      |            | <b>LM</b> 216094-0012             | E   |



**TEXAS INSTRUMENTS**  
INCORPORATED

DATE 05/01/75

**LIST OF MATERIAL**

PAGE 1 of

|                       |          |
|-----------------------|----------|
| <b>LM</b> 216094-0020 | REV<br>E |
|-----------------------|----------|

| PRINT ITEM NUMBER | QUANTITY PER ASSEMBLY | UNIT OF ISSUE | DWG. SIZE | PART NUMBER | DESCRIPTION                            | VENDOR PART NUMBER    |
|-------------------|-----------------------|---------------|-----------|-------------|--|-----------------------|
| 0001              | 00005.000             | EA            |           | 231447-0800 | CONNECTOR PC 36 PIN                    | VIK-2VH-36/1CN-5      |
| 0001A             |                       |               |           |             | P1                                     |                       |
| 0002              | 00005.000             | EA            |           | 214080-0001 | CONNECTOR-COVER                        |                       |
| 0003              | 00005.000             | EA            |           | 214081-0001 | CLAMP                                  |                       |
| 0005              | 00020.000             | EA            |           | 418293-0016 | SCREW 4-40 UNC-2A X .438 PAN HEAD CRES | QPL- MS1957-16        |
| 0006              | 00089.000             | FT            |           | 230261-0001 | CABLE COAX 75 OHM RG-179B/U            | 418-482-0001 QPL-0017 |
| 0007              | 00192.000             | FT            |           | 966760-2896 | WIRE, TWISTED PAIR #28 WHT/BLU 1PVC    | UL - 1472 7STR ULECSA |
| 0008              | 00052.000             | FT            |           | 536347-1999 | WIRE HOOK UP B-26 AWG 19 STR WHITE     | JUD- HH0109           |
| 0017              | 00005.000             | EA            |           | 235463-0006 | STRAP STD MKP BUNDLE DIA 0 TO 1-3/4 IN | PND-SSM-2             |
| 0019              | 00008.000             | FT            |           | 538347-5999 | WIRE HOOKUP B-18 AWG 19 STR WHITE      | JUD- HH0203           |
| 0020              | REF                   | EA            |           | 217665-9901 | WIRE LIST, PT-TO-PT-CPU TO 4 CRU'S     |                       |
| 0021              | 00044.000             | FT            |           | 415780-0097 | SLEEVE, VINYL .375 DIA BLACK .025 WALL | QPL- MIL-I-7444C      |
| 0022              | REF                   | EA            |           | 973585-9901 | UNIT TEST PROCEDURE                    |                       |


  

|           |      |                       |      |                 |      |                                   |
|-----------|------|-----------------------|------|-----------------|------|-----------------------------------|
| DRAFTSMAN | DATE | CKD DRAFTSMAN         | DATE | DESIGN ENGINEER | DATE | TITLE                             |
|           |      |                       |      |                 |      | CABLE ASSY, CPU TO 4 CPU'S (RACK) |
| APPD -MFG | DATE | APPD PROJECT ENGINEER | DATE | RELEASED        | DATE | PROJECT NO                        |
|           |      |                       |      |                 |      |                                   |

|                       |          |
|-----------------------|----------|
| <b>LM</b> 216094-0020 | REV<br>E |
|-----------------------|----------|

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| D                    | PROJ NO. | SIZE    | NEXT ASSY DWG NO.   | REVISIONS   |   |              |                    |  |
|----------------------|----------|---------|---|---|---|--------------|--------------------|--|
|                      |          |         |   | LTR   | DESCRIPTION   | DATE         | APPD               |  |
| A                    | 217665   | C       | 216094  | A   | 364431 (B) 6-11-70 R. Parker  | 12 JUN 70    | <i>[Signature]</i> |  |
|                      |          |         |   |   | CHG 1) SH 4 WIRE NO. 1 THRU 16 & SH 7 WIRE NO. 1 THRU 16, TOTAL LENGTH WAS 36". |              |                    |  |
|                      |          |         |   |   | 2) SH WIRE NO. FINISH STATION WAS   |              |                    |  |
|                      |          |         |   |   | 2 15 22   |              |                    |  |
|                      |          |         |   |   | 2 16 16   |              |                    |  |
|                      |          |         |   |   | 2 17 20   |              |                    |  |
|                      |          |         |   |   | 2 18 33   |              |                    |  |
|                      |          |         |   |   | 5 7 20  |              |                    |  |
|                      |          |         |   |   | 5 8 26  |              |                    |  |
|                      |          |         |   |   | 5 17 22   |              |                    |  |
|                      |          |         |   |   | 5 18 16   |              |                    |  |
|                      |          |         |   |   | 5 20 33   |              |                    |  |
|                      |          |         |   |   | 6 2 32  |              |                    |  |
|                      |          |         |   |   | 6 4 30  |              |                    |  |
|                      |          |         |   |   | 6 6 28  |              |                    |  |
|                      |          |         | ADDED SH 4 & 7, WIRE NO. 17.  |   |   |              |                    |  |
|                      |          |         | B 366883 (C) 9-9-70 M. Woods  | 9/9/70  | <i>[Signature]</i>  |              |                    |  |
|                      |          |         | ADDED SHEETS 1A & 1B  |   |   |              |                    |  |
|                      |          |         | C 380858 (D) 7-17-73 D. R. (1) SH. 1A+1B  | 7/17/73   | <i>[Signature]</i>  |              |                    |  |
|                      |          |         | DELETED SHEETS (2) SH. 3+SH. 6 WIRES 11+12 ADDED FINISH STATIONS AND DELETED NOTE "SPARE TIE OFF + AT FAR END (3) SH. 2, 3, 5, 6; CHANGED ALL TWISTED PAIR WIRES FROM #24 TEF TO #22 1PVC BLU+WHT+ITEM 7 (4) SH. 4+7; CHANGED ALL WIRES EXCEPT 13 THRU 16 FROM NO 24 TEF TO NO 26 1PVC WHT ITEM 8 (5) SH 4+7; WIRES 15+16 WAS #18 TEF WHT/BLK ITEM 19 |   |   |              |                    |  |
|                      |          |         | D 394201 (B) D. R. (1) WIRE #11   | 5/15/74   | <i>[Signature]</i>  |              |                    |  |
|                      |          |         | START STA WAS PI-2 (2) RENUMBERED ALL WIRE ON SHEETS 3 THRU 7   |   |   |              |                    |  |
| REV                  | B B      |         |   |   |   |              |                    |  |
| SUPL SHEET           | X X      |         |   |   |   |              |                    |  |
| REV                  |          |         |   |   |   |              |                    |  |
| SHEET                |          |         |   |   |   |              |                    |  |
| REV STATUS OF SHEETS | REV      | D       | D   | D   | D   | D            | D                  |  |
|                      | SHEET    | 1       | 2   | 3   | 4   | 5            | 6                  |  |
| DR                   | 4-10-70  | APPD    | 4-11-70   | TITLE WIRE LIST POINT TO POINT, CPU TO 4 CRU'S (RACK) |   |              |                    |  <b>TEXAS INSTRUMENTS</b><br>INCORPORATED<br>INDUSTRIAL PRODUCTS DIVISION<br>HOUSTON, TEXAS |
| CKD                  | 4-24-70  | APPD    | 5/1/70  | SCALE   | SIZE  | 217665       | REV                |  |
| ENGR                 |          | RELEASE | 5/5/70  | NONE  | A   | SHEET 1 OF 7 | D                  |  |

TI-280-B

47

| WIRE NO. | DESCRIPTION      | TOTAL LENGTH | SIGNATURE       | COMPONENT CONNECTION FOR START STATION | COMPONENT CONNECTION FOR FINISH STATION | REMARKS | N/A LM ITEM NO. |
|----------|------------------|--------------|-----------------|--|---|---------|-----------------|
| 1        | #28 IPVC 8 BLU   | AR           | DATA OUT        | P1 - 36                                | P2 - 19                                 |         | 7               |
| 2        | ↑ 8 WHT          | ↑            | GRD             | ↑ - 35                                 | ↑ - 24                                  |         | 7               |
| 3        | 8 BLU            |              | E RACK SEL I    | - 34                                   | - 36                                    |         | 7               |
| 4        | 8 WHT            |              | GRD             | - 33                                   | - 35                                    |         | 7               |
| 5        | 8 BLU            |              | E BIT 15 A      | - 32                                   | - 10                                    |         | 7               |
| 6        | #28 IPVC 8 WHT   |              | GRD             | - 31                                   | - 13                                    |         | 7               |
| 7        | COAX CONDUCTOR ⊕ |              | E STORE CLOCK 0 | - 30                                   | - 17                                    |         | 6               |
| 8        | SHIELD ⊕         |              | GRD             | - 29                                   | - 21                                    |         | 6               |
| 9        | COAX CONDUCTOR ⊕ |              | E STORE CLOCK 1 | - 28                                   | - 22                                    |         | 6               |
| 10       | SHIELD ⊕         |              | GRD             | - 27                                   | - 23                                    |         | 6               |
| 11       | #28 IPVC 8 BLU   |              | E BIT 14 A      | - 26                                   | - 12                                    |         | 7               |
| 12       | ↑ 8 WHT          |              | GRD             | - 25                                   | - 15                                    |         | 7               |
| 13       | 8 BLU            |              | E BIT 13 A      | - 24                                   | - 14                                    |         | 7               |
| 14       | 8 WHT            |              | GRD             | - 23                                   | - 18                                    |         | 7               |
| 15       | 8 BLU            |              | E BIT 12 A      | - 22                                   | - 16                                    |         | 7               |
| 16       | 8 WHT            |              | GRD             | - 21                                   | - 20                                    |         | 7               |
| 17       | 8 BLU            |              | RACK SEL 0      | - 20                                   | - 33                                    |         | 7               |
| 18       | 8 WHT            |              | GRD             | - 19                                   | - 34                                    |         | 7               |
| 19       | 8 BLU            |              | BI DATA IN      | - 18                                   | - 6                                     |         | 7               |
| 20       | 8 WHT            |              | GRD             | - 17                                   | - 5                                     |         | 7               |
| 21       | 8 BLU            |              | BO DATA IN      | - 16                                   | - 8                                     |         | 7               |
| 22       | 8 WHT            |              | GRD             | - 15                                   | - 9                                     |         | 7               |
| 23       | 8 BLU            | ↓            | E BIT 11 A      | ↓ - 14                                 | ↓ - 31                                  |         | 7               |
| 24       | #28 IPVC 8 WHT   | AR           | GRD             | P1 - 13                                | P2 - 32                                 |         | 7               |

7-13818

TEXAS INSTRUMENTS  
 NATIONAL OPERATING  
 INDUSTRIAL PRODUCTS DIVISION  
 HOUSTON, TEXAS



A  
 SHEET 2  
 217665  
 REV D


2-347





71-13810


| WIRE NO. | DESCRIPTION  | TOTAL LENGTH | SIGNATURE       | COMPONENT CONNECTION FOR START STATION | COMPONENT CONNECTION FOR FINISH STATION | REMARKS | N/A LM ITEM NO. |
|----------|--|--------------|-----------------|--|---|---------|-----------------|
| 37       | #26 IPVC WHT   | 22"          | RACK SEL 1      | P2 - $\bar{R}$                         | P3 - 33                                 |         | 8               |
| 38       | ↑ WHT  | ↑            | <u>BIT 11</u>   | ↑ - $\bar{K}$                          | ↑ - 31                                  |         | 8               |
| 39       | WHT  |              | <u>BIT 10</u>   | - $\bar{H}$                            | - 29                                    |         | 8               |
| 40       | WHT  |              | <u>BIT 9</u>    | - $\bar{E}$                            | - 27                                    |         | 8               |
| 41       | WHT  |              | <u>BIT 8</u>    | - $\bar{C}$                            | - 25                                    |         | 8               |
| 42       | WHT  |              | <u>BIT 12</u>   | - T                                    | - 16                                    |         | 8               |
| 43       | WHT  |              | <u>BIT 13</u>   | - R                                    | - 14                                    |         | 8               |
| 44       | WHT  |              | <u>BIT 14</u>   | - N                                    | - 12                                    |         | 8               |
| 45       | WHT  |              | <u>BIT 15</u>   | - L                                    | - 10                                    |         | 8               |
| 46       | WHT  |              | BI DATA IN      | - F                                    | - 8                                     |         | 8               |
| 47       | ↓ WHT  |              | BI INTERRUPT    | - C                                    | - 7                                     |         | 8               |
| 48       | #26 IPVC WHT   |              | <u>MR</u>       | - A                                    | - 1                                     |         | 8               |
| 49       | COAX CONDUCTOR  |              | E STORECLOCK I  | - Z                                    | - 17                                    |         | 6               |
| 50       | SHIELD          |              |                 | - $\bar{A}$                            | - 21                                    |         | 6               |
| 51       | #18 IPVC WHT   |              | GRD             | Y - 35                                 | Y - 35                                  |         | 19              |
| 52       | #18 IPVC WHT   |              | GRD             | P2 - 34                                | P3 - 34                                 |         | 19              |
| 53       | #26 IPVC WHT   | 22"          | <u>DATA OUT</u> | P2 - W                                 | P3 - 19                                 |         | 8               |
|          |  |              |                 |  |   |         |                 |
|          |  |              |                 |  |   |         |                 |
|          |  |              |                 |  |   |         |                 |
|          |  |              |                 |  |   |         |                 |
|          |  |              |                 |  |   |         |                 |
|          |  |              |                 |  |   |         |                 |
|          |  |              |                 |  |   |         |                 |
|          |  |              |                 |  |   |         |                 |
|          |  |              |                 |  |   |         |                 |
|          |  |              |                 |  |   |         |                 |
|          |  |              |                 |  |   |         |                 |
|          |  |              |                 |  |   |         |                 |
|          |  |              |                 |  |   |         |                 |


 TEXAS INSTRUMENTS  
 INCORPORATED  
 INDUSTRIAL PRODUCTS DIVISION  
 HOUSTON, TEXAS

A  
 SHEET  
 217665  
 4  
 REV  
 D

2-349

| WIRE NO. | DESCRIPTION      | TOTAL LENGTH | SIGNATURE      | COMPONENT CONNECTION FOR START STATION | COMPONENT CONNECTION FOR FINISH STATION | REMARKS | N/A LM ITEM NO. |
|----------|------------------|--------------|----------------|--|---|---------|-----------------|
| 54       | #28 IPVC 8 BLU   | AR           | DATA OUT 1     | P1 - R                                 | P4 - 19                                 |         | 7               |
| 55       | #28 IPVC 8 WHT   | ↑            | GRD            | ↑ - P                                  | ↑ - 24                                  |         | 7               |
| 56       | COAX CONDUCTOR 8 |              | E STORECLOCK 2 | - N                                    | - 17                                    |         | 6               |
| 57       | SHIELD           |              | GRD            | - M                                    | - 21                                    |         | 6               |
| 58       | COAX CONDUCTOR 8 |              | E STORECLOCK 3 | - L                                    | - 22                                    |         | 6               |
| 59       | SHIELD           |              | GRD            | - K                                    | - 23                                    |         | 6               |
| 60       | #28 IPVC 8 BLU   |              | E RACK SEL 2   | - J                                    | - 33                                    |         | 7               |
| 61       | 8 WHT            | ↑            | GRD            | - H                                    | - 34                                    |         | 7               |
| 62       | 8 BLU            |              | E RACK SEL 3   | - F                                    | - 36                                    |         | 7               |
| 63       | 8 WHT            |              | GRD            | - E                                    | - 35                                    |         | 7               |
| 64       | 8 BLU            |              | E BIT 15 B     | - D                                    | - 10                                    |         | 7               |
| 65       | 8 WHT            |              | GRD            | - C                                    | - 13                                    |         | 7               |
| 66       | 8 BLU            |              | E BIT 14 B     | - B                                    | - 12                                    |         | 7               |
| 67       | 8 WHT            |              | GRD            | - A                                    | - 15                                    |         | 7               |
| 68       | 8 BLU            |              | E BIT 13 B     | - Z                                    | - 14                                    |         | 7               |
| 69       | 8 WHT            |              | GRD            | - Y                                    | - 18                                    |         | 7               |
| 70       | 8 BLU            |              | E BIT 12 B     | - X                                    | - 16                                    |         | 7               |
| 71       | 8 WHT            |              | GRD            | - W                                    | - 20                                    |         | 7               |
| 72       | 8 BLU            |              | E BIT 11 B     | - V                                    | - 31                                    |         | 7               |
| 73       | 8 WHT            |              | GRD            | - U                                    | - 32                                    |         | 7               |
| 74       | 8 BLU            |              | B3 DATA IN     | - T                                    | - 6                                     |         | 7               |
| 75       | 8 WHT            |              | GRD            | - S                                    | - 5                                     |         | 7               |
| 76       | 8 BLU            | ↓            | B2 DATA IN     | ↓ - R                                  | ↓ - 8                                   |         | 7               |
| 77       | #28 IPVC 8 WHT   | AR           | GRD            | P1 - P                                 | P4 - 9                                  |         | 7               |


**TEXAS INSTRUMENTS**  
 INCORPORATED  
 INDUSTRIAL PRODUCTS DIVISION  
 HOUSTON, TEXAS

**A**  
 SHEET  
 217665  
 5

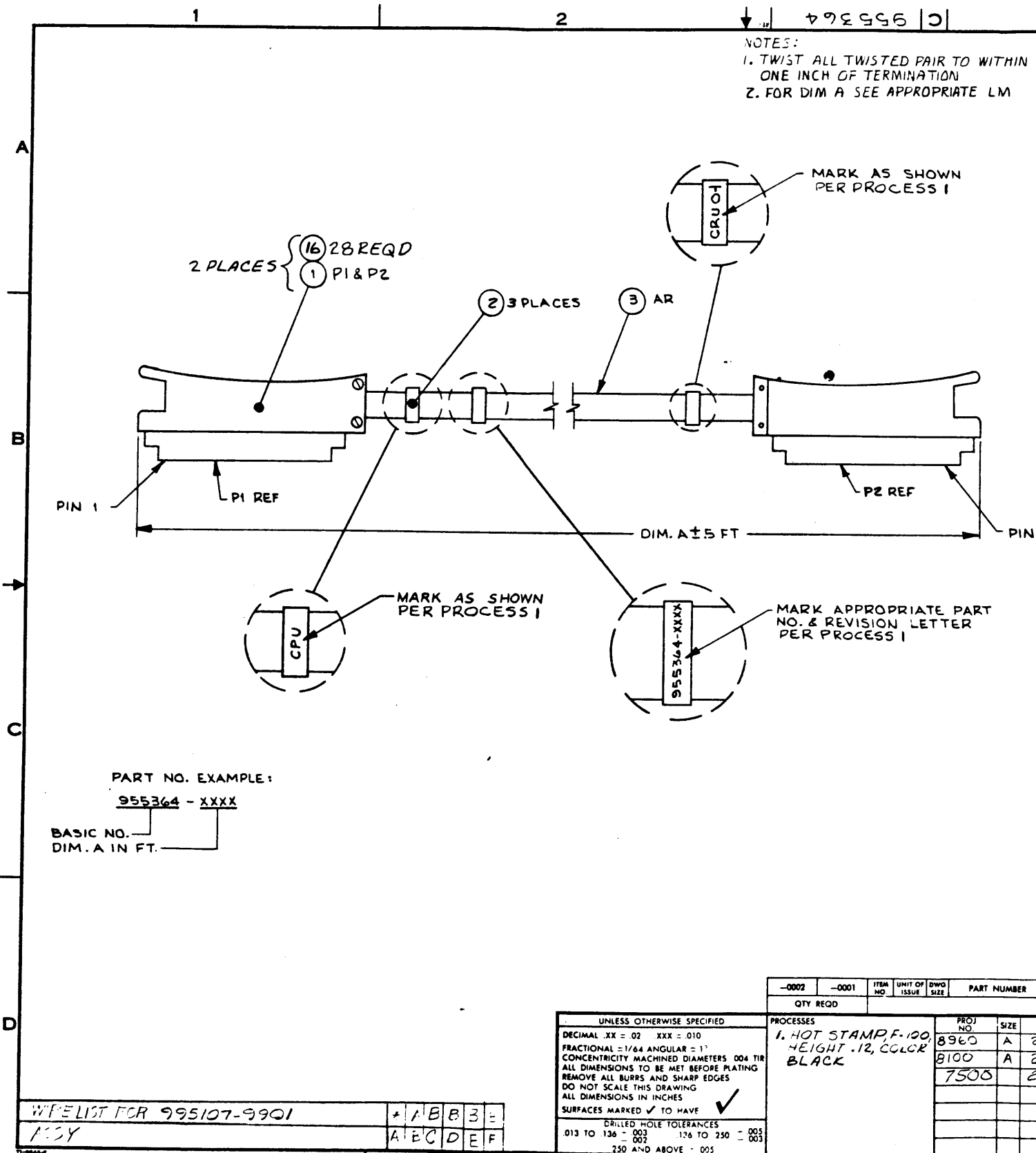
REV D

2-350

71-1318







PART NO. EXAMPLE:  
 955364 - XXXX  
 BASIC NO. \_\_\_\_\_  
 DIM. A IN FT. \_\_\_\_\_

| REVISIONS |   |          |      |
|-----------|---|----------|------|
| LTR       | DESCRIPTION   | DATE     | APPD |
| A         | 371833 (C) R. Parker 11-13-71<br>CHG QTY OF IT. 2 WAS 2.  | 11-13-71 |      |
| B         | 389006 (D) D. P. 7-16-73<br>(1) ADDED REV STATUS BLOCK & PROJ NO. 8100, A 223-7<br>(2) DELETED ITEMS 6 THRU 13 (3) ITEM 4 WAS 236532-1519<br>#24 TEF WHI/BLK (4) ITEM 5 WAS 236532-0399 #24<br>TEF WHI/BLK (5) QTY OF ITEMS #25 WAS 16 & 105 FT<br>FOR -0006; 32 & 105 FT FOR -0012; 43 & 303 FT FOR<br>-0020 (6) ITEM 3 WAS 236320-0000. TUBING 1/2<br>(7) ADDED NOTE 1  | 7-16-73  |      |
| C         | 389006 (D) D. P. 1-23-74<br>(1) 2A-3, CRUOT ADDED PER<br>PROCESS 1 TO LOCAL NOTE<br>(2) NOTE 2 WAS IN ZONE D-1<br>AS NOTE 1 (3) 2A-1 ADDED<br>BALLOON 16 (4) 2 D-1 DELETED<br>-0006, -0012, -0020 & ADDED<br>995107 (5) ADDED NEW<br>PROCESS 1 (5) O.U. L.M.<br>DELETED ITEM 5 ALL 3 DASH<br>NO. 5 & ADDED ITEM 0016<br>(6) L.M. -20 ITEM 4 WAS<br>00308.000, 417682-4099,<br>WHI/BLK 1PVC 7 STRAND 1 COND<br>UL & CSA (7) -12 LM ITEM 4<br>WAS 00184.000, 417682-<br>4999, WHI/BLK 1PVC 7 STR<br>1 COND UL & CSA (5) -06 LM<br>ITEM 4 WAS 0092.000, 417682-<br>4999 WHI/BLK 1PVC 7 STRAND<br>1 COND UL & CSA | 1-23-74  |      |
| D         | 376228 (D) D. P. (1) L.M.,<br>ADDED ITEM 17   | 9/27/74  |      |
| E         | CN407895 (C) R. Parker (1) -0006, -0012<br>& -0020, PIN & DESCRIPTION OF ITEM 3 WAS 415780-0097<br>SLEEVE, NYLON .375 DIA BLACK .025 WALL QPL-MIL-I-7444C<br>(2) UPDATED REVISION LEVEL BLOCK   | 5/21/77  |      |
| F         | CN 420709 (C) R. Parker (1) UPDATED<br>REV LEVEL BLOCK (2) ADDED ITEM 18<br>TO LMS -0006, -0012 & -0020   | 1-27-77  |      |

| PART NO     | DIM A   |
|-------------|---------|
| 955364-0006 | 6 FEET  |
| 955364-0012 | 12 FEET |
| 955364-0020 | 20 FEET |

|                          |   |   |   |   |   |   |
|--------------------------|---|---|---|---|---|---|
| WPE LIST FOR 995107-9901 | A | B | B | 3 | E |   |
| ASSY                     | A | B | C | D | E | F |

| QTY REQD | PROJ NO | SIZE   | NEXT ASSY DWG NO | DESCRIPTION | VENDOR PART NUMBER |
|----------|---------|--------|------------------|-------------|--------------------|
| 8900     | A       | 214101 |                  | CRU         |                    |
| 8100     | A       | 228700 |                  | CRU         |                    |
| 7500     |         | 228700 |                  | CRU         |                    |

UNLESS OTHERWISE SPECIFIED  
 DECIMAL .XX = .02 XXX = .010  
 FRACTIONAL 1/64 ANGULAR = 1°  
 CONCENTRICITY MACHINED DIAMETERS .004 TIR  
 ALL DIMENSIONS TO BE MET BEFORE PLATING  
 REMOVE ALL BURRS AND SHARP EDGES  
 DO NOT SCALE THIS DRAWING  
 ALL DIMENSIONS IN INCHES  
 SURFACES MARKED ✓ TO HAVE ✓

PROCESSES  
 1. HOT STAMP F-100  
 HEIGHT .12, COLOR  
 BLACK

DRILLED HOLE TOLERANCES  
 .013 TO .136 - .003  
 .136 TO .250 - .003  
 .250 AND ABOVE - .005

TEXAS INSTRUMENTS  
 INCORPORATED  
 INDUSTRIAL PRODUCTS DIVISION  
 HOUSTON, TEXAS

CABLE ASSY,  
 CPU TO CRU-32 SELECT  
 UNIT CRU  
 SYSTEM COMPUTER  
 SCALE 71 C 955364  
 LM



**TEXAS INSTRUMENTS**  
INCORPORATED

DATE 01/12/77

**LIST OF MATERIAL**

PAGE 1 of

**LM** PART NUMBER 0955364-0006 REV F

| PRINT ITEM NUMBER | QUANTITY PER ASSEMBLY | UNIT OF ISSUE | DWG SIZE | PART NUMBER  | DESCRIPTION                             | VENDOR PART NUMBER |
|-------------------|-----------------------|---------------|----------|--------------|---|--------------------|
| 0001              | 00002.000             | EA            |          | 0217081-0001 | CONNECTOR KIT,PWB,PLASTIC HOOD          |                    |
| 0001A             |                       |               |          |              | P1,P2                                   |                    |
| 0002              | 00003.000             | EA            |          | 0418201-0060 | STRAP,MARKER,ADJUSTABLE,PLASTIC         | JPL - MS3368-6-9   |
| 0003              | 00007.000             | FT            |          | 0972436-0017 | INSULATION SLEEVING 3/8 X .375 PVC      | MKI - HT-105C-1/8  |
| 0004              | 00092.000             | FT            |          | 0966760-2692 | WIRE,TWISTED PAIR #26 WHT/RED IPVC      | UL - 1472 7STR UL  |
| 0014              | 00007.000             | FT            |          | 0418482-0001 | CABLE,COAX,75 OHM                       | JPL - RG-179P/U    |
| 0015              | REF                   | EA            |          | 0955107-6901 | WIRE LIST,PT-TO-PT-CPU TO CRU,32 SELECT |                    |
| 0016              | 00056.000             | EA            |          | 0973053-0002 | SLEEVE,SOLDER,TAB TERMINAL              | ROH --C-704-02     |
| 0017              | REF                   | EA            |          | 0973585-6901 | UNIT TEST PROCEDURE                     |                    |
| 0018              | 00002.000             | EA            |          | 0906159-0001 | SOLDER SLEEVE,COAX TERMINATION          |                    |

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|           |      |                       |         |                 |      |  |
|-----------|------|-----------------------|---------|-----------------|------|--|
| DRAFTSMAN | DATE | CKD DRAFTSMAN         | DATE    | DESIGN ENGINEER | DATE | TITLE                                    |
|           |      | <i>[Signature]</i>    | 1-13-77 |                 |      | CABLE ASSY,CPU TO CRU-32 SELECT,6 FT     |
| APPD MFG  | DATE | APPD PROJECT ENGINEER | DATE    | RELEASED        | DATE | PROJECT NO                               |
|           |      |                       |         |                 |      | 8100                                     |
|           |      |                       |         |                 |      | <b>LM</b> PART NUMBER 0955364-0006 REV F |



| PRINT ITEM NUMBER | QUANTITY PER ASSEMBLY | UNIT OF ISSUE | DWG. SIZE | PART NUMBER  | DESCRIPTION                               | VENDOR PART NUMBER |
|-------------------|-----------------------|---------------|-----------|--------------|---|--------------------|
| 0001              | 0.0002.000            | EA            |           | 0217081-0001 | CONNECTOR KIT, PWB, PLASTIC HOOD          |                    |
| 0001A             |                       |               |           |              | P1, P2                                    |                    |
| 0002              | 00003.000             | EA            |           | 0418201-0060 | STRAP, MARKER, ADJUSTABLE, PLASTIC        | QPL - MS3368-6-9   |
| 0003              | 00007.000             | FT            |           | 0972436-0017 | INSULATION SLEEVING 3/8 X .375 PVC        | MKL - HT-105C-1/8  |
| 0004              | 00175.000             | FT            |           | 0966760-2692 | WIRE, TWISTED PAIR #26 WHT/RED IPVC       | UL - 1472 75TP III |
| 0014              | 00016.000             | FT            |           | 0418482-0001 | CABLE, COAX, 75 OHM                       | QPL - RG-179B/U    |
| 0015              | FFF                   | EA            |           | 0955107-9901 | WIRE LIST, PT-TO-PT-CPU TO CRU, 32 SELECT |                    |
| 0016              | 00056.000             | EA            |           | 0972053-0002 | SLEEVE, SOLDER, TAB TERMINAL              | RCH --C-704-02     |
| 0017              | REF                   | EA            |           | 0973585-9901 | UNIT TEST PROCEDURE                       |                    |
| 0018              | 00002.000             | EA            |           | 0906159-0001 | SOLDER SLEEVE, COAX TERMINATION           |                    |

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|           |      |                       |      |                 |      |   |  |                       |     |
|-----------|------|-----------------------|------|-----------------|------|---|--|-----------------------|-----|
| DRAFTSMAN | DATE | CKD DRAFTSMAN         | DATE | DESIGN ENGINEER | DATE | TITLE                                   |  |                       |     |
|           |      |                       |      |                 |      | CABLE ASSY, CPU TO CRU-32 SELECT, 12 FT |  |                       |     |
| APPD MFG  | DATE | APPD PROJECT ENGINEER | DATE | RELEASED        | DATE | PROJECT NO.                             |  | PART NUMBER           | REV |
|           |      |                       |      |                 |      |   |  | <b>LM0955364-0012</b> | F   |





**TEXAS INSTRUMENTS**  
INCORPORATED

DATE 01/13/77

**LIST OF MATERIAL**

PAGE 1 of


**LM** PART NUMBER 0955364-0020 REV F

| PRINT ITEM NUMBER | QUANTITY PER ASSEMBLY | UNIT OF ISSUE         | DWG SIZE | PART NUMBER     | DESCRIPTION                             | VENDOR PART NUMBER                       |
|-------------------|-----------------------|-----------------------|----------|-----------------|---|--|
| 0001              | 00002.000             | EA                    |          | 0217081-0001    | CONNECTOR KIT,PWB,PLASTIC HOOD          |  |
| 0001A             |                       |                       |          |                 | F1,P2                                   |  |
| 0002              | 00003.000             | EA                    |          | 0418201-0060    | STRAP,MARKER,ADJUSTABLE,PLASTIC         | QPL - MS3368-6-9                         |
| 0003              | 00007.000             | FT                    |          | 0972436-0017    | INSULATION SLEEVING 3/8 X .375 PVC      | MKL - HT-105C-1/8                        |
| 0004              | 00027.000             | FT                    |          | 0966760-2692    | WIRE,TWISTED PAIR #26 WHT/RED IPVC      | UL - 1472 7STR UL                        |
| 0014              | 00020.000             | FT                    |          | 0418482-0001    | CABLE,COAX,75 OHM                       | QPL - FG-179B/J                          |
| 0015              | REF                   | EA                    |          | 0955107-9901    | WIRE LIST,PT-TO-PT-CPU TO CRU,32 SELECT |  |
| 0016              | 00056.000             | EA                    |          | 0972053-0002    | SLEEVE,SOLDER,TAB TERMINAL              | RCH --C-704-02                           |
| 0017              | REF                   | EA                    |          | 0973585-9901    | UNIT TEST PROCEDURE                     |  |
| 0018              | 00002.000             | EA                    |          | 0906159-0001    | SOLDER SLEEVE,COAX TERMINATION          |  |
| RAFTSMAN          | DATE                  | CKD DRAFTSMAN         | DATE     | DESIGN ENGINEER | DATE                                    | TITLE                                    |
| PPD MFG           | DATE                  | APPD PROJECT ENGINEER | DATE     | RELEASED        | DATE                                    | PROJECT NO                               |
|                   |                       |                       |          |                 |   | <b>LM</b> PART NUMBER 0955364-0020 REV F |

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| WIRE NO. | DESCRIPTION    | TOTAL LENGTH | SIGNATURE    | COMPONENT CONNECTION FOR START STATION | COMPONENT CONNECTION FOR FINISH STATION | REMARKS | N/A LM ITEM NO. |
|----------|----------------|--------------|--------------|--|---|---------|-----------------|
| 1        | #26 IPVC WHT   | AR           | DATA OUT -   | P1 - 36                                | P2 - 19                                 | ○       | 4               |
| 2        | RED            |              | GRD          | 35                                     | 24                                      | ○       | 4               |
| 3        | WHT            |              | E BIT 15 A   | 32                                     | 10                                      | ○       | 4               |
| 4        | #26 IPVC RED   |              | GRD          | 31                                     | 2                                       | ○       | 4               |
| 5        | COAX CONDUCTOR |              | E STORECLOCK | 30                                     | 17                                      | ○       | 14              |
| 6        | SHIELD         |              | GRD          | 29                                     | 21                                      | ○       | 14              |
| 7        | #26 IPVC WHT   |              | E BIT 14 A   | 26                                     | 12                                      | ○       | 4               |
| 8        | RED            |              | GRD          | 25                                     | 15                                      | ○       | 4               |
| 9        | WHT            |              | E BIT 13 A   | 24                                     | 14                                      | ○       | 4               |
| 10       | RED            |              | GRD          | 23                                     | 18                                      | ○       | 4               |
| 11       | WHT            |              | E BIT 12 A   | 22                                     | 16                                      | ○       | 4               |
| 12       | RED            |              | GRD          | 21                                     | 20                                      | ○       | 4               |
| 13       | WHT            |              | RACK SEL 0   | 20                                     | 33                                      | ○       | 4               |
| 14       | RED            |              | GRD          | 19                                     | 34                                      | ○       | 4               |
| 15       | WHT            |              | BO DATA IN - | 16                                     | 8                                       | ○       | 4               |
| 16       | RED            |              | GRD          | 15                                     | 9                                       | ○       | 4               |
| 17       | WHT            |              | E BIT 11 A   | 14                                     | 31                                      | ○       | 4               |
| 18       | RED            |              | GRD          | 13                                     | 32                                      | ○       | 4               |
| 19       | WHT            |              | E BIT 10 A   | 12                                     | 29                                      | ○       | 4               |
| 20       | RED            |              | GRD          | 11                                     | 30                                      | ○       | 4               |
| 21       | WHT            |              | E BIT 9 A    | 10                                     | 27                                      | ○       | 4               |
| 22       | RED            |              | GRD          | 9                                      | 28                                      | ○       | 4               |
| 23       | WHT            |              | E BIT 8 A    | 8                                      | 25                                      | ○       | 4               |
| 24       | #26 IPVC RED   | AR           | GRD          | P1 - 7                                 | P2 - 26                                 | ○       | 4               |


**TEXAS INSTRUMENTS**  
 INCORPORATED  
 INDUSTRIAL PRODUCTS DIVISION  
 HOUSTON, TEXAS

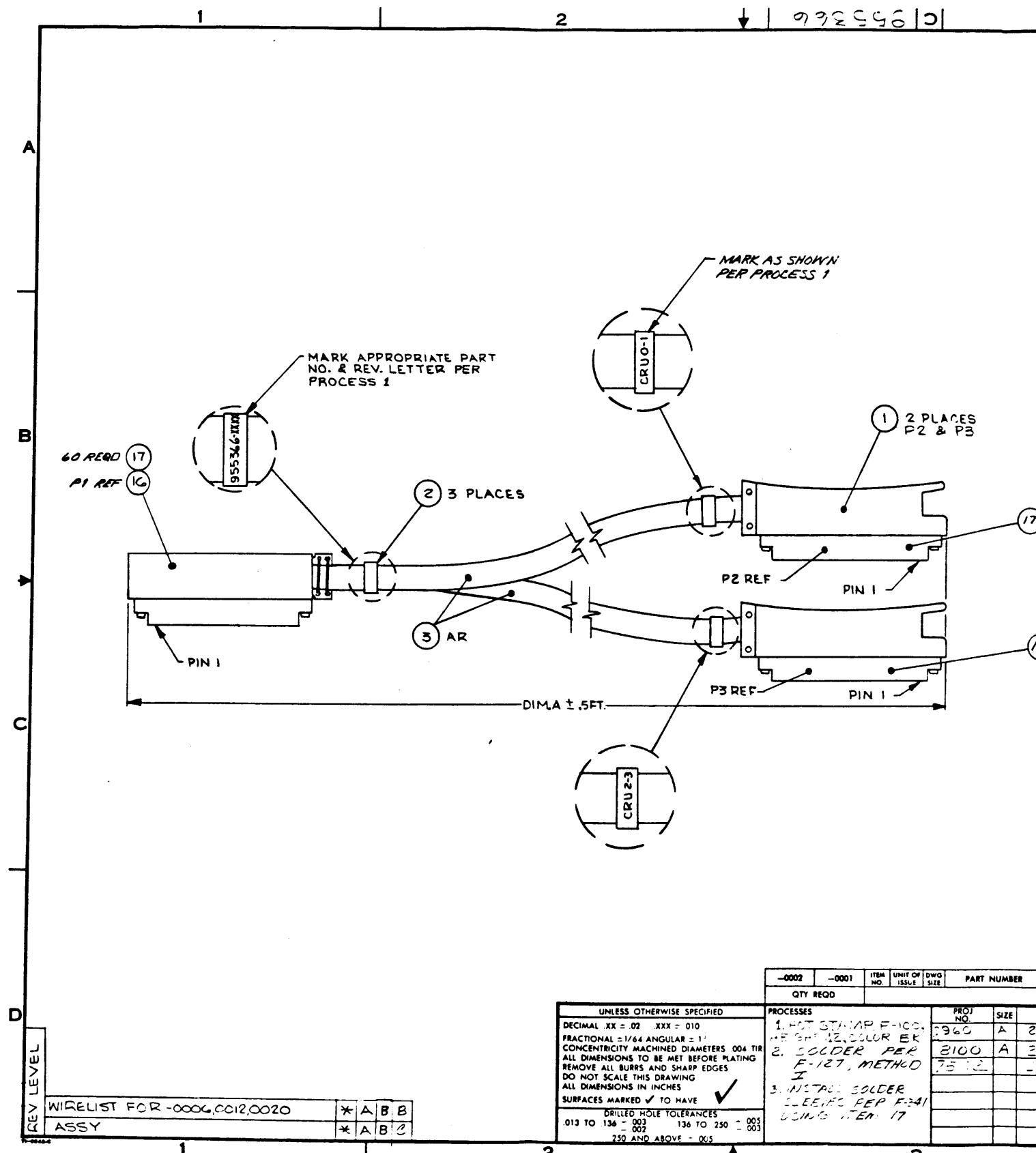
**A**

SHEET  
**955107**  
 2

REV **8**

2-359





| REVISIONS   |  |          |      |
|---|--|----------|------|
| LTR   | DESCRIPTION                                | DATE     | APPD |
| A   | 380356 (D) ... 7/20/73                     |          |      |
| ZONE B-1 MARKING DETAIL WAS 955366-XXXX<br>2) ITEM 5 WAS PIN 226522-0999; QTY WAS:<br>-0006, 123; -0012, 350; -0020, 123; 3) ITEM 1<br>WAS QTY 3 4) REPRAN P1 SHOWING ITEM 16<br>DELETED: 1) ITEMS 5 THRU 14<br>ADDED: REV LEVEL BLOCK ZONE D-1 2) P23<br>NO SICD 3 N/A 3 ITEM 16 & 16A 4) NOTE 2 |  |          |      |
| CN 389103 (D) R/W 1) ZONE B-1<br>FIELD NOTE WAS MARK<br>APPROPRIATE PART NO & REV<br>LETTER (2) L/M & F/D ADDED<br>ITEM 17 (3) PROCESS 1 WAS F-100<br>(4) ITEM 5 WAS 534452-0053<br>(5) ZONE B223 ADDED FIELD<br>NOTE (6) REV LEVEL BLOCK-UPDATE<br>(7) ADDED PROCESS 2 & 3                       |  |          |      |
| C   | 376228 (D) P. Rev 1) L/M,<br>ADDED ITEM 18 | 10/27/74 |      |

PART NO. EXAMPLE:  
955366-XXXX

BASIC NO. \_\_\_\_\_  
DIM. A IN FT. \_\_\_\_\_

NOTES:  
1. FOR DIM. A SEE APPROPRIATE LM.  
2. WIRES TO BE TWISTED TO WITHIN  
ONE INCH OF TERMINATION

|           |                              |         |
|-----------|------------------------------|---------|
| REV LEVEL | WIRELIST FOR -0006,0012,0020 | * A B B |
|           | ASSY                         | * A B C |

| UNLESS OTHERWISE SPECIFIED   |          | PROCESSES   |      | LIST OF MATERIALS  |      | VENDOR PART NUMBER  |  |
|--|----------|---|------|--|------|---|--|
| QTY REQD   | ITEM NO. | UNIT OF ISSUE   | SIZE | PROJ NO.   | SIZE | DESCRIPTION   |  |
|  |          |   |      | 2960   | A    | 21415   |  |
|  |          |   |      | 2100   | A    | 226700  |  |
|  |          |   |      | 2512   |      | 251200  |  |
| DECIMAL XX = 02 XXX = 010<br>FRACTIONAL = 1/64 ANGULAR = 1°<br>CONCENTRICITY MACHINED DIAMETERS .004 TIR<br>ALL DIMENSIONS TO BE MET BEFORE PLATING<br>REMOVE ALL BURRS AND SHARP EDGES<br>DO NOT SCALE THIS DRAWING<br>ALL DIMENSIONS IN INCHES<br>SURFACES MARKED ✓ TO HAVE<br>DRILLED HOLE TOLERANCES<br>.013 TO .136 - .003 .136 TO .250 - .005<br>.250 AND ABOVE - .005 |          | 1. HOT STAMP F-HOOD<br>HEIGHT 12.00 COLOR BK<br>2. SOLDER PER<br>F-127, METHOD<br>I<br>3. INSTAL SOLDER<br>SLEEVES PER F-341<br>USING ITEM 17 |      | CRAFTSMAN<br>10/27/74<br>DESIGN ENGINEER<br>APPRO-ENGINEER<br>APPRO-MFG<br>RELEASE |      | TEXAS INSTRUMENTS<br>INCORPORATED<br>INDUSTRIAL PRODUCTS DIVISION<br>HOUSTON, TEXAS<br>CABLE ASSY,<br>CPU TO 2 CRU'S-32 SELECT<br>WITH CRU<br>SYSTEM COMPUTER<br>SCALE C 955366 |  |



**TEXAS INSTRUMENTS**  
INCORPORATED

DATE 05/01/75

**LIST OF MATERIAL**

PAGE 1 of

LM PART NUMBER REV  
955366-0006 C

| PRINT ITEM NUMBER | QUANTITY PER ASSEMBLY | UNIT OF ISSUE | DWG SIZE              | PART NUMBER | DESCRIPTION                               | VENDOR PART NUMBER    |                    |
|-------------------|-----------------------|---------------|-----------------------|-------------|---|-----------------------|--------------------|
| 0001              | 00002.000             | EA            |                       | 217081-0001 | CONNECTOR KIT,PWB,PLASTIC HOOD            |                       |                    |
| 0001A             |                       |               |                       |             | P2 P3                                     |                       |                    |
| 0002              | 00003.000             | EA            |                       | 235463-0006 | STRAP STD MKR BUNDLE DIA 0 TO 1-3/4 IN    | PND-SSM-2             |                    |
| 0003              | 00013.000             | FT            |                       | 415780-0099 | SLEEVE,VINYL .500 DIA BLACK .025 WALL     | OPL- MIL-I-7444C      |                    |
| 0004              | 00013.000             | FT            |                       | 230261-0001 | CABLE COAX 75 OHM RG-179B/U               | 418-482-0001 OPL-0017 |                    |
| 0005              | 00168.000             | FT            |                       | 966760-2896 | WIRE,TWISTED PAIR #28 WHT/BLU IPVC        | UL - 1472 7STR ULCSA  |                    |
| 0015              | REF                   | EA            |                       | 955365-9901 | WIRE LIST,PT-TO-PT-CP 1/2 CPU'S 32 SELECT |                       |                    |
| 0016              | 00001.000             | EA            |                       | 217081-0002 | CONNECTOR KIT,PWB,METAL HOOD              |                       |                    |
| 0016A             |                       |               |                       |             | P1  |                       |                    |
| 0017              | 00120.000             | EA            |                       | 972053-0002 | SLEEVE,SOLDER,TAB TERMINAL                | RCH--C-704-02         |                    |
| 0018              | REF                   | EA            |                       | 973585-9901 | UNIT TEST PROCEDURE                       |                       |                    |
| DRAFTSMAN         |                       | DATE          | CKD DRAFTSMAN         | DATE        | DESIGN ENGINEER                           | DATE                  | TITLE              |
| PPD MFG           |                       | DATE          | APPD PROJECT ENGINEER | DATE        | RELEASED                                  | DATE                  | PROJECT NO         |
|                   |                       |               |                       |             |   |                       | LM PART NUMBER REV |
|                   |                       |               |                       |             |   |                       | 955366-0006 C      |

CABLE ASSY,CPU TO 2CPU'S 32 SELECT-6 FT  
8100

2-363



**TEXAS INSTRUMENTS**  
INCORPORATED

**LIST OF MATERIAL**

DATE 05/01/75

PAGE 1 of

|           |             |     |
|-----------|-------------|-----|
| <b>LM</b> | PART NUMBER | REV |
|           | 955366-0012 | C   |

| PRINT ITEM NUMBER | QUANTITY PER ASSEMBLY | UNIT OF ISSUE | DWG SIZE | PART NUMBER | DESCRIPTION                              | VENDOR PART NUMBER    |
|-------------------|-----------------------|---------------|----------|-------------|--|-----------------------|
| 0001              | 00002.000             | EA            |          | 217081-0001 | CONNECTOR KIT,PWB,PLASTIC HOOD           |                       |
| 0001A             |                       |               |          |             | P2 P3                                    |                       |
| 0002              | 00003.000             | EA            |          | 235463-0006 | STRAP STD MKR BUNDLE DIA 0 TO 1-3/4 IN   | PND-SSM-2             |
| 0003              | 00025.000             | FT            |          | 415780-0099 | SLEEVE,VINYL .500 DIA BLACK .025 WALL    | QPL- MIL-I-7444C      |
| 0004              | 00075.000             | FT            |          | 230261-0001 | CABLE COAX 75 OHM RG-179B/U              | 418-482-0001 QPL-0017 |
| 0005              | 00168.000             | FT            |          | 966760-2896 | WIRE,TWISTED PAIR #28 WHT/BLU IPVC       | UL - 1472 7STR UL6CSA |
| 0015              | REF                   | EA            |          | 955365-9901 | WIRE LIST,PT-TO-PT-CPU/2 CPU'S 32 SELECT |                       |
| 0016              | 00001.000             | EA            |          | 217081-0002 | CONNECTOR KIT,PWB,METAL HOOD             |                       |
| 0016A             |                       |               |          |             | P1                                       |                       |
| 0017              | 00120.000             | EA            |          | 972053-0002 | SLEEVE,SOLDER,TAB TERMINAL               | RCH--C-704-02         |
| 0018              | REF                   | EA            |          | 973585-9901 | UNIT TEST PROCEDURE                      |                       |

2-364

|           |      |                       |      |                 |      |  |
|-----------|------|-----------------------|------|-----------------|------|--|
| DRAFTSMAN | DATE | CKD DRAFTSMAN         | DATE | DESIGN ENGINEER | DATE | TITLE                                    |
|           |      |                       |      |                 |      | CABLE ASSY,CPU TO 2CPU'S 32 SELECT-12 FT |
| VPD MFG   | DATE | APPD PROJECT ENGINEER | DATE | RELEASED        | DATE | PROJECT NO                               |
|           |      |                       |      |                 |      |  |
|           |      |                       |      |                 |      | <b>LM</b> 955366-0012                    |
|           |      |                       |      |                 |      | REV C                                    |



**TEXAS INSTRUMENTS**  
INCORPORATED

DATE 05/01/75 **LIST OF MATERIAL**

PAGE 1 of

|           |                            |          |
|-----------|----------------------------|----------|
| <b>LM</b> | PART NUMBER<br>955366-C020 | REV<br>C |
|-----------|----------------------------|----------|

| PRINT ITEM NUMBER | QUANTITY PER ASSEMBLY | UNIT OF ISSUE | DWG SIZE | PART NUMBER | DESCRIPTION                              | VENDOR PART NUMBER    |
|-------------------|-----------------------|---------------|----------|-------------|--|-----------------------|
| 0001              | 00002.000             | EA            |          | 217081-0001 | CONNECTOR KIT,PWR,PLASTIC HOOD           |                       |
| 0001A             |                       |               |          |             | P2 P3                                    |                       |
| 0002              | 00003.000             | EA            |          | 235463-0006 | STRAP STD MKR BUNDLE DIA 0 TO 1-3/4 IN   | PND-SSM-2             |
| 0003              | 00041.000             | FT            |          | 415780-0099 | SLEEVE,VINYL .500 DIA BLACK .025 WALL    | QPL- MIL-I-7444C      |
| 0004              | 00041.000             | FT            |          | 230261-0001 | CABLE COAX 75 OHM RG-179B/U              | 418-482-0001 QPL-0017 |
| 0005              | 00168.000             | FT            |          | 966760-2896 | WIRE,TWISTED PAIR #28 WHT/BLU IPVC       | UL - 1472 7STR UL6CSA |
| 0015              | REF                   | EA            |          | 955365-9901 | WIRE LIST,PT-TO-PT-CPU/2 CRU'S 32 SELECT |                       |
| 0016              | 00001.000             | EA            |          | 217081-0002 | CONNECTOR KIT,PWB,METAL HOOD             |                       |
| 0016A             |                       |               |          |             | P1                                       |                       |
| 0017              | 00120.000             | EA            |          | 972053-0002 | SLEEVE,SOLDER,TAB TERMINAL               | PCH--C-704-02         |
| 0018              | REF                   | EA            |          | 973585-9901 | UNIT TEST PROCEDURE                      |                       |

|          |      |                       |      |                 |      |  |
|----------|------|-----------------------|------|-----------------|------|--|
| RAFTSMAN | DATE | CKD DRAFTSMAN         | DATE | DESIGN ENGINEER | DATE | TITLE                                    |
|          |      |                       |      |                 |      | CABLE ASSY,CPU TO 2CRU'S 32 SELECT-20 FT |
| APPD MFG | DATE | APPD PROJECT ENGINEER | DATE | RELEASED        | DATE | PROJECT NO                               |
|          |      |                       |      |                 |      |  |

|           |                            |          |
|-----------|----------------------------|----------|
| <b>LM</b> | PART NUMBER<br>955366-C020 | REV<br>C |
|-----------|----------------------------|----------|


2-365





T-1-318

| WIRE NO. | DESCRIPTION  | TOTAL LENGTH | SIGNATURE     | COMPONENT CONNECTION FOR START STATION | COMPONENT CONNECTION FOR FINISH STATION | REMARKS | N/A LM ITEM NO. |
|----------|--------------|--------------|---------------|--|---|---------|-----------------|
| 1        | #28 IPVC WHT | AR           | E DATA OUT-   | P1 - 36                                | P2 - 19                                 | ○       | 5               |
| 2        | BL           |              | GRD           | 35                                     | 24                                      | ○       | 5               |
| 3        | WHT          |              | E BIT 15 A    | 32                                     | 10                                      | ○       | 5               |
| 4        | #28 IPVC BL  |              | GRD           | 31                                     | 13                                      | ○       | 5               |
| 5        | COAX         |              | E STORE CLOCK | 30                                     | 17                                      | ○       | 5               |
| 6        | SHIELD       |              | GRD           | 29                                     | 21                                      | ○       | 4               |
| 7        | #28 IPVC WHT |              | E BIT 14 A    | 26                                     | 12                                      | ○       | 4               |
| 8        | BL           |              | GRD           | 25                                     | 15                                      | ○       | 5               |
| 9        | WHT          |              | E BIT 13 A    | 24                                     | 14                                      | ○       |                 |
| 10       | BL           |              | GRD           | 23                                     | 18                                      | ○       |                 |
| 11       | WHT          |              | E BIT 12 A    | 22                                     | 16                                      | ○       |                 |
| 12       | BL           |              | GRD           | 21                                     | 20                                      | ○       |                 |
| 13       | WHT          |              | E RACK SEL 0  | 20                                     | 33                                      | ○       |                 |
| 14       | BL           |              | GRD           | 19                                     | 34                                      | ○       |                 |
| 15       | WHT          |              | BO DATA IN-   | 16                                     | 8                                       | ○       |                 |
| 16       | BL           |              | GRD           | 15                                     | 9                                       | ○       |                 |
| 17       | WHT          |              | E BIT 11 A    | 14                                     | 31                                      | ○       |                 |
| 18       | BL           |              | GRD           | 13                                     | 32                                      | ○       |                 |
| 19       | WHT          |              | E BIT 10 A    | 12                                     | 29                                      | ○       |                 |
| 20       | BL           |              | GRD           | 11                                     | 30                                      | ○       |                 |
| 21       | WHT          |              | E BIT 9 A     | 10                                     | 27                                      | ○       |                 |
| 22       | BL           |              | GRD           | 9                                      | 28                                      | ○       |                 |
| 23       | WHT          |              | E BIT 8 A     | 8                                      | 25                                      | ○       |                 |
| 24       | #28 IPVC BL  | AR           | GRD           | P1 - 7                                 | P2 - 26                                 | ○       | 5               |


**TEXAS INSTRUMENTS**  
 INCORPORATED  
 INDUSTRIAL PRODUCTS DIVISION  
 HOUSTON, TEXAS


**A**

SHEET  
 955365  
 2

REV

2-367

| WIRE NO. | DESCRIPTION  | TOTAL LENGTH | SIGNATURE       | COMPONENT CONNECTION FOR START STATION | COMPONENT CONNECTION FOR FINISH STATION | REMARKS | N/A LM ITEM NO. |
|----------|--------------|--------------|-----------------|--|---|---------|-----------------|
| 25       | #28 IPVC WHT | AR           | BO INTERRUPT    | PI- 4                                  | P2- 7                                   | ○       | 5               |
| 26       | ↑ BL         | ↑            | GRD             | ↑ 3                                    | ↑ 11                                    | ○       | ↑               |
| 27       | WHT          |              | MR-             | 2                                      | - 1                                     | ○       |                 |
| 28       | BL           |              | GRD             | 1                                      | - 2                                     | ○       |                 |
| 29       | WHT          |              | E RACK SEL 1    | 34                                     | ↓ 36                                    | ○       |                 |
| 30       | BL           |              | GRD             | 33                                     | P2- 35                                  | ○       |                 |
| 31       | ↓ WHT        |              | E DATA OUT 1-   | R                                      | P3- 19                                  | ○       | ↓               |
| 32       | #28 IPVC BL  |              | GRD             | P                                      | ↑ 24                                    | ○       | 5               |
| 33       | COAX         |              | E STORE CLOCK 1 | 28                                     | 17                                      | ○       | 4               |
| 34       | SHIELD       |              | GRD             | 27                                     | 21                                      | ○       | 4               |
| 35       | #28 IPVC WHT |              | E RACK SEL 2    | J                                      | 33                                      | ○       | 5               |
| 36       | ↑ BL         |              | GRD             | H                                      | 34                                      | ○       | ↑               |
| 37       | WHT          |              | E BIT 15B       | D                                      | 10                                      | ○       |                 |
| 38       | BL           |              | GRD             | C                                      | 13                                      | ○       |                 |
| 39       | WHT          |              | E BIT 14B       | B                                      | 12                                      | ○       |                 |
| 40       | BL           |              | GRD             | A                                      | 15                                      | ○       |                 |
| 41       | WHT          |              | E BIT 13B       | Z                                      | 14                                      | ○       |                 |
| 42       | BL           |              | GRD             | Y                                      | 18                                      | ○       |                 |
| 43       | WHT          |              | E BIT 12B       | X                                      | 16                                      | ○       |                 |
| 44       | BL           |              | GRD             | W                                      | 20                                      | ○       |                 |
| 45       | WHT          |              | E BIT 11B       | V                                      | 31                                      | ○       |                 |
| 46       | BL           |              | GRD             | U                                      | 32                                      | ○       |                 |
| 47       | ↓ WHT        | ↓            | B1 DATAIN       | ↓ 18                                   | ↓ 8                                     | ○       | ↓               |
| 48       | #28 IPVC BL  | AR           | GRD             | PI- 17                                 | P3- 9                                   | ○       | 5               |


**TEXAS INSTRUMENTS**  
 INCORPORATED  
 INDUSTRIAL PRODUCTS DIVISION  
 HOUSTON, TEXAS

**A**

SHEET

955365


3

REV

2-368

11-13218

| WIRE NO. | DESCRIPTION  | TOTAL LENGTH | SIGNATURE    | COMPONENT CONNECTION FOR START STATION | COMPONENT CONNECTION FOR FINISH STATION | REMARKS | N/A LM ITEM NO. |
|----------|--------------|--------------|--------------|--|---|---------|-----------------|
| 49       | #28 IPVC WHT | AR           | E BIT 10B    | PI- N                                  | P3- 29                                  | ○       | 5               |
| 50       | BL           |              | GRD          | M                                      | 30                                      | ○       |                 |
| 51       | WHT          |              | E BIT 9B     | L                                      | 27                                      | ○       |                 |
| 52       | BL           |              | GRD          | K                                      | 28                                      | ○       |                 |
| 53       | WHT          |              | E BIT 8B     | J                                      | 25                                      | ○       |                 |
| 54       | BL           |              | GRD          | H                                      | 26                                      | ○       |                 |
| 55       | WHT          |              | BI INTERRUPT | 6                                      | 7                                       | ○       |                 |
| 56       | BL           |              | GRD          | 5                                      | 11                                      | ○       |                 |
| 57       | WHT          |              | MRI-         | B                                      | - 1                                     | ○       |                 |
| 58       | BL           |              | GRD          | A                                      | - 2                                     | ○       |                 |
| 59       | WHT          |              | E RACK SEL3  | F                                      | 36                                      | ○       |                 |
| 60       | #28 IPVC BL  | AR           | GRD          | PI- E                                  | P3- 35                                  | ○       | 5               |
| 61       |              |              |              |  |   |         |                 |
| 62       |              |              |              |  |   |         |                 |
| 63       |              |              |              |  |   |         |                 |
| 64       |              |              |              |  |   |         |                 |
| 65       |              |              |              |  |   |         |                 |
| 66       |              |              |              |  |   |         |                 |
| 67       |              |              |              |  |   |         |                 |
| 68       |              |              |              |  |   |         |                 |
| 69       |              |              |              |  |   |         |                 |
| 70       |              |              |              |  |   |         |                 |
| 71       |              |              |              |  |   |         |                 |
| 72       |              |              |              |  |   |         |                 |


**TEXAS INSTRUMENTS**  
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 HOUSTON, TEXAS

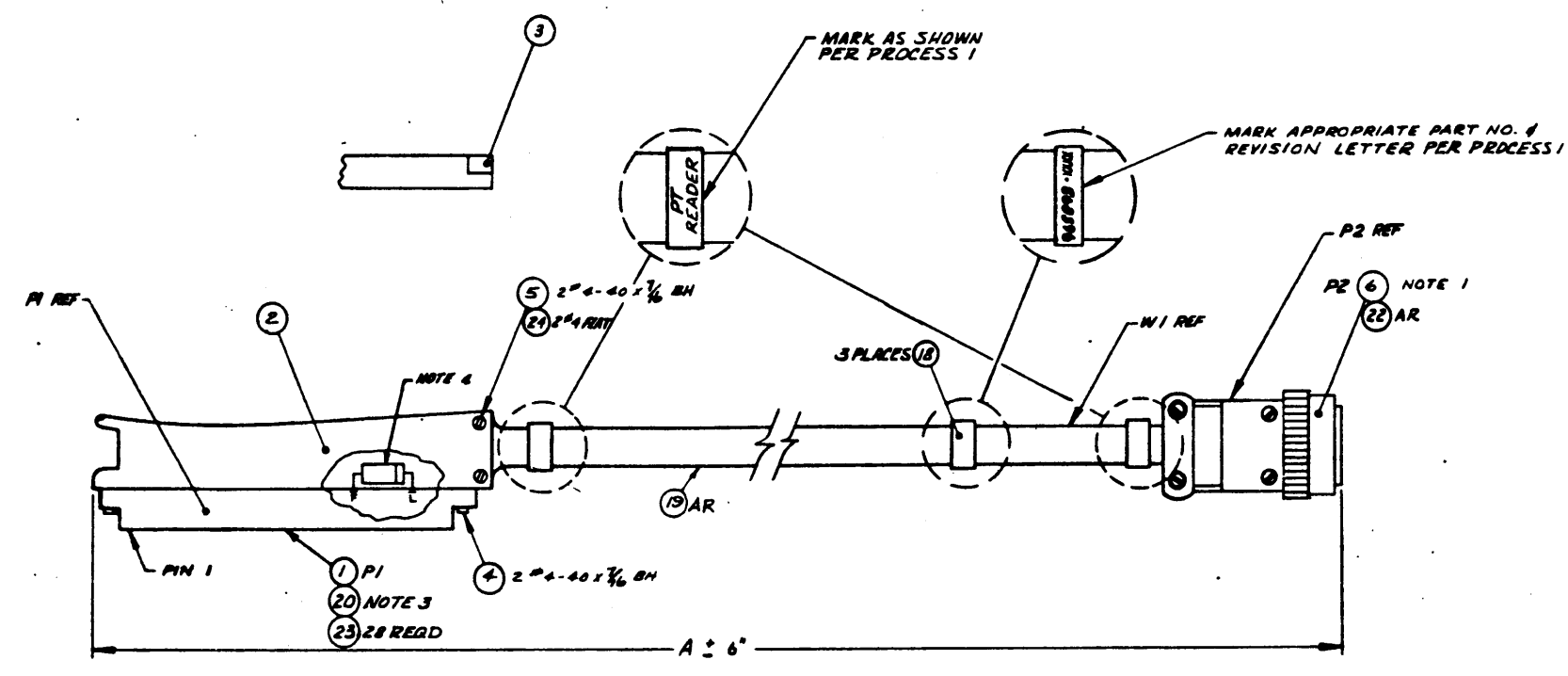
**A**

SHEET  
 955365  
 2

REV 5

2-369/2-370

| REV | DESCRIPTION  | DATE     | APP'D             |
|-----|--|----------|-------------------|
| A   | CHANGES TO P1 (2) & P2 (2) WERE ADDED TO REVISION 23. REVISION 24 WAS ADDED TO P1 (2) & P2 (2) WERE ADDED TO REVISION 24. MARKING DETAILS WERE ADDED TO REVISION 24. REVISION 25 WAS ADDED TO P1 (2) & P2 (2) WERE ADDED TO REVISION 25. REVISION 26 WAS ADDED TO P1 (2) & P2 (2) WERE ADDED TO REVISION 26. REVISION 27 WAS ADDED TO P1 (2) & P2 (2) WERE ADDED TO REVISION 27. REVISION 28 WAS ADDED TO P1 (2) & P2 (2) WERE ADDED TO REVISION 28. REVISION 29 WAS ADDED TO P1 (2) & P2 (2) WERE ADDED TO REVISION 29. REVISION 30 WAS ADDED TO P1 (2) & P2 (2) WERE ADDED TO REVISION 30. REVISION 31 WAS ADDED TO P1 (2) & P2 (2) WERE ADDED TO REVISION 31. REVISION 32 WAS ADDED TO P1 (2) & P2 (2) WERE ADDED TO REVISION 32. REVISION 33 WAS ADDED TO P1 (2) & P2 (2) WERE ADDED TO REVISION 33. REVISION 34 WAS ADDED TO P1 (2) & P2 (2) WERE ADDED TO REVISION 34. REVISION 35 WAS ADDED TO P1 (2) & P2 (2) WERE ADDED TO REVISION 35. REVISION 36 WAS ADDED TO P1 (2) & P2 (2) WERE ADDED TO REVISION 36. REVISION 37 WAS ADDED TO P1 (2) & P2 (2) WERE ADDED TO REVISION 37. REVISION 38 WAS ADDED TO P1 (2) & P2 (2) WERE ADDED TO REVISION 38. REVISION 39 WAS ADDED TO P1 (2) & P2 (2) WERE ADDED TO REVISION 39. REVISION 40 WAS ADDED TO P1 (2) & P2 (2) WERE ADDED TO REVISION 40. | 11/23/54 | J. J. [Signature] |



PART NO. EXAMPLE:  
 965893 - XXXX  
 BASIC NO.      DASH NO.

- NOTES:
- CONNECTOR RSK-19-22C-1/2W (ITEM 6) IS FURNISHED WITH BACH REMEX ELECTRONICS PAPER TAPE READER MODEL #RRS 0305 RA.
  - FOR DIM. A SEE APPROPRIATE LM. TOL. FOR DIM. A IN FEET.
  - INSTALL ITEM 20 BETWEEN PINS 31 AND 32 OF P1.
  - INSTALL DIODE ITEM 21 BETWEEN PINS F & I OF CONN P1. INSULATE LEADS USING SLEEVING ITEM 22. THE CATHODE OF DIODE SHOULD BE CONNECTED TO PIN I.

|                |                       |   |
|----------------|-----------------------|---|
| REVISION LEVEL | WIRE LIST 965896-9901 | A |
|                | ASSEMBLY              | A |

| QTY | REQD | REVISION | PART NUMBER | DESCRIPTION                                  | VENDOR PART NUMBER |
|-----|------|----------|-------------|--|--------------------|
| 1   |      |          | 965892      | CABLE ASSY, 305 HIGH SPEED PAPER TAPE READER |                    |
|     |      |          |             | CRU/TO                                       |                    |
|     |      |          |             | 962/980                                      |                    |
|     |      |          |             | D 965893                                     |                    |



**TEXAS INSTRUMENTS**  
INCORPORATED

DATE 02/28/74

**LIST OF MATERIAL**

PAGE 1 of

|                       |             |          |
|-----------------------|-------------|----------|
| <b>LM</b> 965893-0015 | PART NUMBER | REV<br>A |
|-----------------------|-------------|----------|

| PRINT ITEM NUMBER | QUANTITY PER ASSEMBLY | UNIT OF ISSUE | DWG. SIZE              | PART NUMBER | DESCRIPTION                            | VENDOR PART NUMBER    |             |
|-------------------|-----------------------|---------------|------------------------|-------------|--|-----------------------|-------------|
| 0001              | 00001.000             | EA            |                        | 231447-0800 | CONNECTOR PC 36 PIN                    | VIK-2VH-36/ICN-5      |             |
| 0001A             |                       |               |                        |             | P1                                     |                       |             |
| 0002              | 00001.000             | EA            |                        | 21408C-0001 | CONNECTOR-COVER                        |                       |             |
| 0003              | 00001.000             | EA            |                        | 214081-0001 | CLAMP                                  |                       |             |
| 0004              | 00002.000             | EA            |                        | 235027-0001 | SCREW 4-40X1/2 BH SST                  |                       |             |
| 0005              | 00002.000             | EA            |                        | 235023-0002 | SCREW 4-40 X 1/4 FIM                   |                       |             |
| 0006              | 00001.000             | EA            |                        | 231410-0000 | CONNECTOR RSK-19-22C-1/2               | CAN-RSK19-22C1/2      |             |
| 0006A             |                       |               |                        |             | P2                                     |                       |             |
| 0007              | 00078.000             | FT            |                        | 966760-2692 | WIRE, TWISTED PAIR #26 WHT/RED IPVC    | UL - 1472 7STR UL&CSA |             |
| 0016              | 00000.500             | FT            |                        | 538347-1999 | WIRE 26 WHITE IPVC 19STR 1COND UL&CSA  | -UL&CSA APVD          |             |
| 0017              | REF                   | EA            |                        | 965894-9901 | WIRELIST, PT-TO-PT-305 HIGH SPEED PTR  |                       |             |
| 0018              | 00003.000             | EA            |                        | 235463-0006 | STRAP STD MKR BUNDLE DIA 0 TO 1-3/4 IN | PND-SSM-2             |             |
| 0019              | 00015.500             | FT            |                        | 236320-0000 | TUBING 1/2 .500 ID BLK. PLAS           | IRV-F1/2              |             |
| 0020              | 00001.000             | EA            |                        | 539908-0001 | CONNECTOR KEY POLARIZING PLASTIC       | VIK-091-0034-000      |             |
| 0021              | 00001.000             | EA            |                        | 153733-0001 | DIODE GTD-132 / CGD-949                |                       |             |
| 0021A             |                       |               |                        |             | CR1                                    |                       |             |
| 0022              | AR                    | FT            |                        | 235253-0005 | SLEEVING TEFLON #22                    | -#22                  |             |
| 0023              | 00028.000             | EA            |                        | 972053-0002 | SLEEVE, SOLDER, TAB TERMINAL           | RCH--C-704-02         |             |
| 0024              | 00002.000             | EA            |                        | 236377-0000 | WASHER #4 FLT .125 X .312 SST          | -#4 FLAT              |             |
| DRAFTSMAN         |                       | DATE          | CKD. DRAFTSMAN         | DATE        | DESIGN ENGINEER                        | DATE                  | TITLE       |
| PPD. MFG.         |                       | DATE          | APPD. PROJECT ENGINEER | DATE        | RELEASED                               | DATE                  | PROJECT NO. |
|                   |                       |               | <i>H. Pennington</i>   |             |  |                       | 8100        |
|                   |                       |               |                        |             |  | PART NUMBER           | REV         |
|                   |                       |               |                        |             |  | <b>LM</b> 965893-0015 | A           |

2-373



11-13218

| WIRE NO. | DESCRIPTION  | TOTAL LENGTH | SIGNATURE   | COMPONENT CONNECTION FOR START STATION | COMPONENT CONNECTION FOR FINISH STATION | REMARKS        | N/A LM ITEM NO. |
|----------|--------------|--------------|-------------|--|---|----------------|-----------------|
| 1        | #26 1PVC RED | AR           | GRD         | P1-N                                   | P2                                      | TERMINATE ALL  | 7               |
| 2        | WHT          |              | TRACK 1     | M                                      | P2-1                                    | GROUNDS ON     |                 |
| 3        | RED          |              | GRD         | K                                      |   | P2 END         |                 |
| 4        | WHT          |              | DRIVE RIGHT | L                                      | P2-17                                   | TOGETHER AND   |                 |
| 5        | RED          |              | GRD         | J                                      |   | TIE PIGTAIL TO |                 |
| 6        | WHT          |              | TRACK 2     | H                                      | P2-2                                    | P2-14          |                 |
| 7        | RED          |              | GRD         | E                                      |   |                |                 |
| 8        | WHT          |              | STEP RIGHT  | F                                      | P2-8                                    |                |                 |
| 9        | RED          |              | GRD         | D                                      |   |                |                 |
| 10       | WHT          |              | TRACK 3     | C                                      | P2-6                                    |                |                 |
| 11       | RED          |              | GRD         | Z                                      |   |                |                 |
| 12       | WHT          |              | TRACK 4     | Y                                      | P2-10                                   |                |                 |
| 13       | RED          |              | GRD         | V                                      |   |                |                 |
| 14       | WHT          |              | TRACK 5     | U                                      | P2-4                                    |                |                 |
| 15       | RED          |              | GRD         | R                                      |   |                |                 |
| 16       | WHT          |              | TRACK 6     | P                                      | P2-9                                    |                |                 |
| 17       | RED          |              | GRD         | L                                      |   |                |                 |
| 18       | WHT          |              | TRACK 7     | K                                      | P2-3                                    |                |                 |
| 19       | RED          |              | GRD         | F                                      |   |                |                 |
| 20       | WHT          |              | TRACK 8     | E                                      | P2-7                                    |                |                 |
| 21       | RED          |              | GRD         | 6                                      |   |                |                 |
| 22       | WHT          |              | SPROCKET    | 5                                      | P2-12                                   |                |                 |
| 23       | RED          |              | GRD         | W                                      |   |                |                 |
| 24       | #26 1PVC WHT | AR           | REWIND      | P1-X                                   | P2-18                                   |                | 7               |



TEXAS INSTRUMENTS  
INCORPORATED  
INDUSTRIAL PRODUCTS DIVISION  
HOUSTON, TEXAS

A

965894  
SHEET 2


REV A

2-375



| WIRE NO. | DESCRIPTION  | TOTAL LENGTH | SIGNATURE | COMPONENT CONNECTION FOR START STATION | COMPONENT CONNECTION FOR FINISH STATION | REMARKS               | N/A 1M ITEM NO |
|----------|--------------|--------------|-----------|--|---|-----------------------|----------------|
| 25       | #26 1PVC WHT | AR           | SPROCKET  | P1-5                                   | P1-13                                   |                       | 16             |
| 26       |              |              | CRI-A     | P1-F                                   | CRI-A                                   | INSTALL DIODE BETWEEN | 21             |
| 27       |              |              | CRI-C     | P1-L                                   | CRI-C                                   | PINS F AND L OF P1,   | 21             |
| 28       |              |              |           |  |   | WITH ANODE ON P1-F    |                |
| 29       |              |              |           |  |   |                       |                |
| 30       |              |              |           |  |   |                       |                |
| 31       |              |              |           |  |   |                       |                |
| 32       |              |              |           |  |   |                       |                |
| 33       |              |              |           |  |   |                       |                |
| 34       |              |              |           |  |   |                       |                |
| 35       |              |              |           |  |   |                       |                |
| 36       |              |              |           |  |   |                       |                |
| 37       |              |              |           |  |   |                       |                |
| 38       |              |              |           |  |   |                       |                |
| 39       |              |              |           |  |   |                       |                |
| 40       |              |              |           |  |   |                       |                |
| 41       |              |              |           |  |   |                       |                |
| 42       |              |              |           |  |   |                       |                |
| 43       |              |              |           |  |   |                       |                |
| 44       |              |              |           |  |   |                       |                |
| 45       |              |              |           |  |   |                       |                |
| 46       |              |              |           |  |   |                       |                |
| 47       |              |              |           |  |   |                       |                |
| 48       |              |              |           |  |   |                       |                |

T-13218


**TEXAS INSTRUMENTS**  
 INCORPORATED  
 INDUSTRIAL PRODUCTS DIVISION  
 HOUSTON, TEXAS

**A**

SHEET  
 965894  
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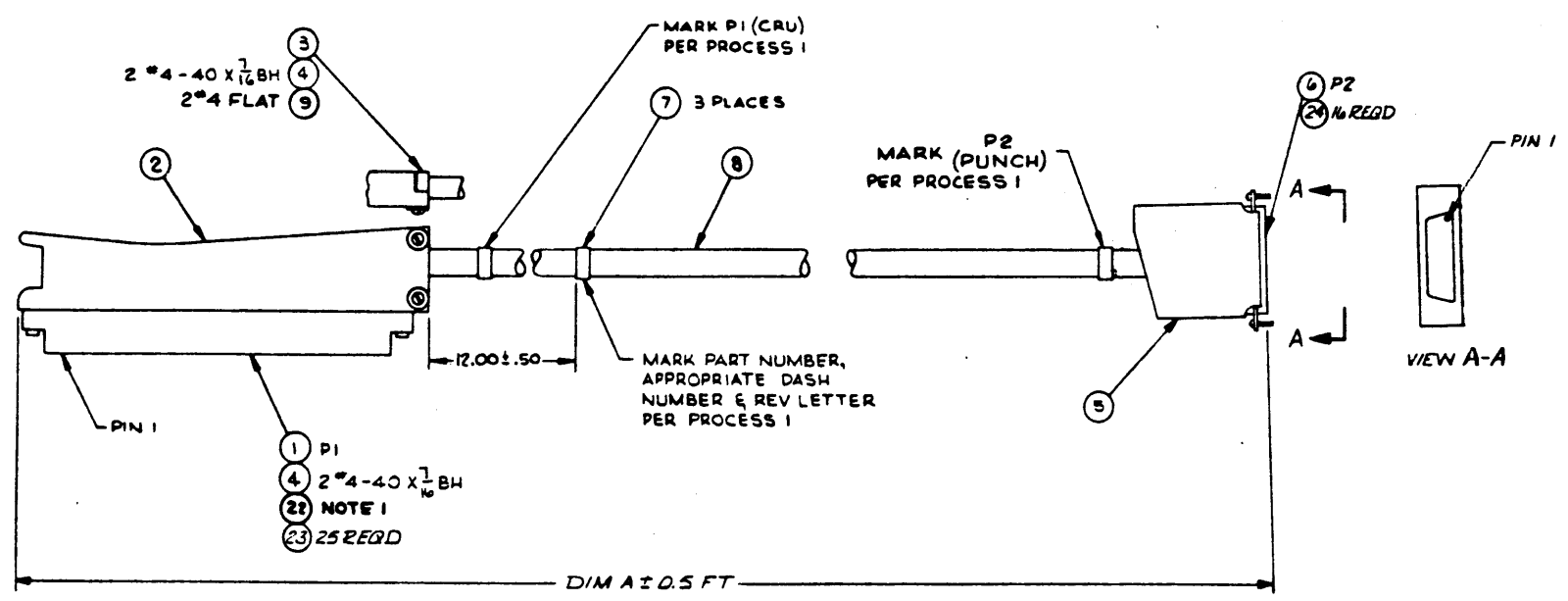
REV  
A

2-376

20196

NOTES:  
1. INSTALL ITEM 22 BETWEEN PINS 31 & 32.

| REVISIONS   |  |         |             |
|---|--|---------|-------------|
| REV   | DESCRIPTION  | DATE    | APP'D       |
| A   | 12/30/71<br>1) ITEM 22 WAS 1EA 232193-1003<br>KEY POLARIZING PC BOARD ON<br>-0006, -0009 & -0012 LMS | 2/20/72 | [Signature] |
| FORMAL RELEASE  |  |         |             |
| B   | 366852(B) 8 Planning 4-6-72  | 5-7-72  | [Signature] |
| CHG: ON ALL LM - NOS, IT. 10 THRU 19, P/N<br>838347-XXXX WAS 236352-XXXX<br>UPDATED REV LEVEL BLOCK   |  |         |             |
| C: 366852(B) REVISED<br>Pictorial of P2 Added View<br>A-A Item 4 was 1/16" BH - Added<br>13: L.M. - 6-94-72: DELETED ITEMS 11 THRU 18.<br>ADDED 23 & 24. QTY OF ITEM 21 WAS 40. ITEMS<br>4 & 46. PINS WERE 235027-0001, 232109-7000,<br>088032-0005 RESPECTIVELY & REVISED DESC.<br>ITEM 10 P/N WAS 538347-2099 & REVISED DESC. |  |         |             |



BASIC PART NUMBER 961702 - XXXX  
DIM A IN FEET

|                |                             |         |
|----------------|-----------------------------|---------|
| REVISION LEVEL | WIRE LIST, PT-TO-PT A961703 | * * A B |
|                | ASSY D961702                | * A B C |

| QTY REQD | QTY ASSY | QTY REQD | QTY ASSY | DESCRIPTION | VENDOR PART NUMBER  |
|----------|----------|----------|----------|-------------|---|
|          |          | 8100     | A        | 961757      | TEXAS INSTRUMENTS INCORPORATED INDUSTRIAL PRODUCTION DIVISION |
|          |          |          |          |             | 75 CPS PAPER TAPE PUNCH TO CONTROLLER CABLE                   |
|          |          |          |          |             | BIOC  |
|          |          |          |          |             | COMPUTER  |
|          |          |          |          |             | NONE D 961702   |



**TEXAS INSTRUMENTS**  
INCORPORATED

DATE 02/26/74

**LIST OF MATERIAL**

PAGE 1 of 1

LM PART NUMBER 961702-0012 REV C

| PRINT ITEM NUMBER | QUANTITY PER ASSEMBLY | UNIT OF ISSUE | DWG. SIZE | PART NUMBER | DESCRIPTION                              | VENDOR PART NUMBER    |
|-------------------|-----------------------|---------------|-----------|-------------|--|-----------------------|
| 0001              | 00001.000             | EA            |           | 231447-0800 | CONNECTOR PC 36 PIN                      | VIK-2VH-36/1CN-5      |
| 0001A             |                       |               |           |             | P1                                       |                       |
| 0002              | 00001.000             | EA            |           | 214080-0001 | CONNECTOR-COVER                          |                       |
| 0003              | 00001.000             | EA            |           | 214081-0001 | CLAMP                                    |                       |
| 0004              | 00004.000             | EA            |           | 235026-0016 | SCREW 4-40X7/16 8H SST                   |                       |
| 0005              | 00001.000             | EA            |           | 539903-0001 | HOOD ASSY W/HARDWARE                     | AMP-205718            |
| 0006              | 00001.000             | EA            |           | 539409-0005 | CONNECTOR PHD-20 25 PIN                  | AMP-205208-1          |
| 0006A             |                       |               |           |             | P2                                       |                       |
| 0007              | 00003.000             | EA            |           | 235463-0006 | STRAP STD MKR BUNDLE DIA 0 TO 1-3/4 IN   | PND-SSM-2             |
| 0008              | 00012.500             | FT            |           | 236319-0000 | TUBING 3/8 .375 1D BLK.PLAS              | IRV-3/8               |
| 0009              | 00002.000             | EA            |           | 236377-0000 | WASHER #4 FLT .125 X .312 SST            | -#4 FLAT              |
| 0010              | 00150.000             | FT            |           | 966760-2495 | WIRE,TWISTED PAIR #24 WHT/GRN IPVC       | UL - 1472 7STR ULECSA |
| 0019              | 00013.000             | FT            |           | 538347-2999 | WIRE 24 WHITE IPVC 19STR 1COND ULECSA    | -ULECSA APPD          |
| 0020              | REF                   | EA            |           | 961703-9901 | WIRE LIST PT-TO-PT 75CPS PTP TO CONTR.CB |                       |
| 0021              | 00000.250             | FT            |           | 236607-0000 | WIRE 22 AWG BUS TINNED COPPER SOLID BARE |                       |
| 0022              | 00001.000             | EA            |           | 539908-0001 | CONNECTOR KEY POLARIZING PLASTIC         | VIK-091-0034-000      |
| 0023              | 00025.000             | EA            |           | 972053-0002 | SLEEVE,SOLDER,TAB TERMINAL               | RCH--C-704-02         |
| 0024              | 00016.000             | EA            |           | 539430-0003 | CONTRACT PIN .62                         | AMP-205202-2          |

2-379

|           |      |                        |         |                 |      |                                  |
|-----------|------|------------------------|---------|-----------------|------|----------------------------------|
| DRAFTSMAN | DATE | CKD DRAFTSMAN          | DATE    | DESIGN ENGINEER | DATE | TITLE                            |
|           |      | <i>H. DeRiet</i>       | 2/27/74 |                 |      | 75CPS PTP TO CONTROLLER CABLE-12 |
| APPD -MFG | DATE | APPD. PROJECT ENGINEER | DATE    | RELEASED        | DATE | PROJECT NO                       |
|           |      |                        |         |                 |      | 8100                             |
|           |      |                        |         |                 |      | LM PART NUMBER 961702-0012 REV C |



| WIRE NO. | DESCRIPTION     | TOTAL LENGTH | SIGNATURE    | COMPONENT CONNECTION FOR START STATION | COMPONENT CONNECTION FOR FINISH STATION | REMARKS | N/A LM ITEM NO. |
|----------|-----------------|--------------|--------------|--|---|---------|-----------------|
| 1        | #24 AWG WHT/BRN | AR           | TAPE CH 1    | P1-L                                   | P2-1                                    |         | 10              |
| 2        | GRN/BLK         |              | GRD          | P1-K                                   | NOTE 1, SH 1                            |         | 10              |
| 3        | WHT/RED         |              | PUNCH STROBE | P1-32                                  | P2-11                                   |         | 12              |
| 4        | GRN/BLK         |              | GRD          | P1-31                                  | NOTE 1, SH 1                            |         | 10              |
| 5        | WHT/ORN         |              | TAPE CH2     | P1-F                                   | P2-2                                    |         | 10              |
| 6        | GRN/BLK         |              | GRD          | P1-E                                   | NOTE 1, SH 1                            |         | 10              |
| 7        | WHT/YEL         |              | TAPE CH3     | P1-B                                   | P2-3                                    |         | 10              |
| 8        | GRN/BLK         |              | GRD          | P1-A                                   | NOTE 1, SH 1                            |         | 10              |
| 9        | WHT/GRN         |              | TAPE CH4     | P1-X                                   | P2-4                                    |         | 10              |
| 10       | GRN/BLK         |              | GRD          | P1-W                                   | NOTE 1, SH 1                            |         | 10              |
| 11       | WHT/BLU         |              | TAPE CH5     | P1-T                                   | P2-5                                    |         | 10              |
| 12       | GRN/BLK         |              | GRD          | P1-S                                   | NOTE 1, SH 1                            |         | 10              |
| 13       | WHT/VIO         |              | TAPE CH6     | P1-N                                   | P2-6                                    |         | 10              |
| 14       | GRN/BLK         |              | GRD          | P1-M                                   | NOTE 1, SH 1                            |         | 10              |
| 15       | WHT/GRY         |              | LO TAPE      | P1-M                                   | P2-21                                   |         | 10              |
| 16       | GRN/BLK         |              | GRD          | P1-N                                   | NOTE 1, SH 1                            |         | 10              |
| 17       | WHT             |              | RDY          | P1-13                                  | P2-12                                   |         | 10              |
| 18       | GRN/BLK         |              | GRD          | P1-14                                  | NOTE 1, SH 1                            |         | 10              |
| 19       | WHT             |              | RDY INT      | P1-13                                  | P1-5                                    |         | 19              |
| 20       |                 |              |              |  |   |         |                 |
| 21       | WHT/BRN         |              | TAPE CH7     | P1-J                                   | P2-7                                    |         | 10              |
| 22       | GRN/BLK         |              | GRD          | P1-H                                   | NOTE 1, SH 1                            |         | 10              |
| 23       | WHT/RED         |              | TAPE CH8     | P1-D                                   | P2-8                                    |         | 10              |
| 24       | #24 AWG GRN     | AR           | GRD          | P1-C                                   | NOTE 1, SH 1                            |         | 10              |

71-13318

**TEXAS INSTRUMENTS**
  
 INCORPORATED
   
 INDUSTRIAL PRODUCTS DIVISION
   
 HOUSTON, TEXAS

**A**

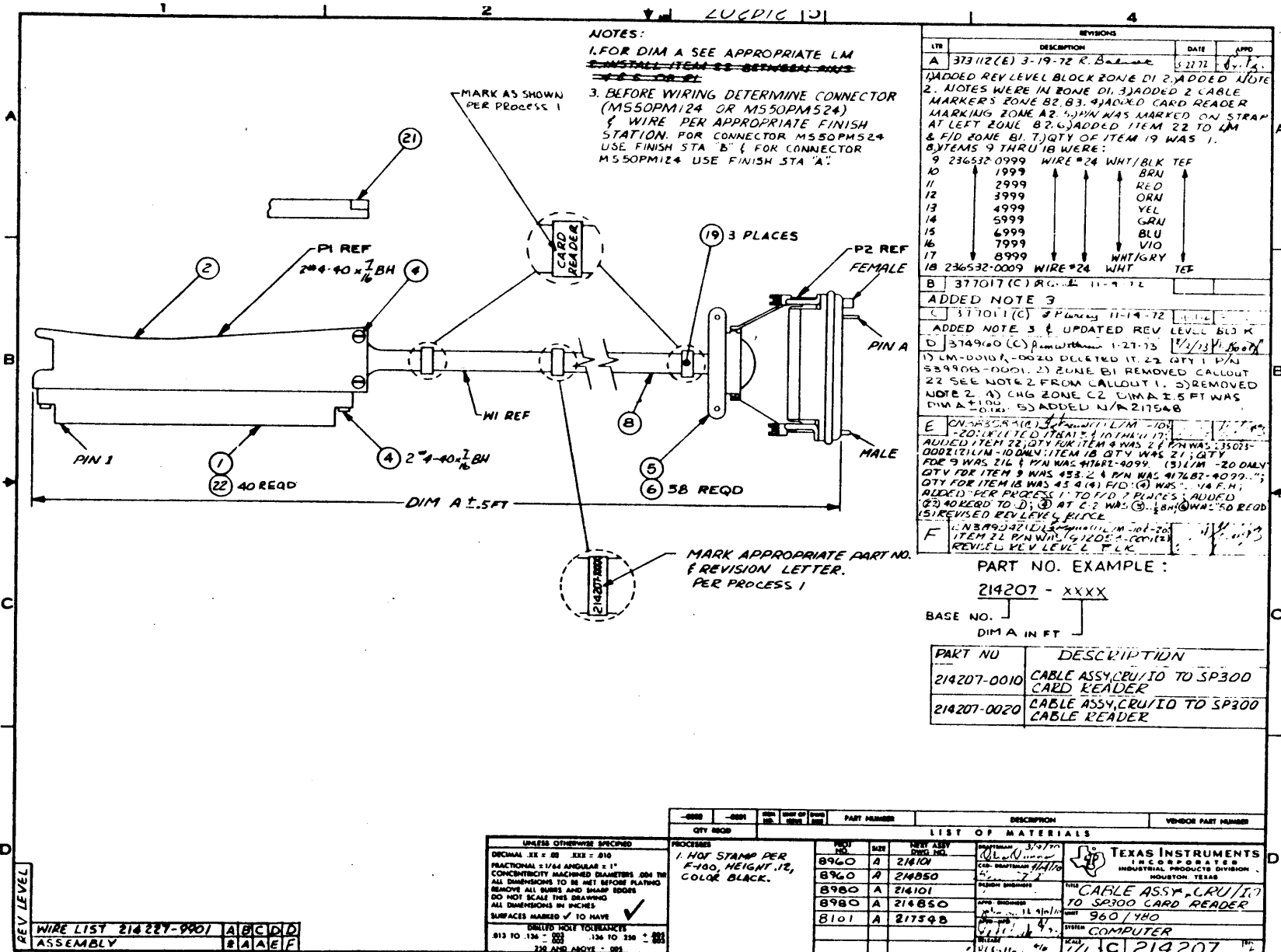
SHEET 2
   
 961703

REV B

2-381



2-383



NOTES:  
 1. FOR DIM A SEE APPROPRIATE LM  
~~2. INSTALL ITEM 22 BETWEEN ROUS~~  
~~2.2 OR 2.1~~  
 3. BEFORE WIRING DETERMINE CONNECTOR (M550PM124 OR M550PM524) & WIRE PER APPROPRIATE FINISH STATION. FOR CONNECTOR M550PM524 USE FINISH STA "B" & FOR CONNECTOR M550PM124 USE FINISH STA "A".

| LT# | DESCRIPTION                 | DATE    | APPD     |
|-----|-----------------------------|---------|----------|
| A   | 373112(E) 3-19-72 R. Bal... | 5-27-72 | J. T. S. |

ADDED REV LEVEL BLOCK ZONE D1 2. ADDED NOTE 2. NOTES WERE IN ZONE D1. 3. ADDED 2 CABLE MARKERS ZONE B2, B3. 4. ADDED CARD READER MARKING ZONE A2. 5. PIN WAS MARKED ON STRAP AT LEFT ZONE B2. 6. ADDED ITEM 22 TO LM & F/D ZONE B1. 7. QTY OF ITEM 19 WAS 1. 8. ITEMS 9 THRU 18 WERE:

|    |             |          |         |     |
|----|-------------|----------|---------|-----|
| 9  | 236532-0999 | WIRE #24 | WHT/BLK | TEF |
| 10 | 1999        |          | BRN     |     |
| 11 | 2999        |          | RED     |     |
| 12 | 3999        |          | ORN     |     |
| 13 | 4999        |          | YEL     |     |
| 14 | 5999        |          | GRN     |     |
| 15 | 6999        |          | BLU     |     |
| 16 | 7999        |          | WHT     |     |
| 17 | 8999        |          | WHT/GRY | TEF |
| 18 | 236532-0009 | WIRE #24 | WHT     | TEF |

B 377017(C) 8-11-72  
 ADDED NOTE 3  
 C 377011(C) 8-11-72  
 ADDED NOTE 3 & UPDATED REV LEVEL BLD K  
 D 374960(C) 8-11-72  
 1) LM-0018, -0020 DELETED IT 22 QTY 1 P/S  
 2) 339908-0001, 2) ZONE B1 REMOVED CALLOUT  
 22 SEE NOTE 2 FROM CALLOUT 1. 3) REMOVED  
 NOTE 2. 4) CHG ZONE C2 DIM A ±.5 FT WAS  
 DIM A ±.100. 5) ADDED N/A 217546  
 E ON-ASSEMBLY (C) 8-11-72  
 1) 20-DELETED ITEM 5 & ITEM 17  
 ADDED ITEM 22 QTY FOR ITEM 9 WAS 21 P/N WAS 235025-  
 00021211M-10 ONLY ITEM 18 QTY WAS 21 QTY  
 FOR 9 WAS 216 & PIN WAS #1762-4099. (3) 11M -20 ONLY  
 QTY FOR ITEM 9 WAS 433. 2) P/N WAS #1762-4099. QTY  
 FOR ITEM 18 WAS 434 (4) F/D (G) WAS 1/4 F.H.  
 ADDED PER PROCESS 1 TO F/D 7 PLACES. ADDED  
 (2) 40REQD TO (1) (2) AT (2) WAS (3) 18M WAS 50 REQD  
 (5) REVISED REV LEVEL BLOCK  
 F 1) N/A 90421111M-10-20  
 ITEM 22 P/N WAS 161205-2-COMPL  
 REVISED REV LEVEL BLOCK

PART NO. EXAMPLE:  
 214207 - XXXX

BASE NO. DIM A IN FT

| PART NO     | DESCRIPTION                                  |
|-------------|--|
| 214207-0010 | CABLE ASSY, CPU I/O TO SP300<br>CARD READER  |
| 214207-0020 | CABLE ASSY, CPU I/O TO SP300<br>CABLE READER |

WIRE LIST 214227-9901

|          |   |   |   |
|----------|---|---|---|
| A        | B | C | D |
| ASSEMBLY | A | A | E |

UNLESS OTHERWISE SPECIFIED  
 DECIMAL SIZE = .001 SIZE = .010  
 FRACTIONAL SIZE 1/64 ANGULAR ± 1°  
 CONCENTRICITY MACHINED DIAMETERS AND TH  
 ALL DIMENSIONS TO BE MET BEFORE PLATING  
 REMOVE ALL BURRS AND SHARP EDGES  
 DO NOT SCALE THIS DRAWING  
 ALL DIMENSIONS IN INCHES  
 SURFACES MARKED ✓ TO HAVE  
 CHECKED NOT TOLERANCES  
 .013 TO .136 - .002 .136 TO .250 - .002  
 .250 AND ABOVE - .001

| QTY REQD | QTY ON HAND | QTY IN STOCK | PART NUMBER   | DESCRIPTION | VEHICLE PART NUMBER |
|----------|-------------|--------------|---------------|-------------|---------------------|
|          |             |              | 8960 A 214101 |             |                     |
|          |             |              | 8960 A 214850 |             |                     |
|          |             |              | 8960 A 214101 |             |                     |
|          |             |              | 8960 A 214860 |             |                     |
|          |             |              | 8101 A 21754B |             |                     |

LIST OF MATERIALS

TEXAS INSTRUMENTS  
 INCORPORATED  
 INDUSTRIAL PRODUCTS DIVISION  
 HOUSTON, TEXAS

CABLE ASSY, CPU I/O TO SP300 CARD READER  
 960/1480  
 COMPUTER  
 7/1 C 214207



**TEXAS INSTRUMENTS**  
INCORPORATED

DATE 03/06/74

**LIST OF MATERIAL**

PAGE 1 of 1


|                       |     |
|-----------------------|-----|
| PART NUMBER           | REV |
| <b>LM 214207-0010</b> | F   |

| PRINT ITEM NUMBER | QUANTITY PER ASSEMBLY | UNIT OF ISSUE | DWG. SIZE | PART NUMBER | DESCRIPTION                              | VENDOR PART NUMBER    |
|-------------------|-----------------------|---------------|-----------|-------------|--|-----------------------|
| 0001              | 00001.000             | EA            |           | 231447-0800 | CONNECTOR PC 36 PIN                      | VIK-2VH-36/ICN-5      |
| 0002              | 00001.000             | EA            |           | 214080-0001 | CONNECTOR-COVER                          |                       |
| 0004              | 00004.000             | EA            |           | 235026-0016 | SCREW 4-40X7/16 BH SST                   |                       |
| 0005              | 00001.000             | EA            |           | 231256-6500 | CONNECTOR PLUG 50P SST J/SCR PIN/J/RECP. | RUR-MS50PM-124        |
| 0006              | 00050.000             | EA            |           | 231554-9000 | CONTACT MALE GOLD-PLATED .0625 DIA.      | BUR-RM24M-9           |
| 0008              | 00009.800             | FT            |           | 236320-0000 | TUBING 1/2 .500 10 BLK.PLAS              | IRV-F1/2              |
| 0009              | 00200.000             | FT            |           | 966760-2692 | WIRE,TWISTED PAIR #26 WHT/RED IPVC       | UL - 1472 7STR UL&CSA |
| 0018              | 00000.500             | FT            |           | 417682-4999 | WIRE#26 WHI IPVC 7 STRAND 1COND UL&CSA   | -UL&CSA APVD          |
| 0019              | 00003.000             | EA            |           | 235463-0006 | STRAP STD MKR BUNDLE DIA 0 TO 1-3/4 IN   | PND-SSM-2             |
| 0020              | REF                   | EA            |           | 214227-9901 | WIRE LIST,PT-TO-PT-CRU/SP300 CARD READER |                       |
| 0021              | 00001.000             | EA            |           | 214081-0001 | CLAMP                                    |                       |
| 0022              | 00040.000             | EA            |           | 972053-0002 | SLEEVE,SOLDER,TAB TERMINAL               | RCH--C-704-02         |

2-384

|      |      |      |      |                                     |
|------|------|------|------|-------------------------------------|
| DATE | DATE | DATE | DATE | TITLE                               |
|      |      |      |      | CABLE ASSY,CRU TO SP300 CARD READER |
| DATE | DATE | DATE | DATE | PROJECT NO.                         |
|      |      |      |      | 8101,<br>8960, 8980                 |
| DATE | DATE | DATE | DATE | PART NUMBER                         |
|      |      |      |      | <b>LM 214207-0010</b>               |
| DATE | DATE | DATE | DATE | REV                                 |
|      |      |      |      | F                                   |



| PROJ NO.                     | SIZE                               | NEXT ASSY DWG NO.                             | REVISIONS |   |          |  |  |
|------------------------------|------------------------------------|---|-----------|---|----------|--|--|
|                              |                                    |   | LTR       | DESCRIPTION   | DATE     | APPD   |  |
| 8960C                        | 214207                             |   |           |   |          |  |  |
| A 214227                     | C                                  | 214207  | A         | 366826(C) 7-21-70 <i>Dunlap</i>   | 7/22/70  | <i>[Signature]</i>   |  |
|                              |                                    |   |           | 1.) SH 2: WIRE #12 FINISH STA. WAS P2-R<br>2.) SH 3: WIRE #3 FINISH STA. WAS C; WIRE #4 FINISH STA WAS H; ADDED WIRE #17.   |          |  |  |
|                              |                                    |   | B         | 373112(E) 3-19-72 R. B. <i>almark</i>   | 3-22-72  | <i>[Signature]</i>   |  |
|                              |                                    |   |           | WIRES 1 THRU 24 (SH.2) & 1 THRU 17 (SH.3) WERE #24 TEF  |          |  |  |
|                              |                                    |   | C         | 377017 (C) S. <i>Piercy</i> 11-19-72  | 11/18/72 | <i>[Signature]</i>   |  |
|                              |                                    |   |           | ADDED: SH 2 & 3 FINISH STA B FOR WIRES 1 THRU 41<br>CHG: SH 3 WIRE NOS 25 THRU 41 WERE 1 THRU 17 RESP.  |          |  |  |
|                              |                                    |   | D         | 389064(C) D <i>Perez</i>  | 1-31-74  | <i>[Signature]</i>   |  |
|                              |                                    |   |           | (1) ALL GRD WIRES WERE WHT/BLK<br>(2) WIRE NOS 2, 4, 6, 8, 10, 12, 14, 16, 20, 22, 24, 26, 28, 30, 31, 36 & 37 WERE WHT WITH BRN, RED, ORN, YEL, GRN, BLU, VIO, GREY, RED, ORN, YEL, GRN, BLU, VIO, GREY, BRN, RED, ORN AND BLK RESPECTIVELY (3) WIRE NOS 2, 4, 6, 8, 10, 12, 14, 16, 17, 20, 22, 24, 26, 28, 30, 31, 34, 36 & 37 WERE ITEM 10, 11, 12, 13, 14, 15, 16, 17, 18, 11, 12, 13, 14, 15, 16, 17, 18, 10 & 11 RESPECTIVELY<br>(4) DELETED WIRES 39 & 40 |          |  |  |
| REV                          |                                    |   |           |   |          |  |  |
| SUPL SHEET                   |                                    |   |           |   |          |  |  |
| REV SHEET                    |                                    |   |           |   |          |  |  |
| SHEET                        |                                    |   |           |   |          |  |  |
| REV STATUS OF SHEETS         | REV SHEET                          | DDD   | 1         | 2   | 3        |  |  |
| DR <i>Odio Owens</i> 3/9/70  | APPD <i>John Smith</i> 4/14/70     | TITLE WIRE LIST PT TO PT CRU / IO TO CARD RDR |           |   |          |  <b>TEXAS INSTRUMENTS</b><br>INCORPORATED<br>INDUSTRIAL PRODUCTS DIVISION<br>HOUSTON, TEXAS |  |
| CKD <i>Bennett I</i> 7/14/70 | APPD <i>[Signature]</i> 7/14/70    | SCALE NONE                                    | SIZE A    | 214227  |          | REV D  |  |
| ENGR <i>[Signature]</i>      | RELEASE <i>[Signature]</i> 4/20/70 | SHEET 1                                       |           | OF 3  |          |  |  |

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11-13218

| WIRE NO. | DESCRIPTION      | TOTAL LENGTH | SIGNATURE  | COMPONENT CONNECTION FOR START STATION | COMPONENT CONNECTION FOR FINISH STATION "A" | COMPONENT CONNECTION FOR FINISH STATION "B" | REMARKS | N/A LM ITEM NO. |
|----------|------------------|--------------|------------|--|---|---|---------|-----------------|
| 1        | #26 IPVC WHT/RED |              | GRD        | P1 - N                                 | P2 - EE                                     | P2 - 37                                     |         | 9               |
| 2        | ↑ ↑ WHT          |              | READ ERROR | ↑ - M                                  | ↑ - AA                                      | ↑ - 36                                      |         | ↑               |
| 3        | WHT/RED          |              | GRD        | - 34                                   | - H   | - 20  |         |                 |
| 4        | WHT              |              | ROW 7      | - 33                                   | - C   | - 19  |         |                 |
| 5        | WHT/RED          |              | GRD        | - J                                    | - M   | - 33  |         |                 |
| 6        | WHT              |              | READED ROY | - H                                    | - F   | - 32  |         |                 |
| 7        | WHT/RED          |              | GRD        | - 30                                   | - Y   | - 18  |         |                 |
| 8        | WHT              |              | ROW 6      | - 29                                   | - U   | - 17  |         |                 |
| 9        | WHT/RED          |              | GRD        | - D                                    | - T   | - 22  |         |                 |
| 10       | WHT              |              | ROW 8      | - C                                    | - N   | - 21  |         |                 |
| 11       | WHT/RED          |              | GRD        | - 26                                   | - P   | - 16  |         |                 |
| 12       | WHT              |              | ROW 5      | - 25                                   | - K   | - 15  |         |                 |
| 13       | WHT/RED          |              | GRD        | - Z                                    | - BB  | - 24  |         |                 |
| 14       | WHT              |              | ROW 9      | - Y                                    | - X   | - 23  |         |                 |
| 15       | WHT/RED          |              | GRD        | - 22                                   | - E   | - 14  |         |                 |
| 16       | WHT              |              | ROW 4      | - 21                                   | - A   | - 13  |         |                 |
| 17       | WHT              |              | FEED ERROR | - X                                    | - B   | - 38  |         |                 |
| 18       | WHT/RED          |              | GRD        | - W                                    | - F   | - 39  |         |                 |
| 19       | WHT/RED          |              | GRD        | - V                                    | - A   | - 6   |         |                 |
| 20       | WHT              |              | ROW 0      | - U                                    | - W   | - 5   |         |                 |
| 21       | WHT/RED          |              | GRD        | - 18                                   | - DD  | - 12  |         |                 |
| 22       | WHT              |              | ROW 3      | - 17                                   | - Z   | - 11  |         |                 |
| 23       | ↓ ↓ WHT/RED      |              | GRD        | ↓ - R                                  | ↓ - S                                       | ↓ - 4                                       |         | ↓               |
| REV D    | #26 IPVC WHT     |              | ROW 11     | P1 - P                                 | P2 - M                                      | P2 - 3                                      |         | 9               |


**TEXAS INSTRUMENTS**  
 INCORPORATED  
 INDUSTRIAL PRODUCTS DIVISION  
 HOUSTON, TEXAS

**A**  
 SHEET  
 214227  
 2

2-386

| WIRE NO. | DESCRIPTION     | TOTAL LENGTH | SIGNATURE        | COMPONENT CONNECTION FOR START STATION | COMPONENT CONNECTION FOR FINISH STATION "A" | COMPONENT CONNECTION FOR FINISH STATION "B" | REMARKS | N/A LM ITEM NO. |
|----------|-----------------|--------------|------------------|--|---|---|---------|-----------------|
| 25       | #26 PVC WHT/RED |              | GRD              | P1-14                                  | P2-V  | P2-10                                       |         | 9               |
| 26       | WHT             |              | ROW 2            | -13                                    | -R  | -9  |         | 9               |
| 27       | WHT/RED         |              | GRD              | -L                                     | -H  | -2  |         |                 |
| 28       | WHT             |              | ROW 12           | -K                                     | -C  | -1  |         |                 |
| 29       | WHT/RED         |              | GRD              | -10                                    | -K  | -8  |         |                 |
| 30       | WHT             |              | ROW 1            | -9                                     | -E  | -7  |         |                 |
| 31       | WHT             |              | CLEAR READ ERROR | -8                                     | -V  | -42   |         |                 |
| 32       | WHT/RED         |              | GRD              | -7                                     | -Z  | -43   |         |                 |
| 33       | WHT/RED         |              | GRD              | -F                                     | -W  | -35   |         |                 |
| 34       | WHT             |              | CARD PRESENCE    | -E                                     | -S  | -34   |         |                 |
| 35       | WHT/RED         |              | GRD              | -6                                     | -B  | -31   |         |                 |
| 36       | WHT             |              | COLUMN INDEX     | -5                                     | -X  | -30   |         |                 |
| 37       | WHT             |              | READ COMMAND     | -4                                     | -L  | -40   |         |                 |
| 38       | WHT/RED         |              | GRD              | P1-3                                   | P2-R  | P2-41                                       |         | 9               |
| 39       | WHT             |              | SPARE            | N/C                                    | N/C   | N/C   |         | 12              |
| 40       | #26 PVC WHT     |              | SPARE            | N/C                                    | N/C   | N/C   |         | 9               |
| 41       | #26 PVC WHT     |              | FEED ERROR       | P1-X                                   | P1-P  | P1-P  |         | 18              |

71-13816

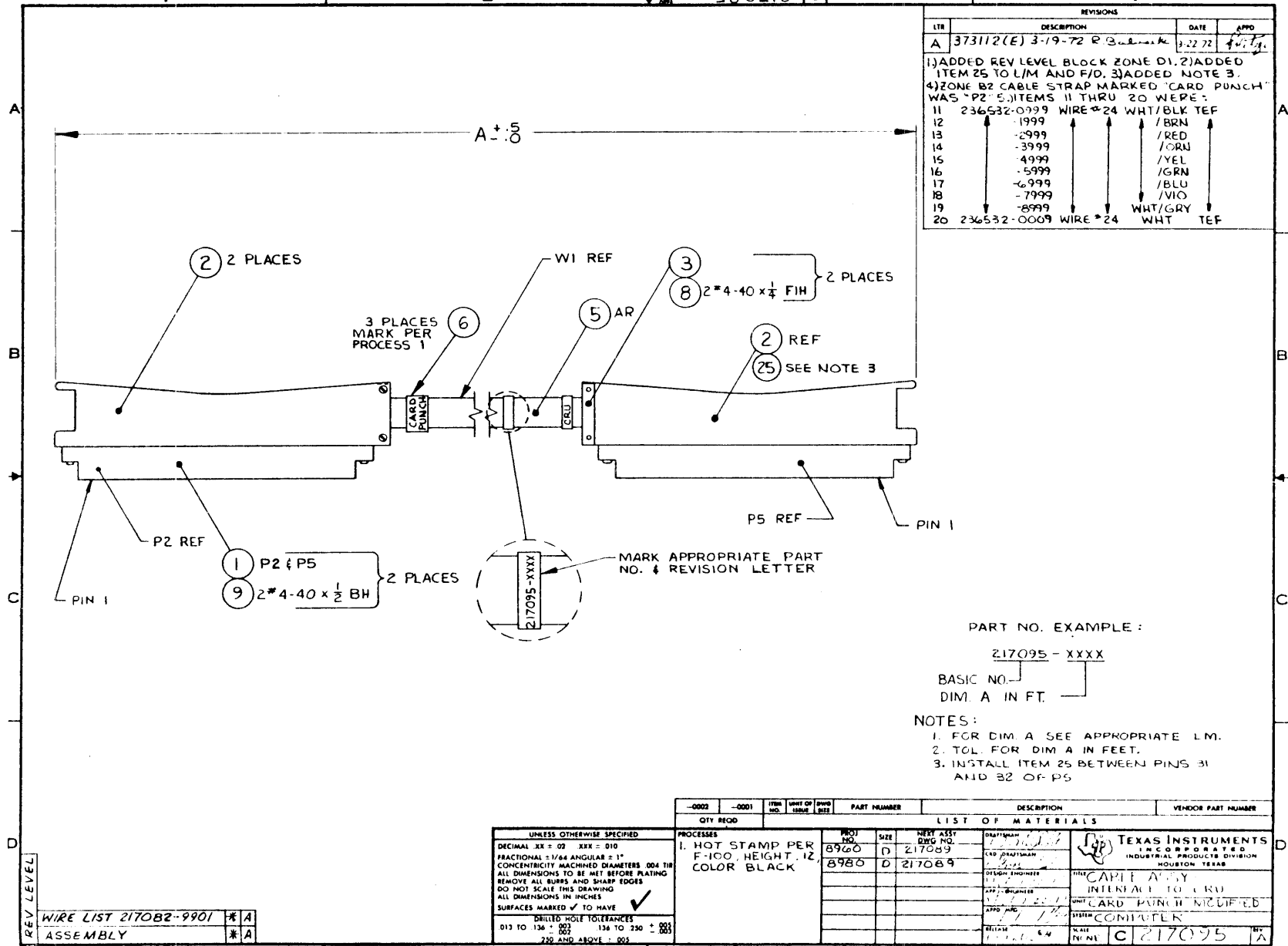
TEXAS INSTRUMENTS  
INCORPORATED  
INDUSTRIAL PRODUCTS DIVISION  
HOUSTON, TEXAS

A  
214227  
SHEET 3 OF 3

D REV

2-387

2-388



| REVISIONS  |                                |          |             |
|--|--------------------------------|----------|-------------|
| LTR  | DESCRIPTION                    | DATE     | APPD        |
| A  | 373112(E) 3-19-72 R B. Submark | 3-22-72  | 4/1/72      |
| 1) ADDED REV LEVEL BLOCK ZONE D1. 2) ADDED ITEM 25 TO L/M AND F/D. 3) ADDED NOTE 3. 4) ZONE B2 CABLE STRAP MARKED "CARD PUNCH" WAS "P2". 5) ITEMS 11 THRU 20 WERE: |                                |          |             |
| 11   | 236532-0999                    | WIRE #24 | WHT/BLK TEF |
| 12   | -1999                          |          | /BRN        |
| 13   | -2999                          |          | /RED        |
| 14   | -3999                          |          | /ORN        |
| 15   | -4999                          |          | /YEL        |
| 16   | -5999                          |          | /GRN        |
| 17   | -6999                          |          | /BLU        |
| 18   | -7999                          |          | /VIO        |
| 19   | -8999                          |          | WHT/GRY     |
| 20   | 236532-0009                    | WIRE #24 | WHT TEF     |

PART NO. EXAMPLE :

217095 - XXXX

BASIC NO. \_\_\_\_\_  
DIM. A IN FT. \_\_\_\_\_

- NOTES:
- FOR DIM. A SEE APPROPRIATE L.M.
  - TOL. FOR DIM A IN FEET.
  - INSTALL ITEM 25 BETWEEN PINS 31 AND 32 OF P5

|            |                       |    |
|------------|-----------------------|----|
| REV. LEVEL | WIRE LIST 2170B2-9901 | *A |
|            | ASSEMBLY              | *A |

UNLESS OTHERWISE SPECIFIED  
 DECIMAL XX ± .02 XXX - .010  
 FRACTIONAL ± 1/64 ANGULAR ± 1°  
 CONCENTRICITY MACHINED DIAMETERS .004 TIR  
 ALL DIMENSIONS TO BE MET BEFORE PLATING  
 REMOVE ALL BURRS AND SHARP EDGES  
 DO NOT SCALE THIS DRAWING  
 ALL DIMENSIONS IN INCHES  
 SURFACES MARKED ✓ TO HAVE  
 DRILLED HOLE TOLERANCES  
 .013 TO .134 ± .003 134 TO .250 ± .004  
 .250 AND ABOVE ± .005

| PROCESS | DESCRIPTION                                  | QTY  | UNIT | ISSUE  | DATE | PART NUMBER | DESCRIPTION | VENOR PART NUMBER |
|---------|--|------|------|--------|------|-------------|-------------|-------------------|
| 1.      | HOT STAMP PER F-100, HEIGHT, 12, COLOR BLACK | 8960 | D    | 217089 |      |             |             |                   |
|         |  | 8980 | D    | 217089 |      |             |             |                   |

|             |        |          |        |
|-------------|--------|----------|--------|
| DESIGNED BY | DATE   | CHKD BY  | DATE   |
| DRN         | 1/1/72 | DRN      | 1/1/72 |
| APP'D BY    | DATE   | APP'D BY | DATE   |
| DRN         | 1/1/72 | DRN      | 1/1/72 |
| DATE        | 1/1/72 | DATE     | 1/1/72 |
| NAME        | DRN    | NAME     | DRN    |
|             |        |          |        |

**TEXAS INSTRUMENTS**  
 INCORPORATED  
 INDUSTRIAL PRODUCTS DIVISION  
 HOUSTON, TEXAS

TITLE: CABLE ASSEMBLY  
 INTERNAL TO CRU  
 UNIT: CARD PUNCH MODIFIED  
 SYSTEM: COMPUTER

DATE: 1/1/72  
 NAME: DRN  
 PART NO: C 217095  
 REV: A



**TEXAS INSTRUMENTS**  
INCORPORATED

DATE 03/13/72

**LIST OF MATERIAL**

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PART NUMBER  
**LM 217095-CC2C**

REV  
**A**

| PRINT ITEM NUMBER | QUANTITY PER ASSEMBLY | UNIT OF ISSUE | DWG. SIZE | PART NUMBER | DESCRIPTION                             | VENDOR PART NUMBER |
|-------------------|-----------------------|---------------|-----------|-------------|---|--------------------|
| 0001              | 0002.000              | EA            |           | 231447-0800 | CONNECTOR PC 36 PIN                     | VIK-2VF-36/1CN-5   |
| 0001A             |                       |               |           |             | P2 P5                                   |                    |
| 0002              | 0002.000              | EA            |           | 214080-0001 | CONNECTOR-COVER                         |                    |
| 0003              | 0002.000              | EA            |           | 214081-0001 | CLAMP                                   |                    |
| 0005              | 00020.000             | FT            |           | 236320-0000 | TUBING 1/2 .500 ID BLK.PLAS             | IRV-F1/2           |
| 0006              | 0003.000              | EA            |           | 235463-0006 | STRAP STD MKR BUNDLE DIA 0 TO 1-3/4 IN  | PNO-SSM-2          |
| 0008              | 0004.000              | EA            |           | 235023-0002 | SCREW 4-40 X 1/4 FIF                    |                    |
| 0009              | 00004.000             | EA            |           | 235027-0001 | SCREW 4-40X1/2 BH SST                   |                    |
| 0011              | 00335.000             | FT            |           | 417682-4099 | WIRE#26 WHI/BLK IPVC 7 STR 1COND ULECSA | -ULECSA APVD       |
| 0012              | 00044.000             | FT            |           | 417682-4199 | WIRE#26 WHI/BRN IPVC 7 STR 1COND ULECSA | -ULECSA APVD       |
| 0013              | 00044.000             | FT            |           | 417682-4299 | WIRE#26 WHI/RED IPVC 7 STR 1COND ULECSA | -ULECSA APVC       |
| 0014              | 00044.000             | FT            |           | 417682-4399 | WIRE#26 WHI/CRN IPVC 7 STR 1COND ULECSA | -ULECSA APVC       |
| 0015              | 00044.000             | FT            |           | 417682-4499 | WIRE#26 WHI/YEL IPVC 7 STR 1COND ULECSA | -ULECSA APVD       |
| 0016              | 00044.000             | FT            |           | 417682-4599 | WIRE#26 WHI/GRN IPVC 7 STR 1COND ULECSA | -ULECSA APVC       |
| 0017              | 00044.000             | FT            |           | 417682-4699 | WIRE#26 WHI/BLU IPVC 7 STR 1COND ULECSA | -ULECSA APVC       |
| 0018              | 00044.000             | FT            |           | 417682-4799 | WIRE#26 WHI/VIC IPVC 7 STR 1COND ULECSA | -ULECSA APVC       |
| 0019              | 00022.000             | FT            |           | 417682-4899 | WIRE#26 WHI/GRY IPVC 7 STR 1COND ULECSA | -ULECSA APVC       |
| 0020              | 00022.000             | FT            |           | 417682-4999 | WIRE#26 WHI IPVC 7 STRAND 1COND ULECSA  | -ULECSA APVD       |
| 0024              | REF                   | EA            |           | 217082-9901 | WIRE LIST,PT-TC-PT                      |                    |
| 0025              | 00001.000             | EA            |           | 539908-0001 | CONNECTOR KEY POLARIZING PLASTIC        |                    |

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|  |   |                             |  |
|--|---|-----------------------------|--|
| DRAFTSMAN<br><i>R. Balwick</i><br>DATE 3-19-72 | CRD DRAFTSMAN<br><i>[Signature]</i><br>DATE 3-15-72 | DESIGN ENGINEER<br><br>DATE | TITLE<br>CABLE ASSY-PUNCH INTERFACE TO CRU |
| PPD-MFG<br>DATE                                | APPD PROJECT ENGINEER<br><br>DATE                   | RELEASED<br><br>DATE        | PROJECT NO.<br>8960/8980                   |


**FILMED**

PART NUMBER  
**LM 217095-CC2C**

REV  
**A**



| WIRE NO. | DESCRIPTION      | TOTAL LENGTH | SIGNATURE | COMPONENT CONNECTION FOR START STATION | COMPONENT CONNECTION FOR FINISH STATION | REMARKS | N/A LM ITEM NO. |
|----------|------------------|--------------|-----------|--|---|---------|-----------------|
| 1        | #26 1PVC WHT/BRN | AR           | OUT 0     | P2 - L                                 | P5 - L                                  |         | 12              |
| 2        | WHT/BLK          |              | GRD       | K                                      | K                                       |         | 11              |
| 3        | WHT/RED          |              | OUT 1     | F                                      | F                                       |         | 13              |
| 4        | WHT/BLK          |              | GRD       | E                                      | E                                       |         | 11              |
| 5        | WHT/ORN          |              | OUT 2     | B                                      | B                                       |         | 14              |
| 6        | WHT/BLK          |              | GRD       | A                                      | A                                       |         | 11              |
| 7        | WHT/YEL          |              | OUT 3     | X                                      | X                                       |         | 15              |
| 8        | WHT/BLK          |              | GRD       | W                                      | W                                       |         | 11              |
| 9        | WHT/GRN          |              | OUT 4     | T                                      | T                                       |         | 16              |
| 10       | WHT/BLK          |              | GRD       | S                                      | S                                       |         | 11              |
| 11       | WHT/BLW          |              | OUT 5     | N                                      | N                                       |         | 17              |
| 12       | WHT/BLK          |              | GRD       | M                                      | M                                       |         | 11              |
| 13       | WHT/VIO          |              | OUT 6     | J                                      | J                                       |         | 18              |
| 14       | WHT/BLK          |              | GRD       | H                                      | H                                       |         | 11              |
| 15       | WHT/GRY          |              | OUT 7     | D                                      | D                                       |         | 19              |
| 16       | WHT/BLK          |              | GRD       | C                                      | C                                       |         | 11              |
| 17       | WHT              |              | OUT 8     | 32                                     | 32                                      |         | 20              |
| 18       | WHT/BLK          |              | GRD       | 31                                     | 31                                      |         | 11              |
| 19       | WHT/BRN          |              | OUT 9     | 28                                     | 28                                      |         | 12              |
| 20       | WHT/BLK          |              | GRD       | 27                                     | 27                                      |         | 11              |
| 21       | WHT/RED          |              | OUT 10    | 24                                     | 24                                      |         | 13              |
| 22       | WHT/BLK          |              | GRD       | 23                                     | 23                                      |         | 11              |
| 23       | WHT/ORN          |              | OUT 11    | 20                                     | 20                                      |         | 14              |
| 24       | #26 1PVC WHT/BLK | AR           | GRD       | P2 - 19                                | P5 - 19                                 |         | 11              |


**TEXAS INSTRUMENTS**  
 INCORPORATED  
 INDUSTRIAL PRODUCTS DIVISION  
 HOUSTON, TEXAS

**A**  
 SHEET 2  
**217082**

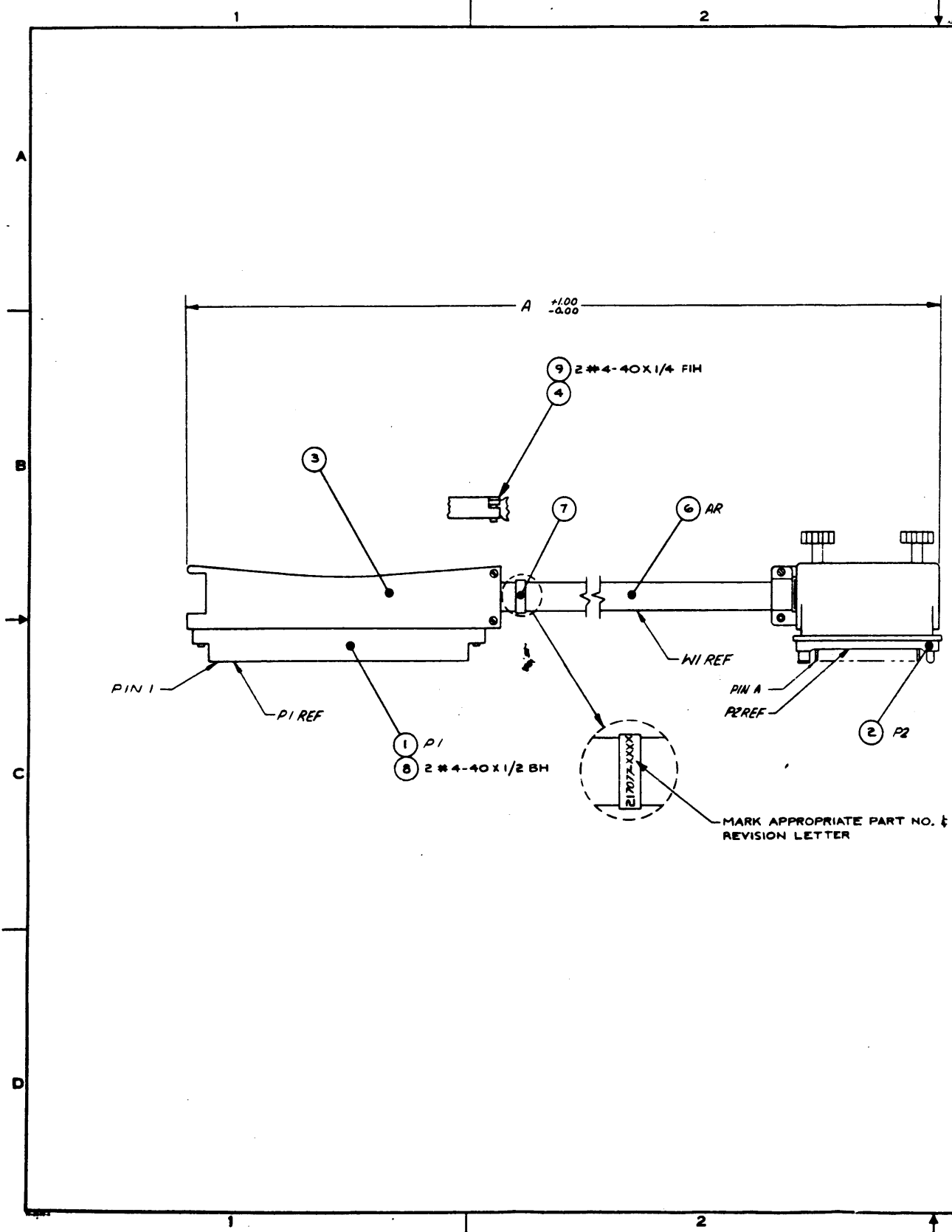
**A** REV

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217077



| REVISIONS        |   |         |      |
|------------------|---|---------|------|
| LTG              | DESCRIPTION   | DATE    | APPD |
| A                | 368082(C) 3-9-70 L.M.W.<br>CHG. 1) LM IT. 1A WAS P2<br>2) LM IT. 2A WAS P1<br>3) P1/D WAS:  | 9/17/70 | LM   |
|                  |   |         |      |
| ADDED LM IT. 21. |   |         |      |
| B                | 343891 (C) 11-2-70 L.M.W.<br>DELETED: 1) LM-0010, -0015, -0020; IT. 5 P/N<br>232110-1000 QTY 1.<br>CHG: 1) LM-0010, -0015, -0020; IT. 2 P/N WAS<br>23177-0025. 2) LM-0010, -0015, -0020;<br>IT. 21 P/N WAS 231554-0110.<br>ADDED: 1) ZONE C2, CALLOUT "PIN A."<br>2) ZONE B2, KNOBS TO TOP OF P2. |         |      |
| C                | 376228(D) R.B. L.M.W. (ADDED ITEM) 11/17/70<br>22 TO L/M  |         |      |
| D                | 415268(C) R.B. L.M.W. (ADDED ITEM) 11/17/70<br>ITEM 21 WAS 231554-0198  |         |      |
| E                | 415268(E) R.B. L.M.W. (ADDED ITEM) 11/17/70<br>ITEM 21 WAS 231554-0110  |         |      |

PART NO. EXAMPLE:  
 217077 - XXXX  
 BASIC NO. |  
 DIM. A IN FT |

NOTES:  
 1. FOR DIM. A SEE APPROPRIATE LM.  
 TCL ON DIM. A IN FEET.

| UNLESS OTHERWISE SPECIFIED |       | PROCESS           |              | LIST OF MATERIALS |                                      | VENDOR PART NUMBER |             |
|----------------------------|-------|-------------------|--------------|-------------------|--------------------------------------|--------------------|-------------|
| DECIMAL                    | FRAC. | HEAT STAMP PER    | SIZE         | QTY               | DESCRIPTION                          | QTY                | DESCRIPTION |
| 0.0001                     | 001   | FIDD, HEIGHT .12, | 2760 A 21410 |                   | TEXAS INSTRUMENTS                    |                    |             |
|                            |       | COLOR BLACK       |              |                   | INDUSTRIAL PRODUCTS DIVISION         |                    |             |
|                            |       |                   |              |                   | DALLAS, TEXAS                        |                    |             |
|                            |       |                   |              |                   | CABLE ASSY. 20' TO 2510 LINE PRINTER |                    |             |
|                            |       |                   |              |                   | COMPUTER                             |                    |             |
|                            |       |                   |              |                   | D 217077                             |                    |             |

FILMED LM



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| <b>LM</b> 0217077-0010 | REV E |
|------------------------|-------|

| PART ITEM NUMBER | QUANTITY PER ASSEMBLY | UNIT OF ISSUE | DWG SIZE | PART NUMBER  | DESCRIPTION                         | VENDOR PART NUMBER      |
|------------------|-----------------------|---------------|----------|--------------|-------------------------------------|-------------------------|
| 0001             | 00001.000             | EA            |          | 0231447-C800 | CONNECTOR FC 36 PIN                 | VIK -2VH-36/1CN-5       |
| 0001A            |                       |               |          |              | F1                                  |                         |
| 0002             | 00001.000             | EA            |          | 0231177-CC42 | CONNECTOR W/HOOD LARGE SIDE OPENING | WIN -MEAC50PJTDH9       |
| 0002A            |                       |               |          |              | F2                                  |                         |
| 0003             | 00001.000             | EA            |          | 0214080-CCC1 | CONNECTOR-COVER                     |                         |
| 0004             | 00001.000             | EA            |          | 0214081-CCC1 | CLAMP                               |                         |
| 0006             | 00010.000             | FT            |          | 0411634-5000 | SLEEVES,PVC, 1/2 DIA. BLACK         | QPL - MIL-1-631         |
| 0007             | 00001.000             | EA            |          | 0418212-C040 | STRAP,TIEDOWN,ADJUSTABLE,PLASTIC    | QPL - MS3367-4-9        |
| 0008             | 00003.000             | EA            |          | 0411095-0213 | SCREW 4-40 X .250 FIL. HEAD CRES    | QPL - MS35275-213       |
| 0009             | 00002.000             | EA            |          | 0972988-CC17 | SCREW 4-40 X .500 PAN HEAD CRES     |                         |
| 0010             | 00118.000             | FT            |          | 0236532-C999 | WIRE #24 WHT/BLK TEF UL 1 STR CON   | -UL APPD                |
| 0011             | 00021.000             | FT            |          | 0538555-2199 | WIRE 24 AWG HOOKUP UL-1609 BN/WH    | EFT QPL - M22759/18-24- |
| 0012             | 00010.000             | FT            |          | 0538555-2299 | WIRE 24 AWG HOOKUP UL-1609 RD/WH    | EFT QPL - M22759/18-24- |
| 0013             | 00010.000             | FT            |          | 0538555-2399 | WIRE 24 AWG HOOKUP UL-1609 GR/WH    | EFT QPL - M22759/18-24- |
| 0014             | 00010.000             | FT            |          | 0538555-2499 | WIRE 24 AWG HOOKUP UL-1609 YL/WH    | EFT QPL - M22759/18-24- |
| 0015             | 00010.000             | FT            |          | 0538555-2599 | WIRE 24 AWG HOOKUP UL-1609 GN/WH    | EFT QPL - M22759/18-24- |
| 0016             | 00010.000             | FT            |          | 0538555-2699 | WIRE 24 AWG HOOKUP UL-1609 BL/WH    | EFT QPL - M22759/18-24- |
| 0017             | 00021.000             | FT            |          | 0538555-2799 | WIRE 24 AWG HOOKUP UL-1609 VI/WH    | EFT QPL - M22759/18-24- |
| 0018             | 00010.000             | FT            |          | 0538555-2899 | WIRE 24 AWG HOOKUP UL-1609 GR/WH    | EFT QPL - M22759/18-24- |
| 0019             | 00010.000             | FT            |          | 0538555-2999 | WIRE 24 AWG HOOKUP UL-1609 WHITE    | EFT QPL - M22759/18-24- |

|            |      |                        |        |                 |      |                                     |
|------------|------|------------------------|--------|-----------------|------|-------------------------------------|
| DRAFTSMAN  | DATE | CHKD. DRAFTSMAN        | DATE   | DESIGN ENGINEER | DATE | TITLE                               |
|            |      | <i>[Signature]</i>     | 3-9-77 |                 |      | CABLE ASSY-CRU TO 2310 LINE PRINTER |
| APPD. MFG. | DATE | APPD. PROJECT ENGINEER | DATE   | RELEASED        | DATE | PROJECT NO.                         |
|            |      |                        |        |                 |      |                                     |

|                        |       |
|------------------------|-------|
| <b>LM</b> 0217077-0010 | REV E |
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| <b>LM</b> | PART NUMBER<br>0217077-0010 | REV<br>E |
|-----------|-----------------------------|----------|

| PRINT ITEM NUMBER | QUANTITY PER ASSEMBLY | UNIT OF ISSUE | DWG SIZE | PART NUMBER  | DESCRIPTION                    | VENDOR PART NUMBER |
|-------------------|-----------------------|---------------|----------|--------------|--------------------------------|--------------------|
| C020              | REF                   | EA            |          | 0217078-55C1 | WIRE LIST, FT-TJ-PT            |                    |
| C021              | 00021.000             | EA            |          | 0411377-CCG6 | CONTACT #24-23 ELECTRICAL MALE | 1-00-1024P         |
| C022              | REF                   | EA            |          | 0973585-55C1 | UNIT TEST PROCEDURE            |                    |

|           |      |                       |      |                 |      |                                     |
|-----------|------|-----------------------|------|-----------------|------|-------------------------------------|
| DRAFTSMAN | DATE | CKD DRAFTSMAN         | DATE | DESIGN ENGINEER | DATE | TITLE                               |
|           |      |                       |      |                 |      | CABLE ASSY-DRG TO 2310 LINE PRINTER |
| APPD MFG  | DATE | APPD PROJECT ENGINEER | DATE | RELEASED        | DATE | PROJECT NO                          |
|           |      |                       |      |                 |      |                                     |

|           |                             |          |
|-----------|-----------------------------|----------|
| <b>LM</b> | PART NUMBER<br>0217077-0010 | REV<br>E |
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| <b>LM</b> 0217077-0015 | PART NUMBER | REV |
|                        |             | E   |

| PRINT ITEM NUMBER | QUANTITY PER ASSEMBLY | UNIT OF ISSUE         | DWG SIZE | PART NUMBER     | DESCRIPTION                         | VENDOR PART NUMBER                  |
|-------------------|-----------------------|-----------------------|----------|-----------------|-------------------------------------|-------------------------------------|
| 0001              | 00001.000             | EA                    |          | 0231447-C800    | CONNECTOR FC 36 PIN                 | VIK -2VH-36/1CN-5                   |
| 0001A             |                       |                       |          |                 | P1                                  |                                     |
| 0002              | 00001.000             | EA                    |          | 0231177-CC42    | CONNECTOR W/HOOD LARGE SIDE OPENING | WIN -MFAC50PJTLFS                   |
| 0002A             |                       |                       |          |                 | F2                                  |                                     |
| 0003              | 00001.000             | EA                    |          | 0214080-CCC1    | CONNECTOR-COVER                     |                                     |
| 0004              | 00001.000             | EA                    |          | 0214081-CC01    | CLAMP                               |                                     |
| 0006              | 00015.000             | FT                    |          | 0411634-5000    | SLEEVE,PVC, 1/2 DIA. BLACK          | QPL - MIL-1-631                     |
| 0007              | 00001.000             | EA                    |          | 0418212-CC40    | STRAP,TIEDOWN,ADJUSTABLE,PLASTIC    | QPL - MS3367-4-9                    |
| 0008              | 00002.000             | EA                    |          | 0411055-0213    | SCREW 4-40 X .250 FIL. HEAD CRES    | QPL - MS35275-213                   |
| 0009              | 00002.000             | EA                    |          | 0972588-CC17    | SCREW 4-40 X .500 PAN HEAD CRES     |                                     |
| 0010              | 00175.800             | FT                    |          | 0236532-C555    | WIRE #24 WHT/BLK TEF UL 1 STR CON   | -UL APPD                            |
| 0011              | 00031.600             | FT                    |          | 0538555-2195    | WIRE 24 AWG FLOKUF UL-1609 BN/WH    | EFTC QPL - M22759/18-24             |
| 0012              | 00015.800             | FT                    |          | 0538555-2295    | WIRE 24 AWG FLOKUF UL-1609 RD/WH    | EFTC QPL - M22759/18-24             |
| 0013              | 00015.800             | FT                    |          | 0538555-2395    | WIRE 24 AWG FLOKUF UL-1609 OR/WH    | EFTC QPL - M22759/18-24             |
| 0014              | 00015.800             | FT                    |          | 0538555-2495    | WIRE 24 AWG FLOKUF UL-1609 YL/WH    | EFTC QPL - M22759/18-24             |
| 0015              | 00015.800             | FT                    |          | 0538555-2595    | WIRE 24 AWG FLOKUF UL-1609 GN/WH    | EFTC QPL - M22759/18-24             |
| 0016              | 00015.800             | FT                    |          | 0538555-2695    | WIRE 24 AWG FLOKUF UL-1609 BL/WH    | EFTC QPL - M22759/18-24             |
| 0017              | 00031.600             | FT                    |          | 0538555-2795    | WIRE 24 AWG FLOKUF UL-1609 VI/WH    | EFTC QPL - M22759/18-24             |
| 0018              | 00015.800             | FT                    |          | 0538555-2895    | WIRE 24 AWG FLOKUF UL-1609 GR/WH    | EFTC QPL - M22759/18-24             |
| 0019              | 00015.800             | FT                    |          | 0538555-2995    | WIRE 24 AWG FLOKUF UL-1609 WHITE    | EFTC QPL - M22759/18-24             |
| DRAFTSMAN         | DATE                  | CKD DRAFTSMAN         | DATE     | DESIGN ENGINEER | DATE                                | TITLE                               |
| APPD MFG          | DATE                  | APPD PROJECT ENGINEER | DATE     | RELEASED        | DATE                                | PROJECT NO                          |
|                   |                       |                       |          |                 |                                     | CABLE ASSY-CRU TO 2310 LINE PRINTER |
|                   |                       |                       |          |                 |                                     | <b>LM</b> 0217077-0015              |
|                   |                       |                       |          |                 |                                     | PART NUMBER                         |
|                   |                       |                       |          |                 |                                     | REV                                 |
|                   |                       |                       |          |                 |                                     | E                                   |

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| <b>LM</b> 0217077-0015 | REV<br>F |
|------------------------|----------|

| PRINT ITEM NUMBER | QUANTITY PER ASSEMBLY | UNIT OF ISSUE | DWG SIZE | PART NUMBER  | DESCRIPTION                    | VENDOR PART NUMBER |
|-------------------|-----------------------|---------------|----------|--------------|--------------------------------|--------------------|
| CC20              | REF                   | EA            |          | 0217078-9901 | WIRE LIST, PT-TJ-PI            |                    |
| CC21              | 00021.000             | EA            |          | 0411377-0006 | CONTACT #24-23 ELECTRICAL MALE | 1-00-1024D         |
| CC22              | REF                   | EA            |          | 0973585-9901 | UNIT TEST PROCEDURE            |                    |

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|                        |      |                       |      |                 |      |            |   |  |                        |     |
|------------------------|------|-----------------------|------|-----------------|------|------------|---|--|------------------------|-----|
| DRAFTSMAN              | DATE | CKD DRAFTSMAN         | DATE | DESIGN ENGINEER | DATE | TITLE      | CABLE ASSY-CRU TO 2310 LINE PRINTER   |  |                        |     |
| APPD MFG               | DATE | APPD PROJECT ENGINEER | DATE | RELEASED        | DATE | PROJECT NO | <table border="1"> <tr> <td><b>LM</b> 0217077-0015</td> <td>REV</td> </tr> </table> |  | <b>LM</b> 0217077-0015 | REV |
| <b>LM</b> 0217077-0015 | REV  |                       |      |                 |      |            |   |  |                        |     |



**TEXAS INSTRUMENTS**  
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|                        |     |
|------------------------|-----|
| PART NUMBER            | REV |
| <b>LM 0217077-0020</b> | E   |

| PRINT ITEM NUMBER | QUANTITY PER ASSEMBLY | UNIT OF ISSUE         | DWG. SIZE | PART NUMBER     | DESCRIPTION                         | VENDOR PART NUMBER                    |
|-------------------|-----------------------|-----------------------|-----------|-----------------|-------------------------------------|---------------------------------------|
| C001              | 0001.000              | EA                    |           | J231447-C800    | CONNECTOR FC 35 PIN                 | VIK -2VH-36/1CN-5                     |
| C001A             |                       |                       |           |                 | P1                                  |                                       |
| C002              | 0001.000              | EA                    |           | 0231177-0042    | CONNECTOR W/HOOD LARGE SIDE OPENING | WIN -MFA50PJTCF5                      |
| C002A             |                       |                       |           |                 | F2                                  |                                       |
| C003              | 00001.000             | EA                    |           | 0214080-0001    | CONNECTOR-COVER                     |                                       |
| C004              | 00001.000             | EA                    |           | 0214081-0001    | CLAMP                               |                                       |
| C006              | 00020.000             | FT                    |           | 0411634-5000    | SLEEVE,PVC, 1/2 DIA. BLACK          | QPL - MIL-1-631                       |
| C007              | 00001.000             | EA                    |           | 0418212-0040    | STRAP,TIEDOWN,ADJUSTABLE,PLASTIC    | QPL - MS3367-4-9                      |
| C008              | 00002.000             | EA                    |           | 0411055-0213    | SCREW 4-40 X .250 FIL. HEAD CRES    | QPL - MS35275-213                     |
| C009              | 00002.000             | EA                    |           | 0972568-0017    | SCREW 4-40 X .500 FAN HEAD CRES     |                                       |
| C010              | 00236.800             | FT                    |           | 0236532-0999    | WIRE #24 WTI/BLK IEF UL 1 STR CON   | -UL APPD                              |
| C011              | 00040.800             | FT                    |           | 0538555-2199    | WIRE 24 AWG FLOKUP UL-1609 BN/WH    | EFTE QPL - M22759/18-24-              |
| C012              | 00020.800             | FT                    |           | 0538555-2299    | WIRE 24 AWG FLOKUP UL-1609 RD/WH    | EFTE QPL - M22759/18-24-              |
| C013              | 00020.800             | FT                    |           | 0538555-2399    | WIRE 24 AWG FLOKUP UL-1609 OR/WH    | EFTE QPL - M22759/18-24-              |
| C014              | 00020.800             | FT                    |           | 0538555-2499    | WIRE 24 AWG FLOKUP UL-1609 YL/WH    | EFTE QPL - M22759/18-24-              |
| C015              | 00020.800             | FT                    |           | 0538555-2599    | WIRE 24 AWG FLOKUP UL-1609 GN/WH    | EFTE QPL - M22759/18-24-              |
| C016              | 00020.800             | FT                    |           | 0538555-2699    | WIRE 24 AWG FLOKUP UL-1609 BL/WH    | EFTE QPL - M22759/18-24-              |
| C017              | 00040.800             | FT                    |           | 0538555-2799    | WIRE 24 AWG FLOKUP UL-1609 VI/WH    | EFTE QPL - M22759/18-24-              |
| C018              | 00020.800             | FT                    |           | 0538555-2899    | WIRE 24 AWG FLOKUP UL-1609 GR/WH    | EFTE QPL - M22759/18-24-              |
| C019              | 00020.800             | FT                    |           | 0538555-2999    | WIRE 24 AWG FLOKUP UL-1609 WHITE    | EFTE QPL - M22759/18-24-              |
| DRAFTSMAN         | DATE                  | CKD DRAFTSMAN         | DATE      | DESIGN ENGINEER | DATE                                | TITLE                                 |
| APPD MFG          | DATE                  | APPD PROJECT ENGINEER | DATE      | RELEASED        | DATE                                | PROJECT NO                            |
|                   |                       |                       |           |                 |                                     | CABLE ASSY-CRU TO 2310 LINE PRINTER   |
|                   |                       |                       |           |                 |                                     | PART NUMBER<br><b>LM 0217077-0020</b> |
|                   |                       |                       |           |                 |                                     | REV<br>E                              |

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DATE 03/08/77

**LIST OF MATERIAL**

PAGE 2 of

|                        |     |
|------------------------|-----|
| PART NUMBER            | REV |
| <b>LM 0217077-0020</b> | E   |

| PRINT ITEM NUMBER | QUANTITY PER ASSEMBLY | UNIT OF ISSUE | DWG SIZE | PART NUMBER  | DESCRIPTION                    | VENDOR PART NUMBER |
|-------------------|-----------------------|---------------|----------|--------------|--------------------------------|--------------------|
| 0020              | 00001.000             | EA            |          | 0217078-9901 | WIRE LIST, PI-TJ-PI            |                    |
| 0021              | 00021.000             | EA            |          | 0411377-0006 | CONTACT #24-23 ELECTRICAL MALE | 1-00-10242         |
| 0022              | REF                   | EA            |          | 0973585-9901 | UNIT TEST PROCEDURE            |                    |

|           |      |                       |      |                 |      |                                     |
|-----------|------|-----------------------|------|-----------------|------|-------------------------------------|
| DRAFTSMAN | DATE | CKD DRAFTSMAN         | DATE | DESIGN ENGINEER | DATE | TITLE                               |
|           |      |                       |      |                 |      | CABLE ASSY-CRU TO 2310 LINE PRINTER |
| APPD MFG  | DATE | APPD PROJECT ENGINEER | DATE | RELEASED        | DATE | PROJECT NO                          |
|           |      |                       |      |                 |      |                                     |

|                        |     |
|------------------------|-----|
| PART NUMBER            | REV |
| <b>LM 0217077-0020</b> | E   |

2-400





71-13218

| WIRE NO. | DESCRIPTION     | TOTAL LENGTH | SIGNATURE | COMPONENT CONNECTION FOR START STATION | COMPONENT CONNECTION FOR FINISH STATION | REMARKS | N/A LM ITEM NO. |
|----------|-----------------|--------------|-----------|--|---|---------|-----------------|
| 1        | #24 TEF BRN/WHT | AR           | DATA 1    | P1 - l                                 | P2 - B                                  |         | 11              |
| 2        | BLK/WHT         |              | GRD       | - k                                    | - D                                     |         | 10              |
| 3        | RED/WHT         |              | DATA 2    | - f                                    | - F                                     |         | 12              |
| 4        | BLK/WHT         |              | GRD       | - e                                    | - J                                     |         | 10              |
| 5        | ORN/WHT         |              | DATA 3    | - b                                    | - L                                     |         | 13              |
| 6        | BLK/WHT         |              | GRD       | - a                                    | - N                                     |         | 10              |
| 7        | YEL/WHT         |              | DATA 4    | - X                                    | - R                                     |         | 14              |
| 8        | BLK/WHT         |              | GRD       | - W                                    | - T                                     |         | 10              |
| 9        | GRN/WHT         |              | DATA 5    | - T                                    | - V                                     |         | 15              |
| 10       | BLK/WHT         |              | GRD       | - S                                    | - X                                     |         | 10              |
| 11       | BLU/WHT         |              | DATA 6    | - N                                    | - Z                                     |         | 16              |
| 12       | BLK/WHT         |              | GRD       | - M                                    | - b                                     |         | 10              |
| 13       | BLK/WHT         |              | GRD       | - 14                                   | - C                                     |         | 10              |
| 14       | VIO/WHT         |              | DEMAND    | - 13                                   | P2 - E                                  |         | 17              |
| 15       | VIO/WHT         |              | INTERRUPT | - 13                                   | P1 - 5                                  |         | 17              |
| 16       | BLK/WHT         |              | GRD       | - 10                                   | P2 - EE                                 |         | 10              |
| 17       | GRY/WHT         |              | READY     | - 9                                    | - CC                                    |         | 18              |
| 18       | WHT             |              | DATA 7    | - J                                    | - n                                     |         | 19              |
| 19       | BLK/WHT         |              | GRD       | - H                                    | - k                                     |         | 10              |
| 20       | BRN/WHT         |              | STROBE    | - D                                    | - f                                     |         | 11              |
| 21       | #24 TEF BLK/WHT | AR           | GRD       | P1 - C                                 | P2 - m                                  |         | 10              |
| 22       |                 |              |           |  |   |         |                 |
| 23       |                 |              |           |  |   |         |                 |
| 24       |                 |              |           |  |   |         |                 |



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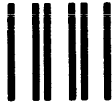
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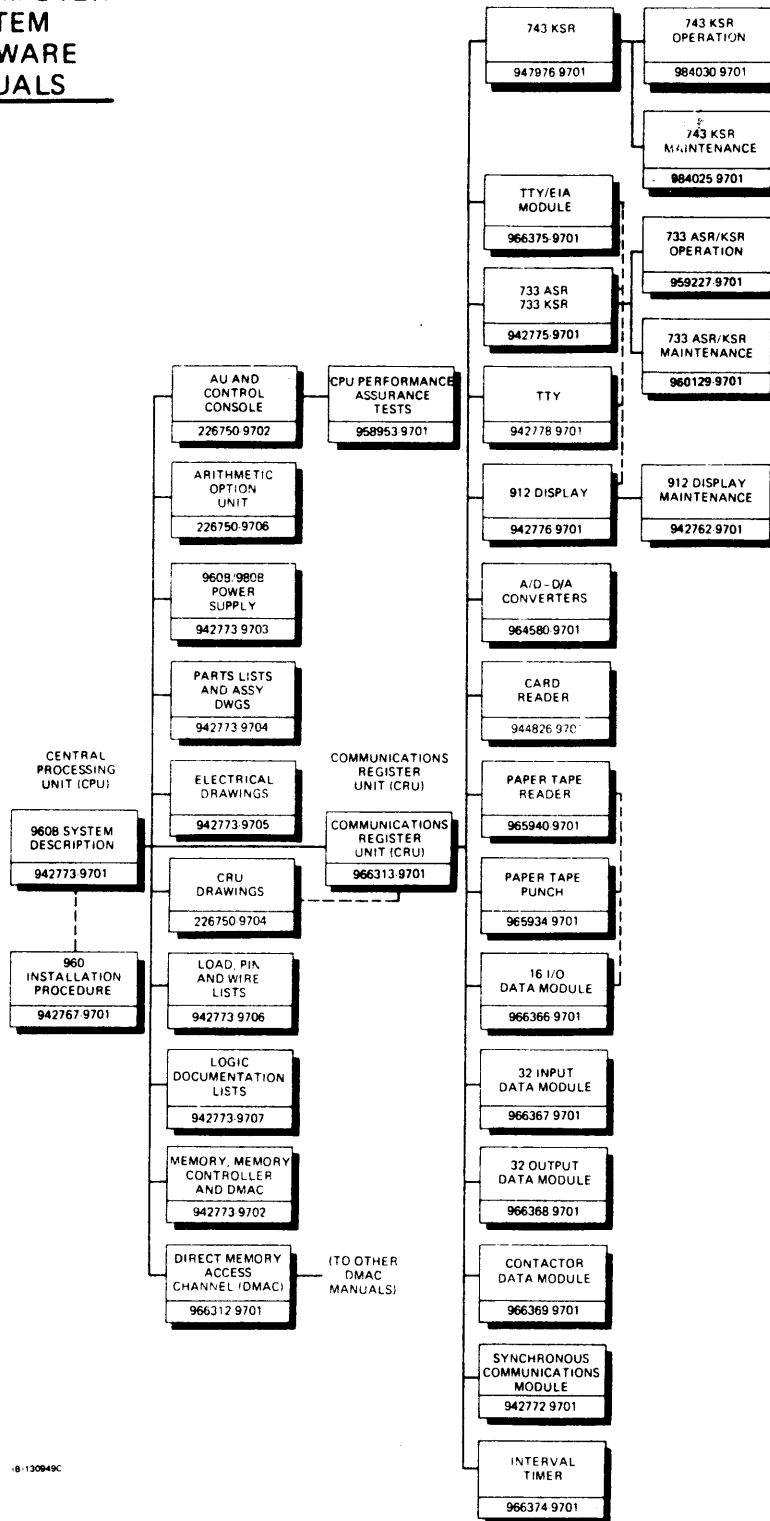
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