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32 KB CORE MEMORY (750 ns) MAINTENANCE MANUAL

Consists of:

Information Specification	29-493A12
Schematic (Electronics)	35-607R05D08
Component Locator (Electronics)	35-607R05E03
Schematic (Stack)	35-475R01D08
Component Locator (Stack)	35-517R02D03
Schematic (Electronics)	35-607M01R04D08
Component Locator (Electronics)	35-607M01R04E03


INTERDATA®
A UNIT OF
PERKIN-ELMER DATA SYSTEMS
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July 1977

PAGE REVISION STATUS SHEET

PUBLICATION NUMBER 29-493

TITLE 32KB Core Memory (750 ns) Maintenance Manual

REVISION R09

DATE July 1977

PAGE	REV.	DATE	PAGE	REV.	DATE	PAGE	REV.	DATE
29-493A12 Information Specification R00 1-18	1/76 R00	1/76	35-607M01E03 Assembly R04 1 of 1	7/77 R04	7/77			
35-607D08 Schematic R05 1-20	7/77 R05	7/77						
35-607E03 Assembly R05 1 of 1	4/77 R05	4/77						
35-475D08 Schematic R01 1-4	9/73 R01	9/73						
35-517D03 Assembly R02 1 2	1/76 R02 R02	1/76 1/76						
35-607M01R01D08 Schematic R03 1-20	4/77 R03	6/77						

FOREWORD

This Manual contains the information necessary to maintain the 1 microsecond, 32KB core memory. Both M00 and M01 versions are covered.

REVISIONS	
PRE PRODUCTION APPROVAL	DATE
DEV	
RELEASED FOR PRODUCTION	DATE
ENG	

BACK PANEL MAP			
CONN	CONN. POSITION MOTHER BOARD VERTICAL POS.	32KB MEMORY HORIZONTAL POSITION	
		1	2
	41	P5	GND
	40	GND	GND
	39	P15	P15
	38	N15	N15
	37	MD150	MD160
	36	MD130	MD140
	35	MD110	MD120
	34	MD090	MD100
	33	MD070	MD080
	32	MD050	MD060
	31	MD030	MD040
	30	MD010	MD020
	29		MD000
	28	TEMPA	
	27	WRTO	TEMPB
	26		
	25		
	24		
	23		
	22		
	21		
	20		
	19		
	18		
	17		
	16		
	15		
	14		
	13		
	12		
	11	ERWTO	MS000
	10	MS010	MS020
	09	MS030	MS040
	08	MS050	MS060
	07	MS070	MS080
	06	MS090	MS100
	05	MS110	MS120
	04	MS130	MS140
	03	MS150	MS160
	02	GND	GND
	01	P5	GND
	00		
	41	P5	GND
	40	GND	GND
	39		
	38		
	37		
	36		
	35	DUAO	MB20
	34		
	33	MA130	MA140
	32	MA110	MA120
	31	MA090	MA100
	30	MA070	MA080
	29	MA050	MA060
	28		
	27	SCLRO	
	26		
	25		
	24		
	23		
	22		
	21		
	20		
	19		
	18		
	17		
	16		
	15		
	14		
	13		
	12		
	11		
	10	MA030	MA040
	09	MA020	
	08	XMA150 MAX & MIN	XMA140 MAX & MIN
	07	MA010	
	06	MA000	
	05	PARO	
	04		ERO
	03		
	02	P15	N15
	01	GND	GND
	00	P5	GND

ERW - Early Read
WRTO - Even 1/2 wrd w/rt
MDxxx - odd Bank Data
MSxxx - even Bank Data

0	XCHC
1	XCHA
2	YCHC
3	YCHA

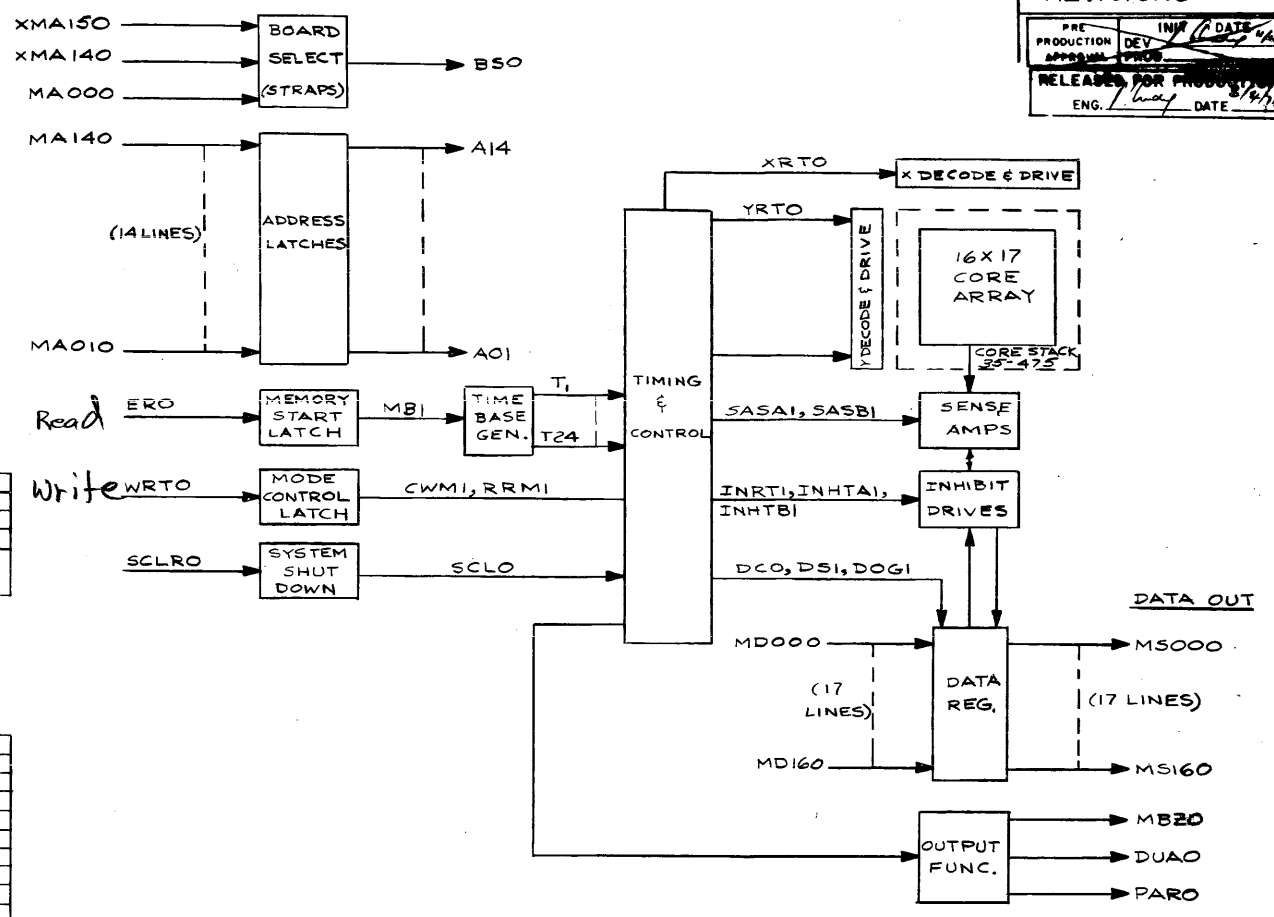
CONN C

00	GND
01	GND
02	XS7
03	XS6
04	XS5
05	XS4
06	XS3
07	XS2
08	XS1
09	XS0
10	YS7
11	YS6
12	YS5
13	YS4
14	YS3
15	YS2
16	YS1
17	YS0
18	N15
19	XRA14 + YWA14
20	15 15
21	13 13
22	12 12
23	10 10
24	11 11
25	9 9
26	8 8
27	6 6
28	7 7
29	5 5
30	4 4
31	2 2
32	3 3
33	1 1
34	XRA0 + YWA0
35	XWCM + YRC14
36	15 15
37	13 13
38	12 12
39	10 10
40	11 11
41	9 9
42	8 8
43	6 6
44	7 7
45	5 5
46	4 4
47	2 2
48	3 3
49	1 1
50	XWC0 + YRC0
51	P15

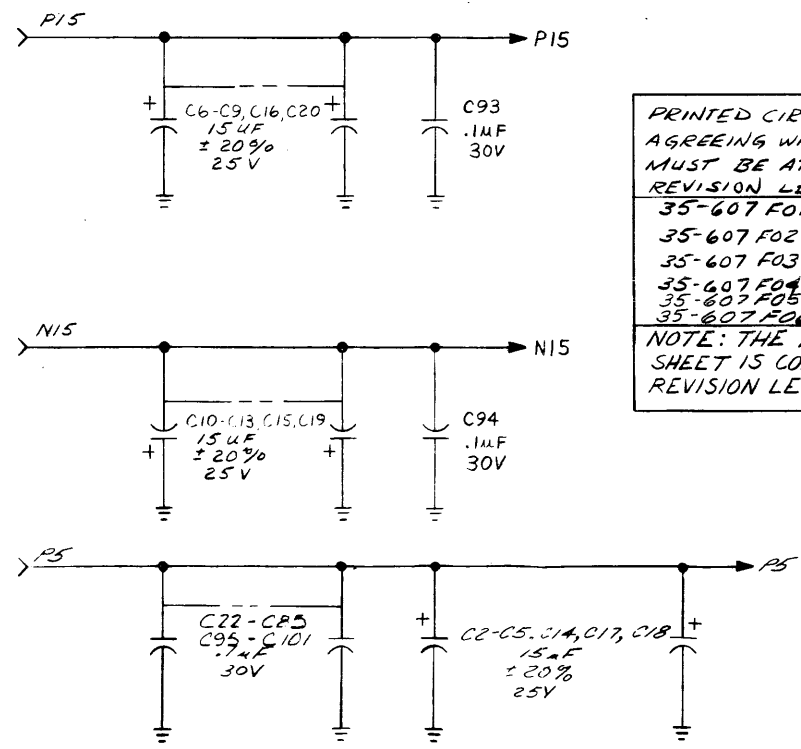
118	IB16
117	SB16
116	SB16
115	GND
114	SA16
113	SA16
112	IA16

13	IB1
12	SB1
11	SB1
10	GND
09	SA1
08	SA1
07	IA1
06	IB0
05	SB0
04	SB0
03	GND
02	SA0
01	SA0
00	IA0

CONN A



32 KB CORE MEMORY BLOCK DIAGRAM



PRINTED CIRCUIT BOARD ASSEMBLIES AGREEING WITH THIS SCHEMATIC, MUST BE AT LEAST THE FOLLOWING REVISION LEVEL:

35-607 F01 R05	.75 uSEC W/PAR
35-607 F02 R05	.75 uSEC W/O PAR
35-607 F03 R05	1.0 uSEC W/PAR
35-607 F04 R05	1.0 uSEC W/O PAR
35-607 F05	1.0 uSEC W/PAR R.M.W.
35-607 F06	1.0 uSEC W/O PAR R.M.W.

NOTE: THE REVISION LEVEL OF THIS SHEET IS CONSIDERED TO BE THE REVISION LEVEL OF THE DOCUMENT.

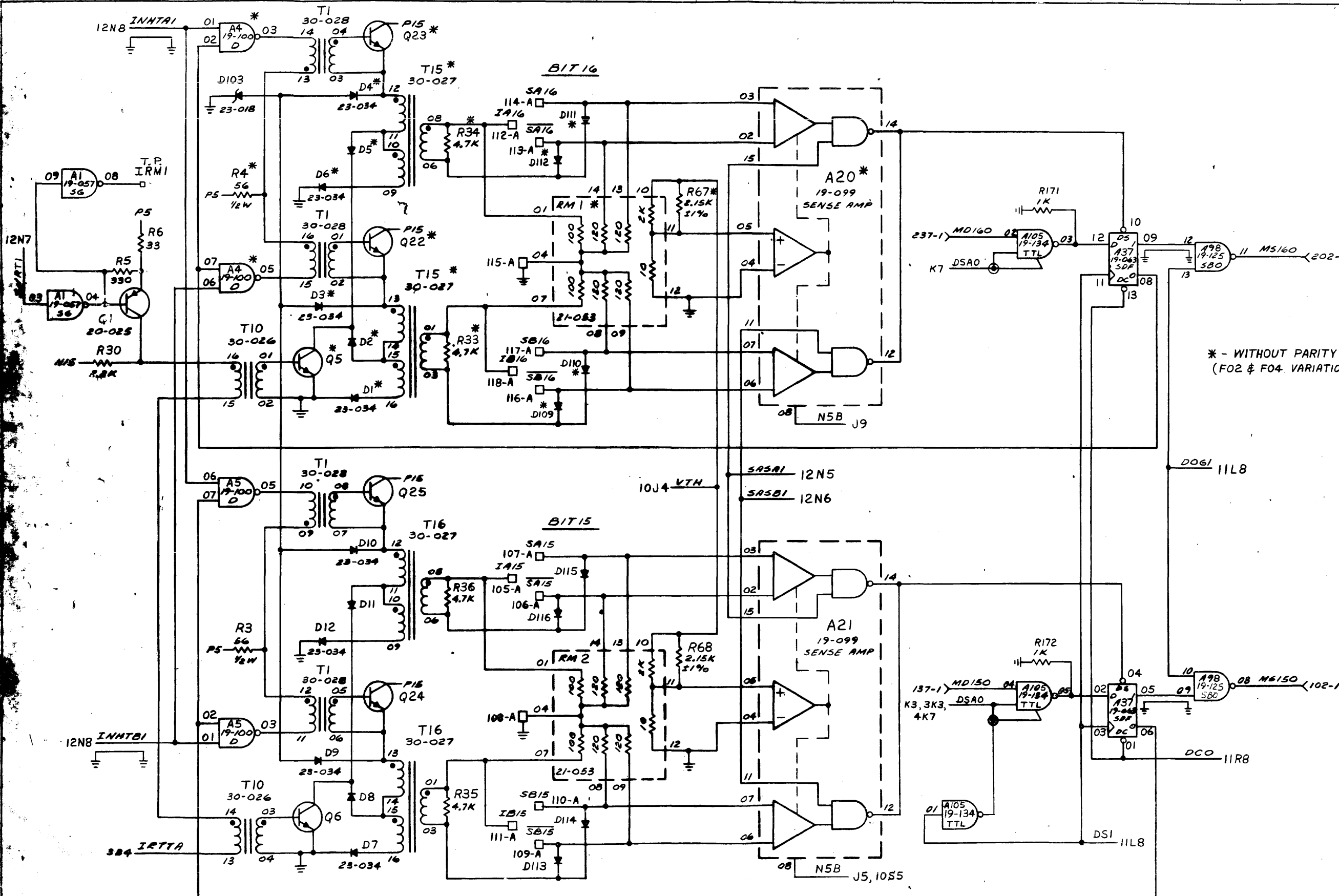
REVISIONS	
REVISED SHTS 17R20	
W/S 2801	5-19-76 R01
SHT 1 ADDED C95-C101 TO P5.	REVISED SHTS 15 & 20
Jc 2 2938	7-30-76 R02
REVISED SHTS 11, 18R20	
35-607 F01-F6 REV LENS WERE ADD. F05 & F06 VARIATIONS	
W/S IN 2832	1-16-76
DO NOT MANUFACTURE W/O AMPL	

SHEET INDEX	REV E	1	2	3
1	1	2	3	4

REVISIONS (CONT'D)	NAME	TITLE	DATE
SUPERCEDED PER ECN #3066	B. GRAY	ELECTRONICS BOARD (32KB MEMORY)	9-12-74
W/S 3066	H. MATTER		1-19-76
W/S 3066	P. OBROA		1-19-76
REVISED SHT 11	J. AMES		1-19-76
W/S 3072	J. S. S. S. S. S.		1-19-76

DRAWING 44-231 1604Z

REVISIONS



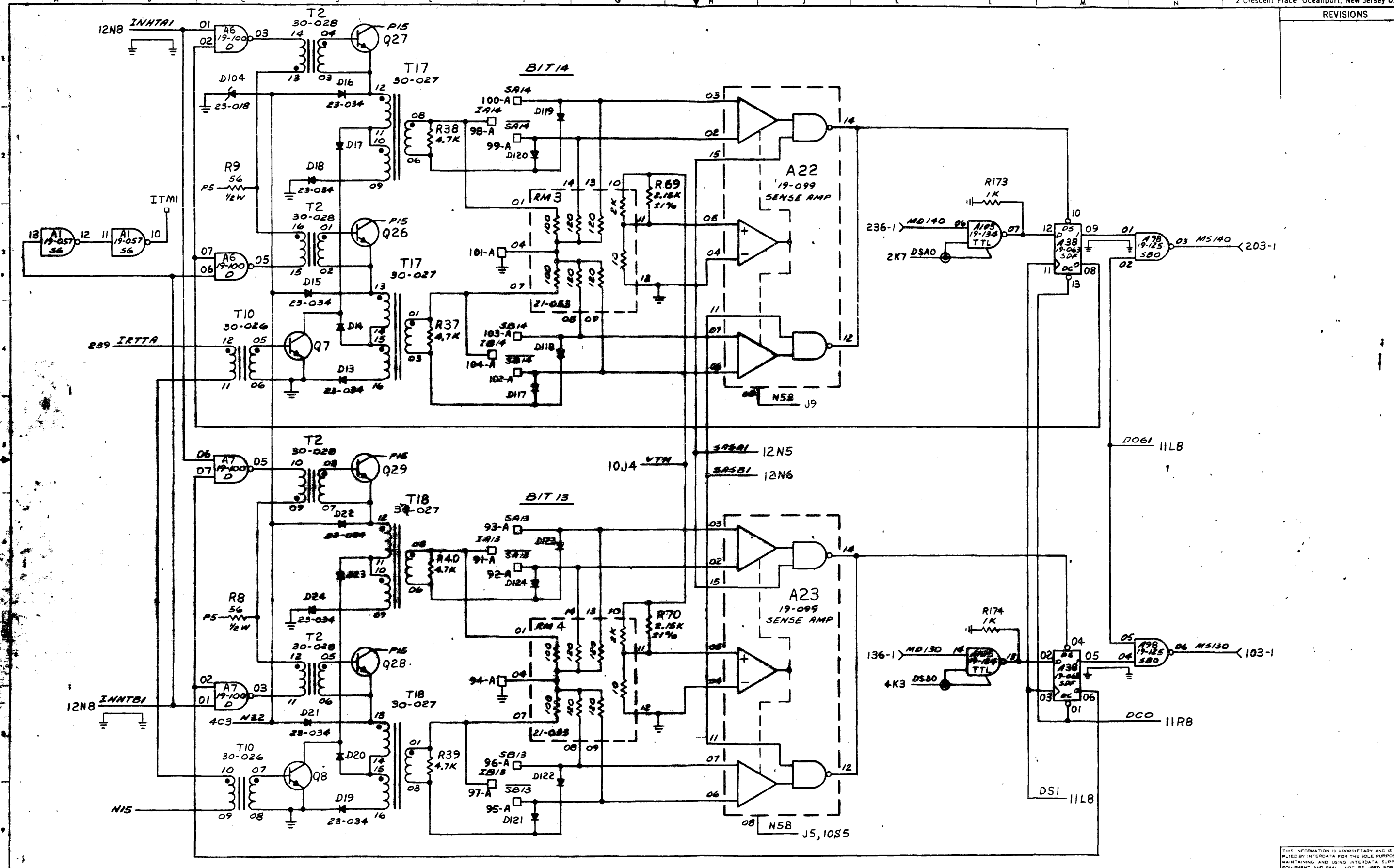
* - WITHOUT PARITY
(FO2 & FO4 VARIATIONS)

NOTES:
1. UNLESS OTHERWISE SPECIFIED:
a) DIODES ARE 23-001.
b) TRANSISTORS ARE 20-020.

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SCALE-	NAME	TITLE	DATE	TITLE SCHEMATIC
				ELECTRONICS BRD
				(32KB MEMORY)
				03141
				35-607 ROD 008
				SHEET OF 2-20

REVISIONS

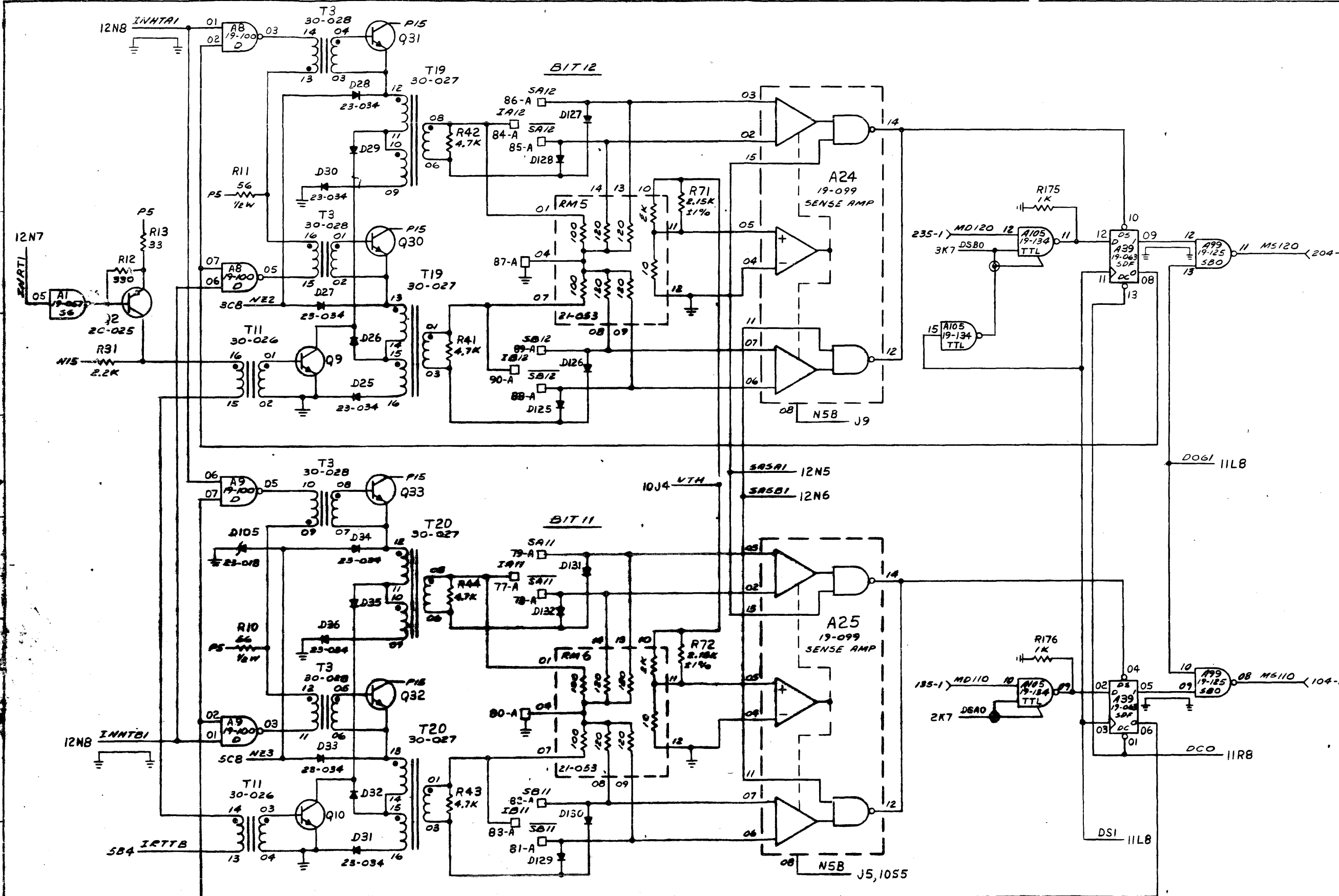


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SCALE	NAME	TITLE	DATE	TITLE
		DRAFT		SCHEMATIC ELECTRONICS BRD (32KB MEMORY)
		CHK		
		ENGR		
				TASK NO. 03141
				REV. NO. 35-607
				SHEET 3-20

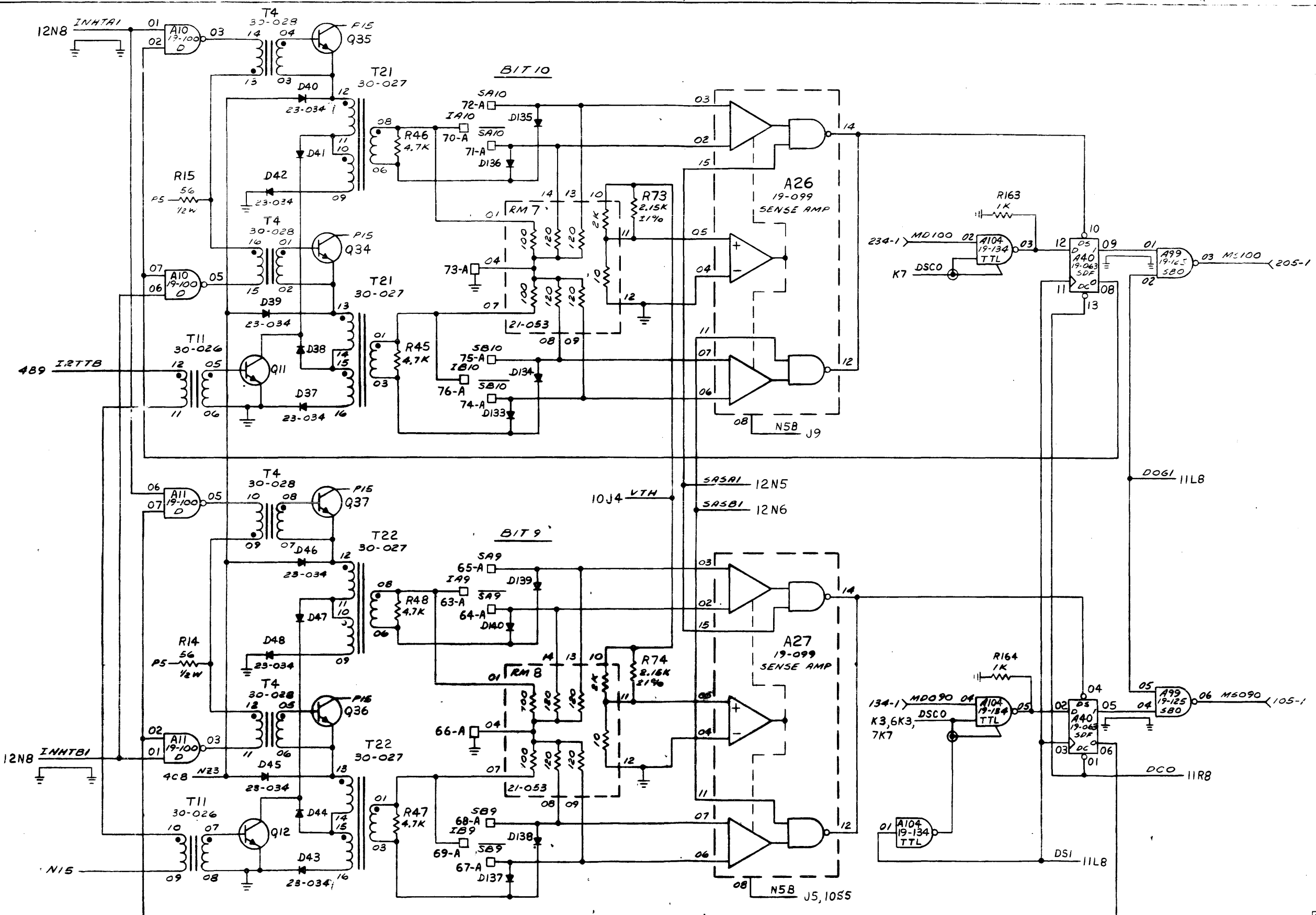
REVISIONS



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SCALE	NAME	TITLE	DATE
		TITLE SCHEMATIC	
		ELECTRONICS BRD	
		(32KB MEMORY)	
		NO. 03141	
		35-607	008 4-20



NOTES:
 1. UNLESS OTHERWISE SPECIFIED:
 a) DIODES ARE 23-001.
 b) TRANSISTORS ARE 20-020.

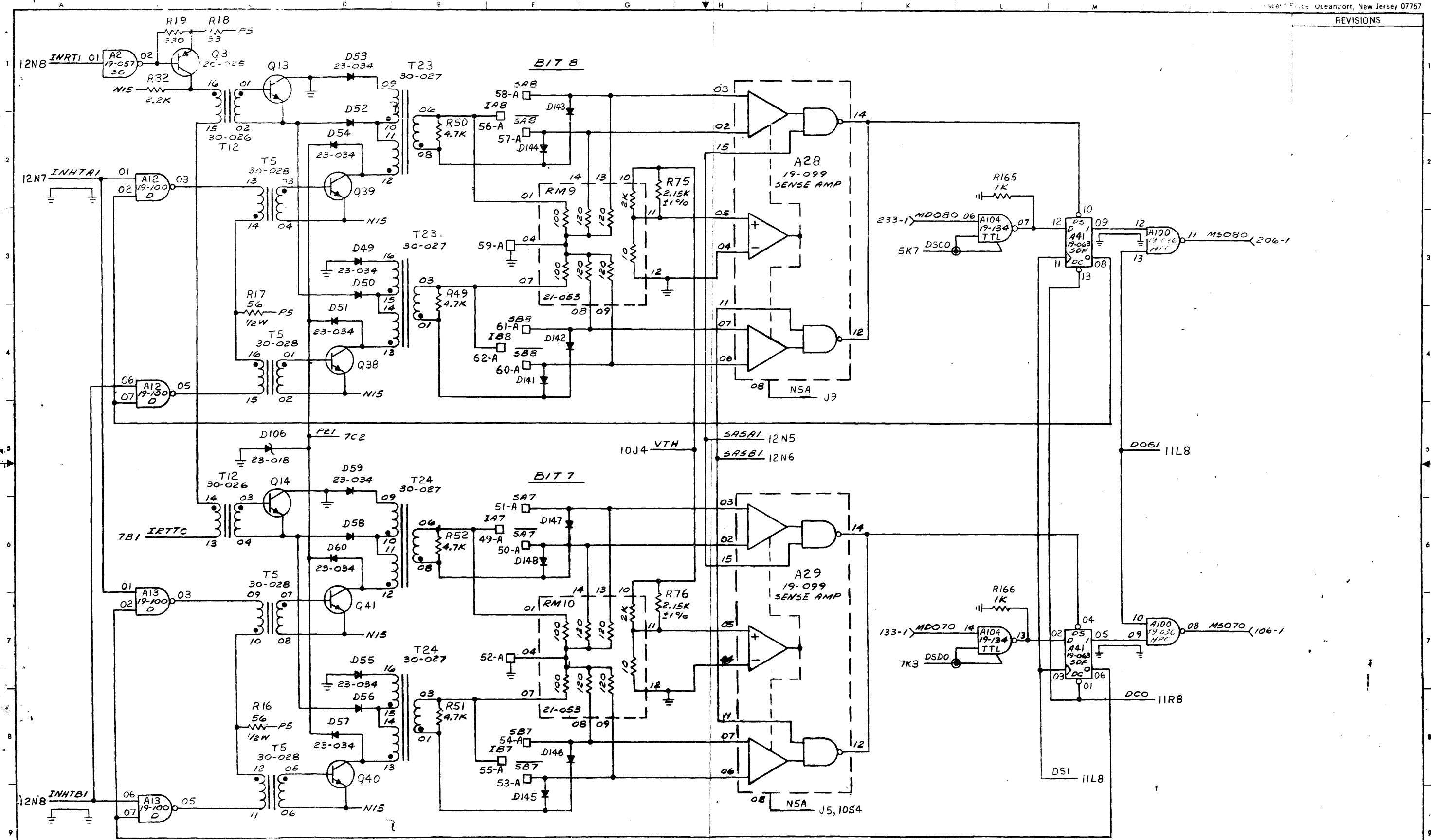
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SCALE	NAME	DATE	DESIGN

TITLE SCHEMATIC
 ELECTRONICS BRD
 (32KB MEMORY)

03141 SHEET OF
 35-607 DOB 5-70

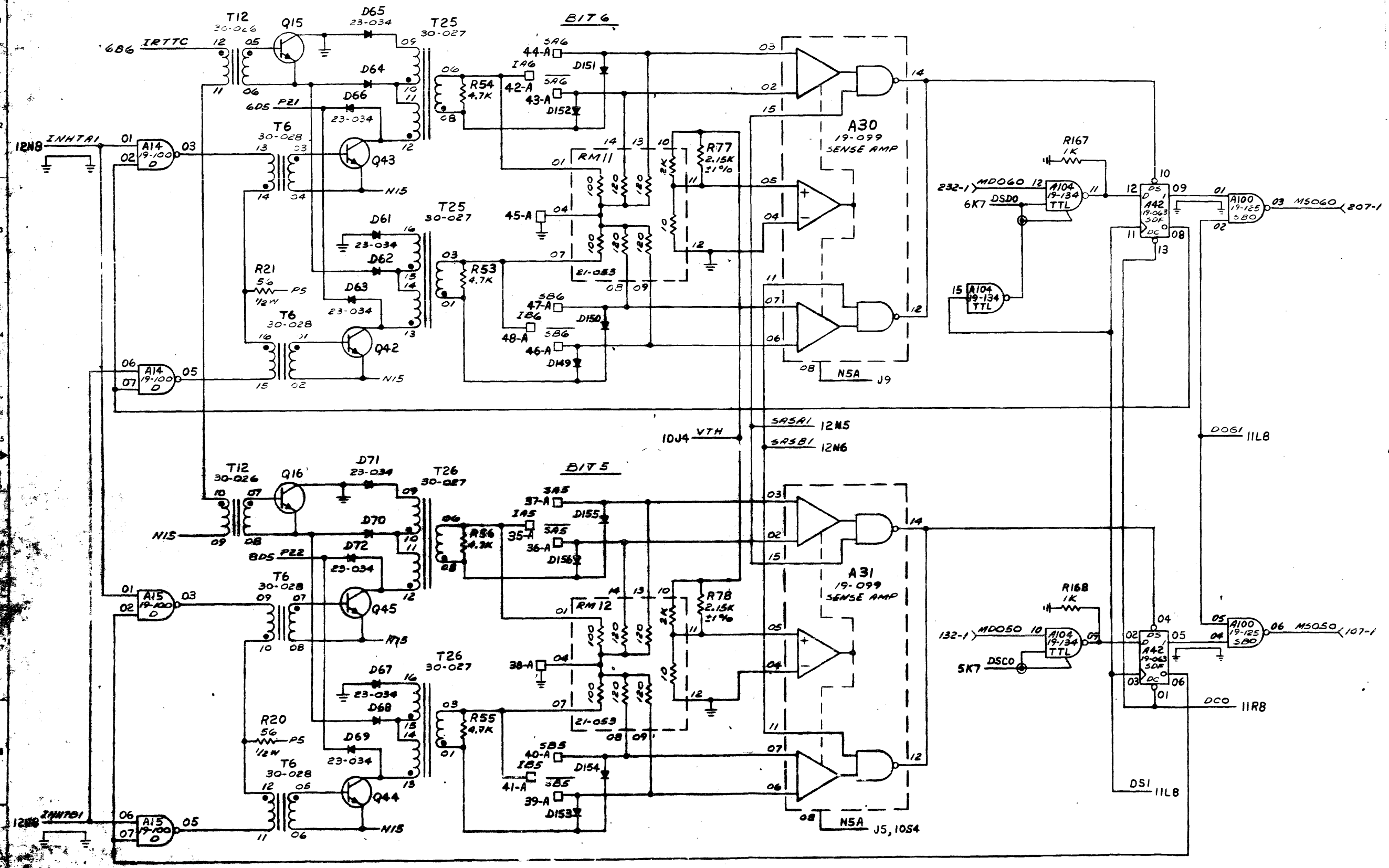
REVISIONS



NOTES:
 1. UNLESS OTHERWISE SPECIFIED:
 a) DIODES ARE 23-001.
 b) TRANSISTORS ARE 30-028.

SCALE	NAME	TITLE	DATE
		TITLE SCHEMATIC	
		ELECTRONICS BRO.	
		(32KB MEMORY)	
		REV 03217	
		35-607M4	6-20

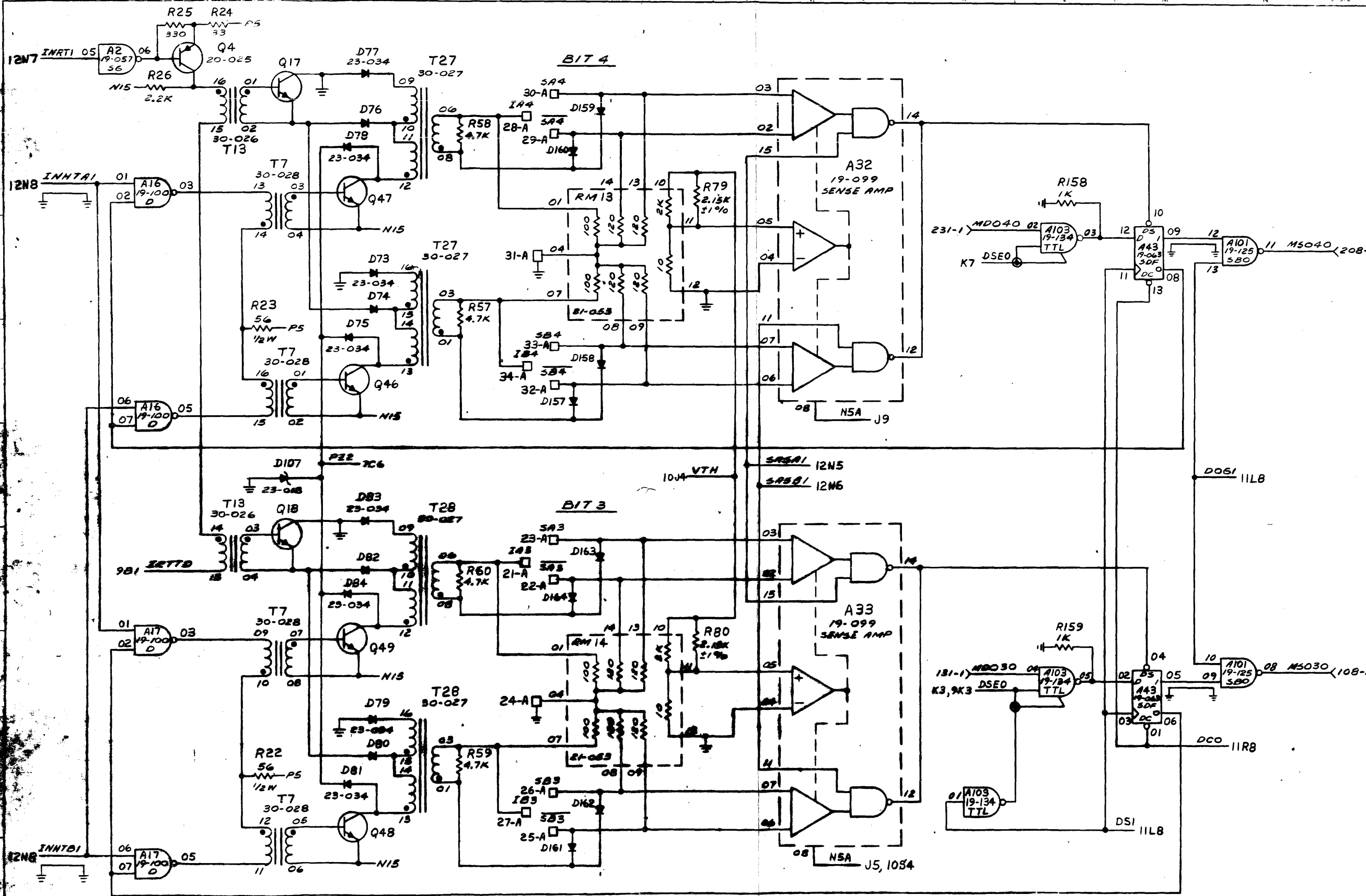
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UNLESS OTHERWISE SPECIFIED:
 a) DIODES ARE 23-001.
 b) TRANSISTORS ARE 20-020.

SCALE	NAME	TITLE	DATE
		TITLE SCHEMATIC	
		ELECTRONICS BRO.	
		(32KB MEMORY)	
		03141	SHEET 7-20
		12-607	

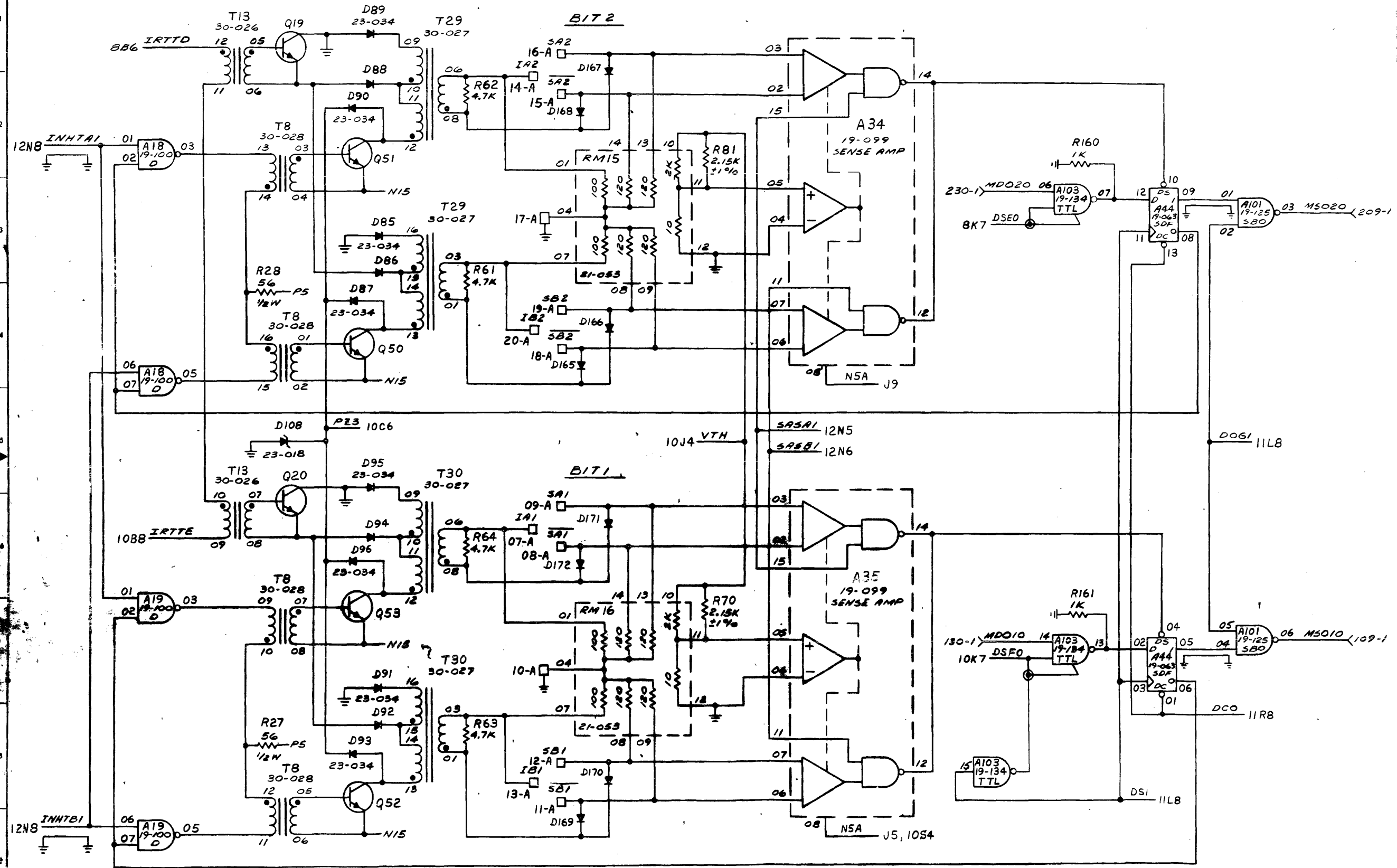
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NOTES:
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 b) TRANSISTORS ARE 20-020.

THIS INFORMATION IS PROPRIETARY AND IS SUPPLIED BY INTERDATA FOR THE SOLE PURPOSE OF MAINTAINING AND USING INTERDATA SUPPLIED EQUIPMENT AND SHALL NOT BE USED FOR ANY OTHER PURPOSE UNLESS SPECIFICALLY INDICATED.

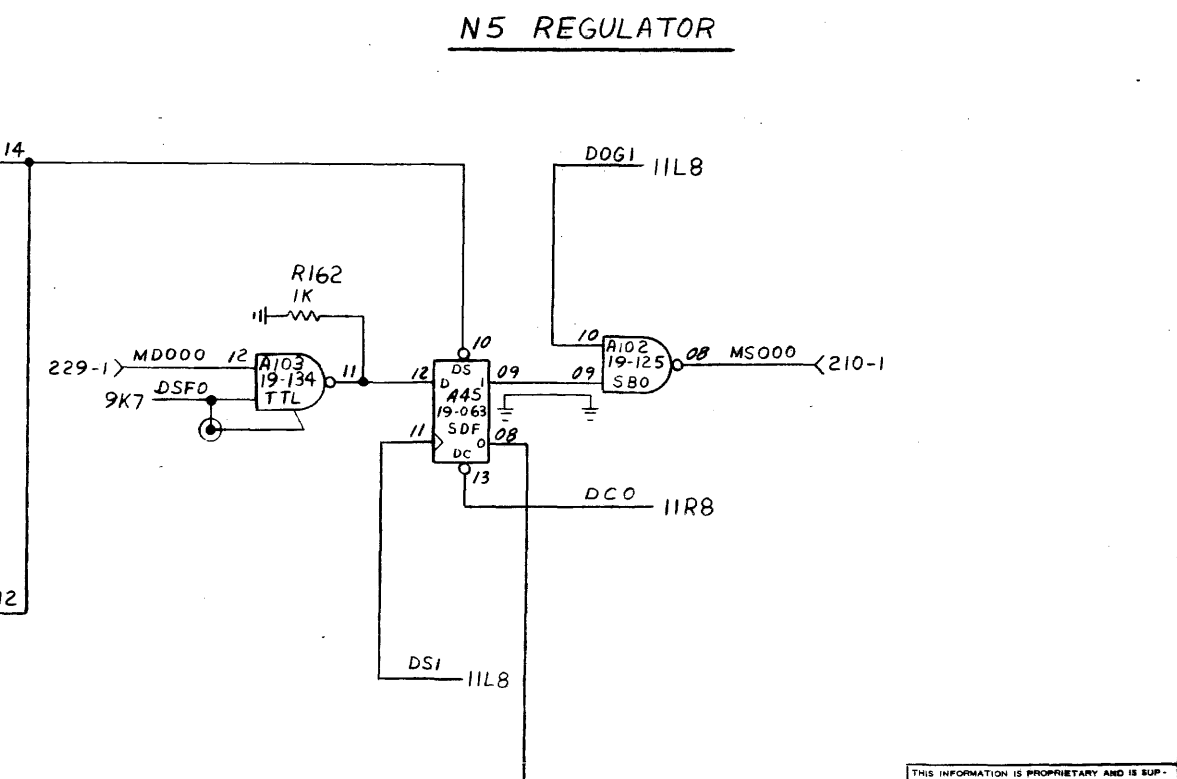
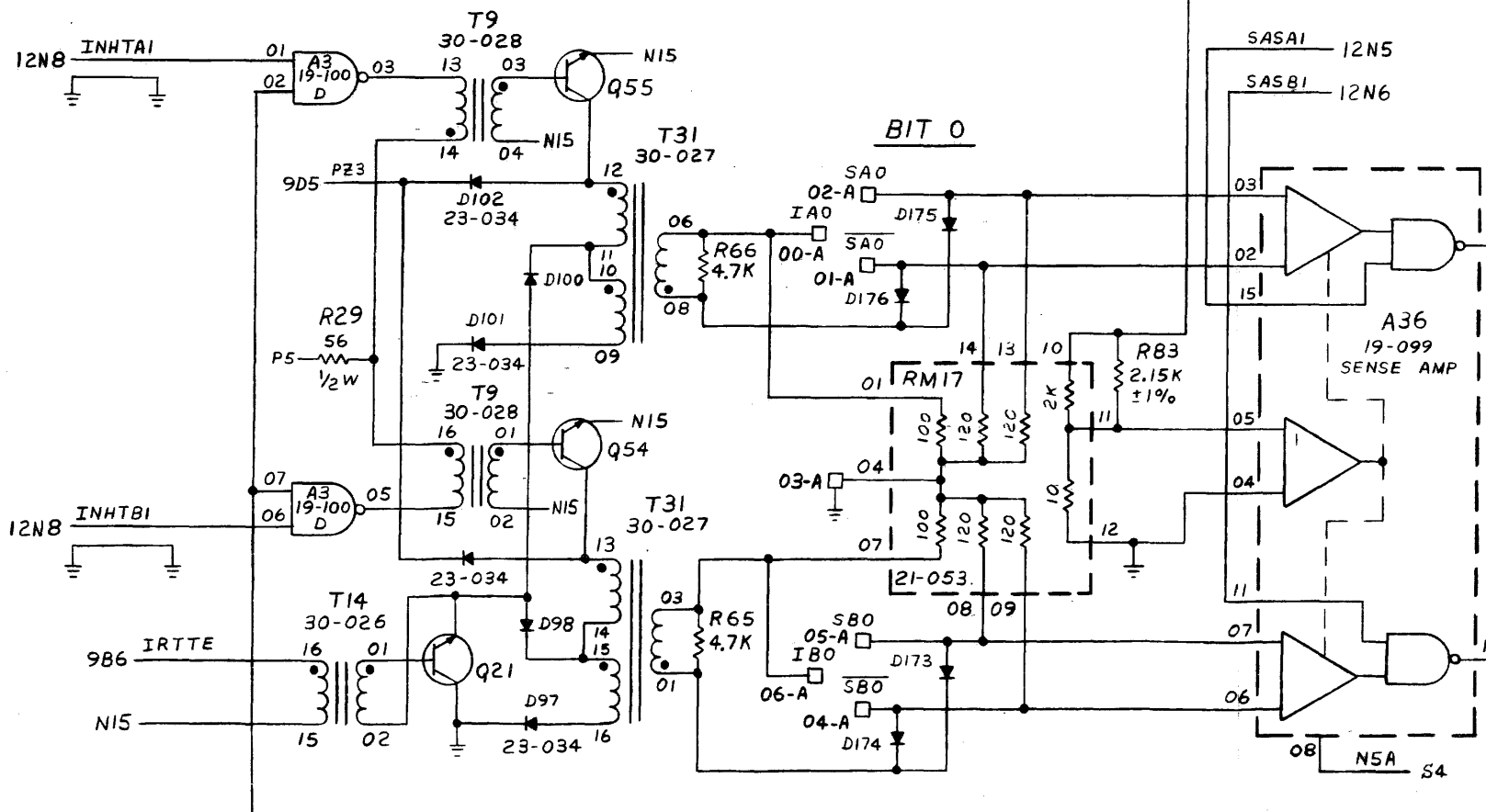
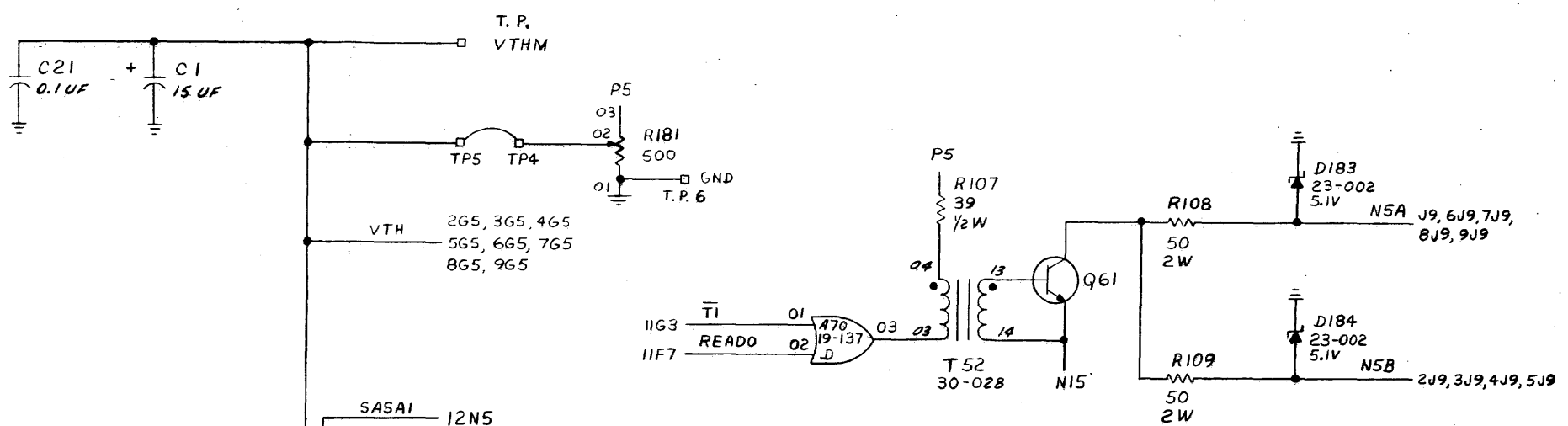
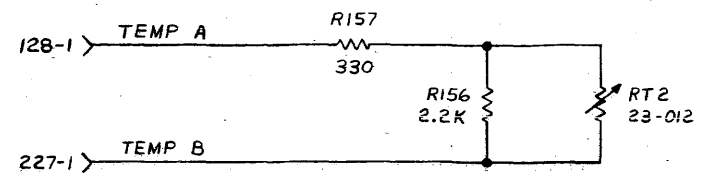
SCALE-	NAME	TITLE	DATE	TITLE SCHEMATIC
		DRIFT		ELECTRONICS BRD.
				(32KB MEMORY)
				03/41
				35-607 208 8-20



NOTES:
1. UNLESS OTHERWISE SPECIFIED:
2. DIODES ARE 23-001.
3. TRANSISTORS ARE 20-020.

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SCALE	NAME	TITLE	DATE	TITLE SCHEMATIC
				ELECTRONICS BRD.
				(32KB MEMORY)
				33141
				35-607 008 9-20



NOTES:
1. UNLESS OTHERWISE SPEC:
a) DIODES ARE 23-001.
b) TRANSISTORS ARE 20-020.

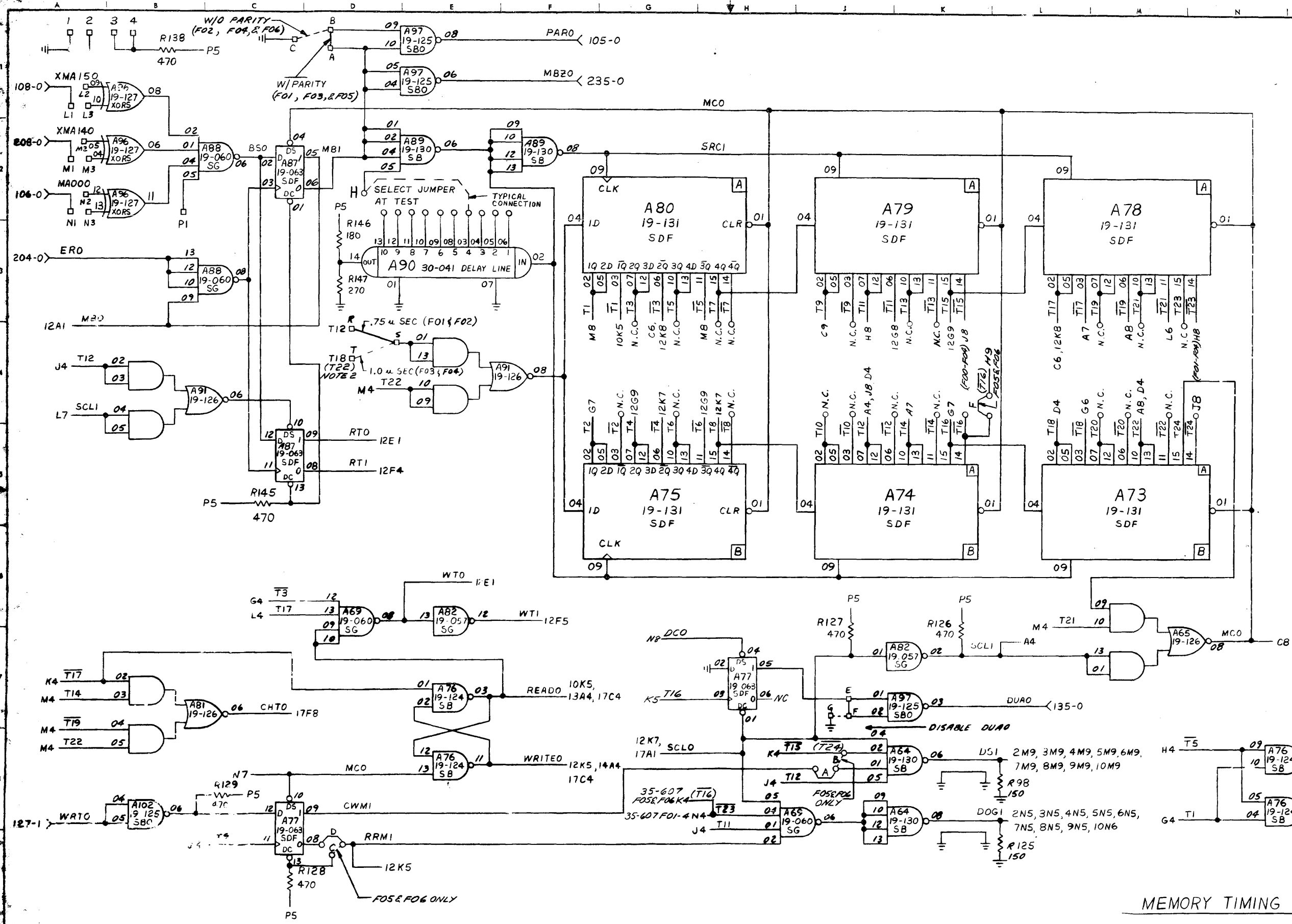
SCALE	NAME	TITLE	DATE
TOLERANCE XXX 8 005 XX 1 02 X 1 03 ANGLES 1:10 UNLESS OTHERWISE SPECIFIED		DRAFT	
		CHK	
		ENGR	

TITLE SCHEMATIC
ELECTRONICS BRD
(32KB MEMORY)

TASK 03141 SHEET OF
DWG NO. 35-607 DOB 10-20

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REVISIONS
FOR PREVIOUS REV. INFO. SEE VOIDED MICRO-FILM COPY 35-607 D08 SHT 11, REV. 03/11/77
AREA C2: A87-05-06 PIN NUMBERS WERE REVERSED.
03/11/77 3022 11-2-77



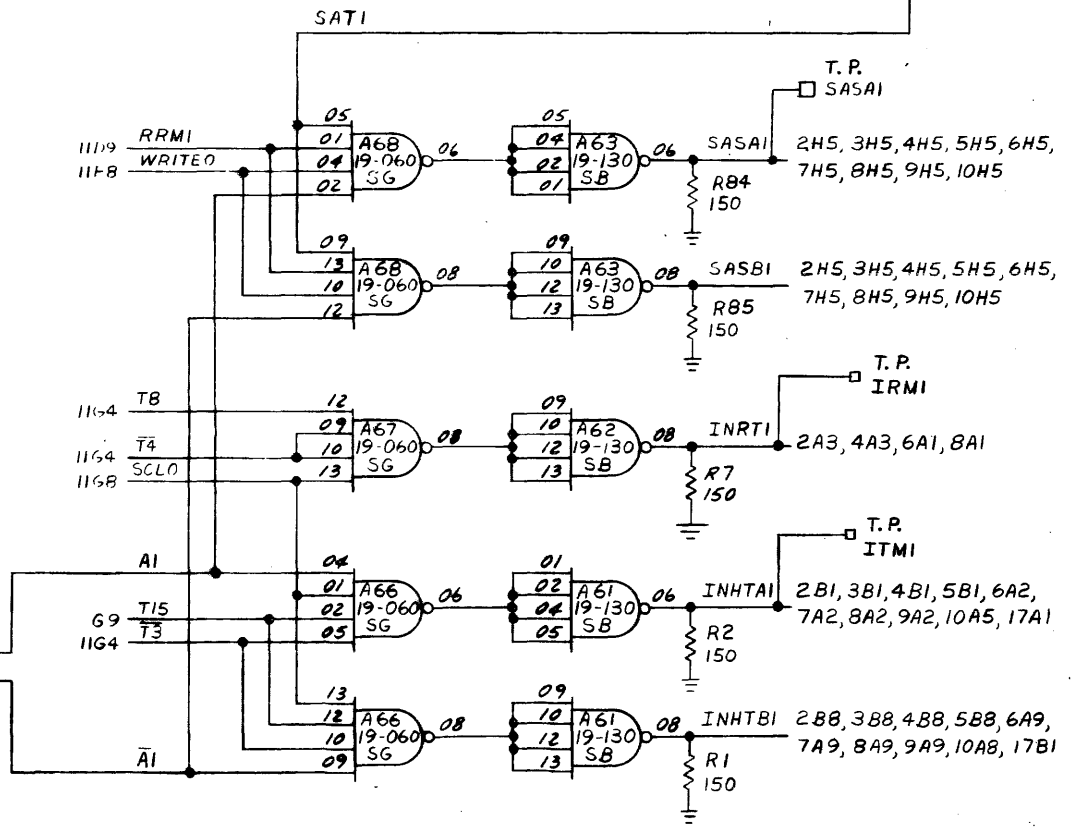
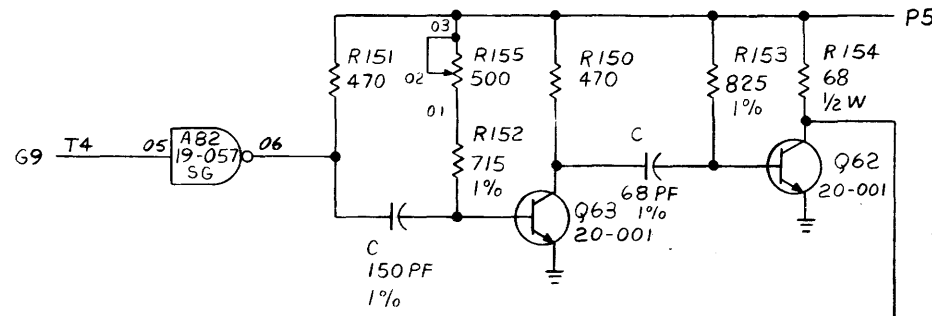
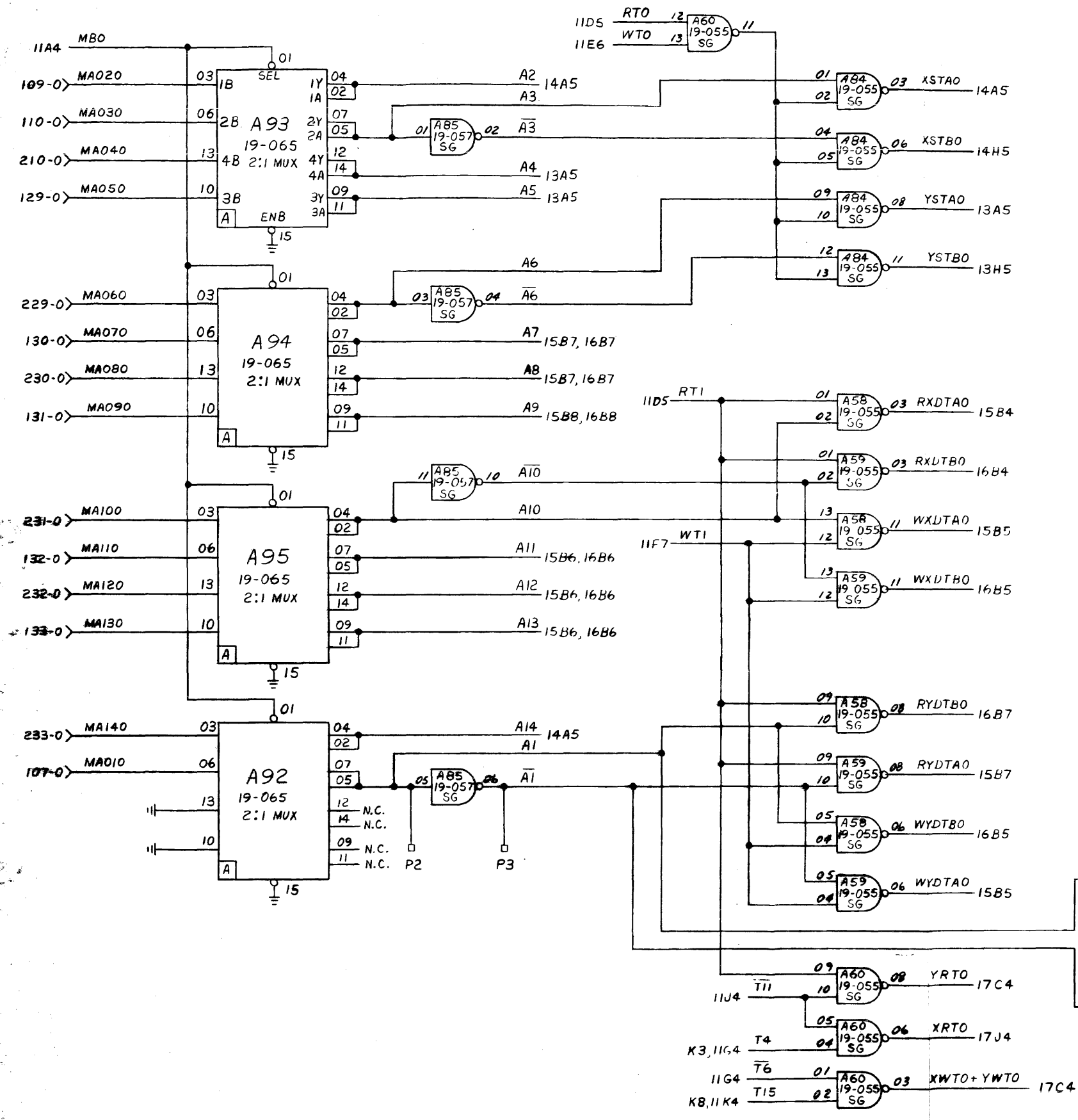
MEMORY TIMING

NOTES:
1. UNLESS OTHERWISE SPECIFIED:
a) DIODES ARE 23-001.
b) TRANSISTORS ARE 20-020.
2. TIMING TAP REFERENCES IN BRACKETS APPLY TO 35-607 F05 & F06 ONLY.

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SCALE-	NAME	TITLE	DATE
TOLERANCE XXX ± 0.05 XX ± 0.02 X ± 0.01 ANGLES: 1° UNLESS OTHERWISE SPECIFIED	K. LAFFERTY	ELECTRONICS BOARD (32KB MEMORY)	27 FEB 75
		CHK	
		ENGR	

REVISIONS

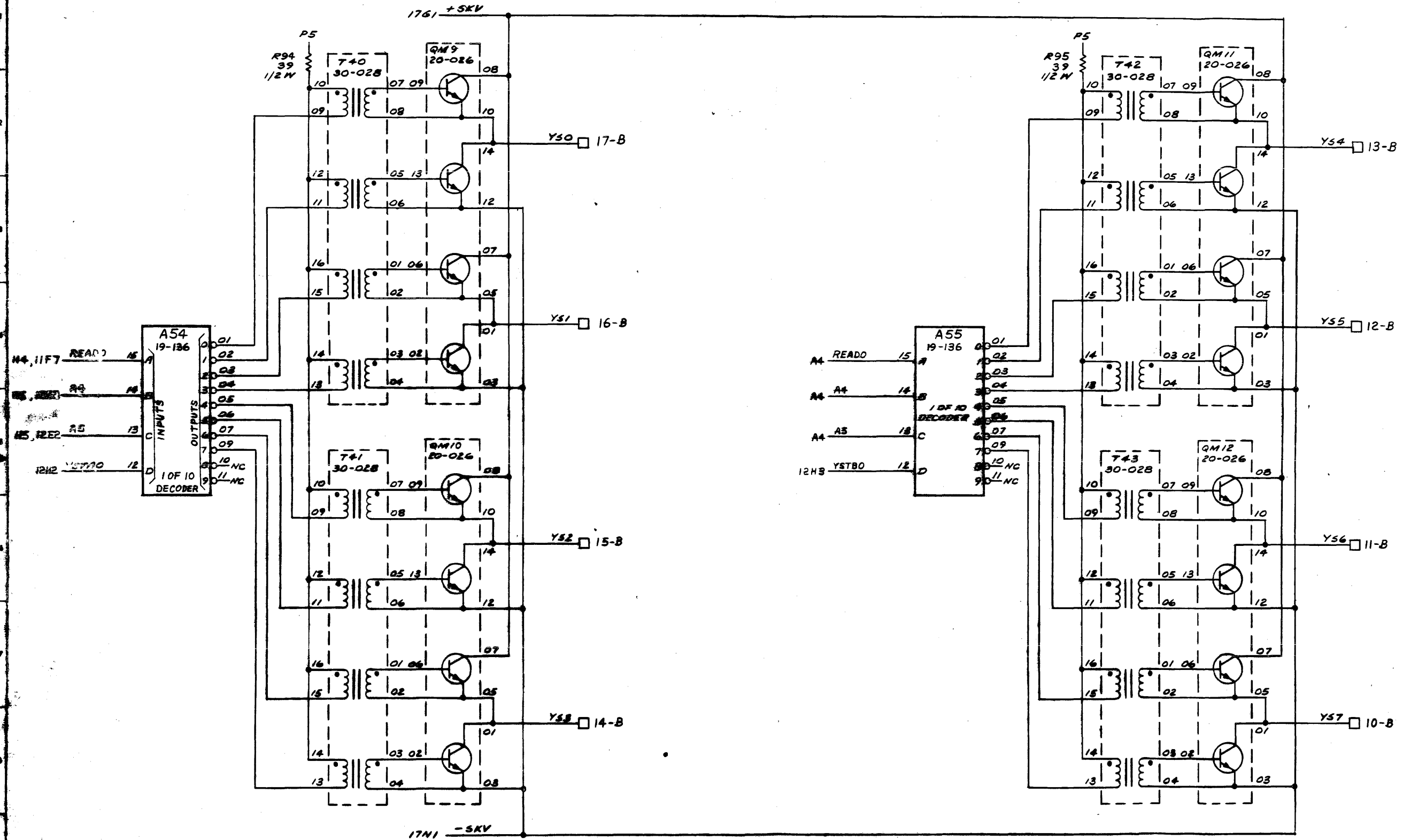


ADDRESS LATCHES & MEMORY TIMING

NOTES:
1. UNLESS OTHERWISE SPECIFIED:
A) DIODES ARE 23-001.
B) TRANSISTORS ARE 20-020.

SCALE-	NAME	TITLE	DATE	TITLE
TOLERANCE XXX 1.00% XX 1.00% X 1.00% UNLESS OTHERWISE SPECIFIED	K. LAFFERTY	DRAFT	26 FEB 75	SCHMATIC
		CHK		ELECTRONICS BOARD
		ENGR		(32KB MEMORY)
				TAB. NO. 0314
				DWG. NO. 35-607
				SHEET 12-20

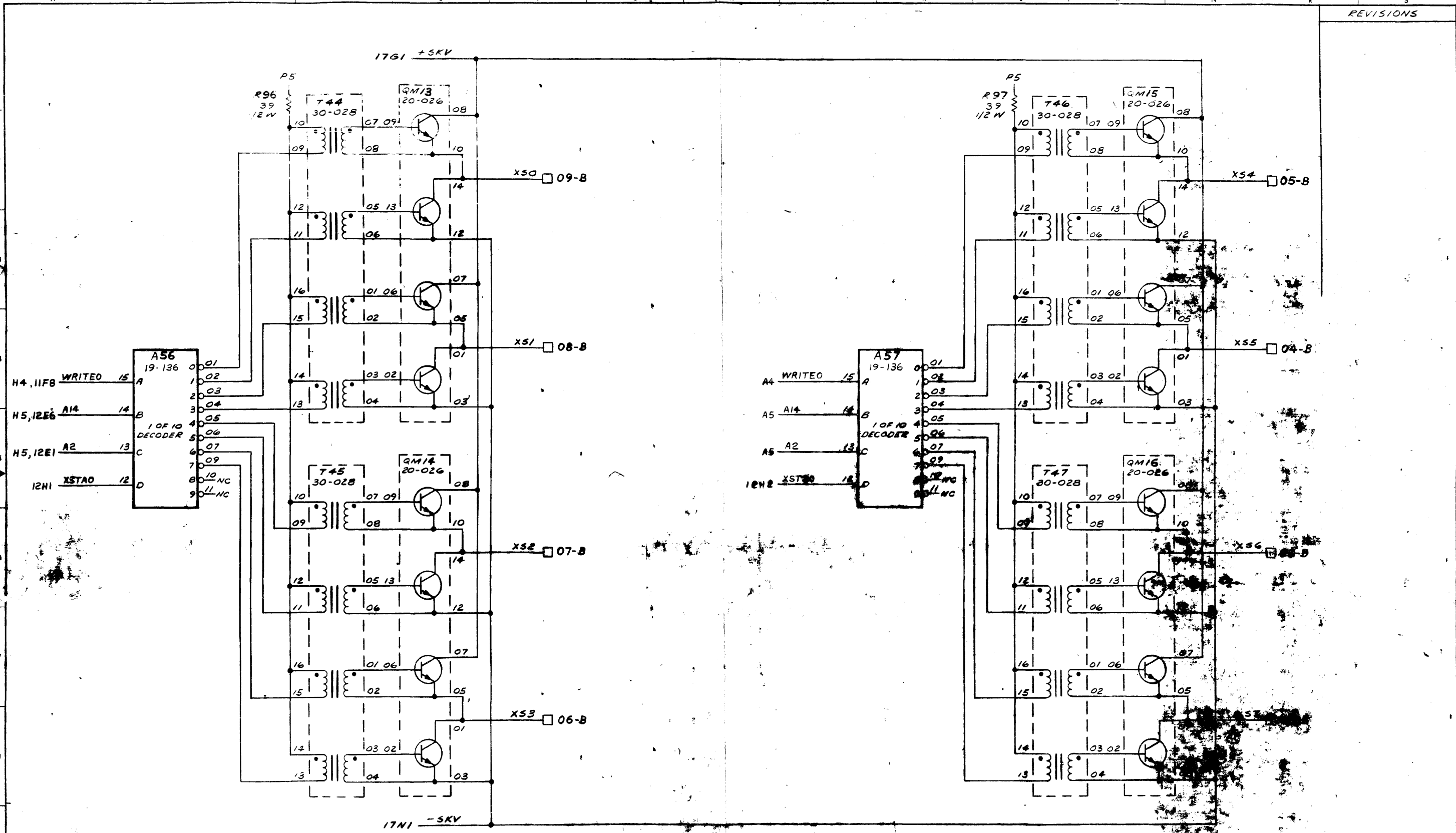
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Y SINK

NAME	TITLE	DATE	TITLE
	DRAFT		FUNC. SCHEMATIC
	CHK		ELECTRONICS BOARD
	ENGR		(32 KB MEMORY)
	DIR ENG		TASK NO. 03141
			SHEET OF 005 13-20





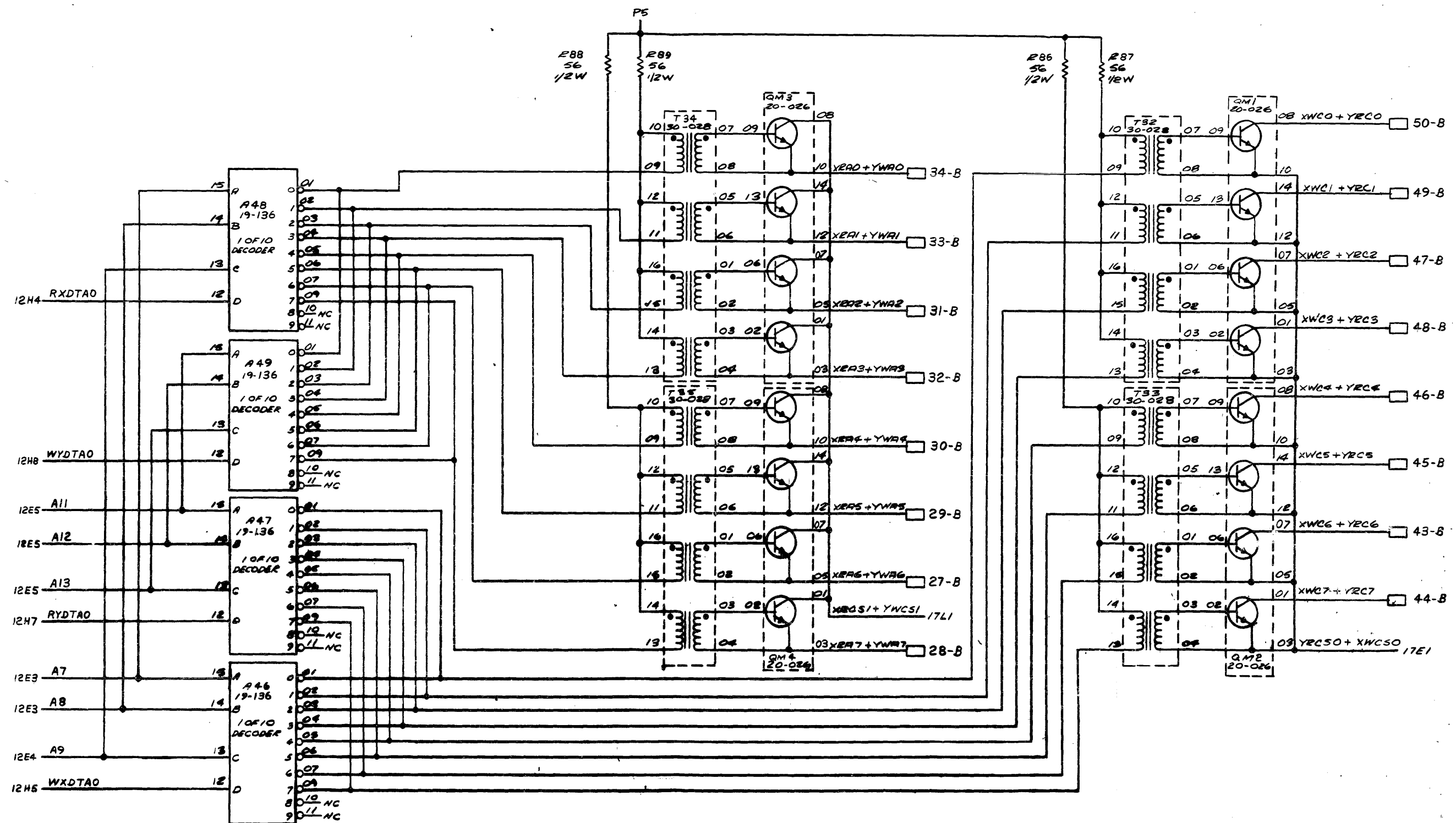
NOTES

X SINK

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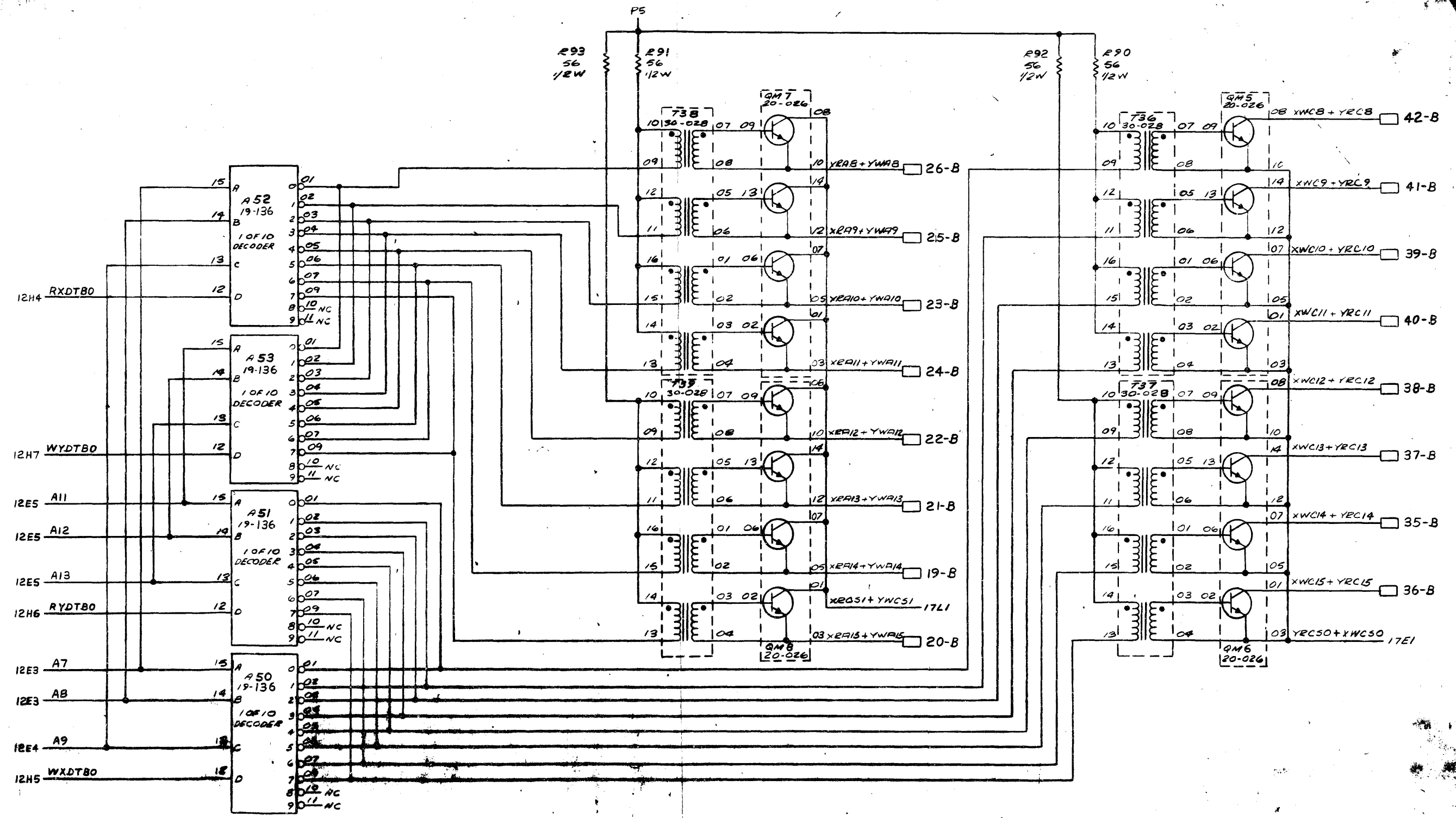
DATE	TITLE	DATE	TITLE
	DRAFT		FUNCT. SCHEMATIC ELECTRONICS BOARD (32 KB MEMORY)
	CHK		
	ENGR		
03/41			
35-607		08/14/20	

SKIRING 44231 16042



X/Y DRIVE

NAME	TITLE	DATE	TITLE
G. MELTON	DRAFT		FUNC. SCHEMATIC
	CHK		ELECTRONICS BRD.
	ENGR		(32 KB MEMORY)
	DIR ENG		TASK NO. 031 #1
			REV. NO. 35-607
			SHEET 15-20

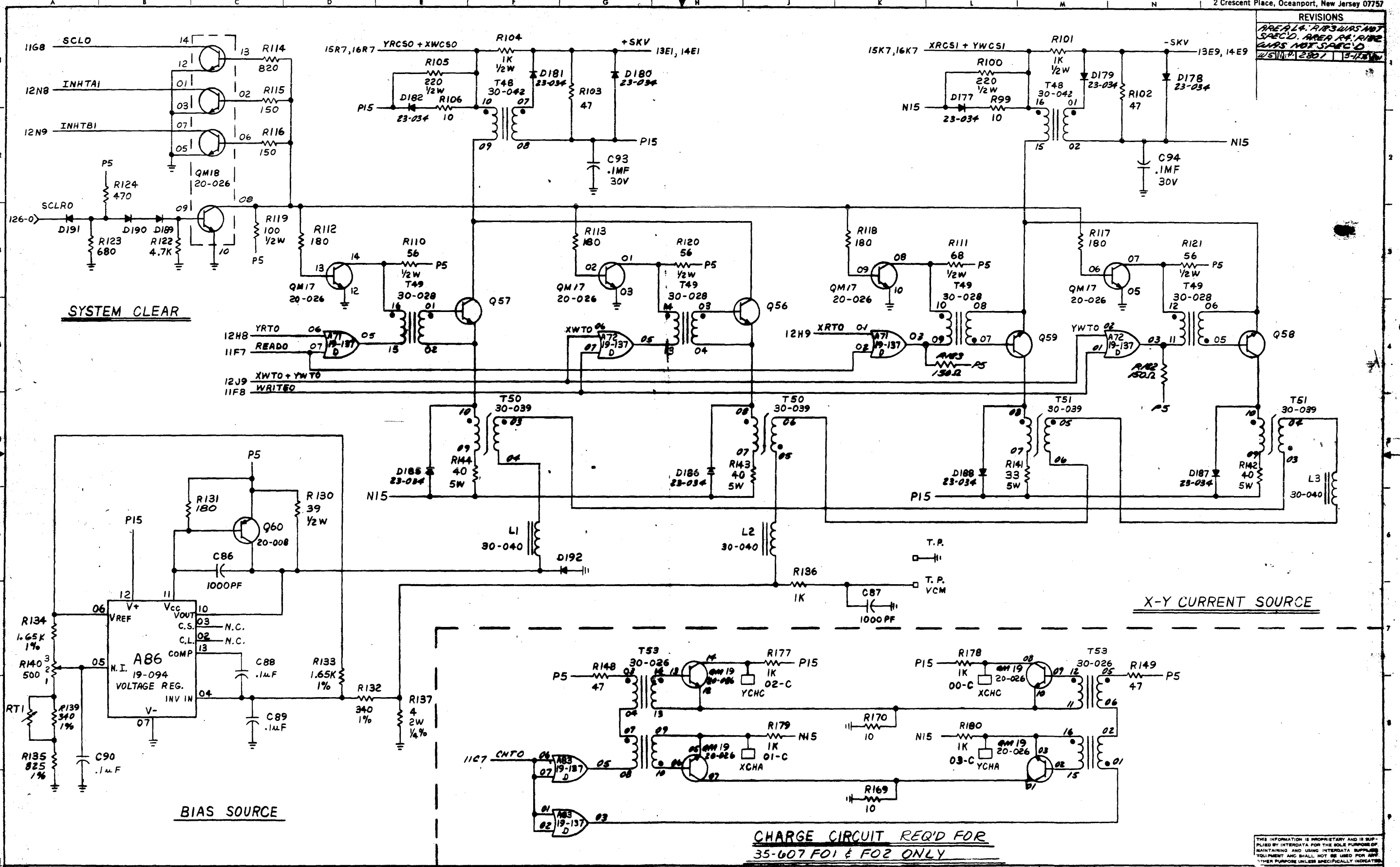


X/Y DRIVE

NAME	G. MELTON	TITLE	DATE	TITLE	FUNC. SCHEMATIC
DRAFT		CHK		ELECTRONICS BRD.	(32 KB MEMORY)
ENGR		DIV ENG		TASK	03141
				35-607	SHEET OF 16-20

THIS DOCUMENT IS UNCLASSIFIED
 EXCEPT WHERE SHOWN OTHERWISE
 DATE 03-14-81 BY 35-607

REVISIONS	
1	AREA 14, R103 WAS NOT SPEC'D. AREA R1, R102 WAS NOT SPEC'D.
2	AREA 14, R103 WAS NOT SPEC'D. AREA R1, R102 WAS NOT SPEC'D.



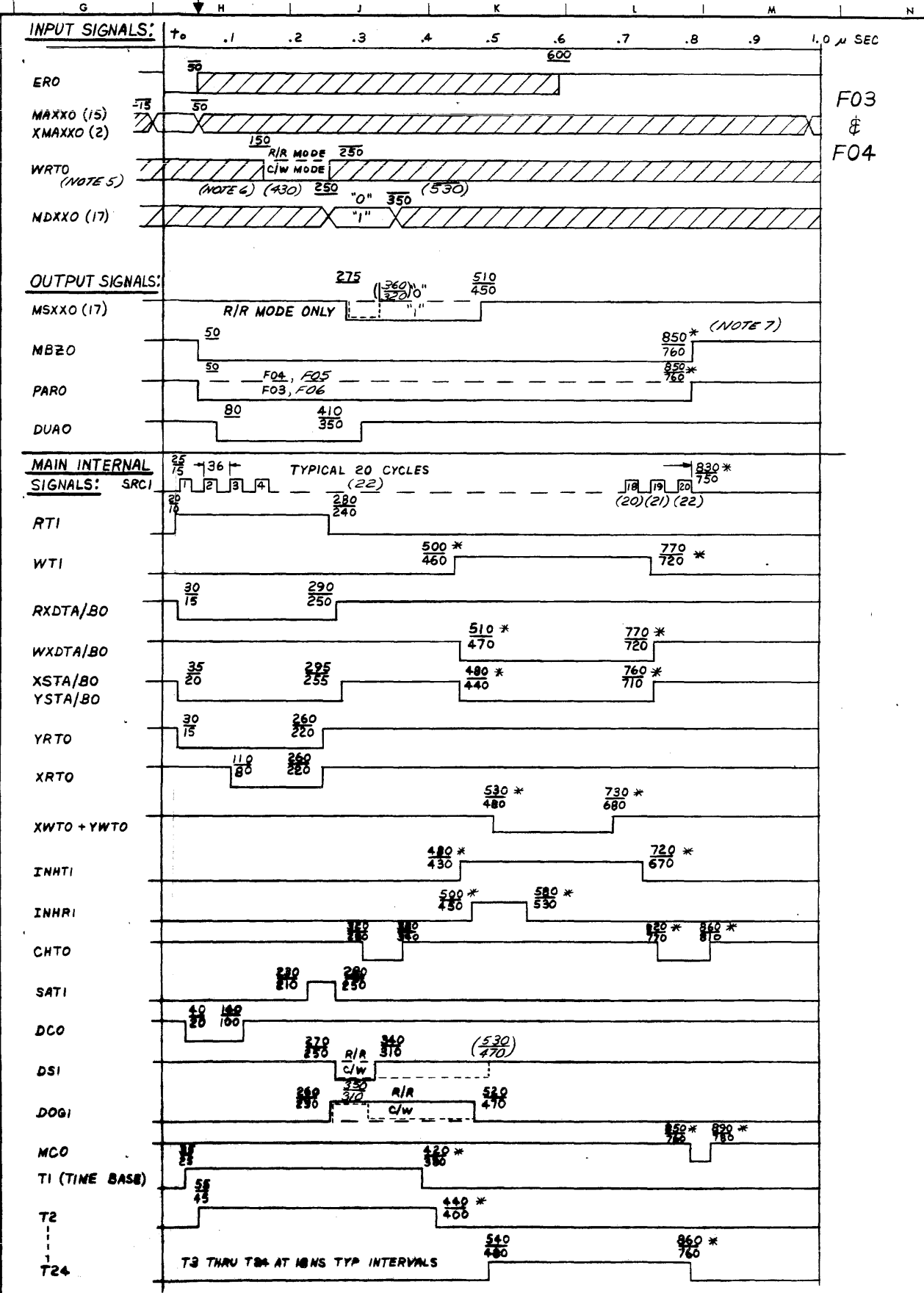
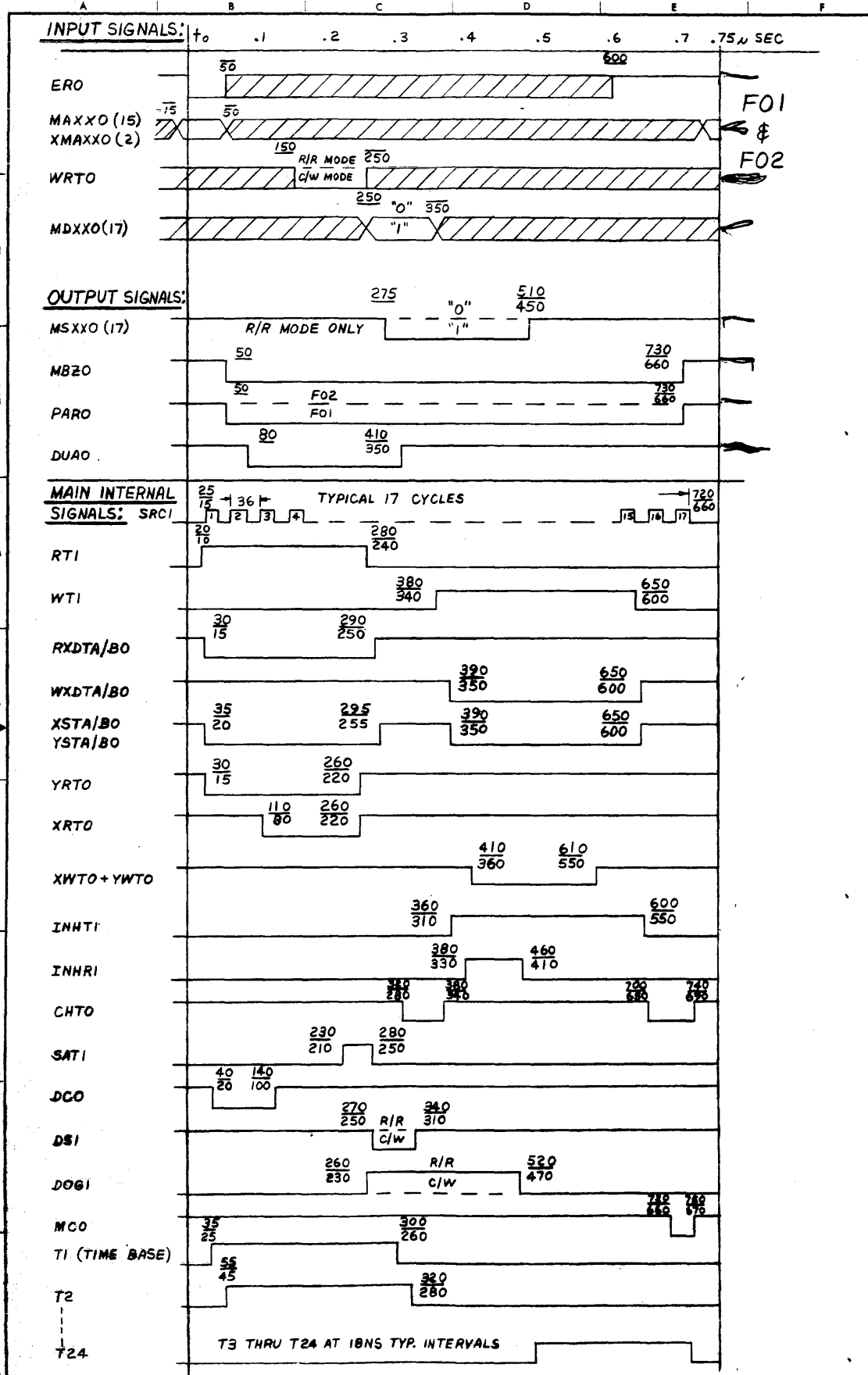
NOTES:
 1. UNLESS OTHERWISE SPECIFIED:
 a) DIODES ARE 23-001.
 b) TRANSISTORS ARE 20-020.

CHARGE CIRCUIT REQ'D FOR
 35-607 FO1 & FO2 ONLY

SCALE-	NAME	TITLE	DATE
TOLERANCE		DRAFT	
RES		CHK	
1% 2.00		ENGR	
5% 1.00			
10% 0.50			
UNLESS OTHERWISE SPECIFIED			

SCHEMATIC	
ELECTRONICS BOARD	
(32KB MEMORY)	
NO. 03141	SHEET 17
35-607 FO1 DOG	

REVISIONS
F05, F06 & RELATED
IN F04. W/AS NOT SPEC'D
ADDED NOTES 5, 6 & 7.
W/S/ [2937] [1446-76] [20]

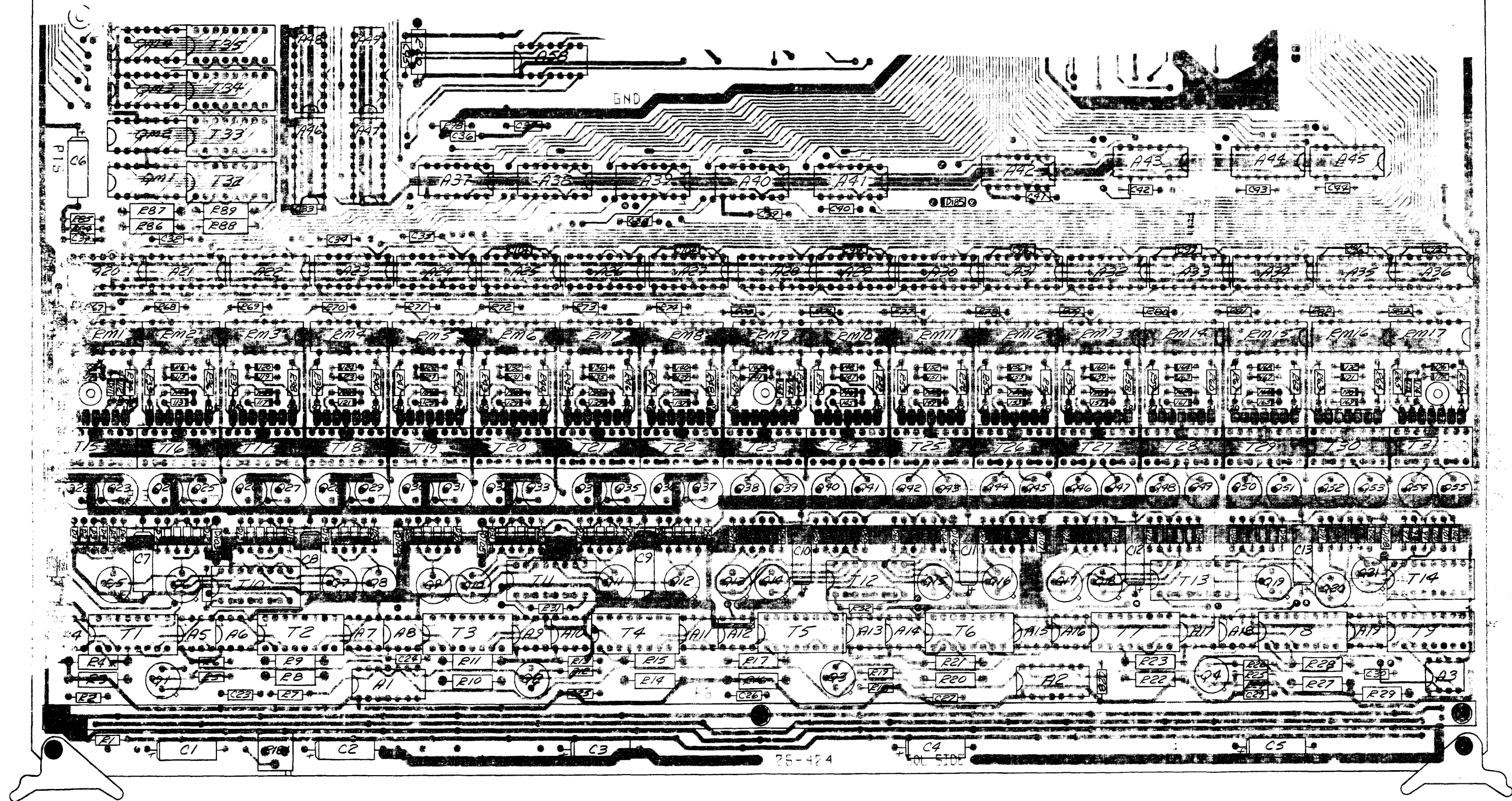


NOTES: 1. SHADED AREA (///) INDICATES "CAN CHANGE" OR "DO NOT CARE" INTERVAL.
2. UNLESS OTHERWISE INDICATED TIME IS IN NANoseconds.
3. THE NUMBER ABOVE THE LINE INDICATES MAXIMUM TIME; BELOW THE LINE IS MINIMUM.
4. ALL SIGNALS ARE OF STANDARD TTL LEVELS & TIMING IS REFERENCED TO 1.5V.

5) NOT APPLICABLE TO F05 & F06
6) REFERENCES IN BRACKETS ARE APPLICABLE TO F05 & F06 ONLY.
7) REFERENCES DESIGNATED WITH (*) ADD 80 NANO SECONDS FOR F05 & F06 ONLY.

SCALE-	NAME	TITLE	DATE
TOLERANCE RXX 0.001 RXX 0.02 RXX 0.05 UNLESS 0.10 UNLESS OTHERWISE SPECIFIED		DRAFT	
		CHK	
		ENGR	
TITLE SCHEMATIC ELECTRONICS BOARD (32KB MEMORY)			
TAX 05141			
DOW 35-607 R01 D08 18-20			

DRAWING 44-238

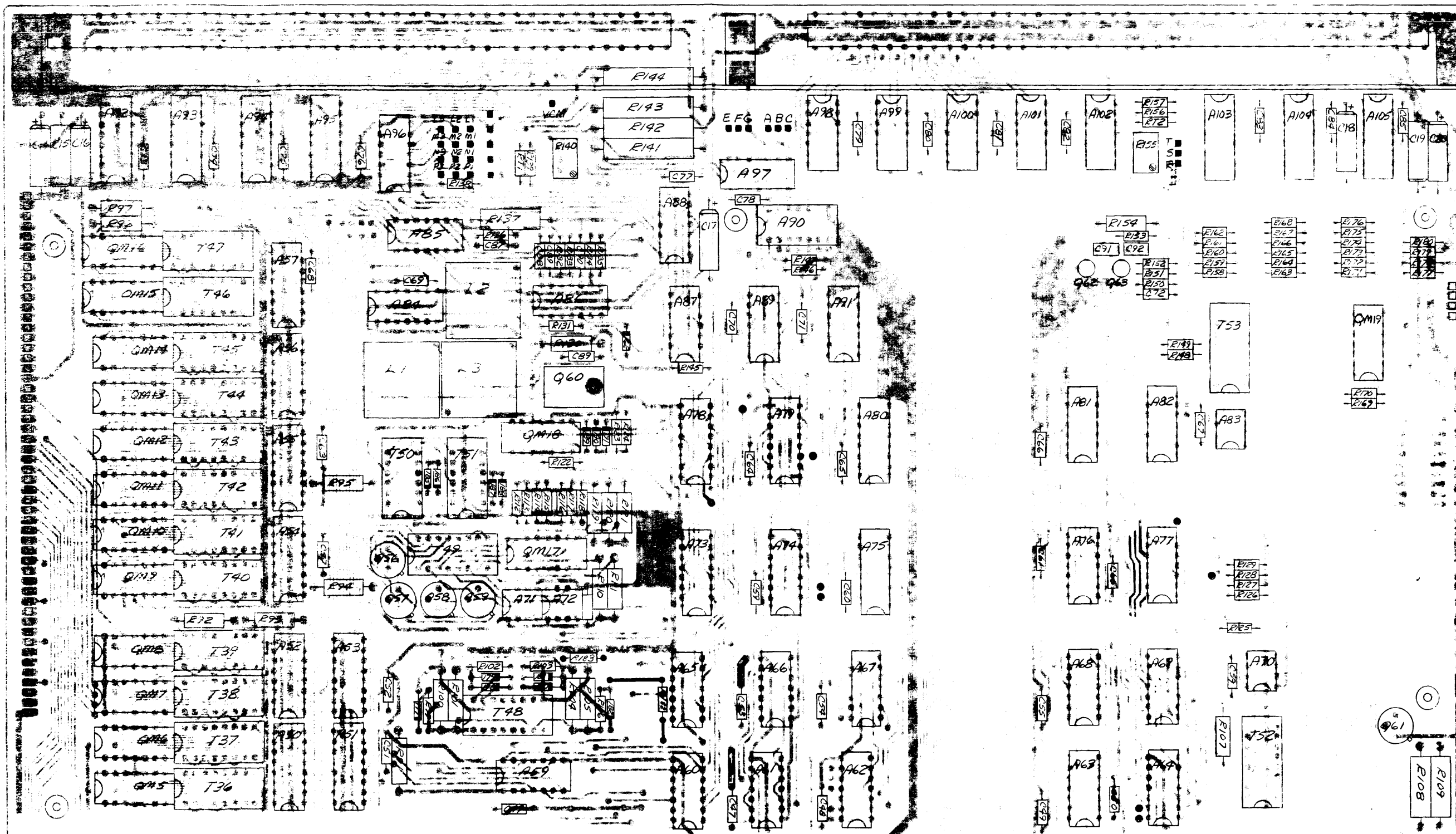


VIEWED FROM SOLDER SIDE
FOR COMPONENT REFERENCE ONLY



REVISIONS		J. HELVATY	DPART	10-22-75	SCHEMATIC ELECTRONICS BOARD (32 KB MEMORY 0314)	SHEET 35-607 R01 D08 19-20
ADDED COMPONENTS C95-C101 RELATED CAPS U1-44 D185 CHANGED CIRCUITS U1 D185 NEW ARTWORK.						
JC	283B - 7-30-76	R01				





VIEWS FROM SOLDER SIDE
FOR COMPONENT REFERENCE ONLY

C47 & C53 WERE NOT GROUNDED		REVISIONS		J. HELVATI	DRAFT	10-22-75	SCHEMATIC ELECTRONICS BOARD (32KB MEMORY)	
JC	2938 - 7-30-74 R02	R182 & R183 PLUS RELATED CIRCUITRY WAS NOT SPEC'D						03:41
WJ	2937 - VI-A-76 R03	WJ 2801 - 5-19-76 R01					SHEET	
							35 607 R02 J08	20-20

REVISIONS

NO.	DATE	DESCRIPTION
1	10-21-75	REVISED CIRCUITRY TO REFLECT NEW PARTS. Q08 - Q09 WERE ADDED. SET OF QUANTITY LIST WAS ADDED. ITEM 91 IN B.C. 91/2
2	11-17-75	TRANSFORMER WAS ADDED. READ THE VALUE IN (TRANSFORMER) TO MAKE TRANSFORMER ITEM 9
3	12-21-75	TRANSFORMER WAS ADDED TO REFLECT NEW PARTS. Q08 WERE ADDED TO B.C. Q08 - Q09 WERE ADDED. SET OF QUANTITY LIST WAS ADDED. ITEM 91 IN B.C. 91/2
4	1-14-76	TRANSFORMER WAS ADDED TO REFLECT NEW PARTS. Q08 WERE ADDED TO B.C. Q08 - Q09 WERE ADDED. SET OF QUANTITY LIST WAS ADDED. ITEM 91 IN B.C. 91/2

CONTINUED BELOW

TABLE A

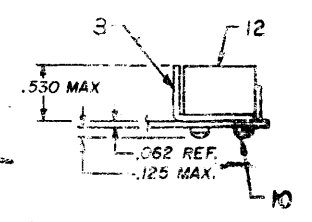
F01, F03 & F05	F02, F04, F06
TRANSISTORS Q THRU Q55 MUST BE INSTALLED PER SSP # 064-00. ITEMS 55 Q 36 (TRANSISTORS Q56, Q57, Q58, Q59 & Q61) TO HAVE TRANSISTOR PAD ITEM 9.	TRANSISTORS Q1-Q4, Q8-Q9 & Q24-Q25 MUST BE INSTALLED PER SSP # 064-00. ITEMS 15 & 20 (TRANSISTORS Q54, Q57, Q58, Q59 & Q61) TO HAVE TRANSISTOR PAD ITEM 9.

SUPERSEDED

REVISED CIRCUITRY TO REFLECT NEW PARTS. Q08 - Q09 WERE ADDED. SET OF QUANTITY LIST WAS ADDED. ITEM 91 IN B.C. 91/2

- NOTES:
- ALL UNSPEC CAPACITORS ARE ITEM 78.
 - SEE TABLE "A" FOR MOUNTING INFORMATION OF TRANSISTORS.
 - BEND PINS CLOSEST TO END OF BOARD INWARD PRIOR TO SOLDERING.
 - R161 THRU R144 DO NOT ALLOW RESISTOR BODIES TO TOUCH BOARD. RESISTORS TO BE SPACED .06" FROM TOP OF BOARD.

88 (DELAY LINE) MAKE 1 1/2" LONG
SEE NOTE 4



PARTIAL VIEW A-A
(TYPICAL 5 PLACES)

VAR	DESCRIPTION
F01 WITHOUT R 2 E	
F02 WITHOUT R 2 E	
F03 WITHOUT R 2 E	
F04 WITHOUT R 2 E	
F05 WITHOUT R 2 E	
F06 AS SHOWN WITH R 2 E	

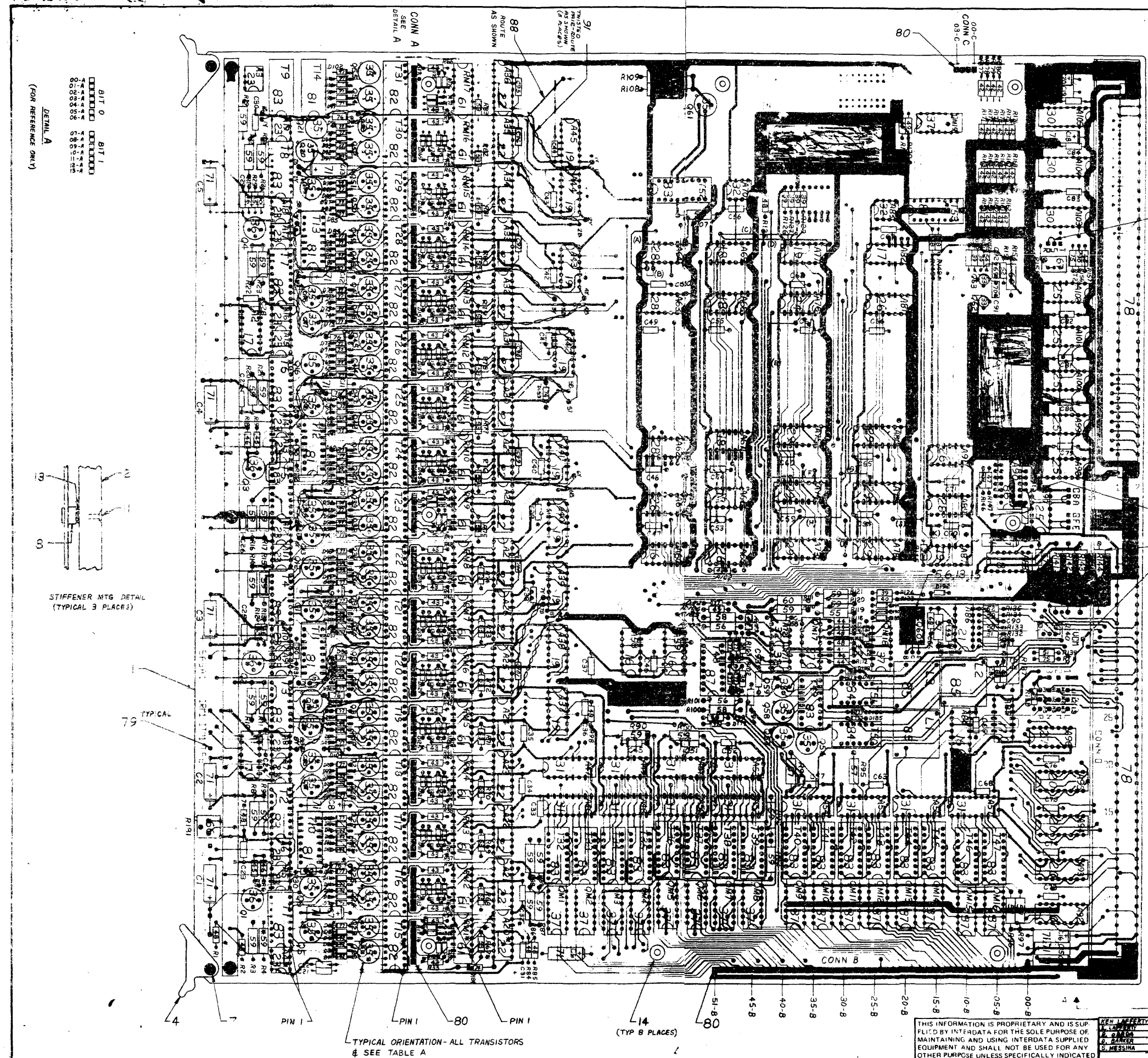
VARIATION TABLE

COMPONENT	REF DESIGNATION
INT. CIRCUIT	A1 - A105
RESISTOR MODULE	R1 - R117
TRANSFORMER	T1 - T58
TRANSFORMER MODULE	Q1 - Q109
CAPACITOR	C1 - C101
DIODE	D1 - D52
CHOKES	L1 - L5
TRANSISTOR	Q1 - Q68
VARIABLE RESISTOR	R1 - R102
RESISTOR	R11 & R12

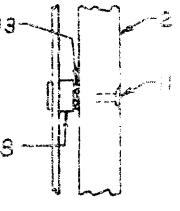
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DRIFT 10 SEP 75
S. MESSINA
DEV REC 1-12-76

ASSEMBLY
3860 MEMORY



BIT 0
BIT 1
DETAIL A
(FOR REFERENCE ONLY)



STIFFENER MTG DETAIL
(TYPICAL 3 PLACES)

79 TYPICAL

TYPICAL ORIENTATION - ALL TRANSISTORS & SEE TABLE A

(TYP 8 PLACES)

REVISIONS

REV.	INIT.	DATE
PRODUCTION	PROO	
RELEASED FOR PRODUCTION		
ENG. I. MESSINA DATE 11-17-76		

BACK PANEL MAP

CONN	32KB MEMORY	
	CONN POSITION MOTHER BOARD VERTICAL POS.	HORIZONTAL POSITION
41	P5	GND
40	GND	GND
39	P15	P15
38	N15	N15
37	MD150	MD160
36	MD130	MD140
35	MD110	MD120
34	MD090	MD100
33	MD070	MD080
32	MD050	MD060
31	MD030	MD040
30	MD010	MD020
29		MD000
28	TEMPA	TEMP B
27	WRTO	
26		
25		
24		
23		
22		
21		
20		
19		
18		
17		
16		
15		
14		
13		
12		
11		
10		MS000
09	MS010	MS020
08	MS030	MS040
07	MS050	MS060
06	MS070	MS080
05	MS090	MS100
04	MS110	MS120
03	MS130	MS140
02	MS150	MS160
01	GND	GND
00	P5	GND

41	P5	GND
40	GND	GND
39		
38		
37		
36		
35	DUAO	MB20
34		
33	MA130	MA140
32	MA110	MA120
31	MA090	MA100
30	MA070	MA080
29	MA050	MA060
28		
27		
26	SCLRO	
25		
24		
23		
22		
21		
20		
19		
18		
17		
16		
15		
14		
13		
12		
11		
10	MA030	MA040
09	MA020	
08	XMA150	XMA140
07	MA010	
06	MA000	
05	PARO	
04		ERO
03		
02	P15	N15
01	GND	GND
00	P5	GND

CONN C

0	XCHC
1	XCHA
2	YCHC
3	YCHA

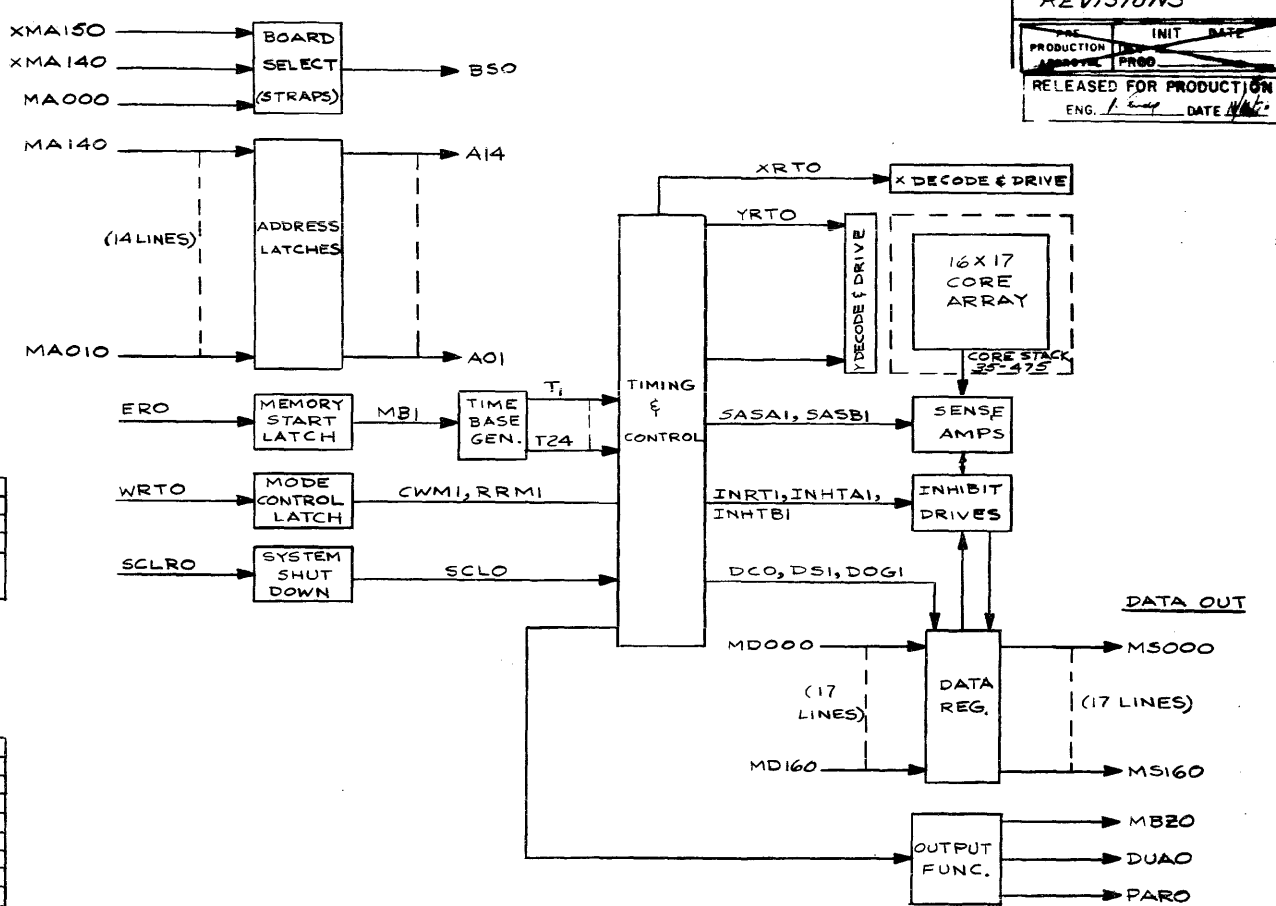
00	GND
01	GND
02	XS7
03	XS6
04	XS5
05	XS4
06	XS3
07	XS2
08	XS1
09	XS0
10	YS7
11	YS6
12	YS5
13	YS4
14	YS3
15	YS2
16	YS1
17	YS0
18	N15
19	XRA14 + YWA14
20	15 15
21	13 13
22	12 12
23	10 10
24	11 11
25	9 9
26	8 8
27	6 6
28	7 7
29	5 5
30	4 4
31	2 2
32	3 3
33	1 1
34	XRA0 + YWA0
35	XWCM + YRC 14
36	15 15
37	13 13
38	12 12
39	10 10
40	11 11
41	9 9
42	8 8
43	6 6
44	7 7
45	5 5
46	4 4
47	2 2
48	3 3
49	1 1
50	XWC0 + YRC0
51	P15

CONN A

118	IB16
117	SB16
116	SB16
115	GND
114	SA16
113	SA16
112	IA16

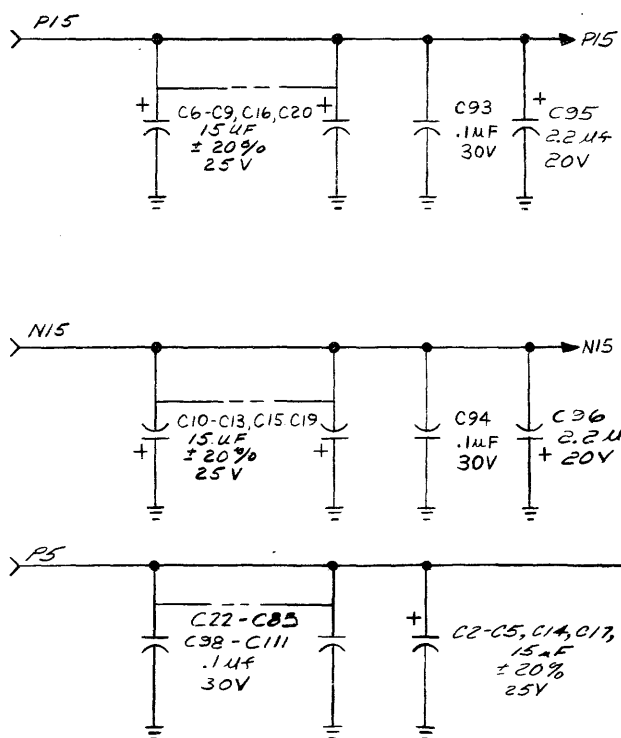
CONN A

13	IB1
12	SB1
11	SB1
10	GND
09	SA1
08	SA1
07	IA1
06	IB0
05	SB0
04	SB0
03	GND
02	SA0
01	SA0
00	IA0



32 KB CORE MEMORY BLOCK DIAGRAM

NOTE: THE REVISION LEVEL OF THIS SHEET IS CONSIDERED TO BE THE REVISION LEVEL OF THE DOCUMENT



PRINTED CIRCUIT BOARD ASSEMBLIES AGREEING WITH THIS SCHEMATIC MUST BE AT LEAST THE FOLLOWING REVISION LEVEL:

35-607F01MO1R03	.75μSEC W/PAR
35-607F02MO1R03	.75μSEC W/O PAR
35-607F03MO1R03	1.0μSEC W/PAR
35-607F04MO1R03	1.0μSEC W/O PAR
35-607F05MO1R03	1.0μSEC W/PAR READ MODIFY WRITE
35-607F06MO1R03	1.0μSEC W/O PAR READ MODIFY WRITE

REVISIONS

REVISED SHT. 11	16-19-77	1002
REVISED SHT'S 118, 18	16-19-77	1002
AREA N7 35-607F01 MO1		
THRU 35-607F06 MO1		
WERE R00.		
REVISED SHT'S 10 & 11	16-19-77	1002
AREA N7 35-607F01 MO1		
THRU 35-607F06 MO1		
WERE R02.		
REVISED SHTS 2 & 17	16-19-77	1002
35-607F01 MO1 - F06 MO1 WAS R02		
REVISED SHTS 2 & 17	16-19-77	1002
35-607F01 MO1 - F06 MO1 WAS R02		

SHEET INDEX

REV	4	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
SHT. NO.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	

NOTES

NAME	TITLE	DATE	TITLE SCHEMATIC
W. LIMPART	DRAFT	9/15/76	ELECTRONICS BOARD
H. MATTER	CHK	9/15/76	(32KB MEMORY)
P. OBRDA	ENGR	11-17-76	
B. MULLER	TEST	11-17-76	
S. MESSINA	MGR.	11-17-76	

NAME: W. LIMPART TITLE: DRAFT DATE: 9/15/76 TITLE SCHEMATIC: ELECTRONICS BOARD (32KB MEMORY)

CHK: H. MATTER DATE: 9/15/76

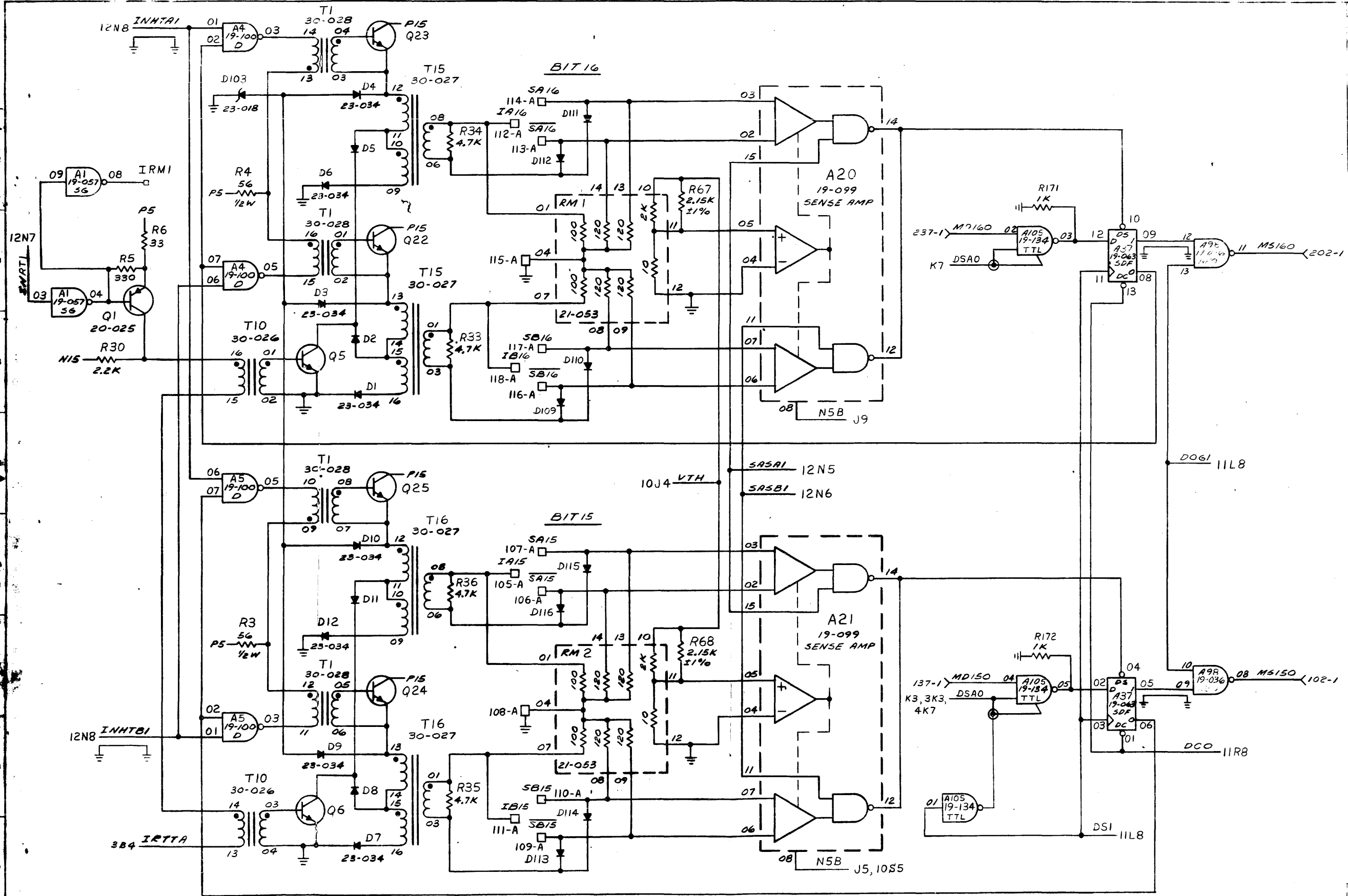
ENGR: P. OBRDA DATE: 11-17-76

TEST: B. MULLER DATE: 11-17-76

MGR.: S. MESSINA DATE: 11-17-76

REV. NO. 03017 SHEET OF 1-20

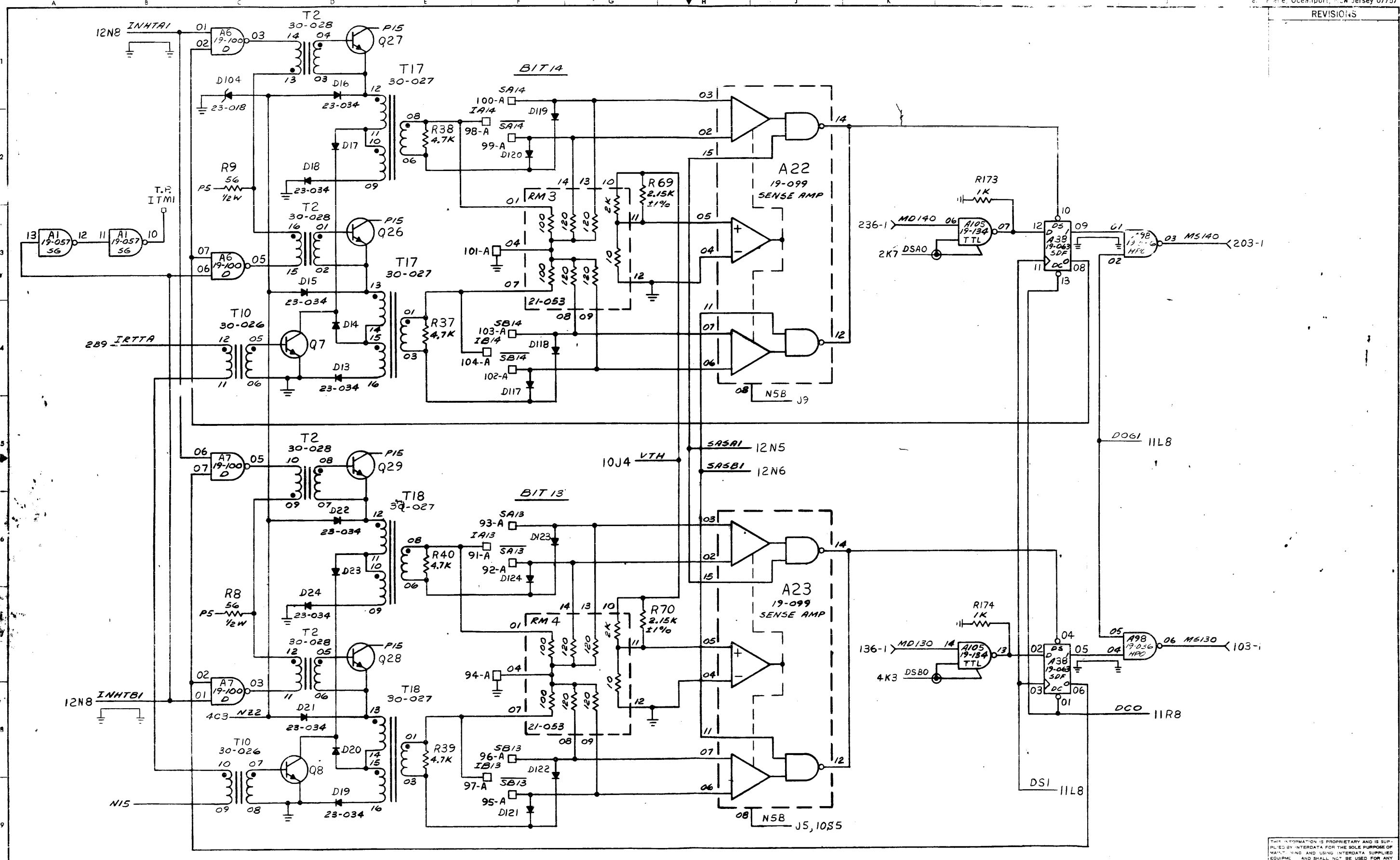
REVISIONS	
1	REVISED AS PER NET TO FOLLOWING WITH QRT PARITY (MAY BE A PART OF THE COMPONENT)
2	C1-A9, C2-E4, C3-A9, D1-D4, D5-D7, D8, D3-DB, L4-D1, D6-D7, K1, K2, L1, L2, R34, R5, R22, L15, E4-E5, L1-D11, D12, E4-E5, L1-D10, D10, H1-R1, L7, T2-A2 (VARIFO E F04)
3	REVISED PER 102-1
4	REVISED PER 102-1
5	REVISED PER 102-1
6	REVISED PER 102-1
7	REVISED PER 102-1
8	REVISED PER 102-1
9	REVISED PER 102-1
10	REVISED PER 102-1



NOTES:
 1. UNLESS OTHERWISE SPECIFIED:
 a) DIODES ARE 23-01.
 b) TRANSISTORS ARE 20-02.

SCALE	NAME	TITLE	DATE	TITLE SCHEMATIC
		ELECTRONICS BRD		(32KB MEMORY)
			03017	2-20
			35-607 MNRD1008	

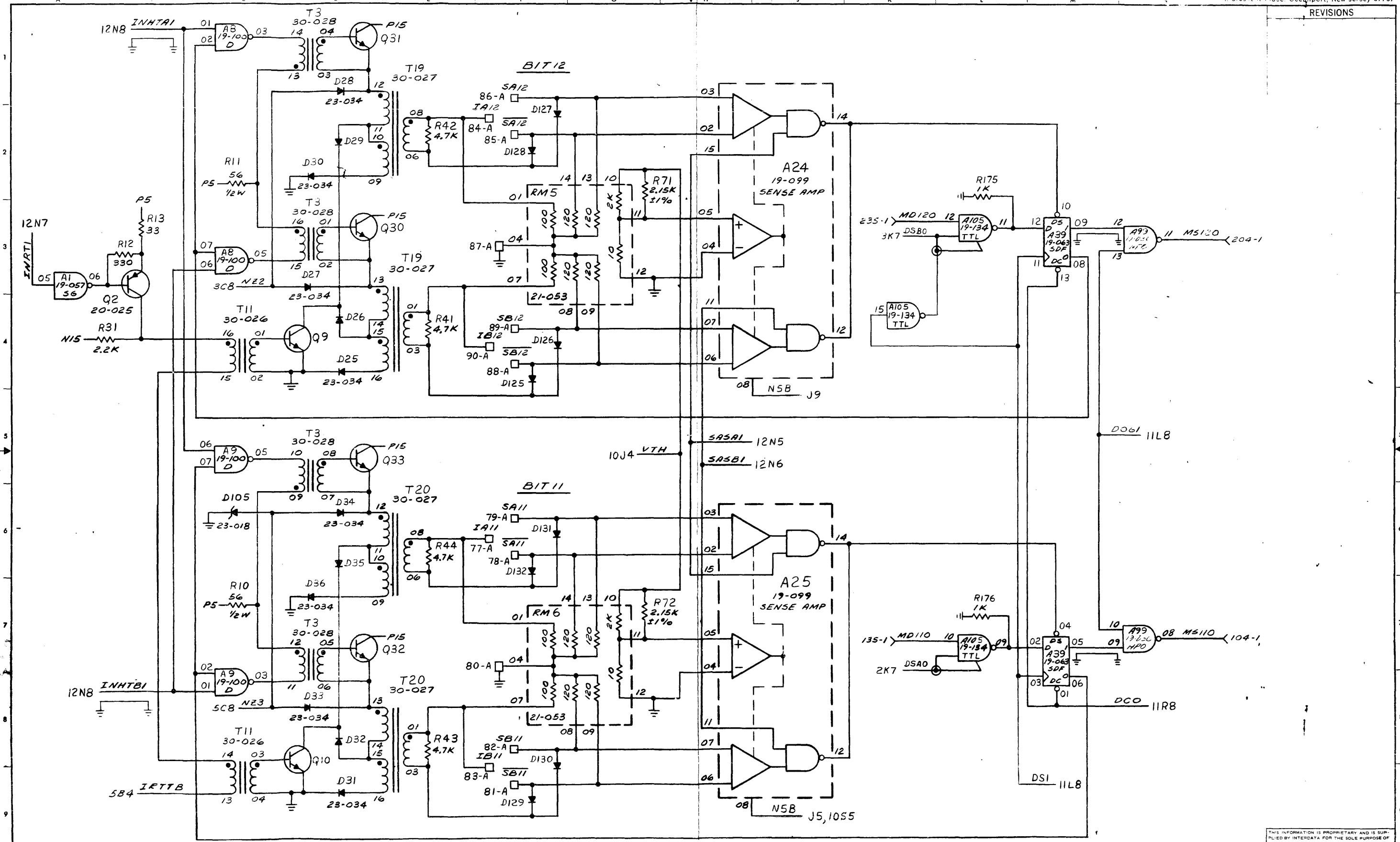
REVISIONS



NOTES:
 1. UNLESS OTHERWISE SPECIFIED:
 a) DIODES ARE 23-001.
 b) TRANSISTORS ARE 30-020.

SCALE	NAME	TITLE	DATE
		TITLE SC SCHEMATIC	
		ELECTRONICS BRD	
		(32KB MEMORY)	
		REV 03017	
		35-607M01 208	3-20

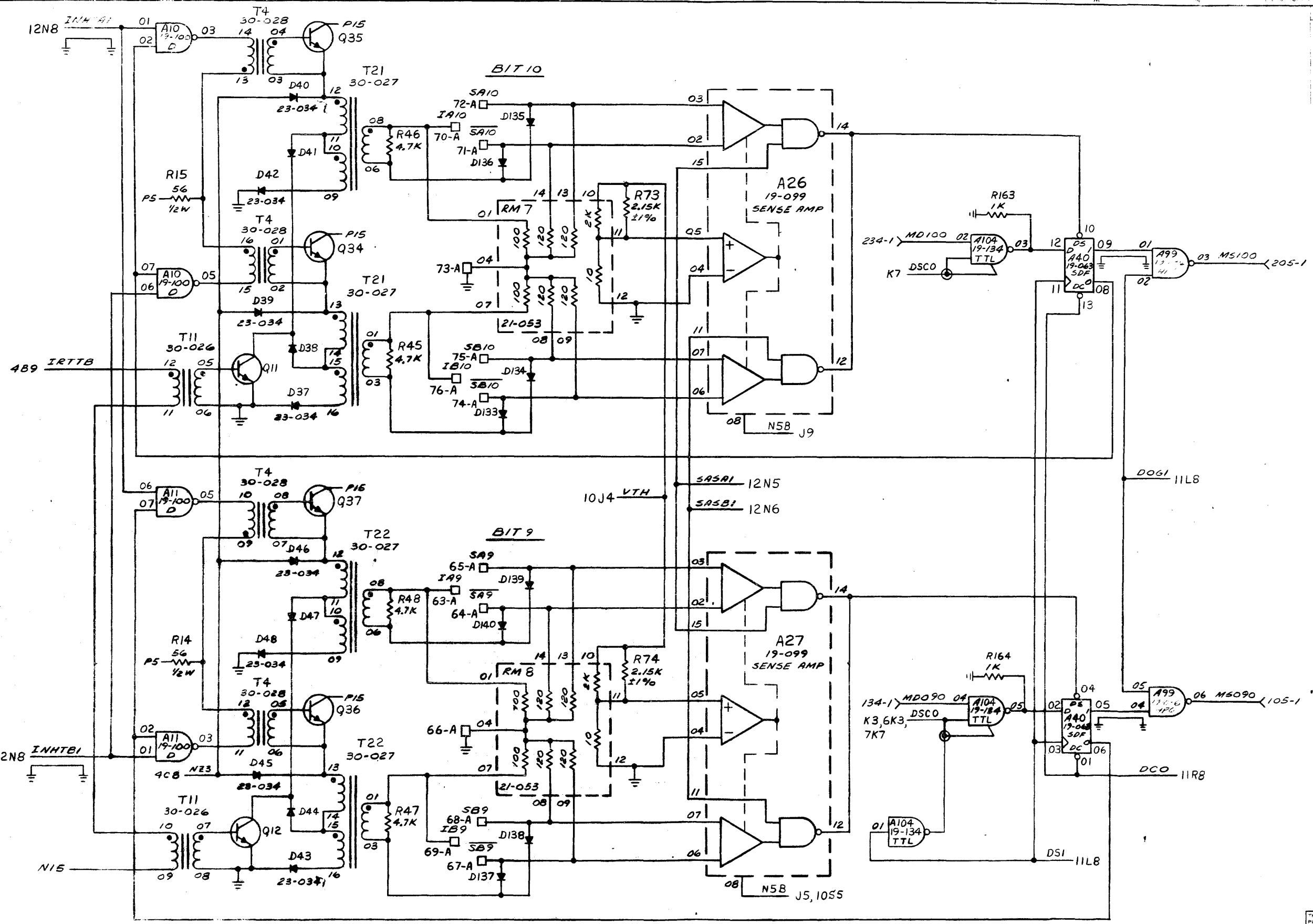
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NOTES:
 1. UNLESS OTHERWISE SPECIFIED:
 a) DIODES ARE 23-001.
 b) TRANSISTORS ARE 20-020.

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SCALE	NAME	DATE	TITLE
			ELECTRONICS BRD (32KB MEMORY)
			03017 SHEET OF
			35-607M:1 008 4-20

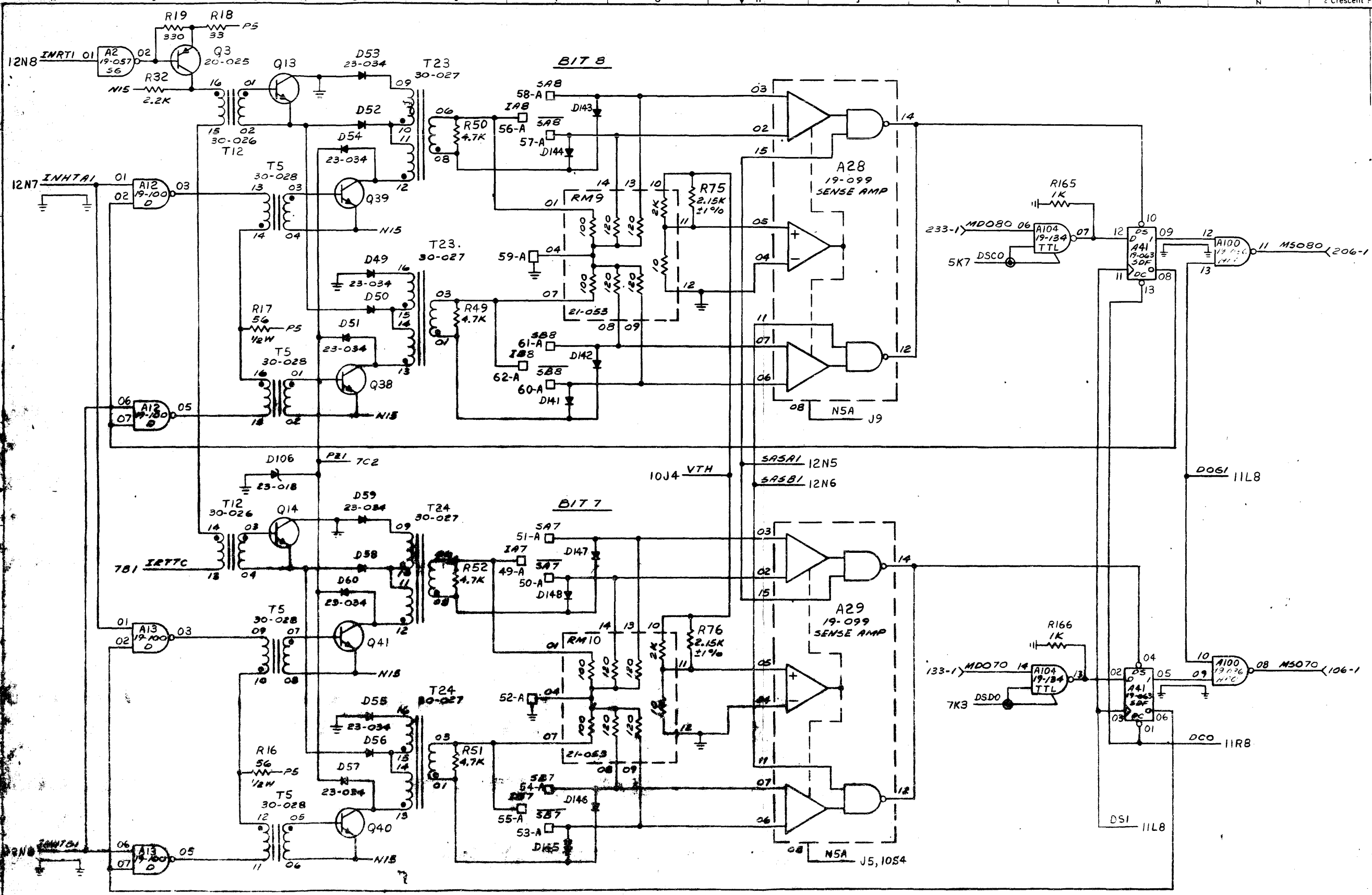


NOTES:
 1. UNLESS OTHERWISE SPECIFIED:
 a) DIODES ARE 23-001.
 b) TRANSISTORS ARE 20-020.

SCALE-	NAME	TITLE	DATE	TITLE SCHEMATIC
TOLERANCE		DRAFT		ELECTRONICS BRD
XXX		CHK		(32KB MEMORY)
XX		ENGR		
XX				03017
XX				35-607M01 008 5-20
XX				
XX				
XX				
XX				

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REVISIONS



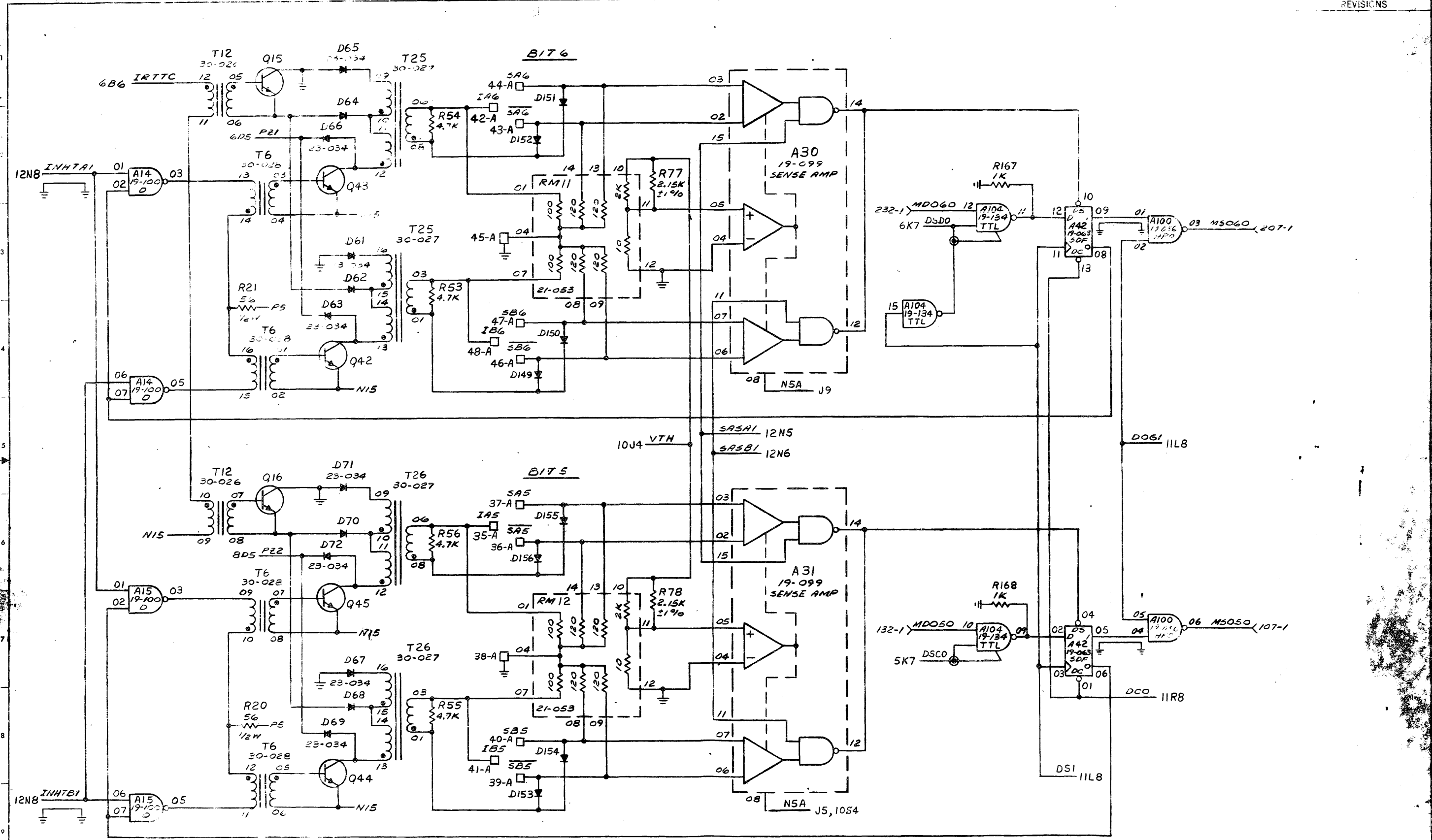
NOTES:
1. UNLESS OTHERWISE SPECIFIED:
a) DIODES ARE 23-001.
b) TRANSISTORS ARE 20-020.

SCALE-	NAME	TITLE	DATE
TOLERANCE: R ± .007 C ± .02			
ANGLE: 30°			
UNLESS OTHERWISE SPECIFIED			

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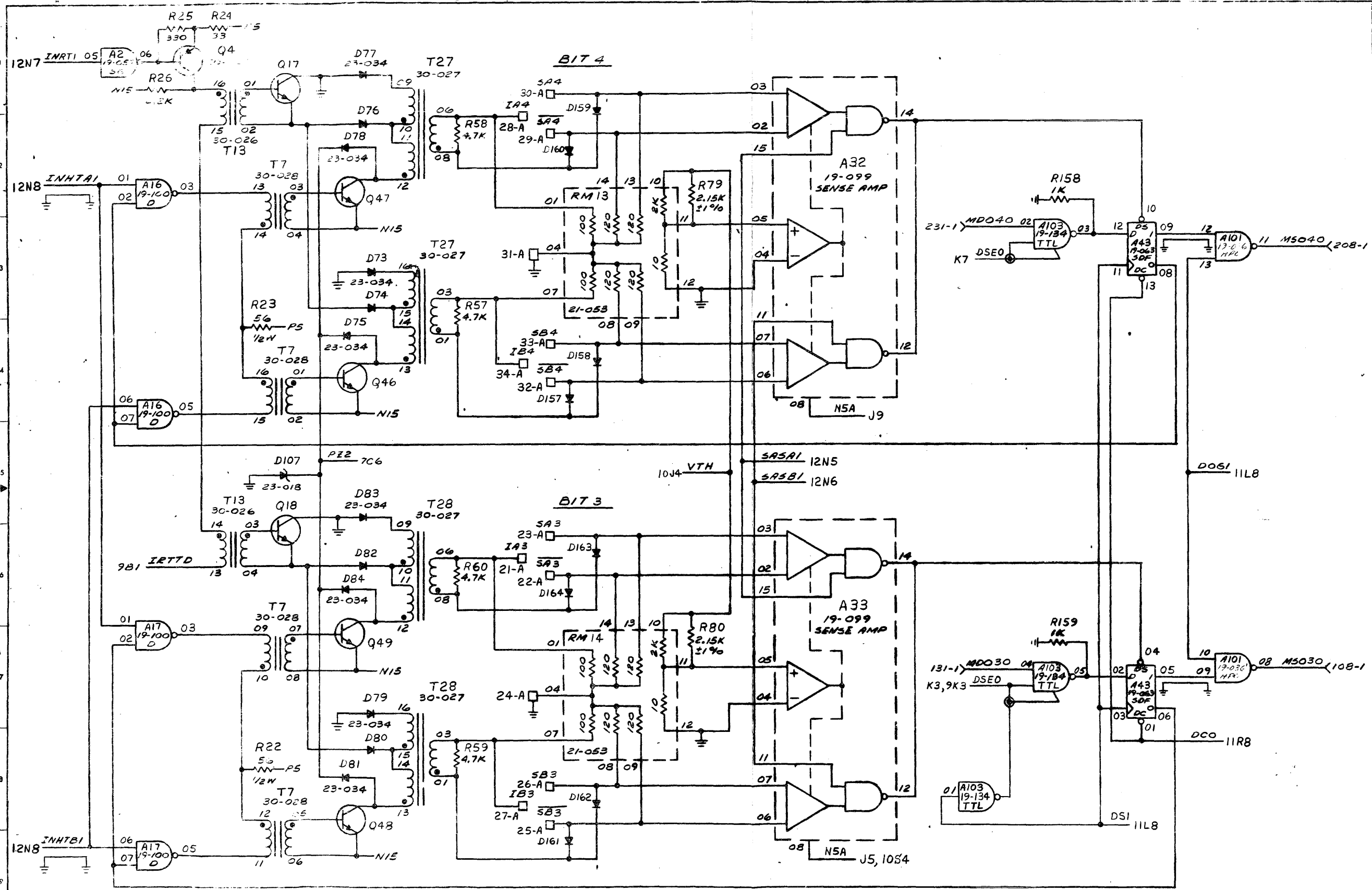
TITLE SCHEMATIC
ELECTRONIC
(32KB MEMORY)

REV: 03017
DW 35-6078



NOTES:
 1. UNLESS OTHERWISE SPECIFIED
 2. DIGITS AS SHOWN
 3. TRANSISTOR CURRENTS

SCALE	DATE	TITLE
		SCHMATIC
		ELECTRONICS BRD.
		(32KB MEMORY)
		35-607M01 208 7-20

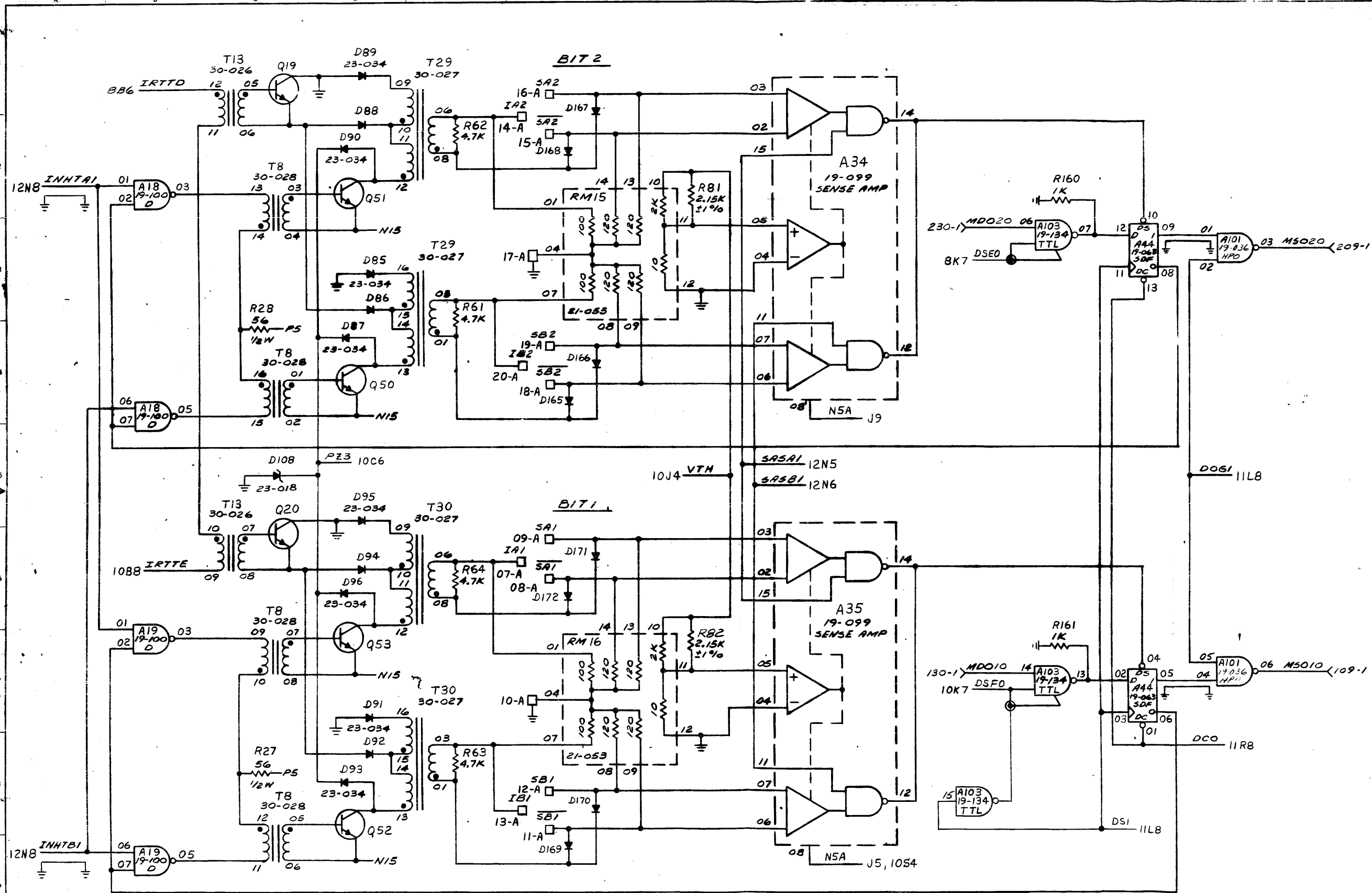


NOTES:
 1. UNLESS OTHERWISE SPECIFIED:
 2. DIODES ARE 1N4001
 3. TRANSISTORS ARE 2N4350

SCALE	NAME	TITLE	DATE	TITLE
		SCHEMATIC		ELECTRONICS BRD.
		(2KB MEMORY)		

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DRAWING 44-231 24538

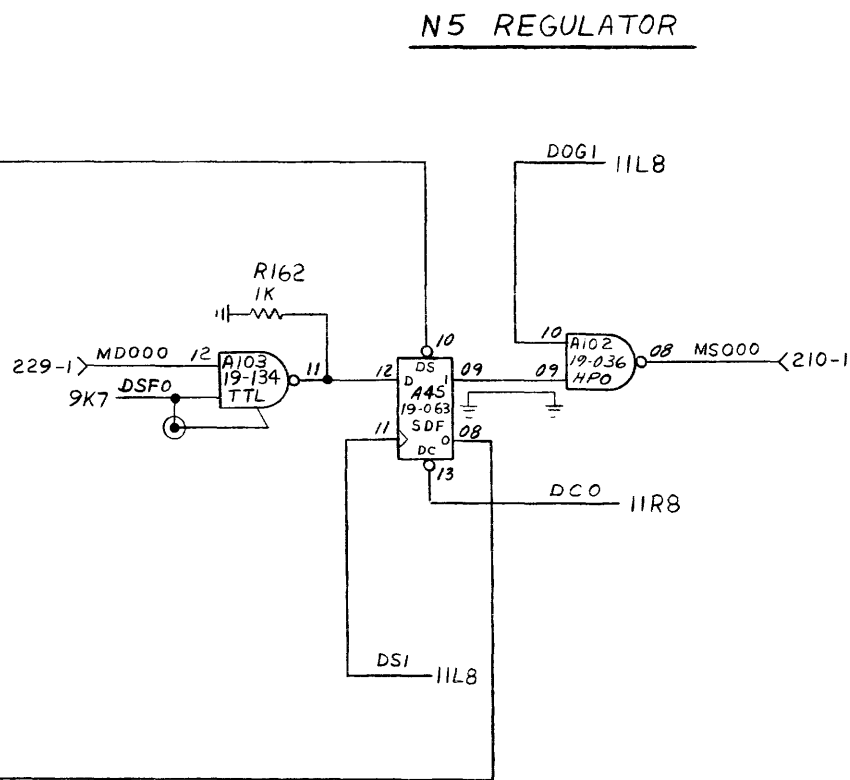
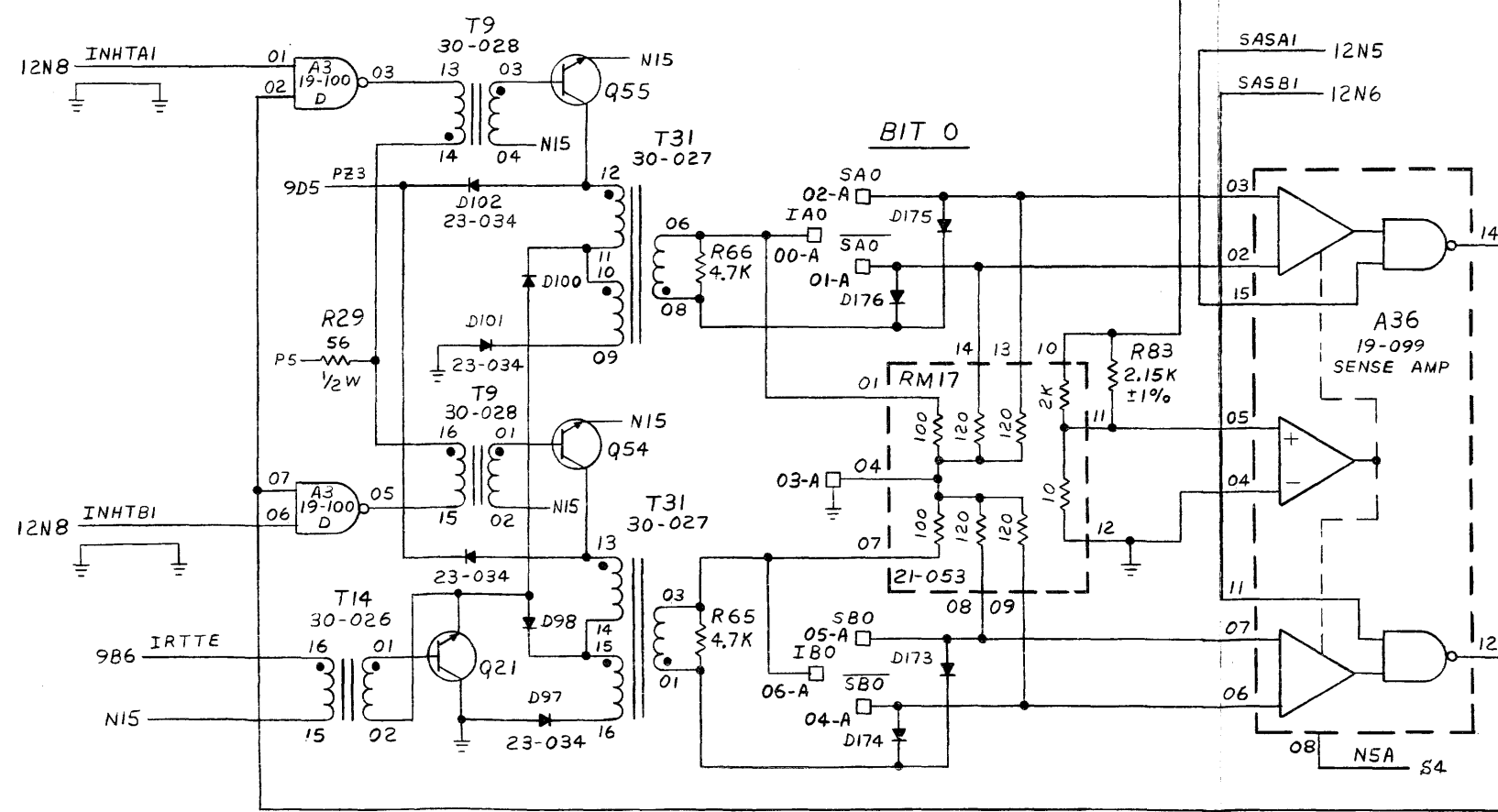
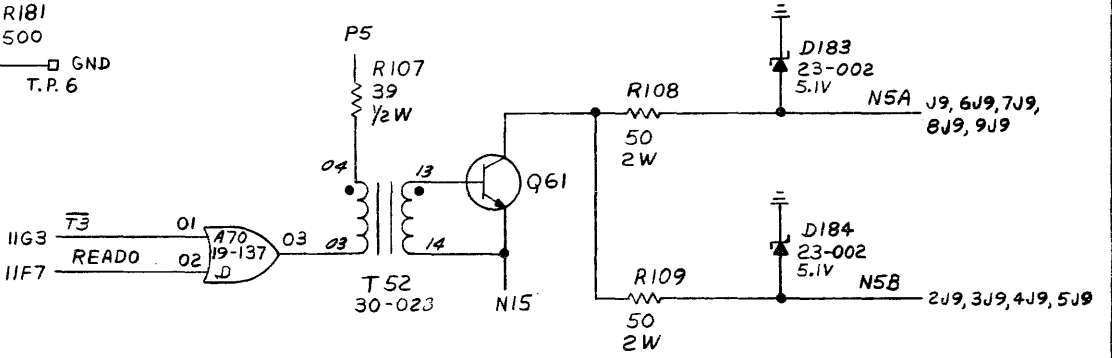
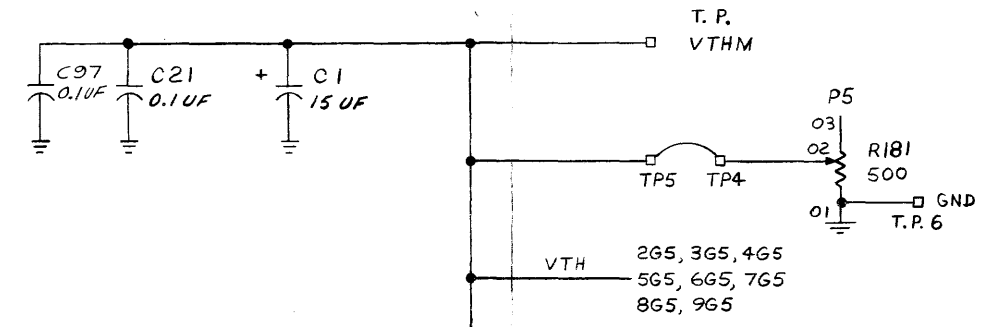
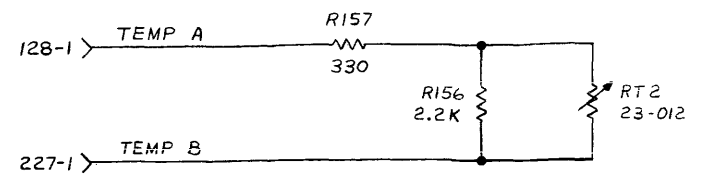


NOTES:
 1. UNLESS OTHERWISE SPECIFIED.
 2. DIODES ARE 23-001.
 3. TRANSISTORS ARE 2N-000.

SCALE-	NAME	TITLE	DATE	TITLE SCHEMATIC
				ELECTRONICS BRD.
				(32KB MEMORY)
				35-607M01 008 9-20

BRUNING 44-231 24588

REVISIONS			
AREA	LS A70 PINI, T3	WAS FI.	
20	3/48	6-21-77	104



NOTES:
1. UNLESS OTHERWISE SPEC:
a) DIODES ARE 23-001.
b) TRANSISTORS ARE 20-020.

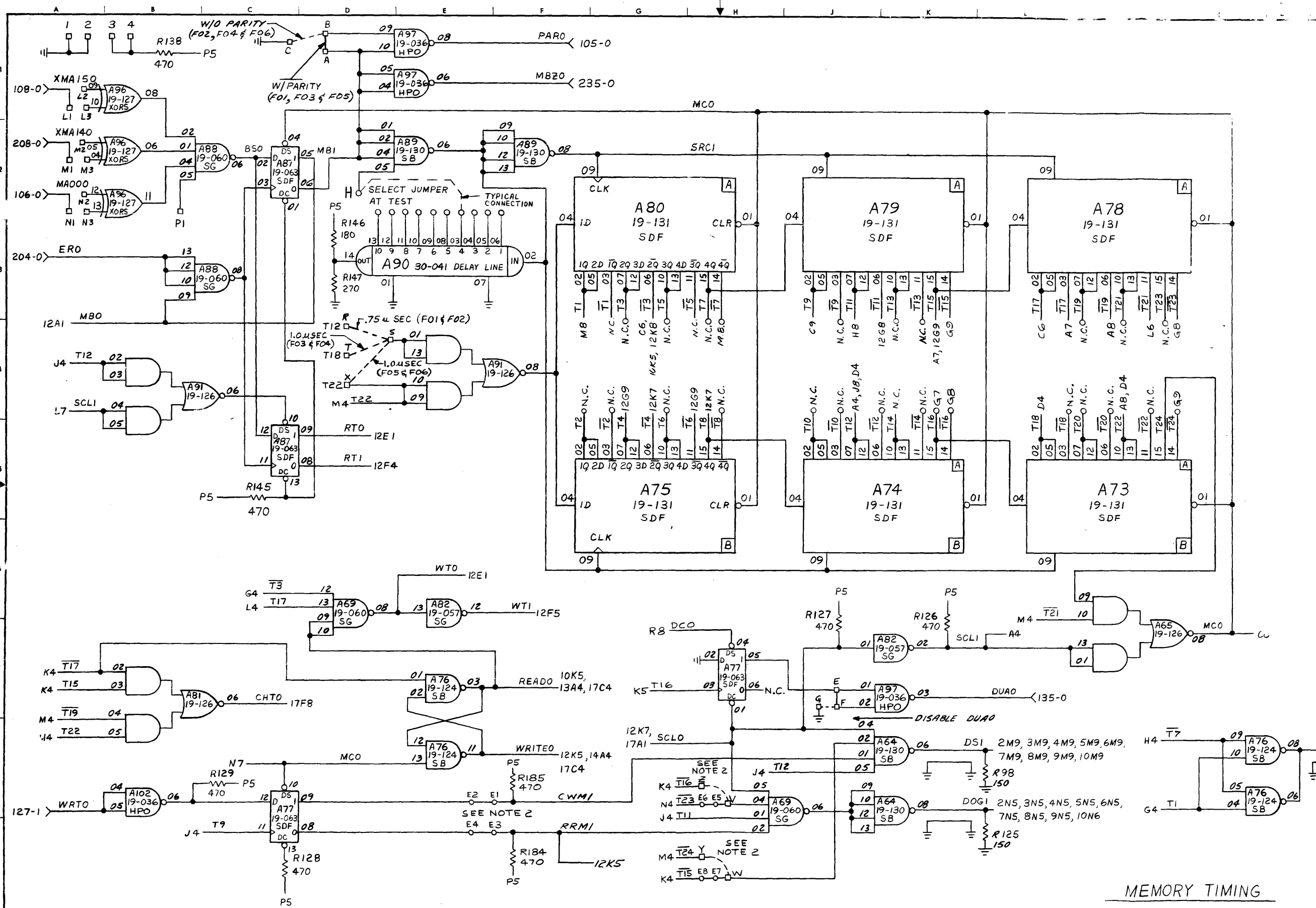
SCALE	NAME	TITLE	DATE
TOLERANCE		DRAFT	
XXY ± 0.05		CHK	
XX ± 0.02		ENGR	
X ± 0.03			
UNLESS OTHERWISE SPECIFIED			

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TITLE SCHEMATIC
ELECTRONICS BRD
(32KB MEMORY)

TAXI 03017
35-607MDIRyD08 10-20

REVISED 3
 1. PINS 02, 03, 04, 05, 06, 07, 08, 09, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100, 101, 102, 103, 104, 105, 106, 107, 108, 109, 110, 111, 112, 113, 114, 115, 116, 117, 118, 119, 120, 121, 122, 123, 124, 125, 126, 127, 128, 129, 130, 131, 132, 133, 134, 135, 136, 137, 138, 139, 140, 141, 142, 143, 144, 145, 146, 147, 148, 149, 150, 151, 152, 153, 154, 155, 156, 157, 158, 159, 160, 161, 162, 163, 164, 165, 166, 167, 168, 169, 170, 171, 172, 173, 174, 175, 176, 177, 178, 179, 180, 181, 182, 183, 184, 185, 186, 187, 188, 189, 190, 191, 192, 193, 194, 195, 196, 197, 198, 199, 200, 201, 202, 203, 204, 205, 206, 207, 208, 209, 210, 211, 212, 213, 214, 215, 216, 217, 218, 219, 220, 221, 222, 223, 224, 225, 226, 227, 228, 229, 230, 231, 232, 233, 234, 235, 236, 237, 238, 239, 240, 241, 242, 243, 244, 245, 246, 247, 248, 249, 250, 251, 252, 253, 254, 255, 256, 257, 258, 259, 260, 261, 262, 263, 264, 265, 266, 267, 268, 269, 270, 271, 272, 273, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 285, 286, 287, 288, 289, 290, 291, 292, 293, 294, 295, 296, 297, 298, 299, 300, 301, 302, 303, 304, 305, 306, 307, 308, 309, 310, 311, 312, 313, 314, 315, 316, 317, 318, 319, 320, 321, 322, 323, 324, 325, 326, 327, 328, 329, 330, 331, 332, 333, 334, 335, 336, 337, 338, 339, 340, 341, 342, 343, 344, 345, 346, 347, 348, 349, 350, 351, 352, 353, 354, 355, 356, 357, 358, 359, 360, 361, 362, 363, 364, 365, 366, 367, 368, 369, 370, 371, 372, 373, 374, 375, 376, 377, 378, 379, 380, 381, 382, 383, 384, 385, 386, 387, 388, 389, 390, 391, 392, 393, 394, 395, 396, 397, 398, 399, 400, 401, 402, 403, 404, 405, 406, 407, 408, 409, 410, 411, 412, 413, 414, 415, 416, 417, 418, 419, 420, 421, 422, 423, 424, 425, 426, 427, 428, 429, 430, 431, 432, 433, 434, 435, 436, 437, 438, 439, 440, 441, 442, 443, 444, 445, 446, 447, 448, 449, 450, 451, 452, 453, 454, 455, 456, 457, 458, 459, 460, 461, 462, 463, 464, 465, 466, 467, 468, 469, 470, 471, 472, 473, 474, 475, 476, 477, 478, 479, 480, 481, 482, 483, 484, 485, 486, 487, 488, 489, 490, 491, 492, 493, 494, 495, 496, 497, 498, 499, 500, 501, 502, 503, 504, 505, 506, 507, 508, 509, 510, 511, 512, 513, 514, 515, 516, 517, 518, 519, 520, 521, 522, 523, 524, 525, 526, 527, 528, 529, 530, 531, 532, 533, 534, 535, 536, 537, 538, 539, 540, 541, 542, 543, 544, 545, 546, 547, 548, 549, 550, 551, 552, 553, 554, 555, 556, 557, 558, 559, 560, 561, 562, 563, 564, 565, 566, 567, 568, 569, 570, 571, 572, 573, 574, 575, 576, 577, 578, 579, 580, 581, 582, 583, 584, 585, 586, 587, 588, 589, 590, 591, 592, 593, 594, 595, 596, 597, 598, 599, 600, 601, 602, 603, 604, 605, 606, 607, 608, 609, 610, 611, 612, 613, 614, 615, 616, 617, 618, 619, 620, 621, 622, 623, 624, 625, 626, 627, 628, 629, 630, 631, 632, 633, 634, 635, 636, 637, 638, 639, 640, 641, 642, 643, 644, 645, 646, 647, 648, 649, 650, 651, 652, 653, 654, 655, 656, 657, 658, 659, 660, 661, 662, 663, 664, 665, 666, 667, 668, 669, 670, 671, 672, 673, 674, 675, 676, 677, 678, 679, 680, 681, 682, 683, 684, 685, 686, 687, 688, 689, 690, 691, 692, 693, 694, 695, 696, 697, 698, 699, 700, 701, 702, 703, 704, 705, 706, 707, 708, 709, 710, 711, 712, 713, 714, 715, 716, 717, 718, 719, 720, 721, 722, 723, 724, 725, 726, 727, 728, 729, 730, 731, 732, 733, 734, 735, 736, 737, 738, 739, 740, 741, 742, 743, 744, 745, 746, 747, 748, 749, 750, 751, 752, 753, 754, 755, 756, 757, 758, 759, 760, 761, 762, 763, 764, 765, 766, 767, 768, 769, 770, 771, 772, 773, 774, 775, 776, 777, 778, 779, 780, 781, 782, 783, 784, 785, 786, 787, 788, 789, 790, 791, 792, 793, 794, 795, 796, 797, 798, 799, 800, 801, 802, 803, 804, 805, 806, 807, 808, 809, 810, 811, 812, 813, 814, 815, 816, 817, 818, 819, 820, 821, 822, 823, 824, 825, 826, 827, 828, 829, 830, 831, 832, 833, 834, 835, 836, 837, 838, 839, 840, 841, 842, 843, 844, 845, 846, 847, 848, 849, 850, 851, 852, 853, 854, 855, 856, 857, 858, 859, 860, 861, 862, 863, 864, 865, 866, 867, 868, 869, 870, 871, 872, 873, 874, 875, 876, 877, 878, 879, 880, 881, 882, 883, 884, 885, 886, 887, 888, 889, 890, 891, 892, 893, 894, 895, 896, 897, 898, 899, 900, 901, 902, 903, 904, 905, 906, 907, 908, 909, 910, 911, 912, 913, 914, 915, 916, 917, 918, 919, 920, 921, 922, 923, 924, 925, 926, 927, 928, 929, 930, 931, 932, 933, 934, 935, 936, 937, 938, 939, 940, 941, 942, 943, 944, 945, 946, 947, 948, 949, 950, 951, 952, 953, 954, 955, 956, 957, 958, 959, 960, 961, 962, 963, 964, 965, 966, 967, 968, 969, 970, 971, 972, 973, 974, 975, 976, 977, 978, 979, 980, 981, 982, 983, 984, 985, 986, 987, 988, 989, 990, 991, 992, 993, 994, 995, 996, 997, 998, 999, 1000.



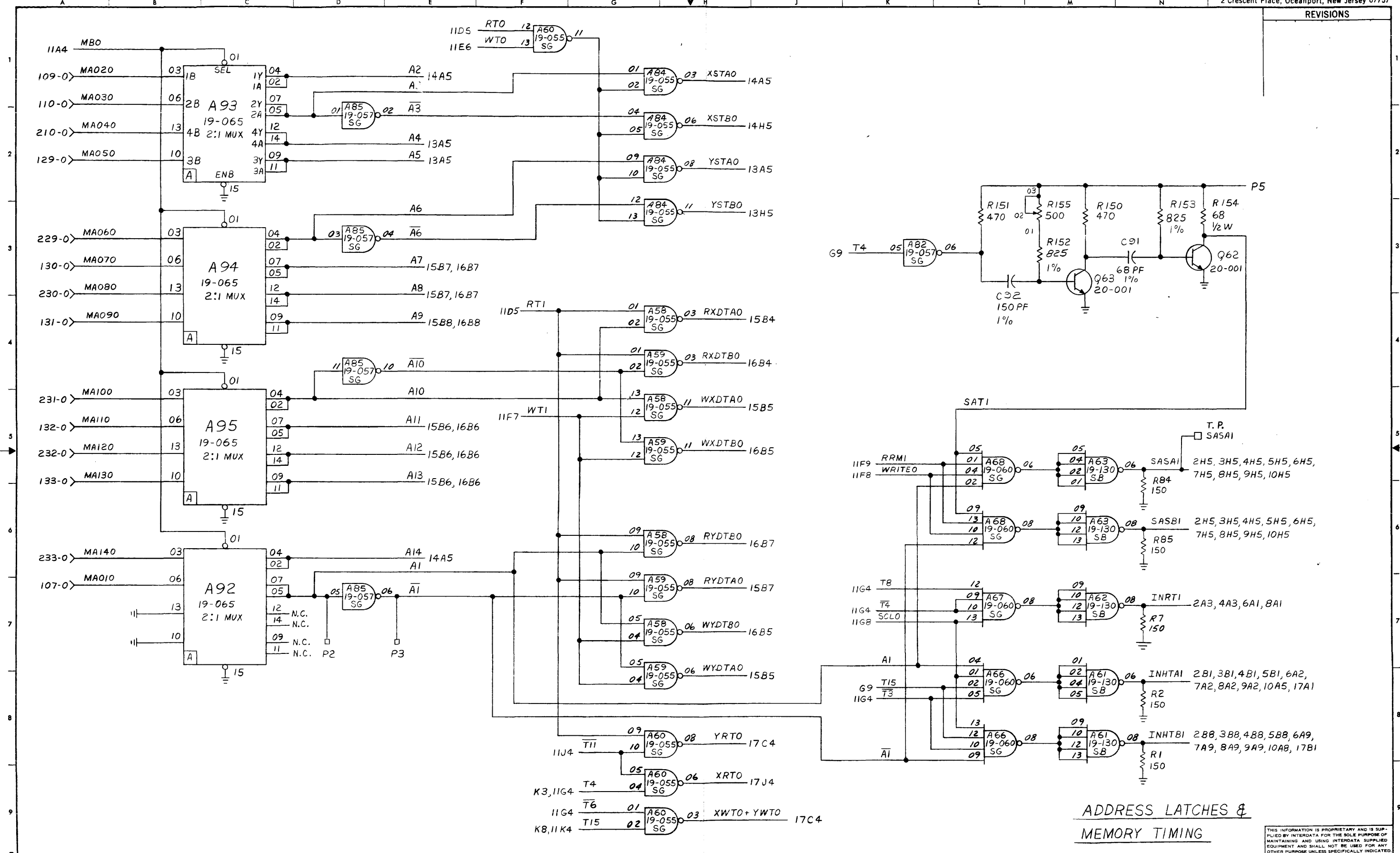
NOTES:
 1. UNLESS OTHERWISE SPECIFIED:
 a) DIODES ARE 23-001.
 b) TRANSISTORS ARE 20-020.
 2. FOR F05 & F06 CUT PATHS
 E1-E2, E3-E4, E5-E6, E7-E8
 & ADD JUMPER WIRES "Z TO V"
 & "Y TO W"

MEMORY TIMING

SCALE-	NAME	TITLE	DATE	TITLE
TOLERANCE XX 1 005 YY 1 02 ZZ 1 03 ANGLES 1 10 UNLESS OTHERWISE SPEC' EG		DRAFT		MEMORANDUM
		CHK		ELECTRONICS BOARD
		ENGR		(32KB MEMORY)
				TASK 03017
				NO. 35-607001A308
				SHEET OF 11-20

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REVISIONS

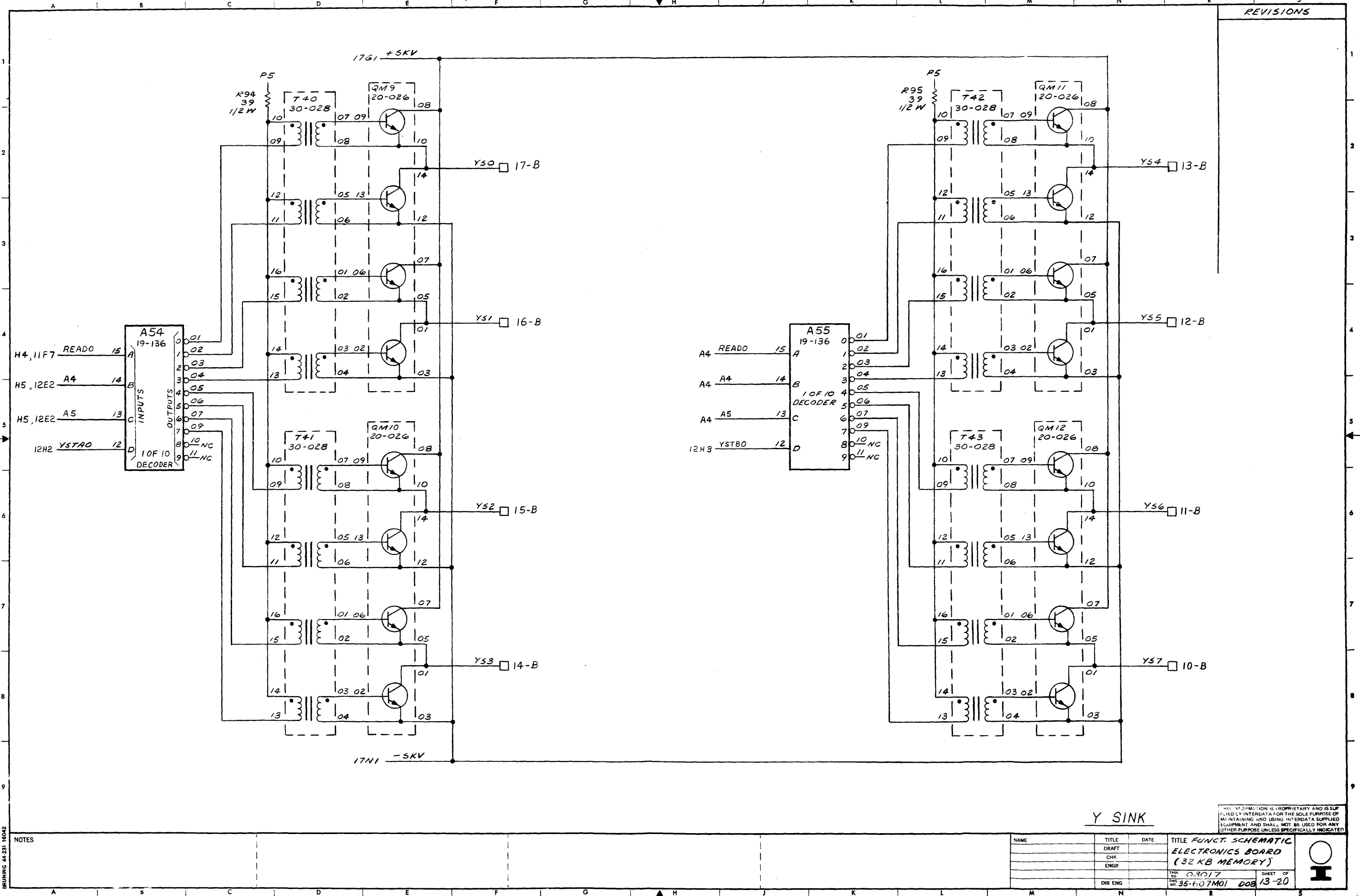


ADDRESS LATCHES &
MEMORY TIMING

NOTES:
1. UNLESS OTHERWISE SPECIFIED:
a) DIODES ARE 23-001.
b) TRANSISTORS ARE 20-020.

SCALE-	NAME	TITLE	DATE	TITLE
TOLERANCE RES 0.005 X 1/2 ANGLES 2/10 UNLESS OTHERWISE SPECIFIED		DRAFT		SCHMATIC
		CHK		ELECTRONICS BOARD
		ENGR		(32KB MEMORY)
				TASK 03017
				SHEET OF 12-20
				35-607M01 D08

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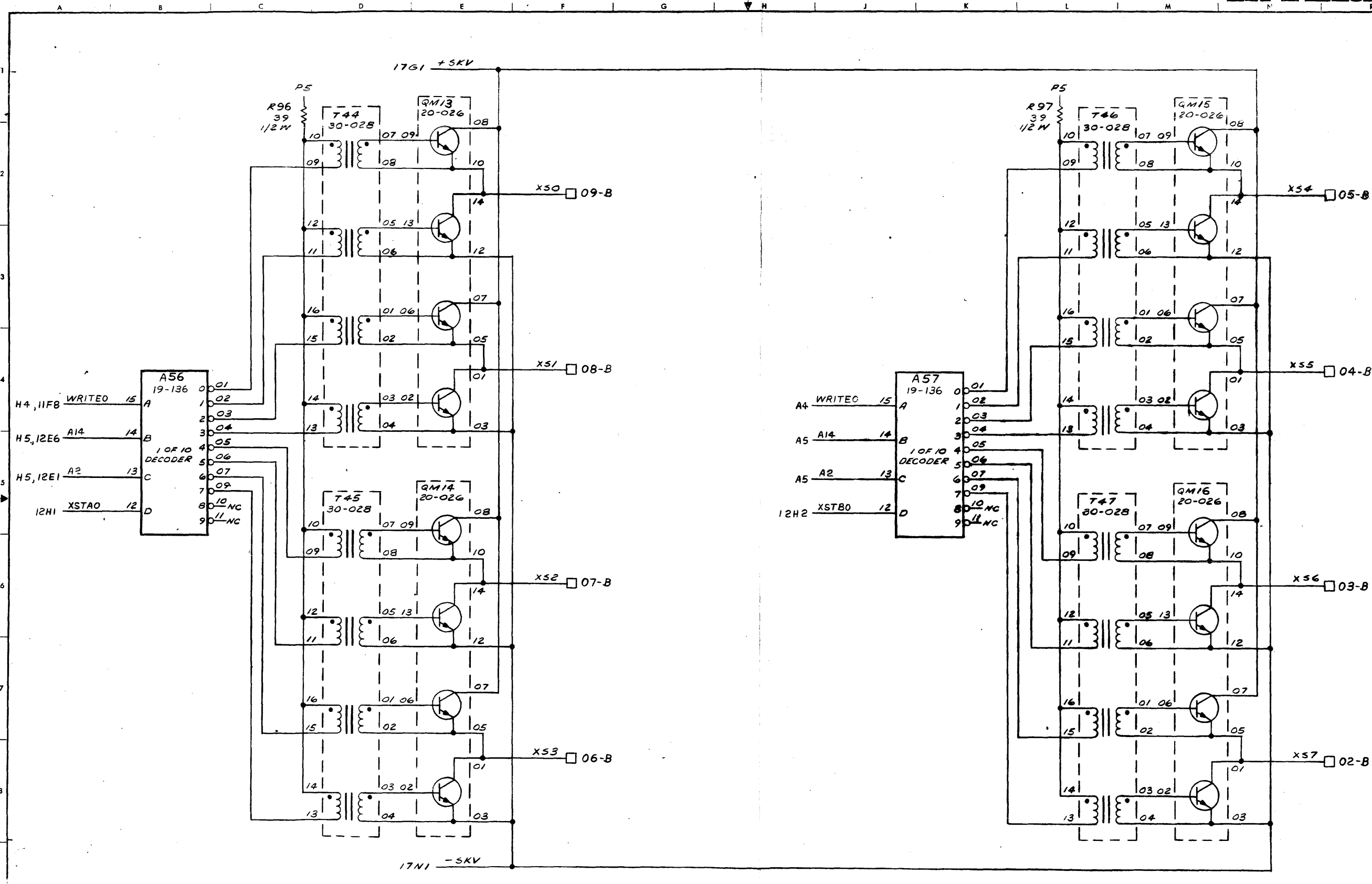


BRUNING 44-231 1604Z

Y SINK

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NAME	TITLE	DATE	TITLE	DATE	
	DRAFT		ELECTRONICS BOARD (32 KB MEMORY)		
	CHK			TASK NO. 03017	SHEET OF 13-20
	ENGR			DIR NO. 35-607M01	DOB
NOTES			DIR ENG		



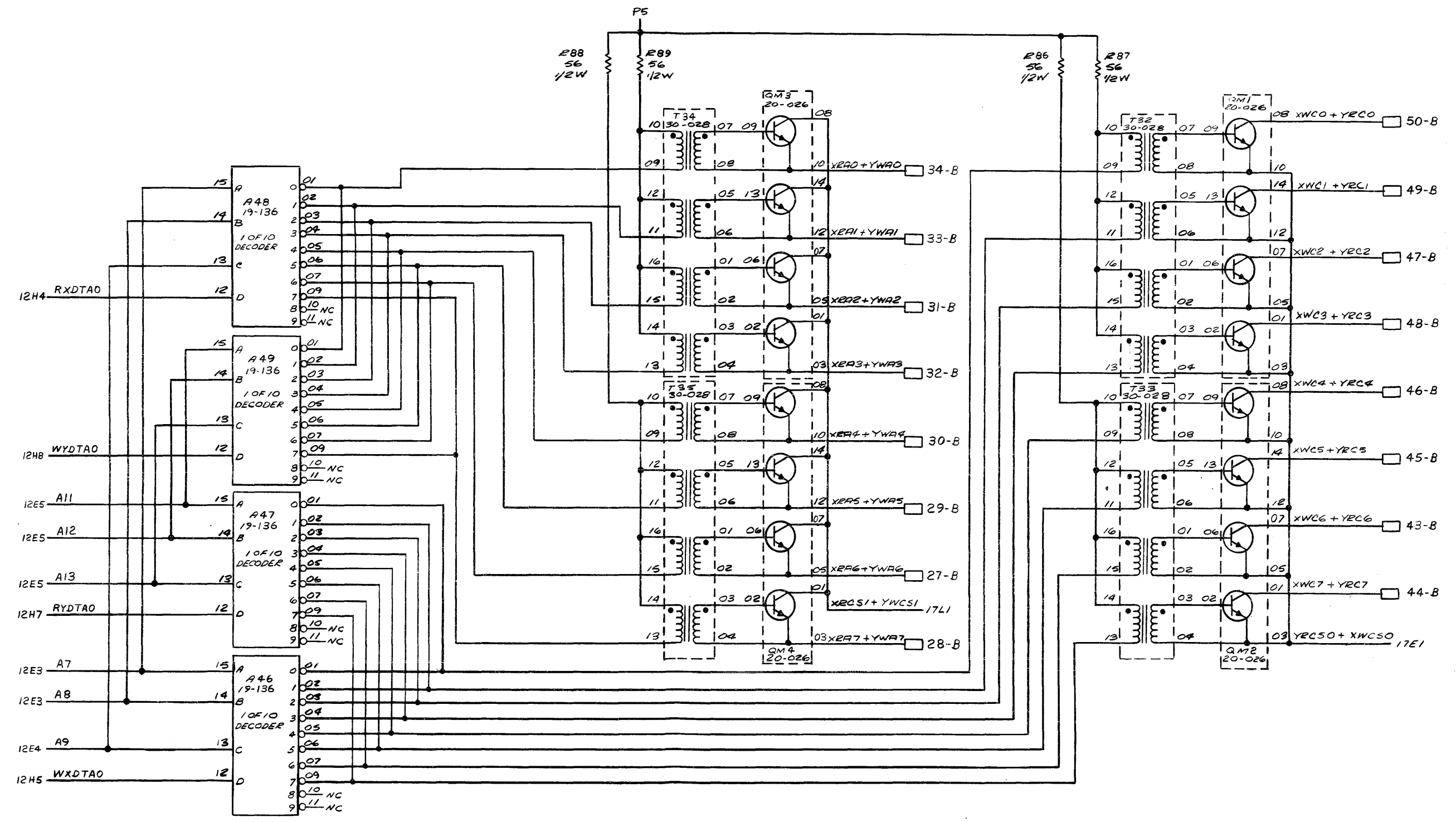
NOTES

X SINK

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 OF ASSISTING AND USING INTERDATA SUPPLY
 EQUIPMENT AND SHALL NOT BE REPRODUCED FOR
 OTHER PURPOSES WITHOUT SPECIFIC WRITTEN
 PERMISSION FROM INTERDATA.

NAME	TITLE	DATE	TITLE
	DESIGN		TITLE FUNCT. SCHEMATIC ELECTRONICS BOARD (32 KB MEMORY)
	CHK		
	ENGR		
	DR ENG		
			14-20 35-607M01 008

DRAWING 44-231 16042



X/Y DRIVE

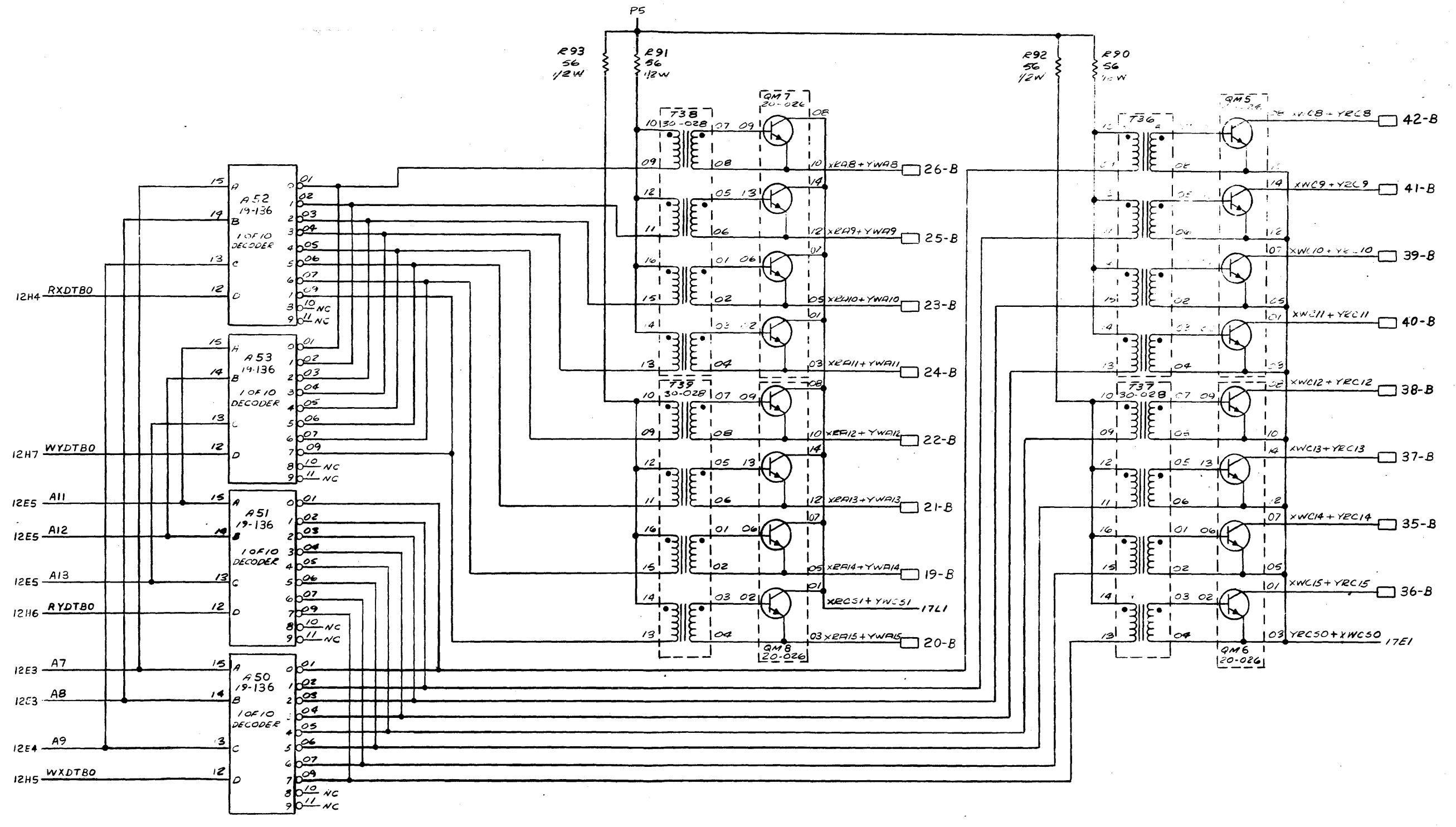
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DRAWING 44-231 16042

NOTES

NAME	TITLE	DATE	TITLE
	DRAFT		FUNCTIONAL SCHEMATIC
	CHK		ELECTRONICS BRD.
	ENGR		(32KB MEMORY)
			TASK NO. 03017
	DIR ENGR		SHEET OF 15-20
			NO. 35-607M01 008





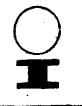
X/Y DRIVE

NOTES

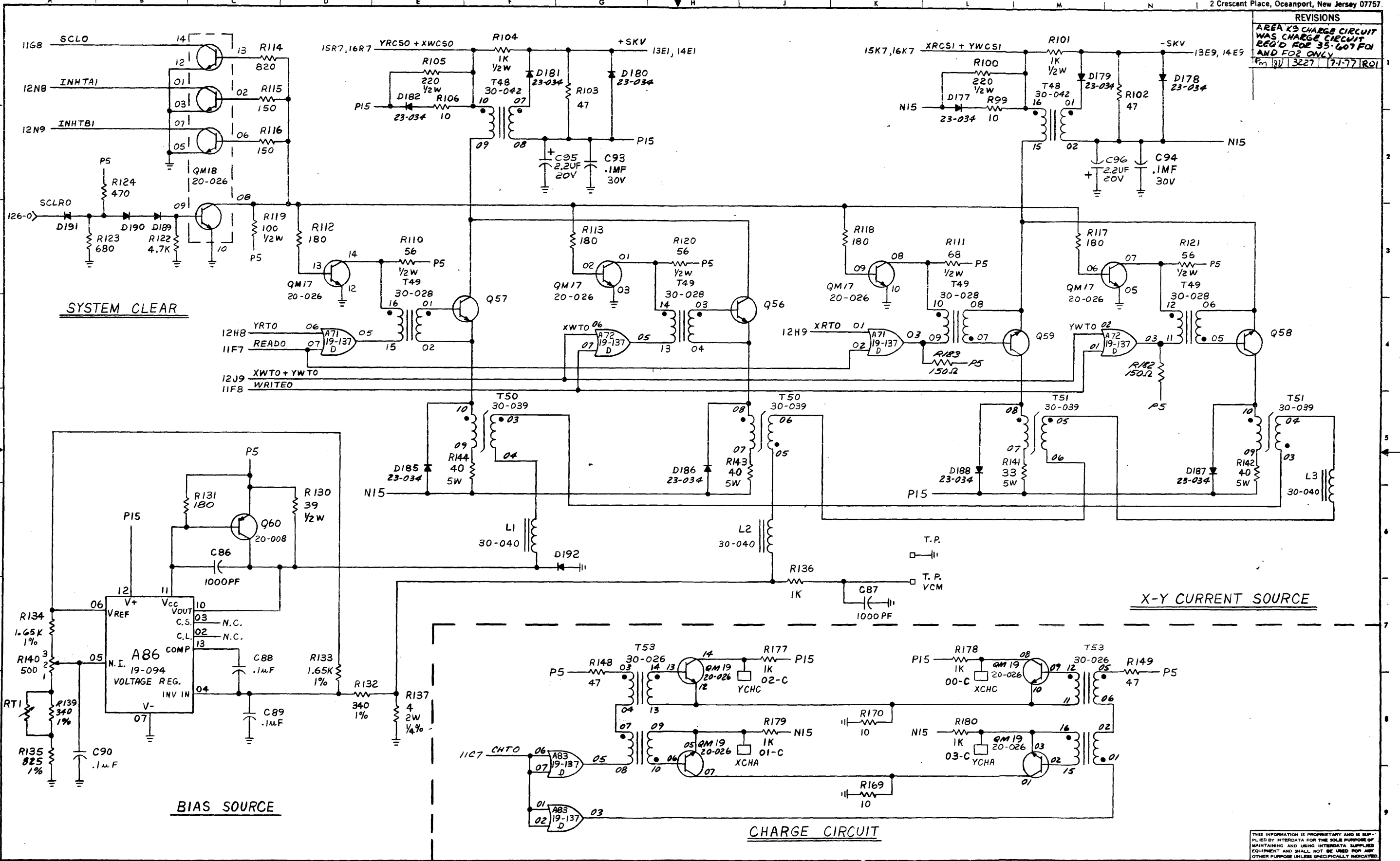
PROPERTY OF INTERDATA CORPORATION
 THIS DOCUMENT IS UNCLASSIFIED
 DATE 03-01-2011 BY 60322 UCBAW/SJS

TITLE: FUNCT. SCHEMATIC
 ELECTRONICS BRD.
 (32 KB MEMORY)

03017 SHEET OF 16-20
 35-607M01 Doc 16-20



REVISIONS	
1	AREA K'S CHARGE CIRCUIT WAS CHANGED FOR 35-607 FOR AND FOR ONLY
2	REV 3227 7-1-77 R01



SYSTEM CLEAR

BIAS SOURCE

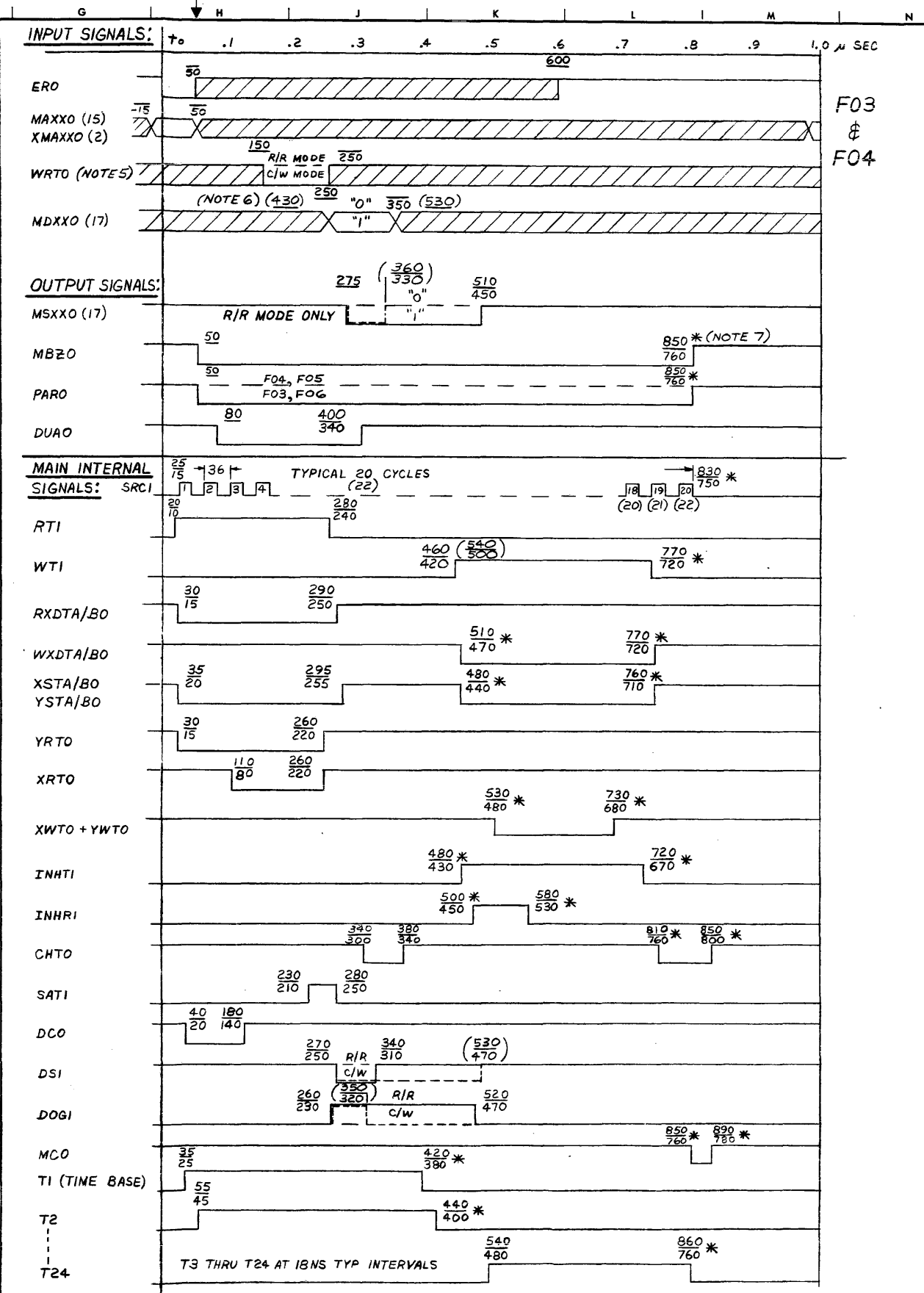
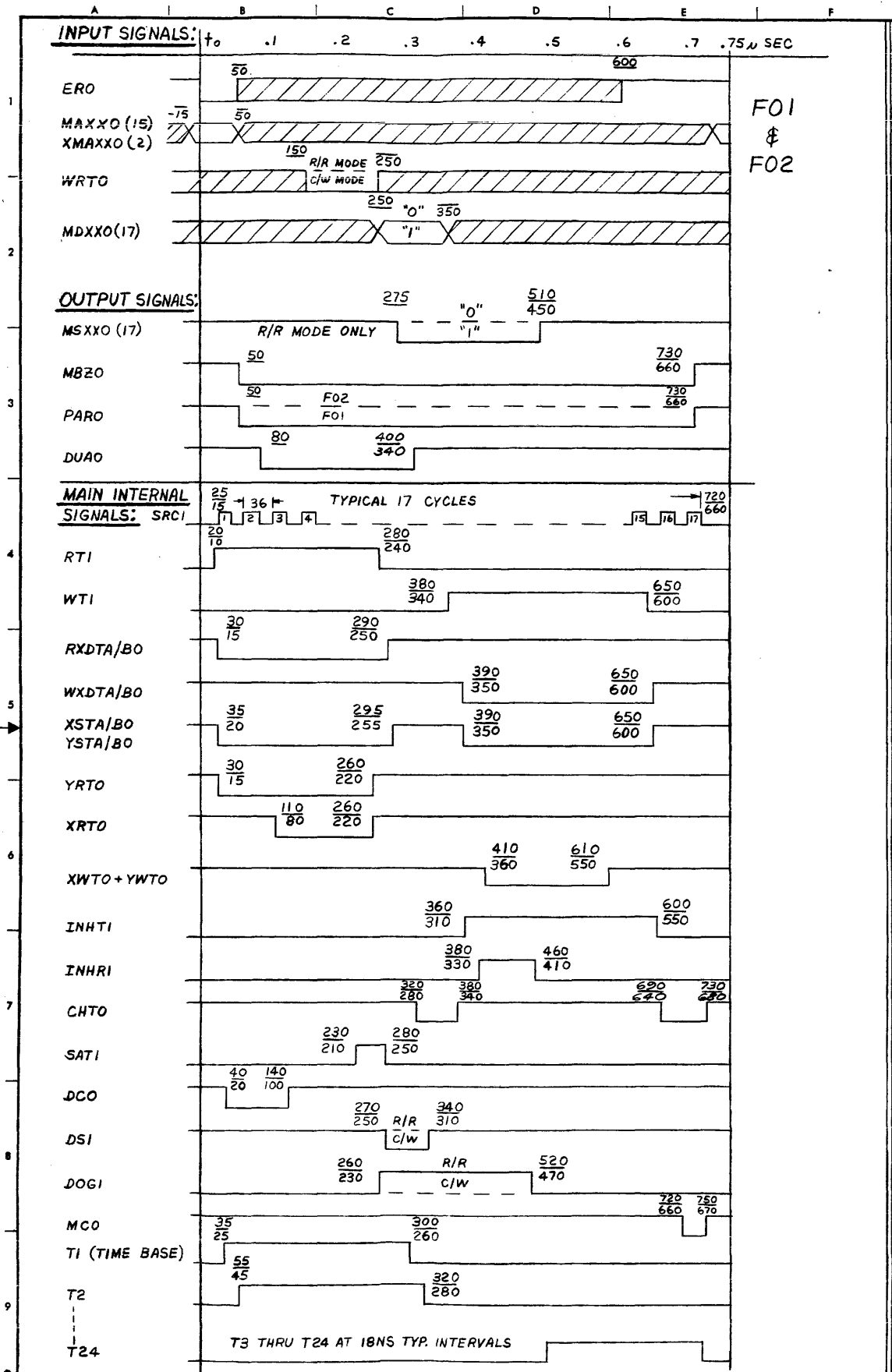
X-Y CURRENT SOURCE

CHARGE CIRCUIT

NOTES:
1. UNLESS OTHERWISE SPECIFIED:
a) DIODES ARE 23-001.
b) TRANSISTORS ARE 20-020.

SCALE-	NAME	TITLE	DATE	TITLE
TOLERANCE: RES 5.005 RES 5.92 RES 5.03 ANGLES 5.10 UNLESS OTHERWISE SPECIFIED		DRAFT		SCHEMATIC
		CHK		ELECTRONICS BOARD
		ENGR		(32 KB MEMORY)
				TASK NO. 03017
				SHEET 17-20

REVISIONS			
AREA J7, 320 WAS 320	300	280	
PM 121 3188	16-19-77	1501	
AREA H8, 180 WAS 180	140	100	
PM 141 3148	16-22-77	1602	



- NOTES:**
1. SHADED AREA (///) INDICATES "CAN CHANGE" OR "DO NOT CARE" INTERVAL.
 2. UNLESS OTHERWISE INDICATED TIME IS IN NANoseconds.
 3. THE NUMBER ABOVE THE LINE INDICATES MAXIMUM TIME; BELOW THE LINE IS MINIMUM.
 4. ALL SIGNALS ARE OF STANDARD TTL LEVELS & TIMING IS REFERENCED TO 1.5V.

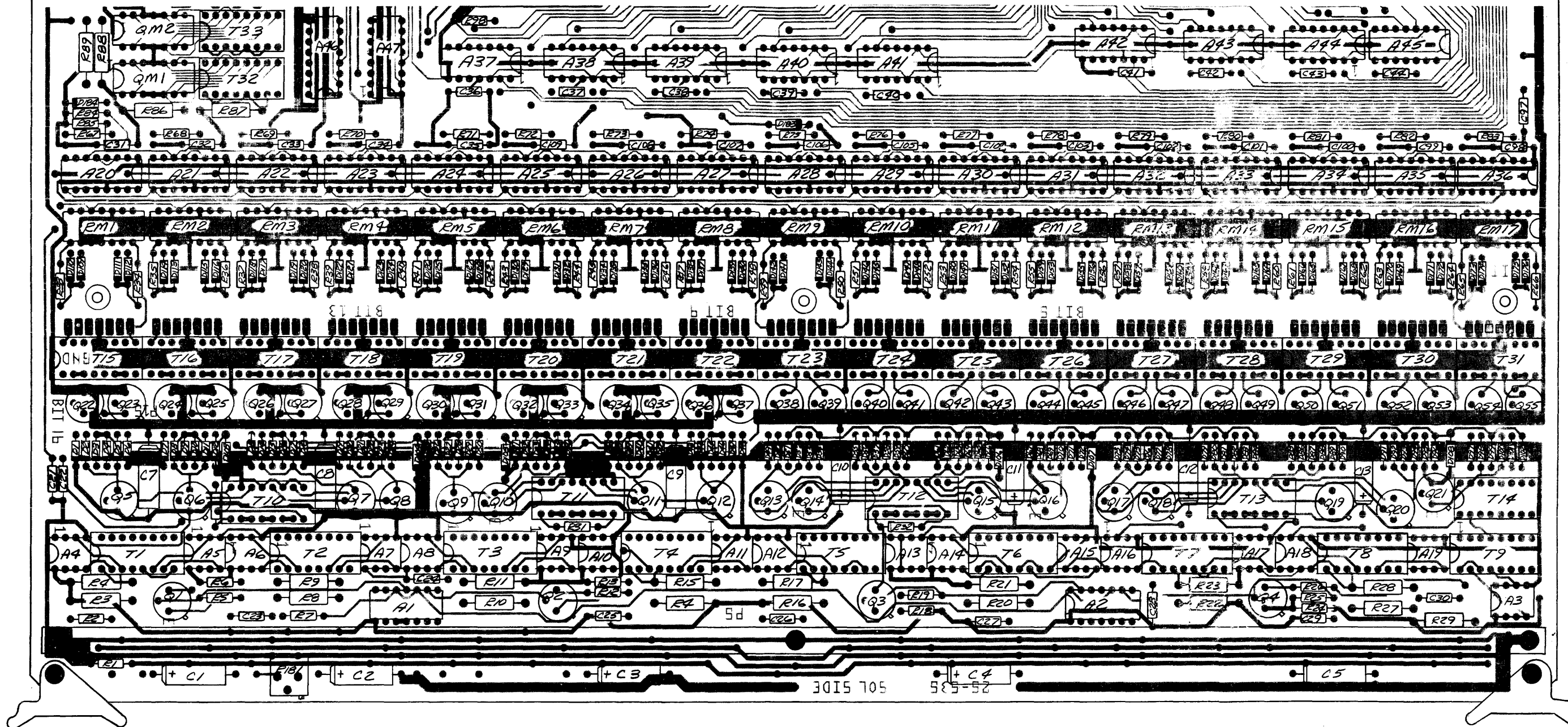
5. NOT APPLICABLE TO F05 & F06.
6. REFERENCES IN BRACKETS ARE APPLICABLE TO F05 & F06 ONLY.
7. REFERENCES DESIGNATED WITH * ADD 80 NANoseconds FOR F05 & F06 ONLY.

SCALE-	NAME	TITLE	DATE
TOLERANCE: 1% ± 0.05 1% ± 0.02 1% ± 0.03 UNLESS OTHERWISE SPECIFIED		DRAFT	
		CHK	
		ENGR	

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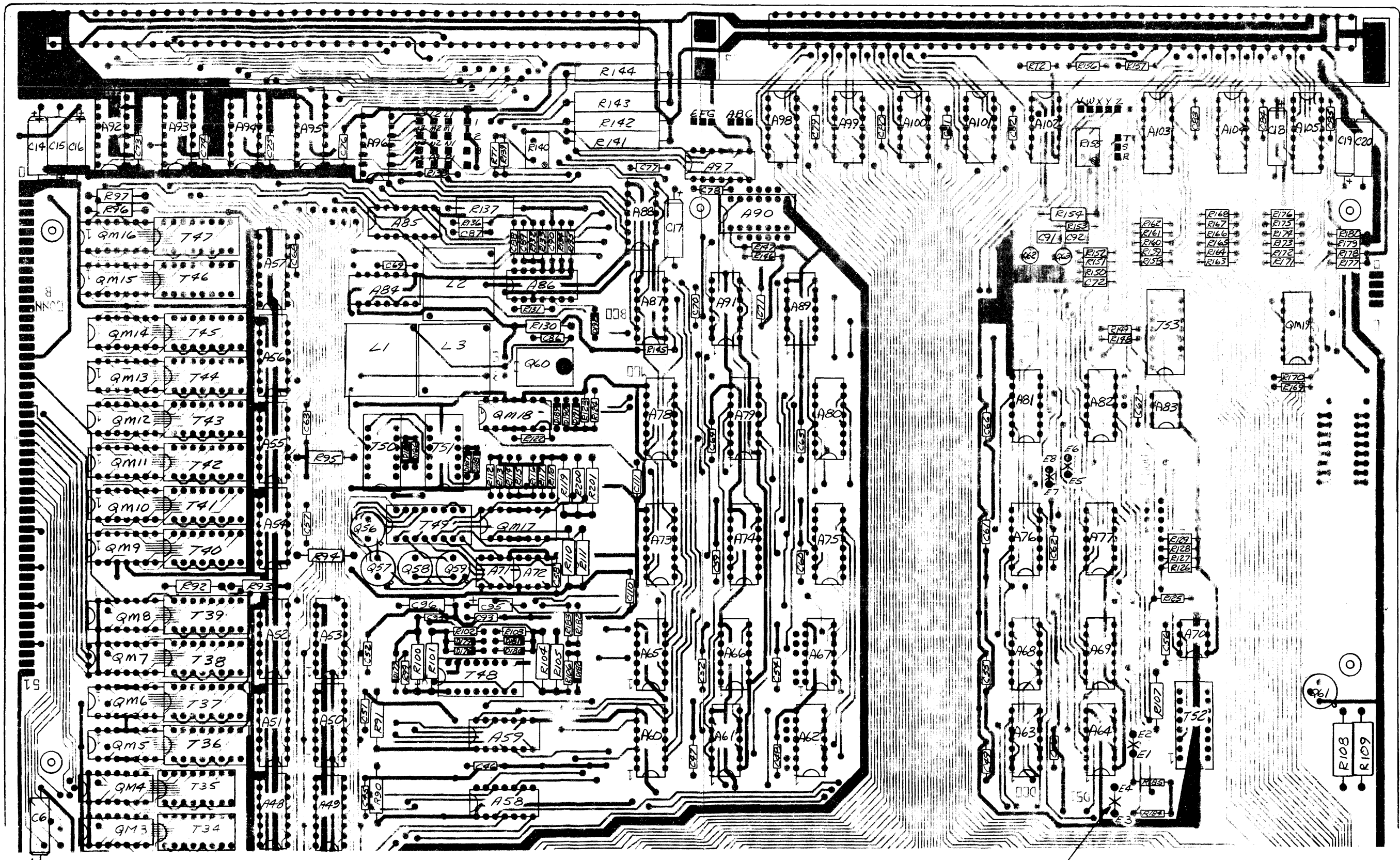
TITLE **SCHEMATIC**
ELECTRONICS BOARD
(32KB MEMORY)

DATE 03017
35-607MOR2DOB 18-24



VIEWED FROM SOLDER SIDE
FOR COMPONENT REFERENCE ONLY

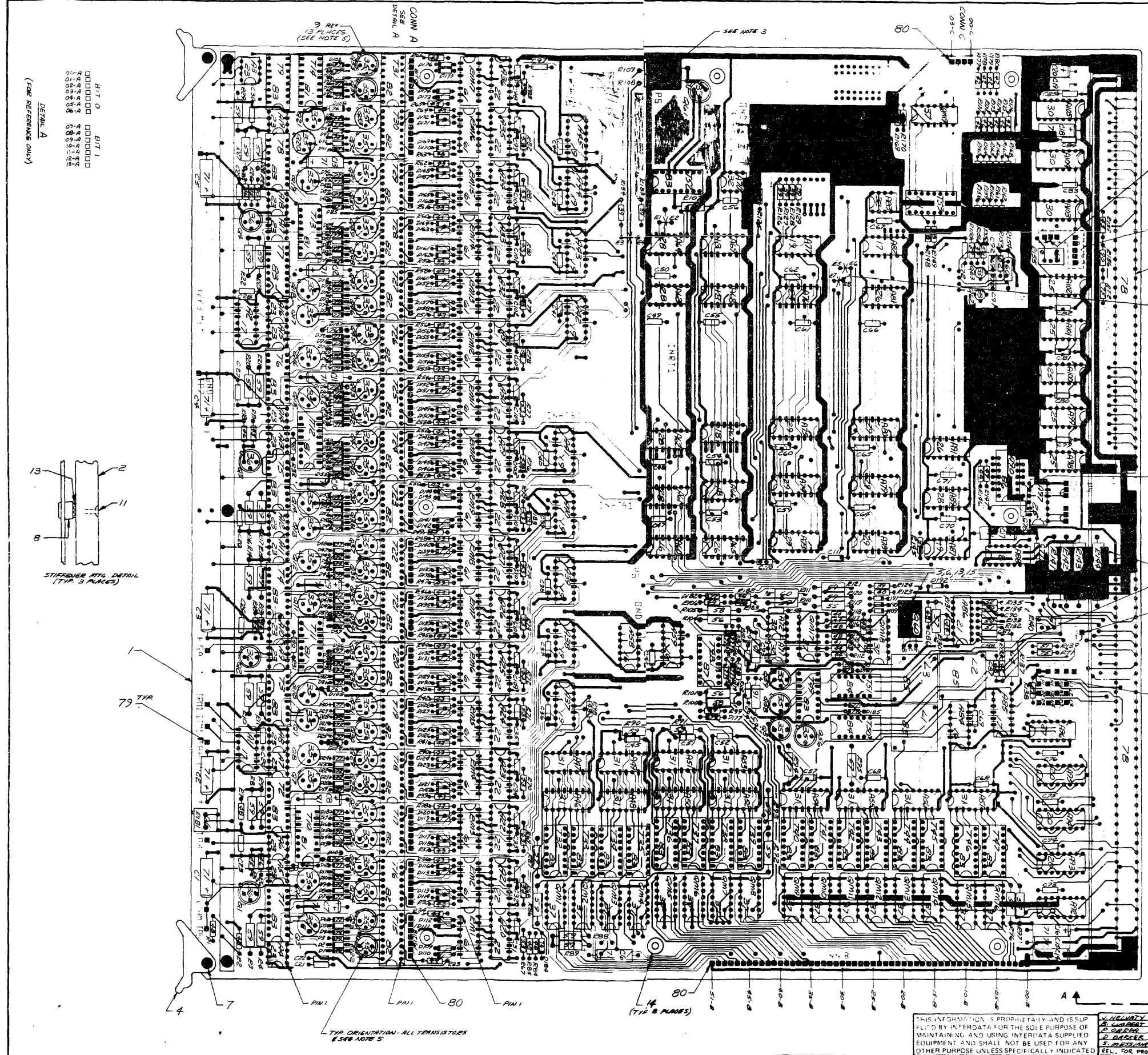
J. HELVATY	DRAFT	10-12-76	SCHEMATIC ELECTRONICS BOARD (32 KB MEMORY)	I
			03017	SMK 02
			35-607 M01 D08	19-20



VIEWED FROM SOLDER SIDE
FOR COMPONENT REFERENCE ONLY

COPPER CUT FOR
F05 & F06
TIP 4 PLACES

V. HELVATY	DRAFT	10-13-76	SCHMATIC	ELECTRONICS BOARD (32 KB MEMORY)
			03017	
			35-607 M01 DOB	
			20-20	



REVISIONS

REVISED CIRCULAR TO REFLECT NEW COPPER	REVISED CIRCULAR TO REFLECT NEW COPPER	REVISED CIRCULAR TO REFLECT NEW COPPER	REVISED CIRCULAR TO REFLECT NEW COPPER
1. 11/17/73 1481 1482 1483	2. 11/17/73 1481 1482 1483	3. 11/17/73 1481 1482 1483	4. 11/17/73 1481 1482 1483
5. 11/17/73 1481 1482 1483	6. 11/17/73 1481 1482 1483	7. 11/17/73 1481 1482 1483	8. 11/17/73 1481 1482 1483
9. 11/17/73 1481 1482 1483	10. 11/17/73 1481 1482 1483	11. 11/17/73 1481 1482 1483	12. 11/17/73 1481 1482 1483
13. 11/17/73 1481 1482 1483	14. 11/17/73 1481 1482 1483	15. 11/17/73 1481 1482 1483	16. 11/17/73 1481 1482 1483
17. 11/17/73 1481 1482 1483	18. 11/17/73 1481 1482 1483	19. 11/17/73 1481 1482 1483	20. 11/17/73 1481 1482 1483

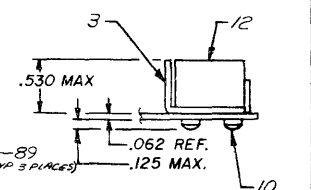
CUT COPPER FOR PDS # 40 ONLY SOLDER SIDE SEE NOTE 5 (TYP 4 PLACES)

- NOTES:
1. ALL UNSPEC. CAPACITORS ARE ITEM 72.
 2. ALL UNSPEC. DIODES ARE ITEM 78.
 3. BEND PINS CLOSEST TO EDGE OF BOARD INWARD TOWARD JUNCTIONS.
 4. DOB, R100, R121, R141-R144: DO NOT ALLOW RESISTOR SOLDER TO TOUCH COPPER. RESISTOR TAIL TYPED ON TOP OF OFF THE BOARD.
 5. CUT # STRAP USING ITEM 89 AS SPEC'D.
- PDS STRAP S-4-E-A
 PDS STRAP S-4-E-B
 PDS STRAP S-1-E-B
 PDS STRAP S-1-E-A CUT COPPER SOLDER SIDE E1-E2-E3-E4-E5-E6-E7-E8
 STRAP S-1-E-B-E1-E2-E3-E4-E5-E6-E7-E8
 PDS STRAP BC CUT COPPER SIDE E1-E2-E3-E4-E5-E6-E7-E8 STRAPS-1-THRU 2-V.

88 (DELAY LINE JUMPER) MAKE 1/2" LONG

5. TRANSISTORS Q1-Q4 Q22, Q23, Q54-Q59 & Q61 TO HAVE TRANSISTOR PADS. ITEMS TRANSISTORS Q5-Q21, Q24-Q53 TO HAVE FORMED LEADS USING SPEC #55P-064-D0.

79 (TYP 3 PLACES)



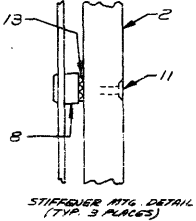
PARTIAL VIEW A-A (TYP 3 PLACES)

COMPONENT	REF DESIGNATION
INT CIRCUIT	R1-R105
RESISTOR MODULE	R11-R117
TRANSFORMER	T1-T2
TRANSFORMER	Q11-Q119
CAPACITORS	C1-C113
DIODE	D1-D17
DIODE	D1-E1-E2
DIODE	D1-E3
TRANSISTOR	Q1-Q63
RESISTOR	R1-R105
THERMISTOR	RT1-RT2

V. HELMUTH	DESIGN	0-520	ASSEMBLY
R. GABRIEL	CHK	11-17-70	328B MEMORY
G. BAKER	DES	11-17-70	
D. GIBSON	DES	11-17-70	
S. MESSER	DES	11-17-70	
REL. FOR PROD.	DATE	11/17/70	35-60711-1-1

0170	000000
0171	000000
0172	000000
0173	000000
0174	000000
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0178	000000
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0180	000000
0181	000000

(FOR REFERENCE ONLY)



TYP ORIENTATION - ALL TRANSISTORS (SEE NOTE 5)

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