

Applied Microsystems Corporation

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P R E L I M I N A R Y

S E R V I C E

M A N U A L

EM-180/180B

Diagnostic

EmulatorTM*

Document Number 920-10648

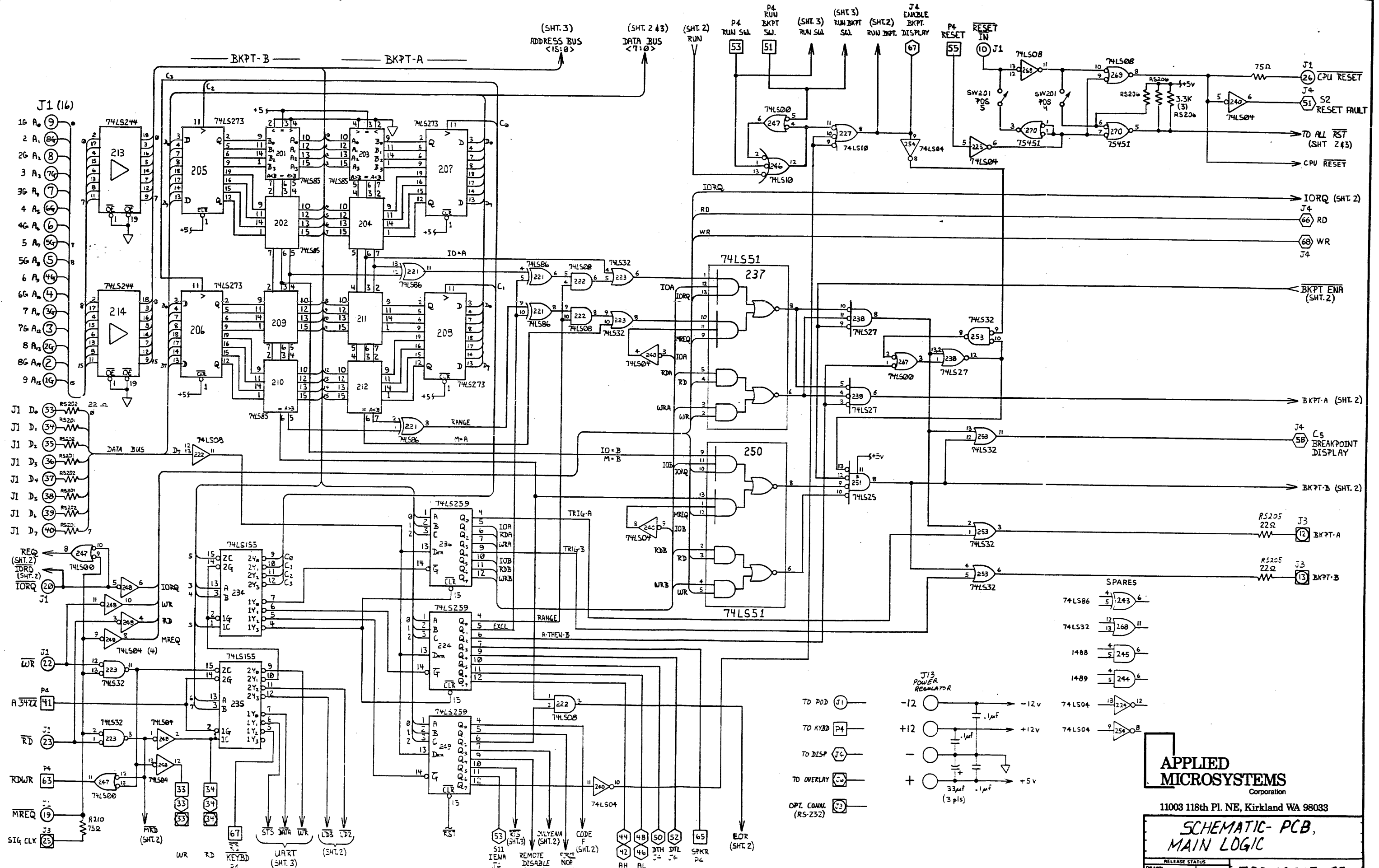
*Diagnostic Emulator is a trademark of Applied Microsystems Corp.

EM-180/180B SERVICE MANUAL

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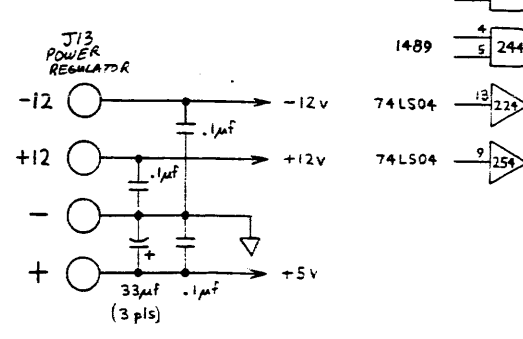
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Assembly.....	39
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SPARES

74LS86	4	5	1243	6
74LS32	12	13	1268	11
1488	4	5	1245	6
1489	4	5	1244	6
74LS04	13	12	224	12
74LS04	9	254	8	8



APPLIED MICROSYSTEMS
Corporation

11003 118th Pl. NE, Kirkland WA 98033

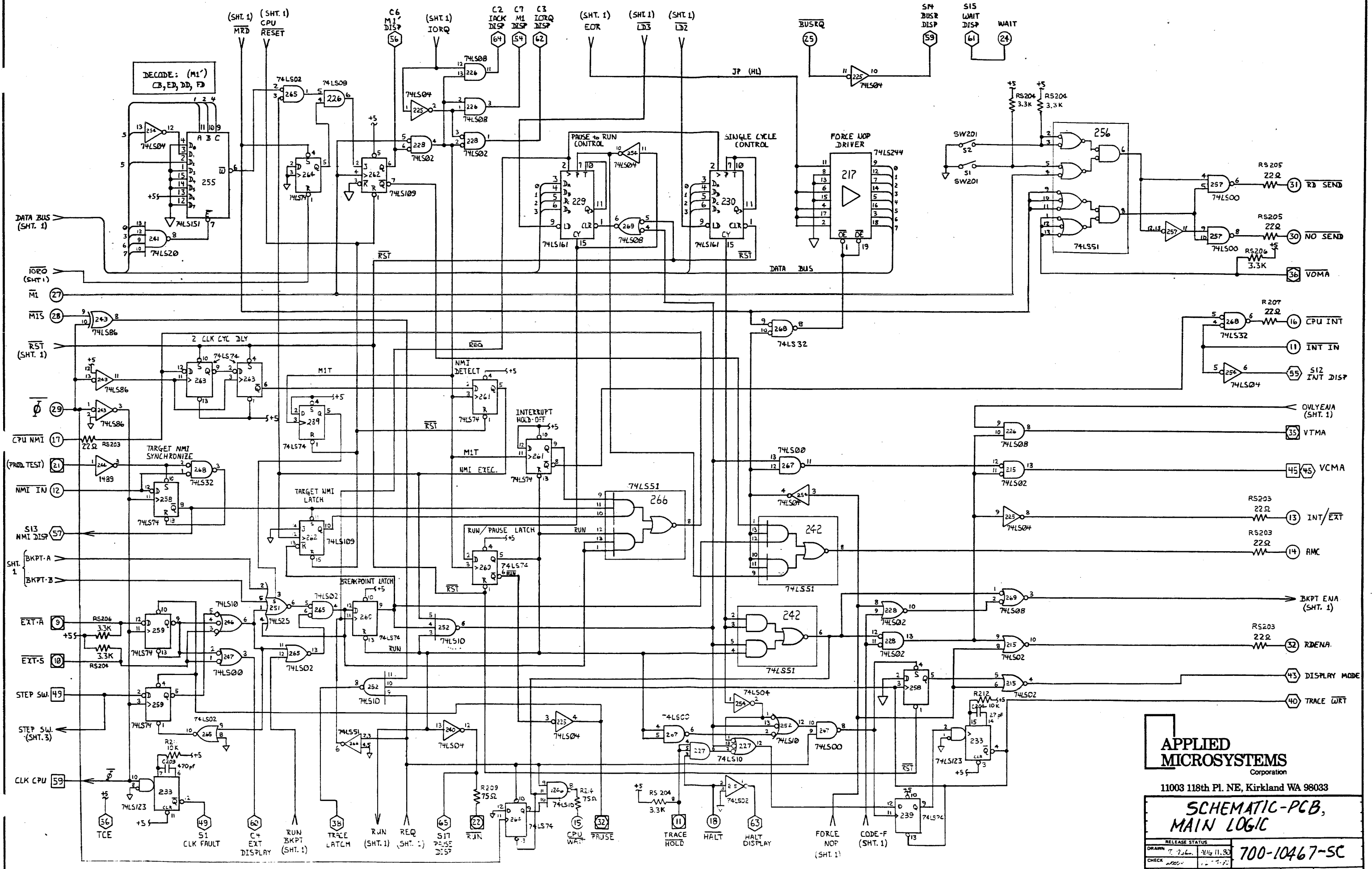
SCHEMATIC- PCB, MAIN LOGIC

RELEASE STATUS	
DRAWN T. Tolson	NOV 11, 87
CHECK Woody	12-9-87
APPV	SCALE
REV A	SHT 1 OF 3

700-10467-5C

- TO POD J1
- TO KYBD P4
- TO DISP J4
- TO OVERLAY J4
- OPT. CONN. (RS-232) J3

REV A ALL INVERTER AND NAND GFF OF U249 PIN 12



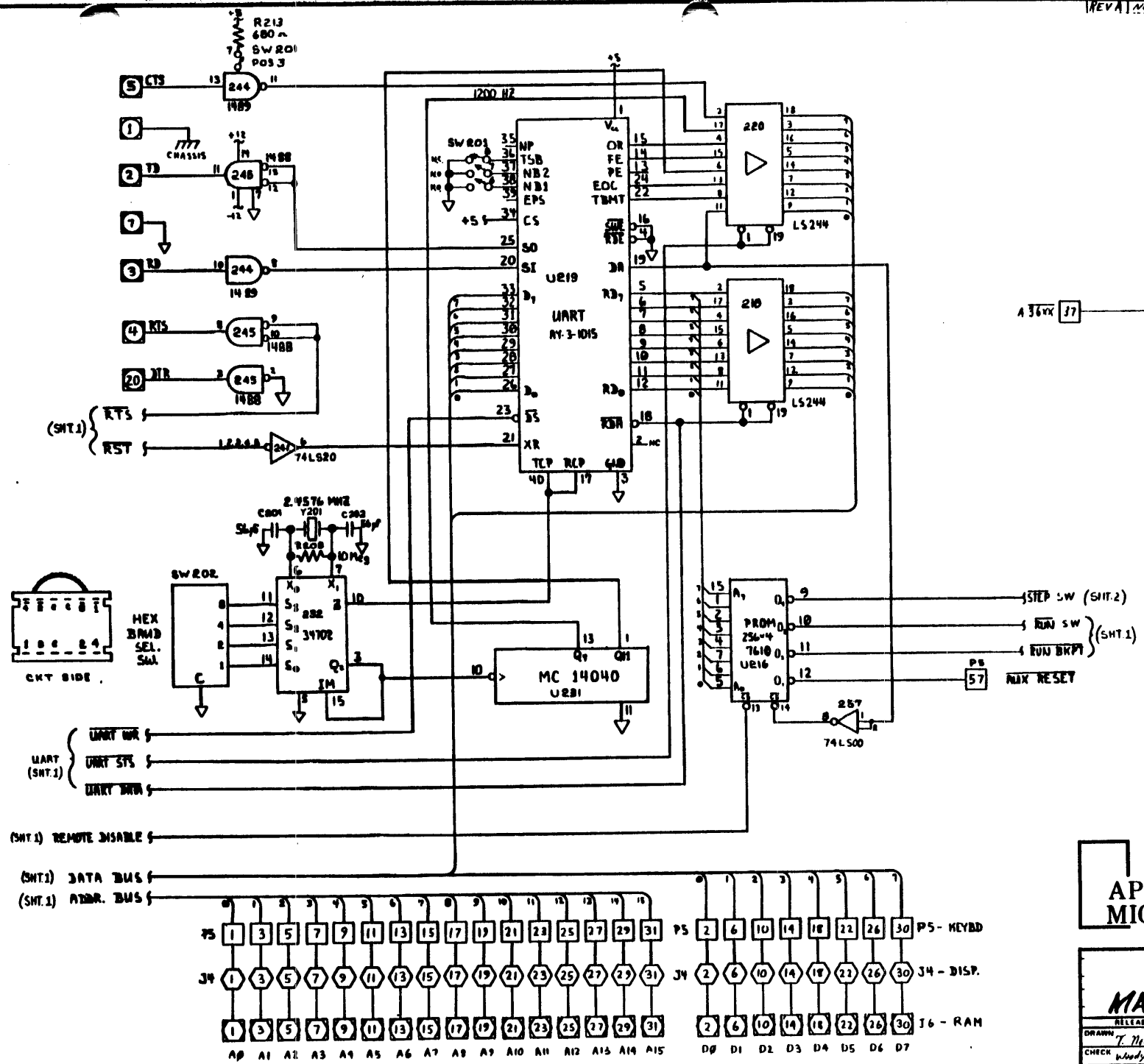
APPLIED MICROSYSTEMS
Corporation

11003 118th Pl. NE, Kirkland WA 98033

SCHEMATIC-PCB, MAIN LOGIC

700-10467-5C

RELEASE STATUS	
DRAWN	7.7.84 11/11/83
CHECK	10/11/83
APPR	
SCALE	REV A SHT 2 OF 3

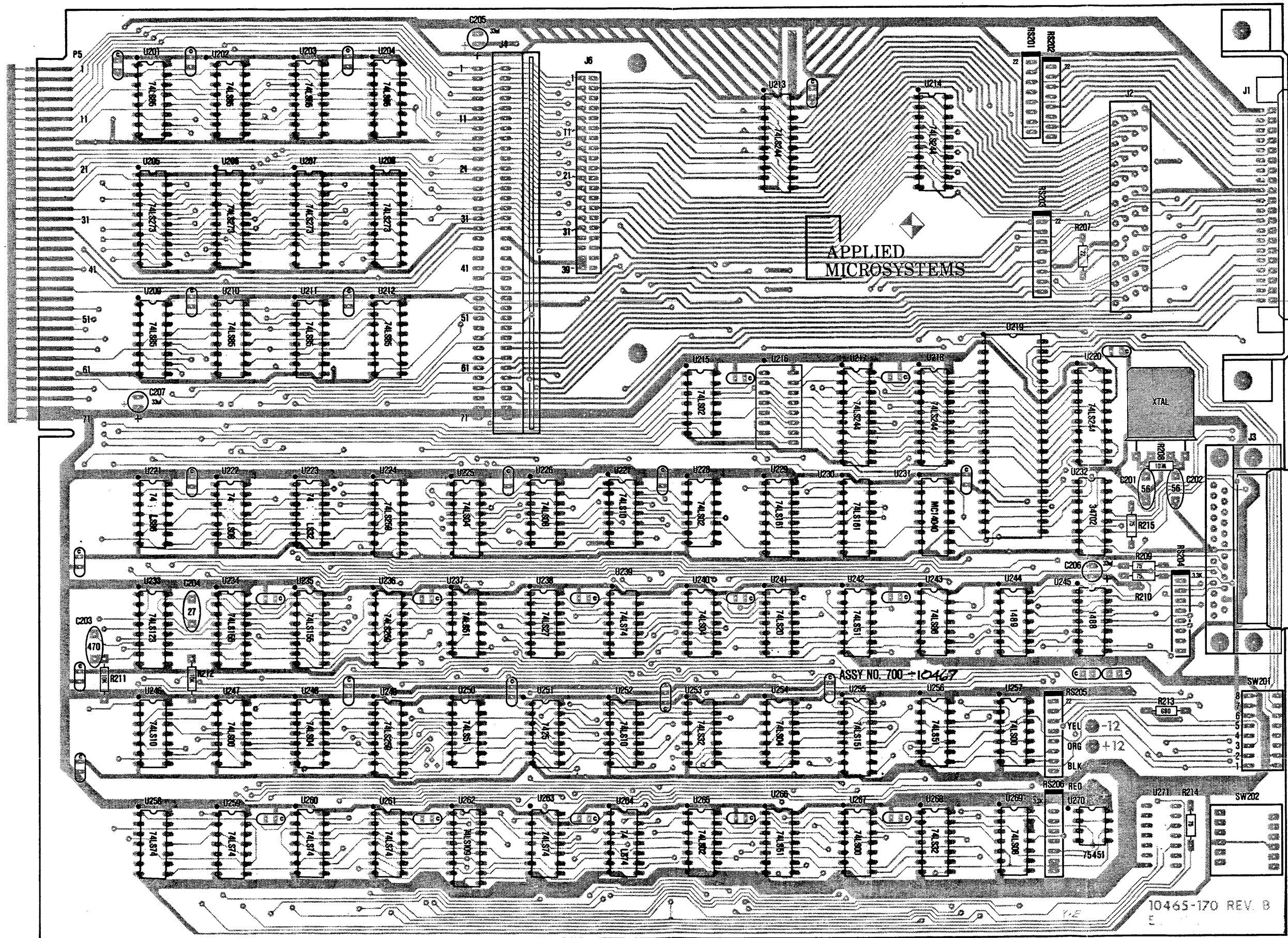


A 36V 37 A 36V

APPLIED MICROSYSTEMS CORP.

SCHEMATIC-PCB, MAIN LOGIC

RELEASE STATUS	700-10467-5C
DRAWN <i>T. Mason</i> 8-11-80	
CHECK <i>Woods</i> 12-9-80	
APPR	SCALE — REV A SMT 3 OF 3
END ITEM: EM-183	



SEE
MOUNTING
BRACKET
DETAIL

SEE
J3
DETAIL

SEE
J13
DETAIL

EM-180 MAIN LOGIC SUB-ASSEMBLY 700-10467

PARTS LISTING PCB MAIN LOGIC EM-180

5

SUBASSEMBLY NO. 700-10467

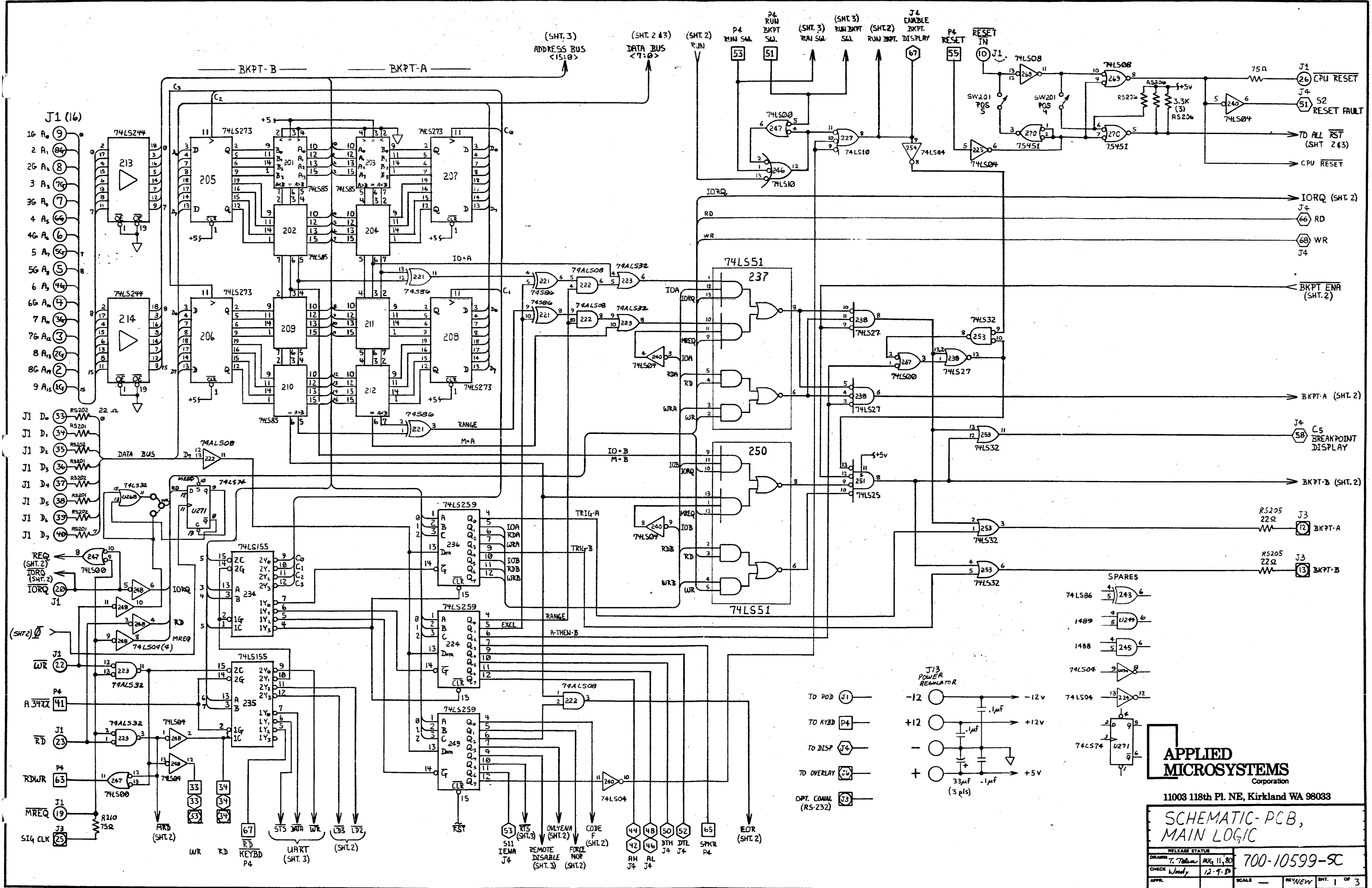
ITEM	QTY.	PART NO.	DESCRIPTION	REFERENCE
1	32	150-10003	CAP, CERAM, .1MFD, 50V	
2	1	150-10086	CAP, CERAM, 470PF, 50V	C203
3	3	150-10091	CAP, ELECT, 33MFD, 10V DIPT	
4	1	150-10230	CAP, CERAM, 27PF, 50V	C204
5	2	150-10275	CAP, CERAM, 56PF, 50V	C201, 202
6	1	170-10465	PCB, MAIN LOGIC, EM180/180B	
7	1	210-10090	CONN, 40PIN HEADER, MALE	
8	1	210-10174	SOCKET, 16PIN L/P DIP SOLDER	
9	1	210-10287	CONN, CARD EDGE, 72PIN 45°	
10	1	210-10297	CONN, 40PIN HEADER, RT ANG	
11	4	210-10346	TERMINAL, FEMALE MOLEX CRIMP	
12	1	210-10448	CONN, 4PIN FEMALE MOLEX	
13	1	210-10515	CONN, 25PIN D-SUB PLASTIC	
14	1	230-10276	XTAL, 2.4576MHZ, BAUD RATE	Y201
15	6	280-10100	NUT, 4-40 KEPNUT	
16	2	280-10355	SCREW, 4-40 X 3/8 PH PHIL	
17	2	280-10510	SCREW, 4-40 X 5/16 PH PHIL	
18	2	280-10581	SCREW, 4-40 X 1/2 PH PHIL	
19	1	314-10013	4040 CMOS 12BIT BIN CNTR	U231
20	3	314-10052	74LS02, QUAD 2-INPUT NOR	U215, 228, 265
21	4	314-10053	74LS04, HEX INVERTER	U254, 225, 240, 248
22	7	314-10055	74LS74, DUAL D F-F	U258, 239, 261, 260, 264, 263, 262, 259
23	3	314-10062	74LS00, QUAD NAND	U257, 267, 247
24	3	314-10063	74LS10, TRIP 3-INPUT NAND	U252, 227, 246
25	3	314-10064	74LS08, QUAD 2-INPUT AND	U226, 269, 222

PARTS LISTING PCB MAIN LOGIC EM-180

6

SUBASSEMBLY NO. 700-10467

ITEM	QTY.	PART NO.	DESCRIPTION	REFERENCE
26	5	314-10069	74LS244, OCT BUF, NON INV	U118,200,217,213,214
27	3	314-10073	74LS32, QUAD 2-INPUT NOR	U268,253,223
28	1	314-10117	74LS20, DUAL 4-INPUT NAND	U241
29	2	314-10118	74LS86, QUAD EXCL-OR	U243,221
30	1	314-10119	74LS123, DUAL ONE-SHOT	U233
31	2	314-10120	74LS155, DEMULTIPLEXER	U234,235
32	2	314-10121	74LS16, 4-BIT BIN CNTR	U230,229
33	1	314-10278	4702, BIT RATE GENERATOR	U232
34	3	314-10285	74LS259, 8-BIT ADDR LATCH	U224,236,249
35	1	314-10289	1488, LINE DRIVER	U245
36	1	314-10290	1489, LINE RECEIVER	U244
37	8	314-10293	74LS85, MAGN COMPARATOR	U203,204,211,210,201,202,209,210
38	4	314-10294	74LS273, OCT D-F/F W/CLR	U208,207,205,206
39	1	314-10295	74LS27, TRIP 3- INP NOR	U238
40	1	314-10435	74LS109, DUAL J-K F/F	U262
41	1	320-10270	AY-3-1015, UART	U219
42	2	470-10088	RESISTOR, 10K OHM 1/4W CBN	R212,211
43	4	470-10229	RESISTOR, 75 OHM, 1/4W CARB	R209,214,210
44	1	470-10274	RESISTOR, 10M OHM, 1/4W CARB	R208
45	4	470-10351	RESISTOR SIP, 22 OHM	RS203,205,202,201
46	2	470-10363	RESISTOR SIP, 3.3K OHM	RS204,206
47	1	470-10423	RESISTOR, 680 OHM, 1/4W CARB	R213
48	1	470-10500	RESISTOR, 22 OHM, 1/4W CARB	R207
49	1	510-10298	SWITCH, HEX ROTARY	
50	1	510-10427	SWITCH, 8-POS DIP, PIANO	S201



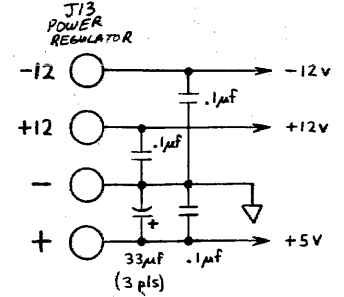
APPLIED MICROSYSTEMS
Corporation

11003 118th Pl. NE, Kirkland WA 98033

SCHEMATIC-PCB,
MAIN LOGIC

RELEASE STATUS	
DRAWN T. Tolson	AUG 11, 80
CHECK Woody	12-9-80
APPV.	SCALE
REV	REV
DATE	DATE

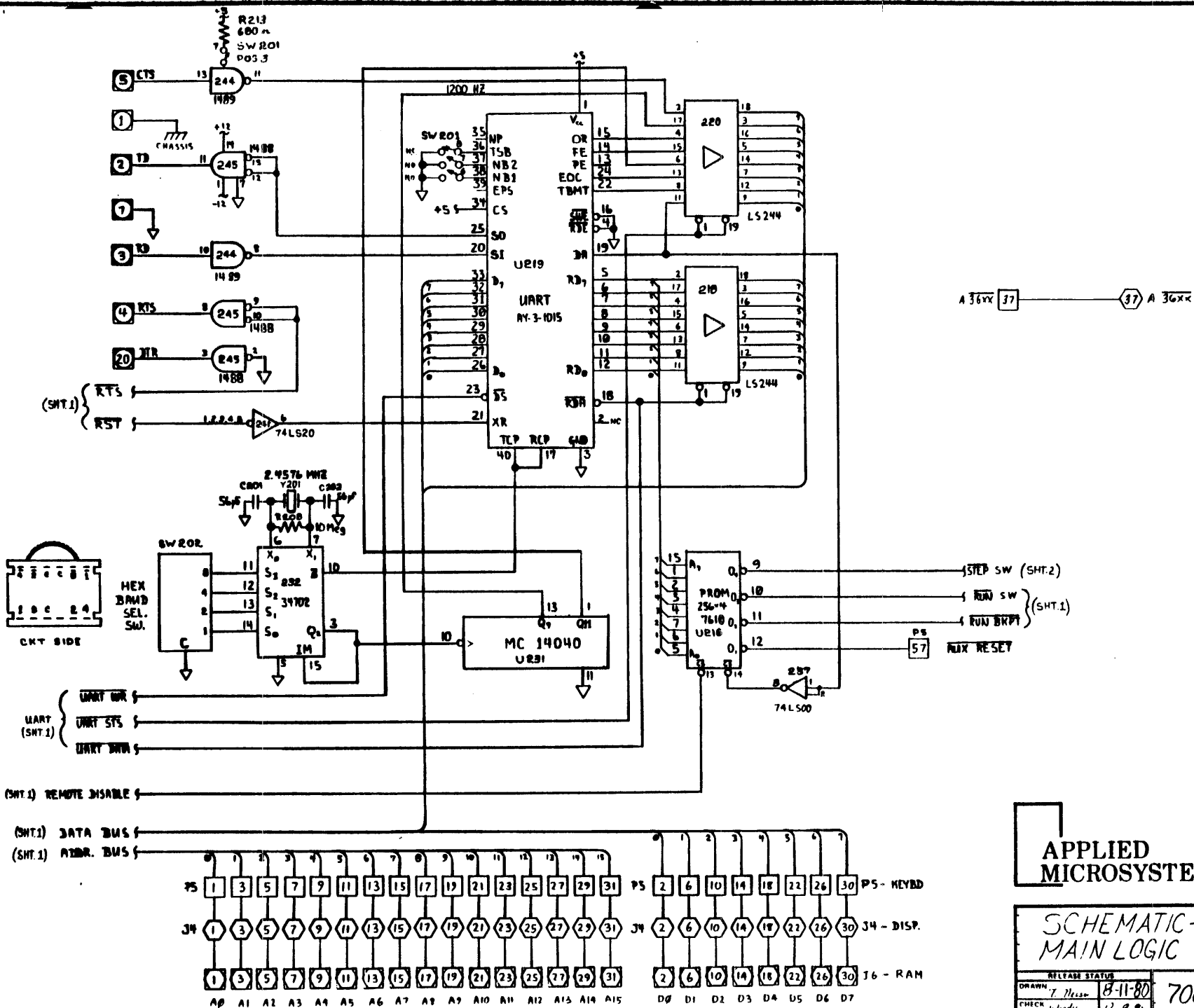
END ITEM EM-180B



- SPARES
- 74LS86 4/5 243 6
 - 1489 4/5 U271 6
 - 1488 4/5 245 6
 - 74LS04 9 8
 - 74LS04 13 222 12
 - 74LS74 3 271 6

- TO POD (J1)
- TO KYBD (P4)
- TO DISP (J4)
- TO OVERLAY (J4)
- OPT. CONN. (RS-232) (J3)

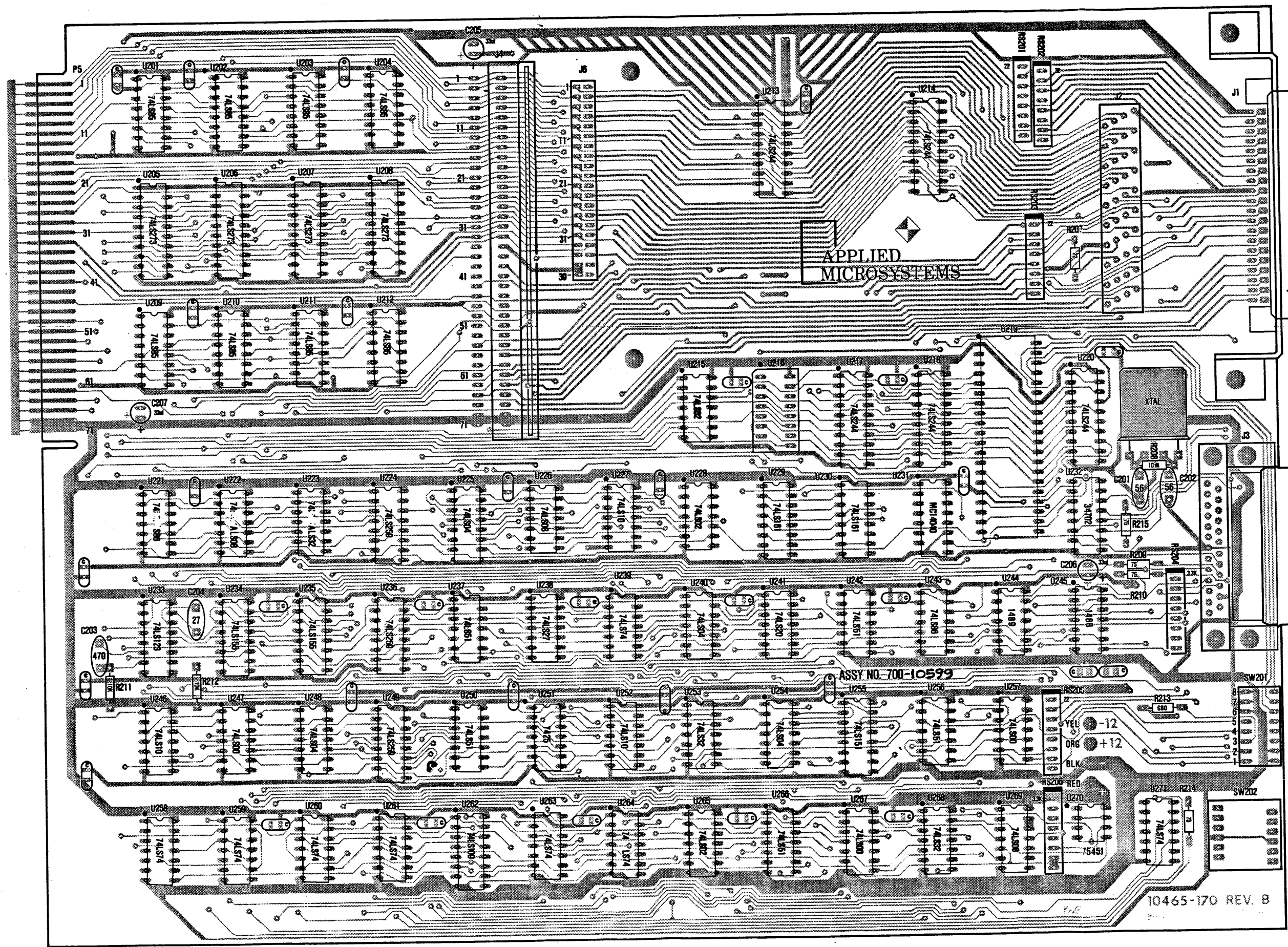
700-10599-SC



APPLIED
MICROSYSTEMS CORP.

SCHEMATIC-PCB,
MAIN LOGIC

RELEASE STATUS		700-10599-SC
DRAWN	T. Nelson 8-11-80	
CHECK	W. J. 12-9-80	
APPR		SCALE
END ITEM: EM-1808		REV NEW SMT 3 OF 3



SEE
MOUNTING
BRACKET
DETAIL

SEE
J3 DETAIL

SEE
J13 DETAIL

EM-180B MAIN LOGIC SUB-ASSEMBLY 700-10599

PARTS LISTING PCB MAIN LOGIC EM-180

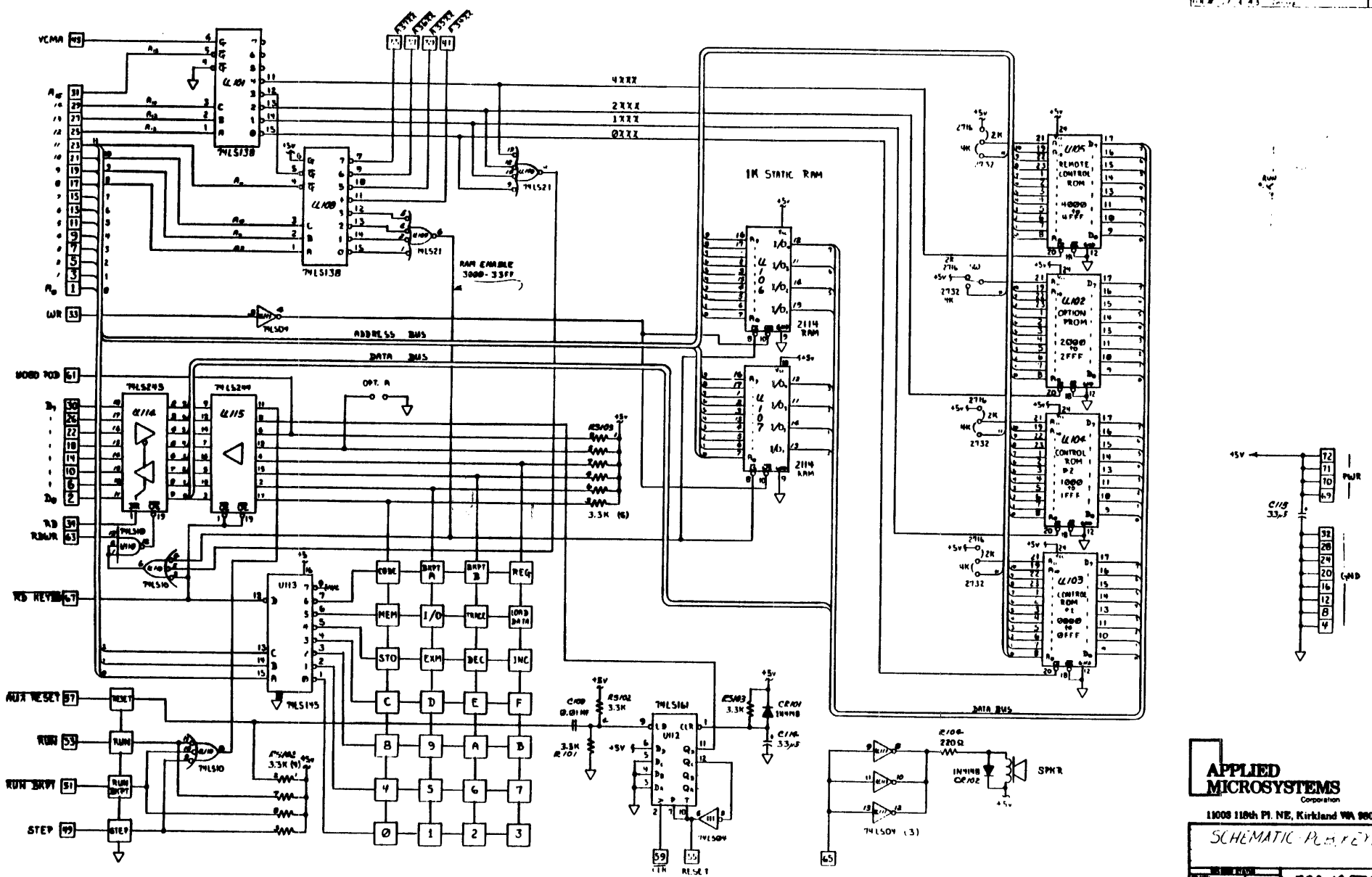
12

SUBASSEMBLY NO. 700-10599

ITEM	QTY.	PART NO.	DESCRIPTION	REFERENCE
1	32	150-10003	CAP, CERAM, .1MFD, 50V	
2	1	150-10086	CAP, CERAM, 470PF, 50V	C203
3	3	150-10091	CAP, ELECT, 33MFD, 10V DIPT	
4	1	150-10230	CAP, CERAM, 27PF, 50V	C204
5	2	150-10275	CAP, CERAM, 56PF, 50V	C201,202
6	1	170-10465	PCB, MAIN LOGIC, EM180/180B	
7	1	210-10090	CONN, 40PIN HEADER, MALE	
8	1	210-10174	SOCKET, 16PIN L/P DIP SOLDER	
9	1	210-10287	CONN, CARD EDGE, 72PIN 45°	
10	1	210-10297	CONN, 40PIN HEADER, RT ANG	
11	4	210-10346	TERMINAL, FEMALE MOLEX CRIMP	
12	1	210-10448	CONN, 4PIN FEMALE MOLEX	
13	1	210-10515	CONN, 25PIN D-SUB PLASTIC	
14	1	230-10276	XTAL, 2.4576MHZ, BAUD RATE	Y201
15	6	280-10100	NUT, 4-40 KEPNUT	
16	2	280-10355	SCREW, 4-40 X 3/8 PH PHIL	
17	2	280-10510	SCREW, 4-40 X 5/16 PH PHIL	
18	2	280-10581	SCREW, 4-40 X 1/2 PH PHIL	
19	1	314-10013	4040 CMOS 12BIT BIN CNTR	U231
20	3	314-10052	74LS02, QUAD 2-INPUT NOR	U215,228,265
21	4	314-10053	74LS04, HEX INVERTER	U254,225,240,248
22	8	314-10055	74LS74, DUAL 3 F-F	U258,239,261,260,264,263,259,271
23	3	314-10062	74LS00, QUAD NAND	U257,267,247
24	3	314-10063	74LS10, TRIP 3-INPUT NAND	U252,227,246
25	2	314-10064	74LS08, QUAD 2-INPUT AND	U226,269

SUBASSEMBLY NO. 700-10599

ITEM	QTY.	PART NO.	DESCRIPTION	REFERENCE
26	5	314-10069	74LS244, OCT BUF, NON INV	U118,200,217,213,214
27	2	314-10073	74LS32, QUAD 2-INPUT NOR	U268,253
28	1	314-10117	74LS20, DUAL 4-INPUT NAND	U241
29	1	314-10118	74LS86, QUAD EXCL-OR	U243
30	1	314-10119	74LS123, DUAL ONE-SHOT	U233
31	2	314-10120	74LS155, DEMULTIPLEXER	U234,235
32	2	314-10121	74LS161, 4-BIT BIN CNTR	U230,229
33	1	314-10278	4702, BIT RATE GENERATOR	U232
34	3	314-10285	74LS259, 8-BIT ADDR LATCH	U224,236,249
35	1	314-10289	1488, LINE DRIVER	U245
36	1	314-10290	1489, LINE RECEIVER	U244
37	8	314-10293	74LS85, MAGN COMPARATOR	U203,204,211,210,201,202,209,210
38	4	314-10294	74LS273, OCT D-F/F W/CLR	U208,207,205,206
39	1	314-10295	74LS27, TRIP 3-INP NOR	U238
40	1	314-10435	74LS109, DUAL J-K F/F	U262
41	1	314-10614	74S86 QUAD 2 INPUT OR GATE	U221
42	1	314-10615	74ALS08 QUAD 2 AND GATE	U222
43	1	314-10616	74ALS32 QUAD 2 OR GATE	U223
44	1	320-10270	AY-3-1015, UART	U219
45	2	470-10088	RESISTOR, 10K OHM 1/4W CARB	R212,211
46	4	470-10229	RESISTOR, 75 OHM, 1/4W CARB	R209,214,210
47	1	470-10274	RESISTOR, 10M OHM, 1/4W CARB	R208
48	4	470-10351	RESISTOR SIP, 22 OHM	RS203,205,202,201
49	2	470-10363	RESISTOR SIP, 3.3K OHM	RS204,206
50	1	470-10423	RESISTOR, 680 OHM, 1/4W CARB	R213



APPLIED MICROSYSTEMS
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SCHMATIC PCB (2) BOARD

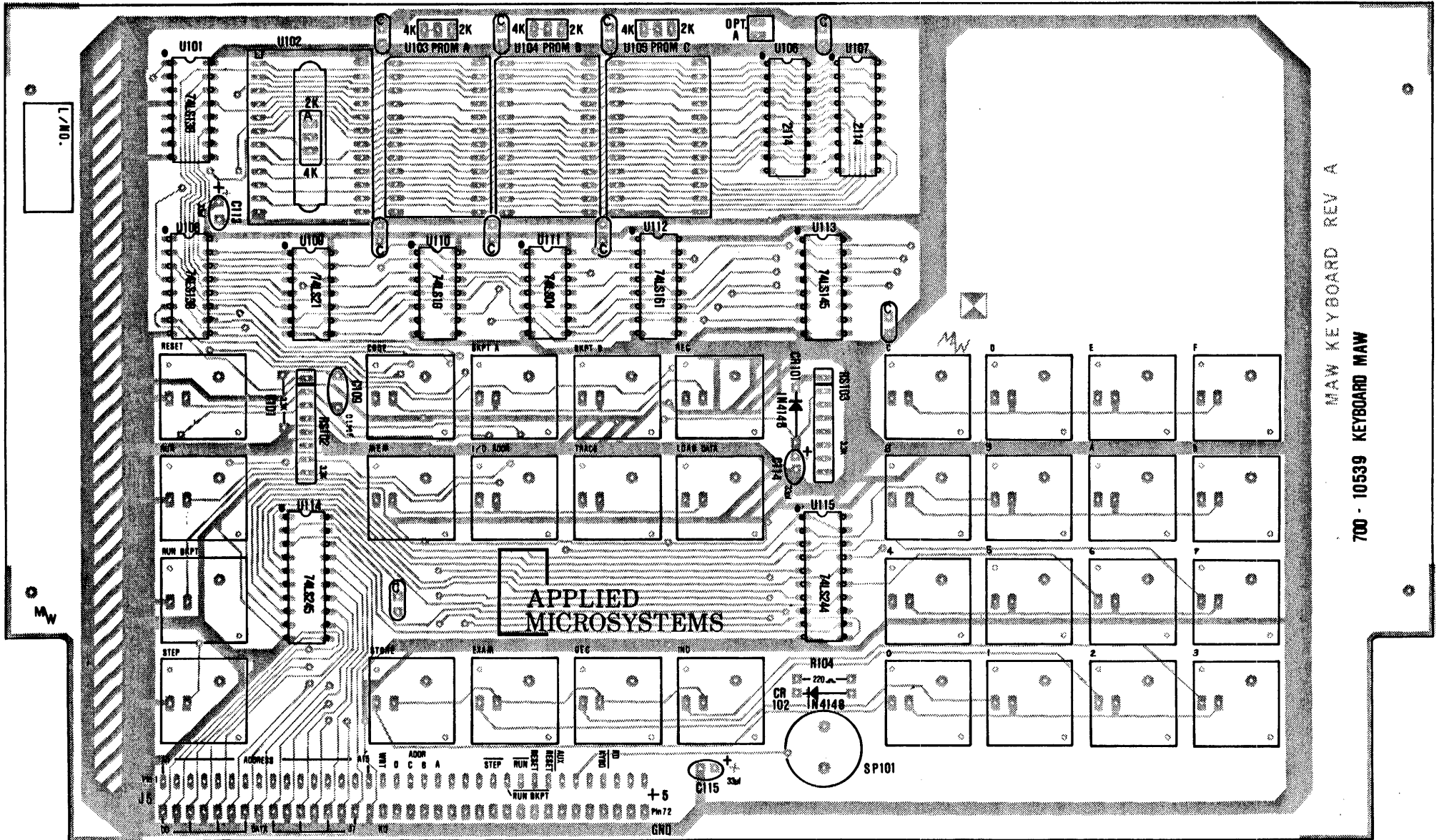
REV	7	DATE	2-14-80	700-10539-SC
DES		REV		
CHK		APP		

END ITEM: 14...

PCB ASSY - KEYBOARD

EM-SERIES

700-10539



MAW KEYBOARD REV A

700-10539 KEYBOARD MAW

PCB ASSEMBLY - KEYBOARD, (MAW) PARTS LISTING

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SUBASSEMBLY NO. 700-10539

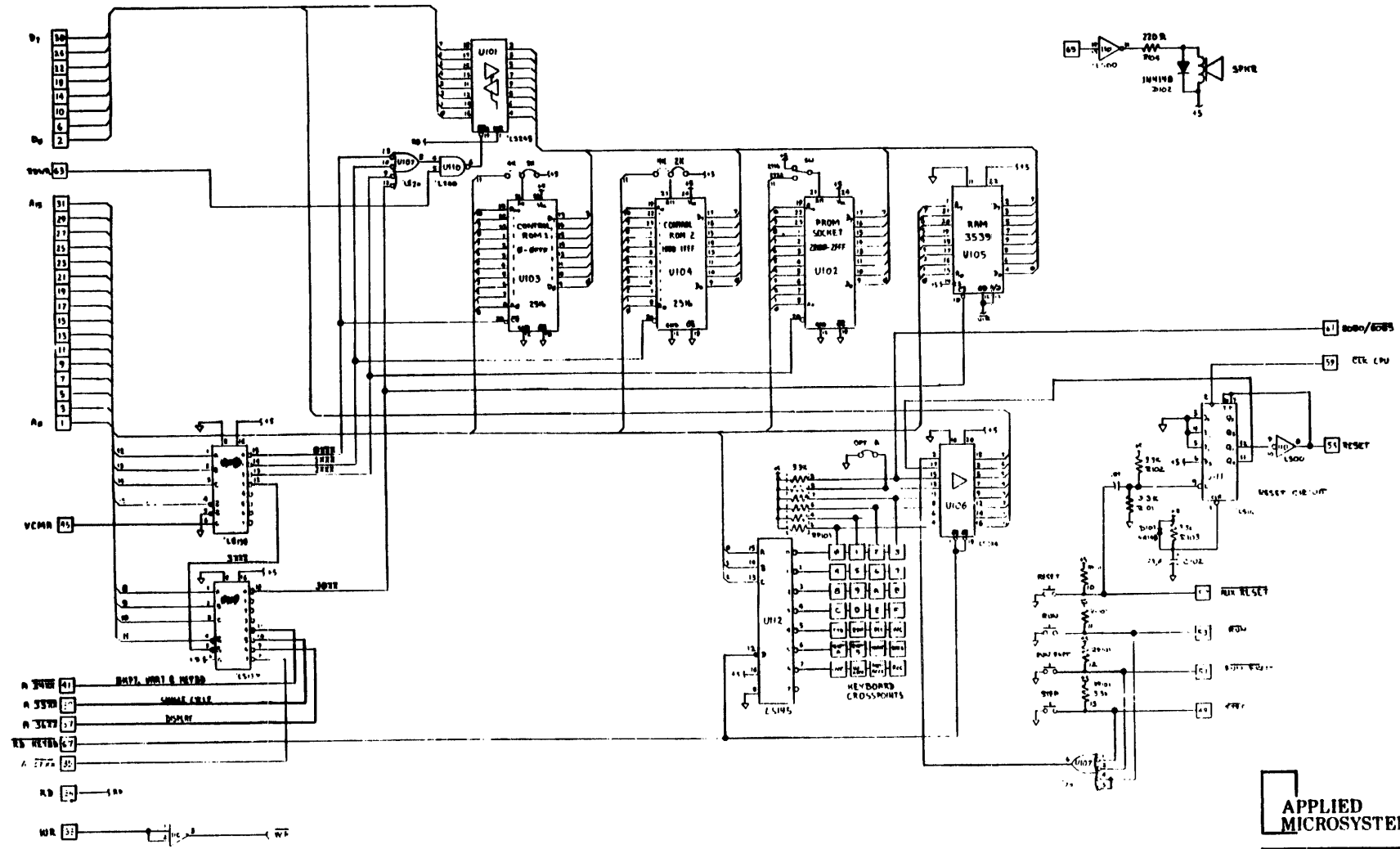
ITEM	QTY.	PART NO.	DESCRIPTION	REFERENCE
1	1	150-10002	CAP, CERAM, 01MFD, 50V	C109
2	6	150-10003	CAP, CERAM, .1MFD, 50V	
3	2	150-10091	CAP, ELECT, 33MFD, 10V TANTALUM	C114,C115
4	1	170-10538	PCB, KEYBOARD, EM-SERIES	
5	2	210-10075	SOCKET, 24PIN DIP SOLDER	
6	1	210-10171	SOCKET, 24PIN L.I.F.	
7	1	210-10288	CONN, CARD EDGE, 72PIN 80°	
8	1	240-10134	KEYCAP, "A" TD BEIGE	
9	1	240-10135	KEYCAP, "B" TD BEIGE	
10	1	240-10136	KEYCAP, "C" TD BEIGE	
11	1	240-10137	KEYCAP, "D" TD BEIGE	
12	1	240-10138	KEYCAP, "E" TD BEIGE	
13	1	240-10139	KEYCAP, "F" TD BEIGE	
14	1	240-10140	KEYCAP, "1" TD BEIGE	
15	1	240-10141	KEYCAP, "2" TD BEIGE	
16	1	240-10142	KEYCAP, "3" TD BEIGE	
17	1	240-10143	KEYCAP, "4" TD BEIGE	
18	1	240-10144	KEYCAP, "5" TD BEIGE	
19	1	240-10145	KEYCAP, "6" TD BEIGE	
20	1	240-10146	KEYCAP, "7" TD BEIGE	
21	1	240-10147	KEYCAP, "8" TD BEIGE	
22	1	240-10148	KEYCAP, "9" TD BEIGE	
23	1	240-10149	KEYCAP, "0" TD BEIGE	
24	1	240-10150	KEYCAP, "INC" TC BROWN	
25	1	240-10151	KEYCAP, "DEC" TC BROWN	

PCB ASSEMBLY - KEYBOARD, (MAW) PARTS LISTING

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SUBASSEMBLY NO. 700-10539

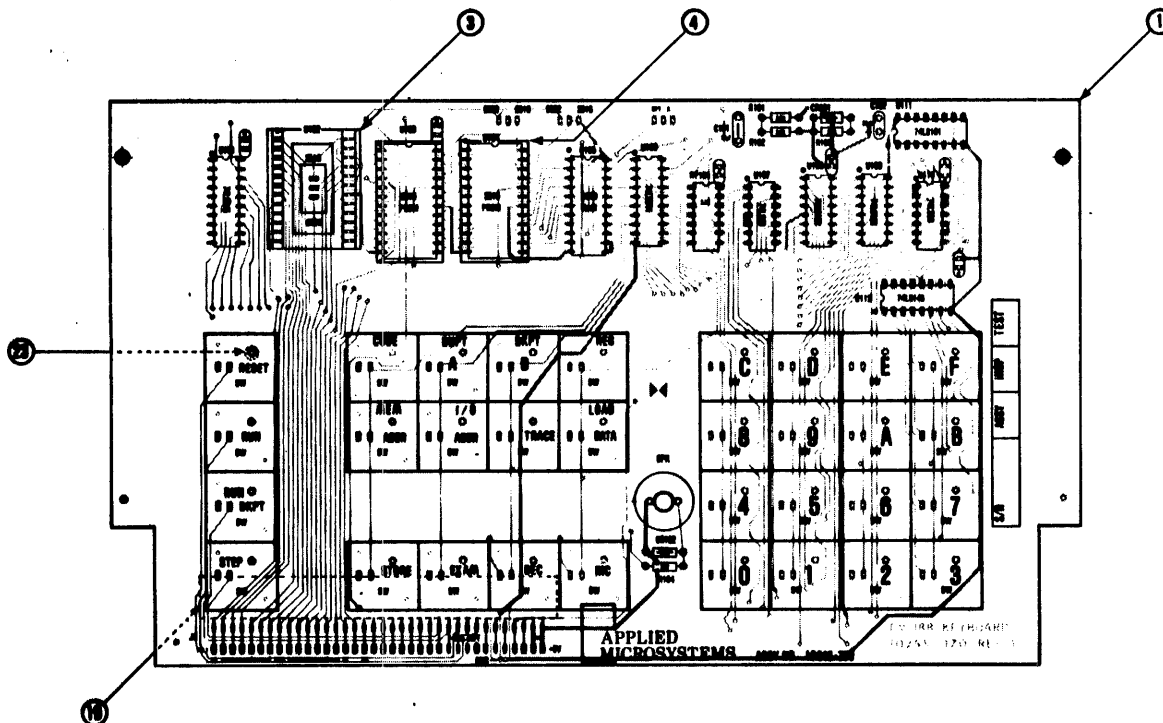
ITEM	QTY.	PART NO.	DESCRIPTION	REFERENCE
26	1	240-10152	KEYCAP, "EXAM" TC BROWN	
27	1	240-10153	KEYCAP, "STORE" TC BROWN	
28	1	240-10154	KEYCAP, "STEP" TC BROWN	
29	1	240-10155	KEYCAP, "RUN BKPT" TC BROWN	
30	1	240-10156	KEYCAP, "LOAD DATA" TC BROWN	
31	1	240-10157	KEYCAP, "TRACE" TC BROWN	
32	1	240-10158	KEYCAP, "BKPT B" TC BROWN	
33	1	240-10159	KEYCAP, "CODE" YL YELLOW	
34	1	240-10160	KEYCAP, "RUN" TC BROWN	
35	1	240-10161	KEYCAP, "MEM ADDR" TC BROWN	
36	1	240-10162	KEYCAP, "I/O ADDR" TC BROWN	
37	1	240-10163	KEYCAP, "BKPT A" TC BROWN	
38	1	240-10164	KEYCAP, "REG" BB BLUE	
39	1	240-10165	KEYCAP, "RESET" RR RED	
40	1	314-10053	74LS04, HEX INVERTER	U111
41	1	314-10063	74LS10, TRIP 3-INPUT NAND	U110
42	1	314-10069	74LS244, OCT BUF, NON INV	U115
43	1	314-10070	74LS245, BUS XCVR, NON INV	U114
44	1	314-10072	74LS145, 1-OF-10 DECODER OC	U113
45	1	314-10121	74LS161, 4-BIT BIN CNTR	U112
46	2	314-10173	74LS138, DECODER, 3-8 LINE	U101, 108
47	1	314-10383	74LS21, DUAL 4-INP AND	U109
48	2	335-10280	RAM, 2114, NMOS	U106, 107
49	1	470-10000	RESISTOR, 3.3K, 1/4W CARB	R101
50	1	470-10001	RESISTOR, 220 OHM 1/4 W CB	R104



APPLIED MICROSYSTEMS

SCHEMATIC-PCB, KEYBOARD

MILITARY		700-10315-SC	
REV	1.0	DATE	12/20/78
DESIGNER		CHECKED	
APP'D		DATE	
END ITEM: 67-40788			



NOTES:

1. PIN 1 OF ALL IC'S INDICATED BY A WHITE DOT.
2. THE SPEAKER AND THE KEYSWITCHES SHOULD NOT BE INSTALLED UNTIL AFTER THE P.C.B. HAS BEEN SOLDERED AND CLEANED.
3. A #2 1/4" LONG SELF TAPPING SCREW (Item 25) IS TO BE INSTALLED ON THE BACK SIDE OF THE P.C.B. FOR EACH KEYSWITCH BEFORE SOLDERING (See Figure 1.).
CAUTION: Do not over-tighten the screws.
4. THE LETTERS ABOVE SW ON EACH KEYSWITCH INDICATE THE KEYPAD TO BE PLACED AT THAT LOCATION.
5. THE CARD EDGE CONNECTOR (J5) IS INSTALLED ON THE BACK SIDE OF THE P.C.B AND SHOULD ALSO BE LEFT OFF UNTIL AFTER FLOW SOLDERING. (See Figure 1)

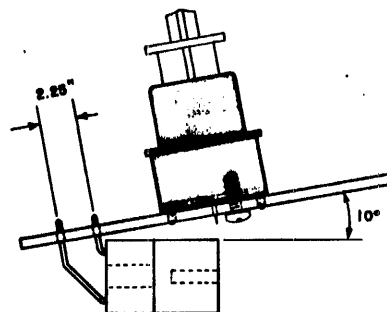


FIGURE 1

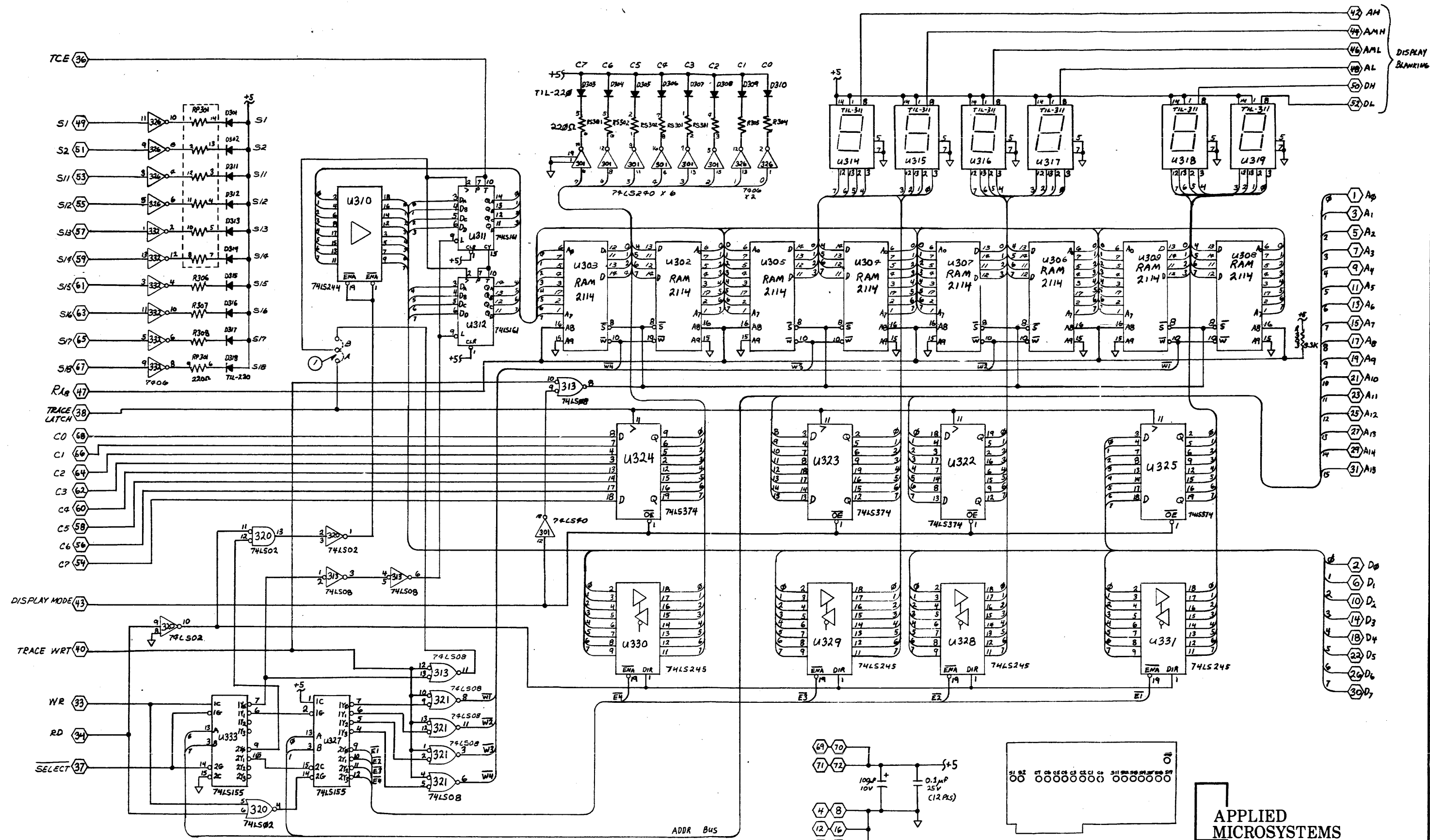
ITEM	QTY.	PART NO.	DESCRIPTION	REFERENCE
1	1	10255-170	KEYBOARD P.C.B.	1
2	1	10070-	74LS245	UI01
3	1	10171 -210	24 Pin L.I.F. IC SOCKET	3
4	2	10075-210	24 Pin Low Profile IC SOCKET	4
5	1	10124-335	3639-1 RAM	UI06
6	1	10089-314	74LS244	UI08
7	1	10175 -470	3.3K RESISTOR D.I.P. (pull up)	RPI01
8	1	10117 -314	74LS20	UI07
9	2	10173 -314	74LS138	UI06, 109
10	1	10082-314	74LS00	UI10
11	1	10121 -314	74LS161	UI11
12	1	10072-314	74LS145	UI12
13	6	10003-150	0.1µf 50V Ceramic CAPACITOR	c
14	1	10002-150	0.01µf 50V Ceramic CAPACITOR	C101
15	1	10091 -150	33µf 10V Electrolytic CAPACITOR	C102
16	3	10000-470	3.3K 1/4W 5% RESISTOR	RI01-RI03
17	1	10001 -470	220Ω 1/4W 5% RESISTOR	RI04
18	2	10195 -480	1N4148 DIODE	CR101-CR102
19	1	10268-210	72 Pin (80°) Card Edge CONNECTOR	J5 (see spec)
20	—	—	Solder and Clean P.C.B. Before Continuing	—
21	1	10236-510	Miniature Slide SWITCH	SW101
22	32	10126 -510	KEYSWITCH	SW
23	32	—	#2 SCREW Supplied With Keyswitch	23
24	1	10183 -550	AUDIO TRANSDUCER	SPK
25	1 Set	See B. of M.	KEYTOPS	—
26				
27				
28				
29				
30				
31				
32				
33				

APPLIED MICROSYSTEMS
Corporation

11003 118th Pl. NE, Kirkland WA 98033

PCB ASSY- KEYBOARD

RELEASE STATUS			
DRAWN	KMF	8/5/80	700-10315-PL
CHECK	ST WASH	10/30/80	
APPR	J.J.M.	10/30/80	SCALE DWG 1:1 REV. A SMT. 1 DP 1
END ITEM: EM-180,183		Form No. 9027	

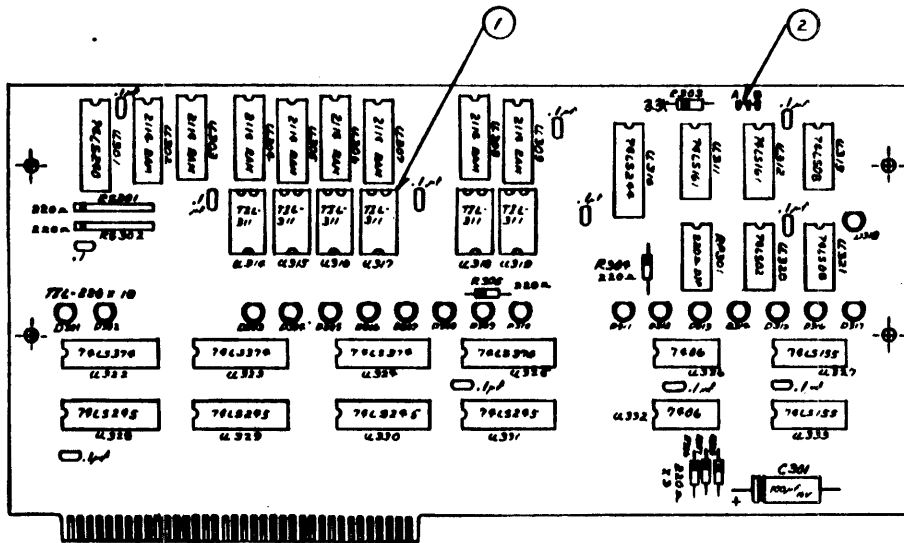


NOTE:
 ① JUMPER SELECT;
 A - EM-186
 B - EM-180, EM-188

APPLIED
MICROSYSTEMS

SCHEMATIC-PCB, DISPLAY

RELEASE STATUS		700-10541-5C	
DRAWN	Woody	2-4-81	
CHECK	MW	2-5-81	
APPR.	RV	2-5-81	SCALE - REV. NEW SHT. 1 OF 1
END ITEM: EM SERIES			



NOTES:

- ① ALL 74LS-311 SHALL BE PLACED INTO A 10131-210, 14 PIN SOCKET, X 0.
- ② JUMPER SELECT;
A - EM-100.
B - EM-100, EM-100B.

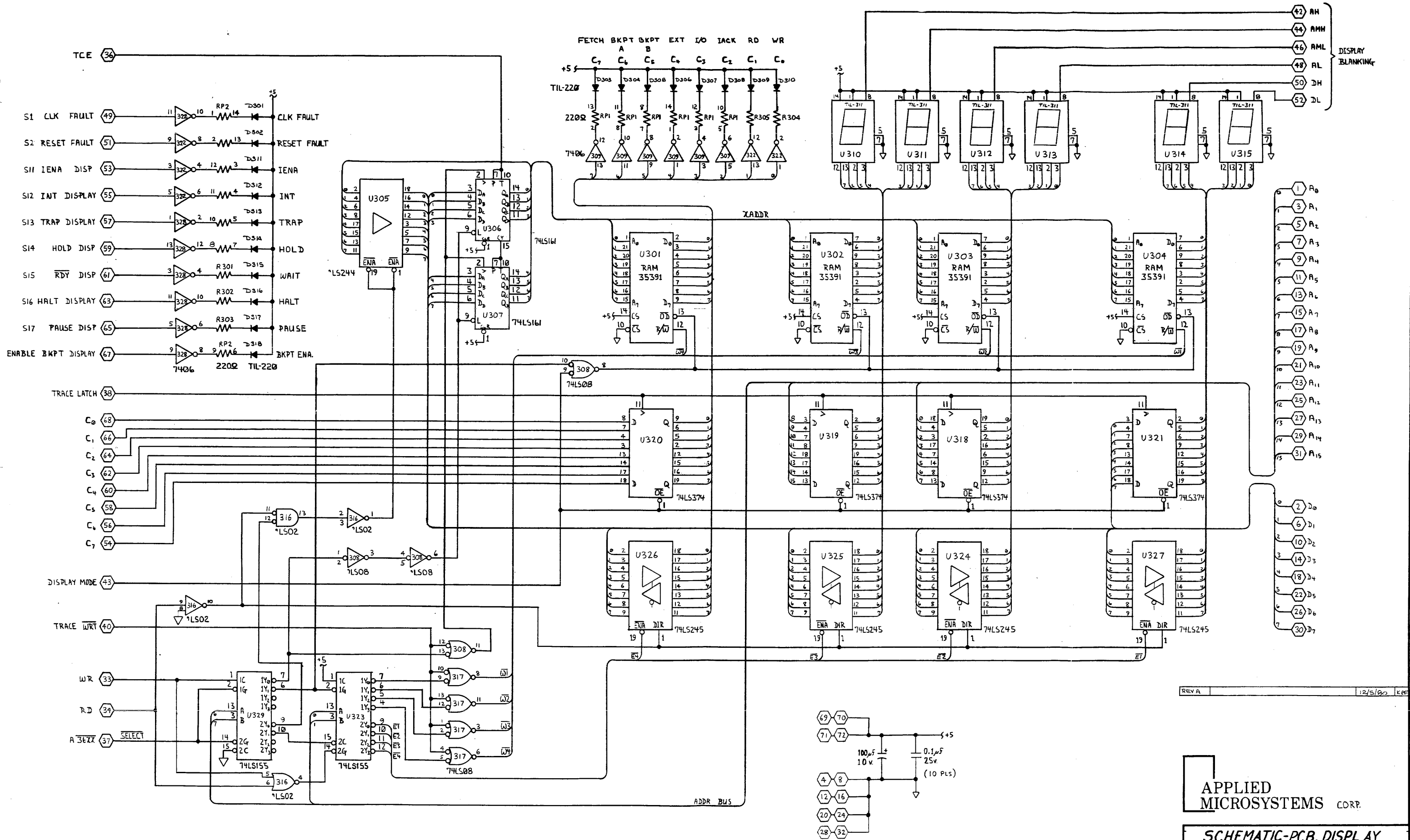
**APPLIED
MICROSYSTEMS**

PCB ASSY - DISPLAY

RELEASE STATUS			
DRAWN	MMV	2-9-81	700-10541-PL
CHECK			
APPR		SCALE 1:1	REV NEW DWT 1 OF 1
END ITEM: EM SERIES			

DISPLAY PARTS LISTING
SUBASSEMBLY NO. 700-10541

ITEM	QTY.	PART NO.	DESCRIPTION	REFERENCE
1	1	170-10540	PCB, DISPLAY	1
2	1	314-10384	IC, 74LS240 BUFFER	U301
3	8	335-10280	IC, 2114 RAM	U302-309
4	1	314-10069	IC, 74LS244 BUFFER	U310
5	2	314-10121	IC, 74LS161 COUNTER	U311, U312
6	2	314-10064	IC, 74LS08 AND GATE	U313, U321
7	1	314-10052	IC, 74LS02 NOR GATE	U320
8	4	314-10123	IC, 74LS374 D FLIP-FLOP	U322-325
9	2	314-10061	IC, 7406 HEX INVERTER	U326, U332
10	2	314-10120	IC, 74LS155 DEMULTIPLEXER	U327, U333
11	4	314-10070	IC, 74LS245 BUS XCVR	U328-331
12	1	470-10365	RESISTOR, 220 OHM 14-PIN DIP	RP301
13	2	470-10479	RESISTOR, 220 OHM SIP	RS301, RS302
14	1	470-10000	RESISTOR, 3.3K \pm w	R303
15	5	470-10001	RESISTOR, 220 OHM \pm w	R304-308
16	12	150-10003	CAPACITOR, .1mf 50v	C
17	1	150-10167	CAPACITOR, 100mf 20v CAP	C301
18	6	210-10131	IC SOCKET, 14 PIN	18 (For U314-318)
19	6	370-10009	DISPLAY, HEXADECIMAL READOUT	U314-318
20	18	370-10015	LED, RED	D301-318
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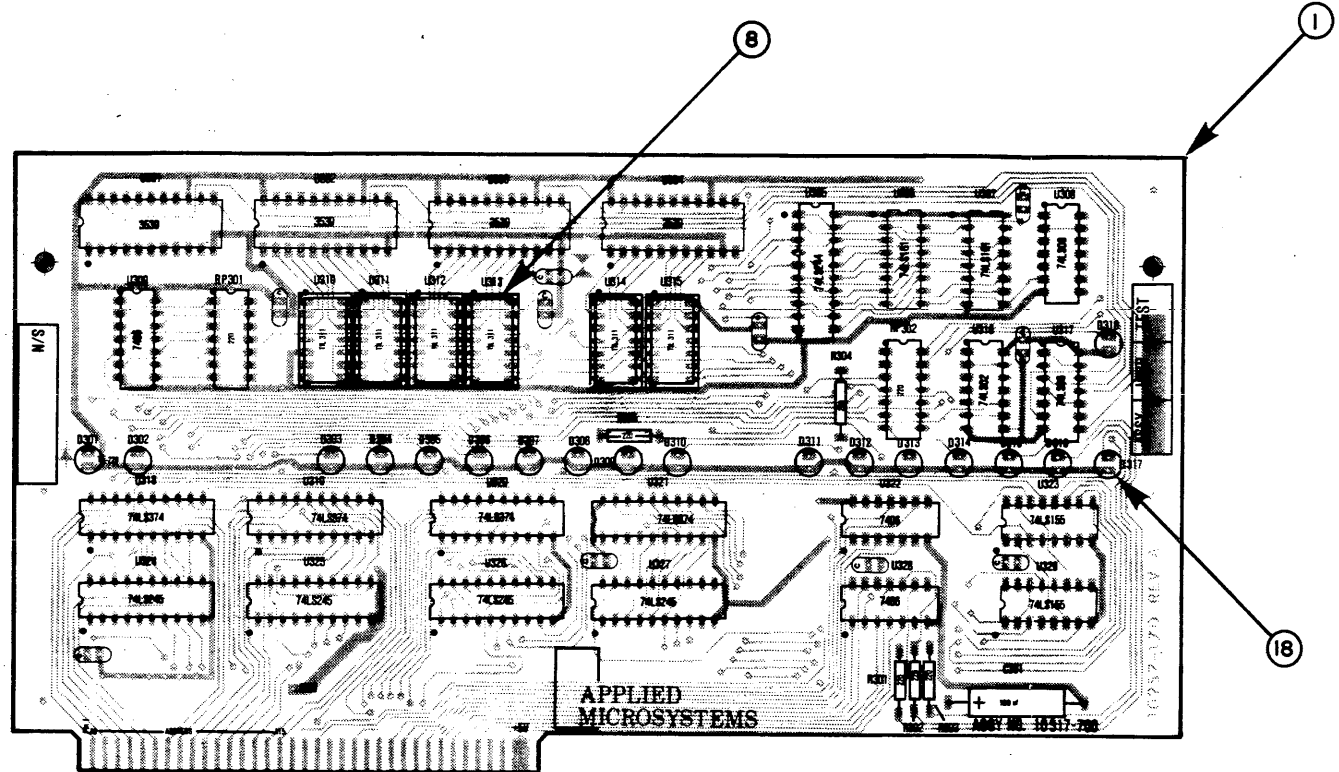


REV A 12/5/80 KRF

APPLIED MICROSYSTEMS CORP.

SCHEMATIC-PCB, DISPLAY

RELEASE STATUS		700-10317-SC
DRAWN	4-5-80	
CHECK	4-17-80	
APPR.		
SCALE	REV. A	SHT. 1 OF 1



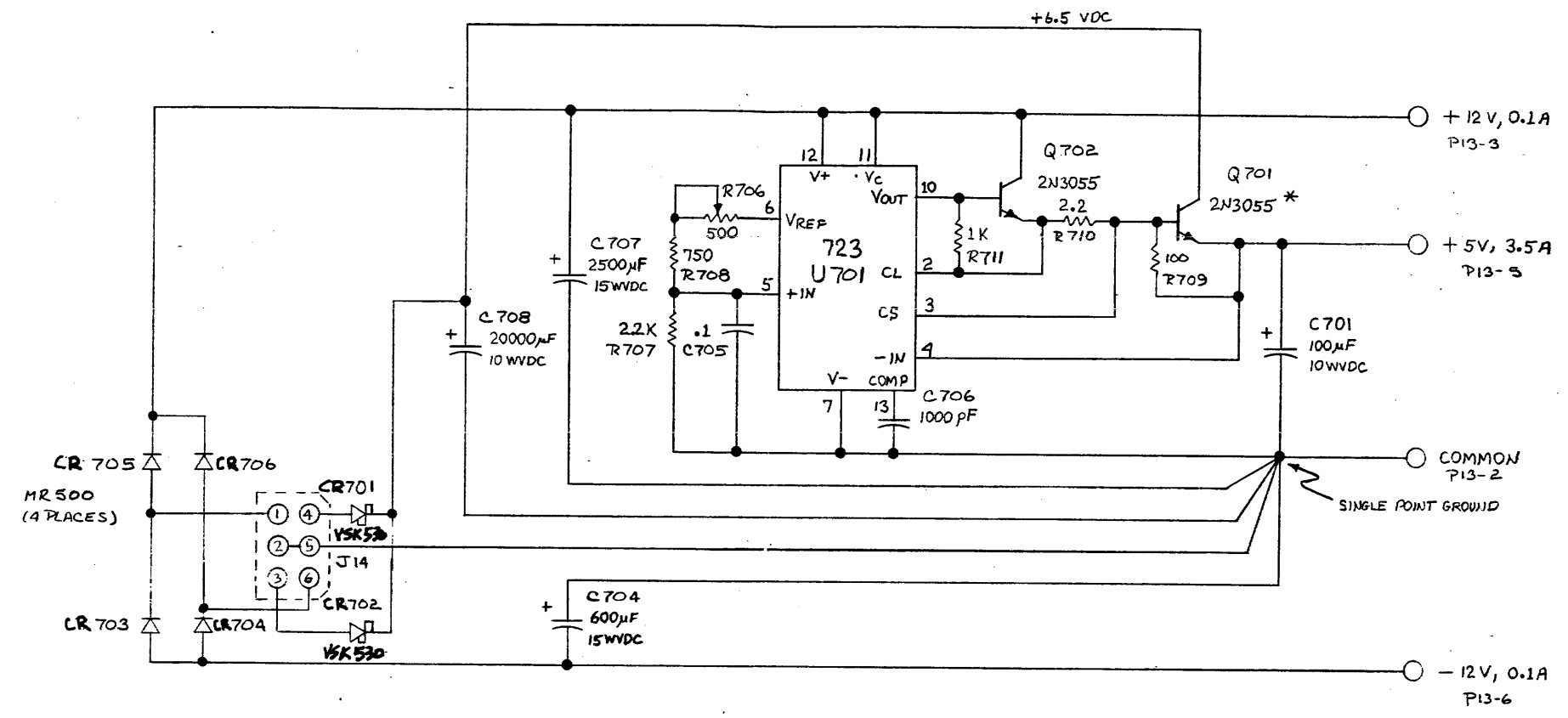
ITEM	QTY.	PART NO.	DESCRIPTION	REFERENCE
1	1	10257-170	DISPLAY PCB.	①
2	4	10124-170	RAM, 3539-1 CP (256 X 8)	U301-U304
3	1	10069-170	IC, 74LS244	U305
4	2	10121-314	IC, 74LS161	U306, U307
5	2	10064-314	IC, 74LS08	U308, U317
6	3	10061-314	IC, 7406	U309, 322, 328
7	2	10365-470	RESISTOR D.I.P. 220Ω (14 pin)	RPI, RP2
8	6	10131-210	SOCKET, 14 pin IC	⑧
9	6	10009-370	DISPLAY, TIL-311 HEXIDECIMAL	U310-U315
10	1	10052-314	IC, 74LS02	U316
11	4	10123-314	IC, 74LS374	U318-U321
12	2	10120-314	IC, 74LS155	U323, U329
13	4	10070-314	IC, 74LS245	U324-U327
14	10	10003-150	CAPACITOR, 0.1μf 50V Ceramic	④
15	1	10167-150	CAPACITOR, 100μf 15V Electro.	C301
16	5	10001-470	RESISTOR, 220Ω 1/4W 5%	R301-305
17	18	10015-370	LED, TIL-220	D301-D318
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APPLIED MICROSYSTEMS
Corporation

11003 118th Pl. NE, Kirkland WA 98033

PCB ASSY-DISPLAY

RELEASE STATUS		700-10317-PL	SCALE DWG 1:1	REV. A	SHT. 1 OF 1
DRAWN	KAE 11/4/80				
CHECK	J.J.M. 11/4/80				
APPR.	J.J.M. 11/9/80				

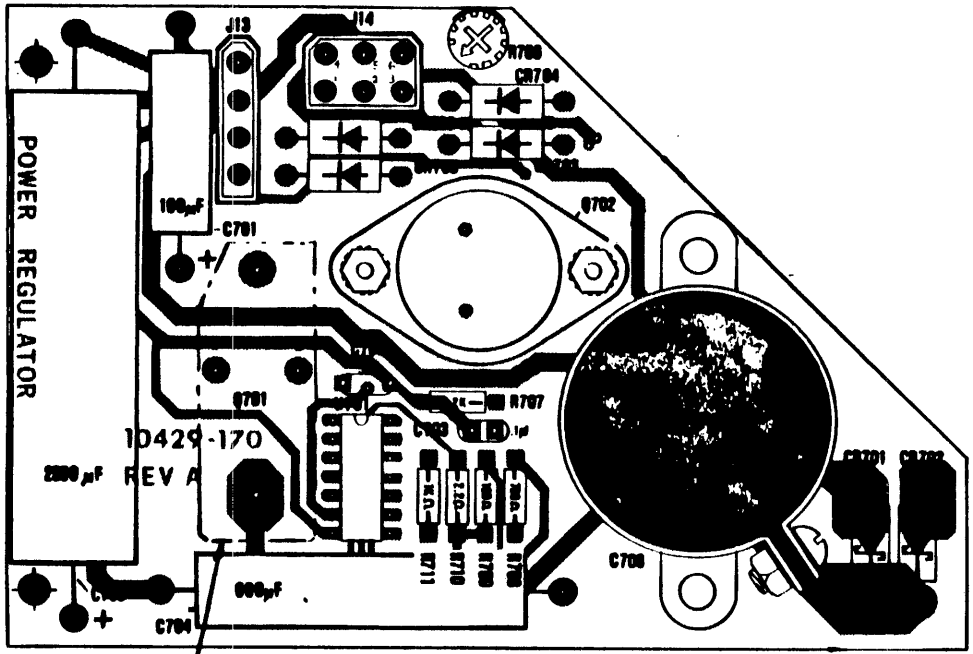


* MOUNTED ON CHASSIS
 NOTE: ALL RESISTANCES IN OHMS

APPLIED MICROSYSTEMS

**SCHEMATIC-PCB,
 POWER REGULATOR**

RELEASE STATUS		700-10407-5C	SCALE	REV	SHT.	OF	
DRAWN	JJM						4/8/80
CHECK	K. Faulk						12/8/80
APPR.				C	1	1	



MOUNTED TO CHASSIS

APPLIED MICROSYSTEMS
 Corporation
 11003 118th Pl. NE, Kirkland WA 98033

PCB ASSY - POWER REGULATOR

RELEASE STATUS		700-10407	
DRAWN	RWE	11/1/80	
CHECK	JJ.M.	11/4/80	
APPR	JJ.M.	11/9/80	SCALE 2:1 REV C BMT 1 OF 2

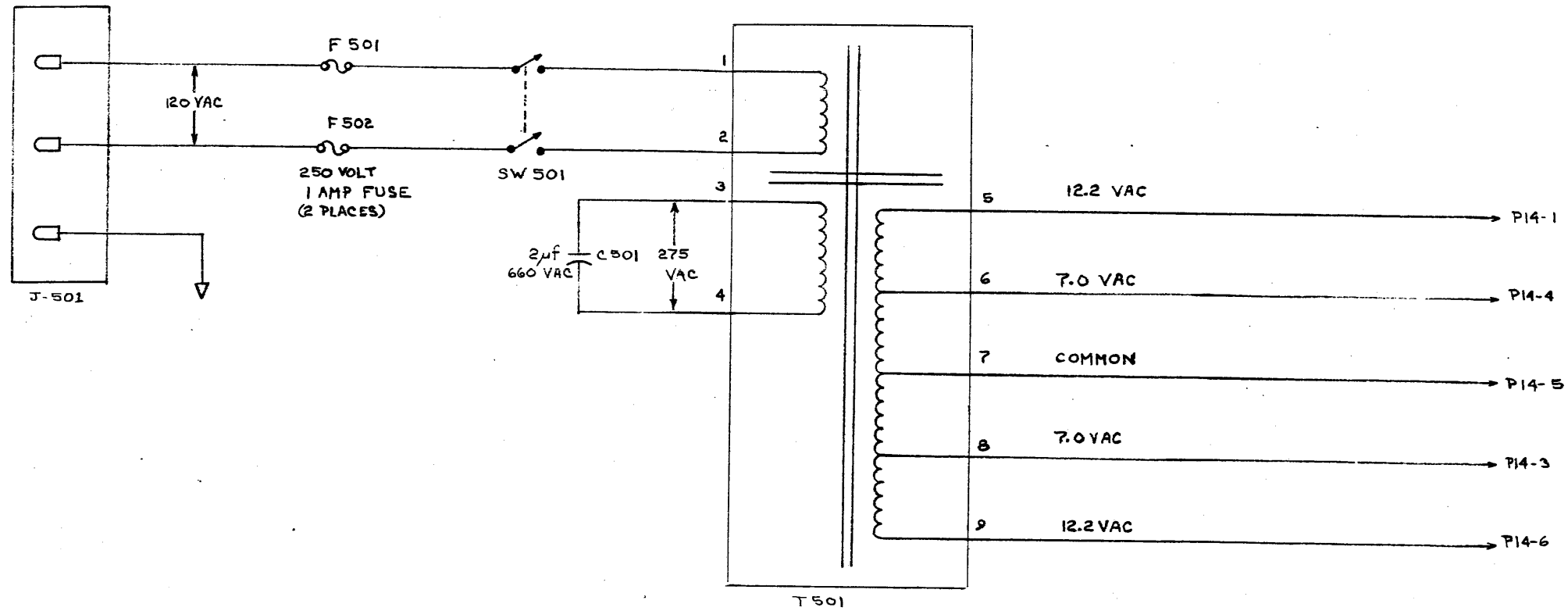
ITEM: EM SERIES Form No 902

POWER REGULATOR PARTS LISTING

29

SUBASSEMBLY NO. 700-10407

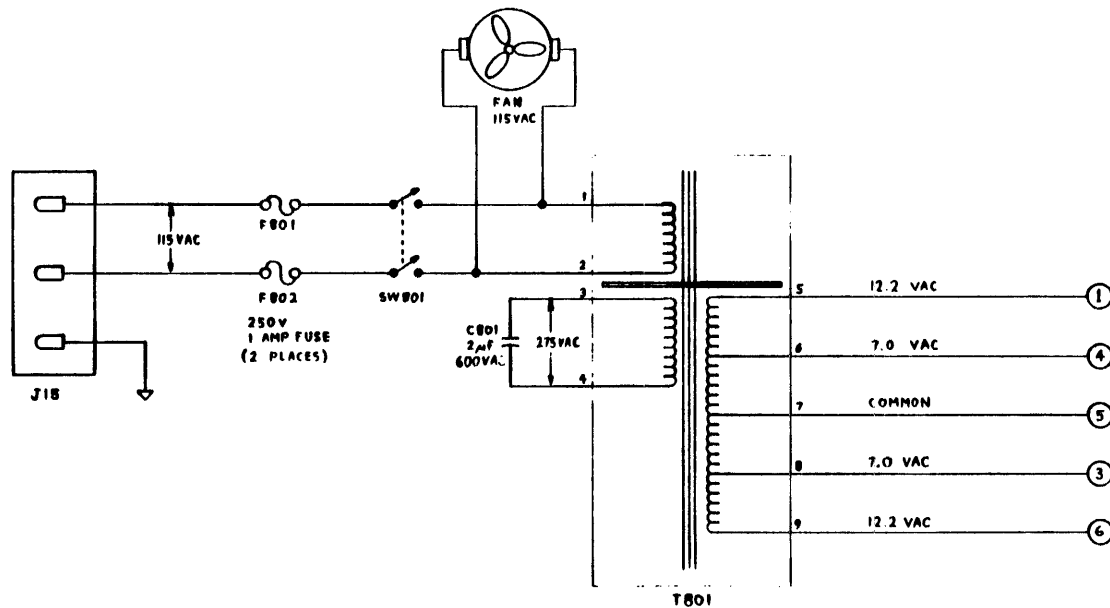
ITEM	QTY.	PART NO.	DESCRIPTION	REFERENCE
1	1	170-10429	PCB, POWER REG. REV. A	1
2	1	315-10360	IC, LM-723	U701
3	1	475-10366	TRIMMER, 500 OHM	R706
4	1	470-10361	RESISTOR, 2.2K OHM $\frac{1}{2}$ w	R707
5	1	470-10362	RESISTOR 750 OHM $\frac{1}{2}$ w	R708
6	1	470-10273	RESISTOR, 100 OHM $\frac{1}{2}$ w	R709
7	1	470-10364	RESISTOR, 2.2 OHM $\frac{1}{2}$ w	R710
8	1	470-10177	RESISTOR, 1K OHM $\frac{1}{2}$ w	R711
9	1	150-10167	CAPACITOR, 100uf 15v	C701
10	1	150-10300	CAPACITOR, 1000 pf 50v	C702
11	1	150-10003	CAPACITOR, .1uf 50v	C703
12	1	150-10330	CAPACITOR, 600uf 15v	C704
13	1	150-10332	CAPACITOR, 2500uf 15v	C705
14	1	150-10333	CAPACITOR, 20,000uf 10v	C708
15	2	480-10578	DIODE, 5 amp SHOTTKEY	CR701, CR702
16	4	480-10367	DIODE, 3 amp MR 500	CR703-706
17	1	480-10369	TRANSISTOR, 2N 3055	Q702
18	1	480-10369	TRANSISTOR, 2N 3055	Q701 FOR REF. ONLY- MOUNTED ON CHASSIS
19	1	210-10449	CONNECTOR, 4-PIN MOLEX	J13
20	1	210-10336	CONNECTOR, 6-PIN MOLEX	J14
21	1		CAPACITOR CLAMP	21 (For C708)
22	2	280-10101	NUT, 6032 KEPNUT	22
23	2	280-10106	SCREW, 6032 X 3/8 PAN HD, PHIL.	23
24				
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**APPLIED
MICROSYSTEMS**
Corporation

11003 118th Pl. NE, Kirkland WA 98033

RELEASE STATUS			
DRAWN Karl K. F. L.	8 AUG 80	700-10312-SC	
CHECK J.J.M.	12/8/80		
APPR. J.J.M.	12/8/80	SCALE N/C/N/E	REV. A SHT. 1 OF 1



P 14

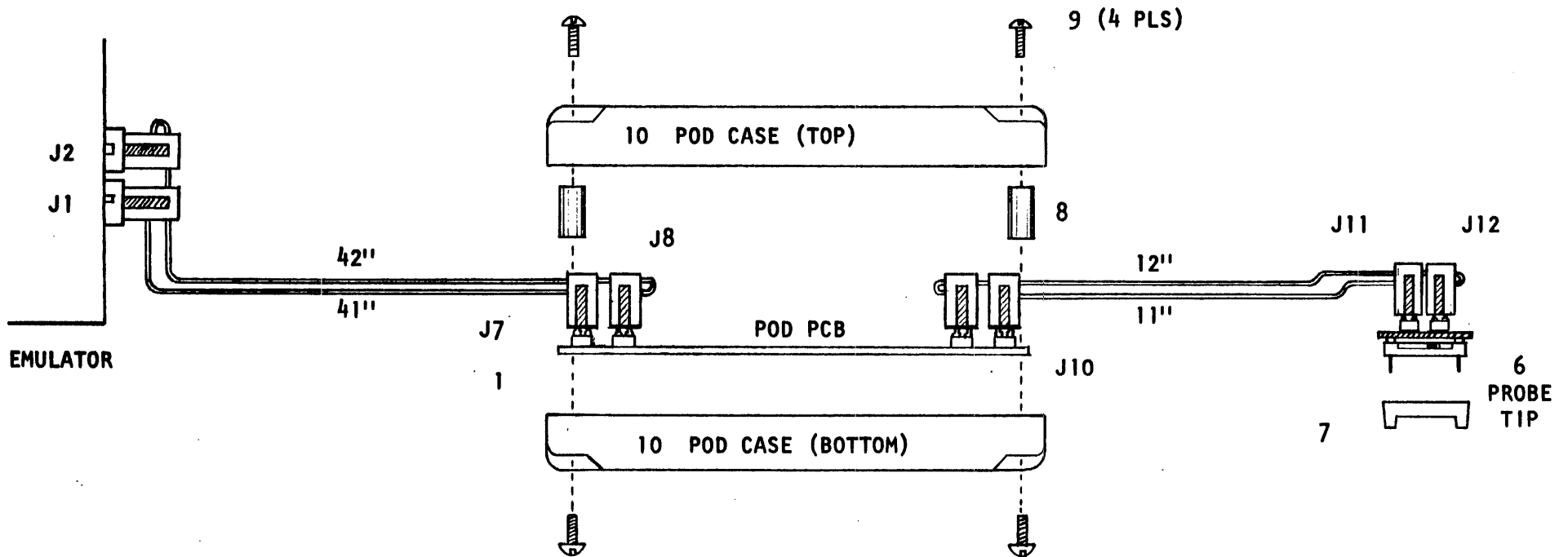
APPLIED MICROSYSTEMS
Corporation
11003 118th Pl. NE, Kirkland WA 98033

SCHEMATIC-REAR PANEL ASSY, 115V WITH FAN

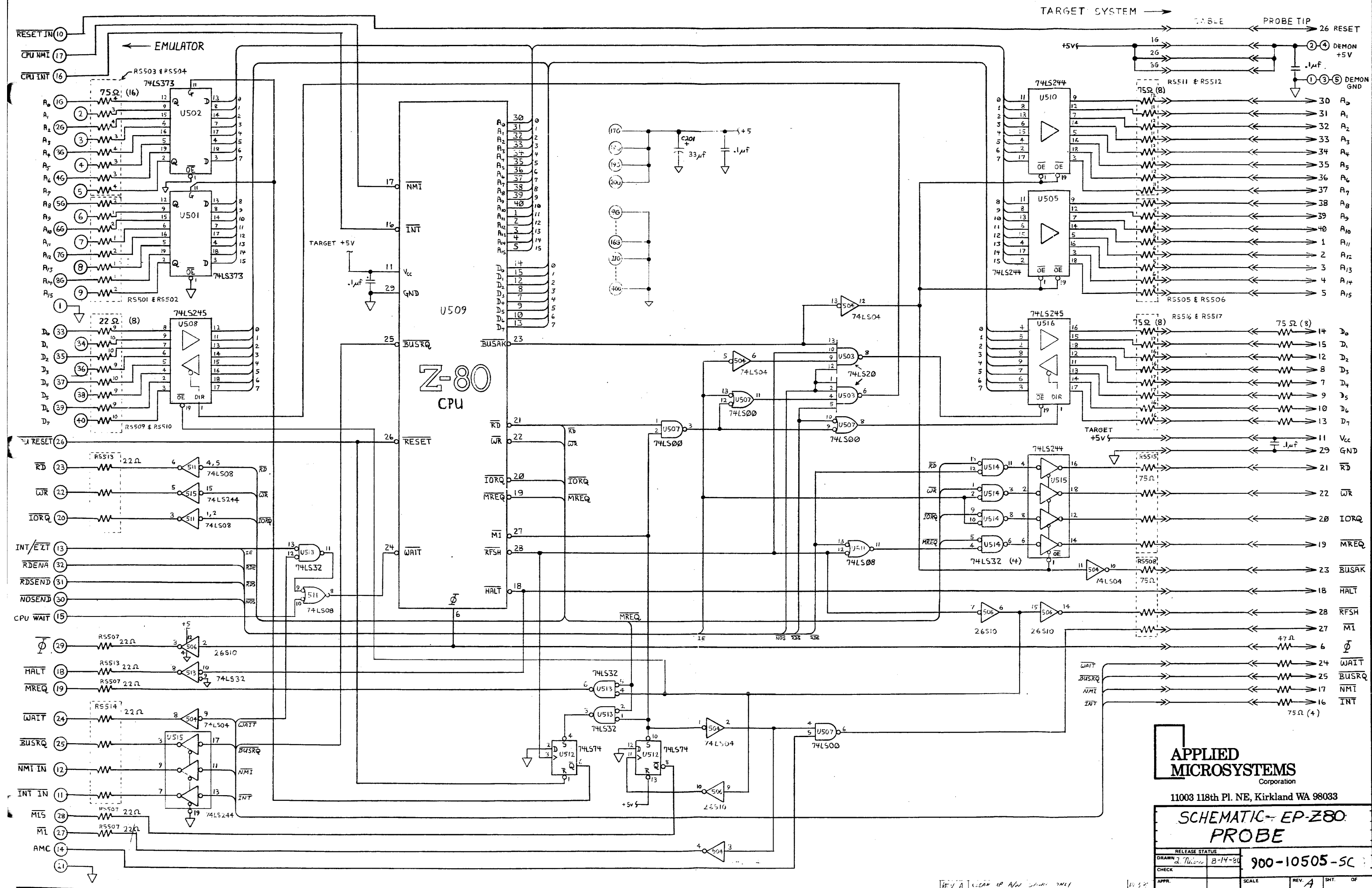
RELEASE STATUS			
DRAWN	KAE	S. 10-81	700-10588-5C
CHECK			
APPR		SCALE	REV NEW SHY 1 OF 1
END ITEM: 6M-100B, 126			

31

ITEM	QTY	DESCRIPTION	REFERENCE
1	1	POD ASSEMBLY	1
2	1	42" CABLE	42"
3	1	41" CABLE	41"
4	1	12" CABLE	12"
5	1	11" CABLE	11"
6	1	PROBE TIP ASSEMBLY	6
7	1	PROBE TIP PROTECTOR	7
8	4	STANDOFFS 1/4 X 5/8	8
9	8	NYLON SCREWS 3/8 X 6-32	9
10	1	POD CASE (SET)	



EM 180/180B POD INSTALLATION



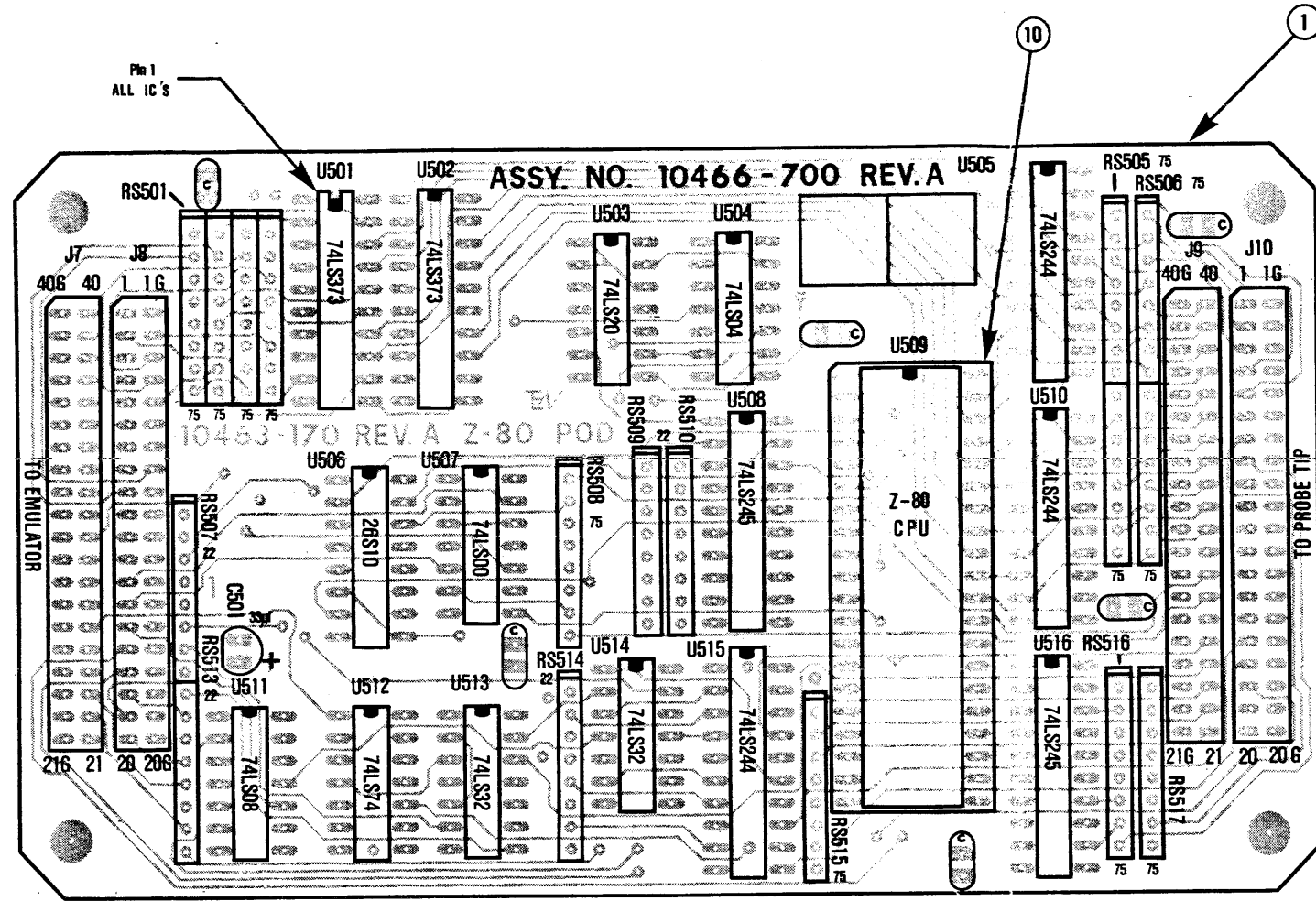
APPLIED MICROSYSTEMS Corporation

11003 118th Pl. NE, Kirkland WA 98033

SCHEMATIC - EP-Z80 PROBE

RELEASE STATUS		
DRAWN	BY	NO.
CHECK	DATE	REV.
APPR.	SCALE	REV. A
900-10505-SC		SHT. 1 OF 1

END ITEM EM-100



ITEM	QTY.	PART NO.	DESCRIPTION	REFERENCE
1	1	10463-170	POD, PCB	1
2	2	10234-314	74LS373	U501, 502
3	1	10117-314	74LS20	U503
4	1	10053-314	74LS04	U504
5	3	10069-314	74LS244	U505, 510, 515
6	1	10211-314	26S10	U506
7	1	10062-314	74LS00	U507
8	2	10070-314	74LS245	U508, 516
9	1	10064-314	74LS08	U511
10	1	10182-210	SOCKET, 40-PIN	10
11	1	10055-314	74LS74	U512
12	2	10073-314	74LS32	U513, 514
13	12	10279-470	75 OHM SIP	RS501-6, 8, 11, 12, 15-17
14	5	10351-470	22 OHM SIP	RS507, 9, 10, 13, 14
15	1	10091-150	33uf 10V ELECT. CAP.	C501
16	5	10003-150	.1uf 50V CER. CAP.	ALL C
17	4	10090-210	CONNECTOR, 40-PIN HEADER	J7-J10
18	1	10126-330	Z-80B CPU	U509
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APPLIED MICROSYSTEMS
Corporation

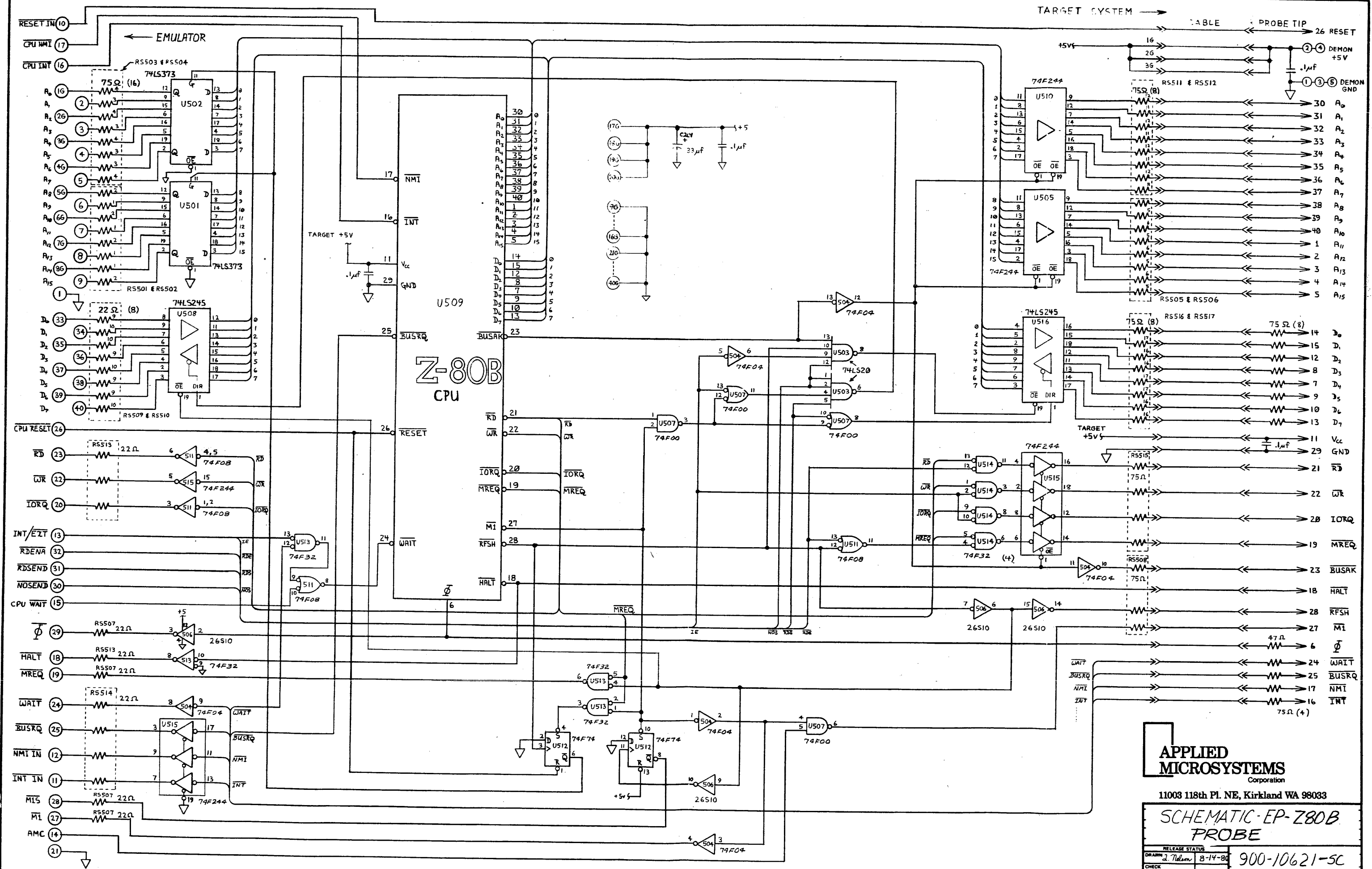
11003 118th Pl. NE, Kirkland WA 98033

PCB ASSY-POD, EP-Z80

RELEASE STATUS		700-10466-PL	
DRAWN	KNE	12/8/80	
CHECK	J.J.M.	12/9/80	
APPR.	J.J.M.	12/9/80	SCALE DWG 2:1 REV. A SHT. 1 OF 1

END ITEM: EM-180

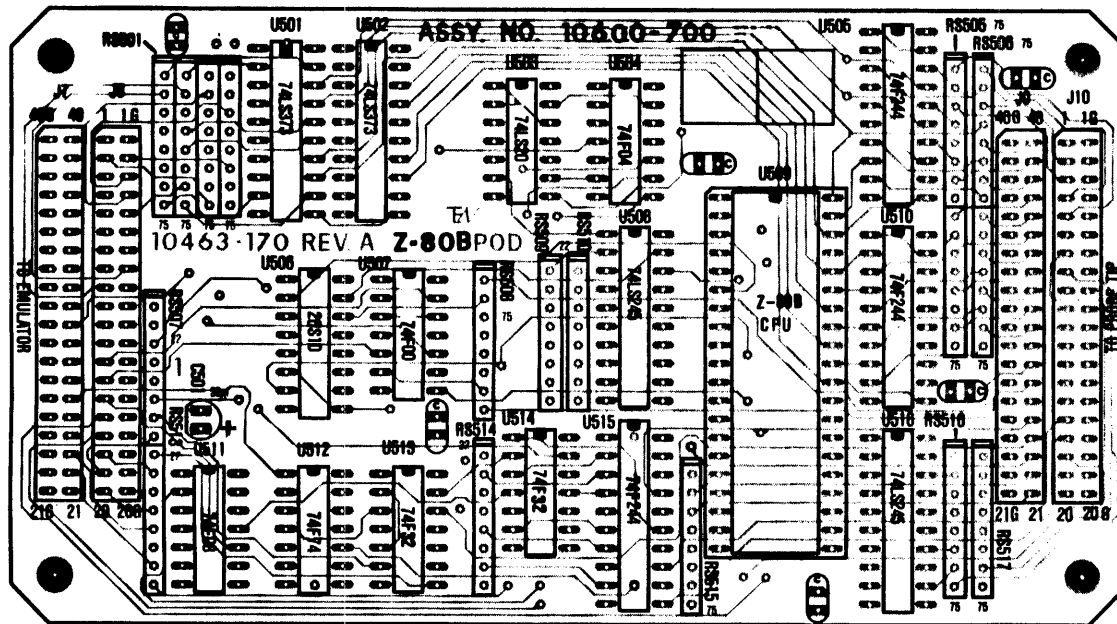
Form No. 902



APPLIED MICROSYSTEMS
 Corporation
 11003 118th Pl. NE, Kirkland WA 98033

SCHEMATIC - EP-Z80B PROBE

RELEASE STATUS	8-14-80	900-10621-5C
DRAWN J. Nelson	CHECK	APPR.
SCALE	REV	NEW
SHT. 1	OF 1	



COMPONENT SIDE (LAYER 1)

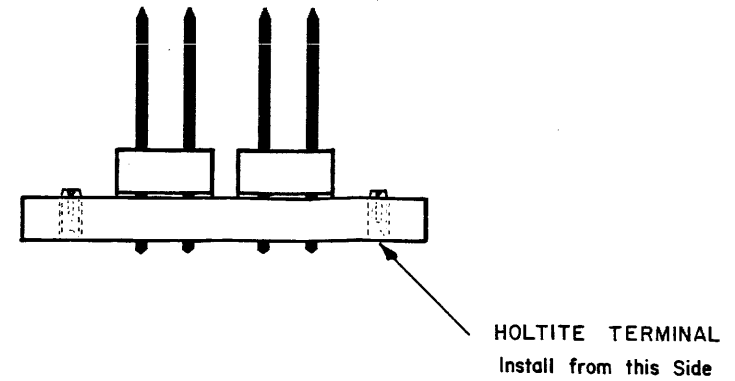
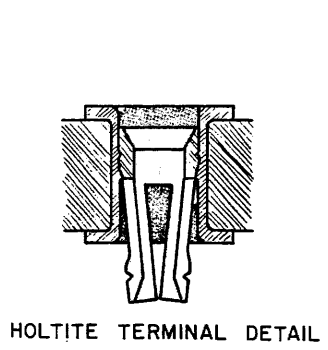
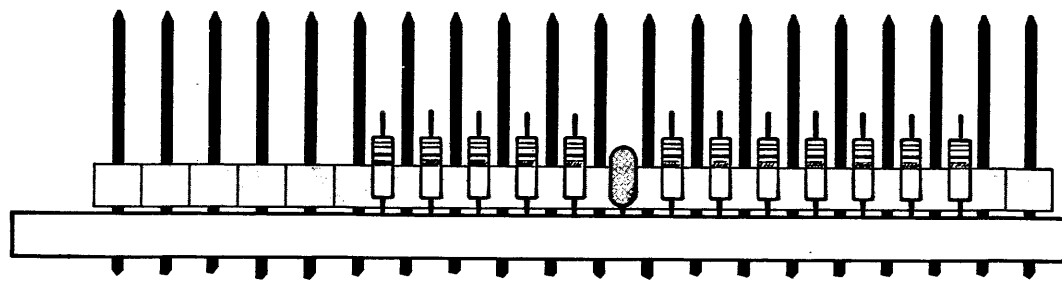
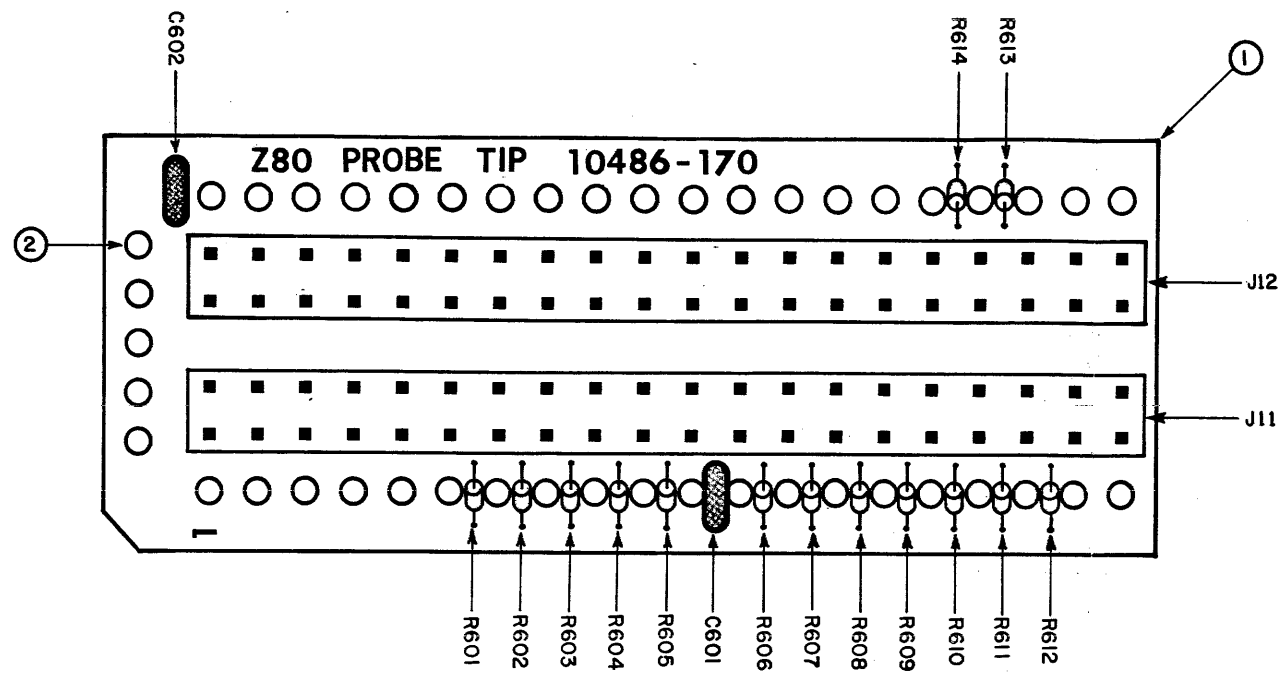
ITEM	QTY.	PART NO.	DESCRIPTION	REFERENCE
1	1	10643-170	POD, PCB	1
2	2	10234-314	74LS373	U501,502
3	1	10117-314	74LS20	U503
4	1	10610-314	74F04	U504
5	3	10605-314	74F244	U505,510,515
6	1	10211-314	26S10	U506
7	1	10609-314	74F00	U507
8	2	10070-341	74LS245	U508,516
9	1	10608-314	74F08	U511
10	1	10182-314	SOCKET, 40-PIN	10
11	1	10607-314	74F74	U512
12	2	10606-314	74F32	U513,514
13	12	10279-470	75 OHM SIP	R5501,6,8, 11,12,15,17
14	5	10351-470	22 OHM SIP	R5507,9, 10,13,14
15	1	10091-150	33uf 10V ELECT. CAP.	C501
16	1	10003-150	1uf 50V CER. CAP.	ALL C
17	4	10090-210	CONNECTOR, 40-PIN	J7,J10
18	1	10126-330	Z-80B CPU	U509
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APPLIED
MICROSYSTEMS

PCB ASSY-POD, EP Z80B

RELEASE STATUS		700-10600-PL	
DRAWN	MW	4-24-81	
CHECK			
APPR.		SCALE 2:1	REV B SHT. 1 OF 1
END ITEM: EM-180B		Form No. 9027	

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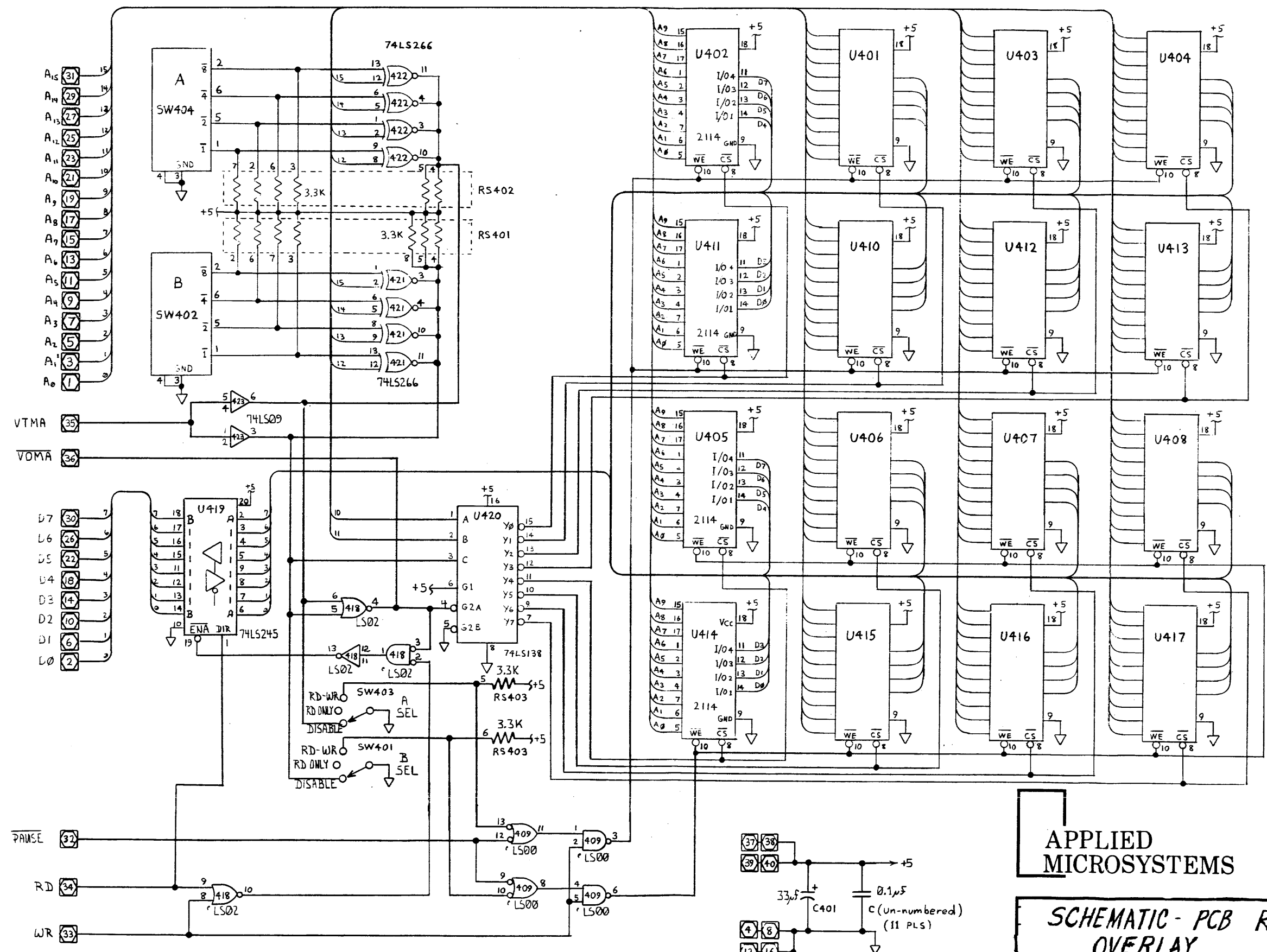


ITEM	QTY.	PART NO.	DESCRIPTION	REFERENCE
1	1	10486-170	Z-80 PROBE TIP P.C.B.	1
2	45	10264-210	HOLTITE TERMINAL	2
3	12	10253-470	75Ω 1/8W 5% RESISTOR	R602-R614
4	1	10254-470	47Ω 1/8W 5% RESISTOR	R601
5	2	10003-150	0.1μf 50V Ceramic CAPACITOR	C601, 602
6	2	10090-210	40 pin Header CONNECTOR	J11, J12
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APPLIED
MICROSYSTEMS

PCB ASSY- PROBE TIP,

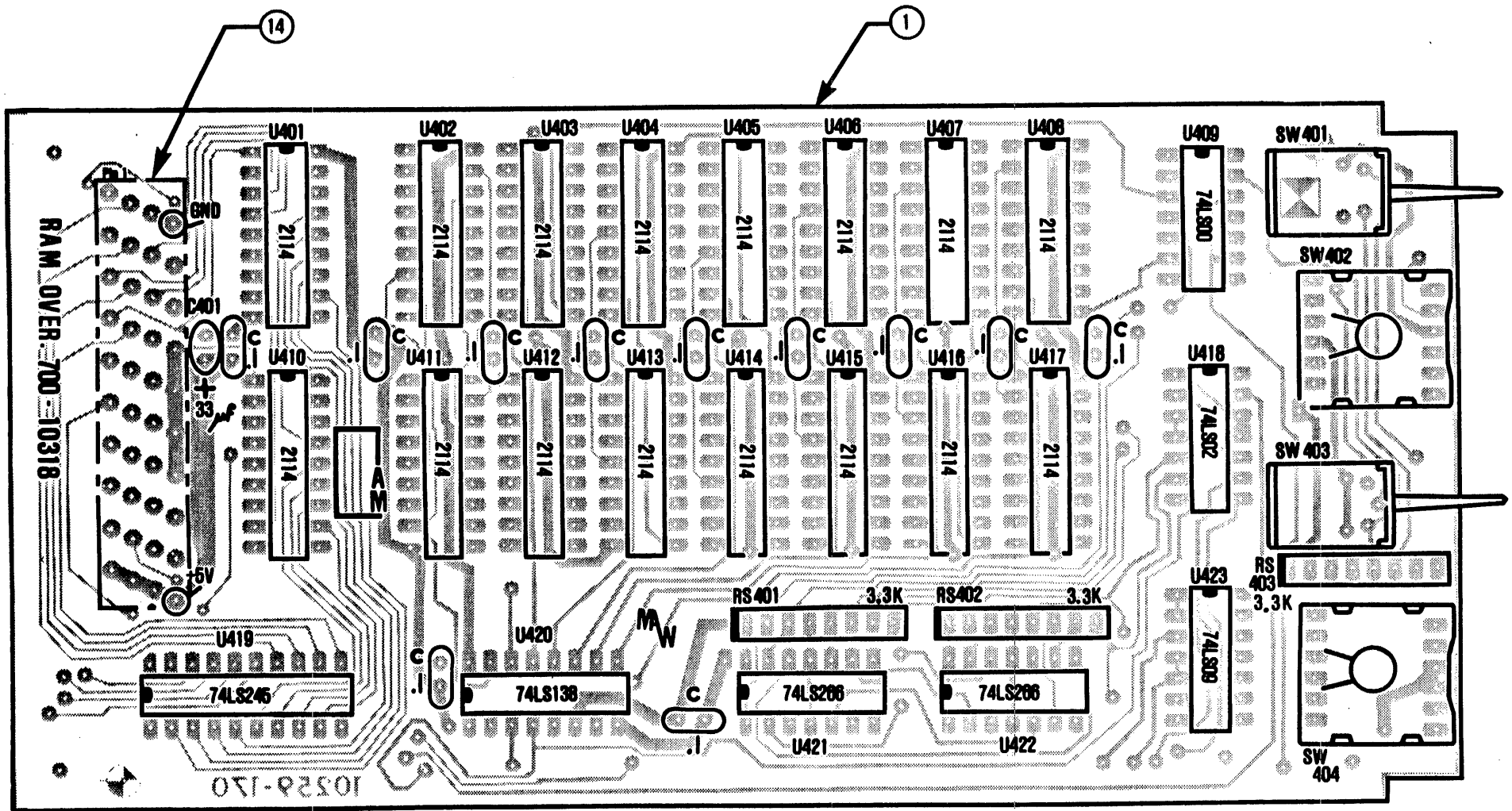
RELEASE STATUS		700-10509-PL	SCALE	REV. NEW	SHT. 1 OF 1
DRAWN	KAE 10/24/80				
CHECK	JJM 11/17/80				
APPR.	JJM 11/17/80				



APPLIED
MICROSYSTEMS

**SCHEMATIC - PCB RAM
OVERLAY**

RELEASE STATUS		700-10318-SC
DRAWN	KAE 3/3/80	
CHECK	J.J.M. 12/8/80	
APP'D	J.J.M. 12/8/80	
SCALE	REV B	SHT. 1 OF 1



RAM OVERLAY

SUBASSEMBLY NO. 700-10318

RAM OVERLAY PARTS LISTING
 SUB-ASSEMBLY NO. 700-10318

ITEM	QTY.	PART NO.	DESCRIPTION	REFERENCE
1	1	170-10259	Ram Overlay PCB REV B	1
2	16	335-10280	2114	U401-8, U410-17
3	1	314-10062	74LS00	U409
4	1	314-10052	74LS02	U418
5	1	314-10070	74LS245	U419
6	1	314-10173	74LS138	U420
7	2	314-10054	74LS266	U421, 422
8	1	314-10378	74LS09	U423
9	1	150-10091	33mf 10v Elect. Cap	C401
10	11	150-10003	.1mf 50v Cer. Cap	C
11	3	470-10363	3.3K Resistor S.I.P.	RS401-3
12	2	510-10377	Toggelè switch (3 pos)	SW401, SW403
13	2	510-10298	Thumbwheel switch (Strip-switch)	SW402, SW404
14	1	600-10478	J4 Connector Assembly	14
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