

H-81-0097

Graphic8TM

**COMPUTER GRAPHICS
DISPLAY SYSTEM
SERIES 8200**

**TERMINAL CONTROLLER
MAINTENANCE DIAGRAMS**

Information Products Division
Federal Systems Group



SANDERS

DANIEL WEBSTER HIGHWAY, SOUTH-NASHUA, NEW HAMPSHIRE 03061

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INTRODUCTION

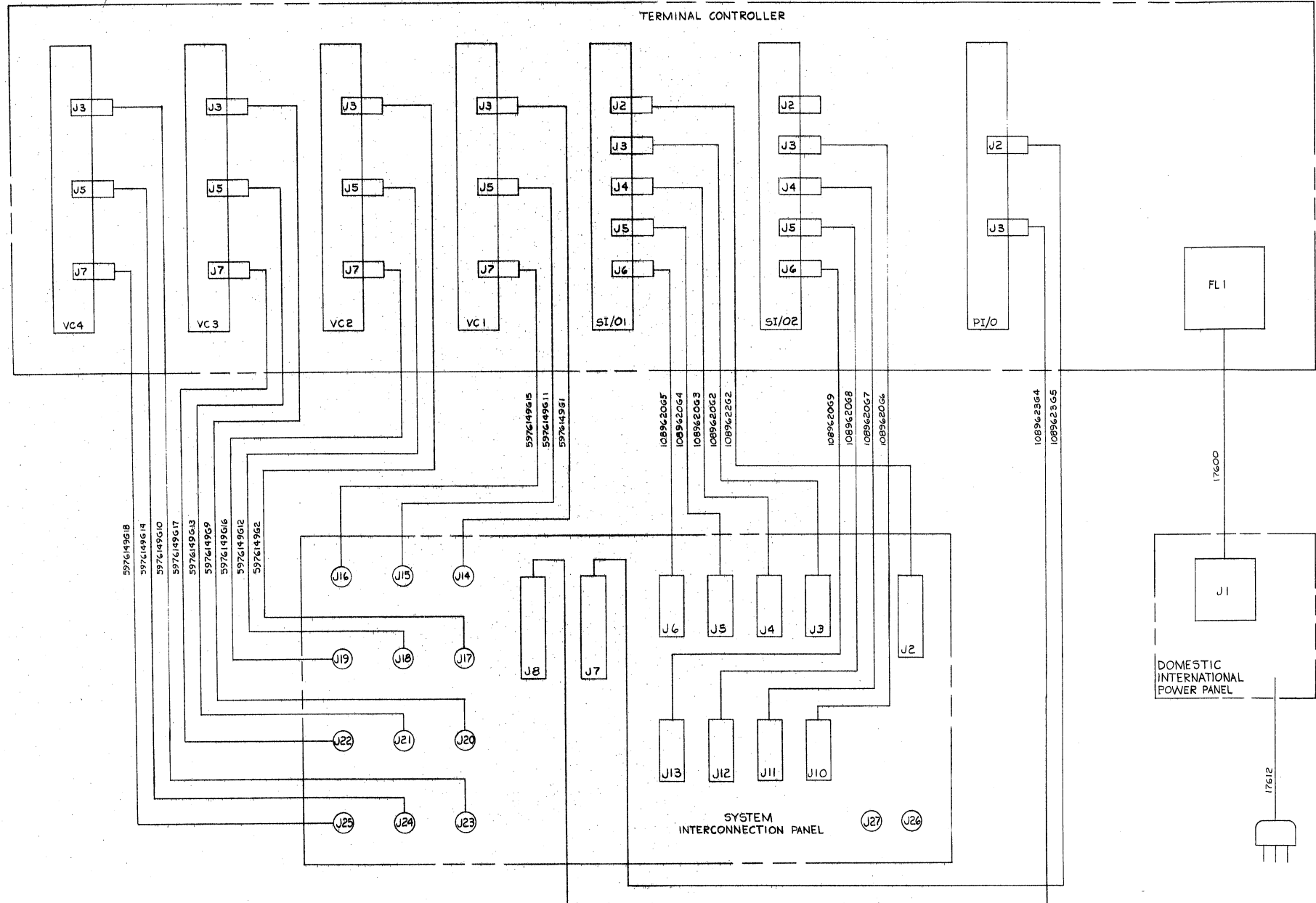
This manual contains the assembly drawings, parts lists, wire lists, and logic diagrams for the GRAPHIC 8 terminal controller and its circuit cards.

The drawings are arranged in functional groupings as listed below. In all cases, parts lists and wire lists (where applicable) are put ahead of the assembly drawing to which they apply.

<u>GROUP</u>	<u>DRAWING</u>	
CABINET	GRAPHIC 8 Controller Cabinet Interconnections	5977307
	Power Panel, 120V	5976121
	Power Panel, International	5976122
	Voltage Configuration Kit	5976135
	Power Cable, 120V	5976123
	System Interconnect Panel	5976105
	Cable, Coaxial	1089620
	Cable, Coaxial	1089622
	Cable Assembly, Computer Interface	1089623
	Cable, Coaxial	5976149
	Cable, Coaxial, X/R, Y/G	7010178
	Cable, Coaxial, Z/B/M	7010179
	CARD CAGE	Terminal Controller Schematic
Card Cage Assembly		5977184
Backplane Wiring		5977185
READ/WRITE MEMORY	Read/Write Memory CCA	1089724
	Read/Write Memory Logic	1089726
PARALLEL INTERFACE	Parallel Interface CCA	1086802
	Parallel Interface Logic	1086804

<u>GROUP</u>	<u>DRAWING</u>	
DISPLAY PROCESSOR	Display Processor CCA	1086779
	Display Processor Logic	1086781
SERIAL INTERFACE	Multiport Serial Interface CCA	5976251
	Multiport Serial Interface Logic	5976253
ROM AND STATUS	ROM and Status CCA	5977297
	ROM and Status CCA (Parts List for G13, G14 only)	1088682
	ROM and Status Logic	1088683
DIGITAL GRAPHIC CONTROLLER	Digital Graphic Controller CCA	5977180
	Digital Graphic Controller Logic	5977182
MAPPING MEMORY	Mapping Memory, 16K, CCA	5977176
	Mapping Memory, 16K, Logic	5977178
	Mapping Memory, 64K, CCA	5802554
	Mapping Memory, 64K, Logic	5802555
VIDEO CONTROLLER	Video Controller CCA	5977172
	Video Controller Logic	5977174
TIMING MODULE	Timing Module CCA	5977168
	Timing Module Logic	5977170

REVISIONS			
ZONE	LTN	DESCRIPTION	DATE



TIMING MODULE	A17	A16	A15	A14	A13	A12	A11	A10	A9	A8	A7	A6	A5	A4	A3	A2	A1
MAPPING MEMORY (PIXEL)																	
VIDEO CONTROLLER # 2																	
MAPPING MEMORY (PIXEL)																	
MAPPING MEMORY (PIXEL)																	
VIDEO CONTROLLER # 1																	
MAPPING MEMORY (PIXEL)																	
DIGITAL GRAPHIC CONTROLLER																	
ROM & STATUS MODULE																	
DISPLAY PROCESSOR																	
MULTIPOINT SERIAL INTERFACE # 1																	
MULTIPOINT SERIAL INTERFACE # 2																	
LARGE MEMORY																	
PARALLEL INTERFACE																	

"TYPICAL" GRAPHIC B CONFIGURATION

- THE VIDEO CONTROLLER MODULE(S) MAY BE PLACED IN ANY SLOT FROM A8 THROUGH A16, WITH THE RIGHT MOST MODULE DESIGNATED VC 1, THE NEXT MODULE TO THE LEFT DESIGNATED VC 2, AND SO ON TO VC 3 AND VC 4.
- THE MULTIPOINT SERIAL INTERFACE MODULE(S) MAY BE PLACED IN ANY SLOT FROM A4 THROUGH A1, WITH THE LEFT MOST MODULE DESIGNATED SI/O1 AND THE NEXT MODULE TO THE RIGHT DESIGNATED SI/O2.
- REFERENCE DESIGNATIONS ARE ABBREVIATED PREFIX THE DESIGNATIONS WITH UNIT NO. OR ASSEMBLY DESIGNATION OR BOTH.
- UNLESS OTHERWISE SPECIFIED RESISTANCE VALUES ARE IN OHMS RESISTORS ARE $\pm 5\%$ W $\times = 1,000$ MEG = 1,000,000 CAPACITANCE VALUES ARE IN PICOFARADS CAPACITORS ARE $\pm 5\%$ V UF = MICROFARADS INDUCTANCE VALUES ARE IN MICRORHENRIES
- INTERPRET DRAWING PER 815062

NOTES

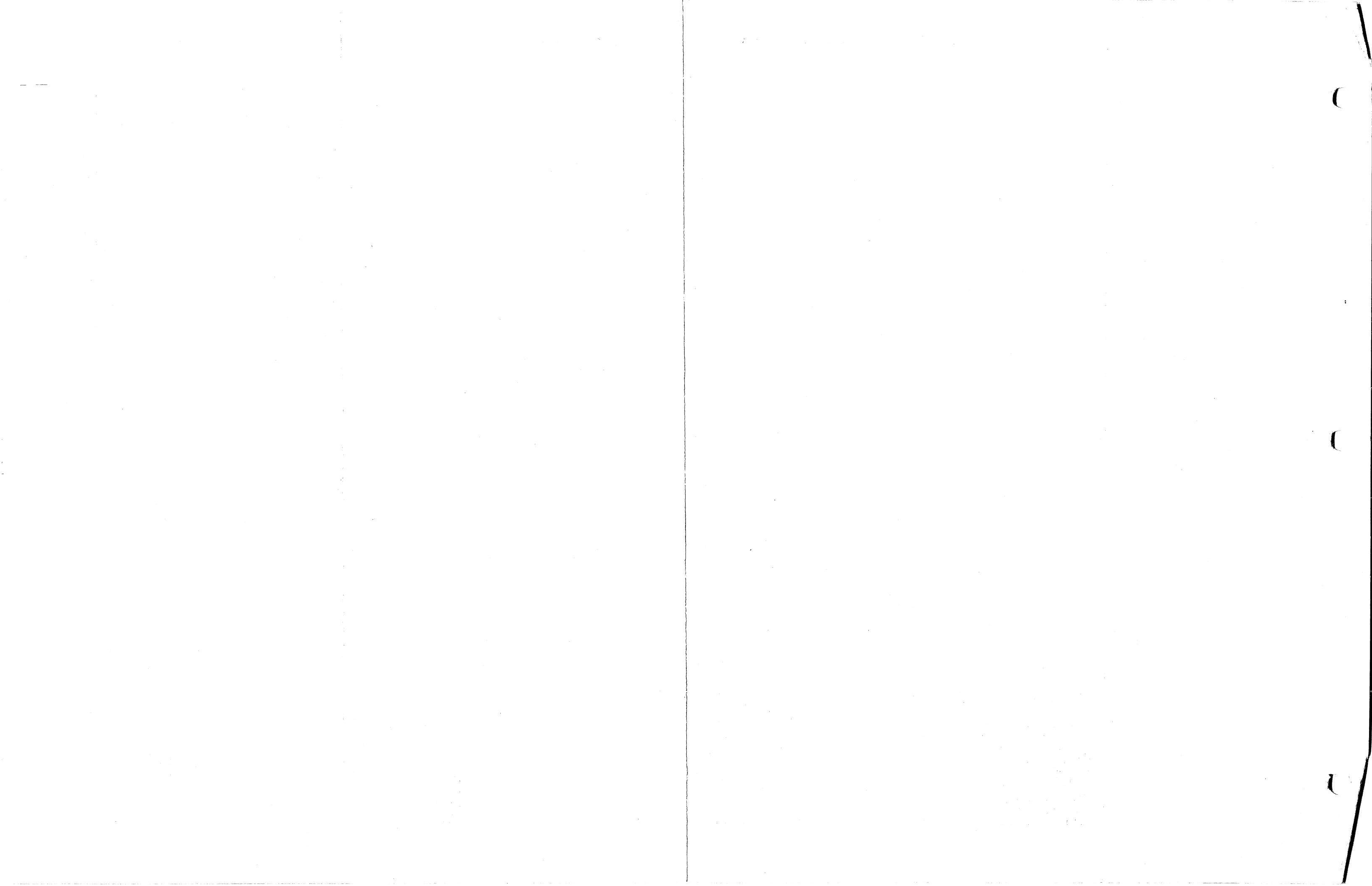
PRELIMINARY
THIS PRINT MAY BE CHANGED WITHOUT NOTICE

REFERENCE DATA			CONT. NO.	
DESCRIPTION	LAST NO.	DELETED NO.	REV.	DATE
RESISTOR			1	18 MAR 81
CAPACITOR			2	
DIODE			3	
TRANSISTOR			4	
INDUCTOR			5	
MICROELEMENT			6	
WIRING DIAGRAM			7	
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INTERCONNECTION DIAGRAM CONTROLLER CABINET

E 94117 5977307

5977307



REVISION STATUS												REVISIONS					
SH	1	2	3	4	5	6	7	8	9	10	11	12	LTR	DESCRIPTION	DATE	APPROVED	
PARTS	REV	D	D	D									-	REL FOR PROD	1-14-80	RLB	
	SH	13	14	15	16	17	18	19	20	21	22	23	24	A	REV PER ECO 96364	19 MAR 80	RDM/WL
	REV													B	REV PER ECO 96900A	16 JUL 80	JL/WL
														C	REV PER ECO 96498		
														D	REV PER ECO 97072	30 JAN 81	JK/WL

SA SANDERS ASSOCIATES, INC.		NASHUA, NEW HAMPSHIRE	
120V HARD COPY			
POWER PANEL ASSY			
SIZE	CODE IDENT NO.		
A	94117	PL 5976121	
CONT NO.			
DR	DATE		
APPD	18 DEC 79		
CHK	15 JMS		
REV	1/4/80		
E/M			
ENG			
ORG			
FINAL	GRA-7		
NEXT ASSY	USED ON		
APPLICATION			
PRODUCTION			
CHANGE BY ECO ONLY			
MFG	1/18/80		

3. ANY SUBSTITUTIONS FOR THIS CAPACITOR MUST BE WITH A VDE APPROVED PART.

- PARTS LIST SHEET ONE IS THE CONTROLLING REVISION FOR THE COMBINED PARTS LIST, DRAWING AND WIRE LIST.
- SHOP PRACTICE TOLERANCES AND DRAWING INTERPRETATION WITHIN 815002 SUPPLEMENT THIS DRAWING.

PARTS LIST

ITEM NO.	QTY PER ASSY		DWG SIZE	CODE IDENT	PART OR IDENTIFYING NO.	DESCRIPTION	SYM
	G	G					
1	1		F		5976115GI	PANEL, POWER	
2	1		D		5976117GI	FILTER, COVER	
3	1		-		58361-1/2	UTILITY BOX (STEEL CITY)	
4	1		-		58-C-7	COVER, UTILITY BOX (STEEL CITY)	
5	1		-		ABC11AY120	RELAY, KI (POTTER & BRUMFIELD)	
6	1		A		5976332PI	CIRCUIT BREAKER, CBI	
7	1		-		C500	BOX CONN, 2 SCREW TYPE (NEER)	
8	1		-		5262	OUTLET DUPLEX JI, J2 (HUBBEL)	
9	1		-		10SPI	FILTER, POWER LINE, FLI (CORCOM)	
10	1		-		SR-7W-2	BUSHING STRAIN RELIEF (HEYCO)	
11	2		-		10499-\$\$-1032-6	HANDLE (AMATON)	
12	1		-		17612	CORD POWER, WI (BELDEN)	
13	1		B		5976144PI	BRACKET, RELAY	
14	1		-	00779	1-480 305-0	CONN, 3 PIN P2	
15	10		-	00779	2-350804-2	CONN, FULLY INSUL, .250	
16	2		-	00779	42844-1	CONN, FULLY INSUL, .250	
17	1		A		G50017PI	GROMMET .50 ID	#

SIZE	CODE IDENT NO.	REV	D	SHEET
A	94117 PL	5	9	2

SHEET ONE REVISION LETTER IS THE IDENTIFYING REVISION FOR THIS MULTISHEET DWG
 SEE SHEET ONE FOR REVISION DESCRIPTIONS
 SYMBOLS : INDICATES VENDOR ITEM - SEE SPEC/SOURCE CONTROL DWG.

PARTS LIST

ITEM NO.	QTY PER ASSY		DWG SIZE	CODE IDENT	PART OR IDENTIFYING NO.	DESCRIPTION	SYM
	G1	G					
24	6"		-		0270029P2	SLEEVING, SHRINKABLE .25IN	
25	2"		-		MS51957-28	SCR, MACH, PANHD, .138-32X.38 LG	
26	6"		-		0270029P2	SLEEVING, SHRINKABLE .06IN.	
27	6"		-		0270029P8	SLEEVING, SHRINKABLE .50IN.	
28	4		-		MS51958-65	SCR, MACH, PAN HD, .190-32X.75 LG	
29	6		-		SSTIM	TIE, CABLE (PANDUIT)	
30	13		-		MS15795-805	WASHER, FLAT #6	
31	1		-		MS15795-807	WASHER, FLAT #8	
32	4		-		MS15795-808	WASHER, FLAT #10	
33			-				
34	13		-		MS35338-136	WASHER, LKG - SPLIT #6	
35	4		-		MS35338-138	WASHER, LKG - SPLIT #10	
36	1		-		MS35333-72	WASHER, LKG, INT TOOTH #8	
37	13		-		MS35649-264	NUT, PLAIN, HEX, .138-32	
38			-				
39	1		-		MS35650-284	NUT PLAIN HEX, .164-32	
40	AR		A		93002 PI	SOLDER	
41	2			00779	34541	SPADE LUG #6	
42	3				AA-532-08	TERMINAL, RING LUG #8 (ETC)	
43	REF		A		WL5976121	WIRE LIST	
44	REF		A		778000	EPOXY MARKING CMPD, APPL OF	
45	6		-		AA-520-06	TERMINAL, RING LUG, #6 (ETC)	
46	3		-	00779	60618-1	CONTACT, PIN	

SIZE	CODE IDENT NO.	REV	SHEET
A	94117 PL	B	3
5976121			

SHEET ONE REVISION LETTER IS THE IDENTIFYING REVISION FOR THIS MULTISHEET DWG
SEE SHEET ONE FOR REVISION DESCRIPTIONS
SYMBOLS : INDICATES VENDOR ITEM - SEE SPEC/SOURCE CONTROL DWG.

PARTS LIST

ITEM NO.	QTY PER ASSY		DWG SIZE	CODE IDENT	PART OR IDENTIFYING NO.	DESCRIPTION	SYM
	G	G					
47	5'		-		19362	CABLE, 3 CONDUCTOR (BELDEN)	
48	8"		-		9322	CABLE, 2 CONDUCTOR (BELDEN)	
49	3"		A		5978963P214	WIRE, ELEC, 18 AWG, GRN/YEL	
50	1				MKS4R	CAP. 1.0UF, 250VAC, ±10% CI (INTER-TECH GROUP, INC)	(SEE NOTE 4)
51	1		C		597618461	BRACKET, CAP	
52	2				MS51957-13	SCR, MACH PN HD 4-40 x .25 LG	
53	2				M1515795-803	WASHER, FL #4	
54	2				MS35338-135	WASHER, LKG #4	
55	2 IN		A		4174285P20	WIRE, ELEC, 22 AWG, WHT	
56	4 IN		A		270029P3	SLEEVING, INSUL, HT SHRINK .09	
57	2				3-350819-2	FASTON .250 16-14 AWG	

SHEET ONE REVISION LETTER IS THE IDENTIFYING REVISION FOR THIS MULTISHEET DWG SEE SHEET ONE FOR REVISION DESCRIPTIONS SYMBOLS : INDICATES VENDOR ITEM - SEE SPEC/SOURCE CONTROL DWG.	SIZE A	CODE IDENT NO. 94117 PL	5976121
		REV D	SHEET 4

REVISIONS

REVISION STATUS OF EACH SHEET

SHEET.	1	2	3	4	5	6	7	8	9	10	11	12	13
REVISION	B	B	B										
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										

LTR	DESCRIPTION	DATE	APPROVED
-	REL FOR PROD	1-14-80	JKL
A	REV PER ECO 96900A	15 JUL 80	JK/WL
B	REV PER ECO 97072	30 JAN 81	JK/JWL

9. WIRES 026 & 002 AT FLI-L TO BE CRIMPED TOGETHER IN ITEM 57
 8. WIRES 025 & 001 AT FLI-N TO BE CRIMPED TOGETHER IN ITEM 57
 7. SHRINK SLEEVE WIRES 025 & 026 AT C1 END WITH ITEM 56
 6. GROUND WIRES WHERE SOLDERED TOGETHER TO BE SLEEVED USING ITEM 24.

- 5. DRAIN WIRES TO BE SLEEVED WITH ITEM 26 WHEN DRAIN WIRES ARE USED.
- 4. WIRES 015 & 011 AT CBI-HI TO BE CRIMPED TOGETHER IN 42844-1.
- 3. WIRES 014 & 010 AT CBI-HI TO BE CRIMPED TOGETHER IN 42844-1.

2. PARTS LIST SHEET ONE IS THE CONTROLLING REVISION FOR THE COMBINED PARTS LIST, DRAWING AND WIRE LIST.
 1. SHOP PRACTICE TOLERANCES AND DRAWING INTERPRETATION WITHIN 81.5002 SUPPLEMENT THIS DRAWING.

SA SANDERS ASSOCIATES, INC NASHUA, NEW HAMPSHIRE

WIRE LIST
120 V HARD COPY
POWER PANEL ASSY

SIZE **A** CODE IDENT NO. **94117** WL 5976121

SCALE NONE SHEET 1 OF 3

CONT NO.

DR	DATE
APPR	17 JAN 80
CHK	15 JAN 80
DEV	11/4/80
ENG	11/4/80
RR	11/4/80
RG	11/4/80

5976121 GRA-7

NEXT ASSY USED ON APPLICATION

MPG *[Signature]* 1/18/80

PRODUCTION
CHANGE BY ECO ONLY

WIRE LIST

WIRE NUMBER	FUNCTION CODE	COLOR	LENGTH	FROM		TO		NOTE
				LOCATION (REFERENCE DESIGNATION)	TERM. (STRIP INCHES)	LOCATION (REFERENCE DESIGNATION)	TERM. (STRIP INCHES)	
001	17612	LT BLU (BELDEN)		WIPI MOLDED PLUG	N	FLI LINE	N	8
002	17612	BRN (BELDEN)		WIPI MOLDED PLUG	L	FLI LINE	L	9
003	17612	GRN/YEL (BELDEN)		WIPI MOLDED PLUG	E	FLI LINE	E	
004	17612	SHIELD DRAIN (BELDEN)		WIPI MOLDED PLUG	SHLD	FLI MTG SCR		
005	19362	LT BLU (BELDEN)		FLI LOAD	N	CBI	LINE	
006	19362	BRN (BELDEN)		FLI LOAD	L	CBI	LINE	
007	5978963 P214	GRN/YEL (BELDEN)		FLI LOAD	E	EI	CHASSIS GND	
008	19362	GRN/YEL (BELDEN)		EI	CHASSIS GND	CBI END	AA-520-06	6
009	19362	SHIELD DRAIN (BELDEN)		FLI	MTG SCR	CUT DRAIN WIRE	FLUSH	5
010	19362	LT BLU (BELDEN)		CBI	AA-520-06	AT CBI END		3
011	19362	BRN (BELDEN)		CBI	42844-1	JI	N	4
012	19362	GRN/YEL (BELDEN)		CBI	42844-1	JI	L	6
013	19362	SHIELD DRAIN (BELDEN)		CBI	END	GRND SCR		5
014	19362	LT BLU (BELDEN)		CBI	42844-1	ITEM 6, MTG SCR	AA-520-06	3

SHEET ONE REVISION LETTER IS THE IDENTIFYING REVISION FOR THIS MULTISHEET DWG.
 SEE SHEET ONE FOR REVISION DESCRIPTION
 LOWER CASE LETTERS IN TERMINATION COLUMN DESIGNATED BY ()
 PREFIX PARTIAL REFERENCE DESIGNATIONS WITH

SIZE	CODE IDENT. NO.
A	94117
WL 5976121	
REV. B	SHEET 2

WIRE LIST

WIRE NUMBER	FUNCTION CODE		COLOR	LENGTH	FROM		TO		NOTE	
	WIRE PART NUMBER	WIRE PART NUMBER			LOCATION (REFERENCE DESIGNATION)	CONTACT PART NUMBER	LOCATION (REFERENCE DESIGNATION)	CONTACT PART NUMBER		TERM. STRIP (INCHES)
015	19362	BRN	(BELDEN)		CBI	42844-1	HI	KI	2-350804-2	7
016	19362	GRN/YEL	(BELDEN)		CBI	END 008 SOLDER TO WIRES 018		KI	END SOLDER TO WIRE 020	6
017	19362	SHLD DRAIN	(BELDEN)		KI	CUT DRAIN WIRE FLUSH AT CBI END		KI	MTG SCR AA-532-08	5
018	19362	LT BLU	(BELDEN)		KI		4	J2	N	
019	19362	BRN	(BELDEN)		KI	2-350804-2	3	J2	L	
020	19362	GRN/YEL	(BELDEN)		KI	END SOLDERED TO WIRE 16		J2	GND SCR 34541	6
021	19362	SHLD DRAIN	(BELDEN)		KI	END, CUT DRAIN WIRE FLUSH		J2	ITEM 6 MTG SCR AA-520-06	5
022	9322	BLK	(BELDEN)		KI	2-350804-2	5	P2	1	
023	9322	DRAIN WIRE	(BELDEN)		KI	MTG. STUD AA532-08		P2	60618-1	5
024	9322	RED	(BELDEN)		KI	2-35084-2	6	P2	60618-1	3
025	4174285	WHT	P20		CI	SOLDER	.25	FLI LINE	N	7,8
026	4174285	WHT	P20		CI	SOLDER	.25	FLI LINE	3-350819-2	7,9
027										
028										

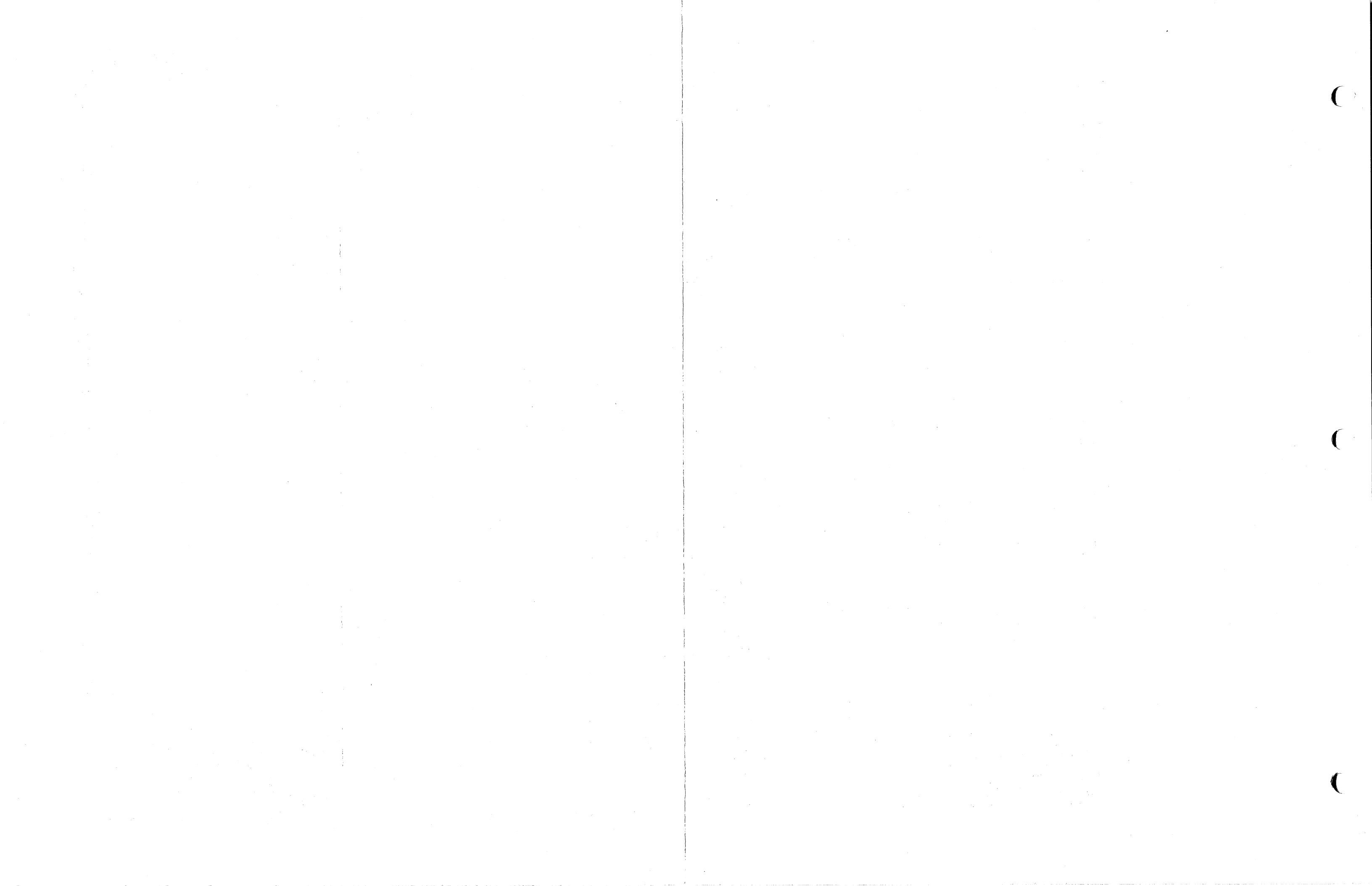
SHEET ONE REVISION LETTER IS THE IDENTIFYING REVISION FOR THIS MULTISHEET DWG.
SEE SHEET ONE FOR REVISION DESCRIPTION
LOWER CASE LETTERS IN TERMINATION COLUMN DESIGNATED BY ()
PREFIX PARTIAL REFERENCE DESIGNATIONS WITH

SIZE CODE IDENT. NO.
A 94117

WL 5976121

REV. B SHEET 3





REVISION STATUS		REVISIONS															
SH	REV	1	2	3	4	5	6	7	8	9	10	11	12	LTR	DESCRIPTION	DATE	APPROVED
		D	D	A	D									-	REL FOR PROD	1-14-80	RUB
		13	14	15	16	17	18	19	20	21	22	23	24	A	REV PER ECO 96364	19 MAR 80	RDM/WL
														B	REV PER ECO 96498	16 JUL 80	JLW
														C	REV PER ECO 97010	24 OCT 80	SG/WL
														D	REV PER ECO 97072	30 JUN 81	JK/WL

REVISION STATUS	1	2	3	4	5	6	7	8	9	10	11	12
PARTS												
LIST												

DWG REV	B
WL REV	B

4. ANY SUBSTITUTIONS FOR THIS CAPACITOR MUST BE WITH A VDE APPROVED PART.
 3. SELECT VOLTAGE CONFIGURATION KIT (ITEM 42) AT FINAL TEST.

- 2. PARTS LIST SHEET ONE IS THE CONTROLLING REVISION FOR THE COMBINED PARTS LIST, DRAWING AND WIRE LIST.
- 1. SHOP PRACTICE TOLERANCES AND DRAWING INTERPRETATION WITHIN 815002 SUPPLEMENT THIS DRAWING.

SA SANDERS ASSOCIATES, INC. 100 - 240V HARD COPY POWER PANEL ASSY		NASHUA, NEW HAMPSHIRE	
SIZE A	CODE IDENT NO. 94117 PL	5976122	SHEET 1 OF 4
CONT NO. DR <i>El</i> DATE <i>18 DEC 77</i> APP <i>El</i> DATE <i>15 JAN 80</i> CHK REV <i>El</i> DATE <i>1/14/80</i> E/W PROJ <i>El</i> DATE <i>1/24/80</i>	FINAL NEXT ASSY USED ON APPLICATION	GRA-7	MFG <i>El</i> 1/18/80
PRODUCTION CHANGE BY ECO ONLY		OP-1039 REV B	

PARTS LIST

ITEM NO.	QTY PER ASSY		DWG SIZE	CODE IDENT.	PART OR IDENTIFYING NO.	DESCRIPTION	SYM
	G	G					
1			F		5976115G2	PANEL, POWER	
2			B		5976116P1	BKT, POWER SELECTION	
3			D		5976117G1	FILTER, COVER	
4			E		5976118P1	CHASSIS, POWER PANEL	
5			A		5976134P1	LABEL, VOLTAGE SELECTION	
6					583617-1/2	UTILITY BOX (STEEL CITY)	
7					58-C-7	COVER, UTILITY BOX (STEEL CITY)	
8					ABCIIAY120	RELAY, KI (POTTER & BRUMFIELD)	
9					0640056P69	CLAMP CABLE .62	
10			A		5976332P1	CIRCUIT BREAKER, CBI	
11					C500	BOX CONN, 2 SCREW TYPE (NEER)	
12					5262	OUTLET DUPLEX J1, J2 (HUBBEL)	
13					10SPI	FILTER, POWER LINE, FLI (CORCOM)	
14					SR-7W-2	BUSHING STRAIN RELIEF (HEYCO)	
15					10499-55-1032-6	HANDLE (AMATON)	
16					17612	CORD POWER, WI (BELDEN)	
17					F480711-0	CONN 15 PIN, CAP J3	
18			A		5976141P1	TRANSFORMER, POWER MULTIPLE TAP PRIMARY T1	
19			B		5976144P1	BRACKET, RELAY	
20					1-480305-0	CONN, 3 PIN, P2	
21					60018-1	CONTACT, PIN	
22					2-350804-2	CONN, FULLY INSUL, .250	
23			A		650017P1	GROMMET .50 ID	*

SIZE	CODE IDENT NO.	REV	D	SHEET
A	94117	PL	5976	122
				2

SHEET ONE REVISION LETTER IS THE IDENTIFYING REVISION FOR THIS MULTISHEET DWG
 SEE SHEET ONE FOR REVISION DESCRIPTIONS
 SYMBOLS * INDICATES VENDOR ITEM - SEE SPEC/SOURCE CONTROL DWG.

PARTS LIST

ITEM NO.	QTY PER ASSY		DWG SIZE	CODE IDENT	PART OR IDENTIFYING NO.	DESCRIPTION	SYM
	GI	G					
24	15		-	00779	350538-3	CONTACT, PIN	
25	6		-		MS51957-28	SCR, MACH, PAN HD, .138-32X.38 LG	
26	4		-		MS51958-62	SCR, MACH, PAN HD, .190-32X.44 LG	
27	1		-		MS51957-30	SCR, MACH, PAN HD, .138-32x50 LG	
28	4		-		MS51958-65	SCR, MACH, PAN HD, .190-32X.75 LG	
29			-				
30	18		-		MS15795-805	WASHER, FLAT #6	
31	1		-		MS15795-807	WASHER, FLAT #8	
32	16		-		MS15795-808	WASHER, FLAT #10	
33			-				
34	18		-		MS35338-136	WASHER, LKG-SPLIT #6	
35	12		-		MS35338-138	WASHER, LKG-SPLIT #10	
36	1		-		MS35333-72	WASHER, LKG-INT TOOTH #8	
37	18		-		MS35649-264	NUT, PLAIN, HEX, .138-32	
38	8		-		MS35650-304	NUT, PLAIN, HEX, .190-32	
39	1		-		MS35650-284	NUT, PLAIN, HEX, .164-32	
40	AR		A		93002 PI	SOLDER	
41	4		A		SSTIM	TIE CABLE	
42	1		A		5976135G--	KIT, VOLTAGE CONFIGURATION (NOTE 3) P3	
43	REF		A		WL 5976122	WIRE LIST	
44	REF		A		778000	EPOXY MARKING CMPD, APPL OF	
45	2		-	00779	34541	TERMINAL, SPADE LUG, #6	
46	5		-		19362	CABLE 3 CONDUCTOR (BELDEN)	

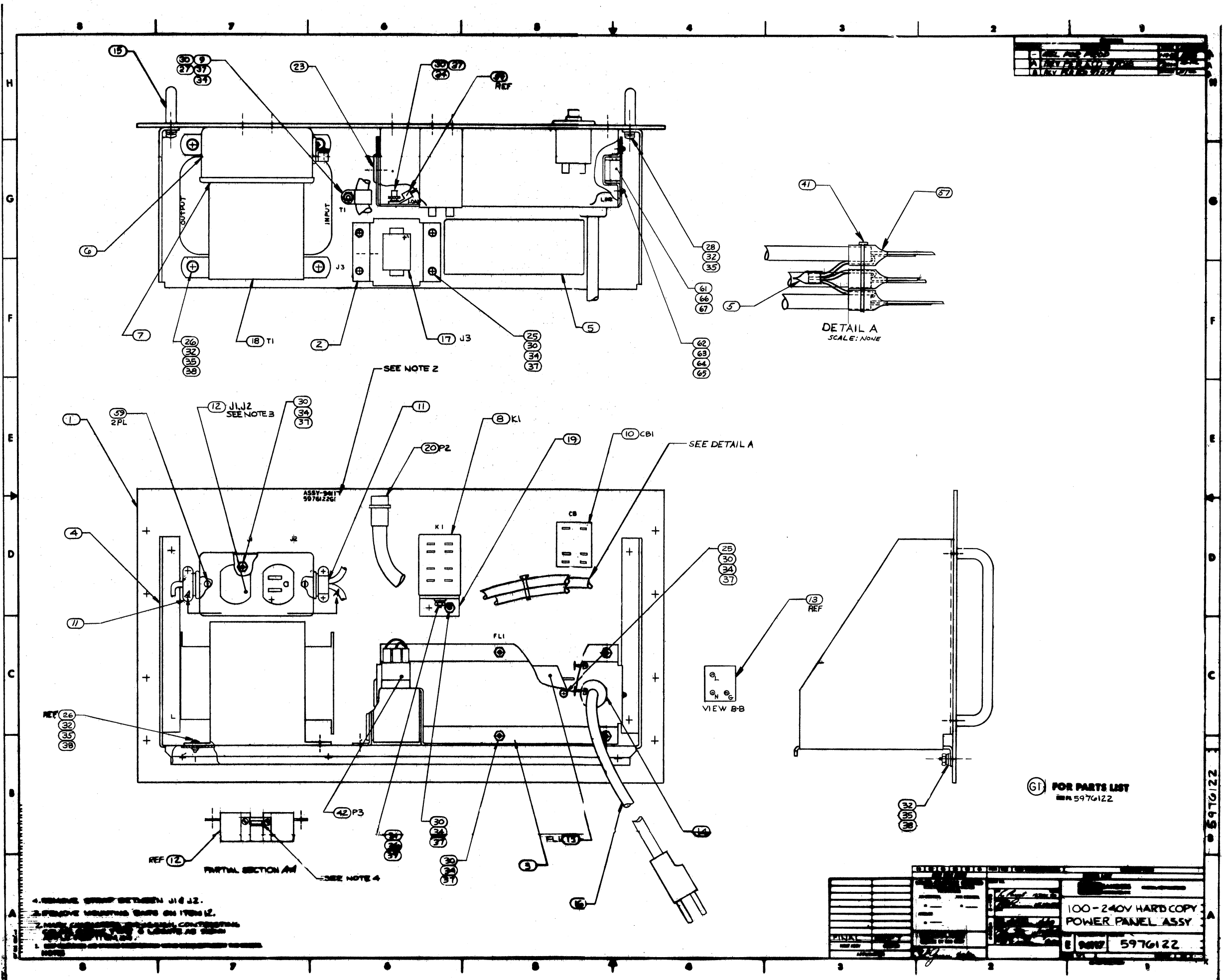
SHEET ONE REVISION LETTER IS THE IDENTIFYING REVISION FOR THIS MULTISHEET DWG SEE SHEET ONE FOR REVISION DESCRIPTIONS SYMBOLS : INDICATES VENDOR ITEM - SEE SPEC/SOURCE CONTROL DWG.		SIZE	CODE IDENT NO.	REV	SHEET
A	94117	PL	5976122	A	3

PARTS LIST

ITEM NO.	QTY PER ASSY		DWG SIZE	CODE IDENT	PART OR IDENTIFYING NO.	DESCRIPTION	SYM
	G	G					
47	15"		A		5978963P201	WIRE, ELEC, 18 AWG, BRN	
48	15"		A		5978963P206	WIRE, ELEC, 18 AWG, LTBLU	
49	30"		A		5978963P209	WIRE, ELEC, 18 AWG, WHT	
50	15"		A		5978963P211	WIRE, ELEC, 18 AWG, TAN	
51	15"		A		5978963P213	WIRE, ELEC, 18 AWG, DKBLU	
52	8"		-		9322	CABLE, 2 CONDUCTOR (BELDEN)	
53	3"		A		5978963P214	WIRE, ELEC, 18 AWG, GRN/YEL	
54	6"		-		AA-520-06	LUG RING #6 (ETC)	
55	6"		-		O270029P2	SLEEVEING SHRINKABLE 1/8"	
56	6"		-		O270029P6	SLEEVEING SHRINKABLE 1/4"	
57	6"		-		O270029P8	SLEEVEING SHRINKABLE 1/2"	
58	3"		.		AA-532-08	TERMINAL, RING LUG #8 (ETC)	
59	7"		.		MS24693-C28	SCREW FLAT HD. 138-32 x 50LG	
60	12"		.		780005P2	BRAID 1/4"	(SEE NOTE 4)
61	1				MKS4R	CAP. 1.0UF, 250 VAC, ±10%, C1 (INTER-TECH GROUP, INC)	
62	1		C		5976184G1	BRACKET, CAP	
63	2				MS51957-13	SCR, MACH, PN HD, 4-40 x .25LG	
64	2				MS15795-803	WASHER, FL #4	
65	2				MS35338-135	WASHER, LKG #4	
66	12 IN		A		4174285P20	WIRE, ELEC, 22 AWG, WHT	
67	4 IN		A	00779	270029P3	SLEEVEING, INSUL, HT SHRINK.09	
68	2			00779	3-350819-2	FASTON .250, 16-14 AWG	

SIZE	CODE IDENT NO.	REV	SHEET
A	94117 PL	D	4
5976122			

SHEET ONE REVISION LETTER IS THE IDENTIFYING REVISION FOR THIS MULTISHEET DWG
 SEE SHEET ONE FOR REVISION DESCRIPTIONS
 SYMBOLS : INDICATES VENDOR ITEM - SEE SPEC/SOURCE CONTROL DWG.

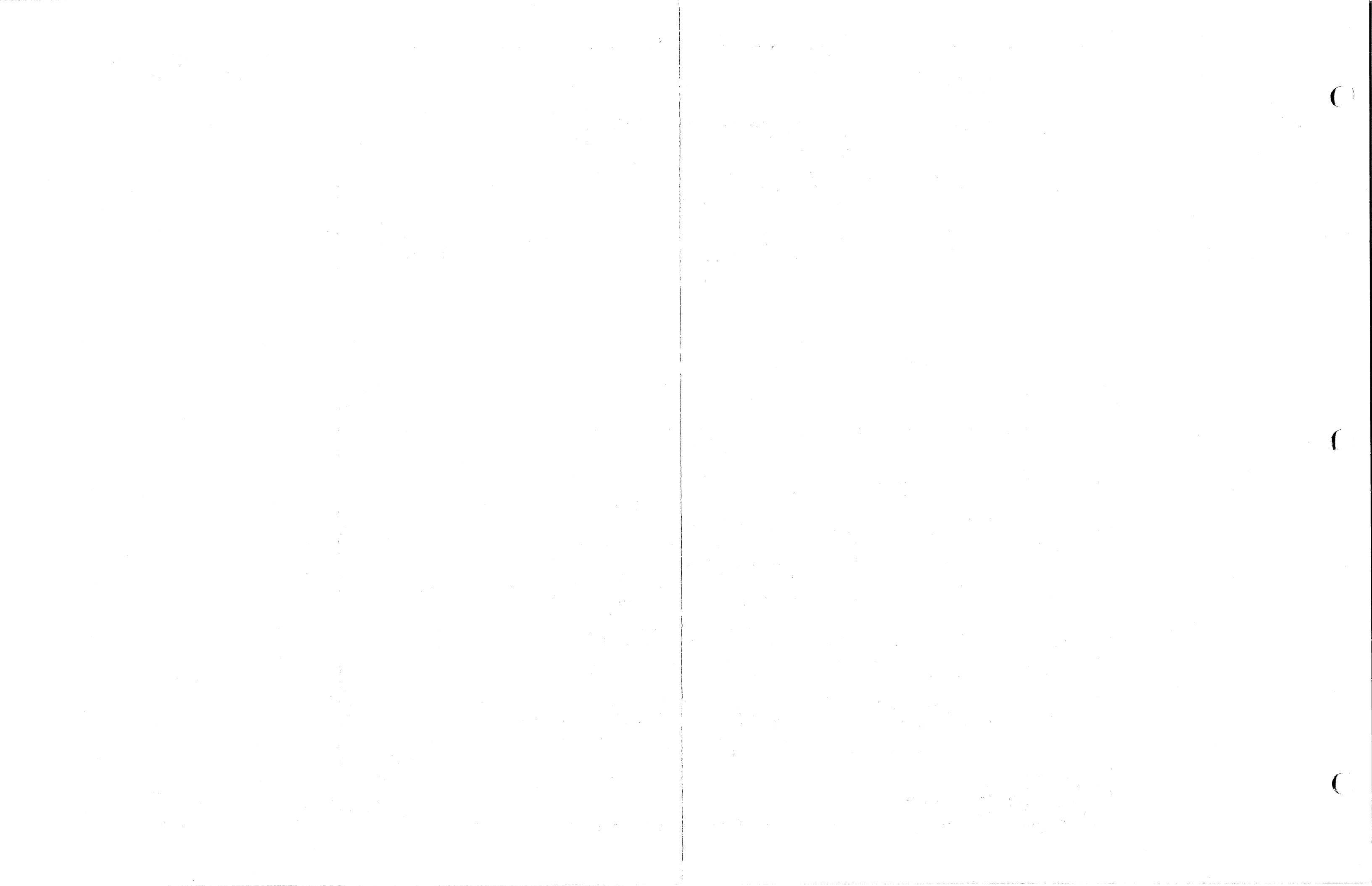


4. REMOVE STRIP BETWEEN J1 & J2.
 2. REMOVE MOUNTING SCREWS ON ITEM 12.
 2. MAKE CONNECTIONS TO THE PANEL.
 1. REMOVE MOUNTING SCREWS ON ITEM 24.

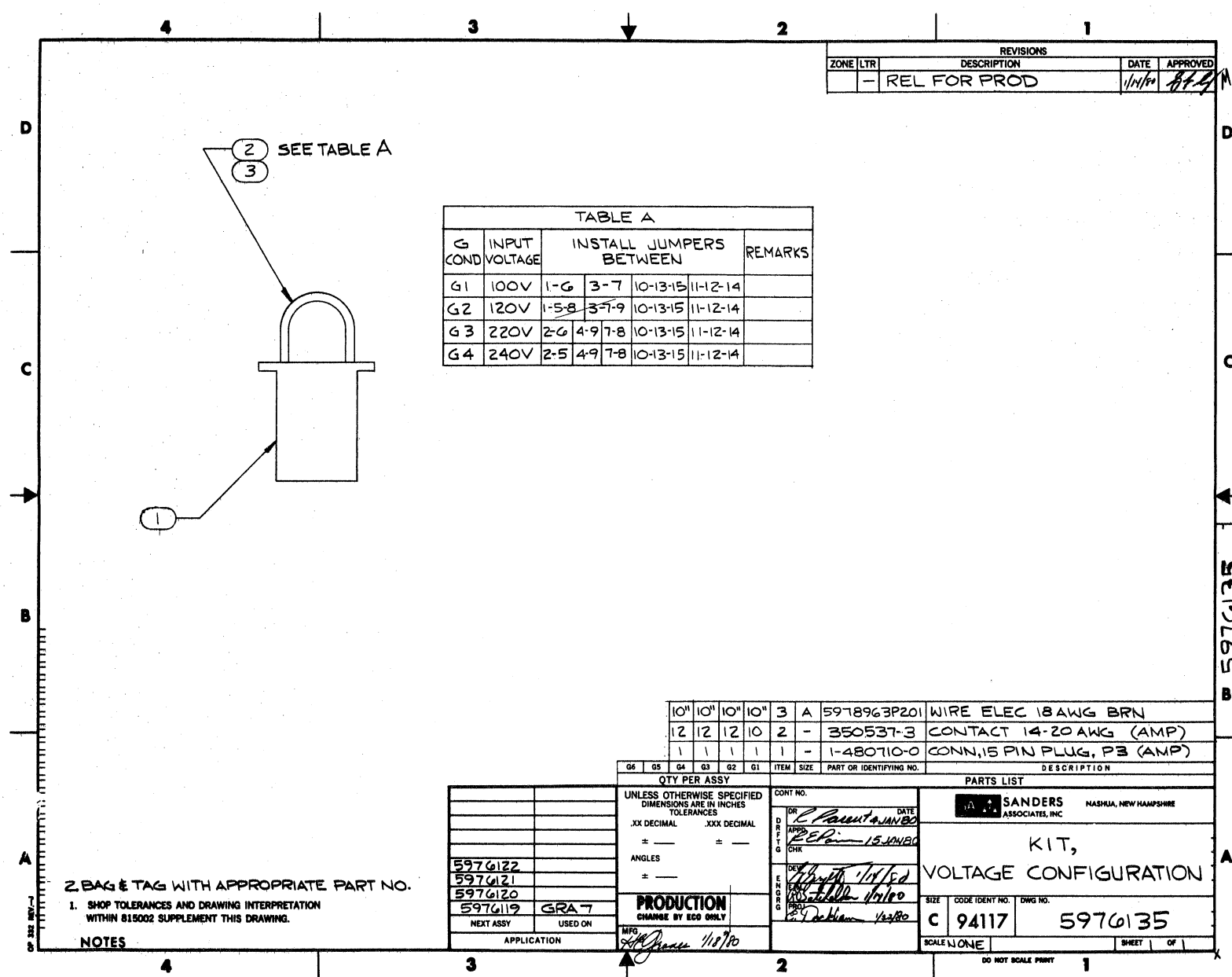
G1 FOR PARTS LIST
 5976122

REV	DATE	BY	CHKD	APP'D
1				
100-240V HARD COPY POWER PANEL ASSY				
5976122				

5976122



REVISIONS			
ZONE	LTR	DESCRIPTION	DATE APPROVED
-		REL FOR PROD	1/14/80 [Signature]



G	INPUT COND VOLTAGE	INSTALL JUMPERS BETWEEN				REMARKS
G1	100V	1-G	3-7	10-13-15	11-12-14	
G2	120V	1-5-8	3-7-9	10-13-15	11-12-14	
G3	220V	2-6	4-9	7-8	10-13-15	11-12-14
G4	240V	2-5	4-9	7-8	10-13-15	11-12-14

G6	G5	G4	G3	G2	G1	ITEM	SIZE	PART OR IDENTIFYING NO.	DESCRIPTION
						10"	10"	10"	10"
						3	A	5978963P201	WIRE ELEC 18AWG BRN
						12	12	12	10
						2	-	35053T-3	CONTACT 14-20 AWG (AMP)
						1	-	1-480T10-0	CONN, 15 PIN PLUG, P3 (AMP)

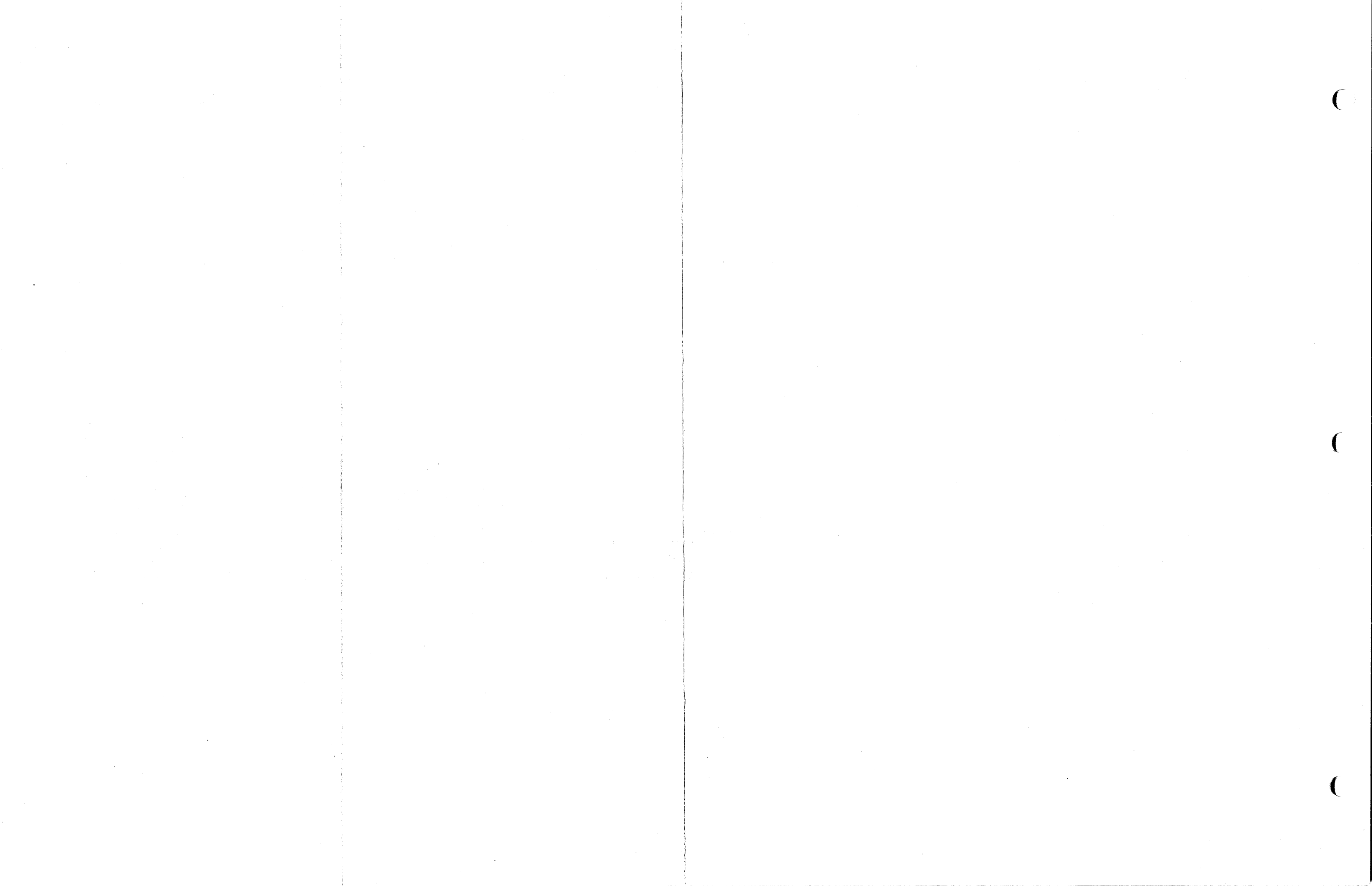
QTY PER ASSY		PARTS LIST																								
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES .XX DECIMAL .XXX DECIMAL ANGLES ±		<table border="1"> <tr> <td>CONT NO.</td> <td>DATE</td> <td rowspan="2"> </td> </tr> <tr> <td>OR</td> <td></td> </tr> <tr> <td>DESIGNED BY</td> <td>DATE</td> <td rowspan="2"> KIT, VOLTAGE CONFIGURATION </td> </tr> <tr> <td>DRAWN BY</td> <td>DATE</td> </tr> <tr> <td>CHECKED BY</td> <td>DATE</td> <td> <table border="1"> <tr> <td>SIZE</td> <td>CODE IDENT NO.</td> <td>DWG NO.</td> </tr> <tr> <td>C</td> <td>94117</td> <td>5976135</td> </tr> </table> </td> </tr> <tr> <td colspan="2">MFG</td> <td colspan="2">SCALE: NONE</td> </tr> </table>		CONT NO.	DATE		OR		DESIGNED BY	DATE	KIT, VOLTAGE CONFIGURATION	DRAWN BY	DATE	CHECKED BY	DATE	<table border="1"> <tr> <td>SIZE</td> <td>CODE IDENT NO.</td> <td>DWG NO.</td> </tr> <tr> <td>C</td> <td>94117</td> <td>5976135</td> </tr> </table>	SIZE	CODE IDENT NO.	DWG NO.	C	94117	5976135	MFG		SCALE: NONE	
CONT NO.	DATE																									
OR																										
DESIGNED BY	DATE	KIT, VOLTAGE CONFIGURATION																								
DRAWN BY	DATE																									
CHECKED BY	DATE	<table border="1"> <tr> <td>SIZE</td> <td>CODE IDENT NO.</td> <td>DWG NO.</td> </tr> <tr> <td>C</td> <td>94117</td> <td>5976135</td> </tr> </table>	SIZE	CODE IDENT NO.	DWG NO.	C	94117	5976135																		
SIZE	CODE IDENT NO.	DWG NO.																								
C	94117	5976135																								
MFG		SCALE: NONE																								

2. BAG & TAG WITH APPROPRIATE PART NO.
1. SHOP TOLERANCES AND DRAWING INTERPRETATION WITHIN 815002 SUPPLEMENT THIS DRAWING.

NOTES

5976135

DO NOT SCALE PRINT



POWER CABLE,120V DRAWING NO. 5976123

(To Be Supplied)



REVISION STATUS												REVISIONS					
SH	1	2	3	4	5	6	7	8	9	10	11	12	LTR	DESCRIPTION	DATE	APPROVED	
PARTS	REV	E	B	C	A								-	REV PER ENG CHG			
	SH	13	14	15	16	17	18	19	20	21	22	23	24	A	REL FOR PROD	5 MAR 80	WG/ML
	REV													B	REV PER ECO 96366	2 JUL 80	WG/ML
														C	REV PER ECO 101012	16 OCT 80	WG/ML
														D	REV PER ECO 96987	13 NOV 80	WG/ML
														E	REV PER ECO 97059	16 JAN 81	WG/ML

SA SANDERS ASSOCIATES, INC. NASHUA, NEW HAMPSHIRE

PANEL ASSY
SYSTEM INTERCONNECT

SIZE A CODE IDENT NO. 94117 PL 5976105

DR	DATE
APPD	14 FEB 80
CHK	25 FEB 80
DEV	22 FEB 80
ENG	25 FEB 80
GRG	25 FEB 80

CONT NO.

FINAL GRA 7

NEXT ASSY USED ON APPLICATION

PRODUCTION CHANGE BY ECO ONLY

OP-1039 REV B

DWG SIZE D

SHEET 1 OF 5

2. PARTS LIST SHEET ONE IS THE CONTROLLING REVISION FOR THE COMBINED PARTS LIST, DRAWING AND WIRE LIST.

1. SHOP PRACTICE TOLERANCES AND DRAWING INTERPRETATION WITHIN 815002 SUPPLEMENT THIS DRAWING.

DWG REV	D
WL REV	X

PARTS LIST

ITEM NO.	QTY PER ASSY		DWG SIZE	CODE IDENT	PART OR IDENTIFYING NO.	DESCRIPTION	SYM
	G /	G 2					
1	1	1	F		5976108P1	PANEL, SYSTEM INTERCONNECT	
2	1	1	D		1089622G2	CABLE ASSY, MULTI PORT INTERFACE	
3	1	1			1089620G11	MULTI PORT INTERFACE	
4	1	1			1089620G12		
5	1	1			1089620G13		
6	1	1			1089620G14	MULTI PORT INTERFACE	
7	1	1			1089623G3	COMPUTER INTERFACE	
8	1	1			1089623G4	COMPUTER INTERFACE	
9	1	1			5976150G1	PHOTO PEN	
10	1	1			5976149G1	XYZ INPUT	
11	1	1			G2		
12	1	1			G3		
13	1	1			G4		
14	1	1			G5		
15	1	1			G6		
16	1	1			G7		
17	1	1	D		5976149G8	CABLE ASSY XY Z INPUT	
18							
19							
20							
21	14	14	-		D20418-2	SCREW LOCK ASSY (ITT CANNON)	
22	AR	AR	A		93012P1	SEALING, LK, RETAINING COMP	
23							

SIZE	CODE IDENT NO.	REV	SHEET
A	94117 PL	B	Z
		5976105	Z

SHEET ONE REVISION LETTER IS THE IDENTIFYING REVISION FOR THIS MULTISHEET DWG
 SEE SHEET ONE FOR REVISION DESCRIPTIONS
 SYMBOLS : INDICATES VENDOR ITEM - SEE SPEC/SOURCE CONTROL DWG.

PARTS LIST

ITEM NO.	QTY PER ASSY		DWG SIZE	CODE IDENT	PART OR IDENTIFYING NO.	DESCRIPTION	SYM
	G1	G2					
24	2	2	A		MS51957-4	SCREW, MACH PNHD. 086-56 X .31LG	
25	2	2	A		MS15795-802	WASHER FLAT METAL # 2	
26	2	2	A		MS35338-134	WASHER LKG # 2	
27	2	2	A		MS35649-224	NUT, PLAIN, HEX # 2	
28					778000	APPL OF EPOXY MKG CMPD	
29	REF	REF	A		5976153	INTERCONNECTION DIAGRAM	
30	REF	REF	F		5976149	CABLE ASSY, XYZ INPUT	
31	-	-	D		G10		
32	-	-			G11		
33	-	-			G12		
34	-	-			G13		
35	-	-			G14		
36	-	-			G15		
37	-	-			G16		
38	-	-			G17		
39	-	-			G18		
40	-	-	D		5976149	CABLE ASSY, XYZ INPUT	
41	-	-	D		1089620	MULTIPOINT INTERFACE	
42	-	-	D		1089620	MULTIPOINT INTERFACE	
43	-	-	D		1089620	MULTIPOINT INTERFACE	
44	-	-	D		1089620	MULTIPOINT INTERFACE	
45	-	-	D		1089620	MULTIPOINT INTERFACE	

SHEET ONE REVISION LETTER IS THE IDENTIFYING REVISION FOR THIS MULTISHEET DWG
 SEE SHEET ONE FOR REVISION DESCRIPTIONS
 SYMBOLS : INDICATES VENDOR ITEM - SEE SPEC/SOURCE CONTROL DWG.

SIZE	CODE IDENT NO.
A	94117 PL
5976105	
REV C	SHEET 3

PARTS LIST

ITEM NO.	QTY PER ASSY		DWG SIZE	CODE IDENT	PART OR IDENTIFYING NO.	DESCRIPTION	SYM
	G4	G5					
1	1	1	F		5976108PI	PANEL, SYSTEM INTERCONNECT	
2	1	1	D		1089622G2	CABLE, ASSY, MULTIPOINT INTERFACE	
3	1	1			1089620G11		
4	1	1			1089620G12		
5	1	1			1089620G13		
6	1	1			1089620G14	MULTIPOINT INTERFACE	
7	—	1			1089623G3	COMPUTER INTERFACE	
8	—	1			1089623G4	COMPUTER INTERFACE	
9	1	2			5976150G1	PHOTOPEN	
10	1	1			5976149G1	XYZ INPUT	
11	1	1			G2		
12	1	1			G3		
13	1	—			G4		
14	1	—			G5		
15	1	—			G6		
16	1	—			G7		
17	1	—	D		5976149G8	CABLE ASSY, XYZ INPUT	
18							
19							
20							
21							
22	22	22			D20418-2	SCREW LOCK ASSY (ITT CANNON)	
23	AR	AR	A		93012PI	SEALING, LKG, RETAINING COMP	

SIZE	CODE IDENT NO.	
A	94117 PL	5976105
REV	—	SHEET 4

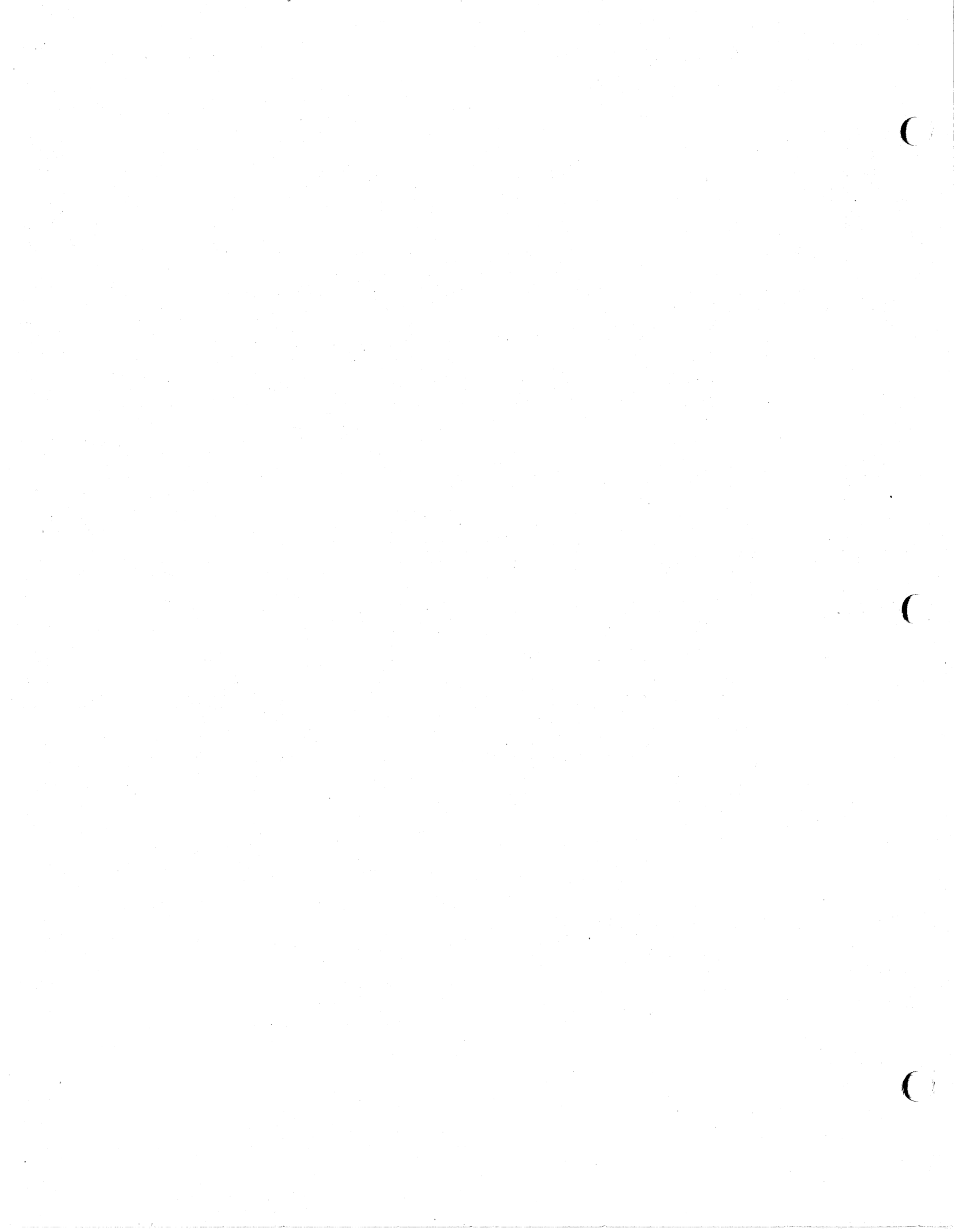
SHEET ONE REVISION LETTER IS THE IDENTIFYING REVISION FOR THIS MULTISHEET DWG
SEE SHEET ONE FOR REVISION DESCRIPTIONS
SYMBOLS : INDICATES VENDOR ITEM - SEE SPEC/SOURCE CONTROL DWG.

PARTS LIST

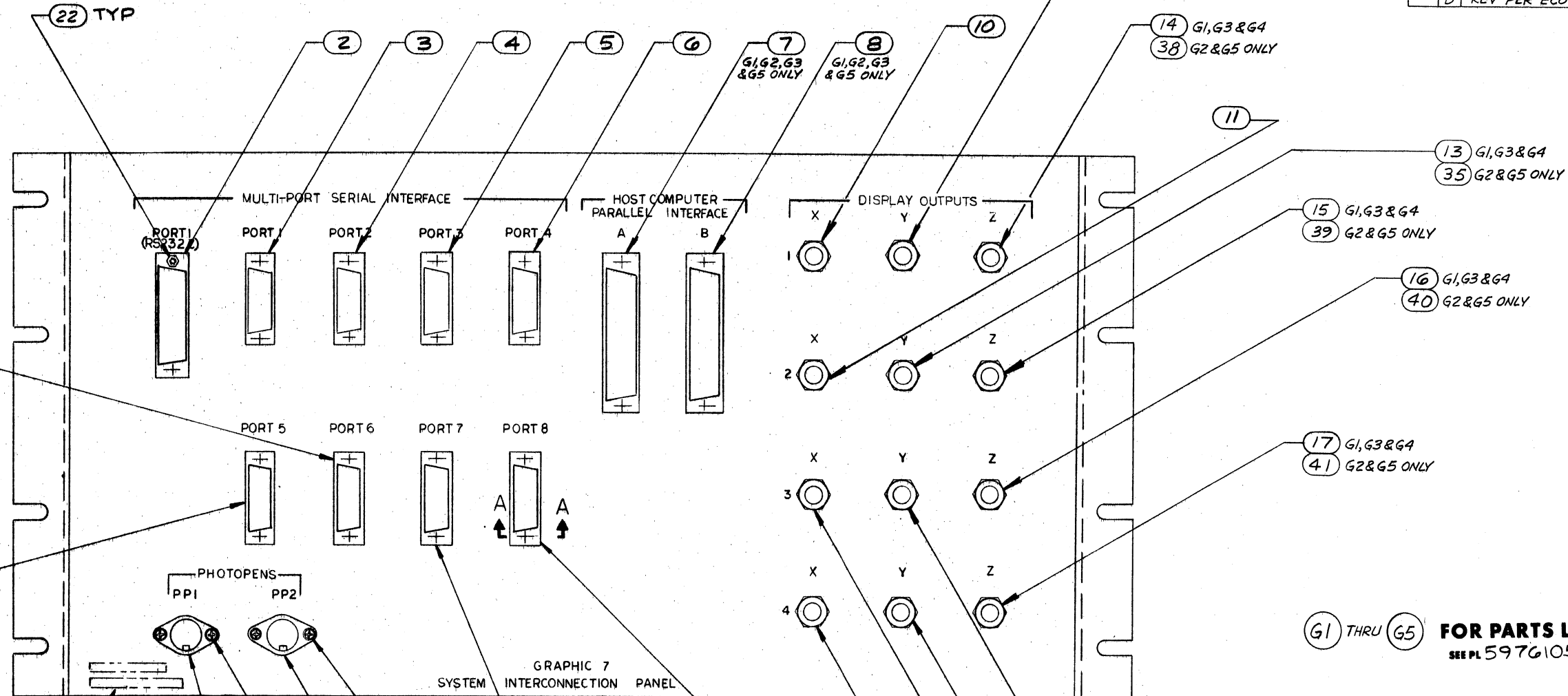
ITEM NO.	QTY PER ASSY		DWG SIZE	CODE IDENT	PART OR IDENTIFYING NO.	DESCRIPTION	SYM
	G 4	G 5					
24	2	4	A		M551957-4	SCREW, MACH PN HD .086-56 X .31 LG	
25	2	4	A		M515795-802	WASHER, FLAT METAL #2	
26	2	4	A		M535338-134	WASHER, LKG #2	
27	2	4	A		M535649-224	NUT, PLAIN, HEX #2	
28							
29	REF	REF	A		778000	APPL OF EPOXY MKG CMPD	
30	REF	REF	F		5976153	INTERCONNECTION DIAGRAM	
31		1	D		5976149G9	CABLE ASSY, XYZ INPUT	
32		1			G10		
33		1			G11		
34		1			G12		
35		1			G13		
36		1			G14		
37		1			G15		
38		1			G16		
39		1			G17		
40		1			5976149 G18	CABLE ASSY, XYZ INPUT	
41		1			1089620 G15	MULTIPOINT INTERFACE	
42	1	1			G16		
43	1	1			G17		
44	1	1			1089620 G18	MULTIPOINT INTERFACE	
45	1	1	D				

SIZE	CODE IDENT NO.	REV A	SHEET 5
A	94117 PL	5976105	

SHEET ONE REVISION LETTER IS THE IDENTIFYING REVISION FOR THIS MULTISHEET DWG
SEE SHEET ONE FOR REVISION DESCRIPTIONS
SYMBOLS : INDICATES VENDOR ITEM - SEE SPEC/SOURCE CONTROL DWG.



REVISIONS				
ZONE	LTR	DESCRIPTION	DATE	APPROVED
-		REV PER ENG CHG		
A		REL FOR PROD	5 MAR 80	
B		REV PER ECO 96366	2 JUL 80	WG/WL
C		REV PER ECO 101012	16 OCT 80	WG/WL
D		REV PER ECO 96987	13 NOV 80	WG/WL



43 G3,G4&G5 ONLY

42 G3,G4&G5 ONLY

MARK "ASSY 94117-5976105G1" FAR SIDE SEE NOTE 2

MARK APPROPRIATE 'G' COND.

SECTION AA TYP SCALE: NONE (23) SEE NOTE 3

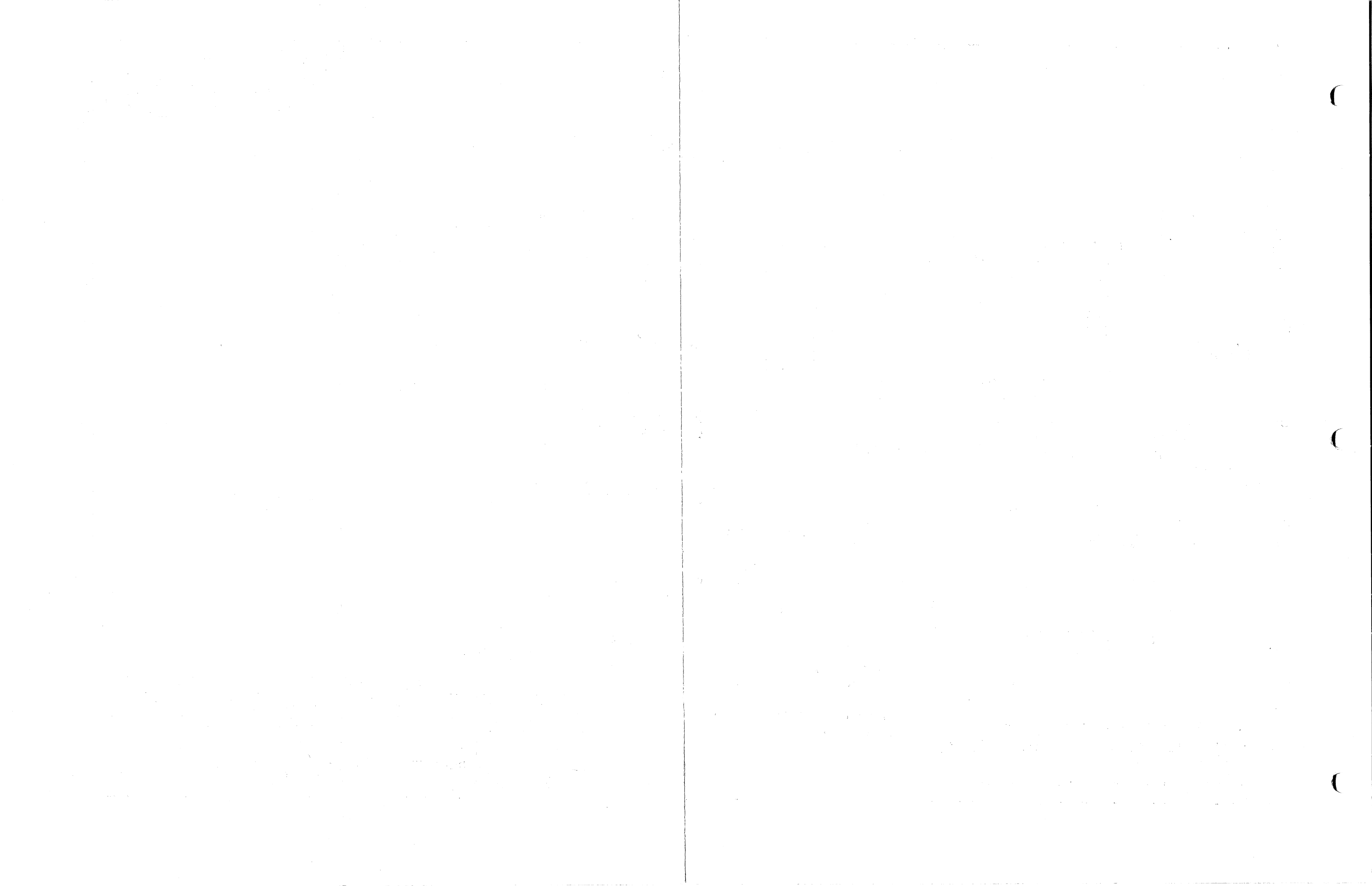
3. APPLY ITEM 23 THIS AREA AFTER ASSEMBLY.
2. MARK CHARACTERS .04-.16 HIGH, CONTRASTING COLOR, GOTHIC TYPE, & LOCATE APPROX AS SHOWN. APPLY PER ITEM 30.

1. SHOP TOLERANCES AND DRAWING INTERPRETATION WITHIN 815002 SUPPLEMENT THIS DRAWING.

NOTES

QTY PER ASSY		PARTS LIST	
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES	CONT. NO.	SA SANDERS ASSOCIATES, INC. NASHUA, NEW HAMPSHIRE	
.XX DECIMAL .XXX DECIMAL	DR P. P. 22 JUN 80	PANEL ASSY SYSTEM INTERCONNECT	
ANGLES	APPD. P. P. 21 FEB 80	SIZE	CODE IDENT NO. 94117
	ENG. P. P. 22 JUN 80	DWG NO.	5976105
	CHK. P. P. 21 FEB 80	SCALE	1/1
	PROG. P. P. 21 FEB 80	SHEET	OF
FINAL GRA-7	PRODUCTION CHANGE BY ECO ONLY	DO NOT SCALE PRINT	
NEXT ASSY USED ON	MFG. P. P. 21 FEB 80		
APPLICATION			

59761051 B



REVISION STATUS												REVISIONS				
SH	1	2	3	4	5	6	7	8	9	10	11	12	LTR	DESCRIPTION	DATE	APPROVED
PARTS	H	H	H	H	H	H	H						-	REL FOR PRODUCTION	13 OCT 77	RC/RIB
REV													A	REV PER ECO 76113	15 DEC 77	WG/RIB
SH	13	14	15	16	17	18	19	20	21	22	23	24	B	REV PER ECO 76141	7 MAR 78	RPI/RUB
REV													C	REV PER ECO 76164	14 APR 78	RPI/RUB
LIST													D	REV PER ECO 76199	11 JUL 78	WG/RIB
DWG													E	REV PER ECO 76424	30 JUL 79	WG/WL
REV													F	REV PER ECO 96308	6 FEB 80	WG/WL
WL													G	REV PER ECO 96983A	14 OCT 80	JC/WL
REV													H	REV PER ECO 97102	18 MAR 81	RPM/WL

3. ITEM NOS. WITH SUBSCRIPTS ARE ALTERNATE ITEMS, SELECT ONE ONLY.
2. PARTS LIST SHEET ONE IS THE CONTROLLING REVISION FOR THE COMBINED PARTS LIST, DRAWING AND WIRE LIST.
1. SHOP PRACTICE TOLERANCES AND DRAWING INTERPRETATION WITHIN 815002 SUPPLEMENT THIS DRAWING.

SA SANDERS ASSOCIATES, INC. NASHUA, NEW HAMPSHIRE		CABLE ASSY MULTIPOINT INTERFACE	
SIZE A	CODE IDENT NO. 94117	PL 1089620	SHEET 1 OF 7
CONT NO. DR <i>[Signature]</i> DATE 30 AUG 77 APPD CHK DEV <i>[Signature]</i> 10 NOV 77 ENGR <i>[Signature]</i> 11/10/77 PROJ <i>[Signature]</i> 11/10/77		APPLICATION NEXT ASSY USED ON	
PRODUCTION CHANGE BY ECO ONLY		1089619 GRAPHIC 7	
MFG <i>W. Koch</i>	11-10-77	DWG SIZE D	

PARTS LIST

ITEM NO.	QTY PER ASSY		DWG SIZE	CODE IDENT	PART OR IDENTIFYING NO.	DESCRIPTION	SYM
	G1	G2					
1	1	1	-		DAC-15 S-FO	CONN, ELEC BURGUN-D (SEE NOTE 3) (ITCANNON)	
2	1	1	-		65846-007	CONN, ELEC MINI LATCH KEYED (BERG)	
3	144"	144"	A		4174285P060	WIRE ELEC 24 AWG TWISTED PR	
31A	REF	REF			47745	CONTACT 22-26 AWG (BERG) (SEE NOTE 3)	
32	5	5			SSTIM	CABLE TIE, 3 1/2" (PANDUIT)	
42	12	12			D110238-35	SOCKET 20-28 AWG (CANNON)	
43	2	2			47566	CONTACT 18-20 AWG (BERG) SEE NOTE 3	
44	REF	REF			DAC-15S	CONN, ELEC BURGUN-D (SEE NOTE 3) (ITCANNON)	
31	8	8			47565	CONTACT 22-26 AWG (BERG) (SEE NOTE 3)	
44A	REF	REF			47746	CONTACT 18-20 AWG (BERG) (SEE NOTE 3)	
45	3	3			PL FIM	MARKER TIE (PANDUIT)	

SHEET ONE REVISION LETTER IS THE IDENTIFYING REVISION FOR THIS MULTISHEET DWG
 SEE SHEET ONE FOR REVISION DESCRIPTIONS
 SYMBOLS : INDICATES VENDOR ITEM - SEE SPEC/SOURCE CONTROL DWG.

SIZE	A	CODE IDENT NO.	94117 PL
			1089620
		REV	H
			SHEET 2

PARTS LIST

ITEM NO.	QTY PER ASSY			DWG SIZE	CODE IDENT	PART OR IDENTIFYING NO.	DESCRIPTION	SYM
	G 4	G 5	G 6					
1	1	1	1			DAC-155-FO	CONN, ELEC BURGUND-D (SEE NOTE 3) (IT CANNON)	
2	1	1	1			65846-007	CONN, ELEC MINI LATCH KEYED (BERG)	
3	144"	144"	144"	A		4174285P060	WIRE, ELEC 24 AWG TWISTED PR	
13								
14								
15								
16								
17								
18								
19								
20								
21								
31A	REF	REF	REF			47745	CONTACT 22-26AWG (SEE NOTE 3) (BERG)	
32								
42	5	5	5			SSTIM	CABLE TIE, 3 1/2" (PANDUIT)	
43	12	12	12			D110238-35	SOCKET 20-28AWG (CANNON)	
44	2	2	2			47566	CONTACT 18-20 AWG (BERG) SEE NOTE 3	
1A	REF	REF	REF			DAC-155	CONN, ELEC BURGUND-D (SEE NOTE 3) (IT CANNON)	
31	8	8	8			47565	CONTACT 22-26 AWG (BERG) (SEE NOTE 3)	
44A	REF	REF	REF			47746	CONTACT 22-26 AWG (BERG) (SEE NOTE 3)	
45	3	3	3			PLFIM	MARKER TIE (PANDUIT)	

SIZE	A	CODE IDENT NO.	94117 PL
			1089620
			REV H SHEET 3

SHEET ONE REVISION LETTER IS THE IDENTIFYING REVISION FOR THIS MULTISHEET DWG
 SEE SHEET ONE FOR REVISION DESCRIPTIONS
 SYMBOLS : INDICATES VENDOR ITEM - SEE SPEC/SOURCE CONTROL DWG.

PARTS LIST

ITEM NO.	QTY PER ASSY			DWG SIZE	CODE IDENT	PART OR IDENTIFYING NO.	DESCRIPTION	SYM
	G7	G8	G9					
1	1	1	1			DAC-15S-F0	CONN, ELEC BURGUND-D (SEE NOTE 3) (ITT CANNON)	
2	1	1	1			65846-007	CONN, ELEC MINI LATCH KEYED (BERG)	
3	144"	144"	144"	A		4174285P060	WIRE, ELEC 24 AWG TWISTED PR	
22								
23								
24								
25								
26								
27								
28								
29								
30								
31A	REF	REF	REF			47745	CONTACT 22-26AWG (SEE NOTE 3) BERG	
32								
42	5	5	5			SSTIM	CABLE TIE, 3 1/2" (PANDUIT)	
43	12	12	12			D110238-35	SOCKET 20-28 AWG (CANNON)	
44	2	2	2			47566	CONTACT 18-20 AWG (BERG) SEE NOTE 3	
1A	REF	REF	REF			DAC-155	CONN, ELEC BURGUND-D (SEE NOTE 3) (ITT CANNON)	
31	8	8	8			47565	CONTACT 22-26 AWG (BERG) SEE NOTE 3	
44A	REF	REF	REF			47746	CONTACT 18-20 AWG (BERG) (SEE NOTE B)	
45	3	3	3			PLFIM	MARKER TIE (PANDUIT)	

SHEET ONE REVISION LETTER IS THE IDENTIFYING REVISION FOR THIS MULTISHEET DWG
 SEE SHEET ONE FOR REVISION DESCRIPTIONS
 SYMBOLS : INDICATES VENDOR ITEM - SEE SPEC/SOURCE CONTROL DWG.

SIZE	CODE IDENT NO.	REV	SHEET
A	94117 PL	H	4
			1089620

PARTS LIST

ITEM NO.	QTY PER ASSY			DWG SIZE	CODE IDENT	PART OR IDENTIFYING NO.	DESCRIPTION	SYM
	G / O	G / I	G / 2					
1	1	1	1	-		DAC - 15S-FO	CONN, ELEC BURGUND (SEE NOTE 3) (IT CANNON)	
2	1	1	1	-		65846-007	CONN, ELEC MINI LATCH KEYED (BERG)	
3	360"	360"	360*	A		4174285P060	WIRE ELEC 24 AWG TWISTED PAIR	
4								
6								
7								
9								
10								
12								
31A	REF	REF	REF	-		47745	CONTACT 22-26 AWG (SEE NOTE 3) (BERG)	
32								
33								
34								
35								
42	14	14	14			SSTIM	CABLE TIE, 3 1/2" (PANDUIT)	
43	12	12	12			D110238-35	SOCKET 20-28 AWG (CANNON)	
44	2	2	2			47566	CONTACT 18-20 (BERG) SEE NOTE 3	
1A	REF	REF	REF			DAC-15S	CONN, ELEC BURGUND (SEE NOTE 3) (IT CANNON)	
31	8	8	8			47565	CONTACT 22-26 AWG (BERG) (SEE NOTE 3)	
44A	REF	REF	REF			47746	CONTACT 18-20 AWG (BERG) (SEE NOTE 3)	
45	3	3	3			PLFIM	MARKER TIE (PANDUIT)	

SIZE	A	CODE IDENT NO.	94117 PL	REV	H	SHEET	5
			1089620				

SHEET ONE REVISION LETTER IS THE IDENTIFYING REVISION FOR THIS MULTISHEET DWG
 SEE SHEET ONE FOR REVISION DESCRIPTIONS
 SYMBOLS : INDICATES VENDOR ITEM - SEE SPEC/SOURCE CONTROL DWG.

PARTS LIST

ITEM NO.	QTY PER ASSY			DWG SIZE	CODE IDENT	PART OR IDENTIFYING NO.	DESCRIPTION	SYM
	G 13	G 14	G 15					
1	1	1	1	-		DAC-15S-FO	CONN, ELEC BURGUN-D(SEE NOTE3)(IT CANNON)	
2	1	1	1	-		65846-007	CONN, ELEC MINI MATCH KEYED (BERG)	
3	360	360	360	A		4174285P060	WIRE ELEC 24 AWG TWISTED PAIR	
13								
15								
16								
18								
19								
21								
31A	REF	REF	REF	-		47745	CONTACT 22-26 AWG(SEE NOTE3)(BERG)	
32								
36								
37								
38								
42	14	14	14			SSTIM	CABLE TIE, 3 1/2" (PANDUIT)	
43	12	12	12			D110238-35	SOCKET 20-28 AWG (CANNON)	
44	2	2	2			47566	CONTACT 18-20 AWG (BERG) SEE NOTE 3	
1A	REF	REF	REF			DAC-15S	CONN, ELEC BURGUN-D(SEE NOTE3)(IT CANNON)	
31	8	8	8			47565	CONTACT 22-26 AWG(BERG)(SEE NOTE3)	
44A	REF	REF	REF			47746	CONTACT 18-20 AWG(BERG)(SEE NOTE3)	
45	3	3	3			PLFIM	MARKER TIE (PANDUIT)	

	SIZE	CODE IDENT NO.	
	A	94117	PL
		REV	SHEET
		H	6
SHEET ONE REVISION LETTER IS THE IDENTIFYING REVISION FOR THIS MULTISHEET DWG SEE SHEET ONE FOR REVISION DESCRIPTIONS SYMBOLS : INDICATES VENDOR ITEM - SEE SPEC/SOURCE CONTROL DWG.			

PARTS LIST

ITEM NO.	QTY PER ASSY			DWG SIZE	CODE IDENT	PART OR IDENTIFYING NO.	DESCRIPTION	SYM
	G/6	G/7	G/8					
1	1	1	1	-		DAC-155-F0	CONN, ELEC BURGUN-D (SEE NOTE 3) (TT CANNON)	
2	1	1	1	-		65846-007	CONN, ELEC MINI LATCH KEYED (BERG)	
3	360	360	360	A		4174285P060	WIRE, ELEC 24 AWG TWISTED PAIR	
22								
24								
25								
27								
28								
30								
31A	REF	REF	REF	-		47745	CONTACT 22-26 AWG (SEE NOTE 3) (BERG)	
32								
39								
40								
41								
42	14	14	14			SSTIM	CABLE TIE, 3 1/2" (PANDUIT)	
43	12	12	12			D110238-35	SOCKET 20-28 AWG (CANNON)	
44	2	2	2			47566	CONTACT 18-20 AWG (BERG) SEE NOTE 3	
1A	REF	REF	REF			DAC-155	CONN, ELEC BURGUN-D (SEE NOTE 3) (TT CANNON)	
31	8	8	8			47565	CONTACT 22-26 AWG (BERG) (SEE NOTE 3)	
44A	REF	REF	REF			47746	CONTACT 18-20 AWG (BERG) (SEE NOTE 3)	
45	3	3	3			PLFIM	MARKER TIE (PANDUIT)	

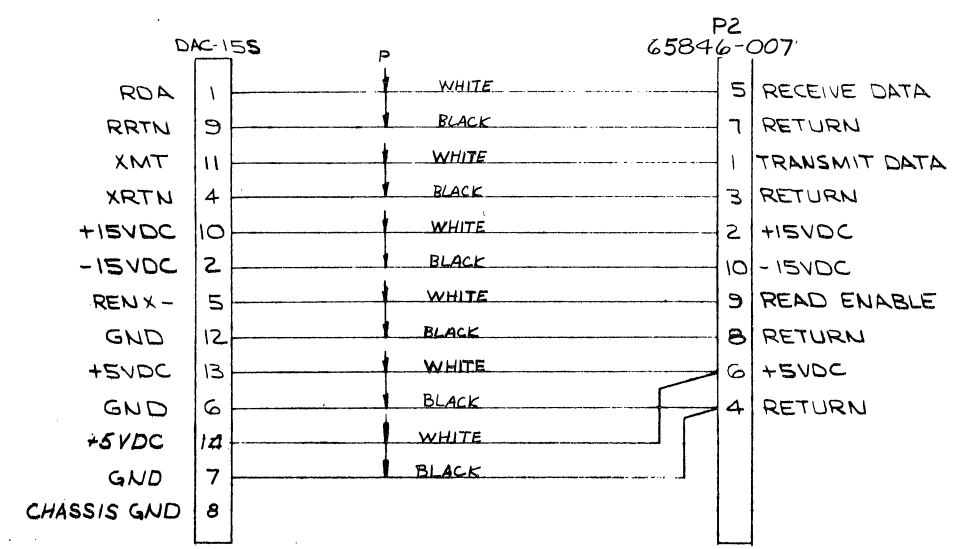
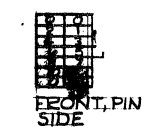
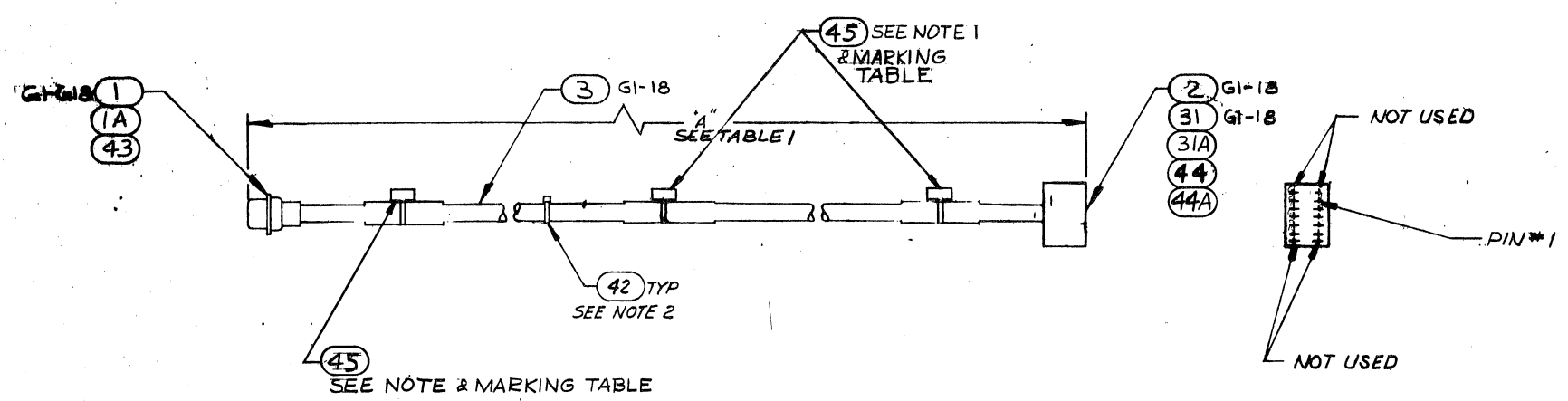
	SIZE	CODE IDENT NO.	
	A	94117	PL 1089620
SHEET ONE REVISION LETTER IS THE IDENTIFYING REVISION FOR THIS MULTISHEET DWG SEE SHEET ONE FOR REVISION DESCRIPTIONS SYMBOLS : INDICATES VENDOR ITEM - SEE SPEC/SOURCE CONTROL DWG.		REV	H 7
		SHEET	7

0

0

0

A	REV PER ECO 76101
B	REV PER ECO 76101
C	REV PER ECO 76101
D	REV PER ECO 76101
E	REV PER ECO 76101
F	REV PER ECO 97102



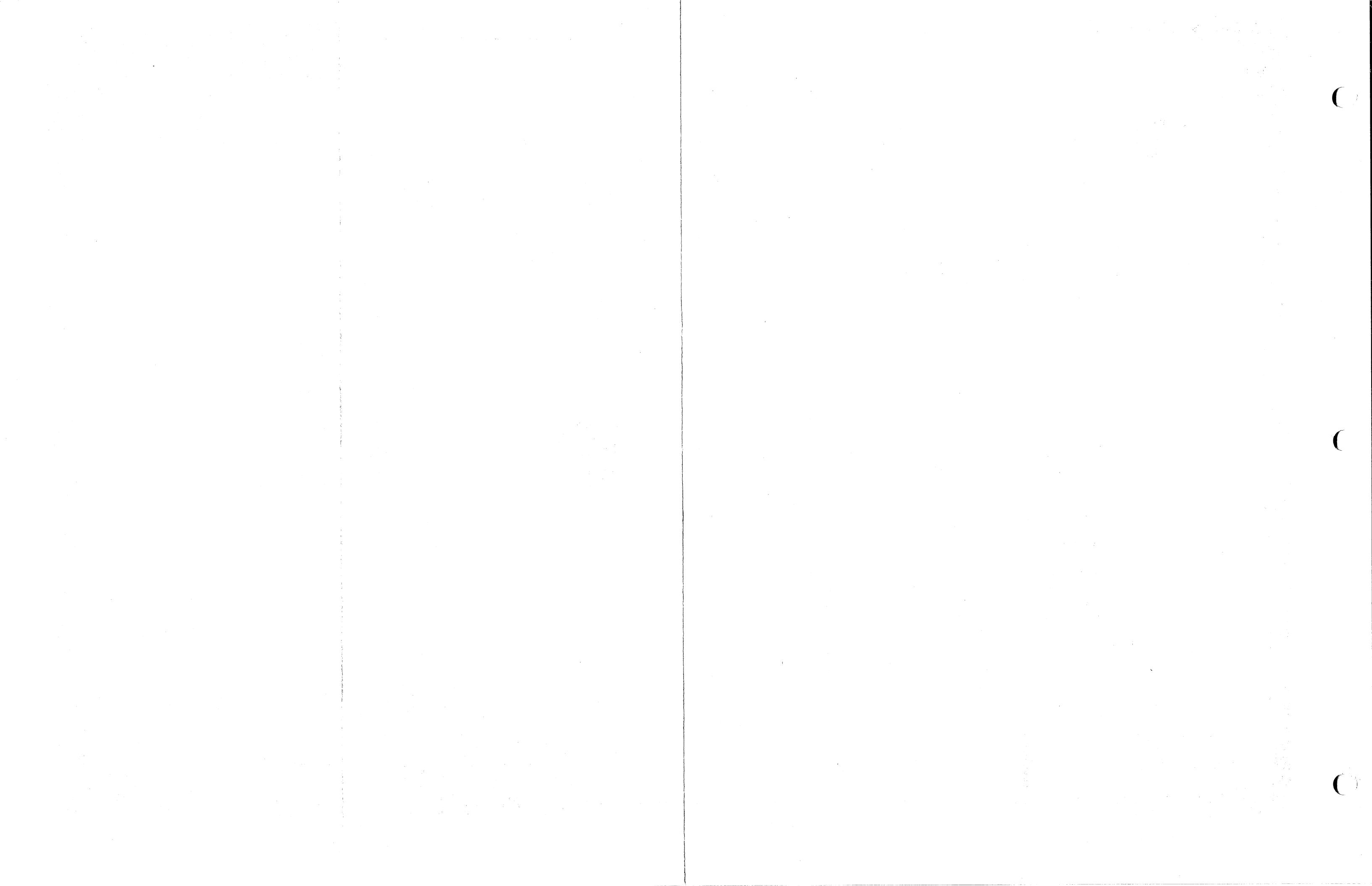
COND	DIM A*
G1 THRU G9	24" ± 1"
G10 THRU G18	60" ± 2"

COND	LEFT MARKER	MIDDLE MARKER	RIGHT MARKER
G1	J1	1089620G1	P2(A7J2)
G2	J3	1089620G2	P2(A7J3)
G3	J4	1089620G3	P2(A7J4)
G4	J5	1089620G4	P2(A7J5)
G5	J6	1089620G5	P2(A7J6)
G6	J10	1089620G6	P2(A6J3)
G7	J11	1089620G7	P2(A6J4)
G8	J12	1089620G8	P2(A6J5)
G9	J13	1089620G9	P2(A6J6)
G10	J1	1089620G10	P2(A7J2)
G11	J3	1089620G11	P2(A7J3)
G12	J4	1089620G12	P2(A7J4)
G13	J5	1089620G13	P2(A7J5)
G14	J6	1089620G14	P2(A7J6)
G15	J10	1089620G15	P2(A6J3)
G16	J11	1089620G16	P2(A6J4)
G17	J12	1089620G17	P2(A6J5)
G18	J13	1089620G18	P2(A6J6)

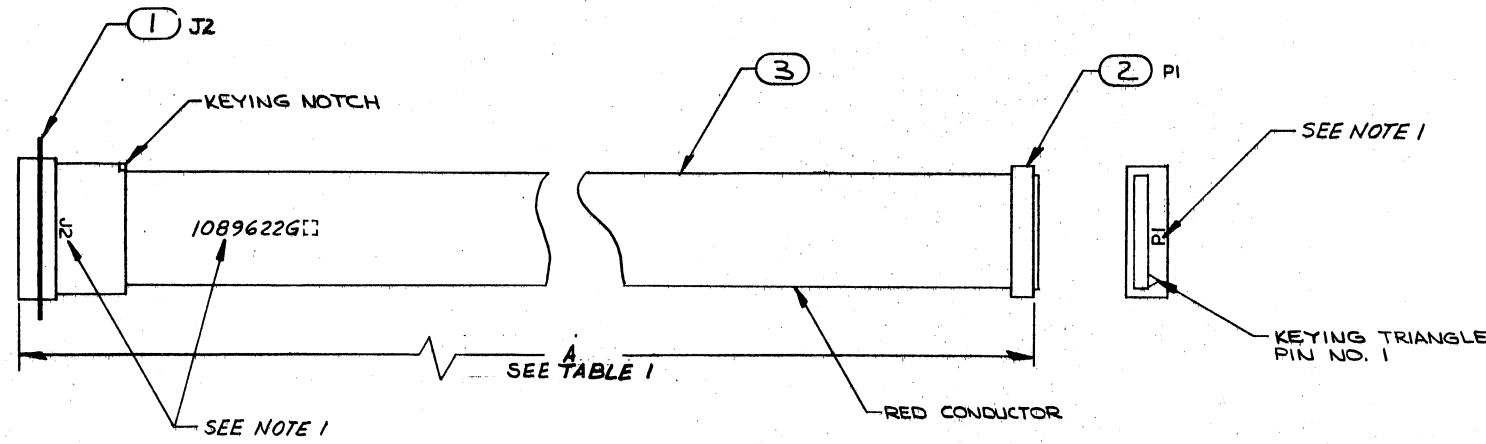
2. ATTACH ITEM 42 EVENLY SPACED (APPROX) ON CABLE.
 1. PERMANENTLY & LEGIBLY MARK IN CONTRASTING COLOR PER MARKING TABLE.

QTY PER ASSY	DATE	APPROVED
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES	18 MAY 77	SANDERS
OK DESIGN	JOB ORIGINAL	CABLE ASSY
MAILED	INSPECT QUALITY	MULTI-PORT INTERF...
1089620 G18	GRABNC 71	1089620 G18
APPROVED	DATE	APPROVED
APPLICATION		

NOTES



REVISIONS		DATE	BY
ZONE	LTR		
-	REL FOR PRODUCTION	15 OCT 77	WHL
A	REV PER ECO 76164	15 JUN 78	WHL
B	REV PER ECO 76189	24 JUL 78	WHL
C	REV PER ECO 76209	15 OCT 80	WHL
D	REV PER ECO 96983A		



J2 206653-1		PI 3399-3000	
CGRD 1	1	1	PROTECTIVE GND
X232 -	2	2	TRANSMITTED DATA
RDA1 -	3	3	RECEIVED DATA
RQTS +	4	4	REQUEST TO SEND
CLTS +	5	5	CLEAR TO SEND
DSRY +	6	6	DATA SET READY
	7	7	
DTRY +	20	8	DATA TERMINAL READY
	21	9	
RING +	22	10	RING INDICATOR
	23	11	
TXCO +	24	12	EXT CLOCK
	25	13	
TCLK +	14	14	TRANSMIT CLOCK
	15	15	
RSCK +	16	16	RECEIVE CLOCK
	17	17	
DGND	18	18	
CARR +	19	19	SIGNAL GND
	20	20	CARRIER DETECT
	21	21	
	22	22	
	23	23	
	24	24	
	25	25	
	26	26	

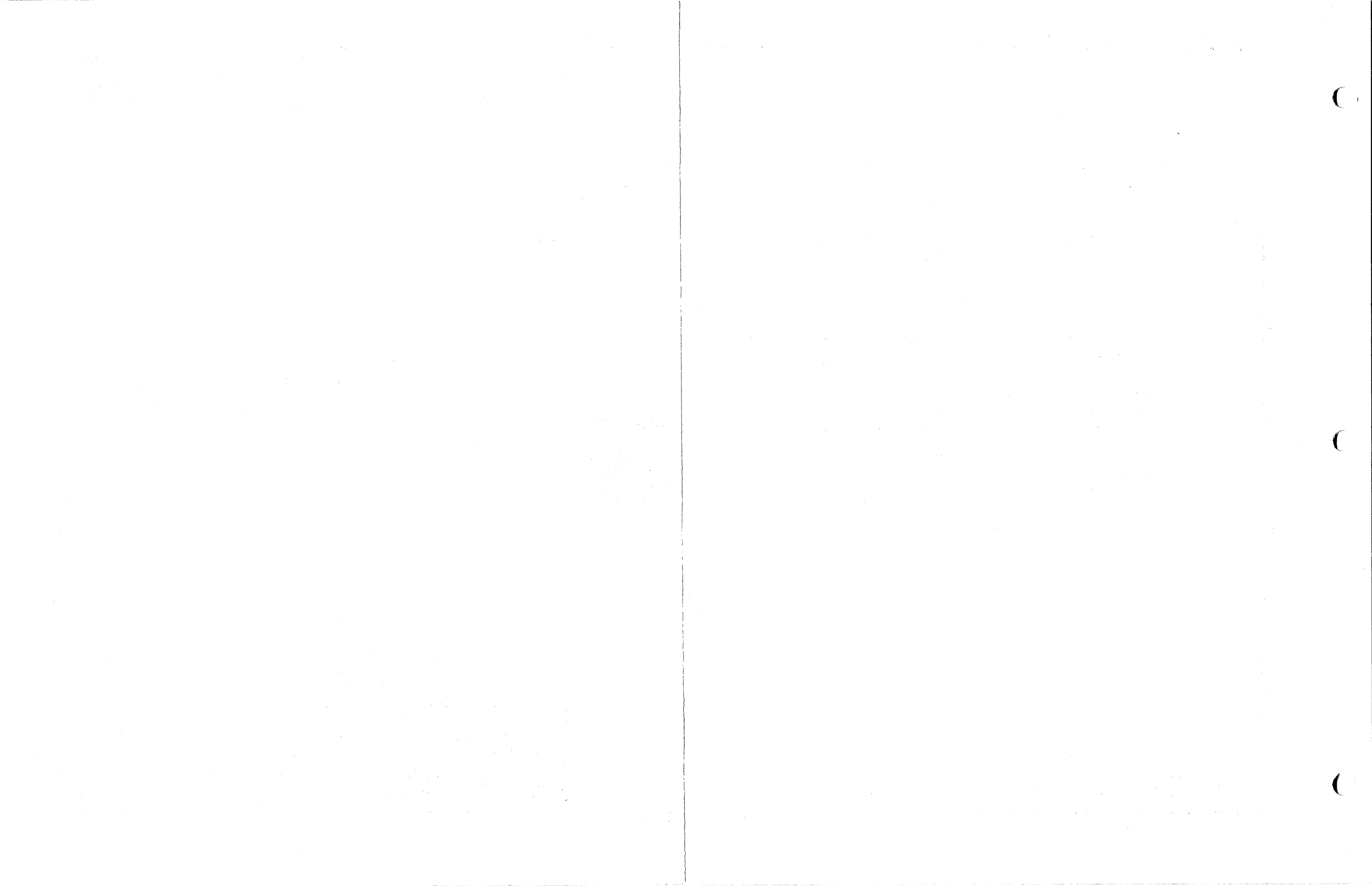
G ^o COND	DIM A
G1	2' ±1"
G2	5' ±2"
G3	10' ±6"
G4	20' ±6"
G5	30' ±6"
G6	40' ±1'
G7	50' ±1'

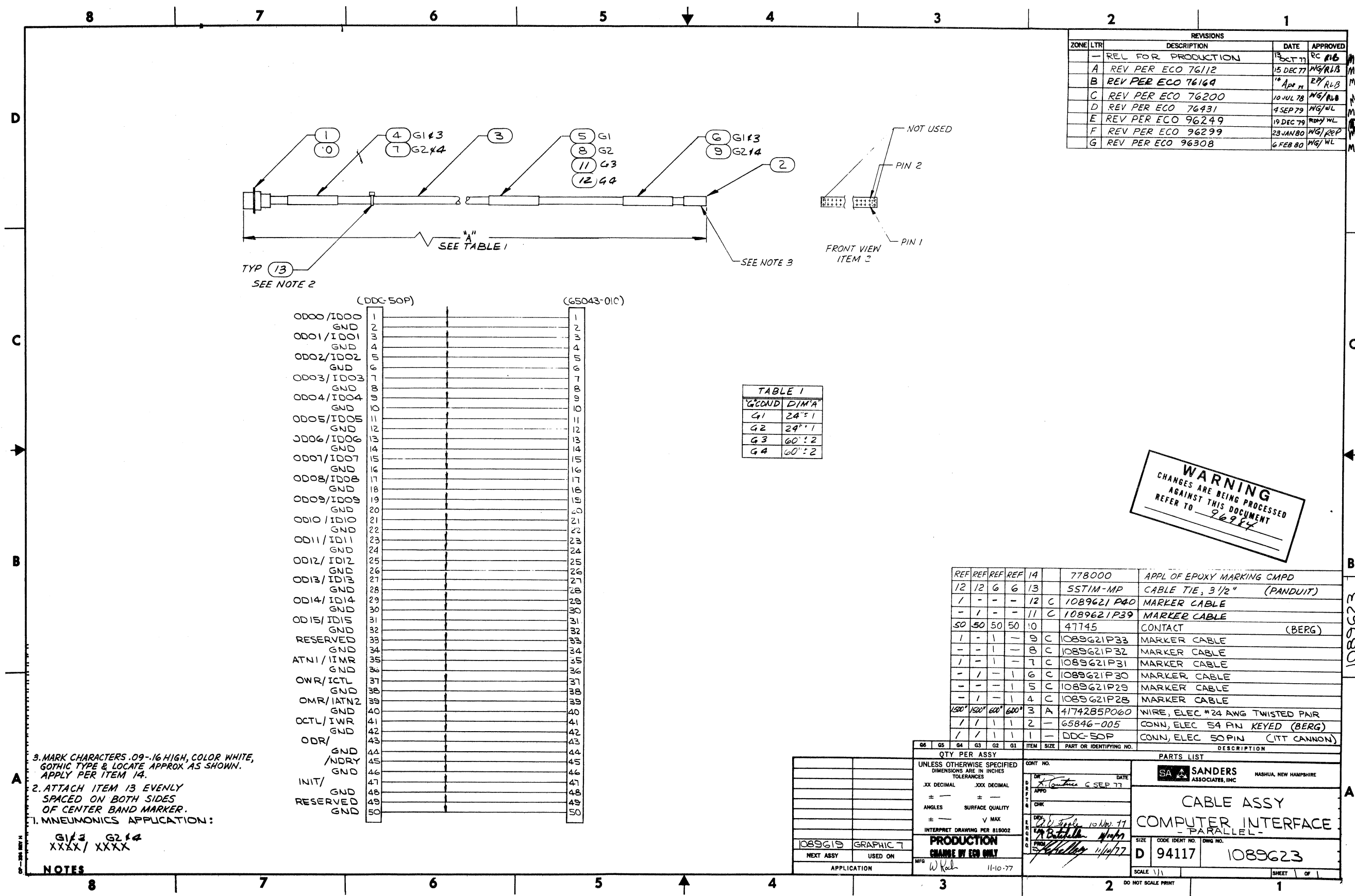
COND	SIZE	PART OR IDENTIFYING NO.	DESCRIPTION							
G7	G6	G5	G4	G3	G2	G1	ITEM	SIZE	PART OR IDENTIFYING NO.	DESCRIPTION
50'	40'	30'	20'	10'	5'	2'	3	-	3365/26	CABLE, FLAT RIBBON AWG#20, 26 COND (3M)
/	/	/	/	/	/	/	2	-	3399-3000	CONN ELEC 26 PIN (3M)
/	/	/	/	/	/	/	1	-	206653-1	CONN ELEC 26 PIN (AMP)

1. MARK CHARACTERS .04-.25 HIGH WITH A CONTRASTING COLOR, GOTHIC TYPE, LOCATE APPROX AS SHOWN. APPLY PER 778000.

QTY PER ASSY		PARTS LIST	
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES		SANDERS ASSOCIATES, INC. NASHUA, NEW HAMPSHIRE	
.XX DECIMAL	.XX DECIMAL	CABLE ASSY	
± — ± —	± — ± —	MULTIPOINT INTERFACE	
ANGLES	SURFACE QUALITY	- SYNCHRONOUSE (882320)	
± —	√ MAX	D 94117 1089622	
INTERPRET DRAWING PER 818002		SCALE 1/1	
PRODUCTION CHANGE BY ECO ONLY		DO NOT SCALE PRINT	
W. Koch 11-10-77			

2296801





REVISIONS				
ZONE	LTR	DESCRIPTION	DATE	APPROVED
-		REL FOR PRODUCTION	13 OCT 77	RC #16
A		REV PER ECO 76112	15 DEC 77	WG/RUB
B		REV PER ECO 76164	10 APR 78	EP/RUB
C		REV PER ECO 76200	10 JUL 78	WG/RUB
D		REV PER ECO 76431	4 SEP 79	WG/WL
E		REV PER ECO 96249	19 DEC 79	WG/WL
F		REV PER ECO 96299	23 JAN 80	WG/REP
G		REV PER ECO 96308	6 FEB 80	WG/WL

TABLE 1

G'COND	DIM'A
G1	24"±1
G2	24"±1
G3	60"±2
G4	60"±2

	(DDC-50P)	(G5043-010)
0000/ID00	1	1
GND	2	2
0001/ID01	3	3
GND	4	4
0002/ID02	5	5
GND	6	6
0003/ID03	7	7
GND	8	8
0004/ID04	9	9
GND	10	10
0005/ID05	11	11
GND	12	12
0006/ID06	13	13
GND	14	14
0007/ID07	15	15
GND	16	16
0008/ID08	17	17
GND	18	18
0009/ID09	19	19
GND	20	20
0010/ID10	21	21
GND	22	22
0011/ID11	23	23
GND	24	24
0012/ID12	25	25
GND	26	26
0013/ID13	27	27
GND	28	28
0014/ID14	29	29
GND	30	30
0015/ID15	31	31
GND	32	32
RESERVED	33	33
GND	34	34
ATN1/IIMR	35	35
GND	36	36
OWR/ICTL	37	37
GND	38	38
OMR/IATN2	39	39
GND	40	40
OCTL/IWR	41	41
GND	42	42
ODR/	43	43
GND	44	44
/NDRY	45	45
GND	46	46
INIT/	47	47
GND	48	48
RESERVED	49	49
GND	50	50

3. MARK CHARACTERS .09-.16 HIGH, COLOR WHITE, GOTHIC TYPE & LOCATE APPROX AS SHOWN. APPLY PER ITEM 14.

2. ATTACH ITEM 13 EVENLY SPACED ON BOTH SIDES OF CENTER BAND MARKER.

1. MNEUMONICS APPLICATION:

G1#3 G2#4
XXXX/XXXX

NOTES

WARNING
CHANGES ARE BEING PROCESSED AGAINST THIS DOCUMENT REFER TO 96984

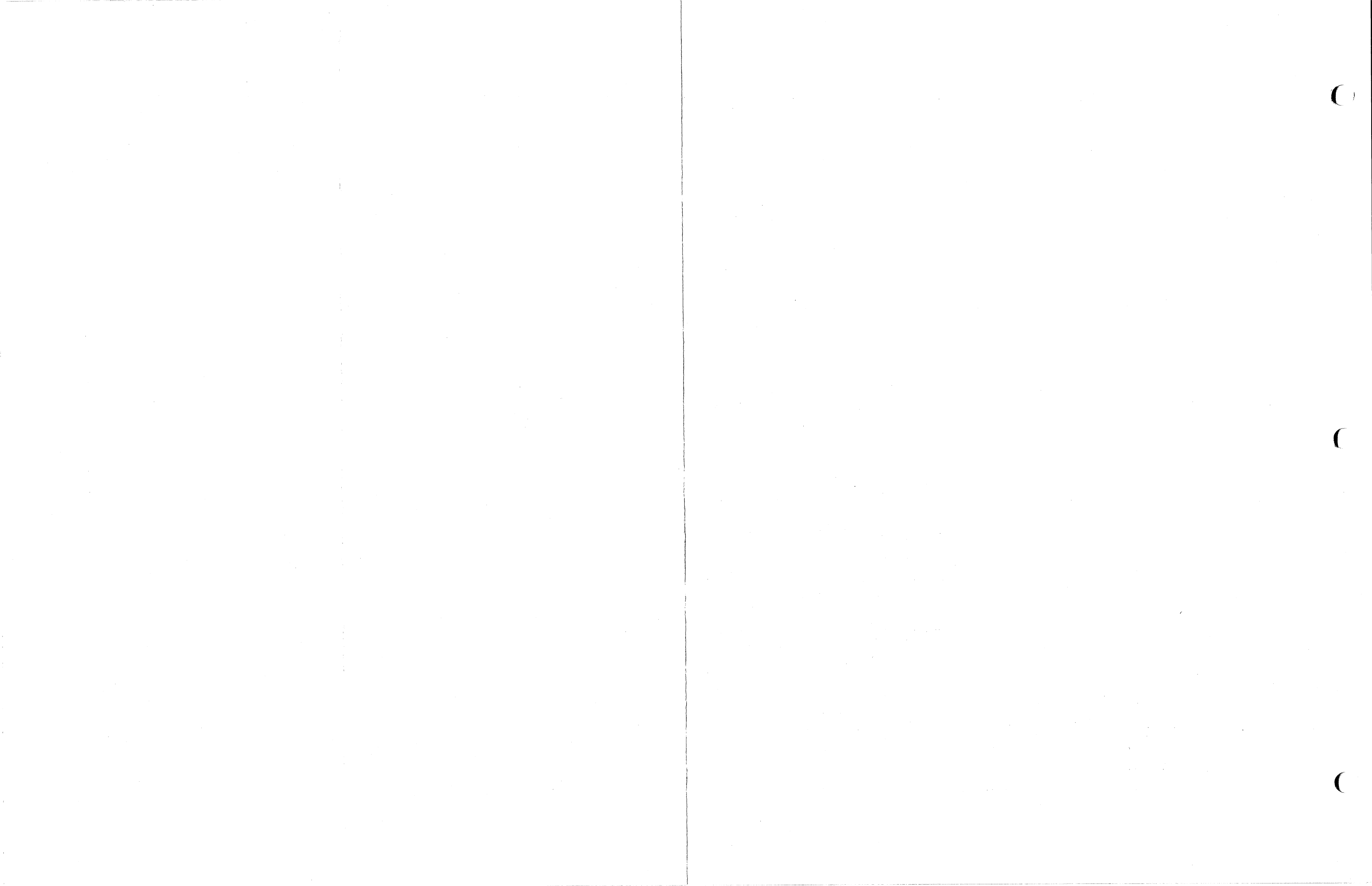
REF	REF	REF	REF	14	778000	APPL OF EPOXY MARKING CMPD
12	12	G	G	13	SSTIM-MP	CABLE TIE, 3 1/2" (PANDUIT)
/	-	-	-	12	C 1089621 P40	MARKER CABLE
-	/	-	-	11	C 1089621 P39	MARKER CABLE
50	50	50	50	10	47745	CONTACT (BERG)
/	-	1	-	9	C 1089621 P33	MARKER CABLE
-	-	1	-	8	C 1089621 P32	MARKER CABLE
/	-	1	-	7	C 1089621 P31	MARKER CABLE
-	/	-	1	6	C 1089621 P30	MARKER CABLE
-	-	-	1	5	C 1089621 P29	MARKER CABLE
-	/	-	1	4	C 1089621 P28	MARKER CABLE
150"	150"	60"	60"	3	A 4174285 P060	WIRE, ELEC #24 AWG TWISTED PAIR
/	/	1	1	2	- 65846-005	CONN, ELEC 54 PIN KEYED (BERG)
/	/	1	1	1	- DDC-50P	CONN, ELEC 50 PIN (ITT CANNON)

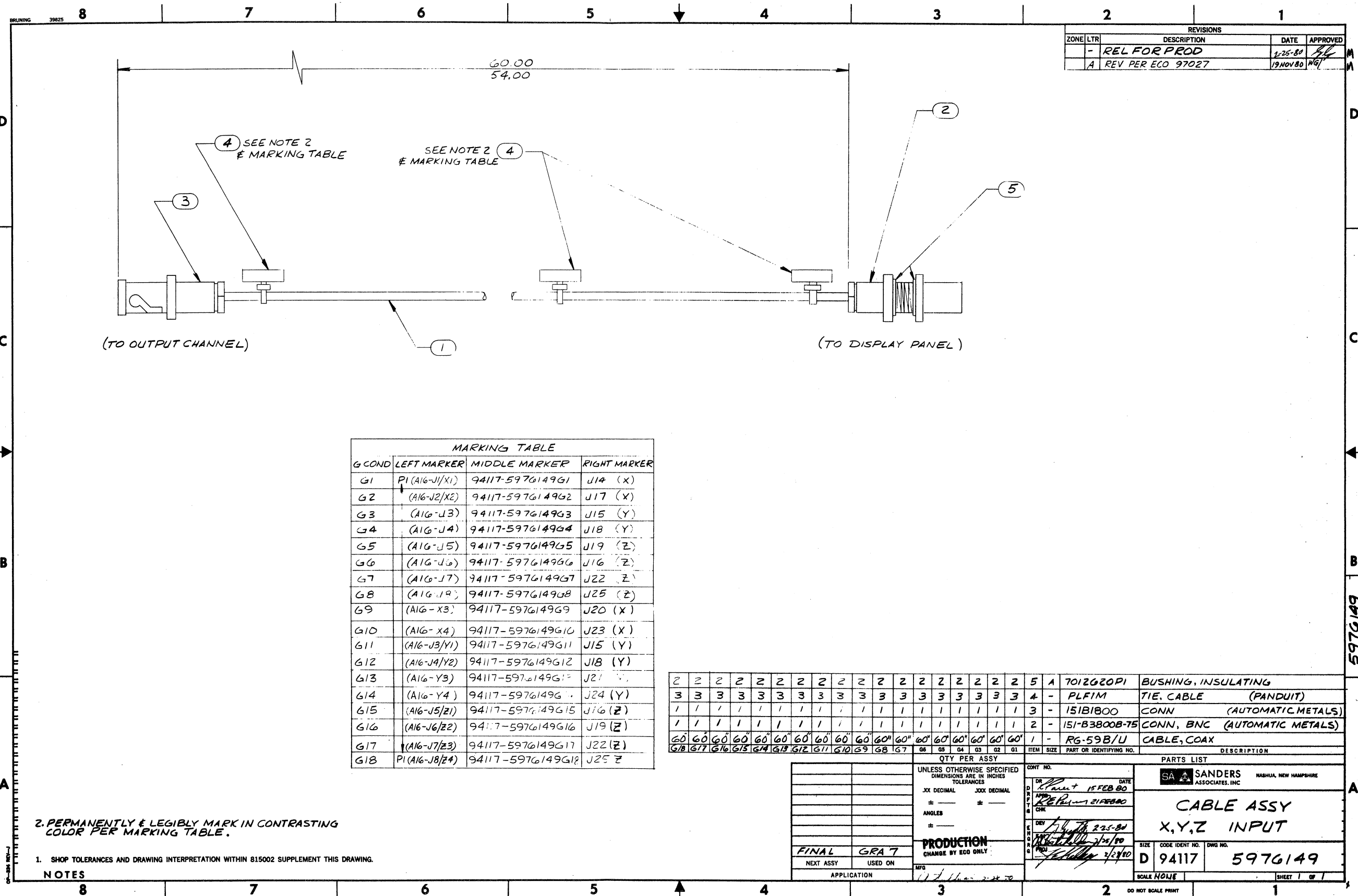
Q6	Q5	Q4	Q3	Q2	Q1	ITEM	SIZE	PART OR IDENTIFYING NO.	DESCRIPTION

QTY PER ASSY		CONT NO.	

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES		DATE	
.XX DECIMAL	.XXX DECIMAL	DR	10 SEP 77
±	±	APPD	
ANGLES	SURFACE QUALITY	CHK	
±	√ MAX		
INTERPRET DRAWING PER 815002			
PRODUCTION			
CHANGE BY ECO ONLY			
MFG	W/Rep	11-10-77	

PARTS LIST	
SA SANDERS ASSOCIATES, INC. NASHUA, NEW HAMPSHIRE	
CABLE ASSY	
COMPUTER INTERFACE - PARALLEL	
SIZE CODE IDENT NO. DWG NO.	
D 94117	1089623
SCALE 1/1	SHEET OF





ZONE		REVISIONS		DATE	APPROVED
-	REL FOR PROD			12-25-80	[Signature]
A	REV PER ECO 97027			19 NOV 80	[Signature]

MARKING TABLE			
G COND	LEFT MARKER	MIDDLE MARKER	RIGHT MARKER
G1	PI (A16-J1/X1)	94117-5976149G1	J14 (X)
G2	(A16-J2/X2)	94117-5976149G2	J17 (X)
G3	(A16-J3)	94117-5976149G3	J15 (Y)
G4	(A16-J4)	94117-5976149G4	J18 (Y)
G5	(A16-J5)	94117-5976149G5	J19 (Z)
G6	(A16-J6)	94117-5976149G6	J16 (Z)
G7	(A16-J7)	94117-5976149G7	J22 (Z)
G8	(A16-J8)	94117-5976149G8	J25 (Z)
G9	(A16-X3)	94117-5976149G9	J20 (X)
G10	(A16-X4)	94117-5976149G10	J23 (X)
G11	(A16-J3/Y1)	94117-5976149G11	J15 (Y)
G12	(A16-J4/Y2)	94117-5976149G12	J18 (Y)
G13	(A16-Y3)	94117-5976149G13	J21 (Y)
G14	(A16-Y4)	94117-5976149G14	J24 (Y)
G15	(A16-J5/Z1)	94117-5976149G15	J19 (Z)
G16	(A16-J6/Z2)	94117-5976149G16	J16 (Z)
G17	(A16-J7/Z3)	94117-5976149G17	J22 (Z)
G18	PI (A16-J8/Z4)	94117-5976149G18	J25 (Z)

2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	5	A	7012620P1	BUSHING, INSULATING
3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	4	-	PLFIM	TIE, CABLE (PANDUIT)
1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	3	-	151B1800	CONN (AUTOMATIC METALS)
1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	-	151-B3800B-75	CONN, BNC (AUTOMATIC METALS)
60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	1	-	RG-59B/U	CABLE, COAX

2. PERMANENTLY & LEGIBLY MARK IN CONTRASTING COLOR PER MARKING TABLE.

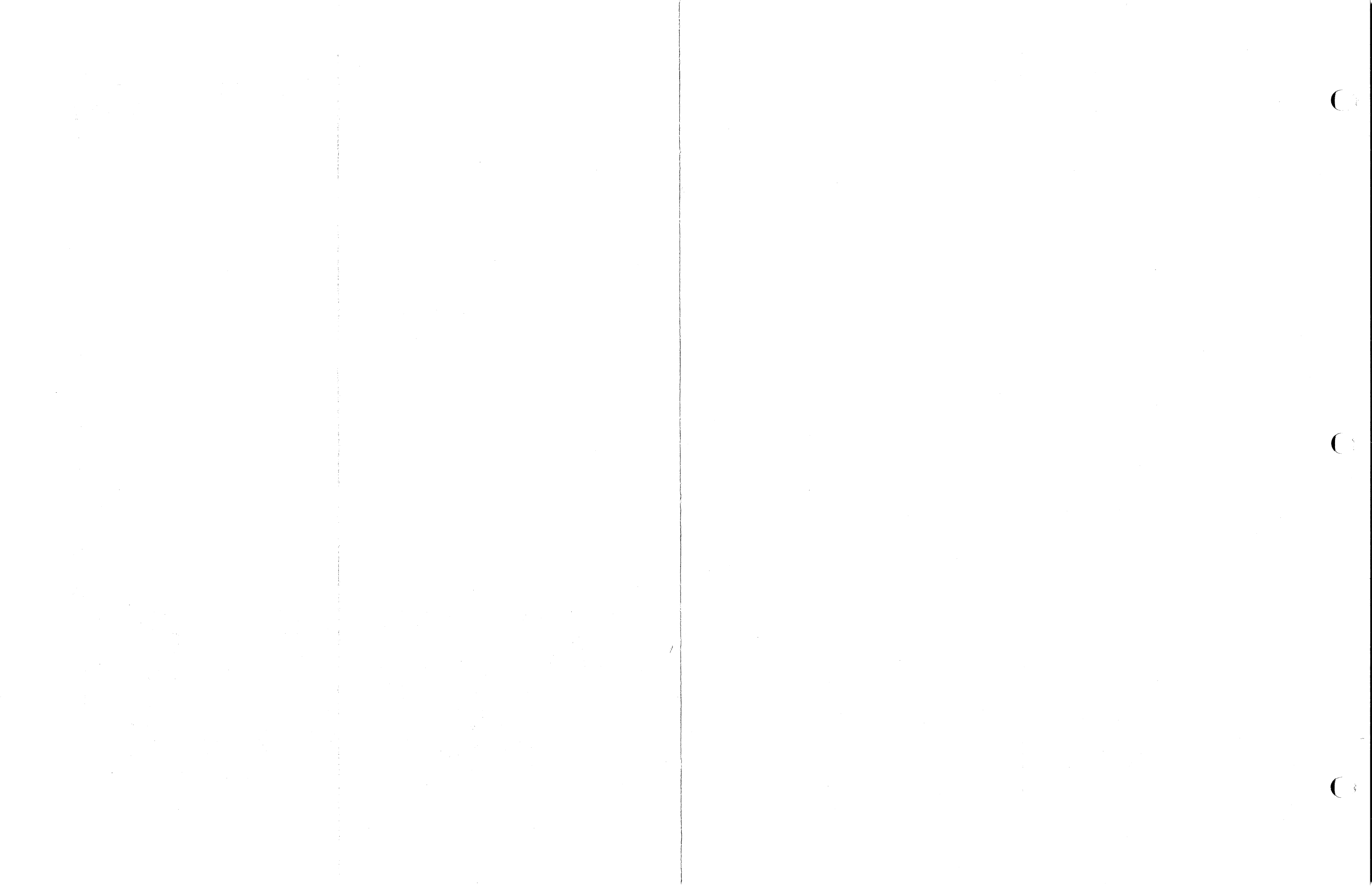
1. SHOP TOLERANCES AND DRAWING INTERPRETATION WITHIN 815002 SUPPLEMENT THIS DRAWING.

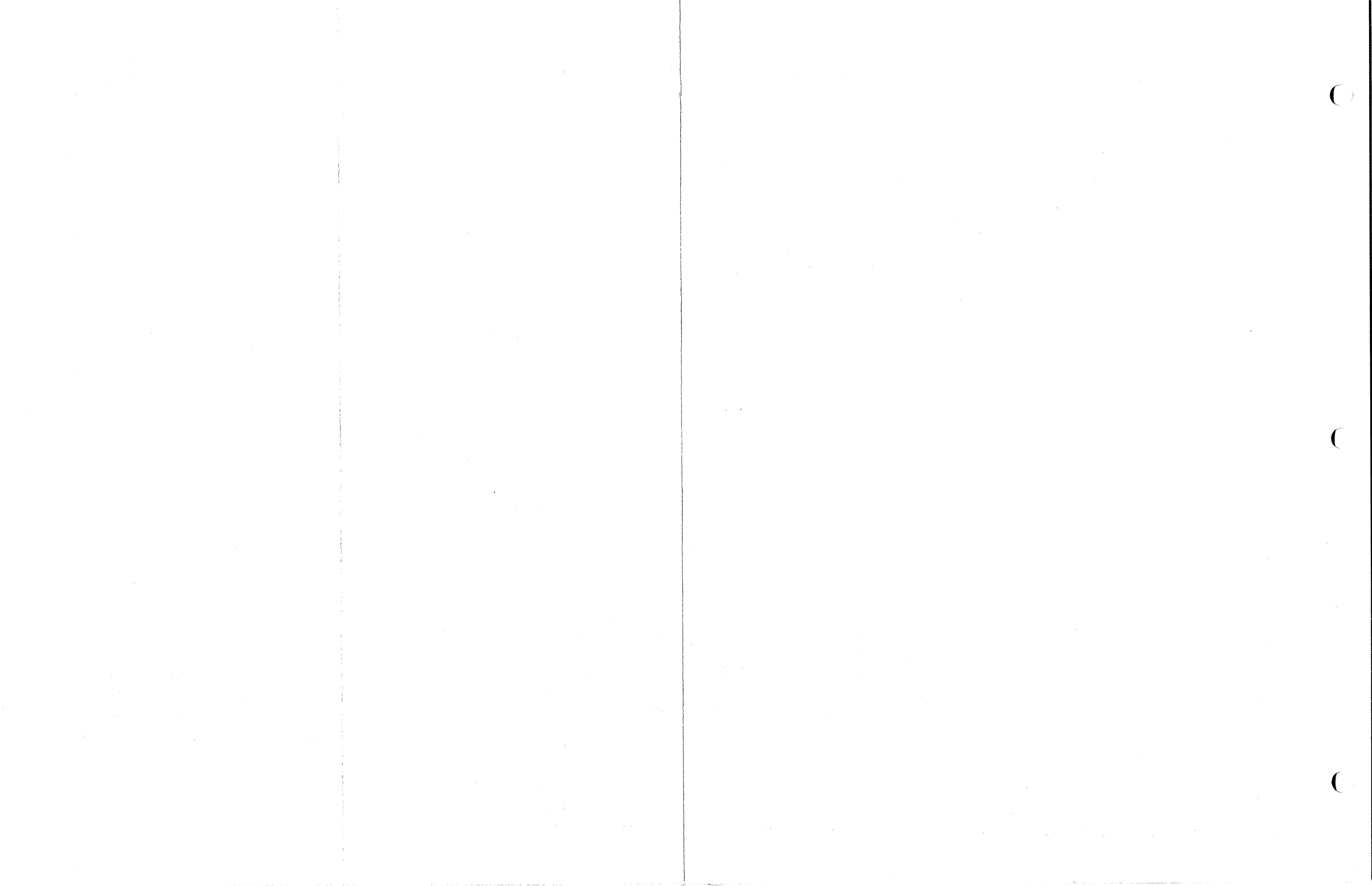
NOTES

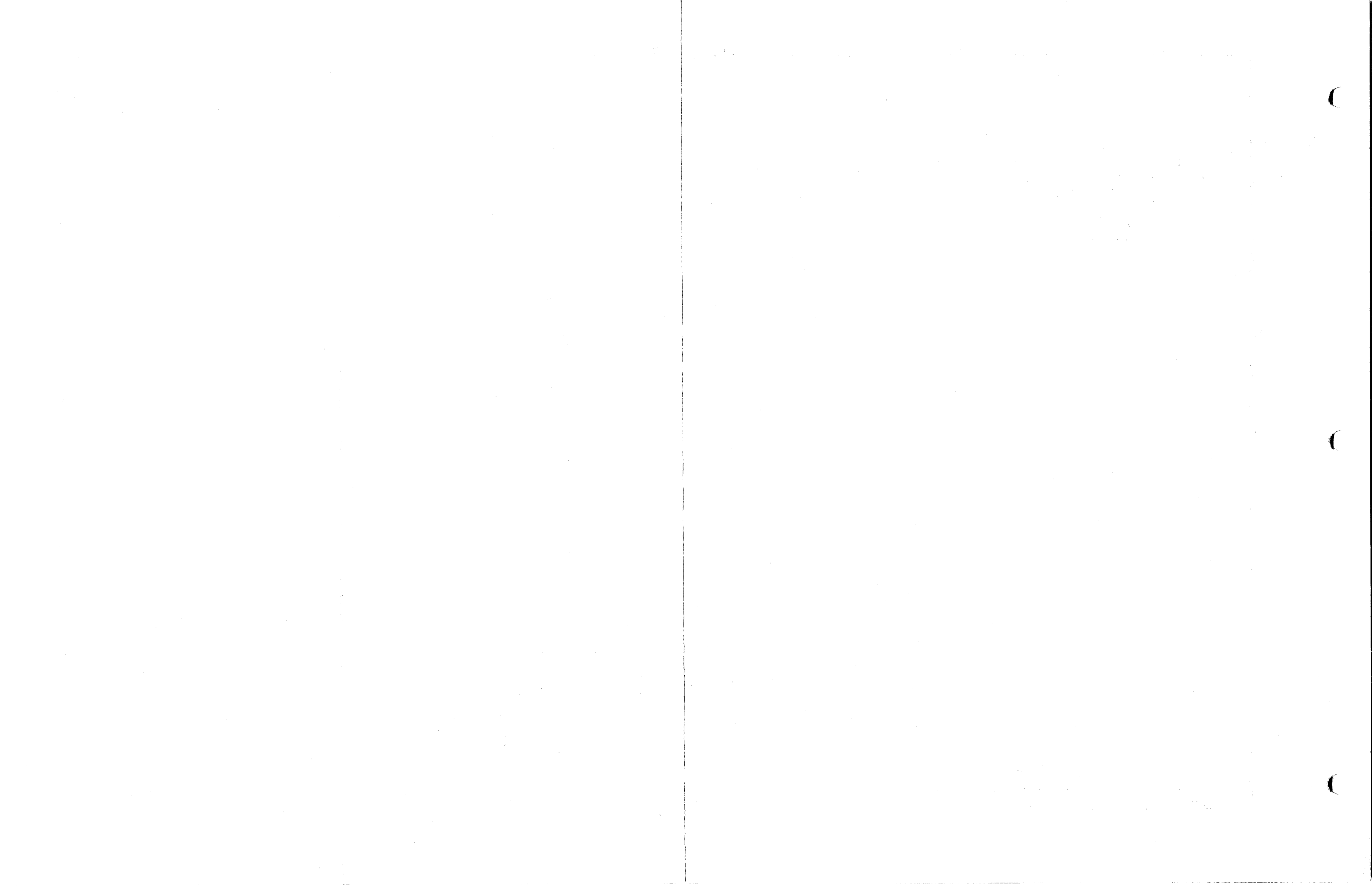
QTY PER ASSY		UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES		CONT NO.	
10X DECIMAL	100X DECIMAL			DR	DATE
+	+			DR	DATE
ANGLES				CHK	
+				DEV	
PRODUCTION CHANGE BY ECO ONLY		MFG		SCALE NONE	
FINAL	GRAT	APPLICATION		PARTS LIST	
NEXT ASSY	USED ON			SA SANDERS ASSOCIATES, INC. NASHUA, NEW HAMPSHIRE	
				CABLE ASSY X,Y,Z INPUT	
				SIZE	CODE IDENT NO. DWG NO.
				D	94117 5976149
				SCALE NONE SHEET 1 OF 1	

5976149

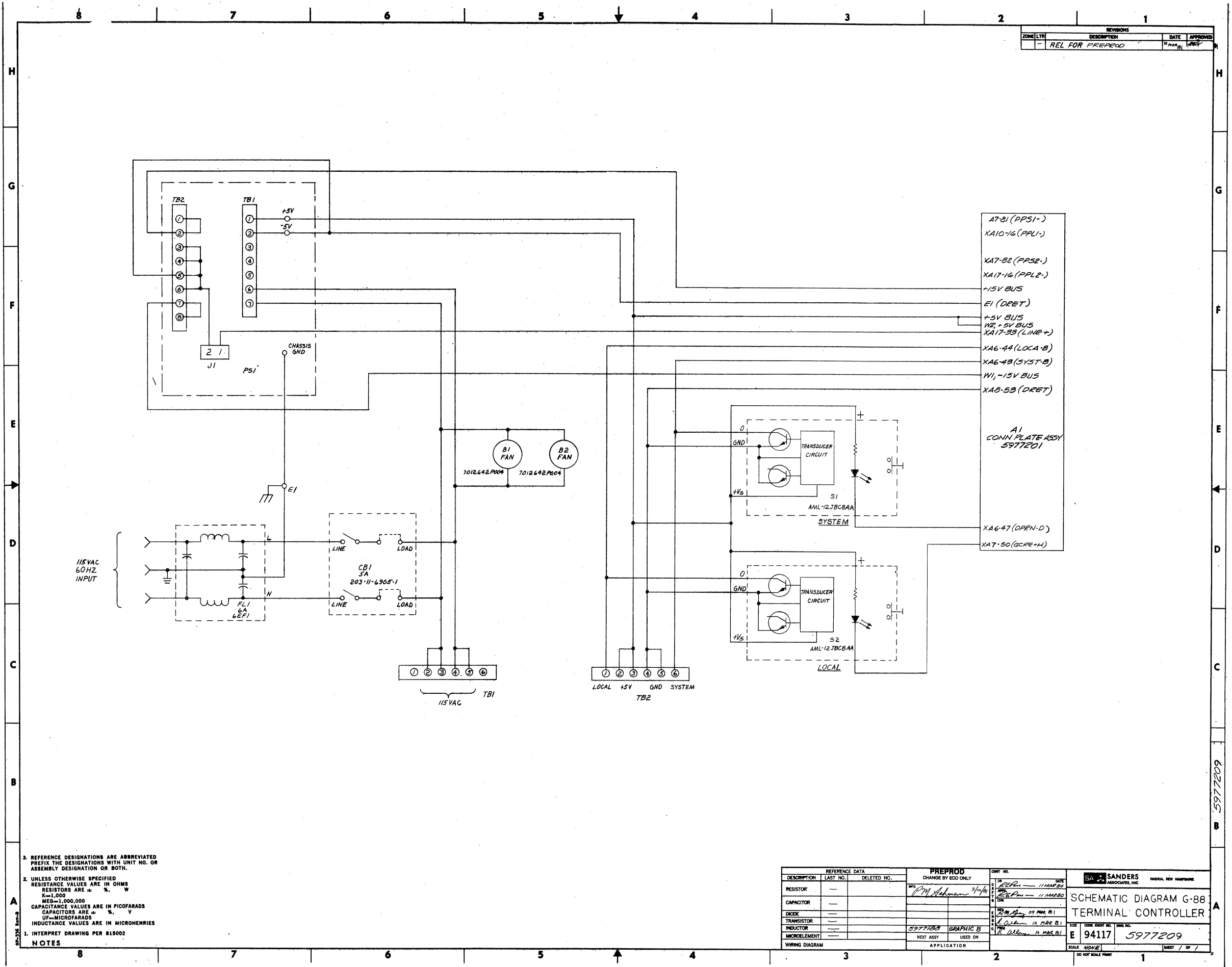
DO NOT SCALE PRINT







REVISIONS			
ZONE/LIN	DESCRIPTION	DATE	APPROVED
-	REL FOR PREPROD	10 MAR 61	[Signature]



- A7-B1 (PP51-)
- XA10-16 (PPL1-)
- XA7-B2 (PP52-)
- XA17-16 (PPL2-)
- +15V BUS
- E1 (DRET)
- +5V BUS
- W2 +5V BUS
- XA17-33 (LINE+)
- XA6-44 (LOCA-B)
- XA6-43 (SYST-B)
- W1 -15V BUS
- XA8-53 (DRET)
- A1 CONN. PLATE ASSY 5977201
- XA6-47 (OPRN-D)
- XA7-50 (GCRN+)

3. REFERENCE DESIGNATIONS ARE ABBREVIATED. PREFIX THE DESIGNATIONS WITH UNIT NO. OR ASSEMBLY DESIGNATION OR BOTH.

2. UNLESS OTHERWISE SPECIFIED RESISTANCE VALUES ARE IN OHMS. RESISTORS ARE \pm %, W. K=1,000. MEG=1,000,000. CAPACITANCE VALUES ARE IN PICOFARADS. CAPACITORS ARE \pm %, V. UF=MICROFARADS. INDUCTANCE VALUES ARE IN MICROHENRIES.

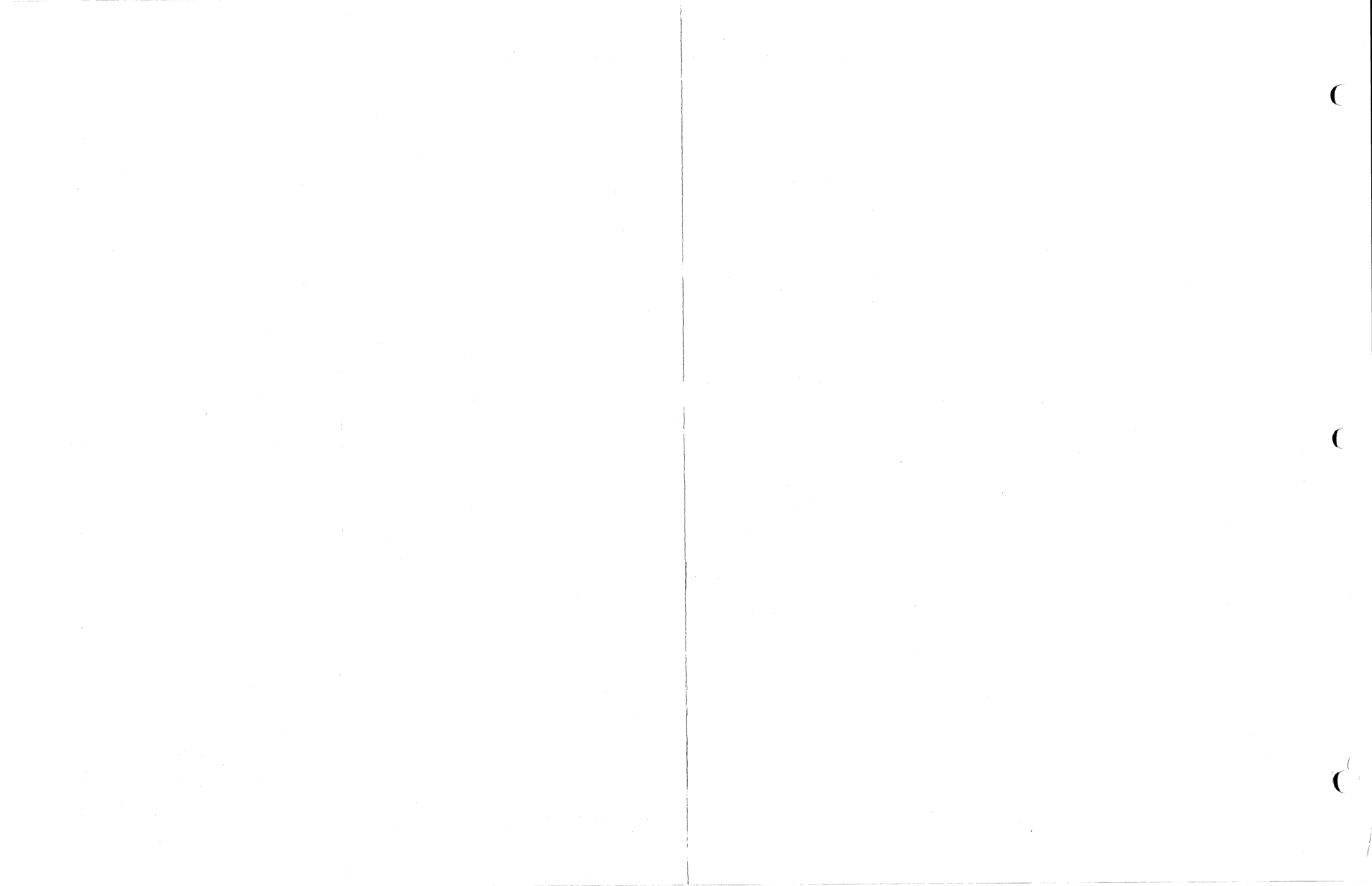
1. INTERPRET DRAWING PER 815002

NOTES

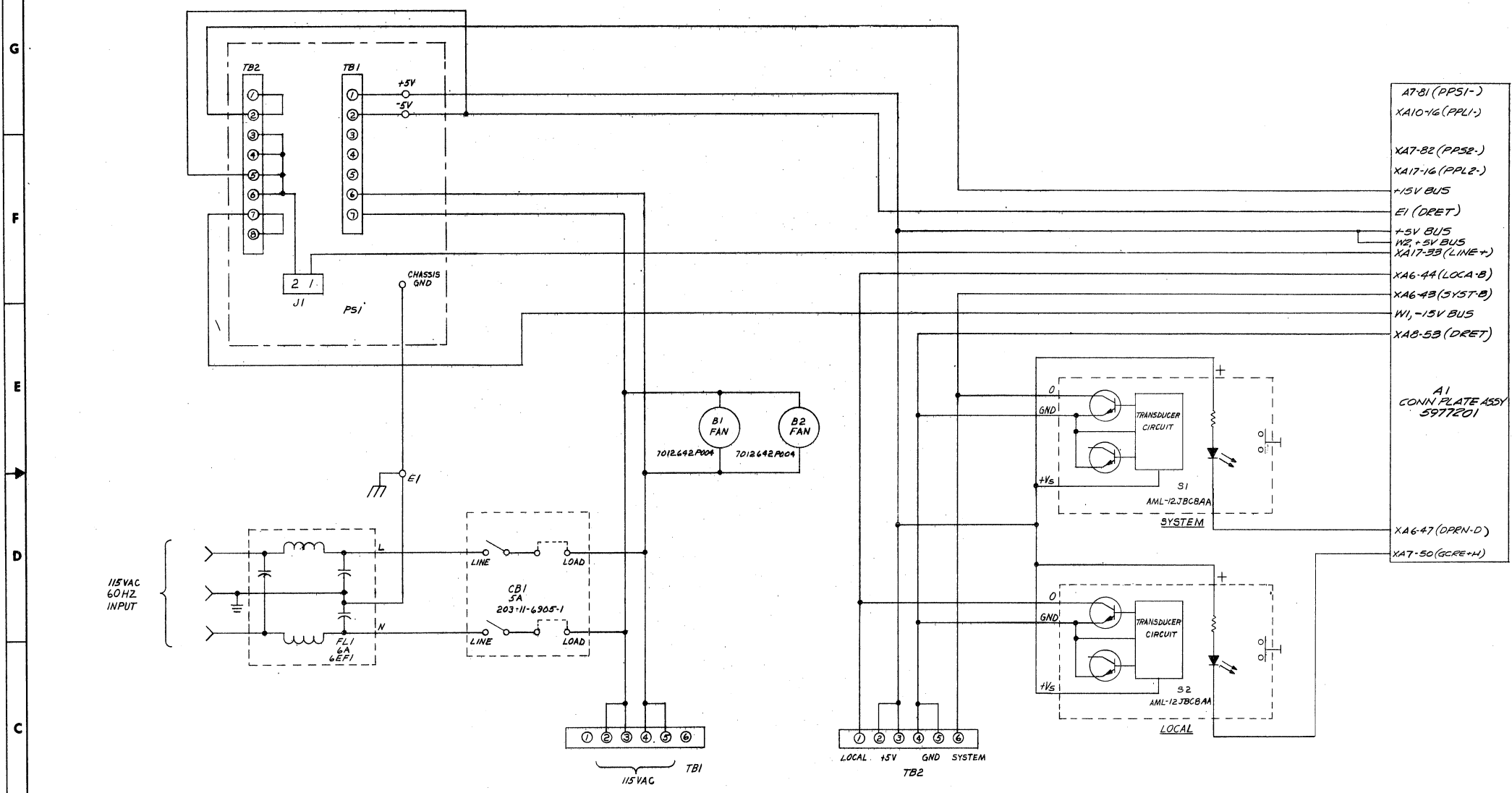
REFERENCE DATA		PREPROD		DATE	
DESCRIPTION	LAST NO.	DELETED NO.	CHANGE BY ECO ONLY	DATE	BY
RESISTOR					
CAPACITOR					
DIODE					
TRANSISTOR					
INDUCTOR					
MICROELEMENT					
WIRING DIAGRAM					

SIZE	94117	5977209
SCALE	NONE	
SHEET	1	OF 1

5977209



ZONE/LET	DESCRIPTION	DATE	APPROVED
REL FOR PREPROD			



3. REFERENCE DESIGNATIONS ARE ABBREVIATED
 PREFIX THE DESIGNATIONS WITH UNIT NO. OR
 ASSEMBLY DESIGNATION OR BOTH.

2. UNLESS OTHERWISE SPECIFIED
 RESISTANCE VALUES ARE IN OHMS
 RESISTORS ARE ± %, W
 K=1,000
 MEG=1,000,000
 CAPACITANCE VALUES ARE IN PICOFARADS
 CAPACITORS ARE ± %, V
 UF=MICROFARADS
 INDUCTANCE VALUES ARE IN MICROHENRIES

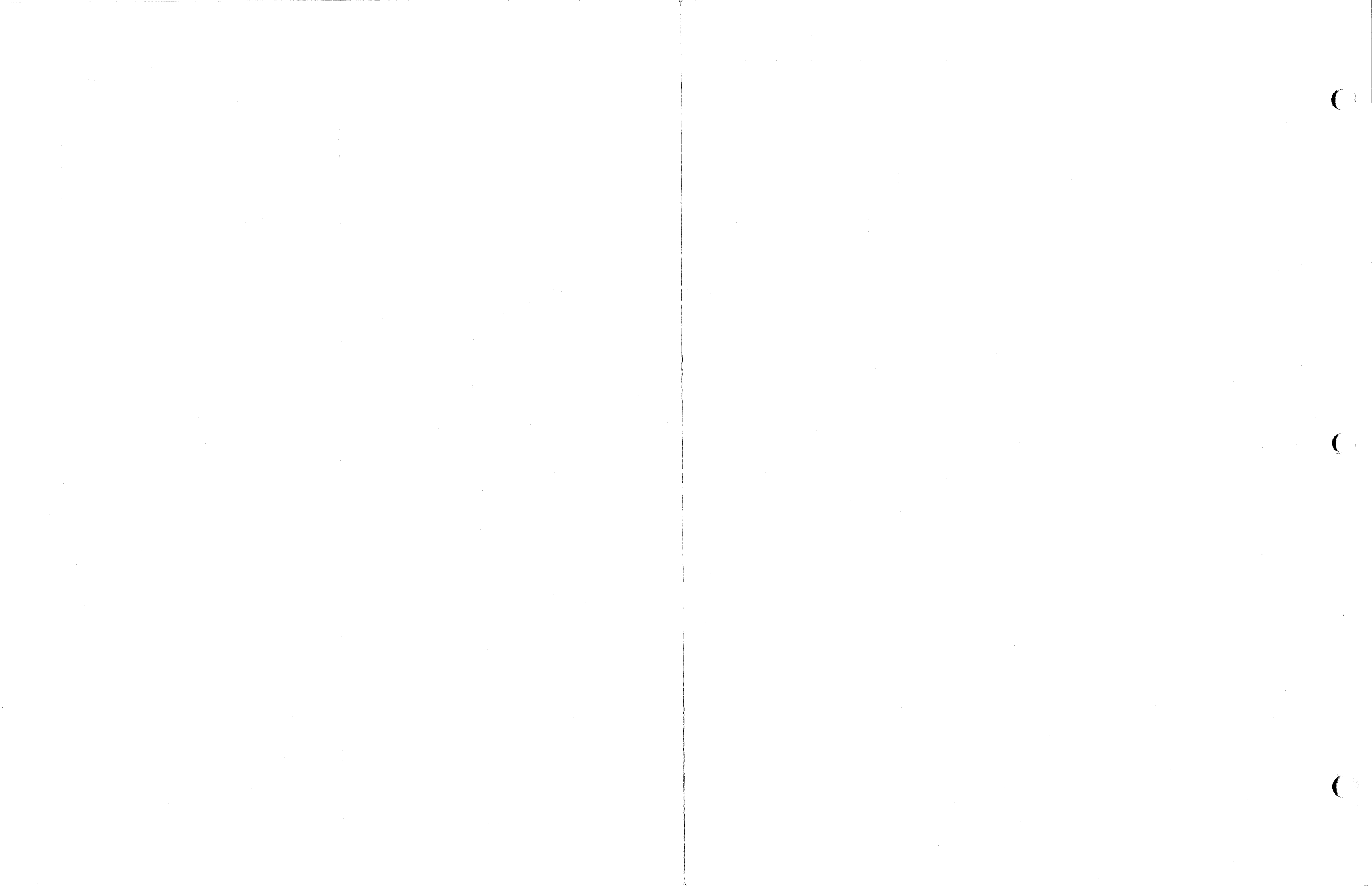
1. INTERPRET DRAWING PER 815002

NOTES

DESCRIPTION	REFERENCE DATA	PREPROD	DATE
RESISTOR	LAST NO. DELETED NO.	CHANGE BY ECO ONLY	DATE
CAPACITOR			
DIODE			
TRANSISTOR			
INDUCTOR			
MICROELEMENT			
WIRING DIAGRAM			

94117 5977209
 SANDERS ASSOCIATES, INC. HANNAH, NEW HAMPSHIRE
 SCHEMATIC DIAGRAM G-88
 TERMINAL CONTROLLER
 SCALE: NONE
 SHEET 1 OF 1
 DO NOT SCALE PRINT

5977209



REVISIONS

LTR	DESCRIPTION	DATE	APPROVED
-	FEEL FOR PREPROD	19 DEC 80	<i>[Signature]</i>

WARNING
 CHANGES ARE BEING PROCESSED
 AGAINST THIS DOCUMENT
 REFER TO 97134

REVISION STATUS

SH	1	2	3	4	5	6	7	8	9	10	11	12
REVISION	-	-	-	-	-	-	-	-	-	-	-	-
SH	13	14	15	16	17	18	19	20	21	22	23	24
REVISION												

DWG REV	-
WL REV	X

- PARTS LIST SHEET ONE IS THE CONTROLLING REVISION FOR THE COMBINED PARTS LIST, DRAWING AND WIRE LIST.
- SHOP PRACTICE TOLERANCES AND DRAWING INTERPRETATION WITHIN 815002 SUPPLEMENT THIS DRAWING.

SA SANDERS ASSOCIATES, INC. NASHUA, NEW HAMPSHIRE

CARD CAGE ASSY

SIZE **A** CODE IDENT NO. **94117** PL 5977184

SHEET 1 OF 5

DR	<i>S. Richardson</i>	DATE	18 DEC 80
APP	<i>R. Elgin</i>	DATE	19 DEC 80
CHK			
DES	<i>M. S. Mazzola</i>	DATE	19 DEC 80
ENG			
GRG			
PRJ	<i>L. J. ...</i>	DATE	19 DEC 80

PREPROD
 CHANGE BY ECO ONLY 5977188 GAA-8

MFG	<i>[Signature]</i>	127830
NEXT ASSY	5977188	GAA-8
APPLICATION	USED ON	

PARTS LIST

ITEM NO.	QTY PER ASSY		DWG SIZE	CODE IDENT	PART OR IDENTIFYING NO.	DESCRIPTION	SYM
	G	G					
1	1		E		5976109G1	CARD CAGE, GRAPHIC	
2	1		D		5976110P1	BRACKET, CARD CAGE	
3	1		D		5976111P1	BRACKET, CARD CAGE	
4	1		D		5976113G1	PANEL, CONTROL, CARD CAGE	
5	1		D		5977201G1	CONN PLATE ASSY	AI
6							
7	1		A/E		5977237G1	WIRING HARNESS ASSY	DC
8	1		A/E		5976165G1	WIRING HARNESS ASSY	AC
9	1		A		5976313P1	KEYCAP, WHT, LEGEND	
10	1		A		5976313P2	KEYCAP, WHT, LEGEND	
11	2		A		1088475P1	TERMINAL BOARD	TB1, 2
12	2		A		1088475P2	INSULATOR STRIP	
13	1		A		7011973P002	CLAMP, CABLE, .19 DIA.	
14	2		A		7012642P004	FAN, TUBE AXIAL	B1, 2
15							
16							
17							
18	2				7011466P010	TERMINAL, LUG	.112
19							
20	4			00779	34171	TERMINAL, LUG	.25
21							
22							
23							

	SIZE	CODE IDENT NO.	REV	SHEET
	A	94117 PL	-	2
		5977184		

SHEET ONE REVISION LETTER IS THE IDENTIFYING REVISION FOR THIS MULTISHEET DWG
SEE SHEET ONE FOR REVISION DESCRIPTIONS
SYMBOLS : INDICATES VENDOR ITEM - SEE SPEC/SOURCE CONTROL DWG.

PARTS LIST

ITEM NO.	QTY PER ASSY		DWG SIZE	CODE IDENT	PART OR IDENTIFYING NO.	DESCRIPTION	SYM
	G	G					
24							
25	3"				MS23053/8-005-C	SLEEVING, HEAT SHRINK, .19 DIA	
26	4"		A		M23053/8-006-C	SLEEVING, HEAT SHRINK, .25 DIA.	
28	24"		A		270017P5	BRID, WIRE, .25 DIA.	
29	24				1/4 FR	EXPANDO SLEEVE (BEN/HAR)	
32	4		-	00779	3-350816-2	FASSTON .187	
38	1		-	81541	203-11-6905-1	CIRCUIT BREAKER, 5A CBI	
39	2		-	81041	6-182-033	GUARD, FINGER	
40	1		-	05245	6EF1	FILTER, AC, GA FLI	
41	1		-	70903	17600	CARD, PWR, SUT INSUL	
42	12		-	86928	5605-28	WASHER, SHOULDER	
43	4		-	06540	8165-SS-06327	STANDOFF, 1/4 DIA., .132-32 INT THD x 1.25 LG	
44							
45							
46	2		-	91929	AML-1ZJBC8AA	SWITCH	51, 2

SIZE	CODE IDENT NO.	REV	SHEET
A	94117 PL	-	3
5977184			

SHEET ONE REVISION LETTER IS THE IDENTIFYING REVISION FOR THIS MULTISHEET DWG
SEE SHEET ONE FOR REVISION DESCRIPTIONS
SYMBOLS : INDICATES VENDOR ITEM - SEE SPEC/SOURCE CONTROL DWG.

PARTS LIST

ITEM NO.	QTY PER ASSY		DWG SIZE	CODE IDENT	PART OR IDENTIFYING NO.	DESCRIPTION	SYM
	G	G					
47	1		-	06540	MM23E0647/115	POWER SUPPLY (LH RESEARCH) PSI	
48	4		-	75382	9319-A171-10A	SPACER, .38 LG	
49	1		-		3690J	JUMPER, BARRIER STRIP	
50							
51							
52							
53							
54							
55							
56	2		-		MS51957-16	SCR, MACH, PAN HD, .112-40 X.44 LG	
57	6		-		MS51957-30	SCR, MACH, PAN HD, .138-32 X.50 LG	
58							
59	10		-		MS51957-28	SCR, MACH, PAN HD, .138-32 X.38 LG	
60	5		-		MS51957-31	SCR, MACH, PAN HD, .138-32 X.62 LG	
61	13		-		MS51957-44	SCR, MACH, PAN HD, .164-32 X.44 LG	
62	8		-		MS51957-32	SCR, MACH, PAN HD, .138-32 X.75 LG	
63	4		-		MS24693-C51	SCR, MACH, FLAT HD, .164-32 X.62 LG	
64							
65	5		-		MS35649-244	NUT, PLAIN HEX, .112-40	
66	8		-		MS35649-264	NUT, PLAIN HEX, .138-32	
67							
68							
69							

SIZE	CODE IDENT NO.		
A	94117 PL		5977184
		REV -	SHEET 4

SHEET ONE REVISION LETTER IS THE IDENTIFYING REVISION FOR THIS MULTISHEET DWG
 SEE SHEET ONE FOR REVISION DESCRIPTIONS
 SYMBOLS : INDICATES VENDOR ITEM - SEE SPEC/SOURCE CONTROL DWG.

PARTS LIST

ITEM NO.	QTY PER ASSY		DWG SIZE	CODE IDENT	PART OR IDENTIFYING NO.	DESCRIPTION	SYM
	G	G					
71							
72	5		-		MS15795-803	WASHER, FLAT METAL, #4	
73	28		-		MS15795-805	WASHER, FLAT METAL, #6	
74	21		-		MS15795-807	WASHER, FLAT METAL, #8	
75							
76	2		-		2711-18550-PH140	WASHER, SHOULDER (AMATON)	
77	5		-		MS35338-135	WASHER, LKG, #4	
78	16		-		MS35338-136	WASHER, LKG, #6	
79	10		-		MS35338-137	WASHER, LKG, #8	
80							
81							
82							
83	28"		A		5978963P509	WIRE, ELEC, AWG 12, WHT	
84	AR		A		93002 P2	SOLDER	
85							
86	2				MS77068-2	SOLDER LUG	
87	REF		E		5977185	BACK PLATE WIRING DIAGRAM	
88	REF		E		5977208	SCHEMATIC DIAGRAM	
89	REF		A		5977237	WIRE LIST	
90	2				MS77068-4	SOLDER LUG	
91	2				CK06BX104K	CAP, IUF, 200V (MIL-C-11015/19)	

SHEET ONE REVISION LETTER IS THE IDENTIFYING REVISION FOR THIS MULTISHEET DWG
 SEE SHEET ONE FOR REVISION DESCRIPTIONS
 SYMBOLS : INDICATES VENDOR ITEM - SEE SPEC/SOURCE CONTROL DWG.

SIZE CODE IDENT NO.

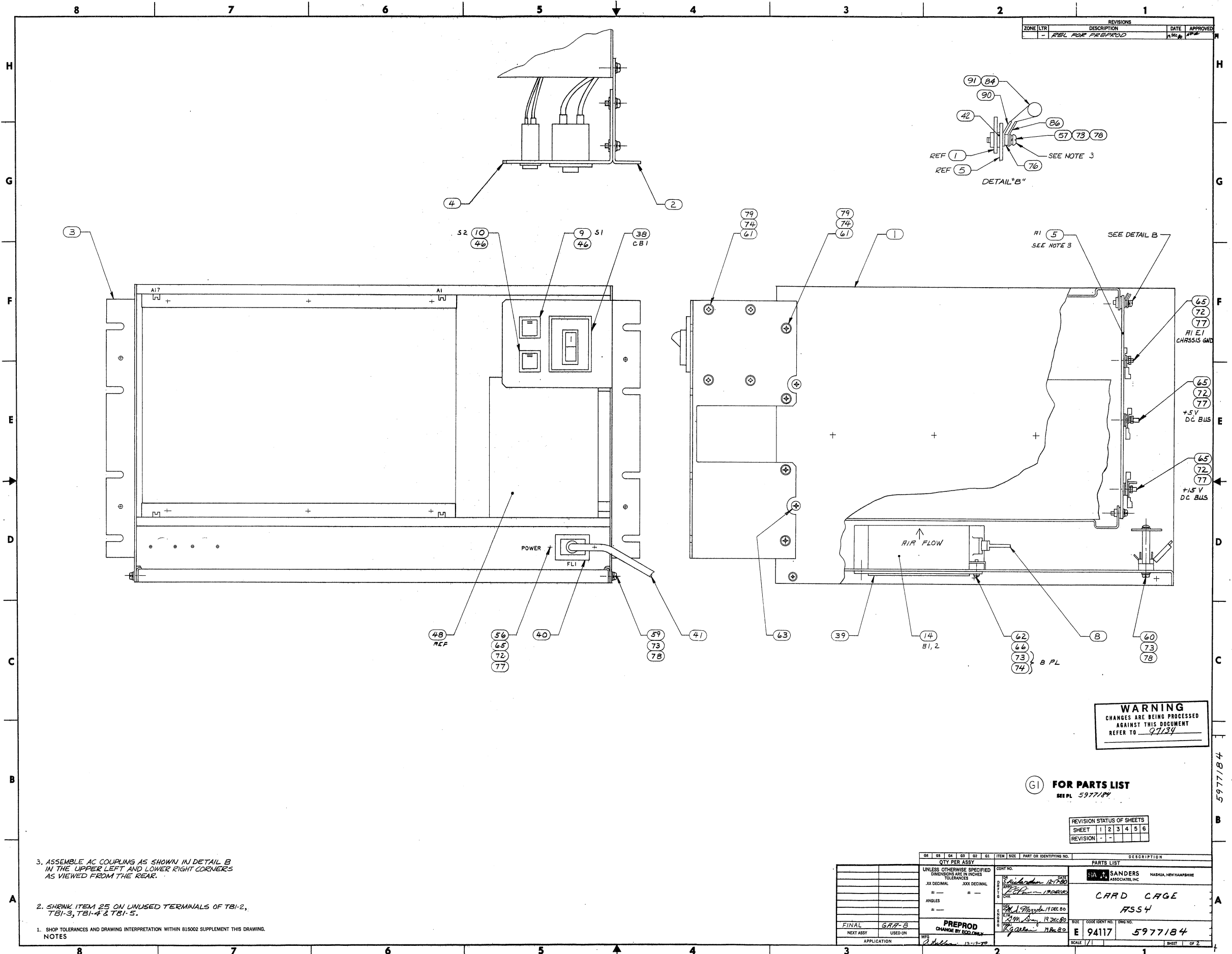
A 94117 PL

5977184

REV -

SHEET 5





REVISIONS				
ZONE	LTR	DESCRIPTION	DATE	APPROVED
-	REL FOR PREPROD			

3. ASSEMBLE AC COUPLING AS SHOWN IN DETAIL B IN THE UPPER LEFT AND LOWER RIGHT CORNERS AS VIEWED FROM THE REAR.

2. SHRINK ITEM 25 ON UNUSED TERMINALS OF TBI-2, TBI-3, TBI-4 & TBI-5.

1. SHOP TOLERANCES AND DRAWING INTERPRETATION WITHIN 815002 SUPPLEMENT THIS DRAWING. NOTES

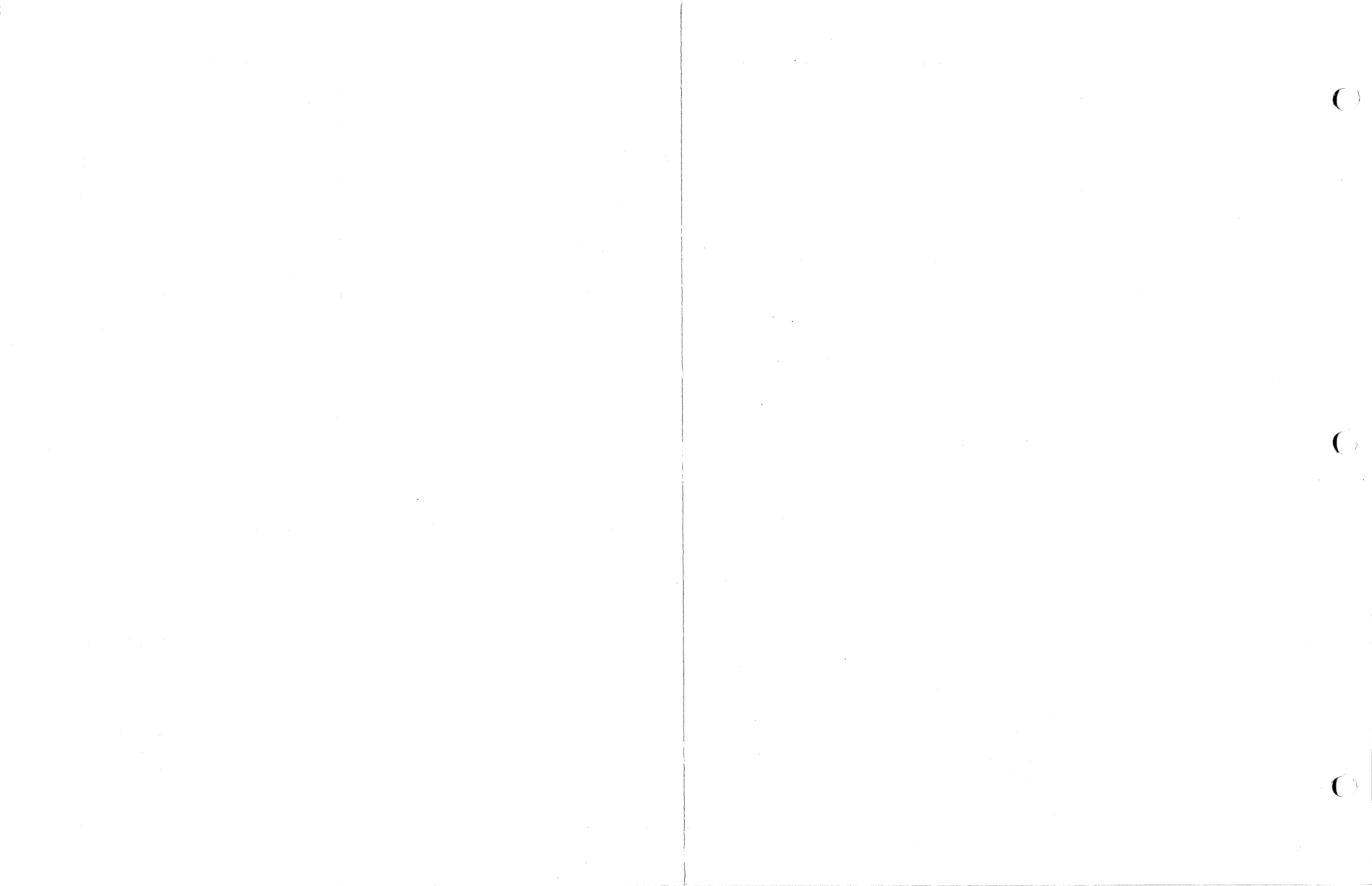
WARNING
 CHANGES ARE BEING PROCESSED AGAINST THIS DOCUMENT
 REFER TO 97134

(G) **FOR PARTS LIST**
 SEE PL 5977184

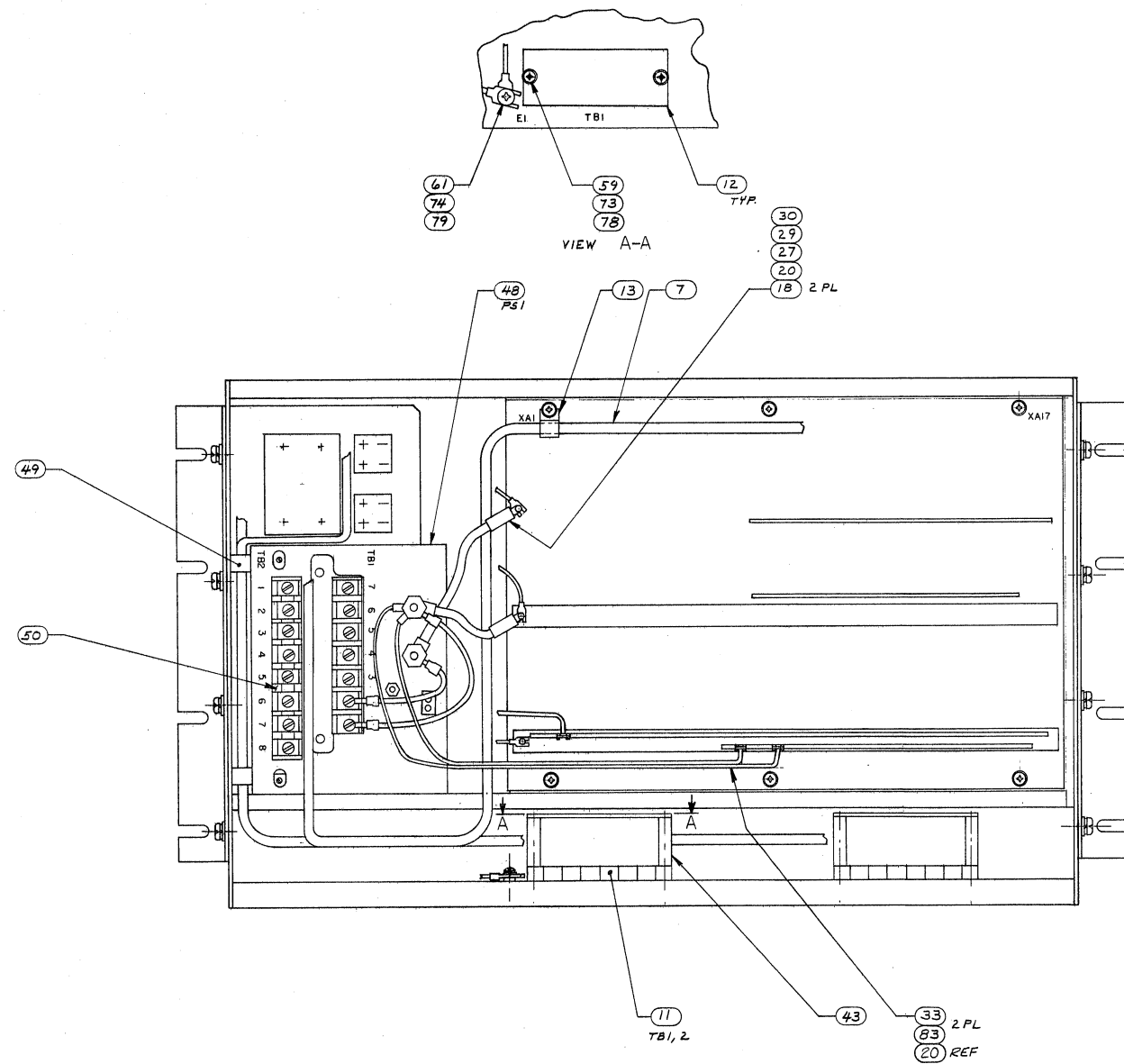
REVISION STATUS OF SHEETS						
SHEET	1	2	3	4	5	6
REVISION	-	-	-	-	-	-

Q4	Q3	Q4	Q3	Q2	Q1	ITEM	SIZE	PART OR IDENTIFYING NO.	DESCRIPTION
QTY PER ASSY						PARTS LIST			
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES						SA SANDERS ASSOCIATES, INC. MASHA, NEW HAMPSHIRE			
XX DECIMAL .XX DECIMAL						CARD CAGE ASSY			
ANGLES						R94117 5977184			
FINAL GRR-B						SCALE 1/1 SHEET OF 2			
NEXT ASSY USED ON						DATE 12-15-70			
APPLICATION						DRAWN BY [Signature]			

5977184

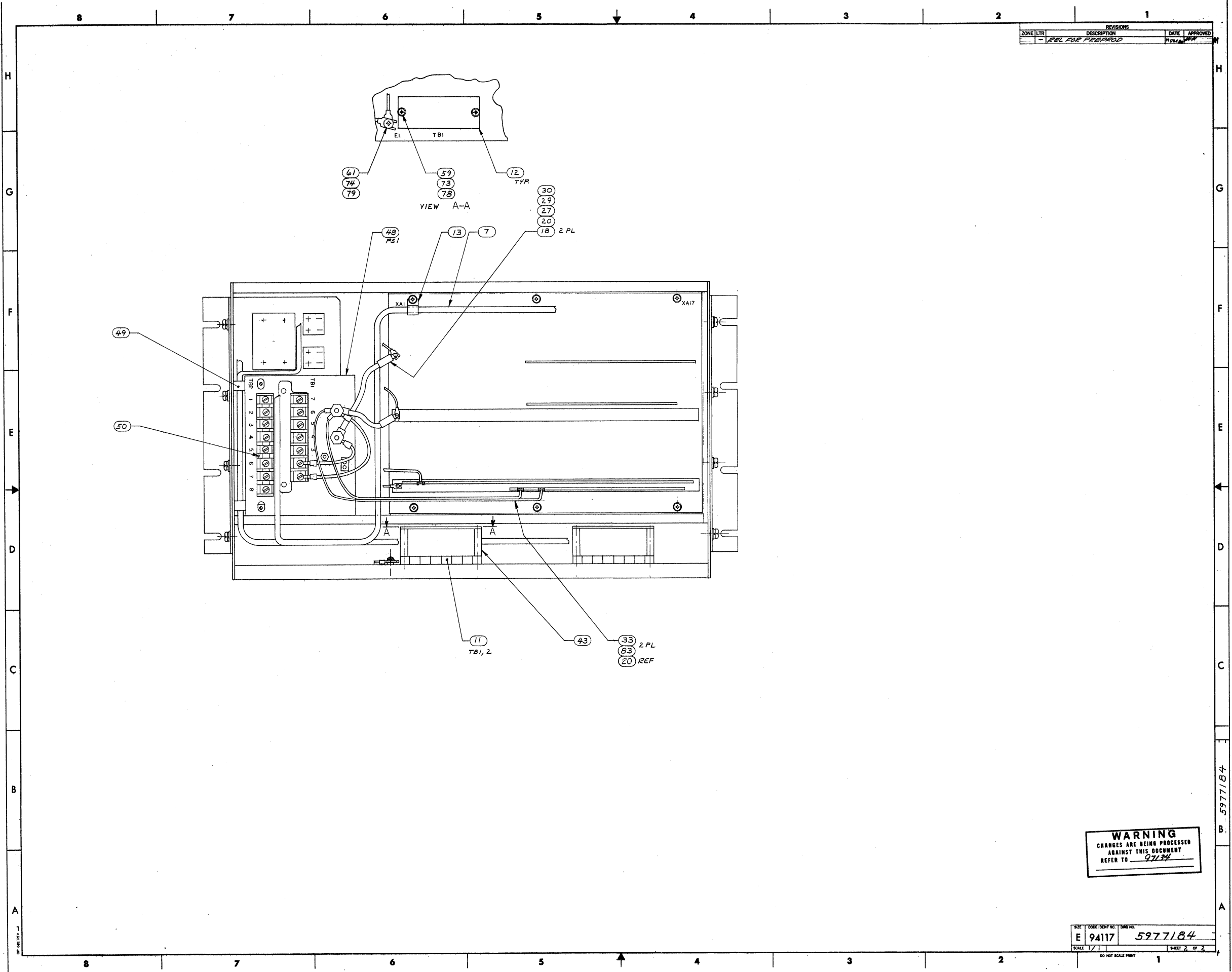


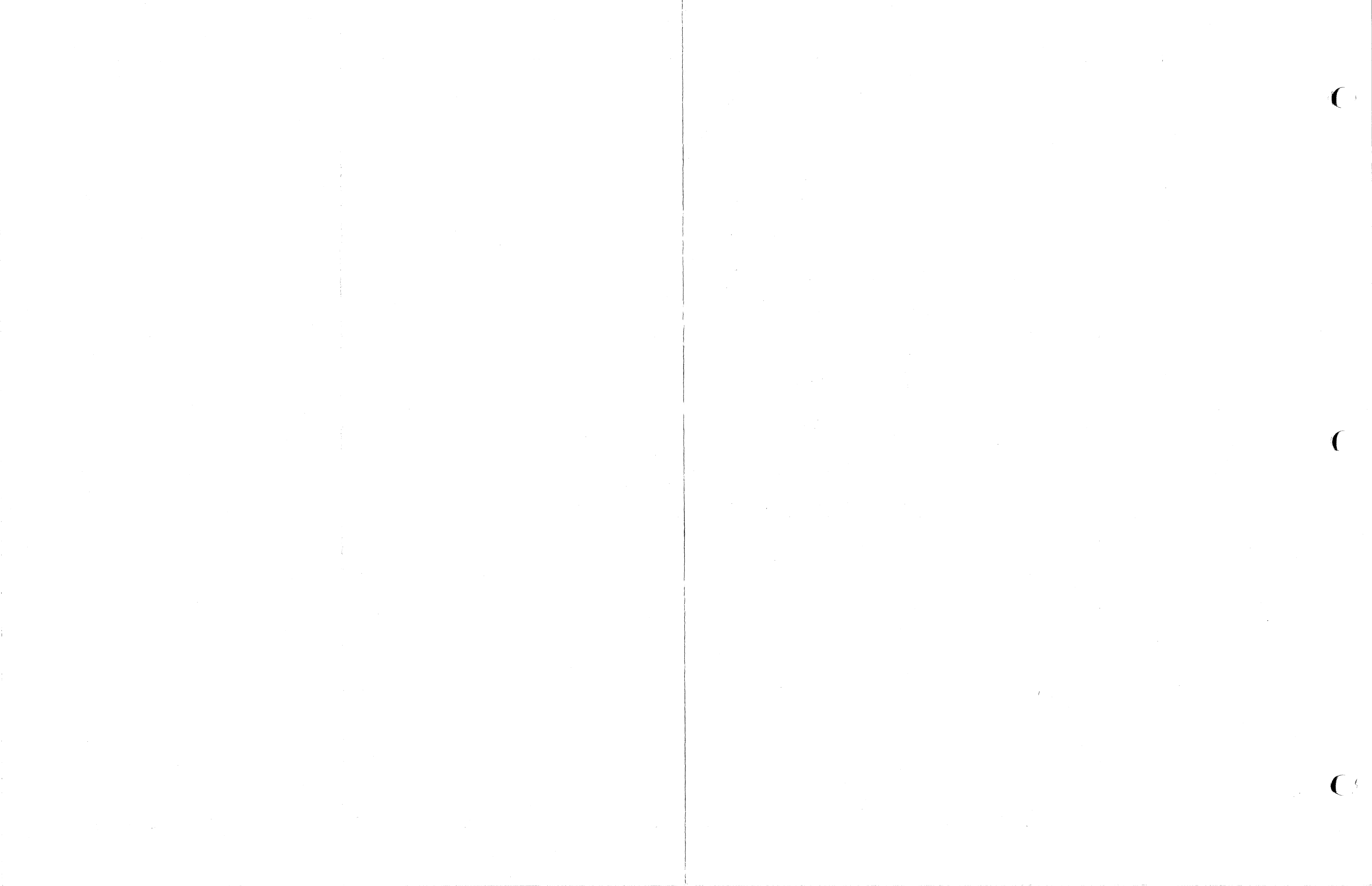
ZONE LTR	REVISIONS	DATE	APPROVED
-	EPL FOR PREPND		

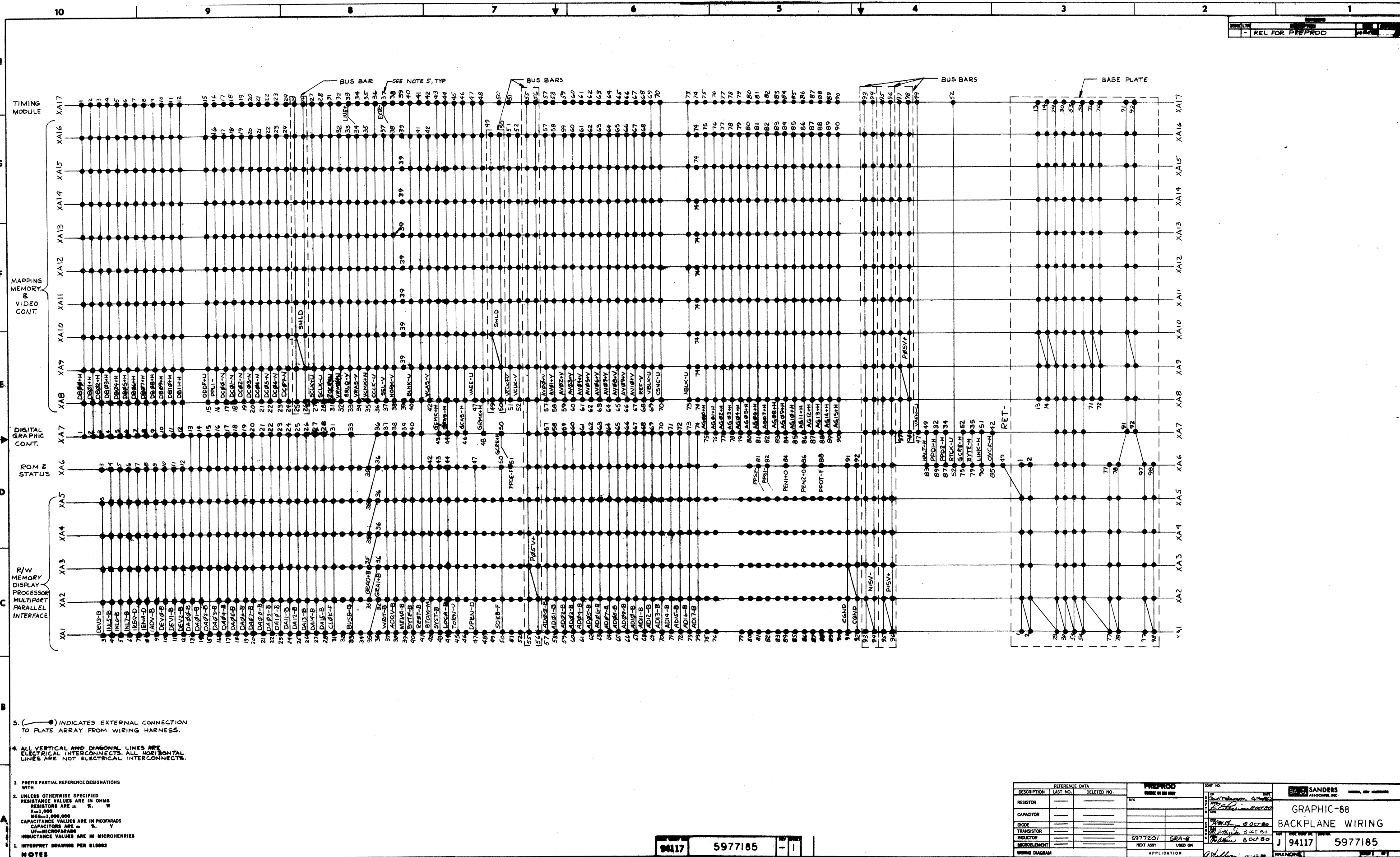


WARNING
 CHANGES ARE BEING PROCESSED
 AGAINST THIS DOCUMENT
 REFER TO 97134

FILE CODE IDENT. DRAWING NO.
 E 94117 5977184
 SCALE 1/1 SHEET 2 OF 2
 DO NOT SCALE PRINT







5. (●) INDICATES EXTERNAL CONNECTION TO PLATE ARRAY FROM WIRING HARNESS.
4. ALL VERTICAL AND DIAGONAL LINES ARE ELECTRICAL INTERCONNECTS. ALL HORIZONTAL LINES ARE NOT ELECTRICAL INTERCONNECTS.
3. PREFIX PARTIAL REFERENCE DESIGNATIONS WITH
2. UNLESS OTHERWISE SPECIFIED RESISTANCE VALUES ARE IN OHMS
RESISTORS ARE % , W
K=1,000
M=1,000,000
CAPACITANCE VALUES ARE IN PICOFARADS
CAPACITORS ARE % , V
UF=MICROFARADS
INDUCTANCE VALUES ARE IN MICROHENRIES
1. HYPERPRET DRAWINGS PER 810002
- NOTES**

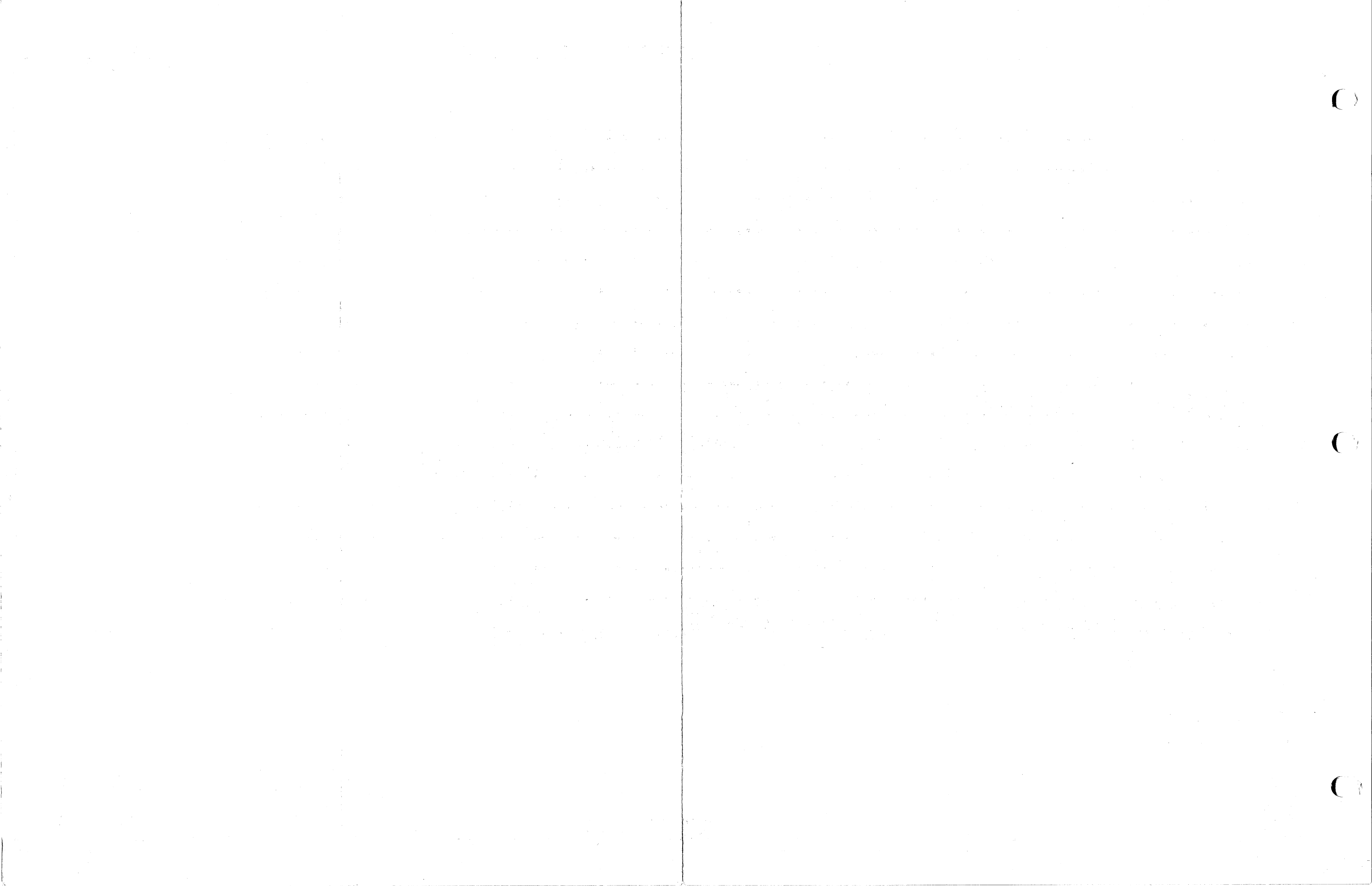
94117 5977185

REFERENCE DATA		PREPROD		DRAWING NO. 801		DATE	
DESCRIPTION	LAST NO.	DELETED NO.	REV.	DATE	BY	DATE	BY
RESISTOR							
CAPACITOR							
DIODE							
TRANSISTOR							
INDUCTOR							
MICROELEMENT							
WIRING DIAGRAM							

94117	5977185	1
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DESCRIPTION	GRAPHIC-88
TITLE	BACKPLANE WIRING
DATE	J 94117
REV.	5977185

5977185



		REVISION STATUS											
		1	2	3	4	5	6	7	8	9	10	11	12
PARTS	SH	K	G	E	D	F	A	A	A	A			
	REV	13	14	15	16	17	18	19	20	21	22	23	24
	SH												
	REV												

DWG REV	F
WL REV	N/A

REVISIONS			
LTR	DESCRIPTION	DATE	APPROVED
-	REL FOR DEVELOPMENT	9 FEB 78	RT/AOT
A	REV PER ENG	28 FEB 78	AB/
B	CHANGED ITEM 30, 31, 35 PER ENG	13 APR 78	AB/
C	REV PER ENG	4 MAY 78	WG/
D	CHANGED ITEM 9 REL FOR PROD	6 JUN 78	RY/RUB
E	REV PER ECO 76264	2 NOV 78	WG/RUB
F	REV PER ECO 76316	11 APR 79	WG/WL
G	REV PER ECO 76326		
H	REV PER ECO 76474	31 OCT 79	WG/WL
J	REV PER ECO 76480		
K	REV PER ECO 96257A	2 JAN 80	ROY WL

3. FOR AUTHORIZED COMPONENT SUBSTITUTION LIST SEE DWG SA1088588.
2. PARTS LIST SHEET ONE IS THE CONTROLLING REVISION FOR THE COMBINED PARTS LIST, DRAWING AND WIRE LIST.
1. SHOP PRACTICE TOLERANCES AND DRAWING INTERPRETATION WITHIN 815002 SUPPLEMENT THIS DRAWING.

PRODUCTION
CHANGE BY ECO ONLY

MFG J.A:ch 8-2-78

CONT NO.	
D	DR
R	APRD
F	DATE 4 MAY 78
T	
G	CHK
E	18 MAR 78
N	
G	
R	DEV 8
O	6-6-78
	EM
	8-9-78
	8/7/78

SANDERS ASSOCIATES, INC.
NASHUA, NEW HAMPSHIRE

CIRCUIT CARD ASSY,
LARGE MEMORY

SIZE CODE IDENT NO.
A 94117 PL 1089724

PARTS LIST

ITEM NO.	QTY PER ASSY			DWG SIZE	CODE IDENT	PART OR IDENTIFYING NO.	DESCRIPTION	SYM
	G1	G2	G3					
16	5	5	5			SN74S74N	MED, U14, 15, 18, 19, 25	
17	1	1	1			SN74S124N	MED, U7	
18	2	2	2			SN74S139N	MED, U24, 48	
19	11	11	11			SN74S153N	MED, U1, 11, 21, 31, 34, 35, 41, 42, 43, 44, 45	
20	5	5	5			SN74S157N	MED, U13, 36, 37, 38, 56	
21	2	2	2			SN74LS163N	MED, U26, 27	
22	1	1	1			SN74LS164N	MED, U9	
23	3	3	3			SN74LS174N	MED, U2, 12, 22	
24	1	1	1		07263	UA7812UC	VOLTAGE REGULATOR +12 VDC, VRI (FAIRCHILD)	
25	1	1	1		07263	UA79M05AHC	VOLTAGE REGULATOR -5VDC, VR2 (FAIRCHILD)	
26	1	1	1			RNC55H3161FS	RES, MIL-R-55182/1, 3.16K, ±1%, .10W, R1	
27	1	1	1			RNC55H2151FS	RES, MIL-R-55182/1, 2.15K, ±1%, .10W, R2	
28	1	1	1			RCR07G363JS	RES, 36K OHMS, ±5%, .25W, R3	
29	1	1	1			RCR07G243JS	RES, 24K OHMS, ±5%, .25W, R4	
30	22	22	22			RCR07G200JS	RES, 20 OHMS, ±5%, .25W, R5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26	
31	2	2	2			RCR07G360JS	RES, 36 OHMS, ±5%, .25W, R33, 34	
32	1	1	1			RCR07G302JS	RES, 3K OHMS, ±5%, .25W, R27	
33	5	5	5			RCR07G512JS	RES, 5.1K OHMS, ±5%, .25W, R28, 29, 30, 31, 32	
34	2	2	2			RCR07G102JS	RES, 1K OHMS, ±5%, .25W, R35, 36	
35	1	1	1			CM05ED240JP3	CAP, 24PF, ±5%, 500 WVDC, C1	
36	2	2	2			CK05BX102K	CAP, 1000PF, ±10%, 200 WVDC, C2, 3	

SHEET ONE REVISION LETTER IS THE IDENTIFYING REVISION FOR THIS MULTISHEET DWG
 SEE SHEET ONE FOR REVISION DESCRIPTIONS
 SYMBOLS : INDICATES VENDOR ITEM - SEE SPEC/SOURCE CONTROL DWG.

SIZE CODE IDENT NO.

A 94117 PL 1089724

REV E SHEET 3

PARTS LIST

ITEM NO.	QTY PER ASSY		DWG SIZE	CODE IDENT	PART OR IDENTIFYING NO.	DESCRIPTION	SYM
	G1	G2					
37	9	9			M39003/01-2304	CAP, 6.8 UF, ±10%, 35 WVDC, C4, 5, 10, 11, 12, 13, 14, 15, 16	
38	1	1			M39003/01-2347	CAP, .33 UF, ±10%, 50 WVDC, C6	
39	10	10			M39003/01-2356	CAP, 1.0 UF, ±10%, 50 WVDC, C7, 9, 17, 18, 19, 20, 21, 22, 23, 24	
40	1	1			M39003/01-2362	CAP, 2.2 UF, ±10%, 50 WVDC, C8	
41	110	110	110		CK05BX104K	CAP, 0.1 UF, ±10%, 50 WVDC, C25, 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	
42	4	4			7011935PI	INDUCTOR, L1, 2, 3, 4	
43	1	1		31514	1008-692	SWITCH, SI	
44	1	1		13103	6073B	HEAT SINK, (SAE)	
45	1	1			1086608P18	CONN, ELEC, PC BOARD (THERMALLOY)	
46	2	2			MS20470AD2-6	RIVET, SOLID .063 X .38 LG	
47	2	2	A		600107PI	EJECTOR, CARD	
48	2	2	A		630003P14	EYELET, METALLIC	
49	1	1	A		640049PI	TRANSIPAD,	

SHEET ONE REVISION LETTER IS THE IDENTIFYING REVISION FOR THIS MULTISHEET DWG
 SEE SHEET ONE FOR REVISION DESCRIPTIONS
 SYMBOLS : INDICATES VENDOR ITEM - SEE SPEC/SOURCE CONTROL DWG.

SIZE	CODE IDENT NO.	REV	D
A	94117 PL	1089724	4

P A R T S L I S T

ITEM NO.	QTY PER ASSY			DWG SIZE	CODE IDENT	PART OR IDENTIFYING NO.	DESCRIPTION	SYM
	G1	G2	G3					
50	1	1	1			MS51957-14	SCREW, MACH, PAN HD, .112-40 X .31 LG	#
51	1	1	1			MS15795-803	WASHER, FLAT-METAL, .125ID X .25 OD	
52	1	1	1			MS21083C04	NUT, SLFLKG, HEX, .112-40	
53	REF	REF	REF	J		1089726	LOGIC DIAGRAM, 64K MEMORY	
54	6	6	6	A		165046P1	TEST POINT	
55	AR	AR	AR	A		93002P1	SOLDER	
56	1	1	1			SN74LS74N	MED, U39	
57								
58	3	3	3			RCR07G331JS	RES, 330 OHMS, ±5%, .25W, R37,38,39	#
59	AR	AR	AR	A		270006P5	INSULATION TUBING, ELEC.	
60	AR	AR	AR	A		278002P13	WIRE, ELEC, UNINSUL, 22 AWG	
61	REF	REF	REF	A		815003	PW AND CKT BD, REQ'T FOR	
62	—	32	—		12881	MK4116P-3	MED, U61,62,63,64,65,66,67,68,70,71,72,73, 74,75,76,77,78,79,80,81,82,83,84,85,87,88, 89,90,91,92,93,94 (MOSTEX)	
63	—	—	32		12881	MK4116P-3	MED, U61,62,63,64,65,66,67,68,70,71,72, 73,74,75,76,77,95,96,97,98,99,100,101, 102,104,105,106,107,108,109,110,111	
64	AR	AR	AR			276000P26	WIRE, ELEC INSUL, 22 AWG	
65								

SHEET ONE REVISION LETTER IS THE IDENTIFYING REVISION FOR THIS MULTISHEET DWG SEE SHEET ONE FOR REVISION DESCRIPTIONS SYMBOLS : INDICATES VENDOR ITEM - SEE SPEC/SOURCE CONTROL DWG.	SIZE CODE IDENT NO. A 94117 PL	1089724
REV F	SHEET 5	

PARTS LIST

ITEM NO.	QTY PER ASSY.		DWG SIZE	CODE IDENT	PART OR IDENTIFYING NO.	DESCRIPTION	SYM
	G4	G					
1	1	-		12881	1089725G1 MK4116P-3	CIRCUIT CARD SUBASSY 64K MEMORY MED, U61,62,63,64,65,66,67,68,70,71, 72,73,74,75,76,77,78,79,80,81,82,83,84,85, 87,88,89,90,91,92,93,94,95,96,97,98,99, 100,101,102,104,105,106,107,108,109,110, 111,112,113,114,115,116,117,118,119,121,122,123, 124,125,126,127,128 (MOSTEX)	
3	2			07263	F93S46PC	MED, U4,16 (FAIRCHILD)	
4	1			07263	F96S02PC	MED, U28 (FAIRCHILD)	
5	1			07263	F9S42PC	MED, U8 (FAIRCHILD)	
6	4			27014	DS8833N	MED, U32,33,46,47 (NATIONAL)	
7	2				SN7400N	MED, U29,30	
8	1				SN74S02N	MED, U5	
9	11				SN74S04N	MED, U3,20,23,40,52,54,55,57,69,103,120	
10	1				SN74S05N	MED, U50	
11	2				SN74S08N	MED, U17,86	
12	1				SN7410N	MED, U10	
13	1				SN74S20N	MED, U49	
14	1				SN7421N	MED, U53	
15	1				SN7425N	MED, U51	

SHEET ONE REVISION LETTER IS THE IDENTIFYING REVISION FOR THIS MULTISHEET DWG
SEE SHEET ONE FOR REVISION DESCRIPTIONS
SYMBOLS : INDICATES VENDOR ITEM - SEE SPEC/SOURCE CONTROL DWG.

SIZE CODE IDENT NO.

A 94117 PL 1089724
REV A SHEET 6

PARTS LIST

ITEM NO.	QTY PER ASSY		DWG SIZE	CODE IDENT	PART OR IDENTIFYING NO.	DESCRIPTION	SYM
	G4	G					
16	5				SN74S74N	MED, U14, 15, 18, 19, 25	
17	1				SN74S124N	MED, U7	
18	2				SN74S139N	MED, U24, 48	
19	11				SN74S153N	MED, U1, 11, 21, 31, 34, 35, 41, 42, 43, 44, 45	
20	5				SN74S157N	MED, U13, 36, 37, 38, 56	
21	2				SN74LS163N	MED, U26, 27	
22	1				SN74LS164N	MED, U9	
23	3				SN74LS174N	MED, U2, 12, 22	
24	1			07263	UA7812UC	VOLTAGE REGULATOR +12 VDC, VRI (FAIRCHILD)	
25	1			07263	UA79M05AHC	VOLTAGE REGULATOR -5VDC, VR2 (FAIRCHILD)	
26	1				RNC55H3161FS	RES, MIL-R-55182/1, 3.16K, ±1%, .10W, R1	
27	1				RNC55H2151FS	RES, MIL-R-55182/1, 2.15K, ±1%, .10W, R2	
28	1				RCR07G363VS	RES, 36K OHMS, ±5%, .25W, R3	
29	1				RCR07G243VS	RES, 24K OHMS, ±5%, .25W, R4	
30	22				RCR07G200VS	RES, 20 OHMS, ±5%, .25W, R5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26	
31	2				RCR07G360VS	RES, 36 OHMS, ±5%, .25W, R33, 34	
32	1				RCR07G302VS	RES, 3K OHMS, ±5%, .25W, R27	
33	5				RCR07G512VS	RES, 5.1K OHMS, ±5%, .25W, R28, 29, 30, 31, 32	
34	2				RCR07G102VS	RES, 1K OHMS, ±5%, .25W, R35, 36	
35	1				CM05ED240JP3	CAP, 24PF, ±5%, 500 WVDC, C1	
36	2				CK05BX102K	CAP, 1000PF, ±10%, 200 WVDC, C2, 3	

SIZE	CODE IDENT NO.	REV	SHEET
A	94117 PL	A	7
1089724			

SHEET ONE REVISION LETTER IS THE IDENTIFYING REVISION FOR THIS MULTISHEET DWG
SEE SHEET ONE FOR REVISION DESCRIPTIONS
SYMBOLS : INDICATES VENDOR ITEM - SEE SPEC/SOURCE CONTROL DWG.

PARTS LIST

ITEM NO.	QTY PER ASSY		DWG SIZE	CODE IDENT	PART OR IDENTIFYING NO.	DESCRIPTION	SYM
	G4	G					
37	9				M39003/01-2304	CAP, 6.8 UF, ±10%, 35 WVDC, C4, 5, 10, 11, 12, 13, 14, 15, 16	
38	1				M39003/01-2347	CAP, .33 UF, ±10%, 50 WVDC, C6	
39	10				M39003/01-2356	CAP, 1.0 UF, ±10%, 50 WVDC, C7, 9, 17, 18, 19, 20, 21, 22, 23, 24	
40	1				M39003/01-2362	CAP, 2.2 UF, ±10%, 50 WVDC, C8	
41	110				CK05BX104K	CAP, 0.1 UF, ±10%, 50 WVDC, C25, 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	
42	4				7011935PI	INDUCTOR, L1, 2, 3, 4	
43	1			31514	1008-692	SWITCH, SI	
44	1			13103	6073B	HEAT SINK, (SAE) (THERMALLOY)	
45	1				1086608PI8	CONN, ELEC, PC BOARD	
46	2				MS20470AD2-6	RIVET, SOLID .063 X .38 LG	
47	2		A		600107PI	EJECTOR, CARD	
48	2		A		630003PI4	EYELET, METALLIC	
49	1		A		640049PI	TRANSIPAD,	

SHEET ONE REVISION LETTER IS THE IDENTIFYING REVISION FOR THIS MULTISHEET DWG
 SEE SHEET ONE FOR REVISION DESCRIPTIONS
 SYMBOLS : INDICATES VENDOR ITEM - SEE SPEC/SOURCE CONTROL DWG.

SIZE CODE IDENT NO. A 94117 PL 1089724
 REV A SHEET 8

PARTS LIST

ITEM NO.	QTY PER ASSY		DWG SIZE	CODE IDENT	PART OR IDENTIFYING NO.	DESCRIPTION	SYM
	G ⁴	G					
50	1				MS51957-14	SCREW, MACH, PAN HD, .112-40 X .31 LG	#
51	1				MS15795-803	WASHER, FLAT-METAL, .125ID X .25 OD	
52	1				MS21083C04	NUT, SLFLKG, HEX, .112-40	
53	REF		J		1089726	LOGIC DIAGRAM, 64K MEMORY	
54	6		A		165046PI	TEST POINT	
55	AR		A		93002PI	SOLDER	
56	1				SN74LS74N	MED, U39	
57							
58	3				RCR07G331JS	RES, 330 OHMS, ±5%, .25W, R37,38,39	#
59	AR				270006P5	INSULATION TUBING, ELEC.	
60	AR		A		278002P13	WIRE, ELEC, UNINSUL, 22 AWG	
61	REF		A		815003	PW AND CKT BD, REQ'T FOR	
62	—			12881	MK4116P-3	MED, U61,62,63,64,65,66,67,68,70,71,72,73, 74,75,76,77,78,79,80,81,82,83,84,85,87,88, 89,90,91,92,93,94 (MOSTEX)	
63	—			12881	MK4116P-3	MED, U61,62,63,64,65,66,67,68,70,71,72, 73,74,75,76,77,95,96,97,98,99,100,101, 102,104,105,106,107,108,109,110,111	
64	16			12881	MK4116P-3	MED, U61,62,63,64,66,67,68,70,71, 72,73,74,75,76,77	
65	AR				276000P26	WIRE, ELEC INSUL, 22 AWG	

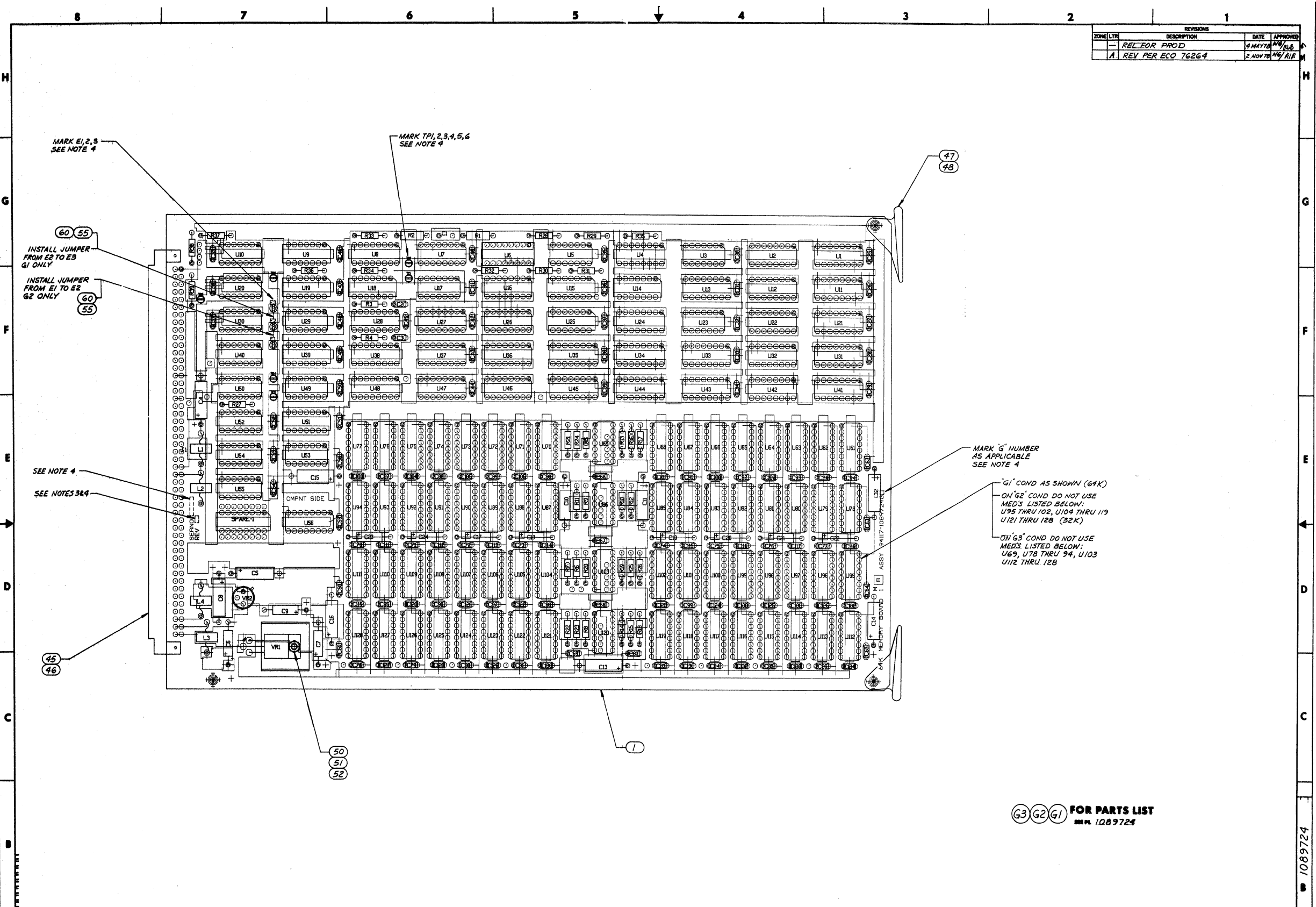
SIZE CODE IDENT NO.
A 94117 PL 1089724

SHEET ONE REVISION LETTER IS THE IDENTIFYING REVISION FOR THIS MULTISHEET DWG
 SEE SHEET ONE FOR REVISION DESCRIPTIONS
 SYMBOLS : INDICATES VENDOR ITEM - SEE SPEC/SOURCE CONTROL DWG.

REV **A** SHEET **9**



REVISIONS		DATE	APPROVED
ZONE	DESCRIPTION		
-	REL FOR PROD	4 MAR 78	RLE
A	REV PER ECO 76264	2 NOV 78	RLE



MARK E1,2,3
SEE NOTE 4

MARK T1,2,3,4,5,6
SEE NOTE 4

60 55
INSTALL JUMPER
FROM E2 TO E3
G1 ONLY

60 55
INSTALL JUMPER
FROM E1 TO E2
G2 ONLY

SEE NOTE 4

SEE NOTES 3&4

MARK 'G' NUMBER
AS APPLICABLE
SEE NOTE 4

G1 COND AS SHOWN (64K)
ON G2 COND DO NOT USE
MEM'S LISTED BELOW:
U95 THRU 102, U104 THRU 119
U121 THRU 128 (32K)

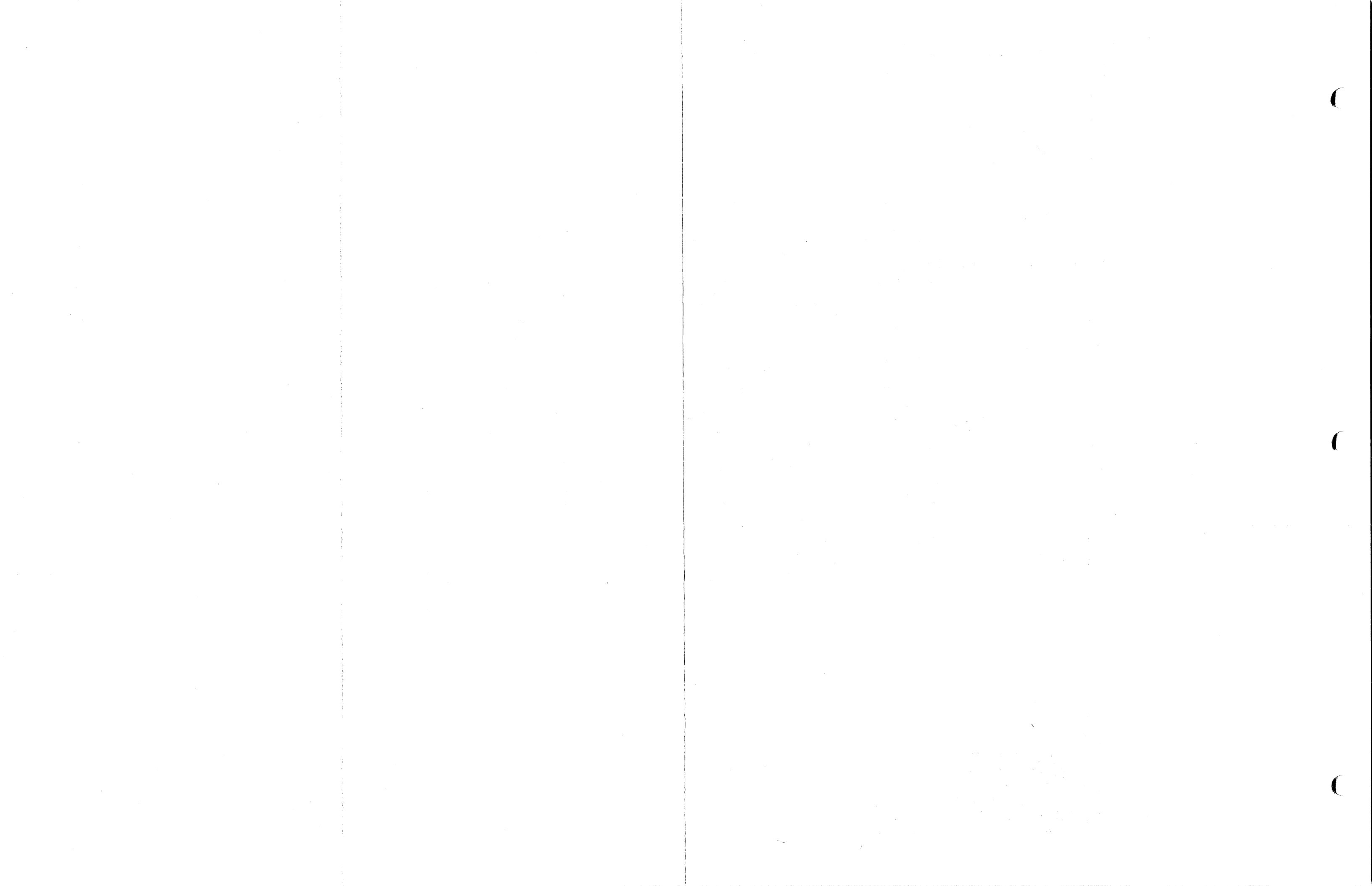
ON G3 COND DO NOT USE
MEM'S LISTED BELOW:
U69, U78 THRU 94, U103
U112 THRU 128

G3 G2 G1 FOR PARTS LIST
REV. 1089724

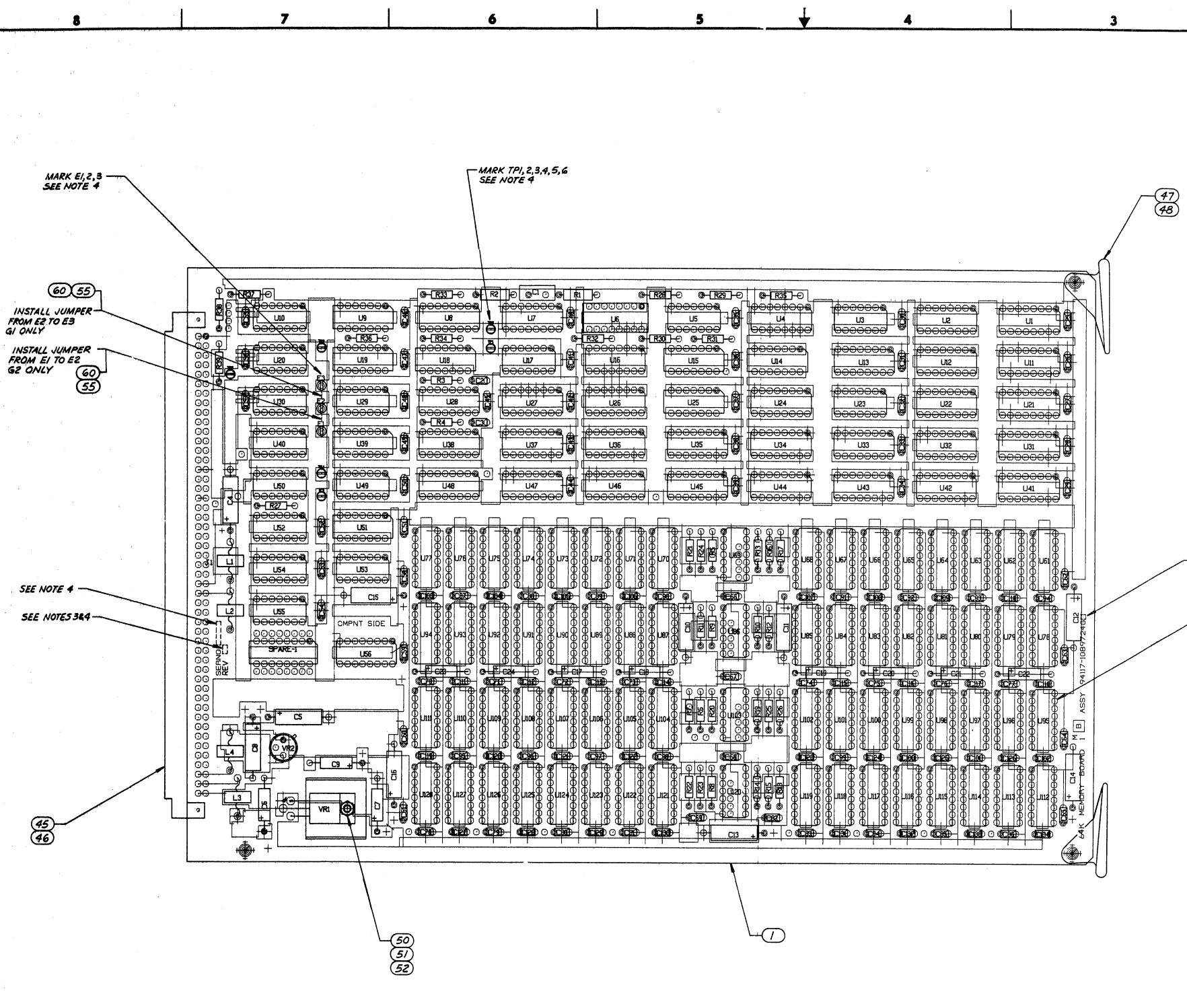
- NOTES**
1. SHOP, POLARIZED AND DIMENSION INTERPRETATION WITHIN GRIDS SUPPLEMENT THIS DRAWING.
 2. THIS ASSY SHALL MEET THE REQUIREMENTS OF ITEM G1.
 3. PARTS LIST SHEET ONE IS THE CONTROLLING REVISION FOR THE COMBINED PARTS LIST AND DRAWINGS.
 4. MARK CHARACTERS .04-.16 HIGH, IN ACCORDANCE WITH MIL-STD-130.
 5. OTHER THAN SPECIFICALLY NOTED, CHARACTERS ARE REFERENCE AND NOT TO BE MARKED.
 6. MAX COMPONENT HEIGHT TO BE
 7. SOLDER TIPS ON WIRE TO BE .09 MAX FROM BOARD

QTY PER ASSY	REVISION	DATE	DESCRIPTION
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES	BY	DATE	
JK ORIGINAL JK ORIGINAL ANELES ANELES	[Signature] [Signature]	4 MAY 78 16 MAR 78	SANDERS ASSOCIATES, INC. NORMAL, NEW HAMPSHIRE CIRCUIT CARD ASSY, 64K MEMORY
PRODUCTION DRAWING BY ONLY	[Signature] [Signature]	10/1/78 9/1/78	PART NO. 1089724 REV. E
NEXT ASSY USED ON APPLICATION	GEA-7 B-2-78	[Signature]	SHEET 2/11

1089724



REVISIONS				
ZONE	LYR	DESCRIPTION	DATE	APPROVED
		REL FOR PROD	4 MAY 78	WLR/RLB
A		REV PER ECO 76264	2 NOV 78	WLR/RLB



MARK E1, 2, 3
SEE NOTE 4

MARK T1, 2, 3, 4, 5, 6
SEE NOTE 4

INSTALL JUMPER FROM E2 TO E3
G1 ONLY

INSTALL JUMPER FROM E1 TO E2
G2 ONLY

SEE NOTE 4

SEE NOTES 3&4

MARK 'G' NUMBER
AS APPLICABLE
SEE NOTE 4

G1 COND AS SHOWN (64K)
ON G2 COND DO NOT USE
MEDS LISTED BELOW:
U95 THRU 102, U104 THRU 119
U121 THRU 128 (32K)

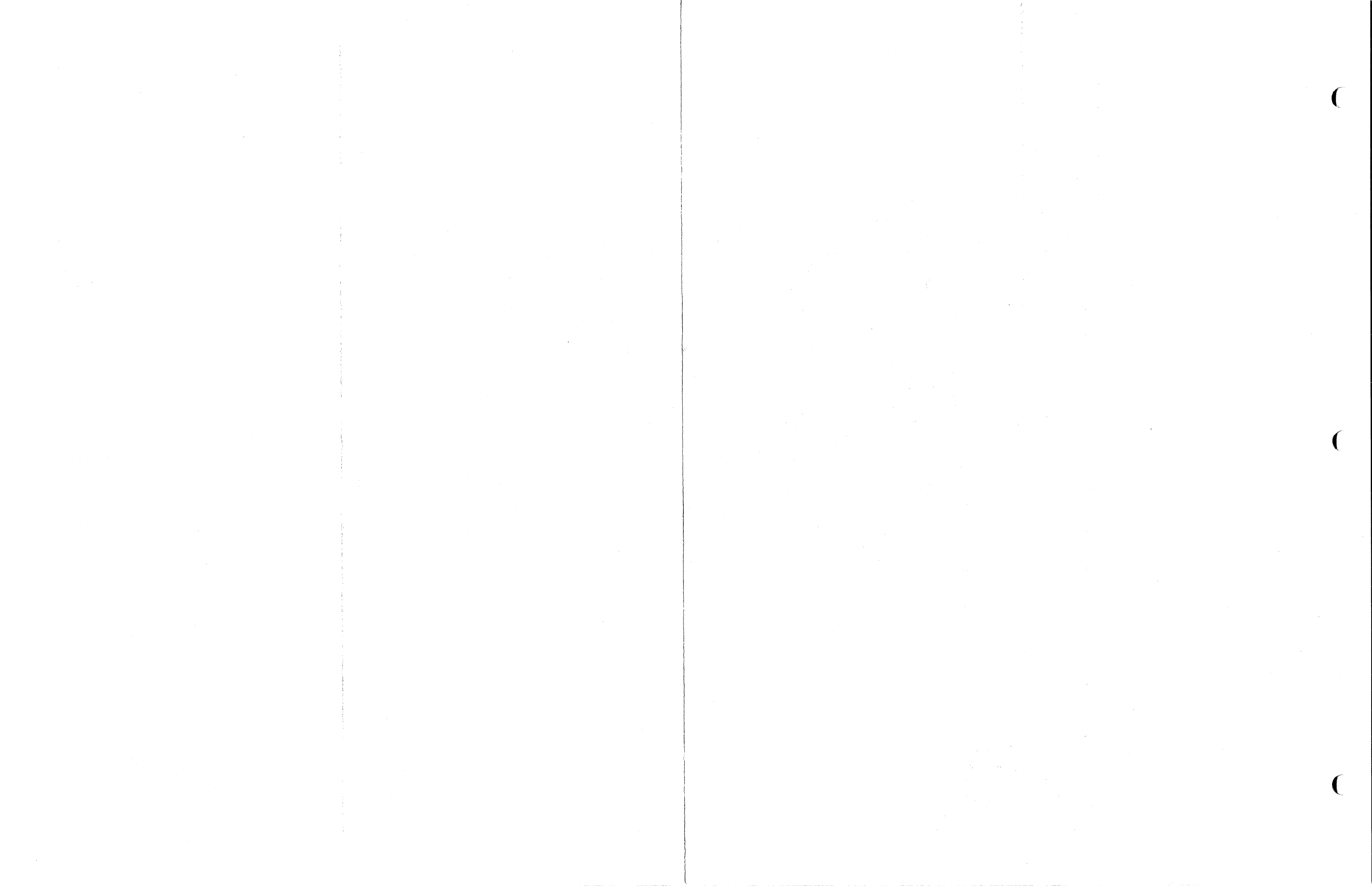
ON G3 COND DO NOT USE
MEDS LISTED BELOW:
U69, U78 THRU 94, U103
U112 THRU 128

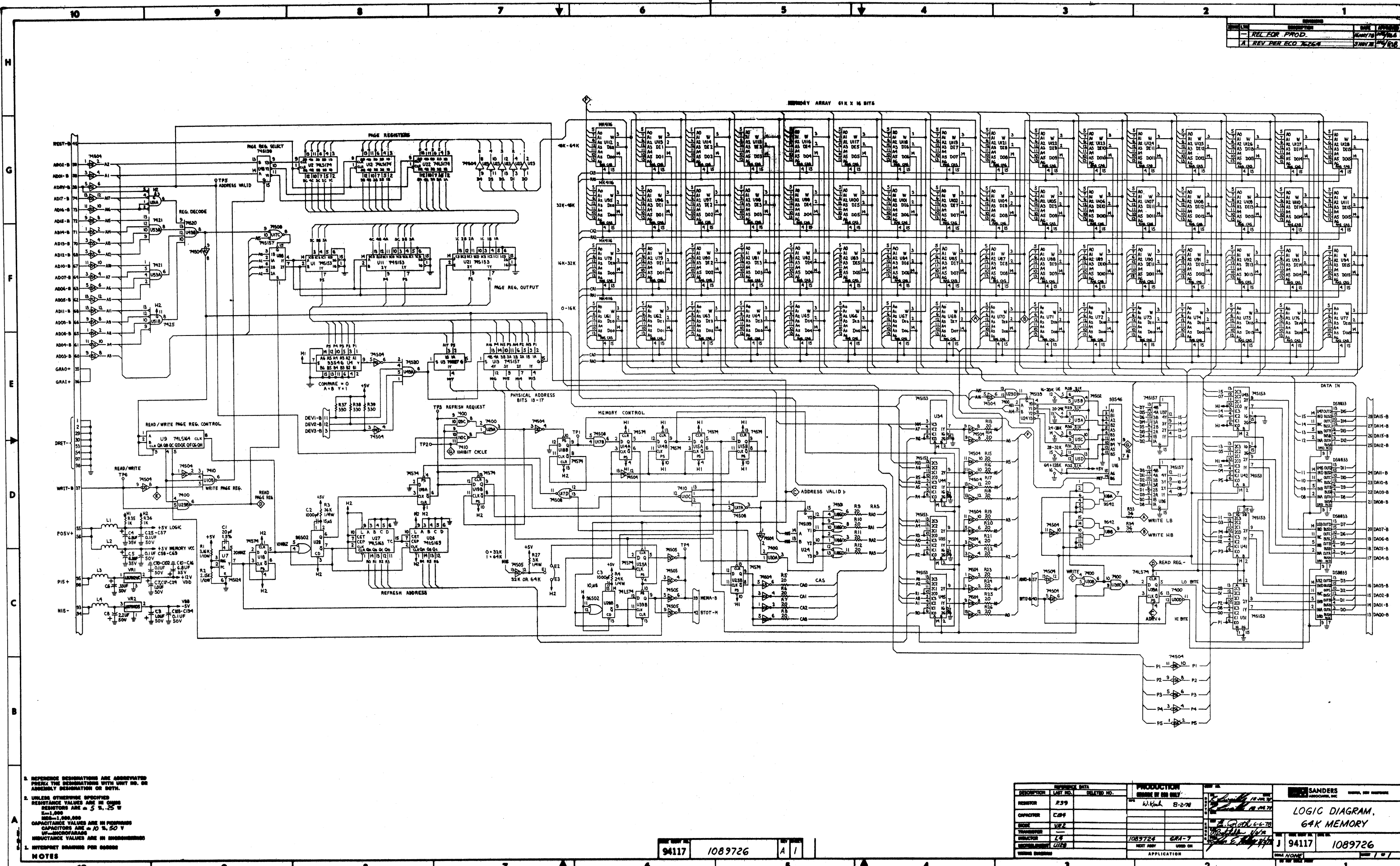
- NOTES**
1. SHOP TOLERANCES AND DIMENSIONS INTERPRETATION WITHIN GRIDS SUPPLEMENT THIS DRAWING.
 2. THIS ASSY SHALL MEET THE REQUIREMENTS OF ITEM G1.
 3. PARTS LIST SHEET ONE IS THE CONTROLLING REVISION FOR THE COMBINED PARTS LIST AND DRAWING.
 4. MARK CHARACTERS .04-.16 HIGH, IN ACCORDANCE WITH MIL-STD-130.
 5. OTHER THAN SPECIFICALLY NOTED, CHARACTERS ARE REFERENCE AND NOT TO BE MARKED.
 6. MAX COMPONENT HEIGHT TO BE .09 MAX FROM BOARD.
 7. SOLDER TIPS OR WIRE TO BE .09 MAX FROM BOARD.

G3 G2 G1 FOR PARTS LIST
SEE PL. 1089724

QTY PER ASSY		PARTS LIST		DESCRIPTION
UNLESS OTHERWISE SPECIFIED	QTY PER ASSY	QTY PER ASSY	DESCRIPTION	
USE ORIGINAL	USE ORIGINAL	USE ORIGINAL	USE ORIGINAL	
AMULET	AMULET	AMULET	AMULET	
PRODUCTION	PRODUCTION	PRODUCTION	PRODUCTION	
USED ON	USED ON	USED ON	USED ON	
APPLICATION	APPLICATION	APPLICATION	APPLICATION	
NEXT ASSY: GBA-7		DATE: 11/2/78		BY: WLR
PARTS LIST		DESCRIPTION		
SANDERS ASSOCIATES, INC.		CIRCUIT CARD ASSY, 64K MEMORY		
E 94117		1089724		
SCALE: 2/1		SHEET: 2/1		

1089724





1. REFERENCE DESIGNATIONS ARE ABBREVIATED
 PREFIX THE DESIGNATIONS WITH UNIT NO. OR
 ASSEMBLY DESIGNATION OR BOTH.

2. UNLESS OTHERWISE SPECIFIED
 RESISTANCE VALUES ARE IN OHMS
 RESISTORS ARE 1/8 W, 5% W
 CAPACITANCE VALUES ARE IN PICOSECONDS
 CAPACITORS ARE 10%, 50 V
 UNLESS OTHERWISE SPECIFIED
 INDUCTANCE VALUES ARE IN MICROHENRIES

3. INTERPRET DRAWING PER 60000
 NOTES

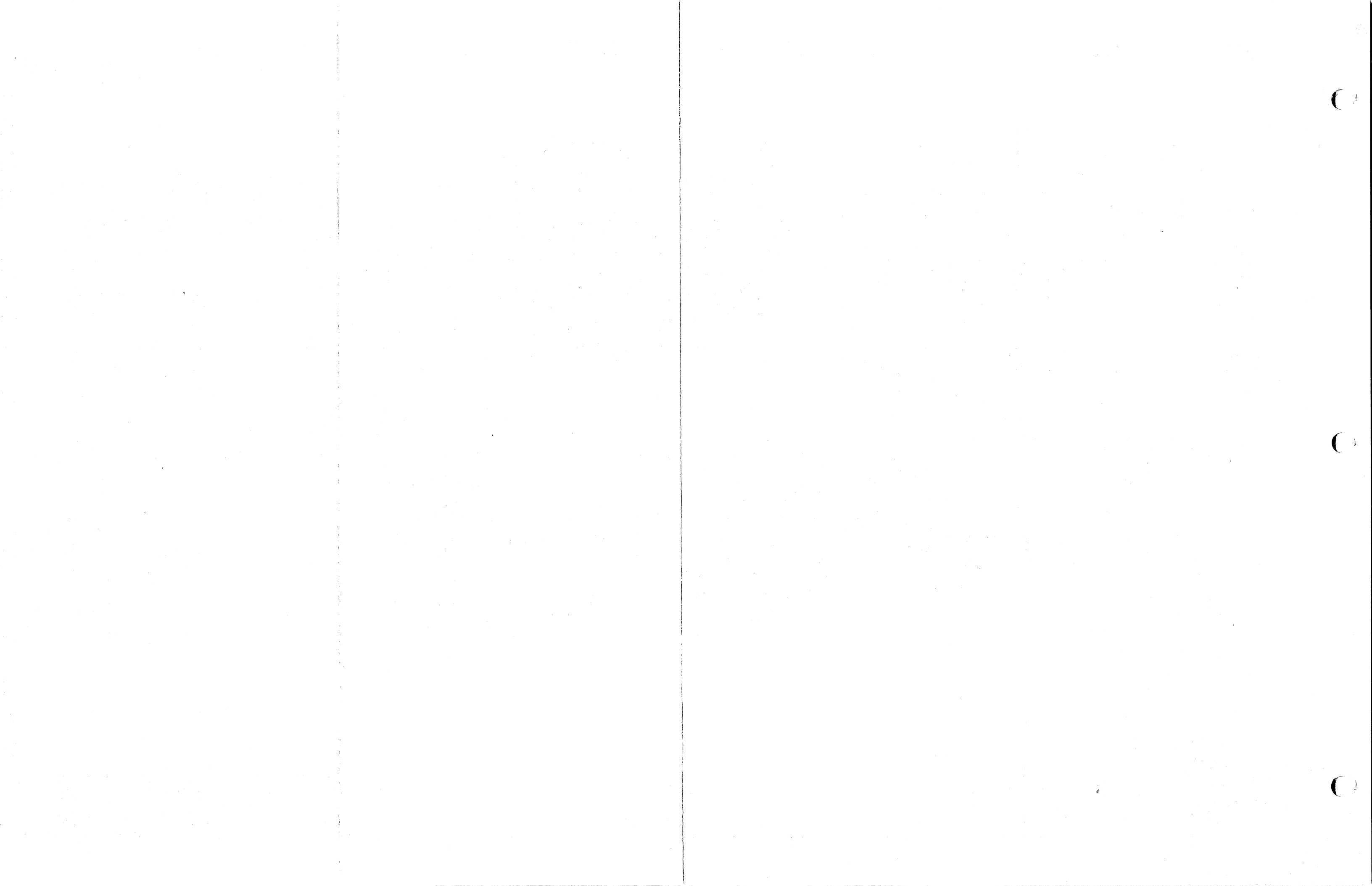
DESCRIPTION	REF. DATA	PRODUCTION	DATE
REVISION	LAST NO.	CHANGE BY AND NO.	DATE
REVISION	R39	W.K.B. B-2-78	10 JUN 78
REVISION	C49		10 JUN 78
REVISION	V42		10 JUN 78
REVISION	L4		10 JUN 78
REVISION	U129		10 JUN 78

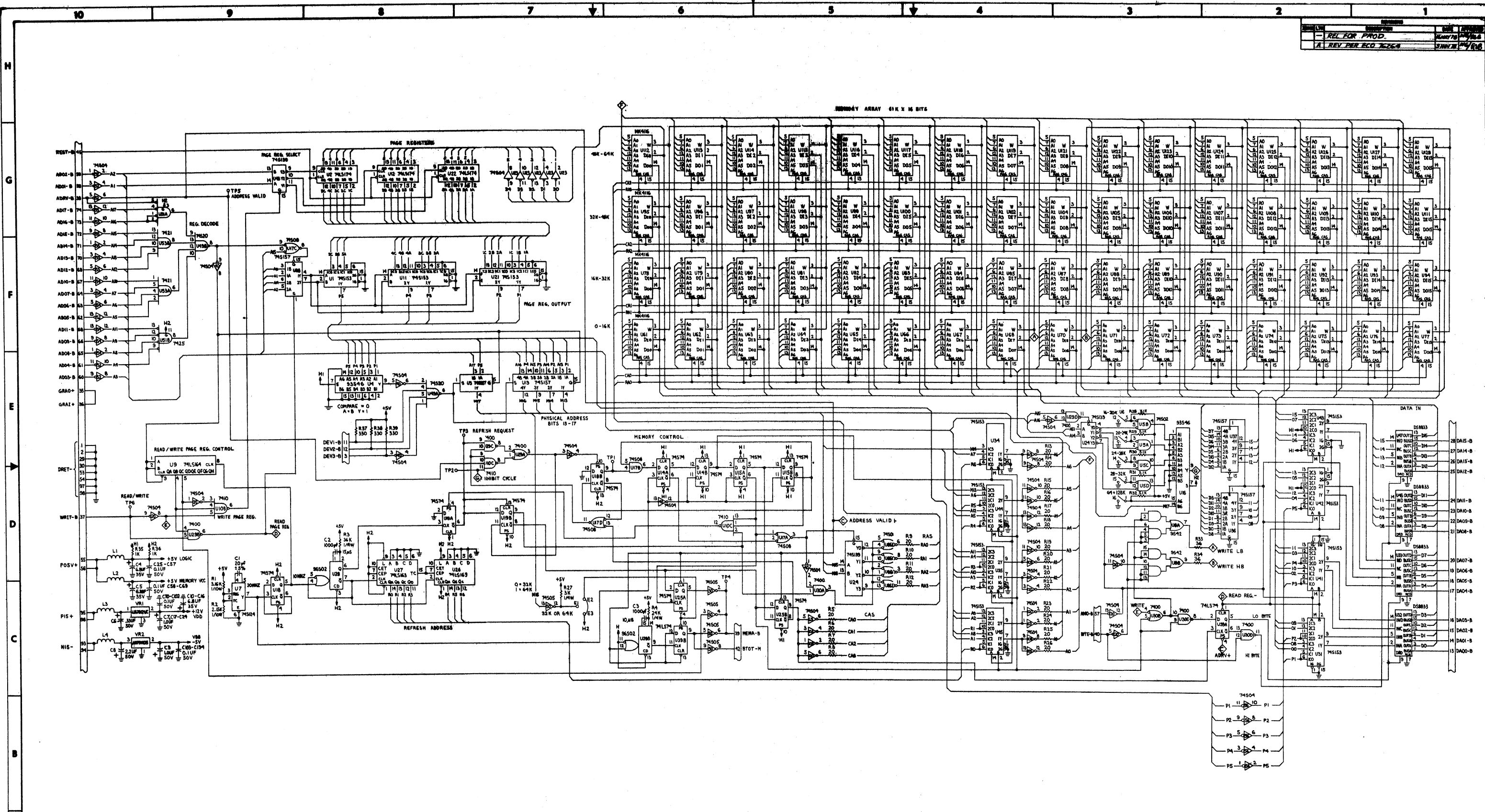
DESIGNED BY	W. K. B.
CHECKED BY	J. M. R.
APPROVED BY	J. M. R.
DATE	10 JUN 78

LOGIC DIAGRAM, 64K MEMORY
J 94117 1089726

1089726 A 1

1089726



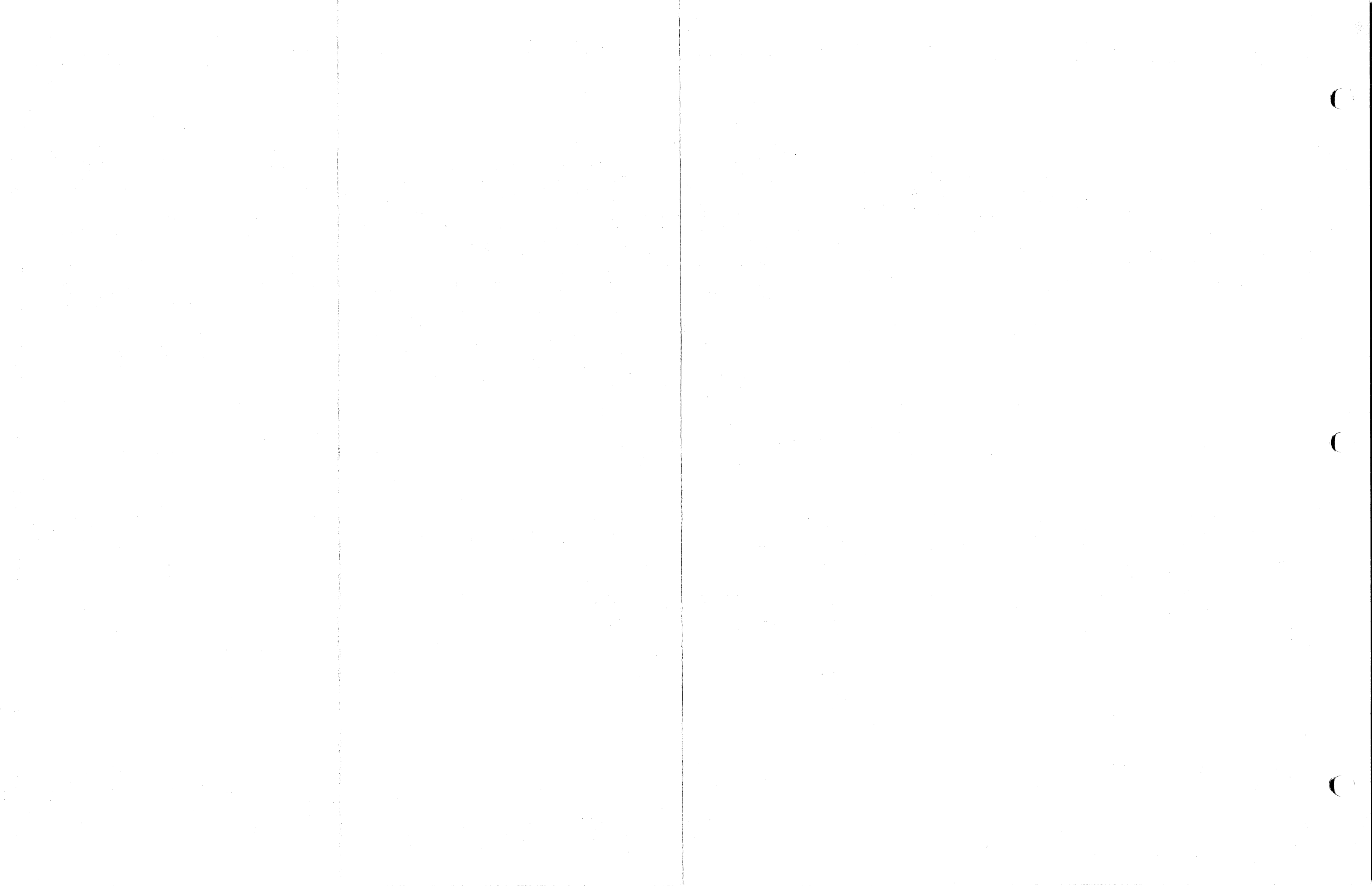


- REFERENCE DESIGNATIONS ARE ASSOCIATED WITH THE DESIGNATIONS WITH UNIT NO. OR ASSEMBLY DESIGNATION OR BOTH.
- UNLESS OTHERWISE SPECIFIED, RESISTANCE VALUES ARE IN OHMS. RESISTORS ARE $\pm 5\%$, $1/4$ W. CAPACITANCE VALUES ARE IN PICOFARADS. CAPACITORS ARE $\pm 10\%$, 50 V. UNLESS OTHERWISE SPECIFIED, INDUCTANCE VALUES ARE IN MICROHENRIES.
- INTERPRET DRAWING PER STANDARDS NOTES.

94117 1089726 A 1

DESCRIPTION	REFERENCE DATA	PRODUCTION	DATE
RESISTOR	R39	W.K. 8-2-78	10 JUL 78
CAPACITOR	C87		10 JUL 78
INDUCTOR	L8		10 JUL 78
DIODE	D1		10 JUL 78
TRANSISTOR	Q1		10 JUL 78
IC	U1		10 JUL 78
IC	U2		10 JUL 78
IC	U3		10 JUL 78
IC	U4		10 JUL 78
IC	U5		10 JUL 78
IC	U6		10 JUL 78
IC	U7		10 JUL 78
IC	U8		10 JUL 78
IC	U9		10 JUL 78
IC	U10		10 JUL 78
IC	U11		10 JUL 78
IC	U12		10 JUL 78
IC	U13		10 JUL 78
IC	U14		10 JUL 78
IC	U15		10 JUL 78
IC	U16		10 JUL 78
IC	U17		10 JUL 78
IC	U18		10 JUL 78
IC	U19		10 JUL 78
IC	U20		10 JUL 78
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IC	U92		10 JUL 78
IC	U93		10 JUL 78
IC	U94		10 JUL 78
IC	U95		10 JUL 78
IC	U96		10 JUL 78
IC	U97		10 JUL 78
IC	U98		10 JUL 78
IC	U99		10 JUL 78
IC	U100		10 JUL 78

LOGIC DIAGRAM, 64K MEMORY
J 94117 1089726



REVISION STATUS			REVISIONS			
PARTS LIST		DRAWING	DESCRIPTION	DATE	APPROVED	
SHEET	2 & UP	REV				
1	J	F	REL FOR I S E E I M E N T	19 JAN 77	RB/ & N	
REV	J		REVISED PER ENG	25 MAY 77		
			REL FOR PROD NO. 7-022	25 MAY 77	LES/COT	
			REVISED PER ECO 76080 SEE DWG CLV A	17 SEP 77	Batch	
			REV PER ECO 76105	15 NOV 77	AS/RUB	
			REV PER ECO 76122	30 DEC 77	WG/RUB	
			REV PER ECO 76163	10 MAY 78	RP/RUB	
			REV PER ECO 76270	19 OCT 78	WG/RUB	
			REV PER ECO 76356	16 APR 79	WG/ML	
			REV PER ECO 96220	30 NOV 79	WG/ML	
			REV PER ECO 96409A SEE DWG REV	20 JUN 80	JL/ML	

- ITEM NUMBERS WITH SUBSCRIPTS ARE ALTERNATE ITEMS, SELECT ONE ONLY.
- SYMBOL † INDICATES VENDOR ITEM—SEE SPEC/SOURCE CONTROL DRAWING.
- PARTS LIST SHEET ONE IS THE CONTROLLING REVISION FOR THE COMBINED PARTS LIST AND DRAWING.
- SHOP PRACTICE TOLERANCES AND DRAWING INTERPRETATION WITHIN 815002 SUPPLEMENT THIS DRAWING.

SA SANDERS ASSOCIATES, INC. NASHUA, NEW HAMPSHIRE	
CIRCUIT CARD ASSY, PARALLEL INTERFACE	
SIZE A	CODE IDENT NO. 94117 PL 1086802
SHEET 1 OF 5	
CONT NO. D R F T G DATE <i>19 JAN 77</i>	PER <i>RUB</i> ENG <i>EM</i> PROJ <i>1086802</i> 12 MAY 77
NEXT ASSY GRAPHIC 7	USED ON APPLICATION
PRODUCTION CHANGE BY ECO ONLY <i>K. M. J. J.</i>	

PARTS LIST

ITEM NO.	QTY PER ASSY		DWG SIZE	CODE IDENT	PART OR IDENTIFYING NO.	DESCRIPTION	SYM
	G1	G2					
1	1		E		1086803G1	CIRCUIT CARD SUBASSY, PARALLEL INTERFACE	
2	2	1	A		310092PI	MED (SN7400N)	U14, 61
3	1	1	A		7013070P035	MED (SN74502N)	U52
4	1	1	A		310202PI	MED (SN7404N)	U54
5	1	1	A		310319PI	MED (SN74504N)	U69
6	1	1	A	01295	SN7406N	MED	U39
7	1	1	A		310234PI	MED (SN7408N)	U7
8	2	1	A		310248P2	MED (SN7432N)	U44, 47
9	1	1	A	01295	SN74537N	MED	U53
10	3	1	A		310094PI	MED (SN7474N)	U23, 62, 64
11	1	3	A		7013070P026	MED (SN74574N)	U70
12	1	2	A		310378P3	MED (SN74H106N)	U36, 60
13	1	1	A		7013070P020	MED (SN74109N)	U15
14	2	2	A		7013070P077	MED (SN745138N)	U21, 38
15	1	1	A	01295	SN74LS139N	MED	U13
16	1	1	A		313026PI	MED (SN74148N)	U5
17	1	1	A		7013070P054	MED (SN74173N)	U6
18	1	3	A		310279PI	MED (SN74174N)	U25, 41, 57
19	1	1	A	01295	SN745174N	MED	U37
20	1	1	A		310279P2	MED (SN74175N)	U45
21	1	1	A		7013070F028	MED (SN745175N)	U28
22	1	1	A				
23	1	1	A				

SHEET ONE REVISION LETTER IS THE IDENTIFYING REVISION FOR THIS MULTISHEET DWG
 SEE SHEET ONE FOR REVISION DESCRIPTIONS
 SYMBOLS : INDICATES VENDOR ITEM - SEE SPEC/SOURCE CONTROL DWG.

SIZE CODE IDENT NO
A 94117 PL
 1086802

REV **J** SHEET **2**

PARTS LIST

ITEM NO.	QTY PER ASSY		DWG SIZE	CODE IDENT	PART OR IDENTIFYING NO.	DESCRIPTION	SYM
	G 1	G 2					
24	6		A	27014	DM8097N	MED U12,20,33,49,65,66 (NAT)	
25	5		A	27014	310368P2	MED (DM8098N) U27,43,55,59,72	
26	1			27014	DM8837N	MED U40 (NAT)	
27	4			27014	DS8835N	MED U8,16,24,32 (NAT)	
28	5			27014	DS8833N	MED U1,2,10,17,18 (NAT)	
29	10			27014	DM8556N	MED U3,11,19,34,35,42,50,51,58,67 (NAT)	
30	1		A		1086870P9	PROGRAMMED PROM U4 (6331-U)	
31	1		A		1086960P19	PROGRAMMED PROM U48 (6301-U)	
32	1		A		1086871P18	PROGRAMMED PROM U29 (6351-U)	
33	2			07263	F95109PC	MED U22,30 (FAIR)	
34	3			07263	F9541PC	MED U31,46,71 (FAIR)	
35	1		A	27014	310328P1	MED (F9602PC) U68 (NAT)	
36	2			27014	RA24-220/330N	U9,26	
37							
38							
39	2	2	A		RCR07G153VS	RES, 15K OHMS ±5%, .25W R-10,11	
40	7	7	A		RCR07G103JS	RES, 10K OHMS ±5%, .25W R4-8,12,13	
41	2	2	A		RCR07G511JS	RES, 510 OHMS ±5%, .25W R-3,9	
42	1	1	A		RCR07G221JS	RES, 220 OHMS ±5%, .25W R-2	
43	1	1	A		RCR07G331JS	RES, 330 OHMS ±5%, .25W R-1	
44							
45							
46	2	2	A		7011451P049	CAP, 15UF ±10% 20V C-39,40	

SHEET ONE REVISION LETTER IS THE IDENTIFYING REVISION FOR THIS MULTISHEET DWG
 SEE SHEET ONE FOR REVISION DESCRIPTIONS
 SYMBOLS : INDICATES VENDOR ITEM - SEE SPEC/SOURCE CONTROL DWG.

SIZE CODE IDENT NO.
A 94117 PL

1086802

REV SHEET 3

PARTS LIST

ITEM NO.	QTY PER ASSY		DWG SIZE	CODE IDENT	PART OR IDENTIFYING NO.	DESCRIPTION	SYM
	G1	G2					
47	36	36	A		7502023P055	CAP, 0.01UF ±10%, 100V C-3, 4, 5, 6, 7, 8 9, 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	
48	1	1	A		701145/P019	CAP, 39UF ±10%, 10V C-1	
49	1	1	A		7502023P073	CAP, .1UF ±10%, 50V C-2	
50	2	2	A		7506001/P020	CAP, 51PF ±5%, 500V C-4, 42	
51							
52							
53	5	5		72619	555-3007	LED DS, 2, 3, 4, 5 (DIALCO)	
54							
55	1	1	A		7013626P001	ASSY, INDUCTOR L-1	
56	1	1	D		1086608P18	CONNECTOR, ELEC 98PIN J1	
57	2	-		53387	3496-1002	CONNECTOR, 50PIN SOLDER J2, J3	
58	2	-			3496-3005	CONNECTOR, 50PIN WIREWRAP J2, J3	
59	2	2			6010	EYELET (USM)	
60	2	2	A		1089678P1	CARD EJECTOR (MOD.)	
61	2	2	A		630003P14	EYELET METALLIC (SE310)	
62	AR	AR	A		93002P1	SOLDER	
63							
64							
65							
66							

SHEET ONE REVISION LETTER IS THE IDENTIFYING REVISION FOR THIS MULTISHEET DWG. SEE SHEET ONE FOR REVISION DESCRIPTIONS. SYMBOLS : INDICATES VENDOR ITEM - SEE SPEC/SOURCE CONTROL DWG.

SIZE CODE IDENT NO

A 94117 PL 1086802

REV J SHEET 4

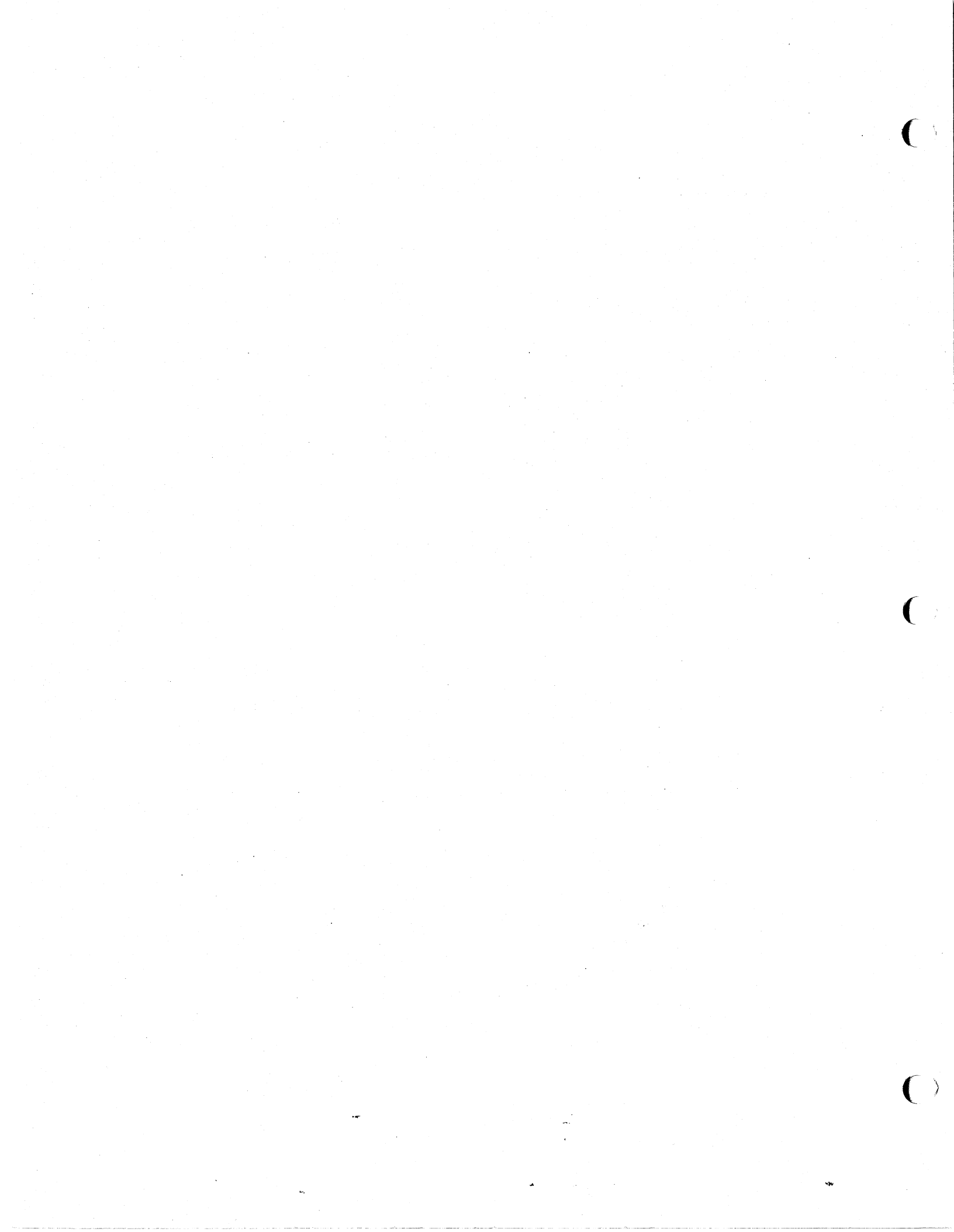
ITEM NO.	QTY PER ASSY		DWG SIZE	CODE IDENT	PART OR IDENTIFYING NO.	DESCRIPTION	SYM
	G	G					
67	REF	REF	E		1086804	LOGIC DIAGRAM, PARALLEL INTERFACE PWB, AND CKT BD, REQD FOR APPL OF EPOXY MARKING CMPD PROGRAMMED PROM U56 (6301-1U) PROGRAMMED PROM U63 (6301-1U) WIRE, ELEC UNINSULATED 22AWG RIVET, SOLID MED U6, U29 (BECKMAN) MED U9, 26 (SEE NOTE 4)	
68	REF	REF	A		815003		
69	REF	REF	A		778000		
70	1	1	A		1086960P20		
71	1	1	A		1086960P21		
72	1	1	A		278000P13		
59A	REF	REF			MS2047AD2-6		
36	2	2			899-5-R220/330		
36A	REF	REF			RA24-220/330N		

SHEET ONE REVISION LETTER IS THE IDENTIFYING REVISION FOR THIS MULTISHEET DWG
 SEE SHEET ONE FOR REVISION DESCRIPTIONS
 SYMBOLS : INDICATES VENDOR ITEM - SEE SPEC/SOURCE CONTROL DWG.

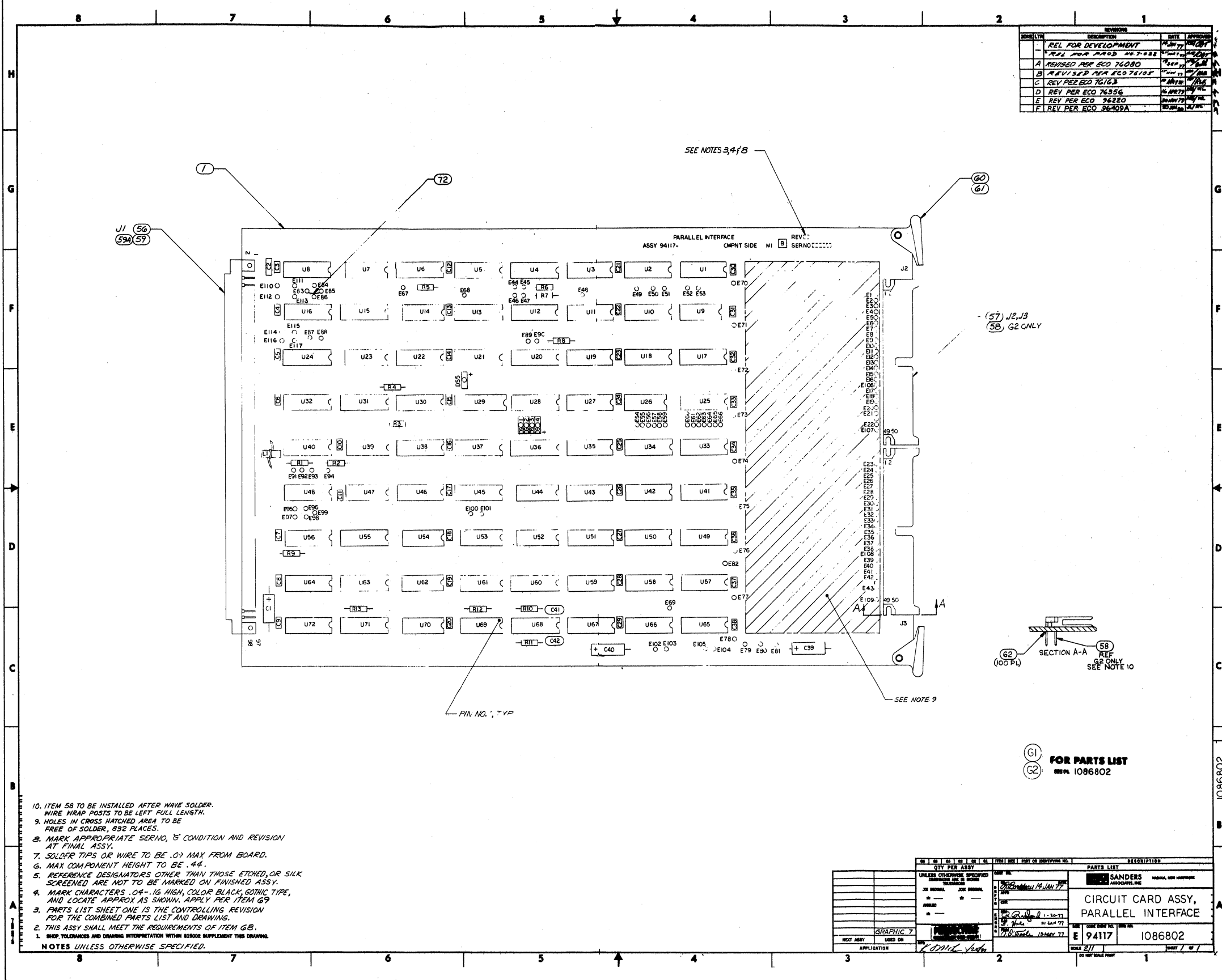
SIZE CODE IDENT NO.
 A 94117 PL

1086802

REV J SHEET 5



REV	DESCRIPTION	DATE	APPROVED
	REL FOR DEVELOPMENT	14 JUN 77	WJG
	REL FOR PROD 467-022	14 JUN 77	WJG
A	REVISED PER ECO 76080	14 JUN 77	WJG
B	REVISED PER ECO 76105	14 JUN 77	WJG
C	REV PER ECO 76163	14 JUN 77	WJG
D	REV PER ECO 76356	14 JUN 77	WJG
E	REV PER ECO 76320	14 JUN 77	WJG
F	REV PER ECO 76409A	14 JUN 77	WJG



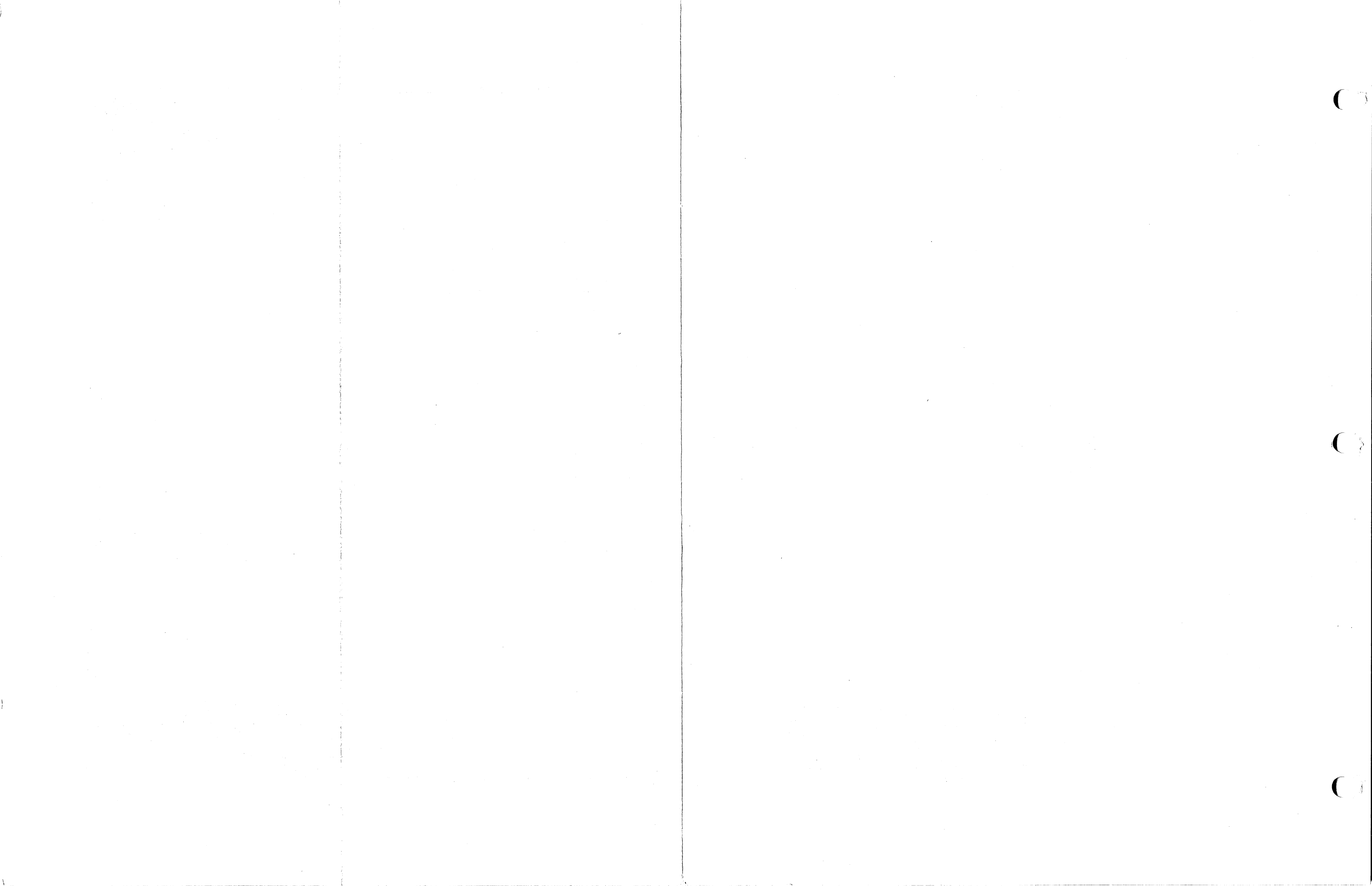
10. ITEM 58 TO BE INSTALLED AFTER WAVE SOLDER. WIRE WRAP POSTS TO BE LEFT FULL LENGTH.
 9. HOLES IN CROSS HATCHED AREA TO BE FREE OF SOLDER, 892 PLACES.
 8. MARK APPROPRIATE SERVO, IS CONDITION AND REVISION AT FINAL ASSY.
 7. SOLDER TIPS OR WIRE TO BE .07 MAX FROM BOARD.
 6. MAX COMPONENT HEIGHT TO BE .44.
 5. REFERENCE DESIGNATORS OTHER THAN THOSE ETCHED, OR SILK SCREENED ARE NOT TO BE MARKED ON FINISHED ASSY.
 4. MARK CHARACTERS .04-.16 HIGH, COLOR BLACK, GOTHIC TYPE, AND LOCATE APPROX AS SHOWN, APPLY PER ITEM 69.
 3. PARTS LIST SHEET ONE IS THE CONTROLLING REVISION FOR THE COMBINED PARTS LIST AND DRAWING.
 2. THIS ASSY SHALL MEET THE REQUIREMENTS OF ITEM 6B.
 1. SHOP TOLERANCES AND DRAWING INTERPRETATION WITHIN 615002 SUPPLEMENT THIS DRAWING.
- NOTES UNLESS OTHERWISE SPECIFIED.

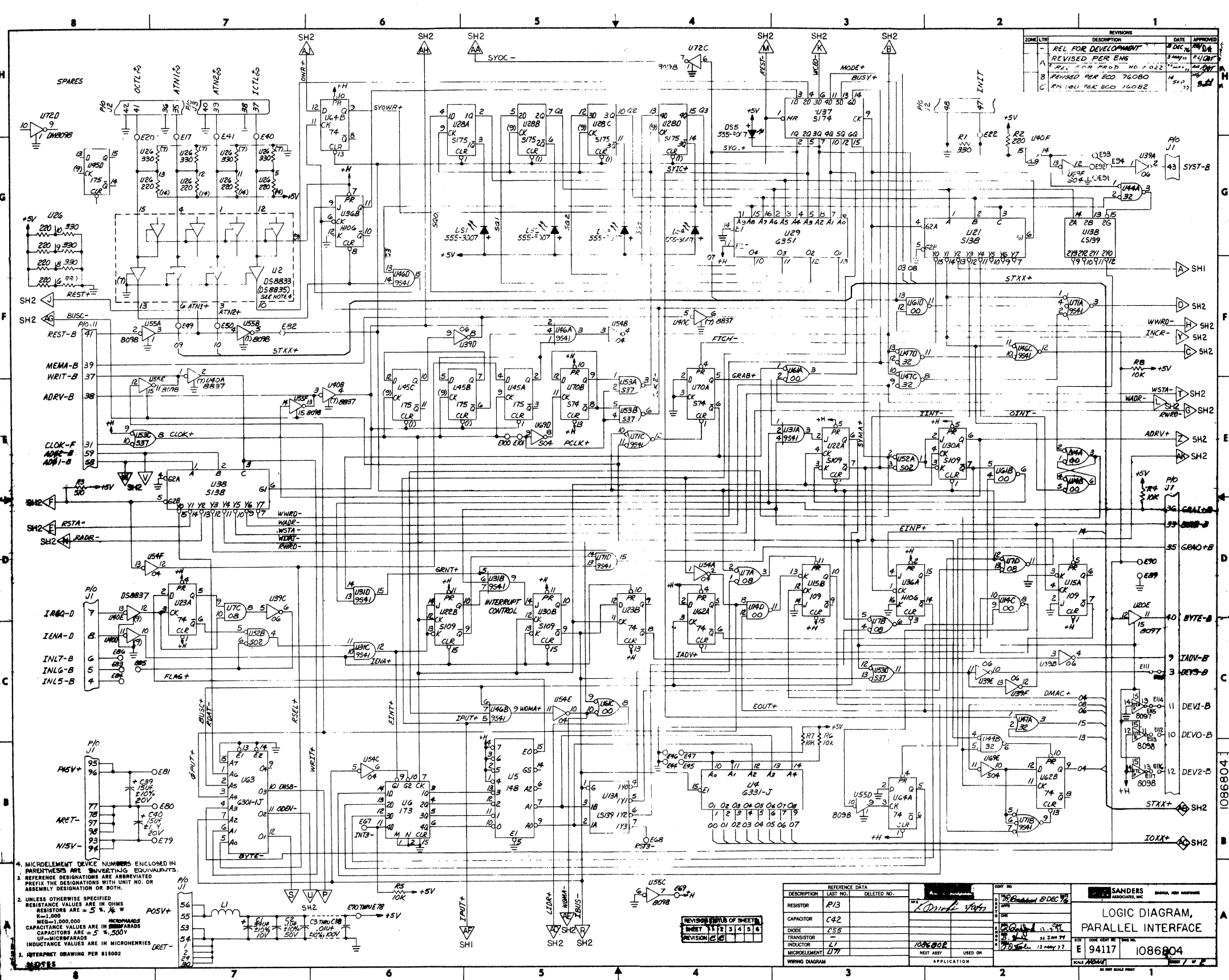
(G1) FOR PARTS LIST
(G2) REF 1086802

QTY PER ASSY	DESCRIPTION
1	CIRCUIT CARD ASSY, PARALLEL INTERFACE
1	1086802

GRAPHIC 7
APPROVED: [Signature]
DATE: 14 JUN 77

1086802



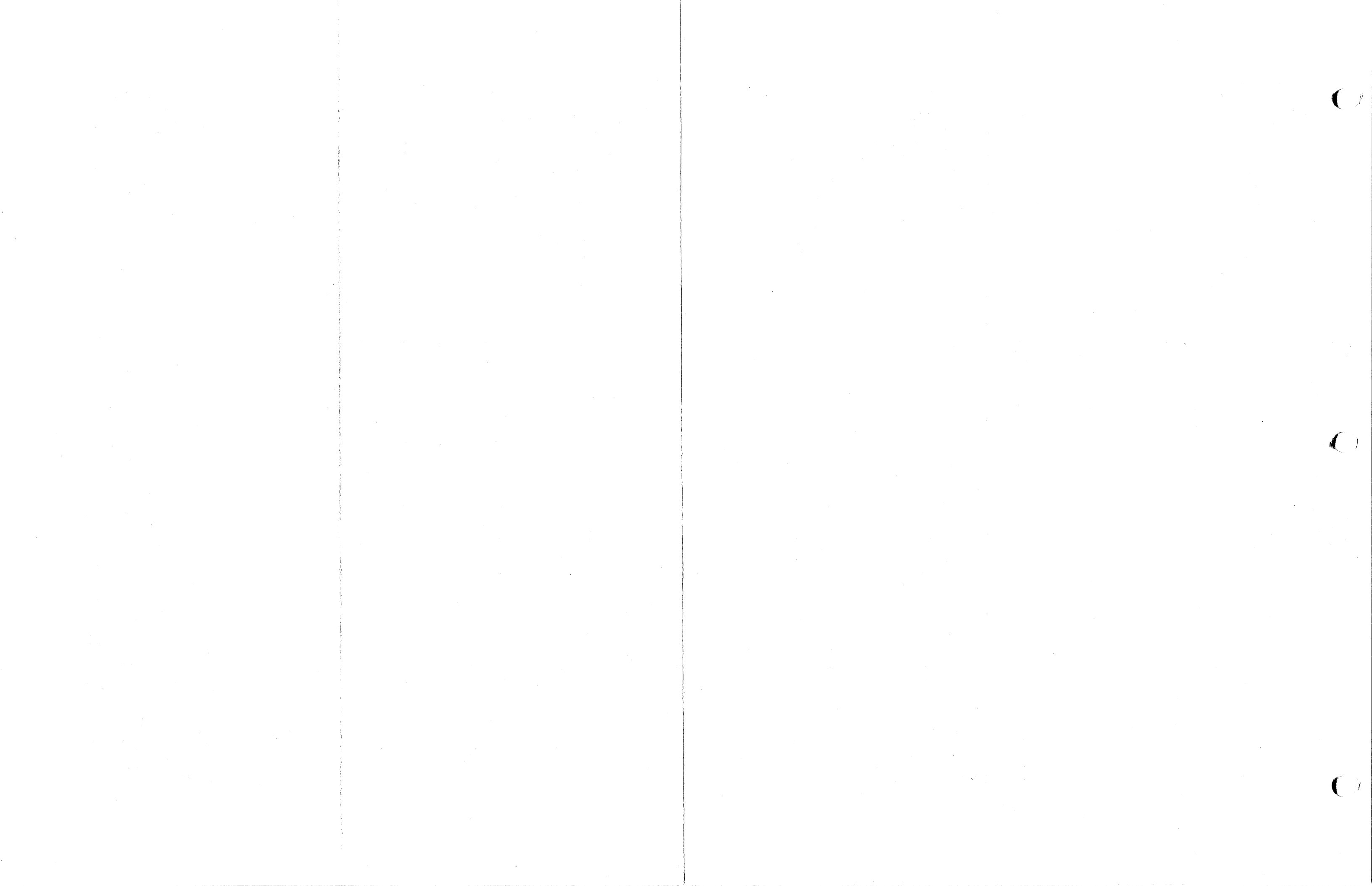


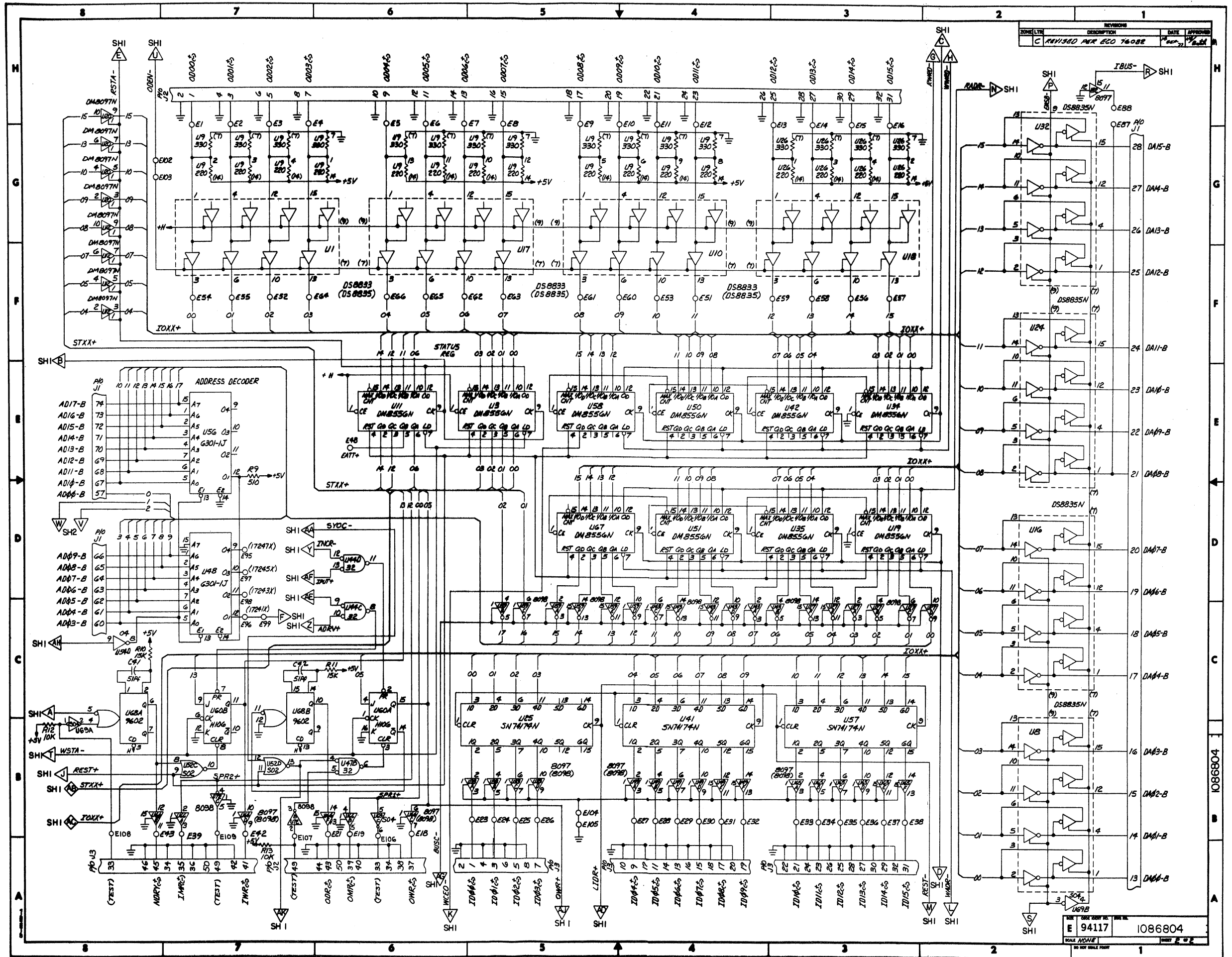
REV	DATE	APPROVED
1	11/11/77	[Signature]
2	11/11/77	[Signature]
3	11/11/77	[Signature]

1. INTERPRET DRAWING PER 815002
2. UNLESS OTHERWISE SPECIFIED RESISTANCE VALUES ARE IN OHMS. RESISTORS ARE ± 5% W. MEG=1,000,000. CAPACITANCE VALUES ARE IN MICROFARADS. CAPACITORS ARE ± 5% 500V. U=MICROFARADS. I=INDUCTANCE VALUES ARE IN MICROHENRIES.
3. MICROELEMENT DEVICE NUMBERS ENCLOSED IN PARENTHESES ARE INVERTING EQUIVALENTS.
4. REFERENCE DESIGNATIONS ARE ABBREVIATED PREFIX THE DESIGNATIONS WITH UNIT NO. OR ASSEMBLY DESIGNATION OR BOTH.

DESCRIPTION	LAST NO.	DELETED NO.
RESISTOR	R/3	
CAPACITOR	C42	
DIODE	D55	
TRANSISTOR		
INDUCTOR	L1	
MICROELEMENT	U77	

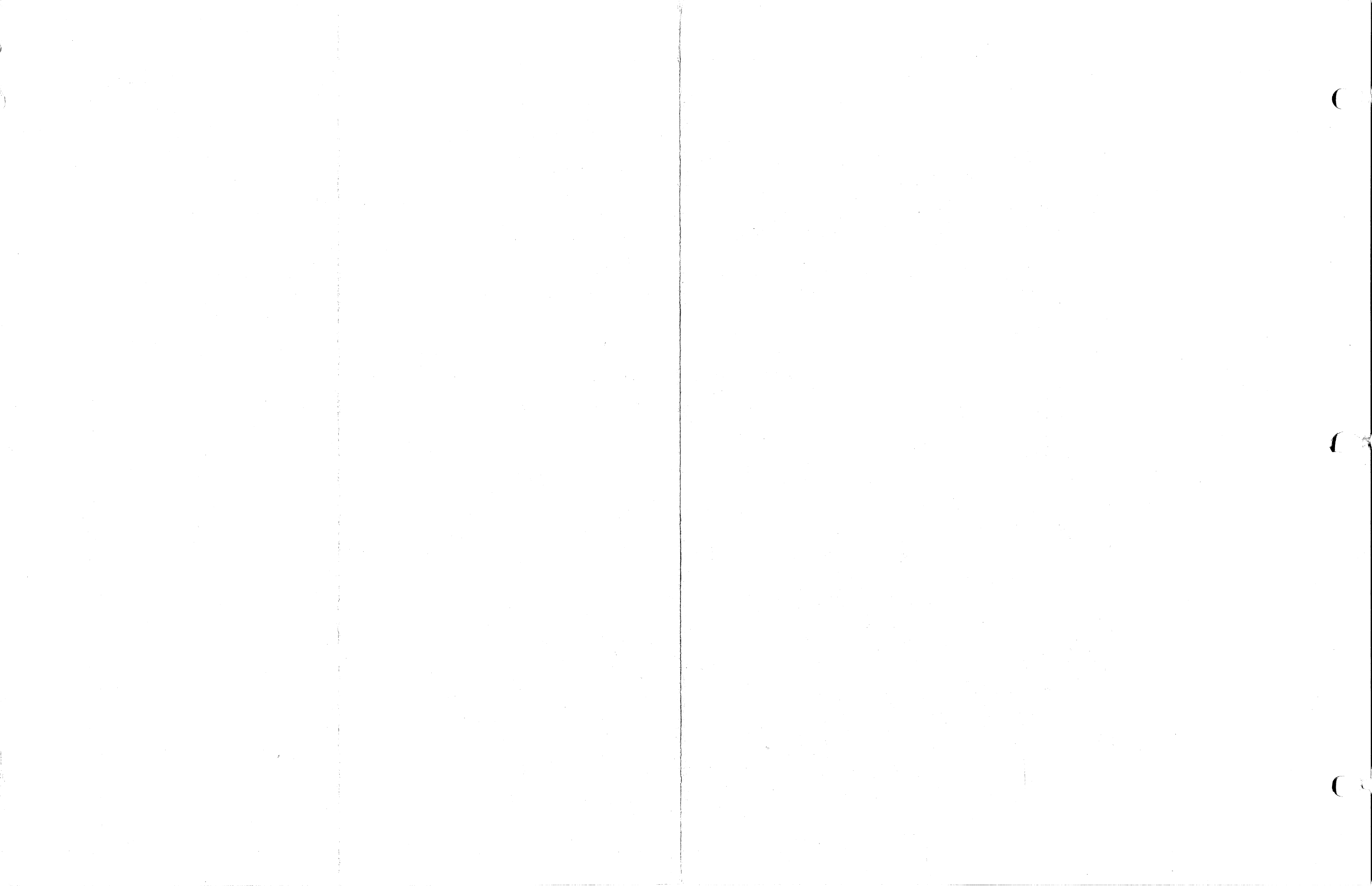
SANDERS ASSOCIATES, INC.	
LOGIC DIAGRAM, PARALLEL INTERFACE	
E 94117	1086804





REV	DATE	DESCRIPTION	APPROVED
C	REVISED PER EGO 7608E		

E 94117 1086804



REVISION STATUS			REVISIONS			
PARTS LIST		DRAWING	DESCRIPTION	DATE	APPROVED	
SHEET	1	2 & UP	REL FOR PREPROD	12-7-76	DAK	
REV	N	H	ECO 76003 SEE DWG REV A	JAN 77	USI	
<p>4. FOR AUTHORIZED COMPONENT SUBSTITUTION LIST SEE DWG SA1088588.</p> <p>3. SYMBOL † INDICATES VENDOR ITEM—SEE SPEC/SOURCE CONTROL DRAWING.</p> <p>2. PARTS LIST SHEET ONE IS THE CONTROLLING REVISION FOR THE COMBINED PARTS LIST AND DRAWING.</p> <p>1. SHOP PRACTICE TOLERANCES AND DRAWING INTERPRETATION WITHIN 815002 SUPPLEMENT THIS DRAWING.</p>			A	REV PER ECO 76003D	14 MAR 77	REB/AT
			B	REL FOR PROD No 7-017	3-22-77	WAS/NIM
			C	REV PER ECO 76001	7 APR 77	DE/IFN
			D	REV PER ECO 76058	17 JUN 77	PS/KC
			E	REV PER ECO 76076	25 OCT 77	WG/Booth
			F	REV PER ECO 76079	16 NOV 77	WG/Booth
			G	REV PER ECO 76125	21 FEB 78	RP/RLB
			H	REV PER ECO 76163	10 MAY 78	RP/RLB
			J	REV PER ECO 76261	29 SEP 78	WG/NIB
			K	REV PER ECO 76364A	2 AUG 79	WG/WL
			L	REV PER ECO 76473	2 NOV 79	WG/WL
			M	REV PER ECO 96383	28 MAR 80	WG/WL
			N	REV PLH ECO 96385	11/5/10	SS/WL
			<p>DR: [Signature]</p> <p>DATE: 12/1/76</p> <p>APP: [Signature]</p> <p>CHK: [Signature]</p>		<p>CONT NO.</p> <p>1087281</p> <p>1086851</p>	
<p>DEVELOPER: [Signature]</p> <p>DATE: 10 Dec 76</p> <p>ENGR: [Signature]</p> <p>PROJ: [Signature]</p>		<p>1087281</p> <p>1086851</p>		<p>CIRCUIT CARD ASSY, DISPLAY PROCESSOR</p>		
<p>PRODUCTION CHANGE BY ECO ONLY</p>		<p>1087281</p> <p>1086851</p>		<p>SIZE CODE IDENT NO. A 94117 PL 1086779</p>		
<p>MFQ: [Signature]</p>		<p>NEXT ASSY USED ON</p>		<p>SHEET 1 OF 6</p>		

ITEM NO.	QTY PER ASSY		DWG SIZE	CODE IDENT	PART OR IDENTIFYING NO.	DESCRIPTION	SYM
	G	G					
1	1		E		1086780G1	CIRCUIT CARD SUB-ASSY DISPLAY PROC.	
2	1		A		0310319P001	MED SN74504N	U29
3	1		A		0310201P001	MED SN7403N	U68
4	1		A	01295	SN74S05N		U28 (TI)
5	1		A		0310202P001	MED SN7404N	U8
6	1		A		0310298P002	MED SN7432N	U86
7	2		A		7013070P077	MED SN74S138N	U18, U48
8	2		A	01295	SN74LS151N	MED SN74LS151N	U6, 4, 84 (TI)
9	3		A		0310281P001	MED SN74157N	U58, 63, 83
10	2		A	27014	DM74161AN	MED	U16, 46 (NAT)
11	3		A		7013070P057	MED SN74S161N	U6, 36, 66
12	3		A	01295	SN74174N	MED	U20, 27, 37, (TI)
13	1		A		0310279P002	MED SN74175N	U17
14	2		A		0310378P003	MED SN74H106	U50, 59
15							
16	3			01295	SN74LS253N	MED	U47, 75, 76 (TI)
17	2			01295	SN74S257N	MED	U26, 56 (TI)
18	1		A		7013070P025	MED SN74S00N	U69
19	3		A		0310092P001	MED SN7400N	U4, 38, 49
20	1				1086947P31	PROGRAMMED PROM (6306-1U)	U82
21	1				1086964P1	PROGRAMMED PROM (6330)	U71
22	1				1086964P2	PROGRAMMED PROM (6330)	U87
23	1				1086970P6	PROGRAMMED PROM (6331-2)	U89

SHEET ONE REVISION LETTER IS THE IDENTIFYING REVISION FOR THIS MULTISHEET DWG. SEE SHEET ONE FOR REVISION DESCRIPTIONS. SYMBOLS : INDICATES VENDOR ITEM - SEE SPEC/SOURCE CONTROL DWG.

SIZE CODE IDENT NO.

A 94117 PL

1086779

REV H SHEET 2



PARTS LIST

ITEM NO.	QTY PER ASSY		DWG SIZE	CODE IDENT	PART OR IDENTIFYING NO.	DESCRIPTION	SYM
	G	G					
24							
25	4			50364	6701	MED	U1,11,31,41 (MM1)
26	6			34335	AM2918	MED	U14, 24, 34, 44, 53, 54 (AMD)
27	4			27014	D58833N	MED	U13, 23, 33, 43 (NAT)
28	3			07263	F9541PC	MED	U60, 70, 78 (FAIR)
29	1			07263	F82531	MED	U7 (FAIR)
30	2		A		7013070P005	MED	SN74125 U3, 39
31	1			07263	95109	MED	U90 (FAIR)
32	4		A		0310094P001	MED	U30, 40, 79, 88
33	1			01295	SN74LS86	MED	U85 (TI)
34							
35	1		A		0310377P001	MED	SN74H73 U80
36	1		A		0313027P002	MED	SN74156N U9
37	28		A		7550001P066	RES.	RC07G511J 5% ±5%, 25W
38	14		A		7550001P064	RES.	RC07GF431J 5% ±5%, 25W R4, 6, 17, 34, 35, 36, 37, 38, 41, 42, 43, 44, 45, 46, 47 48, 49, 54, 55, 56, 57, 58, 59, 60, 61, 70, 95, 98
39	32		A		7550001P071	RES.	RC07GF821N 5% ±5%, 25W R1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 53 RES. RC07GF821N, 8202 ±5%, 25W R15, 39
40							40, 50, 51, 52, 62, 65, 67, 69, 71-89, 99, 100, 101

SHEET ONE REVISION LETTER IS THE IDENTIFYING REVISION FOR THIS MULTISHEET DWG. SEE SHEET ONE FOR REVISION DESCRIPTIONS. SYMBOLS : INDICATES VENDOR ITEM - SEE SPEC/SOURCE CONTROL DWG.

SIZE	CODE IDENT NO.	REV	SHEET
A	94117 PL	H	3
		1086779	

PARTS LIST

ITEM NO.	QTY PER ASSY		DWG SIZE	CODE IDENT	PART OR IDENTIFYING NO.	DESCRIPTION	SYM
	G	G					
41	2		A		7550001P058	RES. RC07GF241J 240Ω ±5%, .25W R66, 92	
42	1		A		7550001P080	RES. RC07GF202J 200Ω ±5%, .25W 94	
43	1		A		7011451P019	CAP. CSR13C396KL 39UF ±10% 10VDC C1	
44	31		A		7502023P055	CAP. CK05BX103K .01UF, ±10% 100V C2-32	
45	1		A		7502023P030	CAP. CK05BX391K 390PF, ±10%, 200V, C33	
46	2		A		600107P1	CARD, EJECTOR (6100)	
47	2		A		0630003P019	EYELET, METALIC (SE310)	
48	2		A	07707	6010	EYELET	
49	17		A		7550001P073	RES. RC07GF102J 1K ±5%, .25W, R18, R20, R21, R22, R24, R25, R26, R27, R28, R29, R30, R32, R33, R93	
50	1		A	72619	555-2007	L.E.D. DS1 (DIACCO)	
51	1		A		7502023P073	CAP. CK05BX104K, .1UF ±10%, 50V, C34	
52	1		A		F96S02PC	MED 96S02	
53	1		D		1086608P018	CONN J1	
54	6IN.		A		278000P13	WIRE, ELEC, UNINSL, 22 AWG	
55	AR		A		93002P1	SOLDER	
56	1		A		7550001P046	RES. RC07GF750J 75Ω ±5%, .25W R97	
57	1		A		7550001P104	RES. RC07GF203J 20K ±5%, .25W R96	

SHEET ONE REVISION LETTER IS THE IDENTIFYING REVISION FOR THIS MULTISHEET DWG
 SEE SHEET ONE FOR REVISION DESCRIPTIONS
 SYMBOLS : INDICATES VENDOR ITEM - SEE SPEC/SOURCE CONTROL DWG.

SIZE CODE IDENT NO.
A 94117 PL
 1086779

REV H SHEET 4

ITEM NO.	QTY PER ASSY		DWG SIZE	CODE IDENT	PART OR IDENTIFYING NO.	DESCRIPTION	SYM
	G	G					
58	REF		A		815003	PWB, REQ FOR LOGIC DIAGRAM, DISPLAY PROCESSOR APPL OF EPOXY MKG CMPD	
59	REF		E		1086781		
60	REF		A		778000		
61	1				1086963P8	PROGRAMMED PROM (6305-1J) U10 PROGRAMMED PROM (6306-1J) U15 PROGRAMMED PROM (6306-1J) U19 PROGRAMMED PROM (6306-1J) U35 PROGRAMMED PROM (6306-1J) U45 PROGRAMMED PROM (6306-1J) U55 PROGRAMMED PROM (6306-1J) U57 PROGRAMMED PROM (6306-1J) U62 PROGRAMMED PROM (6306-1J) U65 PROGRAMMED PROM (6306-1J) U67 PROGRAMMED PROM (6306-1J) U77	
62	1				1086962P2		
63	2				1086963P3		
64	≠				1086960P15		
65	1				1086960P16		
66	1				1086963P1		
67	1				1086963P2		
68	1				1086963P3		
69	1				1086963P4		
70	1				1086947P21		
71	1				1086947P22		
72	1				1086947P23		
73	1				1086947P24		
74	1				1086947P25		
75	1				1086947P26		
76	1				1086947P27		
77	1				1086947P28		
78	1				1086947P29		
79	1				1086947P30		
80	1						

PARTS LIST

SHEET ONE REVISION LETTER IS THE IDENTIFYING REVISION FOR THIS MULTISHEET DWG
SEE SHEET ONE FOR REVISION DESCRIPTIONS
SYMBOLS : INDICATES VENDOR ITEM - SEE SPEC/SOURCE CONTROL DWG.

SIZE CODE IDENT NO.

A 94117 PL

1086777

REV 11

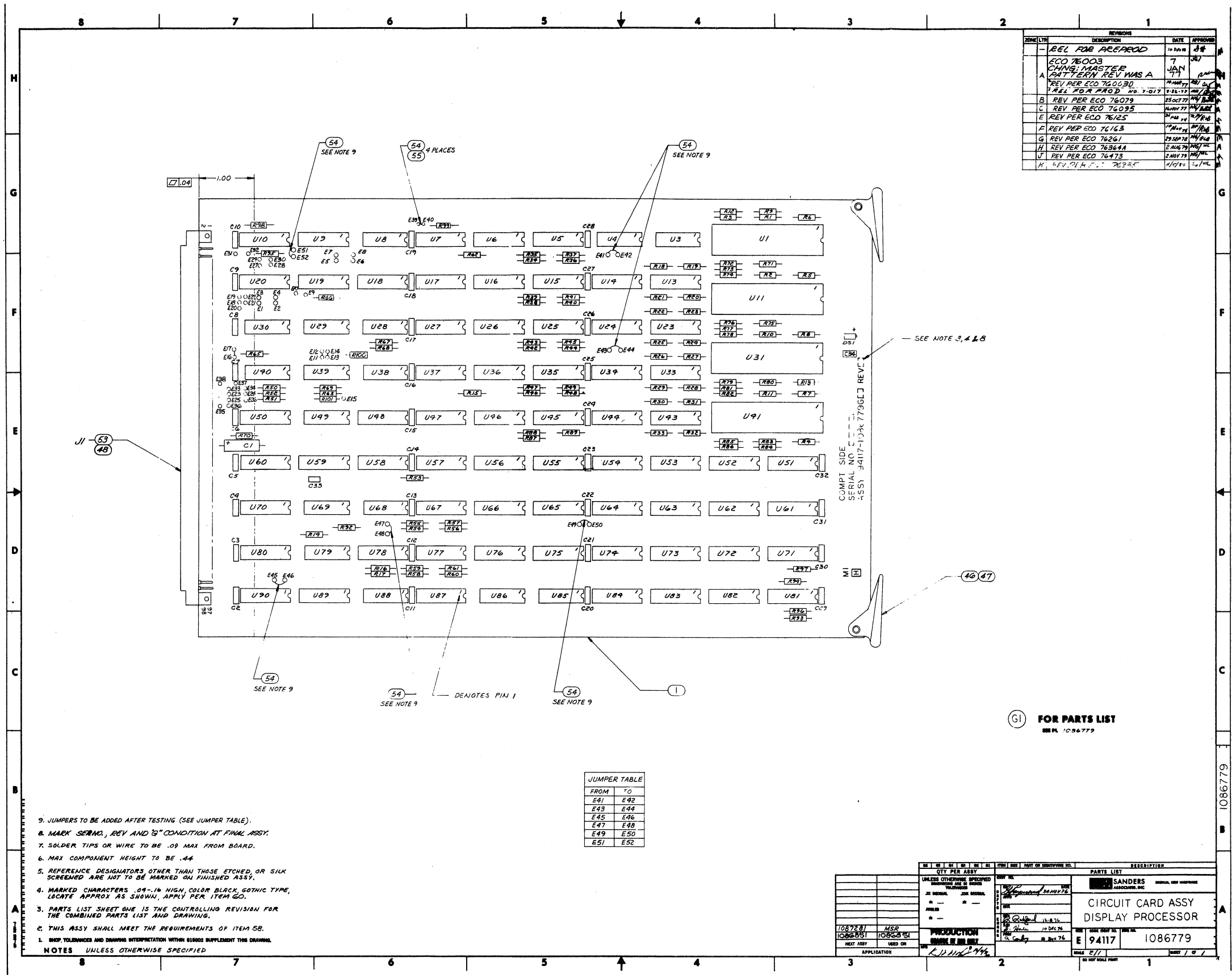
SHEET 5

PARTS LIST

ITEM NO.	QTY PER ASSY		DWG SIZE	CODE IDENT	PART OR IDENTIFYING NO.	DESCRIPTION	SYM
	G	G					
81	2		A		7550001P055	RES, RCO7GF181J, 180Ω, ±5%, .25W, R63, 68	

SIZE	CODE IDENT NO.		REV H	SHEET 6
A	94117 PL	1086779		

SHEET ONE REVISION LETTER IS THE IDENTIFYING REVISION FOR THIS MULTISHEET DWG
 SEE SHEET ONE FOR REVISION DESCRIPTIONS
 SYMBOLS : INDICATES VENDOR ITEM - SEE SPEC/SOURCE CONTROL DWG.



REV	DESCRIPTION	DATE	APPROVED
-	REL FOR APPROD	10 JUN 76	JH
A	ECO 76003 CHANG: MASTER PATTERN REV WAS A REV PER ECO 76003B 1 REL FOR APPROD No. 7-217	24 JUN 76	JH
B	REV PER ECO 76079	25 OCT 77	JH
C	REV PER ECO 76095	24 FEB 78	JH
E	REV PER ECO 76125	24 FEB 78	JH
F	REV PER ECO 76163	17 MAR 78	JH
G	REV PER ECO 76261	29 SEP 78	JH
H	REV PER ECO 76364A	2 AUG 79	JH
J	REV PER ECO 76473	2 NOV 79	JH
K	REV OF H.S. - 76225	11/1/80	JH

FROM	TO
E41	E92
E43	E44
E45	E46
E47	E48
E49	E50
E51	E52

9. JUMPERS TO BE ADDED AFTER TESTING (SEE JUMPER TABLE).
8. MARK SERIAL, REV AND "G" CONDITION AT FINAL ASSY.
7. SOLDER TIPS OR WIRE TO BE .09 MAX FROM BOARD.
6. MAX COMPONENT HEIGHT TO BE .44
5. REFERENCE DESIGNATORS OTHER THAN THOSE ETCHED, OR SILK SCREENED, ARE NOT TO BE MARKED ON FINISHED ASSY.
4. MARKED CHARACTERS .01-.14 HIGH, COLOR BLACK, GOTHIC TYPE, LOCATE APPROX AS SHOWN, APPLY PER ITEM 5G.
3. PARTS LIST SHEET SHE IS THE CONTROLLING REVISION FOR THE COMBINED PARTS LIST AND DRAWINGS.
2. THIS ASSY SHALL MEET THE REQUIREMENTS OF ITEM 5B.
1. SHOP TOLERANCES AND DRAWING INTERPRETATION WITHIN 818002 SUPPLEMENT THIS DRAWING.
- NOTES UNLESS OTHERWISE SPECIFIED

QTY	PER	ASSEMBLY	DESCRIPTION
1087531	45K		1087531
1087531	1000K		1087531

REV	DATE	BY	DESCRIPTION
1	30 NOV 76	JH	INITIAL RELEASE
2	10 DEC 76	JH	REVISED
3	2 DEC 76	JH	REVISED

REV	DATE	BY	DESCRIPTION
1	30 NOV 76	JH	INITIAL RELEASE
2	10 DEC 76	JH	REVISED
3	2 DEC 76	JH	REVISED

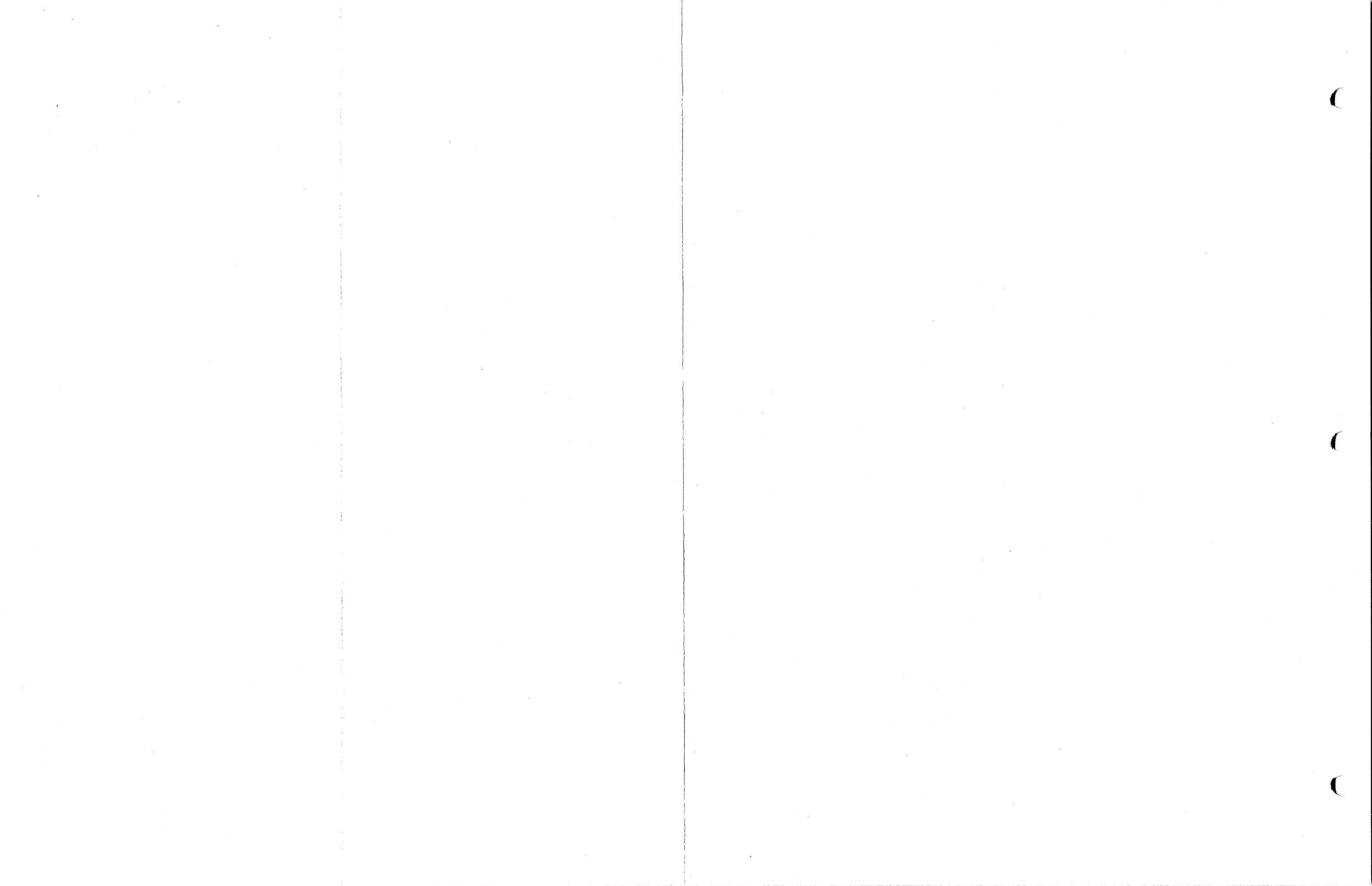
PRODUCTION

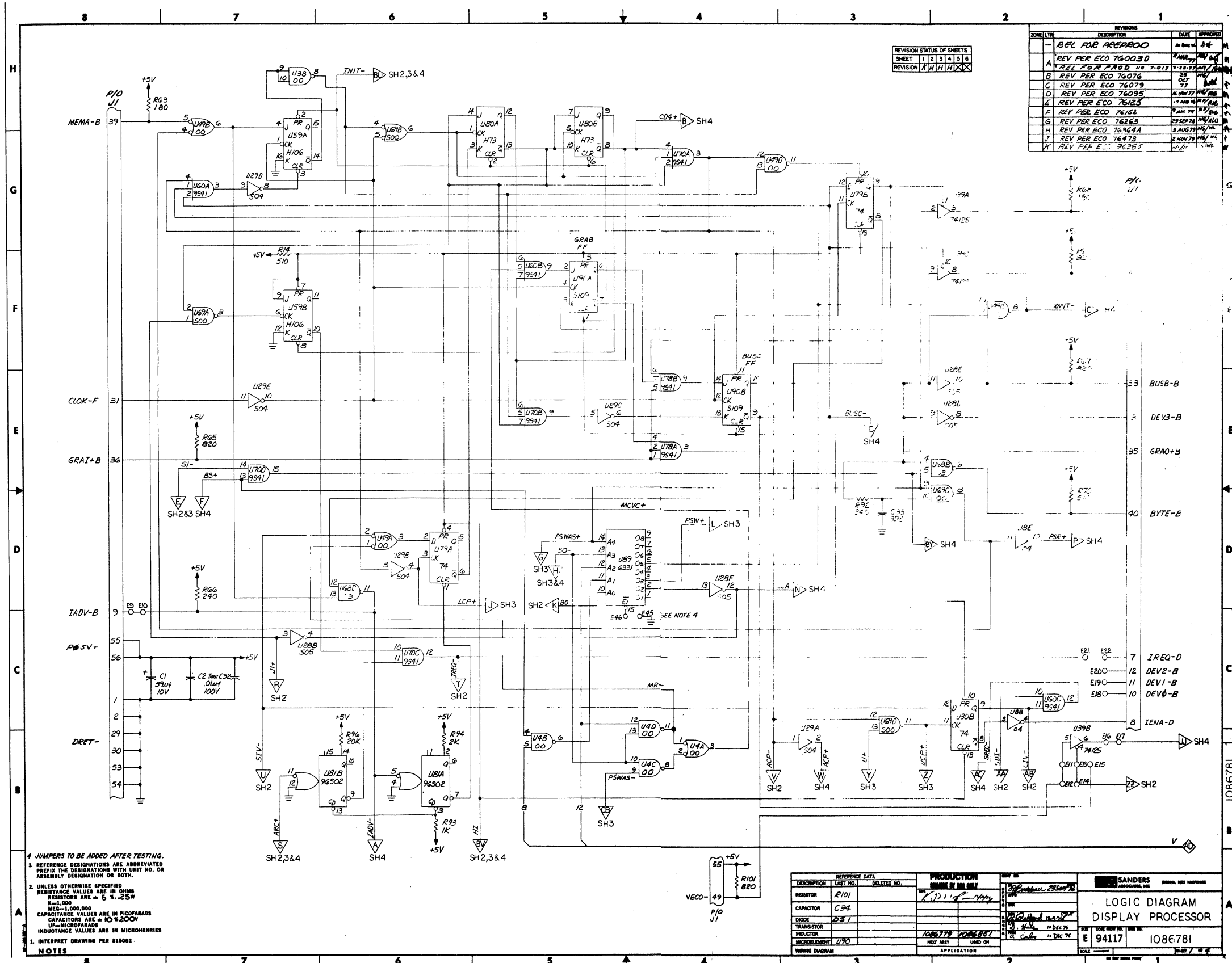
1087531 45K 1087531 1000K

APPLICATOR: L. D. ...

(G1) FOR PARTS LIST
REF: 1086779

1086779





REVISION STATUS OF SHEETS

SHEET	1	2	3	4	5	6
REVISION	A	B	C	D	E	F

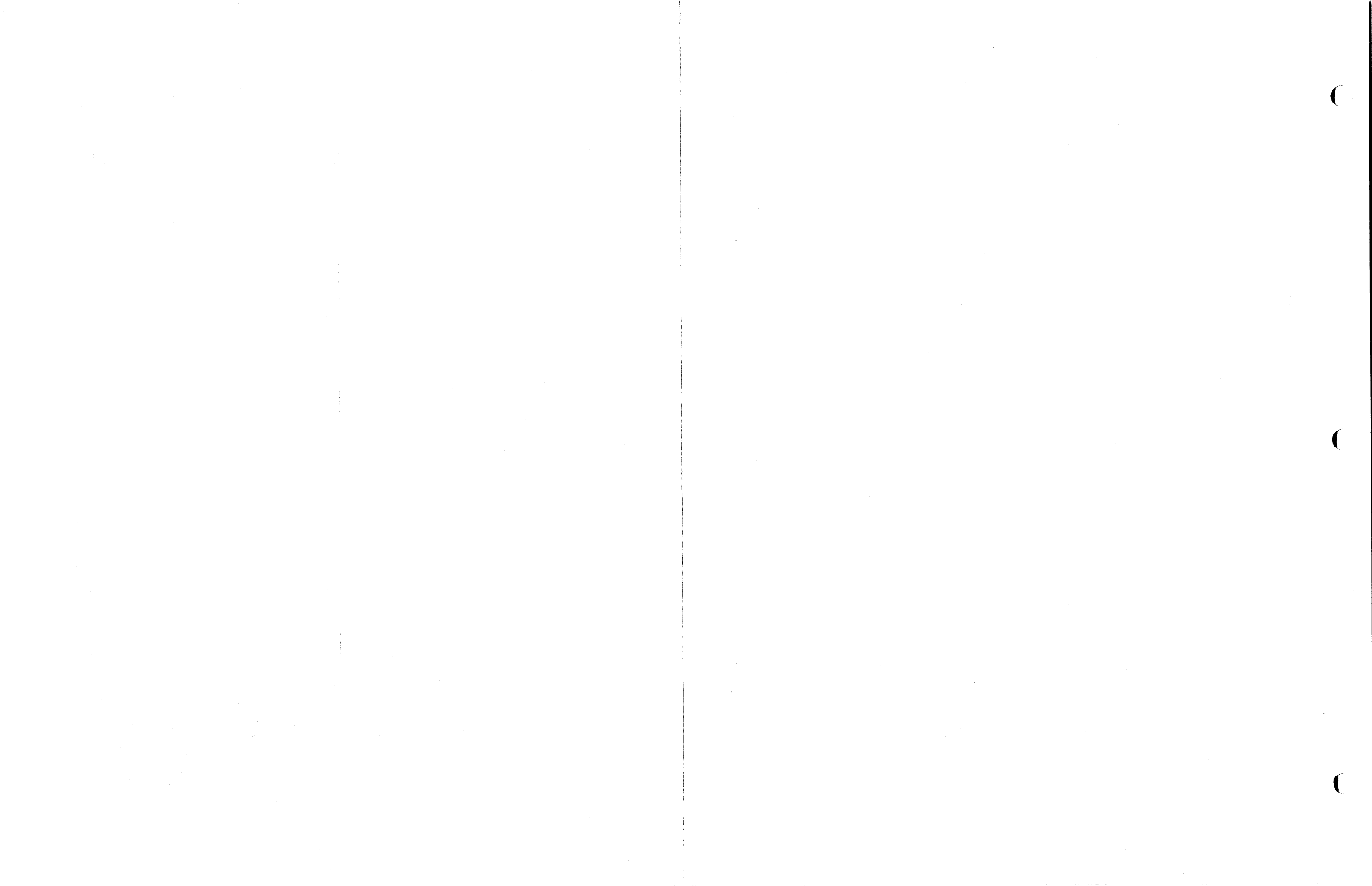
REVISIONS

REV	DATE	APPROVED	DESCRIPTION
-	10/20/76	JH	BFL P/B AREP/DO
A	11/10/76	JH	REV PER ECO 760030
B	11/10/76	JH	REV PER ECO 76076
C	11/10/76	JH	REV PER ECO 76079
D	11/10/76	JH	REV PER ECO 76095
E	11/10/76	JH	REV PER ECO 76125
F	11/10/76	JH	REV PER ECO 76152
G	11/10/76	JH	REV PER ECO 76263
H	11/10/76	JH	REV PER ECO 76364A
I	11/10/76	JH	REV PER ECO 76473
J	11/10/76	JH	REV PER ECO 76473
K	11/10/76	JH	REV PER ECO 76473

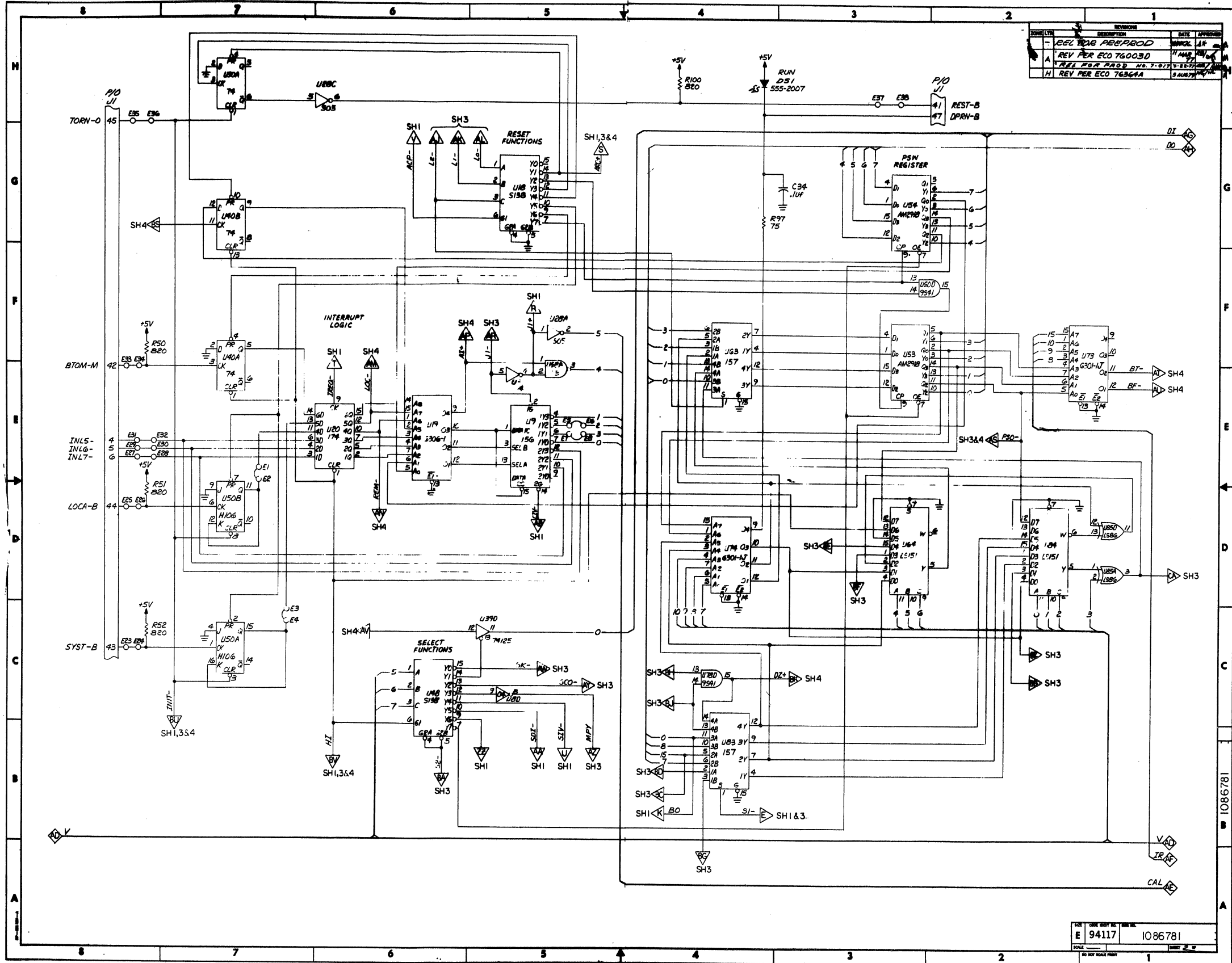
- NOTES
- JUMPERS TO BE ADDED AFTER TESTING.
 - REFERENCE DESIGNATIONS ARE ABBREVIATED PREFIX THE DESIGNATIONS WITH UNIT NO. OR ASSEMBLY DESIGNATION OR BOTH.
 - UNLESS OTHERWISE SPECIFIED RESISTANCE VALUES ARE IN OHMS RESISTORS ARE 1/4 W. 25W K=1,000 M=1,000,000 CAPACITANCE VALUES ARE IN PICOFARADS CAPACITORS ARE 10% 500V UP=MICROFARADS INDUCTANCE VALUES ARE IN MICRONHENRIES
 - INTERPRET DRAWING PER 816002.

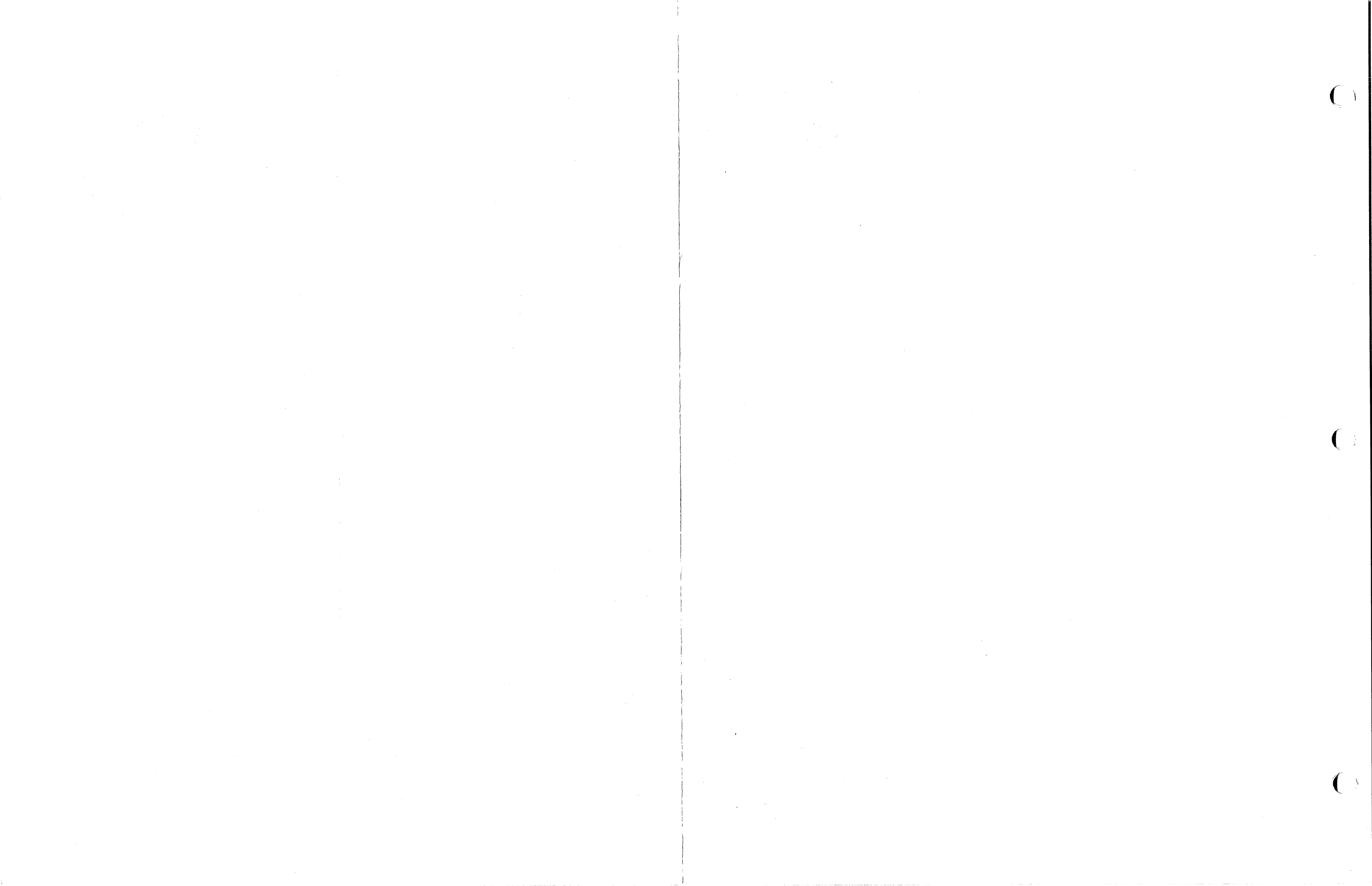
REFERENCE DATA		PRODUCTION		SANDERS	
DESCRIPTION	LAST NO.	DELETED NO.	DATE	APPROVED	REVISION
RESISTOR	R101				
CAPACITOR	C34				
DIODE	D31				
TRANSISTOR					
INDUCTOR					
MICROELEMENT	U90				

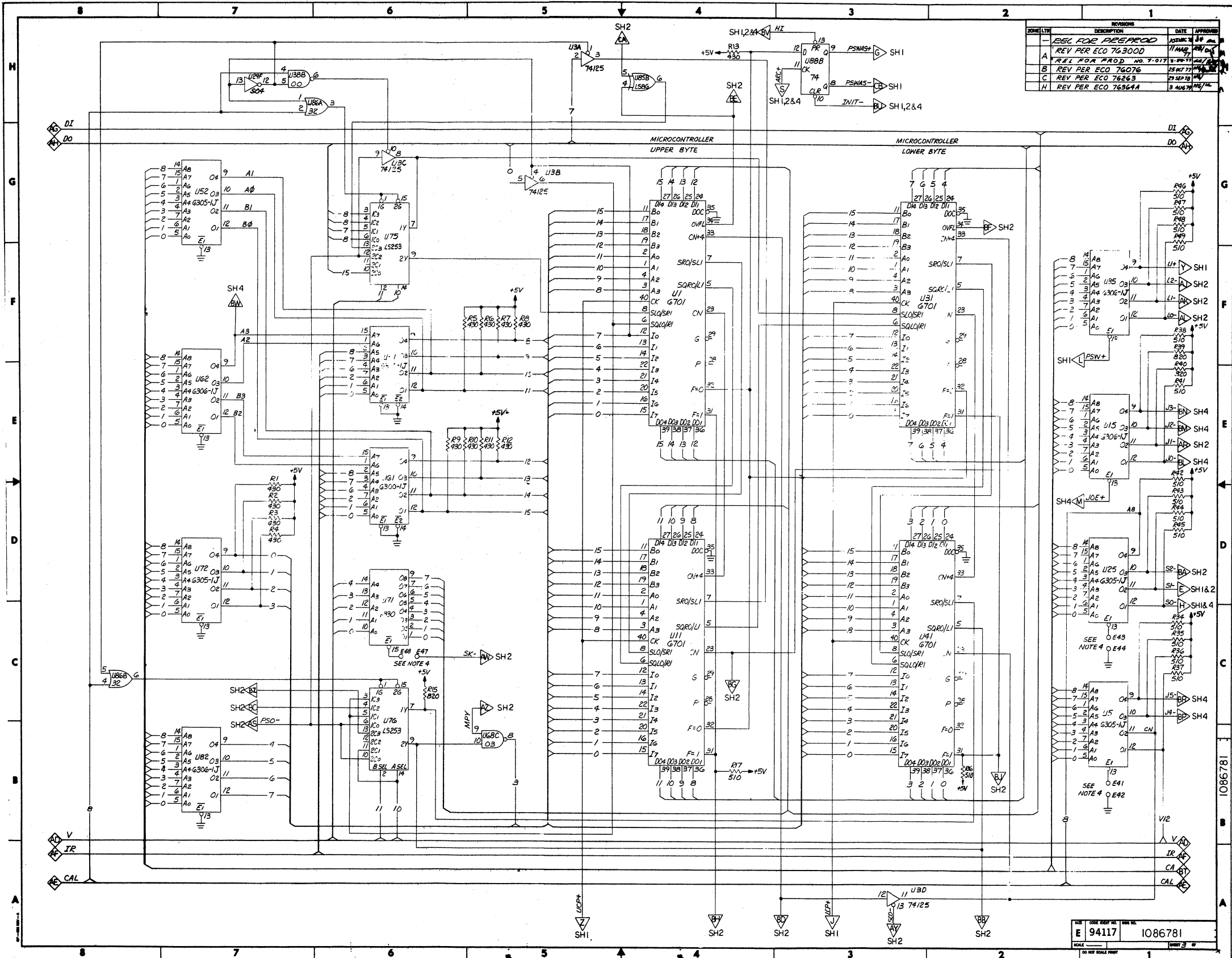
LOGIC DIAGRAM	1086781
DISPLAY PROCESSOR	
E 94117	1086781



REV	DESCRIPTION	DATE	APPROVED
-	DEL FOR PREP/ROD		
A	REV PER ECO 76003D	11 MAR 77	
B	REV FOR RADD NO. 7-017	7-15-77	
H	REV PER ECO 76364A	8 MAR 78	

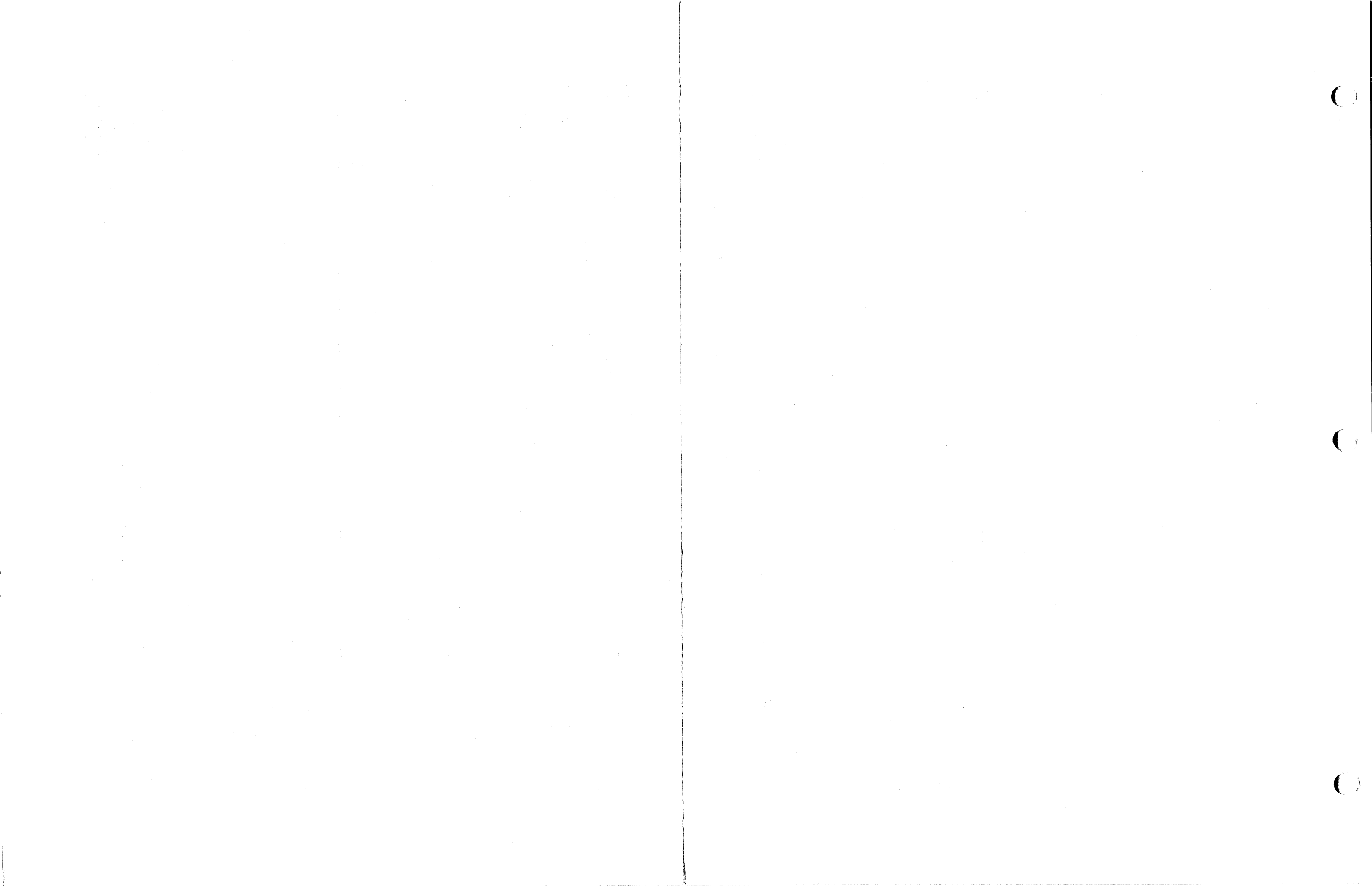


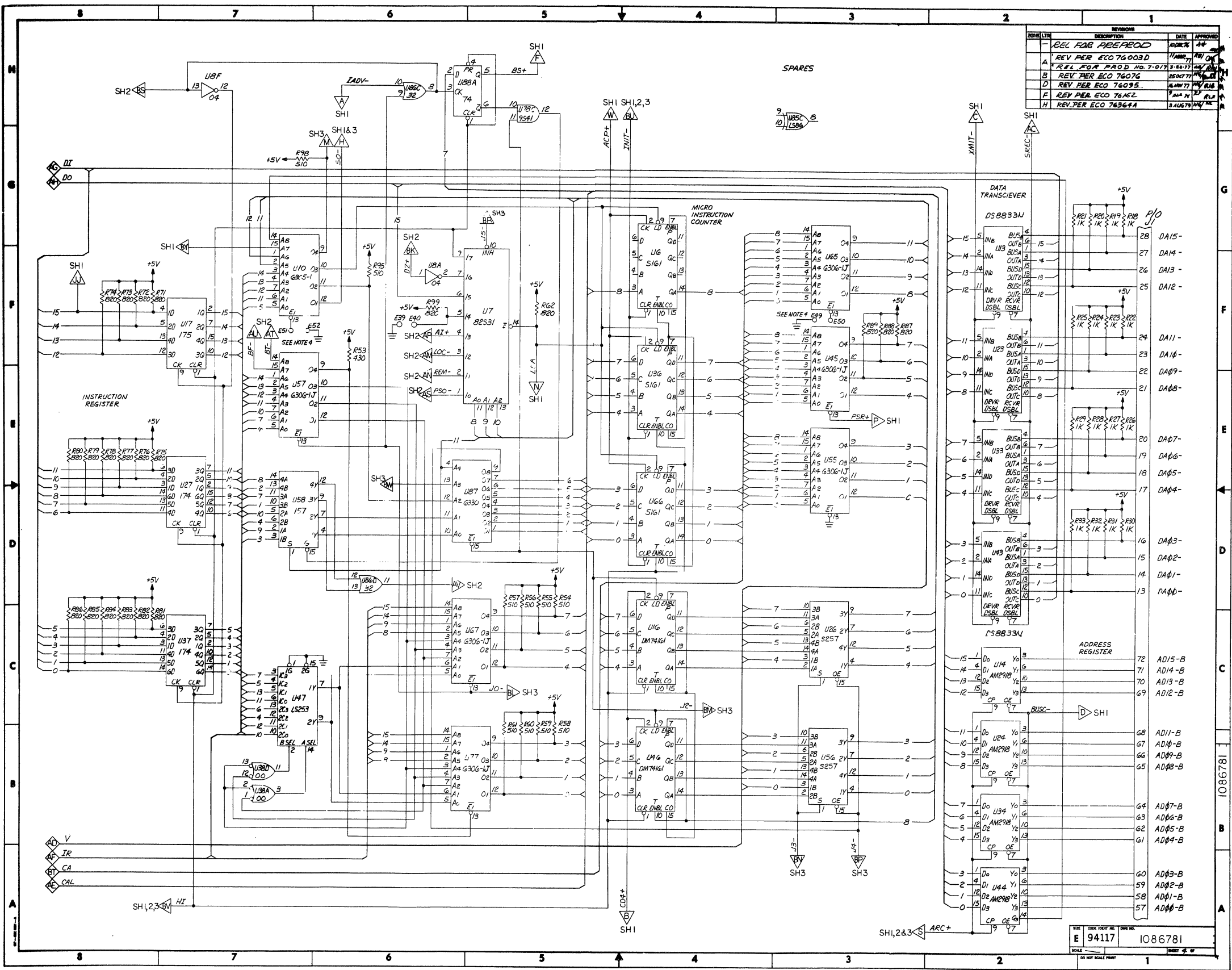




REV	DESCRIPTION	DATE	APPROVED
-	BEC FOR PROOD	11/18/77	WJ
A	REV PER ECO 76300D	11/18/77	WJ
B	REV FOR PROD NO. 7-017	11/18/77	WJ
C	REV PER ECO 76076	11/18/77	WJ
D	REV PER ECO 76263	11/18/77	WJ
H	REV PER ECO 76264A	11/18/77	WJ

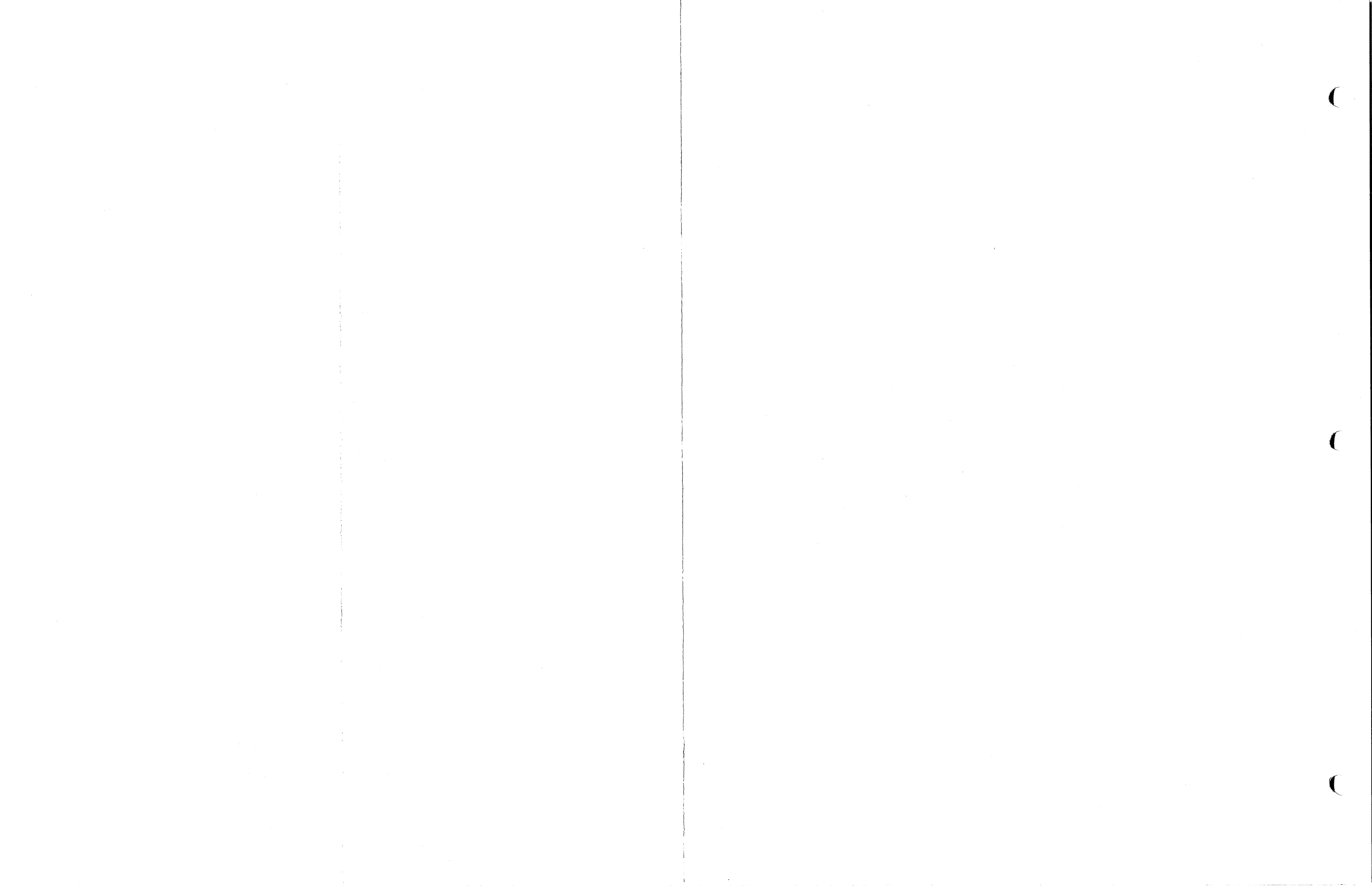
TITLE: 94117 1086781
 SCALE: 1:1
 SHEET: 3 OF 3
 DO NOT SCALE PRINT





REV	DESCRIPTION	DATE	APPROVED
A	REV PER ECO 76003D	1/1/80	ARC
B	REV PER ECO 76007G	1/1/80	ARC
C	REV PER ECO 76095	1/1/80	ARC
D	REV PER ECO 76095	1/1/80	ARC
E	REV PER ECO 76152	1/1/80	ARC
F	REV PER ECO 76152	1/1/80	ARC
G	REV PER ECO 76364A	1/1/80	ARC

E 94117 1086781
 DO NOT SCALE PRINT



REVISION STATUS													REVISIONS			
SH	1	2	3	4	5	6	7	8	9	10	11	12	LTR	DESCRIPTION	DATE	APPROVED
PARTS	B	B	-	B									-	REL FOR PROD	15 FEB 80	D/A
REV	13	14	15	16	17	18	19	20	21	22	23	24	A	REV PER ECO 96390A	25 Nov 80	RPW/WL
SH													B	REV PER ECO 96949		
REV																

PARTS LIST	DWG REV	B
	WL REV	X

3. ITEM NO'S WITH SUBSCRIPTS ARE ALTERNATE ITEMS. SELECT ONE ONLY.

2. PARTS LIST SHEET ONE IS THE CONTROLLING REVISION FOR THE COMBINED PARTS LIST, DRAWING AND WIRE LIST.

1. SHOP PRACTICE TOLERANCES AND DRAWING INTERPRETATION WITHIN 815002 SUPPLEMENT THIS DRAWING.

SA SANDERS ASSOCIATES, INC.		NASHUA, NEW HAMPSHIRE	
CIRCUIT CARD ASSY			
MULTIPOINT SERIAL I/O			
SIZE	CODE IDENT NO.	SHEET 1 OF 5	
A	94117	PL 5976251	

DR	DATE
APP	2/15/80
CHK	12/22/80
DEV	2/15/80
ENG	2/15/80
PRO	2/15/80

CONT NO.	
DR	
APP	
CHK	
DEV	
ENG	
PRO	

FIN-11	USED ON
NEXT ASSY	APPLICATION
GRA 7	

PRODUCTION CHANGE BY ECO ONLY

MFG

OP-1039 REV B

PARTS LIST

ITEM NO.	QTY PER ASSY		DWG SIZE	CODE IDENT	PART OR IDENTIFYING NO.	DESCRIPTION	SYM
	G/	G					
1	1		E		5976252G1	CIRCUIT CARD SUBASSY	
2	REF		E		5976253	SCHEMATIC DIAGRAM	
3	4				COM2017P	MED, UART U16, 3A, 52, 70	
4	1				DS8837N	MED, HEX UNIFIED BUS RECEIVER U13	
5	2				75188N	MED, QUAD RS-232C LINE DRIVER, U12B	
6	2				75189N	MED, QUAD RS-232C LINE RECEIVER, U27, 54	
7	2				310368P2	MED, TRI-STATE HEX BUFFERS (DM8098N) U36, 69	
8	1				COM50V6	MED, BAUD RATE GEN U79	
9	2				74251N	MED, DATA SEL/MUX, TRI-STATE U12, 40	
10	1				74LS153N	MED, DUAL 4-TO-1-LINE MUX U33	
11	2				74LS74N	MED, DUAL TYPE D FLIP-FLOPS, U66, 77	
12	2				74LS02N	MED, QUAD NOR GATES U59, 68	
13	2				74H106N	MED, DUAL J-K FLIP-FLOPS U9, 41	
14	2				7406N	MED, HEX INVERTERS WITH O.C. U50, 90	
15	1				74LS08N	MED, QUAD AND GATES U57	
16	1				74LS138	MED, 3 TO 8 LINE MUX U14	
17	1				74LS20N	MED, DUAL NAND GATES U2	
18	1				74S04N	MED, HEX INVERTERS U48	
19	1				74LS139N	MED, DUAL 2 TO 4 LINE MUX U4	
20	3				F9334PC	MED, 8 BIT ADDRESSABLE LATCH U21, 22, 23	

SIZE		CODE IDENT NO.	REV	SHEET
A		94117 PL	8	2
		5976251		

SHEET ONE REVISION LETTER IS THE IDENTIFYING REVISION FOR THIS MULTISHEET DWG. SEE SHEET ONE FOR REVISION DESCRIPTIONS. SYMBOLS : INDICATES VENDOR ITEM - SEE SPEC/SOURCE CONTROL DWG.

PARTS LIST

ITEM NO.	QTY PER ASSY		DWG SIZE	CODE IDENT	PART OR IDENTIFYING NO.	DESCRIPTION	SYM
	G/	G					
21	4				7ALS00N	MED, QUAD NAND GATES, U78, 84, 87, 89	
22	1				7ALS17AN	MED, HEX D-TYPE FLIP-FLOPS, U56	
23	1				7ALS175N	MED, QUAD D-TYPE FLIP-FLOPS, U58	
24	1				7ALS148N	MED, PRIORITY ENCODER U67	
25	2				74173N	MED, 4-BIT REGISTER U64, 76	
26	1				F9S109PC	MED, DUAL J-R FLIP-FLOPS U49	
27	1				F9S41PC	MED, 2-2-3-3 INPUT AND GATE U31	
28	3				1008-692	SWITCH U19, 39, 80	
29	4				0310367P2	MED, TRI-STATE HEX BUFFERS (DM8097N) U18, 42, 51, 86	
30	4				DS8835N	MED, QUAD BUS TRANSCIVERS U6, 7, 15, 24	
31	1				7ALS04N	MED, HEX INV U85	
32	2				7408N	MED, QUAD AND GATES U5, 8	
33	1				7ALS32N	MED, QUAD OR GATE U11	
34	4				7ALS253N	MED, DUAL 4:1 MUX U1, 28, 29, 32	
35	4				7ALS109N	MED, DUAL J-R FLIP-FLOPS U37, 46, 65, 74	
36	1				1086870P8	PROM (6331-10)U47	
37	1				5976404P1	PROM (6331-10)U3	
38	1				5976403P1	PROM (6353-15)U60	

SHEET ONE REVISION LETTER IS THE IDENTIFYING REVISION FOR THIS MULTISHEET DWG
SEE SHEET ONE FOR REVISION DESCRIPTIONS
SYMBOLS : INDICATES VENDOR ITEM - SEE SPEC/SOURCE CONTROL DWG.

SIZE CODE IDENT NO.

A 94117 PL 5976251

REV - SHEET 3

ITEM NO.	QTY PER ASSY		DWG SIZE	CODE IDENT	PART OR IDENTIFYING NO.	DESCRIPTION	SYM
	G/	G					
39	1				5976402P1	PROM (6305-1J)U20	
40	1				5976402P2	PROM (6305-1J)U30	
41	4				1N4148	DIODE CR3-8	
42	2				1N4372A	DIODE ZENOR 3.0V CR1, 2	
43	1				1086937P1	CRYSTAL, 5.0688 MHZ Y1	
44	1				280035P008	SOCKET, CRYSTAL	
45	33				RCR076103US	RES. 10K OHMS .25W 5% R12, 21-24 R27-54	
46	16				RCR076102US	RES. 1K OHM .25W 5% R9, 10, 13-20, 26 R56, 59, 61, 6, 57	
47	7				RCR07651US	RES. 510 OHM .25W 5% R7, 8, 11, 25 R55, 58, 60	
48	5				RCR07639US	RES. 390 OHMS .25W 5% R1-5	
49	2				RCR076202US	RES. 2K OHMS .25W 5% R62, 63	
50	8				CK05BX222K	CAP 2200PF C1-8	
51	33				MA201E103Z	CAP .01uF C28-60	
52	1				M39003/01-2019	CAP .39uF CR1	
53	2				A174302P2	CAP 15uF C15, 18	
54	15				MA205E104Z	CAP .1uF C9-11, 13, 16, 17, 20, 22-27, 1A, 19	
55	1				M39003/01-2014	CAP .47uF C12	
56	2		A		7518001P78	INDUCTOR 22uH 10% 350V L1, 3	
57	2		B		7013626P1	INDUCTOR ASSY L2, A	
58	4			53387	3491-1002	CONN, DISPLAY/KEYBOARD U3-6	

SHEET ONE REVISION LETTER IS THE IDENTIFYING REVISION FOR THIS MULTISHEET DWG. SEE SHEET ONE FOR REVISION DESCRIPTIONS. SYMBOLS : INDICATES VENDOR ITEM - SEE SPEC/SOURCE CONTROL DWG.

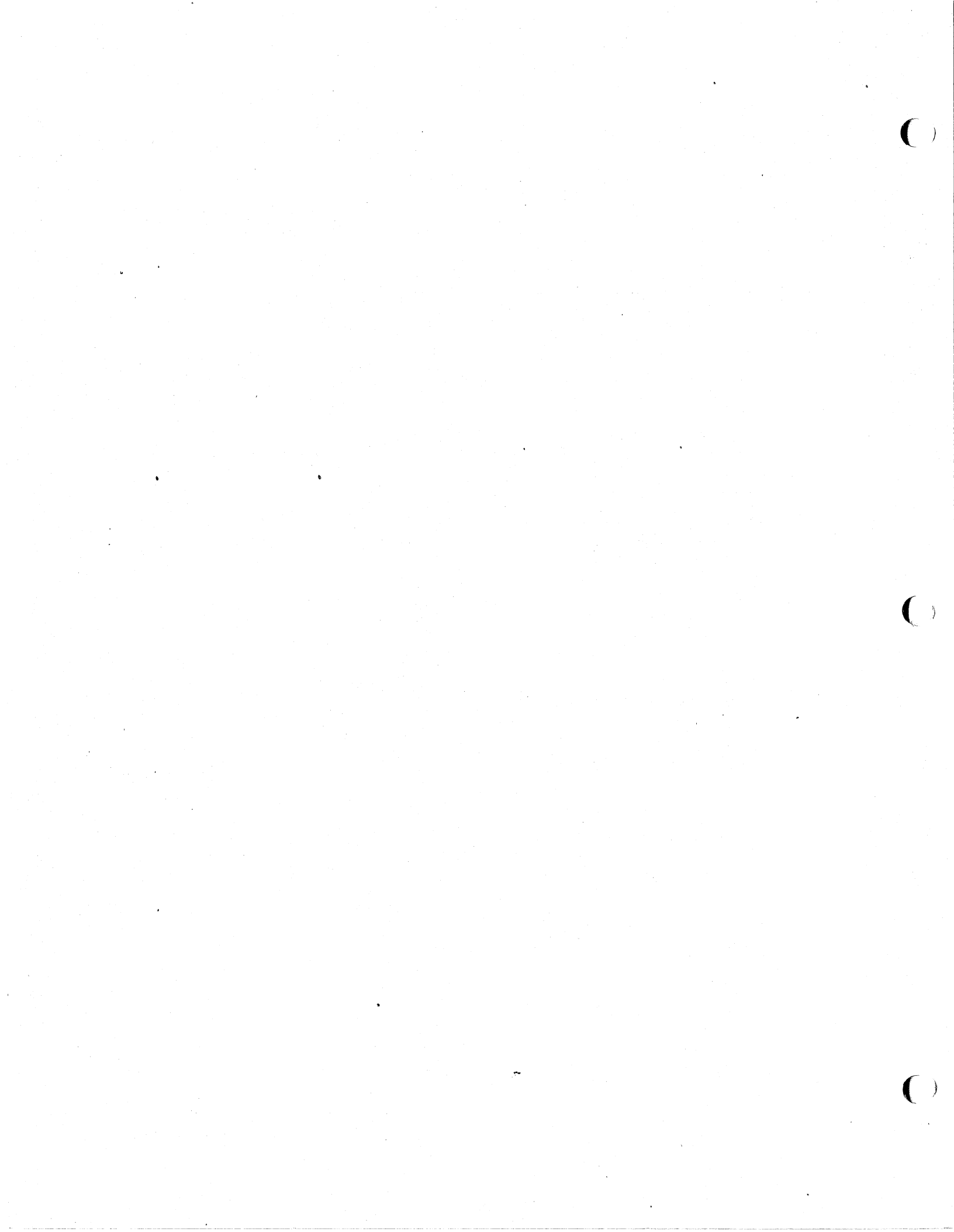
SIZE	CODE IDENT NO.	REV	SHEET
A	94117 PL	B	4
5976251			

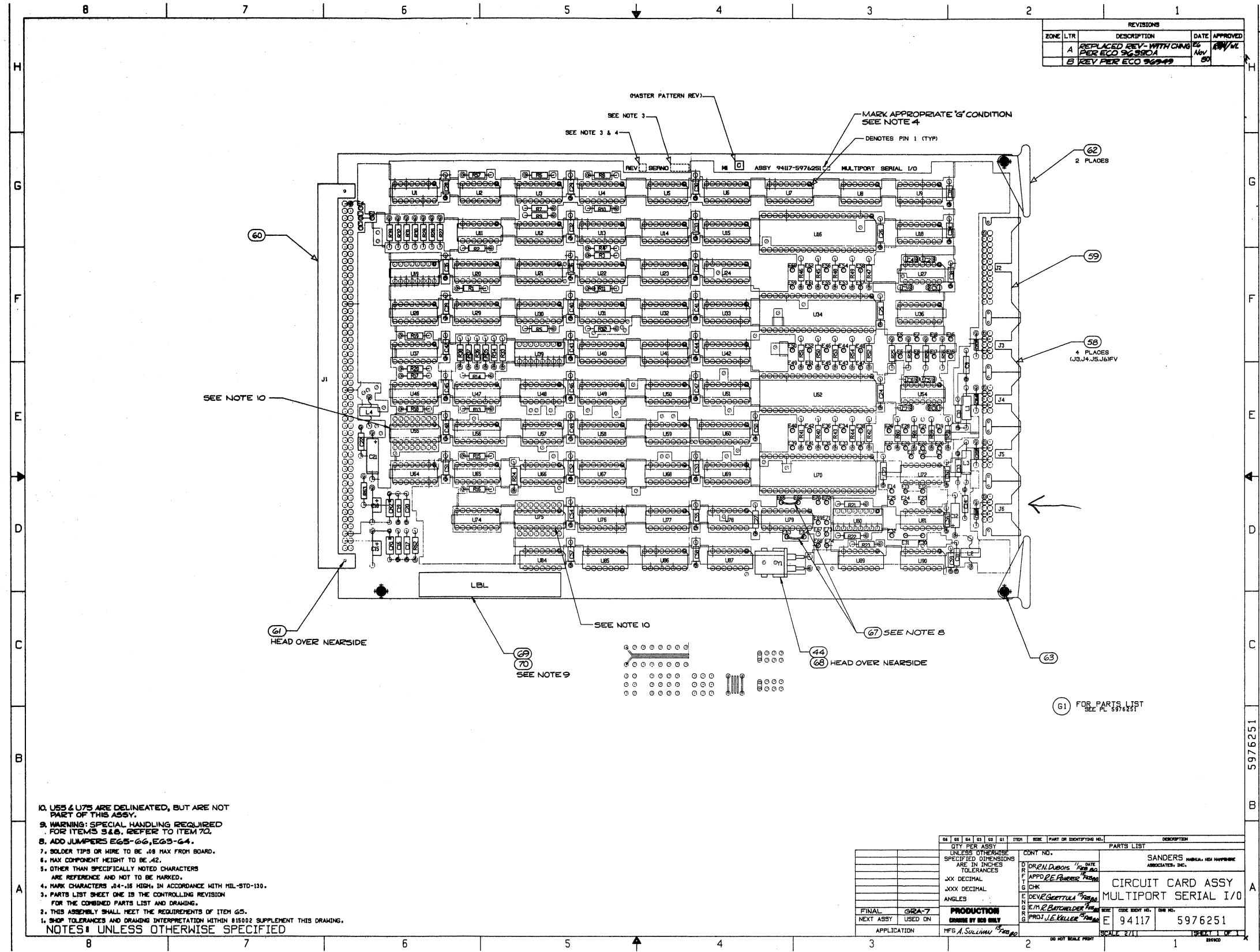
PARTS LIST

ITEM NO.	QTY PER ASSY		DWG SIZE	CODE IDENT	PART OR IDENTIFYING NO.	DESCRIPTION	SYM
	G/	G					
59	1			53387	3493-1002	CONN, 26 PIN U2	
60	1		D	07707	1086608P18	CONN, 98 PIN U1	
61	2				6010	EYELET	
62	2		A		600107P1	EJECTOR, CARD	
63	2		A		630003P14	EYELET, METALLIC	
64	AR		A		93002P1	SOLDER	
65	REF		A		815003	PWB REPT'S FOR	
66	REF		A		778000	APPL OF EPOXY MKG CMOD	
5A	REF				MC1488N	MED QUAD RS-232C LINE DRIVER	
6A	REF				MC1489N	U72, 81 MED QUAD RS-232C LINE RECEIVER	
67	2 IN				278002P13	U27, 54	
68	2		B		630003P8	WIRE, ELEC, AWG 22	
69	1		A		5977208P1	EYELET, METALLIC	
70	REF				4171131	WARNING LABEL, MOS DEVICES PROCEDURE FOR HANDLING MOS DEVICES	

SIZE		CODE IDENT NO.	REV	SHEET
A		94117 PL	8	5
		5976251		

SHEET ONE REVISION LETTER IS THE IDENTIFYING REVISION FOR THIS MULTISHEET DWG
SEE SHEET ONE FOR REVISION DESCRIPTIONS
SYMBOLS : INDICATES VENDOR ITEM - SEE SPEC/SOURCE CONTROL DWG.





REVISIONS				
ZONE	LTR	DESCRIPTION	DATE	APPROVED
A		REPLACED REV- WITH CHNG PER EGO 94380A	11/74	AW
B		REV PER EGO 96249	5/75	

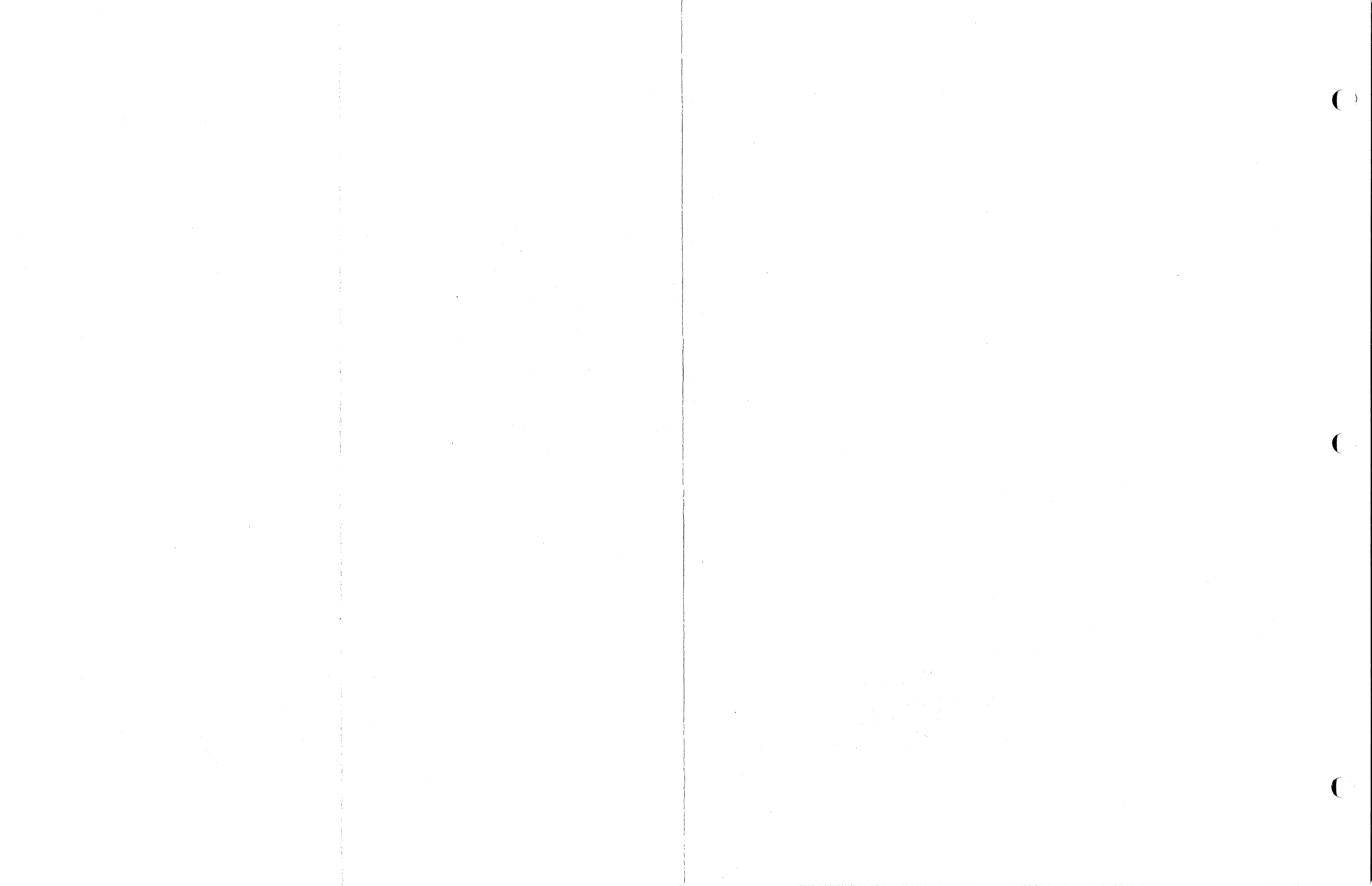
10. U55 & U75 ARE DELINEATED, BUT ARE NOT PART OF THIS ASSY.
9. WARNING: SPECIAL HANDLING REQUIRED FOR ITEMS 54&6. REFER TO ITEM 70.
8. ADD JUMPERS E65-66, E69-64.
7. SOLDER TIPS OR HOLE TO BE .08 MAX FROM BOARD.
6. MAX COMPONENT HEIGHT TO BE .42.
5. OTHER THAN SPECIFICALLY NOTED CHARACTERS ARE REFERENCE AND NOT TO BE MARKED.
4. MARK CHARACTERS .04-.16 HIGH IN ACCORDANCE WITH MIL-STD-130.
3. PARTS LIST SHEET ONE IS THE CONTROLLING REVISION FOR THE COMBINED PARTS LIST AND DRAWING.
2. THIS ASSEMBLY SHALL MEET THE REQUIREMENTS OF ITEM 65.
1. SHOP TOLERANCES AND DRAWING INTERPRETATION WITHIN 816002 SUPPLEMENT THIS DRAWING.
- NOTES # UNLESS OTHERWISE SPECIFIED

QTY PER ASSY	UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES	TOLERANCES	XXX DECIMAL	XXXX DECIMAL	ANGLES	PRODUCTION CHANGES BY ENG ONLY	DATE	BY	CHK	APP'D	DATE	BY	CHK	APP'D	DATE	BY	CHK	APP'D
FINAL	AREA-7																	
NEXT ASSY	USED IN																	
APPLICATION	HPG A. SULLIVAN																	

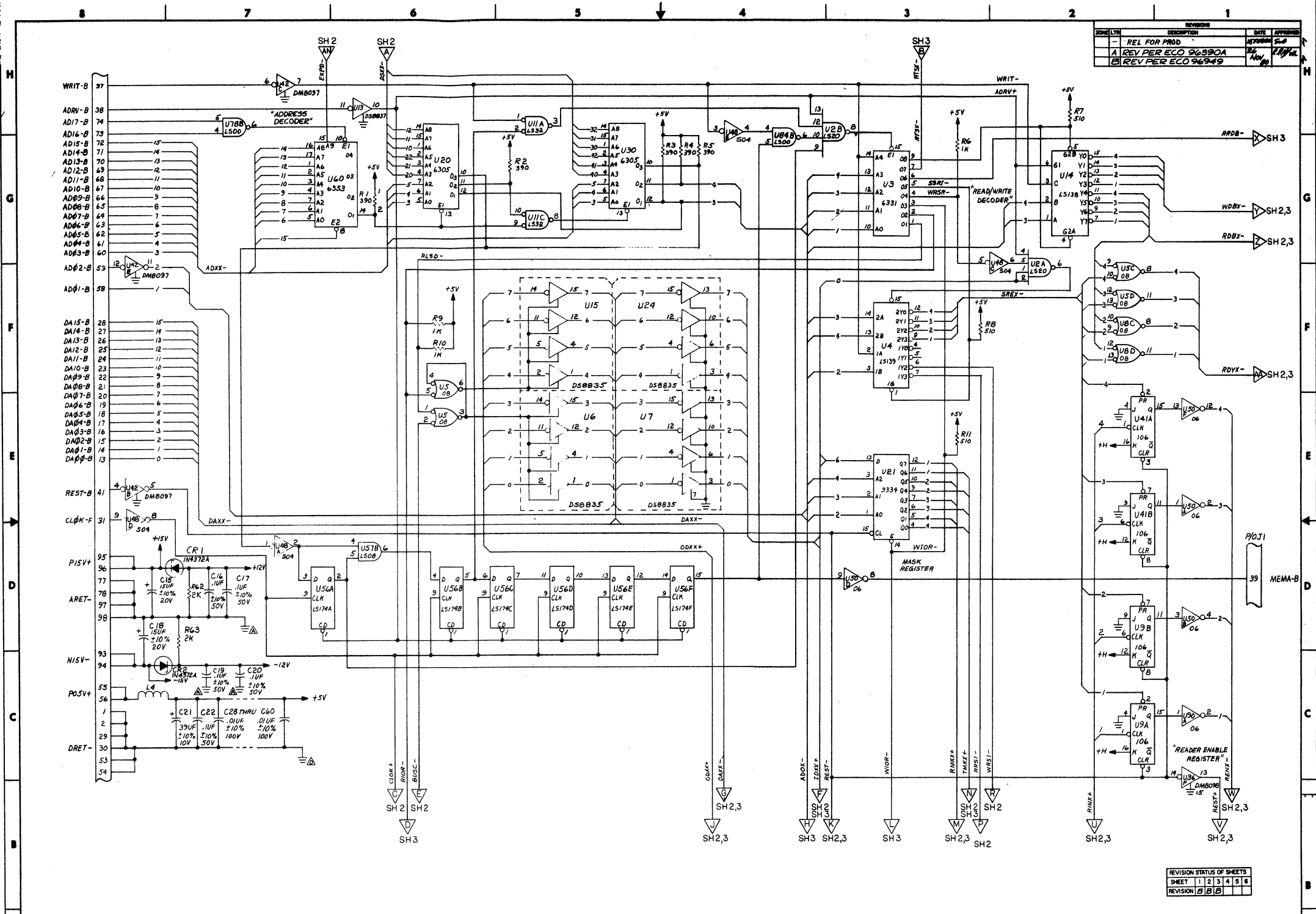
QTY PER ASSY	CONTR NO.	PARTS LIST	DESCRIPTION
			SANDERS ASSOCIATES, INC.
			CIRCUIT CARD ASSY
			MULTIPORT SERIAL I/O
			94117
			5976251

5976251

A



REV	DESCRIPTION	DATE	BY
-	REL FOR PROD	12/11/79	WJ
A	REV PER ECO 96390A	12/11/79	WJ
B	REV PER ECO 963949	12/11/79	WJ

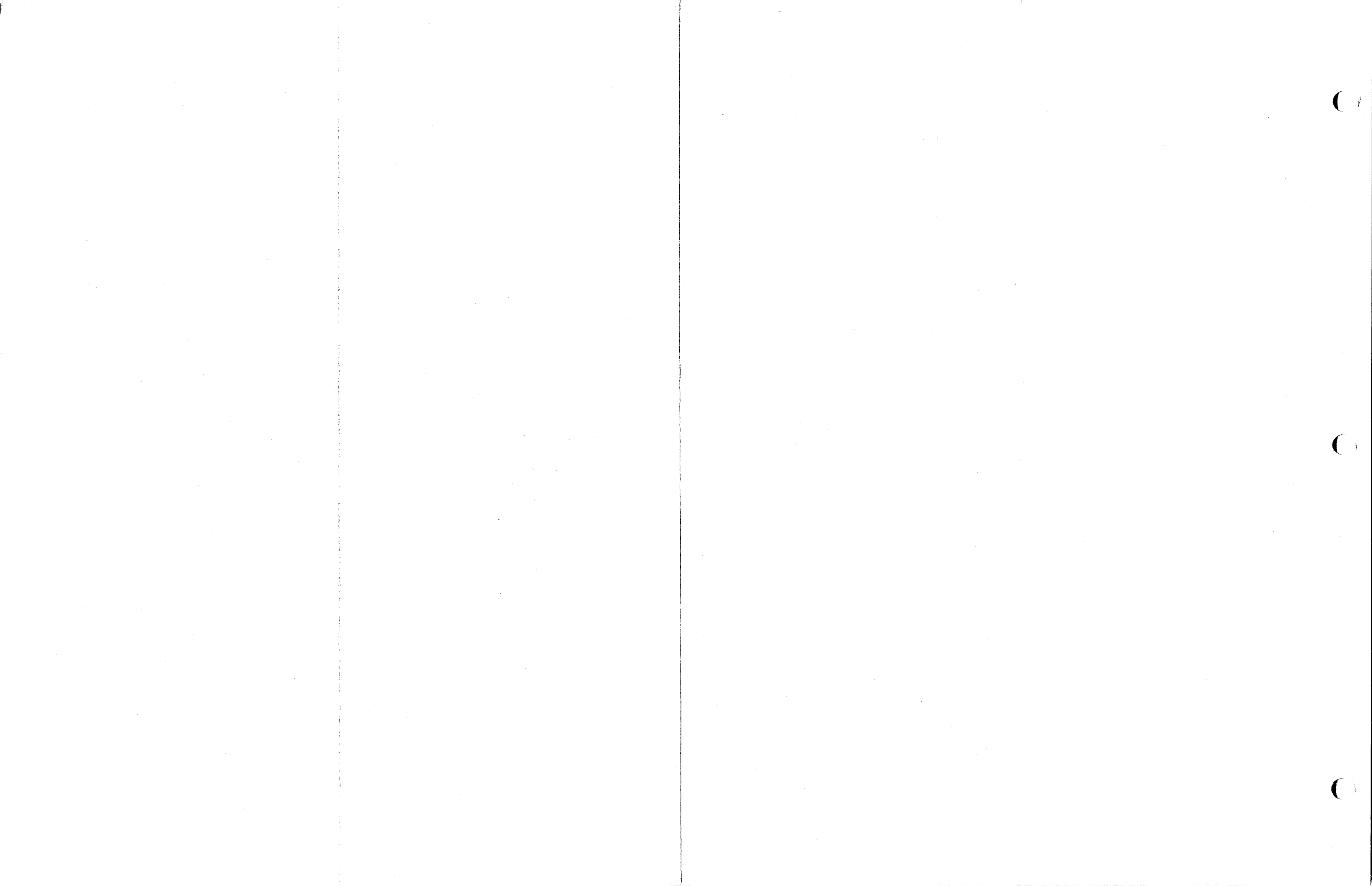


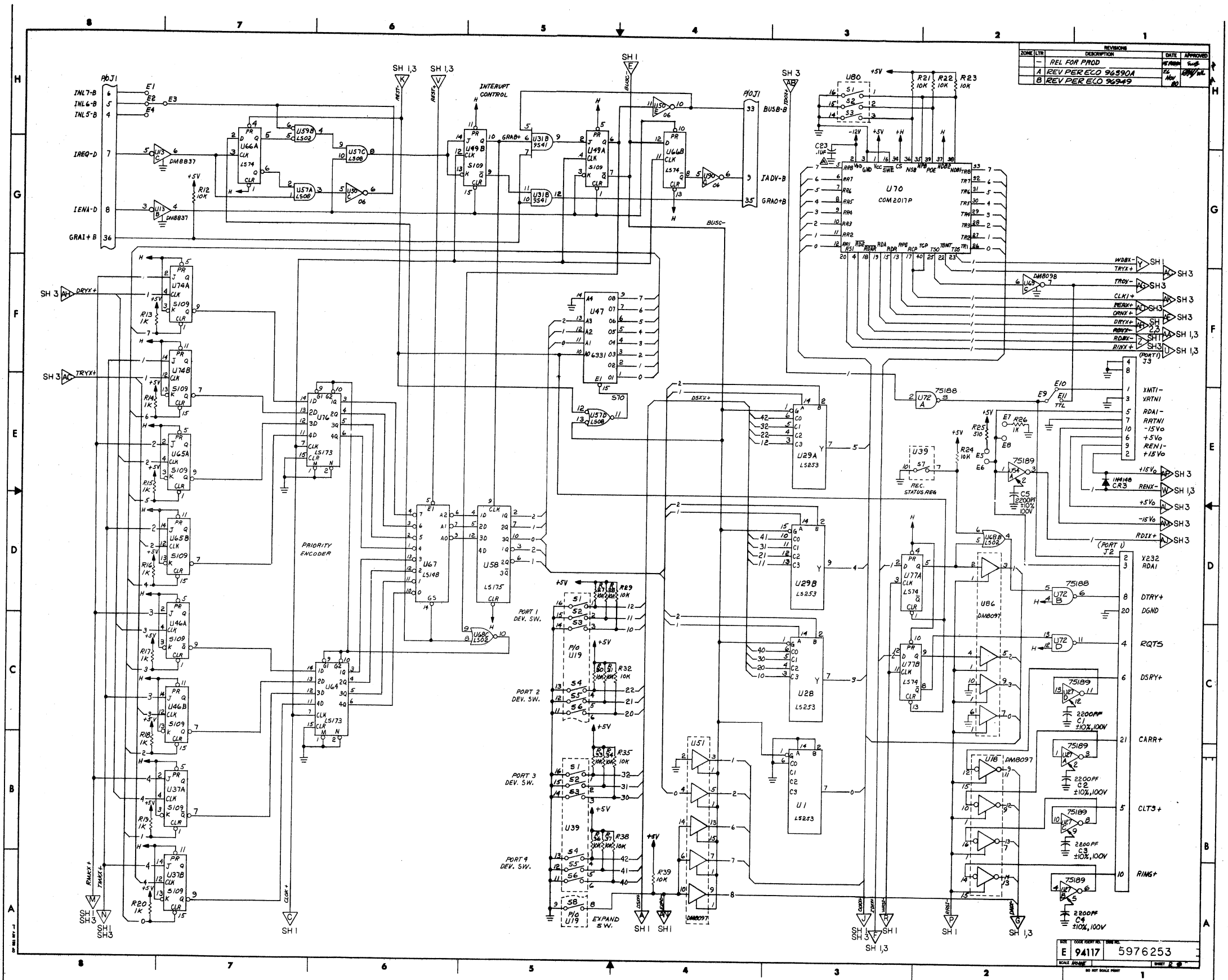
3. REFERENCE DESIGNATIONS ARE ABBREVIATED
PREFIX THE DESIGNATIONS WITH UNIT NO. OR
ASSEMBLY DESIGNATION OR BOTH.
2. UNLESS OTHERWISE SPECIFIED
RESISTANCE VALUES ARE IN OHMS
RESISTORS ARE ± 5% S/W
K=1,000
CAPACITANCE VALUES ARE IN PICOFARADS
CAPACITORS ARE ± 10% V
UF=MICROFARADS
INDUCTANCE VALUES ARE IN MICROHENRIES
1. INTERPRET DRAWING PER 818002
- NOTES**

REVISION STATUS OF SHEETS				
SHEET	1	2	3	4
REVISION	B	B		

DESCRIPTION	LAST NO.	DELETED NO.	DATE
RESISTOR	R63		12/11/79
CAPACITOR	C63		12/11/79
DIODE	CR6		12/11/79
TRANSISTOR			
INDUCTOR	L4		12/11/79
MICROELEMENTS	U90		12/11/79

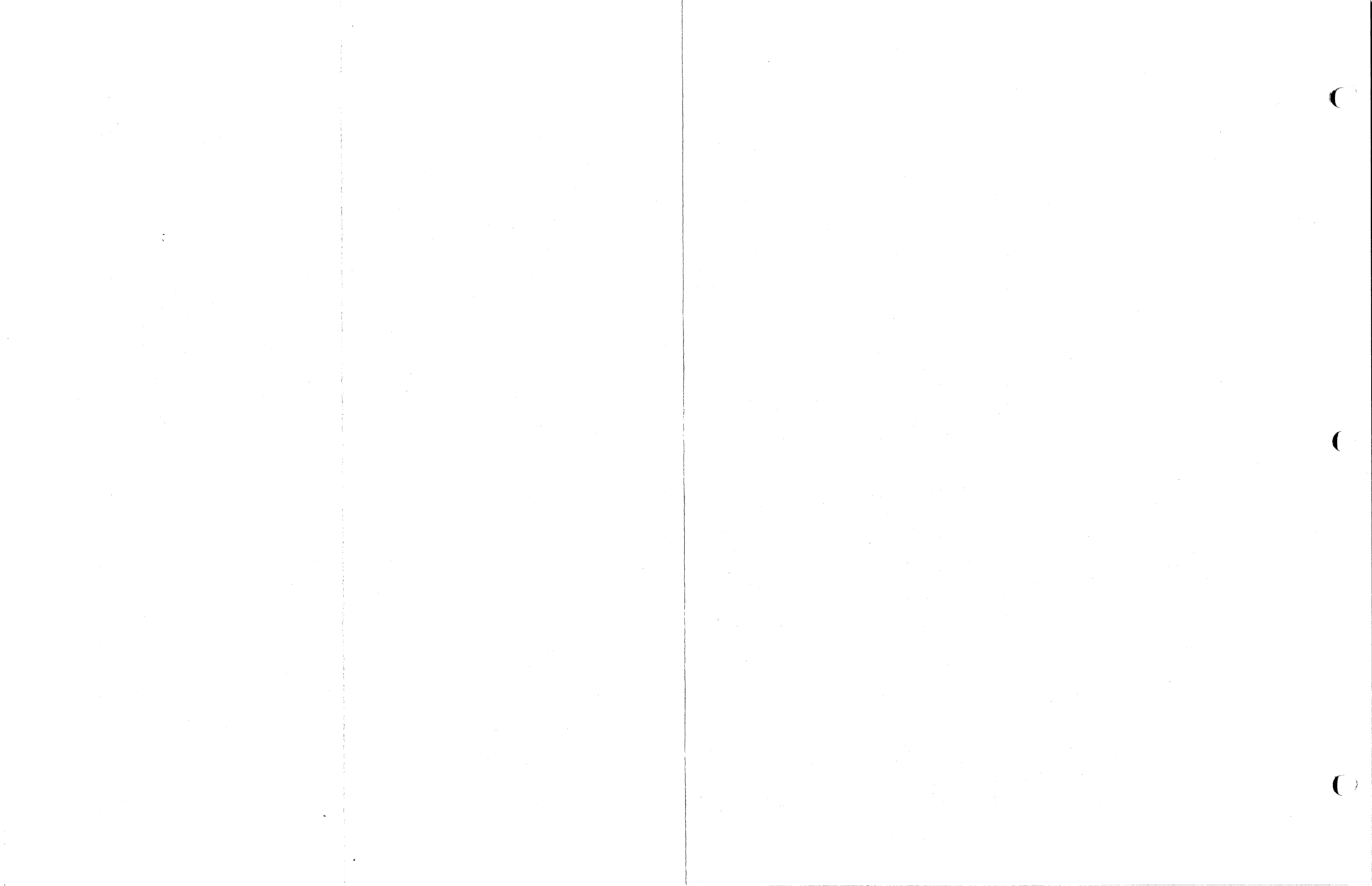
SANDERS ASSOCIATES, INC.		MEMPHIS, TENN. 38117
LOGIC DIAGRAM		
MULTIPORT SERIAL I/O		
E 94117	5976253	1

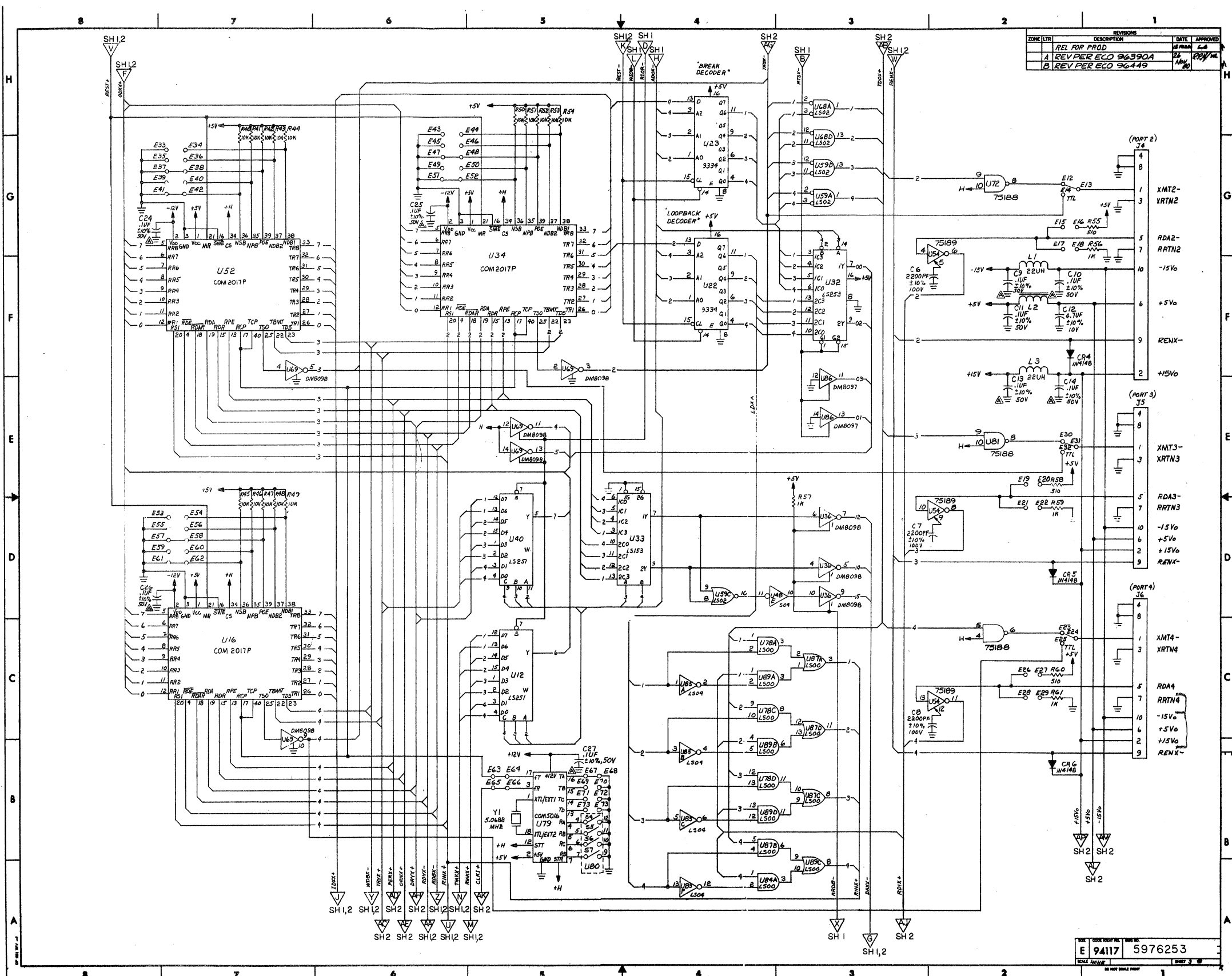




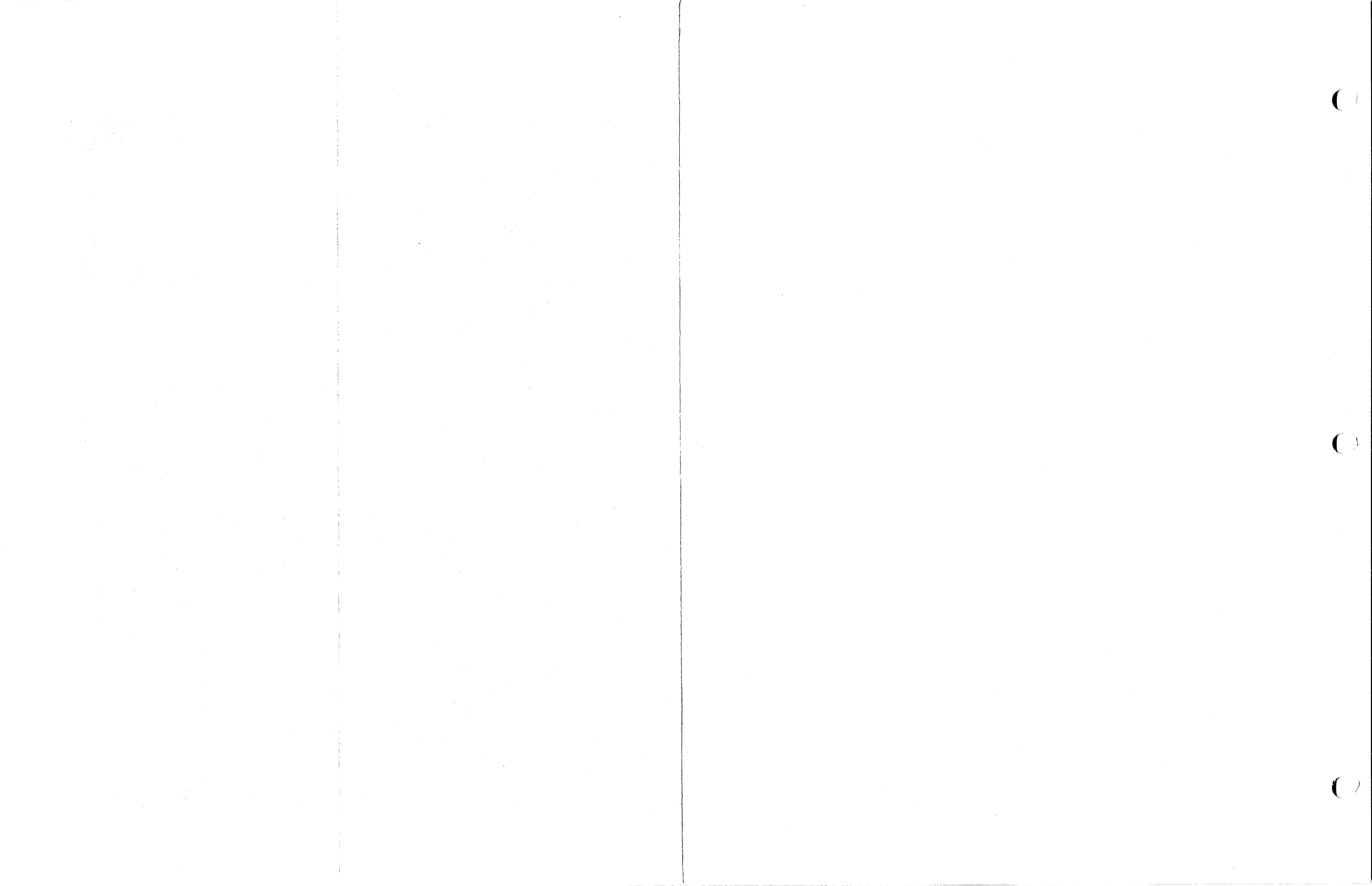
ZONE	LTN	DESCRIPTION	REVISION	DATE	APPROVED
-	-	REL FOR PROD			
A		REV PER ECO 96590A			
B		REV PER ECO 96949			

E 94117 5976253
 DATE: 11/17/73
 DRAWN: [Signature]
 CHECKED: [Signature]
 DESIGNED: [Signature]





REVISIONS		DATE	APPROVED
1	REL FOR PROD	11/14/68	WJH
2	REV PER ECO 96390A	11/14/68	WJH
3	REV PER ECO 96449	11/14/68	WJH



REVISIONS

LTR	DESCRIPTION	DATE	APPROVED
-	REL FOR PREPROD	10 MAR 81	<i>[Signature]</i>

REVISION STATUS

SH	1	2	3	4	5	6	7	8	9	10	11	12
REVISION	-	-										
PARTS	13	14	15	16	17	18	19	20	21	22	23	24
LIST												

DWG REV	<input checked="" type="checkbox"/>
WL REV	<input checked="" type="checkbox"/>

3. PLACE ITEM 3 OVER EXISTING PART IDENTIFICATION, MARK PART NO., REV & SERNO MARKING METHOD IS OPTIONAL

- PARTS LIST SHEET ONE IS THE CONTROLLING REVISION FOR THE COMBINED PARTS LIST, DRAWING AND WIRE LIST.
- SHOP PRACTICE TOLERANCES AND DRAWING INTERPRETATION WITHIN 815002 SUPPLEMENT THIS DRAWING.

SANDERS ASSOCIATES, INC. NASHUA, NEW HAMPSHIRE	
CIRCUIT CARD ASSY,	
ROM & STATUS	
SIZE	CODE IDENT NO.
A	94117 PL 5977297
SHEET 1 OF 2	

CONT NO.	
DR	<i>[Signature]</i> 23 FEB 81
APP	<i>[Signature]</i> 9 MAR 81
CHK	
DEV	<i>[Signature]</i> 10 MAR 81
ENGR	<i>[Signature]</i> 10 MAR 81
PROJ	<i>[Signature]</i> 10 MAR 81
FINAL	GEA-8
NEXT ASSY	USED ON
APPLICATION	
PREPROD	
CHANGE BY ECO ONLY	
MFG	<i>[Signature]</i> 3/10/81

PARTS LIST

ITEM NO.	QTY PER ASSY		DWG SIZE	CODE IDENT	PART OR IDENTIFYING NO.	DESCRIPTION	SYM
	G	G					
1	1		E		1088682G14	CCA, ROM & STATUS	
2	REF		E		1088683	LOGIC DIAGRAM	
3	1		A		4171182P1	LABEL	
4	1		A		5977198P1	PROM, PROGRAMMED	(MM6352)
5	1		A		5977198P9	U3	(N825185F)
6	1		A		5977198P10	U4	
7	1		A		5977198P11	U5	
8	1		A		5977198P12	U6	
9	1		A		5977198P13	U13	
10	1		A		5977198P14	U14	
11	1		A		5977198P15	U15	
12	1		A		5977198P16	U16	
13	1		A		5977198P1	U23	
14	1		A		5977198P2	U24	
15	1		A		5977198P3	U25	
16	1		A		5977198P4	U26	
17	1		A		5977198P5	U33	
18	1		A		5977198P6	U34	
19	1		A		5977198P7	U35	
20	1		A		5977198P8	U36	(N825185F)
21	REF		A		5977298G1	PROM, PROGRAMMED SOFTWARE STRUCTURE	GCP8

SHEET ONE REVISION LETTER IS THE IDENTIFYING REVISION FOR THIS MULTISHEET DWG
 SEE SHEET ONE FOR REVISION DESCRIPTIONS
 SYMBOLS : INDICATES VENDOR ITEM - SEE SPEC/SOURCE CONTROL DWG.

SIZE	CODE IDENT NO.	REV	SHEET
A	94117 PL	—	2
		5977297	

REVISIONS

REVISION STATUS

LTR	DESCRIPTION	DATE	APPROVED
R	REV PER ECO 96310	1 FEB 80	WG/WL
T	ECO 96291A NO DWG CHG	14 FEB 80	WG/WL
U	REV PER ECO 96325		
V	REV PER ECO 96362	4 MAR 80	WG/WL
W	REV PER ECO 96381A	25 MAR 80	WG/WL
Y	REV PER ECO 96408	22 APR 80	RDM/WL
AA	REV PER ECO 96918A	5 SEP 80	WG/JK
AB	REV PER ECO 97046	5 JAN 81	WG/WL
AC	REV PER ECO 101021	13 JAN 81	WG/WL
AD	REV PER ECO 101026	11 MAR 81	WG/WL
AE	REV PER ECO 97045 SEE DWG REV P	16 FEB 81	WG/WL

SH	1	2	3	4	5	6	7	8	9	10	11	12
REVISION STATUS	AE	AE	AE	D	AE	AE	AE	AE	AE	K	AE	AE
PARTS	13	14	15	16	17	18	19	20	21	22	23	24
LIST	AE	AE	AE	A	AE	AE	A	B	AE	AE	AE	AE
	25	26	27	28	29	30	31	32	33	34		
	AE	AE	AE	AE	AE	AE	AE	AE	AE	AE		

DWG REV	AN
WL REV	X

- 4. ITEMS 146A, 147A, 148A, 149A MUST BE USED TOGETHER.
- 3. ITEM NUMBERS WITH SUBSCRIPTS ARE ALTERNATE ITEMS. SELECT ONE ONLY.
- 2. PARTS LIST SHEET ONE IS THE CONTROLLING REVISION FOR THE COMBINED PARTS LIST, DRAWING AND WIRE LIST.
- 1. SHOP PRACTICE TOLERANCES AND DRAWING INTERPRETATION WITHIN 815002 SUPPLEMENT THIS DRAWING.

SA SANDERS ASSOCIATES, INC. NASHUA, NEW HAMPSHIRE

CIRCUIT CARD ASSY,
ROM & STATUS LOGIC (8K)

SIZE **A** CODE IDENT NO. **94117 PL 1088682**

SA SANDERS ASSOCIATES, INC. NASHUA, NEW HAMPSHIRE

DATE 15 FEB 78

DEV U.D. Toole 16 FEB 78

ENG [Signature] 9-6-78

PROJ [Signature] 2/22/78

CONT NO.

D	R	F	T	G
E	N	G	R	G

GRA-7

USED ON APPLICATION

PRODUCTION
CHANGE BY ECO ONLY

MFG W. Koch 2-22-78

OP-1039 REV B DWG SIZE

SHEET 1 OF 34

PARTS LIST

ITEM NO.	QTY PER ASSY		DWG SIZE	CODE IDENT	PART OR IDENTIFYING NO.	DESCRIPTION	SYM
	G 1	G 2					
1	1	1	E		1088684G1	CIRCUIT CARD SUBASSY, ROM & STATUS LOGIC	#
2	2	2	A		310092P1	MED (SN7400N) U58, 74	#
3	1	1	A		310200P1	MED (SN7402N) U50	#
4	1	1	A		310201P1	MED (SN7403N) U60	#
5	2	2	A		310202P1	MED (SN7404N) U59, 79	#
6	1	1	A		310319P1	MED (SN74504N) U40	#
7	1	1	A	01295	SN7406N	U9 (TI)	#
8	1	1	A		310234P1	MED (SN7408N) U68	#
9	8	8	A		310094P1	MED (SN7474N) U19, 52, 53, 67, 70, 76	#
10	1	1	A	01295	SN7486N	U12 (TI)	#
11	1	1	A		310378P3	MED (SN74H106N) U32	#
12	1	1	A		7013070P68	MED (SN74LS138N) U42	#
13	1	1	A		313026P1	MED (SN74148N) U55	#
14	2	2	A		7013070P54	MED (SN74173N) U65, 75	#
15	2	2	A		310279P1	MED (SN74174N) U49	#
16	2	2	A		310279P2	MED (SN74175N) U47, 48	#
17	1	1	A	01295	SN74390N	U30	#
18	1	1	A	07263	F9S41PC	U10	#
19	1	1	A	07263	F9S109PC	U20	#
20	1	1					
21	1	1					

SHEET ONE REVISION LETTER IS THE IDENTIFYING REVISION FOR THIS MULTISHEET DWG
 SEE SHEET ONE FOR REVISION DESCRIPTIONS
 SYMBOLS : INDICATES VENDOR ITEM - SEE SPEC/SOURCE CONTROL DWG.

SIZE	A	CODE IDENT NO.	94117 PL
			1088682
		REV	AE
		SHEET	2

PARTS LIST

ITEM NO.	QTY PER ASSY		DWG SIZE	CODE IDENT	PART OR IDENTIFYING NO.	DESCRIPTION	SYM
	G 1	G 2					
22	1	1		01295	SN 7432N	MED U63	#
23	4	4	A	27014	DM8097N	MED U1718, 44, 54 (NAT)	
24	6	6		27014	310368P2	MED (DM8098N) U27, 28, 37, 38, 45, 46	
25	2	2		27014	DS8835N	MED U17, 8 (NAT)	
26	2	2		27014	DS8837N	MED U22, 69 (NAT)	
27	1	1		53848	COM5016	MED U31 (SMC)	
28	1	1			COM2017P	MED U1 (SMC)	
29	1	1		01295	SN7425N	MED U80 (TI)	
30							
31	1	1		01295	SN74177N	MED U64 (TI)	
32	1	1		75378	MXQ50 - 20MHZ	OSCILLATOR, DIP, 20MHZ, U29 (CTS)	
33							
34	39	39	A		7550001P73	RES, 1K OHMS ± 5% .25W R1, 2, 3, 4 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19 20, 21, 22, 30, 31, 32, 33, 34, 35, 36, 37, 38 39, 40, 41, 42, 43, 44, 45, 46 RES, 1.5K OHMS ± 5% .25W R22, 48, 49	
35	3	3	A		7550001P77	RES, 3K OHMS ± 5% .25W R25, 26	
36	2	2	A		7550001P84	RES, 10K OHMS ± 5% .25W R47, 50, 51	
37	3	3	A		7550001P97	RES, 510 OHMS ± 5% .25W R27	
38	1	1	A		7550001P66	RES, 5.1K OHMS ± 5% .5W R24	
39	1	1	A		7550004P90	RES, 470 OHMS ± 5% .5W R23	
40	1	1	A		7550004P65		

SHEET ONE REVISION LETTER IS THE IDENTIFYING REVISION FOR THIS MULTISHEET DWG SEE SHEET ONE FOR REVISION DESCRIPTIONS SYMBOLS : INDICATES VENDOR ITEM - SEE SPEC/SOURCE CONTROL DWG.	SIZE CODE IDENT NO. A 94117 PL	1088682
		REV AE SHEET 3

PARTS LIST

ITEM NO.	QTY PER ASSY			DWG SIZE	CODE IDENT	PART OR IDENTIFYING NO.	DESCRIPTION	SYM
	G 1	G 2	G 3					
41	1	1	1	A		7550001P60	RES, 300 OHMS ±5% .25W R28	
42								
43	2	2	2	A		7011451P49	CAP, 15UF ±10% 20V C1,2	
44	1	1	1	A		7011451P19	CAP, 39UF ±10% 10V C10	
45	13	13	13	A		7502023P73	CAP, 1UF ±10% 50V C3,4,5,6,7	
46	19	19	19	A		7502023P55	11,12,13,14,15,16,18,38 CAP, .01UF ±10%, 100V C19,20,21,22	
47								
48	1	1	1	A		CK05BX222K	CAP, 2200PF ±10%, 100V C9	
49	1	1	1	A		7502023P37	CAP, 1000PF ±10%, 200V C8	
50	1	1	1	A		7011451P14	CAP, 4.7UF ±10%, 10V C17	
51	1	1	1	A		1086937P1	CRYSTAL, 5.0688MHZ, Y1	
52								
53	1	1	1	A		7538002P35	DIODE - ZENER (1N748A) VR3	
54	2	2	2	A		7538002P72	DIODE - ZENER (1N4372A) VR1,2	
55	2	2	2	A		7538002P17	DIODE (1N4148) CR1,2	
56								
57	1	1	1	A		7610001P46	TRANSISTOR (2N2907A) Q2	
58	1	1	1	A		7610001P84	TRANSISTOR (2N2222A) Q1	
59								
60	2	2	2	A		7518001P78	INDUCTOR, 22µh L1,2	

	SIZE	CODE IDENT NO.	REV D	SHEET
	A	94117 PL		4
SHEET ONE REVISION LETTER IS THE IDENTIFYING REVISION FOR THIS MULTISHEET DWG		1088682		
SEE SHEET ONE FOR REVISION DESCRIPTIONS				
SYMBOLS : INDICATES VENDOR ITEM - SEE SPEC/SOURCE CONTROL DWG.				

PARTS LIST

ITEM NO.	QTY PER ASSY		DWG SIZE	CODE IDENT	PART OR IDENTIFYING NO.	DESCRIPTION	SYM
	G1	G2					
61	1	1	B		7011935P1	ASSY, INDUCTOR L3	#
62	2	2	A	91506	640098P1	WAFER, THERMAL CONDUCTING	#
63	5	5	D		8041-15G2	TEST POINT TPI, 2, 3, 4, 5	#
64	1	1			1086608P18	CONNECTOR, ELEC 98 PIN J1	#
65	1	1		20999	3491-1002	CONNECTOR, ELEC 10 PIN J2 (3M)	#
66	2	2		07707	6010	EYELET	#
67	2	2	A		600107P1	CARD EJECTOR	#
68	2	2	A		630003P14	EYELET METALIC (SE310)	#
69	2	2	A		278000P13	WIRE, ELECT, 22 AWG	#
70	6"	6"	A		270006P5	TUBING, INSUL, TEFLON	#
71	5"	5"	A		930002P1	SOLDER	#
72	AR	AR	A				#
73	2	2			M551957-6	SCR, MAGN PH 2-56 X .44 LG	
74	2	2			M555338-134	WASHER, LOCK SPRING NO. 2	
75	2	2			MAS 620C2	WASHER, FLAT NO. 2	
76	2	2			M55519-224	NUT, 2-56	
77							
78							
79	REF	REF	E		1088683	LOGIC DIAGRAM, 8K ROM & STATUS LOGIC	
80	REF	REF	A		8150003	PWB, AND CKT BD, REQD FOR	
81	REF	REF	A		7780000	APPL OF EPOXY MARKING COMPD	
82	17	17			102-18-CCB	IC SOCKET, 18 PIN (GARRY)	
83	4	4			102-16-CCB	IC SOCKET, 16 PIN (GARRY)	

SHEET ONE REVISION LETTER IS THE IDENTIFYING REVISION FOR THIS MULTISHEET DWG SEE SHEET ONE FOR REVISION DESCRIPTIONS SYMBOLS : INDICATES VENDOR ITEM - SEE SPEC/SOURCE CONTROL DWG.	SIZE CODE IDENT NO. A 94117 PL	REV AE SHEET 5
1088682		

PARTS LIST

ITEM NO.	QTY PER ASSY		DWG SIZE	CODE IDENT	PART OR IDENTIFYING NO.	DESCRIPTION	SYM
	G1	G2					
84	/	/	A		1086870P11	PROGRAMMED PROM (6331-U)	U-43
85	/	/	A		1086870P2	(6331-U)	U-56
86	/	/	A		1086870P3	(6331-U)	U-57
87	/	/	A		1086870P4	(6331-U)	U-66
88	-	/	A		1089807P1	(N825185F)	U-3
89	-	/	A		1089807P2		U-4
90	-	/	A		1089807P3		U-5
91	-	/	A		1089807P4		U-6
92	-	/	A		1089807P5		U-13
93	-	/	A		1089807P6		U-14
94	-	/	A		1089807P7		U-15
95	-	/	A		1089807P8		U-16
96	/	/	A		1089771P9		U-23
97	/	/	A		1089771P10		U-24
98	/	/	A		1089771P11		U-25
99	/	/	A		1089771P12		U-26
100	/	/	A		1089771P13		U-33
101	/	/	A		1089771P14		U-34
102	/	/	A		1089771P15	(N825185F)	U-35
103	/	/	A		1089771P16	PROGRAMMED PROM (6352-U)	U-36
104	/	/	A				U-39
32A	REF	REF		75378	MX040-20MHZ	OSCILLATOR, DIP, 20MHZ, U29	(CTS)

SIZE	CODE IDENT NO.		
A	94117	PL	1088682
		REV	SHEET
		AE	6

SHEET ONE REVISION LETTER IS THE IDENTIFYING REVISION FOR THIS MULTISHEET DWG
SEE SHEET ONE FOR REVISION DESCRIPTIONS
SYMBOLS : INDICATES VENDOR ITEM - SEE SPEC/SOURCE CONTROL DWG.

PARTS LIST

ITEM NO.	QTY PER ASSY			DWG SIZE	CODE IDENT	PART OR IDENTIFYING NO.	DESCRIPTION	SYM
	G 1	G 2	G 3					
174	-	-	-	A		1901357P4	PROGRAMMED PROM (N82S185F)	U23
175	-	-	-	A		1901357P3		U24
176	-	-	-	A		1901357P2		U25
177	-	-	-	A		1901357P1		U26
178	-	-	-	A		1901357P8		U33
179	-	-	-	A		1901357P7		U34
180	-	-	-	A		1901357P6		U35
181	-	-	-	A		1901357P5	PROGRAMMED PROM (N82S185F)	U36
182	1 IN	1 IN	1 IN	A		270006P6	TUBING, INSULATION	
183	1	1	1	A		A174291P1	WARNING SPECIAL HANDLING LABEL	
184	REF	REF	REF	A		1088180	PROCEDURE FOR HANDLING MOS DEVICE	
185	1	1	1	A		280035P8	SOCKET CRYSTAL	
186	2	2	2	A		630003P8	EYELET	

SIZE CODE IDENT NO.
A 94117 PL 1088682

SHEET ONE REVISION LETTER IS THE IDENTIFYING REVISION FOR THIS MULTISHEET DWG
 SEE SHEET ONE FOR REVISION DESCRIPTIONS
 SYMBOLS : INDICATES VENDOR ITEM - SEE SPEC/SOURCE CONTROL DWG.

PARTS LIST

ITEM NO.	QTY PER ASSY		DWG SIZE	CODE IDENT	PART OR IDENTIFYING NO.	DESCRIPTION	SYM.
	G4	G5					
1	1	1	E		1088684G1	CIRCUIT CARD SUBASSY, RAM & STATUS LOGIC	
2	2	2	A		310092PI	MED (SN7400N) U58, 74	#
3	1	1	A		310200PI	MED (SN7402N) U50	#
4	1	1	A		310201PI	MED (SN7403N) U60	#
5	2	2	A		310202PI	MED (SN7404N) U59, 79	#
6	1	1	A		310319PI	MED (SN74504N) U40	#
7	1	1	A	01295	SN7406N	MED U19 (CTI)	
8	1	1	A		310234PI	MED (SN7408N) U68	#
9	8	8	A		310094PI	MED (SN7474N) U19, 52, 53, 67, 70, 76	#
10	1	1	A		SN7486N	77, 78	
11	1	1	A	01295	310378P3	MED U12 (TI)	
12	1	1	A		7013070P68	MED (SN74H106N) U32	#
13	1	1	A		313026PI	MED (SN74LS138N) U42	#
14	1	1	A		7013070P54	MED (SN74148N) U55	#
15	2	2	A		310279PI	MED (SN74173N) U65, 75	#
16	1	1	A		310279P2	MED (SN74174N) U49	#
17	2	2	A		SN74390N	MED (SN74175N) U47, 48	#
18	1	1	A	01295	F9S41PC	MED U30	
19	1	1	A	07263	F9S109PC	MED U10	
20	1	1	A	07263		MED U20	
21							

SIZE	CODE IDENT NO.	REV	AE	SHEET
A	94117 PL	1088682	8	8

SHEET ONE REVISION LETTER IS THE IDENTIFYING REVISION FOR THIS MULTISHEET DWG
 SEE SHEET ONE FOR REVISION DESCRIPTIONS
 SYMBOLS : INDICATES VENDOR ITEM - SEE SPEC/SOURCE CONTROL DWG.

PARTS LIST

ITEM NO.	QTY PER ASSY			DWG SIZE	CODE IDENT	PART OR IDENTIFYING NO.	DESCRIPTION	SYM
	G 4	G 5	G 6					
22	1	1	1		01295	SN 7432N	MED U63	
23	4	4	4		27014	DM8097N	MED U17,18,44,54 (NAT)	
24	6	6	6	A	27014	310368P2	MED (DM8098N) U27,28,37,38,45,46	#
25	2	2	2		27014	DS8835N	MED U17,8 (NAT)	
26	2	2	2		27014	DS8837N	MED U22,69 (NAT)	
27	1	1	1		53848	COM5016	MED U31 (SMC)	
28	1	1	1			COM2017P	MED U1 (SMC)	
29	1	1	1		01295	SN7425N	MED U80 (TI)	
30	1	1	1					
31	1	1	1		01295	SN74177N	MED U64 (TI)	
32	1	1	1		75378	MX050 -20MHZ	OSCILLATOR, DIP, 20MHZ, U29 (CTS)	
33								
34	39	39	39	A		7550001P73	RES, 1K OHMS ±5% .25W R1,2,3,4 5,6,7,8,9,10,11,12,13,14,15,16,17,18,19 20,21,22,30,31,32,33,34,35,36,37,38 39,40,41,42,43,44,45,46 RES, 1.5K OHMS ±5% .25W R22,48,49 RES, 3K OHMS ±5% .25W R25,26 RES, 10K OHMS ±5% .25W R47,50,51 RES, 510 OHMS ±5% .25W R27 RES, 5.1K OHMS ±5% .5W R24 RES, 470 OHMS ±5% .5W R23	
35	3	3	3	A				
36	2	2	2	A				
37	3	3	3	A				
38	1	1	1	A				
39	1	1	1	A				
40	1	1	1	A				

SHEET ONE REVISION LETTER IS THE IDENTIFYING REVISION FOR THIS MULTISHEET DWG SEE SHEET ONE FOR REVISION DESCRIPTIONS SYMBOLS : INDICATES VENDOR ITEM - SEE SPEC/SOURCE CONTROL DWG.	SIZE CODE IDENT NO. <div style="font-size: 2em; font-weight: bold; text-align: center;">A 94117 PL</div>	REV <i>AF</i> SHEET <i>9</i> <div style="font-size: 2em; font-weight: bold; text-align: right;">/088682</div>
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PARTS LIST

ITEM NO.	QTY PER ASSY			DWG SIZE	CODE IDENT	PART OR IDENTIFYING NO.	DESCRIPTION	SYM
	G 4	G 5	G 6					
41	1	1	1	A	7550001P60		RES, 300 OHMS ±5% .25W R28	
42								
43								
44	2	2	2	A	7011451P49		CAP, 15UF ±10% 20V C1,2	
45	1	1	1	A	7011451P19		CAP, 39UF ±10% 10V C10	
46	13	13	13	A	7502023P73		CAP, 11UF ±10% 50V C3,4,5,6,7	
47	19	19	19	A	7502023P55		11,12,13,14,15,16,18,38 CAP, 10UF ±10% 100V C19,20,21,22	
48	1	1	1		CK058X222K		CAP, 2200PF ±10% 100V C9	
49	1	1	1	A	7502023P37		CAP, 1000PF ±10% 200V C8	
50	1	1	1	A	7011451P14		CAP, 4.7UF ±10% 10V C17	
51	1	1	1	A	1086937P1		CRYSTAL, 5.0688MHZ, Y1	
52								
53	1	1	1	A	7538002P35		DIODE-ZENER (IN748A) VR3	
54	2	2	2	A	7538002P72		DIODE-ZENER (IN4372A) VR1,2	
55	2	2	2	A	7538002P17		DIODE (IN4148) CR1,2	
56								
57	1	1	1	A	7610001P46		TRANSISTOR (2N2907A) Q2	
58	1	1	1	A	7610001P84		TRANSISTOR (2N2222A) Q1	
59								
60	2	2	2	A	7518001P78		INDUCTOR, 22μH L1,2	

SIZE	CODE IDENT NO.	REV	K	SHEET	10
A	94117 PL				
		1088682			

SHEET ONE REVISION LETTER IS THE IDENTIFYING REVISION FOR THIS MULTISHEET DWG
SEE SHEET ONE FOR REVISION DESCRIPTIONS
SYMBOLS : INDICATES VENDOR ITEM - SEE SPEC/SOURCE CONTROL DWG.

PARTS LIST

ITEM NO.	QTY PER ASSY			DWG SIZE	CODE IDENT	PART OR IDENTIFYING NO.	DESCRIPTION	SYM
	G4	G5	G6					
61	1	1	1	B		7011935P1	ASSY, INDUCTOR L3	
62	2	2	2	A		640048P1	WAFER, THERMAL CONDUCTING	
63	5	5	5	A	91506	8041-15G2	TEST POINT TPI, 2, 3, 4, 5	#
64	1	1	1	D		1086608P18	CONNECTOR, ELEC 98 PIN	
65	1	1	1		20999	3491-1002	CONNECTOR, ELEC 10 PIN J2 (3M)	
66	2	2	2		07707	6010	EYELET	
67	2	2	2	A		600107P1	CARD EJECTOR	#
68	2	2	2	A		630003P14	EYELET METALIC (SE310)	#
69	2	2	2	A		278000P13	WIRE, ELECT, 22 AWG	#
70	6"	6"	6"	A		270006P5	TUBING, INSUL, TEFLON	#
71	5"	5"	5"	A		930002P1	SOLDER	#
72	AR	AR	AR	A				
73	2	2	2			M551957-6	SCR, MACH PH 2-56 X .44 LG	
74	2	2	2			M555338-194	WASHER, LOCK-SPRING NO. 2	
75	2	2	2			M45620C2	WASHER, FLAT NO. 2	
76	2	2	2			M555649-224	WHT, 2-56	
77								
78	REF	REF	REF	E		1088683	LOGIC DIAGRAM, BK ROM & STATUS LOGIC	
79	REF	REF	REF	A		8150003	PWB, AND CKT BD, REQ'T FOR	
80	REF	REF	REF	A		7780000	APPL OF EPOXY MARKING CMPD	
81	REF	REF	REF	A		102-18-CCB	IC SOCKET, 18 PIN (GARRY)	
82	17	17	17			102-16-CCB	IC SOCKET, 16 PIN (GARRY)	
83	4	4	4					

SIZE CODE IDENT NO.
A 94117 PL

SHEET ONE REVISION LETTER IS THE IDENTIFYING REVISION FOR THIS MULTISHEET DWG
 SEE SHEET ONE FOR REVISION DESCRIPTIONS
 SYMBOLS : INDICATES VENDOR ITEM - SEE SPEC/SOURCE CONTROL DWG.

1088682

PARTS LIST

ITEM NO.	QTY PER ASSY			DWG SIZE	CODE IDENT	PART OR IDENTIFYING NO.	DESCRIPTION	SYM
	G 4	G 5	G 6					
84	1	1	1	A		1086870P11	PROGRAMMED PROM (6331-U)	U-43
85	1	1	1	A		1086870P2	(6331-U)	U-56
86	1	1	1	A		1086870P3	(6331-U)	U-57
87	1	1	1	A		1086870P4	(6331-U)	U-66
88	1	1	1	A		1089807P1	(N825185F)	U-3
89	1	1	1	A		1089807P2		U-4
90	1	1	1	A		1089807P3		U-5
91	1	1	1	A		1089807P4		U-6
92	1	1	1	A		1089807P5		U-13
93	1	1	1	A		1089807P6		U-14
94	1	1	1	A		1089807P7		U-15
95	1	1	1	A		1089807P8		U-16
96	1	1	1	A		1089771P9		U-23
97	1	1	1	A		1089771P10		U-24
98	1	1	1	A		1089771P11		U-25
99	1	1	1	A		1089771P12		U-26
100	1	1	1	A		1089771P13		U-33
101	1	1	1	A		1089771P14		U-34
102	1	1	1	A		1089771P15		U-35
103	1	1	1	A		1089771P16	(N825185F)	U-36
104	1	1	1	A		PROGRAMMED PROM	(6352-U)	U-39
105	1	1	1	A				
32A	REF	REF	REF		75378	MX040-20MHz	OSCILLATOR, DIP, 20MHZ, U29	(CTS)

SIZE	CODE IDENT NO.	REV	SHEET
A	94117 PL	AE	12
		1088682	

SHEET ONE REVISION LETTER IS THE IDENTIFYING REVISION FOR THIS MULTISHEET DWG
 SEE SHEET ONE FOR REVISION DESCRIPTIONS
 SYMBOLS : INDICATES VENDOR ITEM - SEE SPEC/SOURCE CONTROL DWG.

PARTS LIST

ITEM NO.	QTY PER ASSY			DWG SIZE	CODE IDENT	PART OR IDENTIFYING NO.	DESCRIPTION	SYM
	G 4	G 5	G 6					
106	1	-	-	A		1089771 P17	PROGRAMMED PROM (N82S185F) U26 U25 U24 U23 U3 U4 U5 U16 U13 U14 U15 U6 PROGRAMMED PROM (N82S185F) TUBING INSULATION WARNING SPECIAL HANDLING LABEL PROCEDURE FOR HANDLING MAS DEVICE SOCKET, CRYSTAL EYELET	
107	1	-	-	A		1089771 P18		
108	1	-	-	A		1089771 P19		
109	1	-	-	A		1089771 P20		
110	-	1	-	A		1089807 P9		
111	-	1	-	A		1089807 P10		
112	-	1	-	A		1089807 P11		
113	-	1	-	A		1089807 P12		
114	-	1	-	A		1089807 P13		
115	-	1	-	A		1089807 P14		
116	-	1	-	A		1089807 P15		
117	-	1	-	A		1089807 P16		
182	1	1	1	A		270006 P6		
183	1	1	1	A		417429/P1		
184	REF	REF	REF			1088180		
185	1	1	1	A		280035 P8		
186	2	2	2			630003 P8		

SHEET ONE REVISION LETTER IS THE IDENTIFYING REVISION FOR THIS MULTISHEET DWG SEE SHEET ONE FOR REVISION DESCRIPTIONS SYMBOLS : INDICATES VENDOR ITEM - SEE SPEC/SOURCE CONTROL DWG.	SIZE CODE IDENT NO. A 94117 PL	REV <i>AE</i> SHEET 13
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PARTS LIST

ITEM NO.	QTY PER ASSY		DWG SIZE	CODE IDENT	PART OR IDENTIFYING NO.	DESCRIPTION	SYM
	G7	G8 G9					
1	1	1	E		1088684G1	CIRCUIT CARD SUBASSY, ROM & STATUS LOGIC	#
2	2	2	A		310092PI	MED (SN7400N) U58,74	#
3	1	1	A		310200PI	MED (SN7402N) U50	#
4	1	1	A		310201PI	MED (SN7403N) U60	#
5	2	2	A		310202PI	MED (SN7404N) U59,79	#
6	1	1	A		310319PI	MED (SN74504N) U40	#
7	1	1		01295	SN7406N	U9 (T1)	#
8	1	1	A		310234PI	MED (SN7408N) U68	#
9	1	1	A		310094PI	MED (SN7474N) U19,52,53,67,70,76	#
10	8	8				77,78	
11	1	1		01295	SN7486N	MED U12 (T1)	#
12	1	1	A		310378P3	MED (SN74H106N) U32	#
13	1	1	A		7013070P68	MED (SN74LS138N) U42	#
14	1	1	A		313026PI	MED (SN74148N) U55	#
15	2	2	A		7013070P54	MED (SN74173N) U65,75	#
16	1	1	A		310279PI	MED (SN74174N) U49	#
17	2	2	A		310279P2	MED (SN74175N) U47,48	#
18	1	1		01295	SN74390N	U30	#
19	1	1		07263	F9S4IPC	U10	#
20	1	1		07263	F9S109PC	U20	#
21	1	1					#

SHEET ONE REVISION LETTER IS THE IDENTIFYING REVISION FOR THIS MULTISHEET DWG
 SEE SHEET ONE FOR REVISION DESCRIPTIONS
 SYMBOLS : INDICATES VENDOR ITEM - SEE SPEC/SOURCE CONTROL DWG.

SIZE	CODE IDENT NO.	REV	SHEET
A	94117 PL	AE	14
		1088682	

PARTS LIST

ITEM NO.	QTY PER ASSY			DWG SIZE	CODE IDENT	PART OR IDENTIFYING NO.	DESCRIPTION	SYM
	G7	G8	G9					
22	1	1	1		01295	SN7432N	MED U63	#
23	4	4	4		27014	DM8097N	MED U17,18,44,54 (NAT)	
24	6	6	6	A		310368P2	MED (DM8098N) U27,28,37,38,45,46	
25	2	2	2		27014	DS8835N	MED U7,8 (NAT)	
26	2	2	2		27014	DS8837N	MED U29,69 (NAT)	
27	1	1	1		53848	COM5016	MED U31 (SMC)	
28	1	1	1			COM2017P	MED U1 (SMC)	
29	1	1	1		01295	SN7425N	MED U80 (TI)	
30								
31	1	1	1		01295	SN74177N	MED U64 (TI)	
32	1	1	1		75378	MXQ50-20MHZ	OSCILLATOR,DIP,20MHZ,U29 (CTS)	
33								
34	39	39	39	A		7550001P73	RES,1K OHMS ± 5% .25W R1,2,3,4 5,6,7,8,9,10,11,12,13,14,15,16,17,18,19 20,21,29,30,31,32,33,34,35,36,37,38 39,40,41,42,43,44,45,46	
35	3	3	3	A		7550001P77	RES,1.5K OHMS ± 5% .25W R22,48,49	
36	2	2	2	A		7550001P84	RES,3K OHMS ± 5% .25W R25,26	
37	3	3	3	A		7550001P97	RES,10K OHMS ± 5% .25W R47,50,51	
38	1	1	1	A		7550001P66	RES,510 OHMS ± 5% .25W R27	
39	1	1	1	A		7550004P90	RES,5.1K OHMS ± 5% .5W R24	
40	1	1	1	A		7550004P65	RES,470 OHMS ± 5% .5W R23	

SIZE		CODE IDENT NO.	REV	SHEET
A	94117	PL	AE	15
		1088682		

SHEET ONE REVISION LETTER IS THE IDENTIFYING REVISION FOR THIS MULTISHEET DWG
SEE SHEET ONE FOR REVISION DESCRIPTIONS
SYMBOLS : INDICATES VENDOR ITEM - SEE SPEC/SOURCE CONTROL DWG.

PARTS LIST

ITEM NO.	QTY PER ASSY		DWG SIZE	CODE IDENT	PART OR IDENTIFYING NO.	DESCRIPTION	SYM
	G7	G8					
41	1	1	A		7550001P60	RES, 300 OHMS \pm 5% .25W R28	
42	2	2	A		7011451P49	CAP, 15UF \pm 10% 20V C1,2	
43	1	1	A		7011451P19	CAP, 39UF \pm 10% 10V C10	
44	13	13	A		7502023P73	CAP, .1UF \pm 10% 50V C3,4,5,6,7	
45	19	19	A		7502023P55	11,12,13,14,15,16,18,38 C19,20,21,22	
46	1	1	A		7502023P73	23,24,25,26,27,28,29,30,31,32,33,34	
47	1	1	A		7502023P55	35,36,37	
48	1	1	A		CK05BX222K	CAP, 2200 PF \pm 10% 100V C9	
49	1	1	A		7502023P37	CAP, 1000 PF \pm 10% 200V C8	
50	1	1	A		7011451P14	CAP, 47UF \pm 10% 10V C17	
51	1	1	A		1086937P1	CRYSTAL, 5.0688 MHZ Y1	
52	1	1	A		7538002P35	DIODE-ZENER(IN748A) VR3	
53	2	2	A		7538002P72	DIODE-ZENER(IN4372A) VR1,2	
54	2	2	A		7538002P17	DIODE (IN4148) CR1,2	
55	1	1	A		7610001P46	TRANSISTOR (2N2907A) Q2	
56	1	1	A		7610001P84	TRANSISTOR (2N2222A) Q1	
57	2	2	A		7518001P78	INDUCTOR, 22 μ h L1,2	

SHEET ONE REVISION LETTER IS THE IDENTIFYING REVISION FOR THIS MULTISHEET DWG
SEE SHEET ONE FOR REVISION DESCRIPTIONS
SYMBOLS : INDICATES VENDOR ITEM - SEE SPEC/SOURCE CONTROL DWG.

SIZE CODE IDENT NO.

A

94117 PL

1088682

REV A

SHEET 16

PARTS LIST

ITEM NO.	QTY PER ASSY		DWG SIZE	CODE IDENT	PART OR IDENTIFYING NO.	DESCRIPTION	SYM
	G7	G8 G9					
61	1	1	B		7011935PI	ASSY, INDUCTOR L3	#
62	2	2	A	91506	640048PI	WAFER, THERMAL CONDUCTING	
63	5	5	D		8041-15G2	TEST POINT TPI, 2, 3, 4, 5,	
64	1	1			1086608PI8	CONNECTOR, ELEC 98 PIN J1	
65	1	1		20999	3491-1002	CONNECTOR, ELEC 10 PIN J2	
66	2	2		07707	6010	EYELET	
67	2	2	A		600107PI	CARD EJECTOR	
68	2	2	A		630003PI4	EYELET METALLIC (SE310)	
69	2	2	A		278000PI3	WIRE, ELECT, 22 AWG	
70	6"	6"	A		2700006P5	TUBING, INSUL, TEFLON	
71	5"	5"	A		93002PI	SOLDER	
72	AR	AR	A				
73	2	2			MS51957-6	SCR, MACH PH 2-56 X .44 LG	
74	2	2			MS35338-134	WASHER, LOCK-SPRING NO.2	
75	2	2			MS620C2	WASHER, FLAT NO.2	
76	2	2			MS35649-224	NUT, 2-56	
77							
78							
79	REF	REF	E		1088683	LOGIC DIAGRAM, 8K ROM & STATUS LOGIC	
80	REF	REF	A		8150003	PWB, AND CKT BD, REQT FOR	
81	REF	REF	A		778000	APPL OF EPOXY MARKING CMPD	
82	17	17			102-18-CCB	IC SOCKET, 18 PIN (AUGAT)	
83	4	4			102-16-CCB	IC SOCKET, 16 PIN (AUGAT)	

SHEET ONE REVISION LETTER IS THE IDENTIFYING REVISION FOR THIS MULTISHEET DWG
 SEE SHEET ONE FOR REVISION DESCRIPTIONS
 SYMBOLS : INDICATES VENDOR ITEM - SEE SPEC/SOURCE CONTROL DWG.

SIZE CODE IDENT NO.
A 94117 PL 1088682

REV **AE** SHEET **17**

PARTS LIST

ITEM NO.	QTY PER ASSY		DWG SIZE	CODE IDENT	PART OR IDENTIFYING NO.	DESCRIPTION	SYM
	G7	G8					
84	1	1	A		1086870P11	PROGRAMMED PROM (6331-1J) U43	
85	1	1	A		1086870P2	PROGRAMMED PROM (6331-1J) U56	
86	1	1	A		1086870P3	PROGRAMMED PROM (6331-1J) U57	
87	1	1	A		1086870P4	PROGRAMMED PROM (6331-1J) U66	
88							
89							
90							
91							
92							
93							
94							
95							
96							
97							
98							
99							
100							
101							
102							
103							
104	1	1	A		1089812P1	PROGRAMMED PROM (6352-1J) U39	
105	—	—	A		5977119P1	PROGRAMMED PROM (6352-1J) U39	
32A	REF	REF	REF	75378	MC40-20MHZ	OSCILLATOR, DIP, 20MHZ, U29 (CTS)	

SHEET ONE REVISION LETTER IS THE IDENTIFYING REVISION FOR THIS MULTISHEET DWG
SEE SHEET ONE FOR REVISION DESCRIPTIONS
SYMBOLS : INDICATES VENDOR ITEM - SEE SPEC/SOURCE CONTROL DWG.

SIZE CODE IDENT NO.

A

94117 PL

1088682

REV AE

SHEET 18

PARTS LIST

ITEM NO.	QTY PER ASSY		DWG SIZE	CODE IDENT	PART OR IDENTIFYING NO.	DESCRIPTION	SYM
	G7	G8 G9					
106							
107							
108							
109							
110							
111							
112							
113							
114							
115							
116							
117							
118	/	-	A		1089807P9	PROGRAMMED PROM (N825185F)	U23
119	/	-	A		P10		U24
120	/	-	A		P11		U25
121	/	-	A		P12		U26
122	/	-	A		P13		U33
123	/	-	A		P14		U34
124	/	-	A		P15		U35
125	/	-	A		1089807P16	PROGRAMMED PROM (N825185F)	U36

SHEET ONE REVISION LETTER IS THE IDENTIFYING REVISION FOR THIS MULTISHEET DWG
 SEE SHEET ONE FOR REVISION DESCRIPTIONS
 SYMBOLS : INDICATES VENDOR ITEM - SEE SPEC/SOURCE CONTROL DWG.

SIZE	CODE IDENT NO.	REV	SHEET
A	94117 PL	A	19

1088682

PARTS LIST

ITEM NO.	QTY PER ASSY			DWG SIZE	CODE IDENT	PART OR IDENTIFYING NO.	DESCRIPTION	SYM
	G7	G8	G9					
126	-	-	-	A		1089807 P17	PROGRAMMED PROM (N82S185F) U23	
127	-	/	-	↑		P18	↑	U24
128	-	/	-			P19		U25
129	-	/	-			P20		U26
130	-	/	-			P21		U33
131	-	/	-			P22		U34
132	-	/	-			P23		U35
133	-	/	-			1089807 P24		U36
134	-	/	-			5977118 P1		U23
135	-	/	-			P2		U24
136	-	/	-			P3		U25
137	-	/	-			P4		U26
138	-	/	-			P5		U33
139	-	/	-			P6		U34
140	-	/	-			P7		U35
141	-	/	-			P8		U36
142	-	/	-			P9		U3
143	-	/	-			P10		U4
144	-	/	-			P11		U5
145	-	/	-			P12		U6
146	-	/	-			P13		U13
147	-	/	-			P14		U14
148	-	/	-	A		5977118 P15	PROGRAMMED PROM (N82S185F) U15	

SHEET ONE REVISION LETTER IS THE IDENTIFYING REVISION FOR THIS MULTISHEET DWG SEE SHEET ONE FOR REVISION DESCRIPTIONS SYMBOLS : INDICATES VENDOR ITEM - SEE SPEC/SOURCE CONTROL DWG.	SIZE CODE IDENT NO. A 94117 PL	REV B SHEET 20 1088682
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PARTS LIST

ITEM NO.	QTY PER ASSY		DWG SIZE	CODE IDENT	PART OR IDENTIFYING NO.	DESCRIPTION	SYM
	G 7	G 8					
149	-	-	A		5977118P16	PROGRAMMED PROM (N82S185F)	U16
146A	-	-	↕		5977251P1	PROGRAMMED PROM (N82S137)	U13
147A	-	-	↕		5977251P2		U14
148A	-	-	↕		5977251P3		U15
149A	-	-	A		5977251P4	PROGRAMMED PROM (N82S137)	U16
182	1 IN	1 IN	A		270006P6	TUBING INSULATION	
183	1	1			A17A29/P1	WARNING SPECIAL HANDLING LABEL	
184	REF	REF			1088/80	PROCEDURE FOR HANDLING MOS DEVICE	
185	1	1			280035P8	SOCKET, CRYSTAL	
186	2	2			630003P8	EYELET	

	SIZE	CODE IDENT NO.	
	A	94117	PL
		1088682	REV AE SHEET 21

SHEET ONE REVISION LETTER IS THE IDENTIFYING REVISION FOR THIS MULTISHEET DWG
 SEE SHEET ONE FOR REVISION DESCRIPTIONS
 SYMBOLS : INDICATES VENDOR ITEM - SEE SPEC/SOURCE CONTROL DWG.

PARTS LIST

ITEM NO.	QTY PER ASSY		DWG SIZE	CODE IDENT	PART OR IDENTIFYING NO.	DESCRIPTION	SYM
	G/O	G/I					
1	1	1	E		1088684G1	CIRCUIT CARD SUBASSY, ROM & STATUS LOGIC	#
2	2	2	A		310092PI	MED (SN7400N) U58,74	#
3	1	1	A		310200PI	MED (SN7402N) U50	#
4	1	1	A		310201PI	MED (SN7403N) U60	#
5	2	2	A		310202PI	MED (SN7404N) U59,79	#
6	1	1	A		310319PI	MED (SN74504N) U40	#
7	1	1		01295	SN7406N	U9 (TI)	#
8	1	1	A		310234PI	MED (SN7408N) U68	#
9	1	1	A		310094PI	MED (SN7474N) U19,52,53,67,70,76,77,78	#
10	8	8	A		SN7486N	U12 (TI)	#
11	1	1		01295	310378P3	MED (SN74H106N) U32	#
12	1	1	A		7013070P68	MED (SN74LS138N) U42	#
13	1	1	A		313026PI	MED (SN74148N) U55	#
14	1	1	A		7013070P54	MED (SN74173N) U65,75	#
15	2	2	A		310279PI	MED (SN74174N) U49	#
16	1	1	A		310279P2	MED (SN74175N) U47,48	#
17	2	2		01295	SN74390N	U30	#
18	1	1		07263	F9541PC	U10	#
19	1	1		07263	F95109PC	U20	#
20	1	1					#
21	1	1					#

SIZE		CODE IDENT NO.	REV	SHEET
A		94117 PL	AE	22
		1088682		

SHEET ONE REVISION LETTER IS THE IDENTIFYING REVISION FOR THIS MULTISHEET DWG
 SEE SHEET ONE FOR REVISION DESCRIPTIONS
 SYMBOLS : INDICATES VENDOR ITEM - SEE SPEC/SOURCE CONTROL DWG.

PARTS LIST

ITEM NO.	QTY PER ASSY			DWG SIZE	CODE IDENT	PART OR IDENTIFYING NO.	DESCRIPTION	SYM
	G/O	G/I	G/2					
22	1	1	1		01295	SN7432N	MED U63	
23	4	4	4		27014	DM8097N	MED U17,18,44,54 (NAT)	
24	6	6	6	A		310368P2	MED (DM8098N) U27,28,37,38,45,46	
25	2	2	2		27014	DS8835N	MED U7,8 (NAT)	
26	2	2	2		27014	DS8837N	MED U22,69 (NAT)	
27	1	1	1		53848	COM5016	MED U31 (SMC)	
28	1	1	1			COM2017P	MED U1 (SMC)	
29	1	1	1		01295	SN7425N	MED U80 (TI)	
30								
31	1	1	1		01295	SN74177N	MED U64 (TI)	
32	1	1	1		75378	MX050-20MHZ	OSCILLATOR, DIP, 20MHZ, U29 (CTS)	
33								
34	39	39	39	A		7550001P73	RES, 1K OHMS ± 5% .25W R1,2,3,4 5,6,7,8,9,10,11,12,13,14,15,16,17,18,19 20,21,29,30,31,32,33,34,35,36,37,38 39,40,41,42,43,44,45,46	
35	3	3	3	A		7550001P77	RES, 1.5K OHMS ± 5% .25W R22,48,49	
36	2	2	2	A		7550001P84	RES, 3K OHMS ± 5% .25W R25,26	
37	3	3	3	A		7550001P97	RES, 10K OHMS ± 5% .25W R47,50,51	
38	1	1	1	A		7550001P66	RES, 510 OHMS ± 5% .25W R27	
39	1	1	1	A		7550004P90	RES, 5.1K OHMS ± 5% .5W R24	
40	1	1	1	A		7550004P65	RES, 470 OHMS ± 5% .5W R23	

SHEET ONE REVISION LETTER IS THE IDENTIFYING REVISION FOR THIS MULTISHEET DWG SEE SHEET ONE FOR REVISION DESCRIPTIONS SYMBOLS : INDICATES VENDOR ITEM - SEE SPEC/SOURCE CONTROL DWG.		SIZE	CODE IDENT NO.
		A	94117 PL
		REV	AE
		SHEET	23
		1088682	

PARTS LIST

ITEM NO.	QTY PER ASSY		DWG SIZE	CODE IDENT	PART OR IDENTIFYING NO.	DESCRIPTION	SYM
	G/O	G/I					
41	1	1	A		7550001P60	RES, 300 OHMS $\pm 5\%$.25W R28	
42							
43							
44	2	2	A		7011451P49	CAP, 15UF $\pm 10\%$, 20V C1,2	
45	1	1	A		7011451P19	CAP, 39UF $\pm 10\%$, 10V C10	
46	13	13	A		7502023P73	CAP, .1UF $\pm 10\%$, 50V C3,4,5,6,7 11,12,13,14,15,16,18,38	
47	19	19	A		7502023P55	CAP, .01UF $\pm 10\%$, 100V C19,20,21,22 23,24,25,26,27,28,29,30,31,32,33,34 35,36,37	
48	1	1			CK05BX222K	CAP, 2200PF $\pm 10\%$, 100V C9	
49	1	1	A		7502023P37	CAP, 1000PF $\pm 10\%$, 200V C8	
50	1	1	A		7011451P14	CAP, 4.7UF $\pm 10\%$, 10V C17	
51	1	1	A		1086937PI	CRYSTAL, 5.0688 MHZ Y1	
52							
53	1	1	A		7538002P35	DIODE - ZENER (1N748A) VR3	
54	2	2	A		7538002P72	DIODE - ZENER (1N4372A) VR1,2	
55	2	2	A		7538002P17	DIODE (1N4148) CR1,2	
56							
57	1	1	A		7610001P46	TRANSISTOR (2N2907A) Q2	
58	1	1	A		7610001P84	TRANSISTOR (2N2222A) Q1	
59							
60	2	2	A		7518001P78	INDUCTOR, 22 μ h L1,2	

SHEET ONE REVISION LETTER IS THE IDENTIFYING REVISION FOR THIS MULTISHEET DWG
SEE SHEET ONE FOR REVISION DESCRIPTIONS
SYMBOLS : INDICATES VENDOR ITEM - SEE SPEC/SOURCE CONTROL DWG.

SIZE CODE IDENT NO.

A

94117 PL

1088682

REV AE

SHEET 24

PARTS LIST

ITEM NO.	QTY PER ASSY		DWG SIZE	CODE IDENT	PART OR IDENTIFYING NO.	DESCRIPTION	SYM
	G/0	G/1					
61	1	1	B		7011935PI	ASSY, INDUCTOR L3	#
62	2	2	A	91506	640048PI	WAFER, THERMAL CONDUCTING	
63	5	5	D		8041-15G2	TEST POINT TPI, 2,3,4,5	
64	1	1			1086608PI8	CONNECTOR, ELEC 98 PIN J1	
65	1	1		20999	3491-1002	CONNECTOR, ELEC 10 PIN J2 (3M)	
66	2	2		07707	6010	EYELET	
67	2	2	A		600107PI	CARD EJECTOR	
68	2	2	A		630003PI4	EYELET METALIC (SE310)	
69	2	2	A		278000PI3	WIRE, ELECT, 22AWG	
70	6"	6"	A		270000PI5	TUBING, INSUL, TEFLON	
71	5"	5"	A		93002PI	SOLDER	
72	AR	AR	A				
73	2	2			M554957-6	SCR, WASH PH 2-56 X .44 LG	
74	2	2			M535338-134	WASHER, LOCK-SPRING NO.2	
75	2	2			M55620C2	WASHER, FLAT NO.2	
76	2	2			M555649-224	NUT, 2-56	
77							
78	REF	REF	E		1088683	LOGIC DIAGRAM, 8K ROM & STATUS LOGIC	
79	REF	REF	A		815003	PWB, AND CKT BD, REQ'T FOR	
80	REF	REF	A		778000	APPL OF EPOXY MARKING CMPD	
81	17	17			102-18-CCB	IC SOCKET, 18 PIN (GARRY)	
82	4	4			102-16-CCB	IC SOCKET, 16 PIN (GARRY)	

SHEET ONE REVISION LETTER IS THE IDENTIFYING REVISION FOR THIS MULTISHEET DWG
 SEE SHEET ONE FOR REVISION DESCRIPTIONS
 SYMBOLS : INDICATES VENDOR ITEM - SEE SPEC/SOURCE CONTROL DWG.

SIZE	CODE IDENT NO.	REV	SHEET
A	94117 PL	AE	25

1088682

PARTS LIST

ITEM NO.	QTY PER ASSY			DWG SIZE	CODE IDENT	PART OR IDENTIFYING NO.	DESCRIPTION	SYM
	G10	G11	G12					
84	/	/	/	A		1086870P11	PROGRAMMED PROM (6331-1J)	U-43
85	/	/	/	A		1086870P2	(6331-1J)	U-56
86	/	/	/	A		1086870P3	(6331-1J)	U-57
87	/	/	/	A		1086870P4	PROGRAMMED PROM (6331-1J)	U-66
88								
89								
90								
91								
92								
93								
94								
95								
96	/	-	/	A		1089771P9	PROGRAMMED PROM (N82S185F)	U-23
97	/	-	/	A		1089771P10		U-24
98	/	-	/	A		1089771P11		U-25
99	/	-	/	A		1089771P12		U-26
100	/	-	/	A		1089771P13		U-33
101	/	-	/	A		1089771P14		U-34
102	/	-	/	A		1089771P15		U-35
103	/	-	/	A		1089771P16	PROGRAMMED PROM (N82S185F)	U36
104	/	-	/	A		1089812P1	PROGRAMMED PROM (6352-1J)	U39
105	-	/	-	A		5977119P1	PROGRAMMED PROM (6352-1J)	U39
32A	REF	REF	REF		75378	MX240-20MHZ	OSCILLATOR, DIP, 20MHZ, U29 (CTS)	

SIZE		CODE IDENT NO.	REV	SHEET
A		94117 PL	AE	26
		1088682		

SHEET ONE REVISION LETTER IS THE IDENTIFYING REVISION FOR THIS MULTISHEET DWG
 SEE SHEET ONE FOR REVISION DESCRIPTIONS
 SYMBOLS : INDICATES VENDOR ITEM - SEE SPEC/SOURCE CONTROL DWG.

PARTS LIST

ITEM NO.	QTY PER ASSY		DWG SIZE	CODE IDENT	PART OR IDENTIFYING NO.	DESCRIPTION	SYM
	G/O	G/I					
150	/	-	A		5976405P4	PROGRAMMED PROM (N82S185F)	U3
151	/	-	A		P3		U4
152	/	-	A		P2		U5
153	/	-	A		P1		U6
154	/	-	A		P8		U13
155	/	-	A		P7		U14
156	/	-	A		P6		U15
157	/	-	A		5976405P5	PROGRAMMED PROM (N82S185F)	U16
158	-	/	A		1901101P1	PROGRAMMED PROM (N82S185F)	U23
159	-	/	A		2		U24
160	-	/	A		3		U25
161	-	/	A		4		U26
162	-	/	A		5		U33
163	-	/	A		6		U34
164	-	/	A		7		U35
165	-	/	A		8		U36
166	-	/	A		9		U3
167	-	/	A		10		U4
168	-	/	A		11		U5
169	-	/	A		12		U6
170	-	/	A		13		U13
171	-	/	A		14		U14
172	-	/	A		15		U15
173	-	/	A		1901101P6	PROGRAMMED PROM (N82S185F)	U16

SIZE CODE IDENT NO. **A 94117 PL** 1088682

SHEET ONE REVISION LETTER IS THE IDENTIFYING REVISION FOR THIS MULTISHEET DWG. SEE SHEET ONE FOR REVISION DESCRIPTIONS. SYMBOLS : INDICATES VENDOR ITEM - SEE SPEC/SOURCE CONTROL DWG.

REV **AE** SHEET **27**

PARTS LIST

ITEM NO.	QTY PER ASSY		DWG SIZE	CODE IDENT	PART OR IDENTIFYING NO.	DESCRIPTION	SYM
	G/0	G/1					
182	1 IN	1 IN	A		270006 P6	TUBING INSULATION	
183	1	1			417429/P1	WARNING SPECIAL HANDLING LABEL	
184	REF	REF			1088180	PROCEDURE FOR HANDLING MOS DEVICES	
185	1	1			280035 P8	SOCKET CRYSTAL	
186	2	2			630003 P8	EYELET	
187	-	REF			1901082 G1	GCP + SOFTWARE STRUCTURE	
188	-	-	A		1901302 P4	PROGRAMMED PROM (N825185F) U3	
189	-	-	A		1901302 P3		U4
190	-	-	A		1901302 P2		U5
191	-	-	A		1901302 P1		U6
192	-	-	A		1901302 P8		U13
193	-	-	A		1901302 P7		U14
194	-	-	A		1901302 P6		U15
195	-	-	A		1901302 P5	PROGRAMMED PROM (N825185F) U16	

SHEET ONE REVISION LETTER IS THE IDENTIFYING REVISION FOR THIS MULTISHEET DWG
SEE SHEET ONE FOR REVISION DESCRIPTIONS
SYMBOLS : INDICATES VENDOR ITEM - SEE SPEC/SOURCE CONTROL DWG.

SIZE	A	CODE IDENT NO.	94117 PL
REV	AE	SHEET	28

1088628

PARTS LIST

ITEM NO.	QTY PER ASSY		DWG SIZE	CODE IDENT	PART OR IDENTIFYING NO.	DESCRIPTION	SYM
	G	G/4					
1	1	1	E		1088684G1	CIRCUIT CARD SUBASSY, ROM & STATUS LOGIC	#
2	2	2	A		310092PI	MED (SN7400N) U58,74	#
3	1	1	A		310200PI	MED (SN7402N) U50	#
4	1	1	A		310201PI	MED (SN7403N) U60	#
5	2	2	A		310202PI	MED (SN7404N) U59,79	#
6	1	1	A		310319PI	MED (SN74504N) U40	#
7	1	1	A	01295	SN7406N	U9 (TI)	#
8	1	1	A		310234PI	MED (SN7408N) U68	#
9	8	8	A		310094PI	MED (SN7474N) U19,52,53,67,70,76,77,78	#
10	1	1	A	01295	SN7486N	U12 (TI)	#
11	1	1	A		310378P3	MED (SN74H106N) U32	#
12	1	1	A		7013070P68	MED (SN74LS138N) U42	#
13	1	1	A		313026PI	MED (SN74148N) U55	#
14	2	2	A		7013070P54	MED (SN74173N) U65,75	#
15	1	1	A		310279PI	MED (SN74174N) U49	#
16	2	2	A		310279P2	MED (SN74175N) U47,48	#
17	1	1	A	01295	SN74390N	U30	#
18	1	1		07263	F9S41PC	U10	#
19	1	1		07263	F9S109PC	U20	#
20	1	1					#
21	1	1					#

SHEET ONE REVISION LETTER IS THE IDENTIFYING REVISION FOR THIS MULTISHEET DWG SEE SHEET ONE FOR REVISION DESCRIPTIONS SYMBOLS : INDICATES VENDOR ITEM - SEE SPEC/SOURCE CONTROL DWG.		SIZE	CODE IDENT NO.	REV	SHEET
		A	94117 PL	AE	29
		1088682			

PARTS LIST

ITEM NO.	QTY PER ASSY		DWG SIZE	CODE IDENT	PART OR IDENTIFYING NO.	DESCRIPTION	SYM
	G 1/3	G 1/4					
22	1	1		01295	SN7432N	MED U63	#
23	4	4		27014	DM8097N	MED U17,18,44,54 (NAT)	
24	6	6	A	310368P2	MED (DM8098N)	MED U27,28,37,38,45,46 (NAT)	
25	2	2		27014	DS88335N	MED U7,8 (NAT)	
26	2	2		27014	DS8837N	MED U22,69 (NAT)	
27	1	1		53848	COM 5016	MED U31 (SMC)	
28	1	1		COM 2017P	MED UI	MED (SMC)	
29	1	1		01295	SN7425N	MED U80 (TI)	
30							
31	1	1		01295	SN74177N	MED U64 (TI)	
32	1	1		75378	MX050-20MHZ	OSCILLATOR, DIP, 20MHZ, U29 (CTS)	
33	39	39	A		7550001P73	RES, 1K OHMS ± 5% . 25W R1,2,3,4	
34						5,6,7,8,9,10,11,12,13,14,15,16,17,18,19	
35	3	3	A		7550001P77	RES, 1.5K OHMS ± 5% . 25W R22,48,49	
36	2	2	A		7550001P84	RES, 3K OHMS ± 5% . 25W R25,26	
37	3	3	A		7550001P97	RES, 10K OHMS ± 5% . 25W R47,50,51	
38	1	1	A		7550001P66	RES, 510 OHMS ± 5% . 25W R27	
39	1	1	A		7550004P90	RES, 5.1K OHMS ± 5% . 5W R24	
40	1	1	A		7550004P65	RES, 470 OHMS ± 5% . 5W R23	

SHEET ONE REVISION LETTER IS THE IDENTIFYING REVISION FOR THIS MULTISHEET DWG
 SEE SHEET ONE FOR REVISION DESCRIPTIONS
 SYMBOLS : INDICATES VENDOR ITEM - SEE SPEC/SOURCE CONTROL DWG.

SIZE	CODE IDENT NO.	REV	SHEET
A	94117 PL	AE	30
		1088682	

PARTS LIST

ITEM NO.	QTY PER ASSY		DWG SIZE	CODE IDENT	PART OR IDENTIFYING NO.	DESCRIPTION	SYM
	G	G / #					
41	1	1	A		7550001P60	RES, 300 OHMS $\pm 5\%$.25W R28	
42	2	2	A		7011451P49	CAP, 15 UF $\pm 10\%$, 20V C1,2	
43	1	1	A		7011451P19	CAP, 39 UF $\pm 10\%$, 10V C10	
44	13	13	A		7502023P73	CAP, .1 UF $\pm 10\%$, 50V C3,4,5,6,7	
45	19	19	A		7502023P55	11,12,13,14,15,16,18,38 C19,20,21,22	
46	1	1	A		7502023P73	CAP, .01 UF $\pm 10\%$, 100V C19,20,21,22	
47	1	1	A		7502023P73	23,24,25,26,27,28,29,30,31,32,33,34	
48	1	1	A		7502023P73	35,36,37	
49	1	1	A		CK05BX222K	CAP, 2200PF $\pm 10\%$, 100V C9	
50	1	1	A		7502023P37	CAP, 1000PF $\pm 10\%$, 200V C8	
51	1	1	A		7011451P14	CAP, 4.7UF $\pm 10\%$, 10V C17	
52	1	1	A		1086937P1	CRYSTAL, 5.0688 MHZ Y1	
53	1	1	A		7538002P35	DIODE - ZENER (IN748A) VR3	
54	2	2	A		7538002P72	DIODE - ZENER (IN4372A) VR1,2	
55	2	2	A		7538002P17	DIODE (IN4148) CR1,2	
56	1	1	A		7610001P46	TRANSISTOR (2N2907A) Q2	
57	1	1	A		7610001P84	TRANSISTOR (2N2222A) Q1	
58	2	2	A		7518001P78	INDUCTOR, 22 μ h LI,2	

SHEET ONE REVISION LETTER IS THE IDENTIFYING REVISION FOR THIS MULTISHEET DWG
SEE SHEET ONE FOR REVISION DESCRIPTIONS
SYMBOLS : INDICATES VENDOR ITEM - SEE SPEC/SOURCE CONTROL DWG.

SIZE CODE IDENT NO.

A 94117 PL

1088682

REV AE SHEET 3/

PARTS LIST

ITEM NO.	QTY PER ASSY		DWG SIZE	CODE IDENT	PART OR IDENTIFYING NO.	DESCRIPTION	SYM
	G/3	G/4					
61	1	1	B		7011935PI	ASSY, INDUCTOR L3	#
62	2	2	A	91506	640048PI	WAFER, THERMAL CONDUCTING	#
63	5	5	D		8041-15G2	TEST POINT TPI, 2,3,4,5	#
64	1	1			1086608PI8	CONNECTOR, ELEC 98 PIN J1	#
65	1	1		20999	3491-1002	CONNECTOR, ELEC 10 PIN J2 (3M)	#
66	2	2		07707	6010	EYELET	#
67	2	2	A		600107PI	CARD EJECTOR	#
68	2	2	A		630003PI4	EYELET METALIC (SE310)	#
69	2	2	A		278000PI3	WIRE, ELECT, 22AWG	#
70	6"	6"	A		2700006P5	TUBING, INSUL, TEFLON	#
71	5"	5"	A		93002PI	SOLDER	#
72	AR	AR	A				#
73	2	2			M551957 6	SCR, MAGH PH 2-56 X .44 LG	
74	2	2			M55538 134	WASHER, LOCK SPRING NO.2	
75	2	2			M55620C2	WASHER, FLAT NO.2	
76	2	2			M555649 224	NUT, 2-56	
77							
78							
79	REF	REF	E		1088683	LOGIC DIAGRAM, 8K ROM & STATUS LOGIC	
80	REF	REF	A		815003	PWB, AND CKT BD, REQ FOR	
81	REF	REF	A		778000	APPL OF EPOXY MARKING CMPD	
82	17	17			102-18-CCB	IC SOCKET, 18 PIN (GARRY)	
83	4	4			102-16-CCB	IC SOCKET, 16 PIN (GARRY)	

SHEET ONE REVISION LETTER IS THE IDENTIFYING REVISION FOR THIS MULTISHEET DWG
 SEE SHEET ONE FOR REVISION DESCRIPTIONS
 SYMBOLS : INDICATES VENDOR ITEM - SEE SPEC/SOURCE CONTROL DWG.

SIZE	CODE IDENT NO.	REV.	SHEET
A	94117 PL	AE	32
		1088682	

PARTS LIST

ITEM NO.	QTY PER ASSY		DWG SIZE	CODE IDENT	PART OR IDENTIFYING NO.	DESCRIPTION	SYM
	G	G/4					
84	1	1	A		1086870P11	PROGRAMMED PROM (6331-1J)	U-43
85	1	1	A		1086870P2	(6331-1J)	U-56
86	1	1	A		1086870P3	(6331-1J)	U-57
87	1	1	A		1086870P4	PROGRAMMED PROM (6331-1J)	U-66
88							
89							
90							
91							
92							
93							
94							
95							
96	-	-	A		1089771P9	PROGRAMMED PROM (N82S185F)	U-23
97	-	-	A		1089771P10		U-24
98	-	-	A		1089771P11		U-25
99	-	-	A		1089771P12		U-26
100	-	-	A		1089771P13		U-33
101	-	-	A		1089771P14		U-34
102	-	-	A		1089771P15		U-35
103	-	-	A		1089771P16	PROGRAMMED PROM (N82S185F)	U36
104	1	-	A		1089812P1	PROGRAMMED PROM (6352-1J)	U39
105	-	-	A		5977119P1	PROGRAMMED PROM (6352-1J)	U39
32A	REF	REF	A	75378	MX240-20MHZ	OSCILLATOR, DIP, 20MHZ, U29 (CTS)	

SHEET ONE REVISION LETTER IS THE IDENTIFYING REVISION FOR THIS MULTISHEET DWG
 SEE SHEET ONE FOR REVISION DESCRIPTIONS
 SYMBOLS : INDICATES VENDOR ITEM - SEE SPEC/SOURCE CONTROL DWG.

SIZE	CODE IDENT NO.	REV	SHEET
A	94117 PL	AE	33
		1088682	

PARTS LIST

ITEM NO.	QTY PER ASSY		DWG SIZE	CODE IDENT	PART OR IDENTIFYING NO.	DESCRIPTION	SYM
	G13	G14					
↑	↑	↑					
182	1	1			270006P6	TUBING, INSUL	
183	1	1			4174291P1	WARNING SPECIAL HANDLING LABEL	
184	REF	REF			1088180	PROCEDURE FOR HANDLING MOS DEVICES	
185	1	1			280035P8	SOCKET CRYSTAL	
186	2	2			630003P8	EYELET	
↑	↑	↑					
196	1	1	A		1901260 P1	PROGRAMMED PROM(N825185F) U26	
197	1	1	A		P2	U25	
198	1	1	A		P3	U24	
199	1	1	A		P4	U23	
200	1	1	A		P5	U36	
201	1	1	A		P6	U35	
202	1	1	A		P7	U34	
203	1	1	A		1901260 P8	PROGRAMMED PROM(N825185F) U33	

	SIZE	CODE IDENT NO.	
	A	94117 PL	1088682
		REV	AE
		SHEET	39

SHEET ONE REVISION LETTER IS THE IDENTIFYING REVISION FOR THIS MULTISHEET DWG
SEE SHEET ONE FOR REVISION DESCRIPTIONS
SYMBOLS : INDICATES VENDOR ITEM - SEE SPEC/SOURCE CONTROL DWG.

ZONE	LTR	DESCRIPTION	DATE	APPROVED
M	REV PER ECO	96408		
N	REV PER ECO	96518	5SEP80	MS/TK
P	REV PER ECO	97045	11MAY81	BY/ML

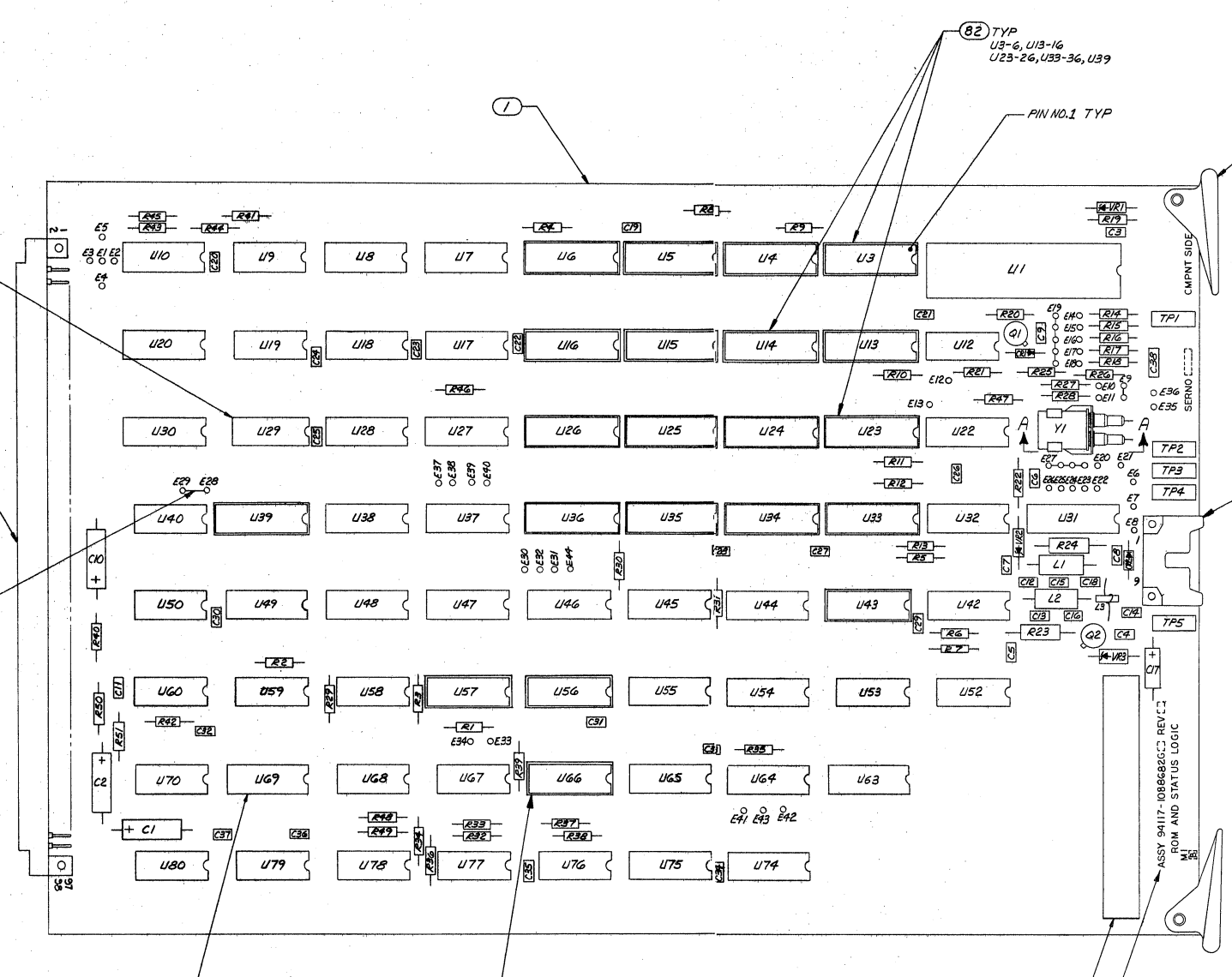
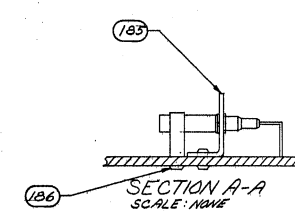


TABLE A - JUMPER OPTIONS

OPTION	FUNCTION [SEE NOTE 10]	REMOVE CIRCUIT TRACE BETWEEN: (M0 SIDE)	ADD JUMPER WIRE BETWEEN: (M1 SIDE)		
A	1 SYNC LINK INTERRUPT LEVEL [E1-E4]	7 G E1-E4 S E1-E4	NONE REQ'D E2-E4 E3-E4		
	B	1 DISPLAY STATUS INTERRUPT LEVEL [E3-E5]	7 G E3-E5 S E3-E5	E1-E5 E2-E5 NONE REQ'D	
		C	1 TRANSMIT DATA LEVEL [E7-E8]	LEVEL TTL: E7-E8 RS-232-C TTY 20 MA	E6-E7 NONE REQ'D NONE REQ'D NONE REQ'D
D			1 RECEIVE DATA TERMINATION [E95-E96]	INPUT TTL TTY	E9-E10 NONE REQ'D NONE REQ'D
	2	NOT USED	E9-E10		
	3	20 MA	E9-E11		
	4	RS-232-C	E95-E96		
	5	E95-E96	NONE REQ'D		
E	1 RECEIVE/TRANSMIT DATA POLARITY [NONE]	DATA TTL RS-232-C	E12-E13 E12-E13 NONE REQ'D		
	F	1 WORD LENGTH SELECT [NONE]	LENGTH 5 BITS 6 BITS 7 BITS 8 BITS	E14-E15, E17-E18 E14-E15 E17-E15 NONE REQ'D	
		G	1 RECEIVE/TRANSMIT PARITY CHECKED [NONE]	PARITY L2	E16-E19 NONE REQ'D
			2	GENERATED DISABLED	NONE REQ'D
H		1 PARITY SELECT [NONE]	PARITY ODD EVEN	E18-E19 NONE REQ'D	
	2				
J	1 STOP BIT SELECT [NONE]	#STOP BITS	E15 TO E15 NONE REQ'D		
	2				
K	1 RECEIVE/TRANSMIT FREQ. SELECT	FREQ. SEL 50K E20-E22, 25-27, 25-27, 26-27 110 300 1200 2400 4800 9600	E20-E21 NONE REQ'D E24-E27 NONE REQ'D NONE REQ'D E24-E27 NONE REQ'D		
	2				
	3				
	4				
	5				
	6				
	7				
L	1 SYSTEM CLOCK MODE [NONE]	MODE EXT	NONE REQ'D E28-E29		
	2	INT			
M	1 ROM SELECT [E31-E32]	ROM I II III	NONE REQ'D E30-E32 E44-E32		
	2				
	3				
N	1 STATUS LOGIC ENABLE [E33-E34]	STATUS LOGIC ENABLE DISABLE	NONE REQ'D NONE REQ'D		
	2				
P	1 TRAP ADDRESS MEMORY LOCATION SELECT [NONE]	MEM LOC 0-8K 8-16K 16-24K 24-32K	NONE REQ'D E37-E40 E37-E38 E37-E38, E39-E40		
	2				
	3				
	4				
R	1 50K BAUD SELECT	FREQ SEL 50K HR	NONE REQ'D		
	2	[E42-E43]	E41-E43		

13. LOCATE WARNING LABEL APPROX AS SHOWN.
12. WARNING - SPECIAL HANDLING REQUIRED FOR ITEMS 27 AND 28. REFER TO ITEM 134.
11. ITEMS 146A, 147A, 148A, 149A MUST BE USED TOGETHER.
10. 'E' POINTS SHOWN IN BKTS, E 2, INDICATE EXISTING CIRCUIT TRACE.
9. JUMPER OPTIONS FOR G1, A1, B3, C2, D2, E3, F4, G2, H2, J2, K2, L2, M1, N1, P1 AND E1.
8. MARK APPROPRIATE SERNO, 'S' CONDITION AND REVISION AT FINAL ASSY.
7. SOLDER TIPS OR WIRE TO BE .02 MAX FROM BOARD.
6. MAX COMPONENT HEIGHT TO BE .44.
5. REFERENCE DESIGNATORS OTHER THAN THOSE ETCHED OR SILK SCREENED ARE NOT TO BE MARKED ON FINISHED ASSY.
4. MARK CHARACTERS .04-.16 HIGH, COLOR BLACK, GOTHIC TYPE, AND LOCATE APPROX AS SHOWN. APPLY PER ITEM 31.
3. PARTS LIST SHEET ONE IS THE CONTROLLING REVISION FOR THE COMBINED PARTS LIST AND DRAWING.
2. THIS ASSY SHALL MEET THE REQUIREMENTS OF ITEM 30.
1. GROUP, TOLERANCES AND DIMENSIONS INTERPRETATION WITHIN GROUPS SUPPLEMENT THIS DRAWING.

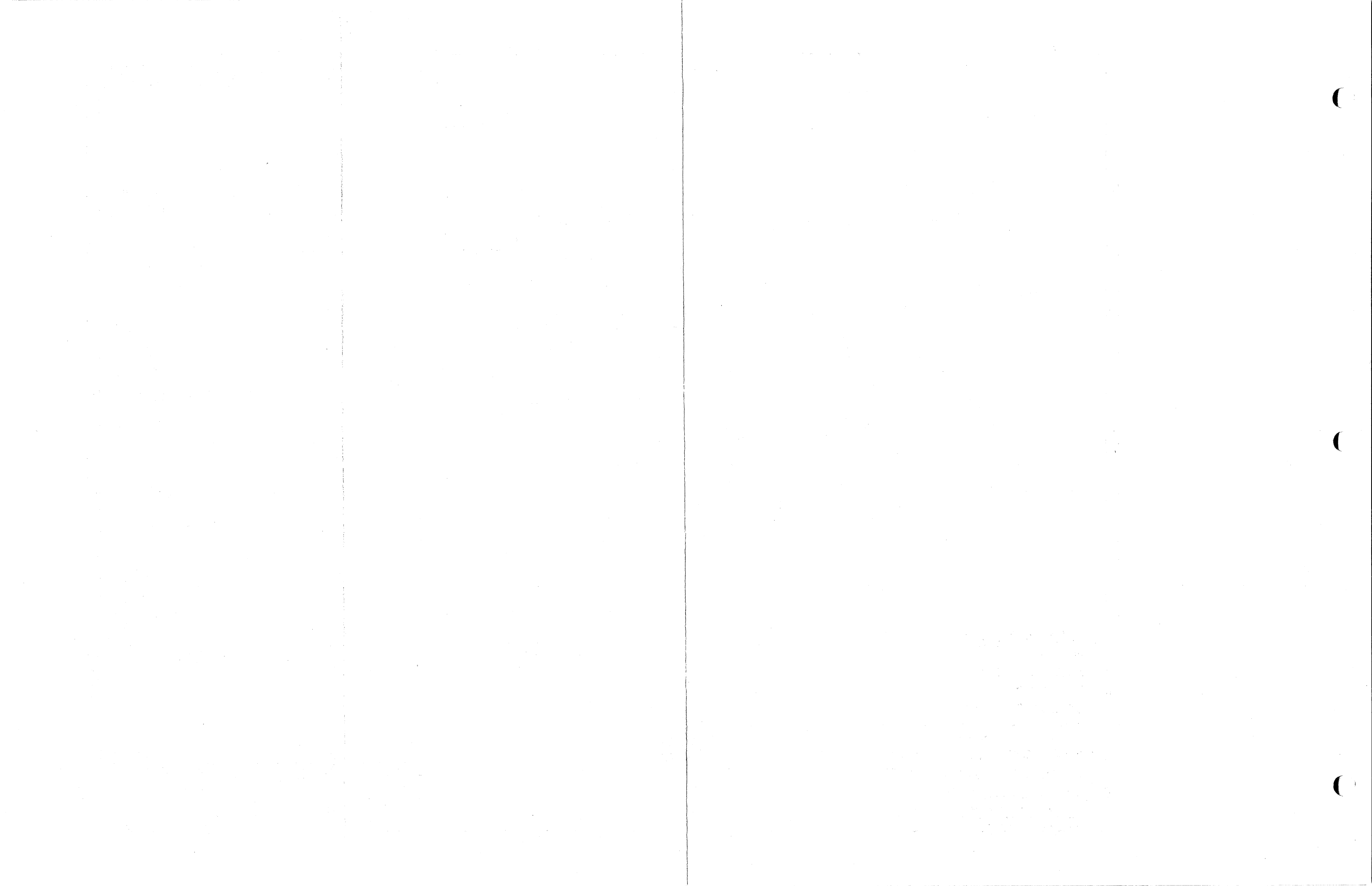
COND	FUNCTION
G1	AK
G2	AK
G3	GCP
G4	GCP
G5	GCP(STD)
G6	AK SPECIAL
G7	GCP
G8	MULTI TASKING GCP
G9	GCP + OBSOLETE
G10	DATA CONVERTER-OLD
G11	GCP+REV A
G12	DATA CONVERTER-NEW
G13	MODIFIED GCP+REV A
G14	BASIC BUILD

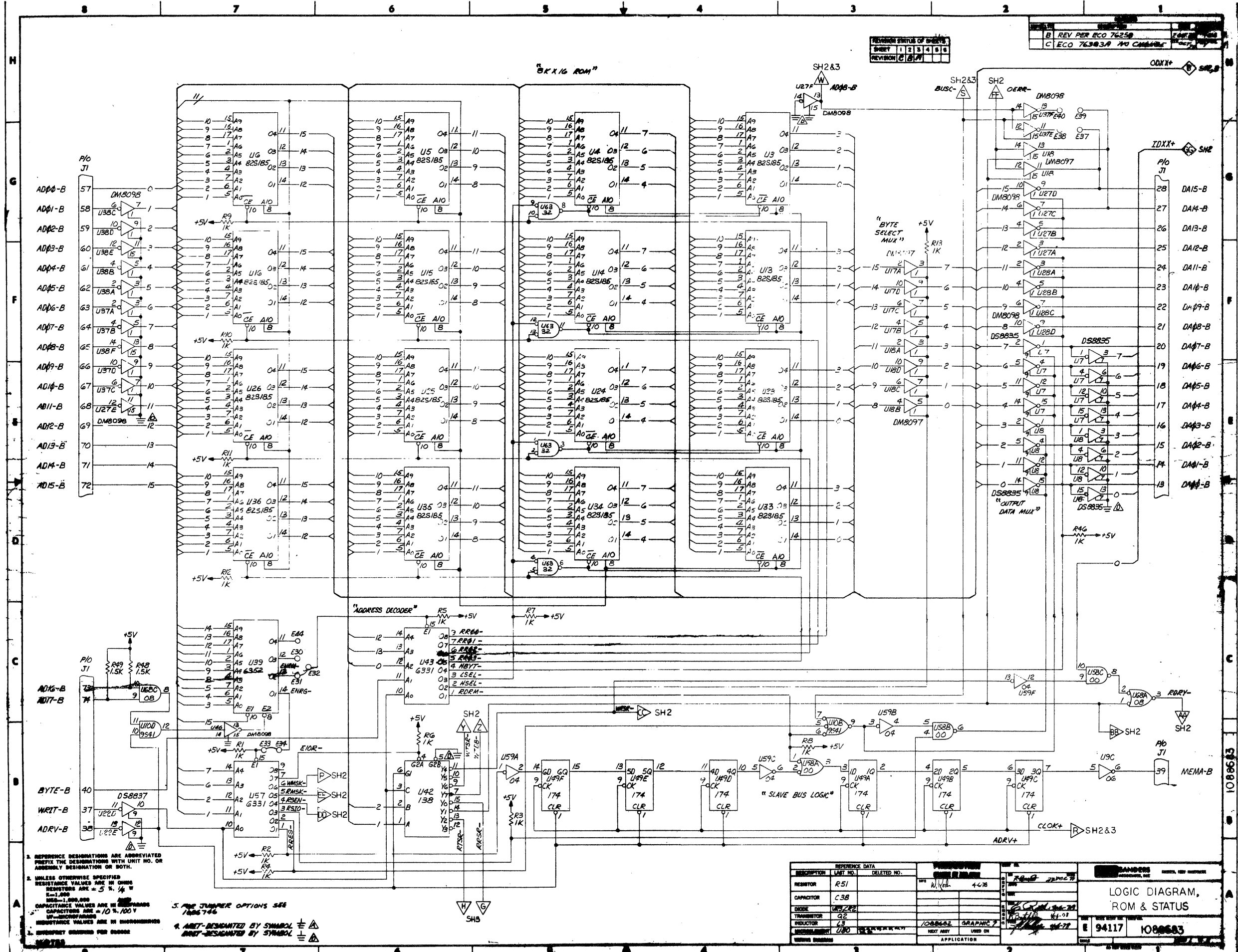


G1 THRU G14

QTY PER ASSY	DESCRIPTION	PARTS LIST
1	CIRCUIT CARD ASSY, ROM & STATUS LOGIC (8K)	E 94117 108862
1	UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES	
1	XX DECIMAL XX DECIMAL	
1	INCHES	
1	PRODUCTION	
1	MADE IN USA ONLY	
1	NEXT ASSY USED ON	
1	APPLICATION	

2896610





1. REFERENCE DESIGNATIONS ARE ABBREVIATED
 PREFIX: THE DESIGNATIONS WITH UNIT NO. OR
 ASSEMBLY DESIGNATION OR BOTH.

2. UNLESS OTHERWISE SPECIFIED
 RESISTANCE VALUES ARE IN OHMS
 RESISTORS ARE 5% 1/4 W
 CAPACITANCE VALUES ARE IN PICOGRAMS
 CAPACITORS ARE 10% 100 V
 RESISTANCE VALUES ARE IN INCHES
 UNLESS OTHERWISE SPECIFIED

3. UNLESS OTHERWISE SPECIFIED
 UNLESS OTHERWISE SPECIFIED

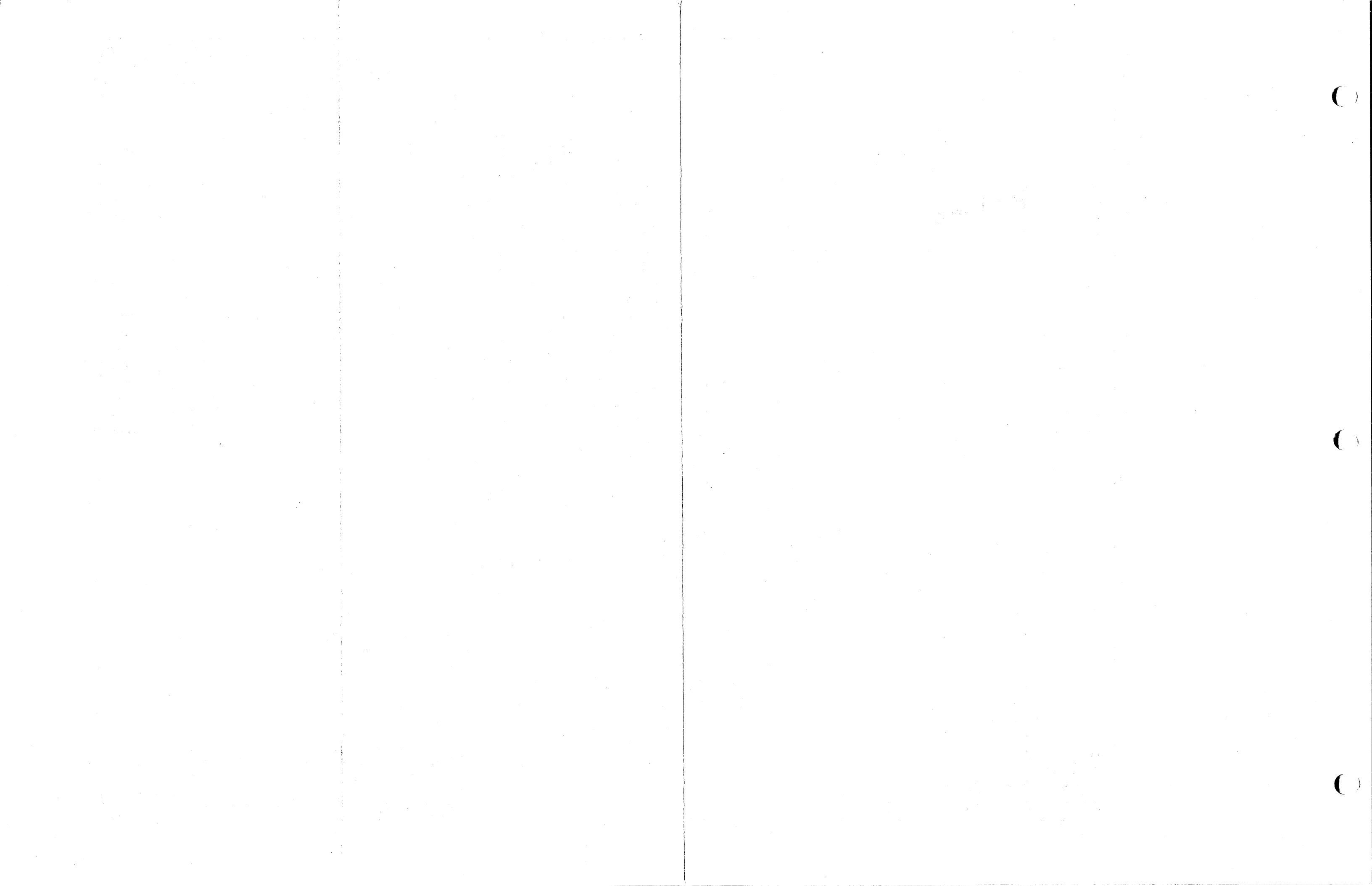
5. SEE JUMPER OPTIONS SEE
 76303-9

4. ARET-DESIGNATED BY SYMBOL
 ARET-DESIGNATED BY SYMBOL

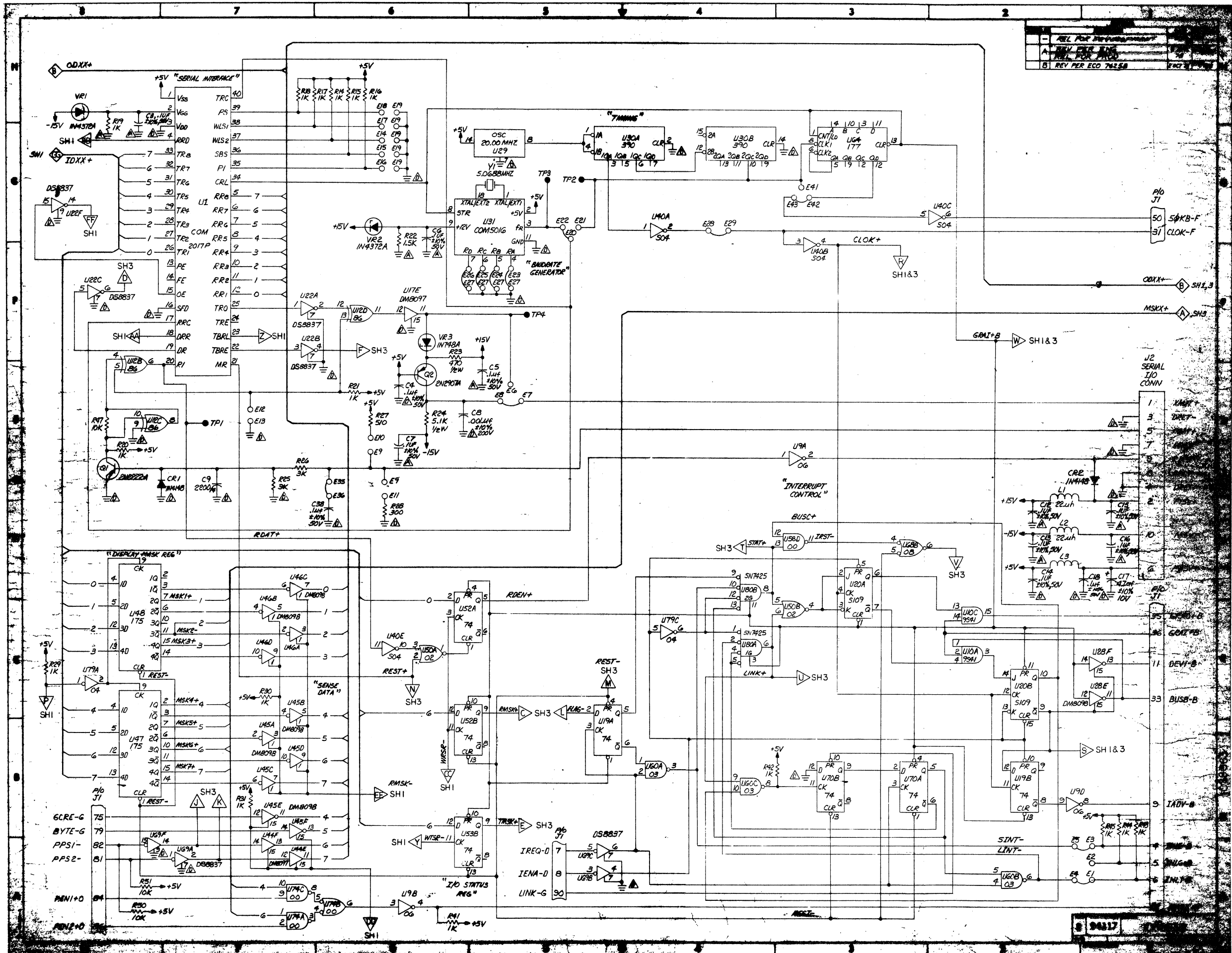
DESCRIPTION	REFERENCE DATA	DELETED NO.	REVISION	DATE	BY	APP. NO.
RESISTOR	R51			4-76		
CAPACITOR	C38					
DIODE	U49A-F					
TRANSISTOR	Q2					
INDUCTOR	L3					
MECHANICAL	U40					

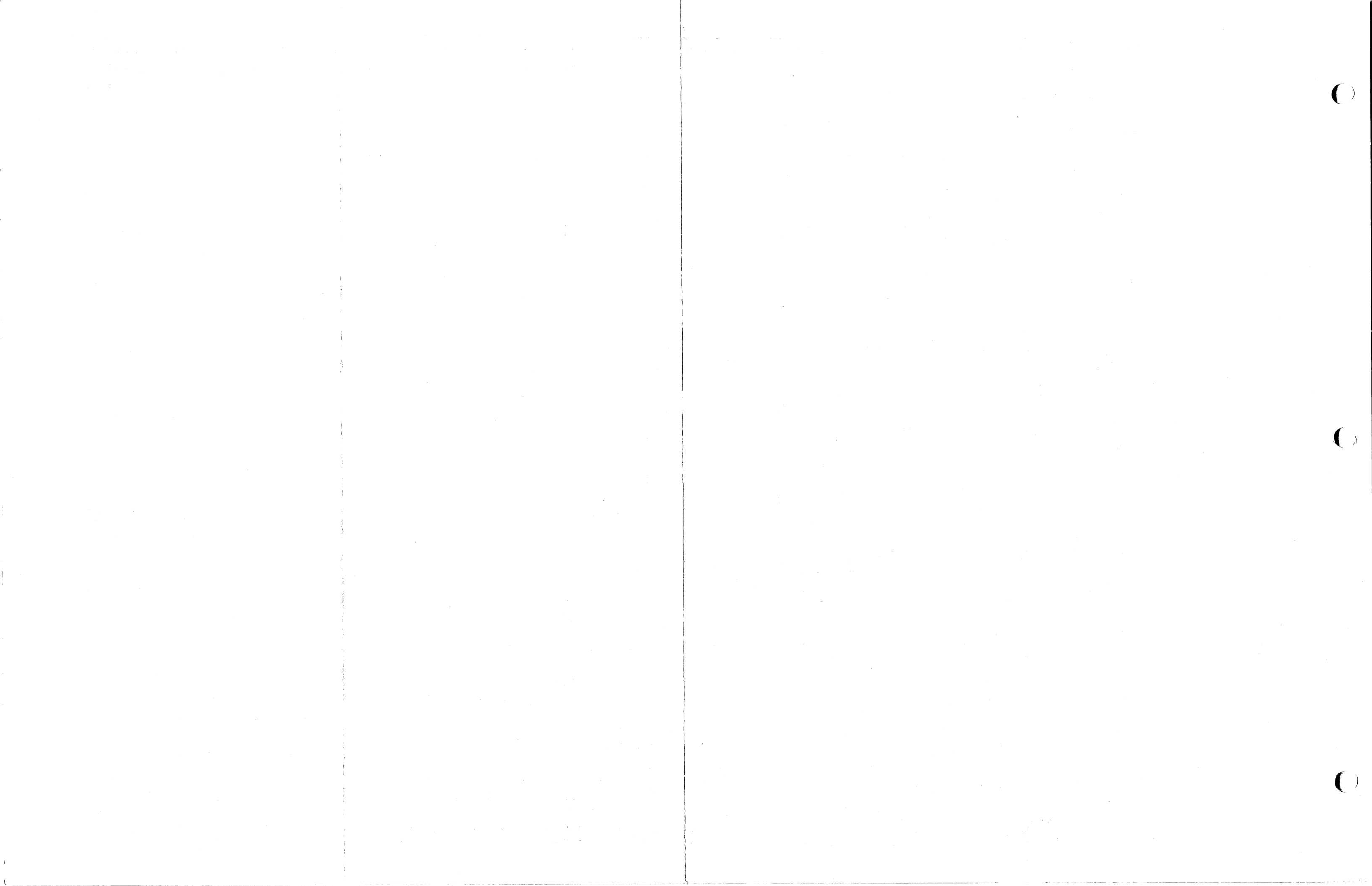
LOGIC DIAGRAM,
 ROM & STATUS

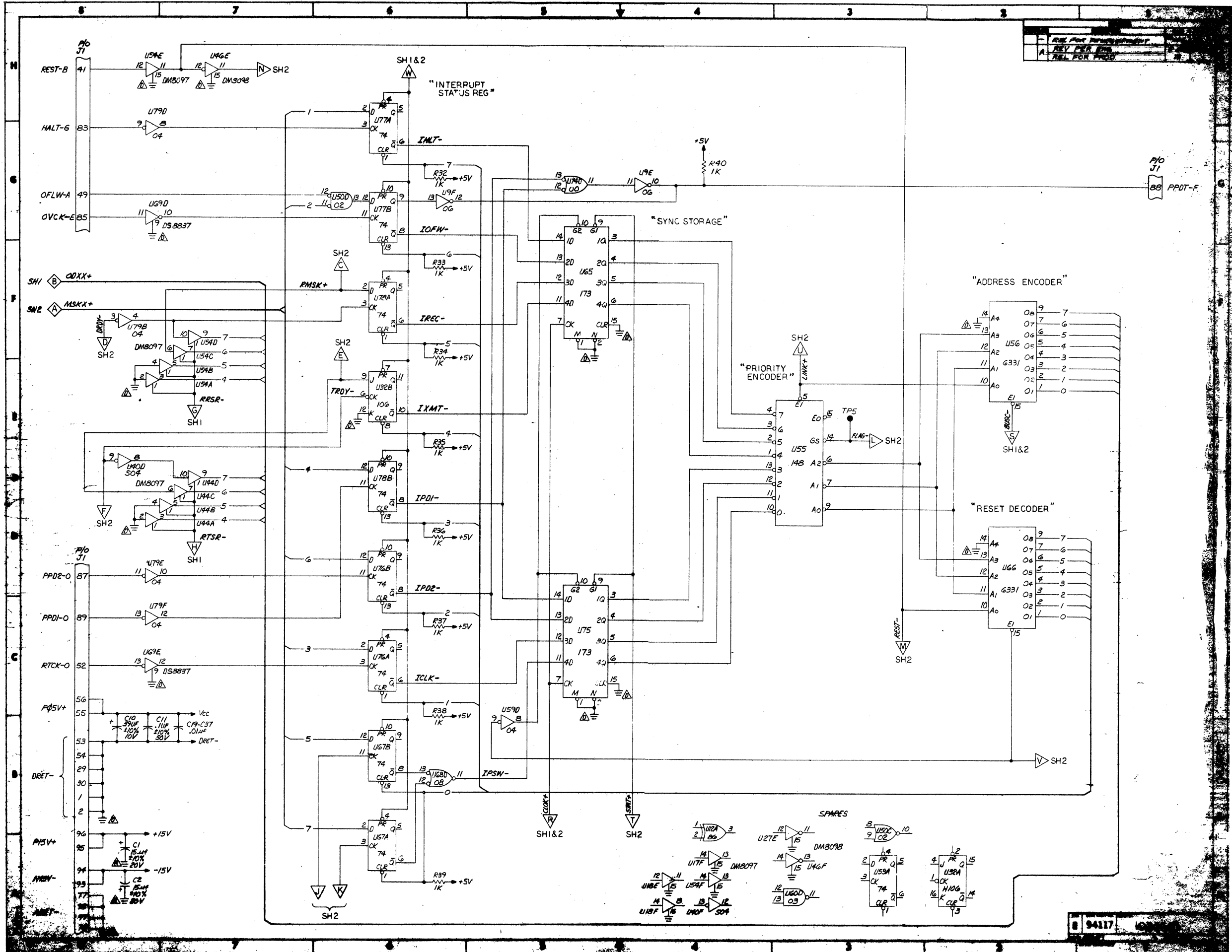
94117 108663

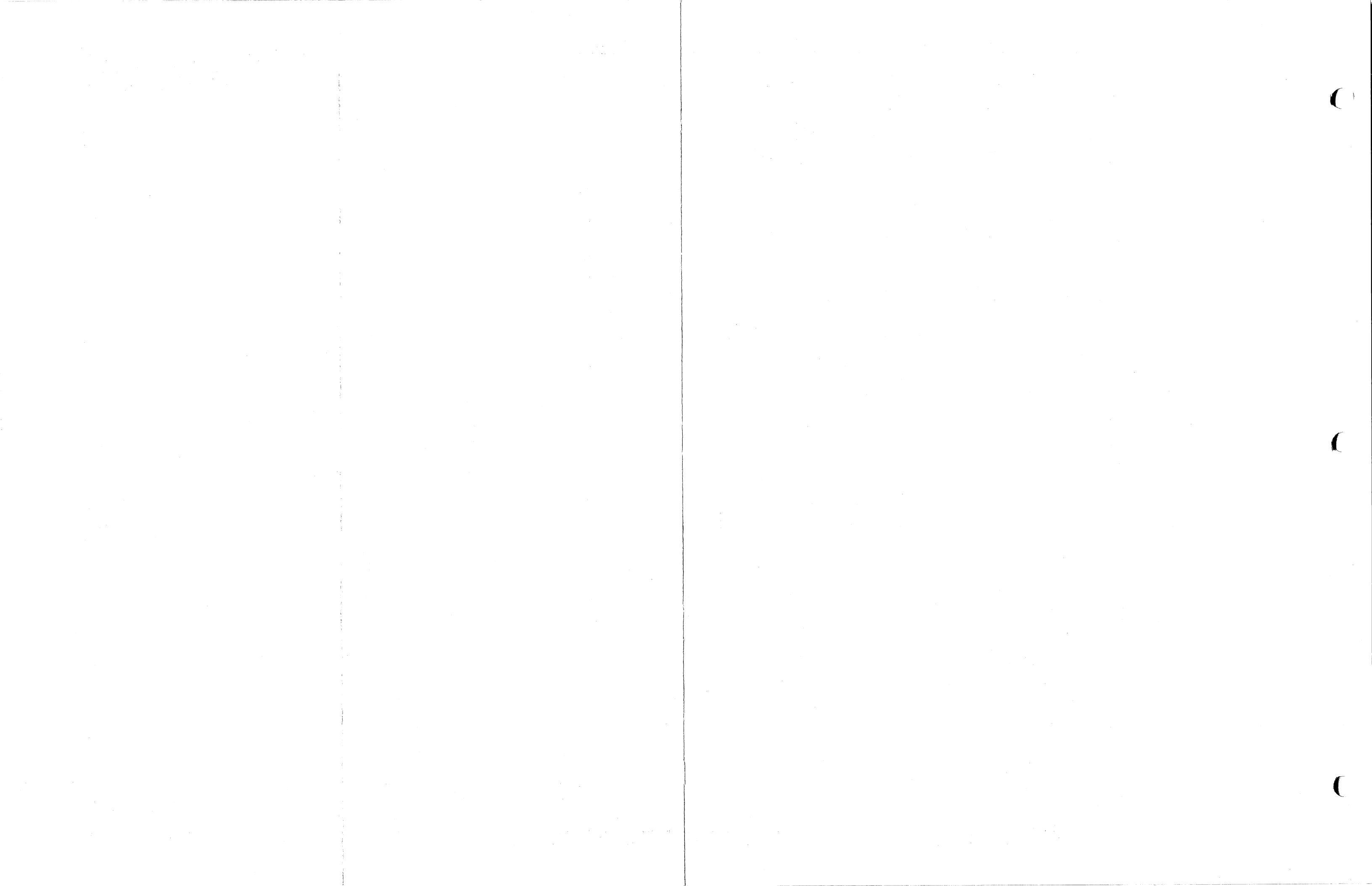


REL FOR DEVELOPMENT	REV 1
REL FOR ENG	REV 2
REL FOR FAB	REV 3
REV PER ECO 7458	REV 4









REVISIONS			
LTR	DESCRIPTION	DATE	APPROVED
A	REC FOR PREPROD	12-3-80	[Signature]

PARTS	REVISION STATUS											
	1	2	3	4	5	6	7	8	9	10	11	12
REV	A	A	A	A								
SH	13	14	15	16	17	18	19	20	21	22	23	24
REV												

WARNING
CHANGES ARE BEING PROCESSED
AGAINST THIS DOCUMENT
REFER TO 97757

2. PARTS LIST SHEET ONE IS THE CONTROLLING REVISION FOR THE COMBINED PARTS LIST, DRAWING AND WIRE LIST.
1. SHOP PRACTICE TOLERANCES AND DRAWING INTERPRETATION WITHIN 815002 SUPPLEMENT THIS DRAWING.

DWG REV	A
WL REV	<input checked="" type="checkbox"/>

SA SANDERS ASSOCIATES, INC. NASHUA, NEW HAMPSHIRE

CIRCUIT CARD ASSY,
DIGITAL GRAPHIC CONT

SIZE **A** CODE IDENT NO. **94117** PL **5977180** SHEET **1** OF **4**

CONT NO.	DR	DATE
	DR	25 NOV 80
	APPR	
	CHK	26 NOV 80
	DEV	R. Gillette 26 NOV 80
	E/N	G. S. Maggala 26 NOV 80
	PROG	A. Albani 26 NOV 80

PREPROD
CHANGE BY ECO ONLY

MFG [Signature] 11/25/80

FINAL	USED ON
NEXT ASSY	APPLICATION

OR-1039 REV B DWG SIZE E

PARTS LIST

ITEM NO.	QTY PER ASSY		DWG SIZE	FSCM	PART OR IDENTIFYING NO.	DESCRIPTION	SYM
	G1						
1	1				5977181G1	CIRCUIT CARD SUBASSY DIGITAL GRAPHIC CONTROLLE R PAL, PROGRAMMABLE U57, PAL, PROGRAMMABLE U2, PAL, PROGRAMMABLE U6, CONNECTOR, ELECTRICAL PC BOARD (98 PIN) P1, PROGRAMMED LOGIC (F93459PC) U4, PROGRAMMED LOGIC (F93459PC) U11, PROGRAMMED PROM (6349-1J) U19, PROGRAMMED PROM (6353-1J) U20, PROGRAMMED PROM (6353-1J) U26, PROGRAMMED PROM (62S181N) U10, PROGRAMMED PROM (D3636) U84, PROGRAMMED PROM (D3636) U66, PROGRAMMED PROM (D3636) U77, PROGRAMMED PROM (D3636) U65, PROGRAMMED PROM (D3636) U78, PROGRAMMED PROM (D3636) U52, PROGRAMMED PROM (D3636) U79, PROGRAMMED PROM (D3636) U54, PROGRAMMED PROM (D3636) U67, PROGRAMMED PROM (D3636) U53, PROGRAMMED PROM (D3636) U36, INDUCTOR L1-4, EJECTOR, CARD W/HARDWARE EYELET, METALLIC CAP. MIL-C-39003/1 22 U FARAD+ 10- 10 % 15 WVDC C9,10,11,12, CAP. .01 U FARAD+ 60- 20% 50 WVDC C1-8,13-98, CAP. .01 U FARAD C1-8,13-98, MED, OCTAL, D-TYPE EDGE-TRIG FLIP-FLOP, INVERTING THR EE STATE U5,7,12,14, 21,34,41,45, MED, 2'S COMPLEMENT MULTIPLIER (16 X 16) WITH ACCUMULAT OR U1,	#
2	1			5977100P1			
3	1			5977100P2			
4	1			5977100P5			
5	1			1086608P18			
6	1			5977190P8			
7	1			5977190P9			
8	1			5977194P1			
9	1			5977195P1			
10	1			5977195P2			
11	1			5977196P1			
12	1			5977197P1			
13	1			5977197P2			
14	1			5977197P3			
15	1			5977197P4			
16	1			5977197P5			
17	1			5977197P6			
18	1			5977197P7			
19	1			5977197P8			
20	1			5977197P9			
21	1			5977197P10			
22	1			5977197P11			
23	4			4170692G1			
24	2			600107P1			
25	2			630003P14			
26	4			M39003/01-2271			
27	94			DG015E103MAA			
27A	REF			923CZ5U103M050B			
28	8			SN74S534N			
29	1			TDC1010J			

3. SHEET ONE REVISION LETTER IS THE CONTROLLING REVISION FOR THIS MULTISHEET DWG		FSCM NO.	
2. SEE SHEET ONE FOR REVISION DESCRIPTIONS		SIZE	PL 5 9 7 7 1 8 0
1. SYMBOL † INDICATES VENDOR ITEM - SEE SPEC/SOURCE CONTROL DWG.		A	94117
		REV A	SHEET 2

PARTS LIST

ITEM NO.	QTY PER ASSY		DWG SIZE	FSCM	PART OR IDENTIFYING NO.	DESCRIPTION	SYM
	GL						
30	4			07263	F93422PC	MED U9,15,22,29,	
31	11			01295	SN74S374N	MED, OCTAL D-TYPE EDGE-TRIG FF 3-STATE U13,51,59,64,72,75,76,82,83,89,90,	
32	3			01295	SN74S251N	MED, 256 X 1 U42,47,55,	
33	3			07263	F74S109PC	MED, DUAL J-K POS EDGE-TRIG PRESET AND CLR U39,48,74,	
34	2			01295	SN74109N	MED, DUAL J-K POS EDGE-TRIG FF PRESET AND CLR U43,56,	
35	1			34335	AM2910PC	MED, MICROPROGRAM CONT UNIT U46,	
36	4			01295	SN74S174N	MED, HEX, D-TYPE EDGE-TRIG FF U23,27,30,37,	
37	3			01295	SN74S138N	MED, 3-LINE TO 9-LINE DECODER/DEMULTIPLEXER U18,24,58,	
38	1			01295	SN74LS42N	MED, BCD-TO-DECIMAL DECODER U81,	
39	1			01295	SN74S182N	MED, LOOK-AHEAD CARRY GEN U17,	
40	4			34335	AM2903PC	MED, MICROPROCESSOR U8,15,28,35,	
41	2				14T50	DELAY LINE ESC DLI,2,	
42	3			01295	SN7474N	MED, DUAL, D-TYPE EDGE-TRIG FF U31,38,73,	
43	2			01295	SN74163N	MED, BIN CNTR, SYN PRESET INP (SYN CLR) U25,44,	
44	1			01295	SN74S11N	MED, TRIPLE 3-INP POS AND GATE U62,	
45	2			01295	SN74S00N	MED, QUADR, 2-INP NAND GATE U33,49,	
46	1			01295	SN74S38N	MED, QUAD 2-INP NAND OPEN COLL U63,	
47	2			01295	SN74S04N	MED, BUFFER/INVERTER U70,71,	
48	1			01295	SN74H21N	MED, DUAL, 4-INP AND GATE U69,	
49	1			01295	SN74LS27N	MED, TRIPLE 3-INP NOR GATE U61,	
50	1			01295	SN74S30N	MED, 8-INP NAND GATE U68,	
51	2			01295	SN74S10N	MED, TRIPLE 3-INP NAND GATE U60,80,	
52	2			01295	SN74S20N	MED, DUAL 4-INP NAND GATE U32,40,	
53	1			01295	SN74S86N	MED, QUAD, 2-INP EXCL-OR-GATE U85,	
54	2			01295	SN74S241N	MED, OCTAL BUS DR U50,86,	
55	2			81073	76RSB08S	SWITCH, DIP 8PST S1,2,	
56	2			73138	898-1-R1K	RES, NETWORK 1 K OHMS U87,88,	
56A	REF			80294	4116R-002-102	RES, NETWORK 1 K OHMS U87, U88	
57	1				4174297P1	DIODE, LIGHT EMITTING CRI,	
58	REF			55387	3432-1002	CONN, 40 PIN ELEC J1,2,	

3. SHEET ONE REVISION LETTER IS THE CONTROLLING REVISION FOR THIS MULTISHEET DWG
 2. SEE SHEET ONE FOR REVISION DESCRIPTIONS
 1. SYMBOL † INDICATES VENDOR ITEM - SEE SPEC/SOURCE CONTROL DWG.

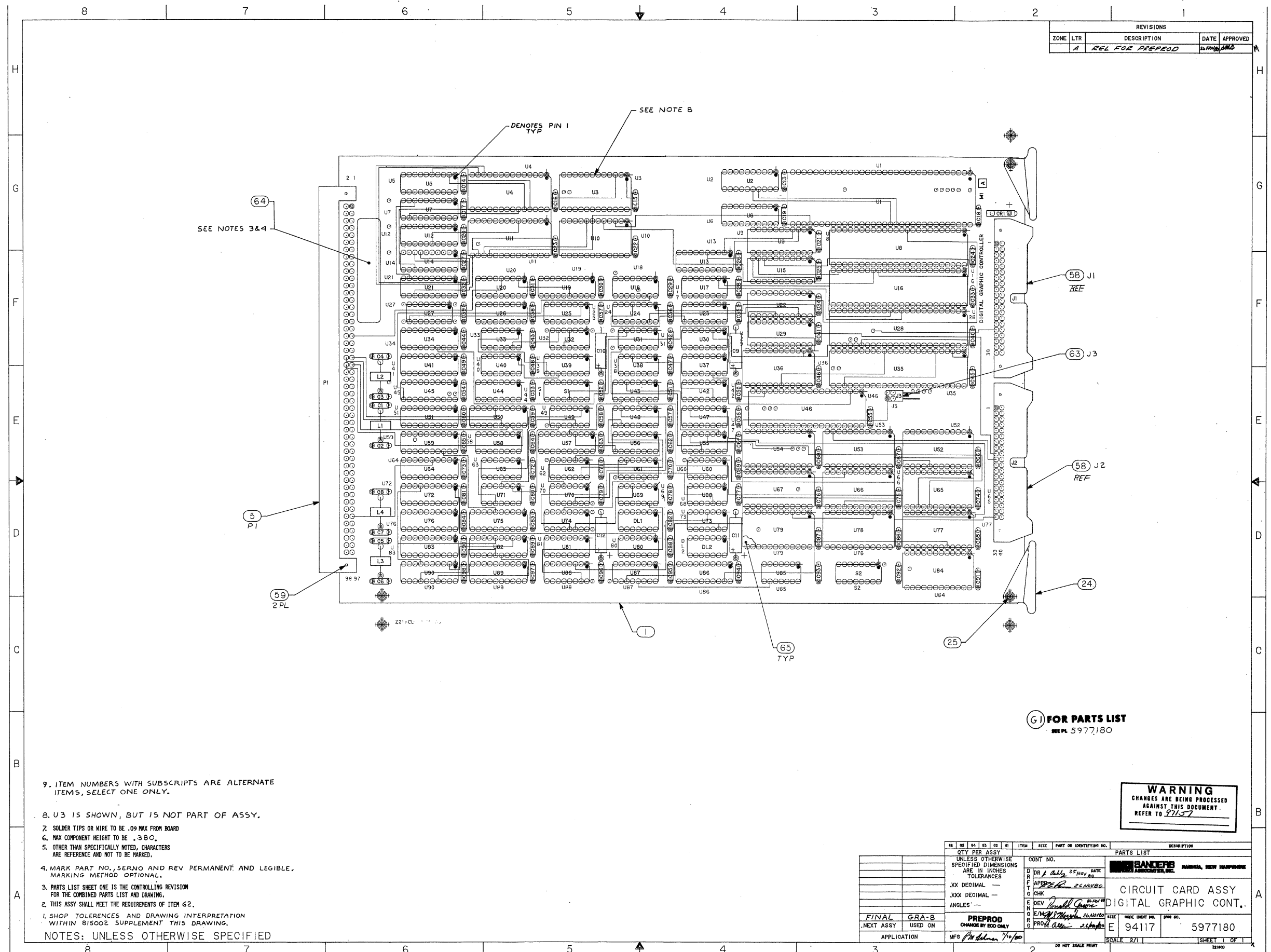
SIZE	FSCM NO.
A	94117
PL 5 9 7 7 1 8 0	REV A
	SHEET 3

P A R T S L I S T

ITEM NO.	QTY PER ASSY		DWG SIZE	FSCM	PART OR IDENTIFYING NO.	DESCRIPTION	SYM
	61						
59	2		A	07707	6010	EYELET	
60	AR		E		93002P1	SOLDER	
61	REF		A		5977182	LOGIC DIAGRAM DIGITAL GRAPHIC CONTROLLE R	
62	REF				815003	PW AND CKT BD, REQT FOR	
63	1			00779	87230-2	CONN, 4 PIN J3,	
64	1		A		4171182P1	MARKER, IDENTIFICATION	
65	11			19112	300-24-CCB	SOCKET, 24 PIN, XU10, 52-54-65-67, 77-79, 84	

3. SHEET ONE REVISION LETTER IS THE CONTROLLING REVISION FOR THIS MULTISHEET DWG		FSCM NO.	
2. SEE SHEET ONE FOR REVISION DESCRIPTIONS		PL 5 9 7 7 1 8 0	
1. SYMBOL † INDICATES VENDOR ITEM - SEE SPEC/SOURCE CONTROL DWG.		SIZE	REV A
		A	SHEET 4

REVISIONS				
ZONE	LTR	DESCRIPTION	DATE	APPROVED
A		REL FOR PREPROD	26 NOV 82	AMZ



9. ITEM NUMBERS WITH SUBSCRIPTS ARE ALTERNATE ITEMS, SELECT ONE ONLY.
8. U3 IS SHOWN, BUT IS NOT PART OF ASSY.
7. SOLDER TIPS OR WIRE TO BE .09 MAX FROM BOARD
6. MAX COMPONENT HEIGHT TO BE .380.
5. OTHER THAN SPECIFICALLY NOTED, CHARACTERS ARE REFERENCE AND NOT TO BE MARKED.
4. MARK PART NO., SERNO AND REV PERMANENT AND LEGIBLE. MARKING METHOD OPTIONAL.
3. PARTS LIST SHEET ONE IS THE CONTROLLING REVISION FOR THE COMBINED PARTS LIST AND DRAWING.
2. THIS ASSY SHALL MEET THE REQUIREMENTS OF ITEM 62.
1. SHOP TOLERANCES AND DRAWING INTERPRETATION WITHIN B15002 SUPPLEMENT THIS DRAWING.
- NOTES: UNLESS OTHERWISE SPECIFIED

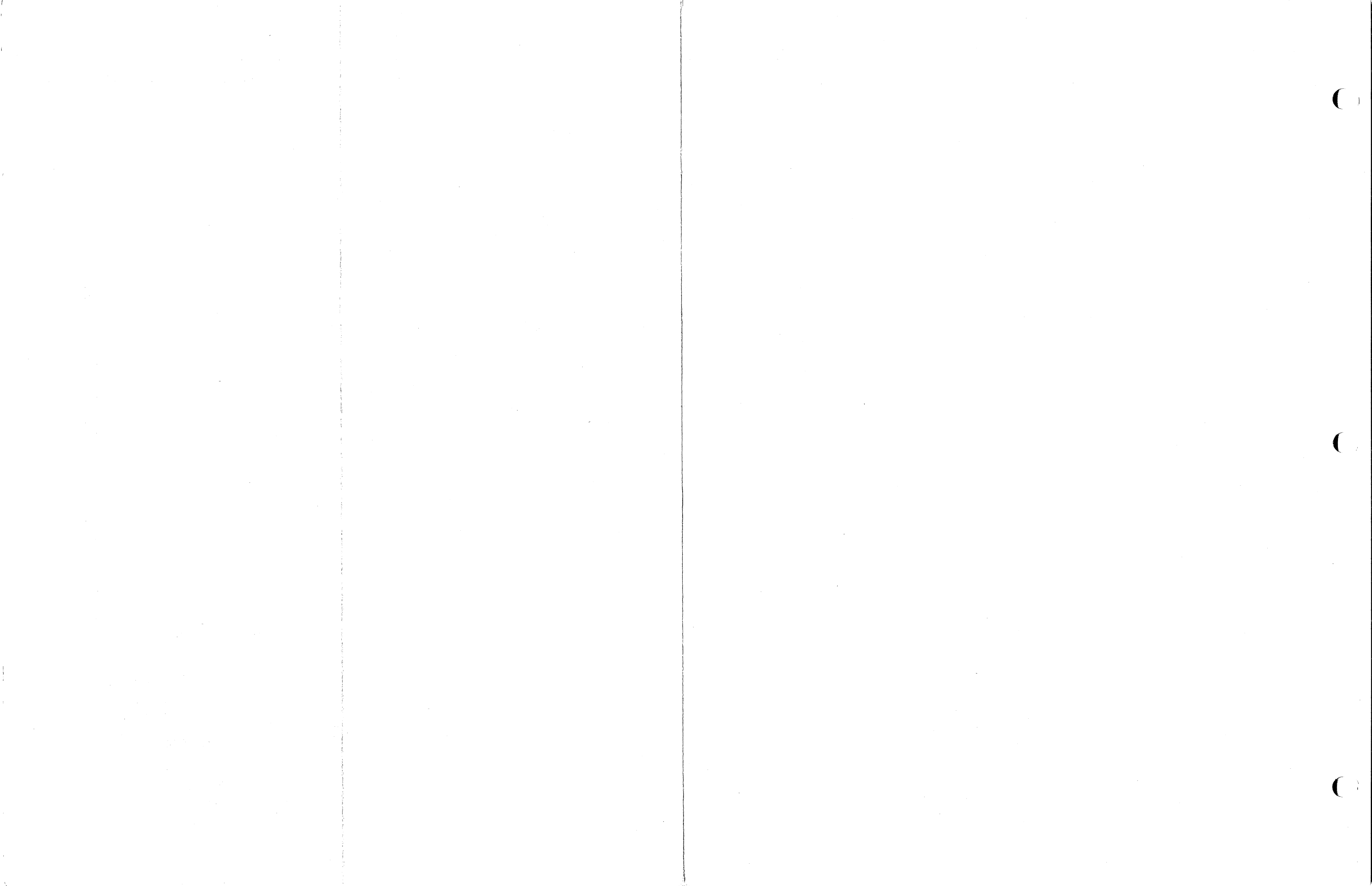
(G) FOR PARTS LIST
REF PL 5977180

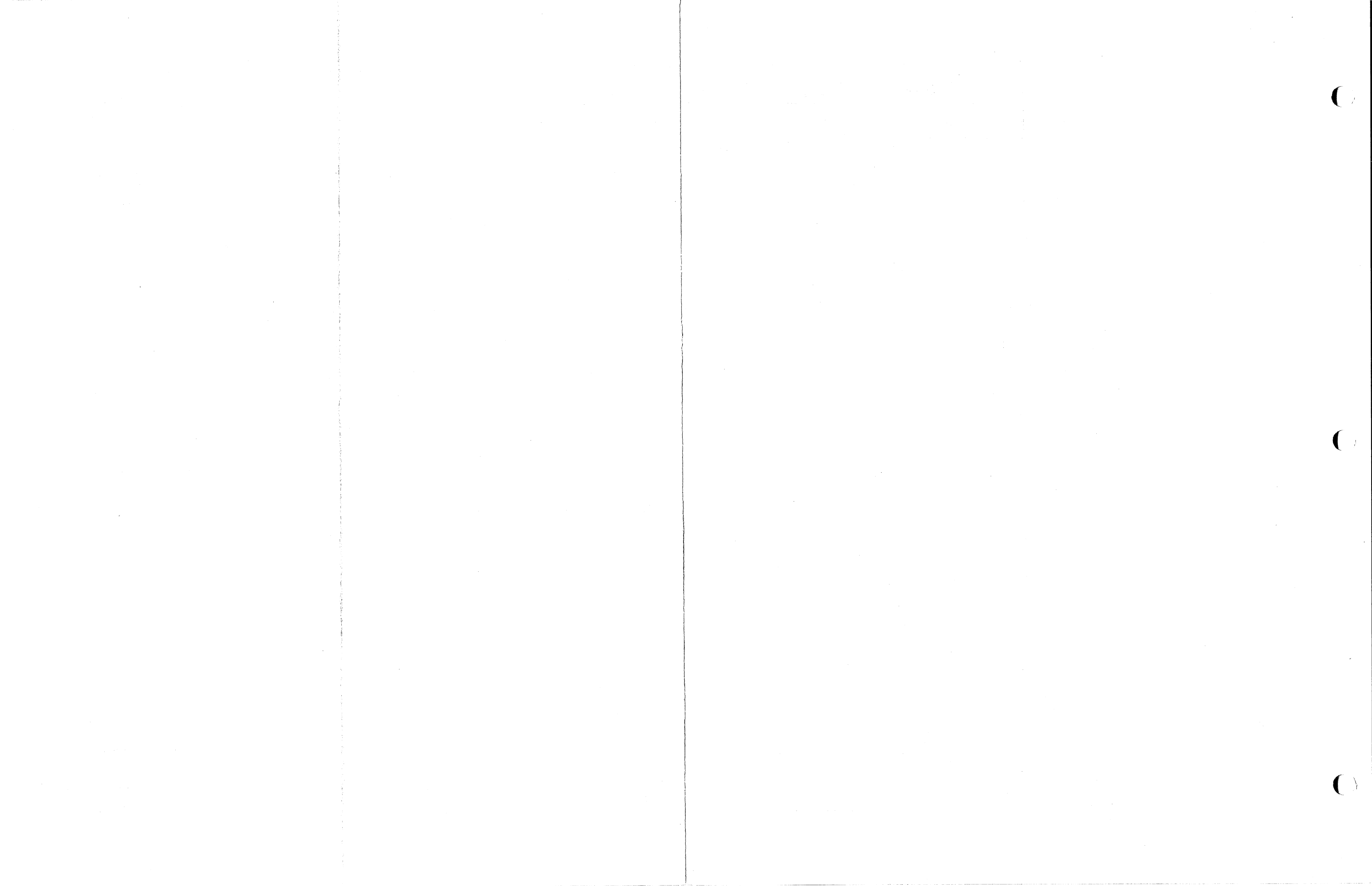
WARNING
CHANGES ARE BEING PROCESSED
AGAINST THIS DOCUMENT.
REFER TO 97157

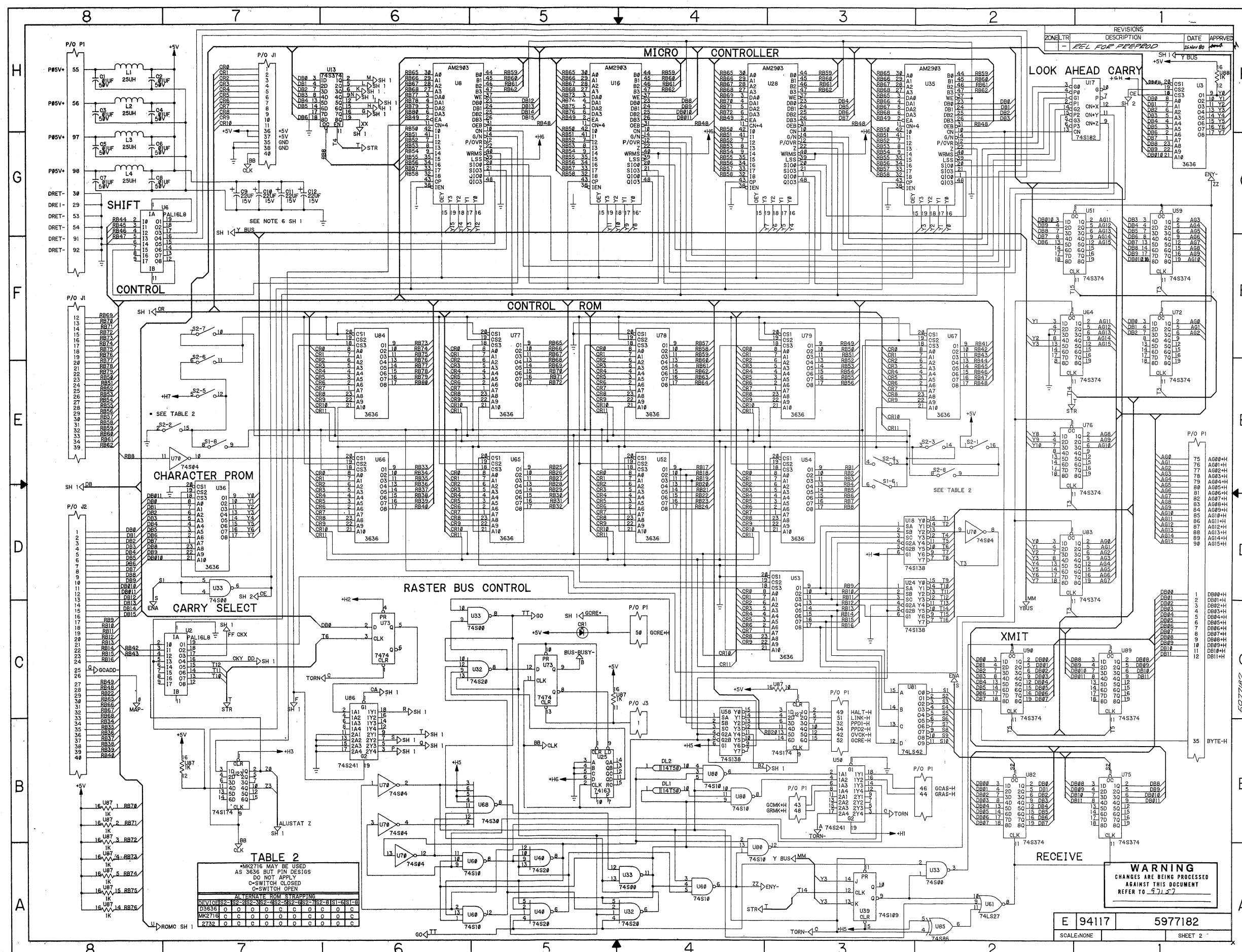
46	45	44	43	42	41	ITEM	SIZE	PART OR IDENTIFYING NO.	DESCRIPTION
									QTY PER ASSY
									UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES
									.XX DECIMAL
									.XXX DECIMAL
									ANGLES
									CONT NO.
									DR: J. Kelly 25 NOV 82
									APP: [Signature] 26 NOV 82
									CHK: [Signature]
									E DEV: [Signature]
									N: [Signature]
									PREPROD
									CHANGE BY ECO ONLY
									APPROVED BY: [Signature] 26 NOV 82
									FINAL GRA-B
									NEXT ASSY USED ON
									APPLICATION
									MFG: [Signature] 7/1/80
									SCALE: 2/1
									DO NOT SCALE PRINT
									SHEET 1 OF 1
									22190

BANDERS MANASSAS, NEW MEXICO
CIRCUIT CARD ASSY
DIGITAL GRAPHIC CONT.

CODE: 94117
DPP NO.: 5977180







REVISIONS

NO.	DESCRIPTION	DATE	APPROVED
1	REL FOR PREPROD	12/10/82	[Signature]

SEE NOTE 6 SH 1

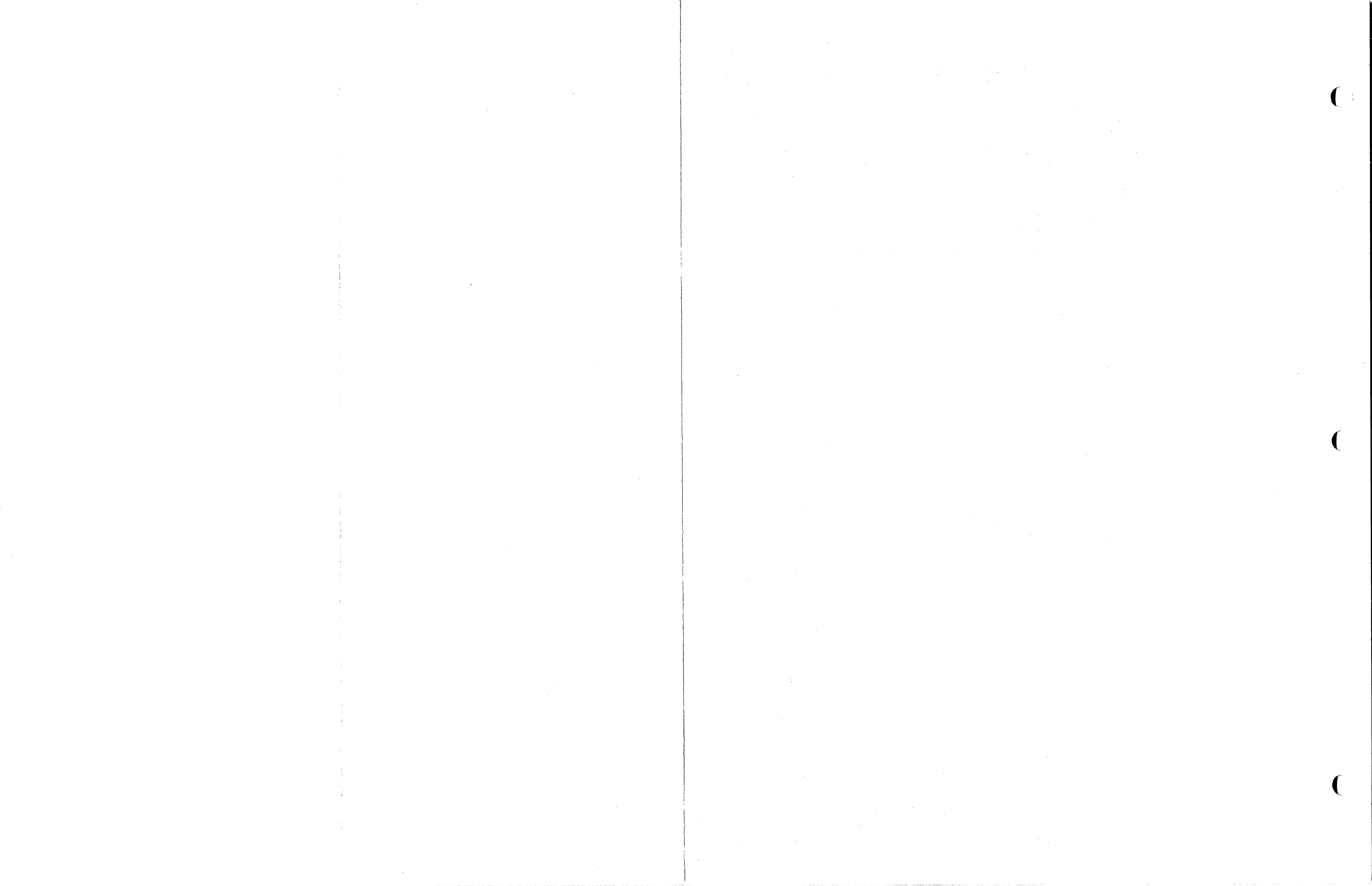
SEE TABLE 2

SEE TABLE 2

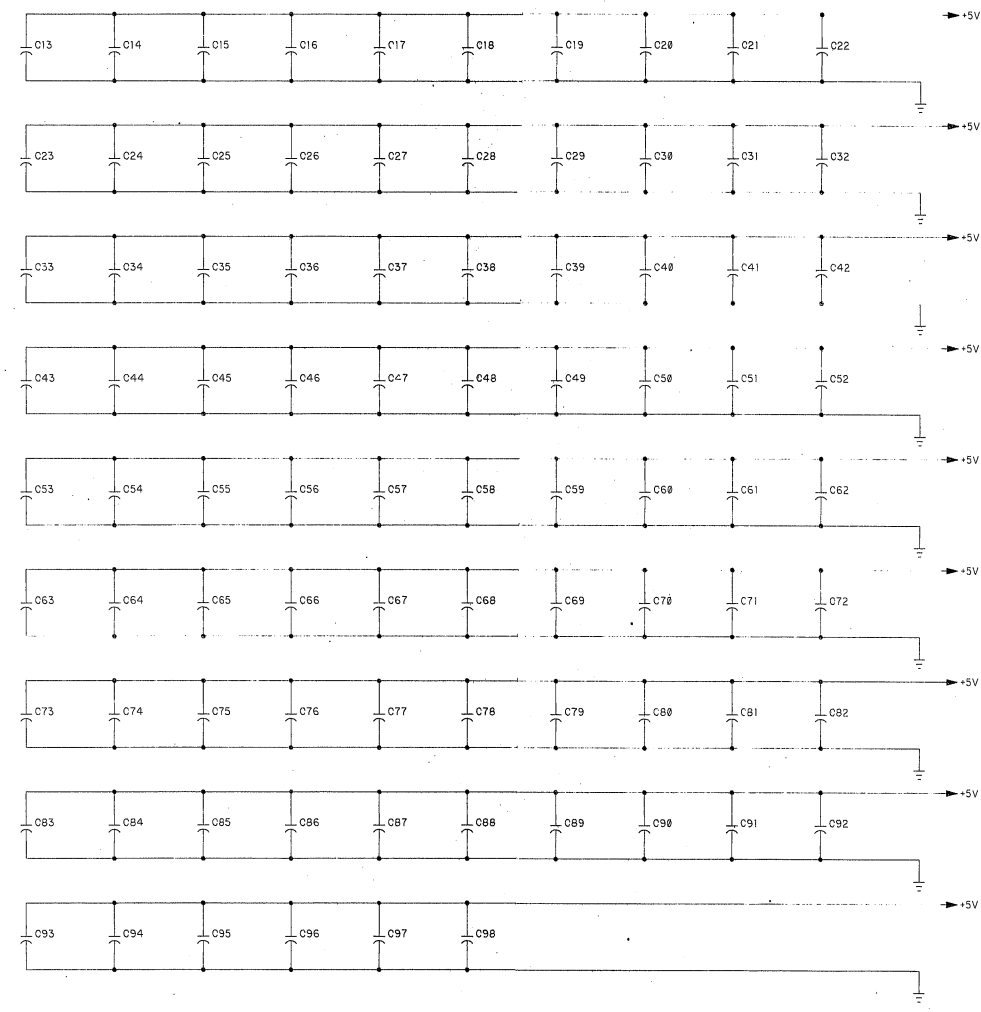
TABLE 2
 *MK2716 MAY BE USED AS 3636 BUT PIN DESIGNS DO NOT APPLY
 C-SWITCH CLOSED
 O-SWITCH OPEN

REVISED	Q	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O
03636	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O
03636	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O
03636	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O

WARNING
 CHANGES ARE BEING PROCESSED AGAINST THIS DOCUMENT REFER TO 57157



REV	DATE	DESCRIPTION
1	10/27/82	PREL. PCB PREP

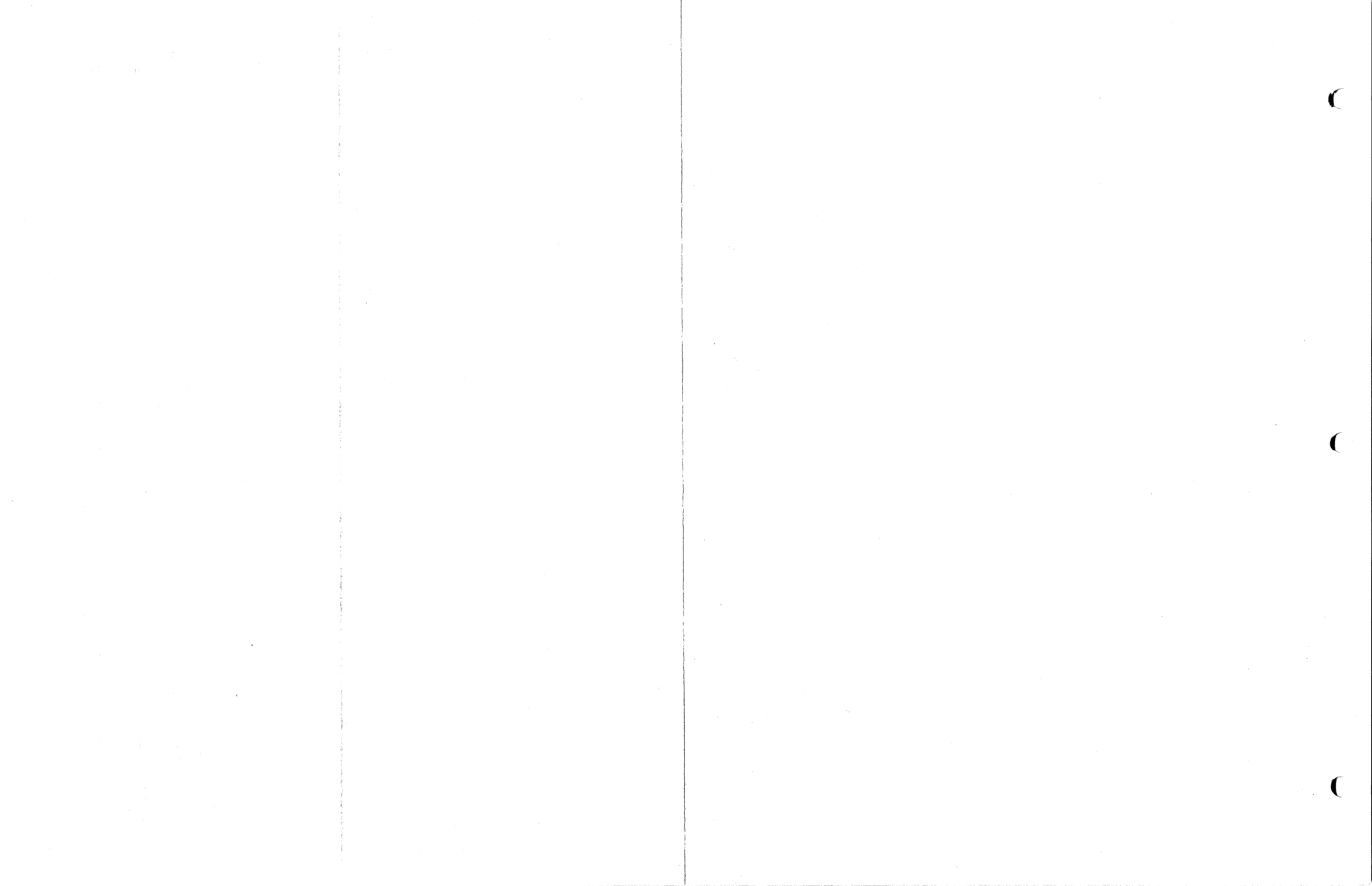


SEE NOTE 7 SH 1

WARNING
 CHANGES ARE BEING PROCESSED
 AGAINST THIS DOCUMENT
 REFER TO 57-57

E	94117	5977/82
SCALE: NONE	SHEET 9	

5977/82 C



REVISIONS

LTR	DESCRIPTION	DATE	APPROVED
A	REL FOR PREPROD	5 NOV 80	<i>[Signature]</i>
B	REV PER ECO 97123	19 FEB 81	RS/WL

REVISION STATUS

SH	1	2	3	4	5	6	7	8	9	10	11	12
REV	B	B	B	A								
SH	13	14	15	16	17	18	19	20	21	22	23	24
REV												

DWG REV	B
WL REV	X

WARNING
 CHANGES ARE BEING PROCESSED
 AGAINST THIS DOCUMENT
 REFER TO 97118

- PARTS LIST SHEET ONE IS THE CONTROLLING REVISION FOR THE COMBINED PARTS LIST, DRAWING AND WIRE LIST.
- SHOP PRACTICE TOLERANCES AND DRAWING INTERPRETATION WITHIN 815002 SUPPLEMENT THIS DRAWING.

SA SANDERS ASSOCIATES, INC. NASHUA, NEW HAMPSHIRE

CIRCUIT CARD ASSY
 MAPPING MEMORY

SIZE **A** CODE IDENT NO. **94117** PL 5977176

SHEET 1 OF 4

DR	DATE	CONT NO.
<i>[Signature]</i>	3 Oct 80	
<i>[Signature]</i>	5 NOV 80	
<i>[Signature]</i>	11-5-80	
<i>[Signature]</i>	5 NOV 80	

DR	
APP	
CHK	
DEV	
E/W	
PROJ	
FINAL	GRA-8
NEXT ASSY	USED ON
APPLICATION	

PREPROD
 CHANGE BY ECO ONLY

MFG *[Signature]* 11-6-80

PARTS LIST

ITEM NO.	QTY PER ASSY		DWG SIZE	FSCM	PART OR IDENTIFYING NO.	DESCRIPTION	SYM
	G1	G2					
1	1	1			5977177G1	CIRCUIT CARD SUBASSY MAPPING MEMORY	
2	6	6	B		4170692G1	INDUCTOR LI-6,	
3	1	1	D		1086608P18	CONNECTOR, ELECTRICAL PC BOARD (98 PIN) P1,	#
4	1	1			5977193P3	PROGRAMMED PROM U36,	
5	1	1			5977193P4	PROGRAMMED PROM U83,	
6	1	1			5977193P2	PROGRAMMED PROM U117,	
7	1	1			5977193P1	PROGRAMMED PROM U137,	
8	2	2	A		600107P1	EJECTOR, CARD W/HARDWARE	#
9	2	2	A		630003P14	EYELET, METALLIC	#
10	1	1			M39014/01-1207	CAP. MIL-C-39014/1 22 P FARAD+ 10- 10% 200 WVDC C11,	
11	4	4			M39003/01-2271	CAP. MIL-C-39003/1 22 U FARAD+ 10- 10 % 15 WVDC C2,12,13,14,	
12	4	4			M39003/01-2289	CAP. MIL-C-39003/1 15 U FARAD+ 10- 10% 20 WVDC C5,8,9,10,	
13	82	82		04222	DG015E103MAA	CAP. .01 U FARAD+ 80- 20% 50 WVDC C1,3,4,6,7, 16-32,65-70,103-108,141-149,182-214,216-221,	
13A	REF	REF		56289	923CZ5U103M050B	CAP. .01 U FARAD C1,3,4,6,7,16-32,65-70,103-108, 141-149,182-214,216-221,	
15	126	126		04222	DG015E104MAA	CAP. .1 U FARAD+ 80- 20% 50 WVDC C33-47,49-63, 71-102,109-140,150-181,	
15A	REF	REF		56289	923CZ5U104M050B	CAP. .1 U FARAD C33-47,49-63,71-102,109-140, 150-181,	
17	9	9		80031	9S08E13A22R0GL1	RES PACK (4) 9S08E13A22R0GL001 22 OHMS U150,151, 154,156-161,	
17A	REF	REF		73138	784-3-R22	RES PACK 22 OHMS + 2- 2% .125 WATT U150,151,154, 156-161,	
18	8	8		80031	9S10E13A1001GL2	RES PACK (9) 9S10E13A1001GL002 1 K OHMS U148, 149,152,153,155,162-164,	
18A	REF	REF		73138	785-1-R1K	RES PACK (9) 1 K OHMS + 2- 2% .125 WATT U148, 149,152,153,155,162-164,	
19	1	1			RCR07G102JS	RES MIL-R-39008/1 1 K OHMS + 5- 5% .25 WATT R3,	
20	1	1			RCR20G361JS	RES MIL-R-39008/2 360 OHMS + 5- 5% .5 WATT R1,	
21	1	1			RCR07G331JS	RES MIL-R-39008/1 330 OHMS + 5- 5% .25 WATT R2,	

3. SHEET ONE REVISION LETTER IS THE CONTROLLING REVISION FOR THIS MULTISHEET DWG
 2. SEE SHEET ONE FOR REVISION DESCRIPTIONS
 1. SYMBOL # INDICATES VENDOR ITEM - SEE SPEC/SOURCE CONTROL DWG.

SIZE	FSCM NO.
A	94117
PL 5 9 7 7 1 7 6	
REV	SHEET
B	2

PARTS LIST

ITEM NO.	QTY PER ASSY		DWG SIZE	FSCM	PART OR IDENTIFYING NO.	DESCRIPTION	SYM
	G1	G2					
22	1	1	34335	AM2940PC	MED, DMA ADDRESS GENERATOR U78,		
23	4	4	01295	SN74S00N	MED, QUADR, 2-INP NAND GATE U113,115,125,144,		
24	1	1	01295	SN74S02N	MED, QUAD 2-INP NOR GATE U147,		
25	5	5	01295	SN74S04N	MED, BUFFER/INVERTER U116,118,119,138,146,		
26	1	1	01295	SN74S08N	MED, GATES, AND/NAND U139,		
27	2	2	01295	SN74S10N	MED, TRIPLE 3-INP NAND GATE U127,136,		
28	1	1	01295	SN74S11N	MED, TRIPLE 3-INP POS AND GATE U145,		
29	2	2	01295	SN74S20N	MED, DUAL 4-INP NAND GATE U105,106,		
30	1	1	01295	SN74LS27N	MED, TRIPLE 3-INP NOR GATE U143,		
31	1	1	01295	SN74S33N	MED, QUAD 2-INP NAND OPEN COLL U104,		
32	3	3	01295	SN74S74N	MED, DUAL D-TYPE POS EDGE-TRIG		
33	2	2	01295	SN74LS85N	FF WITH PRESET AND CLR U126,128,140, MED, 4-BIT MAGNITUDE COMP SEPARATE A-B OUTPUT U141,142,		
34	1	1	01295	SN74LS266N	MED, 2-INP EXCL NOR GATE OPEN COLL U135,		
35	3	3	01295	SN74S157N	MED, QUAD, 2-INP DATA SEL/MUX U103,107,124,		
36	2	2	01295	SN74LS164N	MED, 8-BIT GATED SERIAL IN PARALLEL-OUT SHIFT REG U109,129,		
37	2	2	01295	SN74S240N	MED, OCTAL BUS DR INV 3-STATE U102,112,		
38	1	1	01295	SN74LS245N	MED, OCTAL BUS TRANSCIEVER 3-STATE U2,		
39	8	8	01295	SN74S253N	MED, DUAL 4-INP MUX, 3-STATE U7,9,32,34,58,60, 79,81,		
41	8	8	07263	F74LS533PC	MED, 8-BIT LATCH TRANSPARENT D-TYPE INV 3-STATE U6,8,33,35,57,59,80,82,		
42	10	10	01295	SN74S374N	MED, OCTAL D-TYPE EDGE-TRIG FF 3-STATE U28,100, 101,110,111,120,121,122,130,131,		
43	1	1	01295	SN74LS244N	MED, OCTAL BUS DR NON-INV 3-STATE, CMLPM C ONT U10,		
44	8	8	07263	74F299PC	MED, 8-INP UNIVERSAL SHIFT/STORAGE RE U4,5,29, 30,31,54,55,56,		
44A	REF	REF	01295	SN74S299N	MED, 8-BIT UNIVERSAL SHIFT REG 3-STATE U4,5,29, 30,31,54,55,56,		
45	64	64	50088	MK4116N-2	MED, 16384X1 RAM U11-26,37-52,62-77,84-99,		
45A	REF	REF	07263	F4116-2PC	MED, 16384 X 1 DYNAMIC U11-26,37-52,62-77,84-99,		

3. SHEET ONE REVISION LETTER IS THE CONTROLLING REVISION FOR THIS MULTISHEET DWG
 2. SEE SHEET ONE FOR REVISION DESCRIPTIONS
 1. SYMBOL † INDICATES VENDOR ITEM - SEE SPEC/SOURCE CONTROL DWG.

SIZE	FSCM NO.
A	94117
PL 5 9 7 7 1 7 6	
REV B	SHEET 3

PARTS LIST

ITEM NO.	QTY PER ASSY		DWG SIZE	FSCM	PART OR IDENTIFYING NO.	DESCRIPTION	SYM
	G1	G2					
45B	REF	REF		34335	AM9016FFPC	MED, 1638X1 DYNAMIC U11-26,37-52,62-77,84-99,	
40	1	1		81349	IN4148-1	SEMICOND DEVICE, DIODE CR8,	
47	1	1		07688	IN751A	SEMICOND DEVICE, DIODE CR7,	
48	6	6		07688	IN3613	SEMICOND DEVICE, DIODE CR1-6,	
48A	REF	REF		12969	UT4010	DIODE CR1-6,	
49	5	5		81073	76RSB08S	SWITCH, DIP 8PST U114,123,132,133,134,	
50	4	4		19112	102-16-CCB	SOCKET, IC 16 PIN XU1,3,27,108,	
51	2	2		07707	6010	EYELET	
52	5	5	A		278002P13	WIRE, ELEC AWG 22	‡
53	IN	IN	E		5977178	LOGIC DIAGRAM MAPPING (PIXEL) MEMORY	
54	REF	REF	A		93002P1	SOLDER	
55	AR	AR	A		815003	PW AND CKT BD, REQ'T FOR	
57	REF	REF	A	19112	102-20-CCB	SOCKET, 20 PIN XU36,83,117,137,	
58	4	4		07263	F74F04PC	MED, HEX INV U53,	
60	1	1			5977193P5	PROGRAMMED PROM U955	
61	1	1			5977193P6	PROGRAMMED PROM U837	
62	1	1			5977193P7	PROGRAMMED PROM U137	
63	1	1			5977254G1	HEADER ASSY U108	
64	1	1			5977254G2	HEADER ASSY U13,27	
65	1	1			4171182 P1	LABEL	
66	REF	REF	A		4171131	PROCEDURE FOR HANDLING MOS DEVICES	

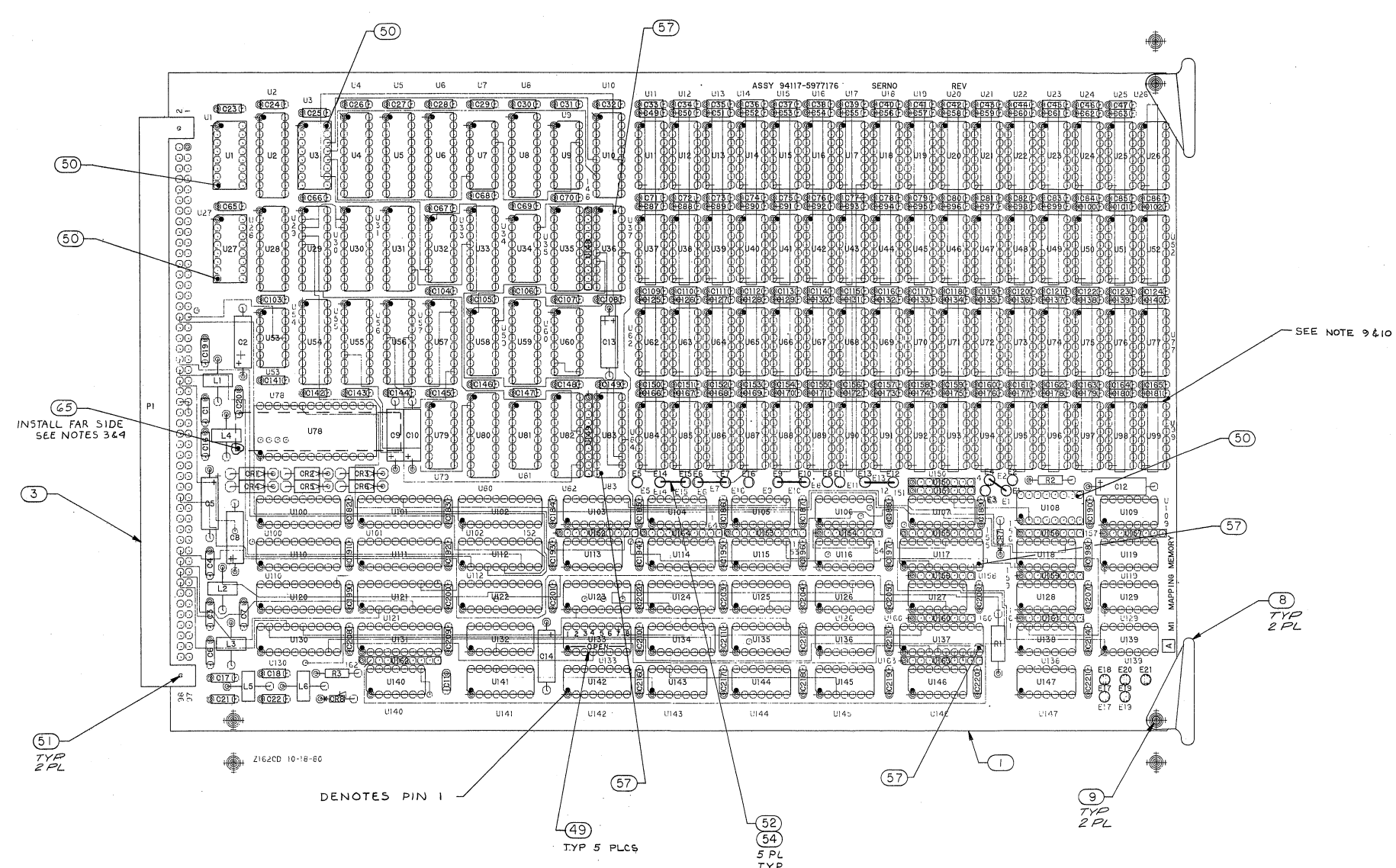
3. SHEET ONE REVISION LETTER IS THE CONTROLLING REVISION FOR THIS MULTISHEET DWG
 2. SEE SHEET ONE FOR REVISION DESCRIPTIONS
 1. SYMBOL ‡ INDICATES VENDOR ITEM - SEE SPEC/SOURCE CONTROL DWG.

SIZE
A

FSCM NO.
94117

PL 5 9 7 7 1 7 6
 REV A SHEET 4

REVISIONS				
ZONE	LTR	DESCRIPTION	DATE	APPROVED
A		REL FOR PREPROD	5/24/80	HAS/WL
B		REV PER ECO 97123	10/28/80	HAS/WL



- 10. MOS DEVICES U11-26, 37-52, 62-77, 84-99.
- 9. WARNING: MOS DEVICES REQUIRE SPECIAL HANDLING. SEE ITEM 6G.
- 7. SOLDER TIPS OR WIRE TO BE .09 MAX FROM BOARD
- 6. MAX COMPONENT HEIGHT TO BE .440.
- 5. OTHER THAN SPECIFICALLY NOTED, CHARACTERS ARE REFERENCE AND NOT TO BE MARKED.
- 4. MARK PART NO., SERNO AND REV PERMANENT AND LEGIBLE. MARKING METHOD OPTIONAL.

- 3. PARTS LIST SHEET ONE IS THE CONTROLLING FOR THE COMBINED PARTS LIST AND DRAWING.
- 2. THIS ASSY SHALL MEET THE REQUIREMENTS OF:
- 1. SHOP TOLERANCES AND DRAWING INTERPRETATION WITHIN B15002 SUPPLEMENT THIS DRAWING.

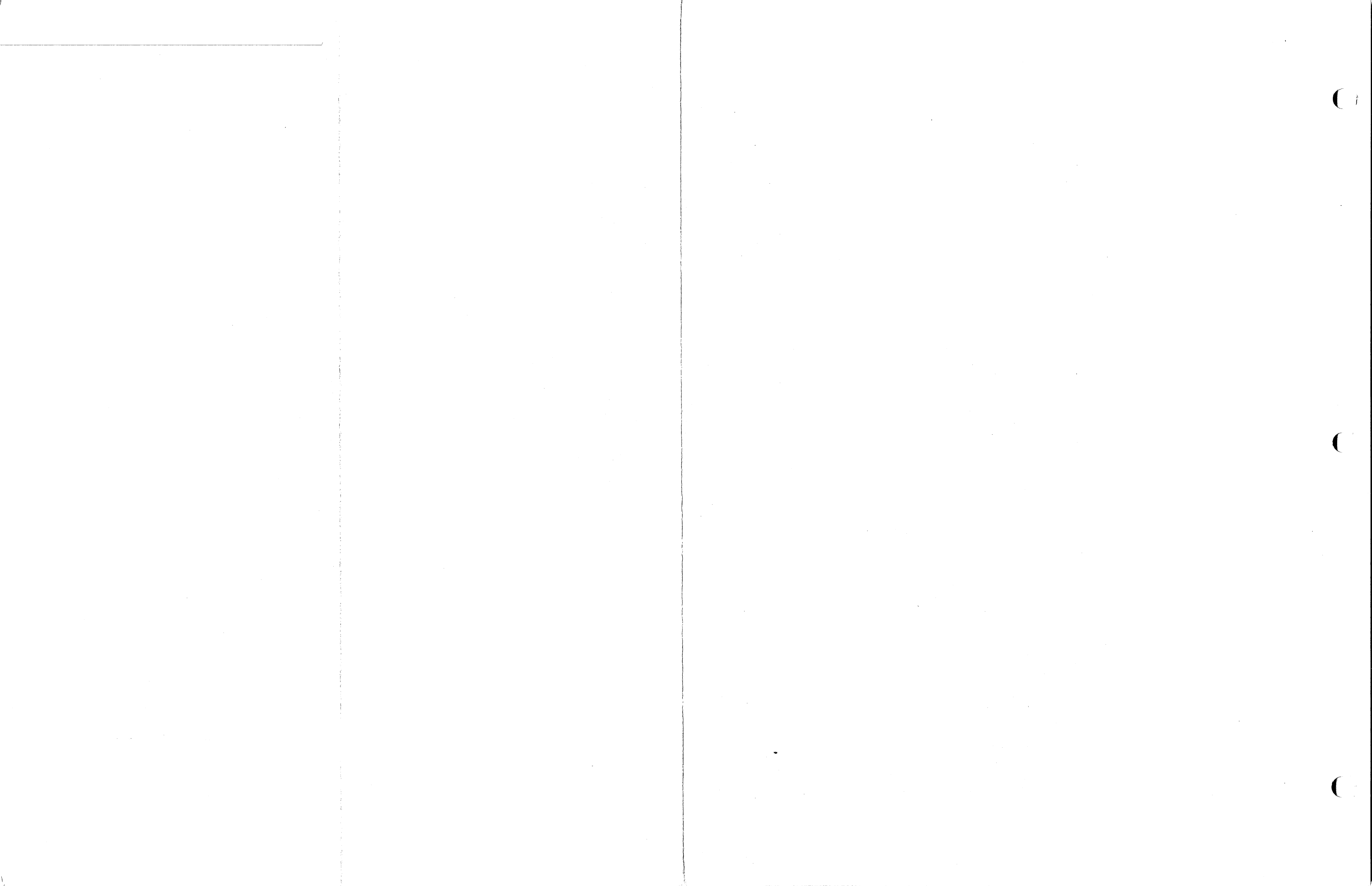
NOTES: UNLESS OTHERWISE SPECIFIED

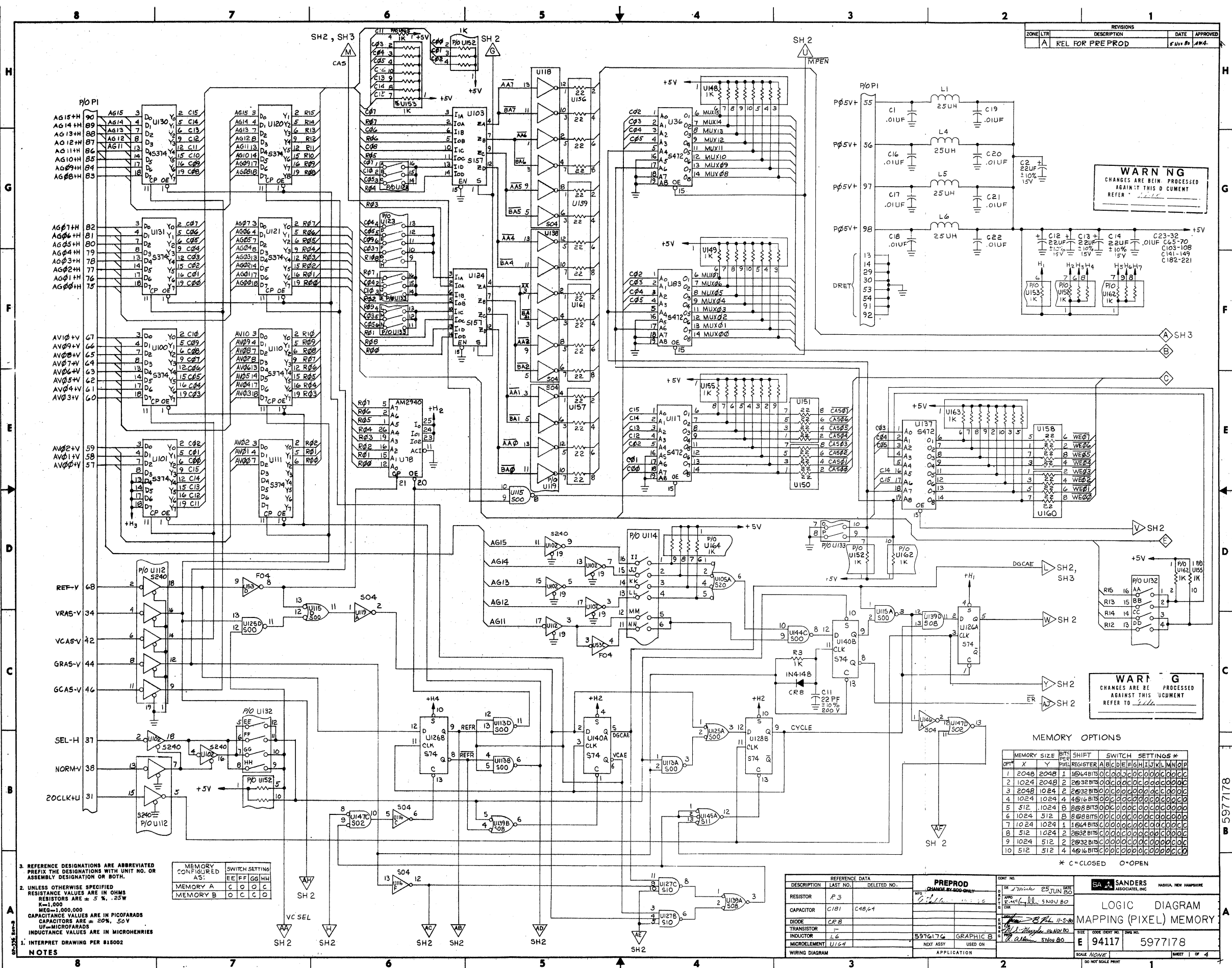
WARNING
CHANGES ARE BEING PROCESSED
AGAINST THIS DOCUMENT
REFER TO 97112

QTY	PER	ASSY	ITEM	SIZE	PART OR IDENTIFYING NO.	DESCRIPTION
PARTS LIST						
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES			CONTY NO.			
.XX DECIMAL			D OR 9 ALL 2 PL DATE			
.XXX DECIMAL			APPROV. BY DATE			
ANGLES			E/DENY/Rev 11-5-80			
FINAL GRAPHIC-8			PREPROD			
NEXT ASSY USED ON			CHANGE BY ECO ONLY			
APPLICATION			MFG 11-1-78			
SCALE 2/1			SHEET 1 OF 1			

SANDERS ASSOCIATES, INC. MARINA, NEW HAMPSHIRE
CIRCUIT CARD ASSY
MAPPING MEMORY
SIZE CODE IDENT NO. 94117
DWG NO. 5977176

5977176





ZONE	LTN	REVISIONS	DATE	APPROVED
A	REL FOR PREPROD			

WARNING
 CHANGES ARE BEING PROCESSED
 AGAINST THIS DOCUMENT
 REFER TO 5/11/80

WARNING
 CHANGES ARE BEING PROCESSED
 AGAINST THIS DOCUMENT
 REFER TO 5/11/80

MEMORY OPTIONS

MEMORY SIZE	BITS PER REGISTER	SHIFT REGISTER	SWITCH SETTINGS
1 2048	2048	1	00000000000000000000
2 1024	2048	2	00000000000000000000
3 2048	1024	2	00000000000000000000
4 1024	1024	4	00000000000000000000
5 512	1024	8	00000000000000000000
6 1024	512	8	00000000000000000000
7 1024	1024	1	00000000000000000000
8 512	1024	2	00000000000000000000
9 1024	512	2	00000000000000000000
10 512	512	4	00000000000000000000

* C=CLOSED O=OPEN

3. REFERENCE DESIGNATIONS ARE ABBREVIATED PREFIX THE DESIGNATIONS WITH UNIT NO. OR ASSEMBLY DESIGNATION OR BOTH.
2. UNLESS OTHERWISE SPECIFIED RESISTANCE VALUES ARE IN OHMS RESISTORS ARE ± 5% .25W K=1,000 MEG=1,000,000 CAPACITANCE VALUES ARE IN PICOFARADS CAPACITORS ARE ± 20% .50V U=MICROFARADS INDUCTANCE VALUES ARE IN MICROHENRIES
1. INTERPRET DRAWING PER 915002

MEMORY CONFIGURED AS:	SWITCH SETTING
MEMORY A	EEFFGGHH
MEMORY B	CCDDCC

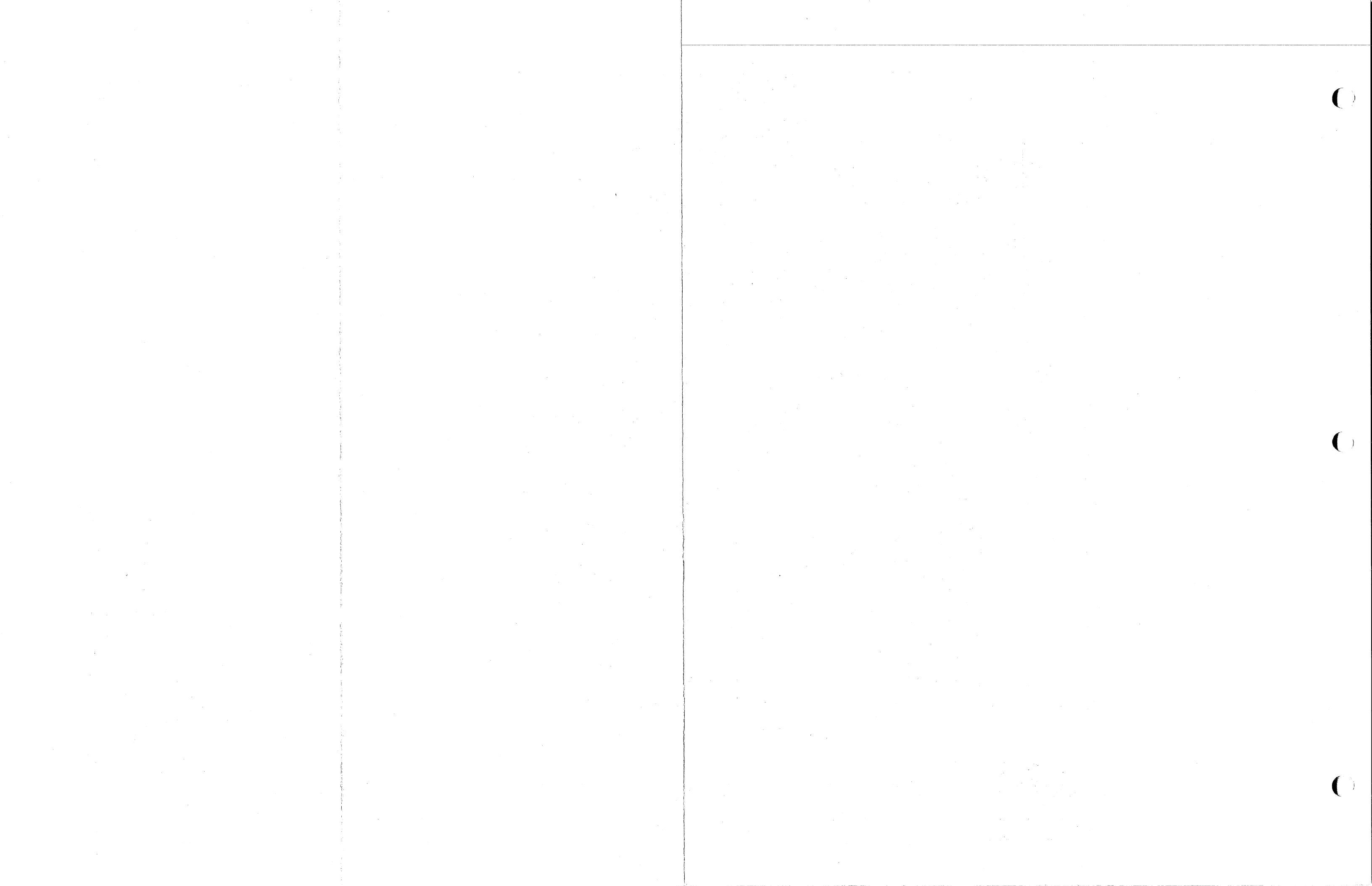
DESCRIPTION	LAST NO.	DELETED NO.	PREPROD	DATE	BY	CHKD
RESISTOR	R3		5/11/80	25 JUN 80		
CAPACITOR	C181	C48,64		5 NOV 80		
DIODE	CR8					
TRANSISTOR						
INDUCTOR	L6					
MICROELEMENT	U164					

WIRING DIAGRAM

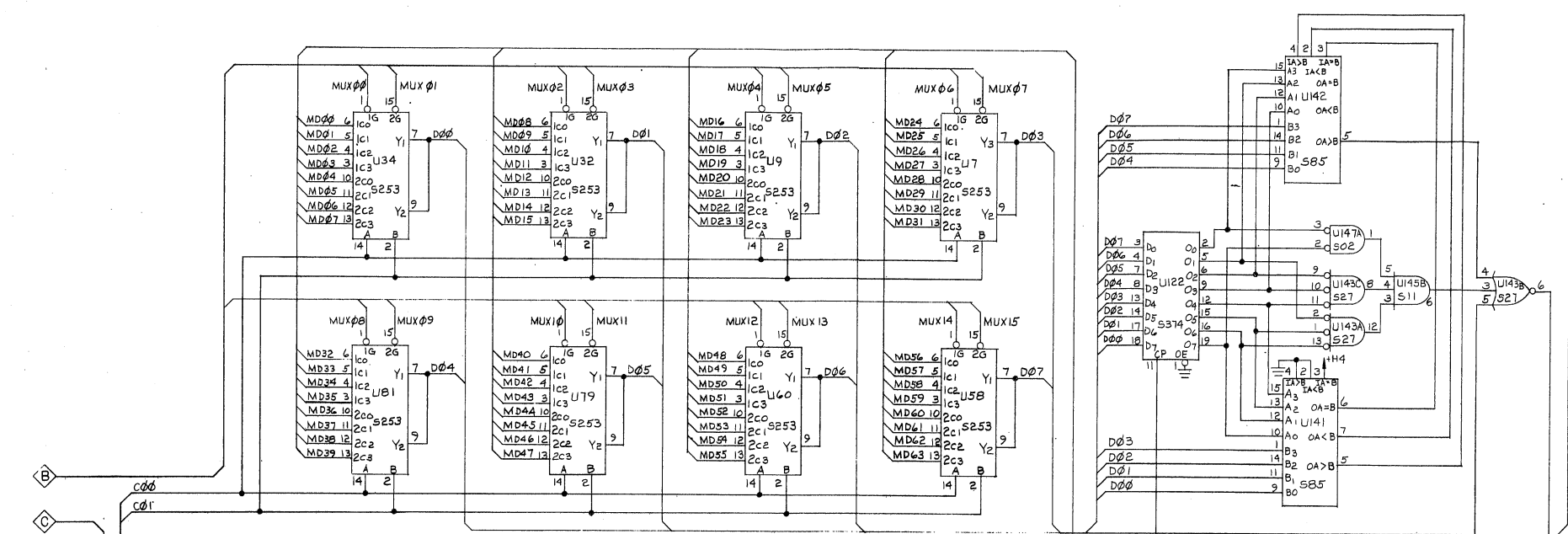
DESCRIPTION	LAST NO.	DELETED NO.	PREPROD	DATE	BY	CHKD
RESISTOR	R3		5/11/80	25 JUN 80		
CAPACITOR	C181	C48,64		5 NOV 80		
DIODE	CR8					
TRANSISTOR						
INDUCTOR	L6					
MICROELEMENT	U164					

LOGIC DIAGRAM
 MAPPING (PIXEL) MEMORY

E 94117 5977178



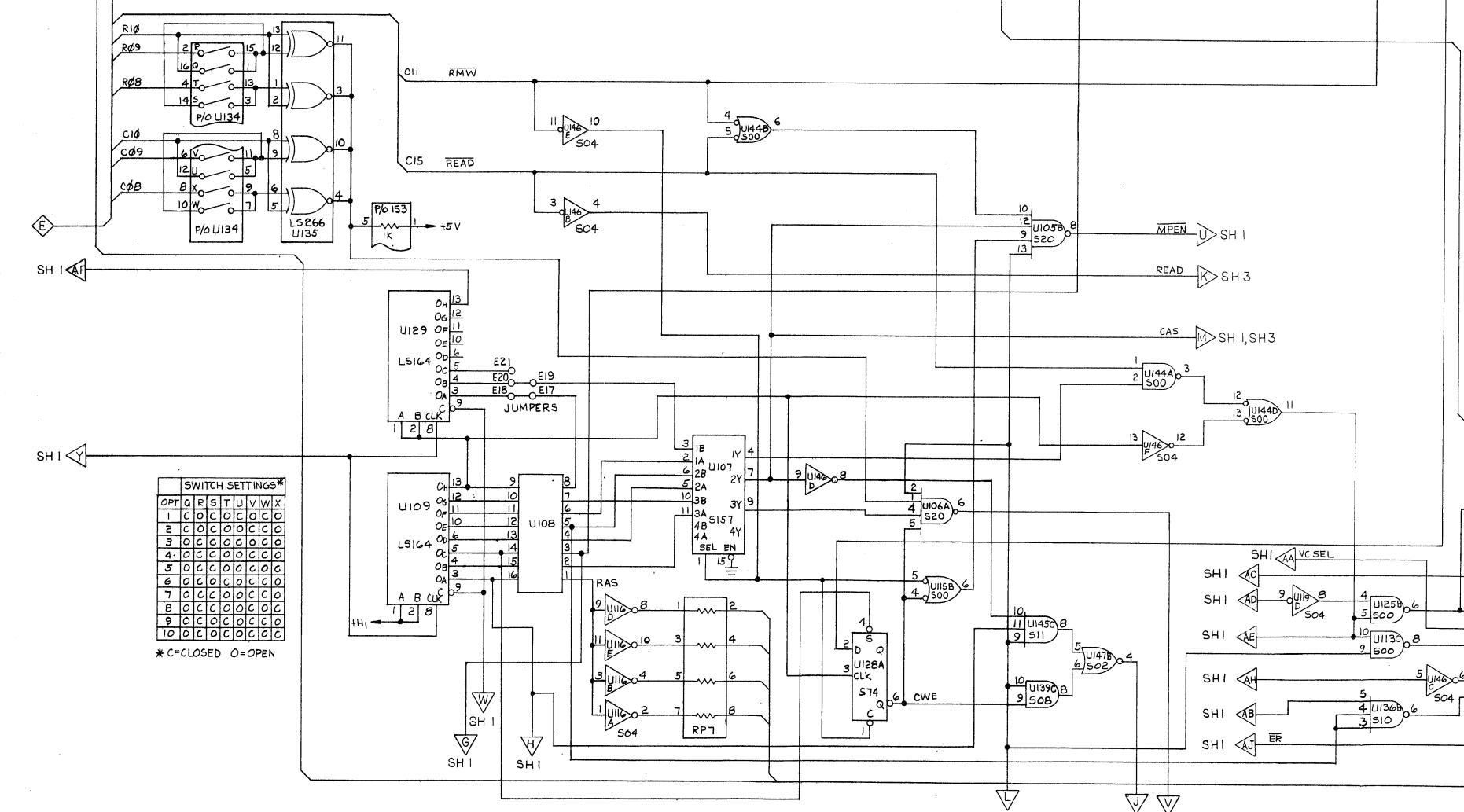
REVISIONS			
ZONE/LTR	DESCRIPTION	DATE	APPROVED
A	REL FOR PREPROD	5 Nov 80	[Signature]



SPARE GATES/PARTS				
QTY	TYPE GATE/PART	GATE LOCATION	UNUSED PINS	PART NO.
1	4 INPUT NAND	U106	8,9,10,12,13	74S20
2	DIP SWITCH	U114		76RSB05
1	3 INPUT NAND	U127	1,2,12,13	74S10
1	3 INPUT NAND	U136	8,9,10,11	74S10
5	1K PULL UP RES	U164	2,3,4,5,10	785-1-R1K
4	1K PULL UP RES	U162	3,4,5,6	
1	1K PULL UP RES	U149	2	
1	1K PULL UP RES	U148	2	785-1-R1K

MEMORYCARD	SWITCH SETTINGS *
SUPPORTS:	AABBCCDDJJJKLLMMNN
DISPLAY 1	000000000000
DISPLAY 2	000000000000
DISPLAY 3	000000000000
DISPLAY 4	000000000000
DISPLAY 5	000000000000
DISPLAY 6	000000000000
DISPLAY 7	000000000000
DISPLAY 8	000000000000
DISPLAY 9	000000000000
DISPLAY 10	000000000000
DISPLAY 11	000000000000
DISPLAY 12	000000000000
DISPLAY 13	000000000000
DISPLAY 14	000000000000
DISPLAY 15	000000000000
DISPLAY 16	000000000000
DISPLAY 17	000000000000
DISPLAY 18	000000000000
DISPLAY 19	000000000000
DISPLAY 20	000000000000

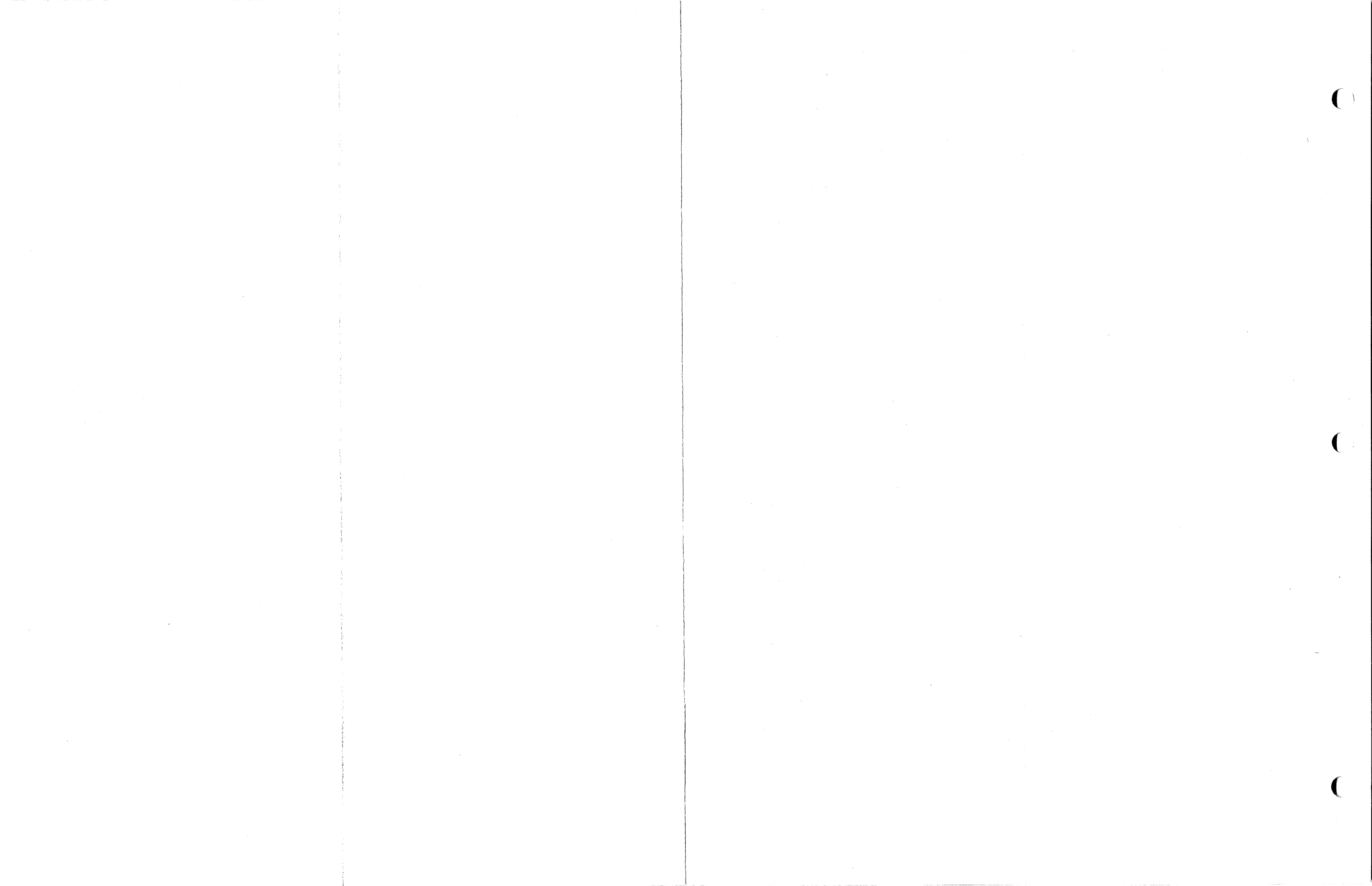
* C=CLOSED O=OPEN



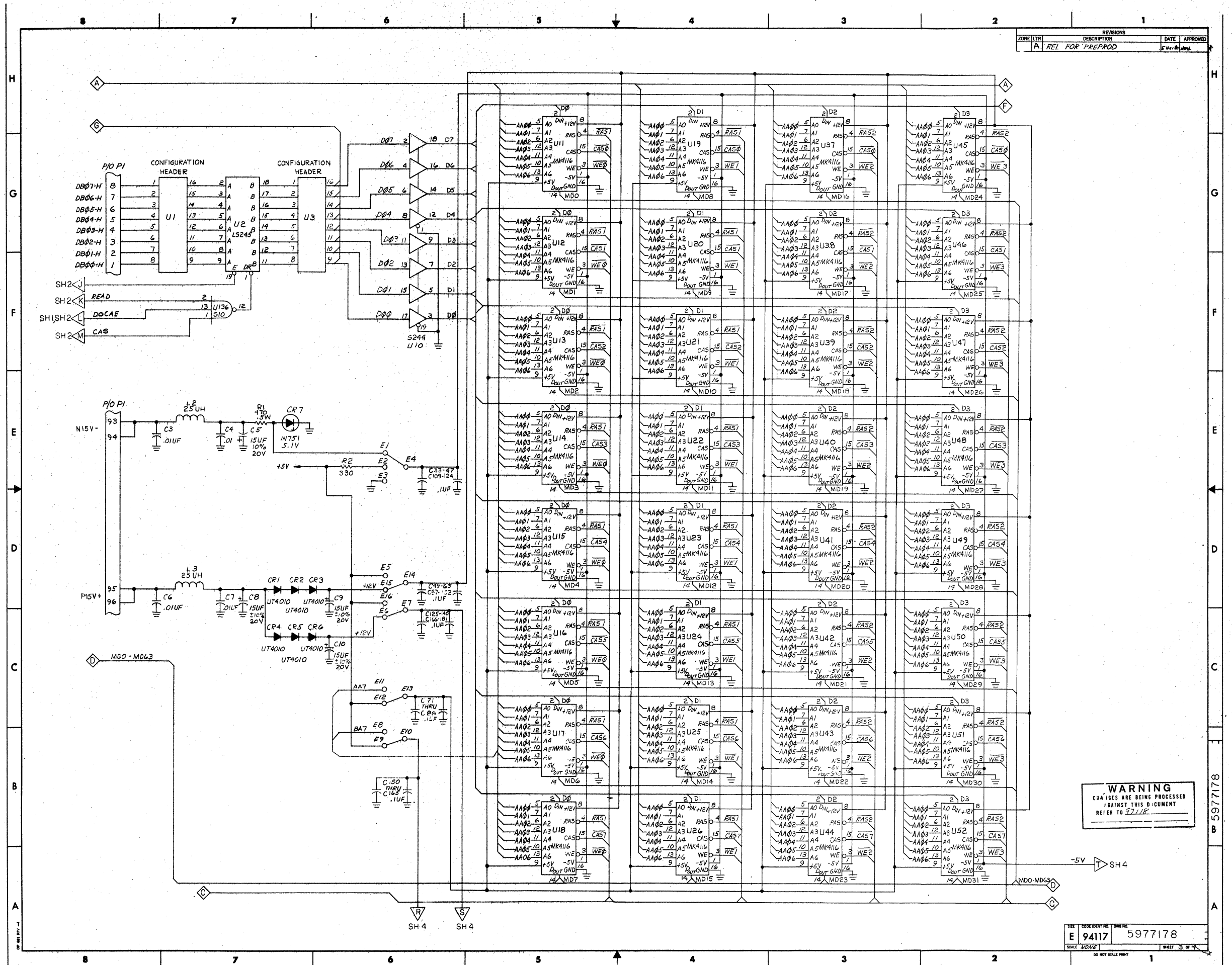
SWITCH SETTINGS*										
OPT	G	R	S	T	U	V	W	X	Y	Z
1	C	O	C	O	C	O	C	O	C	O
2	C	O	C	O	C	O	C	O	C	O
3	C	O	C	O	C	O	C	O	C	O
4	C	O	C	O	C	O	C	O	C	O
5	C	O	C	O	C	O	C	O	C	O
6	C	O	C	O	C	O	C	O	C	O
7	C	O	C	O	C	O	C	O	C	O
8	C	O	C	O	C	O	C	O	C	O
9	C	O	C	O	C	O	C	O	C	O
10	C	O	C	O	C	O	C	O	C	O

* C=CLOSED O=OPEN

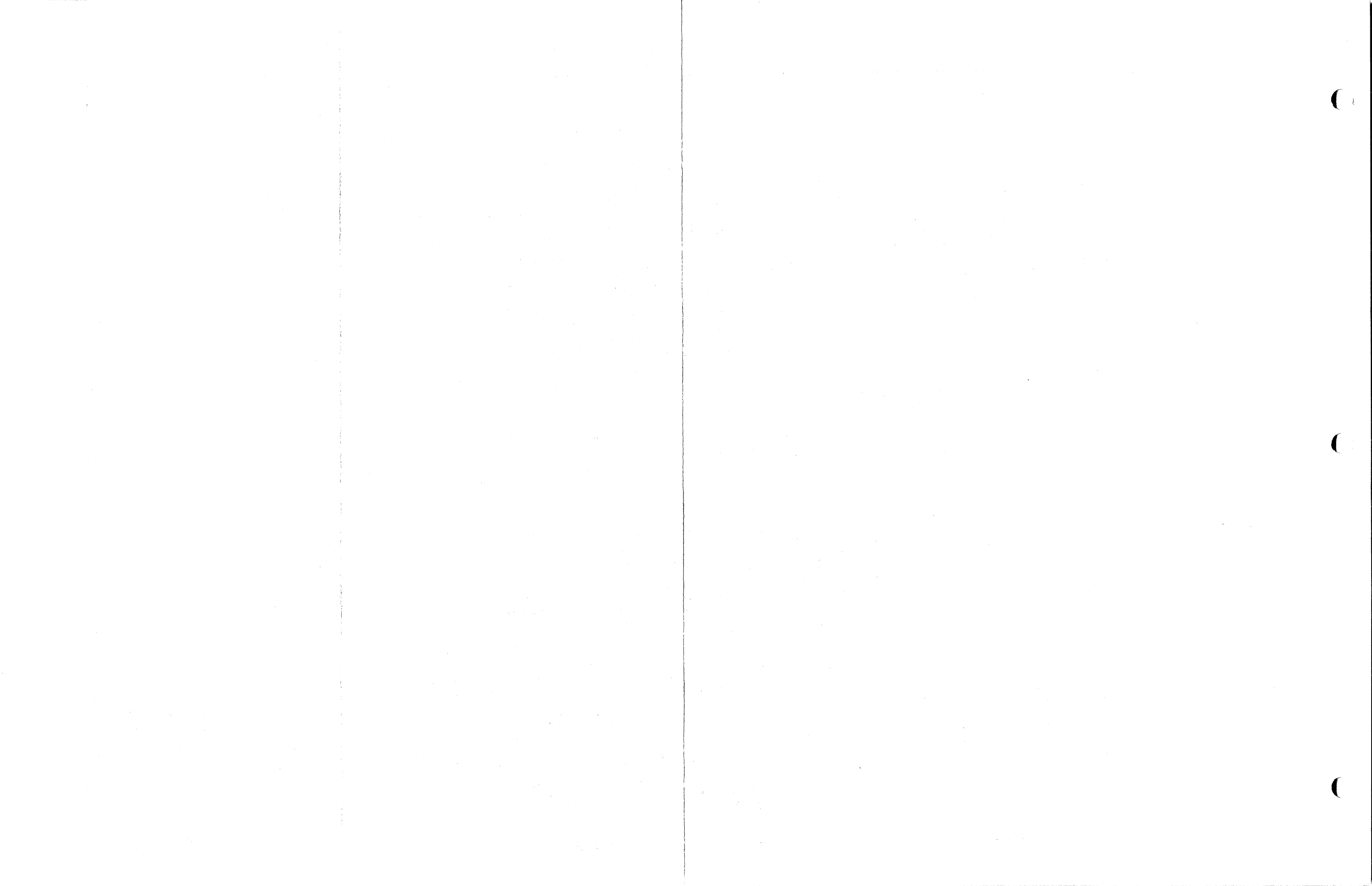
WARNING
CHANGES ARE BEING PROCESSED
AGAINST THIS DOCUMENT
REFER TO [Signature]

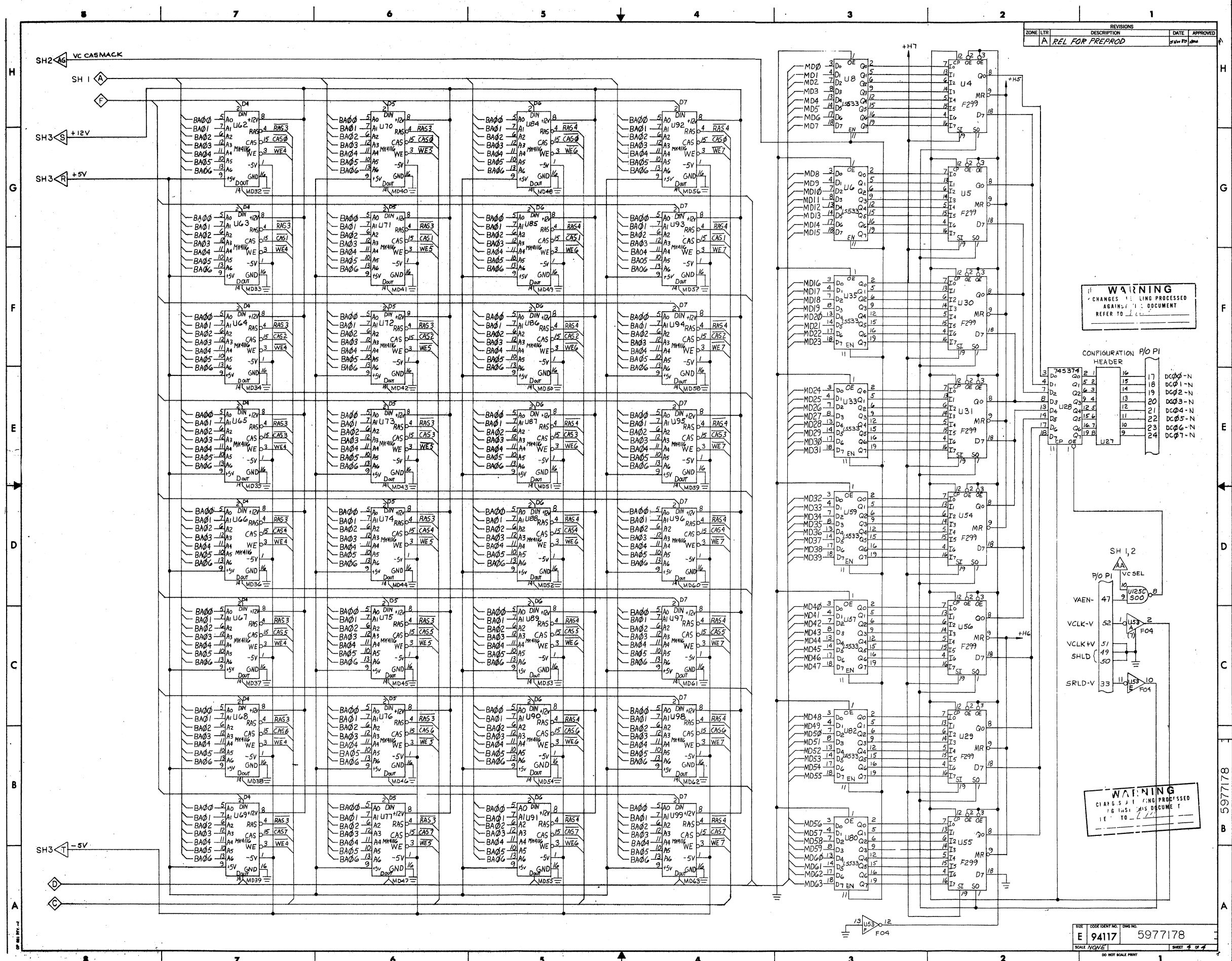


ZONE	LTN	REVISIONS	DATE	APPROVED
A	REL FOR PREPROD			



WARNING
 CHANGES ARE BEING PROCESSED
 AGAINST THIS DOCUMENT
 REFER TO 27118





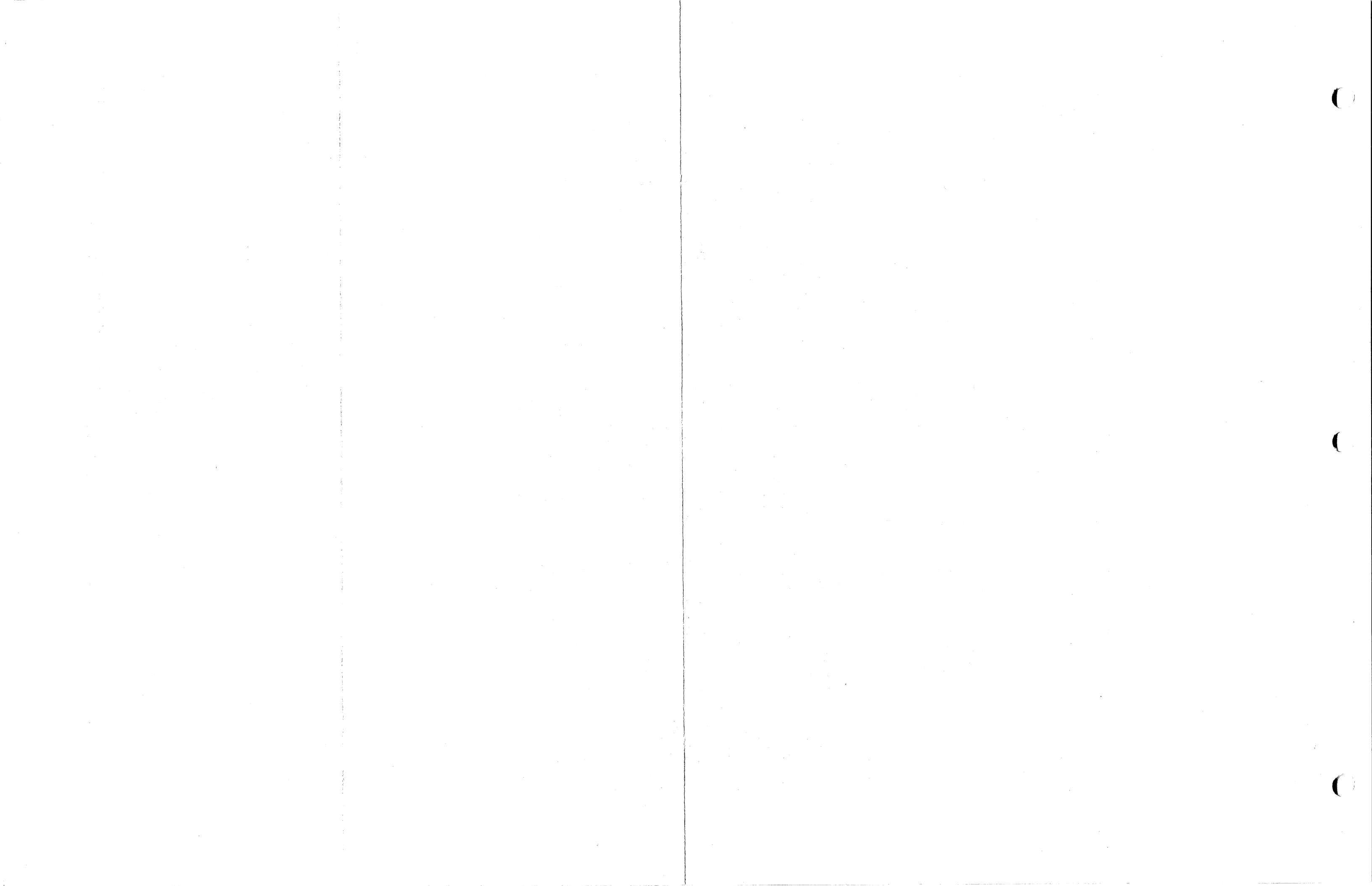
ZONE	LTR	DESCRIPTION	DATE	APPROVED
A		REL FOR PREPROD		

WARNING
 CHANGES BEING PROCESSED
 AGAINST THIS DOCUMENT
 REFER TO 11-1

CONFIGURATION P/O PI
 HEADER

17	DC00-N
18	DC01-N
19	DC02-N
20	DC03-N
21	DC04-N
22	DC05-N
23	DC06-N
24	DC07-N

WARNING
 CHANGES BEING PROCESSED
 AGAINST THIS DOCUMENT
 REFER TO 11-1



REVISIONS

REVISION STATUS

SH	1	2	3	4	5	6	7	8	9	10	11	12
REV	B	A	B	B								
SH	13	14	15	16	17	18	19	20	21	22	23	24
REV												

LTR	DESCRIPTION	DATE	APPROVED
-	REL FOR REPROD	09 JAN 81	MS
A	REV PER ECO 97122	13 MAR 81	EB/WL
B	REV PER ECO 97146	13 MAR 81	EB/WL

PARTS

LIST

DWG REV	B
WL REV	X

3. ITEM NUMBERS WITH SUBSCRIPTS ARE ALTERNATE ITEMS. SELECT ONE ONLY.
2. PARTS LIST SHEET ONE IS THE CONTROLLING REVISION FOR THE COMBINED PARTS LIST, DRAWING AND WIRE LIST.
1. SHOP PRACTICE TOLERANCES AND DRAWING INTERPRETATION WITHIN 815002 SUPPLEMENT THIS DRAWING.

PREPROD
CHANGE BY ECO ONLY

MFG *1-12-81*

CONT NO. *DR R. MARSHALL 6 JAN 81*

D	R	A	P	P	D	D	A	T	E
DATE	6 JAN 81								
CHK	<i>[Signature]</i>								
DEV	<i>[Signature]</i>								
E/M	<i>[Signature]</i>								
PROJ	<i>[Signature]</i>								

FINAL

NEXT ASSY

USED ON

APPLICATION

SA SANDERS ASSOCIATES, INC. NASHUA, NEW HAMPSHIRE

CIRCUIT CARD ASSY

MAPPING MEMORY 64K

CODE IDENT NO. **A 94117 PL 5802554**

SIZE **A**

SHEET 1 OF 4

PARTS LIST

ITEM NO.	QTY PER ASSY		DWG SIZE	FSCM	PART OR IDENTIFYING NO.	DESCRIPTION	SYM
	G1	G2					
1	1	1	B		5977177G1	CIRCUIT CARD SUBASSY MAPPING MEMORY	#
2	6	6	D		4170692G1	INDUCTOR L1-6,	
3	1	1			1086608P18	CONNECTOR, ELECTRICAL PC BOARD (98 PIN) P1,	
4	1	1			5977193P3	PROGRAMMED PROM U36,	
5	1	1			5977193P4	PROGRAMMED PROM U83,	
6	1	1			5977193P2	PROGRAMMED PROM U117,	
7	1	1			5977193P1	PROGRAMMED PROM U137,	
8	2	2	A		600107P1	EJECTOR, CARD W/HARDWARE	#
9	2	2	A		630003P14	EYELET, METALLIC	#
10	1	1			M39014701-1207	CAP. MIL-C-39014-1-22 P FARAD+ 5 5 500	
					CMOS FD131JP3	50-10% 200 WVDC	
11	4	4			M39003/01-2271	50-10% 200 WVDC C11, C222.	
12	4	4			M39003/01-2289	CAP. MIL-C-39003/1 22 U FARAD+ 10- 10 % 15 WVDC	
13	82	82		04222	DG015E103MAA	CAP. MIL-C-39003/1 15 U FARAD+ 10- 10% 20 WVDC	
13A	REF	REF		56289	923CZ5U103M050B	CAP. .01 U FARAD+ 80- 20% 50 WVDC C1,3,4,6,7, 16-32,65-70,103-108,141-149,182-214,216-221,	
15	94	126		04222	DG015E104MAA	CAP. .01 U FARAD+ 80- 20% 50 WVDC C33-47,49-63, 87-102,109-140,166-181,	
15A	REF	REF		56289	923CZ5U104M050B	CAP. .1 U FARAD C33-47,49-63,87-102,109-140, 166-181,	
17	9	9		80031	9S08E13A22R0GL1	RES PACK (4) 9S08E13A22R0GL001 22 OHMS U150,151, 154,156-161,	
17A	REF	REF		73138	784-3-R22	RES PACK 22 OHMS + 2- 2% .125 WATT U150,151,154, 156-161,	
18	8	8		80031	9S10E13A1001GL2	RES PACK (9) 9S10E13A1001GL002 1 K OHMS U148, 149,152,153,155,162-164,	
18A	REF	REF		73138	785-1-R1K	RES PACK (9) 1 K OHMS + 2- 2% .125 WATT U148, 149,152,153,155,162-164,	
19	1	1			RCR07G102JS	RES MIL-R-39008/1 1 K OHMS + 5- 5% .25 WATT R3,	
20	1	1			RCR20G471JS	RES MIL-R-39008/2 470 OHMS + 5- 5% .5 WATT R1,	
21	1	1			RCR07G331JS	RES MIL-R-39008/1 330 OHMS + 5- 5% .25 WATT R2,	

3. SHEET ONE REVISION LETTER IS THE CONTROLLING REVISION FOR THIS MULTISHEET DWG
 2. SEE SHEET ONE FOR REVISION DESCRIPTIONS
 1. SYMBOL † INDICATES VENDOR ITEM - SEE SPEC/SOURCE CONTROL DWG.

SIZE	FSCM NO.
A	94117
PL 5802554	
REV	SHEET
A	2

PARTS LIST

ITEM NO.	QTY PER ASSY		DWG SIZE	FSCM	PART OR IDENTIFYING NO.	DESCRIPTION	SYM
	G1	G2					
22	1	1		34335	AM2940PC	MED, DMA ADDRESS GENERATOR U78,	
23	4	4		01295	SN74S00N	MED, QUADR, 2-INP NAND GATE U113,115,125,144,	
24	1	1		01295	SN74S02N	MED, QUAD 2-INP NOR GATE U147,	
25	5	5		01295	SN74S04N	MED, BUFFER/INVERTER U116,118,119,138,146,	
26	1	1		01295	SN74S08N	MED, GATES, AND/NAND U139,	
27	1	1		01295	SN74S10N	MED, TRIPLE 3-INP NAND GATE U127,136,	
28	1	1		01295	SN74S11N	MED, TRIPLE 3-INP POS AND GATE U145,	
29	2	2		01295	SN74S20N	MED, DUAL 4-INP NAND GATE U105,106,	
30	1	1		01295	SN74LS27N	MED, TRIPLE 3-INP NOR GATE U143,	
31	1	1		01295	SN74S38N	MED, QUAD 2-INP NAND OPEN COLL U104,	
32	3	3		01295	SN74S74N	MED, DUAL D-TYPE POS EDGE-TRIG	
33	2	2		01295	SN74S05N SN74LS25N	FF WITH PRESET AND CLR U126,128,140, MED, 4-BIT MAGNITUDE COMP SEPARATE A-B OUTPUT U141,142,	
34	1	1		01295	SN74LS266N	MED, 2-INP EXCL NOR GATE OPEN COLL U135,	
35	3	3		01295	SN74S157N	MED, QUAD, 2-INP DATA SEL/MUX U103,107,124,	
36	2	2		01295	SN74LS164N	MED, 8-BIT GATED SERIAL IN PARALLEL-OUT SHIFT REG U109,129,	
37	2	2		01295	SN74S240N	MED, OCTAL BUS DR INV 3-STATE U102,112,	
38	1	1		01295	SN74LS245N	MED, OCTAL BUS TRANSCIEVER 3-STATE U2,	
39	8	8		01295	SN74S253N	MED, DUAL 4-INP MUX, 3-STATE U7,9,32,34,58,60, 79,81,	
41	8	8		07263	F74LS533PC	MED, 8-BIT LATCH TRANSPARENT D-TYPE INV 3-STATE	
42	10	10		01295	SN74S374N	U6,8,33,35,57,59,80,82, MED, OCTAL D-TYPE EDGE-TRIG FF 3-STATE U28,100,	
43	1	1		01295	SN74LS244N	101,110,111,120,121,122,130,131, MED, OCTAL BUS DR NON-INV 3-STATE, CEMPLM C ONT U10,	
44	8	8		07263	74F299PC	MED, 8-INP UNIVERSAL SHIFT/STORAGE RE U4,5,29, 30,31,54,55,56,	
44A	REF	REF		01295	SN74S299N	MED, 8-BIT UNIVERSAL SHIFT REG 3-STATE U4,5,29, 30,31,54,55,56,	
45	64	64		50088	MB8264-15	MED, 65536X1 RAM: U11-26,37-52,62-77,84-99,(FUJITSU)(NOTE3)	
45A	REF	REF		07263	F4116-2PC	MED, 16384 X 1 DYNAMIC U11-26,37-52,62-77,84-99,	
45A	REF	REF			HM4864-2	MED, 65536X1 RAM U11-26,37-52,62-77,84-87 (HITACHI) (NOTE3)	

3. SHEET ONE REVISION LETTER IS THE CONTROLLING REVISION FOR THIS MULTISHEET DWG
 2. SEE SHEET ONE FOR REVISION DESCRIPTIONS
 1. SYMBOL † INDICATES VENDOR ITEM - SEE SPEC/SOURCE CONTROL DWG.

SIZE FSCM NO.

A 94117 PL 58025554

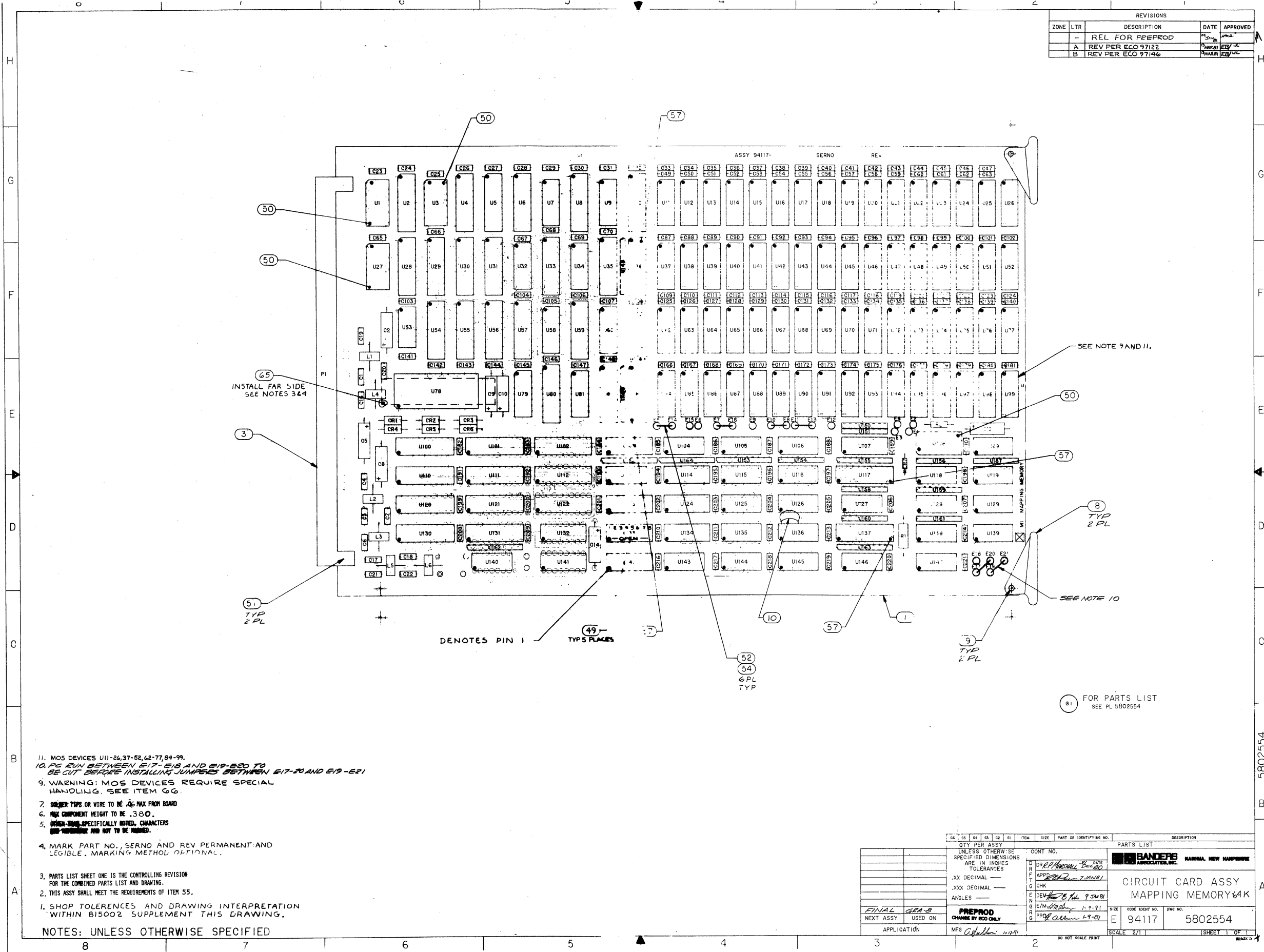
PARTS LIST

ITEM NO.	QTY PER ASSY		DWG SIZE	FSCM	PART OR IDENTIFYING NO.	DESCRIPTION	SYM
	G1	G2					
45B	REF	REF			M5K 4164-15	MED, 65536X1 RAM U11-26, 37-52, 62-77, 84-99 (MITSUBISHI) (NOTE 3)	
45B	REF	REF		34335	AM9016FPC	MED, 1638X1 DYNAMIC U11-26, 37-52, 62-77, 84-99, SEMICOND DEVICE, DIODE CR8,	
46	REF	REF		81349	IN4148-1	SEMICOND DEVICE, DIODE CR7,	
47	1	1		07688	IN751A	SEMICOND DEVICE, DIODE CR1-6,	
48	6	6		07688	IN3613	DIODE CR1-6,	
48A	REF	REF		12969	UT4010	SWITCH, DIP 8PST U114, 123, 132, 133, 134,	
49	5	5		81073	76RSB08S	SOCKET, IC 16 PIN XU1, 3, 27, 108,	
50	4	4		19112	102-16-CCB	EYELET	
51	2	2	A	07707	6010	WIRE, ELEC AWG 22	
52	5	5		278002P13			
53	IN	IN	E	5802555		LOGIC DIAGRAM MAPPING (PIXEL) MEMORY 64K	
54	REF	REF	A	93002P1		SOLDER	
55	AR	AR	A	815003		PW AND CKT BD, REQ'T FOR	
57	REF	REF	A	19112	102-20-CCB	SOCKET, 20 PIN XU36, 83, 117, 137,	
58	4	4		07263	F74F04PC	MED, HEX INV U53,	
60	1	1			5977193P5	PROGRAMMED PROM U36,	
61	1	1			5977193P6	PROGRAMMED PROM U83,	
62	1	1			5977193P7	PROGRAMMED PROM U137,	
63	1	1			5977264G1	HEADER ASSY U108,	
64	1	1			5977264G2	HEADER ASSY U137-27,	
65	1	1			4171182 P1	LABEL	
66	REF	REF	A	01295	4171131	PROCEDURE FOR HANDLING MOS DEVICES	
67	1	1			SN74LS10N	MED, TRIPLE 3-INP NAND GATE U127	

SIZE	FSCM NO.	REV B	SHEET 4
A	94117		
PL 5802554			

3. SHEET ONE REVISION LETTER IS THE CONTROLLING REVISION FOR THIS MULTISHEET DWG
 2. SEE SHEET ONE FOR REVISION DESCRIPTIONS
 1. SYMBOL † INDICATES VENDOR ITEM - SEE SPEC/SOURCE CONTROL DWG.

REVISIONS			
ZONE	LTR	DESCRIPTION	DATE APPROVED
-		REL FOR PREPROD	
A		REV PER ECO 97122	
B		REV PER ECO 97146	

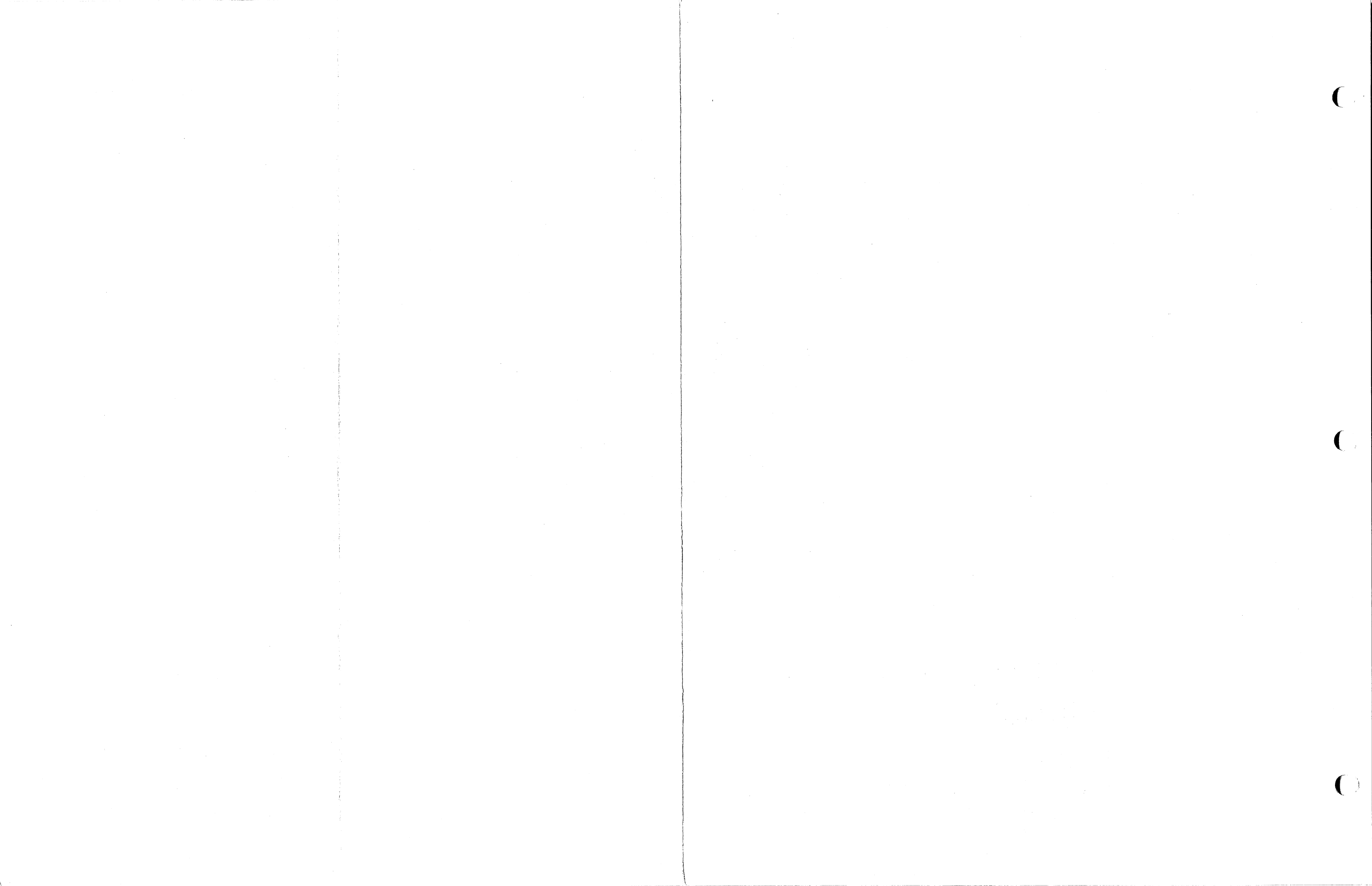


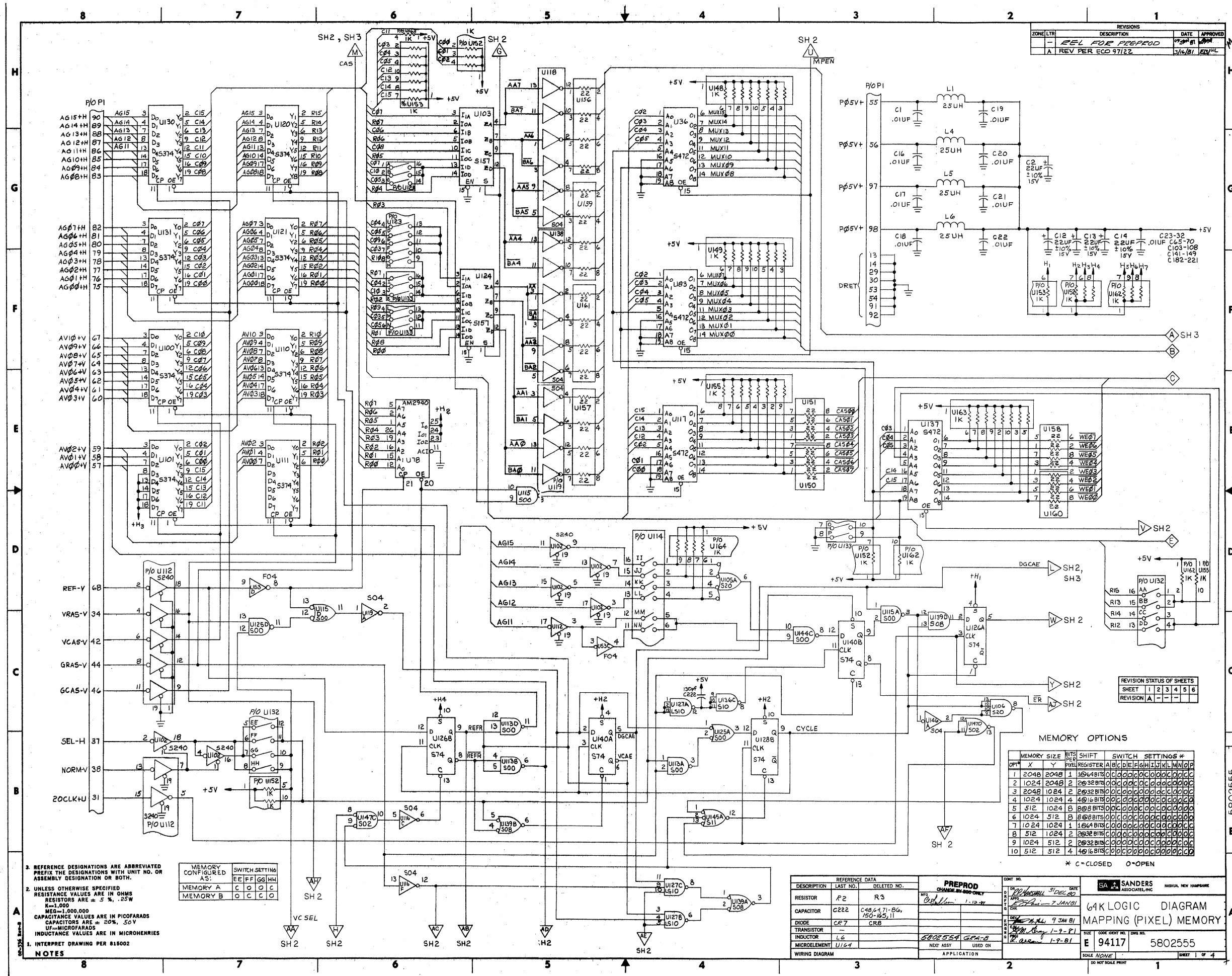
- 11. MOS DEVICES U11-26, 37-52, 62-77, 84-99.
 - 10. PC RUN BETWEEN E17-E18 AND E19-E20 TO BE CUT BEFORE INSTALLING JUMPER BETWEEN E17-E20 AND E19-E21
 - 9. WARNING: MOS DEVICES REQUIRE SPECIAL HANDLING. SEE ITEM 66.
 - 7. SOLDER TIPS OR WIRE TO BE .06 MAX FROM BOARD
 - 6. MAX COMPONENT HEIGHT TO BE .380.
 - 5. OTHER THAN SPECIFICALLY NOTED, CHARACTERS AND DIMENSIONS ARE NOT TO BE MARKED.
 - 4. MARK PART NO., SERNO AND REV PERMANENT AND LEGIBLE. MARKING METHOD OPTIONAL.
 - 3. PARTS LIST SHEET ONE IS THE CONTROLLING REVISION FOR THE COMBINED PARTS LIST AND DRAWING.
 - 2. THIS ASSY SHALL MEET THE REQUIREMENTS OF ITEM 55.
 - 1. SHOP TOLERANCES AND DRAWING INTERPRETATION WITHIN 815002 SUPPLEMENT THIS DRAWING.
- NOTES: UNLESS OTHERWISE SPECIFIED

QTY PER ASSY	DESCRIPTION	CONT NO.	DATE
	UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES		
	.XX DECIMAL		
	.XXX DECIMAL		
	ANGLES		
	APPROVED: [Signature]		
	DATE: 7 JAN 81		
	DEV: [Signature]		
	DATE: 9 JAN 81		
	E/M: [Signature]		
	DATE: 1-9-81		
	PPR: [Signature]		
	DATE: 1-9-81		
	PREPROD CHARGE BY ECO ONLY		
	APPLICATOR: MFG		
	DATE: 1-12-81		
	SCALE: 2/1		
	SHEET: 1 OF 1		

61 FOR PARTS LIST
SEE PL 5802554

5802554





REVISIONS			
ZONE	DATE	DESCRIPTION	APPROVED
A	3/16/81	REV PER ECG 97122	EDJ/ML

REVISION STATUS OF SHEETS						
SHEET	1	2	3	4	5	6
REVISION	A	-	-	-	-	-

MEMORY OPTIONS																			
OPT #	X	Y	PER REGISTER	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
1	2048	2048	1	16	4	8	16	32	64	128	256	512	1024	2048	4096	8192	16384	32768	
2	1024	2048	2	26	32	64	128	256	512	1024	2048	4096	8192	16384	32768	65536	131072		
3	2048	1024	2	26	32	64	128	256	512	1024	2048	4096	8192	16384	32768	65536	131072		
4	1024	1024	4	46	16	32	64	128	256	512	1024	2048	4096	8192	16384	32768	65536		
5	512	1024	8	86	8	16	32	64	128	256	512	1024	2048	4096	8192	16384	32768		
6	1024	512	8	86	8	16	32	64	128	256	512	1024	2048	4096	8192	16384	32768		
7	1024	1024	1	16	4	8	16	32	64	128	256	512	1024	2048	4096	8192	16384		
8	512	1024	2	26	32	64	128	256	512	1024	2048	4096	8192	16384	32768	65536	131072		
9	1024	512	2	26	32	64	128	256	512	1024	2048	4096	8192	16384	32768	65536	131072		
10	512	512	4	46	16	32	64	128	256	512	1024	2048	4096	8192	16384	32768	65536		

3. REFERENCE DESIGNATIONS ARE ABBREVIATED PREFIX THE DESIGNATIONS WITH UNIT NO. OR ASSEMBLY DESIGNATION OR BOTH.

2. UNLESS OTHERWISE SPECIFIED RESISTANCE VALUES ARE IN OHMS RESISTORS ARE ± 5%, 25W K=1,000 MEG=1,000,000 CAPACITANCE VALUES ARE IN PICOFARADS CAPACITORS ARE ± 20%, 50V UF=MICROFARADS INDUCTANCE VALUES ARE IN MICROHENRIES

1. INTERPRET DRAWING PER 815002

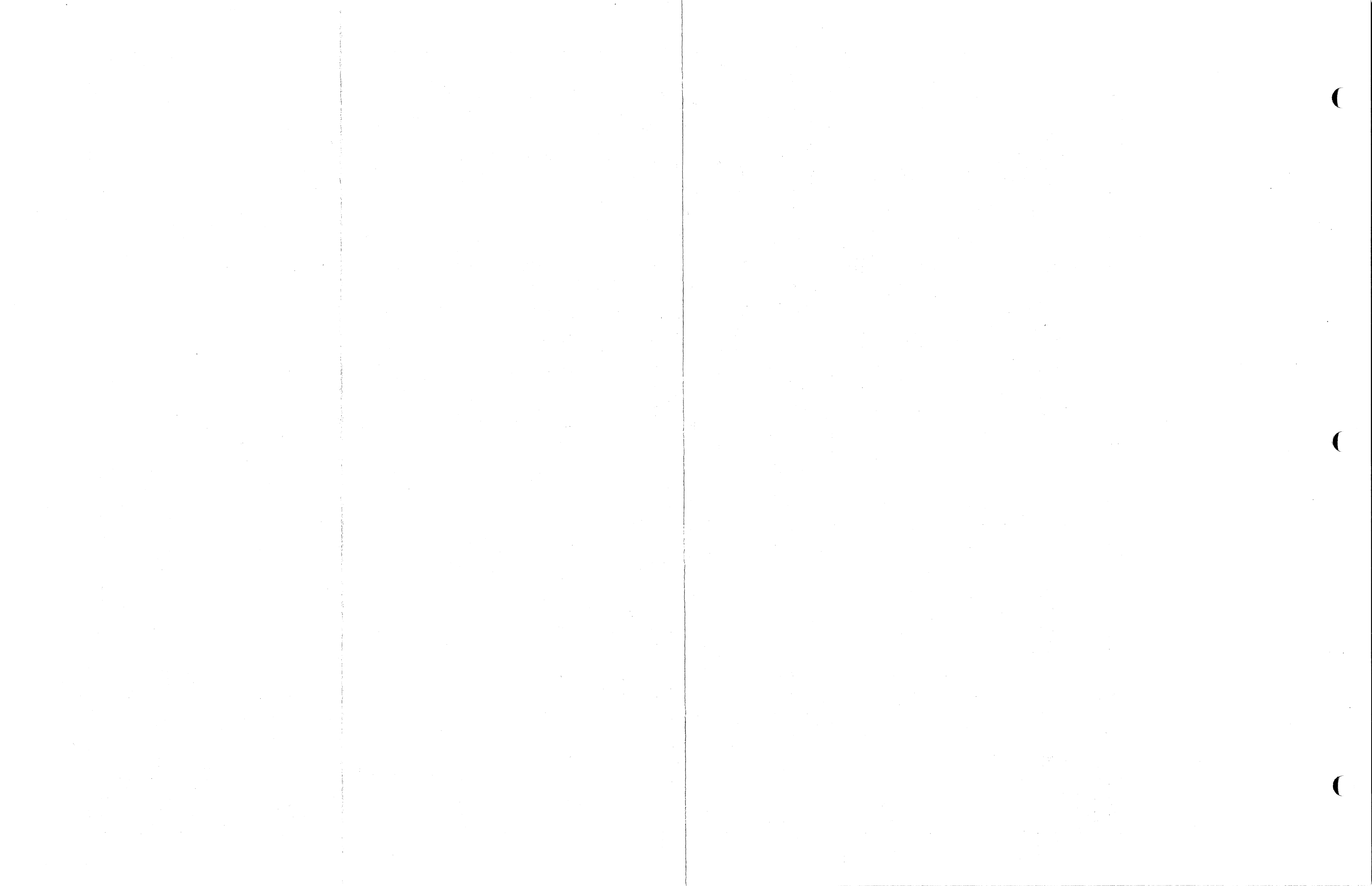
NOTES

MEMORY CONFIGURED AS:		SWITCH SETTING	
MEMORY A	C O O C	E E F F	G G H H
MEMORY B	O C C C	O C C C	

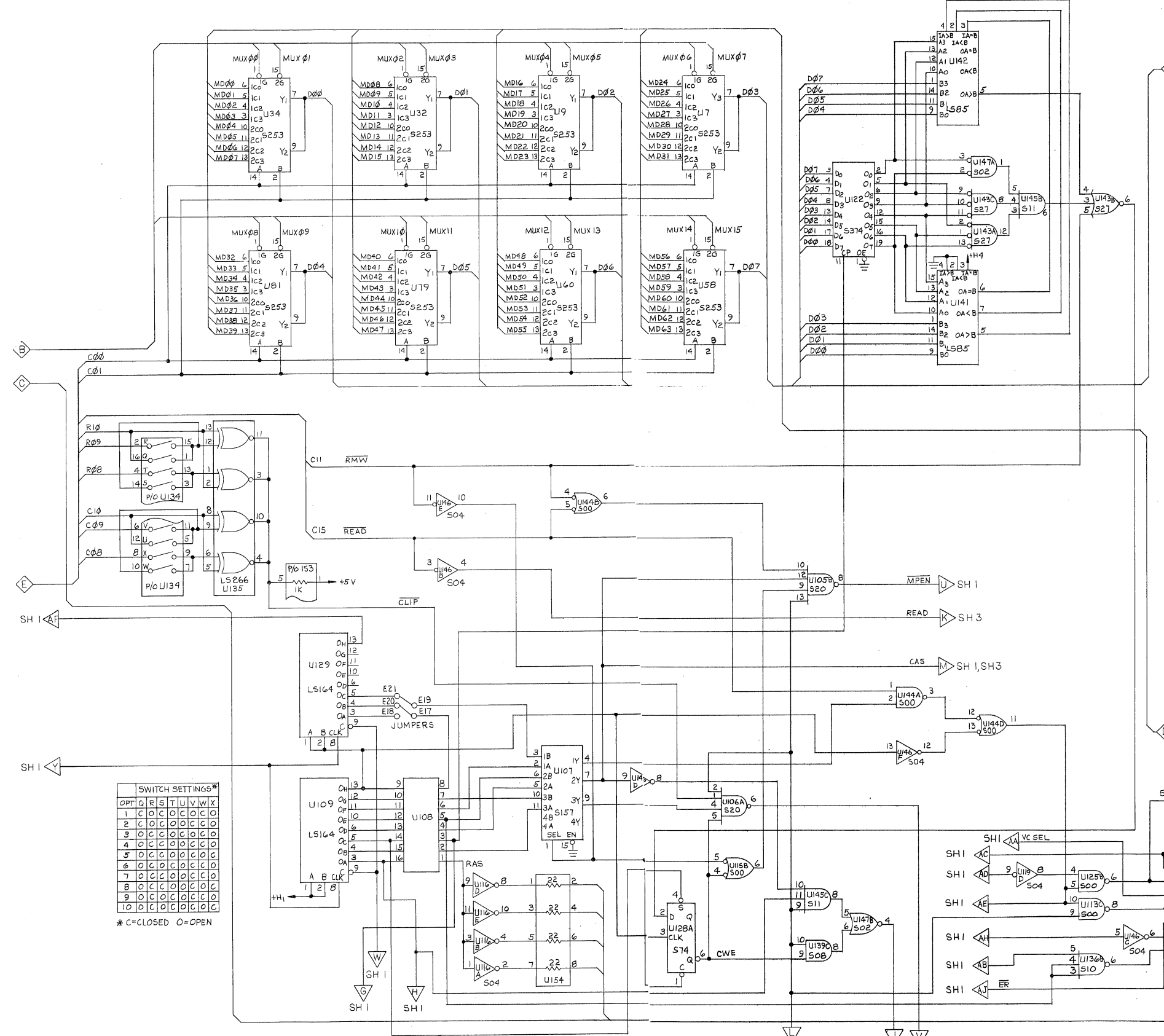
DESCRIPTION	REFERENCE DATA	DELETED NO.
RESISTOR	P 2 R 3	
CAPACITOR	G 222 C 48-147-06, 150-165, 11	
DIODE	CR 7 CR 8	
TRANSISTOR		
INDUCTOR	L 6	
MICROELEMENT	U 164	

PREPROD		CONT. NO.
DATE	1-12-81	1
DATE	7 JAN 81	2
DATE	9 JAN 81	3
DATE	1-9-81	4
DATE	1-9-81	5

64K LOGIC DIAGRAM MAPPING (PIXEL) MEMORY	
SA SANDERS ASSOCIATES, INC. MERRILL, NEW HAMPSHIRE	
E 94117	5802555
SCALE: NONE	SHEET 1 OF 4



REVISIONS			
ZONE/LTR	DESCRIPTION	DATE	APPROVED
-	REL FOR PREPROD	8/24/82	



SPARE GATES/PARTS				
QTY	TYPE GATE/PART	GATE LOCATION	UNUSED PINS	PART NO.
1	4 INPUT NAND	U106	8,9,10,12,13	74520
2	DIP SWITCH	U114	7,8,9,10	76RSB005
1	3 INPUT NAND	U127	1,2,12,13	74510
1	3 INPUT NAND	U136	8,9,10,11	74510
5	1K PULL UP RES	U164	2,3,4,5,10	785-1-RIK
4	1K PULL UP RES	U162	3,4,5,6	
1	1K PULL UP RES	U149	2	
1	1K PULL UP RES	U148	2	785-1-RIK

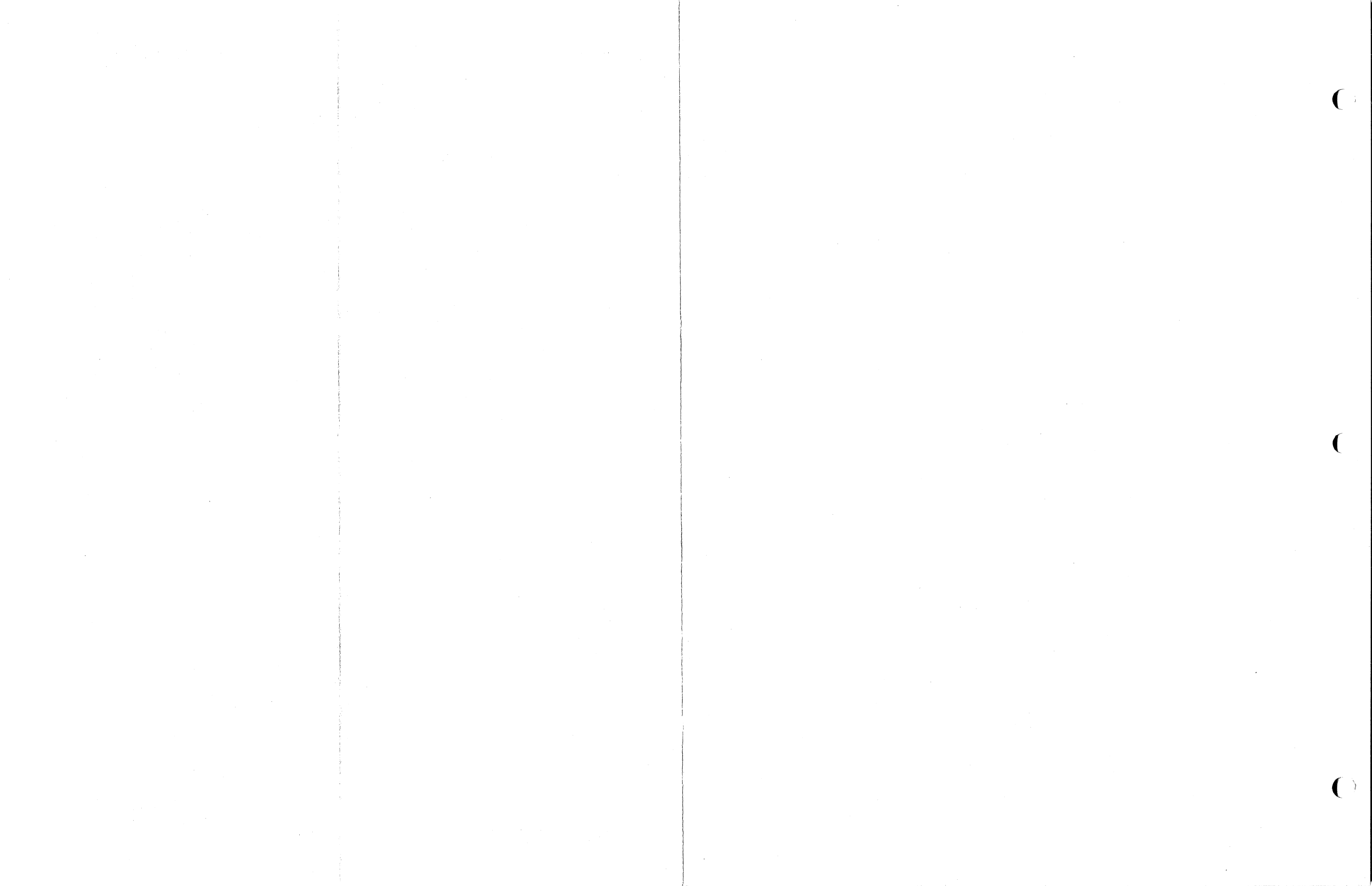
MEMORYCARD	SWITCH SETTINGS *													
SUPPORTS:	AA	BB	CC	DD	EE	FF	GG	HH	II	JJ	KK	LL	MM	NN
DISPLAY 1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DISPLAY 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DISPLAY 3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DISPLAY 4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DISPLAY 5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DISPLAY 6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DISPLAY 7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DISPLAY 8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DISPLAY 152	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DISPLAY 314	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DISPLAY 566	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DISPLAY 788	0	0	0	0	0	0	0	0	0	0	0	0	0	0

* C-CLOSED O=OPEN

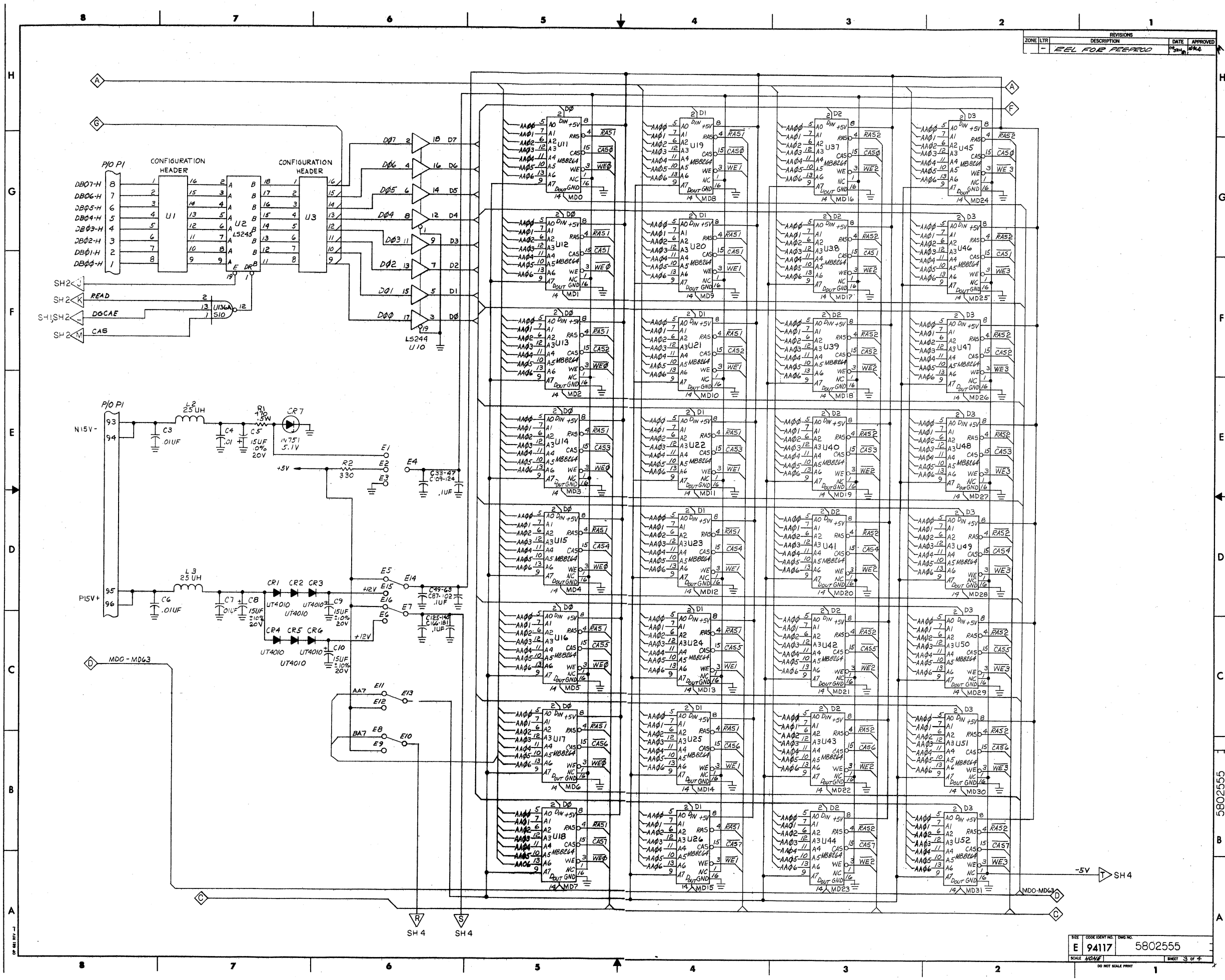
SWITCH SETTINGS*												
OPT	Q	R	S	T	U	V	W	X	Y	Z		
1	C	O	C	O	C	O	C	O	C	O	C	O
2	C	O	C	O	C	O	C	O	C	O	C	O
3	C	O	C	O	C	O	C	O	C	O	C	O
4	C	O	C	O	C	O	C	O	C	O	C	O
5	C	O	C	O	C	O	C	O	C	O	C	O
6	C	O	C	O	C	O	C	O	C	O	C	O
7	C	O	C	O	C	O	C	O	C	O	C	O
8	C	O	C	O	C	O	C	O	C	O	C	O
9	C	O	C	O	C	O	C	O	C	O	C	O
10	C	O	C	O	C	O	C	O	C	O	C	O

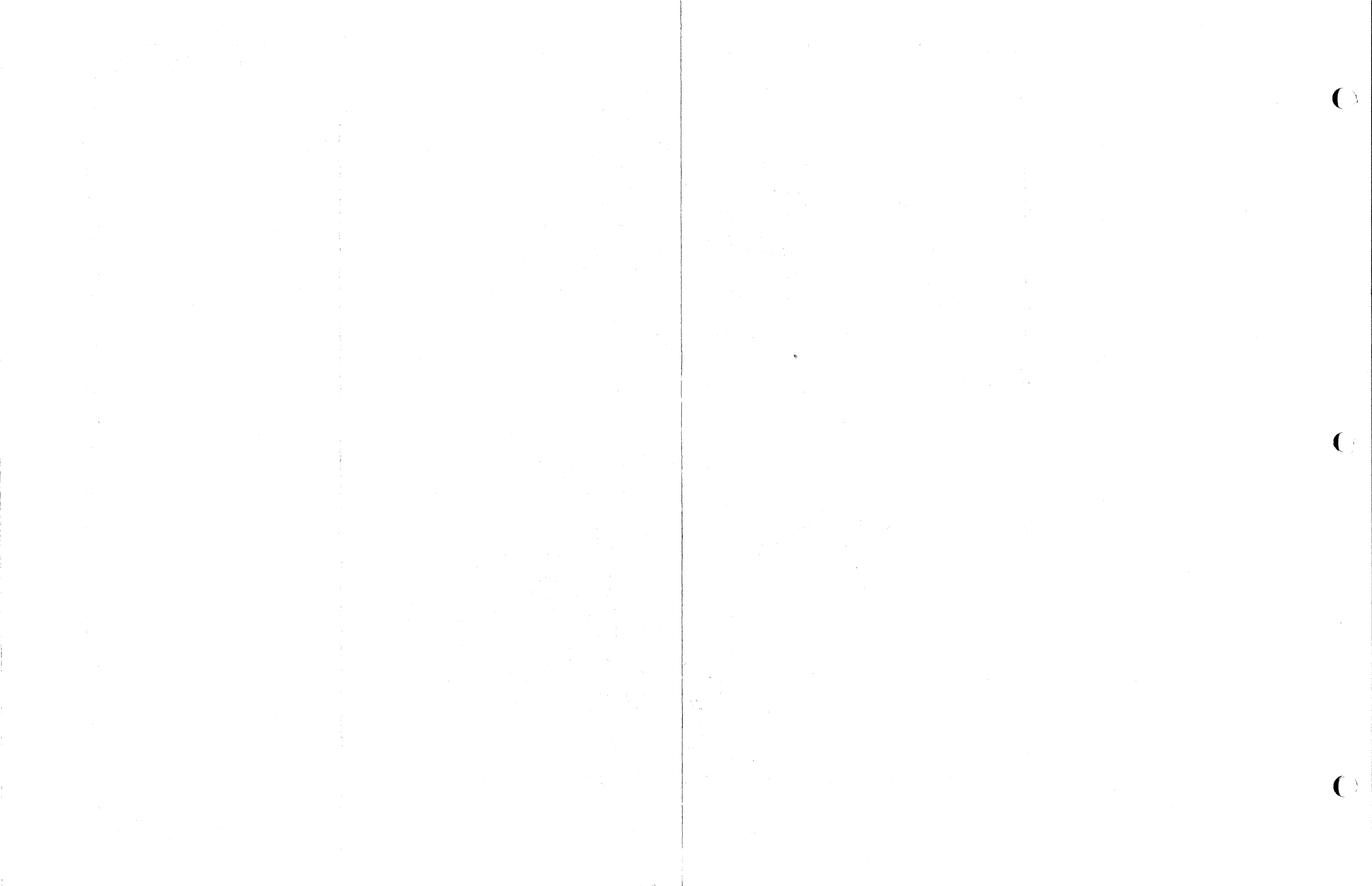
* C-CLOSED O=OPEN

5802555

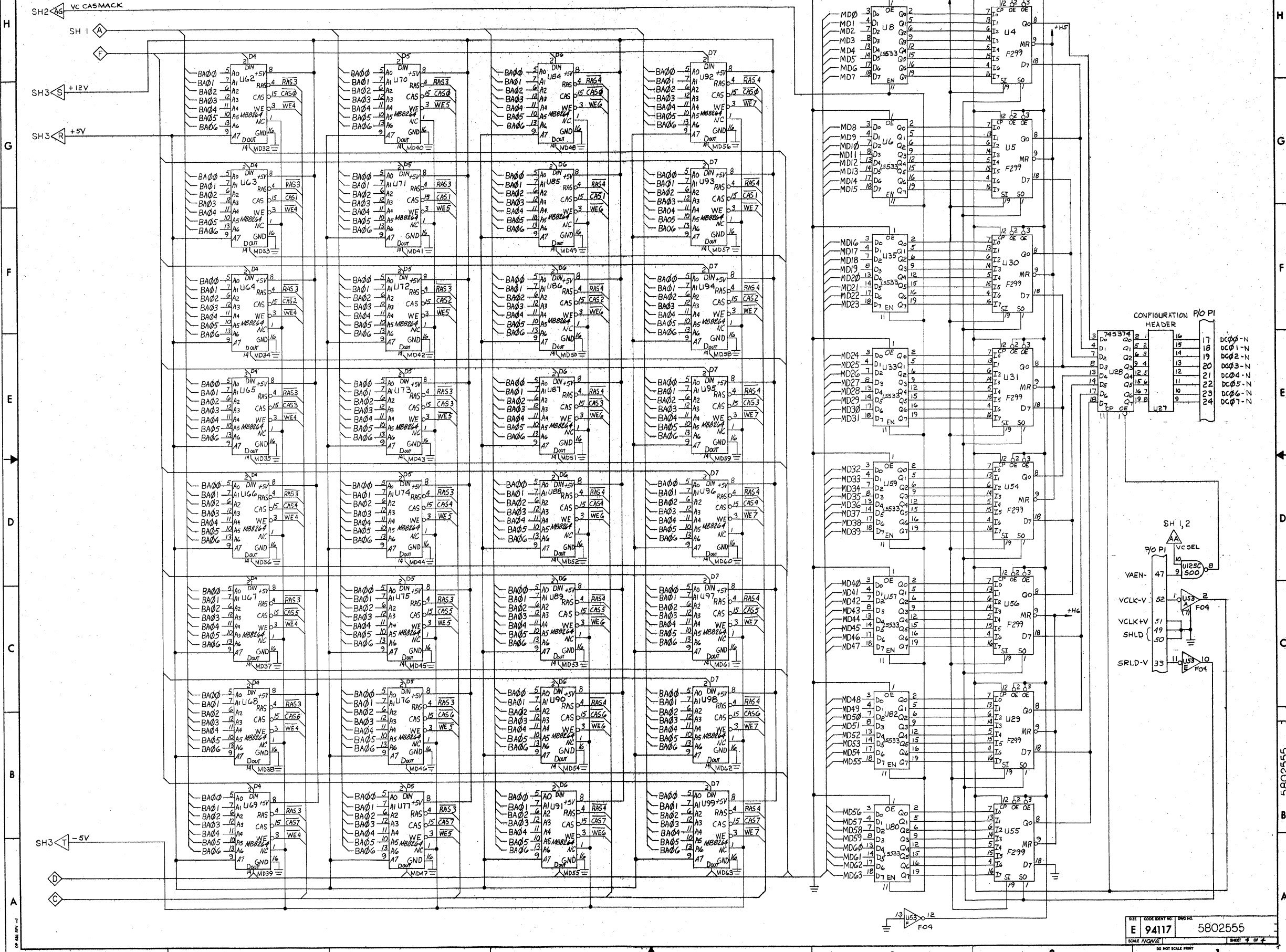


ZONE	LTR	REVISIONS	DATE	APPROVED
		DESCRIPTION		
		EEL FOR PERIOD		



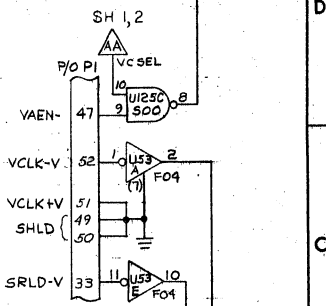


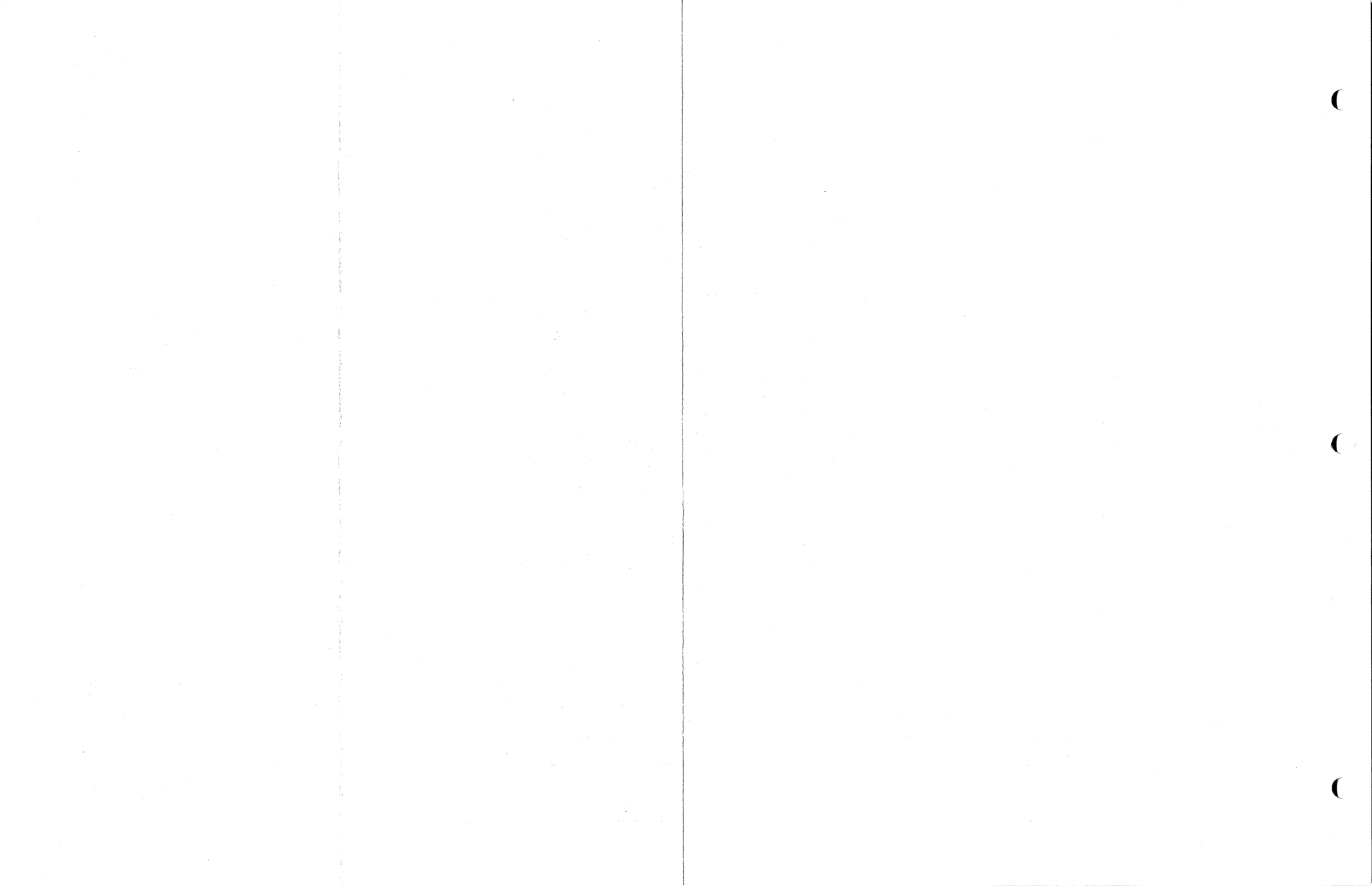
REVISIONS		DATE	APPROVED
ZONE	LTR	DESCRIPTION	
		FEL FOR PREPRD	



CONFIGURATION P/O P/I

Header Pin	Signal	Header Pin	Signal
1	DC00-N	17	DC01-N
2	DC02-N	18	DC03-N
3	DC04-N	19	DC05-N
4	DC06-N	20	DC07-N
5	DC08-N	21	DC09-N
6	DC10-N	22	DC11-N
7	DC12-N	23	DC13-N
8	DC14-N	24	DC15-N





REVISIONS

LTR	DESCRIPTION	DATE	APPROVED
A	REL FOR PREPROD	23 DEC 80	SM <i>[Signature]</i>
B	REVISED PER ECO NO. 97130	23 FEB 81	10B/WL

REVISION STATUS

SH	1	2	3	4	5	6	7	8	9	10	11	12
REV	B	B	B	B	B	B	B	B	B	B	B	B
SH	13	14	15	16	17	18	19	20	21	22	23	24
REV												

DWG REV	B
WL REV	<input checked="" type="checkbox"/>

3. ITEM NUMBERS WITH SUBSCRIPTS ARE ALTERNATE ITEMS, SELECT ONE ONLY.

- PARTS LIST SHEET ONE IS THE CONTROLLING REVISION FOR THE COMBINED PARTS LIST, DRAWING AND WIRE LIST.
- SHOP PRACTICE TOLERANCES AND DRAWING INTERPRETATION WITHIN 815002 SUPPLEMENT THIS DRAWING.

SA SANDERS ASSOCIATES, INC. NASHUA, NEW HAMPSHIRE

CIRCUIT CARD ASSY,
VIDEO CONTROLLER

SIZE **A** CODE IDENT NO. **94117** PL 5977172

SHEET 1 OF 11

CONT NO.

DR	DR	DATE
APTD	23 DEC 80	
CHK	29 DEC 80	
DEV	23 DEC 80	
ENG	29 DEC 80	
GR	23 DEC 80	

FINAL
NEXT ASSY
USED ON
APPLICATION.

PREPROD
CHANGE BY ECO ONLY

13-2-81

OP-1039 REV B DWG SIZE E

P A R T S L I S T

ITEM NO.	QTY PER ASSY		DWG SIZE	FSCM	PART OR IDENTIFYING NO.	DESCRIPTION	SYM
	G1	G2					
1	1	1			5977173G1	CIRCUIT CARD SUBASSY VIDEO CONTROLLER	
2	4	4	B		4170692G1	INDUCTOR L1,2,3,4,	
3	3	3	A		4174297P1	DIODE, LIGHT EMITTING DS1,2,3,	
4	1	1	D		1086608P18	CONNECTOR, ELECTRICAL PC BOARD (98 PIN) P1,	
5	1	1			5977189P1	BRACKET, CONN MTG	
6	1	1			5977190P7	PROGRAMMED LOGIC (F93459PC) U128,	
7	1	1			5977191P1	PROGRAMMED PROM (6331-1) U121,	
8	1	1			5977191P2	PROGRAMMED PROM (6331-1) U113,	
9	1	1			5977191P3	PROGRAMMED PROM (6331-1) U122,	
10	1	1			5977191P4	PROGRAMMED PROM (6331-1) U114,	
11	1	1			5977191P5	PROGRAMMED PROM (6331-1) U115,	
12	1	1			5977191P6	PROGRAMMED PROM (6331-1) U95,	
13	1	1			5977191P7	PROGRAMMED PROM (6331-1) U105,	
14	2	2			7011338P4	WASHER, LOGK SPRING NO. 4	#
15	7	7	A		7012774P1	RECP, BULKHEAD (BNC) J1-7,	#
16	2	2	A		7806311P2 MS24693C3	SCREW, #AW# .112-40 X .31 LG FLAT HD	#
17	2	2	A		7807411P3 MS35649-244	NUT, PLAIN-HEX NO. 4-40	#
18	4	4	A		7808003P5 MS15795804	WASHER, FLAT NO. 4	#
19	1	1	B		5977215P1	GROUND STRIP	#
20	2	2	A		600107P1	EJECTOR, CARD W/HARDWARE	#
21	2	2	A		630003P14	EYELET, METALLIC	#
22	5	5	A		M39003/01-2271	CAP. MIL-C-39003/1 22 U FARAD+ 10- 10 % 15 WVDC C23-27,	#
23	6	6			M39003/01-2247	CAP.. MIL-C-39003/1 150 U FARAD+ 10- 10% 6 WVDC C15-20,	
24	95	95		04222	DG015E103MAA	CAP. .01 U FARAD+ 80- 20% 50 WVDC C1-14,21,22, 28-106,	
24A	REF	REF		56289	923CZ5U103M050B	CAP. .01 U FARAD C1-14,21,22,28-106,	
26	7	7		80294	4116R-008-001	RES PACK U8,20,24,29,40,61,87,	
26A	REF	REF		01121	316T110	RES PACK, TTL-TO-ECL (6)	
27	23	23		80031	9S08E13A5100GL2	RES PACK (7) 9S08E13A5100GL002 510 OHMS U10,11, 12,13,14,22,31,42,43,44,54,56,57,58,69,70,71, 72,73,108,129,131,132,	
27A	REF	REF		73138	764-1-R510	RES PACK (7) 510 OHMS + 2- 2% .125 WATT U10-14, 22,31,42,43,44,54,56,57,58,69-73,108,129,131,132	

SIZE		FSCM NO.	PL 5 9 7 7 1 7 2
A	94117		
REV B		SHEET 2	

3. SHEET ONE REVISION LETTER IS THE CONTROLLING REVISION FOR THIS MULTISHEET DWG
 2. SEE SHEET ONE FOR REVISION DESCRIPTIONS
 1. SYMBOL † INDICATES VENDOR ITEM - SEE SPEC/SOURCE CONTROL DWG.

PARTS LIST

ITEM NO.	QTY PER ASSY		DWG SIZE	FSCM	PART OR IDENTIFYING NO.	DESCRIPTION	SYM
	G1	G2					
50	3			07263	F10102PC	MED, QUAD 2-INP GATE (3 NOR, 1 OR/NOR) U6,37,38,	
51	3			07263	F10103PC	MED, QUAD 2-INP GATE (3 OR, 1 OR/NOR) U17,34,36,	
52	1			07263	F10110PC	MED, DUAL 3-INP, 3-OUT OR GATE U64,	
53	5			07263	F10113PC	MED, QUAD EXCL OR GATE U5,18,79,80,81,	
54	1			07263	F10115PC	MED, QUAD DIFF LINE RCVR U63,	
55	2			07263	F10131PC	MED, DUAL D MASTER-SLAVE FF U25,77,	
56	3			07263	F10135PC	MED, DUAL J-K MASTER-SLAVE FF U4,35,62,	
57	1			07263	F10141PC	MED, 4-BIT UNIVERSAL SHIFT REG U48,	
58	3			07263	F10173PC	MED, QUAD 2-INP MUX/LATCH U65,66,67,	
59	5			07263	F10186PC	MED, HEX D MASTER-SLAVE FF U3,16,28,39,50,	
60	2			07263	F10192PC	MED, QUAD BUS DR U2,15,	
61	2			01295	SN74S05N	MED, HEX, 1-INP INV GATE (OPEN COLL OUT) U32,33,	
62	1			01295	SN74LS20N	MED, DUAL 4-INP NAND GATE U45,	
63	1			01295	SN74S03N	MED, QUAD 2-INP NAND OPEN COLL U68,	
64	1			01295	SN74LS74AN	MED, DUAL D-TYPE POS EDGE-TRIG FF WITH PRESET AND CLR U47,	
65	1			01295	SN74S74N	MED, DUAL D-TYPE POS EDGE-TRIG FF WITH PRESET AND CLR U100,	
66	1			01295	SN74S86N	MED, QUAD, 2-INP EXCL-OR-GATE U74,	
67	1			01295	SN74LS109N	MED, DUAL J-K POS EDGE-TRIGG FLIP-FLOP, PR ESET AND CLEAR U85,	
68	1			01295	SN74S114N	MED, DUAL J-K NEGATIVE EDGE TRIGGERED FF WITH PRESET U118,	
69	1			01295	SN74S151N	MED, 8-INP MUX, CMLM OUT STROBE U83,	
70	1			01295	SN74S161N	MED, BIN CNTR, SYNC, PRESET INP U99,	
71	1			01295	SN74LS163N	MED, BIN CNTR, SYN PRESET INP U46,	
72	2			01295	SN74S163N	MED, BIN CNTR, SYN PRESET INP U59,103,	
73	2			01295	SN74S175N	MED, QUAD D-TYPE EDGE-TRIG FF U97,111,	
74	2			01295	SN74LS240N	MED, OCTAL BUS DR (SCHMITT TRIG) INV 3-STA TE U30,92,	
75	1			01295	SN74S240N	MED, OCTAL BUS DR INV 3-STATE U82,	
76	1			01295	SN74S241N	MED, OCTAL BUS DR U102,	
77	1			01295	SN74LS373N	MED, 8-BIT LATCH, TRANSPARENT D-TYPE, 3-STATE U104,	

<p>3. SHEET ONE REVISION LETTER IS THE CONTROLLING REVISION FOR THIS MULTISHEET DWG</p> <p>2. SEE SHEET ONE FOR REVISION DESCRIPTIONS</p> <p>1. SYMBOL † INDICATES VENDOR ITEM - SEE SPEC/SOURCE CONTROL DWG.</p>		<p>SIZE</p> <p>A</p>	<p>FSCM NO.</p> <p>94117</p>	<p>PL 5 9 7 7 1 7 2</p>
		<p>REV</p> <p>B</p>	<p>SHEET</p> <p>4</p>	

PARTS LIST

ITEM NO.	QTY PER ASSY		DWG SIZE	FSCM	PART OR IDENTIFYING NO.	DESCRIPTION	SYM
	G1	G2					
78	2			01295	SN74LS245N	MED, OCTAL BUS TRANSCEIVER 3-STATE U9,21,	
79	1			01295	SN74S258N	MED, QUAD, 2-INP, MUX INV 3-STATE U107,	
80	1			01295	SN74S374N	MED, OCTAL D-TYPE EDGE-TRIG FF 3-STATE U93,	
81	2				MB7072N	MED, 256X4 RAM FUJITSU U7,19,	
82	6			07688	2N4209	SEMICONV DEVICE, XSTR Q1,2,3,4,8,9,	
83	3			81349	1N4148-1	SEMICONV DEVICE, DIODE CR1,2,3,	
84	3			81073	76RSB08S	SWITCH, DIP 8PST S1,2,3,	
85	1				0446-0030-50	DELAY LINE, TAPPED BELFUSE DL1,	
86	3			19112	102-16-CCB	SOCKET, IC 16 PIN U27,119,120,	
87	3			07688	2N2222	TRANSISTOR, NPN Q5,6,7,	
88	3		A		4174378P10	POTENTIOMETER, 1/4" DIA 10 K OHMS + 20- 20% .50 WATT R27,28,29,	#
89	2			07707	6010	EYELET	
90	AR	AR	A		93002P1	SOLDER	
91	REF	REF	E		5977174	LOGIC DIAGRAM VIDEO CONTROLLER	
92	REF	REF	A		815003	PW AND CKT BD, REQT FOR	
93	2		A		5977308P2	RESISTOR NETWORK, THICK FILM U133,135,	#
95	1		F		5977264G16	HEADER ASSY U27,	
97	1			01295	SN74LS125N	MED, QUAD GATED BUFFER 3-STATE U117,	
98	1		A		5977308P1	RESISTOR NETWORK, THICK FILM U23,	#
99	3				RCR07G103JS	RES MIL-R-39008/1 10 K OHMS + 5- 5% .25 WATT R5,6,7,	#
100	9		A		640048P1	MOUNTING PAD, ELEC-ELEK CMPNT	#
101	7		A		278002P13	WIRE, ELEC AWG 22	#
102	IN	IN	A		4171182P1	MARKER, IDENTIFICATION	
94	2		F		5977264G12	HEADER ASSY, U-119,120,	
103	3				RCR07G202JS	RES MIL-R-39008/1 2K OHMS + 5- 5% .25W R-30,31,32,	
104	2		A		5977308P3	RESISTOR NETWORK, THICK FILM, U23,134	
96	1				RCR07G432JS	RES MIL-R-39008/1 4.3 K OHMS + 5- 5% .25W, R10	

SIZE	FSCM NO.	REV	SHEET
A	94117	B	5
PL 5 9 7 7 1 7 2			

3. SHEET ONE REVISION LETTER IS THE CONTROLLING REVISION FOR THIS MULTISHEET DWG
 2. SEE SHEET ONE FOR REVISION DESCRIPTIONS
 1. SYMBOL † INDICATES VENDOR ITEM - SEE SPEC/SOURCE CONTROL DWG.

PARTS LIST

ITEM NO.	QTY PER ASSY		DWG SIZE	CODE IDENT	PART OR IDENTIFYING NO.	DESCRIPTION	SYM
	G 1	G 2					
105	-	-	F		5977264G2	HEADER, ASSY, U119, 120	
106	-	-	F		5977264G13	HEADER, ASSY, U119, 120	

SHEET ONE REVISION LETTER IS THE IDENTIFYING REVISION FOR THIS MULTISHEET DWG
 SEE SHEET ONE FOR REVISION DESCRIPTIONS
 SYMBOLS : INDICATES VENDOR ITEM - SEE SPEC/SOURCE CONTROL DWG.

SIZE	CODE IDENT NO.	REV	SHEET
A	94117 PL	B	6

PARTS LIST

ITEM NO.	QTY PER ASSY			DWG. SIZE	FSCM	PART OR IDENTIFYING NO.	DESCRIPTION	SYM
	G4	G5	G6					
1	1	1	1			5977173G1	CIRCUIT CARD SUBASSY VIDEO CONTROLLER	
2	4	4	B			4170692G1	INDUCTOR L1,2,3,4	
3	3	3	A			4174297P1	DIODE, LIGHT EMITTING DS1,2,3,	
4	1	1	D			1086609P18	CONNECTOR, ELECTRICAL PC BOARD (98 PIN) P1,	
5	1	1				5977189P1	BRACKET, CONN MTG	
6	1	1				5977190P7	PROGRAMMED LOGIC (F93459PC) U128,	
7	1	1				5977191P1	PROGRAMMED PROM (6331-1) U121,	
8	1	1				5977191P2	PROGRAMMED PROM (6331-1) U113,	
9	1	1				5977191P3	PROGRAMMED PROM (6331-1) U122,	
10	1	1				5977191P4	PROGRAMMED PROM (6331-1) U114,	
11	1	1				5977191P5	PROGRAMMED PROM (6331-1) U115,	
12	1	1				5977191P6	PROGRAMMED PROM (6331-1) U95,	
13	1	1				5977191P7	PROGRAMMED PROM (6331-1) U105,	
14	2	2	A			7011338P4	WASHER, LOCK SPRING NO. 4	
15	7	7	A			7012774P1	RECP, BULKHEAD (BNC) J1-7,	
16	2	2	A			7806311P2 MS2463-C3	SCREW, PAN HB .112-40 X .31 LG FLAT HD	
17	2	2	A			7807411P3 MS35649-249	NUT, PLAIN-HEX NO. 4-40	
18	4	4	A			7808003P5 MS15795804	WASHER, FLAT NO. 4	
19	1	1	B			5977215P1	GROUND STRIP	
20	2	2	A			600107P1	EJECTOR, CARD W/HARDWARE	
21	2	2	A			630003P14	EYELET, METALLIC	
22	5	5	A			M39003/01-2271	CAP. MIL-C-39003/1 22 U FARAD+ 10- 10 % 15 WVDC	
23	6	6				M39003/01-2247	C23-27,	
24	95	95		04222		DG015E103MAA	CAP. MIL-C-39003/1 150 U FARAD+ 10- 10% 6 WVDC	
24A	REF	REF		56289		923CZ5U103M050B	CAP. .01 U FARAD C1-14,21,22,28-106,	
26	7	7		80294		4116R-008-001	RES PACK U8,20,24,29,40,61,87,	
26A	REF	REF		01121		316T110	RES PACK, TTL-TO-ECL (6)	
27	23	23		80031		9S08E13A5100GL2	RES PACK (7) 9S08E13A5100GL002 510 OHMS U10,11,	
27A	REF	REF		73138		764-1-R510	12,13,14,22,31,42,43,44,54,56,57,58,69,70,71,	
							72,73,108,129,131,132,	
							RES PACK (7) 510 OHMS + 2- 2% .125 WATT U10-14,	
							22,31,42,43,44,54,56,57,58,69-73,108,129,131,132	

SIZE		FSCM NO.	
A	94117	PL	5977172
SHEET ONE REVISION LETTER IS THE CONTROLLING REVISION FOR THIS MULTISHEET DWG		SHEET TWO REVISION LETTER IS THE CONTROLLING REVISION FOR THIS MULTISHEET DWG	
SEE SHEET ONE FOR REVISION DESCRIPTIONS			
1. SYMBOL † INDICATES VENDOR ITEM - SEE SPEC/SOURCE CONTROL DWG.			
REV B	SHEET 7		

PARTS LIST

ITEM NO.	QTY PER ASSY		DWG SIZE	FSCM	PART OR IDENTIFYING NO.	DESCRIPTION	SYM
	G4	G5					
28	1	1		80031	9S10E13A1001GL2	RES PACK (9) 9S10E13A1001GL002 1 K OHMS U130,	
28A	REF	REF		73138	785-1-R1K	RES PACK (9) 1 K OHMS + 2- 2% .125 WATT U130,	
29	1	1		80031	9S08E13A51ROGL01	RES PACK (4) 9S08E13A51ROGL001 51 OHMS U55,	
29A	REF	REF		73138	784-3-R51	RES PACK (4) 51 OHMS + 2- 2% .125 WATT U55,	
29B	REF	REF		22331	750-83-R51	RES PACK (4) 51 OHMS U55,	
30	3	3			RCR07G150JS	RES MIL-R-39008/1 15 OHMS + 5- 5% .25 WATT R8,	
31	3	3			RCR07G510JS	20,21, RES MIL-R-39008/1 51 OHMS + 5- 5% .25 WATT R13,	
32	4	4			RCR07G750JS	17,24, RES MIL-R-39008/1 75 OHMS + 5- 5% .25 WATT R9,	
33	2	2			RCR07G241JS	22,25,26, RES MIL-R-39008/1 240 OHMS + 5- 5% .25 WATT R14,	
34	3	3			RCR07G120JS	15, RES MIL-R-39008/1 120 OHMS + 5- 5% .25 WATT R2,3,	
35	5	5			RCR07G102JS	4, RES MIL-R-39008/1 1 K OHMS + 5- 5% .25 WATT R1,12, 33,34,35, RES MIL-R-39008/1 1 K OHMS + 5- 5% .25 WATT R1,12,	
36	2	2			RES MIL-R-39008/1 1 K OHMS + 5- 5% .25 WATT R1,12,		
37	1	1			M535338-135	WASHER, LOCK SPRING, .088 ID X .172 OD	
38	1	1			RNC55H1210FS	RES MIL-R-55182/1 121 OHMS + 1- 1% .10 WATT R18,	
39	3	3		34335	RNC55H3830FS	RES MIL-R-55182/1 383 OHMS + 1- 1% .10 WATT R19,	
40	3	3			AM27S07APC	MED, 16X4 STATIC U96,106,116,	
41	4	4		34335	AM2940PC	MED, DMA ADDRESS GENERATOR U125,126,127,	
42	2	2		34335	AM26LS32PC	MED, LINE RCVR U88-91,	
43	1	1		07263	AM25LS2518PC	MED, QUAD D-TYPE FF, STANDARD TTL AND 3-STATE OUT U86,124, MED, 5 BIT MAGNITUDE COMPT'R SEPARATE A=B OUT U109,	
44	2	2		07263	F9324PC	MED, QUAD 2-INP NAND GATE U84,101,	
45	4	4		07263	F74F00PC	MED, QUAD 2-INP NOR GATE U76,98,110,112,	
46	2	2		07263	F74F04PC	MED, HEX INV U41,123,	
47	3	3		07263	F74F32PC	MED, QUAD 2-INP OR GATE U60,75,94,	
48	3	3		07263	F10016PC	MED, 4-BIT BIN. CNTR U51,52,53,	
49	2	2		07263	F10101PC	MED, QUAD, 2-INP OR/NOR GATE U49,78,	

SIZE		FSCM NO.	REV B		SHEET 8
A		94117	PL		5977172

3. SHEET ONE REVISION LETTER IS THE CONTROLLING REVISION FOR THIS MULTISHEET DWG
 2. SEE SHEET ONE FOR REVISION DESCRIPTIONS
 1. SYMBOL † INDICATES VENDOR ITEM - SEE SPEC/SOURCE CONTROL DWG.

PARTS LIST

ITEM NO.	QTY PER ASSY			DWG SIZE	FSCM	PART OR IDENTIFYING NO.	DESCRIPTION	SYM
	G4	G5	G6					
50	3	3	3	07263	F10102PC	MED, QUAD 2-INP GATE (3 NOR, 1 OR/NOR) U6,37,38,		
51	3	3	3	07263	F10103PC	MED, QUAD 2-INP GATE (3 OR, 1 OR/NOR) U17,34,36,		
52	1	1	1	07263	F10110PC	MED, DUAL 3-INP, 3-OUT OR GATE U64,		
53	5	5	5	07263	F10113PC	MED, QUAD EXCL OR GATE U5,18,79,80,81,		
54	1	1	1	07263	F10115PC	MED, QUAD DIFF LINE RCVR U63,		
55	2	2	2	07263	F10131PC	MED, DUAL D MASTER-SLAVE FF U25,77,		
56	3	3	3	07263	F10135PC	MED, DUAL J-K MASTER-SLAVE FF U4,35,62,		
57	1	1	1	07263	F10141PC	MED, 4-BIT UNIVERSAL SHIFT REG U48,		
58	3	3	3	07263	F10173PC	MED, QUAD 2-INP MUX/LATCH U65,66,67,		
59	5	5	5	07263	F10186PC	MED, HEX D MASTER-SLAVE FF U3,16,28,39,50,		
60	2	2	2	07263	F10192PC	MED, QUAD BUS DR U2,15,		
61	2	2	2	01295	SN74S05N	MED, HEX, 1-INP INV GATE (OPEN COLL OUT) U32,33,		
62	1	1	1	01295	SN74LS20N	MED, DUAL 4-INP NAND GATE U45,		
63	1	1	1	01295	SN74S03N	MED, QUAD 2-INP NAND OPEN COLL U68,		
64	1	1	1	01295	SN74LS74AN	MED, DUAL D-TYPE POS EDGE-TRIG FF WITH PRESET AND CLR U47,		
65	1	1	1	01295	SN74S74N	MED, DUAL D-TYPE POS EDGE-TRIG FF WITH PRESET AND CLR U100,		
66	1	1	1	01295	SN74S86N	MED, QUAD, 2-INP EXCL-OR-GATE U74,		
67	1	1	1	01295	SN74LS109N	MED, DUAL J-K POS EDGE-TRIGG FLIP-FLOP, PR ESET AND CLEAR U85,		
68	1	1	1	01295	SN74S114N	MED, DUAL J-K NEGATIVE EDGE TRIGGERED FF WITH PRESET U118,		
69	1	1	1	01295	SN74S151N	MED, 8-INP MUX, CMLM OUT STROBE U83,		
70	1	1	1	01295	SN74S161N	MED, BIN CNTR, SYNC, PRESET INP U99,		
71	1	1	1	01295	SN74LS163N	MED, BIN CNTR, SYN PRESET INP U46,		
72	2	2	2	01295	SN74S163N	MED, BIN CNTR, SYN PRESET INP U59,103,		
73	2	2	2	01295	SN74S175N	MED, QUAD D-TYPE EDGE-TRIG FF U97,111,		
74	2	2	2	01295	SN74LS240N	MED, OCTAL BUS DR (SCHMITT TRIG) INV 3-STA TE U30,92,		
75	1	1	1	01295	SN74S240N	MED, OCTAL BUS DR INV 3-STATE U82,		
76	1	1	1	01295	SN74S241N	MED, OCTAL BUS DR U102,		
77	1	1	1	01295	SN74LS373N	MED, 8-BIT LATCH, TRANSPARENT D-TYPE, 3-STATE U104,		

SIZE		FSCM NO.	REV		SHEET
A		94117	B		# 9
PL		5977172			

3. SHEET ONE REVISION LETTER IS THE CONTROLLING REVISION FOR THIS MULTISHEET DWG
 2. SEE SHEET ONE FOR REVISION DESCRIPTIONS
 1. SYMBOL † INDICATES VENDOR ITEM - SEE SPEC/SOURCE CONTROL DWG.

P A R T S L I S T

ITEM NO.	QTY PER ASSY		DWG SIZE	FSCM	PART OR IDENTIFYING NO.	DESCRIPTION	SYM
	G4	G5 G6					
78	2	2	01295	SN74LS245N	MED, OCTAL BUS TRANSCEIVER 3-STATE U9,21,		
79	1	1	01295	SN74S258N	MED, QUAD, 2-INP, MUX INV 3-STATE U107,		
80	1	1	01295	SN74S374N	MED, OCTAL D-TYPE EDGE-TRIG FF 3-STATE U93,		
81	2	2		MB7072N	MED, 256X4 RAM FUJITSU U7,19,		
82	6	6	07688	2N4209	SEMICONV DEVICE, XSTR Q1,2,3,4,8,9,		
83	3	3	81349	IN4148-1	SEMICONV DEVICE, DIODE CR1,2,3,		
84	3	3	81073	76RSB08S	SWITCH, DIP 8PST S1,2,3,		
85	1	1		0446-0030-50	DELAY LINE, TAPPED BELFUSE DL1,		
86	3	3	19112	102-16-CCB	SOCKET, IC 16 PIN U27,119,120,		
87	3	3	07688	2N2222	TRANSISTOR, NPN Q5,6,7,		
88	3	3		4174378P10	POTENTIOMETER, 1/4" DIA 10 K OHMS + 20- 20% .50 WATT R27,28,29,		
89	2	2	07707	6010	EYELET		
90	AR	AR		93002P1	SOLDER		
91	REF	REF		5977174	LOGIC DIAGRAM VIDEO CONTROLLER		
92	REF	REF		815003	PW AND CKT BD, REQT FOR		
93	-REF	2		5977308P2	RESISTOR NETWORK, THICK FILM U133,135,		
95	1	1		5977264G16	HEADER ASSY U27,		
97	1	1		SN74LS125N	MED, QUAD GATED BUFFER 3-STATE U117,		
98	-REF	1		5977308P1	RESISTOR NETWORK, THICK FILM U23,		
99	3	3		RCR07G103JS	RES MIL-R-39008/1 10 K OHMS + 5- 5% .25 WATT R5,6,7,		
100	9	9		640048P1	MOUNTING PAD, ELEC-ELEK CMPNT		
101	7	7		278002P13	WIRE, ELEC AWG 22		
102	IN	IN		4171182P1	MARKER, IDENTIFICATION		
94	1	1					
103	3	3		RCR07G202JS	RES MIL-R-39008/1 2K OHMS + 5- 5% .25W R-30,31,32,		
104	2	2		5977308P3	RESISTOR NETWORK, THICK FILM, U23,134		
96	1	1		RCR07G432JS	RES MIL-R-39008/1 4.3 K OHMS + 5-5% .25W, R10		

3. SHEET ONE REVISION LETTER IS THE CONTROLLING REVISION FOR THIS MULTISHEET DWG
 2. SEE SHEET ONE FOR REVISION DESCRIPTIONS
 1. SYMBOL † INDICATES VENDOR ITEM - SEE SPEC/SOURCE CONTROL DWG.

SIZE	FSCM NO.
A	94117
PL	5977172

PARTS LIST

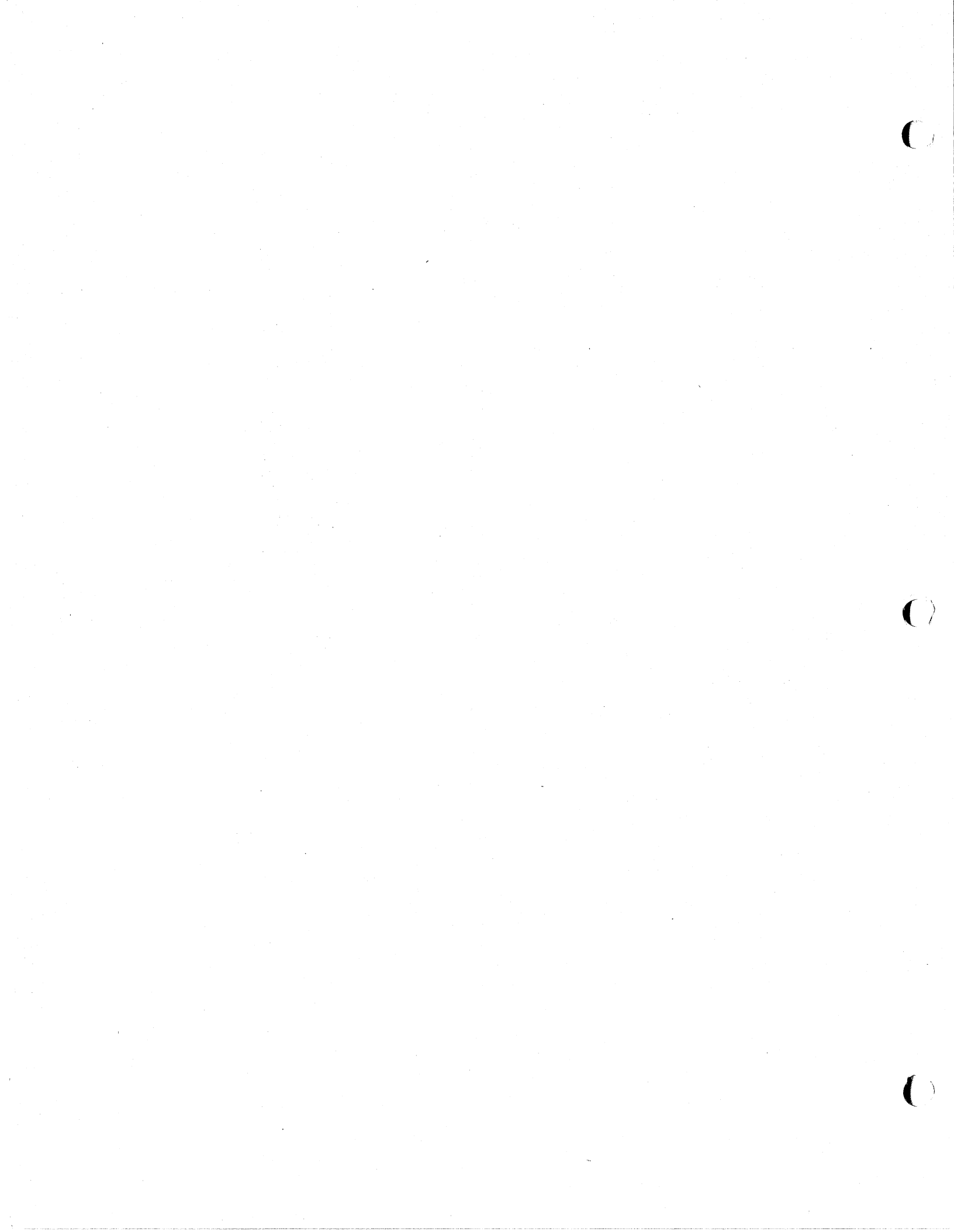
ITEM NO.	QTY PER ASSY		DWG SIZE	CODE IDENT	PART OR IDENTIFYING NO.	DESCRIPTION	SYM
	G 4	G 5					
105	2	-	F		5977264G2	HEADER, ASSY U119, 120	
106	-	2	F		5977264G13	HEADER ASSY U119, 120	

SHEET ONE REVISION LETTER IS THE IDENTIFYING REVISION FOR THIS MULTISHEET DWG
 SEE SHEET ONE FOR REVISION DESCRIPTIONS
 SYMBOLS : INDICATES VENDOR ITEM - SEE SPEC/SOURCE CONTROL DWG.

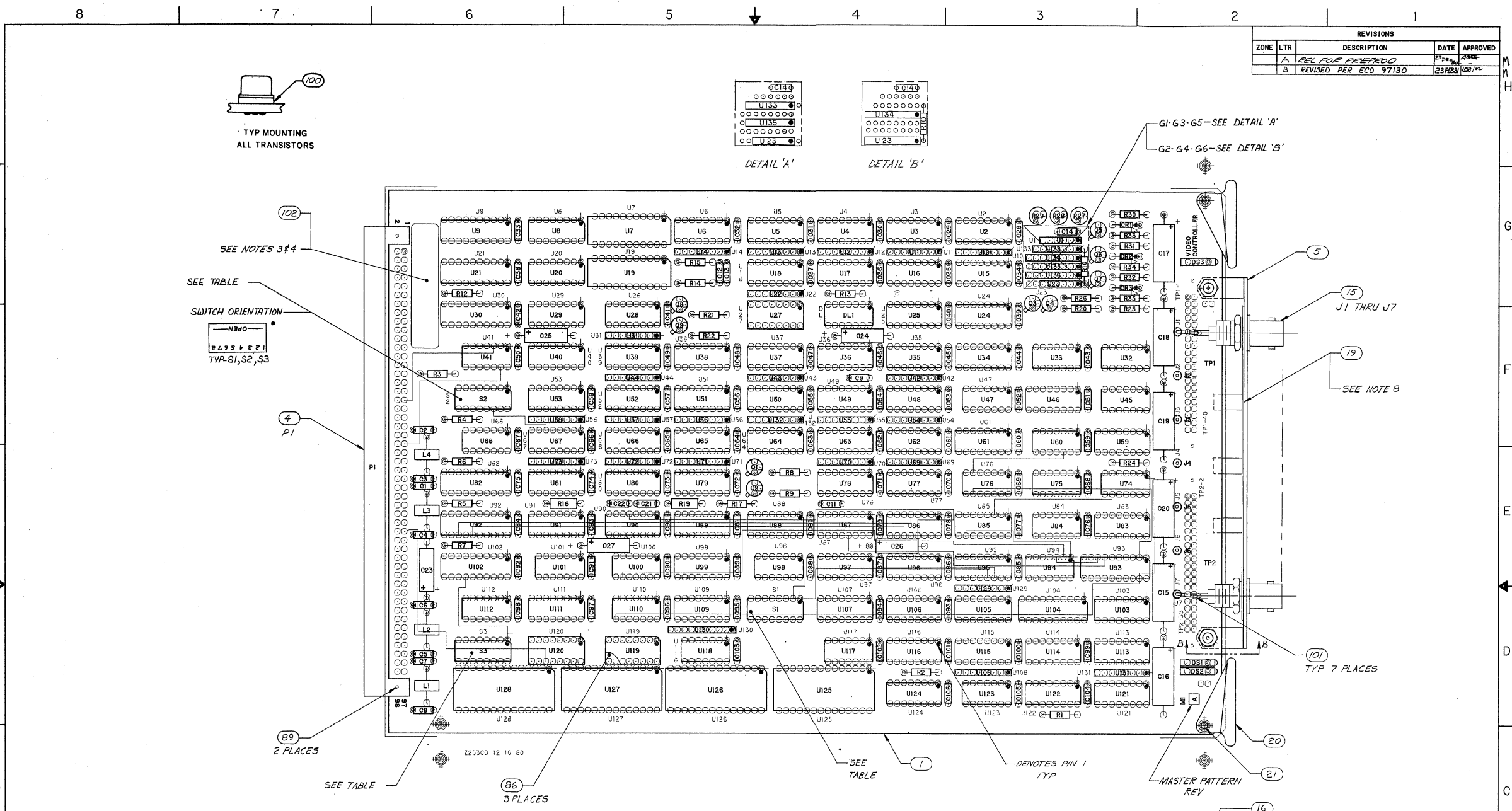
SIZE CODE IDENT NO.

A 94117 PL 5977172

REV B SHEET 11



REVISIONS				
ZONE	LTR	DESCRIPTION	DATE	APPROVED
A		REL FOR PREPROD	23 DEC 80	
B		REVISED PER ECO 97130	23 FEB 81	



8. TABS ON ITEM 19 TO BE SOLDERED TO GROUND PLANE FAR SIDE USING ITEM 90
7. SOLDER TIPS OR WIRE TO BE .06 MAX FROM BOARD
6. MAX COMPONENT HEIGHT TO BE .380.
5. OTHER THAN SPECIFICALLY NOTED, CHARACTERS ARE REFERENCE AND NOT TO BE MARKED.
4. MARK PART NO., SERVO AND REV PERMANENT AND LEGIBLE. MARKING METHOD OPTIONAL.
3. PARTS LIST SHEET ONE IS THE CONTROLLING REVISION FOR THE COMBINED PARTS LIST AND DRAWING.
2. THIS ASSY SHALL MEET THE REQUIREMENTS OF ITEM 92.
1. SHOP TOLERANCES AND DRAWING INTERPRETATION WITHIN B15002 SUPPLEMENT THIS DRAWING.
- NOTES: UNLESS OTHERWISE SPECIFIED

TABLE I
SWITCH SETTINGS (S12, N1, 16 BIT SR, W/BLINK)

S1-A	OPEN	S2-A	CLOSED	S3-A	CLOSED
S1-B	CLOSED	S2-B	CLOSED	S3-B	OPEN
S1-C	OPEN	S2-C	OPEN	S3-C	OPEN
S1-D	N/A	S2-D	OPEN	S3-D	OPEN
S1-E	CLOSED	S2-E	OPEN	S3-E	OPEN
S1-F	CLOSED	S2-F	CLOSED	S3-F	OPEN
S1-G	OPEN	S2-G	OPEN	S3-G	OPEN
S1-H	CLOSED	S2-H	CLOSED	S3-H	OPEN

COLOR = G1
MONOCHROME = G2

TABLE II
(8BIT SR,I,W/BLINK)

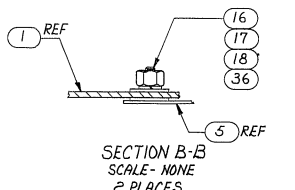
S1-A	CLOSED	S2-A	CLOSED	S3-A	CLOSED
S1-B	CLOSED	S2-B	CLOSED	S3-B	OPEN
S1-C	OPEN	S2-C	CLOSED	S3-C	OPEN
S1-D	N/A	S2-D	OPEN	S3-D	OPEN
S1-E	OPEN	S2-E	OPEN	S3-E	OPEN
S1-F	CLOSED	S2-F	OPEN	S3-F	OPEN
S1-G	OPEN	S2-G	OPEN	S3-G	OPEN
S1-H	CLOSED	S2-H	CLOSED	S3-H	OPEN

COLOR = G3
MONOCHROME = G4

TABLE III
(32 BIT SR,I,W/BLINK)

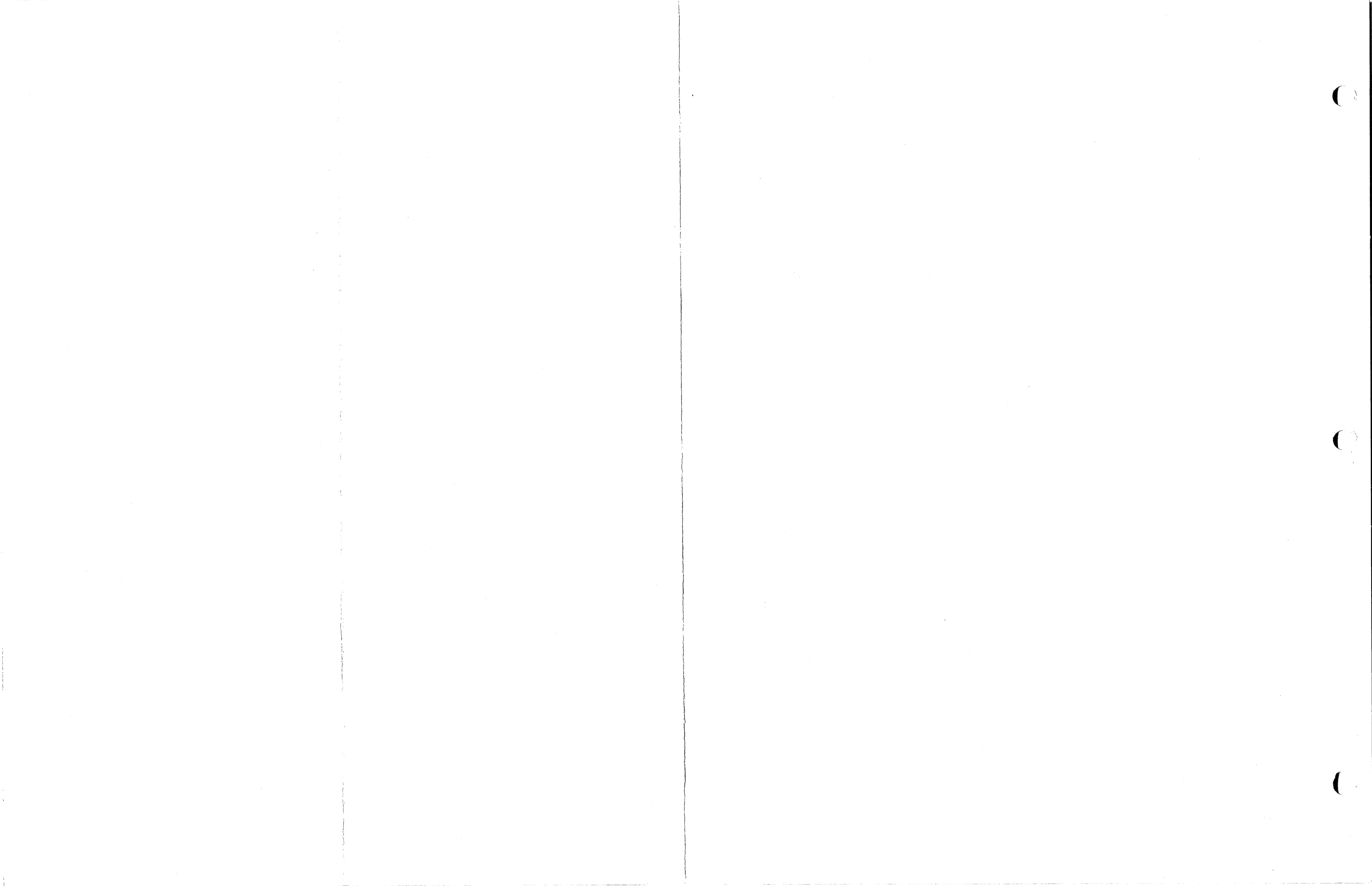
S1-A	CLOSED	S2-A	OPEN	S3-A	CLOSED
S1-B	OPEN	S2-B	CLOSED	S3-B	OPEN
S1-C	OPEN	S2-C	OPEN	S3-C	OPEN
S1-D	N/A	S2-D	CLOSED	S3-D	OPEN
S1-E	OPEN	S2-E	OPEN	S3-E	OPEN
S1-F	CLOSED	S2-F	CLOSED	S3-F	OPEN
S1-G	OPEN	S2-G	OPEN	S3-G	OPEN
S1-H	CLOSED	S2-H	CLOSED	S3-H	OPEN

COLOR = G5
MONOCHROME = G6

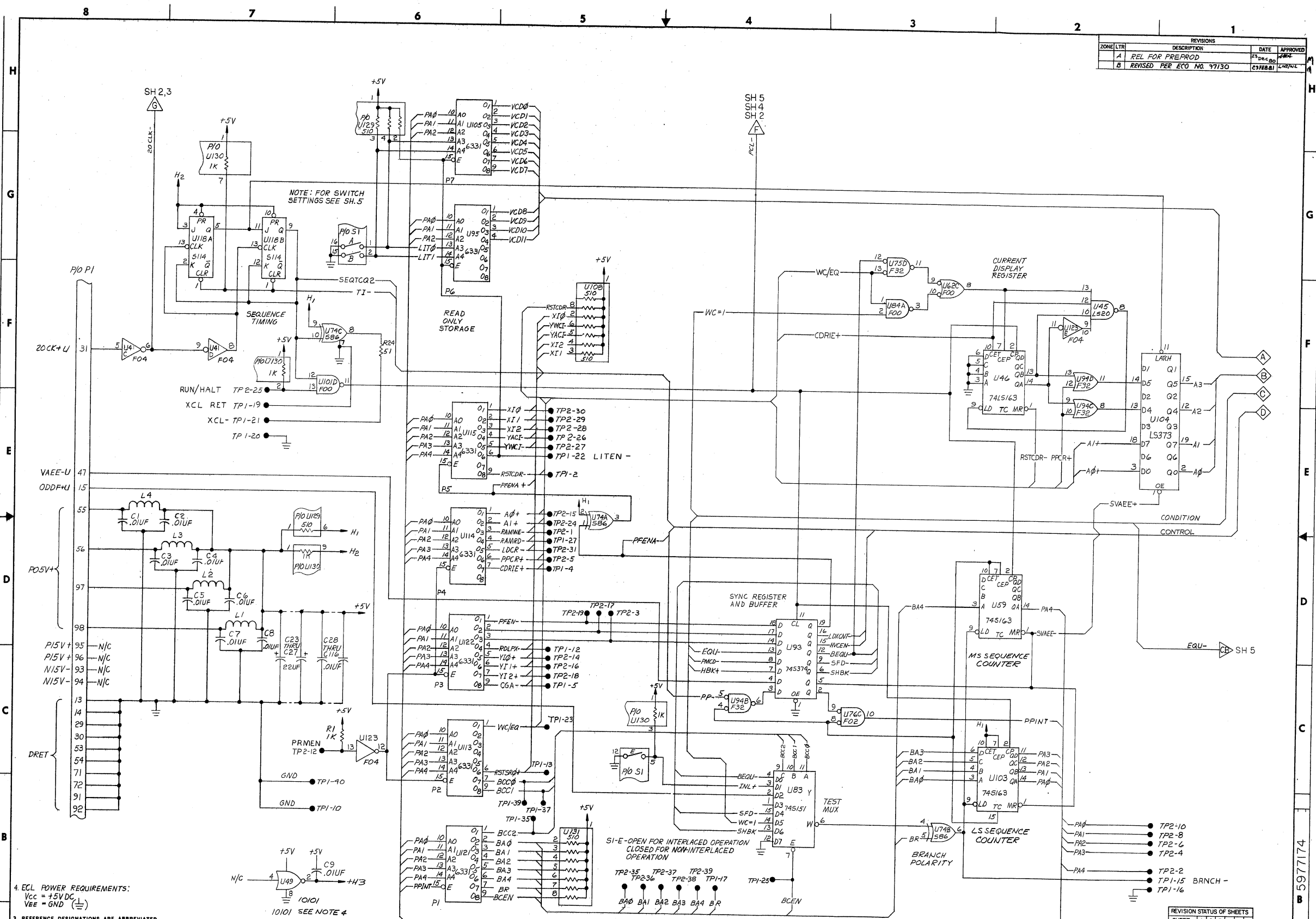


G6 G1 FOR PARTS LIST
SEE PL 5977172

ITEM	SIZE	PART OR IDENTIFYING NO.	DESCRIPTION
QTY PER ASSY			
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES			
.XX DECIIMAL			
.XXX DECIIMAL			
ANGLES			
PARTS LIST			
CONT NO.			
DRAWN BY: 19 DEC 80			
APPROVED BY: 23 DEC 80			
E. DEW... 23 DEC 80			
G. E... 23 DEC 80			
R. G... 23 DEC 80			
PREPROD CHANGE BY ECO ONLY			
APPLICATION: MFG 23 DEC 80			
SCALE: 2/1			
SHEET 1 OF 1			



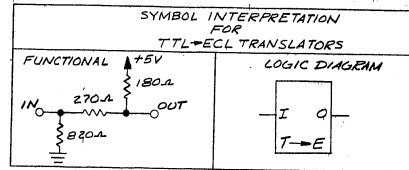
REVISIONS		DATE	APPROVED
A	REL FOR PREPROD	12-23-80	[Signature]
B	REVISED PER ECO NO. 97130	03-28-81	[Signature]



4. ECL POWER REQUIREMENTS:
Vcc = +5V DC
Vee = GND

3. REFERENCE DESIGNATIONS ARE ABBREVIATED PREFIX THE DESIGNATIONS WITH UNIT NO. OR ASSEMBLY DESIGNATION OR BOTH.
UNLESS OTHERWISE SPECIFIED:
RESISTANCE VALUES ARE IN OHMS
CAPACITANCE VALUES ARE IN PICO FARADS
INDUCTANCE VALUES ARE IN MICROHENRIES

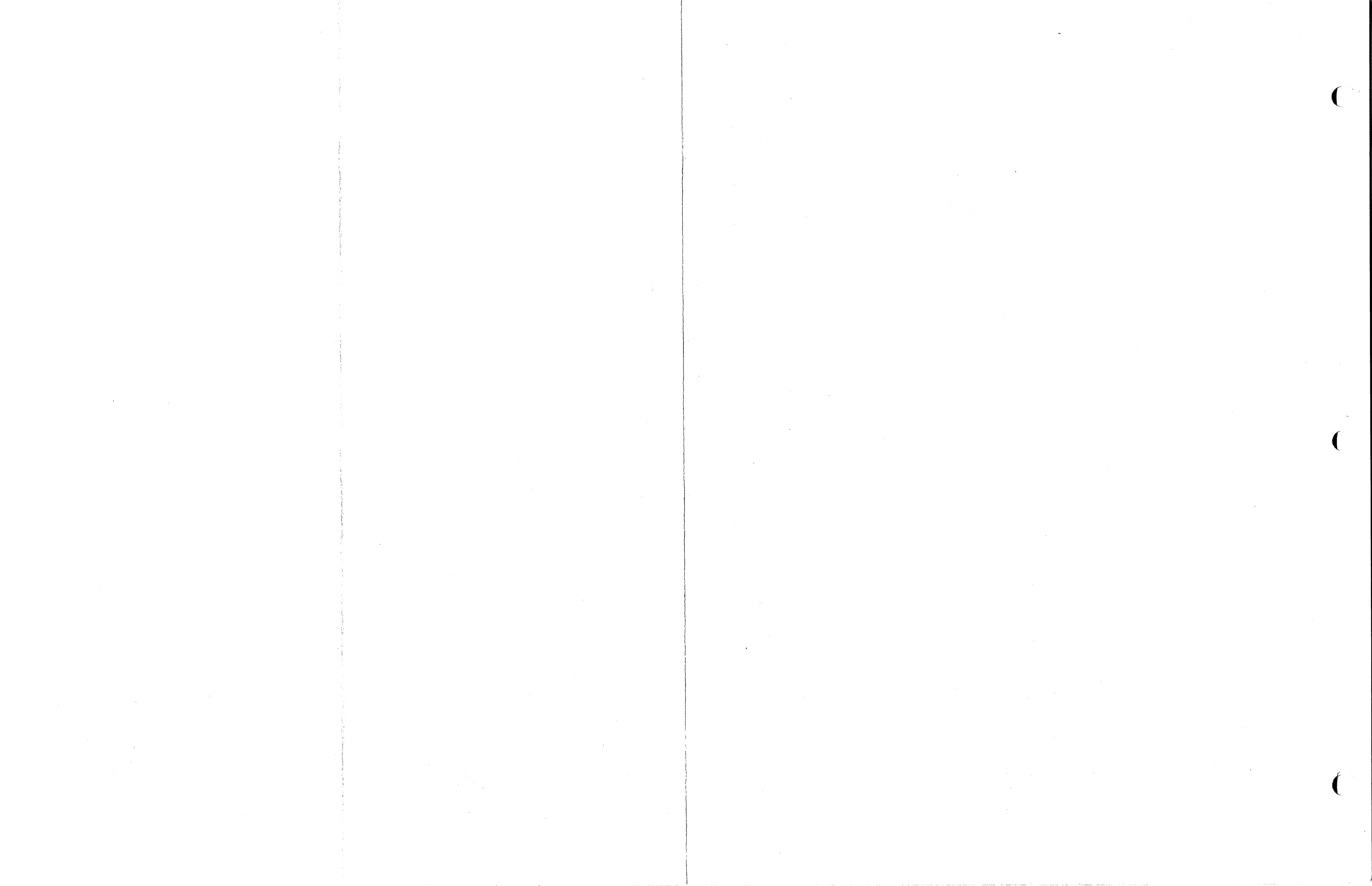
1. INTERPRET DRAWING PER 815002 NOTES



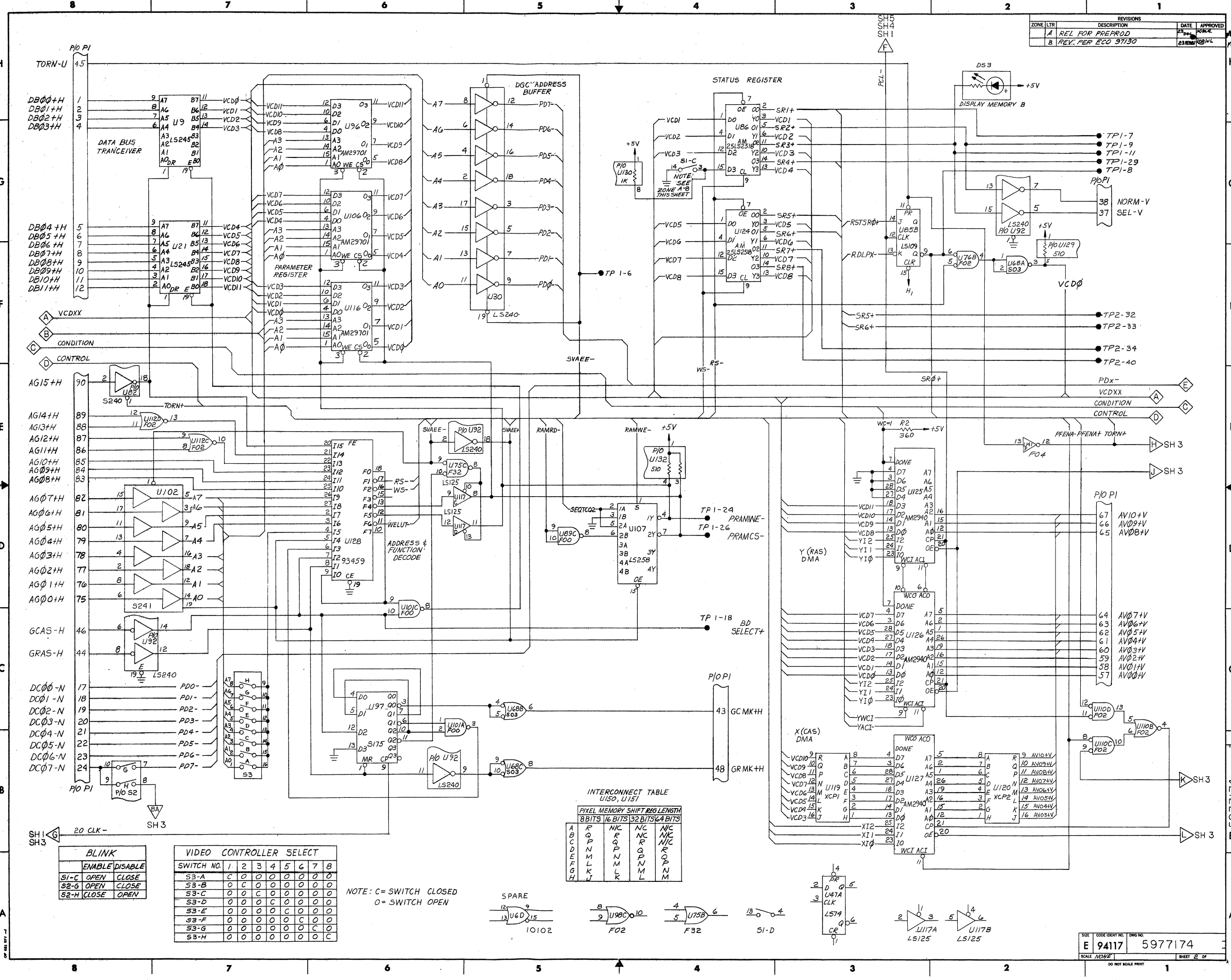
DESCRIPTION	REFERENCE DATA	PREPROD	CONTR. NO.
RESISTOR	R35	CHANGE BY ECO ONLY	12-23-80
CAPACITOR	C116		
DIODE	CR3		
TRANSISTOR	Q9		
INDUCTOR	L4		
MICROELEMENT	U136	5977172 GRAPHIC-B	23 DEC 80
WIRING DIAGRAM		NEXT ASSY USED ON	

REVISION STATUS OF SHEETS
SHEET 1 2 3 4 5 6
REVISION B B B A A

SA SANDERS ASSOCIATES, INC.	NASHUA, NEW HAMPSHIRE
SCHEMATIC DIAGRAM VIDEO CONTROLLER	
E 94117	5977174
SCALE: NONE	
DO NOT SCALE PRINT	



REVISIONS		DATE	APPROVED
1	REL FOR PREPROD	2/24/84	...
2	REV. PER ECO 37130	2/28/84	...

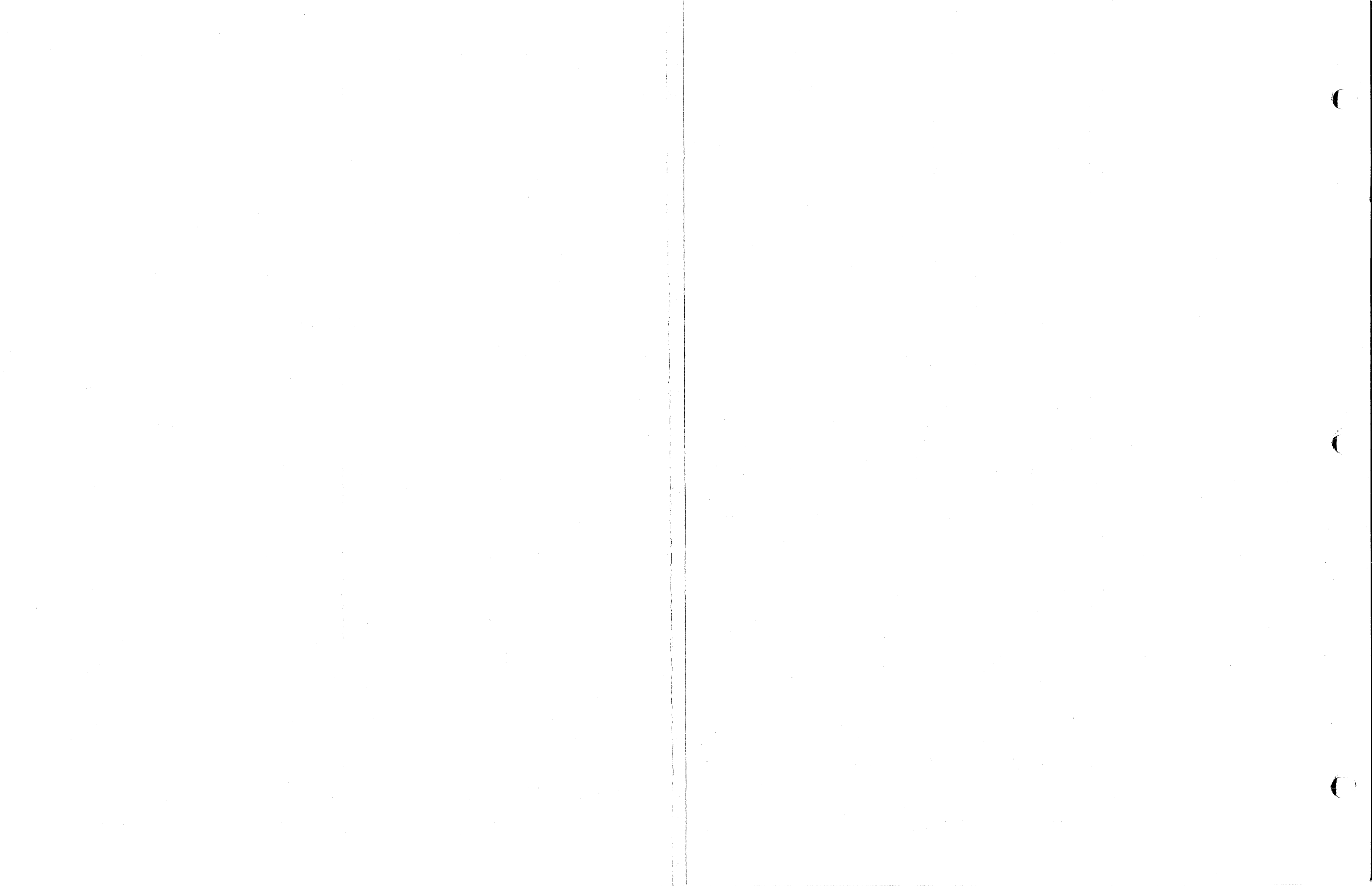


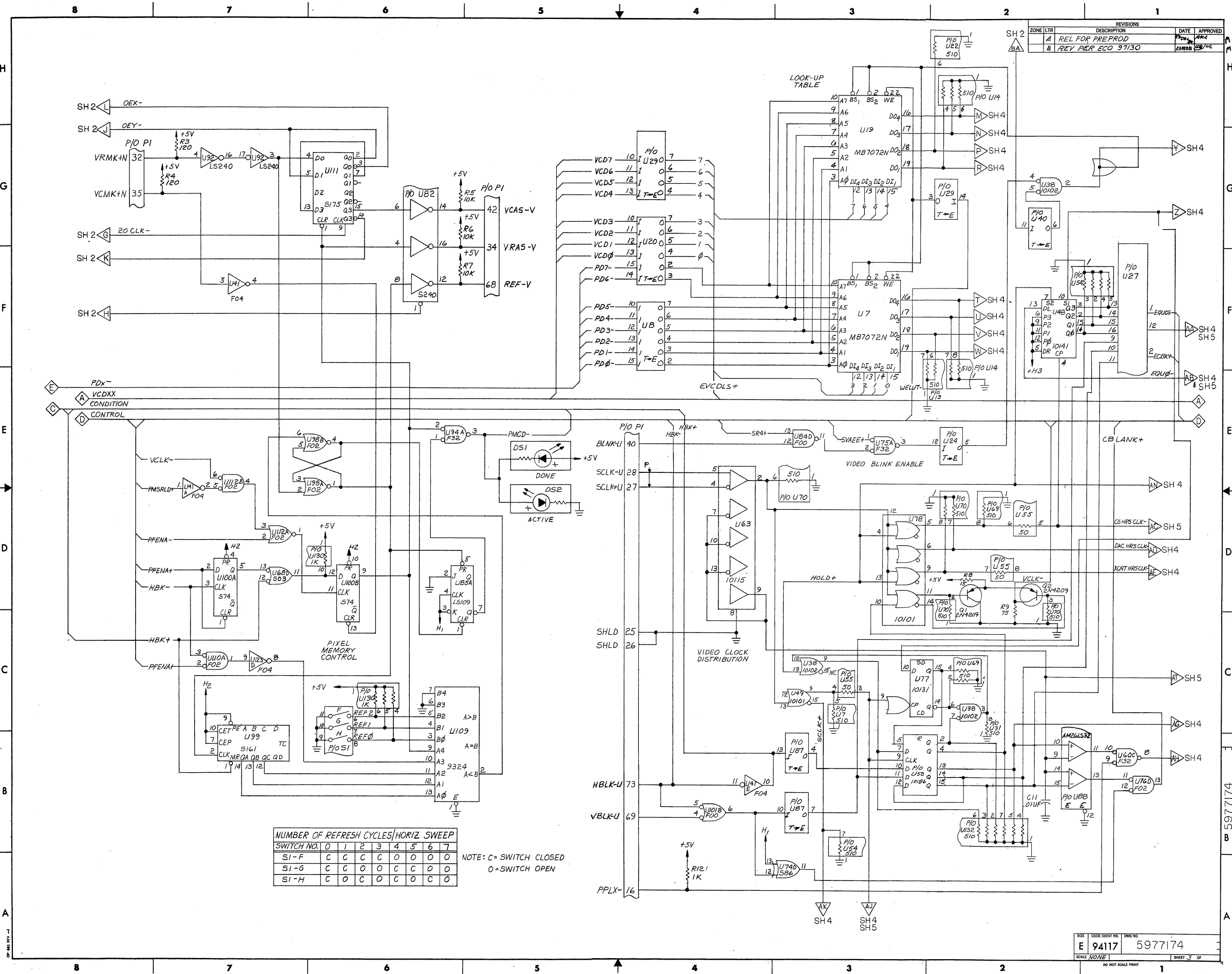
BLINK	
ENABLE/DISABLE	
S1-C OPEN	CLOSE
S2-G OPEN	CLOSE
S2-H CLOSE	OPEN

VIDEO CONTROLLER SELECT								
SWITCH NO.	1	2	3	4	5	6	7	8
S3-A	0	0	0	0	0	0	0	0
S3-B	0	0	0	0	0	0	0	0
S3-C	0	0	0	0	0	0	0	0
S3-D	0	0	0	0	0	0	0	0
S3-E	0	0	0	0	0	0	0	0
S3-F	0	0	0	0	0	0	0	0
S3-G	0	0	0	0	0	0	0	0
S3-H	0	0	0	0	0	0	0	0

NOTE: C = SWITCH CLOSED
O = SWITCH OPEN

INTERCONNECT TABLE			
PIXEL MEMORY SHIFT REG LENGTH			
8BITS	16BITS	32BITS	64BITS
A	R	NC	NC
B	Q	R	NC
C	P	NC	NC
D	M	NC	NC
E	N	NC	NC
F	L	NC	NC
G	K	NC	NC
H	J	NC	NC

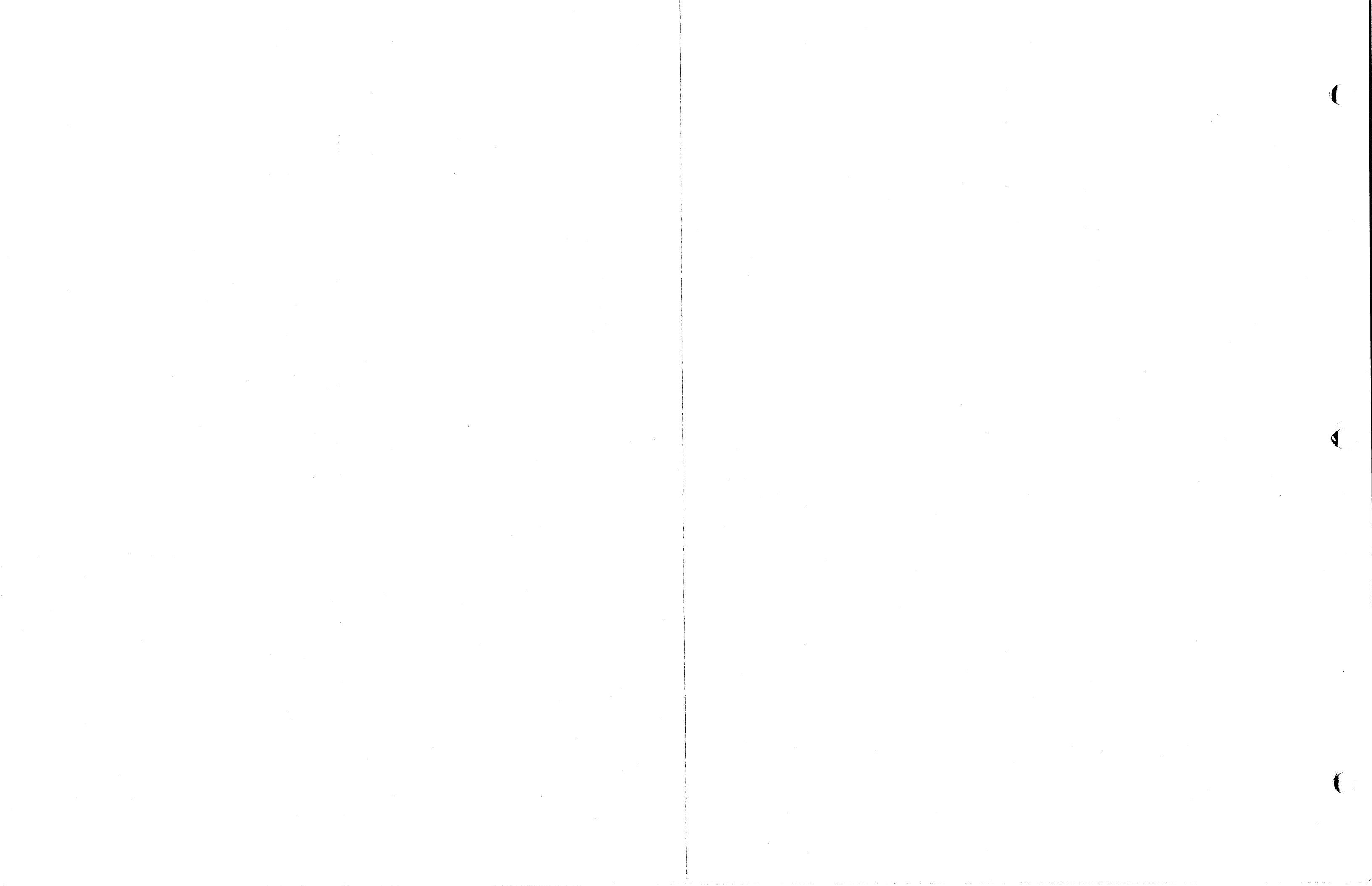


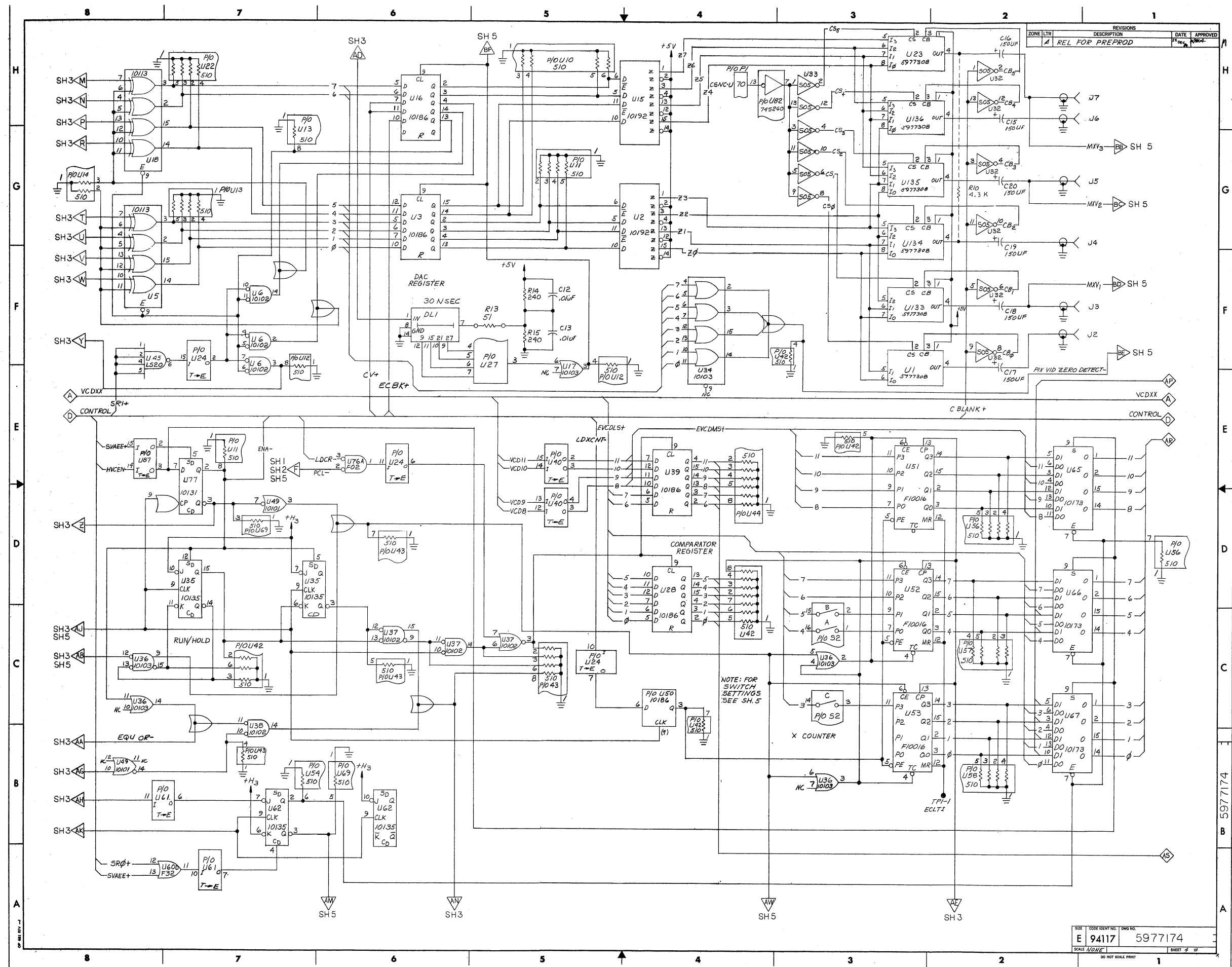


REVISIONS		DATE	APPROVED
1	REL FOR PREPROD	10/1/84	BA
2	REV PER ECO 97130	10/1/84	BA

NUMBER OF REFRESH CYCLES/HORIZ SWEEP	
SWITCH NO.	0 1 2 3 4 5 6 7
SI-F	C C C C O O O O
SI-G	C C C O O C C O O
SI-H	C O C O C O C O

NOTE: C= SWITCH CLOSED
O= SWITCH OPEN

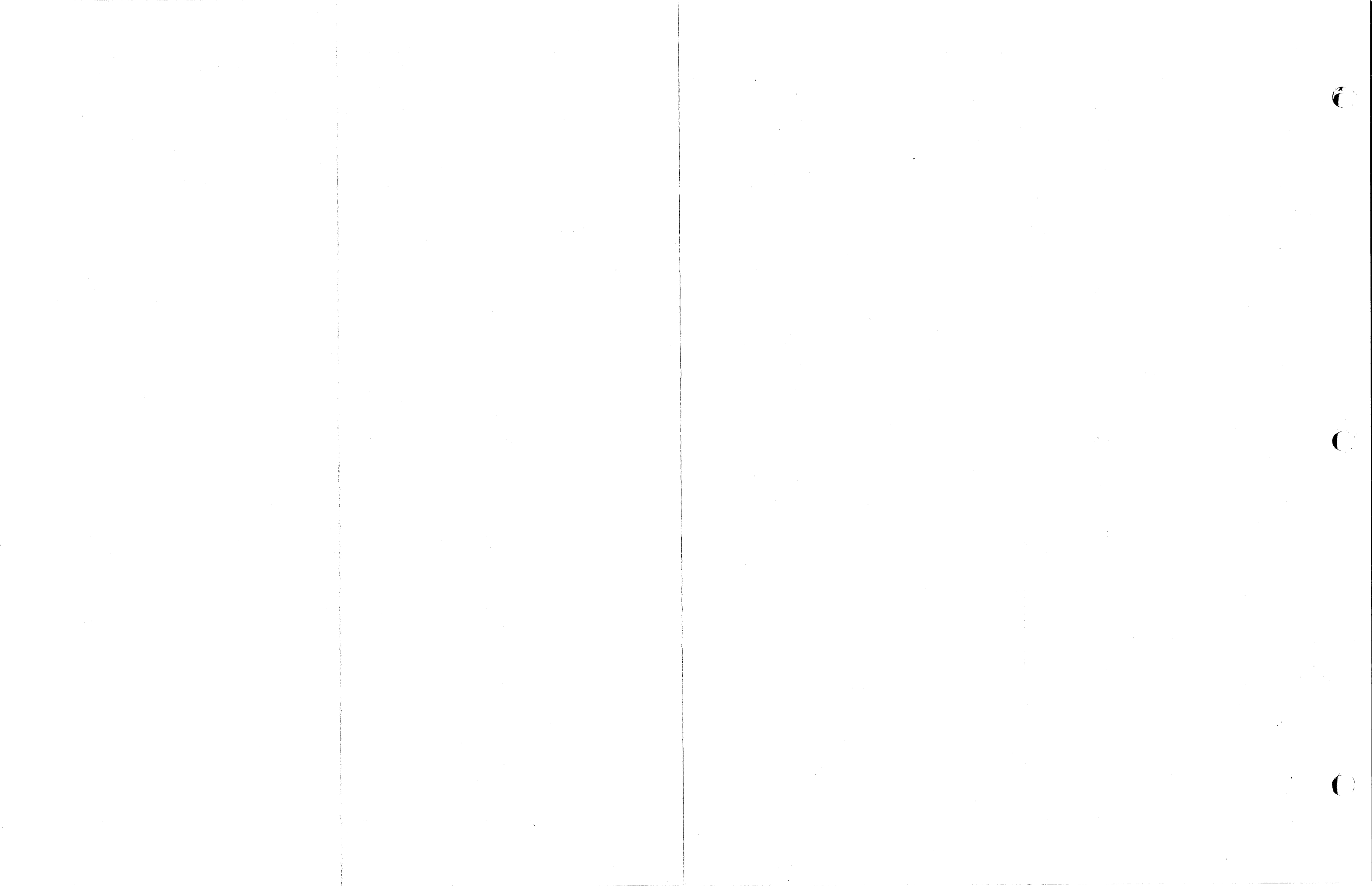




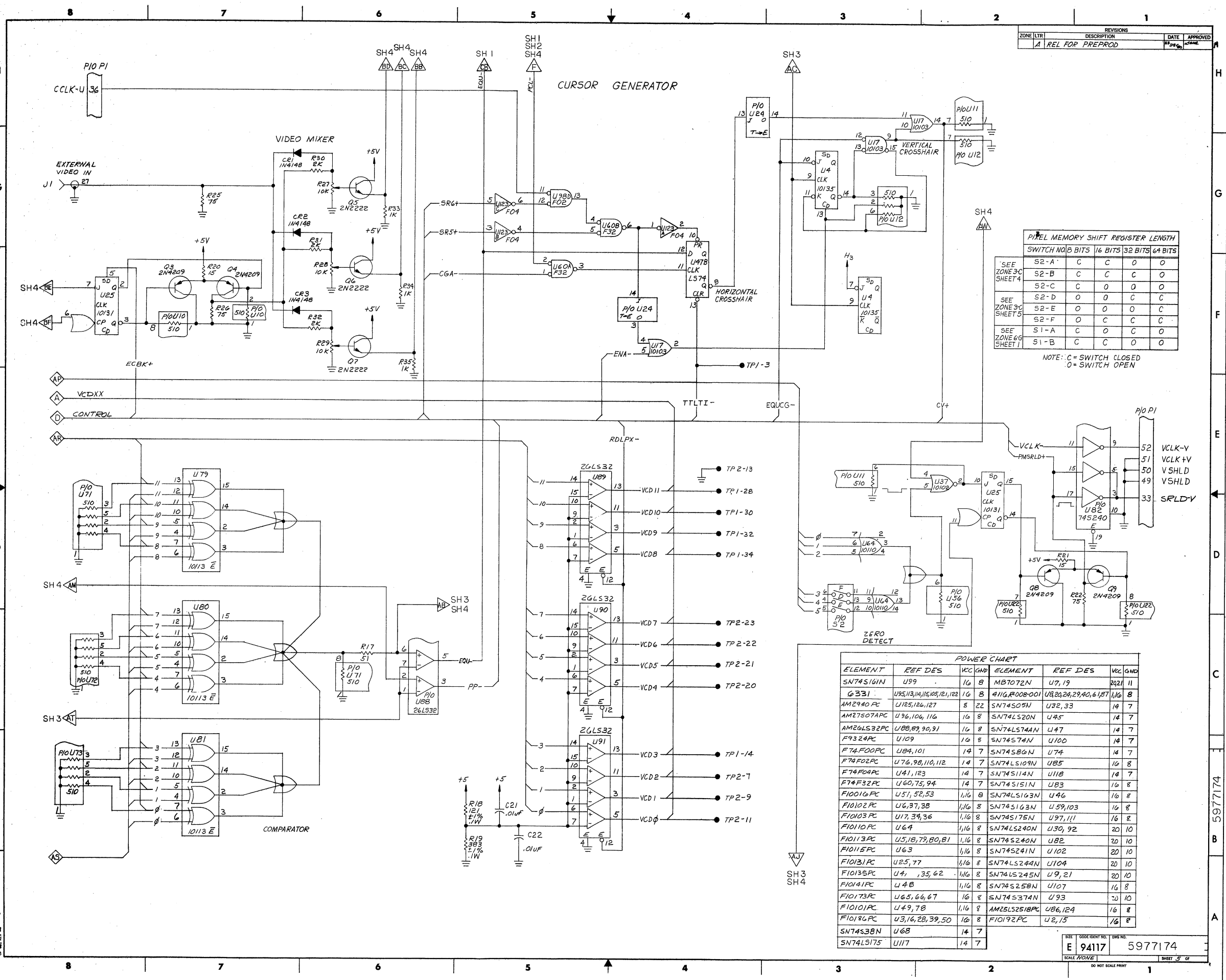
REVISIONS		DATE	APPROVED
ZONE	DESCRIPTION		
4	REL FOR PREPROD	12/14/64	

5977174

DO NOT SCALE PRINT



ZONE	LTR	DESCRIPTION	DATE	APPROVED
A	REL FOR PREPROD			



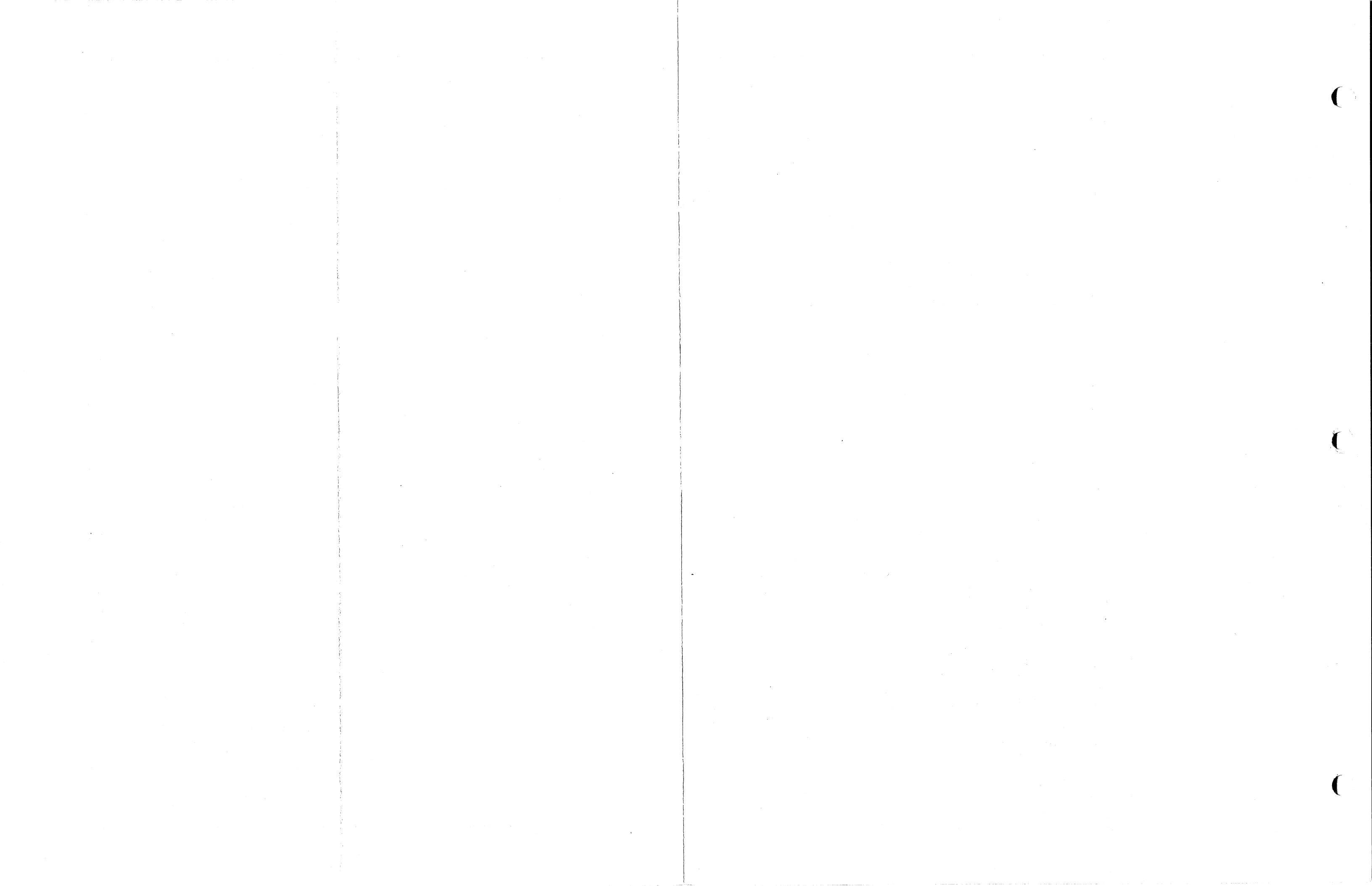
PIXEL MEMORY SHIFT REGISTER LENGTH

SWITCH NO	8 BITS	16 BITS	32 BITS	64 BITS
SEE ZONE 3C SHEET 4	S2-A	C	C	O
	S2-B	C	C	O
	S2-C	C	O	O
SEE ZONE 3C SHEET 5	S2-D	O	O	C
	S2-E	O	O	C
	S2-F	O	C	C
SEE ZONE 6G SHEET 1	S1-A	C	O	O
	S1-B	C	C	O

NOTE: C = SWITCH CLOSED
O = SWITCH OPEN

POWER CHART

ELEMENT	REF DES	KC	GND	ELEMENT	REF DES	KC	GND
SN74S161N	U99	16	8	MB7072N	U7, 19	20	11
G331	U95, 113, 114, 115, 105, 121, 122	16	8	4116R008-001	U9, 20, 24, 29, 40, 61, 87	11	8
AM2940PC	U125, 126, 127	8	22	SN74S05N	U32, 33	14	7
AM27507APC	U36, 104, 116	16	8	SN74LS20N	U45	14	7
AM26LS32PC	U88, 89, 90, 91	16	8	SN74LS74AN	U47	14	7
F9324PC	U109	16	8	SN74S74N	U100	14	7
F74F00PC	U84, 101	14	7	SN74S80N	U74	14	7
F74F02PC	U76, 98, 110, 112	14	7	SN74LS109N	U85	16	8
F74F04PC	U41, 123	14	7	SN74S114N	U118	14	7
F74F32PC	U60, 75, 94	14	7	SN74S151N	U83	16	8
F10016PC	U51, 52, 53	11	6	SN74LS163N	U46	16	8
F10102PC	U6, 37, 38	11	6	SN74S163N	U59, 103	16	8
F10103PC	U17, 34, 36	11	6	SN74S175N	U97, 111	16	8
F10110PC	U64	11	6	SN74LS240N	U30, 92	20	10
F10113PC	U5, 18, 79, 80, 81	11	6	SN74S240N	U82	20	10
F10115PC	U63	11	6	SN74S241N	U102	20	10
F10131PC	U25, 77	11	6	SN74LS244N	U104	20	10
F10135PC	U4, 35, 62	11	6	SN74LS245N	U9, 21	20	10
F10141PC	U48	11	6	SN74S258N	U107	16	8
F10173PC	U65, 66, 67	16	8	SN74S374N	U93	20	10
F10101PC	U49, 78	11	6	AM25LS2518PC	U86, 124	16	8
F10186PC	U3, 16, 28, 39, 50	16	8	F10192PC	U2, 15	16	8
SN74S38N	U68	14	7				
SN74LS175	U117	14	7				



REVISIONS

LTR	DESCRIPTION	DATE	APPROVED
-	REL FOR PREPROD	23 JAN 81	<i>[Signature]</i>

REVISION STATUS

SH	1	2	3	4	5	6	7	8	9	10	11	12
PARTS	-	-	-	-	-	-	-	-	-	-	-	-
REV	-	-	-	-	-	-	-	-	-	-	-	-
SH	13	14	15	16	17	18	19	20	21	22	23	24
REV												

LIST

DWG REV	-
WL REV	X

WARNING
 CHANGES ARE BEING PROCESSED AGAINST THIS DOCUMENT REFER TO 97104

3. ITEMS WITH SUBSCRIPTS ARE ALTERNATE ITEMS, USE ONE ONLY
2. PARTS LIST SHEET ONE IS THE CONTROLLING REVISION FOR THE COMBINED PARTS LIST, DRAWING AND WIRE LIST.
1. SHOP PRACTICE TOLERANCES AND DRAWING INTERPRETATION WITHIN 815002 SUPPLEMENT THIS DRAWING.

SA SANDERS ASSOCIATES, INC. NASHUA, NEW HAMPSHIRE		SA SANDERS ASSOCIATES, INC. NASHUA, NEW HAMPSHIRE	
CIRCUIT CARD ASSY		TIMING MODULE	
SIZE	CODE IDENT NO.	PL 5977168	
A	94117		
CONT NO. DR <i>[Signature]</i> JAN 81 APPD <i>[Signature]</i> 23 JAN 81 CHK DEV <i>[Signature]</i> 22 JAN 81 E/M <i>[Signature]</i> 1/27/81 ENGR <i>[Signature]</i> 1-23-81 GRG		APPLICATION FINAL GRA-8 NEXT ASSY USED ON	
PREPROD CHANGE BY ECO ONLY MFG <i>[Signature]</i> 1/23/81		SHEET 1 OF 7	

PARTS LIST

ITEM NO.	QTY PER ASSY		DWG SIZE	FSCM	PART OR IDENTIFYING NO.	DESCRIPTION	SYM
	G1						
1	1		B		5977169G1	CIRCUIT CARD SUBASSY TIMING MODULE INDUCTOR L3,4,5,6, OSCILLATOR, DIP 20 MHZ U46, DIODE, LIGHT EMITTING CR12, CAP. .1 U FARAD+ 80- 20% 50 WVDC C2,3,5,6,9,11, 13,14,15,21,26,27,29,31,38,41,44,46,49,52,54, 57,59,60,61,63-66,68,69,71,72,75,77,79,81,83, 84,86,88,90,92,94,96,98,100,102,104,106,109, 111,113,116,118,120,122,124,126,128,130,132, CAP. .1 U FARAD C2,3,5,6,9,11,13,14,15,21,26,27, 29,31,38,41,44,46,49,52,54,57,59,60,61,63-66, 68,69,71,72,75,77,79,81,83,84,86,88,90,92,94, 96,98,100,102,104,106,109,111,113,116,118,120, 122,124,126,128,130,132, CONNECTOR, ELECTRICAL PC BOARD (98 PIN) P1, BRACKET, CONN MTG	
2	4		A		4170692G1		
3	1		A		4174142P1		
4	1		A		4174297P1		
5	62			04222	DG015E104MAA		
5A	REF			56289	923CZ5U104M0508		
6	1		D		1086608P18	PROGRAMMED LOGIC (F93459PC) U26, PROGRAMMED LOGIC (F93459PC) U21, PROGRAMMED LOGIC (F93459PC) U20, PROGRAMMED LOGIC (F93459PC) U22, PROGRAMMED LOGIC (F93459PC) U25, PROGRAMMED LOGIC (F93459PC) U24, WASHER, LOCK, SPRING .115 ID X .209 OD RECP, BULKHEAD (BNC) J1-7, SCREW, MACHINE .112-40 X .31 LG, FLAT HD NUT, PLAIN, HEX .112-40 WASHER, FLAT-METAL .125 ID X .312 OD GROUND STRIP EJECTOR, CARD W/HARDWARE EYELET, METALLIC CAP. MIL-C-39003/1 22 U FARAD+ 10- 10 % 15 WVDC C47,55,107,114, CAP. MIL-C-39003/1 15 U FARAD+ 10- 10% 20 WVDC C135,136,	
8	1				5977189P1		
9	1				5977190P1		
10	1				5977190P2		
11	1				5977190P3		
12	1				5977190P4		
13	1				5977190P5		
14	1				5977190P6		
15	2				MS35338-135		
16	7		A		7012774P1		
17	2				MS24693-C3		
18	2				MS35649-244		
19	4				MS15795-804		
20	1		B		5977215P1		
21	2		A		600107P1		
22	2		A		630003P14		
23	4				M39003/01-2271		
24	2				M39003/01-2289		

3. SHEET ONE REVISION LETTER IS THE CONTROLLING REVISION FOR THIS MULTISHEET DWG	SIZE	FSCM NO.
2. SEE SHEET ONE FOR REVISION DESCRIPTIONS	A	94117
1. SYMBOL † INDICATES VENDOR ITEM - SEE SPEC/SOURCE CONTROL DWG.	PL 5 9 7 7 1 6 8	
	REV -	SHEET 2

P A R T S L I S T

ITEM NO.	QTY PER ASSY		DWG SIZE	FSCM	PART OR IDENTIFYING NO.	DESCRIPTION	SYM
	G1						
25	56			04222	DG015E103MAA	CAP. .01 U FARAD+ 80- 20% 50 WVDC C1,4,10,12,28, 30,32,34,36,37,40,42,43,45,48,50,51,53,56,58, 62,67,70,74,76,78,80,82,85,87,89,91,93,95,97, 99,101,103,105,108,110,112,115,117,119,121,123, 125, 127,129,133,134,137-140,	
25A	REF			56289	923CZ5U103M050B	CAP. .01 U FARAD C1,4,10,12,28,30,32,34,36,37, 40,42,43,45,48,50,51,53,56,58,62,67,70,74,76, 78,80,82,85,87,89,91,93,95,97,99,101,103,105, 108,110,112,115,117,119,121,123,125, 127,129,133,134,137-140,	
26	3				RCR07G750JS	RES MIL-R-39008/1 75 OHMS + 5- 5% .25 WATT R30, 31,32,	
28	2			01295	SN74S04N	MED, HEX INV U4,42,	
29	1			01295	SN74S08N	MED, GATES, AND/NAND U47,	
30	1			01295	SN74S10N	MED, TRIPLE 3-INP NAND GATE U53,	
31	1			01295	SN74S11N	MED, TRIPLE 3-INP POS AND GATE U57,	
32	1			01295	SN74LS74AN	MED, DUAL D-TYPE POS EDGE-TRIG FF WITH PRESET AND CLR U17,	
33	1			01295	SN7437N	MED, QUAD 2-INP NAND BUFFER U27,	
34	1			01295	SN7438N	MED, QUAD 2-INP NAND GATE OPEN COLL U18,	
35	2			01295	SN74S86N	MED, QUAD, 2-INP EXCL-OR-GATE U9,52,	
36	8			01295	SN74S163N	MED, BIN CNTR, SYN PRESET INP U28,31-34,36,38, 40,	
37	6			07263	F74S109PC	MED, DUAL J-K POS EDGE-TRIG PRESET AND CLR U39, 43-45,48,49,	
38	1			01295	SN74S240N	MED, OCTAL BUS DR INV 3-STATE U41,	
39	1			01295	SN74LS290N	MED, DECADE COUNTER DIVIDE-BY 2 AND BY-5 U55,	
40	2			01295	SN75121N	MED, LINE DR-SINGLE ENDED U8,14,	
41	1			01295	SN74LS293N	MED, 4-BIT BINARY COUNTER RIPPLE U50,	
42	2			01295	SN74S374N	MED, OCTAL D-TYPE EDGE-TRIG FF 3-STATE U51,56,	
43	1			27014	LM555CN	MED, TIMER U3,	
44	1			07263	F10101PC	MED, QUAD, 2-INP OR/NOR GATE U16,	
46	1			04713	MG4044P	MED, PHASE FREQ DETECTOR U35,	
46A	REF			07263	11G44DC	MED, PHASE FREQUENCY DETECTOR U35,	
47	1			01295	SN74S51N	MED, DUAL 2-WIDE AND-OR INV GATE U58,	

3. SHEET ONE REVISION LETTER IS THE CONTROLLING REVISION FOR THIS MULTISHEET DWG
 2. SEE SHEET ONE FOR REVISION DESCRIPTIONS
 1. SYMBOL † INDICATES VENDOR ITEM - SEE SPEC/SOURCE CONTROL DWG.

SIZE	FSCM NO.	REV	SHEET
A	94117	PL 5 9 7 7 1 6 8	3

P A R T S L I S T

ITEM NO.	QTY PER ASSY		DWG SIZE	FSCM	PART OR IDENTIFYING NO.	DESCRIPTION	SYM
	G1						
48	5			81349	1N4148-1	SEMICONV DEVICE, DIODE CR3,4,6,7,8,	
49	1			07688	1N753A	SEMICONV DEVICE, DIODE CR9,	
51	1			07688	1N9628	SEMICONV DEVICE, DIODE CR5,	
52	1			07688	1N4371A	SEMICONV DEVICE, DIODE CR1,	
53	5			81073	76RSB08S	SWITCH, DIP 8PST U6,10,12,30,37,	
55	3			07688	2N2222A	TRANSISTOR, NPN Q1,2,3,	
56	3			07688	2N918	SEMICONV DEVICE, XSTR Q5,6,7,	
57	2			07707	6010	EYELET	
58	AR		A	93002P1	93002P1	SOLDER	
59	REF		A	815003	815003	PW AND CKT BD, REQT FOR	
60	REF		E	5977170	5977170	LOGIC DIAGRAM TIMING MODULE	
61	1		A	4174352P1	4174352P1	MED, VOLTAGE COMPARTOR (UA710HC) U23,	
62	2		A	4174337P1	4174337P1	CAP., 1.0 UF, +-20%, 50V C35,73,	
63	1		A	RCR07G622JS	RCR07G622JS	RES MIL-R-39008/1 6.2 K OHMS + 5- 5% .25 WATT R61,	
64	3			RCR07G103JS	RCR07G103JS	RES MIL-R-39008/1 10 K OHMS + 5- 5% .25 WATT R26,27,44,60,	
65	7			RCR07G201JS	RCR07G201JS	RES MIL-R-39008/1 200 OHMS + 5- 5% .25 WATT R6, 10,13,19,33,39,57,	
66	9			RCR07G102JS	RCR07G102JS	RES MIL-R-39008/1 1 K OHMS + 5- 5% .25 WATT R25, 28,29,37,47,62,66,67,68,	
67	1			RCR07G123JS	RCR07G123JS	RES MIL-R-39008/1 12 K OHMS + 5- 5% .25 WATT R59,	
68	1			RCR20G391JS	RCR20G391JS	RES MIL-R-39008/2 390 OHMS + 5- 5% .5 WATT R63,	
69	1			RCR07G222JS	RCR07G222JS	RES MIL-R-39008/1 2.2 K OHMS + 5- 5% .25 WATT R58,	
70	2			RCR07G511JS	RCR07G511JS	RES MIL-R-39008/1 510 OHMS + 5- 5% .25 WATT R52, 54,	
71	3			RCR07G510JS	RCR07G510JS	RES MIL-R-39008/1 51 OHMS + 5- 5% .25 WATT R34, 55,56,	
72	1			RCR07G181JS	RCR07G181JS	RES MIL-R-39008/1 180 OHMS + 5- 5% .25 WATT R53,	
73	1			RCR07G271JS	RCR07G271JS	RES MIL-R-39008/1 270 OHMS + 5- 5% .25 WATT R50,	
74	1			RCR07G821JS	RCR07G821JS	RES MIL-R-39008/1 820 OHMS + 5- 5% .25 WATT R51,	
75	2			RCR07G121JS	RCR07G121JS	RES MIL-R-39008/1 120 OHMS + 5- 5% .25 WATT R64, 65,	

3. SHEET ONE REVISION LETTER IS THE CONTROLLING REVISION FOR THIS MULTISHEET DWG		FSCM NO.	
2. SEE SHEET ONE FOR REVISION DESCRIPTIONS		A 94117 PL 5 9 7 7 1 6 8	
1. SYMBOL † INDICATES VENDOR ITEM - SEE SPEC/SOURCE CONTROL DWG.		SIZE	REV
		A	—
			SHEET 9

P A R T S L I S T

ITEM NO.	QTY PER ASSY		DWG SIZE	FSCM	PART OR IDENTIFYING NO.	DESCRIPTION	SYM
	61						
76	2				RW81U3000F	RES MIL-R-26/6 300 OHMS + 1- 1% 1 WATT R2,4,	
77	2				RCR07G100JS	RES MIL-R-39008/1 10 OHMS + 5- 5% .25 WATT R7, 11,	
78	1				RCR07G111JS	RES MIL-R-39008/1 110 OHMS + 5- 5% .25 WATT R48,	
79	2				RCR07G820JS	RES MIL-R-39008/1 82 OHMS + 5- 5% .25 WATT R5,9,	
80	4				RCR07G621JS	RES MIL-R-39008/1 620 OHMS + 5- 5% .25 WATT R8, 12,14,20,	
82	1				RCR07G561JS	RES MIL-R-39008/1 560 OHMS + 5- 5% .25 WATT R36,	
83	2				RCR07G112JS	RES MIL-R-39008/1 1.1 K OHMS + 5- 5% .25 WATT R1,3,	
84	1				RCR07G152JS	RES MIL-R-39008/1 1.5 K OHMS + 5- 5% .25 WATT R38,	
85	1				RCR07G202JS	RES MIL-R-39008/1 2 K OHMS + 5- 5% .25 WATT R41,	
86	1				RCR07G472JS	RES MIL-R-39008/1 4.7 K OHMS + 5- 5% .25 WATT R40,	
87	1				RCR07G513JS	RES MIL-R-39008/1 51 K OHMS + 5- 5% .25 WATT R46,	
88	1				RCR07G683JS	RES MIL-R-39008/1 68 K OHMS + 5- 5% .25 WATT R45,	
89	1				RCR07G753JS	RES MIL-R-39008/1 75 K OHMS + 5- 5% .25 WATT R49,	
90	1				RCR07G242JS	RES MIL-R-39008/1 2.4 K OHMS + 5- 5% .25 WATT R35,	
91	4				RCR07G362JS	RES MIL-R-39008/1 3.6 K OHMS + 5- 5% .25 WATT R15,17,21,23,	
92	2		A		4174378P7	POTENTIOMETER, 1/4" DIA 1 K OHMS + 20- 20% .50 WATT R16,22,	#
93	1		A		4174378P10	POTENTIOMETER, 1/4" DIA 10 K OHMS + 20- 20% .50 WATT R42,	#
94	1			80294	3299W-1-203	POT 20 K OHMS R43,	
95	1				MS75087-711	COIL, RF .68 U HENRY+ 10- 10% L2,	
96	1		A		4174341P1	INDUCTOR, MOLDED 22 UH L1,	
97	1				CM05CD100DP3	CAP. MIL-C-5/18 10 P FARAD+.5PF-.5PF 500 WVDC C22,	

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SIZE	FSCM NO.	REV	SHEET
A	94117	—	5
PL 5 9 7 7 1 6 8			

PARTS LIST

ITEM NO.	QTY PER ASSY		DWG SIZE	FSCM	PART OR IDENTIFYING NO.	DESCRIPTION	SYM
	61						
98	1				CM05ED330JP3	CAP. MIL-C-5/18 33 P FARAD+ 5- 5% 500 WVDC C23,	
99	3				CM05ED510JP3	CAP. MIL-C-5/18 51 P FARAD+ 5- 5% 500 WVDC C7,8, 25,	
100	1				CM05FD151JP3	CAP. MIL-C-5/18 150 P FARAD+ 5- 5% 500 WVDC C20,	
101	1				M39003/01-2283	CAP. MIL-C-39003/1 2.2 U FARAD+ 10- 10% 20 WVDC C33,	
102	1			52769	GKR-40000	CAP. 5-40 P FARAD C24,	
103	1			07263	UA741TC	MED U54,	
103A	REF			27014	LM741CN	MED, LINEAR-OPNL AMPL U54,	
104	1			56117	H11-5041-5	MED U29, ANALOG SWITCH	
105	2	A			4174179P1	DUAL TRANSISTORS U1,2,	
106	1			07688	2N5114	SEMICOND DEVICE, XSTR.Q4,	
107	2			07688	1N9638	SEMICOND DEVICE, DIODE CR10,11,	
108	1				M39003/01-2274	CAP. MIL-C-39003/1 68 U FARAD+ 10- 10% 15 WVDC C131,	
109	1				M39003/01-2304	CAP. MIL-C-39003/1 6.8 U FARAD+ 10- 10% 35 WVDC C39,	
110	1			07688	1N270	SEMICOND DEVICE, DIODE CR2,	
111	3				M39003/01-2277	CAP. MIL-C-39003/1 150 U FARAD+ 10- 10% 15 WVDC C16,17,18,	
112	2			01295	SN74LS244N	MED, OCTAL BUS DR NON-INV 3-STATE, CMLPM C ONT U7,13,	†
113	4		A		165046PI	TEST POINT TP3-6,	
115	2				RCR20G621JS	RES MIL-R-39008/2 620 OHMS + 5- 5% .5 WATT R18, 24,	
116	15	A			278002P13	WIRE, ELEC AWG 22	†
117	1			02295	29F493	CAP. 2.5 U FARAD+ 10 -10% 50 WVDC C19,	
117A	REF			56289	151D235X9035X2	CAP. 2.3 U FARAD+ 10- 10% 35 WVDC C19,	
118	1			73138	898-1-R10K	RES 10 K OHMS U5,	
118A	REF			80294	4116R-002-103	RES, NETWORK U5,	
118B	REF			01121	316A103	RES PAC (15) 10 K OHMS U5,	
119	2			73138	898-1-R1K	RES, NETWORK 1 K OHMS U11,15,	
119A	REF			80294	4116R-002-102	RES, NETWORK U11,15,	

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 2. SEE SHEET ONE FOR REVISION DESCRIPTIONS
 1. SYMBOL † INDICATES VENDOR ITEM - SEE SPEC/SOURCE CONTROL DWG.

SIZE	FSCM NO.	REV	SHEET
A	94117	—	6
PL 5 9 7 7 1 6 8			

P A R T S L I S T

ITEM NO.	QTY PER ASSY		DWG SIZE	FSCM	PART OR IDENTIFYING NO.	DESCRIPTION	SYM
	G1						
119B	REF			01121	316A102	RES DIP U11,15,	# #
120	1			01295	SN74S74N	MED, DUAL D-TYPE POS EDGE-TRIG	
121	7	A			640048P1	FF WITH PRESET AND CLR U19,	
122	3	A			640085P2	MOUNTING PAD, ELEC-ELEK CMPNT	
123	3			19112	300-28-CCB	WAFER, THERMAL CONDUCTING	
7	1				5977239P1	SOCKET, 28 PIN DIP XU-22,24,25,	
124	17					RFI SHIELD	
125	1				270006P5	INSULATION TUBING	
126	1				4171182P1	LABEL, IDENT	
127	REF				4174291P1	LABEL, WARNING	
128	1		A		4171131	PROCEDURE FOR HANDLING MOS DEVICE	
130	2				RCR07G91AUS	RESISTOR R44	
					TC-131-P3	TAPE, TEOLAR, WHIT, .312 X .500	

3. SHEET ONE REVISION LETTER IS THE CONTROLLING REVISION FOR THIS MULTISHEET DWG
 2. SEE SHEET ONE FOR REVISION DESCRIPTIONS
 1. SYMBOL † INDICATES VENDOR ITEM - SEE SPEC/SOURCE CONTROL DWG.

SIZE FSCM NO.

A

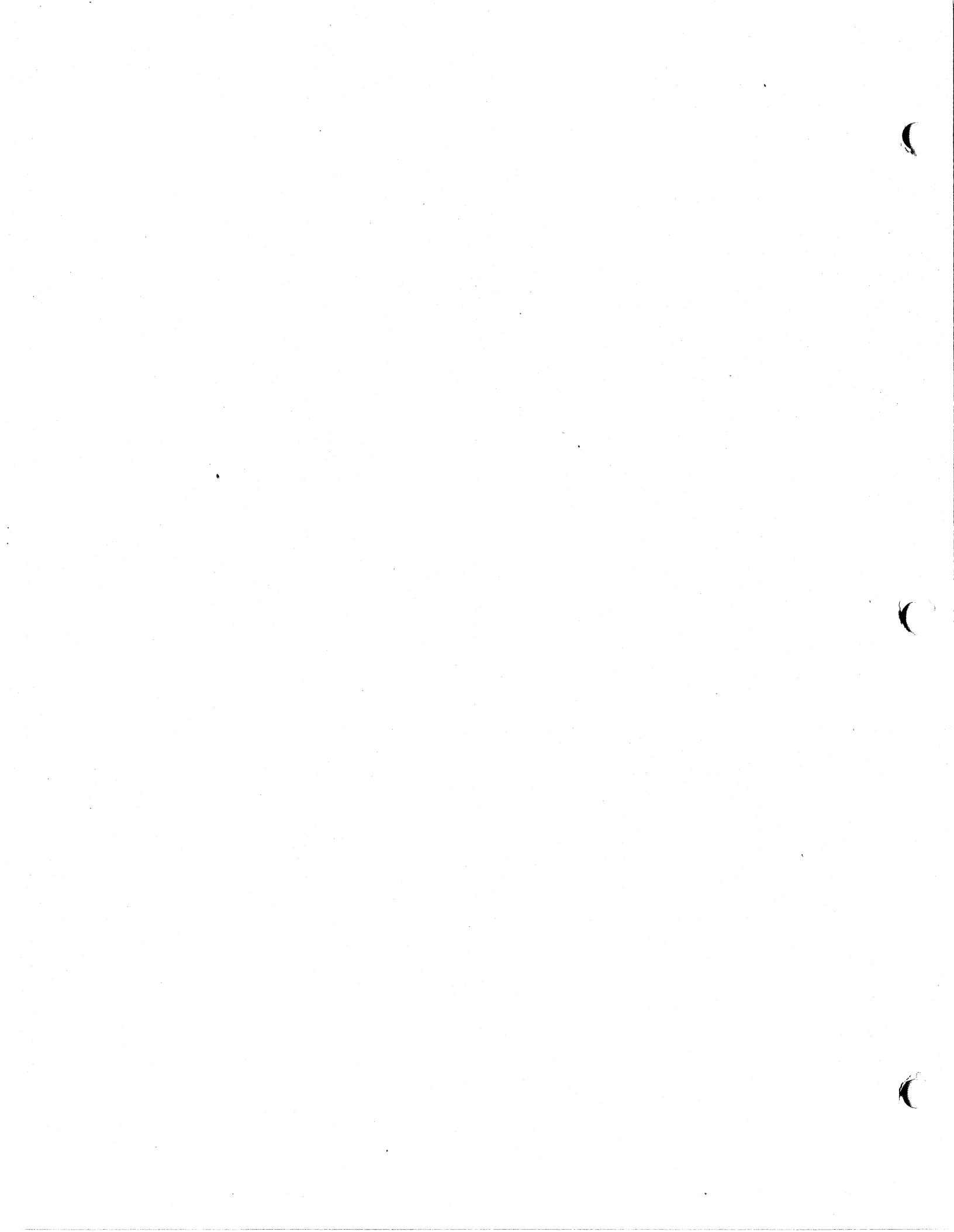
94117

PL 5 9 7 7 1 6 8

REV --

SHEET

7



REVISIONS			
ZONE	LTR	DESCRIPTION	DATE APPROVED
-	-	REL FOR PREPROD	25 JUN 67

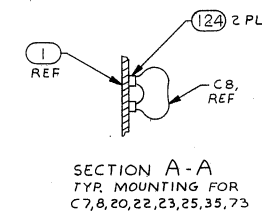
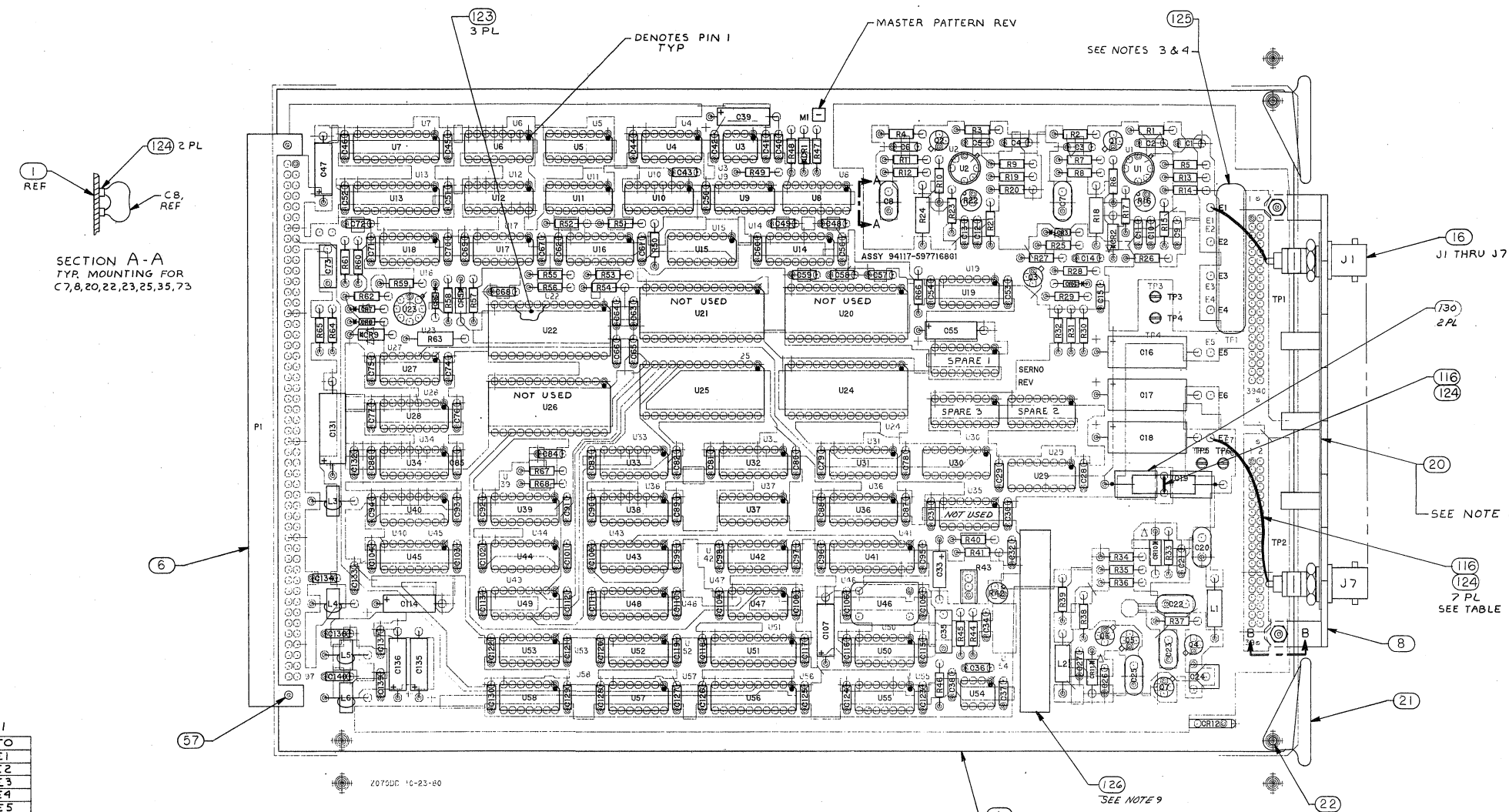
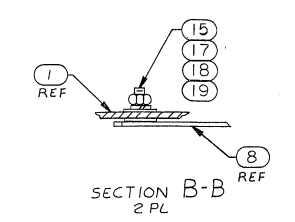
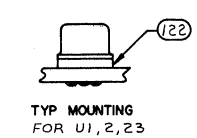
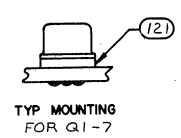


TABLE I

FROM	TO
J1	E1
J2	E2
J3	E3
J4	E4
J5	E5
J6	E6
J7	E7

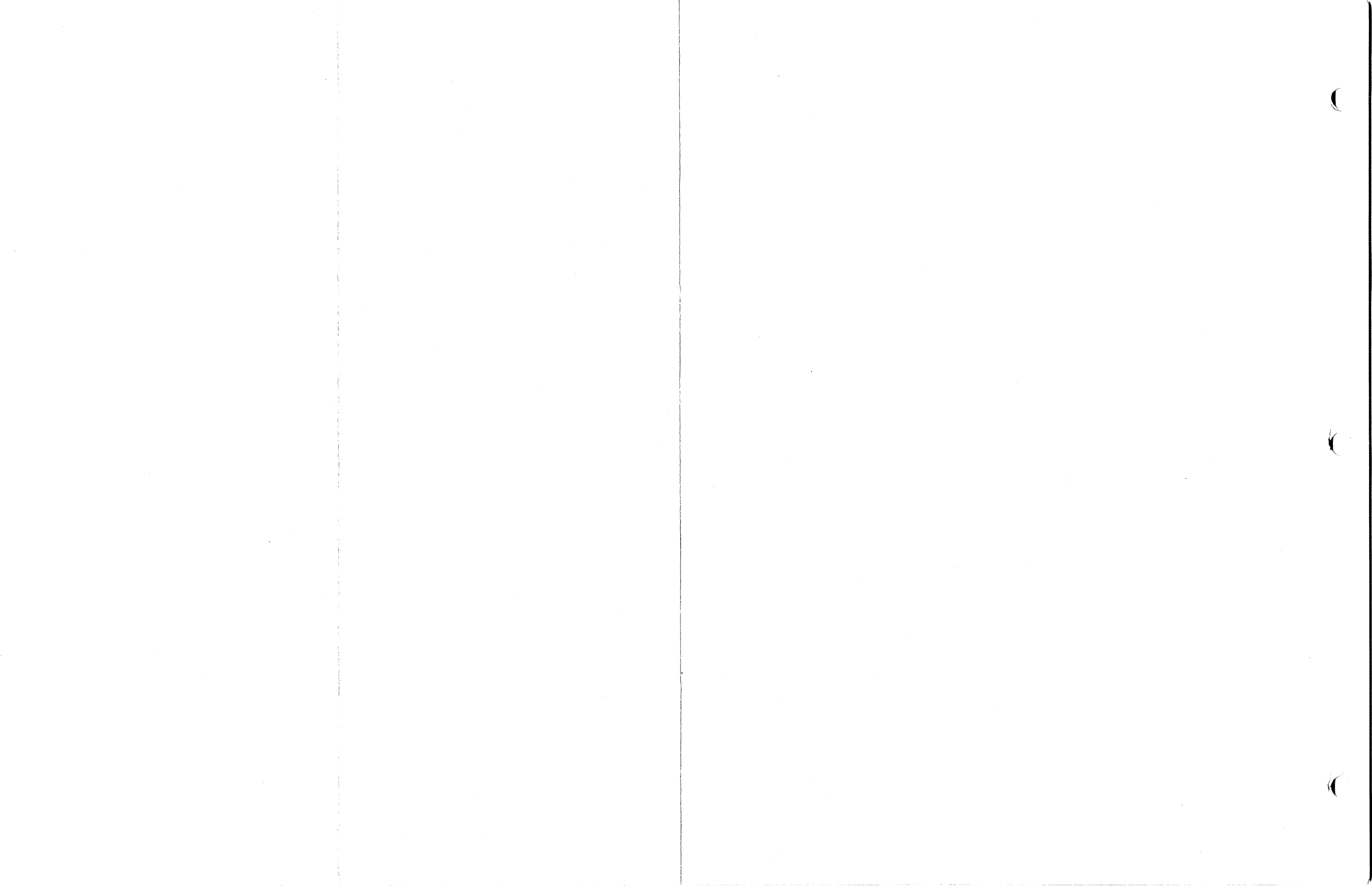


(G1) FOR PARTS LIST
REF. 5977168

WARNING
CHANGES ARE BEING PROCESSED
AGAINST THIS DOCUMENT.
REFER TO 92104

- 10 U20, 21, 26 AND 35 ARE NOT USED ON THIS ASSY.
 - 9. WARNING: MOS DEVICES, SPECIAL HANDLING REQUIRED FOR ITEM 104. SEE ITEM 127.
 - 8. TABS ON ITEM 20 TO BE SOLDERED TO GROUND PLANE NEARBY USING ITEM 58.
 - 7. SOLDER TIPS OR WIRE TO BE .06 MAX FROM BOARD
 - 6. MAX COMPONENT HEIGHT TO BE .380
 - 5. OTHER THAN SPECIFICALLY NOTED, CHARACTERS ARE REFERENCE AND NOT TO BE MARKED.
 - 4. MARK PART NO., SERNO AND REV PERMANENT AND LEGIBLE. MARKING METHOD OPTIONAL.
 - 3. PARTS LIST SHEET ONE IS THE CONTROLLING REVISION FOR THE COMBINED PARTS LIST AND DRAWING.
 - 2. THIS ASSY SHALL MEET THE REQUIREMENTS OF ITEM 59.
 - 1. SHOP TOLERANCES AND DRAWING INTERPRETATION WITHIN 815002 SUPPLEMENT THIS DRAWING.
- NOTES: UNLESS OTHERWISE SPECIFIED

QTY PER ASSY	UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES	TOLERANCES	XXX DECIMAL	ANGLES	CONTR. NO.	DATE	DESCRIPTION
1							
PREPROD					PARTS LIST		
CHANGE BY EDD ONLY					CIRCUIT CARD ASSY		
APPLICATION					TIMING MODULE		
MFG. P. M. Sherman 1976					E 94117 5977168		
					SCALE 2/1		



ZONE	TR	DESCRIPTION	DATE	APPROVED
-	-	REL FOR PREPROD	12/28/81	

REVISION STATUS OF SHEETS				
SHEET	1	2	3	4
REVISION	-	-	-	-

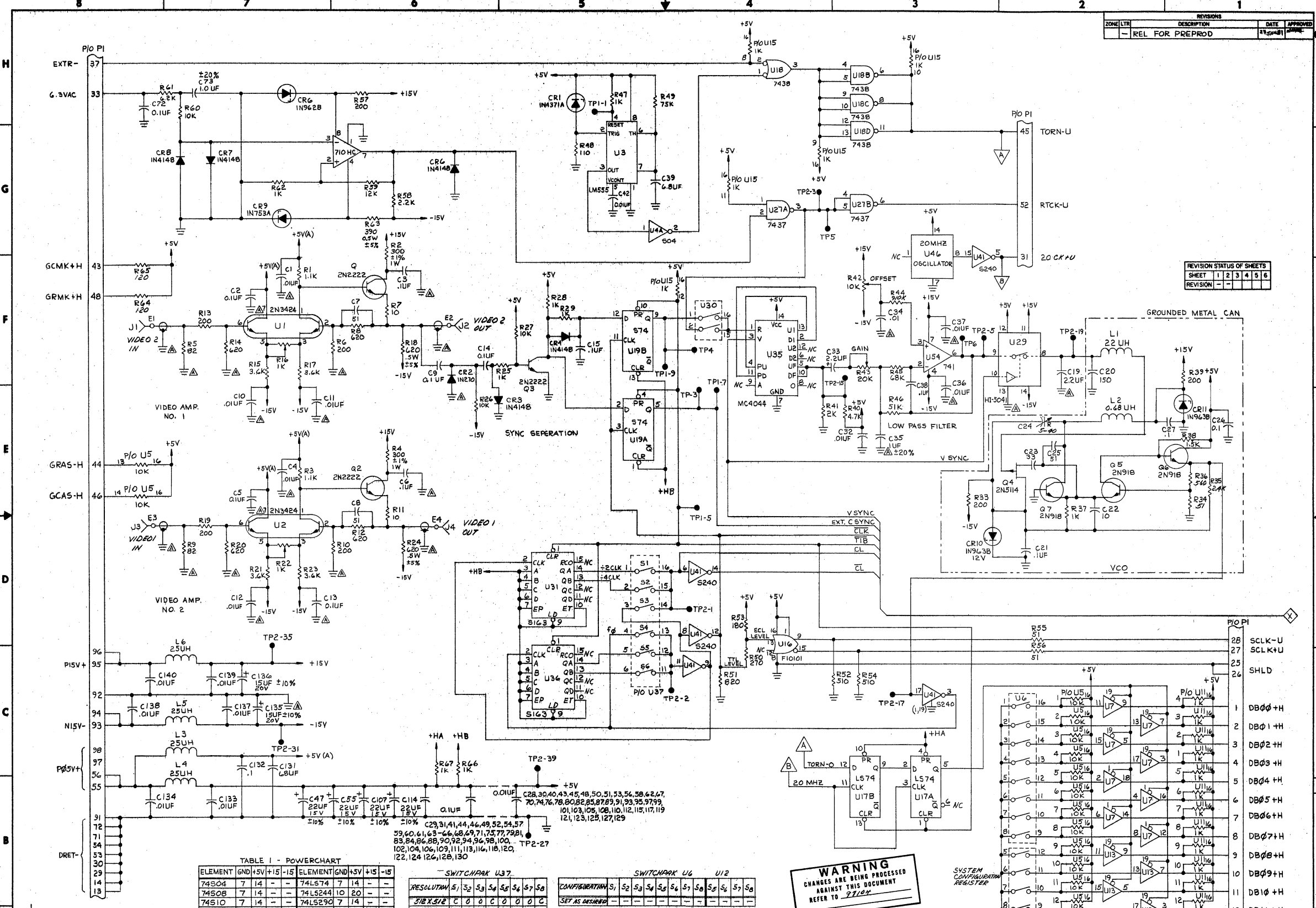


TABLE 1 - POWERCHART

ELEMENT	GND	+5V	+15	-15	ELEMENT	GND	+5V	+15	-15
74S04	7	14	-	-	74LS74	7	14	-	-
74S08	7	14	-	-	74LS244	10	20	-	-
74S10	7	14	-	-	74LS290	7	14	-	-
74S11	7	14	-	-	74LS293	7	14	-	-
74S51	7	14	-	-	75121	8	14	-	-
74S86	7	14	-	-	F10101	8	14	-	-
74S109	8	16	-	-	F93459	14	28	-	-
74S163	8	16	-	-	HI-5041	13	12	11	14
74S240	10	20	-	-	LM555	1	8	-	-
74S374	10	20	-	-	MC4044	7	14	-	-
7437	7	14	-	-	UA710K	1	8	4	-
7438	7	14	-	-	741	-	7	4	-

SWITCHPAK U37

RESOLUTION	S1	S2	S3	S4	S5	S6	S7	S8
512 X 512	0	0	0	0	0	0	0	0
640 X 480	0	0	0	0	0	0	0	0

SWITCHPAK U4

RESOLUTION	S1	S2	S3	S4	S5	S6	S7	S8
512 X 512	0	0	0	0	0	0	0	0
640 X 480	0	0	0	0	0	0	0	0

SWITCHPAK U10

RESOLUTION	S1	S2	S3	S4	S5	S6	S7	S8
512 X 512	0	0	0	0	0	0	0	0
640 X 480	0	0	0	0	0	0	0	0

SWITCHPAK U12

RESOLUTION	S1	S2	S3	S4	S5	S6	S7	S8
512 X 512	0	0	0	0	0	0	0	0
640 X 480	0	0	0	0	0	0	0	0

WARNING
CHANGES ARE BEING PROCESSED
AGAINST THIS DOCUMENT
REFER TO 27104

1. DESIGNATES ANALOG GROUND.
2. REFERENCE DESIGNATIONS ARE ABBREVIATED. PREFIX THE DESIGNATIONS WITH UNIT NO. OR ASSEMBLY DESIGNATION OR BOTH.
3. UNLESS OTHERWISE SPECIFIED, RESISTANCE VALUES ARE IN OHMS. RESISTORS ARE $\pm 5\%$, $25W$. $R=1,000$.
4. CAPACITANCE VALUES ARE IN MICROFARADS. CAPACITORS ARE $\pm 5\%$, $50V$, $\pm 80V$, $\pm 20V$.
5. INDUCTANCE VALUES ARE IN MICROHENRIES.
6. INTERPRET DRAWING PER 818002
- NOTES

NON-INTERLACED
O - SWITCH OPEN
C - SWITCH CLOSED
X - DON'T CARE

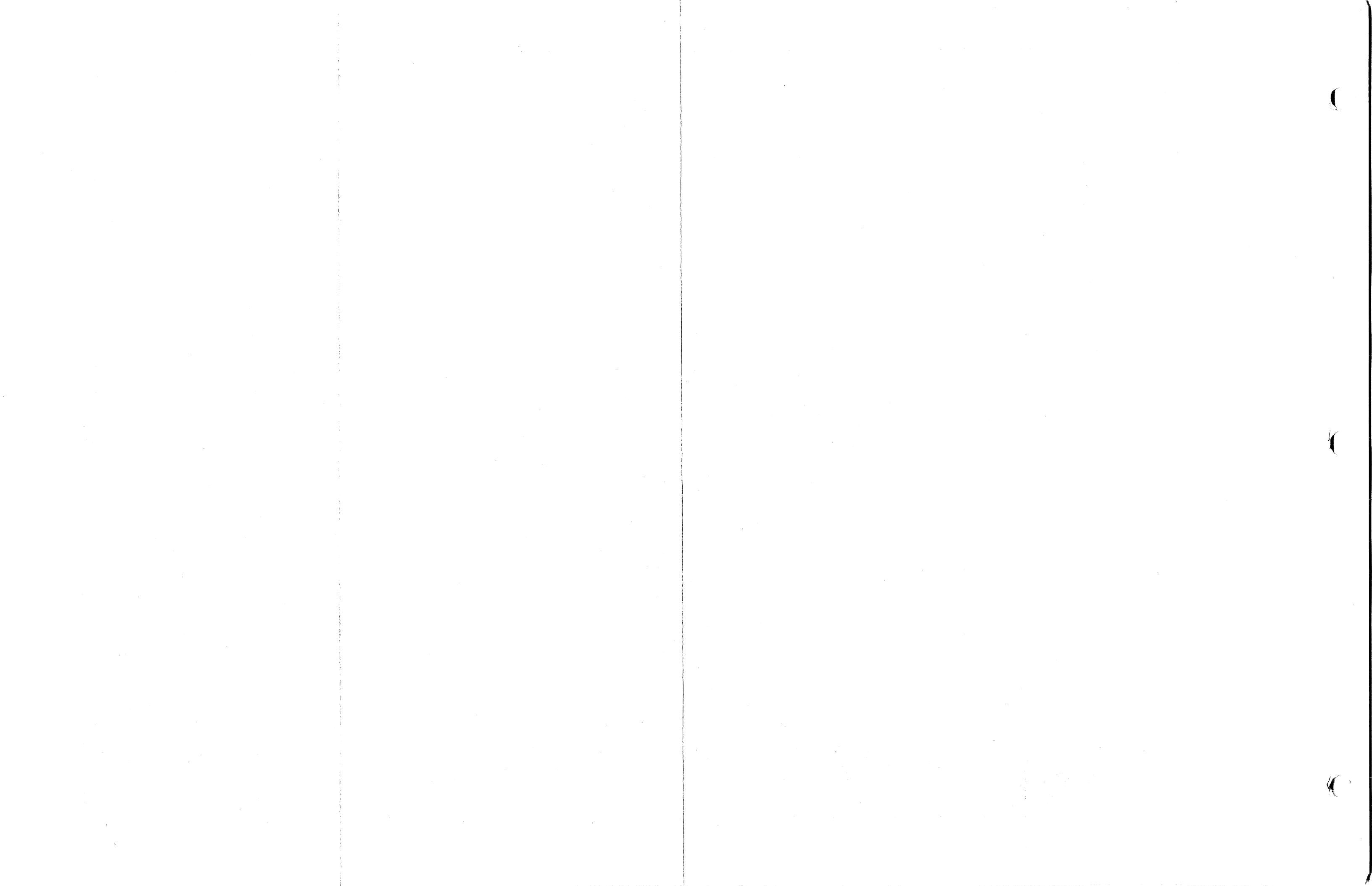
DESCRIPTION	LAST NO.	DELETED NO.	PREPROD	DATE
RESISTOR	R48		1-23-81	2 SEPT 80
CAPACITOR	C140		1-23-81	22 JAN 81
DIODE	CR12		1-23-81	26 JAN 81
TRANSISTOR	Q7		1-23-81	
INDUCTOR	L6		1-23-81	
MICROLELEMENT	U58		1-23-81	

LOGIC DIAGRAM
TIMING MODULE

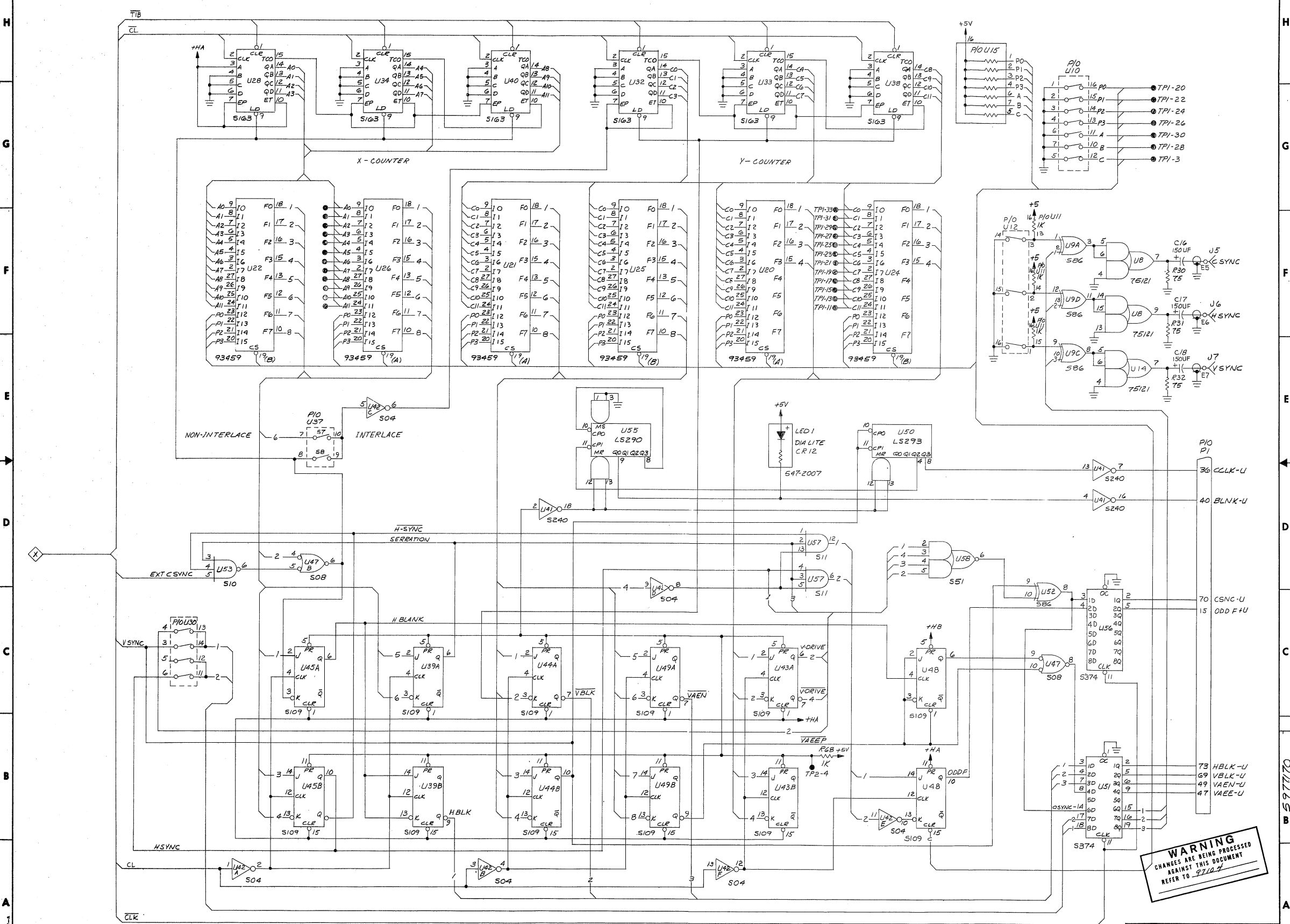
E 94117 5977170

SCALE: NONE

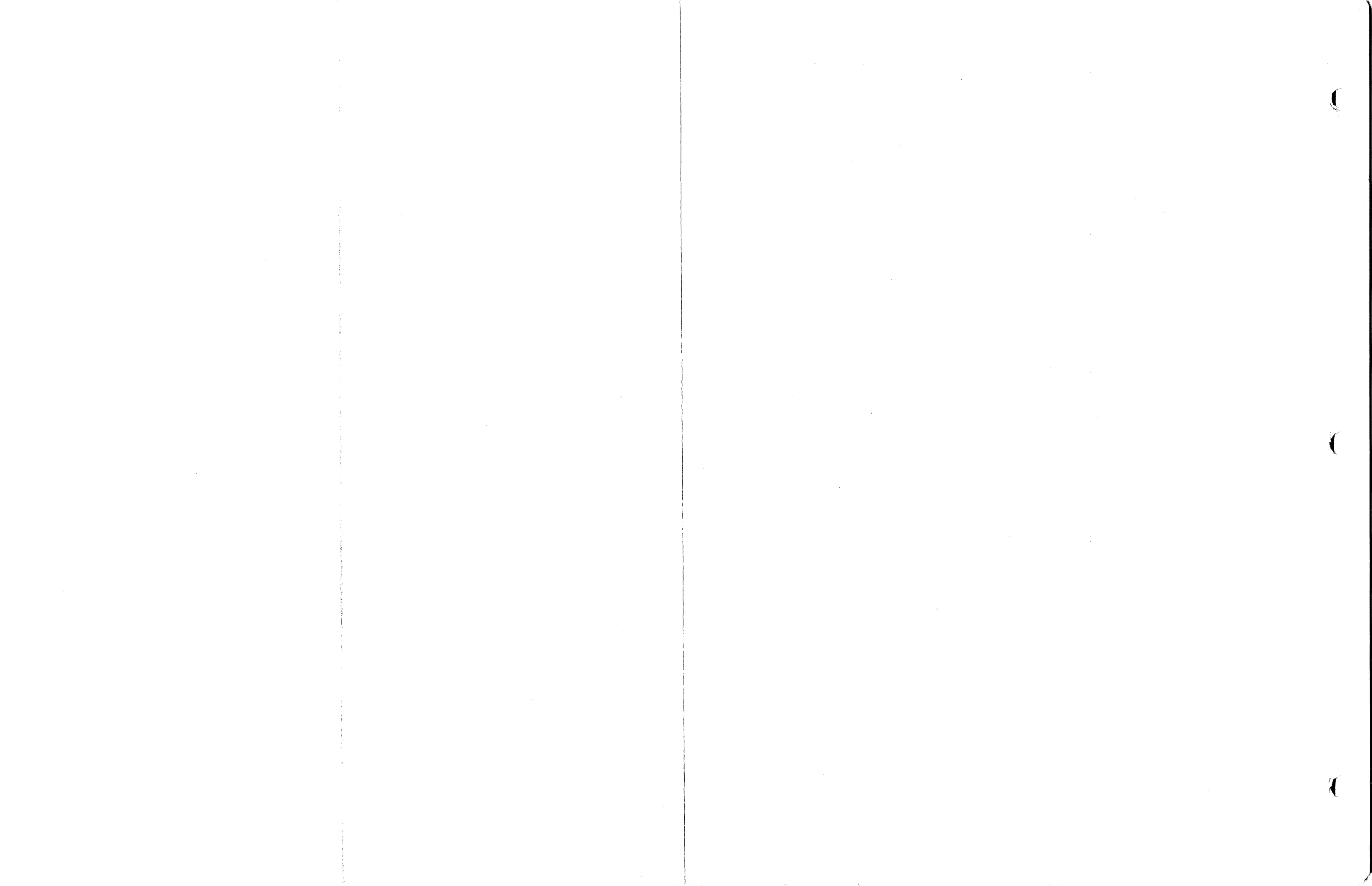
SHEET 1 OF 2



REVISIONS		DATE	APPROVED
1	REL FOR PREPROD	2/24/81	[Signature]



WARNING
 CHANGES ARE BEING PROCESSED
 AGAINST THIS DOCUMENT
 REFER TO 97107



THE INTENT AND PURPOSE OF THIS PUBLICATION IS TO PROVIDE ACCURATE AND MEANINGFUL INFORMATION TO SUPPORT EQUIPMENT MANUFACTURED BY SANDERS ASSOCIATES, INC. YOUR COMMENTS AND SUGGESTIONS ARE REQUESTED.

PLEASE USE THE FORM ON THE REVERSE SIDE TO REPORT ANY PROBLEMS YOU HAVE HAD WITH THIS PUBLICATION OR THE EQUIPMENT IT DESCRIBES.

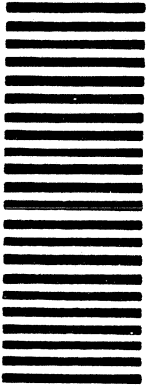
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Host-GRAPHIC 8 interface _____

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firmware manual

Related tech manual number _____