

TU77 Magnetic Tape Transport Technical Manual Volume I

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UNIBUS	VAX	RSX
	VMS	IAS

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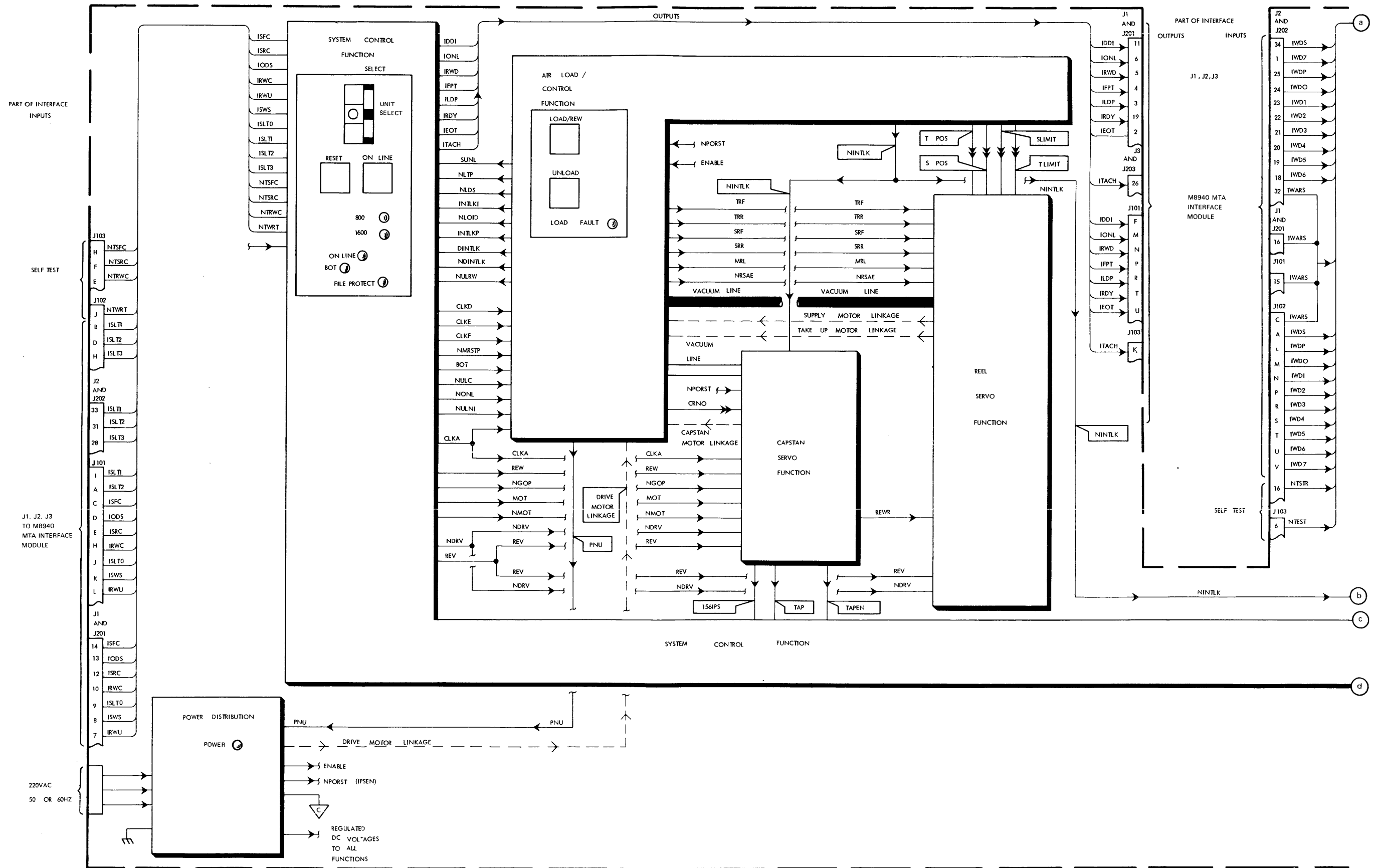
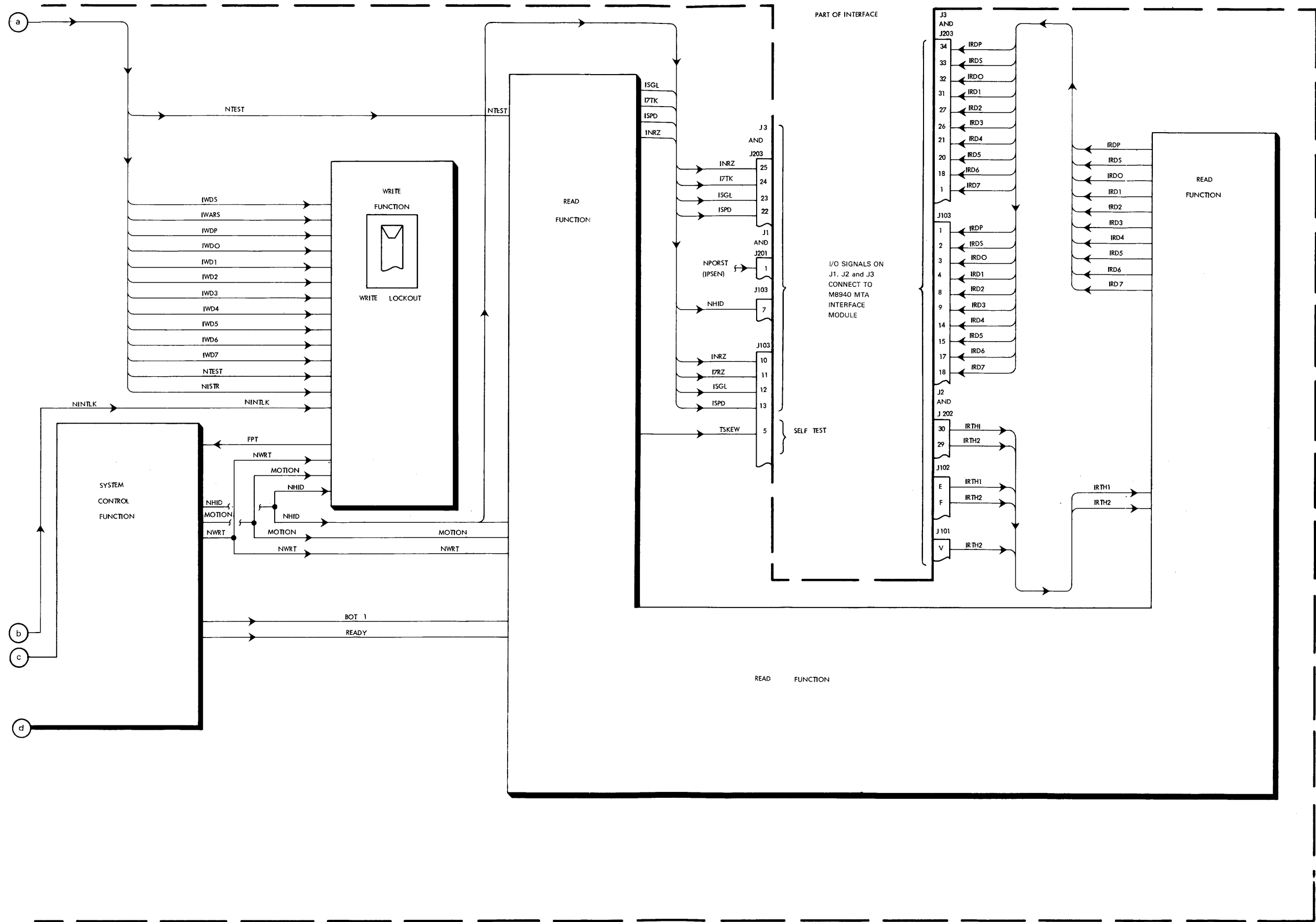


Figure 1 System Functional Block Diagram (Sheet 1 of 2)



MA-5780

Figure 1 System Functional Block Diagram (Sheet 2 of 2)

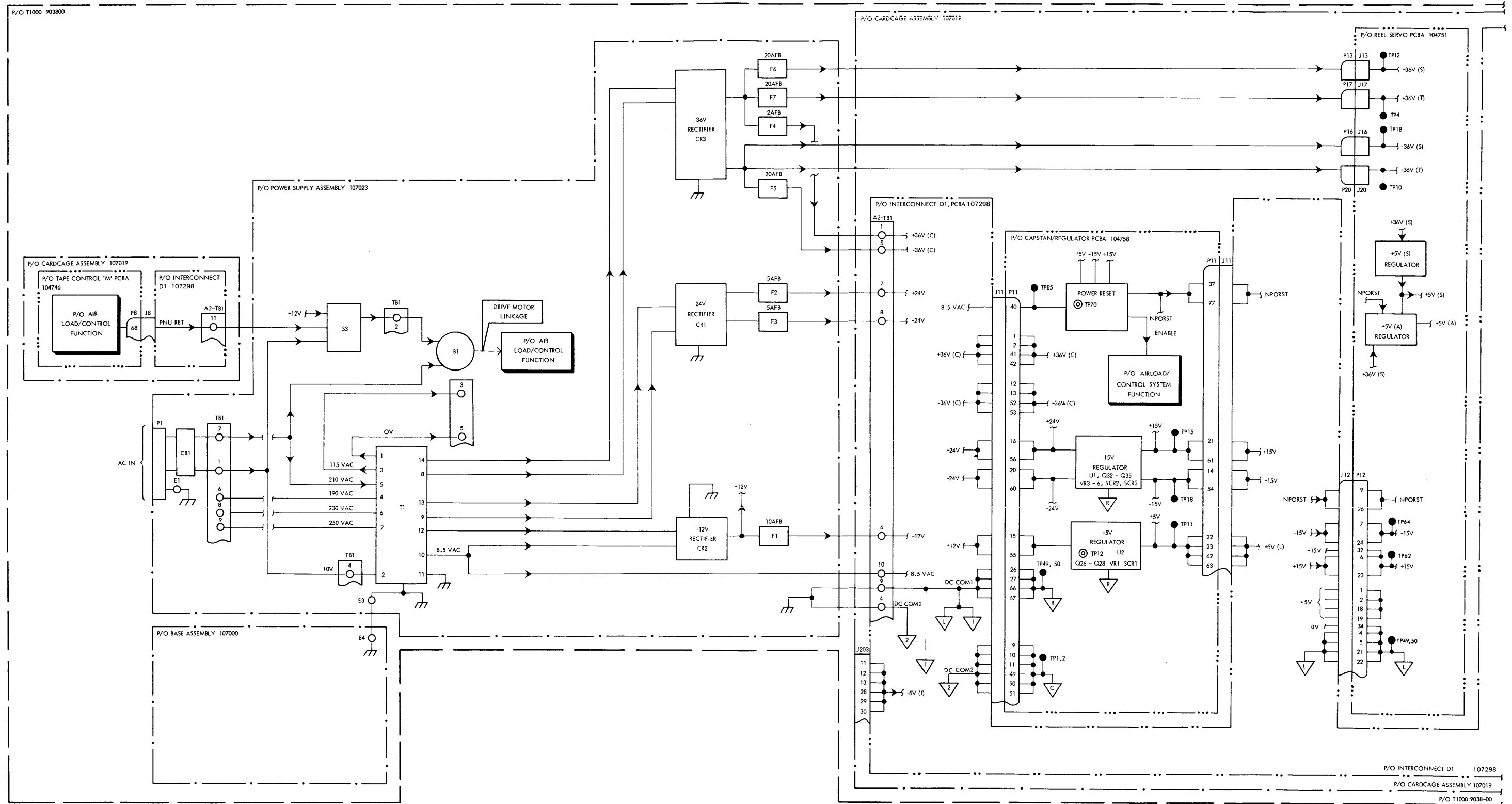
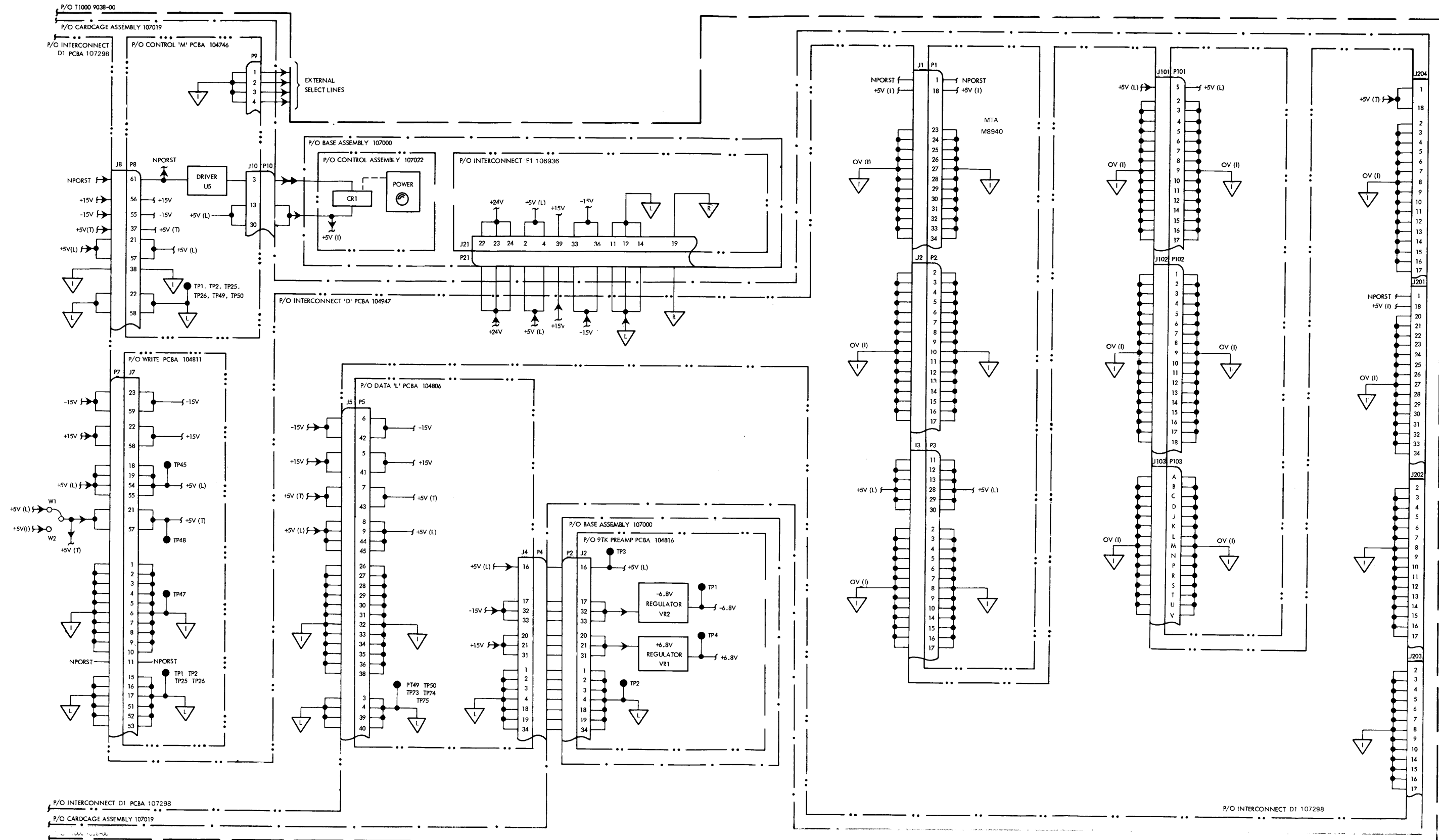
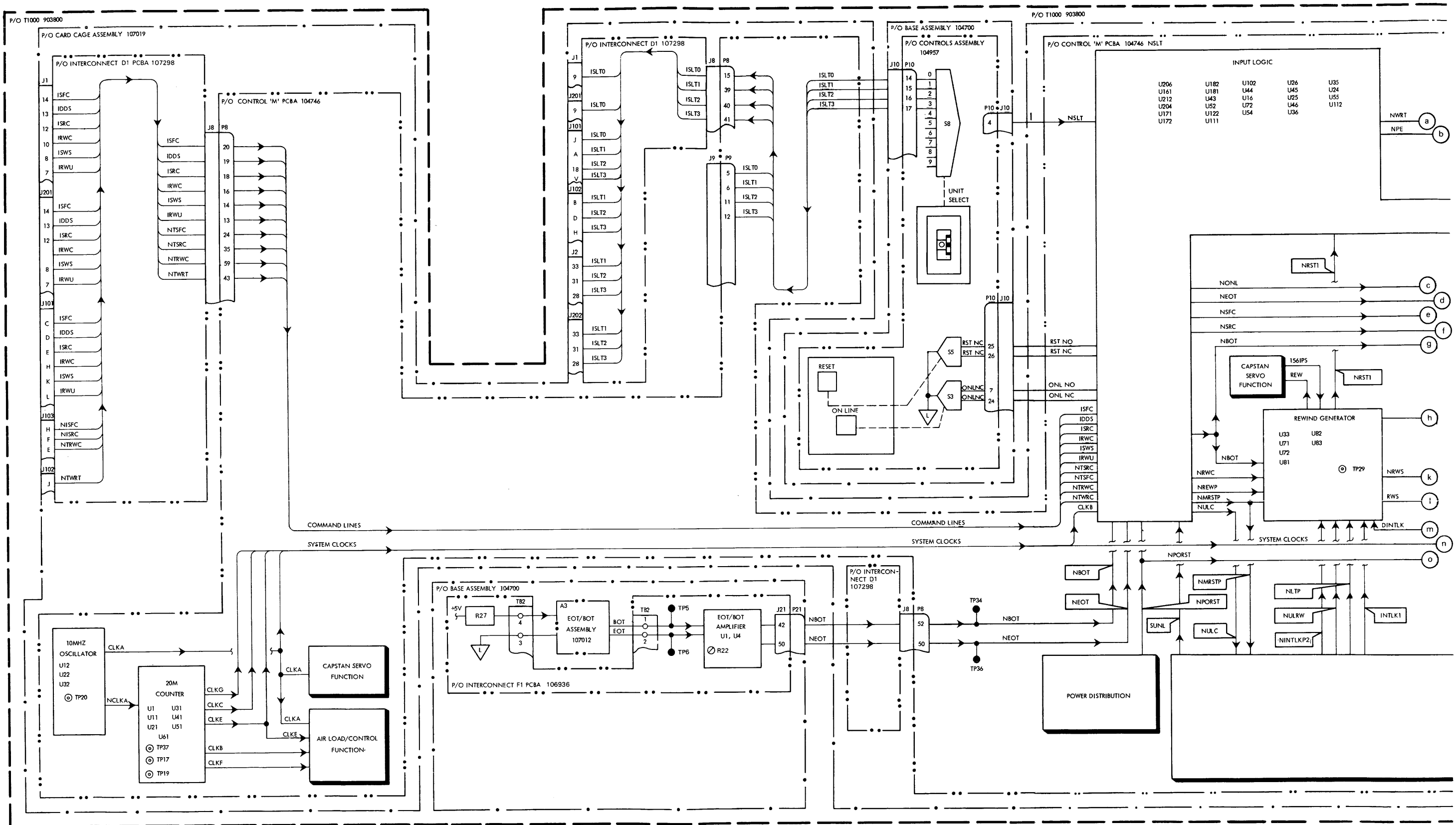


Figure 2 Power Supply and Distribution Functional Block Diagram (Sheet 1 of 2)





MA-5783

Figure 3 System Control Functional Block Diagram (Sheet 1 of 2)

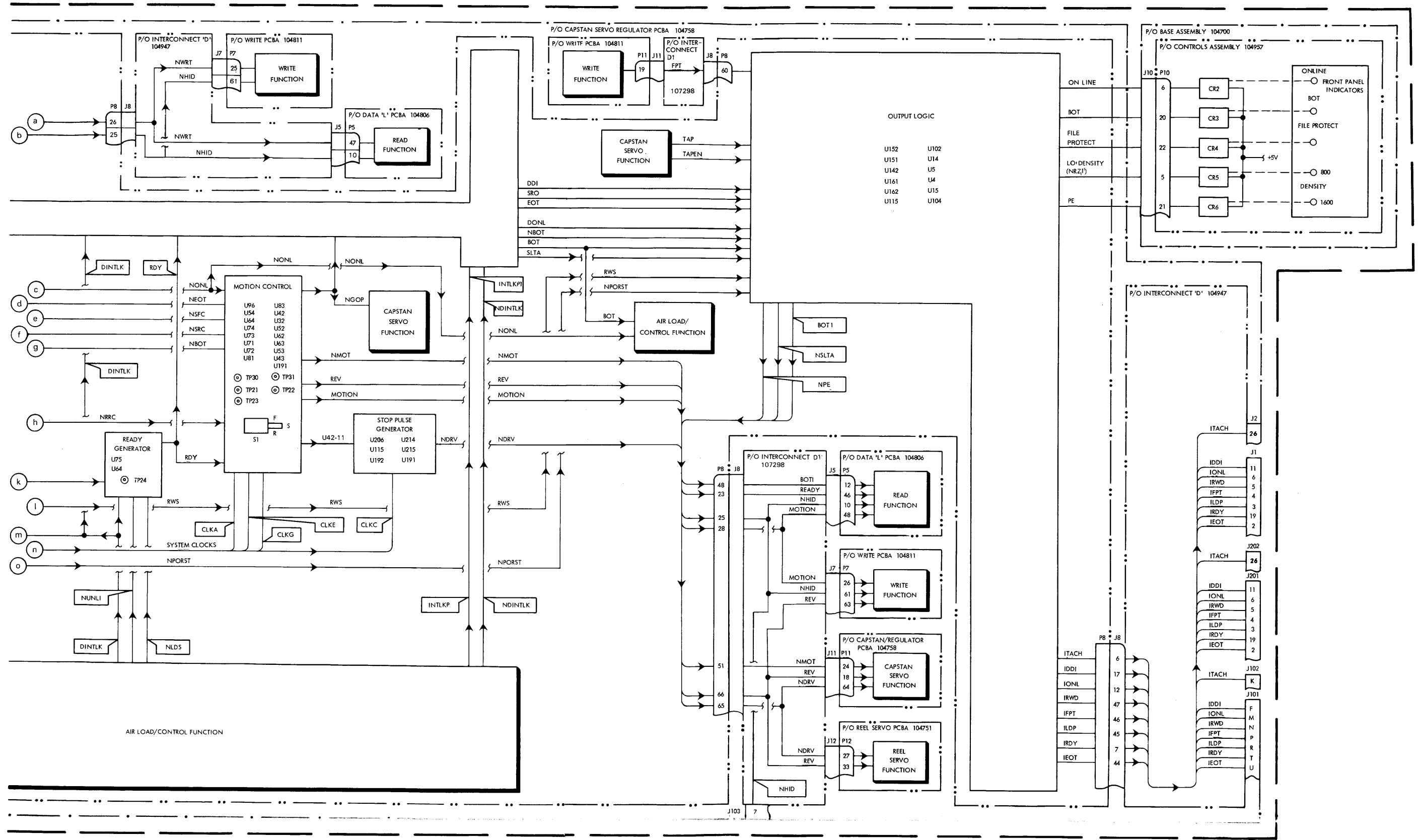


Figure 3 System Control Functional Block Diagram (Sheet 2 of 2)

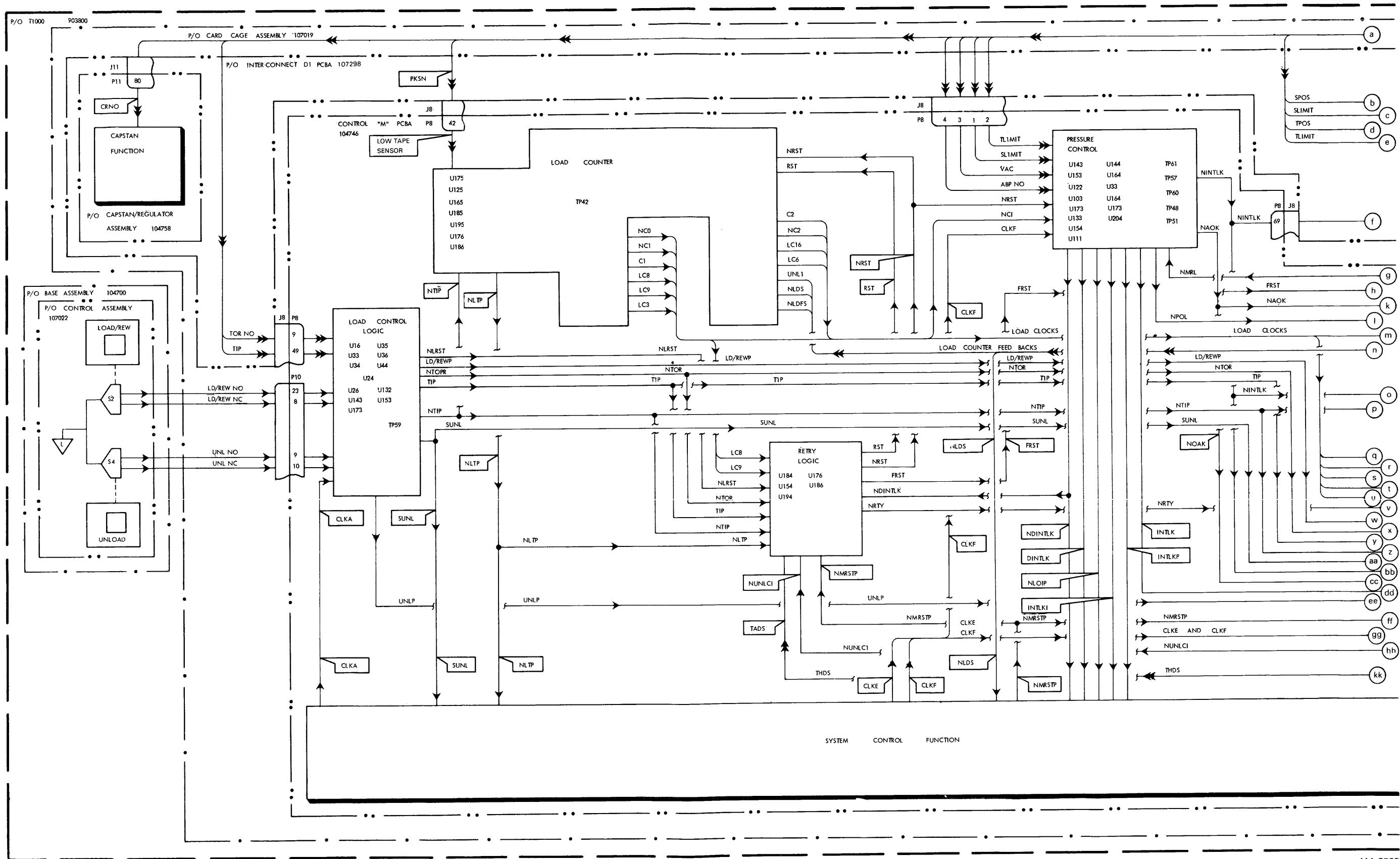


Figure 4 Air Load/Control Functional Block Diagram (Sheet 1 of 4)

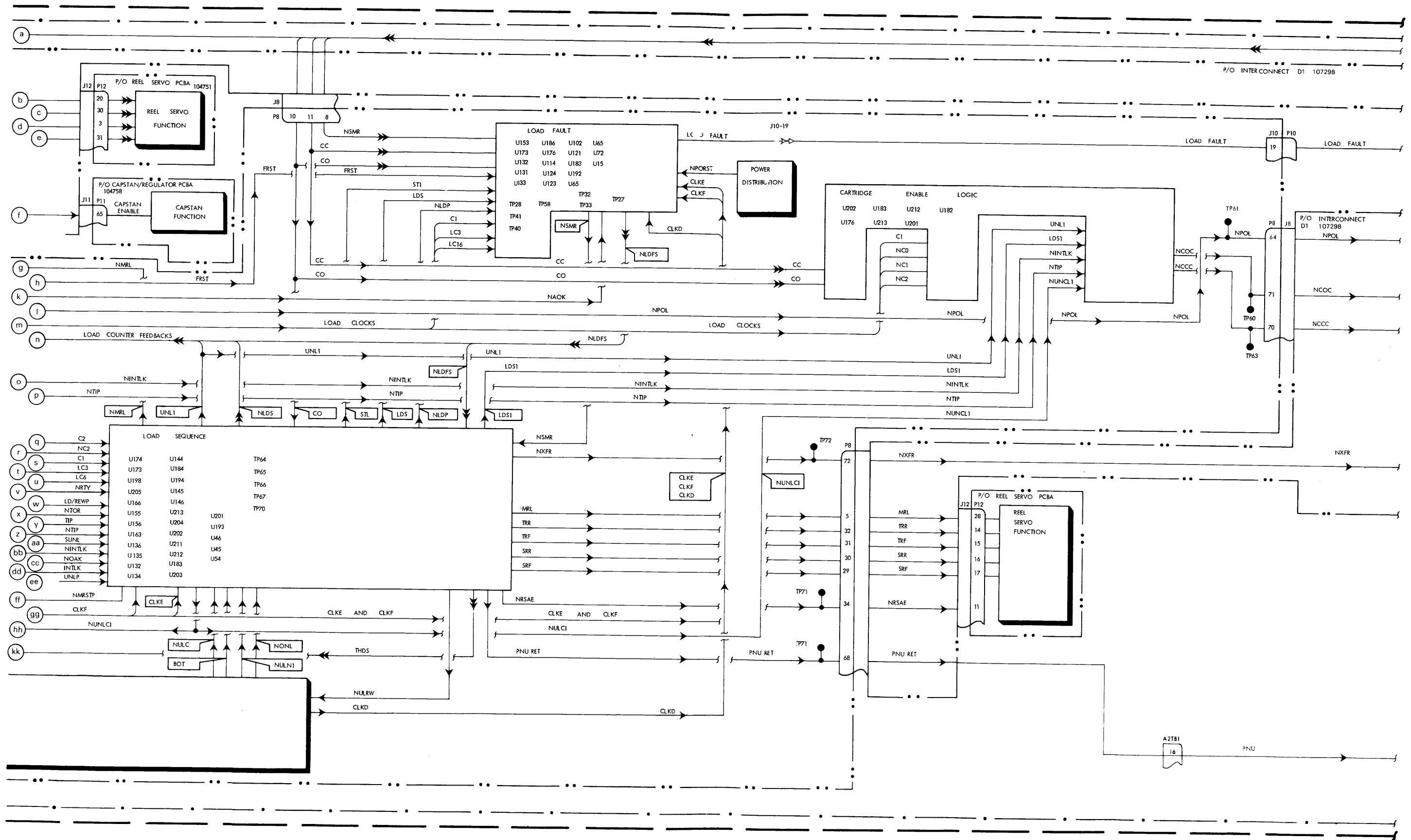
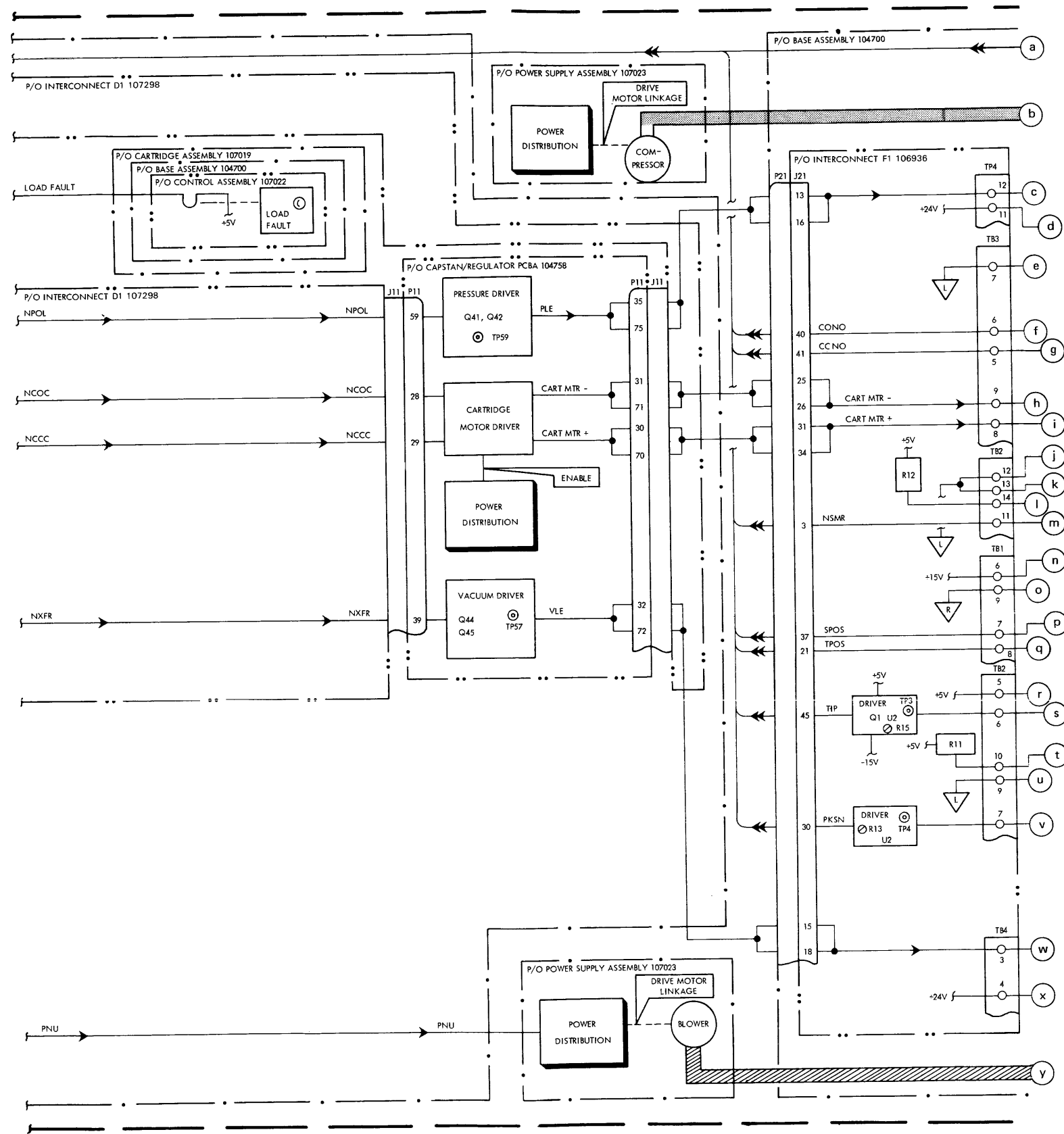


Figure 4 Air Load/Control Functional Block Diagram (Sheet 2 of 4)



MA-5787

Figure 4 Air Load/Control Functional Block Diagram (Sheet 3 of 4)

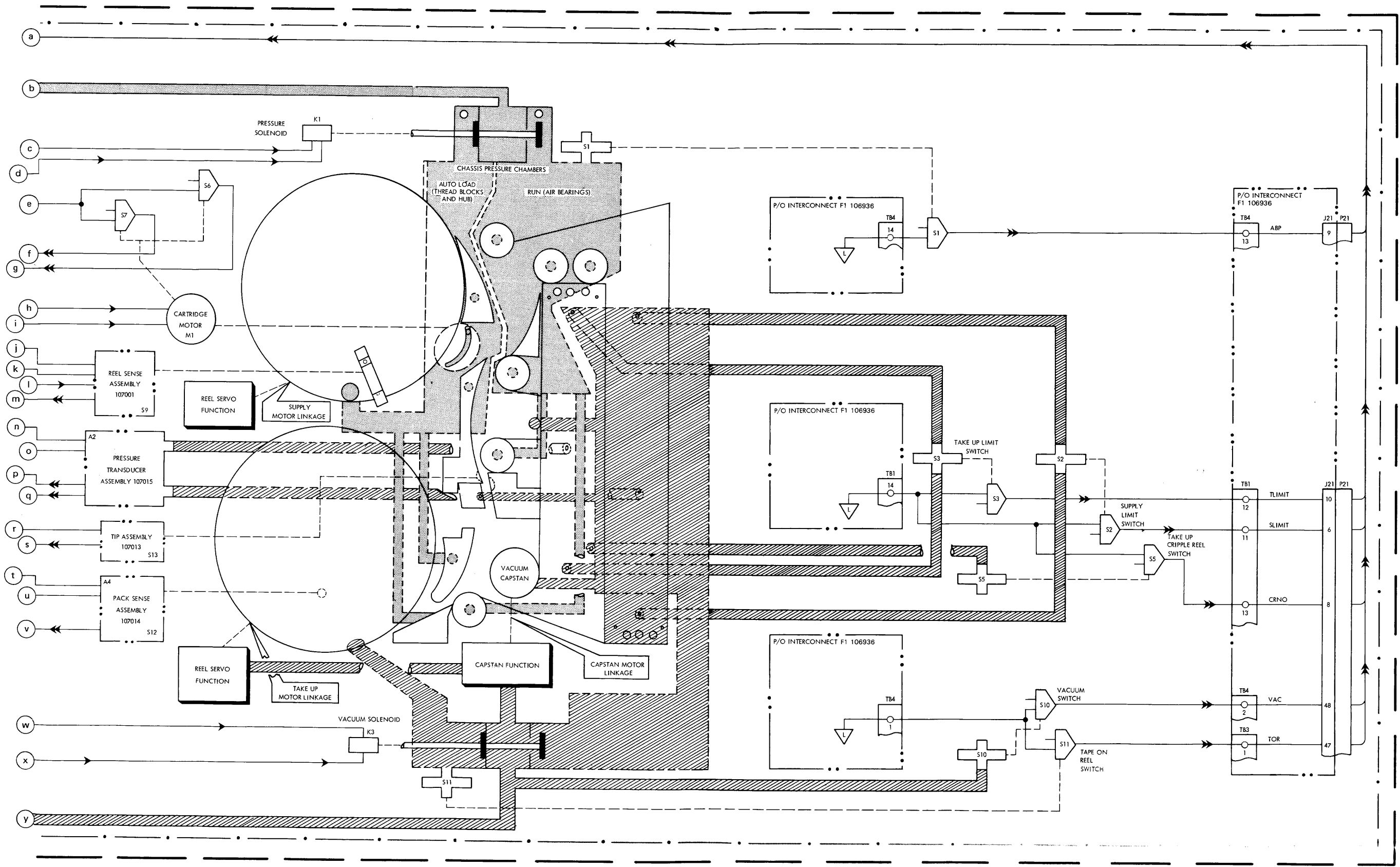
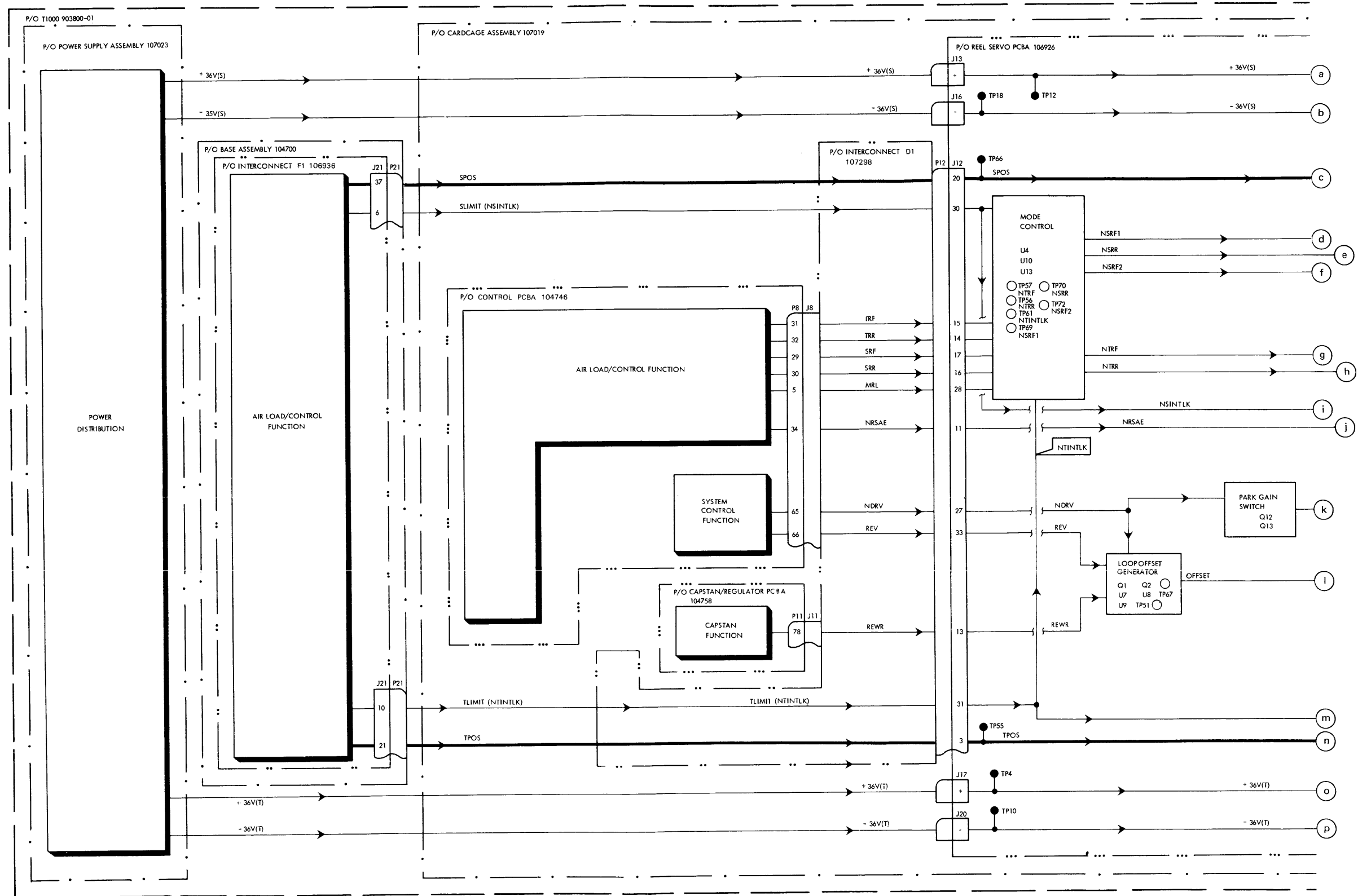


Figure 4 Air Load/Control Functional Block Diagram (Sheet 4 of 4)



MA-5789

Figure 5 Reel Servo Functional Block Diagram (Sheet 1 of 2)

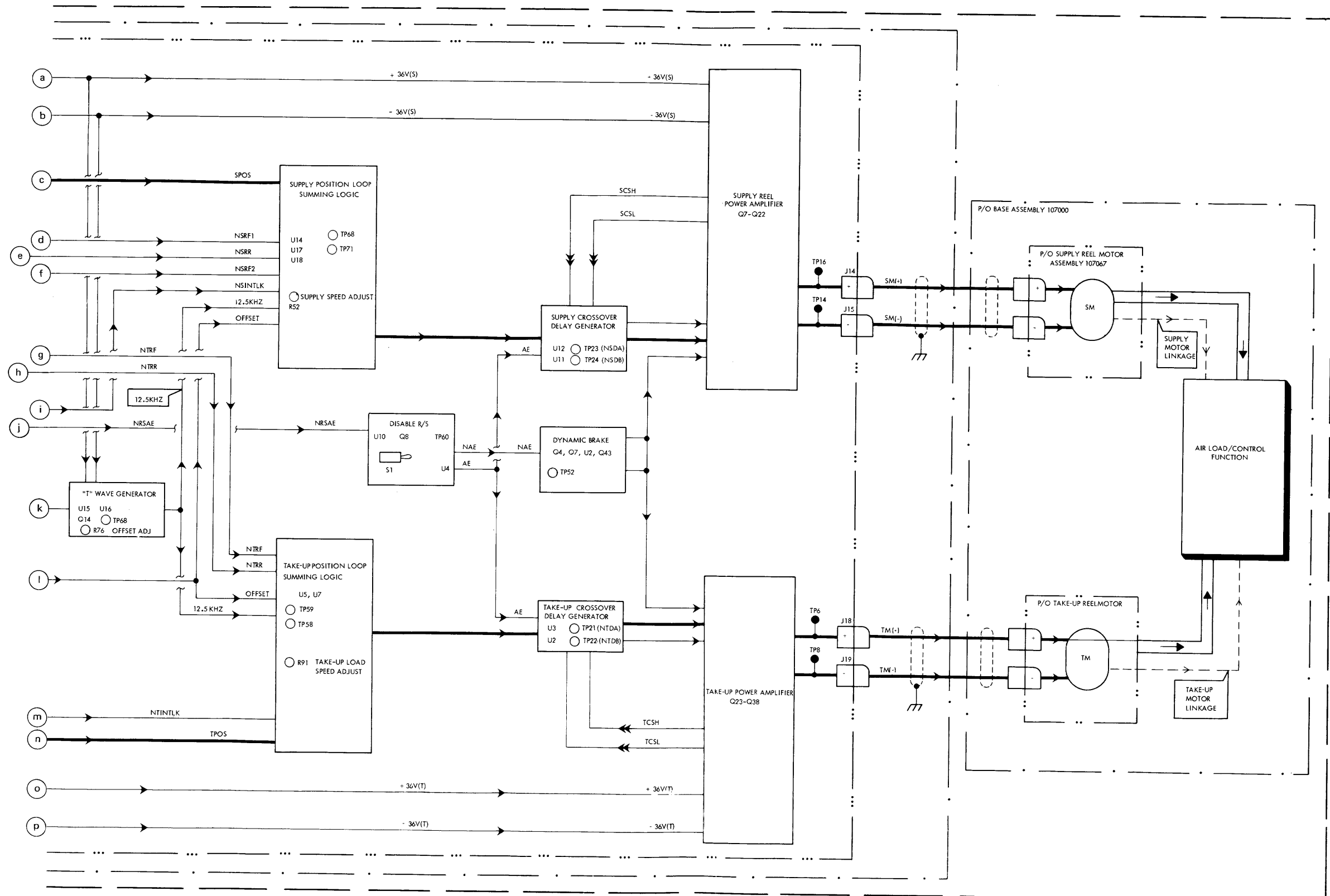


Figure 5 Reel Servo Functional Block Diagram (Sheet 2 of 2)

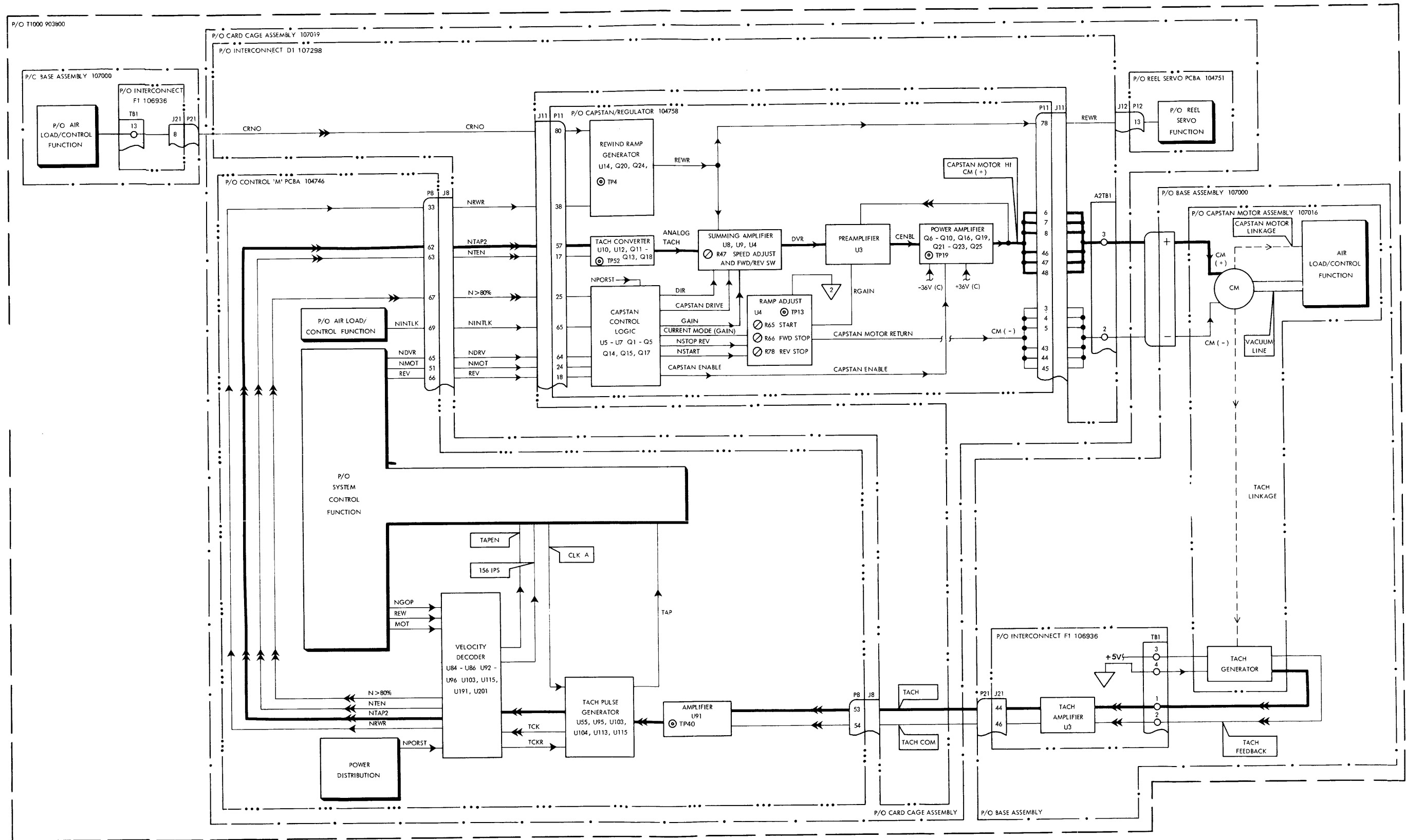


Figure 6 Capstan Servo Functional Block Diagram

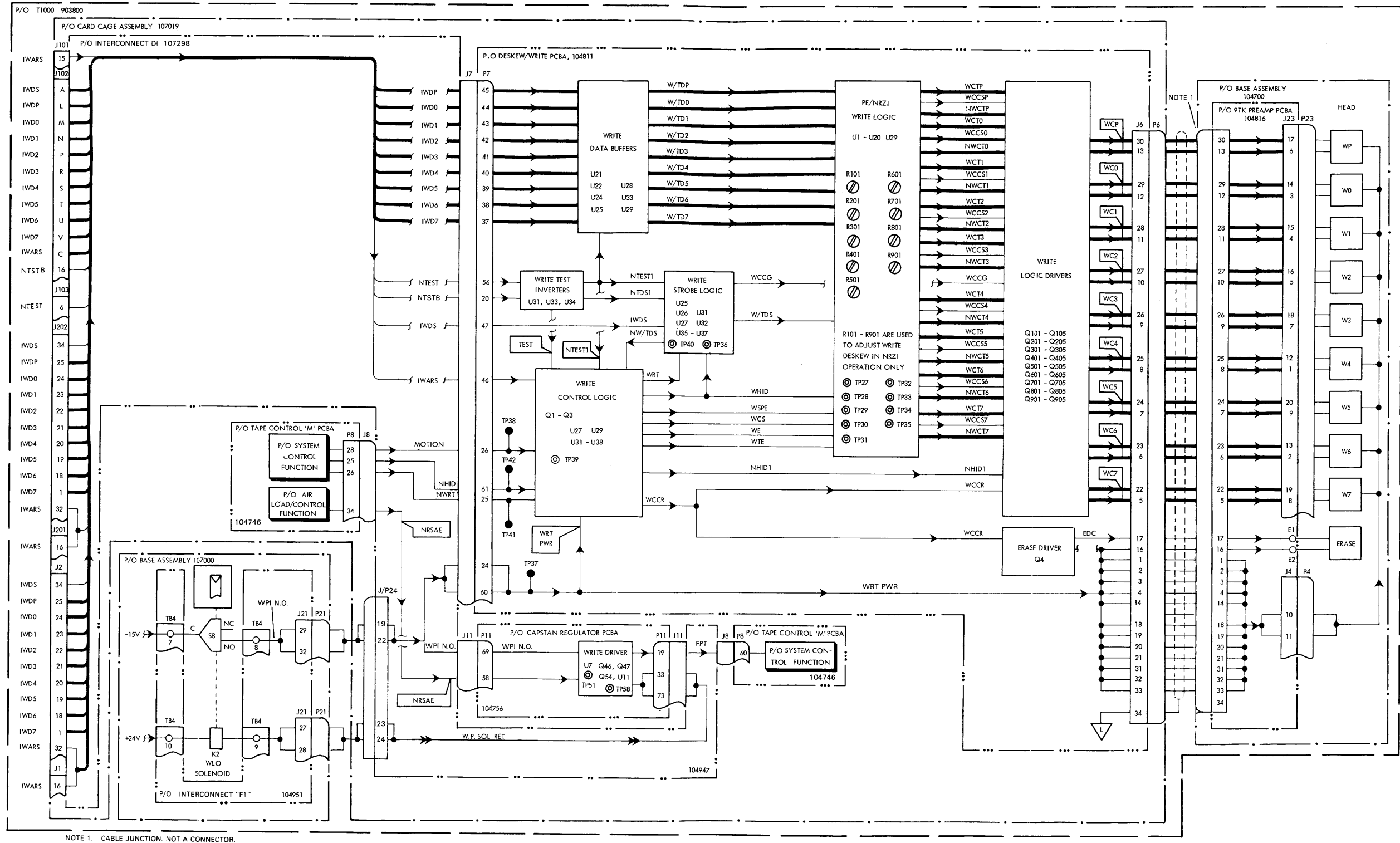
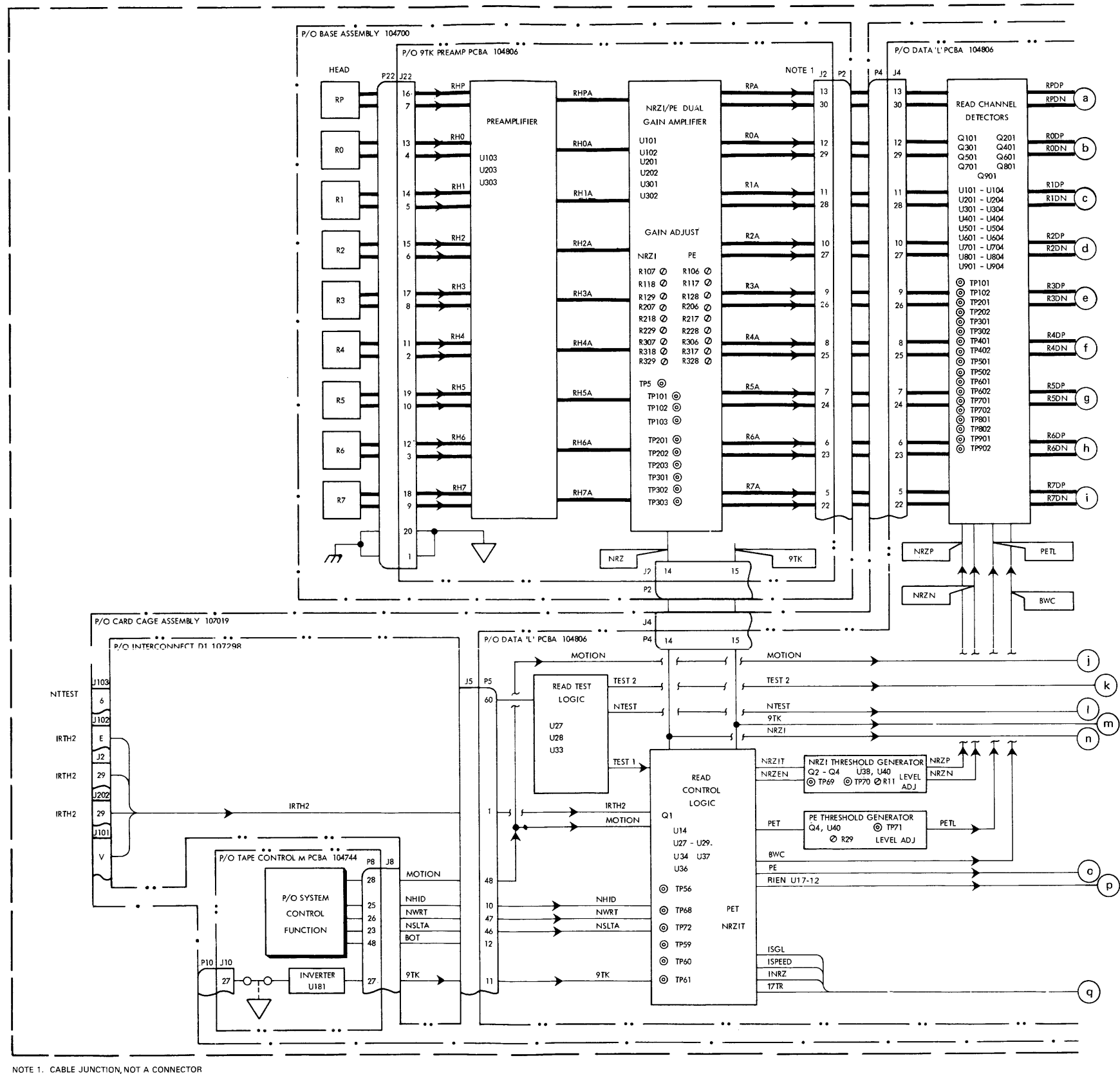


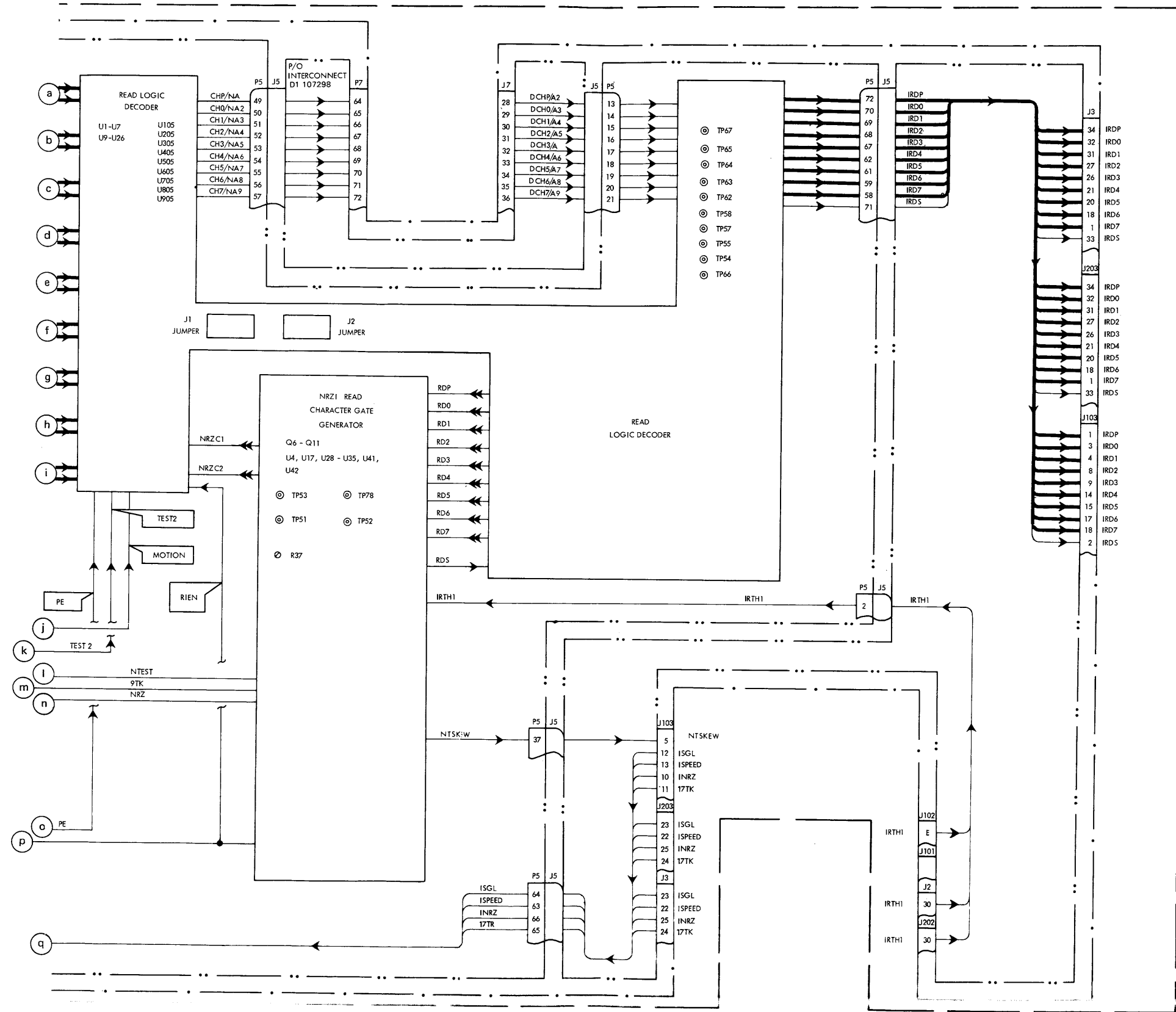
Figure 7. Write Functional Block Diagram



NOTE 1. CABLE JUNCTION, NOT A CONNECTOR

MA-5793

Figure 8 Read Functional Block Diagram (Sheet 1 of 2)



MA-5794

Figure 8 Read Functional Block Diagram (Sheet 2 of 2)

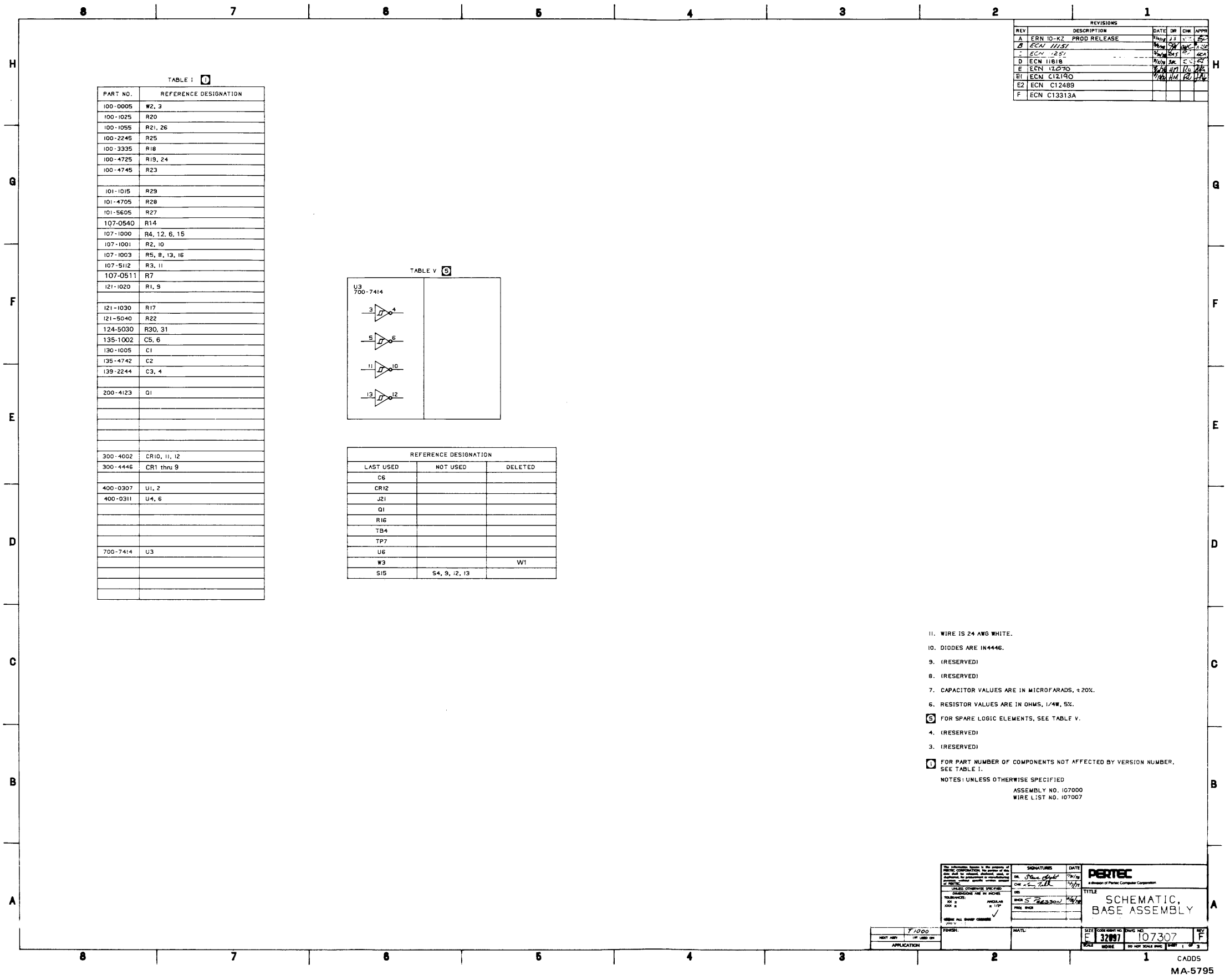


Figure 9 Schematic, Base Assembly (107307) (Sheet 1 of 3)

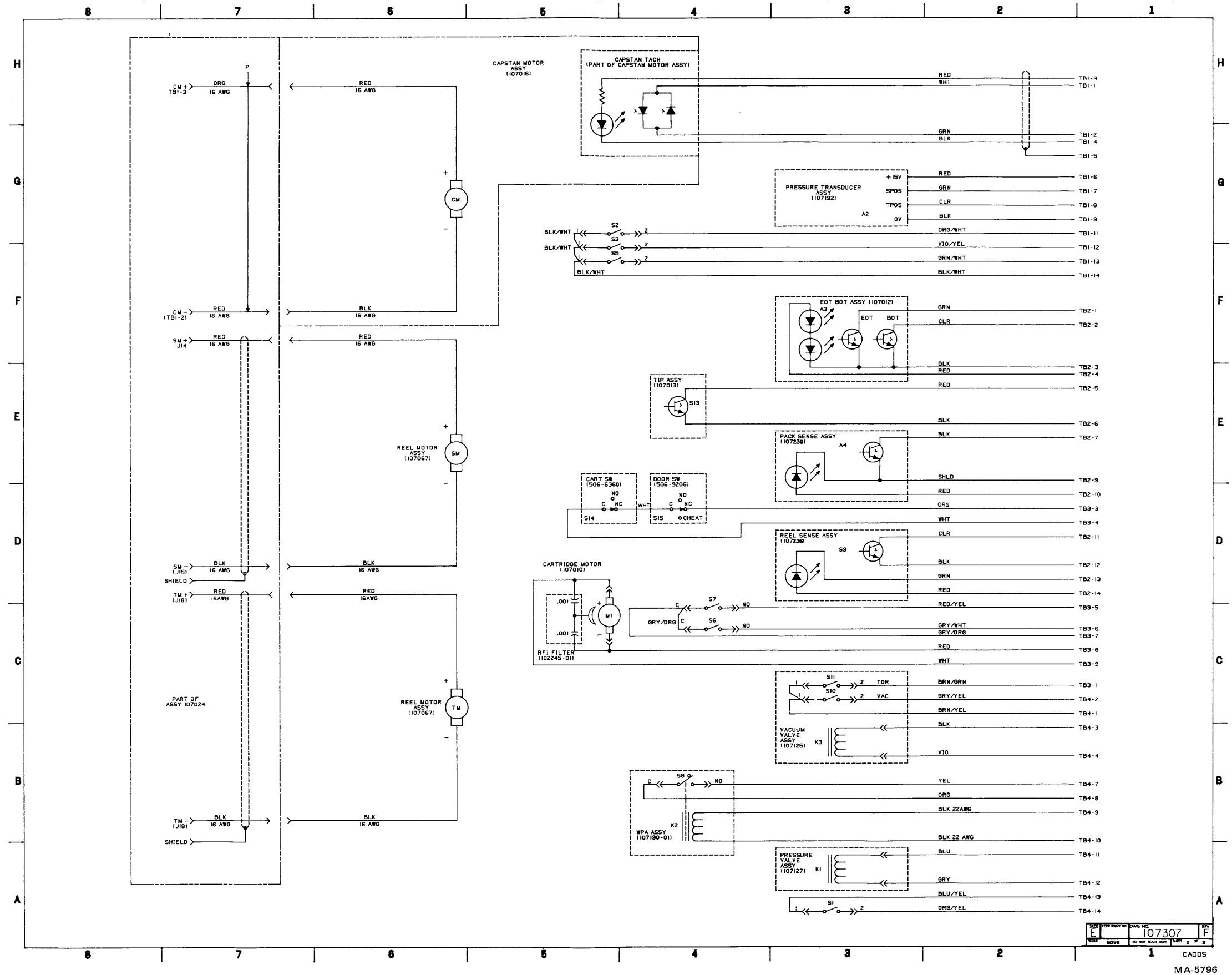


Figure 9 Schematic, Base Assembly (107307) (Sheet 2 of 3)

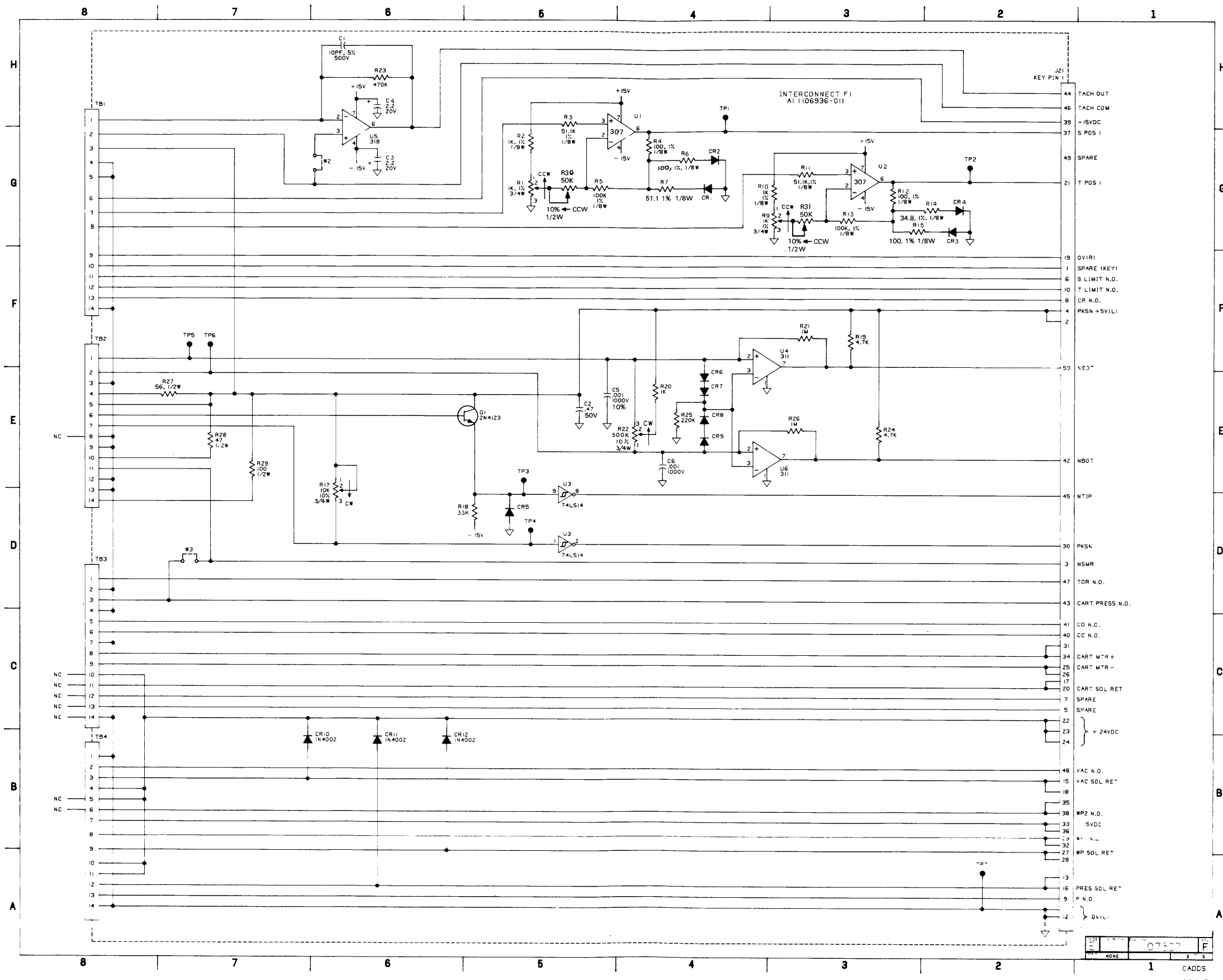
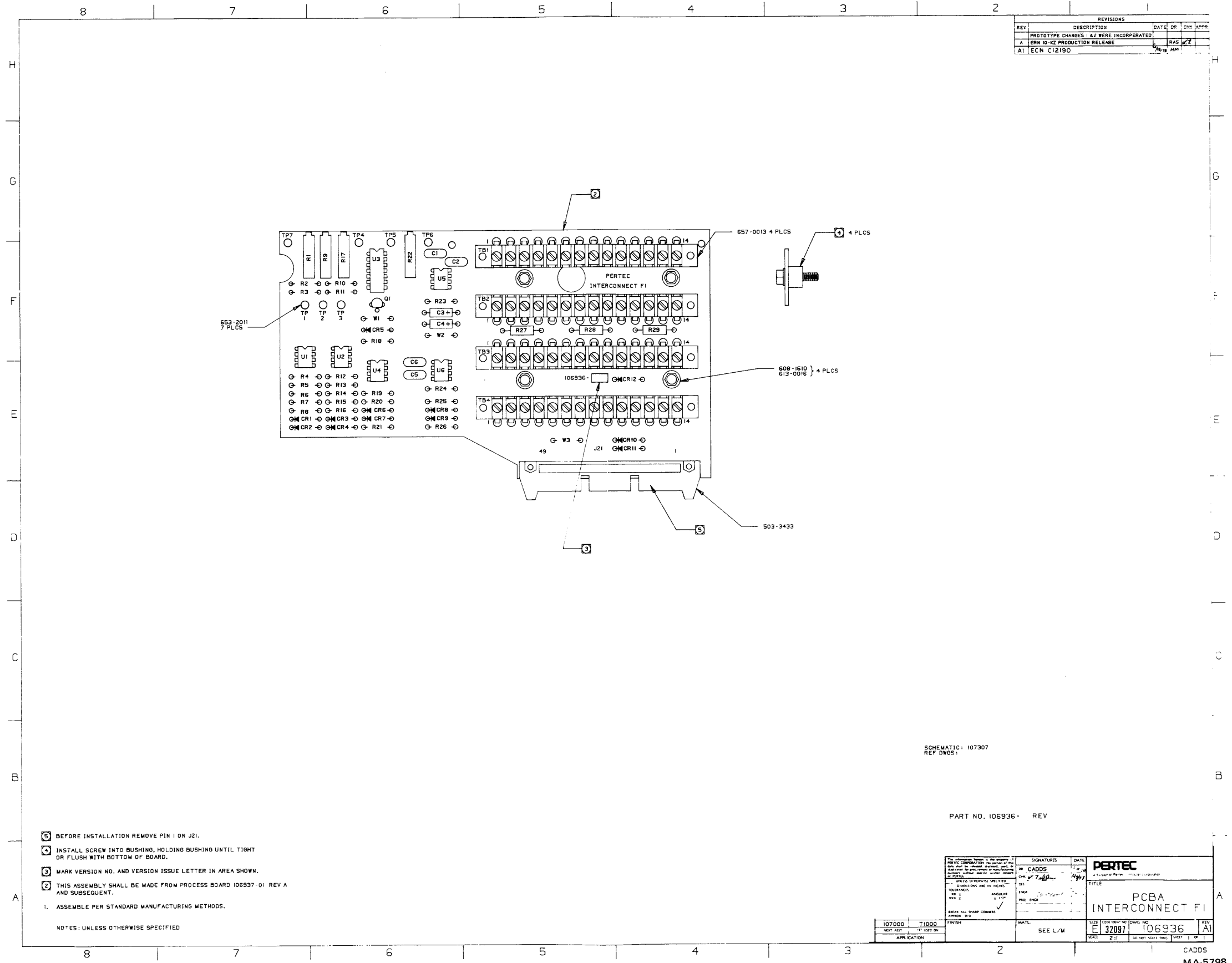


Figure 9 Schematic, Base Assembly (107307) (Sheet 3 of 3)



REVISIONS				
REV	DESCRIPTION	DATE	DR	CHK APPR
A	PROTOTYPE CHANGES 1 & 2 WERE INCORPORATED			
A	ERN 10-KZ PRODUCTION RELEASE		RAS	✓
A1	ECN C12190			

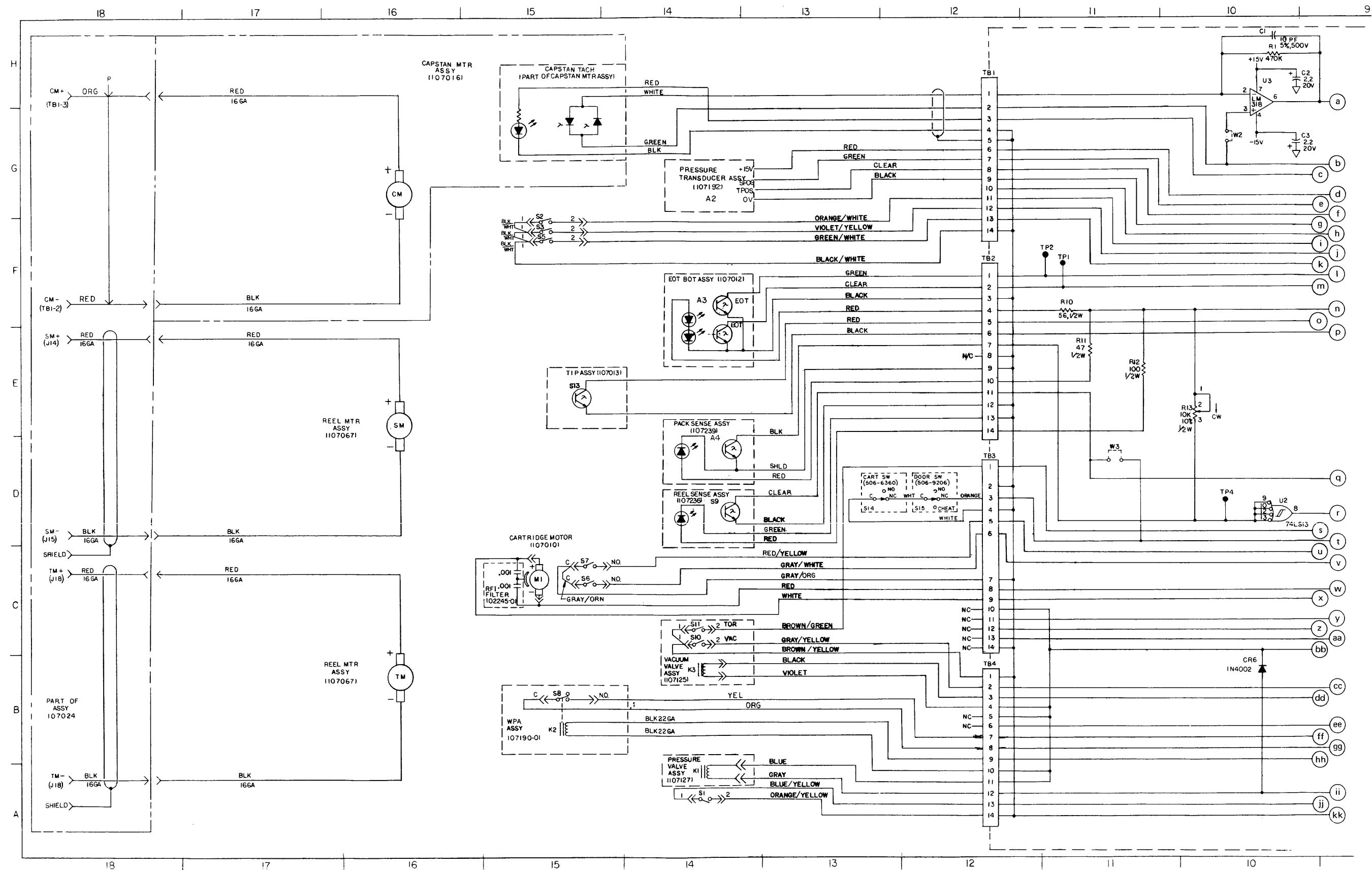
- 5 BEFORE INSTALLATION REMOVE PIN 1 ON J21.
- 4 INSTALL SCREW INTO BUSHING, HOLDING BUSHING UNTIL TIGHT OR FLUSH WITH BOTTOM OF BOARD.
- 3 MARK VERSION NO. AND VERSION ISSUE LETTER IN AREA SHOWN.
- 2 THIS ASSEMBLY SHALL BE MADE FROM PROCESS BOARD 106937-01 REV A AND SUBSEQUENT.
1. ASSEMBLE PER STANDARD MANUFACTURING METHODS.
- NOTES: UNLESS OTHERWISE SPECIFIED

SCHEMATIC: 107307
REF DWGS:

PART NO. 106936- REV

PERTEC INTERCONNECT F1		DATE: 7/80 DR: CADD5 CHK: 7/80
TITLE: PCBA INTERCONNECT F1	PART: E1 32097	REV: A1
DRAWING NO: 106936	SEE L/M	CADD5

Figure 10 PCBA, Interconnect F1



MA-5799

Figure 11 Schematic, Base Assembly (107189) (Sheet 1 of 2)

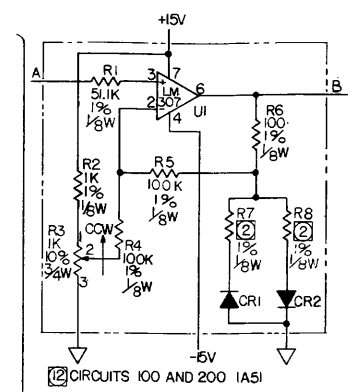
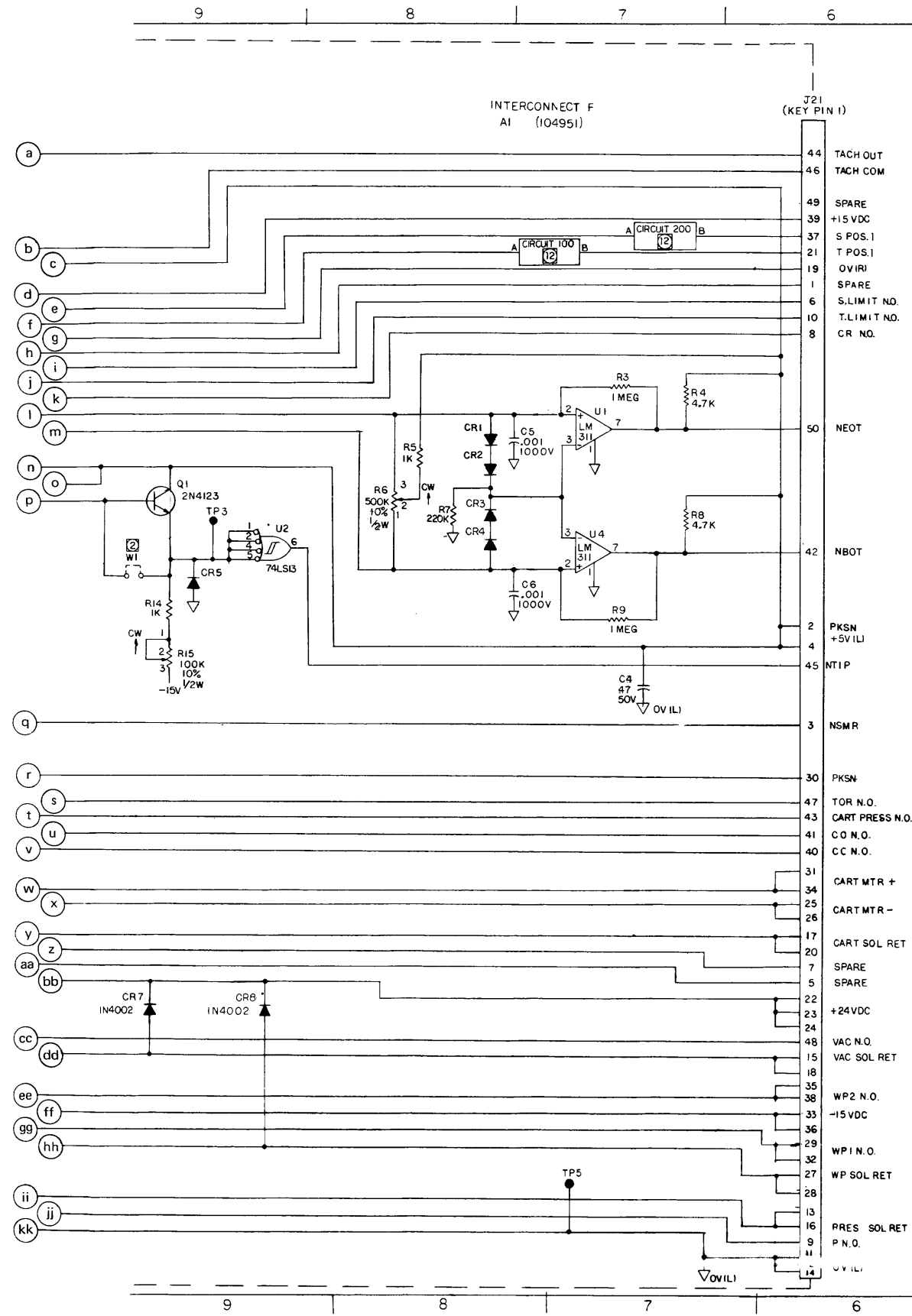


TABLE I

PART NO.	REFERENCE DESIGNATION
100-0005	W2
100-1025	R5,14
100-1055	R3,9
100-2245	R7
100-4725	R4,8
101-1015	R12
101-4705	R11
101-5605	R10
107-1000	R 106,206
107-1001	R 102,202
124-1030	R13
124-1040	R15
124-5040	R6
107-1003	R104,105,204,205
107-5112	R101,201
121-1020	R 103,203
100-4745	R1
130-1005	C1
135-1002	C5,6
135-4742	C4
139-2244	C2,3
200-4123	Q1
300-4002	CR6,7,8
300-4446	CR1,2,3,4,5,101,102,201,202
400-0307	U101,201
400-0311	U1,4
400-0318	U3
691-6030	W3
710-7413	U2

REFERENCE DESIGNATION

LAST USED	NOT USED	DELETED
C6		
CR8	CR2	
J22		
Q1		
R15	R8	R2
TB4		
TP5		
U4	U1	
W3		
S15		

TABLE II

ASSEMBLY VERSION NO.	VERSION CHARACTERISTIC	W1	R107,208	R108	R207			
107000		100-0005	VALUE	PART NO.	VALUE	PART NO.	VALUE	PART NO.
-01		OMIT	100	107-1000	34.8	107-0348	51.1	107-0511

REVISIONS

REV	DESCRIPTION	CHK	DR	DATE
A	ERN 9-DU PROD. RELEASE			
B	ECN 10618			
C	ECN 10674			
D	ECN 10757			
E	ECN 10821			
F	ECN 10824			
G	ECN 10954			
H	ECN 11157			
J	ECN 11251			
K	ECN C-12-100			

PARTIAL REFERENCE DESIGNATIONS ARE SHOWN FOR COMPLETE DESIGNATION PREFIX WITH CIRCUIT NUMBER (R1 IN CIRCUIT 200 IS R201).

11 WIRE IS 24 GA WHITE.
 10 DIODES ARE 1N4446.
 3 (RESERVED)
 8 (RESERVED)
 7 CAPACITORS ARE IN MICROFARADS, ±20%
 6 RESISTOR VALUES ARE IN OHMS, 1/4W, 5%
 5 (RESERVED)
 4 (RESERVED)
 3 (RESERVED)

FOR VALUE, PART NO AND USAGE OF COMPONENTS AFFECTED BY VERSION NO., SEE TABLE II.
 FOR PART NO. OF COMPONENTS NOT AFFECTED BY VERSION NO. SEE TABLE I.

NOTES: UNLESS OTHERWISE SPECIFIED

ASSEMBLY NO 107000
 WIRE LIST NO 107007

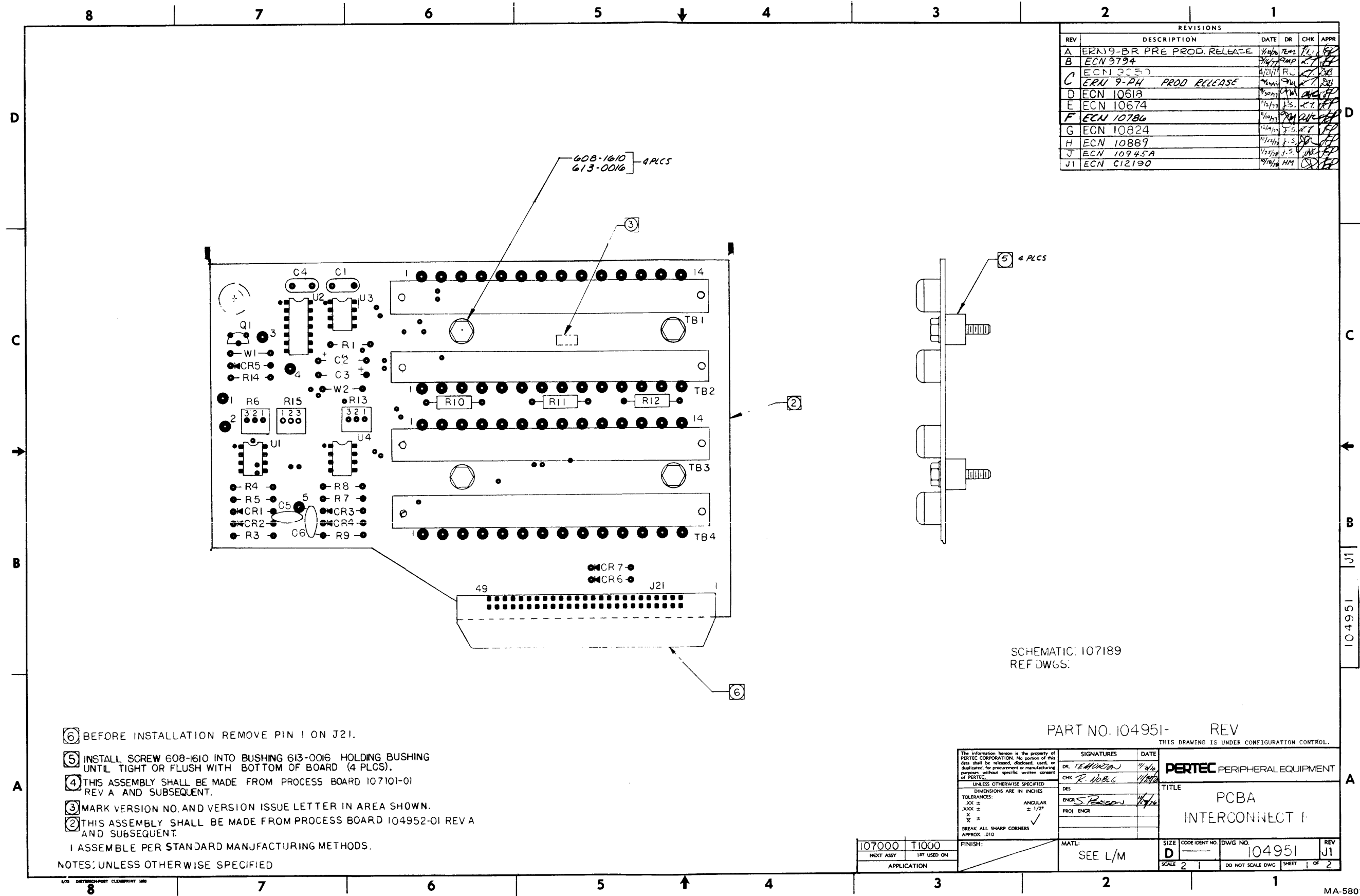
TOPBILL 11000

PERTEC PERIPHERAL EQUIPMENT DIVISION

TITLE SCHEMATIC BASE ASSY

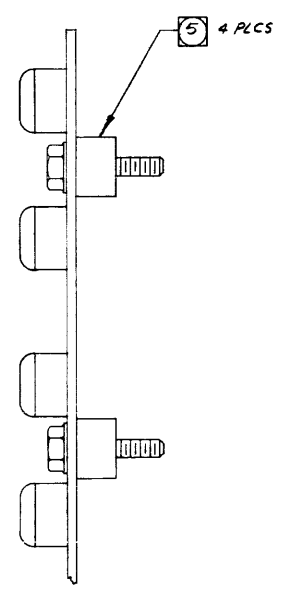
107189

Figure 11 Schematic, Base Assembly (107189) (Sheet 2 of 2)



REVISIONS						
REV	DESCRIPTION	DATE	DR	CHK	APPR	
A	ERN 9-BR PRE PROD. RELEASE	11/26/74	RMP			
B	ECN 9794	11/27/74	RMP			
C	ECN 9757	12/17/74	RMP			
	ERN 9-PH PROD RELEASE	12/24/74	RMP			
D	ECN 10618	1/30/75	AWA			
E	ECN 10674	1/21/75	J.S.			
F	ECN 10786	1/24/75	AWA			
G	ECN 10824	1/24/75	J.S.			
H	ECN 10889	1/27/75	J.S.			
J	ECN 10945A	1/27/75	J.S.			
J1	ECN C12190	1/29/75	MM			

- 6 BEFORE INSTALLATION REMOVE PIN 1 ON J21.
 - 5 INSTALL SCREW 608-1610 INTO BUSHING 613-0016 HOLDING BUSHING UNTIL TIGHT OR FLUSH WITH BOTTOM OF BOARD (4 PLCS).
 - 4 THIS ASSEMBLY SHALL BE MADE FROM PROCESS BOARD 107101-01 REV A AND SUBSEQUENT.
 - 3 MARK VERSION NO. AND VERSION ISSUE LETTER IN AREA SHOWN.
 - 2 THIS ASSEMBLY SHALL BE MADE FROM PROCESS BOARD 104952-01 REV A AND SUBSEQUENT.
- 1 ASSEMBLE PER STANDARD MANUFACTURING METHODS.
- NOTES: UNLESS OTHERWISE SPECIFIED



SCHMATIC: 107189
REF DWGS:

PART NO. 104951- REV

THIS DRAWING IS UNDER CONFIGURATION CONTROL.

The information herein is the property of PERTEC CORPORATION. No portion of this data shall be released, disclosed, used, or duplicated, for procurement or manufacturing purposes, without specific written consent of PERTEC.		SIGNATURES		DATE
UNLESS OTHERWISE SPECIFIED		DR. TEARDON	11/26/74	
DIMENSIONS ARE IN INCHES		CHK. R. NOBLE	11/27/74	
TOLERANCES:		DES		
.XX ±	ANGULAR	ENGR. S. ROSSON		
.XXX ±	± 1/2°	PROJ. ENGR.		
X ±				
XX ±				
BREAK ALL SHARP CORNERS APPROX. .010		FINISH:		
107000		T1000		MATL: SEE L/M
NEXT ASSY		1ST USED ON		SIZE D
APPLICATION				CODE IDENT NO. 104951
				DWG NO. 104951
				REV J1
				SCALE 2 1 OF 2
				DO NOT SCALE DWG SHEET 1 OF 2

Figure 12 PCBA, Interconnect F (Sheet 1 of 2)

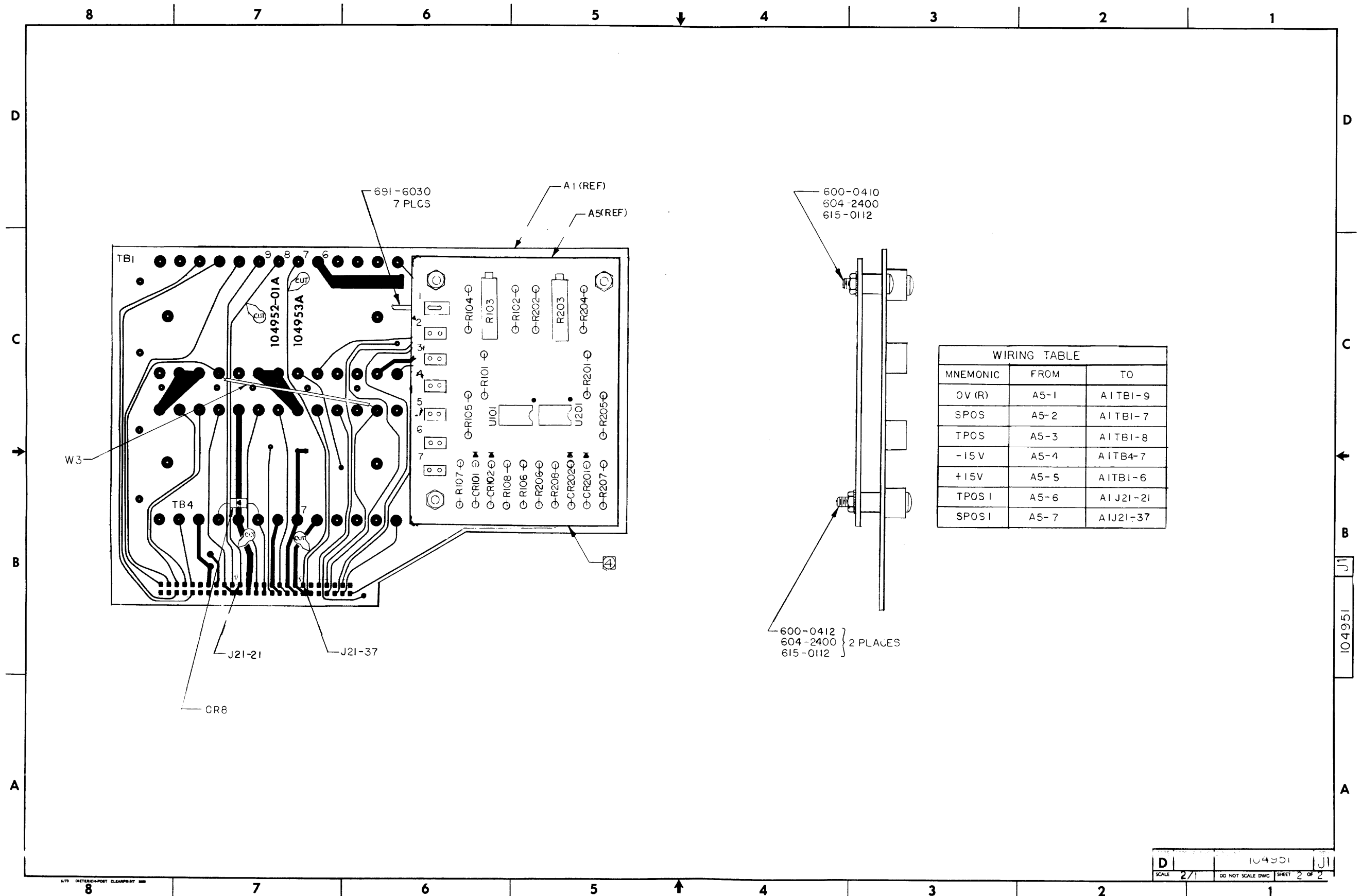


Figure 12 PCBA, Interconnect F (Sheet 2 of 2)

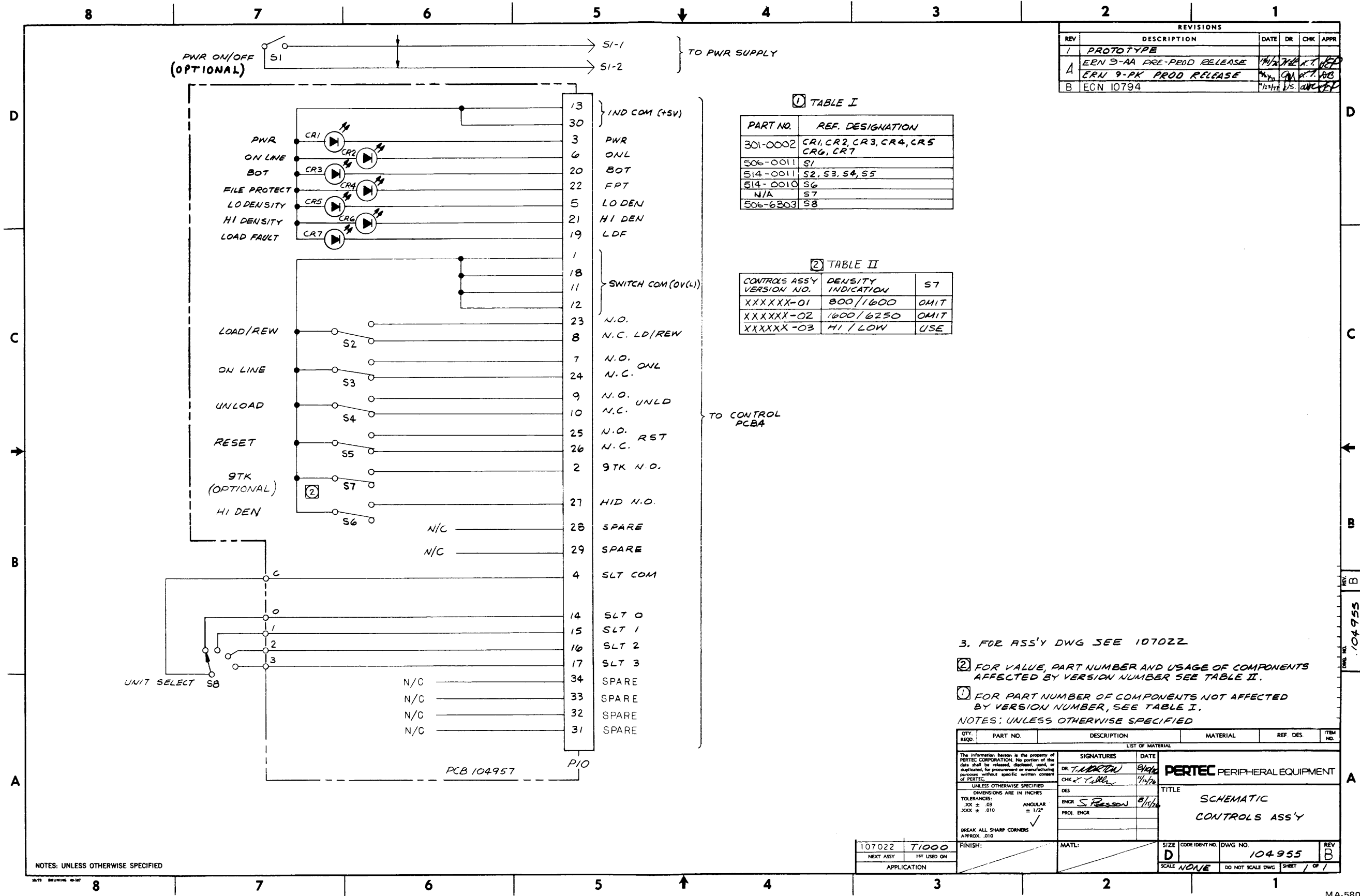


Figure 13 Schematic, Controls Assembly

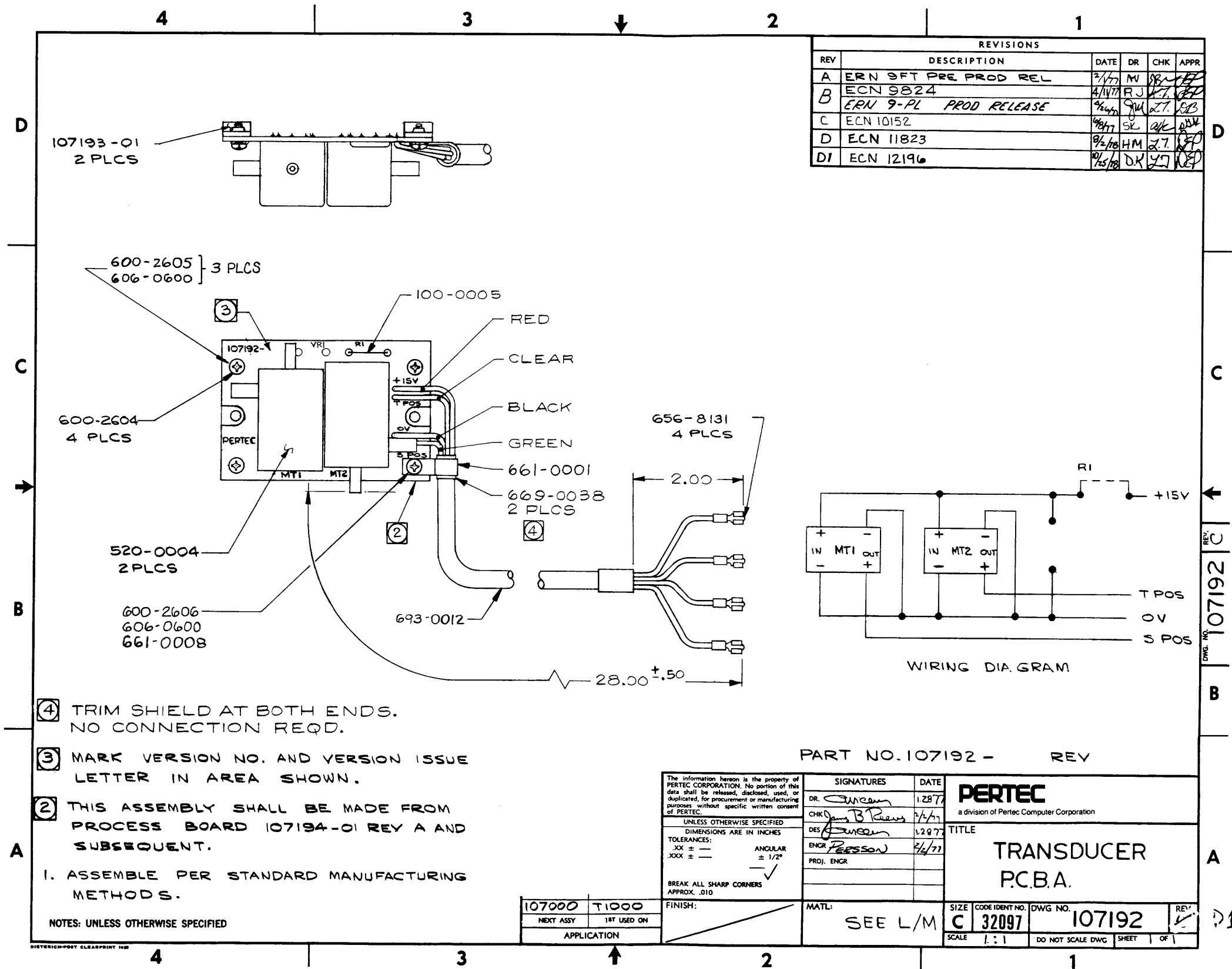


Figure 14 PCBA, Transducer

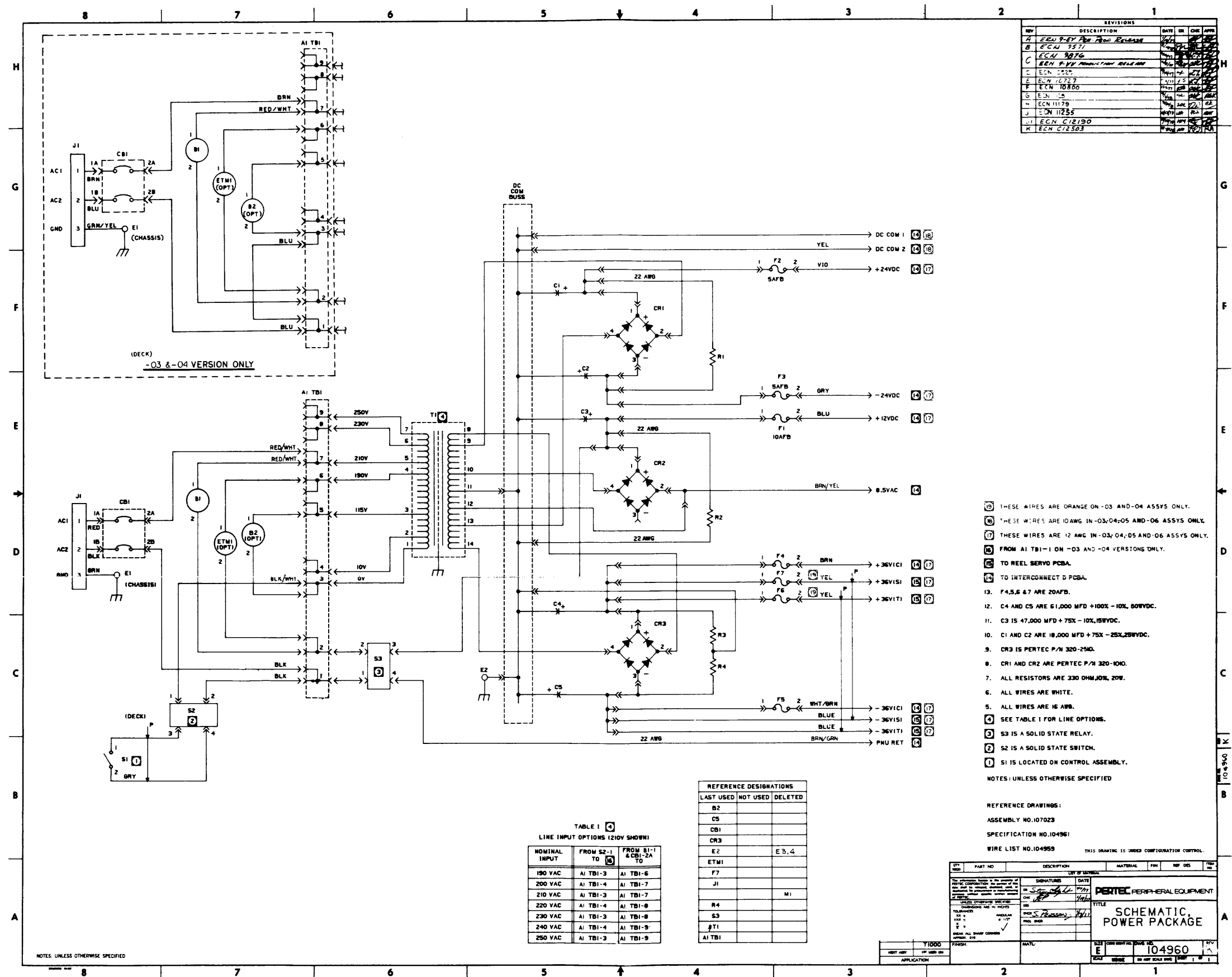


Figure 15 Schematic, Power Package

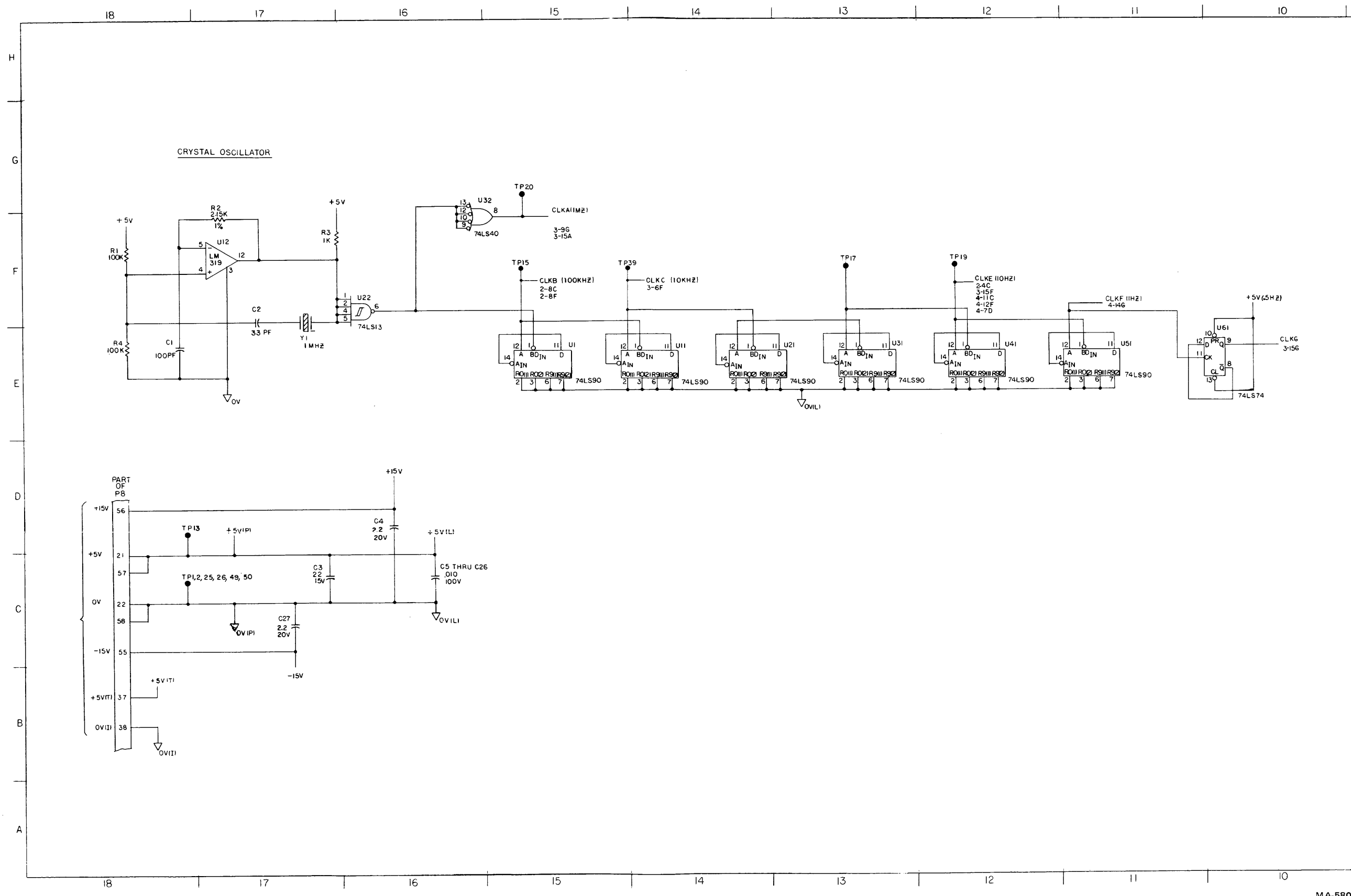


Figure 16 Schematic, Control M (Sheet 1 of 10)

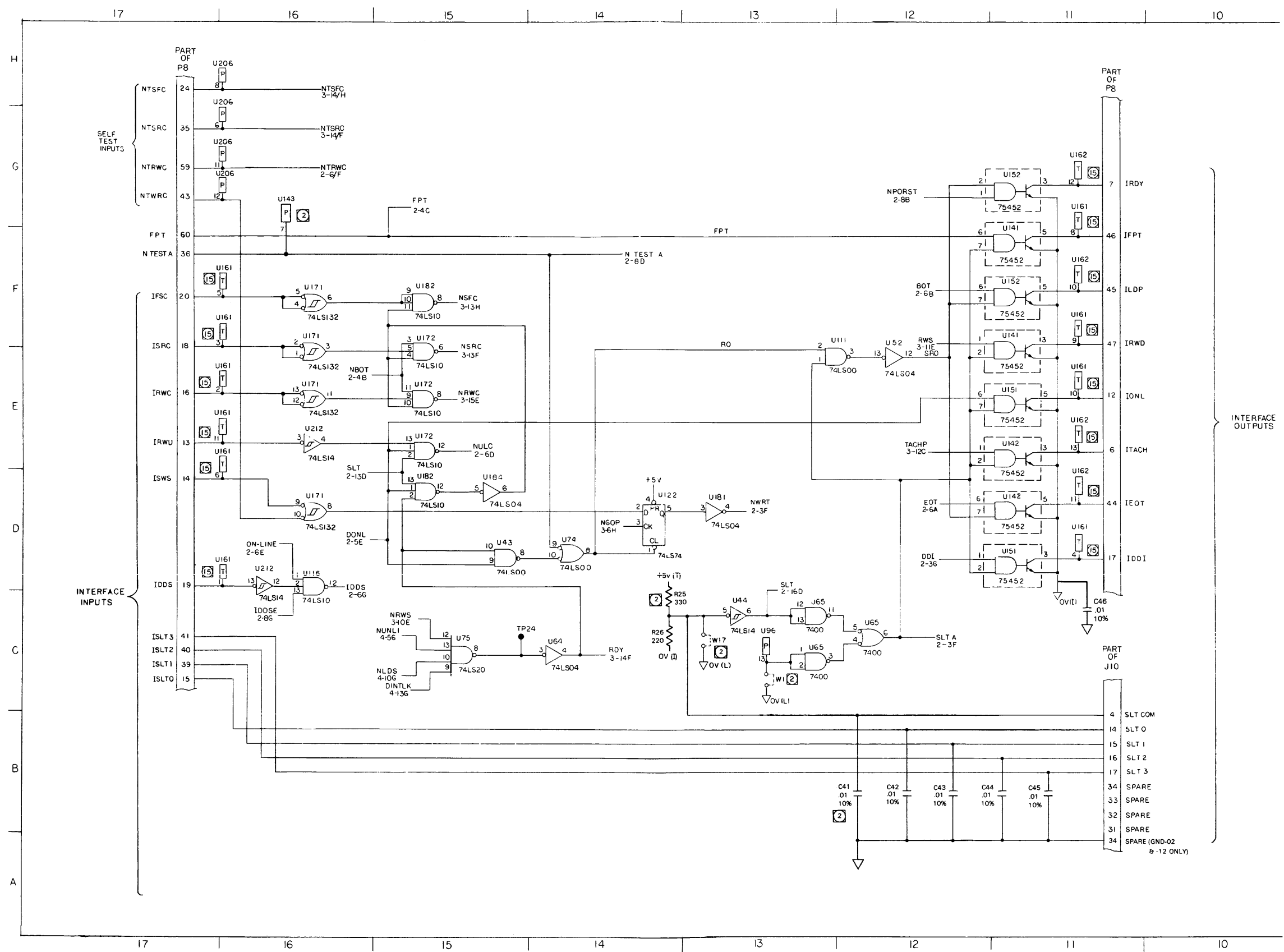


Figure 16 Schematic, Control M (Sheet 3 of 10)

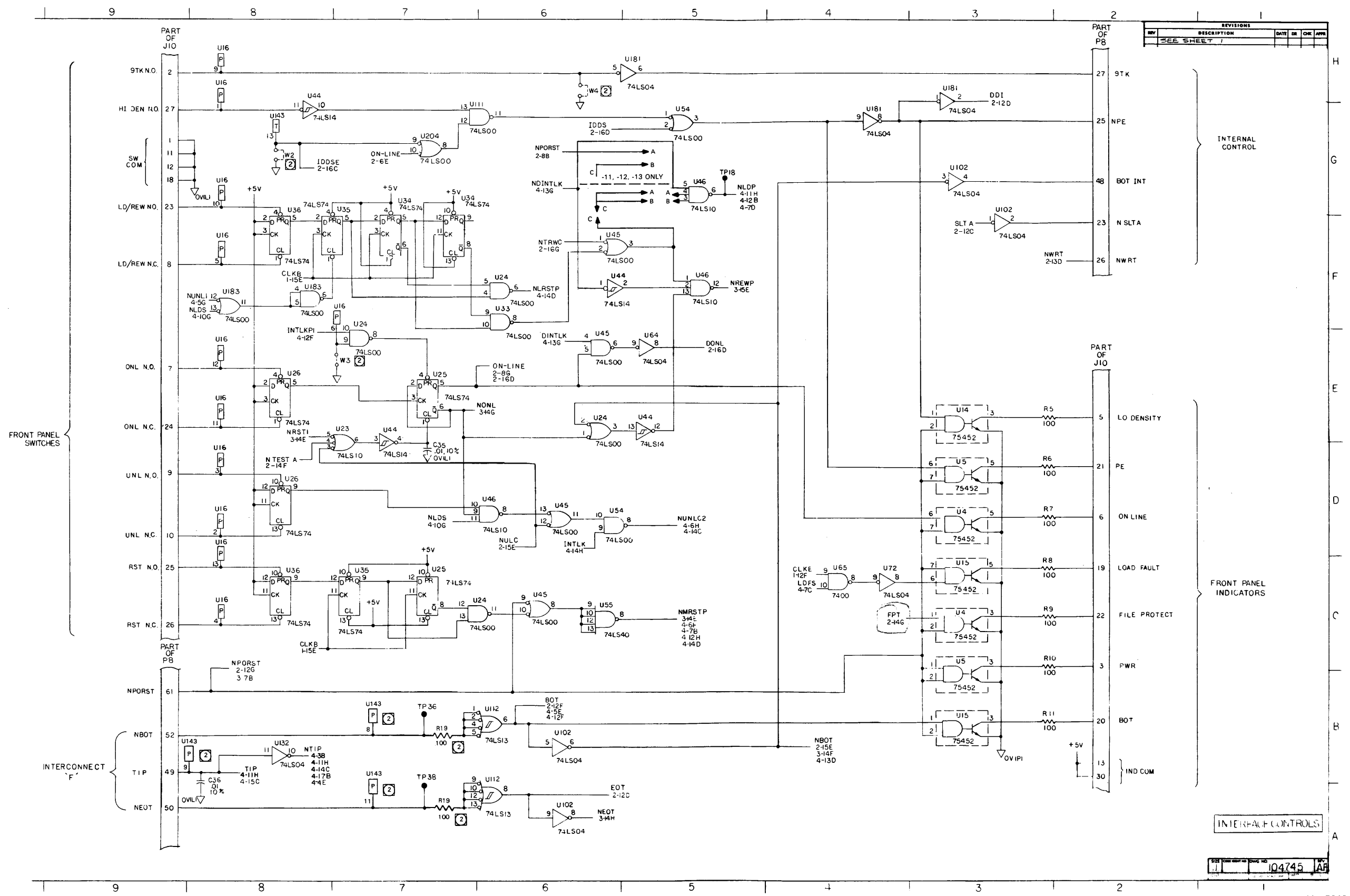


Figure 16 Schematic, Control M (Sheet 4 of 10)

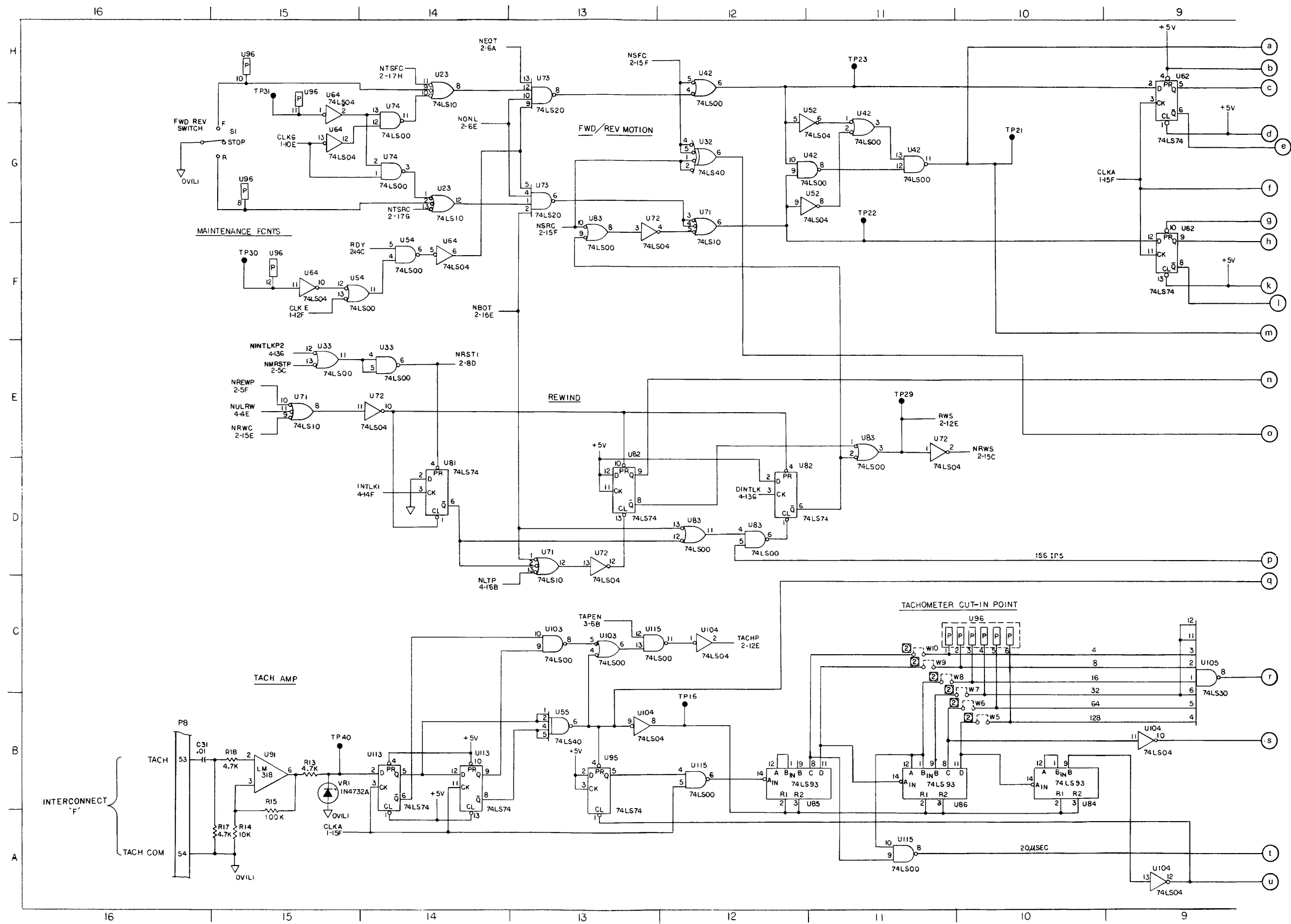


Figure 16 Schematic, Control M (Sheet 5 of 10)

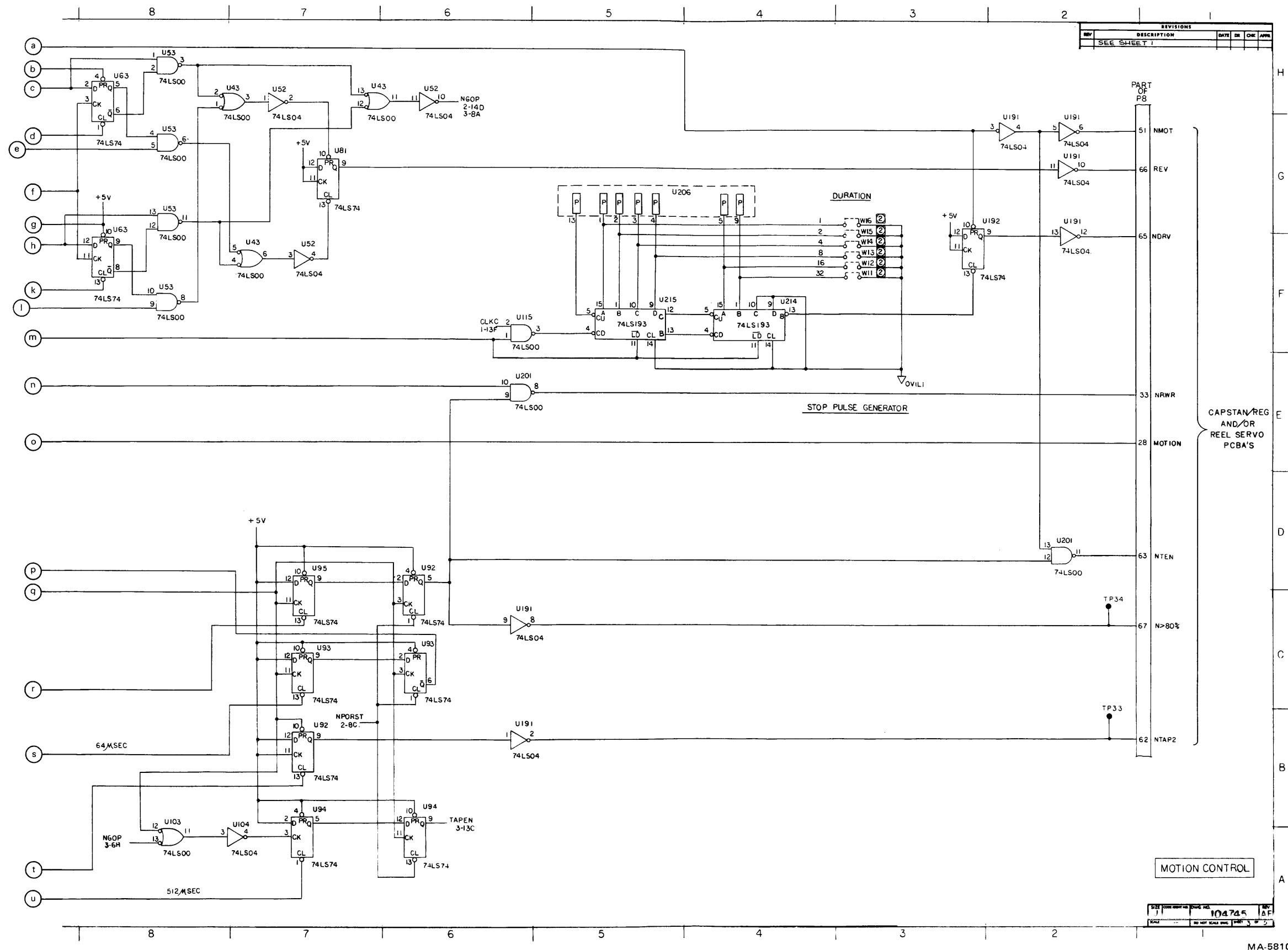


Figure 16 Schematic, Control M (Sheet 6 of 10)

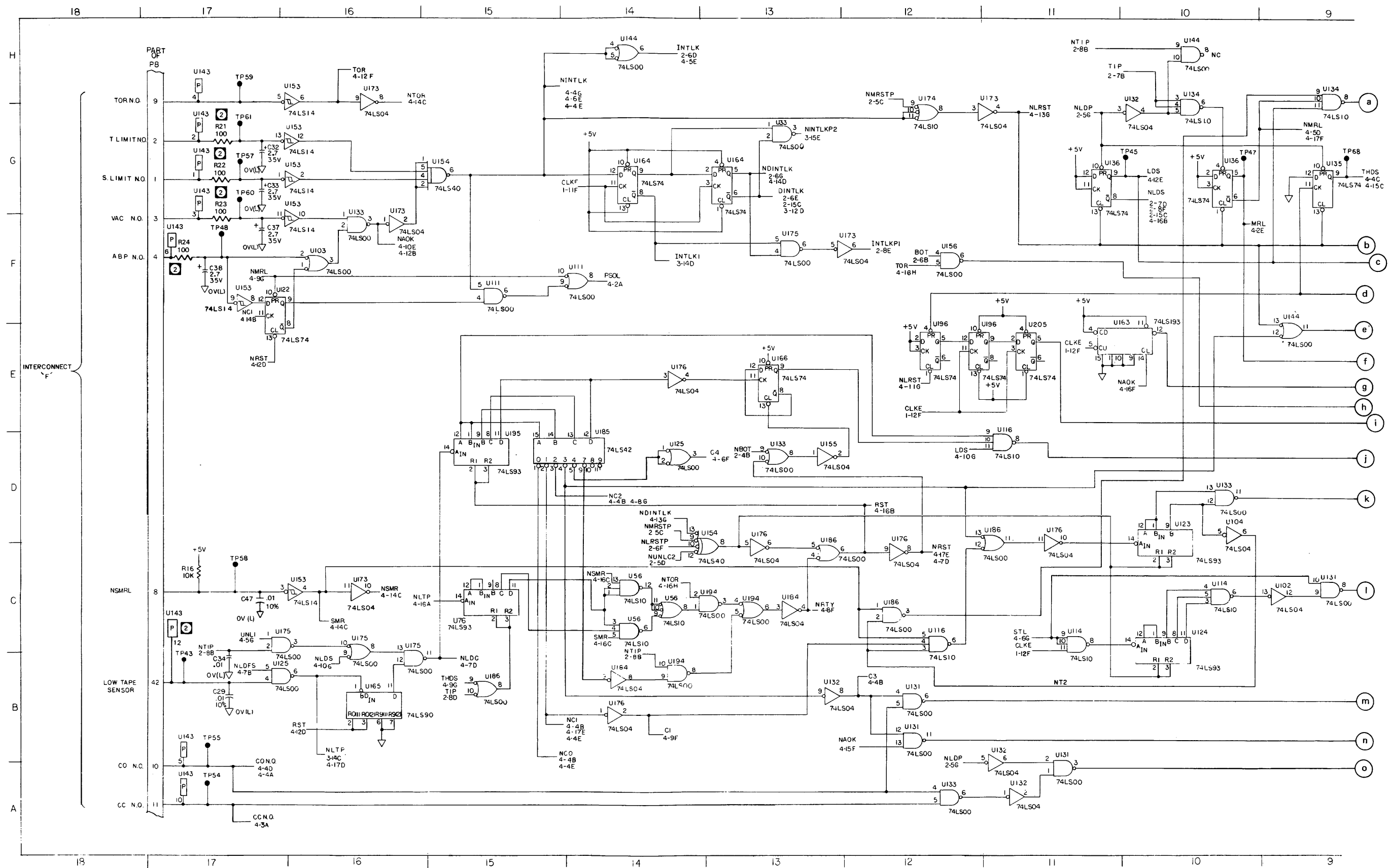


Figure 16 Schematic, Control M (Sheet 7 of 10)

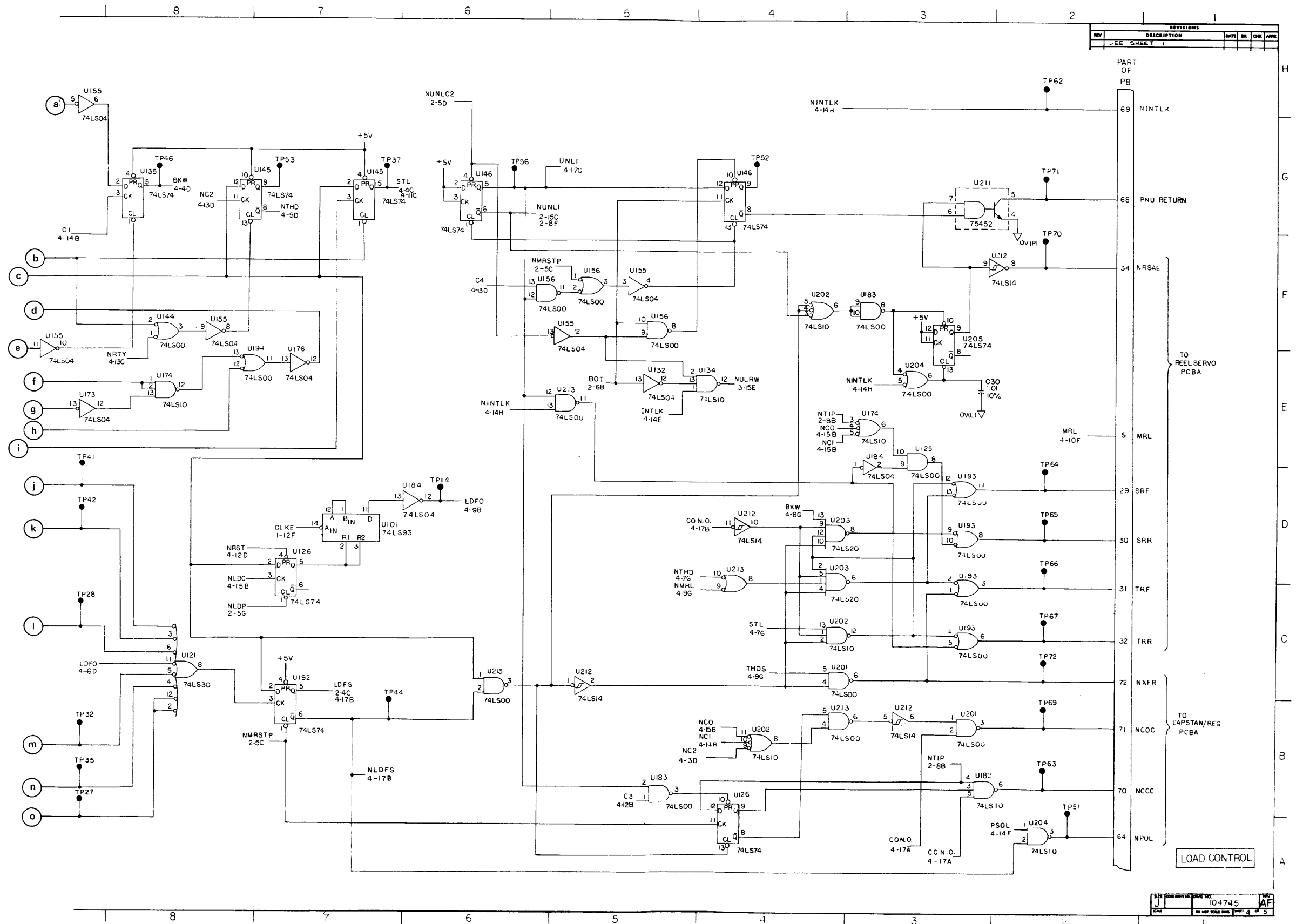
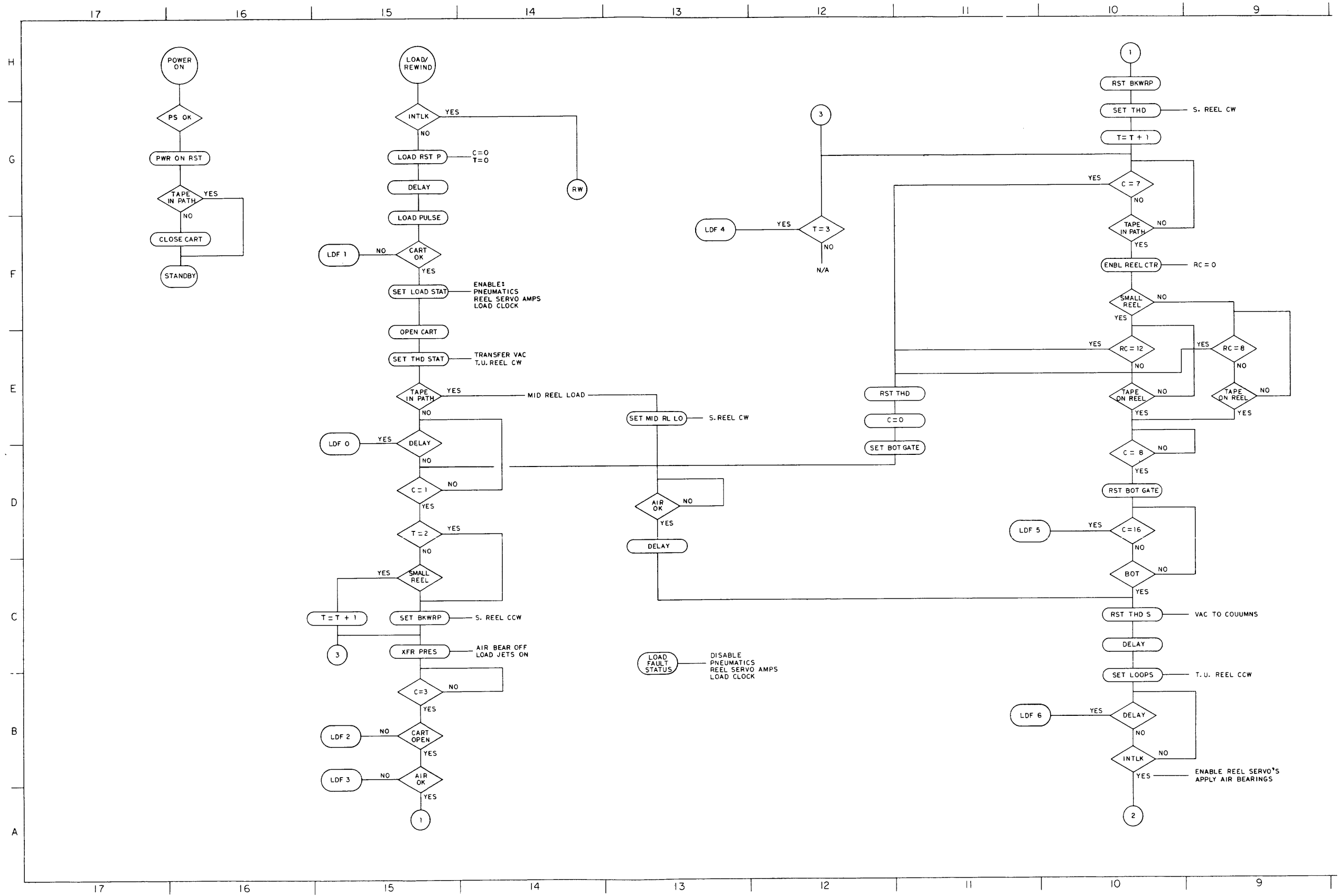
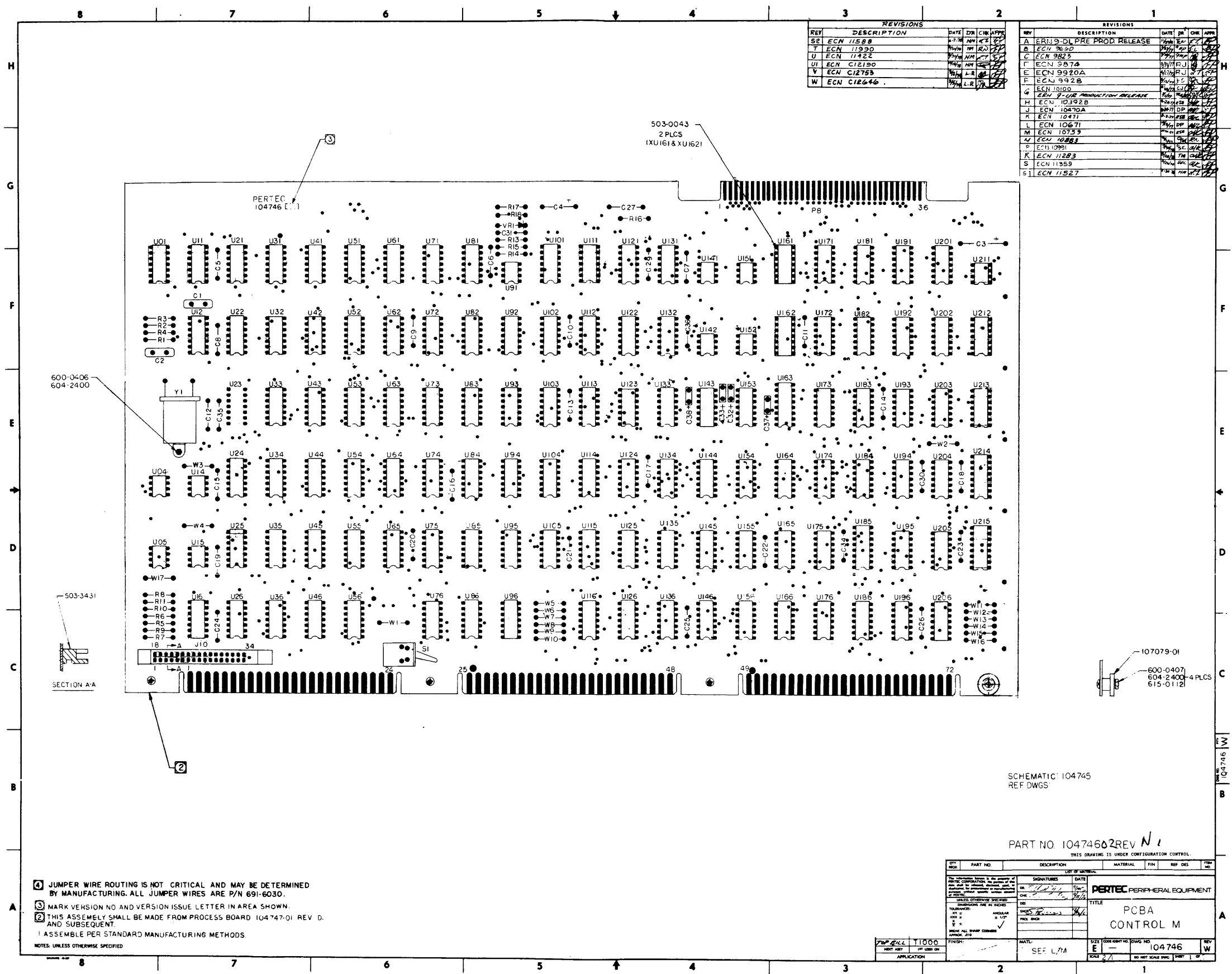


Figure 16 Schematic, Control M (Sheet 8 of 10)



MA-5813

Figure 16 Schematic, Control M (Sheet 9 of 10)



REVISIONS				
REV	DESCRIPTION	DATE	DR	CHK APPR
S2	ECN 11588	4-7-88	MM	CS
T	ECN 11990	7-27-88	MM	RM
U	ECN 11422	7-27-88	MM	RM
VI	ECN C12190	7-27-88	MM	RM
V	ECN C12759	7-27-88	MM	LR
W	ECN C12646	7-27-88	MM	LR

REVISIONS				
REV	DESCRIPTION	DATE	DR	CHK APPR
A	ERM19-DL PRE PROD RELEASE	7-27-88	MM	CS
B	ECN 9620	7-27-88	MM	CS
C	ECN 9823	7-27-88	MM	CS
F	ECN 9874	7-27-88	MM	RM
E	ECN 9920A	7-27-88	MM	RM
F	ECN 9928	7-27-88	MM	RM
G	ECN 10000	7-27-88	MM	RM
G	ECN 9-012 PRODUCTION RELEASE	7-27-88	MM	RM
H	ECN 10392B	7-27-88	MM	RM
J	ECN 10470A	7-27-88	MM	DP
K	ECN 10471	7-27-88	MM	DP
L	ECN 10671	7-27-88	MM	DP
M	ECN 10739	7-27-88	MM	DP
N	ECN 10883	7-27-88	MM	DP
P	ECN 10991	7-27-88	MM	SC
K	ECN 11203	7-27-88	MM	TM
S	ECN 11353	7-27-88	MM	DP
S1	ECN 11527	7-27-88	MM	DP

- ④ JUMPER WIRE ROUTING IS NOT CRITICAL AND MAY BE DETERMINED BY MANUFACTURING. ALL JUMPER WIRES ARE P/N 691-6030.
- ③ MARK VERSION NO AND VERSION ISSUE LETTER IN AREA SHOWN.
- ② THIS ASSEMBLY SHALL BE MADE FROM PROCESS BOARD 104747-01 REV D AND SUBSEQUENT.
- ① ASSEMBLE PER STANDARD MANUFACTURING METHODS.

NOTES: UNLESS OTHERWISE SPECIFIED

SCHEMATIC: 104745
REF DWGS

PART NO. 10474602 REV N1

QTY	PART NO.	DESCRIPTION	MATERIAL	FIN	REP DES	FORM
		THIS DRAWING IS UNDER CONFIGURATION CONTROL.				
APPROVED FOR FABRICATION		SIGNATURES		DATE		
DESIGNED BY		CHECKED BY		DATE		
DRAWN BY		APPROVED BY		DATE		
MATERIAL		FINISH		SCALE		
TOLERANCES		DIMENSIONS		UNIT		
UNLESS OTHERWISE SPECIFIED		AS SHOWN		INCHES		
FRACTIONS		DECIMALS		CONVERSION		
1/16" = .0625"		1/32" = .03125"		1/64" = .015625"		
1/8" = .125"		3/16" = .1875"		1/4" = .25"		
3/8" = .375"		1/2" = .5"		3/4" = .75"		
1" = 1.0"		2" = 2.0"		3" = 3.0"		
4" = 4.0"		6" = 6.0"		8" = 8.0"		
10" = 10.0"		12" = 12.0"		16" = 16.0"		
20" = 20.0"		30" = 30.0"		48" = 48.0"		
60" = 60.0"		96" = 96.0"		120" = 120.0"		
180" = 180.0"		240" = 240.0"		300" = 300.0"		
360" = 360.0"		480" = 480.0"		600" = 600.0"		
720" = 720.0"		960" = 960.0"		1200" = 1200.0"		
1440" = 1440.0"		1920" = 1920.0"		2880" = 2880.0"		
4320" = 4320.0"		5760" = 5760.0"		11520" = 11520.0"		
23040" = 23040.0"		30720" = 30720.0"		61440" = 61440.0"		
122880" = 122880.0"		163840" = 163840.0"		327680" = 327680.0"		
655360" = 655360.0"		873728" = 873728.0"		1747456" = 1747456.0"		
3327360" = 3327360.0"		4434432" = 4434432.0"		8868864" = 8868864.0"		
16636800" = 16636800.0"		22191360" = 22191360.0"		44382720" = 44382720.0"		
83184000" = 83184000.0"		110578560" = 110578560.0"		221157120" = 221157120.0"		
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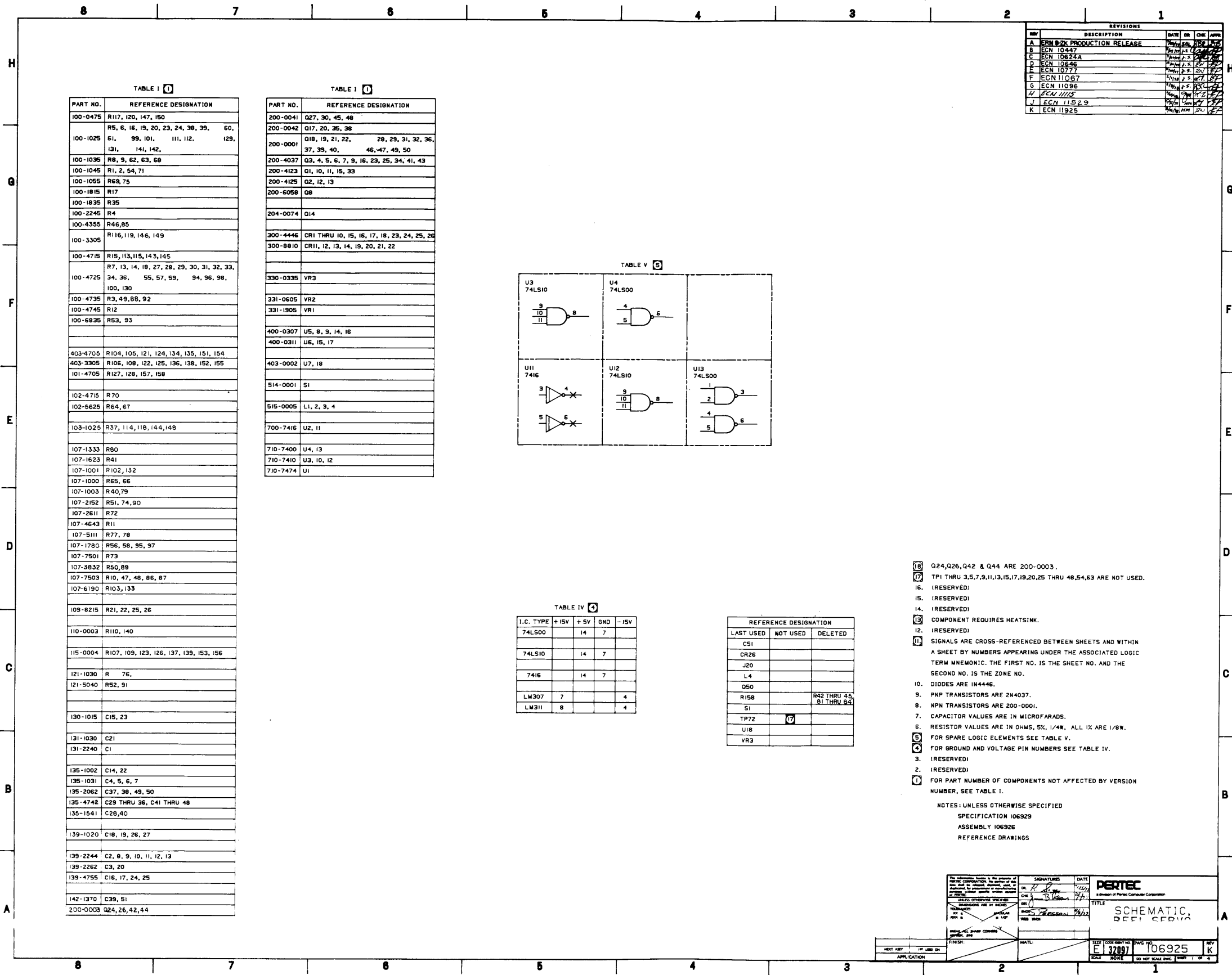
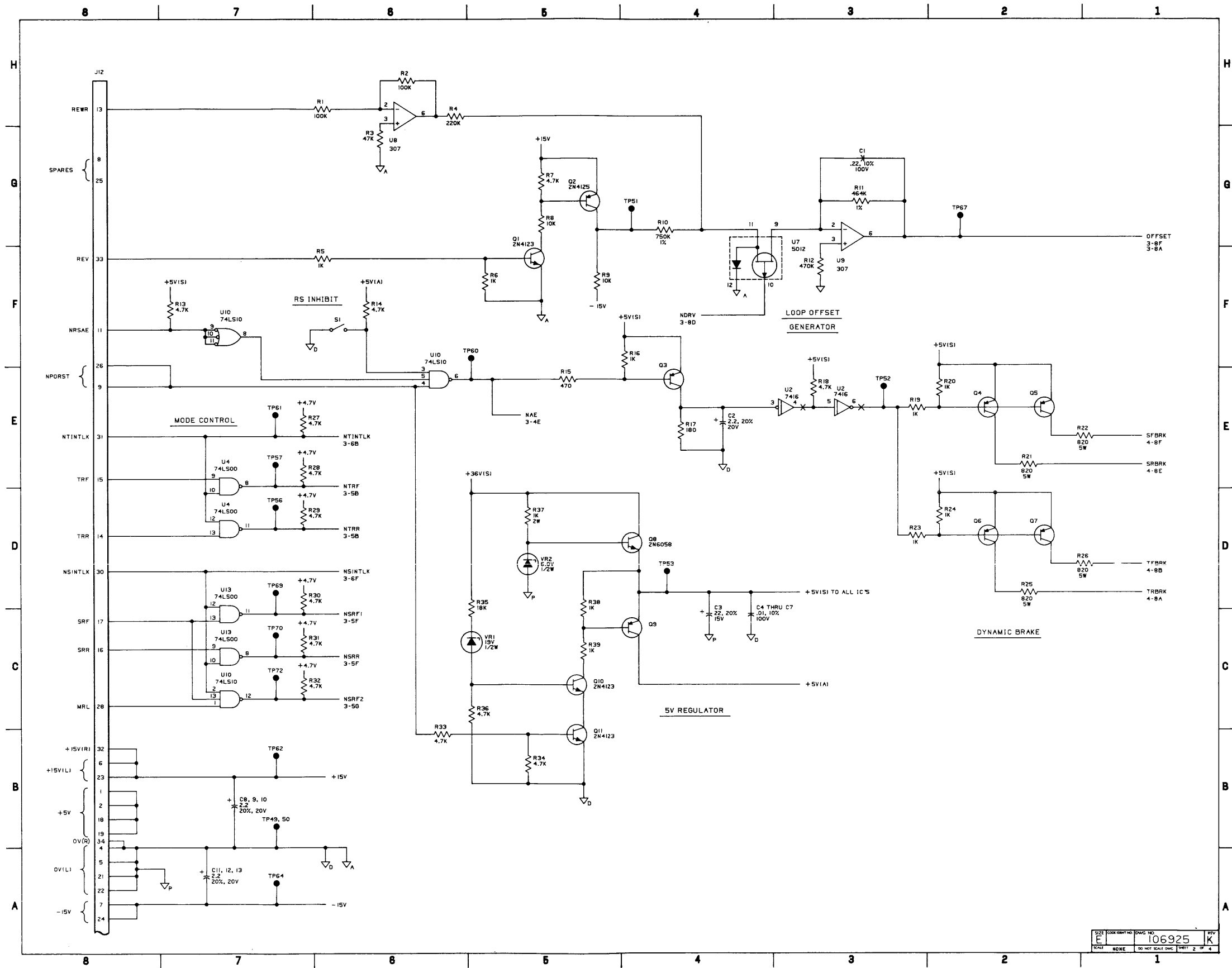


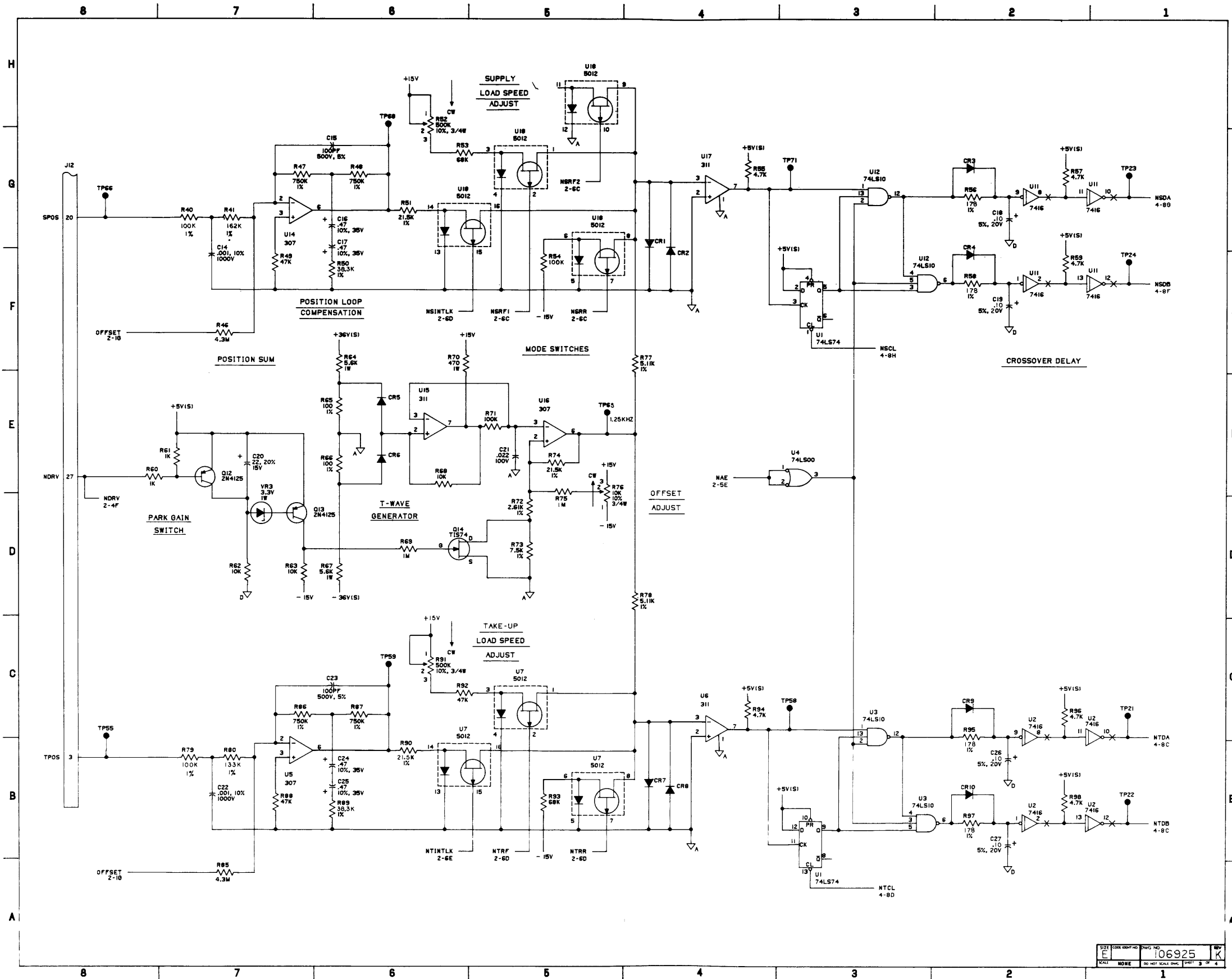
Figure 18 Schematic, Reel Servo (Sheet 1 of 4)



SIZE	BOOK	EDITION	DATE	REV
E1			106925	K
SCALE	NONE	DO NOT SCALE DIMS	SHEET 2	OF 4

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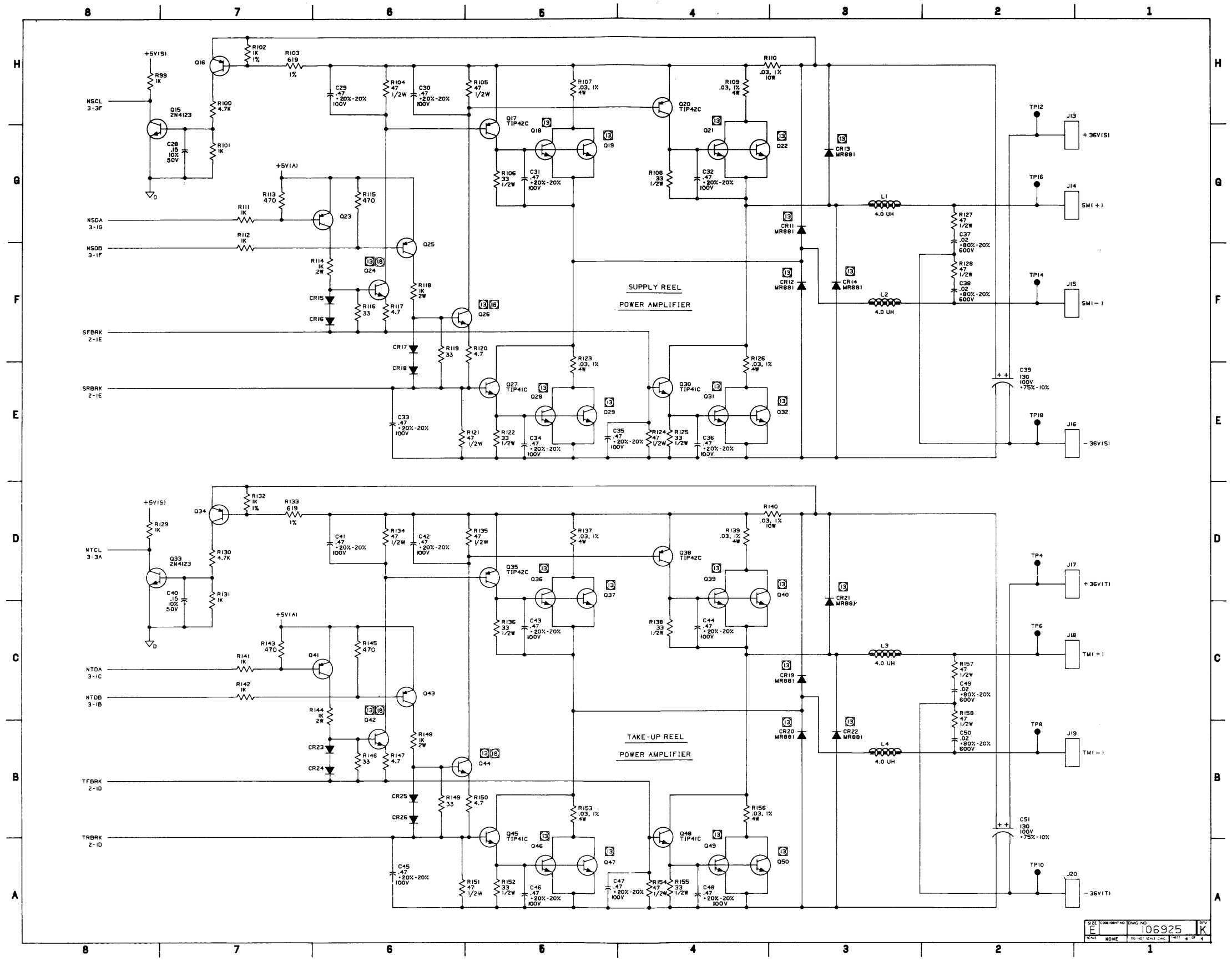
Figure 18 Schematic, Reel Servo (Sheet 2 of 4)



SIZE	CON. IDENT. NO.	QWG. NO.	REV.
E		106925	K
SCALE	NOTE	DO NOT SCALE DIMS.	PRINT 3 OF 4

MA-5818

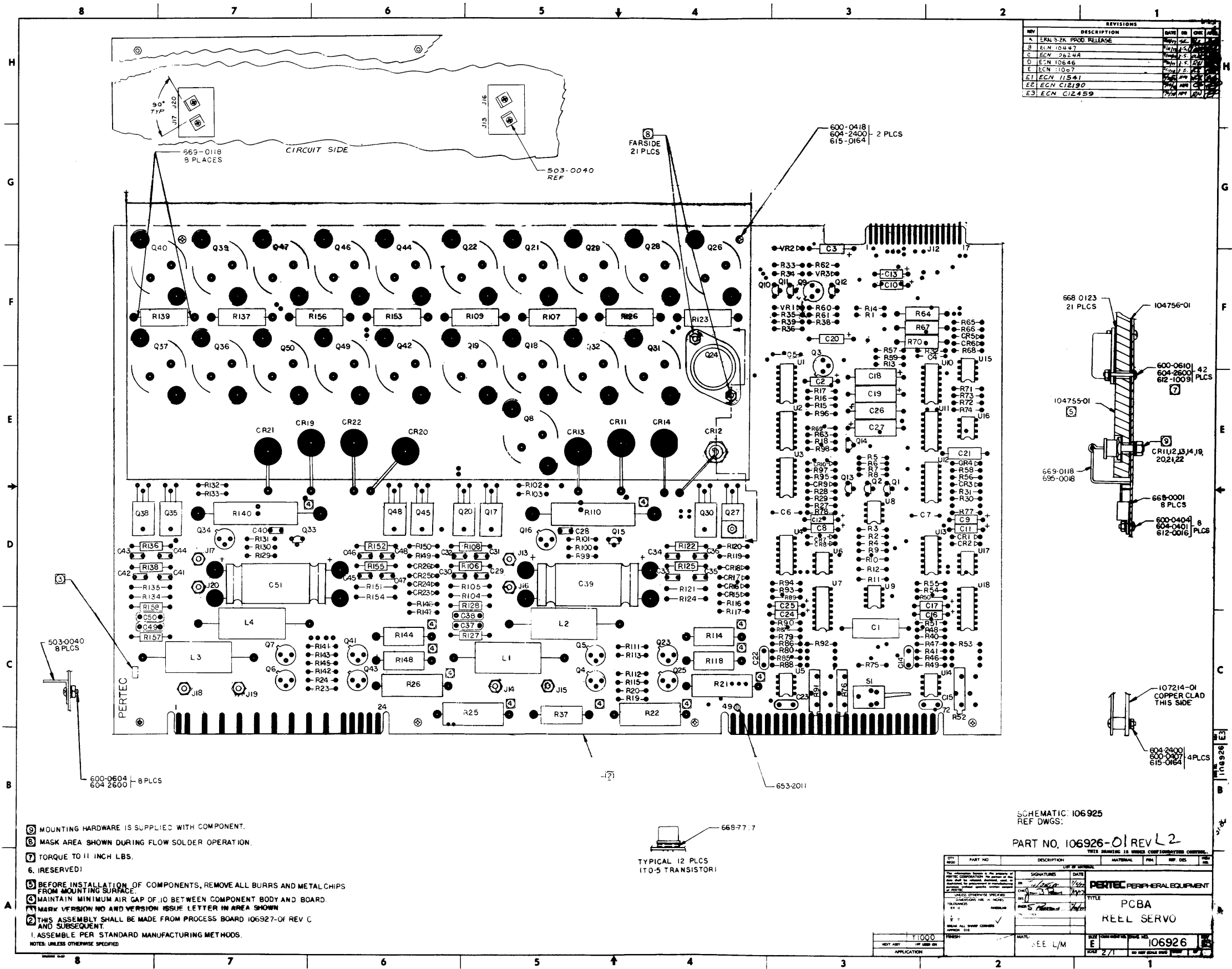
Figure 18 Schematic, Reel Servo (Sheet 3 of 4)



SIZE CODE SHEET NO DWG NO 106925 K
 DATE NONE 10 10 64 4 OF 4

MA-5819

Figure 18 Schematic, Reel Servo (Sheet 4 of 4)



- ⑤ MOUNTING HARDWARE IS SUPPLIED WITH COMPONENT.
 - ⑥ MASK AREA SHOWN DURING FLOW SOLDER OPERATION.
 - ⑦ TORQUE TO 11 INCH LBS.
 - 6. (RESERVED!)
 - ⑤ BEFORE INSTALLATION OF COMPONENTS, REMOVE ALL BURRS AND METAL CHIPS FROM MOUNTING SURFACE.
 - ④ MAINTAIN MINIMUM AIR GAP OF .10 BETWEEN COMPONENT BODY AND BOARD.
 - ③ MARK VERSION NO AND VERSION ISSUE LETTER IN AREA SHOWN
 - ② THIS ASSEMBLY SHALL BE MADE FROM PROCESS BOARD 106927-01 REV C AND SUBSEQUENT.
 - ① ASSEMBLE PER STANDARD MANUFACTURING METHODS.
- NOTE: UNLESS OTHERWISE SPECIFIED

SCHEMATIC: 106925
REF DWGS:

PART NO. 106926-01 REV L2

REV	PART NO	DESCRIPTION	MATERIAL	PKL	REP	DEL	QTY

PERTEC PERIPHERAL EQUIPMENT

TITLE: PCBA

REEL SERVO

SCALE: 2/1

DATE: 106926

Figure 19 PCBA, Reel Servo

TABLE I (CONT'D)

PART NO.	REFERENCE DESIGNATION
100-1015	R24, 49, 101, 102, 137, 147, 154, 158, 176
100-1025	R1, 3, 14, 18, 21, 22, 42, 44, 54, 63, 67, 73, 75, 84, 85, 87, 88, 89, 90, 100, 109, 110, 111, 122, 144, 145, 150, 151, 152, 155, 163, 171, 172, 173
100-1035	R2, 4, 6, 8, 10, 11, 13, 14, 17, 20, 45, 52, 55, 55a, 57, 61, 63, 67, 71, 115, 121, 130, 149, 164 THRU 169
100-1045	R38, 50
100-1055	R5, 15, 53, 86, 131, 134, 173
100-1065	R92, 174
100-1085	R34, 35, 75, 76, 114, 122
100-2225	R156
100-3315	R108, 125, 126, 177
100-4725	R91
100-4715	R128, 139
100-4725	R7, 9, 12, 19, 74, 99, 129, 136, 138, 178
100-5605	R95, 96, 104, 116, 117, 118, 119, 120, 124
100-6825	R46
100-1015	R51
100-4715	R135, 148
100-1001	R27, 106
100-1302	R25, 37, 39, 40, 41, 49, 103
100-1308	R48
100-2151	R94
100-3481	R107
100-3632	R36
100-6810	R 64
100-4811	R26
100-5112	R72
100-4715	R23, 68
100-0900	R133
100-2715	R40
100-0911	R90
100-0901	R89
100-2008	R51, 32, 33, 81, 82, 83
100-0913	R127
100-2931	R112
100-5310	R59, 66, 78
100-1020	R47, 179
100-1015	C14, 29
100-2215	C18
100-3315	C4
100-3320	C2, 5, 8, 34
100-4720	C3, 6, 7
100-4800	C9

TABLE II (CONT'D)

PART NO.	REFERENCE DESIGNATION
135-1781	C12, 13, 32
139-2244	C19, 25, 30, 31
139-2262	C9, 10, 17, 20, 21, 16
139-3392	C15
139-6865	C22, 23, 24, 28
142-1070	C26
142-5960	C1, 11
200-0901	Q19, 42, 45, 47
200-0942	Q6, 34
200-3365	Q26, 32, 35
200-4837	Q41
200-4823	Q2, 4, 11, 17, 18, 20, 24, 30, 31, 33, 38, 51, 52, 55, 56
200-4125	Q1, 3, 13, 14, 28, 29, 33, 34, 52, 54, 58
200-4848	Q7, 8, 9, 21, 22, 25
200-5321	Q10
200-5323	Q16, 27, 44, 46
200-0126	SCR2, 3
200-3669	SCR1
204-0074	Q5, 12, 15, 25, 53
300-4032	CR1, 4, 5, 8, 10, 11
300-4446	CR2, 3, 6, 7, 9, 12
330-0395	VR2
330-0475	VR4, 5, 9
330-0565	VR1
330-0515	VR7
330-1225	VR8
331-1905	VR3, 6
400-0265	U2
400-0307	U3, 8, 9, 10, 15
400-0325	U1
400-0318	U12
400-0732	U4, 13
710-7403	U5, 11, 14
710-7404	U7
710-7410	U6

TABLE III

ASSEMBLY DATES VERSION NO.	VERSION CHARACTERISTIC	039, 40, 46, 49, 114, 141, 142, 143, 159, 160, 161, 162	R11, 2	R28, 29	R36, 45, 77			
-01	BASIC	OMIT	.3	118-0933	26, 3K	100-2612	82, 5	100-085
-02	GCR	OMIT	.15	118-0913	3A, 2K	100-1622	362	100-5609

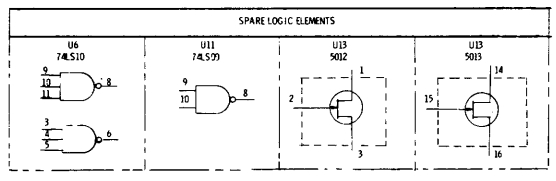
TABLE III

PART NO.	REFERENCE DESIGNATION
100-1015	R140, 162
100-1025	R140, 142, 159, 160
100-1015	R141, 161
200-0041	Q40, 49
200-4837	Q39
200-5323	Q48

TABLE IV

GROUND & VOLTAGE PIN NOS.				
I.C. TYPE	+5V	+5V	GND (0)	-15V
74LS00	14	14	7	
74LS04		14	7	
74LS10		14	7	
LM307	7			4
LM318	7			4

TABLE V



REFERENCE DESIGNATIONS

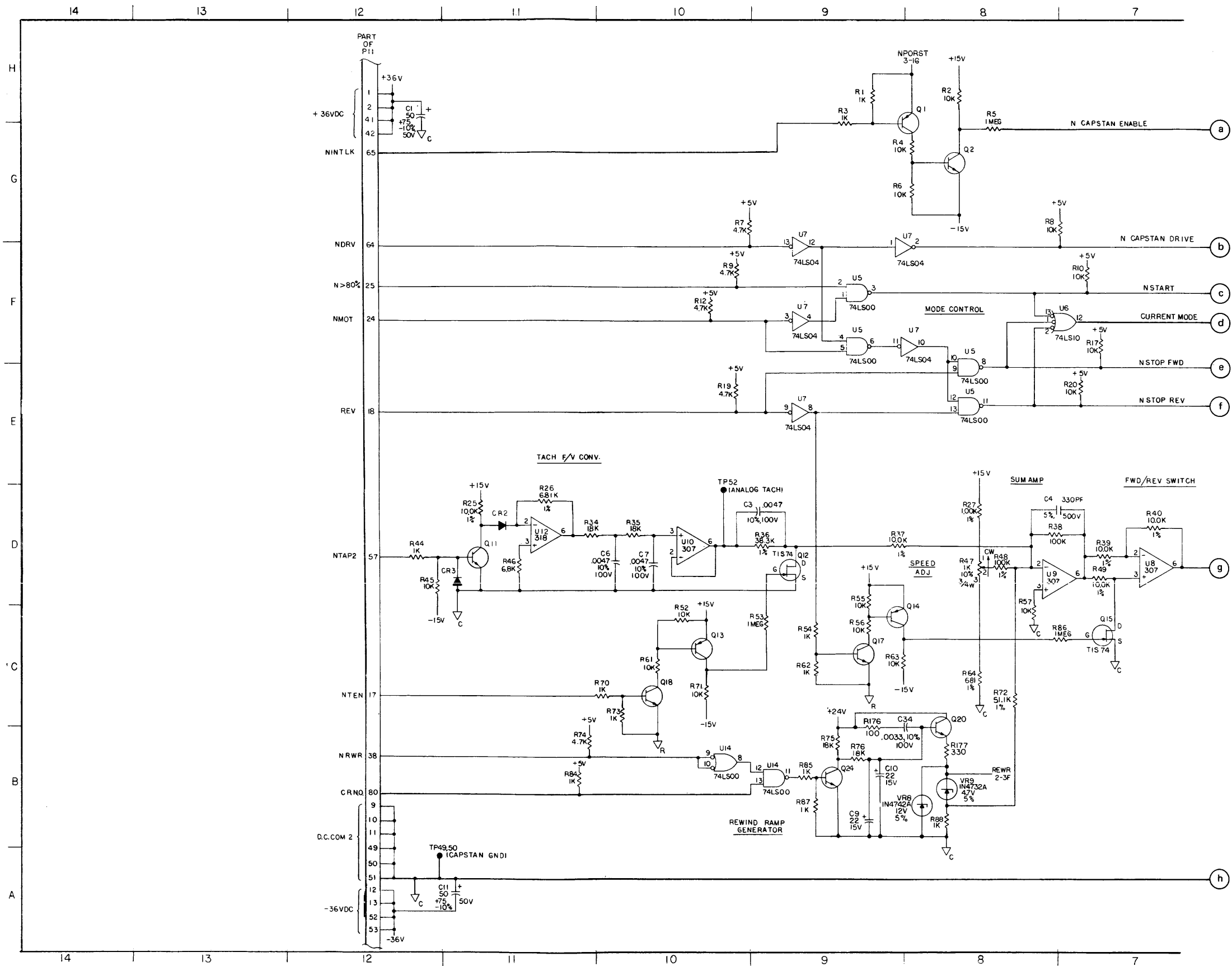
LAST USED	NOT USED	DELETED
C34		C27
CR12		
P11		
Q26		
R179	R78, 113, 123	R107
SCR3		
TP11		
U15		
VR9		

- (10) TP3, 4, 5 THRU 17, 14, 16, 17, 20, 21, 22, 23, 25 THRU 48, 53, 54, 60 THRU 64, 66, 67, 68, 69, 72
 - (11) COMPONENTS REQUIRE HEATSINK.
 - (12) RESISTORS WITH 1% TOL. ARE U6W.
 - (13) SIGNALS ARE CROSS-REF BETWEEN SHEETS AND WITHIN A SHEET BY NUMBERS APPEARING UNDER THE ASSOCIATED LOGIC TERM ANEMONIC. THE FIRST NO. IS THE SHEET NO. AND THE SECOND NO. IS THE ZONE NO.
 - (14) DIODES ARE IN/NAME.
 - (15) PNP TRANSISTORS ARE 2N4125.
 - (16) NPN TRANSISTORS ARE 2N4123.
 - (17) CAPACITOR VALUES ARE IN MICROFARADS, 20%, 35V.
 - (18) RESISTOR VALUES ARE IN OHMS, 5%, 1/4W.
 - (19) FOR SPARE LOGIC ELEMENTS, SEE TABLE V.
 - (20) FOR I.C. GENERIC TYPE NO. AND GROUND/VOLTAGE PIN NOS. SEE TABLE IV.
 - (21) FOR PART NUMBER, SEE TABLE III.
 - (22) FOR VALUE, PART NUMBER AND USAGE OF COMPONENTS AFFECTED BY VERSION NUMBER, SEE TABLE II.
 - (23) FOR PART NUMBER OF COMPONENTS NOT AFFECTED BY VERSION NUMBER, SEE TABLE I.
- NOTES: UNLESS OTHERWISE SPECIFIED

REVISIONS				
REV	DESCRIPTION	DATE	BY	CHK
PROTOTYPE NO. 2, 3, 4				
A	ERN 98W PRE PROD. RELEASE	7/1/68	JL	JL
B	27N 3844	7/1/68	JL	JL
C	27N 3203	7/1/68	JL	JL
D	ECN 9918	7/1/68	JL	JL
E	ECN 1317a	7/1/68	JL	JL
F	ECN 10473	7/1/68	JL	JL
G	ECN 10493	7/1/68	JL	JL
H	ECN 10285	7/1/68	JL	JL
I	ECN 10945	7/1/68	JL	JL
K	ECN 11626 B	7/1/68	JL	JL
L	ECN 11238 A	7/1/68	JL	JL
M	ECN 11140	7/1/68	JL	JL
N	ECN 112183A	7/1/68	JL	JL
O	ECN 112980	7/1/68	JL	JL
P	ECN 112967	7/1/68	JL	JL
R	ECN 113427	7/1/68	JL	JL

PREPARED BY: JL CHECKED BY: JL DATE: 7/1/68	SIGNATURES: JL DATE: 7/1/68	PERTEC PERIPHERAL EQUIPMENT DIVISION TITLE: SCHEMATIC CAPSTAN/REGULATOR
DRAWN BY: JL CHECKED BY: JL DATE: 7/1/68	SIGNATURES: JL DATE: 7/1/68	PART NO.: 10473 REV: 1

Figure 20 Schematic, Capstan/Regulator (Sheet 1 of 4)



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Figure 20 Schematic, Capstan/Regulator (Sheet 2 of 4)

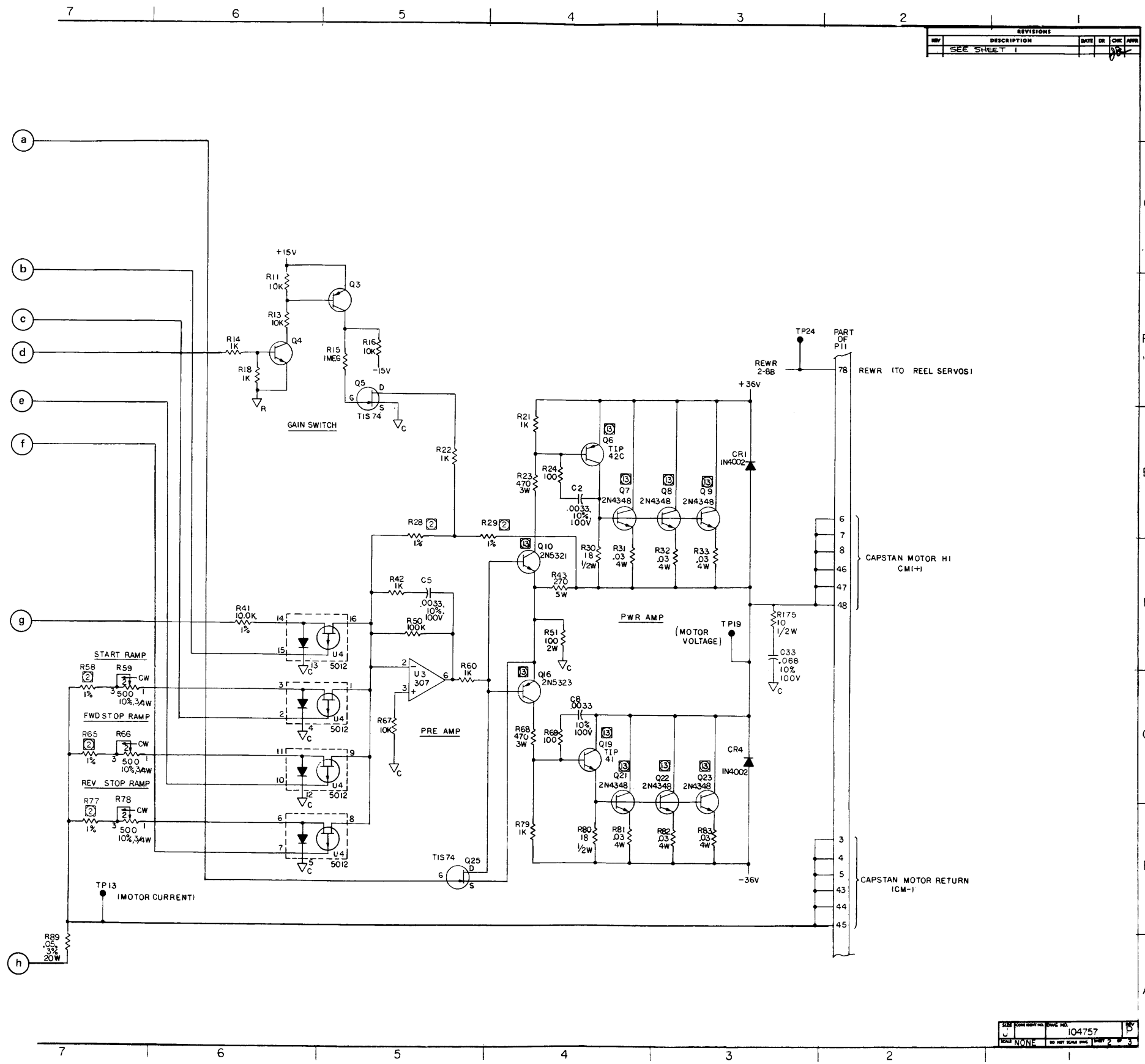


Figure 20 Schematic, Capstan/Regulator (Sheet 3 of 4)

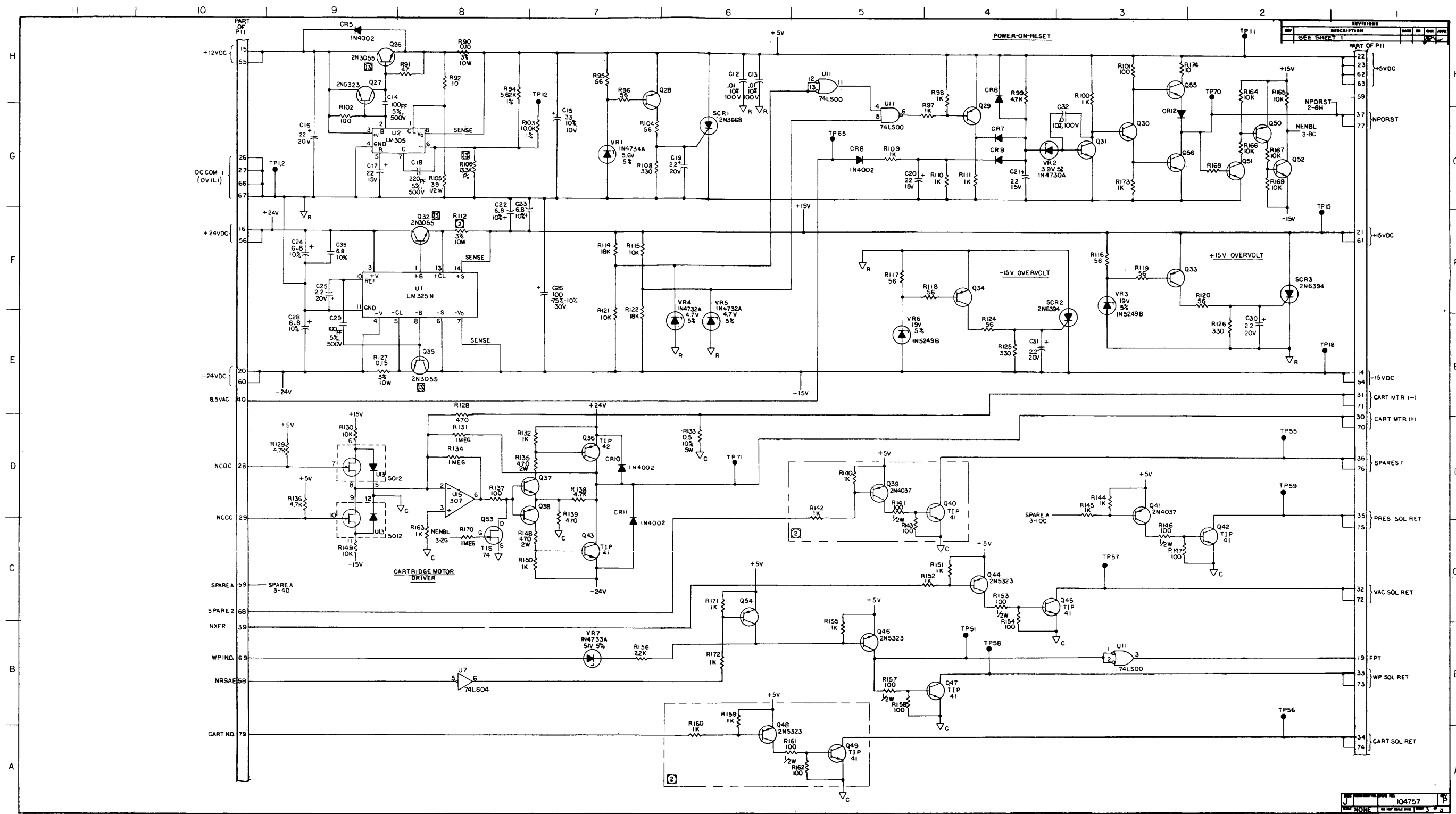
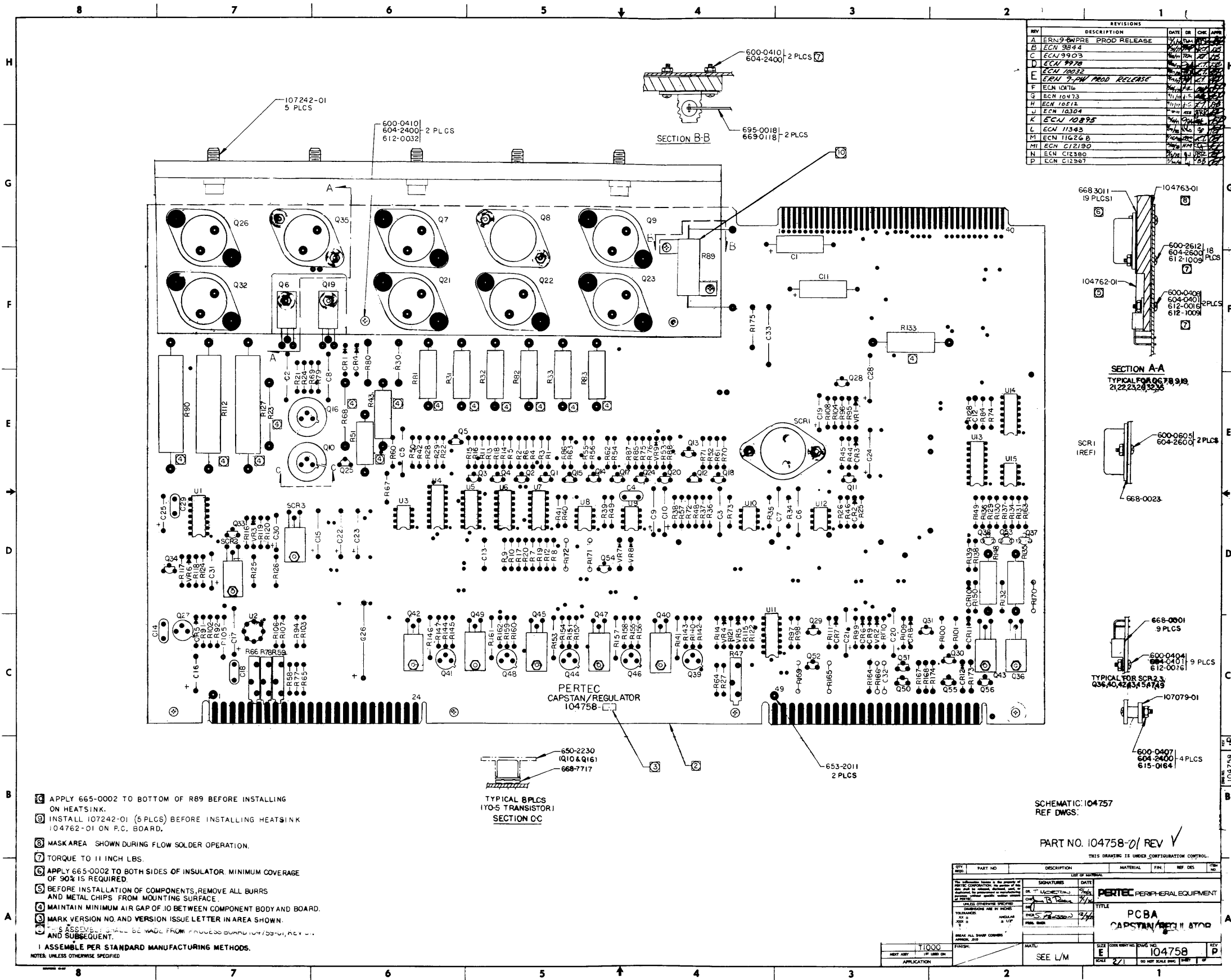


Figure 20 Schematic, Capstan/Regulator (Sheet 4 of 4)



REVISIONS				
REV	DESCRIPTION	DATE	DR	CHK
A	ERN 9-24 PRE PROD RELEASE	9/24/78	ERN	ERN
B	ECN 9844	10/11/78	ERN	ERN
C	ECN 9903	10/11/78	ERN	ERN
D	ECN 9978	10/11/78	ERN	ERN
E	ECN 10032	10/11/78	ERN	ERN
F	ECN 9-24M PROD RELEASE	10/11/78	ERN	ERN
G	ECN 10476	11/14/78	ERN	ERN
H	ECN 10473	11/14/78	ERN	ERN
I	ECN 10472	11/14/78	ERN	ERN
J	ECN 10304	11/14/78	ERN	ERN
K	ECN 10895	11/14/78	ERN	ERN
L	ECN 11545	11/14/78	ERN	ERN
M	ECN 11626 B	11/14/78	ERN	ERN
N	ECN C12390	11/14/78	ERN	ERN
O	ECN C12390	11/14/78	ERN	ERN
P	ECN C12397	11/14/78	ERN	ERN

- ④ APPLY 665-0002 TO BOTTOM OF R89 BEFORE INSTALLING ON HEATSINK.
 - ⑤ INSTALL 107242-01 (5 PLCS) BEFORE INSTALLING HEATSINK 104762-01 ON P.C. BOARD.
 - ⑥ MASK AREA SHOWN DURING FLOW SOLDER OPERATION.
 - ⑦ TORQUE TO 11 INCH LBS.
 - ⑧ APPLY 665-0002 TO BOTH SIDES OF INSULATOR. MINIMUM COVERAGE OF 90% IS REQUIRED.
 - ⑨ BEFORE INSTALLATION OF COMPONENTS, REMOVE ALL BURRS AND METAL CHIPS FROM MOUNTING SURFACE.
 - ⑩ MAINTAIN MINIMUM AIR GAP OF .01 BETWEEN COMPONENT BODY AND BOARD.
 - ⑪ MARK VERSION NO. AND VERSION ISSUE LETTER IN AREA SHOWN.
 - ⑫ THIS ASSEMBLY SHALL BE MADE FROM PROCESS BOARD 104758-01, REV 1.1 AND SUBSEQUENT.
 - ⑬ ASSEMBLE PER STANDARD MANUFACTURING METHODS.
- NOTE: UNLESS OTHERWISE SPECIFIED

SCHMATIC: 104757
REF DWGS:
PART NO. 104758-01 REV V

PART NO.		DESCRIPTION		MATERIAL		FIN.		REF DES		REV	
104758-01		PCBA		PERTEC PERIPHERAL EQUIPMENT		PCBA		CAPSTAN/REGULATOR		104758	
REV P		DATE		SCALE		TOLERANCES		ANGULAR		FINISH	
11/14/78		2/1		SEE L/M		UNLESS OTHERWISE SPECIFIED		AS SHOWN		SEE L/M	

Figure 21 PCBA, Capstan/Regulator

H
G
F
E
D
C
B
A

PART NO.	REFERENCE DESIGNATION
100-1025	R2, 4, 5, 11, 18, 22, 23, 27, 29, 30, 31, 33 THRU 38, 111, 112, 114, 211, 212, 214, 311, 312, 314, 411, 412, 414, 511, 512, 514, 611, 612, 614, 711, 712, 714, 811, 812, 814, 911, 912, 914
100-1085	R13
100-1086	R9
100-1225	R15
100-1515	R24, 25, 26, 32
100-1525	R102, 202, 302, 402, 502, 602, 702, 802, 902
100-1595	R8
100-1815	R104, 116, 204, 216, 304, 316, 404, 416, 504, 516, 604, 616, 704, 716, 804, 816, 904, 916
100-1825	R20
100-2225	R7, 12
100-2246	R10
100-2735	R108, 208, 308, 408, 508, 608, 708, 808, 908
100-3315	R19
100-3325	R108, 208, 308, 408, 508, 608, 708, 808, 908
100-3985	R3
100-4725	R6, 28
101-1015	R17, 107, 109, 207, 209, 307, 309, 407, 409, 507, 509, 607, 609, 707, 709, 807, 809, 907, 909
101-1025	R1, 21
101-1215	R39, 40, 41, 42
101-8205	R16
101-7505	R105, 205, 305, 405, 505, 605, 705, 805, 905
107-1212	R110, 210, 310, 410, 510, 610, 710, 810, 910
107-1621	R106, 206, 306, 406, 506, 606, 706, 806, 906
107-3161	R113, 213, 313, 413, 513, 613, 713, 813, 913
107-8251	R115, 215, 315, 415, 515, 715, 815, 915
120-0001	U22, 25
121-1080	R101, 201, 301, 401, 501, 601, 701, 801, 901
130-0705	C3, 20
135-0742	C5
139-2244	C1, 2, 4, 7 THRU 19, 21, 22
200-4087	C101, 201, 301, 401, 501, 601, 701, 801, 901, 102, 202, 302, 402, 502, 602, 702, 802, 902, 105, 205, 305, 405, 505, 605, 705, 805, 905
200-4123	Q2, 104, 105, 204, 205, 304, 305, 404, 405, 504, 505, 604, 605, 704, 705, 804, 805, 904, 905
200-4125	Q1

PART NO.	REFERENCE DESIGNATION
200-5929	Q3, 4
300-4446	CR1
400-2741	U38
700-7416	U33, 37
710-4132	U21, 24, 28
710-4221	U2, 5, 7, 10, 12, 15, 17, 20, 23, 35
710-7400	U31, 32
710-7404	U34
710-7414	U27
710-7438	U36
710-7474	U4, 9, 14, 19, 26
710-7476	U1, 6, 11, 16, 30
710-7486	U5, 8, 13, 18, 29

ASSEMBLY 104811 VERSION NO.	VERSION CHARACTERISTIC	C6		C101, 201, 301, 401, C501, 601, 701, 801, C901		C102, 202, 302, 402, C502, 602, 702, 802, C902	
		VALUE	PART NO.	VALUE	PART NO.	VALUE	PART NO.
-01	75 IPS	.0022	131-2220	750 PF	130-7515	56 PF	130-5605
-02	100 IPS	.0022	131-2220	750 PF	130-7515	48 PF	130-4805
-0B	112, 5/125 IPS	.0015	131-1520	560 PF	130-5615	33 PF	130-3305

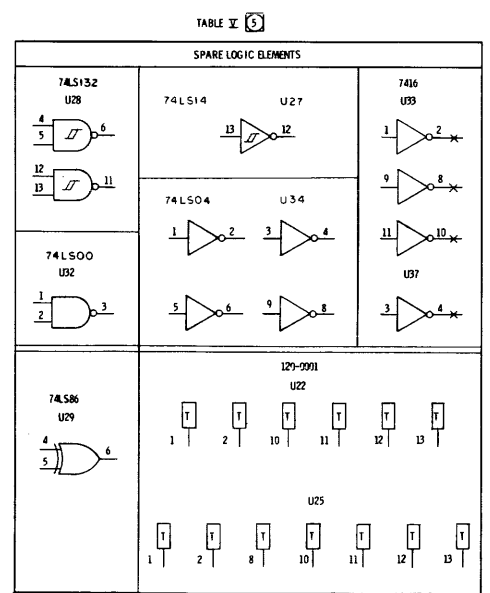


Figure 22 Schematic, Write (Sheet 1 of 4)

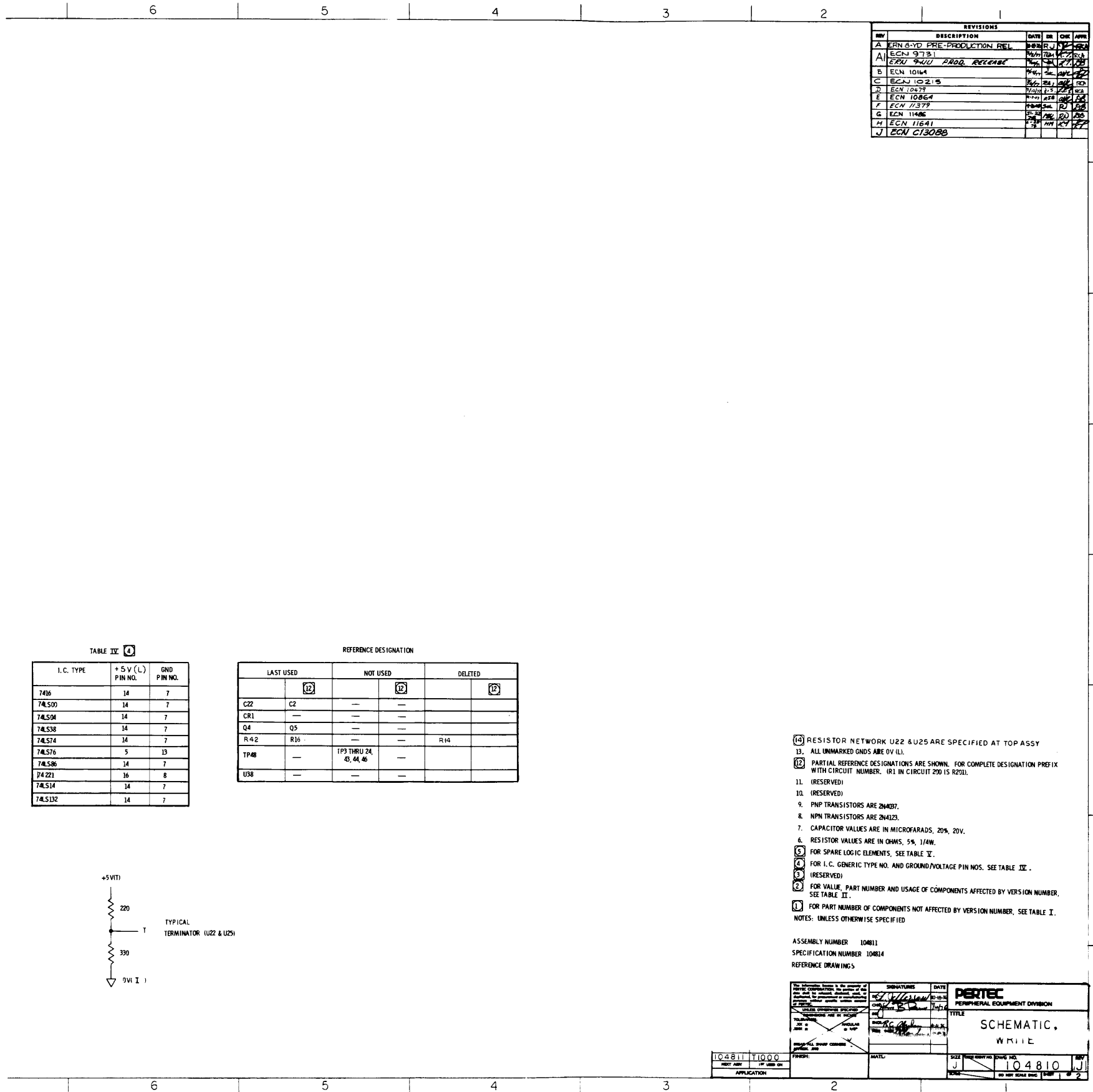
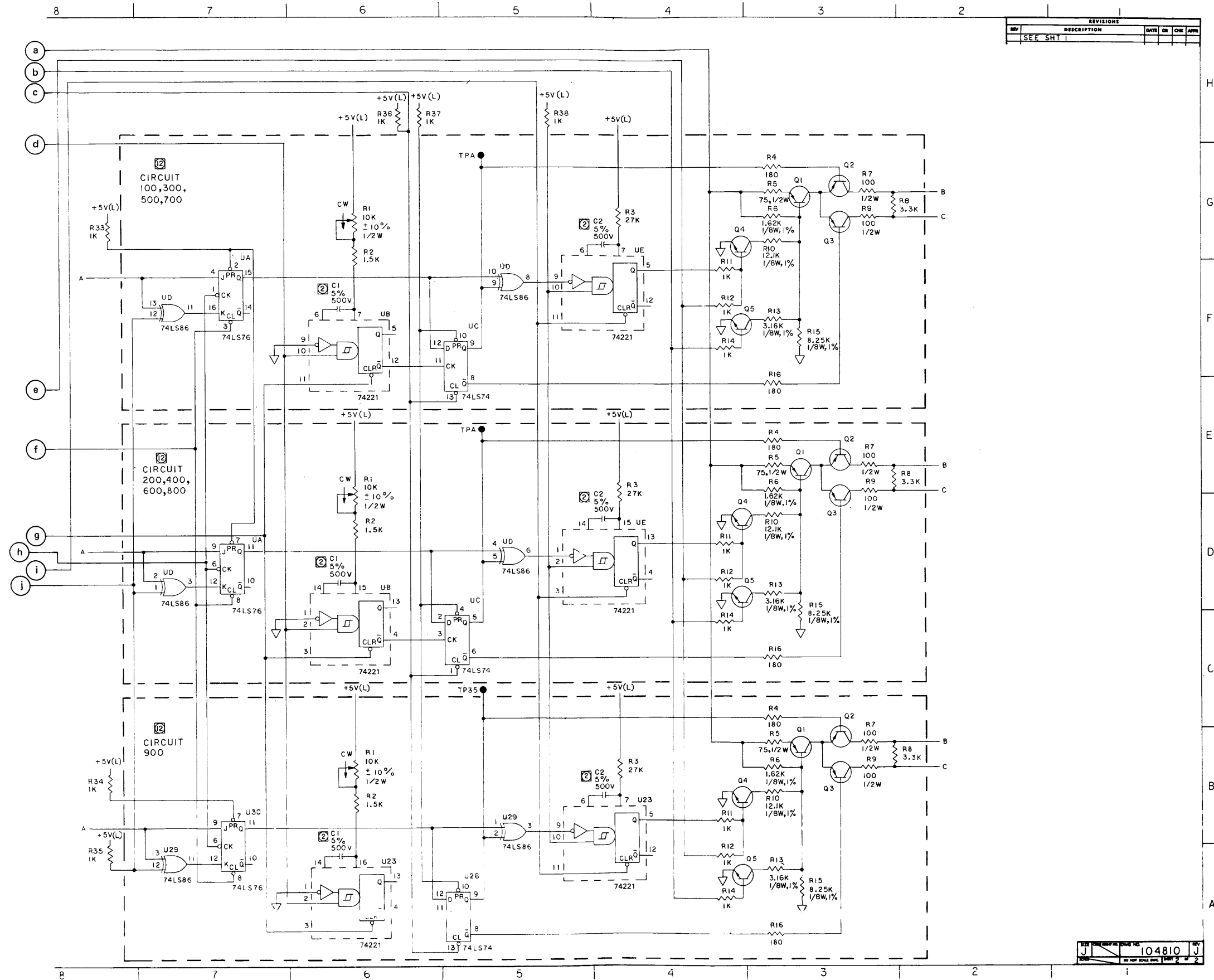
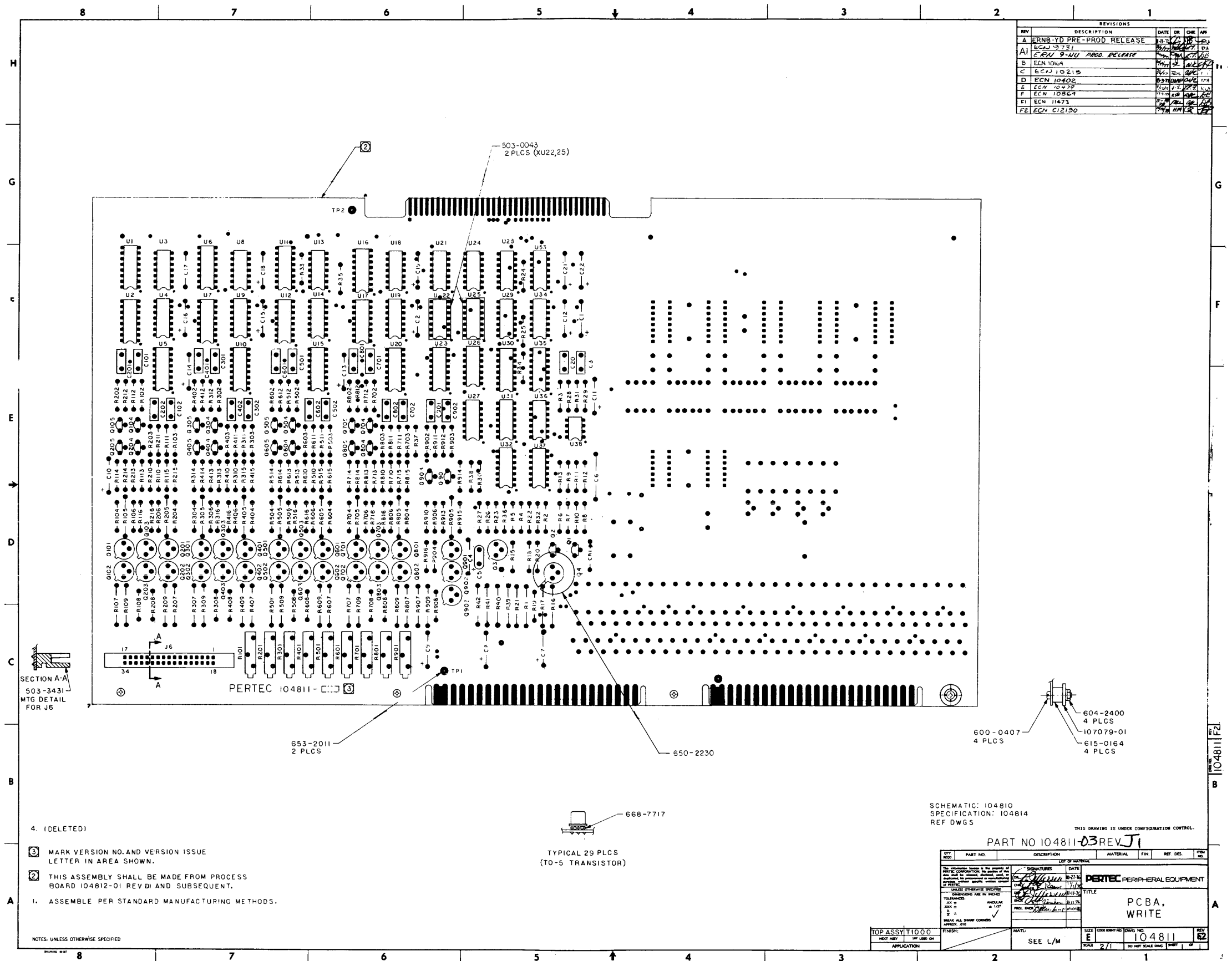


Figure 22 Schematic, Write (Sheet 2 of 4)



REVISIONS			
REV	DESCRIPTION	DATE	CHK
1	SEE SH1		

Figure 22 Schematic, Write (Sheet 4 of 4)



SECTION A-A
503-3431
MTG DETAIL
FOR J6

- 4. (DELETED)
- 3. MARK VERSION NO. AND VERSION ISSUE LETTER IN AREA SHOWN.
- 2. THIS ASSEMBLY SHALL BE MADE FROM PROCESS BOARD 104812-01 REV D AND SUBSEQUENT.
- 1. ASSEMBLE PER STANDARD MANUFACTURING METHODS.

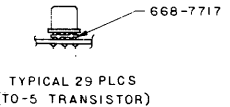
NOTES: UNLESS OTHERWISE SPECIFIED

SCHEMATIC: 104810
SPECIFICATION: 104814
REF DWGS

THIS DRAWING IS UNDER CONFIGURATION CONTROL.

PART NO 104811-03 REV J1

QTY	PART NO.	DESCRIPTION	MATERIAL	FIN	REF DES.	TRM
		PERTEC PERIPHERAL EQUIPMENT				
		TITLE				
		PCBA, WRITE				
		SIZE (DIM INCHES)				
		E				
		SCALE				
		2/1				
		DO NOT SCALE DIMS				
		SHEET				
		2				

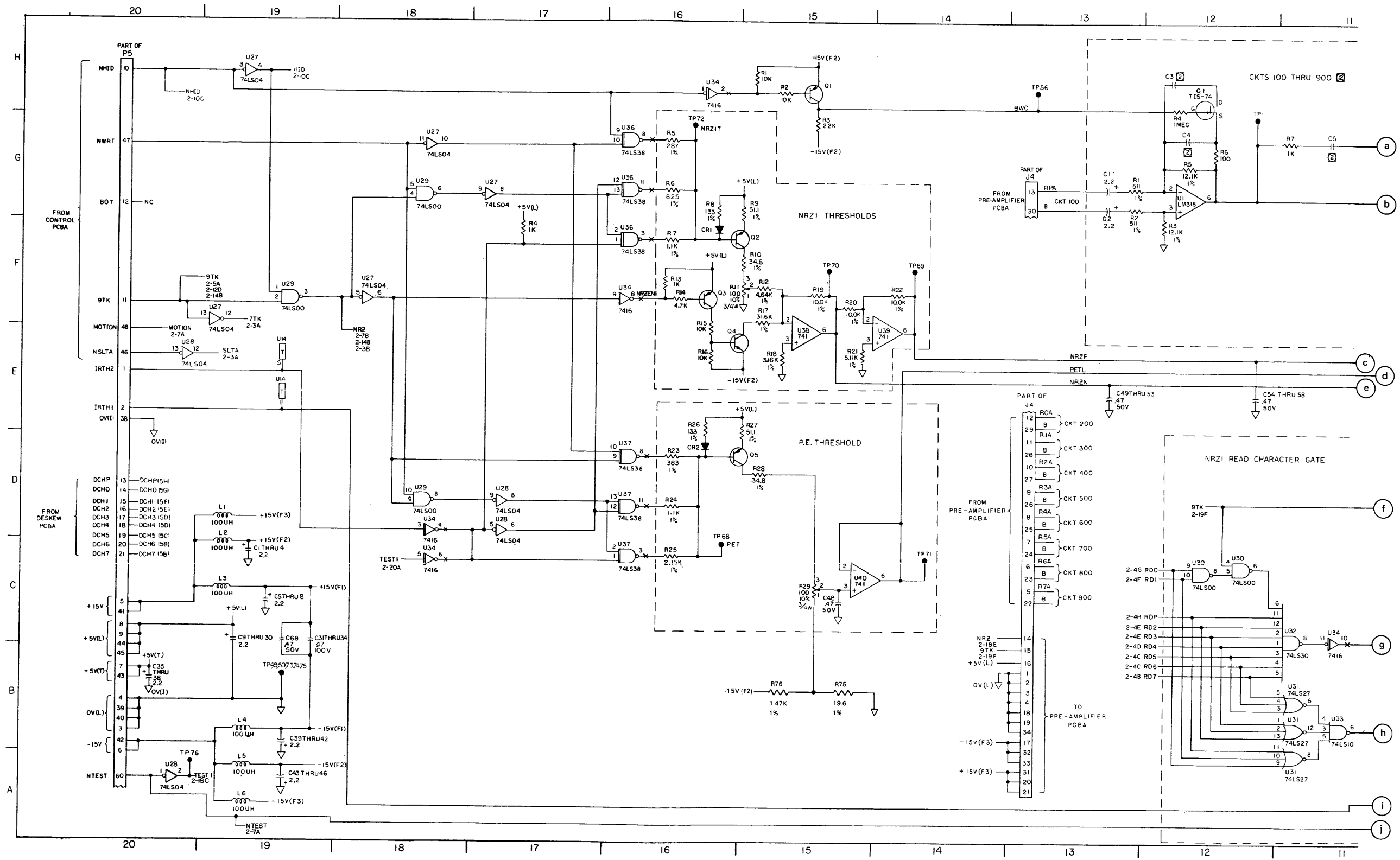


MA-5830

Figure 23 PCBA, Write

TABLE I		TABLE I (CONT'D)		TABLE III	
PART NO.	REFERENCE DESIGNATION	PART NO.	REFERENCE DESIGNATION	PART NO.	REFERENCE DESIGNATION
100-1015	R136, 139, 236, 239, 336, 339, 406, 409, 506, 509, 606, 609, 706, 709, 806, 809, 906, 909	200-4123	Q4, 10, 11	100-1035	R40, 44
100-1025	R4, 13, 37 THRU 34, 47, 49, 53, 67, 71, 107, 207, 307, 407, 507, 607, 707, 807, 907, 93	200-4125	Q1, 2, 3, 5, 6, 9	100-2225	R39, 43
100-1035	R1, 2, 15, 16, 36, 66			107-3162	R42
100-1055	R52, 58, 68, 104, 118 THRU 121, 224, 218 THRU 221, R304, 318 THRU 321, 424, 418 THRU 421, 524, R518 THRU 521, 624, 618 THRU 621, 724, R718 THRU 721, 824, 818 THRU 821, 924, R918 THRU 921	204-0074	Q101, 201, 301, 401, 501, 601, 701, 801, 901	107-5112	R46
100-2205	R51, 54			121-5350	R41, 45
100-2225	R35	300-4446	CR1, 2, 101 THRU 108, 201 THRU 208, 301 THRU 308, CR401 THRU 408, 501 THRU 508, 601 THRU 608, CR701 THRU 708, 801 THRU 808, 901 THRU 908	200-4125	Q7, 8
100-2235	R3			710-7426	U33
100-4745	R74				
100-3925	R55, 56, 57, 63, 67, 110 THRU 117, 210 THRU 217, R310 THRU 317, 410 THRU 417, 510 THRU 517, R610 THRU 617, 710 THRU 717, 810 THRU 817, R910 THRU 917	400-0318	U101, 102, 201, 202, 301, 302, 401, 402, 501, 502, 601, U602, 701, 702, 801, 802, 901, 902		
100-4715	R48, 51, 59, 69, 122, 123, 223, 225, 323, 325, 422, 423, R523, 525, 622, 623, 723, 725, 823, 825, 923	400-0319	U41, 42, 103, 104, 203, 204, 303, 304, 403, 404, 503, U504, 603, 604, 703, 704, 803, 804, 903, 904		
100-4725	R14, 61	400-2741	U38, 39, 40		
107-0100	R72				
107-0196	R75				
107-4348	R10, 28				
107-4511	R9, 27				
107-1002	R19, 20, 22, 108, 208, 308, 408, 508, 608, 708, 808, R908, 17				
107-1101	R7	515-1015	L1 THRU 6		
107-1212	R103, 105, 203, 205, 303, 305, 403, 405, 503, 505, 603, R605, 703, 705, 803, 805, 903, 905				
107-1330	R8, 26	700-5452	U7, 8, 9, 18 THRU 26		
107-1622	R38	700-7416	U17, 34		
107-2151	R64, 65				
107-2371	R62				
107-2870	R5				
107-3830	R23				
107-4641	R12				
107-5111	R21				
107-5110	R101, 102, 201, 202, 301, 302, 401, 402, 501, 502, 601, R602, 701, 702, 801, 802, 901, 902	710-4123	U105, 205, 305, 405, 505, 605, 705, 805, 905		
107-5161	R18				
107-8250	R6				
120-0001	U12, 14				
121-1010	R11, 29				
121-4230	R37				
130-1515	C64				
130-2215	C65				
130-4705	C63, 66, 67, 107 THRU 110, 207 THRU 210, C307 THRU 310, 407 THRU 410, 507 THRU 510, C607 THRU 610, 707 THRU 710, 807 THRU 810, C907 THRU 910				
135-1031	C73				
135-4742	C48 THRU 58, 68, C31 THRU 34, C69 THRU 72				
139-4755	C59, 60, 61				
139-2244	C1 THRU 30, 35 THRU 46, 101, 102, 201, C202, 301, 302, 401, 402, 501, 502, 601, 602, 701, 702, C801, 802, 901, 902				

Figure 24 Schematic, DATA L (Sheet 1 of 4)



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Figure 24 Schematic, DATA L (Sheet 3 of 4)

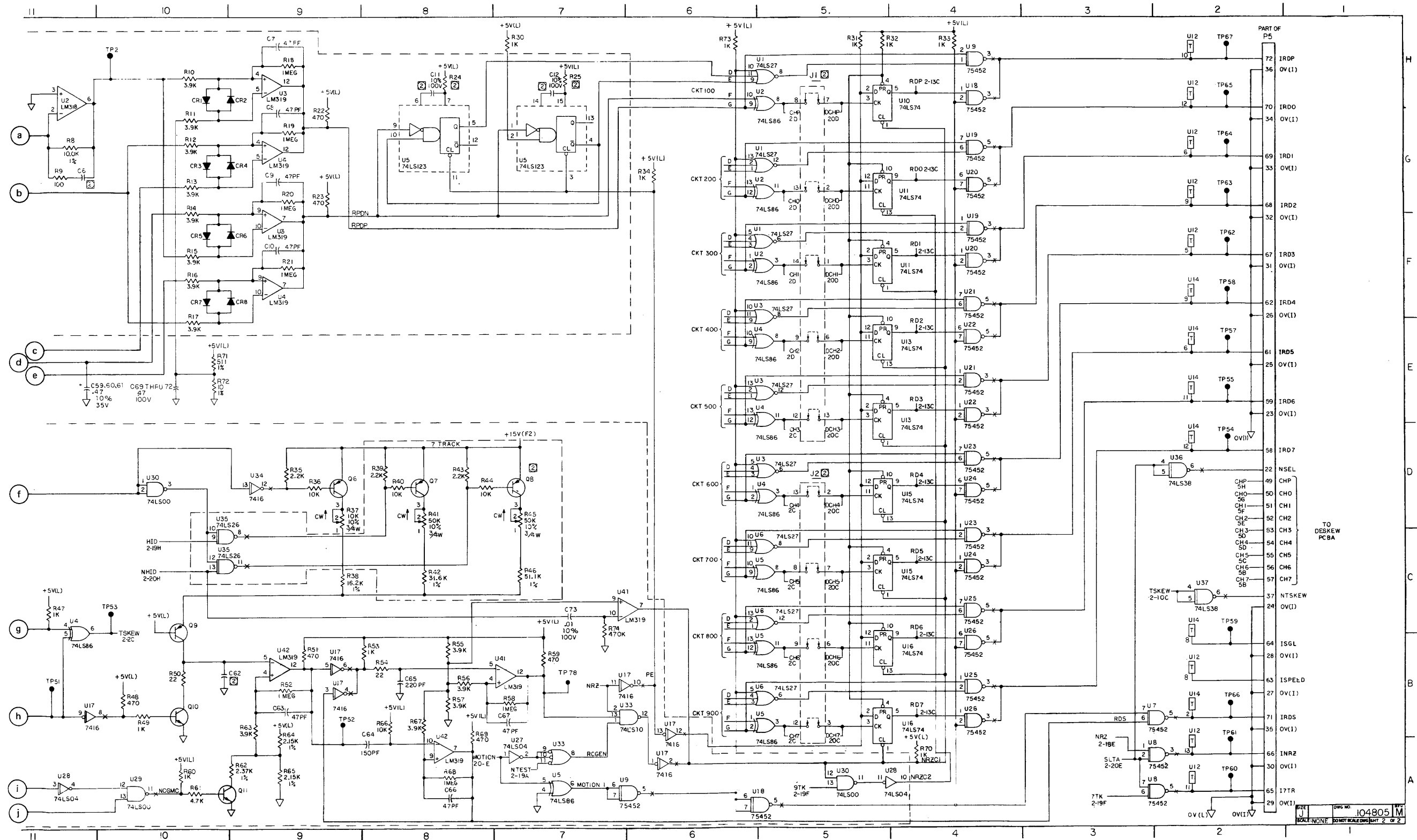
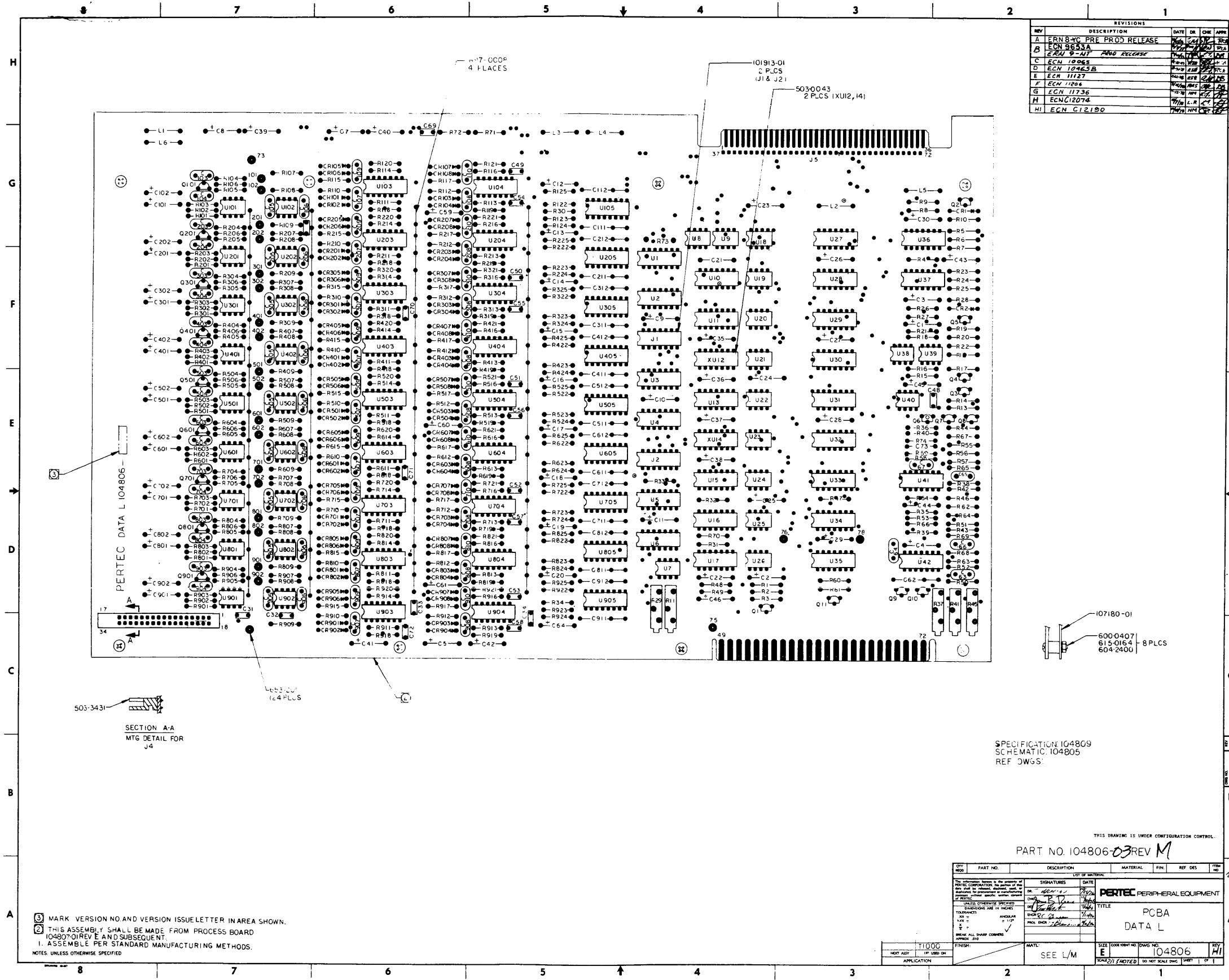


Figure 24 Schematic, DATA L (Sheet 4 of 4)



③ MARK VERSION NO AND VERSION ISSUE LETTER IN AREA SHOWN.
 ④ THIS ASSEMBLY SHALL BE MADE FROM PROCESS BOARD 104807-01 REV E AND SUBSEQUENT.
 1. ASSEMBLE PER STANDARD MANUFACTURING METHODS.
 NOTES UNLESS OTHERWISE SPECIFIED

SPECIFICATION 104809
 SCHEMATIC 104805
 REF DWGS

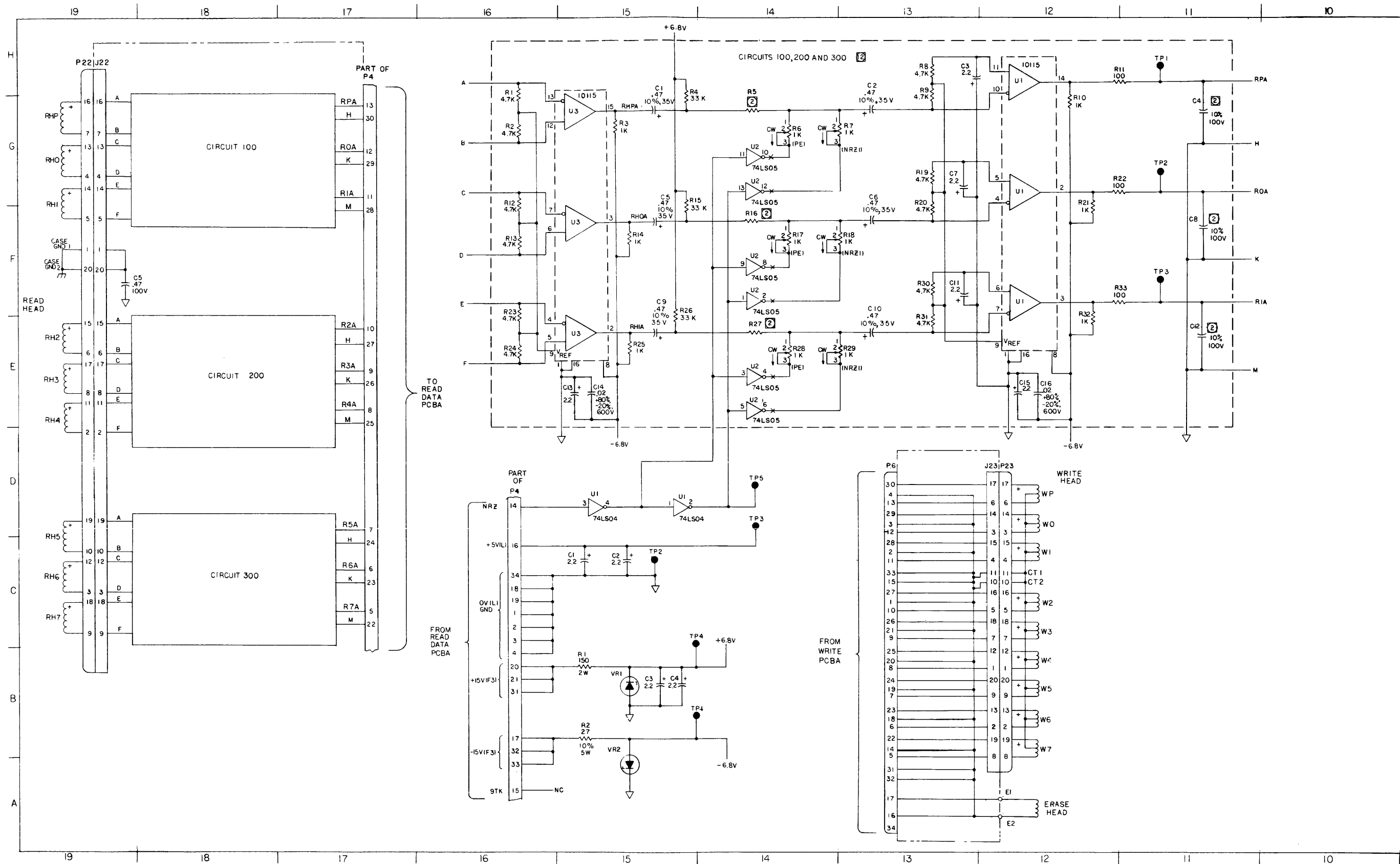
THIS DRAWING IS UNDER CONFIGURATION CONTROL.
 PART NO. 104806-03 REV M

REV	PART NO.	DESCRIPTION	MATERIAL	FIN	REF DES	APP
03	104806-03	PCBA DATA L				

SIGNATURES		DATE
DA	[Signature]	7/24/70
DR	[Signature]	7/24/70
ENGR	[Signature]	7/24/70
PRG. ENGR	[Signature]	7/24/70

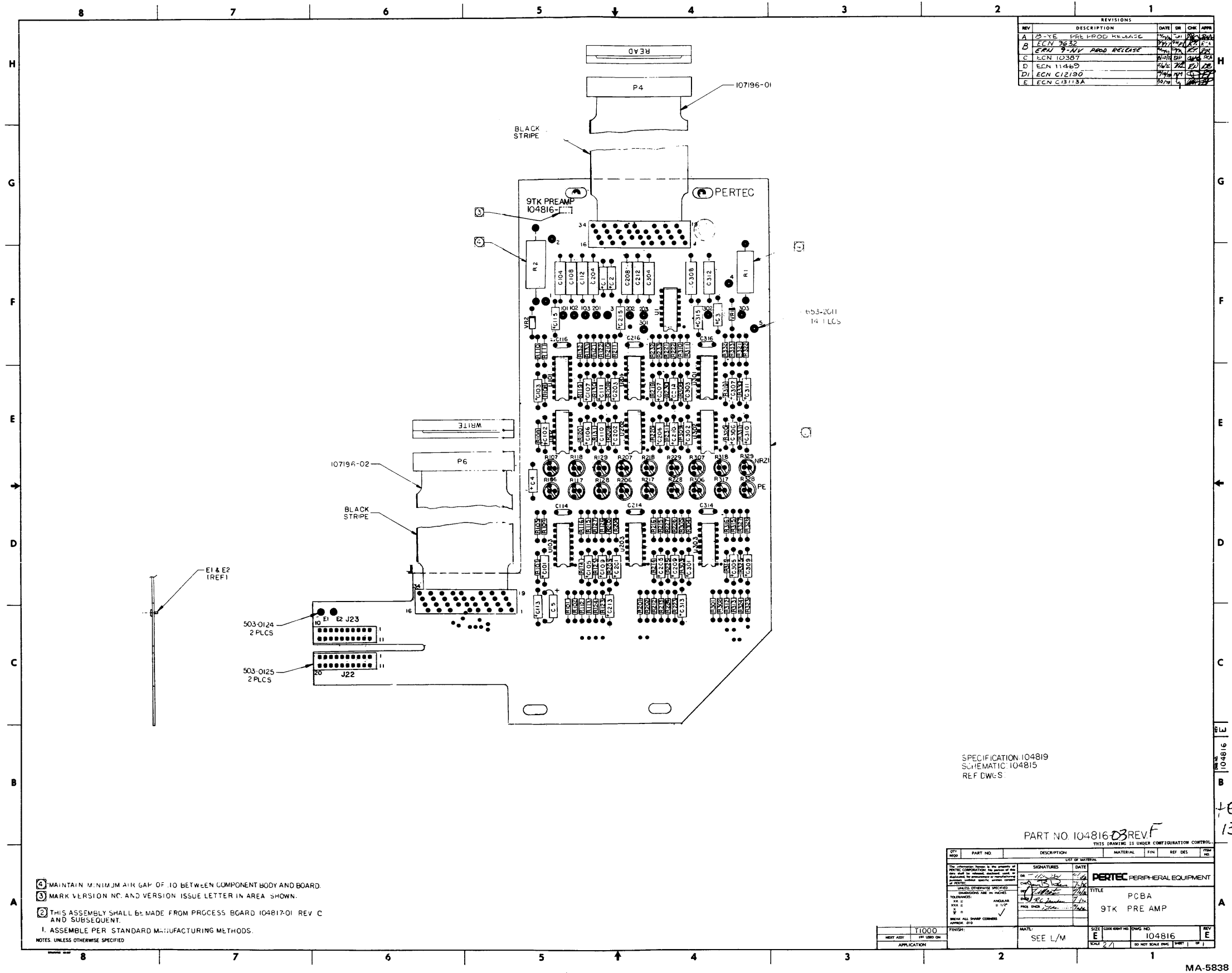
FINISH	MATL.	SIZE	COORDINATE	DWG NO.	REV
T1000	SEE L/M	E		104806	H1

Figure 25 PCBA, DATA L



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Figure 26 Schematic, 9 TK Preamp (Sheet 1 of 2)



REVISIONS				
REV	DESCRIPTION	DATE	CHK	APP
A	B-YE PRE PROD RELEASE	7/29/71	CP	CP
B	ECN 9852	8/27/71	CP	CP
C	ECN 10387	8/27/71	CP	CP
D	ECN 11463	8/27/71	CP	CP
E	ECN C12190	8/27/71	CP	CP
	ECN C13113A	8/27/71	CP	CP

SPECIFICATION 104819
 SCHEMATIC 104815
 REF DWGS

PART NO. 104816-03 REV F

4-ECN
 13113A

- ④ MAINTAIN MINIMUM AIR GAP OF .10 BETWEEN COMPONENT BODY AND BOARD.
 - ③ MARK VERSION NO. AND VERSION ISSUE LETTER IN AREA SHOWN.
 - ② THIS ASSEMBLY SHALL BE MADE FROM PROCESS BOARD 104817-01 REV C AND SUBSEQUENT.
 - ① ASSEMBLE PER STANDARD MANUFACTURING METHODS.
- NOTES UNLESS OTHERWISE SPECIFIED

QTY	PART NO.	DESCRIPTION	UNIT OF MATERIAL	MATERIAL	FIN	REF DES	REV
		PERTEC PERIPHERAL EQUIPMENT					
		TITLE: PCBA					
		9TK PRE AMP					
FINISH: T1000		MATERIAL: SEE L/M		SIZE CODE: E		DWG NO: 104816	
NEXT ASSY: 104817-01		APPLICATION:		SCALE: 2/1		REV: E	

MA-5838

Figure 27 PCBA, 9 TK Preamp