

DIAGRAMS AND PARTS MANUAL  
7970B/E

DIGITAL MAGNETIC TAPE UNITS

Manual Part No. 07970-90886  
Microfiche Part No. 07970-90891

Serial Numbers Prefixed:  
7970B--1107 thru 1648  
7970E--1127 thru 1631

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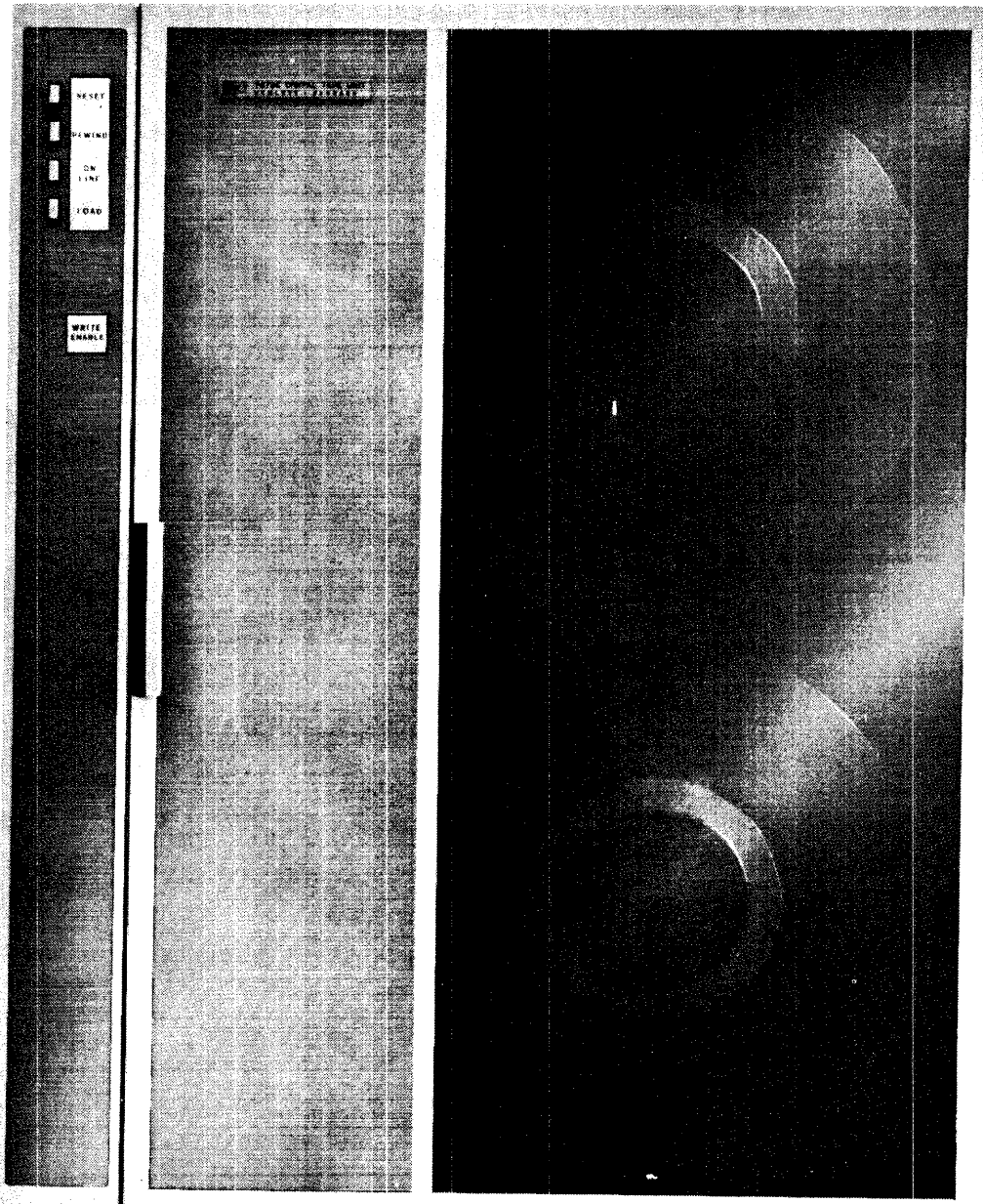


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Figure 1-1. HP 7970B/E Digital Magnetic Tape Unit

# SECTION I. GENERAL INFORMATION

## 1-1. INTRODUCTION.

This manual contains schematic diagrams, parts location diagrams, illustrated parts breakdowns (IPB's), and replaceable parts lists for standard configurations of the HP 7970B/E Digital Magnetic Tape Units. Special product configurations are described by updating supplements supplied with this manual.

## 1-2. USING THIS MANUAL.

It is important to properly match the diagrams and parts lists with the unit needing repair. Each printed-circuit assembly (PCA) is etched or labeled with an assembly part number and series code. Both these numbers must match the assembly number and series code of the schematic diagram being used, or there will be differences between the assembly and the schematic diagram.

Parts location diagrams, parts lists, and IPB's are located on the same page or the following pages of the schematic which they accompany.

Table 1-1 lists standard configurations of the magnetic tape unit and indicates the assemblies installed in each configuration. Although this table contains assemblies from both old and new configurations, only assemblies from the new configurations are marked. Older configuration assemblies are noted only as being used in high or low speed 7970B or 7970E tape units. Refer to figure 2-1 for the location of these assemblies in the unit.

## 1-3. DESCRIPTION OF PARTS LIST.

The heading for each parts list contains all assembly part numbers (with applicable series codes) covered by that list. The first entry in the parts list will indicate the assembly on which the list is based. Changes in the base parts list to cover secondary assemblies or series changes are marked by an asterisk or footnote. Changes marked by an asterisk are described following the last entry of the base parts list. Footnotes are entered after the last entry of the complete parts list.

The columns in the parts lists furnish the following information for each part:

- a. REF. DES./INDEX NO. This column lists the reference designator or index number (callout number) which identifies each part in the appropriate schematic diagram, parts location diagram, or IPB. Asterisks and footnote symbols are entered to the left of any entry which varies from the base parts list. Entries are arranged alphanumerically.
- b. HP PART NO. This column lists the Hewlett-Packard part number for each part.
- c. DESCRIPTION. This column gives the name and a brief description of the part. An indented item indicates it is an attaching part for the major item which it follows. In the case of electronic components called out by an index number, this column includes a reference designation, in parenthesis, as given on the appropriate schematic diagram.

Selected components (transistors, diodes, and IC's) having common usage are cross referenced from the HP part number to a manufacturers part number. Refer to table 1-2 for a listing of these components. Table 1-3 cross references the manufacturer code used in table 1-2 to the manufacturers name.

#### 1-4. PARTS ORDERING PROCEDURE.

To order parts from Hewlett-Packard, or to obtain further information about parts, address the order or inquiry to the nearest Hewlett-Packard Sales and Service Office. When ordering from Hewlett-Packard give the following information on each part:

- a. Tape unit model and serial number.
- b. Hewlett-Packard part number.
- c. Description of the part.
- d. Circuit reference designation or index number if applicable.
- e. If the part is installed on a PCA give the series code stamped or etched on the PCA.

Table 1-1. Assembly/Option Cross Reference List

07970-	DESCRIPTION	7970 B Options		7970 E Options						Elective Options					Speeds					
		127	136	150	151	152	153	162	164	165	001	002	003	007	020	021	10-20.9 IPS		21-45 IPS	
		B	E	B	E	B	E	B	E	B	E	B	E	B	E	B	E	B	E	
-60090	DENSITY SELECT SWITCH																X		X	
-60140	CAPSTAN MOTOR										X	X	X				X		X	
-60141	CAPSTAN MOTOR	X	X	X	X	X	X	X	X	X							X		X	
-60170	REEL MOTOR	X	X	X	X	X	X	X	X	X							X		X	
-60171	REEL MOTOR	X	X	X	X	X	X	X	X	X							X		X	
-60181	TENSION ARM ASSEMBLY	X	X	X	X	X	X	X	X	X							X		X	
-60230	WRITE MOTHERBOARD	X	X	X	X	X	X	X	X	X							X		X	
-60240	WRITE CONTROL	X	X	X	X	X	X	X	X	X							X		X	
-60300	WRITE INTERCONNECT	X	X	X	X	X	X	X	X	X							X		X	
-60340	LENS BLOCK	X	X	X	X	X	X	X	X	X							X		X	
-60350	LENS BLOCK	X	X	X	X	X	X	X	X	X							X		X	
-60360	LENS BLOCK	X	X	X	X	X	X	X	X	X							X		X	
-60390	READ MOTHERBOARD	X	X	X	X	X	X	X	X	X							X		X	
-60471	TRANSFORMER ASSEMBLY	X	X	X	X	X	X	X	X	X							X		X	
-60480	TENSION ARM PCA	X	X	X	X	X	X	X	X	X							X		X	
-60481	TENSION ARM PCA	X	X	X	X	X	X	X	X	X							X		X	
-60500	READ PREAMP	X	X	X	X	X	X	X	X	X							X		X	
-60510	READ PREAMP	X	X	X	X	X	X	X	X	X							X		X	
-60520	DUAL CHANNEL READ	X	X	X	X	X	X	X	X	X							X		X	
-60530	DUAL CHANNEL READ	X	X	X	X	X	X	X	X	X							X		X	
-60560	SINGLE CHANNEL READ	X	X	X	X	X	X	X	X	X							X		X	
-60570	SINGLE CHANNEL READ	X	X	X	X	X	X	X	X	X							X		X	
-60800	DUAL CHANNEL WRITE	X	X	X	X	X	X	X	X	X							X		X	
-60810	DUAL CHANNEL WRITE	X	X	X	X	X	X	X	X	X							X		X	
-60820	SINGLE CHANNEL WRITE	X	X	X	X	X	X	X	X	X							X		X	
-60830	SINGLE CHANNEL WRITE	X	X	X	X	X	X	X	X	X							X		X	
-60900	LENS, WRITE ENABLE	X	X	X	X	X	X	X	X	X							X		X	
-61010	POWER REGULATOR	X	X	X	X	X	X	X	X	X							X		X	
-61020	POWER DISTRIBUTION	X	X	X	X	X	X	X	X	X							X		X	
-61061	POWER SUPPLY ASSEMBLY	X	X	X	X	X	X	X	X	X							X		X	
-61061	CONTROL AND STATUS	X	X	X	X	X	X	X	X	X							X		X	
-61150	PHOTOSENSE ASSEMBLY	X	X	X	X	X	X	X	X	X							X		X	
-62000	READ PREAMP	X	X	X	X	X	X	X	X	X							X		X	
-62001	READ READ PREAMP	X	X	X	X	X	X	X	X	X							X		X	
-62003	READ READ MOTHERBOARD	X	X	X	X	X	X	X	X	X							X		X	
-62004	READ READ CONTROL	X	X	X	X	X	X	X	X	X							X		X	
-62006	DENSITY SELECT ASSEMBLY, R/R	X	X	X	X	X	X	X	X	X							X		X	
-62012	READ READ PREAMP	X	X	X	X	X	X	X	X	X							X		X	
-62022	WRITE ENABLE ASSEMBLY	X	X	X	X	X	X	X	X	X							X		X	
-62025	SERVO SPEED PLUG	X	X	X	X	X	X	X	X	X							X		X	
-62027	CAPSTAN SERVO, DUAL SPEED	X	X	X	X	X	X	X	X	X							X		X	
-62034	PE PREAMP	X	X	X	X	X	X	X	X	X							X		X	
-62035	PE PREAMP R/R/R	X	X	X	X	X	X	X	X	X							X		X	
-62036	PE PREAMP	X	X	X	X	X	X	X	X	X							X		X	
-62037	SLAVE PE READ ASSEMBLY	X	X	X	X	X	X	X	X	X							X		X	
-62040	PE READ MOTHERBOARD	X	X	X	X	X	X	X	X	X							X		X	
-62042	PE READ CONTROL	X	X	X	X	X	X	X	X	X							X		X	
-62043	PE DATA AND STATUS	X	X	X	X	X	X	X	X	X							X		X	
-62049	DUAL CHANNEL WRITE	X	X	X	X	X	X	X	X	X							X		X	
-62050	SINGLE CHANNEL WRITE	X	X	X	X	X	X	X	X	X							X		X	
-62051	PE WRITE INTERCONNECT	X	X	X	X	X	X	X	X	X							X		X	
-62052	DUAL CHANNEL WRITE	X	X	X	X	X	X	X	X	X							X		X	
-62053	SINGLE CHANNEL WRITE	X	X	X	X	X	X	X	X	X							X		X	
-62060	READ ONLY MOTHERBOARD NRZI	X	X	X	X	X	X	X	X	X							X		X	
-62061	READ CONTROL NRZI	X	X	X	X	X	X	X	X	X							X		X	
-62062	CONTROL AND STATUS	X	X	X	X	X	X	X	X	X							X		X	
-62071	POWER DISTRIBUTION PCA	X	X	X	X	X	X	X	X	X							X		X	
-62072	POWER REGULATOR PCA	X	X	X	X	X	X	X	X	X							X		X	
-62073	TRANSFORMER ASSEMBLY	X	X	X	X	X	X	X	X	X							X		X	
-62074	R/R/R PREAMP	X	X	X	X	X	X	X	X	X							X		X	
-62086	UNIT SELECT ASSEMBLY	X	X	X	X	X	X	X	X	X							X		X	
-62087	TRIPLE DENSITY SELECT	X	X	X	X	X	X	X	X	X							X		X	
-62088	R/R DENSITY SELECT	X	X	X	X	X	X	X	X	X							X		X	
-62089	CONTROL SWITCH ASSEMBLY	X	X	X	X	X	X	X	X	X							X		X	
-62092	READ CONTROL NRZI	X	X	X	X	X	X	X	X	X							X		X	
-62099	DENSITY SELECT MULTIFORMAT	X	X	X	X	X	X	X	X	X							X		X	
-62100	DUAL DENSITY SELECT	X	X	X	X	X	X	X	X	X							X		X	
-62101	PARITY SELECT	X	X	X	X	X	X	X	X	X							X		X	
-62102	CONTROL SWITCH ASSEMBLY	X	X	X	X	X	X	X	X	X							X		X	
-62113	PE POWER SUPPLY	X	X	X	X	X	X	X	X	X							X		X	
-62121	HEAD NRZI/PE R/R/R 7/9 Tr	X	X	X	X	X	X	X	X	X							X		X	
-62122	WRITE ENABLE ASSEMBLY	X	X	X	X	X	X	X	X	X							X		X	
-62131	PHOTOSENSE ASSEMBLY	X	X	X	X	X	X	X	X	X							X		X	
-62165	WRITE INTERCONNECT	X	X	X	X	X	X	X	X	X							X		X	
-62166	DUAL CHANNEL READ	X	X	X	X	X	X	X	X	X							X		X	
-62167	SINGLE CHANNEL READ	X	X	X	X	X	X	X	X	X							X		X	
-62168	DUAL CHANNEL READ	X	X	X	X	X	X	X	X	X							X		X	
-62169	SINGLE CHANNEL READ	X	X	X	X	X	X	X	X	X							X		X	
-62170	READ CONTROL	X	X	X	X	X	X	X	X	X							X		X	
-62171	READ CONTROL	X	X	X	X	X	X	X	X	X							X		X	
-62172	CAPSTAN SERVO AMP	X	X	X	X	X	X	X	X	X							X		X	
-62173	REEL SERVO AMP	X	X	X	X	X	X	X	X	X							X		X	
-62199	HEAD NRZI R/O 7Tr	X	X	X	X	X	X	X	X	X							X		X	
-62200	HEAD NRZI R/O 7Tr	X	X	X	X	X	X	X	X	X							X		X	
-62201	HEAD NRZI R/O 9Tr	X	X	X	X	X	X	X	X	X							X		X	
-62202	HEAD NRZI R/O 9Tr	X	X	X	X	X	X	X	X	X							X		X	
-62203	HEAD NRZI R/W 7Tr	X	X	X	X	X	X	X	X	X							X		X	
-62204	HEAD NRZI R/W 7Tr	X	X	X	X	X	X	X	X	X							X		X	
-62205	HEAD NRZI R/W 9Tr	X	X	X	X	X	X	X	X	X							X		X	
-62206	HEAD NRZI R/W 9Tr	X	X	X	X	X	X	X	X	X							X		X	
-62207	HEAD NRZI R/R 7/9 Tr	X	X	X	X	X	X	X	X	X							X		X	
-62208	HEAD NRZI R/R 7/9 Tr	X	X	X	X	X	X	X	X	X							X		X	
-62209	HEAD PE R/O	X	X	X	X	X	X	X	X	X							X		X	
-62210	HEAD PE R/O	X	X	X	X	X	X	X	X	X							X		X	
-62211	HEAD PE R/W 9Tr	X	X	X	X	X	X	X	X	X							X		X	
-62212	HEAD PE R/W 9Tr	X	X	X	X	X	X	X	X	X							X		X	
-62213	HEAD NRZI/PE R/R/R 7/9 Tr	X	X	X	X	X	X	X	X	X							X		X	
-62214	HEAD NRZI/PE R/R/R 7/9 Tr	X	X	X	X	X	X	X	X	X							X		X	
-62248	HEAD NRZI/PE R/W 9Tr	X	X	X	X	X	X	X	X	X							X		X	
-62278	PE READ CONTROL	X	X	X	X	X	X	X	X	X							X		X	
-62291	HEAD NRZI/PE R/R 9Tr	X	X	X	X	X	X	X	X	X							X		X	
-62294	DECODER BOARD	X	X	X	X	X	X	X	X	X							X		X	
-62297	READ PREAMP	X	X	X	X	X	X	X	X	X							X		X	

△ Up to 37.5 IPS  
 △ Slave "E" only  
 △ Multifformat "E" only

07970-90886-001

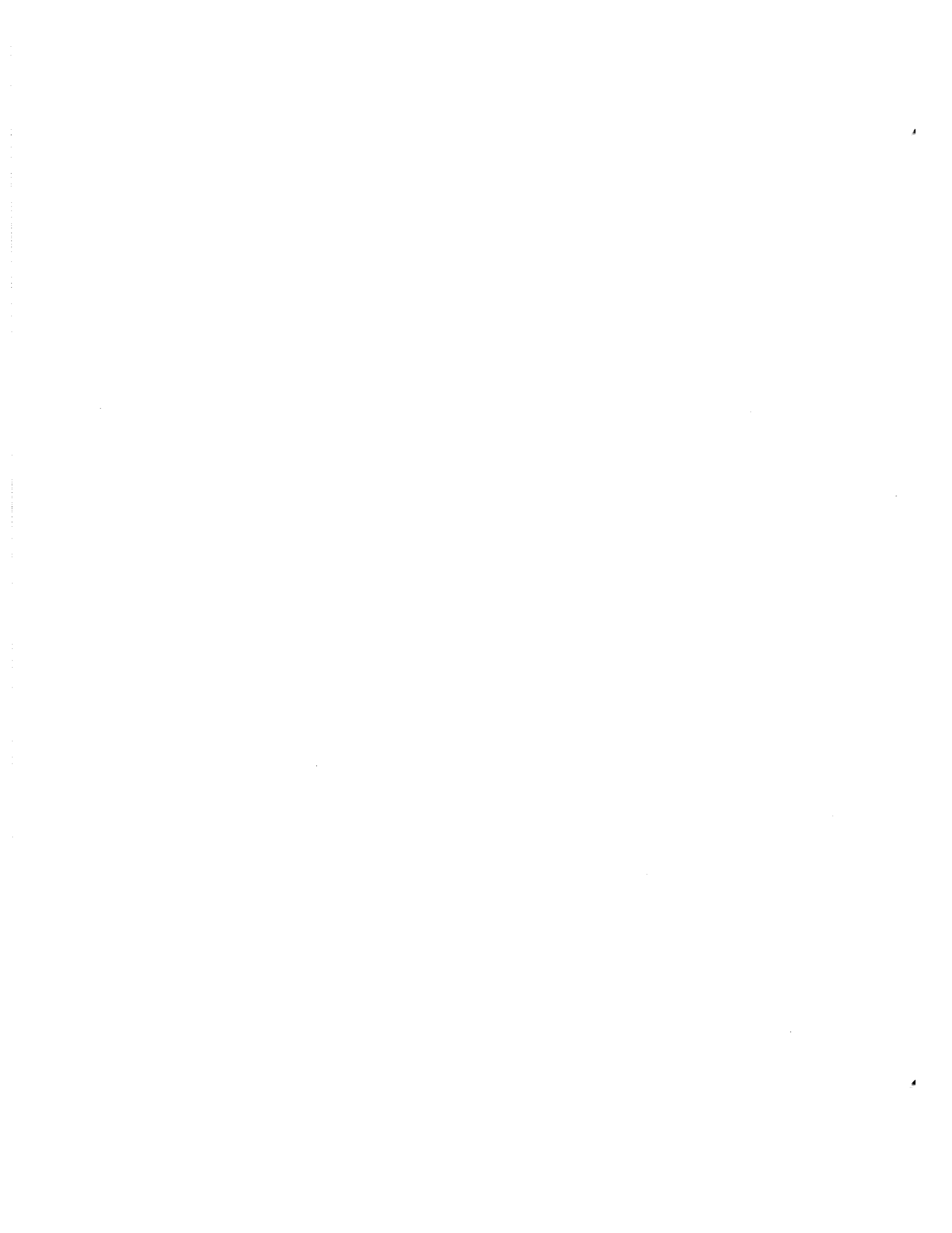


Table 1-2. Parts Cross Reference

HP Part No.	Mfr. Part No.	Mfr. Code	HP Part No.	Mfr. Part No.	Mfr. Code
1820-0054	SN7400N	01295	1820-0752	SN74H76N	01295
1820-0068	SN7410N	01295	1820-0778	93L16DC	07263
1820-0069	SN7420N	01295	1820-0856	SN7400J	01295
1820-0070	SN7430N	01295	1820-0857	SN7420J	01295
1820-0074	SN7454N	01295	1820-0858	SN7476J	01295
1820-0076	SN7476N	01295	1820-0859	SN7474J	01295
1820-0077	SN7474N	01295	1820-0860	MC8516	04713
1820-0088	MC851P	04713	1820-0861	MC846L	04713
1820-0094	SN15846N	01295	1820-0862	MC848L	04713
1820-0095	MC854P	04713	1820-0863	9158DC	07263
1820-0128	937DC	07263	1820-0864	SN7403J	01295
1820-0141	MC3001P	04713	1820-0865	MC844L	04713
1820-0174	SN7404N	01295	1820-0866	MC849J	04713
1820-0175	SN7405N	01295	1820-0867	SN74H40J	01295
1820-0205	MC3003P	04713	1820-0868	MC1801L	04713
1820-0207	9601PC	07263	1820-0869	MC835L	04713
1820-0223	LM301AH	27014	1820-0870	SN7408J	01295
1820-0231	9316DC	07263	1820-0894	SN7404J	01295
1820-0239	MC3002P	04713	1820-1066	7411PC	07263
1820-0256	MC858P	04713	1820-1524	MC8602L	04713
1820-0269	SN7403N	01295	1826-0026	LM311H	27014
1820-0281	SN74107N	01295	1826-0044	739DC	07263
1820-0282	SN7486N	01295	1826-0049	723DC	07263
1820-0348	944DC	07263	1826-0051	MC1414P	04713
1820-0349	949DC	07263	1826-0055	711DC	07263
1820-0372	SN74H11N	01295	1826-0065	LM311N	27014
1820-0376	SN74H40N	01295	1826-0068	LM307	27014
1820-0398	SN72710N	01295	1826-0318	TBA231	18324
1820-0424	SN74HO4N	01295	1853-0001	1853-0001	28480
1820-0435	SN74180N	01295	1853-0012	2N2904A	04713
1820-0439	723PC	07263	1853-0015	2N3640	07263
1820-0441	MC1801P	04713	1853-0016	2N3638	07263
1820-0454	MC1805P	04713	1853-0020	1853-0020	28480
1820-0479	MC835P	04713	1853-0027	1853-0027	28480
1820-0493	LM307N	27014	1853-0036	2N3906	04713
1820-0495	9311DC	07263	1853-0052	2N3740	04713
1820-0515	9602DC	07263	1853-0080	2N4888	07263
1820-0545	SN74191N	01295	1853-0203	1853-0203	28480
1820-0621	SN7438N	01295	1853-0204	2N4920	04713
1820-0631	SN74H108N	01295	1853-0232	1853-0232	28480
1820-0637	N8875A	18324	1853-0281	2N2907A	14433
1820-0659	93L00DC	07263	1853-0322	2N2946A	01295
1820-0669	93L10DC	07263	1853-0323	2N4900	04713
1820-0705	9310DC	07263	1854-0019	1854-0019	28480
1820-0742	9308DC	07263	1854-0022	1854-0022	28480
1820-0743	SN74194N	01295	1854-0039	2N3053	02735
1820-0744	SN7497N	01295	1854-0045	1854-0045	28480
1820-0745	9015DC	07263	1854-0053	2N2218	04713

Table 1-2. Parts Cross Reference (Continued)

HP Part No.	Mfr. Part No.	Mfr. Code	HP Part No.	Mfr. Part No.	Mfr. Code
1854-0063	2N3055	02735	1901-0450	1901-0450	28480
1854-0071	1854-0071	28480	1901-0460	1901-0460	28480
1854-0072	2N3054	02735	1901-0630	1901-0630	28480
1854-0215	2N3904	04713	1902-0033	1N823	03877
1854-0246	2N3643	07263	1902-0048	1902-0048	28480
1854-0261	1854-0261	28480	1902-0049	1902-0049	28480
1854-0264	2N3715	04713	1902-0546	1902-0546	28480
1854-0347	2N4923	04713	1902-0696	1902-0696	28480
1854-0399	2N4912	04713	1902-1261	1902-1261	28480
1854-0404	1854-0404	28480	1902-1280	1902-1280	28480
1854-0477	2N2222A	14433	1902-1281	1902-1281	28480
1854-0490	1854-0490	28480	1902-1282	1902-1282	28480
1854-0518	2N5877	04713	1902-1283	1902-1283	28480
1855-0056	2N4342	04713	1902-1284	1902-1284	28480
1855-0062	1855-0062	28480	1902-3094	1902-3094	28480
1855-0370	1855-0370	28480	1902-3171	1902-3171	28480
1855-0390	2N3382	32293	1902-3203	1902-3203	28480
1884-0088	2N3228	02735	1902-3311	1902-3311	28480
1901-0025	1901-0025	28480	1906-0007	1906-0007	28480
1901-0026	SR1358-8	04713	1906-0008	1906-0008	28480
1901-0039	1901-0039	28480	1906-0017	1906-0017	28480
1901-0040	1901-0040	28480	1906-0035	1906-0035	28480
1901-0161	1901-0161	28480	1910-0016	1910-0016	28480
1901-0364	1901-0364	28480	1990-0087	1990-0087	28480
1901-0415	1901-0415	28480	1990-0307	1990-0307	28480

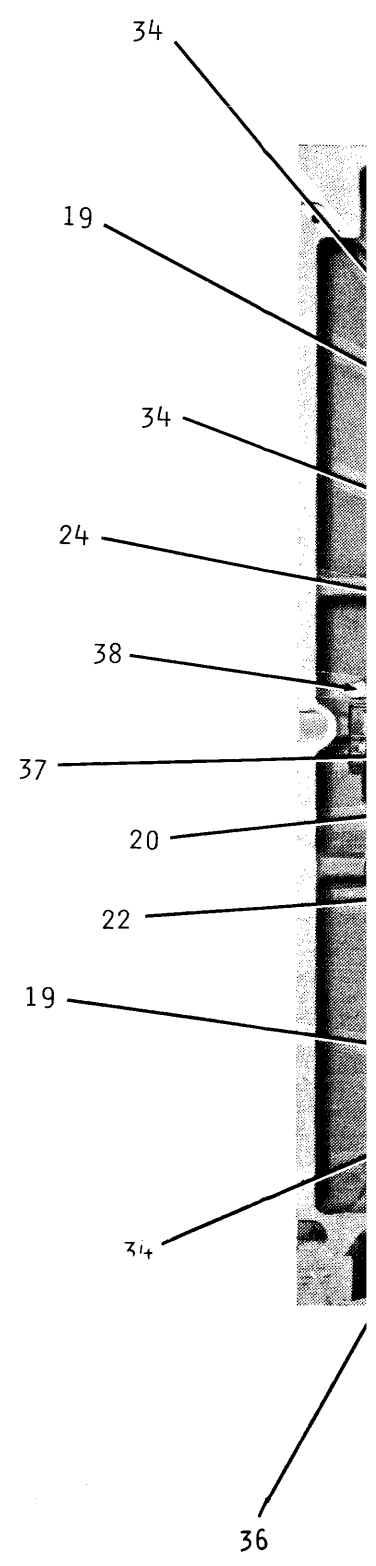
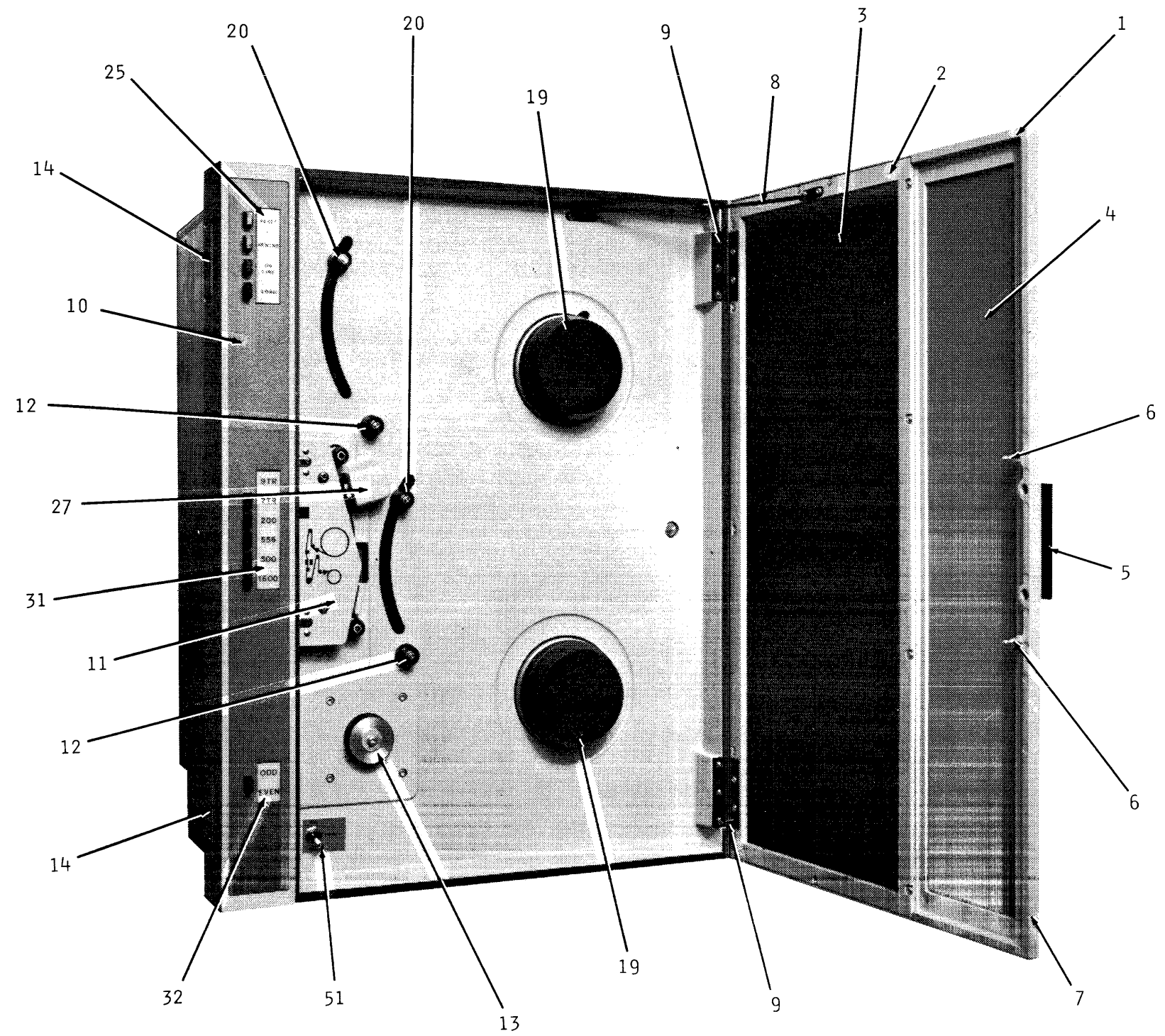
Table 1-3. Code List of Manufacturers

Mfr. Code	Manufacturer Name
00660	GTE Sylvania Electronics Components gp.
01295	Texas Instrument Inc.
02735	RCA
03508	General Electric Semiconductor Div.
03877	Transitron Electronic Corp.
03911	Clairex Corp.
04713	Motorola Semiconductor Products
07263	Fairchild Semiconductor
07933	Raytheon
12969	Unitrode Corp.
14433	ITT Semiconductors
15818	Teledyne Semiconductor
17856	Siliconix Inc.
18324	Signetics Corp.
27014	National Semiconductor
28480	Hewlett-Packard Co.
32293	Intersil Inc.





## SECTION II. DIAGRAMS AND PARTS



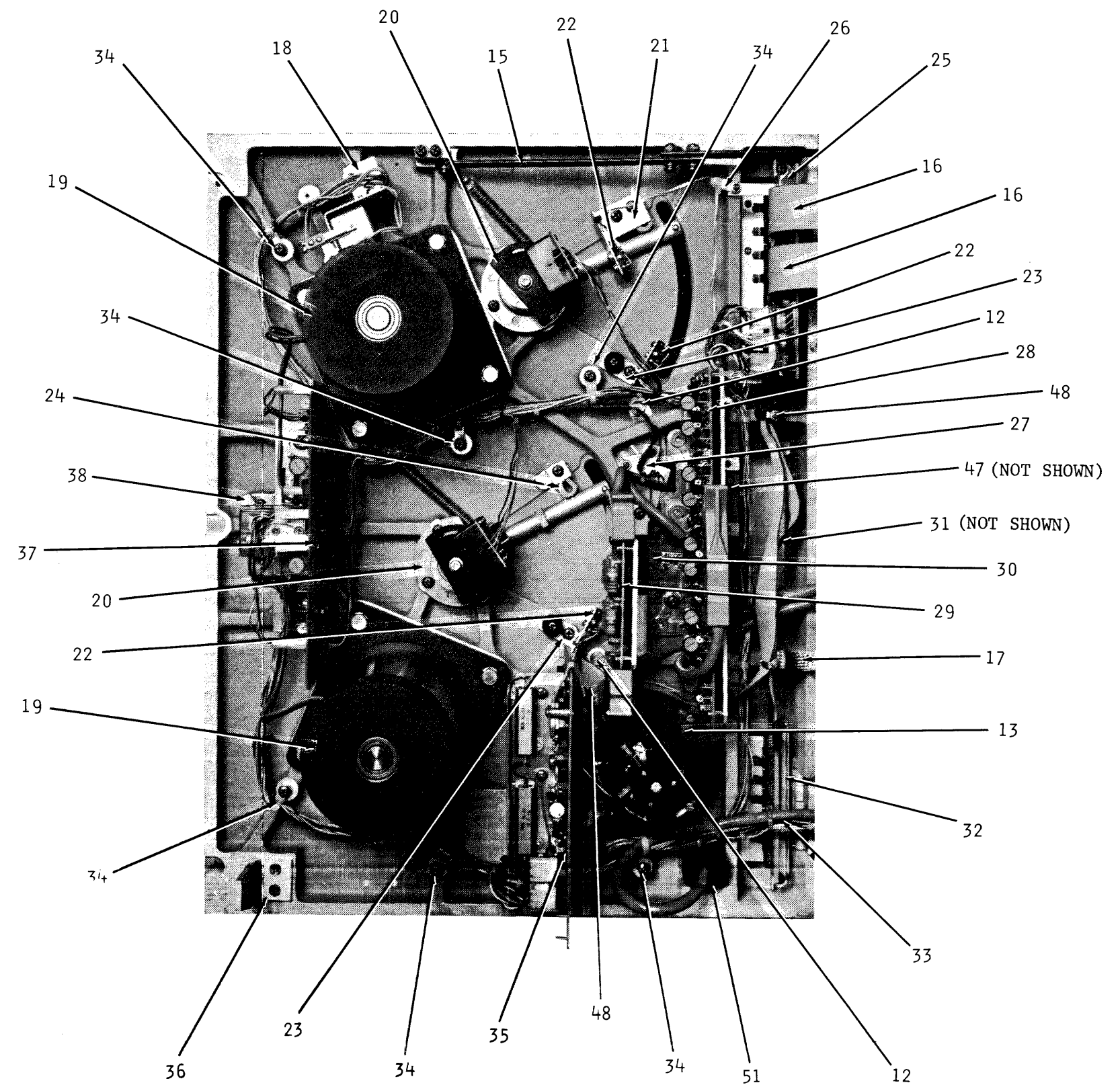
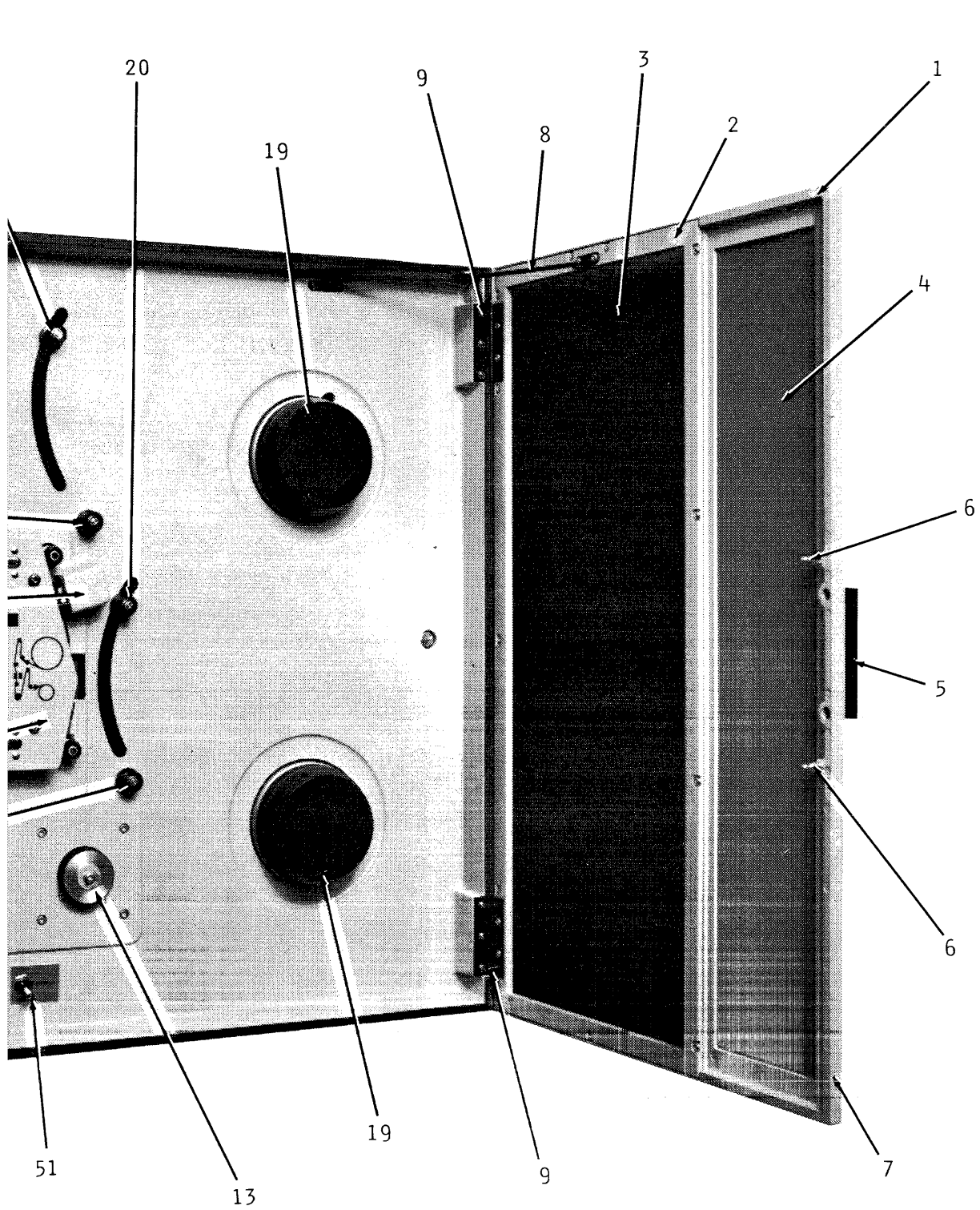


Figure 2-1. 7970B/E Tape Unit Main Assemblies  
(Sheet 1 of 2)

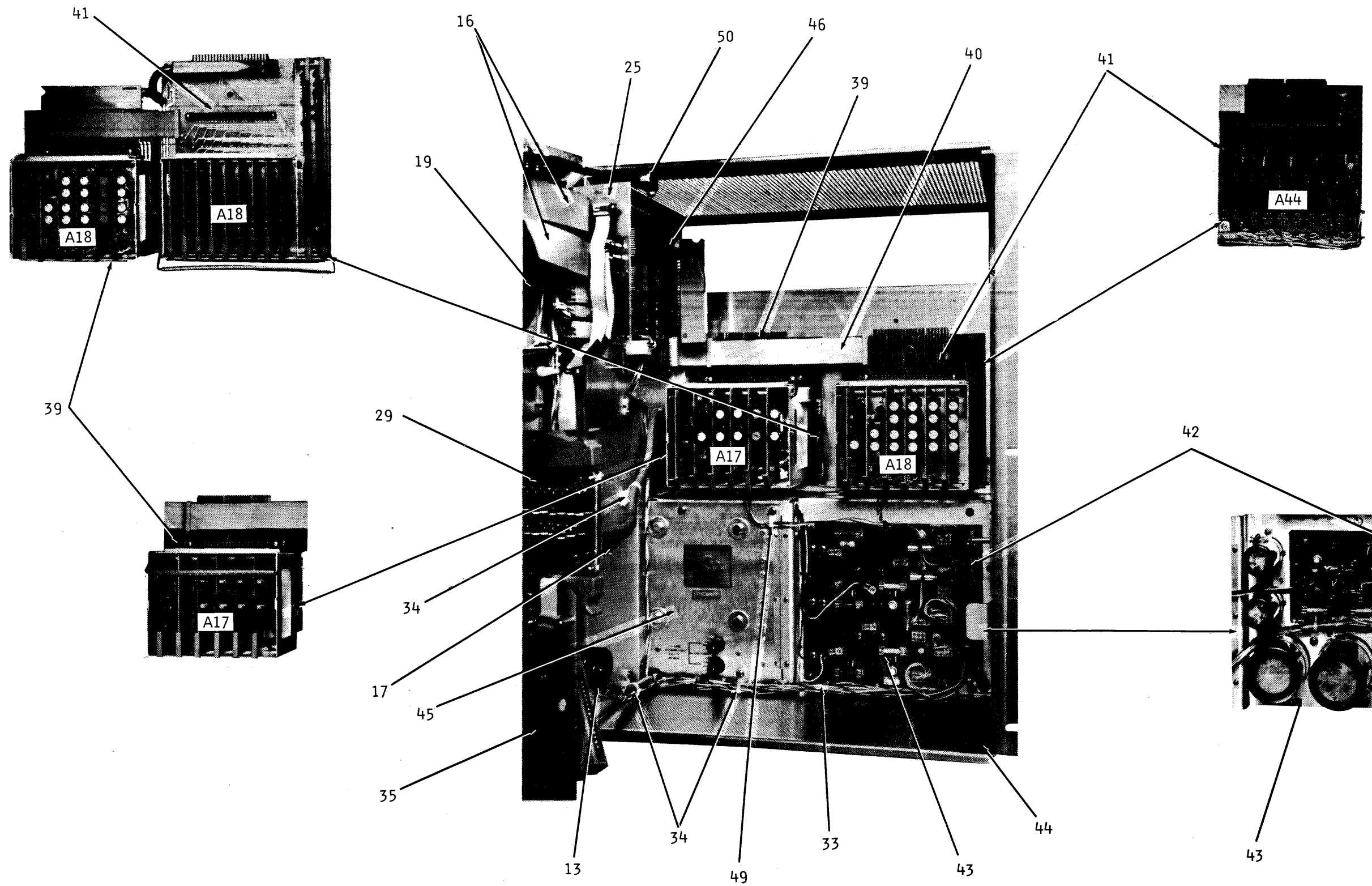


Figure 2-1. 7970B/E Tape Un  
(Sheet 2 of 2)

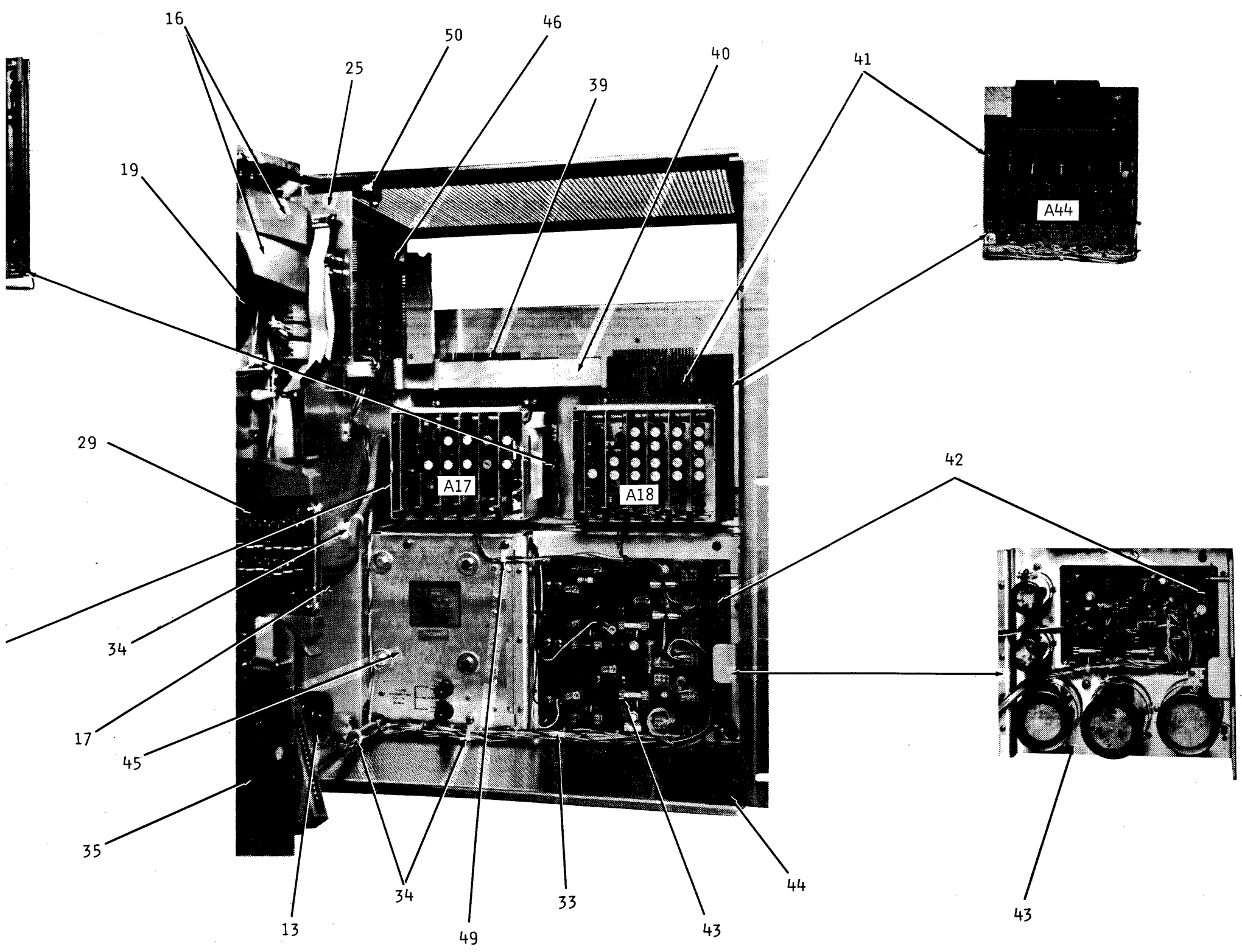


Figure 2-1. 7970B/E Tape Unit Main Assemblies  
(Sheet 2 of 2)

DIGITAL MAGNETIC TAPE UNITS PARTS LIST  
7970B/E

REF. DES./ INDEX NO.	HP PART NO.	DESCRIPTION
		7970B/C/E DIGITAL MAGNETIC TAPE UNIT
1	07970-60160	COVER DOOR ASSEMBLY
2	07970-20830	INSERT, Cover Door
	0624-0282	SCREW, 6-32, .312 Pan
3	07970-20832	WINDOW, Cover Door
4	07970-01186	PANEL, Cover Door
5	07970-20831	HANDLE, Cover Door
	0624-0208	SCREW, 6-32, .5 in., tapping
6	0510-1107	FASTENER, Panel
7	07970-20829	FRAME, Cover Door
8	07970-60010	HINGE ASSEMBLY, Door Stop
	2190-0004	WASHER, Lock, #4, Hel
	2200-0143	SCREW, 4-40, .375 in.
9	07970-20480	HINGE, Cover Door
	0624-0282	SCREW, 4-40, .375 in.
△ 10	- - - - -	PANEL, Switch Cover
11	07970-00130	COVER, Head Assembly
	2190-0034	WASHER, Lock, #10, Hel
	2680-0099	SCREW, 10-32, .375 in.
△ 12	07970-60130	TAPE ROLLER AND BEARING ASSEMBLY
	07970-20460	SHAFT, Tape Roller
	2950-0036	NUT, Brass 25-38
	3050-0253	WASHER, Spring #10
△ 13	- - - - -	CAPSTAN MOTOR ASSEMBLY (MG 1)
	2190-0429	WASHER, Lock, Hel
	3030-0017	SCREW, 8-32, .5 in, socket head
14	07970-62280	HINGE BLOCK ASSEMBLY
	2680-0104	SCREW, 10-32, .5 in.
15	07970-62106	DOOR STOP ASSEMBLY
	2190-0034	WASHER, Lock, #10, Hel
	3050-0002	WASHER, Flat, #10
	2680-0065	SCREW, 10-32, 1.25 in.
16	07970-60890	RIBBON CABLE ASSEMBLY
17	07970-00510	GROUND STRAP
	3050-0016	WASHER, Flat, #6
	0380-0013	SPACER
	2190-0003	WASHER, Lock Hel
	2190-0008	WASHER, Lock, star
	07970-00610	GUIDE, Cable
	2200-0125	SCREW, 4-40, 1.5 in.
△ 18	- - - - -	WRITE ENABLE ASSEMBLY (A10)
	3050-0222	WASHER, Flat, #4
	2190-0003	WASHER, Lock, #4 Hel
	2200-0147	SCREW, 4-40, .5 in.
△ 19	- - - - -	REEL MOTOR ASSEMBLY (B1/B2)
	2190-0432	WASHER, Lock, Hel
	0570-0082	SCREW, 5/16 - 18, 1 in.

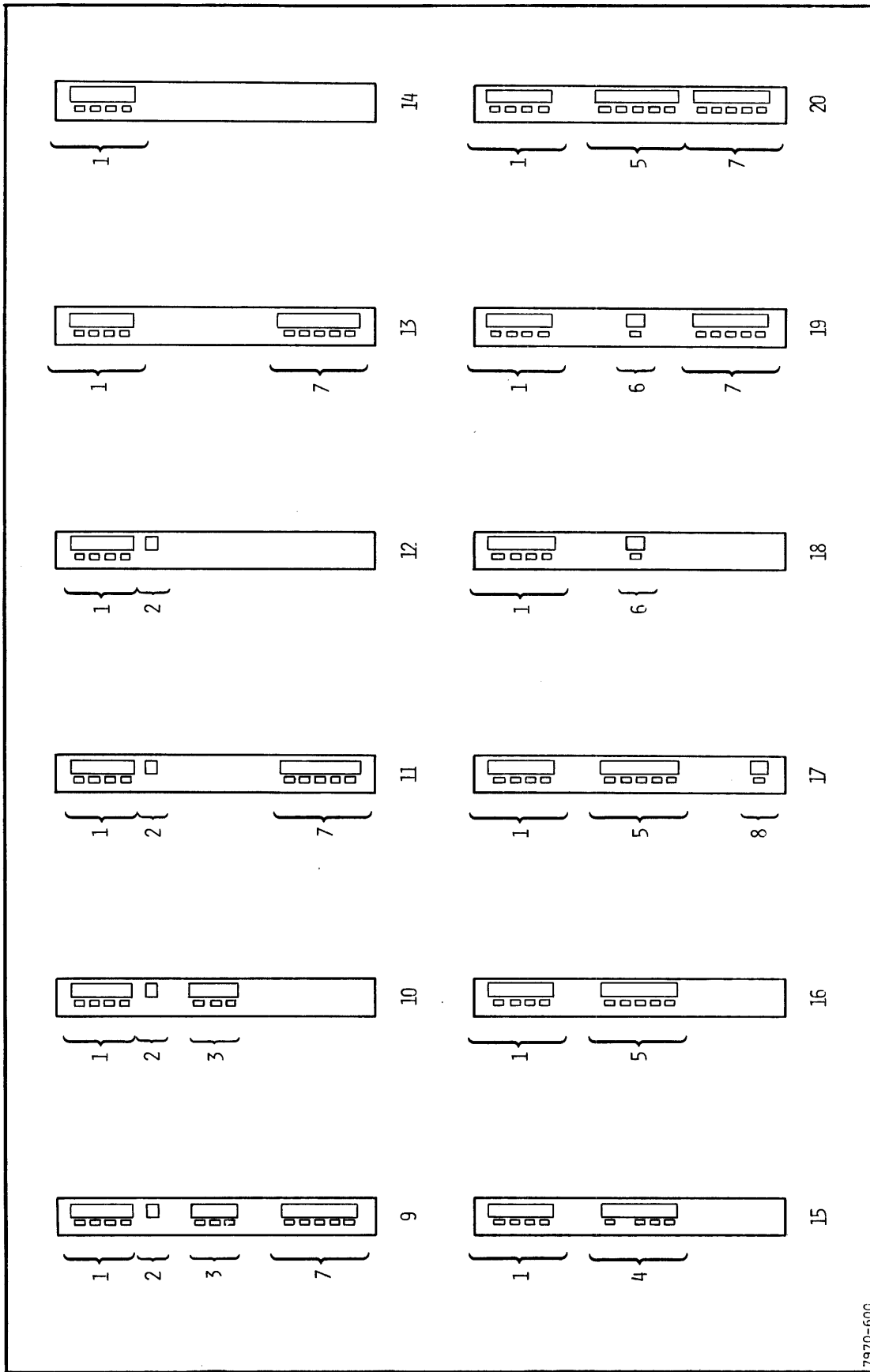
REF. DES./ INDEX NO.	HP PART NO.	DESCRIPTION
1 20	- - - - - 2190-0034	TENSION ARM ASSEMBLY(A3/A4) WASHER, Lock #10
	2680-0107	SCREW, 10-32, .75 in.
21	07970-01190	BRACKET, Limit Switch, Upper
	0380-1012	SPACER
	3050-0002	WASHER, Flat, #10
	2190-0034	WASHER, Lock, Hel
	2680-0109	SCREW, 10-32, .875 in.
	4320-0256	BUMPER, Rubber
22	07970-20834	GUIDE, Bumper
	3102-0009	SWITCH, Limit Sensing, SPDT (W2S1, W2S2, W2S3)
	0520-0133	SCREW, 2-56, .438 in.
	2190-0479	WASHER, Flat #2
	2190-0014	WASHER, Lock
23	0610-0001	NUT, 2-56, Hex
	07970-00120	BRACKET, Limit Switch, lower
	0380-0016	SPACER
	3050-0002	WASHER, Flat, #10
	2190-0034	WASHER, Lock, #10, Hel
	2680-0101	SCREW, 10-32, .438 in.
	2680-0105	SCREW, 6-32, .5 in.
24	0403-0163	BUMPER, Stop
	4320-0256	BUMPER, Rubber
	07970-20834	GUIDE, Bumper
	2190-0034	WASHER, Lock, #10, Hel
	07970-01191	WASHER, Square
1 25	2680-0109	SCREW, 10-32, .875 in.
	- - - - -	CONTROL SWITCH ASSEMBLY (A11)
	2190-0034	WASHER, Lock, #10, Hel
26	2680-0103	SCREW, 10-32, .5 in.
	1400-0440	CLAMP, Cable
	3050-0222	WASHER, Flat, #4
	2190-0003	WASHER, Lock, #4, Hel
1 27	2200-0149	SCREW, 4-40, .625 in.
	- - - - -	PHOTOSENSE HEAD ASSEMBLY (A2)
	07970-01176	INSULATOR, Photosense
	3050-0222	WASHER, Flat, #4
	2190-0003	WASHER, Lock, #4, Hel
1 28	2200-0149	SCREW, 4-40, .625 in.
	- - - - -	READ PREAMPLIFIER ASSEMBLY (A15)
	1400-0440	CLAMP, Cable
	2190-0034	WASHER, Lock, #10, Hel
1 29	2680-0105	SCREW, 10-32, .625 in.
	- - - - -	WRITE INTERCONNECT ASSEMBLY (A14)
	2190-0034	WASHER, Lock, #10, Hel
	2680-0103	SCREW, 10-32, .5 in.



REF. DES./ INDEX NO.	HP PART NO.	DESCRIPTION
△ 30	----- 3050-0002 2190-0034 2680-0107	MAGNETIC TAPE HEAD ASSEMBLY (A1) WASHER, Flat, #10 WASHER, Lock, #10, Hel SCREW, 10-32, .75 Pan
△ 31	----- 2190-0034 2680-0103	DENSITY SELECT SWITCH ASSEMBLY (A12) WASHER, Lock, #10, Hel SCREW, 10-32, .5 in.
△ 32 or △ 32	----- ----- 2190-0034 2680-0103	UNIT SELECT SWITCH ASSEMBLY (A13) PARITY SELECT SWITCH ASSEMBLY (A6) WASHER, Lock, #10, Hel SCREW, 10-32, .132 in.
33 34	07970-60600 1400-0440 2680-0103 2190-0034	TRANSPORT HARNESS ASSEMBLY (W2) CLAMP, Cable SCREW, 10-32, .5 in. WASHER, Lock, #10, Hel
△ 35	----- 2190-0034 2680-0105	CAPSTAN SERVO ASSEMBLY (A7) WASHER, Lock, #10, Hel SCREW, 10-32, .625 in.
36	07970-20680 2680-0104	GUIDE, Lifter SCREW, 10-32, .5 in.
△ 37	----- 3050-0002 2190-0034 2680-0103	REEL SERVO ASSEMBLY (A5) WASHER, Flat, #10 WASHER, Lock, #10, Hel SCREW, 10-32, .5 in.
38	1390-0228 2190-0034 2680-0103	PANEL FASTENER WASHER, Lock, #10, Hel SCREW, 10-32, .5 in.
△ 39 or △ 39	----- ----- 3050-0016 2360-0115	WRITE ASSEMBLY (A17) NRZI READ ASSEMBLY (A18) (7970E Multifomat unit only) WASHER, Flat, #6 SCREW, 6-32, .312 in.
40 or	07970-60890	RIBBON CABLE ASSEMBLY (read only drives)
40 or	07970-60900	RIBBON CABLE ASSEMBLY (read/write drives)
40 or	07970-62115	RIBBON CABLE ASSEMBLY (PE read/write drives)
40 or	07970-62116	RIBBON CABLE ASSEMBLY (PE read only drives)
△ 41	----- 3050-0016 2360-0115	READ ASSEMBLY (A18 or A44) WASHER, Flat, #6 SCREW, 6-32, .312 in.
△ 42	----- 3050-0016 2360-0195	POWER REGULATOR ASSEMBLY (A31) WASHER, Flat, #6 SCREW, 6-32, .312 in.
△ 43	----- 2190-0034 2680-0099	POWER DISTRIBUTION ASSEMBLY (A30) WASHER, Lock, #10, Hel SCREW, 10-32, .375 in.

REF. DES. / INDEX NO.	HP PART NO.	DESCRIPTION
44	2190-0003 2200-0141 07970-00561 2190-0222 2190-0003 2200-0141	WASHER, Lock, #4 Hel SCREW, 4-40, .312 in. PAD, Lifter, nylon WASHER, Flat, #4 WASHER, Lock, #4, Hel SCREW, 4-40, .312 in.
① 45	- - - - - 2190-0034 2680-0129	TRANSFORMER ASSEMBLY (A29) WASHER, Lock, #10, Hel SCREW, 10-32, .132 in.
① 46	- - - - - 3050-0016 2360-0115	CONTROL AND STATUS ASSEMBLY (A16) WASHER, Flat, #6 SCREW, 6-32, .312 in.
47	07970-61030	COVER DOOR INTERLOCK SWITCH ASSEMBLY (not shown)
48	3101-0877 2680-0103 2190-0034 07970-00200 07970-00610	SWITCH, SPDT SCREW, 10-32, .5 in. WASHER, Lock, #10, Hel BRACKET, Mounting GUIDE, Cable
49	2200-0123 0380-0013 2190-0003 1400-0440	SCREW, 4-40, 1.25 in. SPACER WASHER, Lock, #4, Hel CLAMP, Cable
50	2680-0105 2190-0034 07970-20140	SCREW, 10-32, .625 in. WASHER, Lock, #10, Hel BLOCK, Door Stop
51	2680-0103 2680-0111 2190-0034 2190-0102 3050-0002	SCREW, 10-32, .5 in. SCREW, 10-32, 1 in. WASHER, Lock, #10, Hel WASHER, Nylon WASHER, Flat, #10
	3101-0646 1401-0083 7120-4575 2190-0102 2950-0035	SWITCH, Power, DPST CAP, Protective PLATE, Indicator WASHER, Lock NUT, Mounting

① See Table of Contents for appropriate part number or parts breakdown.

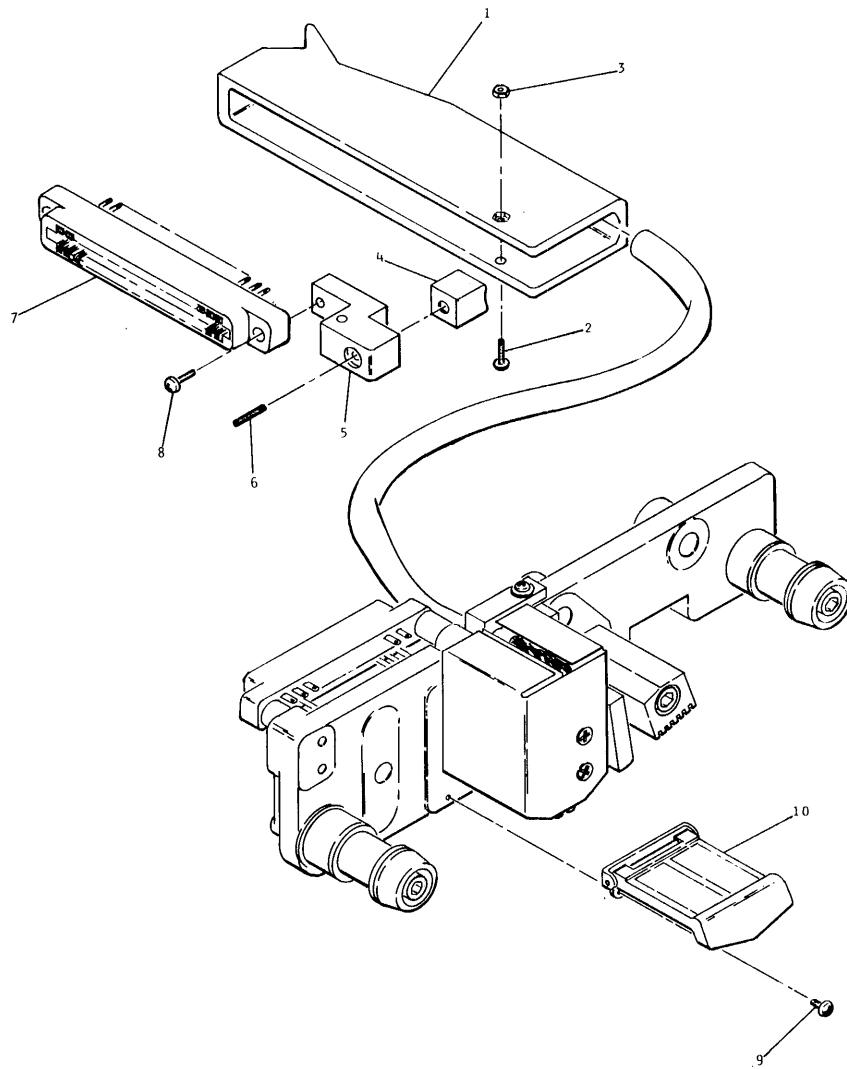


7970-600

Figure 2-2-2. Switch Cover Panel

SWITCH COVER PANEL PARTS LIST

REF. DES./ INDEX NO.	HP PART NO.	DESCRIPTION
1	07970-62089 or 07970-62102	CONTROL SWITCH ASSEMBLY (A11)
2		WRITE ENABLE INDICATOR
3	07970-62087	TRIPLE DENSITY SELECT SWITCH ASSEMBLY (A12)
4	07970-62088	READ/READ DENSITY SELECT SWITCH ASSEMBLY (A12)
5	07970-62099	MULTIPLE DENSITY SELECT SWITCH ASSEMBLY (A12)
6	07970-62100	DUAL DENSITY SELECT SWITCH ASSEMBLY (A12)
7	07970-62086	UNIT SELECT SWITCH ASSEMBLY (A13)
8	07970-62101	PARITY SELECT SWITCH ASSEMBLY (A6)
9	07970-01000	PANEL, Switch Cover (read/write drive with unit select and density select)
10	07970-01010	PANEL, Switch Cover (read/write drive with density select)
11	07970-01020	PANEL, Switch Cover (read/write drive with unit select)
12	07970-01030	PANEL, Switch Cover (read/write drive)
13	07970-01060	PANEL, Switch Cover (read only drive with unit select)
14	07970-01070	PANEL, Switch Cover (read only drive basic unit)
15	07970-01160	PANEL, Switch Cover (read only drive with read/read density select)
16	07970-01163	PANEL, Switch Cover (read only drive with multiple density select)
17	07970-01164	PANEL, Switch Cover (read only drive with parity select and multiple density select)
18	07970-01165	PANEL, Switch Cover (read only drive with dual density select)
19	07970-01166	PANEL, Switch Cover (read only drive with dual density select and unit select)
20	07970-01167	PANEL, Switch Cover (read only drive with multiple density select and unit select)



7970-541A

Figure 2-3. Magnetic Head Assembly (A1)

MAGNETIC TAPE HEAD ASSEMBLY

REF. DES. / INDEX NO.	HP PART NO.	DESCRIPTION
1	1251-2874	MAGNETIC TAPE HEADS
2	1251-0159	HOOD, CONNECTOR
3	0624-0098	CONNECTOR, PC
4	5040-6003	SCREW, Tapping 4-40
5	5040-6072	CLAMP, Cable
6	3030-0143	BLOCK, Connector Mounting
7	1251-0159	SCREW, Set, 6-32, .5 in.
8	0624-0098	CONNECTOR
9	2200-0139	SCREW, Tapping, 4-40
10	07970-62269	SCREW, 4-40 Pan, .250 in. pozi SHIELD, Crosstalk

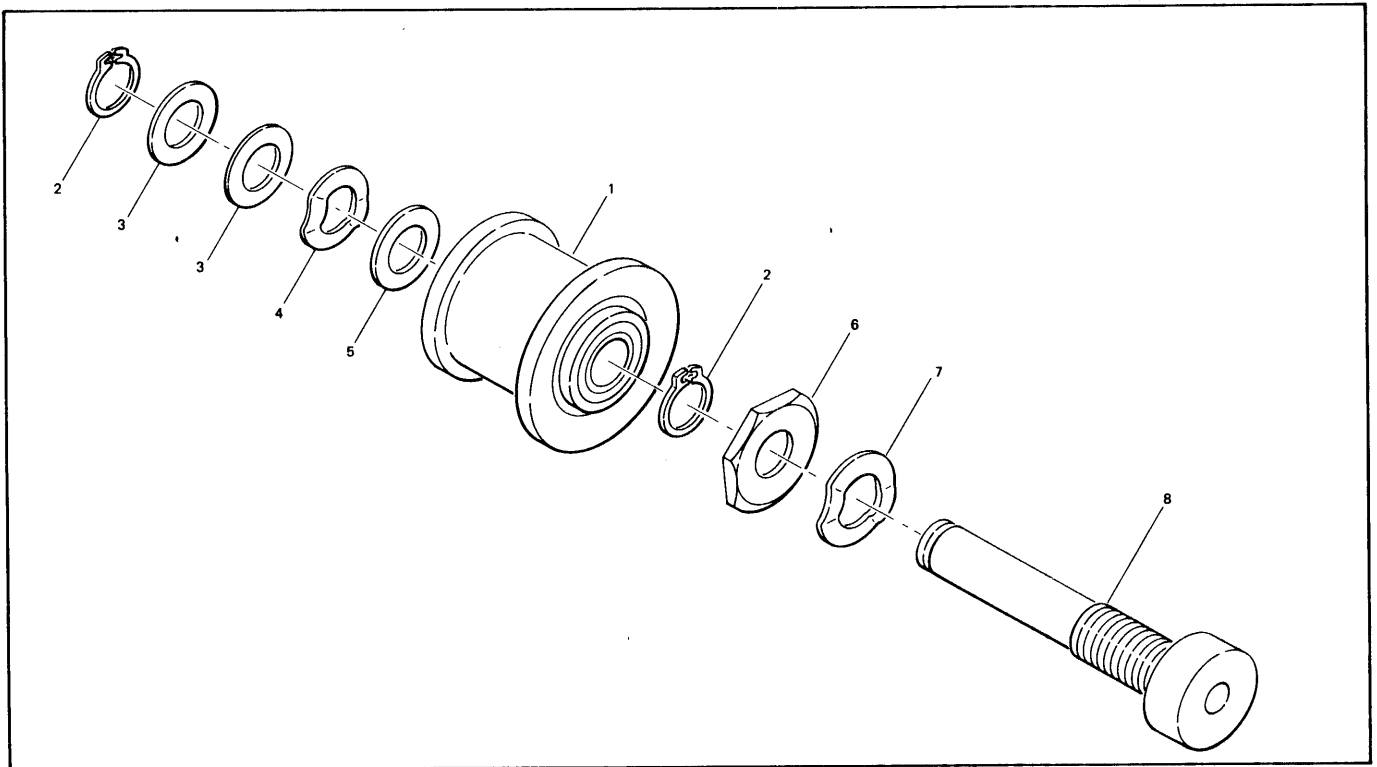
1 Refer to the following list for tape head replacement. When ordering a replacement head, use the new number. Tape head assemblies must be returned to the factory for repair or refurbishment.

<u>OLD</u>	<u>NEW</u>	<u>DESCRIPTION</u>
07970-60580	07970-62206	9 Tr NRZI R/W 21-45 ips
-60581	-62204	7 Tr NRZI R/W 21-45 ips
-60582	-62202	9 Tr NRZI R/O 21-45 ips
-60583	-62200	7 Tr NRZI R/O 21-45 ips
-60584	-62203	7 Tr NRZI R/W 10-20.9 ips
-60585	-62205	9 Tr NRZI R/W 10-20.9 ips
-60586	-62199	7 Tr NRZI R/O 10-20.9 ips
-60587	-62201	9 Tr NRZI R/O 10-20.9 ips
-60588	-62207	7/9 Tr NRZI R/R 10-20.9 ips
-60589	-62208	7/9 Tr NRZI R/R 21-45 ips
-62028	-62212	9 Tr PE R/W 21-45 ips
-62029	-62214	7/9 Tr NRZI/PE R/R/R 21-45 ips
-62030	-62291	9 Tr NRZI/PE R/R 21-45 ips
-62031	-62211	9 Tr PE R/W 10-20.9 ips
-62032	-62213	7/9 Tr NRZI/PE R/R/R 10-20.9 ips
-62033	-62209	9 Tr PE R/O 10-20.9 ips
-62246	-62210	9 Tr PE R/O 21-45 ips

TAPE ROLLER ASSEMBLY

REF. DES./ INDEX NO.	HP PART NO.	DESCRIPTION
1	07970-60130	TAPE ROLLER AND BEARING ASSEMBLY
2	0510-0238	RING, RETAINING
3	2190-0181	WASHER, Flat, .005 in.
4	3050-0253	WASHER, TENSION
5	3050-0032	WASHER, Flat, .010 in.
6	2950-0036	NUT, BRASS, 25-38
7	3050-0424	WASHER, TENSION
8	1530-1878	SHAFT, Tape Roller

1 One 3050-0032 (Item 5) washer is used in lieu of 2 ea 2190-0181 (Item 3) on some assemblies.



2228-107

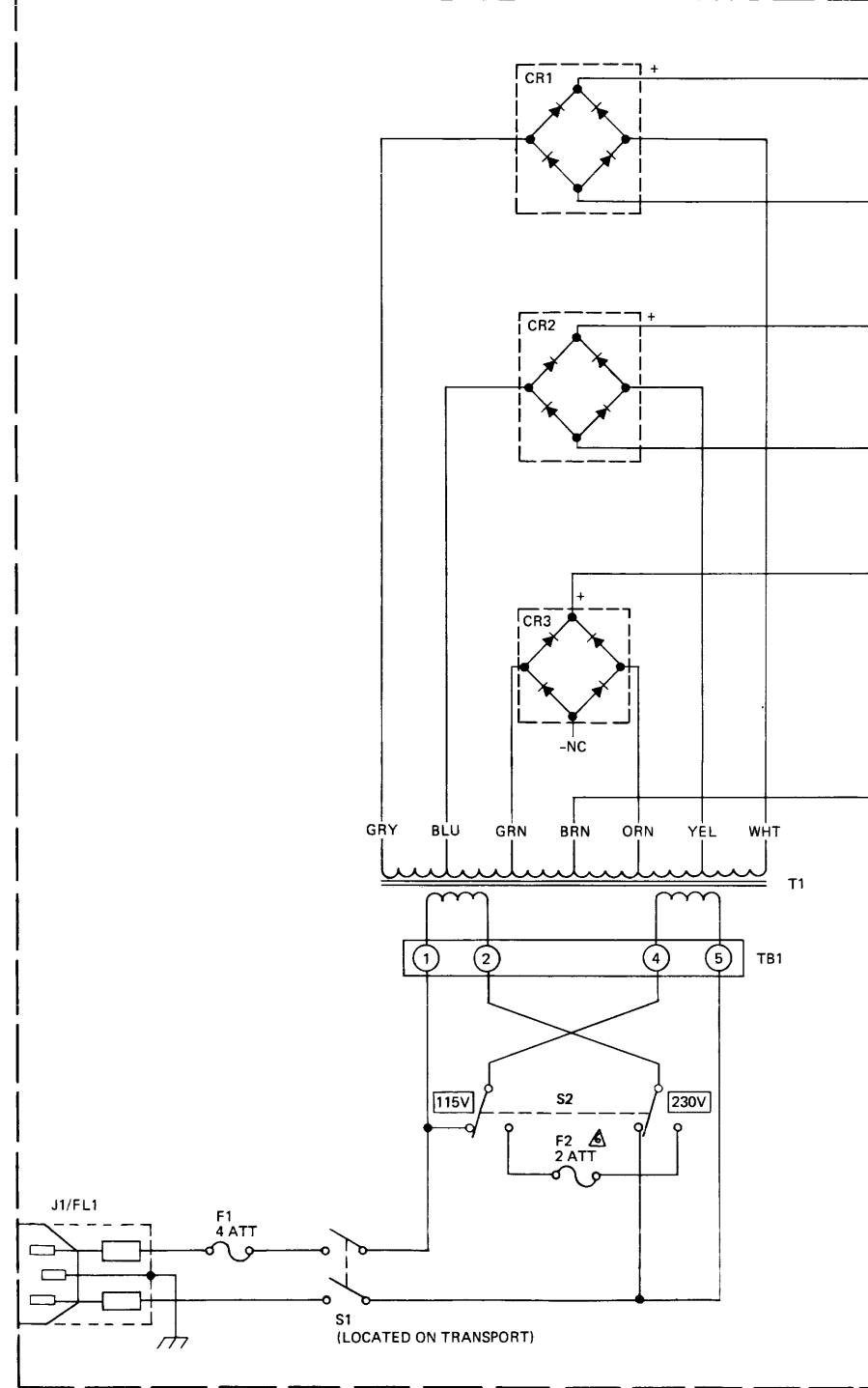
Figure 2-4. Tape Roller Assembly

2-11/2-12  
 Changed 15 June 1976



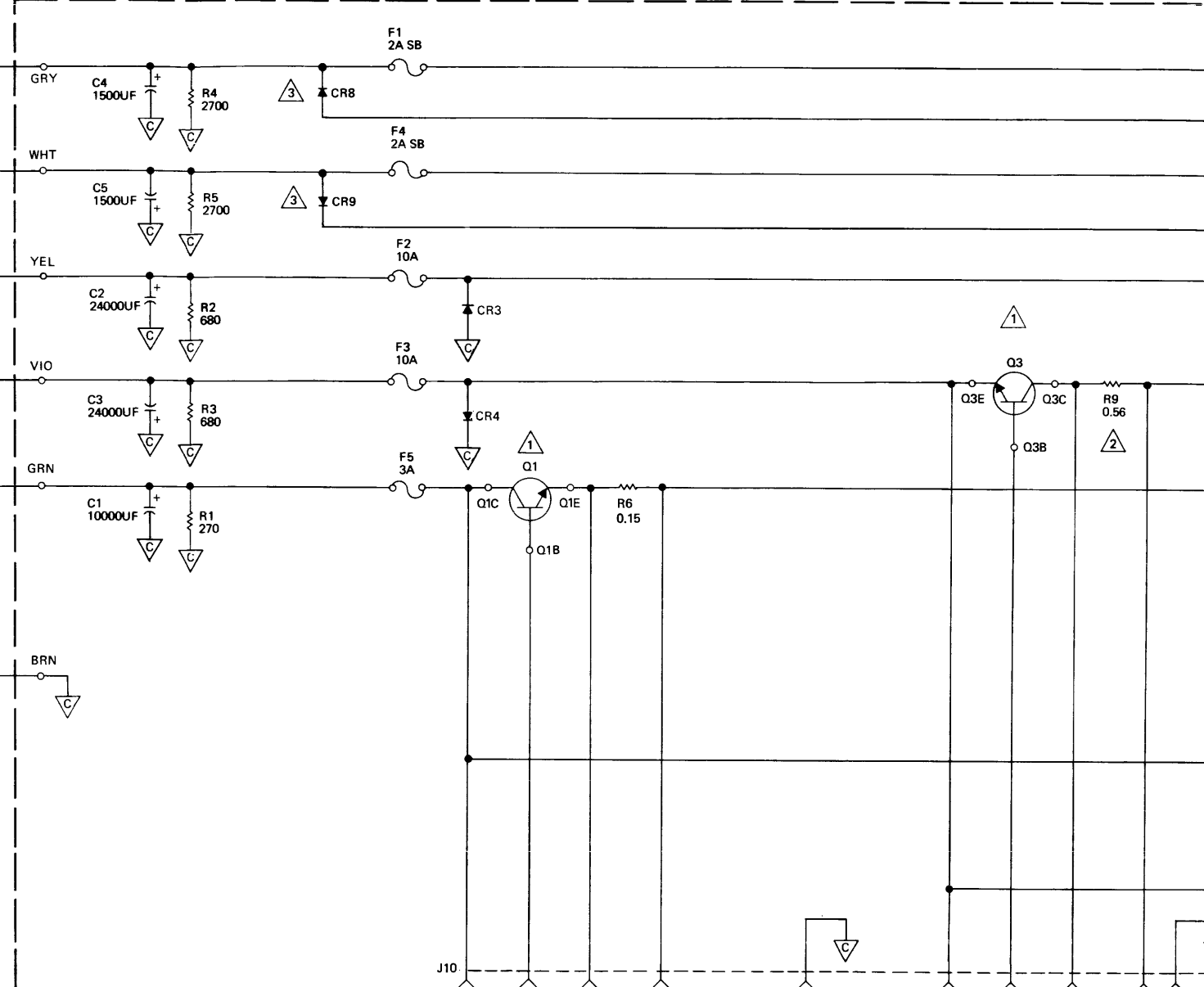


TRANSFORMER ASSEMBLY A29 (07970-60471)

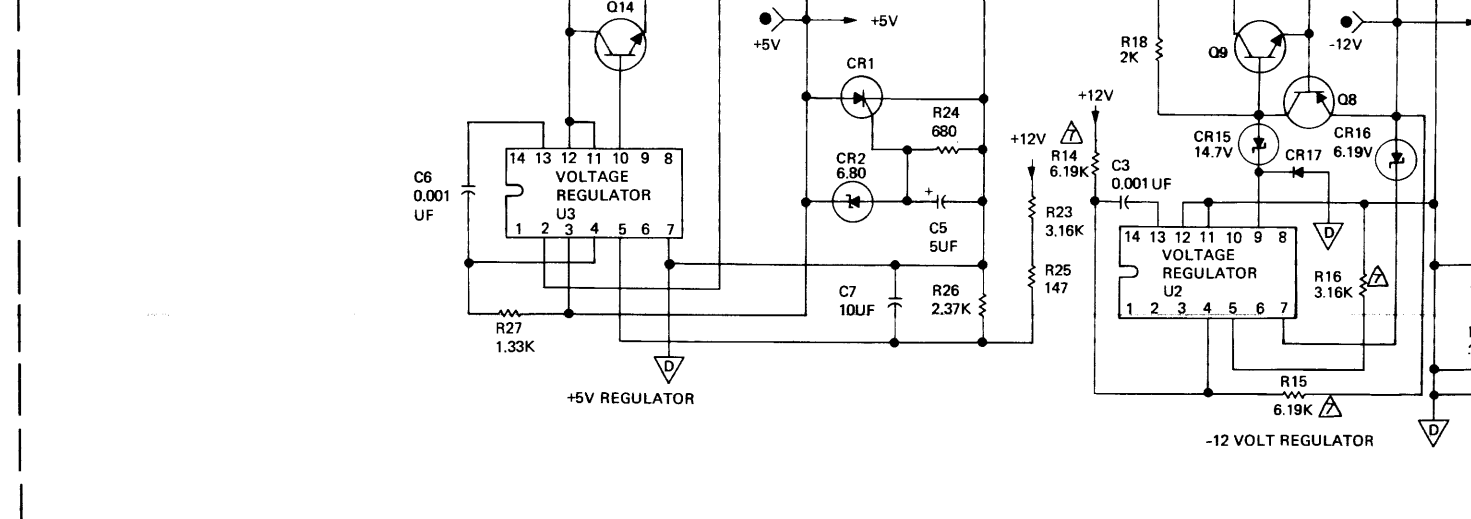


- NOTES:
- ① THESE COMPONENTS ARE EXTERNALLY MOUNTED ON HEAT SINKS OR CHASSIS.
  - ② A30A1R9 IS 0.82 OHM ON SERIES 1120 ASSEMBLIES.
  - ③ DIODES CR8 AND CR9 FIRST USED ON SERIES 1229.
  - ④ RESISTOR A31A1R31 IS 21.5K AND A31A1R38 IS 19.6K ON SERIES 1138 ASSEMBLIES.
  - ⑤ JUMPERS A AND B INSTALLED FOR 10-20.9 IPS. JUMPER C FOR 21-46 IPS.
  - Ⓞ THESE POINTS ARE COMMON (GROUND).
  - Ⓢ THESE POINTS ARE COMMON (SIGNAL RETURN).
- ⚠ IN SERIES NOS. 1411 AND ABOVE F2 IS 2.5 A.
  - ⚠ RESISTOR R14 IS 16.2K, R15 IS 5.11K AND R16 IS 8.25 K ON SERIES 1137 ASSEMBLIES, ONLY.

POWER DISTRIBUTION ASSY A30A1 (07970-61020; SERIES 1120, 1137, 1229)



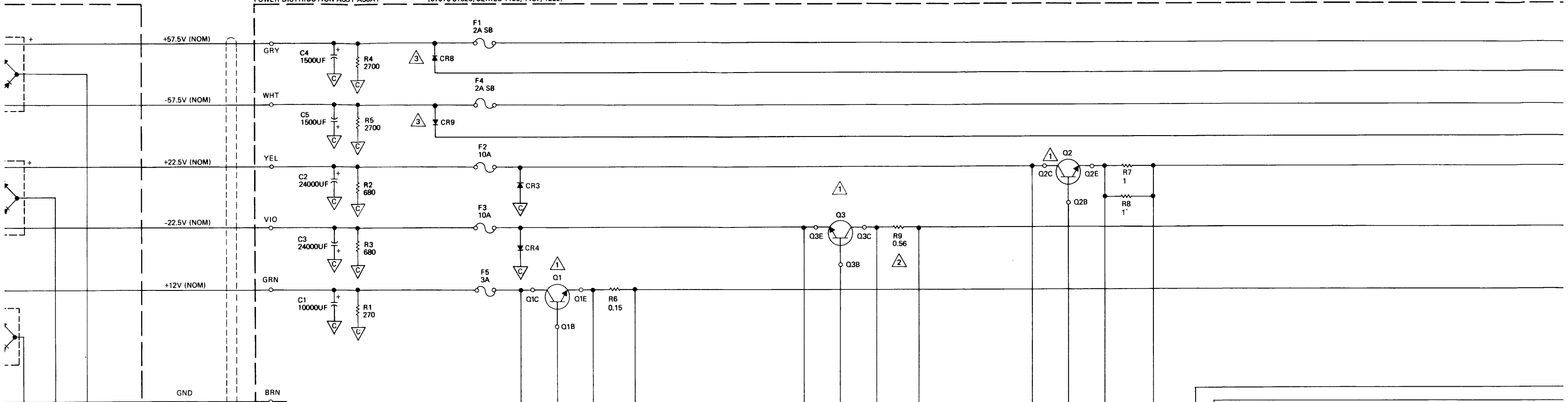
POWER REGULATOR PCB ASSEMBLY A31 (07970-61010; SERIES 1137, 1138, 1219)



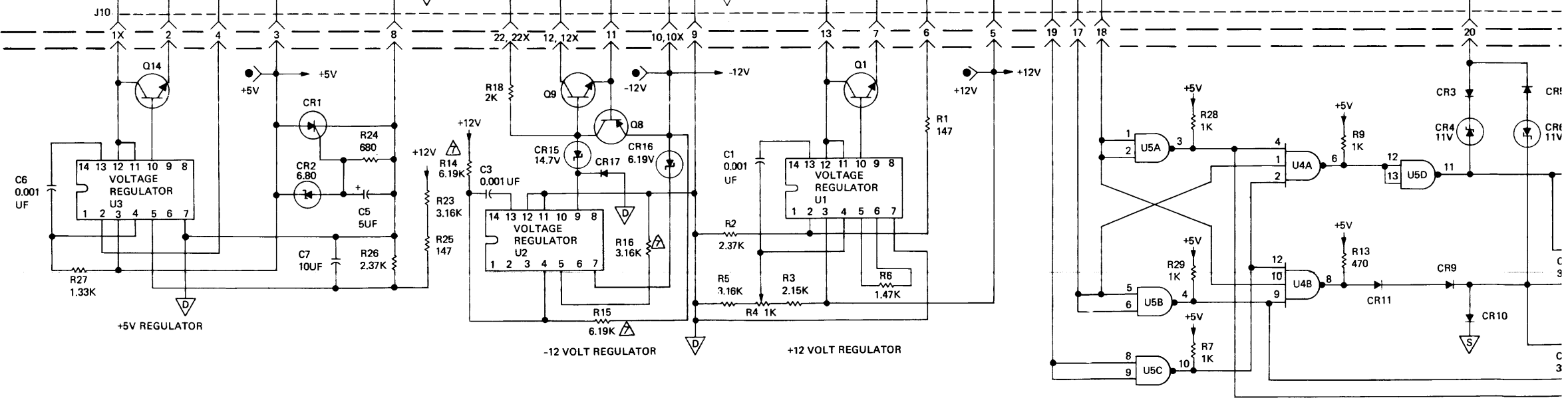
-12 VOLT REGULATOR

+5V REGULATOR

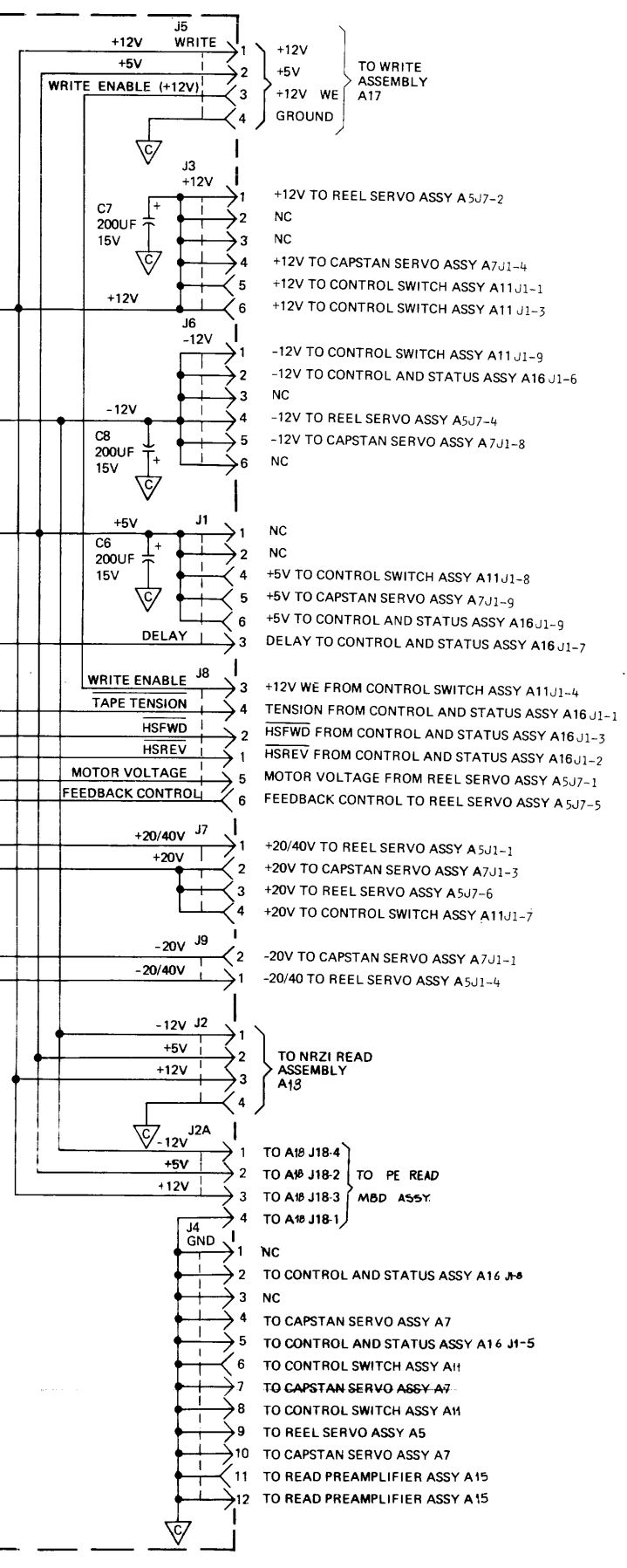
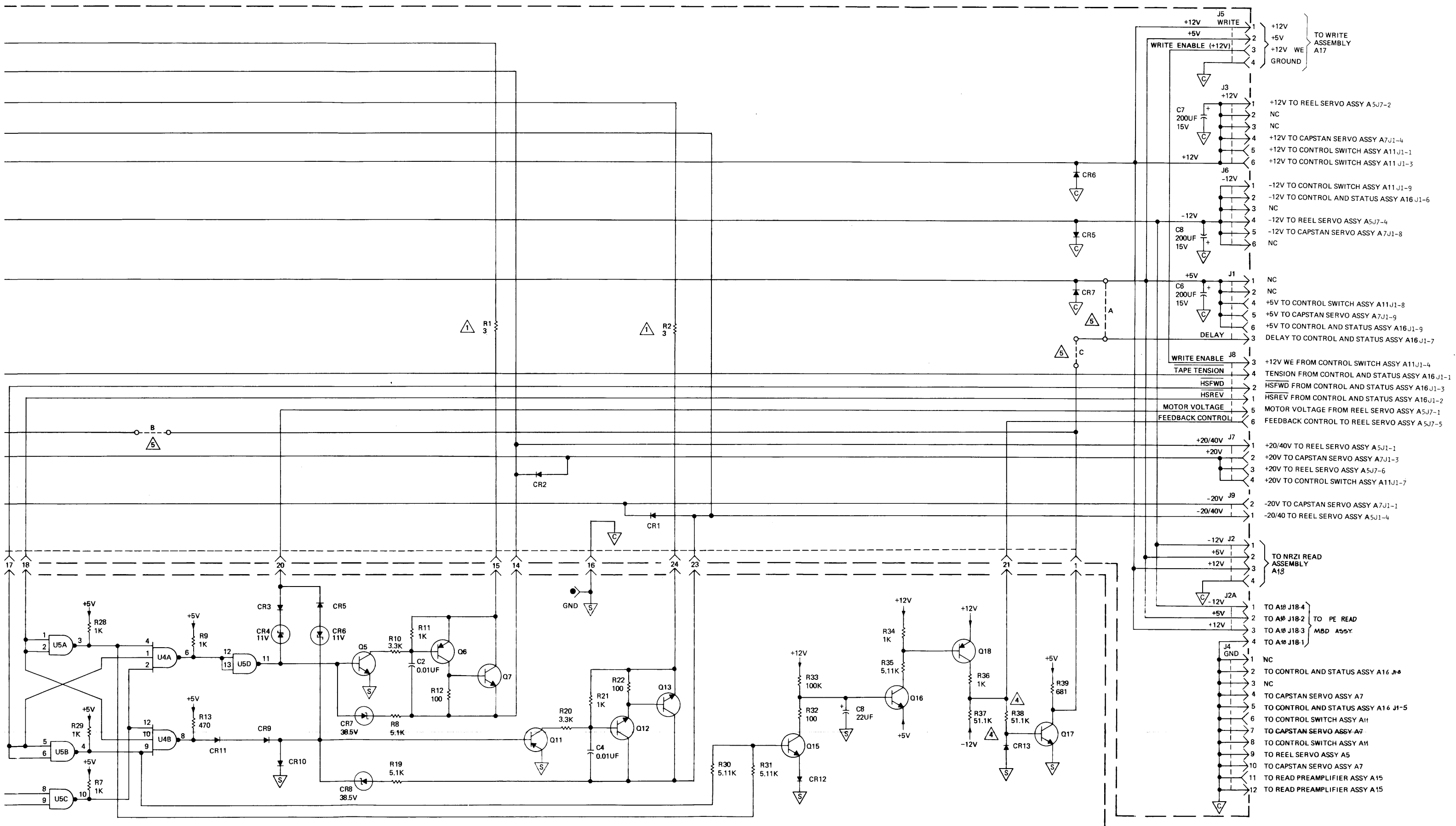
POWER DISTRIBUTION ASSY A30A1 (07970-61020; SERIES 1120, 1137, 1229)



POWER REGULATOR PCB ASSEMBLY A31 (07970-61010; SERIES 1137, 1138, 1219)

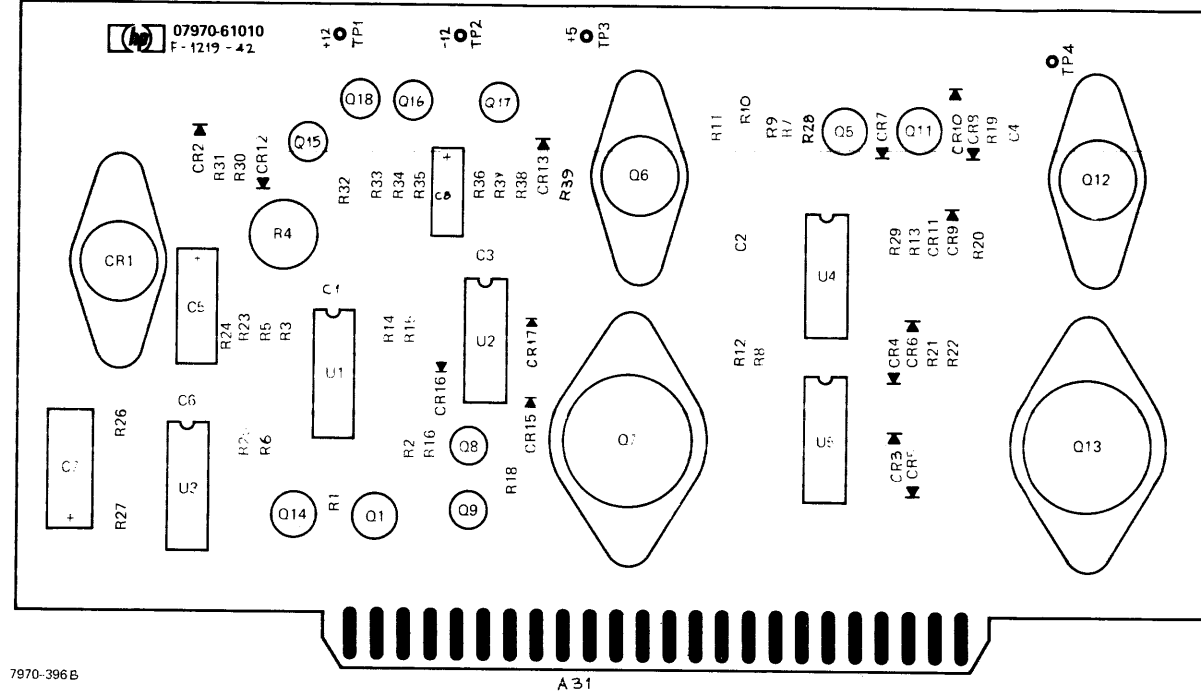


XS. 1411 AND ABOVE F2 IS 2.5 A.  
 F1 IS 16.2K, R15 IS 5.11K AND R16  
 SERIES 1137 ASSEMBLIES, ONLY.

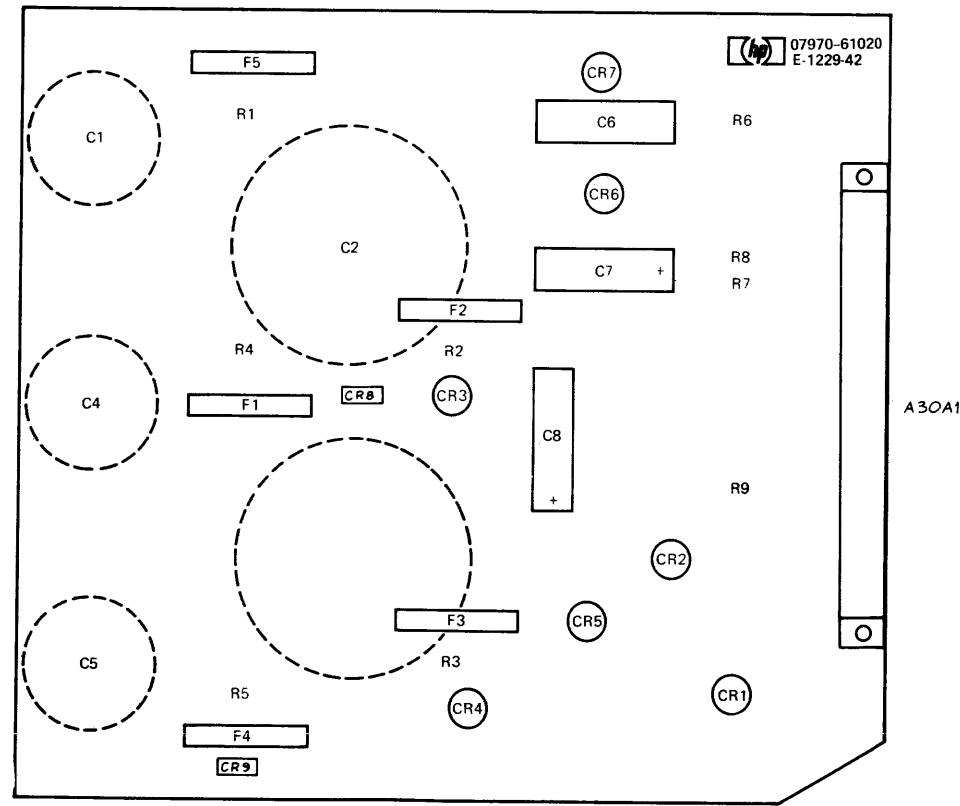


7970 B & Slave "E" Power Supply Assemblies A29/30/31

POWER REGULATOR PCA  
07970-61010 (SERIES 1137, 1138, 1219)



7970-396B



7970-396A

REF. DES./ INDEX NO.	HP PART NO.	DESCRIPTION
C1, C3, C6	07970-61010 0160-3456	POWER REGULATOR PCA (SERIES 1137) CAPACITOR, fxd, 1000pf, Cer
C2, C4	0160-2055	CAPACITOR, fxd, .01uf, 100V
C5	0180-0172	CAPACITOR, fxd, 5uf, -10 +75%
C7	0180-0059	CAPACITOR, fxd, 10uf, -10 +75%
C8	0180-0228	CAPACITOR, fxd, 22uf, 15VDC
CR1	1884-0088	THYRISTOR, 2N3228
	0340-0180	INSULATOR, Friction
	2360-0195	SCREW, 6-32, .312 Pan
	2420-0001	NUT, hex, 6-32
CR2	1902-0048	DIODE, Zener, 6.81V
CR3, CR5	1901-0025	DIODE, 100V, 200MA
CR4, CR6	1902-3171	DIODE, Zener, 11V
CR7, CR8	1902-3311	DIODE, Breakdown, 38.3V
CR9-CR13, CR17	1901-0040	DIODE, 30V, 50MA
CR15	1902-3203	DIODE, Zener, 14.7V
CR16	1902-0049	DIODE, Zener, 6.19V
Q1, Q14	1854-0039	TRANSISTOR, 2N3053, T05
Q5	1854-0022	TRANSISTOR, 2N2102, T05
Q6	1853-0052	TRANSISTOR, 2N3740, T066
	0340-0180	INSULATOR, Friction
	2360-0195	SCREW, 6-32, .312 Pan
	2420-0001	NUT, hex, 6-32
Q7, Q13	1854-0063	TRANSISTOR, 2N3055, T03
	0340-0164	INSULATOR, Transistor
	2360-0197	SCREW, 6-32, .375 Pan
	2420-0001	NUT, hex, 6-32
Q8, Q18	1853-0036	TRANSISTOR, 2N3906, PL18
Q9	1853-0027	TRANSISTOR, PNP, SI, T05
Q11	1853-0080	TRANSISTOR, 2N4888, PL5
Q12	1854-0072	TRANSISTOR, 2N3054, T066
	0340-0180	INSULATOR, Friction
	2360-0195	SCREW, 6-32, .312 Pan
	2420-0001	NUT, hex, 6-32
Q15, Q16, Q17	1854-0215	TRANSISTOR, 2N3904, PL5
R1, 25	0698-3438	RESISTOR, fxd, 147, 1%, .125W
R2, 26	0698-3150	RESISTOR, fxd, 2.37K, 1%, .125W
R3	0698-0084	RESISTOR, fxd, 2.15K, 1%, .125W
R4	2100-1773	RESISTOR, Variable, 1K
R5, R16, R23	0757-0279	RESISTOR, fxd, 3.16K, 1%, .125W
R6	0757-1094	RESISTOR, fxd, 1.47K, 1%, .125W
R7, 9, 11, 21, 28, 29	0683-1025	RESISTOR, fxd, 1K, 5%, .25W
R8, R19	0683-5125	RESISTOR, fxd, 5.1K, 5%, .25W
R10, R20	0686-3325	RESISTOR, fxd, 3.3K, 5%, .5W
R12, R22	0683-1015	RESISTOR, fxd, 100, 5%, .25W
R13	0683-4715	RESISTOR, fxd, 470, 5%, .25W
*R14	0757-0447	RESISTOR, fxd, 16.2K, 1%, .125W

REF INI
*R15
*R16
R18
R24
R27
R30
R32
R33
R34
*R37
*R38
R39
U1,
U4
U5
*R14
*R16
*R14
*R16
*R37

POWER DISTRIBUTION PCA  
07970-61020 (SERIES 1115, 1120, 1229)

DESCRIPTION
LATOR PCA (SERIES 1137) fxd, 1000pf, Cer fxd, .01uf, 100V fxd, 5uf, -10 +75% fxd, 10uf, -10 +75% fxd, 22uf, 15VDC 2N3228 TOR, Friction 6-32, .312 Pan ex, 6-32 er, 6.81V W, 200MA er, 11V akdown, 38.3V , 50MA er, 14.7V er, 6.19V , 2N3053, T05 , 2N2102, T05 , 2N3740, T066 TOR, Friction 6-32, .312 Pan ex, 6-32 , 2N3055, T03 TOR, Transistor 6-32, .375 Pan ex, 6-32 , 2N3906, PL18 , PNP, SI, T05 , 2N4888, PL5 , 2N3054, T066 TOR, Friction 6-32, .312 Pan ex, 6-32 , 2N3904, PL5 fxd, 147, 1%, .125W fxd, 2.37K, 1%, .125W fxd, 2.15K, 1%, .125W Variable, 1K fxd, 3.16K, 1%, .125W fxd, 1.47K, 1%, .125W fxd, 1K, 5%, .25W  fxd, 5.1K, 5%, .25W fxd, 3.3K, 5%, .5W fxd, 100, 5%, .25W fxd, 470, 5%, .25W fxd, 16.2K, 1%, .125W

REF. DES./ INDEX NO.	HP PART NO.	DESCRIPTION
*R15	0757-0438	RESISTOR, fxd, 5.11K, 1%, .125W
*R16	0757-0441	RESISTOR, fxd, 8.25K, 1%, .125W
R18	0686-2025	RESISTOR, fxd, 2K, 5%, .5W
R24	0683-6815	RESISTOR, fxd, 680, 5%, .25W
R27	0757-0317	RESISTOR, fxd, 1.33K, 1%, .125W
R30, R31, R35	0757-0438	RESISTOR, fxd, 5.11K, 1%, .125W
R32	0757-0198	RESISTOR, fxd, 100, 1%, .5W
R33	0757-0465	RESISTOR, fxd, 100K, 1%, .125W
R34, R36	0757-0280	RESISTOR, fxd, 1K, 1%, .125W
*R37	0757-0199	RESISTOR, fxd, 21.5K, 1%, .125W
*R38	0757-3157	RESISTOR, fxd, 19.6K, 1%, .125W
R39	0757-0419	RESISTOR, fxd, 681, 1%, .125W
U1, U2, U3	1820-0439	IC, Voltage Regulator
U4	1820-0348	IC, Digital, MC844P
U5	1820-0256	IC, Digital, MC858P
	SERIES 1138	
*R14, R15	0757-0290	RESISTOR, fxd, 6.19K, 1%, .125W
*R16	0757-0279	RESISTOR, fxd, 3.16K, 1%, .125W
	SERIES 1219	
*R14, R15	0757-0290	RESISTOR, fxd, 6.19K, 1%, .125W
*R16	0757-0279	RESISTOR, fxd, 3.16K, 1%, .125W
*R37, R38	0757-0458	RESISTOR, fxd, 51.1K, 1%, .125W

REF. DES./ INDEX NO.	HP PART NO.	DESCRIPTION
C1	07970-61020 0180-2326 2680-0128 2190-0012	POWER DISTRIBUTION PCA (SERIES 1115) CAPACITOR, 1000uf SCREW, 10-32, .25 Pan WASHER, Lock, #10
C2, C3	0180-2327 2680-0128 2190-0012	CAPACITOR, 24000uf SCREW, 10-32, .25 Pan WASHER, Lock, #10
C4, C5	0180-2325 2680-0128 2190-0012	CAPACITOR, 1500uf SCREW, 10-32, .25 Pan WASHER, Lock, #10
C6, C8	0180-0104	CAPACITOR, 200uf
CR1, CR2	1901-0630	DIODE, Rectifier, Silicone
CR3-CR7	1901-0415 0340-0164	DIODE, Power 1N4997 INSULATOR
CR8, CR9	1901-0026	DIODE
F1, F4	2110-0303	FUSE, 2A, 250V
F2, F3	2110-0051	FUSE, 10A
F5	2110-0003 2110-0257 7124-2099 0360-1613 2680-0099 2740-0003 07970-80110	FUSE, 3A FUSE, Clip LABEL LUG, Solder #5 SCREW, 10-32, .375 Pan NUT, Lock PCB, Power Supply
R1	0698-3629	RESISTOR, Fxd, 270, 5%, 2W
R2, R3	0698-3635	RESISTOR, Fxd, 680, 5%, 2W
R4, R5	0764-0043	RESISTOR, Fxd, 2.7K, 5%, 2W
R6	0812-0045	RESISTOR, Fxd, 0.15, 5%, 3W
R7, R8	0811-1666	RESISTOR, Fxd, 1.0, 5%, 2W
*R9	0811-1552	RESISTOR, Fxd, 0.56, 5%, 2W
J10	1251-2025 1251-2503 1251-2504 0361-0013 0361-0137	CONNECTOR, PC 2x24 156 D. CONNECTOR, (Female Pins) Contact P CONNECTOR, (Male Pins) Contact PC RIVET, 123DX, .375 RIVET, 123DX, .188
*R9	SERIES 1120 0811-1665	RESISTOR, Fxd, 0.82, 5%, 2W
*R9	SERIES 1229 0811-1552	RESISTOR, Fxd, 0.56, 5%, 2W

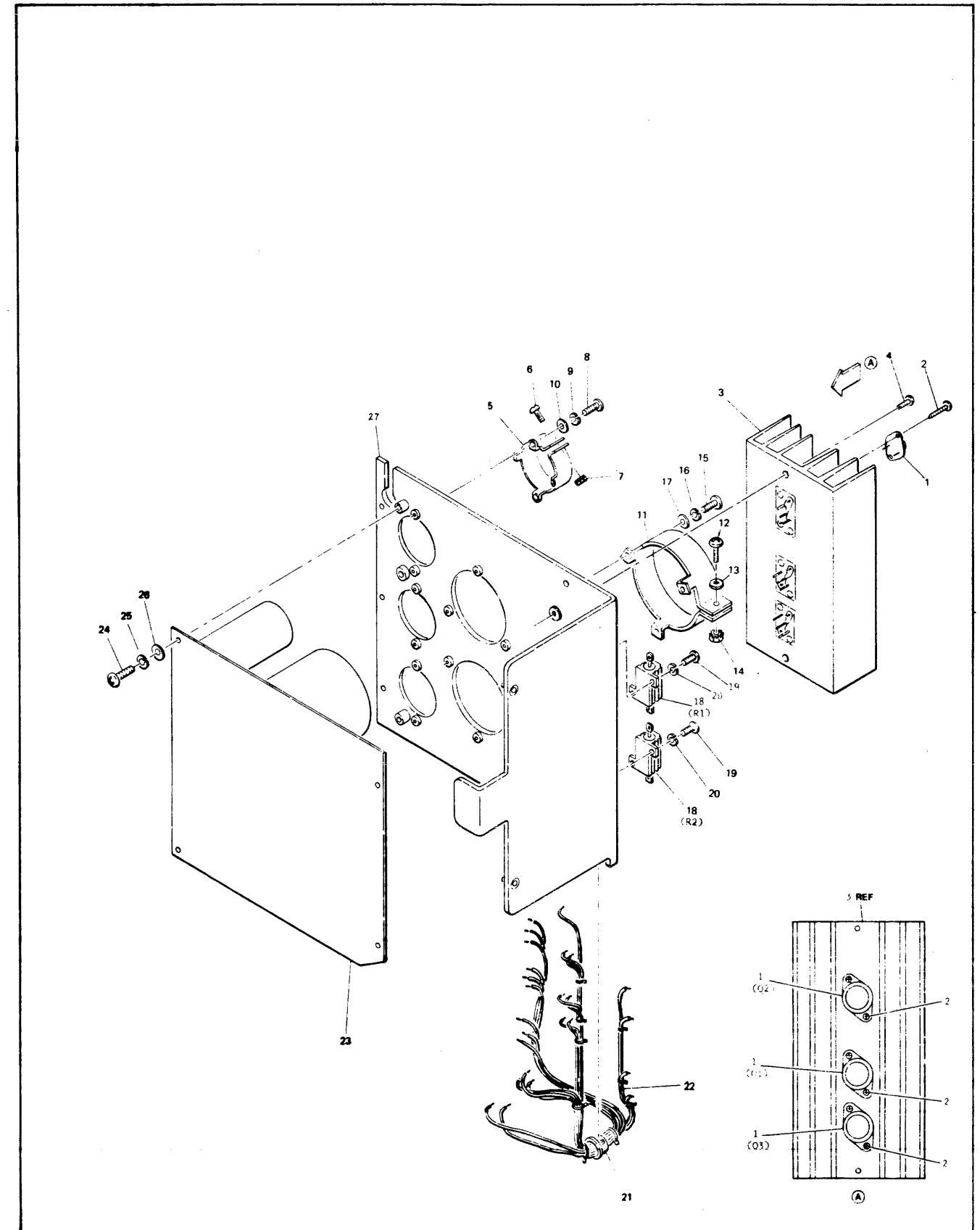
POWER DISTRIBUTION PCA  
07970-61020 (SERIES 1115, 1120, 1229)

DESCRIPTION
RESISTOR, fxd, 5.11K, 1%, .125W
RESISTOR, fxd, 8.25K, 1%, .125W
RESISTOR, fxd, 2K, 5%, .5W
RESISTOR, fxd, 680, 5%, .25W
RESISTOR, fxd, 1.33K, 1%, .125W
RESISTOR, fxd, 5.11K, 1%, .125W
RESISTOR, fxd, 100, 1%, .5W
RESISTOR, fxd, 100K, 1%, .125W
RESISTOR, fxd, 1K, 1%, .125W
RESISTOR, fxd, 21.5K, 1%, .125W
RESISTOR, fxd, 19.6K, 1%, .125W
RESISTOR, fxd, 681, 1%, .125W
IC, Voltage Regulator
IC, Digital, MC844P
IC, Digital, MC858P
RESISTOR, fxd, 6.19K, 1%, .125W
RESISTOR, fxd, 3.16K, 1%, .125W
RESISTOR, fxd, 6.19K, 1%, .125W
RESISTOR, fxd, 3.16K, 1%, .125W
RESISTOR, fxd, 51.1K, 1%, .125W

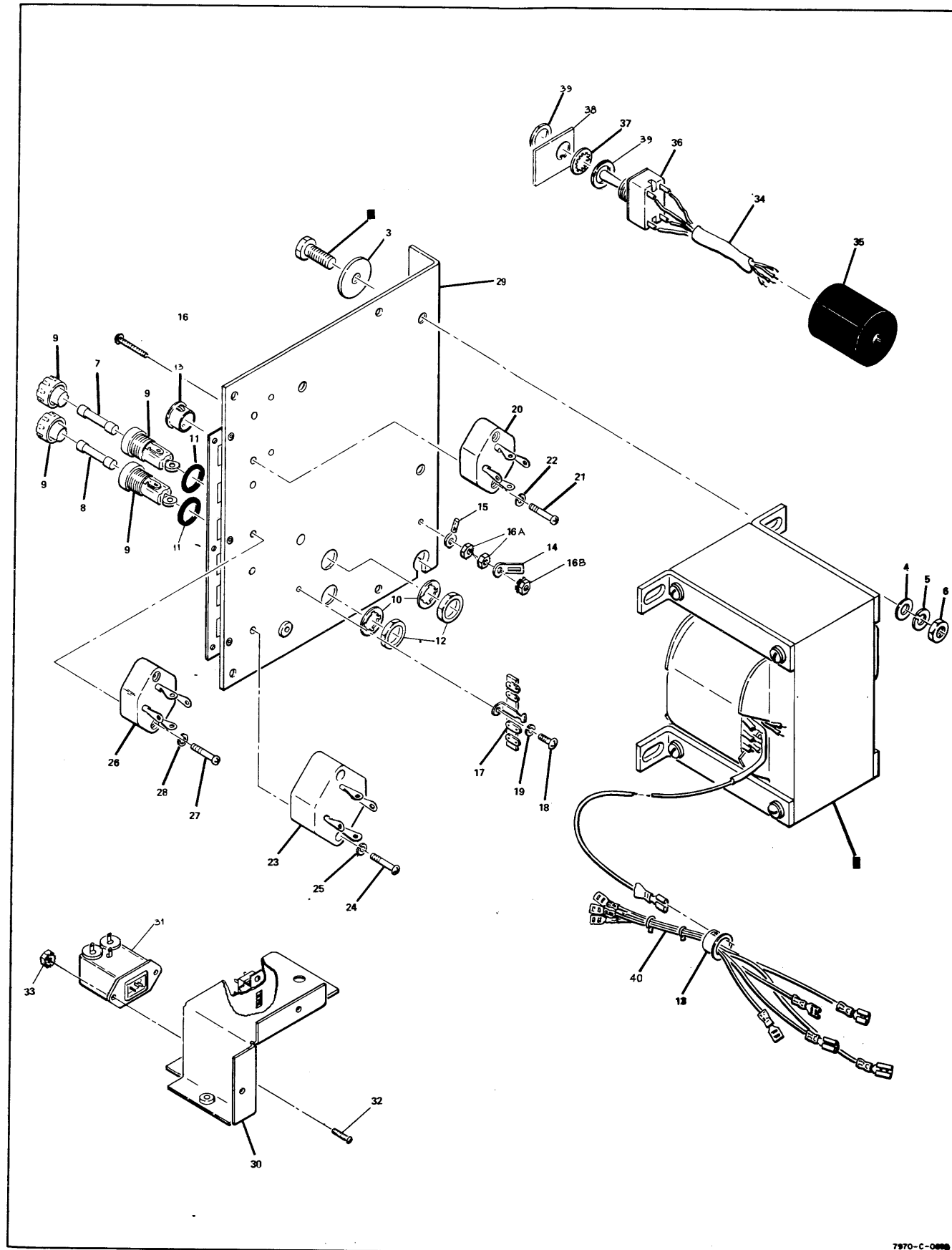
REF. DES./ INDEX NO.	HP PART NO.	DESCRIPTION
C1	07970-61020 0180-2326	POWER DISTRIBUTION PCA (SERIES 1115) CAPACITOR, 1000uf
C2, C3	2680-0128	SCREW, 10-32, .25 Pan
	2190-0012	WASHER, Lock, #10
	0180-2327	CAPACITOR, 24000uf
C4, C5	2680-0128	SCREW, 10-32, .25 Pan
	2190-0012	WASHER, Lock, #10
	0180-2325	CAPACITOR, 1500uf
C6, C8	2680-0128	SCREW, 10-32, .25 Pan
	2190-0012	WASHER, Lock, #10
	0180-0104	CAPACITOR, 200uf
CR1, CR2	1901-0630	DIODE, Rectifier, Silicone
CR3-CR7	1901-0415	DIODE, Power 1N4997
	0340-0164	INSULATOR
CR8, CR9	1901-0026	DIODE
F1, F4	2110-0303	FUSE, 2A, 250V
F2, F3	2110-0051	FUSE, 10A
F5	2110-0003	FUSE, 3A
	2110-0257	FUSE, Clip
	7124-2099	LABEL
	0360-1613	LUG, Solder #5
	2680-0099	SCREW, 10-32, .375 Pan
	2740-0003	NUT, Lock
	07970-80110	PCB, Power Supply
R1	0698-3629	RESISTOR, Fxd, 270, 5%, 2W
R2, R3	0698-3635	RESISTOR, Fxd, 680, 5%, 2W
R4, R5	0764-0043	RESISTOR, Fxd, 2.7K, 5%, 2W
R6	0812-0045	RESISTOR, Fxd, 0.15, 5%, 3W
R7, R8	0811-1666	RESISTOR, Fxd, 1.0, 5%, 2W
*R9	0811-1552	RESISTOR, Fxd, 0.56, 5%, 2W
J10	1251-2025	CONNECTOR, PC 2x24 156 D.
	1251-2503	CONNECTOR, (Female Pins) Contact PC
	1251-2504	CONNECTOR, (Male Pins) Contact PC
	0361-0013	RIVET, 123DX, .375
	0361-0137	RIVET, 123DX, .188
*R9	SERIES 1120 0811-1665	RESISTOR, Fxd, 0.82, 5%, 2W
*R9	SERIES 1229 0811-1552	RESISTOR, Fxd, 0.56, 5%, 2W

POWER DISTRIBUTION ASSEMBLY  
07970-61051

REF. DES. / INDEX NO.	HP PART NO.	DESCRIPTION
	07970-61051	POWER DISTRIBUTION ASSEMBLY
1	1854-0063	TRANSISTOR, 2N3055, T03
2	0624-0062	SCREW, tapping
3	07970-60442	HEAT DISSIPATOR
4	2200-0143	SCREW, 4-40, .375 pan
5	0160-2149	CLAMP, CAPACITOR
6	2360-0201	SCREW, 6-32, 0.5 in.
7	2420-0001	NUT, hex, 6-32
8	2200-0141	SCREW, 4-40, .312 pan
9	2190-0061	WASHER, lock #4 hel
10	3050-0105	WASHER, #4
11	0180-1970	CLAMP, CAPACITOR
12	2360-0201	SCREW, 6-32, 0.5 in.
13	3050-0066	WASHER, flat, #6, .147D
14	2420-0001	NUT, hex, 6-32
15	2200-0141	SCREW, 4-40, .312 pan
16	2190-0061	WASHER, lock #4 hel
17	3050-0105	WASHER, #4
18	0811-2180	RESISTOR, fxd, 3ohm, 10%, 25w
19	2200-0143	SCREW, 4-40, .375 pan
20	2190-0061	WASHER, lock, #4 hel
21	0400-0166	BUSHING, Snap, Nylon
22	07970-60651	WIRING HARNESS, (W1)
23	07970-61020	POWER DISTRIBUTION PCA
24	2360-0195	SCREW, 6-32 .312 pan
25	2190-0918	WASHER, lock, #6 hel
26	3050-0066	WASHER, #6, .147 flat
27	07970-00281	CHASSIS, Power Supply



7970 B & Slave "E" Power Supply  
Assemblies A29/30/31



7970-C-0000

TRANSFORMER ASSEMBLY  
07970-60471

REF. DES./ INDEX NO.	HP PART NO.	DESCRIPTION
	07970-60471	SLAVE UNIT TRANSFORMER ASSEMBLY
1	9100-3120	TRANSFORMER, Power (T1)
2	0570-0108	BOLT, Hex-20, .75 in.
3	3050-0723	WASHER, Flat, 3/4 in. OD
4	3050-0225	WASHER, Flat, 1/4 in. ID
5	2190-0431	WASHER, Lock, 1/4 in.
6	2950-0004	NUT, Hex, 1/4 -20
7	2110-0365	FUSE, 4A, 250V, SLO BLO (F1)
8	2110-0303	FUSE, 2A, 250V, SLO BLO (F2)
9	1400-0084	FUSE HOLDER, POST TYPE (XF1, XF2)
10	2190-0037	WASHER, Lock, .5 in.
11	0900-0016	O-RING, .5 in.
12	2950-0038	NUT, 1/2-24
13	0400-0166	BUSHING, Snap, Nylon
14	0360-0043	TERM, Solder Lug, #5
15	0362-0321	LUG, Crimp, #6
16	2360-0203	SCREW, 6-32, .625 Pan
16A	2420-0002	NUT, Hex, 6-32
16B	2420-0001	NUT, Hex, 6-32
17	0360-1590	TERMINAL STRIP, Lug Type
18	2200-0141	SCREW, 4-40, .312 Pan
19	2190-0003	WASHER, Lock, #4
20	1906-0008	DIODE ASSEMBLY (CR3)
21	2200-0149	SCREW, 4-40, .625 in.
22	2190-0003	WASHER, Lock, #4
23	1901-0161	DIODE ASSEMBLY (CR2)
24	2200-0153	SCREW, 4-40, .875 in.
25	2190-0003	WASHER, Lock, #4
26	1906-0007	DIODE ASSEMBLY (CR1)
27	2200-0149	SCREW, 4-40, .625 in.
28	2190-0003	WASHER, Lock, #4



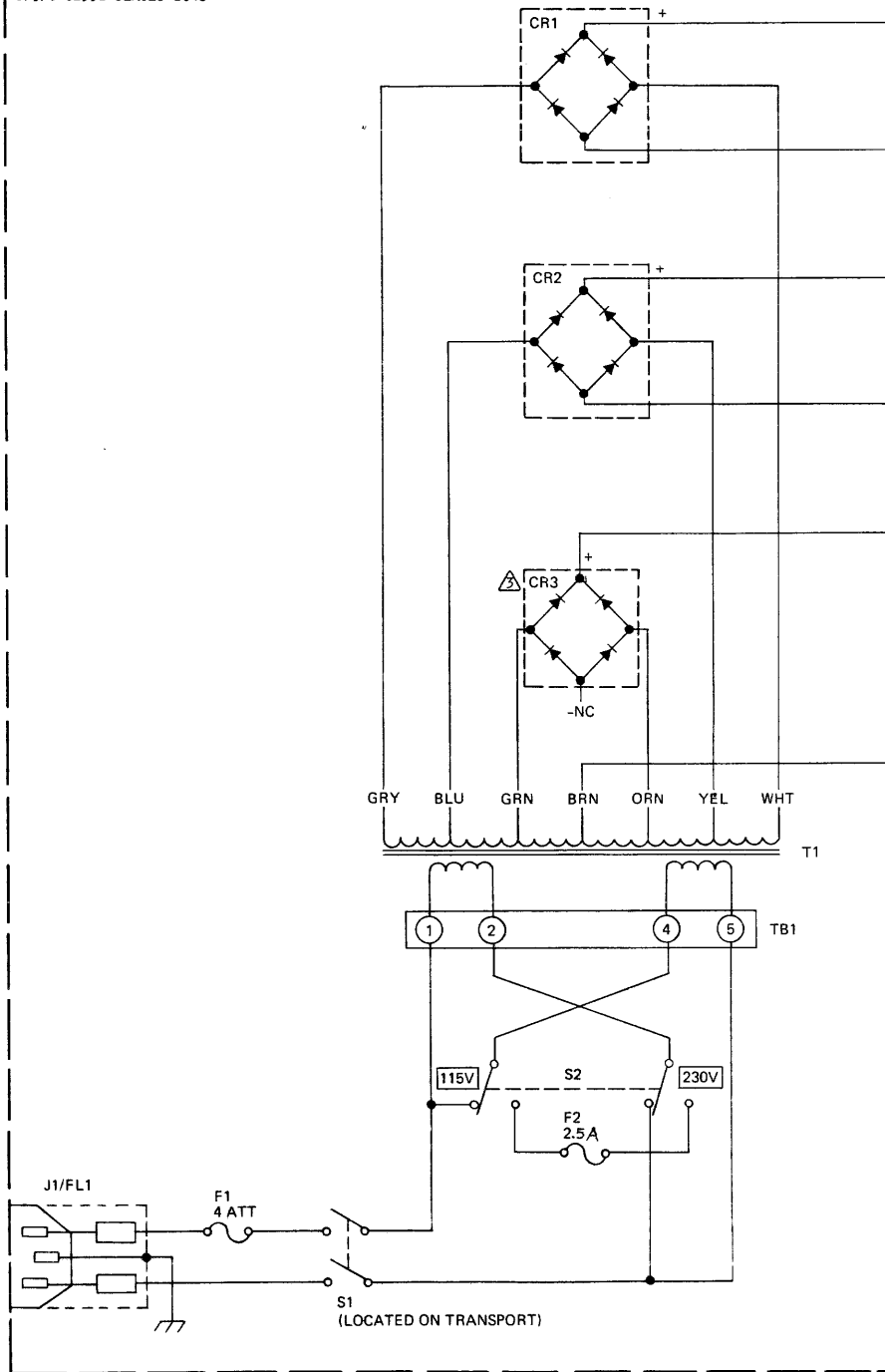
TRANSFORMER ASSEMBLY  
07970-60471

REF. DES./ INDEX NO.	HP PART NO.	DESCRIPTION
	07970-60471	SLAVE UNIT TRANSFORMER ASSEMBLY
1	9100-3120	TRANSFORMER, Power (T1)
2	0570-0108	BOLT, Hex-20, .75 in.
3	3050-0723	WASHER, Flat, 3/4 in. OD
4	3050-0225	WASHER, Flat, 1/4 in. ID
5	2190-0431	WASHER, Lock, 1/4 in.
6	2950-0004	NUT, Hex, 1/4 -20
7	2110-0365	FUSE, 4A, 250V, SLO BLO (F1)
8	2110-0303	FUSE, 2A, 250V, SLO BLO (F2)
9	1400-0084	FUSE HOLDER, POST TYPE (XF1, XF2)
10	2190-0037	WASHER, Lock, .5 in.
11	0900-0016	O-RING, .5 in.
12	2950-0038	NUT, 1/2-24
13	0400-0166	BUSHING, Snap, Nylon
14	0360-0043	TERM, Solder Lug, #5
15	0362-0321	LUG, Crimp, #6
16	2360-0203	SCREW, 6-32, .625 Pan
16A	2420-0002	NUT, Hex, 6-32
16B	2420-0001	NUT, Hex, 6-32
17	0360-1590	TERMINAL STRIP, Lug Type
18	2200-0141	SCREW, 4-40, .312 Pan
19	2190-0003	WASHER, Lock, #4
20	1906-0008	DIODE ASSEMBLY (CR3)
21	2200-0149	SCREW, 4-40, .625 in.
22	2190-0003	WASHER, Lock, #4
23	1901-0161	DIODE ASSEMBLY (CR2)
24	2200-0153	SCREW, 4-40, .875 in.
25	2190-0003	WASHER, Lock, #4
26	1906-0007	DIODE ASSEMBLY (CR1)
27	2200-0149	SCREW, 4-40, .625 in.
28	2190-0003	WASHER, Lock, #4

REF. DES./ INDEX NO.	HP PART NO.	DESCRIPTION
29	07970-00211	PANEL, POWER TRANSFORMER
30	07970-60461	BRACKET, CONNECTOR (includes S2)
31	9100-0531	FILTER (FL1) and J1
32	2200-0141	SCREW, 4 x 40, .312 Pan
33	2260-0009	NUT, Lock, 4-40
34	8120-1624	CABLE, Power
35	1401-0083	CAP, Protective
36	3101-0646	SWITCH, power dpst
37	2190-0102	WASHER, Lock, 7/16
38	7120-4575	PLATE, Indicator
39	2950-0035	NUT, 15/32-32
40		WIRING HARNESS, Pwr Transformer

7970 B & Slave "E" Power Supply  
Assemblies A29/30/31

TRANSFORMER ASSEMBLY A29  
07970-60471 SERIES 1411  
07970-62351 SERIES 1648

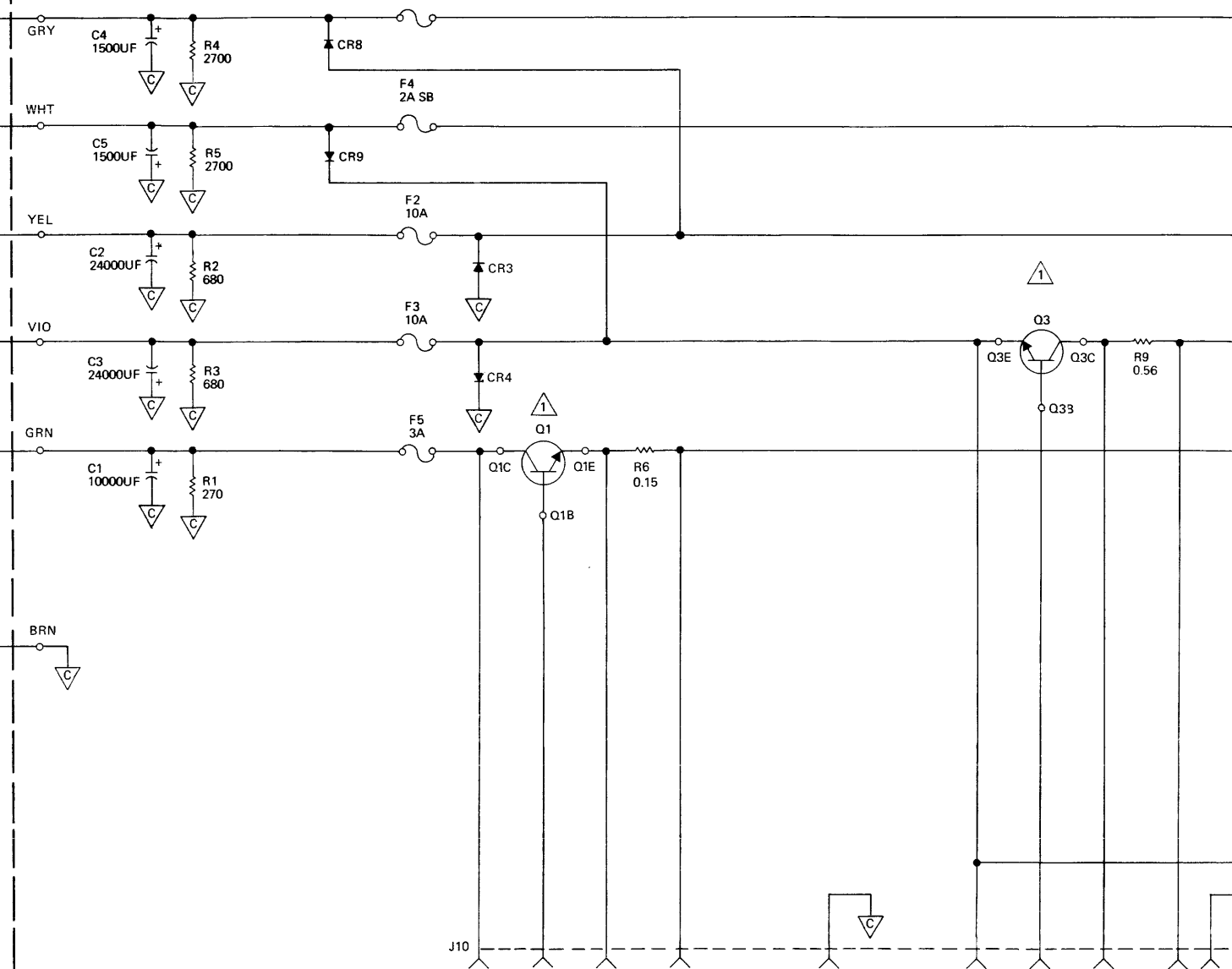


NOTES:

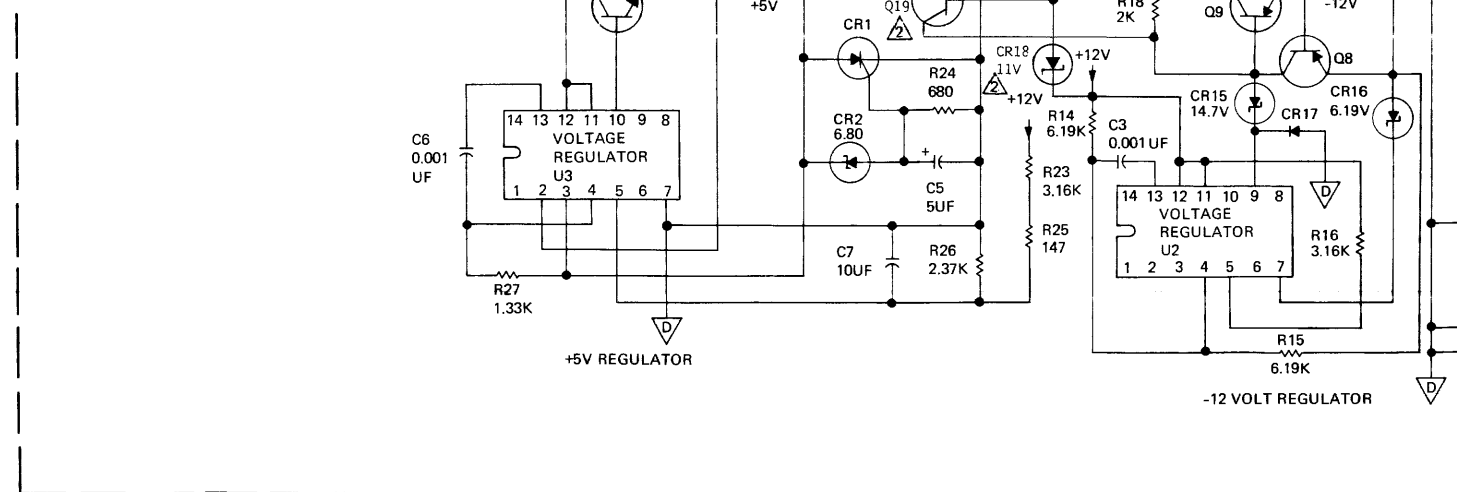
- THESE COMPONENTS ARE EXTERNALLY MOUNTED ON HEAT SINKS OR CHASSIS
- THESE POINTS ARE COMMON (GROUND)
- THESE POINTS ARE COMMON (SIGNAL RETURN)
- USED ONLY ON SERIES 1344 OR HIGHER
- BOTTOM TWO DIODES ABSENT IN CR3 ON 07970-62351 ASSEMBLIES.

7970-002D

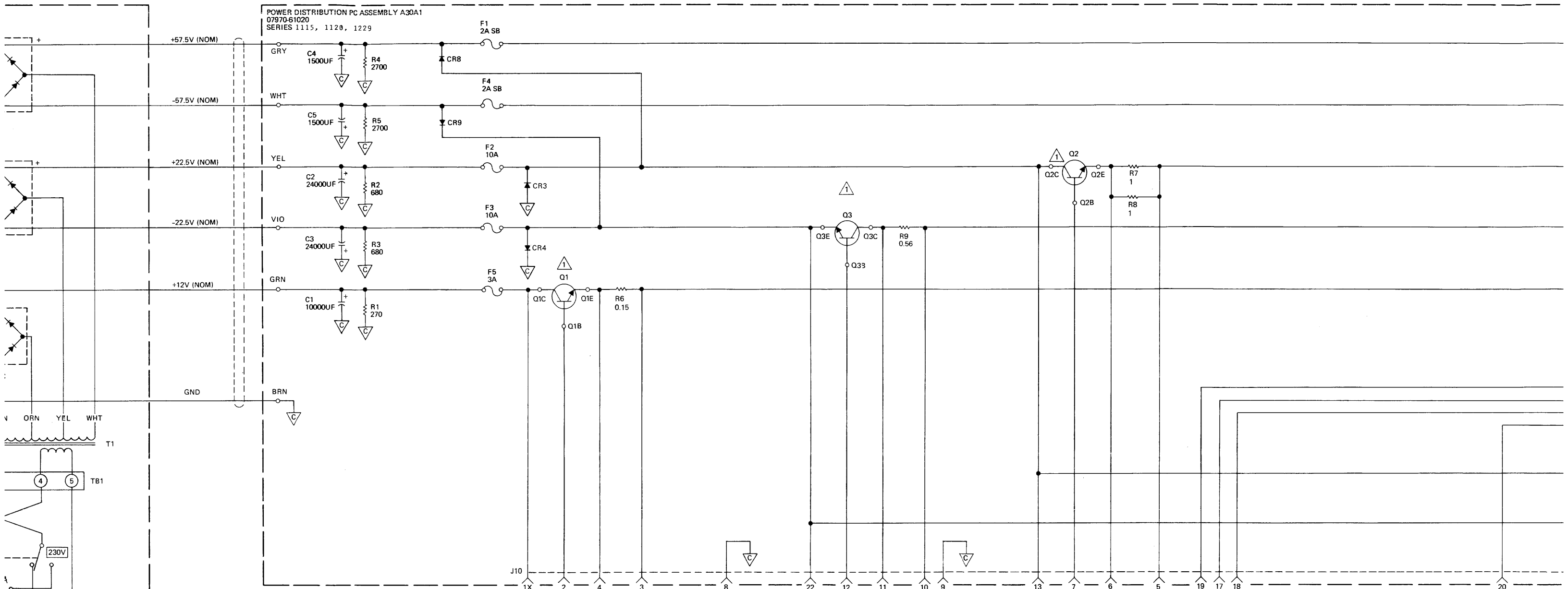
POWER DISTRIBUTION PCB ASSEMBLY A30A1  
07970-61020  
SERIES 1115, 1120, 1229



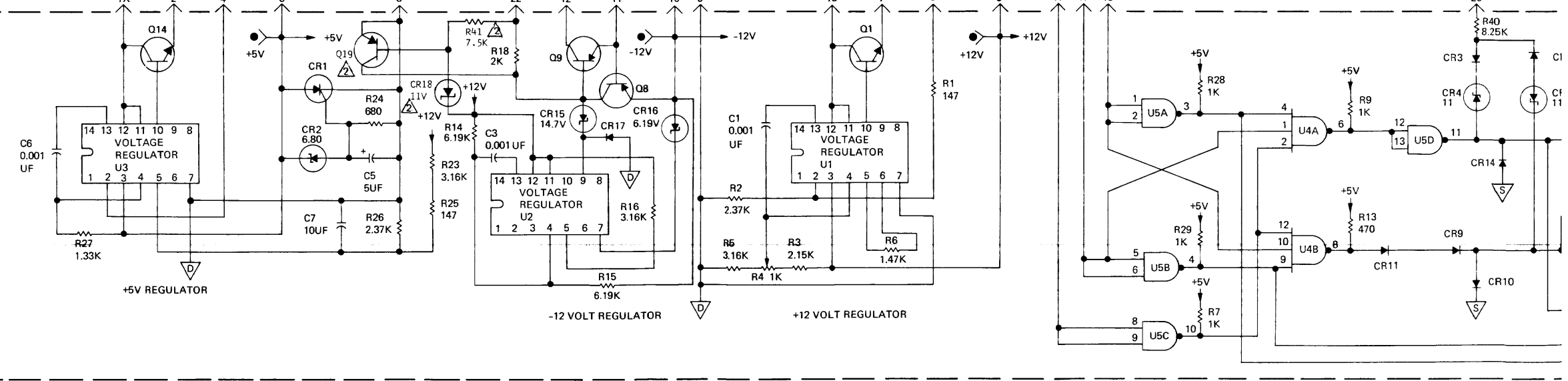
POWER REGULATOR PCB ASSEMBLY A31  
07970-61010  
SERIES 1323, 1344

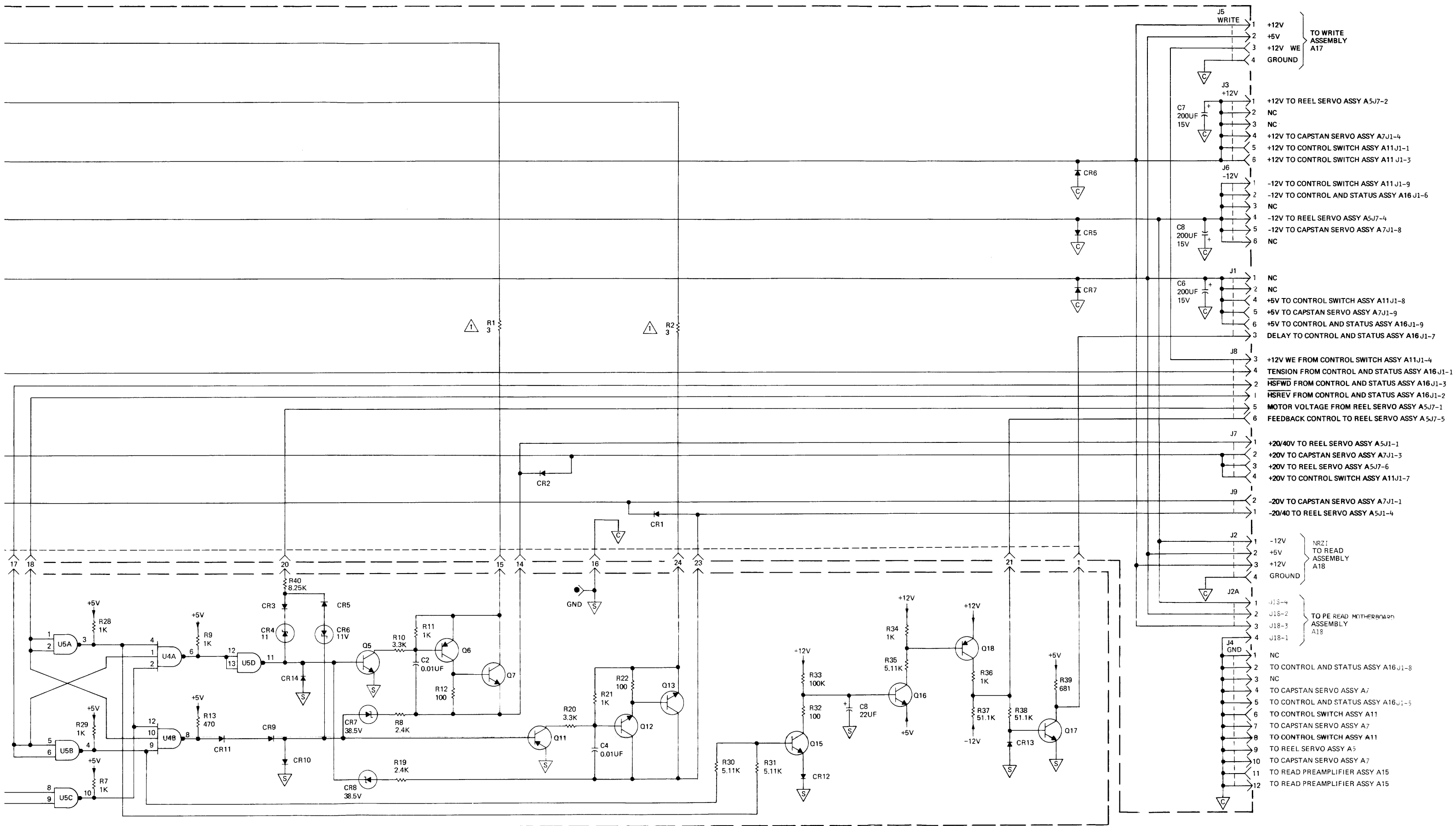


POWER DISTRIBUTION PCB ASSEMBLY A30A1  
07970-61020  
SERIES 1115, 1120, 1229



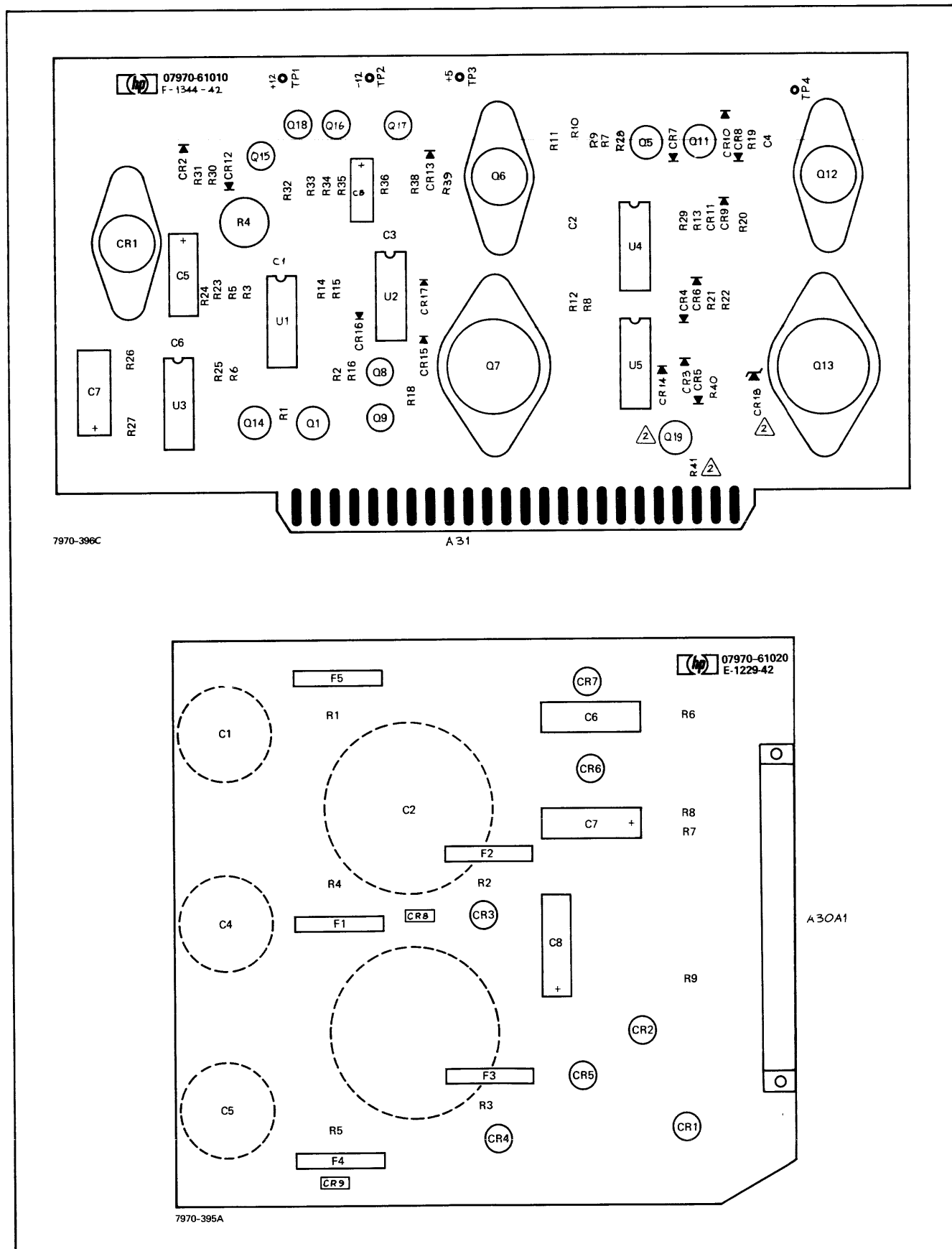
POWER REGULATOR PCB ASSEMBLY A31  
07970-61010  
SERIES 1323, 1344





- 1 +12V
  - 2 +5V
  - 3 +12V WE
  - 4 GROUND
- TO WRITE ASSEMBLY A17
- 1 +12V TO REEL SERVO ASSY A5J7-2
  - 2 NC
  - 3 NC
  - 4 +12V TO CAPSTAN SERVO ASSY A7J1-4
  - 5 +12V TO CONTROL SWITCH ASSY A11J1-1
  - 6 +12V TO CONTROL SWITCH ASSY A11J1-3
- 1 -12V TO CONTROL SWITCH ASSY A11J1-9
  - 2 -12V TO CONTROL AND STATUS ASSY A16J1-6
  - 3 NC
  - 4 -12V TO REEL SERVO ASSY A5J7-4
  - 5 -12V TO CAPSTAN SERVO ASSY A7J1-8
  - 6 NC
- 1 NC
  - 2 NC
  - 3 +5V TO CONTROL SWITCH ASSY A11J1-8
  - 4 +5V TO CAPSTAN SERVO ASSY A7J1-9
  - 5 +5V TO CONTROL AND STATUS ASSY A16J1-9
  - 6 DELAY TO CONTROL AND STATUS ASSY A16J1-7
- 3 +12V WE FROM CONTROL SWITCH ASSY A11J1-4
  - 4 TENSION FROM CONTROL AND STATUS ASSY A16J1-1
  - 2 HSFWD FROM CONTROL AND STATUS ASSY A16J1-3
  - 1 HSFREV FROM CONTROL AND STATUS ASSY A16J1-2
  - 5 MOTOR VOLTAGE FROM REEL SERVO ASSY A5J7-1
  - 6 FEEDBACK CONTROL TO REEL SERVO ASSY A5J7-5
- 1 +20/40V TO REEL SERVO ASSY A5J1-1
  - 2 +20V TO CAPSTAN SERVO ASSY A7J1-3
  - 3 +20V TO REEL SERVO ASSY A5J7-6
  - 4 +20V TO CONTROL SWITCH ASSY A11J1-7
- 1 -20V TO CAPSTAN SERVO ASSY A7J1-1
  - 2 -20/40 TO REEL SERVO ASSY A5J1-4
- 1 -12V
  - 2 +5V
  - 3 +12V
  - 4 GROUND
- NR2: TO READ ASSEMBLY A18
- 1 J13-4
  - 2 J16-2
  - 3 J18-3
  - 4 J18-1
- TO PE READ MOTHERBOARD ASSEMBLY A18
- 1 NC
  - 2 TO CONTROL AND STATUS ASSY A16J1-8
  - 3 NC
  - 4 TO CAPSTAN SERVO ASSY A7
  - 5 TO CONTROL AND STATUS ASSY A16J1-5
  - 6 TO CONTROL SWITCH ASSY A11
  - 7 TO CAPSTAN SERVO ASSY A7
  - 8 TO CONTROL SWITCH ASSY A11
  - 9 TO REEL SERVO ASSY A5
  - 10 TO CAPSTAN SERVO ASSY A7
  - 11 TO READ PREAMPLIFIER ASSY A15
  - 12 TO READ PREAMPLIFIER ASSY A15

7970 B & Slave "E" Power Supply Assemblies A29/30/31



POWER REGULATOR PCA PARTS LIST  
07970-61010 (SERIES 1323, 1344)

REF. DES./ INDEX NO.	HP PART NO.	DESCRIPTION
C1, C3, C6 C2, C4 C5 C7 C8 CR1	07970-61010 0160-3456 0160-2055 0180-0172 0180-0059 0180-0228 1884-0088	POWER REGULATOR PCA (SERIES 1323) CAPACITOR, Fxd, 1000pf, Cer. CAPACITOR, Fxd, .01uf, 100V CAPACITOR, Fxd, 5uf, -10 + 75% CAPACITOR, Fxd, 10uf, -10 + 75% CAPACITOR, Fxd, 22uf, 15 VDC THYRISTOR, 2N3228
CR2	0340-0180	INSULATOR, Friction
CR3, CR5	2360-0195	SCREW, 6-32, .312 Pan
CR4, CR6, CR18	2420-0001	NUT, hex, 6-32
CR7, CR8	1902-0048	DIODE, Zener, 6.81V
CR9-14, CR17	1901-0025	DIODE, 100V, 200MA
CR15	1902-3171	DIODE, Zener, 11V
CR16	1902-3311	DIODE, Breakdown, 38.3V
Q1, Q14	1901-0040	DIODE, 30V, 50MA
Q5	1902-3202	DIODE, Zener, 14.7V
Q6	1902-0049	DIODE, Zener, 6.19V
Q7, Q13	1854-0039	TRANSISTOR, 2N3053, T05
Q8, Q18, Q19	1854-0022	TRANSISTOR, 2N2102, T05
Q9	1853-0052	TRANSISTOR, 2N3740, T066
Q11	0340-0180	INSULATOR, Friction
Q12	2360-0195	SCREW, 6-32, .312 Pan
Q15, Q16, Q17	2420-0001	NUT, hex, 6-32
R1, 25	1854-0063	TRANSISTOR, 2N3055, T03
R2, 26	0340-0458	INSULATOR, Transistor
R3	2360-0197	SCREW, 6-32, .375 Pan
R4	2420-0001	NUT, hex, 6-32
R5, R16, R23	1853-0036	TRANSISTOR, 2N3906, PL18
R6	1853-0027	TRANSISTOR, PNP, SI, T05
R7, R9, R11	1853-0080	TRANSISTOR, 2N4888, PL5
R8, R19	1854-0072	TRANSISTOR, 2N3054, T066
R10, R20	0340-0180	INSULATOR, Friction
R12, R22	2360-0195	SCREW, 6-32, .312 Pan
R13	2420-0001	NUT, hex, 6-32
	1854-0215	TRANSISTOR, 2N3904, PL5
	0698-3438	RESISTOR, Fxd, 147, 1%, .125W
	0698-3150	RESISTOR, Fxd, 2.37K, 1%, .125W
	0698-0084	RESISTOR, Fxd, 2.15K, 1%, .125W
	2100-1773	RESISTOR, Variable, 1K
	0757-0279	RESISTOR, Fxd, 1K, 5%, .25W
	0757-1094	RESISTOR, Fxd, 1.47K, 1%, .125W
	0683-1025	RESISTOR, Fxd, 1K, 5%, .25W
	0683-2425	RESISTOR, Fxd, 2.4K, 5%, .25W
	0686-3325	RESISTOR, Fxd, 3.3K, 5%, .5W
	0683-1015	RESISTOR, Fxd, 100, 5%, .25W
	0683-4715	RESISTOR, Fxd, 470, 5%, .25W

REF. IND.
R14
R16
R18
R24
R27
R30
R32
R33
R34
R37
R39
R40
R41
U1
U4
U5
CR1

DESCRIPTION
ATOR PCA (SERIES 1323) Fxd, 1000pf, Cer. Fxd, .01uf, 100V Fxd, 5uf, -10 + 75% Fxd, 10uf, -10 + 75% Fxd, 22uf, 15 VDC 2N3228 FOR, Friction 6-32, .312 Pan ex, 6-32 er, 6.81V l, 200MA er, 11V akdown, 38.3V , 50MA er, 14.7V er, 6.19V , 2N3053, TO5 , 2N2102, TO5 , 2N3740, TO66 FOR, Friction 6-32, .312 Pan ex, 6-32 , 2N3055, TO3 FOR, Transistor 6-32, .375 Pan ex, 6-32 , 2N3906, PL18 , PNP, SI, TO5 , 2N4888, PL5 , 2N3054, TO66 FOR, Friction 6-32, .312 Pan ex, 6-32 , 2N3904, PL5 Fxd, 147, 1%, .125W Fxd, 2.37K, 1%, .125W Fxd, 2.15K, 1%, .125W Variable, 1K Fxd, 1K, 5%, .25W Fxd, 1.47K, 1%, .125W Fxd, 1K, 5%, .25W  Fxd, 2.4K, 5%, .25W Fxd, 3.3K, 5%, .5W Fxd, 100, 5%, .25W Fxd, 470, 5%, .25W

REF. DES./ INDEX NO.	HP PART NO.	DESCRIPTION
R14, R15	0757-0290	RESISTOR, Fxd, 6.19k, 1%, .125W
R16	0757-0279	RESISTOR, Fxd, 3.16K, 1%, .125W
R18	0686-2025	RESISTOR, Fxd, 2K, 5%, .5W
R24	0683-6815	RESISTOR, Fxd, 680, 5%, .25W
R27	0757-0317	RESISTOR, Fxd, 1.33K, 1%, .125W
R30, R31, R35	0757-0438	RESISTOR, Fxd, 5.11K, 1%, .125W
R32	0757-0198	RESISTOR, Fxd, 100, 1%, .5W
R33	0757-0465	RESISTOR, Fxd, 100K, 1%, .125W
R34, R36	0757-0280	RESISTOR, Fxd, 1K, 1%, .125W
R37, R38	0757-0458	RESISTOR, Fxd, 51.1K, 1%, .125W
R39	0757-0419	RESISTOR, Fxd, 681, 1%, .125W
R40	0757-0441	RESISTOR, Fxd, 8.25K, 1%, .125W
① R41	0757-0440	RESISTOR, Fxd, 7.5K, 1%, .125W
U1-3	1820-0439	IC, Voltage Regulator
U4	1820-0348	IC, Digital, MC844P
U5	1820-0256	IC, Digital, MC858P
① CR18, Q19 and R41 used only on series 1344 or above.		

POWER DISTRIBUTION PCA  
07970-61020 (SERIES 1115, 1120, 1229)

REF. DES./ INDEX NO.	HP PART NO.	DESCRIPTION
C1	07970-61020 0180-2326 2680-0128 2190-0012	POWER DISTRIBUTION PCA (SERIES 1115) CAPACITOR, 1000uf SCREW, 10-32, .25 Pan WASHER, Lock, #10
C2, C3	0180-2327 2680-0128 2190-0012	CAPACITOR, 24000uf SCREW, 10-32, .25 Pan WASHER, Lock, #10
C4, C5	0180-2325 2680-0128 2190-0012	CAPACITOR, 1500uf SCREW, 10-32, .25 Pan WASHER, Lock, #10
C6, C8	0180-0104	CAPACITOR, 200uf
CR1, CR2	1901-0630	DIODE, Rectifier, Silicone
CR3-CR7	1901-0415 0340-0164	DIODE, Power 1N4997 INSULATOR
CR8, CR9	1901-0026	DIODE
F1, F4	2110-0303	FUSE, 2A, 250V
F2, F3	2110-0051	FUSE, 10A
F5	2110-0003 2110-0257 7124-2099	FUSE, 3A FUSE, Clip LABEL
	0360-1613 2680-0099 2740-0003 07970-80110	LUG, Solder #5 SCREW, 10-32, .375 Pan NUT, Lock PCB, Power Supply
R1	0698-3629	RESISTOR, fxd, 270, 5%, 2W
R2, R3	0698-3635	RESISTOR, fxd, 680, 5%, 2W
R4, R5	0764-0043	RESISTOR, fxd, 2.7K, 5%, 2W
R6	0812-0045	RESISTOR, fxd, 0.15, 5%, 3W
R7, R8	0811-1666	RESISTOR, fxd, 1.0, 5%, 2W
*R9	0811-1552	RESISTOR, fxd, 0.56, 5%, 2W
J10	1251-2025 1251-2503 1251-2504 0361-0013 0361-0137	CONNECTOR, PC 2 x 24 156D CONNECTOR, (Female Pins) Contact PC CONNECTOR, (Male Pins) Contact PC RIVET, 123DX, .375 RIVET, 123DX, .188
*R9	SERIES 1120 0811-1665	RESISTOR, fxd, 0.82, 5%, 2W
*R9	SERIES 1229 0811-1552	RESISTOR, fxd, 0.56, 5%, 2W

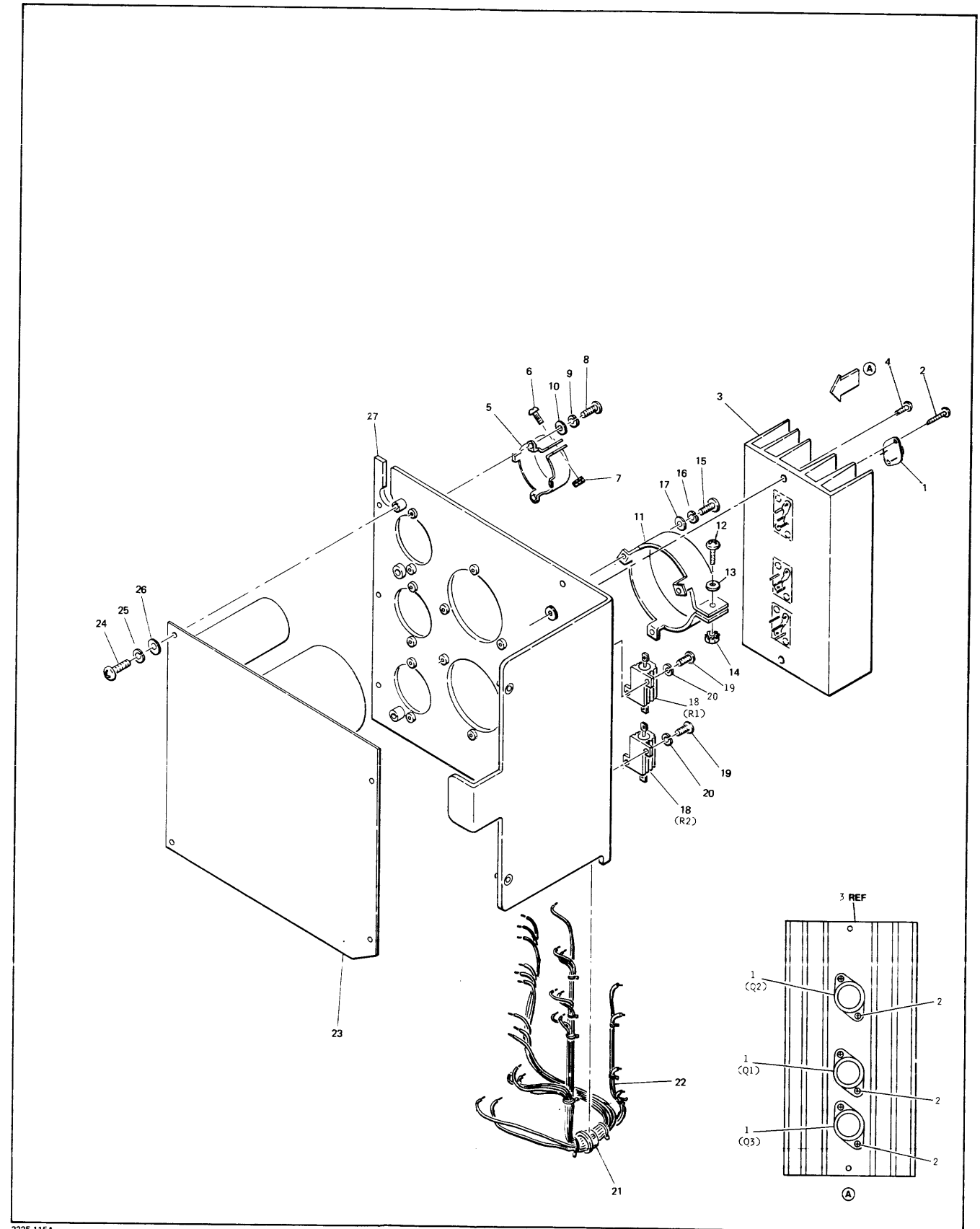
POWER DISTRIBUTION PCA  
07970-61020 (SERIES 1115, 1120, 1229)

DESCRIPTION
ESISTOR, Fxd, 6.19k, 1%, .125W
ESISTOR, Fxd, 3.16K, 1%, .125W
ESISTOR, Fxd, 2K, 5%, .5W
ESISTOR, Fxd, 680,5%, .25W
ESISTOR, Fxd, 1.33K, 1%, .125W
ESISTOR, Fxd, 5.11K, 1%, .125W
ESISTOR, Fxd, 100, 1%, .5W
ESISTOR, Fxd, 100K, 1%, .125W
ESISTOR, Fxd, 1K, 1%, .125W
ESISTOR, Fxd, 51.1K, 1%, .125W
ESISTOR, Fxd, 681, 1%, .125W
ESISTOR, Fxd, 8.25K, 1%, .125W
ESISTOR, Fxd, 7.5K, 1%, .125W
C, Voltage Regulator
C, Digital, MC844P
C, Digital, MC858P
1344 or above.

REF. DES./ INDEX NO.	HP PART NO.	DESCRIPTION
	07970-61020	POWER DISTRIBUTION PCA (SERIES 1115)
C1	0180-2326	CAPACITOR, 1000uf
	2680-0128	SCREW, 10-32, .25 Pan
	2190-0012	WASHER, Lock, #10
C2, C3	0180-2327	CAPACITOR, 24000uf
	2680-0128	SCREW, 10-32, .25 Pan
	2190-0012	WASHER, Lock, #10
C4, C5	0180-2325	CAPACITOR, 1500uf
	2680-0128	SCREW, 10-32, .25 Pan
	2190-0012	WASHER, Lock, #10
C6, C8	0180-0104	CAPACITOR, 200uf
CR1, CR2	1901-0630	DIODE, Rectifier, Silicone
CR3-CR7	1901-0415	DIODE, Power 1N4997
	0340-0164	INSULATOR
CR8, CR9	1901-0026	DIODE
F1, F4	2110-0303	FUSE, 2A, 250V
F2, F3	2110-0051	FUSE, 10A
F5	2110-0003	FUSE, 3A
	2110-0257	FUSE, Clip
	7124-2099	LABEL
	0360-1613	LUG, Solder #5
	2680-0099	SCREW, 10-32, .375 Pan
	2740-0003	NUT, Lock
	07970-80110	PCB, Power Supply
R1	0698-3629	RESISTOR, fxd, 270, 5%, 2W
R2, R3	0698-3635	RESISTOR, fxd, 680, 5%, 2W
R4, R5	0764-0043	RESISTOR, fxd, 2.7K, 5%, 2W
R6	0812-0045	RESISTOR, fxd, 0.15, 5%, 3W
R7, R8	0811-1666	RESISTOR, fxd, 1.0, 5%, 2W
*R9	0811-1552	RESISTOR, fxd, 0.56, 5%, 2W
J10	1251-2025	CONNECTOR, PC 2 x 24 156D
	1251-2503	CONNECTOR, (Female Pins) Contact PC
	1251-2504	CONNECTOR, (Male Pins) Contact PC
	0361-0013	RIVET, 123DX, .375
	0361-0137	RIVET, 123DX, .188
	SERIES 1120	
*R9	0811-1665	RESISTOR, fxd, 0.82, 5%, 2W
	SERIES 1229	
*R9	0811-1552	RESISTOR, fxd, 0.56, 5%, 2W

POWER DISTRIBUTION ASSEMBLY  
07970-61051

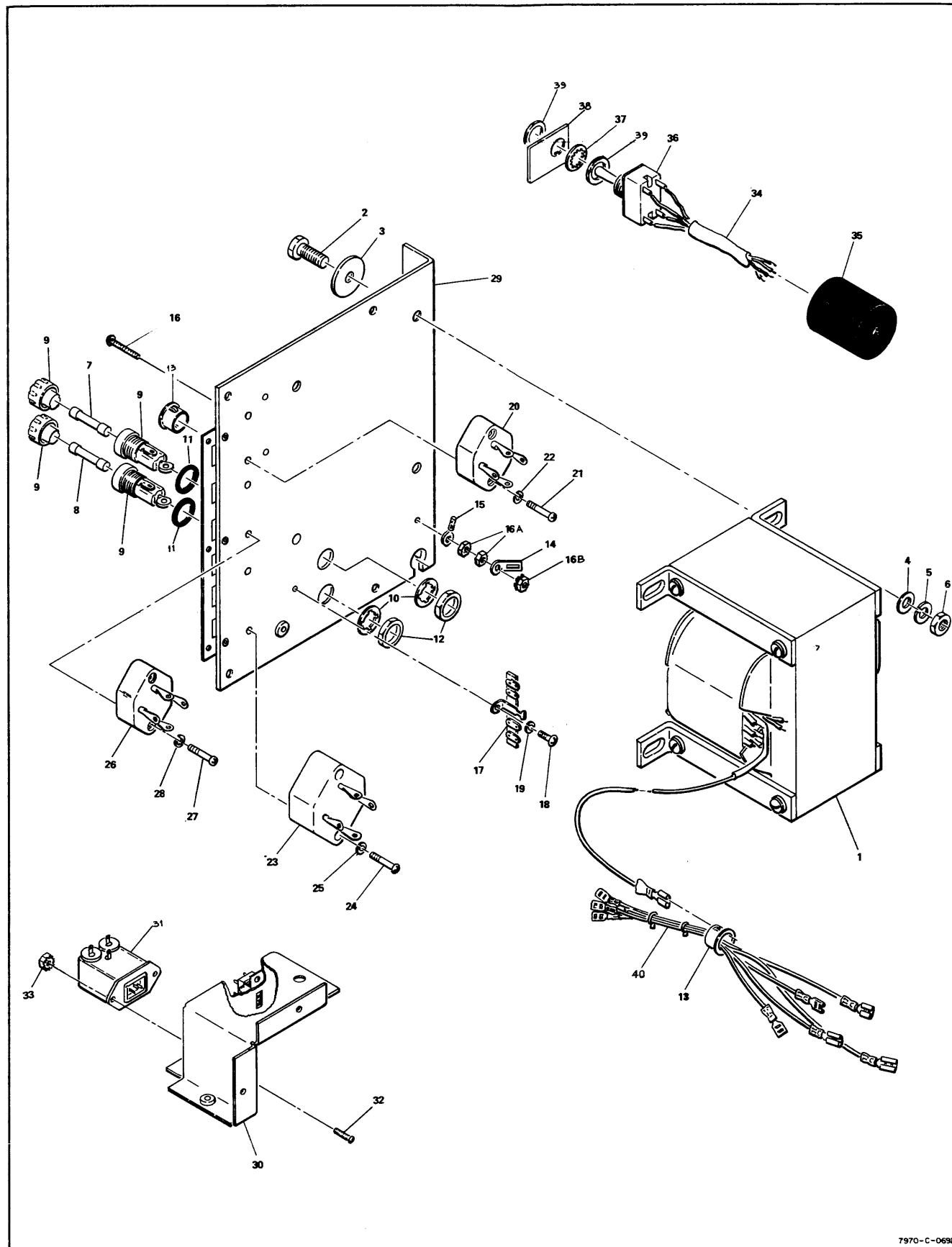
REF. DES./ INDEX NO.	HP PART NO.	DESCRIPTION
	07970-61051	POWER DISTRIBUTION ASSEMBLY
1	1854-0063	TRANSISTOR, 2N3055, T03
2	0624-0062	SCREW, tapping
	1200-0077	INSULATOR, TRANSISTOR, T03
	0340-0177	INSULATOR, BUSHING
3	07970-20400	HEAT DISSIPATOR
4	2200-0143	SCREW, 4-40, .375 pan
5	0160-2149	CLAMP, CAPACITOR
6	2360-0201	SCREW, 6-32, 0.5 in.
7	2420-0001	NUT, hex, 6-32
8	2200-0141	SCREW, 4-40, .312 pan
9	2190-0061	WASHER, lock #4 hel
10	3050-0105	WASHER, #4
11	0180-1970	CLAMP, CAPACITOR
12	2360-0201	SCREW, 6-32, 0.5 in.
13	3050-0066	WASHER, flat, #6, .147D
14	2420-0001	NUT, hex, 6-32
15	2200-0141	SCREW, 4-40, .312 pan
16	2190-0061	WASHER, lock #4 hel
17	3050-0105	WASHER, #4
18	0811-2180	RESISTOR, fxd, 3 ohm, 10%, 25W
19	2200-0143	SCREW, 4-40, .375 pan
20	2190-0061	WASHER, lock, #4, hel
21	0400-0166	BUSHING, Snap, Nylon
22	07970-60651	WIRING HARNESS, (W1)
23	07970-61020	POWER DISTRIBUTION PCA
24	2360-0195	SCREW, 6-32 .312 pan
25	2190-0918	WASHER, lock, #6 hel
26	3050-0066	WASHER, #6, .147 flat
27	07970-00281	CHASSIS, Power Supply



7970 B & Slave "E" Power Supply  
Assemblies A29/30/31

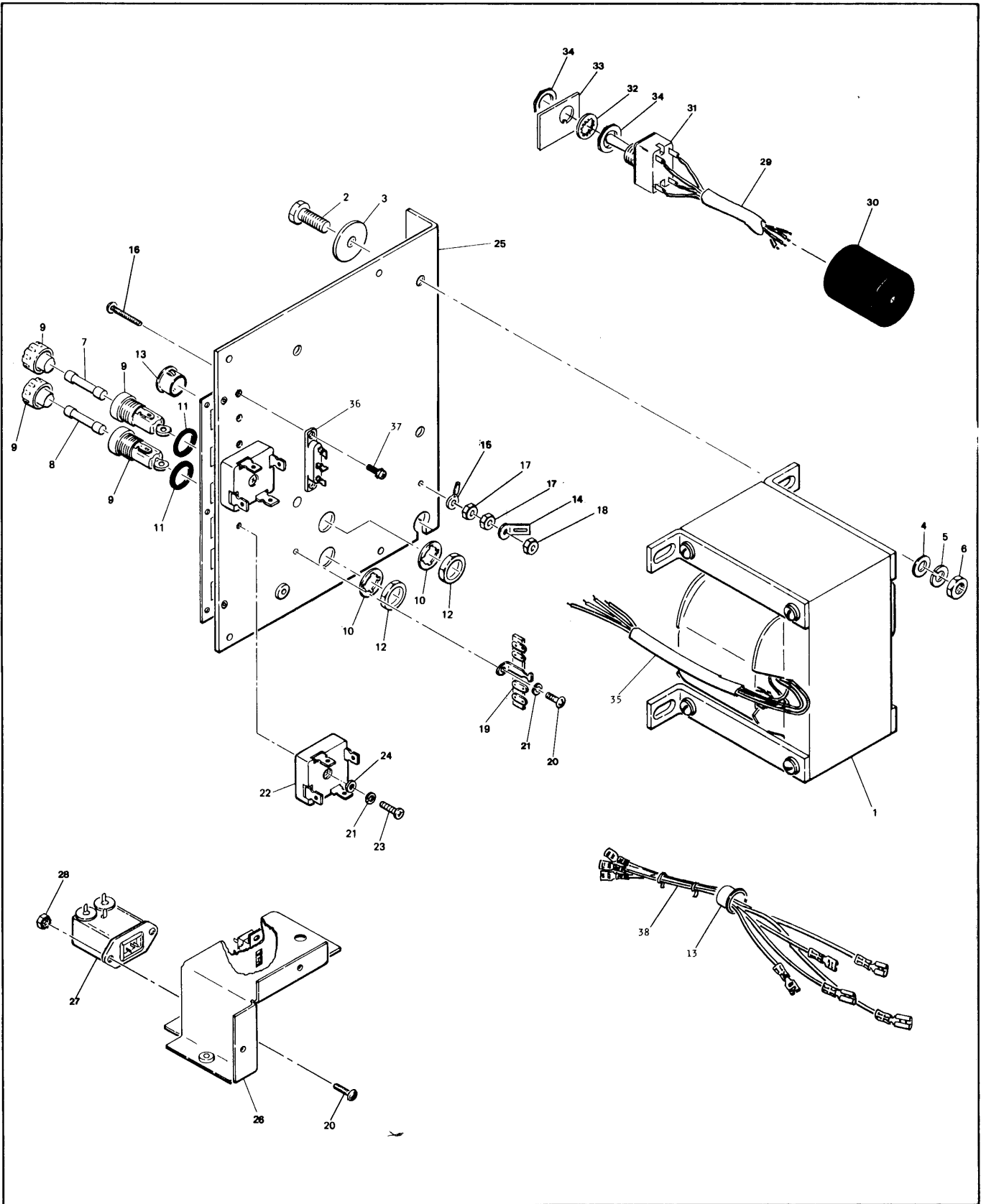


TRANSFORMER ASSEMBLY  
07970-60471 (SERIES 1411)



REF. DES./ INDEX NO.	HP PART NO.	DESCRIPTION
	07970-60471	TRANSFORMER ASSEMBLY (SERIES 1411)
1	9100-3120	TRANSFORMER, POWER (T1)
2	0570-0108	BOLT, hex, 1/4-20, .75 in.
3	3050-0723	WASHER, flat, 3/4 inch OD
4	3050-0225	WASHER, flat, 1/2 inch ID
5	2190-0431	WASHER, lock, 1/2 inch
6	2950-0004	NUT, hex 1/2-20
7	2110-0365	FUSE, 4A, 250V, SLO BLO (F1)
8	2110-0380	FUSE, 2.5A, 250V, SLO BLO (F2)
9	1400-0084	FUSE HOLDER, POST TYPE (XF1, XF2)
10	2190-0037	WASHER, lock, .5 in.
11	0900-0016	O-RING, .5 in.
12	2950-0038	NUT, 1/2-24
13	0400-0166	BUSHING, SNAP, NYLON
14	0360-0043	TERM, SOLDER LUG, #5
15	0362-0321	LUG, CRIMP NO. 6
16	2360-0203	SCREW, 6-32, .625 pan
16A	2420-0002	NUT, hex, 6-32
16B	2420-0001	NUT, hex, 6-32
17	0360-1590	TERMINAL STRIP, LUG TYPE
18	2200-0141	SCREW, 4-40, .312 pan
19	2190-0003	WASHER, lock, #4
20	1906-0008	DIODE ASSEMBLY (CR3)
21	2200-0149	SCREW, 4-40, .625 in.
22	2190-0003	WASHER, lock #4
23	1901-0161	DIODE ASSEMBLY (CR2)
24	2200-0153	SCREW, 4-40, .875 in.
25	2190-0003	WASHER, lock, #4
26	1906-0007	DIODE ASSEMBLY (CR1)
27	2200-0149	SCREW, 4-40, .625 in.
28	2190-0003	WASHER, lock, #4
29	07970-00211	PANEL, POWER TRANSFORMER
30	07970-60461	BRACKET CONNECTOR (INCLUDES S2)
31	9100-0531	FILTER, (FL1) AND (J1)
32	2200-0141	SCREW, 4-40, .312 pan
33	2260-0009	NUT, lock, 4-40
34	8120-1624	CABLE, POWER
35	1401-0083	CAP, protective
36	3101-0646	SWITCH, Power (dpst)
37	2190-0102	WASHER, Lock, 7-16
38	7120-4575	PLATE, Indicator
39	2950-0035	NUT, 15/32-32
40		WIRING HARNESS, POWER TRANSFORMER

7970 B & Slave "E" Power Supply  
Assemblies A29/30/31



2225-116A

7970 B & Slave "E" Power Supply Assemblies A29/30/31

TRANSFORMER ASSEMBLY  
07970-62351 (SERIES 1648)

REF. DES./ INDEX NO.	HP PART NO.	DESCRIPTION
	07970-62351	TRANSFORMER ASSEMBLY (SERIES 1648)
1	9100-3921	TRANSFORMER, POWER (T1)
2	0570-0108	BOLT, hex, 1/4-20, .75 in.
3	3050-0723	WASHER, flat, .26 in. ID
4	3050-0225	WASHER, flat, .25 in. ID
5	2190-0431	WASHER, lock, .25 in.
6	2950-0004	NUT, hex, 1/4-20
7	2110-0365	FUSE, 4A, 250V, SLO-BLO (F1)
8	2110-0380	FUSE, 2.5A, 250V, SLO-BLO (F2)
9	1400-0084	FUSE HOLDER, Post Type (XF1, XF2)
10	2190-0037	WASHER, lock, .5 Int.
11	0900-0016	O-RING, 15 in. ID
12	2950-0038	NUT, fuse holder, 1/2-24
13	0400-0056	BUSHING, SNAP, NYLON, .375 ID
14	0360-0043	TERMINAL, SOLDER LUG, #5
15	0362-0452	LUG, CRIMP, #6
16	2360-0203	SCREW, 6-32, .625 PAN
17	2420-0002	NUT, HEX, 6-32
18	2420-0001	NUT, HEX, 6-32
19	0360-1590	TERMINAL STRIP, LUG TYPE
20	2200-0141	SCREW, 4-40, .312 PAN
21	2190-0003	WASHER, lock, #4
22	1906-0017	DIODE BRIDGE, RECTIFIER (CR1, CR2)
23	2200-0091	SCREW, 4-40, .562 in.
24	2190-0416	WASHER, #4
25	07970-01171	PANEL, POWER TRANSFORMER
26	07970-60461	BRACKET, ASSEMBLY (INCLUDES S2)
27	9100-0531	FILTER (FL1) AND J1
28	2260-0009	NUT, LOCK, 4-40
29	8120-1624	CABLE, POWER
30	1401-0083	CAP, Protective
31	3101-0646	SWITCH, Toggle, dpst
32	2190-0102	WASHER, Lock
33	7120-4575	PLATE, Indicator
34	2950-0035	NUT, 15/32 - 32
35	0890-0291	SLEEVING, 3/8 in.
36	1906-0039	DIODE BRIDGE, RECTIFIER (CR3)
37	2360-0119	SCREW, 6-32, .438 in.
38	07970-60920	CABLE, TRANSFORMER

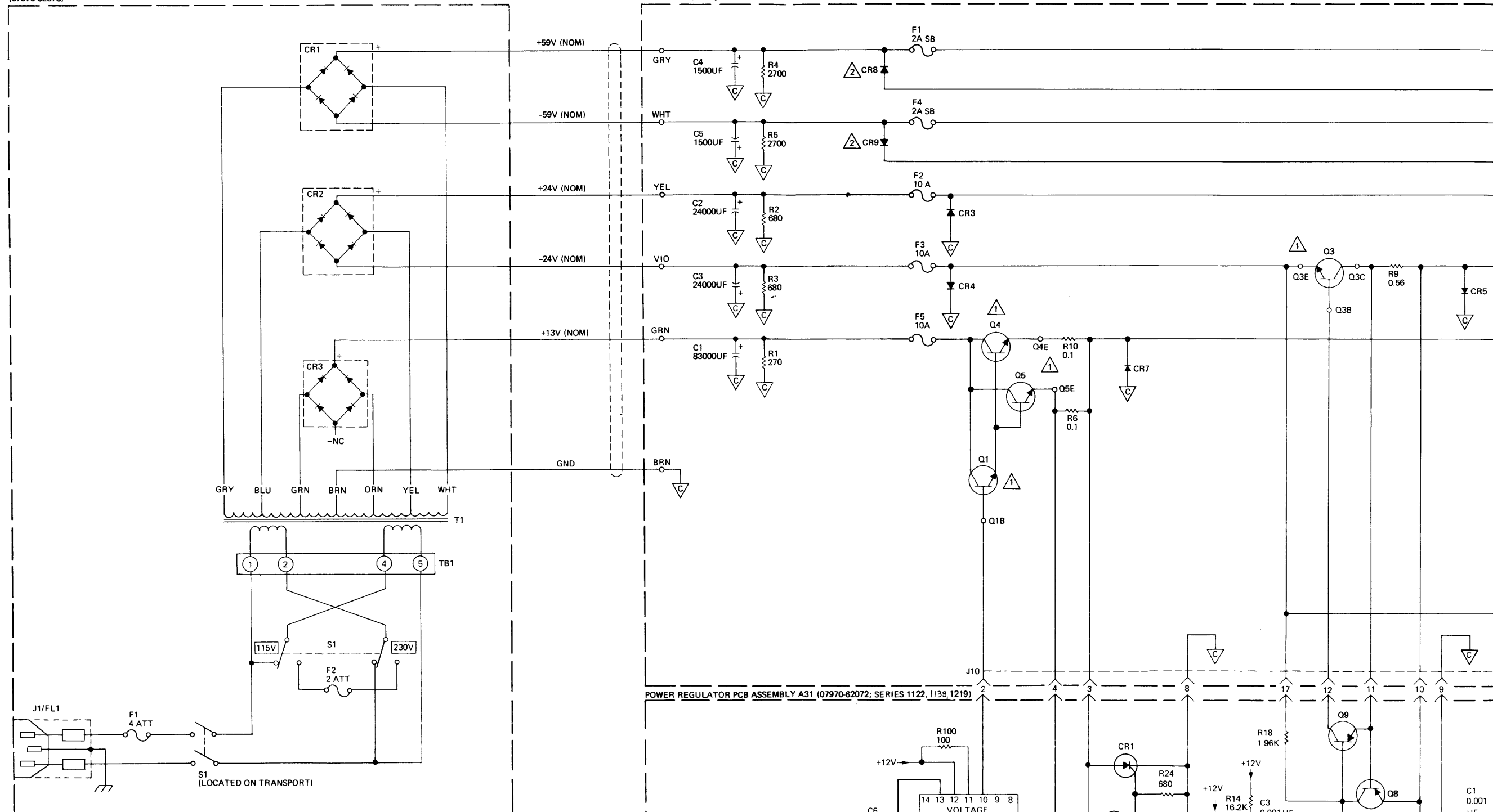
7970 B & Slave "E" Power Supply  
Assemblies A29/30/31

2-20B

Added 12 November 1976

MASTER UNIT TRANSFORMER ASSEMBLY A29  
(07970-62073)

POWER DISTRIBUTION PCB ASSEMBLY A30A1  
(07970-62071;  
SERIES 1115, 1229)

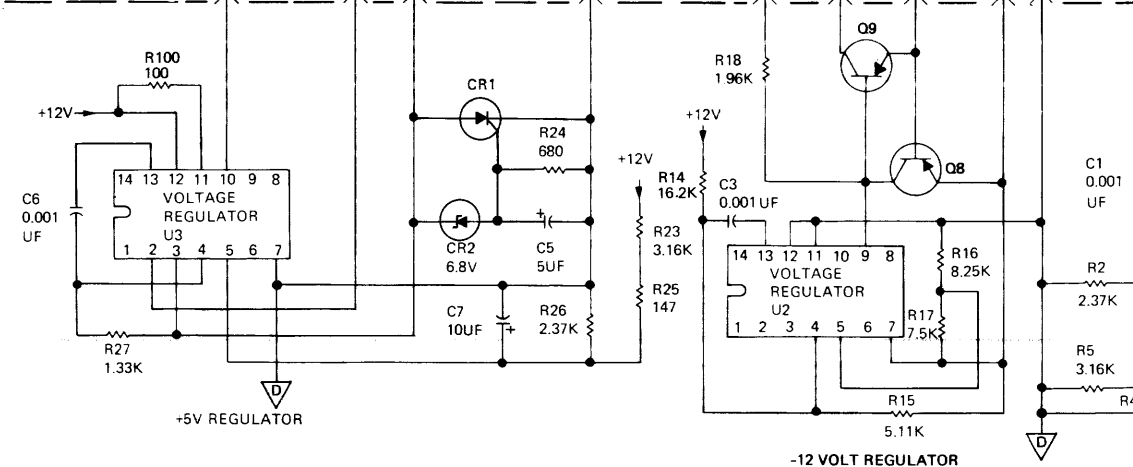


NOTES:

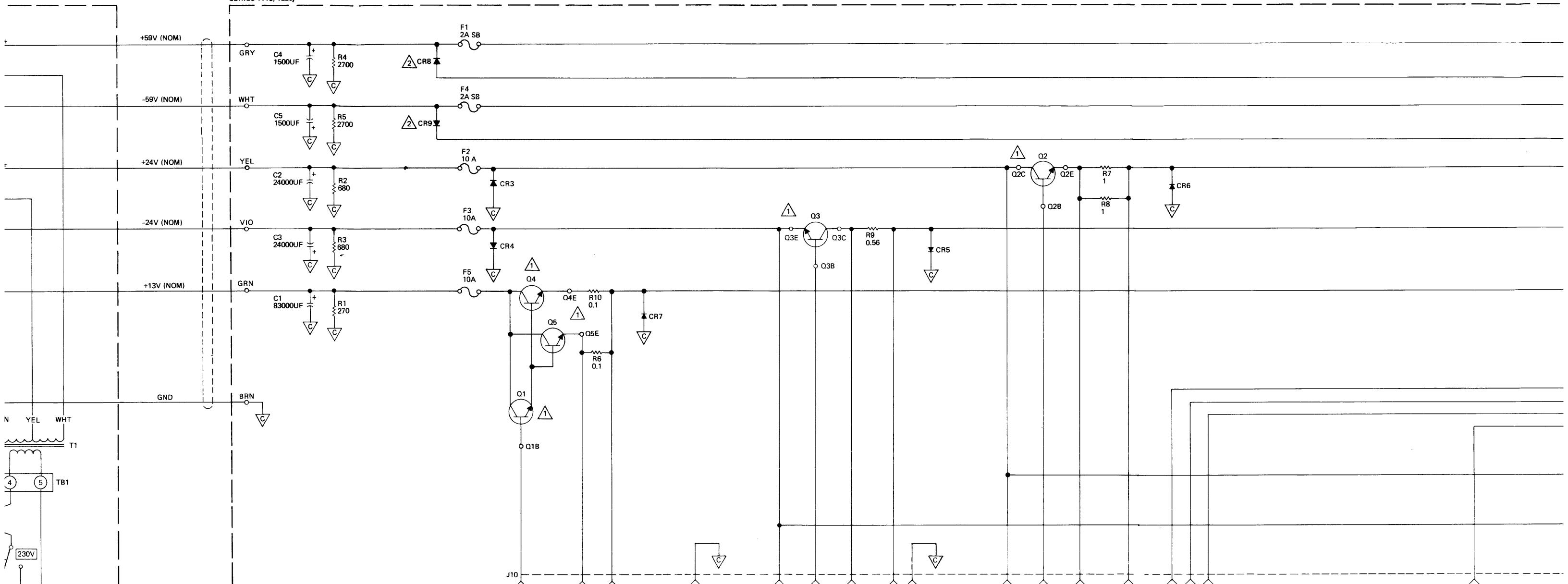
- ① THESE COMPONENTS ARE EXTERNALLY MOUNTED ON HEAT SINKS OR CHASSIS.
- ② DIODES CR8 AND CR9 FIRST USED ON SERIES 1229.
- ③ RESISTOR A31R37 IS 21.5K AND A31R38 IS 19.6K ON SERIES 1122 AND 1138 ASSEMBLIES.
- ⏏ THESE POINTS ARE COMMON (GROUND)
- ⏏ THESE POINTS ARE COMMON (SIGNAL RETURN).

07970-90834 DWG. REV. A

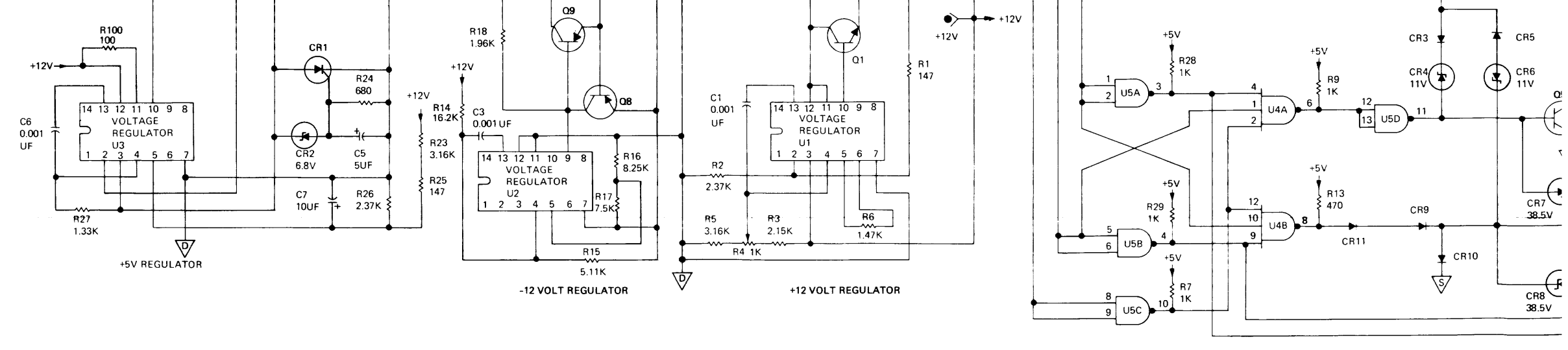
POWER REGULATOR PCB ASSEMBLY A31 (07970-62072; SERIES 1122, 1138, 1219)

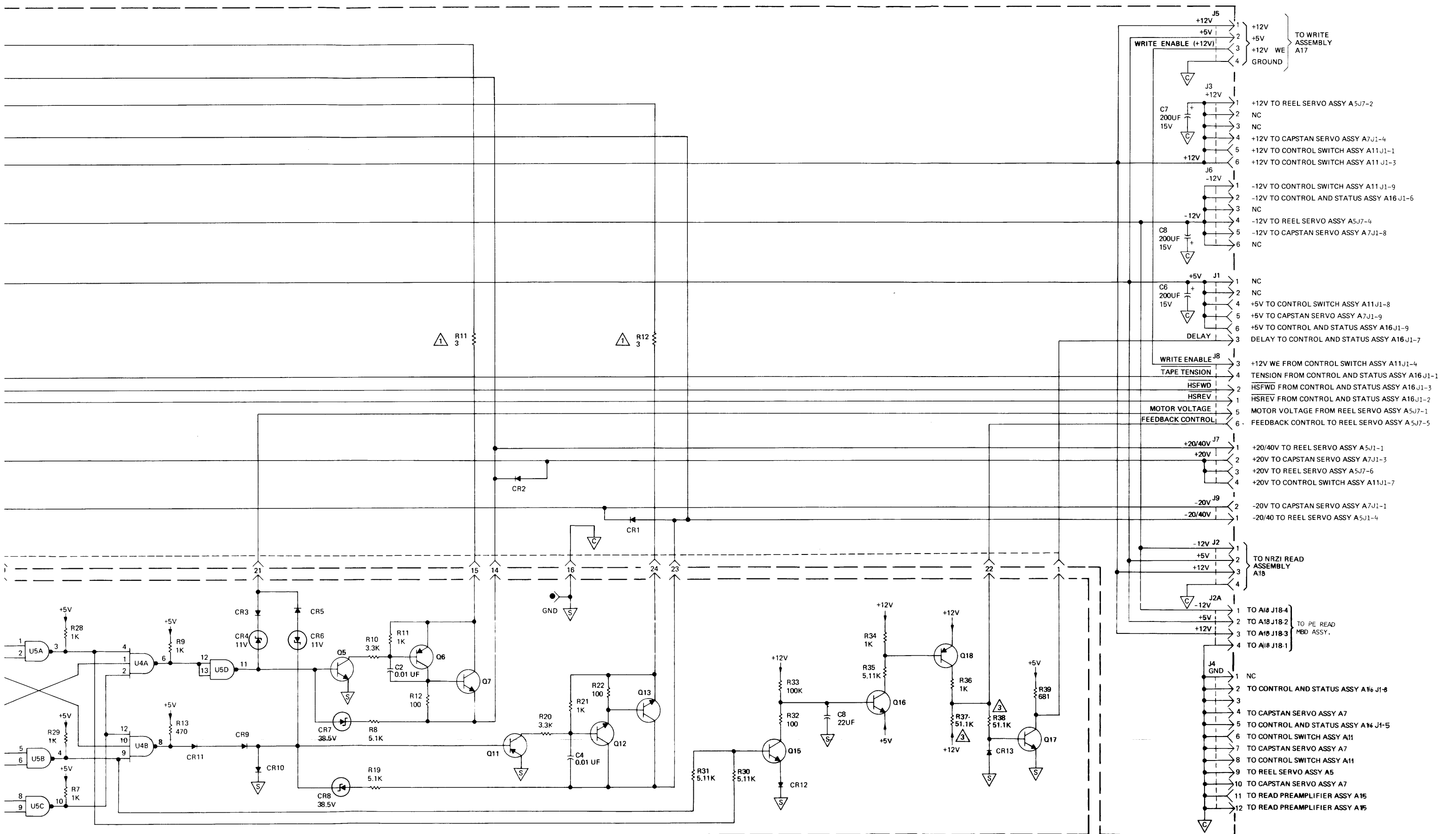


POWER DISTRIBUTION PCB ASSEMBLY A30A1  
(07970-62071, SERIES 1115, 1229)

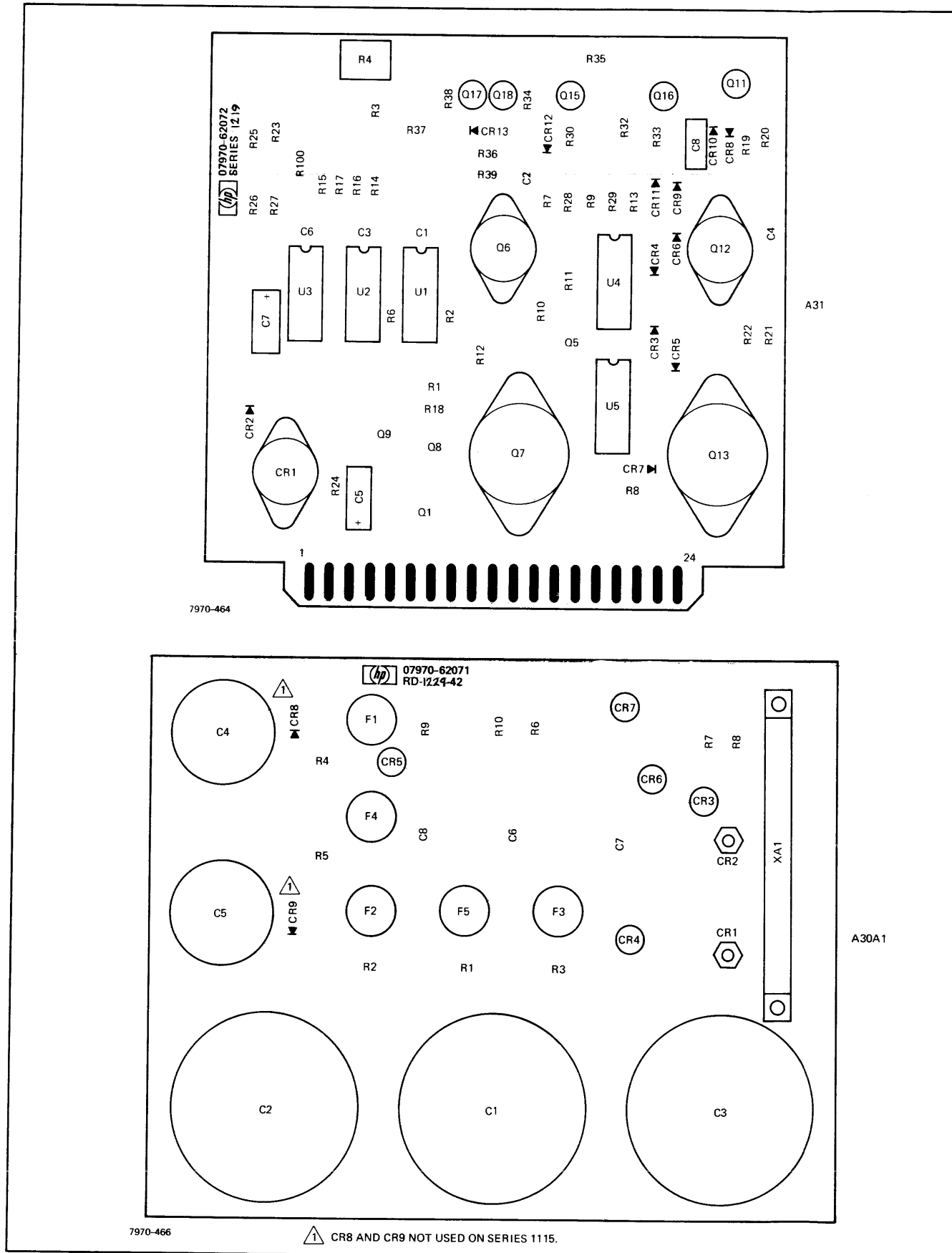


POWER REGULATOR PCB ASSEMBLY A31 (07970-62072; SERIES 1122, 1138, 1219)





7970E Master Power Supply Assemblies A29/30/31



PE POWER REGULATOR PCA (SERIES 1122,1138,1219)  
07970-62072

REF. DES./ INDEX NO.	HP PART NO.	DESCRIPTION
C1, C3, C6	0160-3456	PE POWER REGULATOR PCA (SERIES 1122)
C2, C4	0160-2055	CAPACITOR, fxd, 1000pf, Ceramic
C5	0180-0172	CAPACITOR, fxd, .01uf, 100V
C7	0180-0059	CAPACITOR, fxd, 5uf, -10 + 75%
C8	0180-0228	CAPACITOR, fxd, 10uf, -10 + 75%
CR1	1884-0088	CAPACITOR, fxd, 22uf, 15VDC
	2200-0141	THYRISTOR, 2N3228
	2260-0009	SCREW, 4-40, .312 Pan
	1902-0048	NUT, Lock, 4-40
CR2	1902-0048	DIODE, Zener, 6.81V
CR3, CR5	1901-0025	DIODE, 100V
CR4, CR6	1902-3171	DIODE, Zener, 11V
CR7, CR8	1902-3311	DIODE, Breakdown, 38.3V
CR9-CR13	1901-0040	DIODE, 30V, 50MA
Q1	1854-0039	TRANSISTOR, 2N3053, TO5
Q5	1854-0022	TRANSISTOR, 2N2102, TO5
Q6	1853-0052	TRANSISTOR, 2N3740, TO66
	2200-0141	SCREW, 4-40, .312 Pan
	2260-0009	NUT, Lock, 4-40
Q7, Q13	1854-0063	TRANSISTOR, 2N3055, TO3
	2200-0141	SCREW, 4-40, .312 Pan
	2260-0009	NUT, Lock, 4-40
Q8, Q18	1853-0036	TRANSISTOR, 2N3906, PL18
Q9	1853-0027	TRANSISTOR, PNP, SI, TO5
Q11	1853-0080	TRANSISTOR, 2N4888, PL5
Q12	1854-0072	TRANSISTOR, 2N3054, TO66
	2200-0141	SCREW, 4-40, .312 Pan
	2260-0009	NUT, Lock, 4-40
Q15, Q16, Q17	1854-0215	TRANSISTOR, 2N3904, PL5
R1, 25	0698-3438	RESISTOR, fxd, 147, 1%, .125W
R2, 26	0698-3150	RESISTOR, fxd, 2.37K, 1%, .125W
R3	0698-0084	RESISTOR, fxd, 2.15K, 1%, .125W
R4	2100-1758	RESISTOR, Variable, 1K, 5%
R5, 23	0757-0279	RESISTOR, fxd, 3.16K, 1%, .125W
R6	0757-1094	RESISTOR, fxd, 1.47K, 1%, .125W
R7, 9, 11, 21 28, 29	0683-1025	RESISTOR, fxd, 1K, 5%, .25W
R8, R19	0683-5125	RESISTOR, fxd, 5.1K, 5%, .25W
R10, R20	0686-3325	RESISTOR, fxd, 3.3K, 5%, .5W
R12, R22	0683-1015	RESISTOR, fxd, 100, 5%, .25W
R13	0683-4715	RESISTOR, fxd, 470, 5%, .25W
R14	0757-0447	RESISTOR, fxd, 16.2K, 1%, .125W
R15, 30, 31, 35	0757-0438	RESISTOR, fxd, 5.11K, 1%, .125W
R16	0757-0441	RESISTOR, fxd, 8.25K, 1%, .125W
R17	0757-0440	RESISTOR, fxd, 7.5K, 1%, .125W
R18	0698-0083	RESISTOR, fxd, 1.96K, 1%, .125W

REF. INDI
R24
R27
R32
R33
R34
*R37
*R38
R39
U1
U4
U5
*R37

POWER DISTRIBUTION PCA PARTS LIST  
07970-62071 (SERIES 1115, 1229)

DESCRIPTION
ULATOR PCA (SERIES 1122)
xd, 1000pf, Ceramic
xd, .01uf, 100V
xd, 5uf, -10 + 75%
xd, 10uf, -10 + 75%
xd, 22uf, 15VDC
N3228
-40, .312 Pan
k, 4-40
, 6.81V
, 11V
down, 38.3V
50MA
2N3053, TO5
2N2102, TO5
2N3740, TO66
-40, .312 Pan
k, 4-40
2N3055, TO3
-40, .312 Pan
k, 4-40
2N3906, PL18
PNP, SI, TO5
2N4888, PL5
2N3054, TO66
-40, .312 Pan
k, 4-40
2N3904, PL5
rd, 147, 1%, .125W
rd, 2.37K, 1%, .125W
rd, 2.15K, 1%, .125W
riable, 1K, 5%
rd, 3.16K, 1%, .125W
rd, 1.47K, 1%, .125W
rd, 1K, 5%, .25W
rd, 5.1K, 5%, .25W
rd, 3.3K, 5%, .5W
rd, 100, 5%, .25W
rd, 470, 5%, .25W
rd, 16.2K, 1%, .125W
rd, 5.11K, 1%, .125W
rd, 8.25K, 1%, .125W
rd, 7.5K, 1%, .125W
rd, 1.96K, 1%, .125W

REF. DES./ INDEX NO.	HP PART NO.	DESCRIPTION
R24	0683-6815	RESISTOR, fxd, 680, 5%, .25W
R27	0757-0317	RESISTOR, fxd, 1.33K, 1%, .125W
R32,100	0757-0198	RESISTOR, fxd, 100, 1%, .5W
R33	0757-0465	RESISTOR, fxd, 100K, 1%, .125W
R34, R36	0757-0280	RESISTOR, fxd, 1K, 1%, .125W
*R37	0757-0199	RESISTOR, fxd, 21.5K, 1%, .125W
*R38	0698-3157	RESISTOR, fxd, 19.6K, 1%, .125W
R39	0757-0419	RESISTOR, fxd, 681, 1%, .125W
U1, U2, U3	1820-0439	IC, Voltage Regulator
U4	1820-0348	IC, MC844P
U5	1820-0256	IC, MC858P
*R37, R38	SERIES 1219 0757-0458	RESISTOR, fxd, 51.1K, 1%, .125W

REF. DES./ INDEX NO.	HP PART NO.	DESCRIPTION
	07970-62071	POWER DISTRIBUTION PCA (SERIES 1115, 1229)
C1	0180-2426 2680-0099 2190-0012	CAPACITOR, Fxd 83000uf SCREW 10-32, .375 Pan WASHER, Lock, #10
C2, C3	0180-2327 2680-0099 2190-0012	CAPACITOR, Fxd, 24000uf SCREW, 10-32, .375 Pan WASHER, Lock, #10
C4, C5	0180-2325 2680-0099 2190-0012	CAPACITOR, Fxd, 1500uf SCREW, 10-32, .375 Pan WASHER, Lock, #10
C6, C7, C8	0180-0104	CAPACITOR, Fxd, 200uf
CR1, CR2	1901-0630 2740-0003	DIODE, RECTIFIER, SILICONE. NUT, Lock, 10-32
CR3-CR7	1901-0415 0340-0164	DIODE, POWER INSULATOR, Transistor
*CR8, CR9	1901-0026	DIODE (ADDED ON SERIES 1229)
F1, F4	2110-0303	FUSE, 2A, 250V SLO BLO
F2, F3, F5	2110-0051	FUSE, 10A, MB
XF1-5	1400-0084 2190-0068 2950-0038	FUSE HOLDER, POST TYPE WASHER, Lock NUT, Fuse Holder
R1	0698-3629	RESISTOR, Fxd, 270, 5%, 2W
R2, R3	0698-3635	RESISTOR, Fxd, 680, 5%, 2W
R4, R5	0764-0043	RESISTOR, Fxd, 2.7K, 5%, 2W
R6, R10	0811-2490	RESISTOR, Fxd, 0.1, 3%, 5W
R7, R8	0811-1666	RESISTOR, Fxd, 1, 5%, 2W
R9	0811-1552	RESISTOR, Fxd, .56, 5%, 2W
J5	1251-2025	CONNECTOR, PC 2 x 24 .1560
J1-4, 6-9	1251-2503	CONTACT PC FEMALE PINS
J1-4, 6-9	1251-2504	CONTACT PC MALE PINS
	0360-1613	LUG, Solder #5
	2190-0008	WASHER, Lock #6
	SERIES 1229	
*CR8, CR9	1901-0026	DIODE (ADDED ON SERIES 1229)



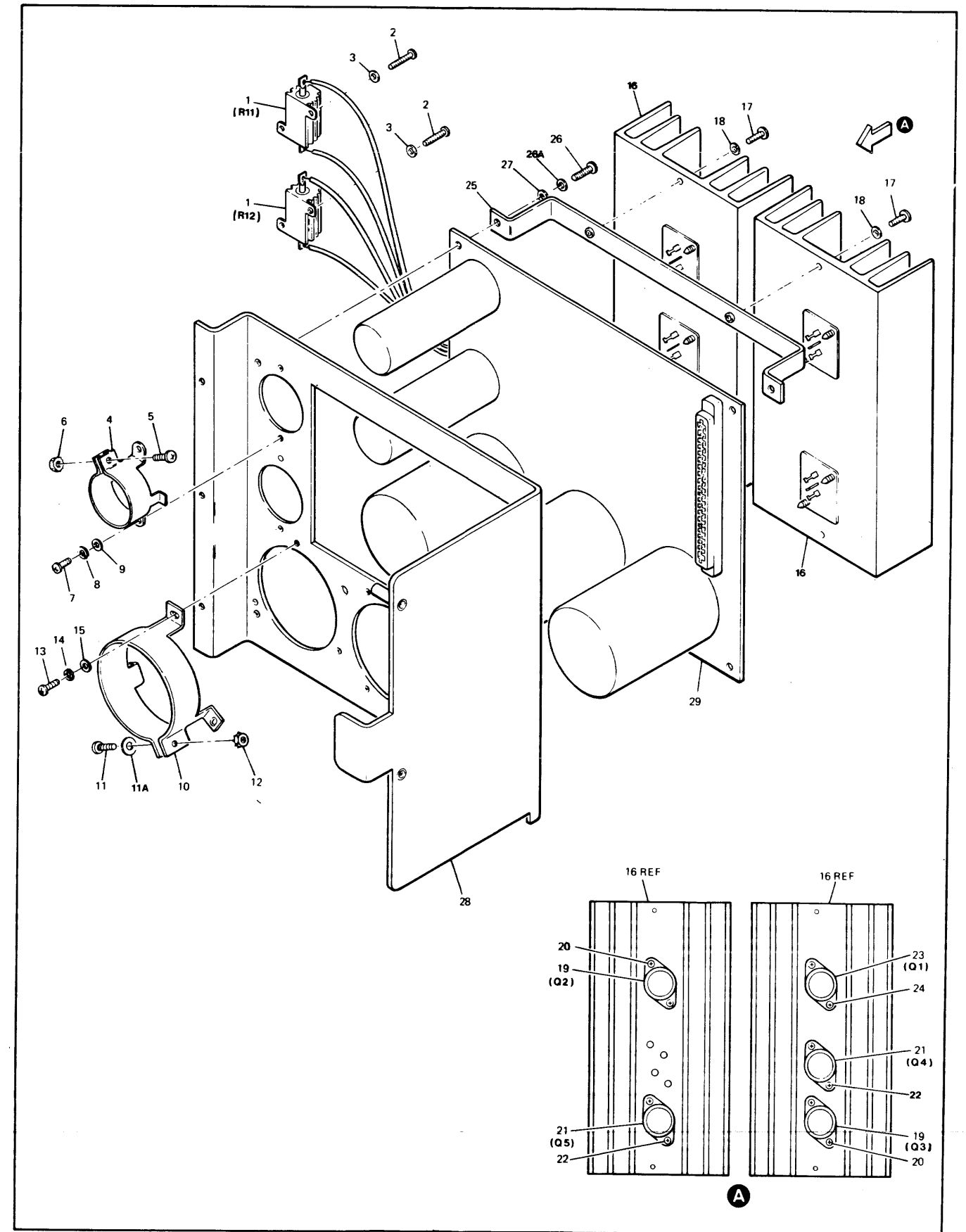
POWER DISTRIBUTION PCA PARTS LIST  
07970-62071 (SERIES 1115, 1229)

DESCRIPTION
ESISTOR, fxd, 680, 5%, .25W
ESISTOR, fxd, 1.33K, 1%, .125W
ESISTOR, fxd, 100, 1%, .5W
ESISTOR, fxd, 100K, 1%, .125W
ESISTOR, fxd, 1K, 1%, .125W
ESISTOR, fxd, 21.5K, 1%, .125W
ESISTOR, fxd, 19.6K, 1%, .125W
ESISTOR, fxd, 681, 1%, .125W
C, Voltage Regulator
C, MC844P
C, MC858P
ESISTOR, fxd, 51.1K, 1%, .125W

REF. DES./ INDEX NO.	HP PART NO.	DESCRIPTION
	07970-62071	POWER DISTRIBUTION PCA (SERIES 1115)
C1	0180-2426	CAPACITOR, Fxd 83000uf
	2680-0099	SCREW 10-32, .375 Pan
	2190-0012	WASHER, Lock, #10
C2, C3	0180-2327	CAPACITOR, Fxd, 24000uf
	2680-0099	SCREW, 10-32, .375 Pan
	2190-0012	WASHER, Lock, #10
C4, C5	0180-2325	CAPACITOR, Fxd, 1500uf
	2680-0099	SCREW, 10-32, .375 Pan
	2190-0012	WASHER, Lock, #10
C6, C7, C8	0180-0104	CAPACITOR, Fxd, 200uf
CR1, CR2	1901-0630	DIODE, RECTIFIER, SILICONE.
	2740-0003	NUT, Lock, 10-32
CR3-CR7	1901-0415	DIODE, POWER
	0340-0164	INSULATOR, Transistor
*CR8, CR9	1901-0026	DIODE
F1, F4	2110-0303	FUSE, 2A, 250V SLO BLO
F2, F3, F5	2110-0051	FUSE, 10A, MB
XF1-5	1400-0084	FUSE HOLDER, POST TYPE
	2190-0068	WASHER, Lock
	2950-0038	NUT, Fuse Holder
R1	0698-3629	RESISTOR, Fxd, 270, 5%, 2W
R2, R3	0698-3635	RESISTOR, Fxd, 680, 5%, 2W
R4, R5	0764-0043	RESISTOR, Fxd, 2.7K, 5%, 2W
R6, R10	0811-2490	RESISTOR, Fxd, 0.1, 3%, 5W
R7, R8	0811-1666	RESISTOR, Fxd, 1, 5%, 2W
R9	0811-1552	RESISTOR, Fxd, .56, 5%, 2W
J5	1251-2025	CONNECTOR, PC 2 x 24 .1560
J1-4, 6-9	1251-2503	CONTACT PC FEMALE PINS
J1-4, 6-9	1251-2504	CONTACT PC MALE PINS
	0360-1613	LUG, Solder #5
	2190-0008	WASHER, Lock #6
	SERIES 1229	
*CR8, CR9	1901-0026	DIODE (ADDED ON SERIES 1229)

MASTER PE POWER DISTRIBUTION ASSEMBLY  
07970-62113

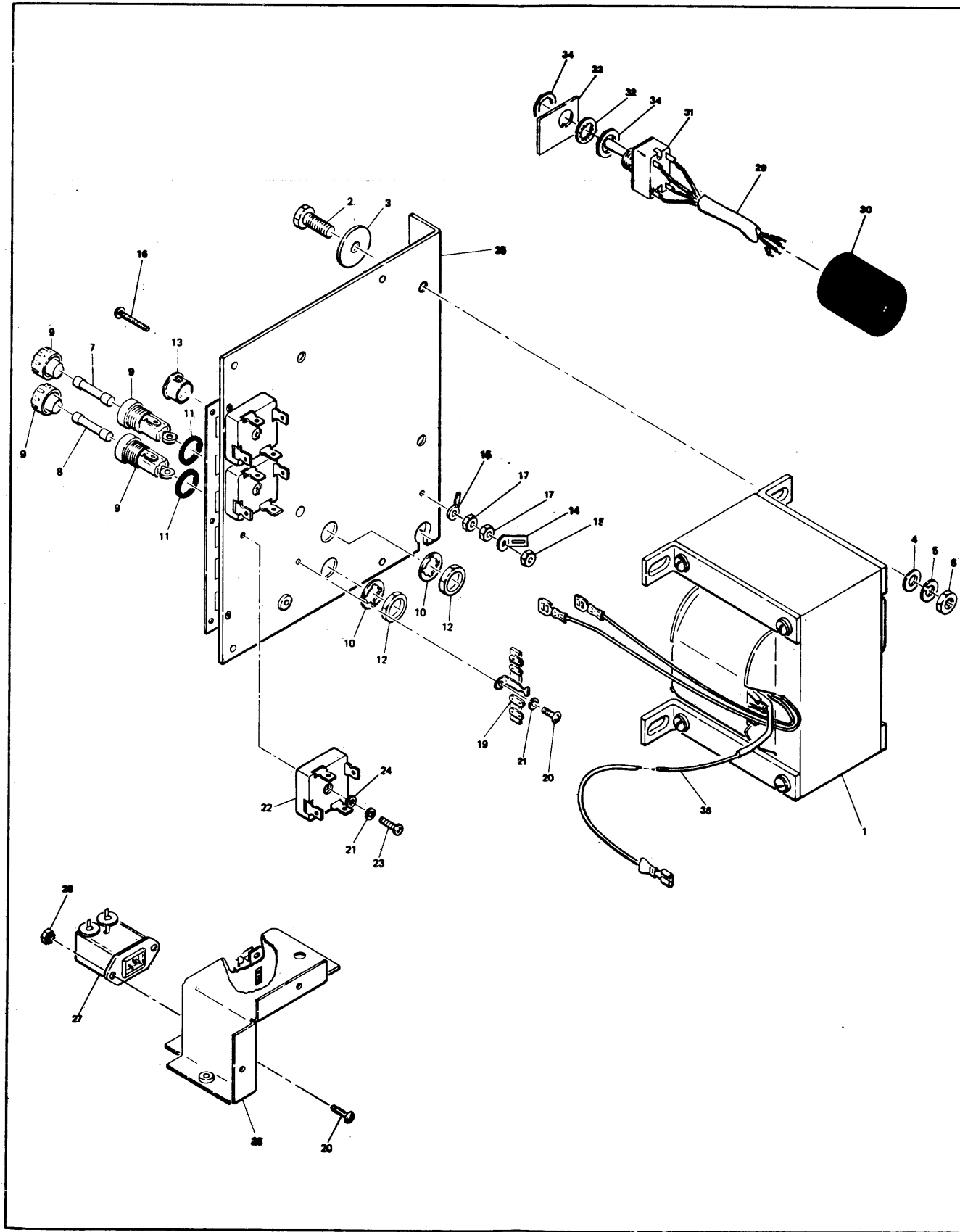
REF. DES./ INDEX NO.	HP PART NO.	DESCRIPTION
	07970-62113	MASTER PE POWER DISTRIBUTION ASSEMBLY
1	0811-2180	RESISTOR, fxd, 3, 10%, 25W
2	2200-0141	SCREW, 4-40, .312 Pan
3	2190-0003	WASHER, Lock, #4, hel
4	0160-2149	CLAMP, CAPACITOR
5	2360-0201	SCREW, 6-32, .5 in.
6	2420-0001	NUT, 6-32, hex
7	2200-0141	SCREW, 4-40, .312 Pan
8	2190-0061	WASHER, Lock, #4, hel
9	3050-0105	WASHER, #4, Flat
10	0180-1970	CLAMP, CAPACITOR
11	2360-0201	SCREW, 6-32, .5 in.
11A	3050-0066	WASHER, #6, .147D, Flat
12	2420-0001	NUT, 6-32, hex
13	2200-0141	SCREW, 4-40, .312 Pan
14	2190-0061	WASHER, Lock, #4, hel
15	3050-0105	WASHER, #4, Flat
16	07970-20400	HEAT DISSIPATOR
17	2200-0143	SCREW, 4-40, .375 Pan
18	2190-0061	WASHER, Lock, #4, hel
19	1854-0063	TRANSISTOR, 2N3055, T03
20	0624-0062	SCREW, 6-20, Tap
21	1854-0264	TRANSISTOR, 2N3715, T03
22	0624-0062	SCREW, 6-20, Tap
23	1854-0518	TRANSISTOR, 2N5877, T03
24	0624-0062	SCREW, 6-20, Tap
25	07970-01179	BRACKET, POWER SUPPLY
26	2360-0195	SCREW, 6-32, .312 Pan
26A	2190-0918	WASHER, Lock, #6, hel
27	3050-0066	WASHER, #6, .147D, Flat
28	07970-01170	CHASSIS, POWER SUPPLY
29	07970-62071	PCA, PE POWER DISTRIBUTION
	07970-62112	HARNES, POWER SUPPLY (NOT SHOWN)



2225-114A

7970E Master Power Supply  
Assemblies A29/30/31

PE TRANSFORMER ASSEMBLY  
07970-62073

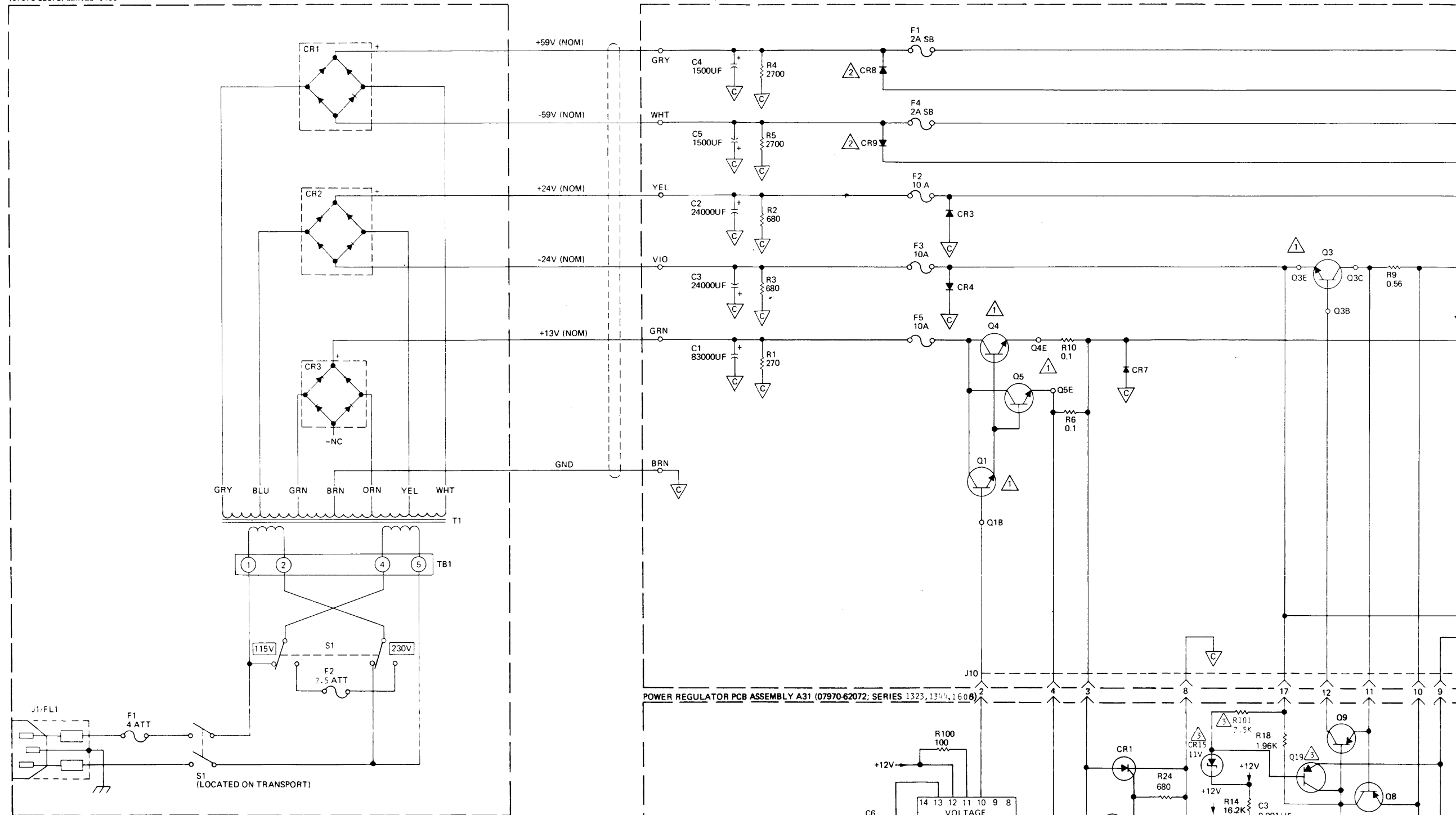


REF. DES./ INDEX NO.	HP PART NO.	DESCRIPTION
	07970-62073	PE TRANSFORMER ASSEMBLY
1	9100-3330	TRANSFORMER, POWER (T1)
2	0570-0108	BOLT, hex, 1/2 in.
3	3050-0723	WASHER, Flat, .261D
4	3050-0225	WASHER, Flat 1/4 in.
5	2190-0431	WASHER, Lock, hel, 1/4 in.
6	2950-0004	NUT, 1/2-20
7	2110-0365	FUSE, 4A, 250V, SLO BLO, (F1)
*8	2110-0303	FUSE, 2A, 250V, SLO BLO, (F2)
9	1400-0084	FUSE HOLDER, POST TYPE, (XF1, XF2)
10	2190-0037	WASHER, Lock, .5 INT
11	0900-0016	O-RING, .5 in. ID
12	2950-0038	NUT, 1/2-24
13	0400-0056	BUSHING, SNAP, NYLON
14	0360-0043	TERM, SOLDER LUG #5
15	0362-0321	LUG, CRIMP, #6
16	2360-0203	SCREW, 6-32, .625 Pan
17	2420-0002	NUT, hex, 6-32
18	2420-0001	NUT, hex, 6-32
19	0360-1590	TERMINAL STRIP, LUG TYPE
20	2200-0141	SCREW, 4-40, .312 Pan
21	2190-0003	WASHER, Lock, #4
22	1906-0017	DIODE BRIDGE, RECTIFIER
23	2200-0091	SCREW, 4-40, .562 in.
24	2190-0416	WASHER, #4
25	07970-01171	PANEL, POWER TRANSFORMER
26	07970-60461	BRACKET, ASSEMBLY (INCLUDES S2)
27	9100-0531	FILTER, (FL1) AND J1
28	2260-0009	NUT, Lock, 4-40
29	8120-1624	CABLE, POWER
30	1401-0083	CAP, Protective
31	3101-0646	SWITCH, Toggle dpst
32	2190-0102	WASHER, Lock, 7/16
33	7120-4575	PLATE, Indicator
34	2950-0035	NUT, 15/32-32
35	8500-0059	WIRING HARNESS, POWER TRANSFORMER COMPOUND, THERMAL
	SERIES 1411	
*8	2110-0380	FUSE, 2.5A, 250V, SLO BLO, (F2)

7970E Master Power Supply  
Assemblies A29/30/31

MASTER UNIT TRANSFORMER ASSEMBLY A29  
(07970-62073) SERIES 1411

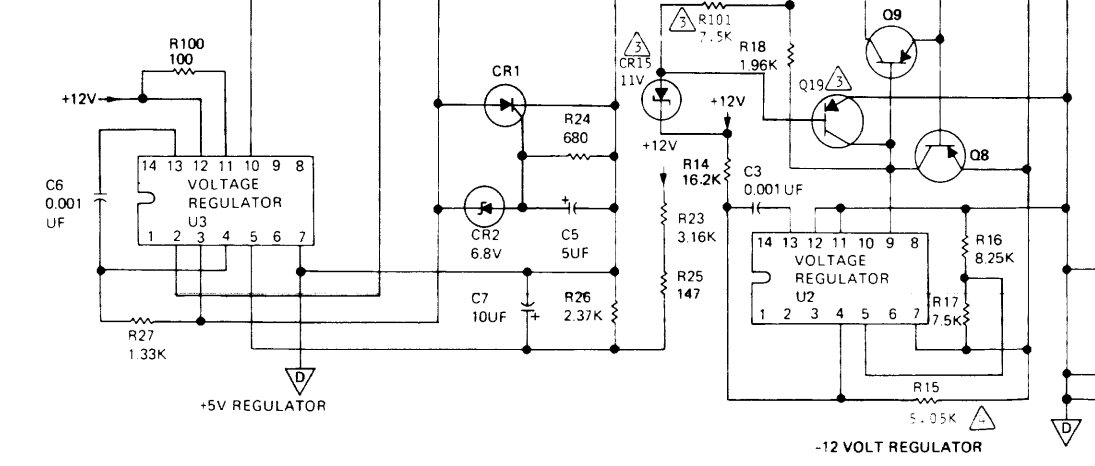
POWER DISTRIBUTION PCB ASSEMBLY A30A1  
(07970-62071)  
SERIES 1115, 1229, 1341



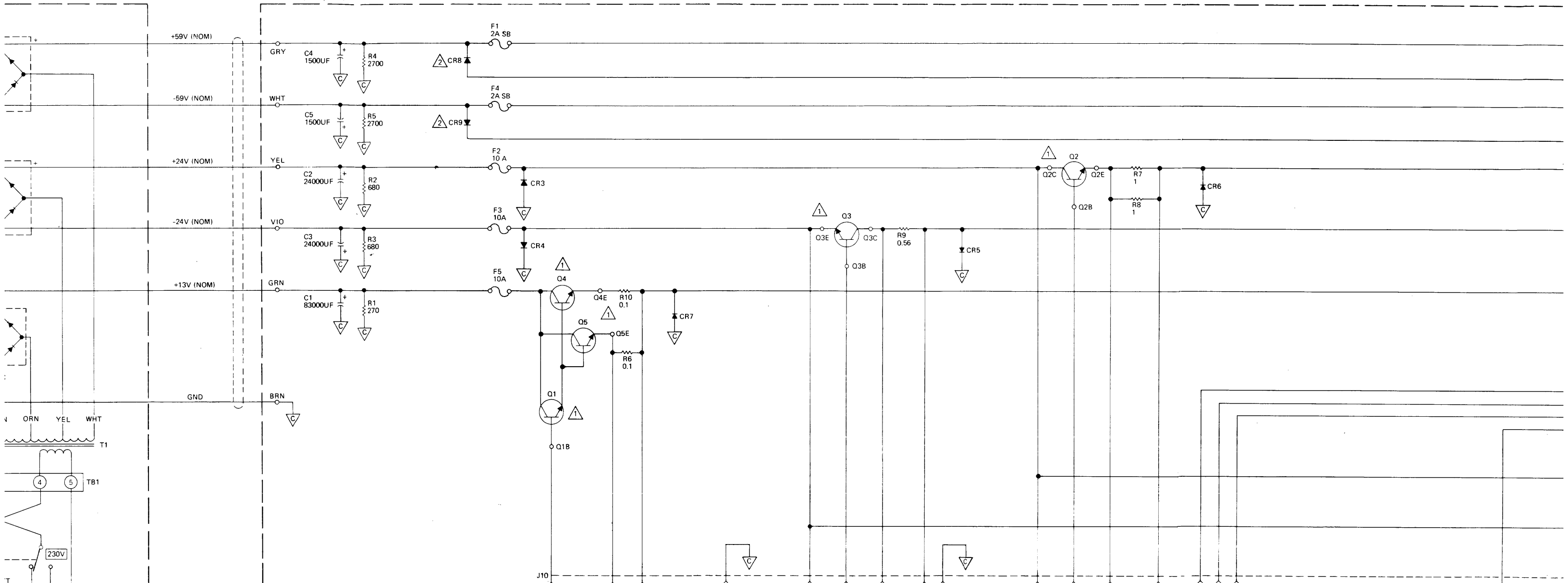
- NOTES:
- ① THESE COMPONENTS ARE EXTERNALLY MOUNTED ON HEAT SINKS OR CHASSIS.
  - ② DIODES CR8 AND CR9 FIRST USED ON SERIES 1229.
  - ③ THESE COMPONENTS FIRST USED ON SERIES 1344.
  - △ SERIES 1344 AND BELOW, R15 IS 5.11K.
  - ⊕ THESE POINTS ARE COMMON (GROUND)
  - ⊖ THESE POINTS ARE COMMON (SIGNAL RETURN)



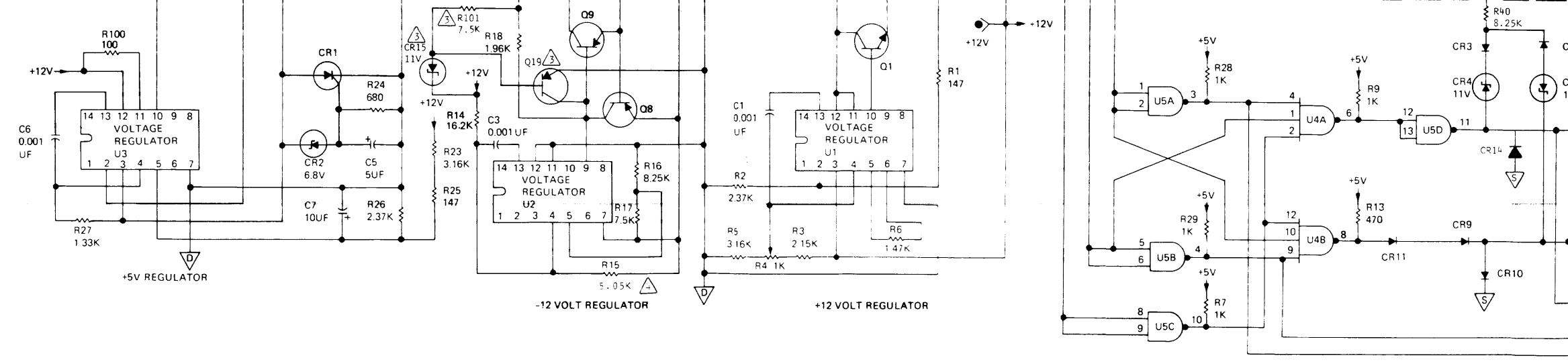
POWER REGULATOR PCB ASSEMBLY A31 (07970-62072) SERIES 1323, 1344, 1606

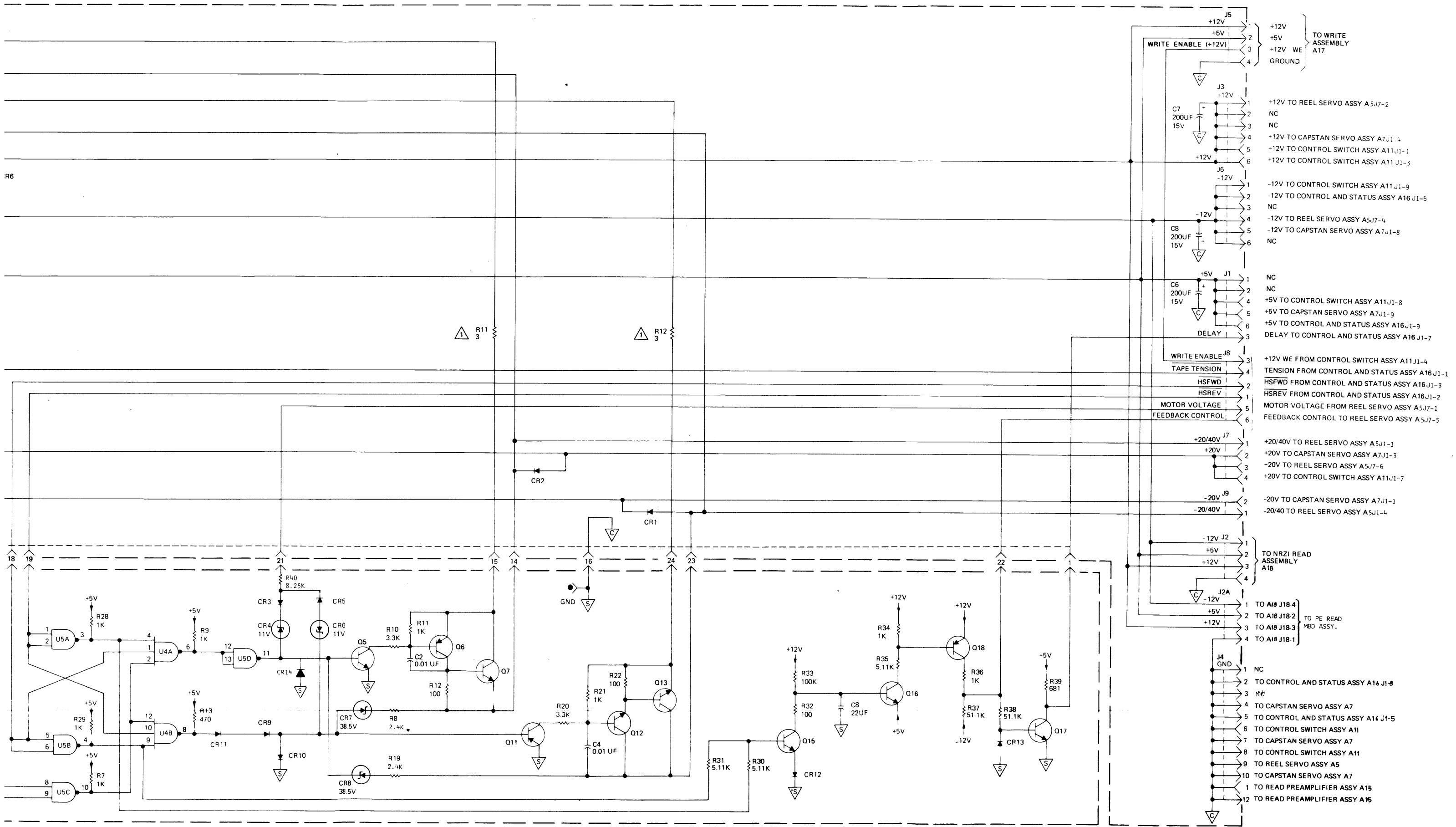


POWER DISTRIBUTION PCB ASSEMBLY A30A1  
 (07970-62071;  
 SERIES 1115, 1229, 1341)

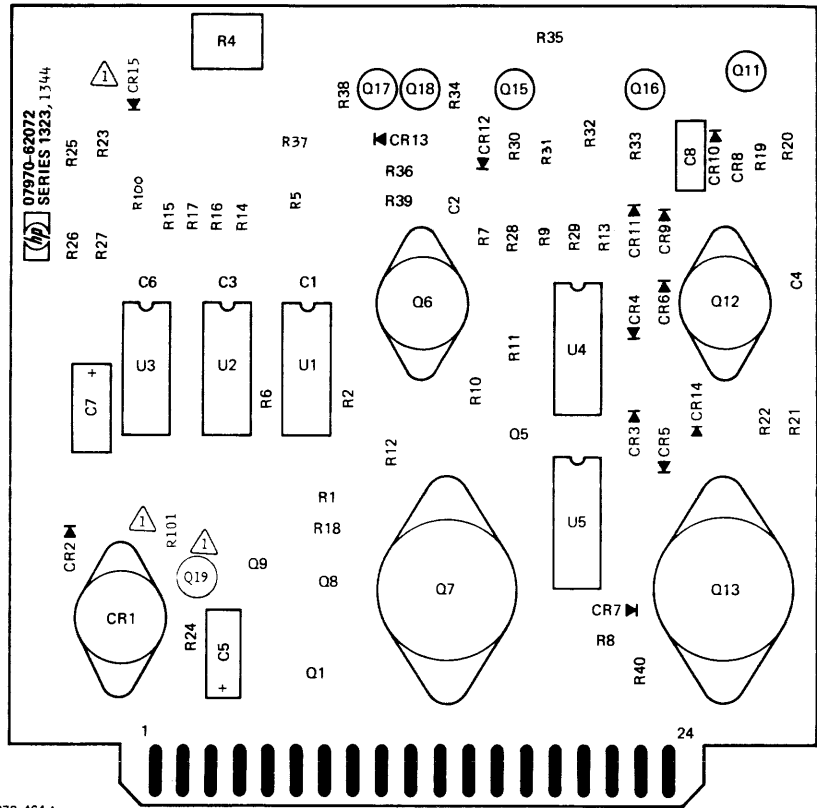


POWER REGULATOR PCB ASSEMBLY A31 (07970-62072; SERIES 1323, 1344, 1608)

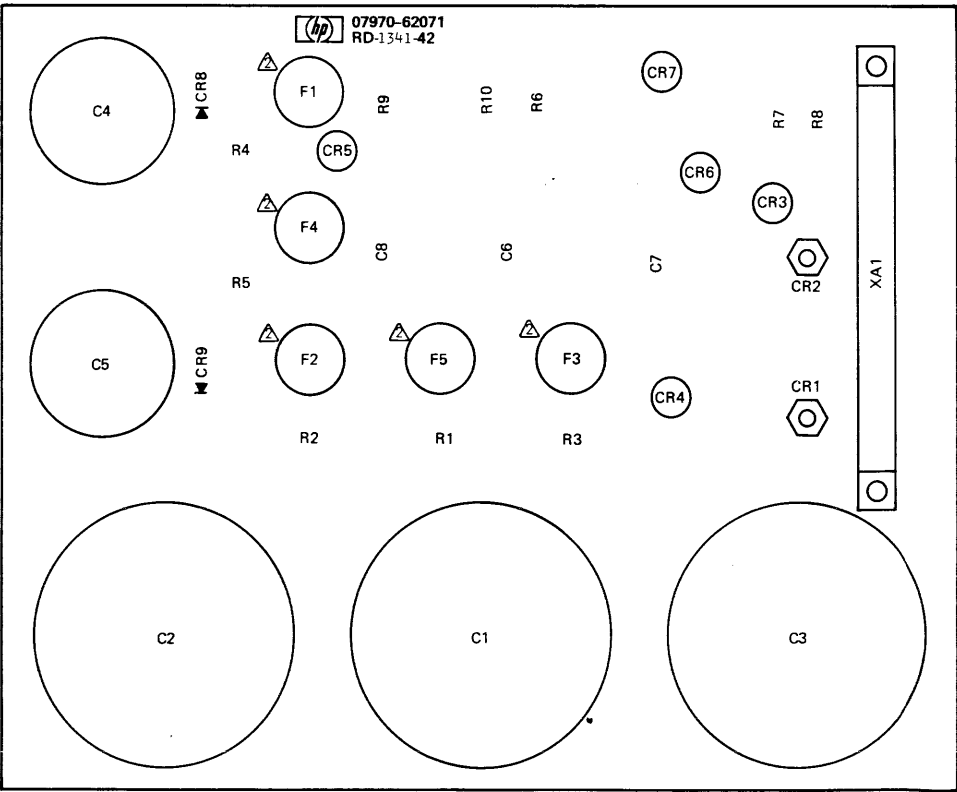




7970E Master Power Supply Assemblies A29/30/31



7970-464A  
 ▲ SERIES 1344 AND UP  
 ▲ IN SERIES 1341 AND HIGHER, F1-F5 ARE HELD BY FUSE CLIPS.



7970-466A

PE POWER REGULATOR PCA (SERIES 1323, 1344, 1608)  
 07970-62072

REF. DES./ INDEX NO.	HP PART NO.	DESCRIPTION
	07970-62072	PE POWER REGULATOR PCA (SERIES 1323, 1344)
C1, C3, C6	0160-3456	CAPACITOR, fxd, 1000pf, Ceramic
C2, C4	0160-2055	CAPACITOR, fxd, .01uf, 100V
C5	0180-0172	CAPACITOR, fxd, 5uf, - 10 + 75%
C7	0180-0059	CAPACITOR, fxd, 10uf, - 10 + 75%
C8	0180-0228	CAPACITOR, fxd, 22uf, 15VDC
CR1	1884-0088	THYRISTOR, 2N3228
	2200-0141	SCREW, 4-40, .312 Pan
	2260-0009	NUT, Lock, 4-40
CR2	1902-0048	DIODE, Zener, 6.81V
CR3, CR5	1901-0025	DIODE, 100V
CR4, CR6, CR15	1902-3171	DIODE, Zener, 11V
CR7, CR8	1902-3311	DIODE, Breakdown, 38.3V
CR9-CR14	1901-0040	DIODE, 30V, 50MA
Q1	1854-0039	TRANSISTOR, 2N3053, TO5
Q5	1854-0022	TRANSISTOR, 2N2102, TO5
Q6	1853-0052	TRANSISTOR, 2N3740, TO66
	2200-0141	SCREW, 4-40, .312 Pan
	2260-0009	NUT, Lock, 4-40
Q7, Q13	1854-0063	TRANSISTOR, 2N3055, TO3
	2200-0141	SCREW, 4-40, .312 Pan
	2260-0009	NUT, Lock, 4-40
Q8, Q18, Q19	1853-0036	TRANSISTOR, 2N3906, PL18
Q9	1853-0027	TRANSISTOR, PNP, SI, TO5
Q11	1853-0080	TRANSISTOR, 2N4888, PL5
Q12	1854-0072	TRANSISTOR, 2N3054, TO66
	2200-0141	SCREW, 4-40, .312 Pan
	2260-0009	NUT, Lock, 4-40
Q15-Q17	1854-0215	TRANSISTOR, 2N3904, PL5
R1, 25	0698-3438	RESISTOR, fxd, 147, 1%, .125W
R2, 26	0698-3150	RESISTOR, fxd, 2.37K, 1%, .125W
R3	0698-0084	RESISTOR, fxd, 2.15K, 1%, .125W
R4	2100-1758	RESISTOR, Variable, 1K, 5%
R5, 23	0757-0279	RESISTOR, fxd, 3.16K, 1%, .125W
R6	0757-1094	RESISTOR, fxd, 1.47K, 1%, .125W
R7, 9, 11, 21	0683-1025	RESISTOR, fxd, 1K, 5%, .25W
28, 29		
R8, 19	0683-2425	RESISTOR, fxd, 2.4K, 5%, .25W
R10, R20	0686-3325	RESISTOR, fxd, 3.3K, 5%, .5W
R12, R22	0683-1015	RESISTOR, fxd, 100, 5%, .25W
R13	0683-4715	RESISTOR, fxd, 470, 5%, .25W
R14	0757-0447	RESISTOR, fxd, 16.2K, 1%, .125W
*R15, 30, 31	0757-0438	RESISTOR, fxd, 5.11K, 1%, .125W
35		
R16, 40	0757-0441	RESISTOR, fxd, 8.25K, 1%, .125W
R17, 101	0757-0440	RESISTOR, fxd, 7.5K, 1%, .125W
R18	0698-0083	RESISTOR, fxd, 1.96K, 1%, .125W
R24	0683-6815	RESISTOR, fxd, 680, 5%, .25W

REF. IND.
R27
R32
R33
R34
R37
R39
U1, U4, U5
*R15
▲ CR1

DESCRIPTION
VOLTAGE REGULATOR PCA (SERIES 1323, 1344)
Resistor, fxd, 1000pf, Ceramic
Resistor, fxd, .01uf, 100V
Resistor, fxd, 5uf, - 10 + 75%
Resistor, fxd, 10uf, - 10 + 75%
Resistor, fxd, 22uf, 15VDC
N3228
Washer, #10, .312 Pan
Resistor, fxd, 4-40
Resistor, fxd, 6.81V
Resistor, fxd, 11V
Resistor, fxd, 38.3V
50MA
2N3053, T05
2N2102, T05
2N3740, T066
Washer, #10, .312 Pan
Resistor, fxd, 4-40
2N3055, T03
Washer, #10, .312 Pan
Resistor, fxd, 4-40
2N3906, PL18
PNP, SI, T05
2N4888, PL5
2N3054, T066
Washer, #10, .312 Pan
Resistor, fxd, 4-40
2N3904, PL5
Resistor, fxd, 147, 1%, .125W
Resistor, fxd, 2.37K, 1%, .125W
Resistor, fxd, 2.15K, 1%, .125W
Resistor, fxd, variable, 1K, 5%
Resistor, fxd, 3.16K, 1%, .125W
Resistor, fxd, 1.47K, 1%, .125W
Resistor, fxd, 1K, 5%, .25W
Resistor, fxd, 2.4K, 5%, .25W
Resistor, fxd, 3.3K, 5%, .5W
Resistor, fxd, 100, 5%, .25W
Resistor, fxd, 470, 5%, .25W
Resistor, fxd, 16.2K, 1%, .125W
Resistor, fxd, 5.11K, 1%, .125W
Resistor, fxd, 8.25K, 1%, .125W
Resistor, fxd, 7.5K, 1%, .125W
Resistor, fxd, 1.96K, 1%, .125W
Resistor, fxd, 680, 5%, .25W

REF. DES./ INDEX NO.	HP PART NO.	DESCRIPTION
R27	0757-0317	RESISTOR, fxd, 1.33K, 1%, .125W
R32,100	0757-0198	RESISTOR, fxd, 100, 1%, .5W
R33	0757-0465	RESISTOR, fxd, 100K, 1%, .125W
R34, R36	0757-0280	RESISTOR, fxd, 1K, 1%, .125W
R37, R38	0757-0458	RESISTOR, fxd, 51.1K, 1%, .125W
R39	0757-0419	RESISTOR, fxd, 681, 1%, .125W
U1, U2, U3	1820-0439	IC, Voltage Regulator
U4	1820-0348	IC, MC844P
U5	1820-0256	IC, MC858P
*R15	Series 1608 0698-7053	RESISTOR, fxd, 5.05K, .5W, .125W
<p>⚠ CR15, Q19, and R101 first used on series codes 1344.</p>		

POWER DISTRIBUTION PCA  
07970-62071 (SERIES 1341)

REF. DES./ INDEX NO.	HP PART NO.	DESCRIPTION
C1	07970-62071 0180-2426 2680-0099 2190-0012	POWER DISTRIBUTION PCA (SERIES 1341) CAPACITOR, fxd, 83000uf SCREW, 10-32, .375 Pan WASHER, Lock, #10
C2, C3	0180-2327 2680-0099 2190-0012	CAPACITOR, fxd, 24000 uf SCREW, 10-32, .375 Pan WASHER, Lock, #10
C4, C5	0180-2325 2680-0099 2190-0012	CAPACITOR, fxd, 1500uf SCREW, 10-32, .375 Pan WASHER, Lock, #10
C6, C7, C8	0180-0104	CAPACITOR, fxd, 200uf
CR1, CR2	1901-0630 2740-0003	DIODE, Rectifier, Silicone NUT, Lock, 10-32
CR3-CR7	1901-0415 0340-0164	DIODE, Power INSULATOR, Transistor
CR8, CR9	1901-0026	DIODE
F1,4	2110-0303	FUSE, 2A, 250V, SLO BLO
F2, F3, F5	2110-0051	FUSE, 10A, MB
*XF1-5	2110-0257	CLIP, Fuse Holder
R1	0698-3629	RESISTOR, fxd, 270, 5%, 2W
R2, R3	0698-3635	RESISTOR, fxd, 680, 5%, 2W
R4, R5	0764-0043	RESISTOR, fxd, 2.7K, 5%, 2W
R6, R10	0811-2490	RESISTOR, fxd; 0.1, 3%, 5W
R7, R8	0811-1666	RESISTOR, fxd, 1, 5%, 2W
R9	0811-1552	RESISTOR, fxd, .56, 5%, 2W
J5	1251-2025	CONNECTOR, PC 2x24 .1560
J1-4, 6-9	1251-2503	CONTACT PC Female Pins
J1-4, 6-9	1251-2504	CONTACT PC Male Pins
	0360-1613	LUG, Solder #5
	2190-0008	WASHER, Lock #6
*XF1-5	SERIES 1341 2110-0257	CLIP, Fuse Holder



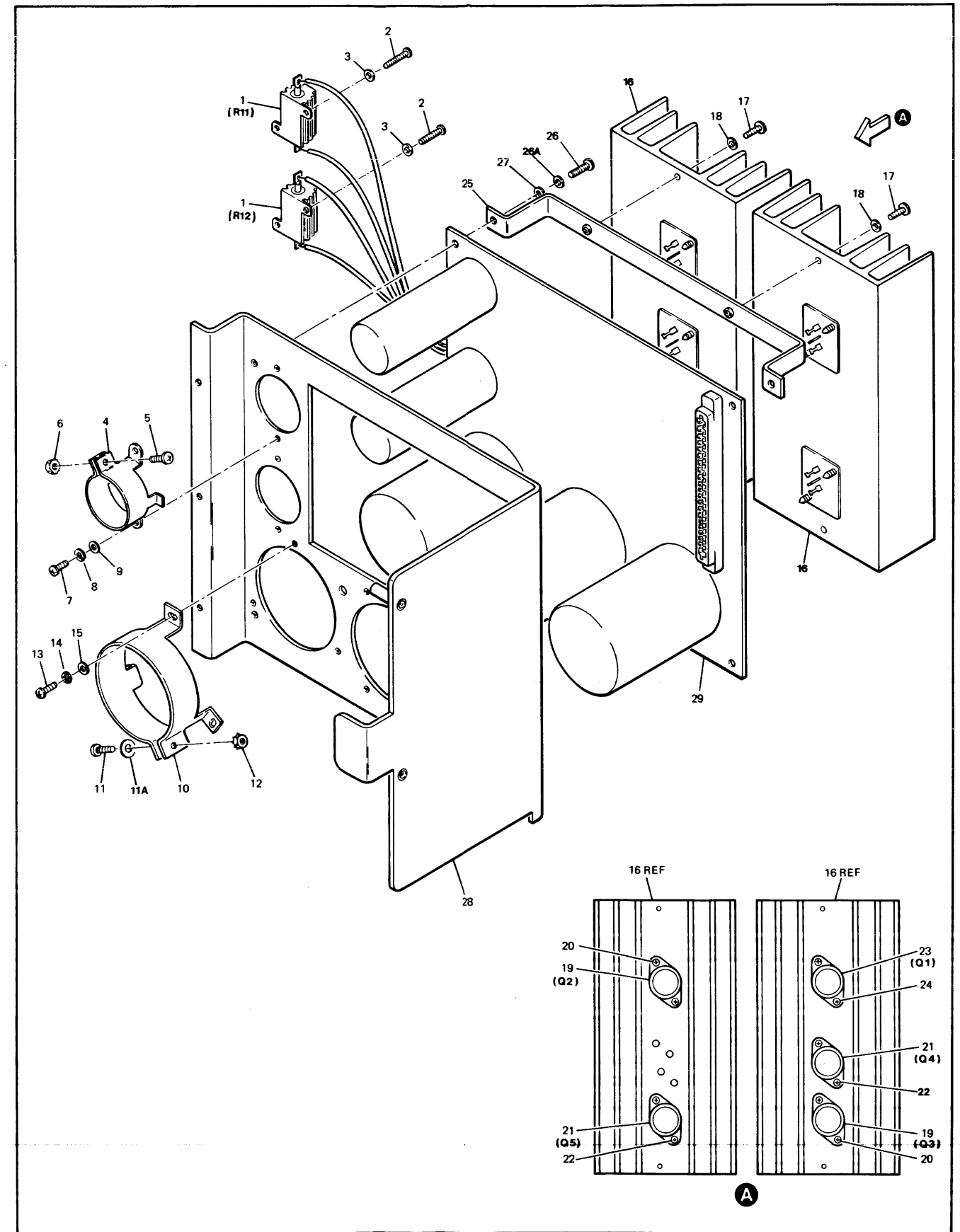
POWER DISTRIBUTION PCA  
07970-62071 (SERIES 1341)

DESCRIPTION
<p>RESISTOR, fxd, 1.33K, 1%, .125W  RESISTOR, fxd, 100, 1%, .5W  RESISTOR, fxd, 100K, 1%, .125W  RESISTOR, fxd, 1K, 1%, .125W  RESISTOR, fxd, 51.1K, 1%, .125W  RESISTOR, fxd, 681, 1%, .125W  C, Voltage Regulator  C, MC844P  C, MC858P</p> <p>RESISTOR, fxd, 5.05K, .5W, .125W</p>
<p>ries codes 1344.</p>

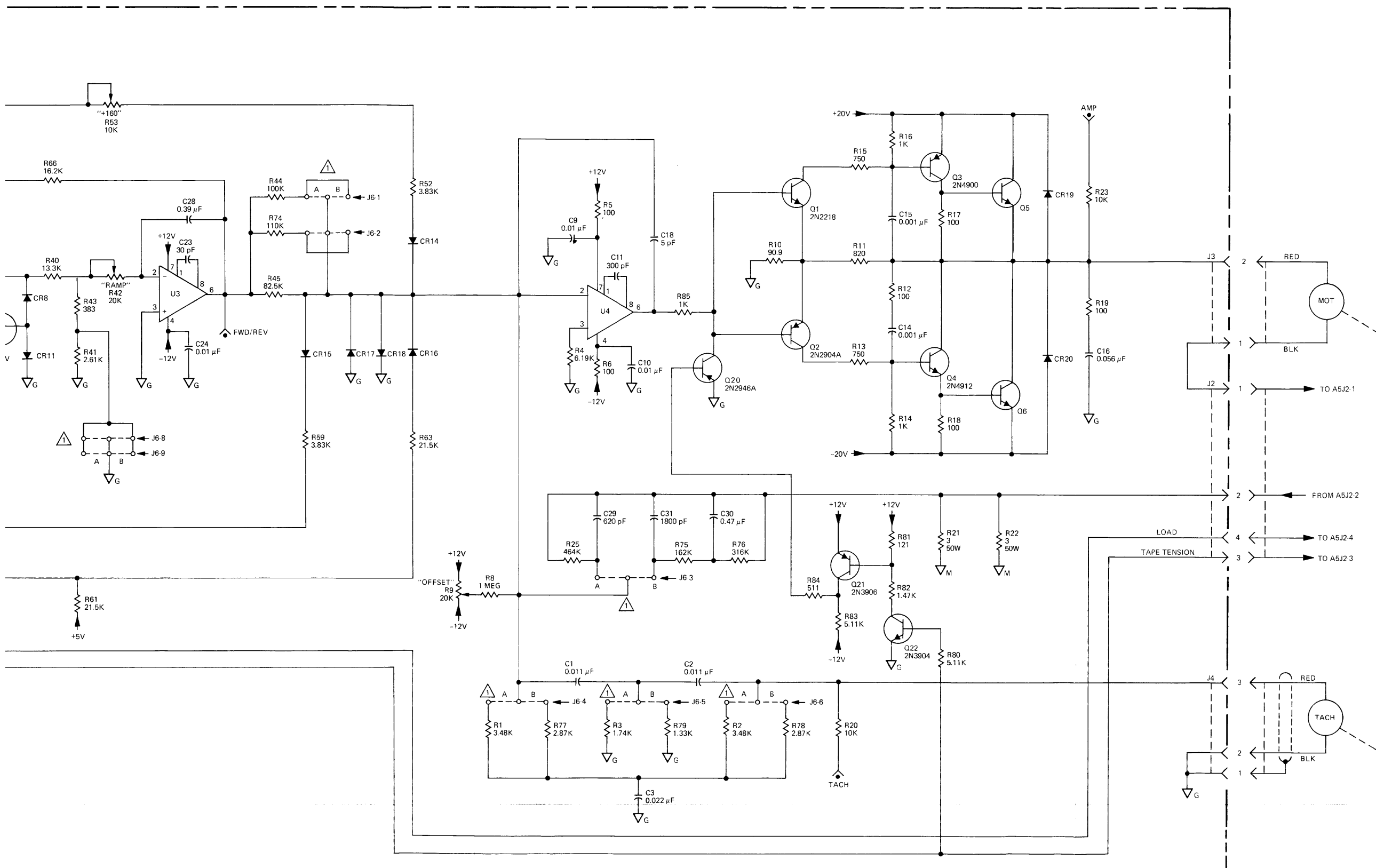
REF. DES./ INDEX NO.	HP PART NO.	DESCRIPTION
	07970-62071	POWER DISTRIBUTION PCA (SERIES 1341)
C1	0180-2426	CAPACITOR, fxd, 83000uf
	2680-0099	SCREW, 10-32, .375 Pan
	2190-0012	WASHER, Lock, #10
C2, C3	0180-2327	CAPACITOR, fxd, 24000 uf
	2680-0099	SCREW, 10-32, .375 Pan
	2190-0012	WASHER, Lock, #10
C4, C5	0180-2325	CAPACITOR, fxd, 1500uf
	2680-0099	SCREW, 10-32, .375 Pan
	2190-0012	WASHER, Lock, #10
C6, C7, C8	0180-0104	CAPACITOR, fxd, 200uf
CR1, CR2	1901-0630	DIODE, Rectifier, Silicone
	2740-0003	NUT, Lock, 10-32
CR3-CR7	1901-0415	DIODE, Power
	0340-0164	INSULATOR, Transistor
CR8, CR9	1901-0026	DIODE
F1,4	2110-0303	FUSE, 2A, 250V, SLO BLO
F2, F3, F5	2110-0051	FUSE, 10A, MB
*XF1-5	2110-0257	CLIP, Fuse Holder
R1	0698-3629	RESISTOR, fxd, 270, 5%, 2W
R2, R3	0698-3635	RESISTOR, fxd, 680, 5%, 2W
R4, R5	0764-0043	RESISTOR, fxd, 2.7K, 5%, 2W
R6, R10	0811-2490	RESISTOR, fxd; 0.1, 3%, 5W
R7, R8	0811-1666	RESISTOR, fxd, 1, 5%, 2W
R9	0811-1552	RESISTOR, fxd, .56, 5%, 2W
J5	1251-2025	CONNECTOR, PC 2x24 .1560
J1-4, 6-9	1251-2503	CONTACT PC Female Pins
J1-4, 6-9	1251-2504	CONTACT PC Male Pins
	0360-1613	LUG, Solder #5
	2190-0008	WASHER, Lock #6
	SERIES 1341	
*XF1-5	2110-0257	CLIP, Fuse Holder

MASTER PE POWER DISTRIBUTION ASSEMBLY  
07970-62113

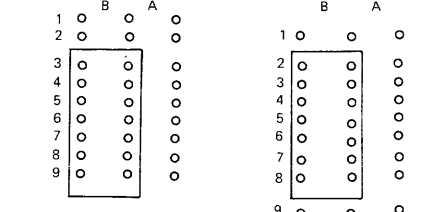
REF. DES./ INDEX NO.	HP PART NO.	DESCRIPTION
	07970-62113	MASTER PE POWER DISTRIBUTION ASSEMBLY
1	0811-2180	RESISTOR, Fxd, 3, 10% 25W
2	2200-0141	SCREW, 4-40, .312 Pan
3	2190-0003	WASHER, Lock, #4, Hel
4	0160-2149	CLAMP, Capacitor
5	2360-0201	SCREW, 6-32, .5 in.
6	2420-0001	NUT, 6-32, hex
7	2200-0141	SCREW, 4-40, .312 Pan
8	2190-0061	WASHER, Lock, #4, Hel
9	3050-0105	WASHER, #4, Flat
10	0180-1970	CLAMP, Capacitor
11	2360-0201	SCREW, 6-32, .5 in.
11A	3050-0066	WASHER, #6, .147D, Flat
12	2420-0001	NUT, 6-32, hex
13	2200-0141	SCREW, 4-40, .312 Pan
14	2190-0061	WASHER, Lock, #4, Hel
15	3050-0105	WASHER, #4, Flat
16	07970-20400	HEAT DISSIPATOR
17	2200-0143	SCREW, 4-40, .375 Pan
18	2190-0061	WASHER, Lock, #4, Hel
19	1854-0063	TRANSISTOR, 2N3055, T03
20	0624-0062	SCREW, 6-20, Tap
	1200-0077	INSULATOR, Transistor, T03
	0340-0177	INSULATOR, Bushing
21	1854-0264	TRANSISTOR, 2N3715, T03
22	0624-0062	SCREW, 6-20, Tap
	1200-0077	INSULATOR, Transistor, T03
	0340-0177	INSULATOR, Bushing
23	1854-0518	TRANSISTOR, 2N5877, T03
24	0624-0062	SCREW, 6-20, Tap
	1200-0077	INSULATOR, Transistor, T03
	0340-0177	INSULATOR, Bushing
25	07970-01179	BRACKET, POWER SUPPLY
26	2360-0195	SCREW, 6-32, .312 Pan
26A	2190-0918	WASHER, Lock, #6, Hel
27	3050-0066	WASHER, #6, .147D, Flat
28	07970-01170	CHASSIS, POWER SUPPLY
29	07970-62071	PCA, PE POWER DISTRIBUTION
	07970-62112	HARNESS, POWER SUPPLY (NOT SHOWN)



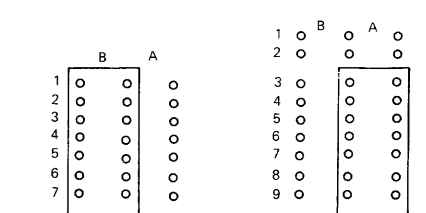
7970E Master Power Supply  
Assemblies A29/30/31



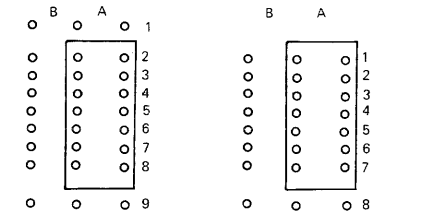
1. CONNECTOR J6 IS A 3 x 9 PIN SOCKET FOR A 14 PIN DIP DUMMY PLUG. THE POSITION OF THE 14 PIN DUMMY PLUG IS DETERMINED BY THE CAPSTAN ASSEMBLY AND THE SYNCHRONOUS SPEED OF THE TAPE UNIT.



1. 10 TO 18 IPS POSITION WITH 07970-60141 CAPSTAN ASSEMBLY. 1. 18.1 TO 25 IPS POSITION WITH 07970-60141 CAPSTAN ASSEMBLY.



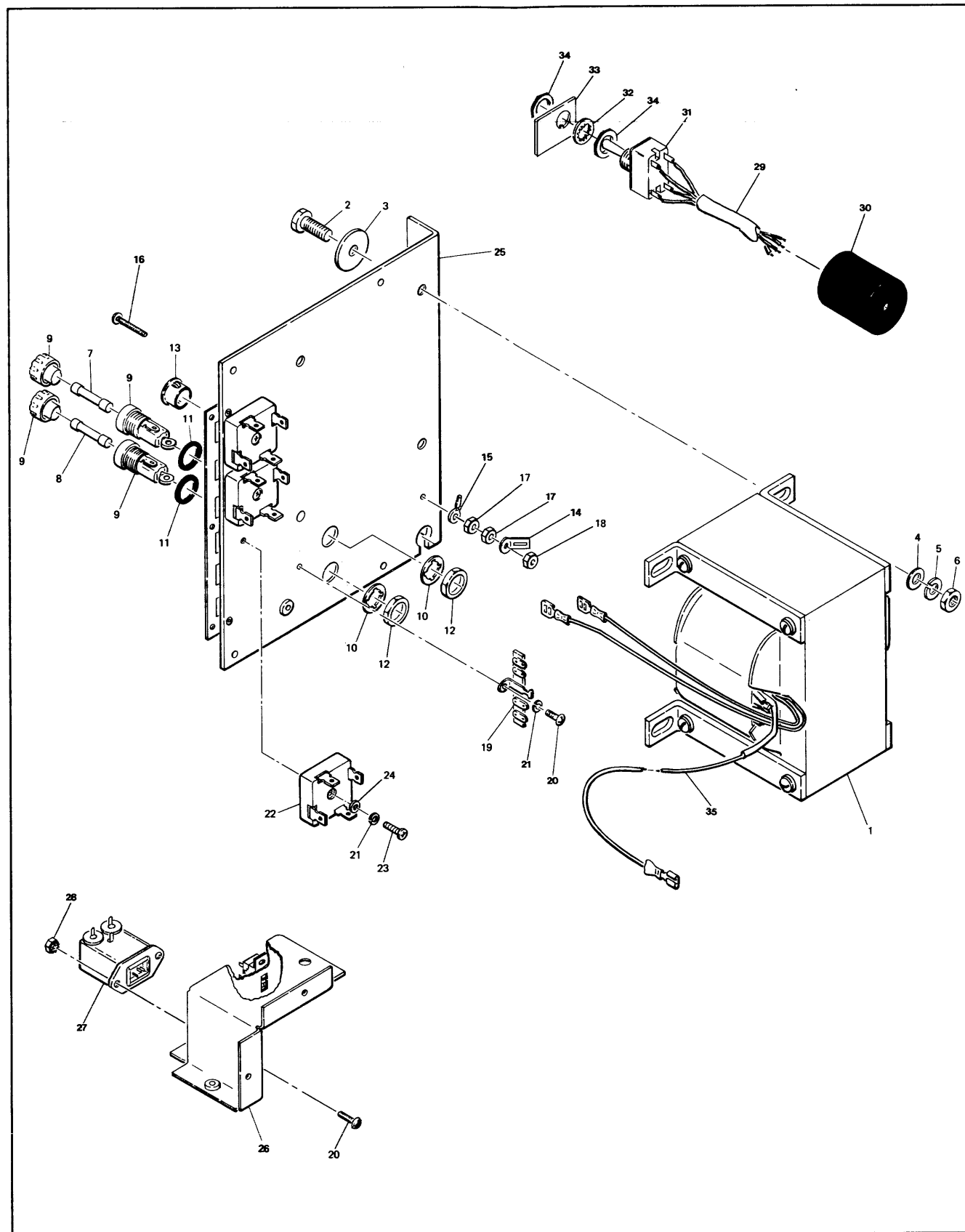
1. 25.1 TO 45 IPS POSITION WITH 07970-60141 CAPSTAN ASSEMBLY. 1. 10 TO 18 IPS POSITION WITH 07970-60140 CAPSTAN ASSEMBLY.



1. 18.1 TO 25 IPS POSITION WITH 07970-60140 CAPSTAN ASSEMBLY. 1. 25.1 TO 37.5 IPS POSITION WITH 07970-60140 CAPSTAN ASSEMBLY.

- NOTES:
- UNLESS OTHERWISE SPECIFIED, ALL RESISTANCE VALUES ARE IN OHMS.
- ANALOG RETURN ( $\pm 12V$ )  
 MOTOR RETURN ( $\pm 20V$ )  
 DIGITAL RETURN ( $\pm 5V$ )

PE TRANSFORMER ASSEMBLY  
07970-62073



REF. DES. / INDEX NO.	HP PART NO.	DESCRIPTION
	07970-62073	PE TRANSFORMER ASSEMBLY
1	9100-3330	TRANSFORMER, Power (T1)
2	0570-0108	BLOT, hex, 1/4in.
3	3050-0723	WASHER, Flat, .261D
4	3050-0225	WASHER, Flat 1/4in.
5	2190-0431	WASHER, Lock, hel, 1/4in.
6	2950-0004	NUT, 1/4-20
7	2110-0365	FUSE, 4A, 250V, SLO BLO, (F1)
*8	2110-0303	FUSE, 2A, 250V, SLO BLO, (F2)
9	1400-0084	FUSE HOLDER, Post Type, (XF1, XF2)
10	2190-0037	WASHER, Lock, .5 Int.
11	0900-0016	O-RING, .5in. ID
12	2950-0038	NUT, 1/2-24
13	0400-0056	BUSHING, Snap, Nylon
14	0360-0043	TERM, Solder Lug #5
15	0362-0321	LUG, Crimp, #6
16	2360-0203	SCREW, 6-32, .625 Pan
17	2420-0002	NUT, hex, 6-32
18	2420-0001	NUT, hex, 6-32
19	0360-1590	TERMINAL STRIP, Lug Type
20	2200-0141	SCREW, 4-40, .312 Pan
21	2190-0003	WASHER, Lock, #4
22	1906-0017	DIODE BRIDGE, Rectifier
23	2200-0091	SCREW, 4-40, .562in.
24	2190-0416	WASHER, #4
25	07970-01171	PANEL, Power Transformer
26	07970-60461	BRACKET, Assembly (Includes S2)
27	9100-0531	FILTER, (FL1) and J1
28	2260-0009	NUT, Lock, 4-40
29	8120-1624	CABLE, Power
30	1401-0083	CAP, Protective
31	3101-0646	SWITCH, Toggle dpst
32	2190-0102	WASHER, Lock, 7/16
33	7120-4575	PLATE, Indicator
34	2950-0035	NUT, 15/32-32
35	8500-0059	WIRING HARNESS, Power Transformer COMPOUND, Thermal
*8	SERIES 1411 and up 2110-0380	FUSE, 2.5A, 250V, SLO BLO, (F2)

7970E Master Power Supply  
Assemblies A29/30/31



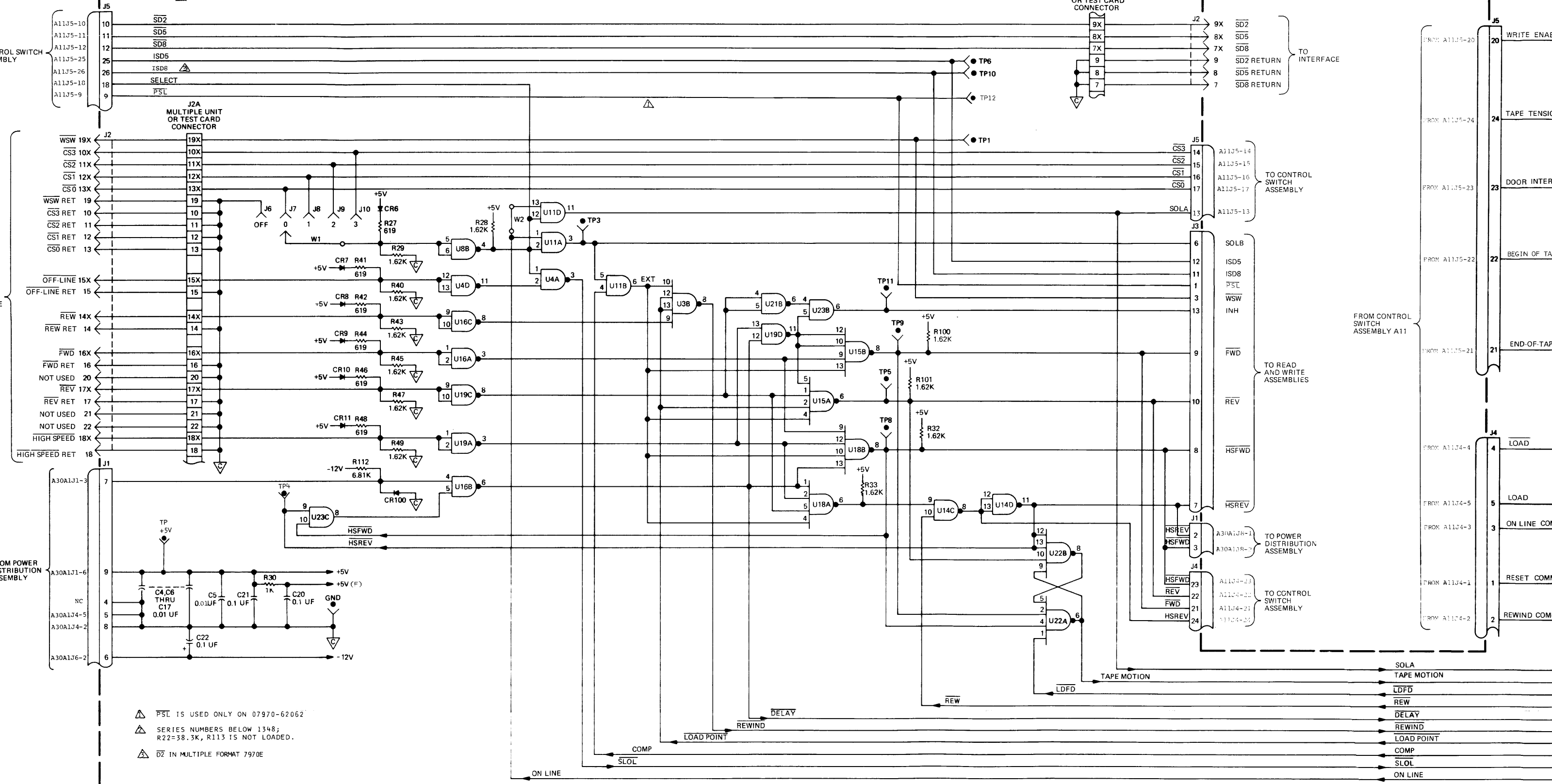
CONTROL AND STATUS ASSEMBLY A16  
 07970-61080, 07970-62062  
 SERIES 1042, 1109, 1348

CONTROL SWITCH ASSEMBLY

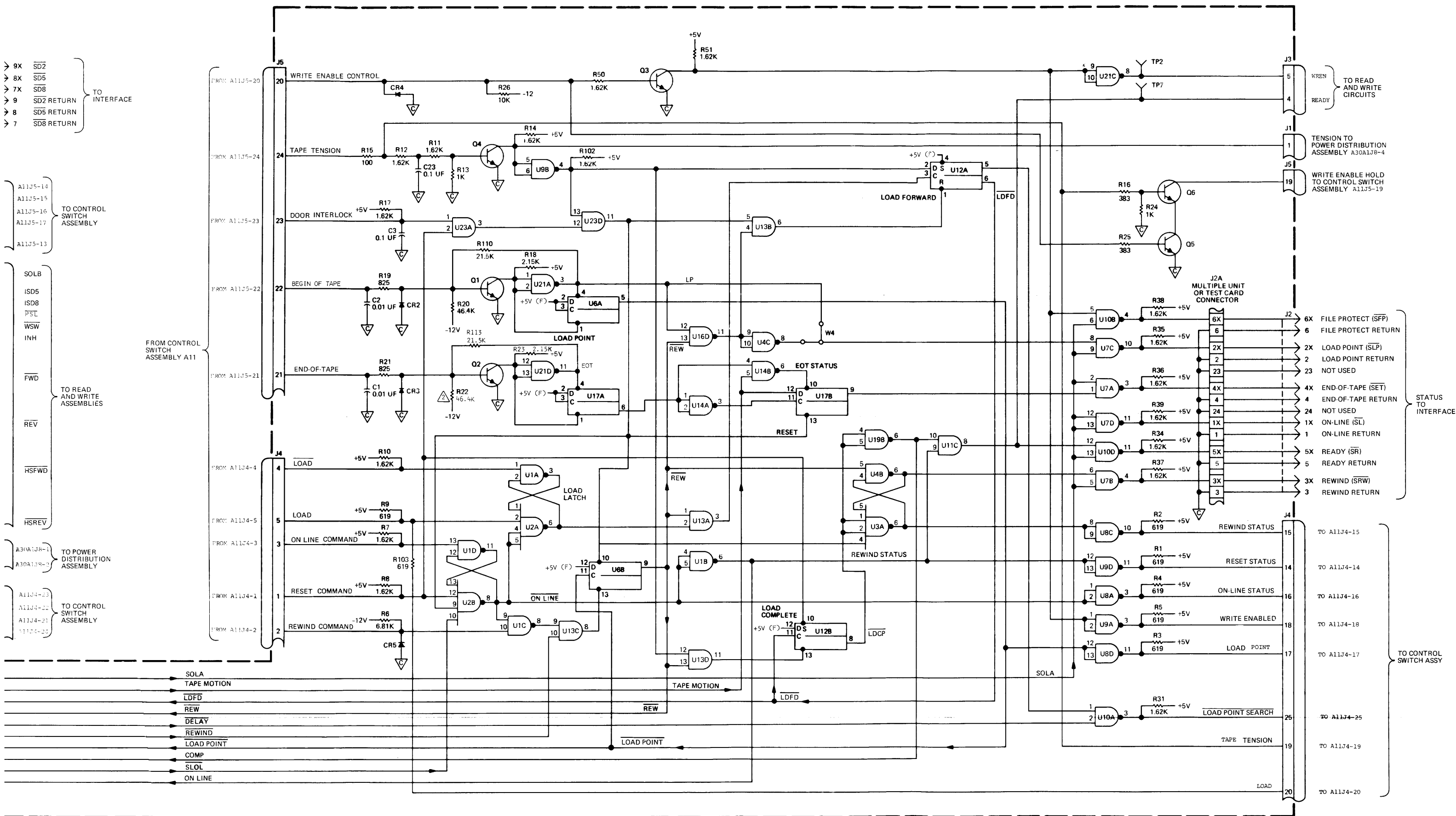
ND  
 ACE

FROM POWER DISTRIBUTION ASSEMBLY

J2A  
 MULTIPLE UNIT OR TEST CARD CONNECTOR

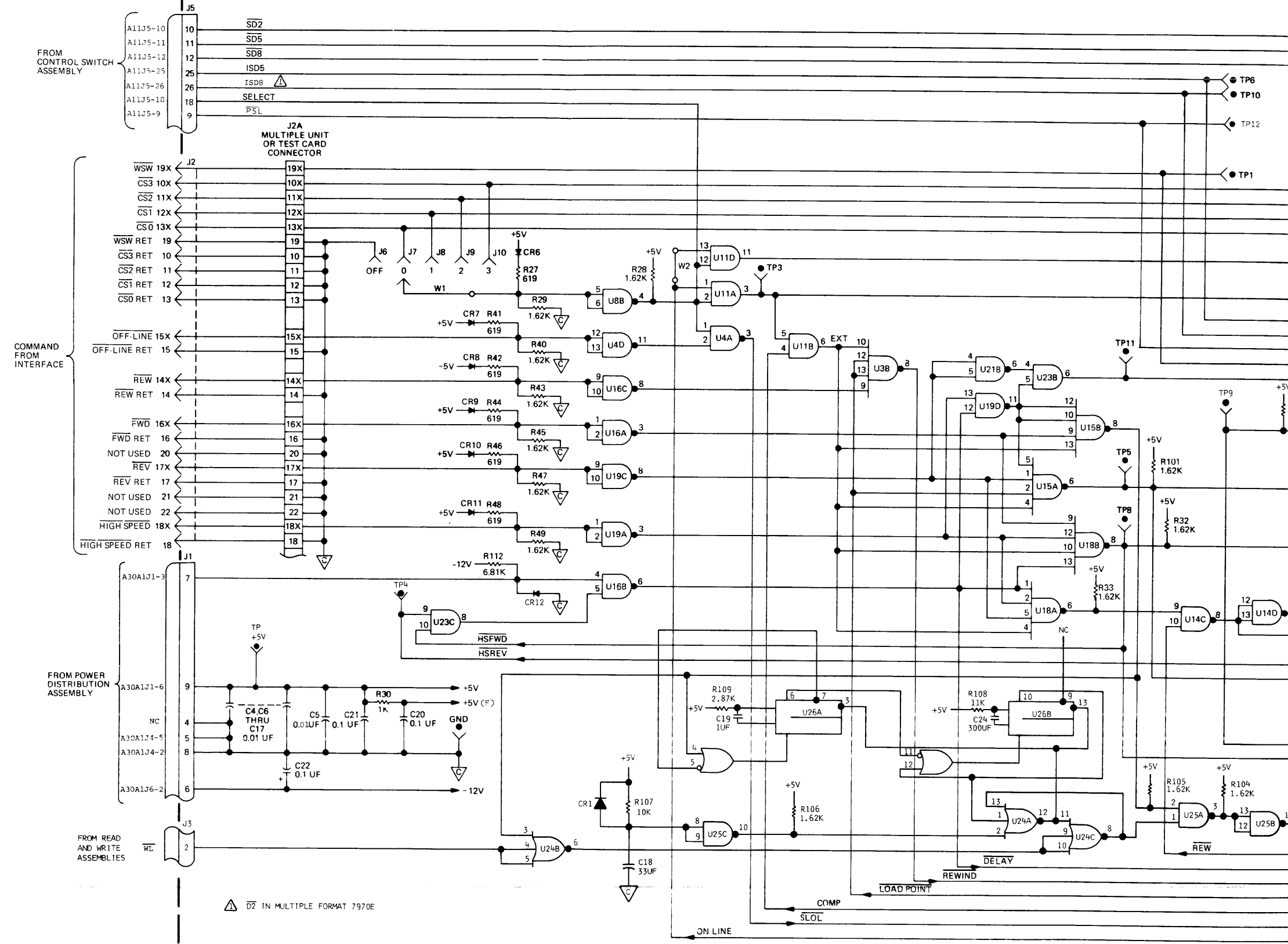


⚠ PSL IS USED ONLY ON 07970-62062  
 ⚠ SERIES NUMBERS BELOW 1348;  
 R22=38.3K, R113 IS NOT LOADED.  
 ⚠ DZ IN MULTIPLE FORMAT 7970E



Control & Status PC Assembly A16

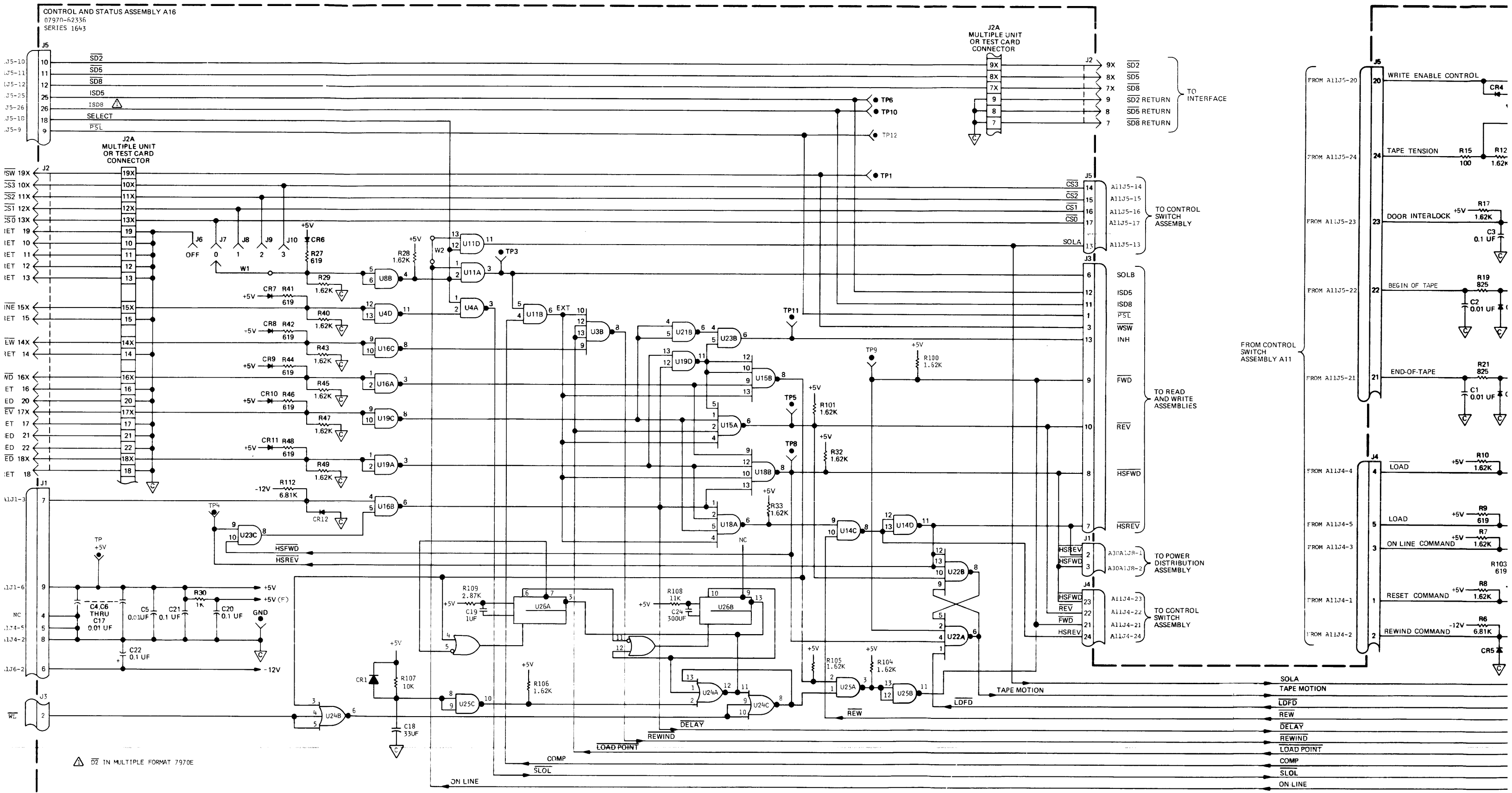
CONTROL AND STATUS ASSEMBLY A16  
07970-62336  
SERIES 1643



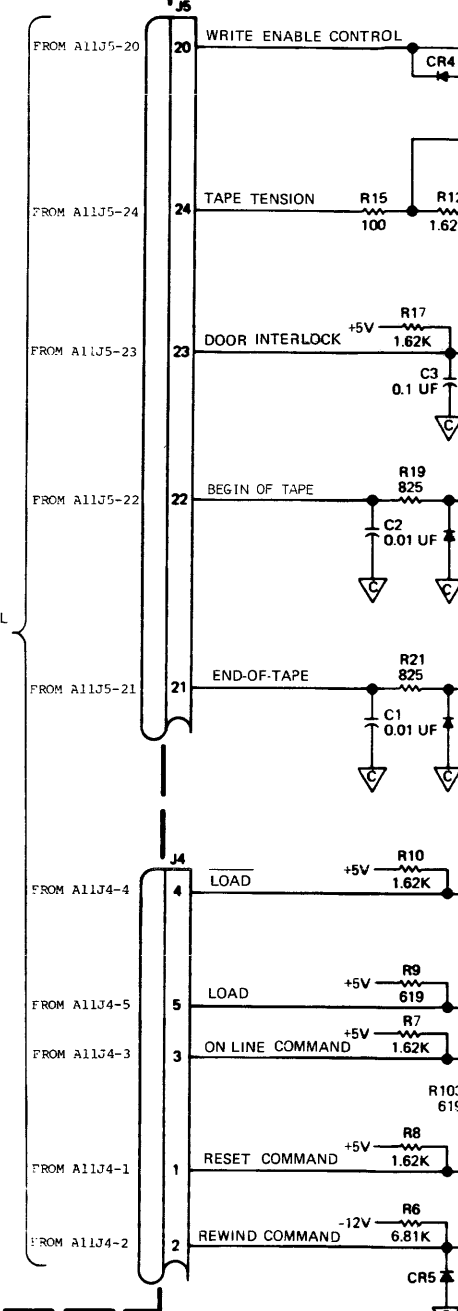
⚠ D2 IN MULTIPLE FORMAT 7970E

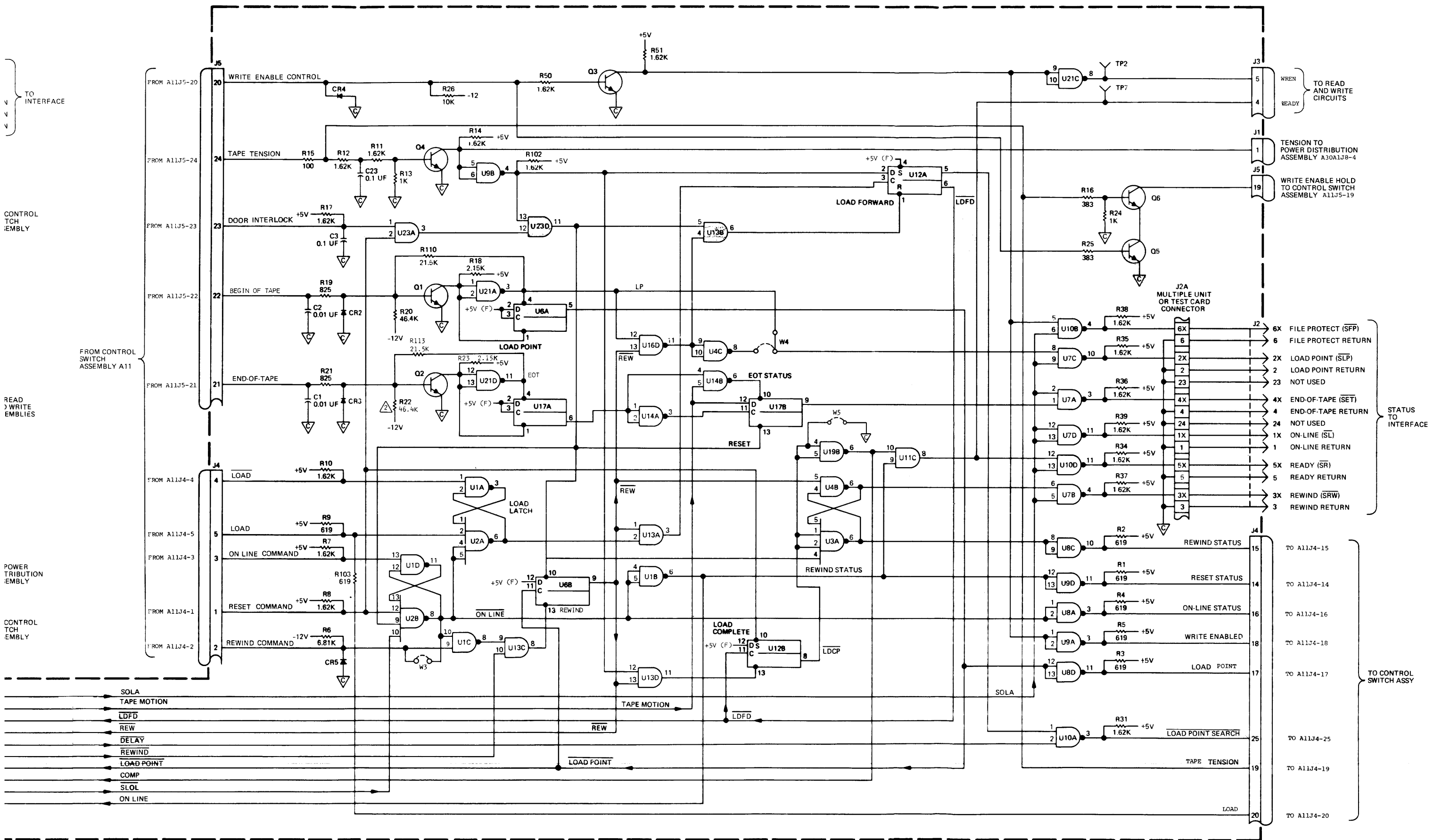


CONTROL AND STATUS ASSEMBLY A16  
07970-62336  
SERIES 1643



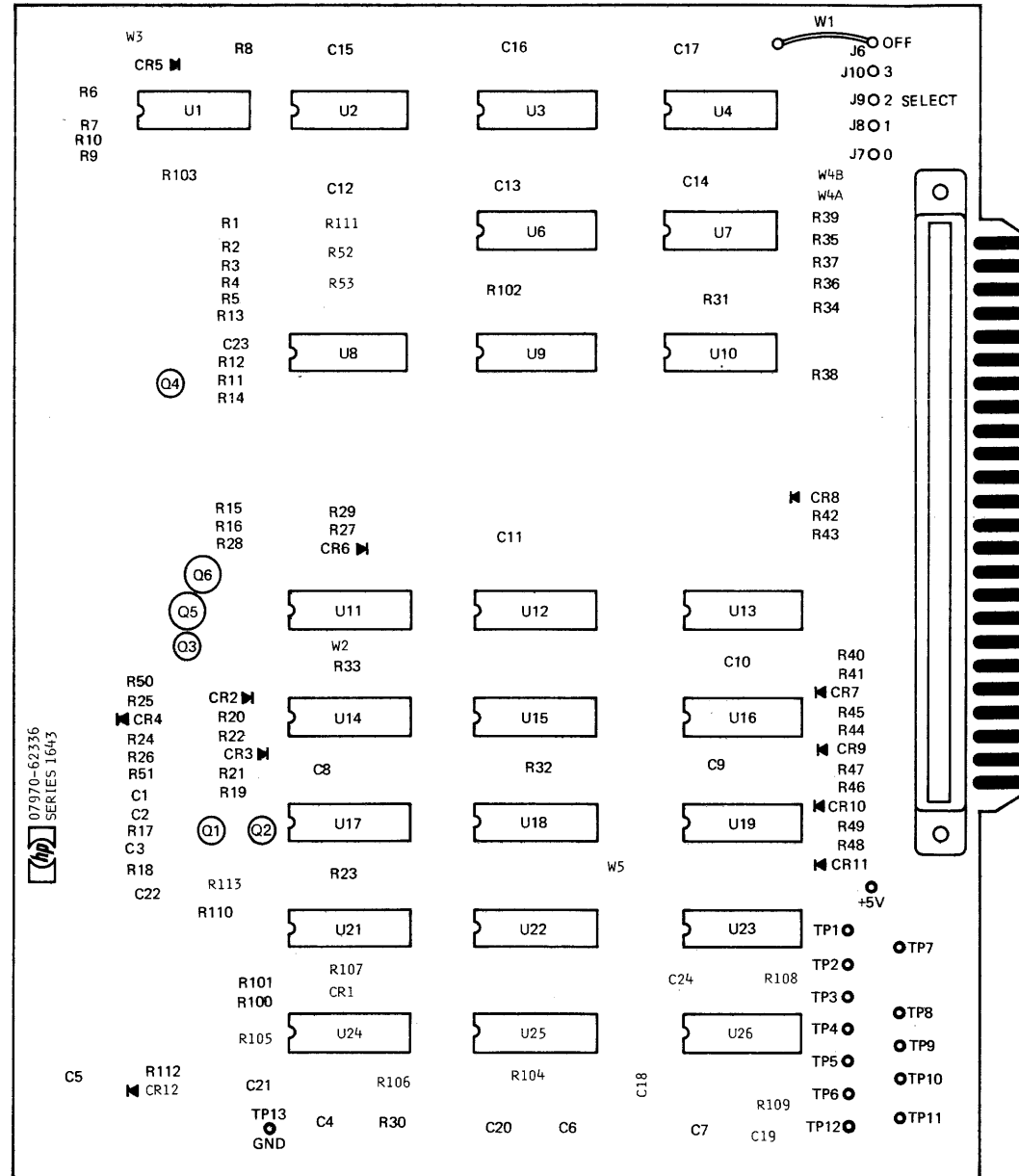
△ D2 IN MULTIPLE FORMAT 7970E





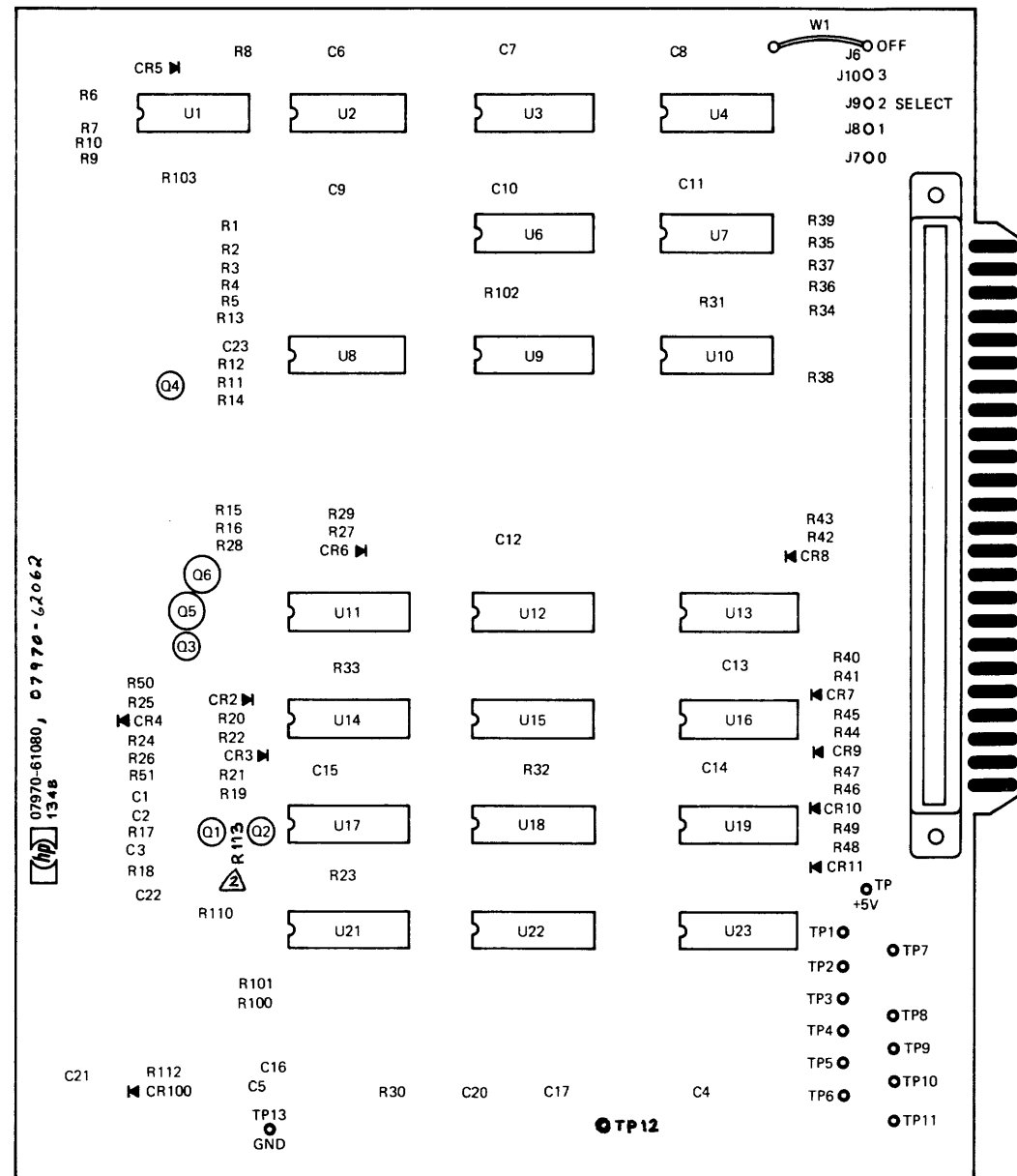
Control & Status PC Assembly A16

CONTROL AND STATUS PCA PARTS LIST  
07970-62336 (Series 1643)



REF. DES.	HP PART NO.	DESCRIPTION
	07970-62336	CONTROL AND STATUS PCA (Series 1643)
C1,2,4,6-17	0160-2055	CAPACITOR, fxd, .01uf, 100V
C3,5,20-23	0150-0121	CAPACITOR, fxd, .1uf, 10%
C18	0180-0229	CAPACITOR, fxd, 33uf, + 10%, 10VDC, TA
C19	0160-0127	CAPACITOR, fxd, luf, + 20%, 25VDC, CER
C24	0160-2207	CAPACITOR, fxd, 300 pf, + 5%, 300VDC
CR1-12	1901-0040	DIODE, 30V, 50MA
Q1-4	1854-0215	TRANSISTOR, 2N3904, PL5
Q5, 6	1854-0045	TRANSISTOR, NPN, SI, TO18
	0340-0190	INSULATOR, Transistor
R1-5,9	0757-0418	RESISTOR, fxd, 619, 1%, .125W
27,41,42,44, 46,48,103		
R6,112	0757-0439	RESISTOR, fxd, 6.81K, 1%, .125W
R7,8,10-12	0757-0428	RESISTOR, fxd, 1.62K, 1%, .125W
14,17,28,29, 31-40,43,45, 47,49-51,100- 102,104-106		
R13,24,30	0757-0280	RESISTOR, fxd, 1K, 1%, .125W
R15	0757-0401	RESISTOR, fxd, 100, 1%, .125W
R16,25	0698-3446	RESISTOR, fxd, 383K, 1%, .125W
R18,23	0698-0084	RESISTOR, fxd, 2.15K, 1%, .125W
R19,21	0757-0421	RESISTOR, fxd, 825, 1%, .125W
R20,22	0698-3162	RESISTOR, fxd, 46.4K, 1%, .125W
R26,107	0757-0442	RESISTOR, fxd, 10K, 1%, .125W
R108	0757-0443	RESISTOR, fxd, 11K, 1%, .125W
R109	0698-3151	RESISTOR, fxd, 2.87K, 1%, .125W
R110,113	0757-0199	RESISTOR, fxd, 21.5K, 1%, .125W
U1,4,14, 16,19,21	1820-0054	IC, DIGITAL, 7400
U2,3,22	1820-0069	IC, DIGITAL, 7420
U6,12,17	1820-0077	IC, DIGITAL, 7474
U7-10,25	1820-0256	IC, MC858P
U11,13,23	1820-0141	IC, DIGITAL, MC3001
U15,18	1820-0348	IC, MC844P
U24	1820-0782	IC, DIGITAL, 7427
U26	1820-0515	IC, DIGITAL, F9602
	1251-1115	KEY, Connector, PC
	1251-2025	CONNECTOR, PC 2 x 24
	1251-2361	CONNECTOR, PC, Wrap
	1251-2503	CONNECTOR, Contact, PC Female
	1251-2504	CONNECTOR, Contact, PC Male
	07970-62286	CABLE, JUMPER

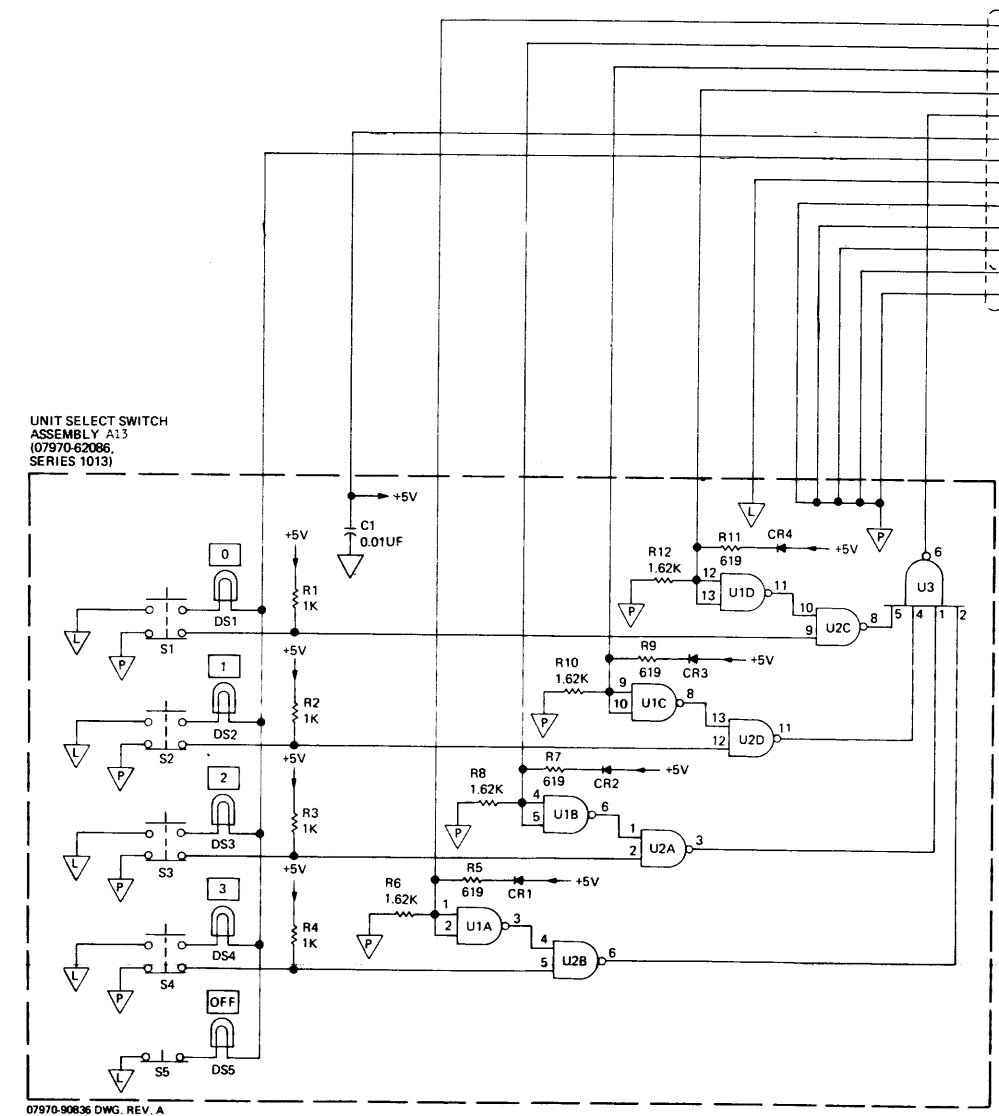
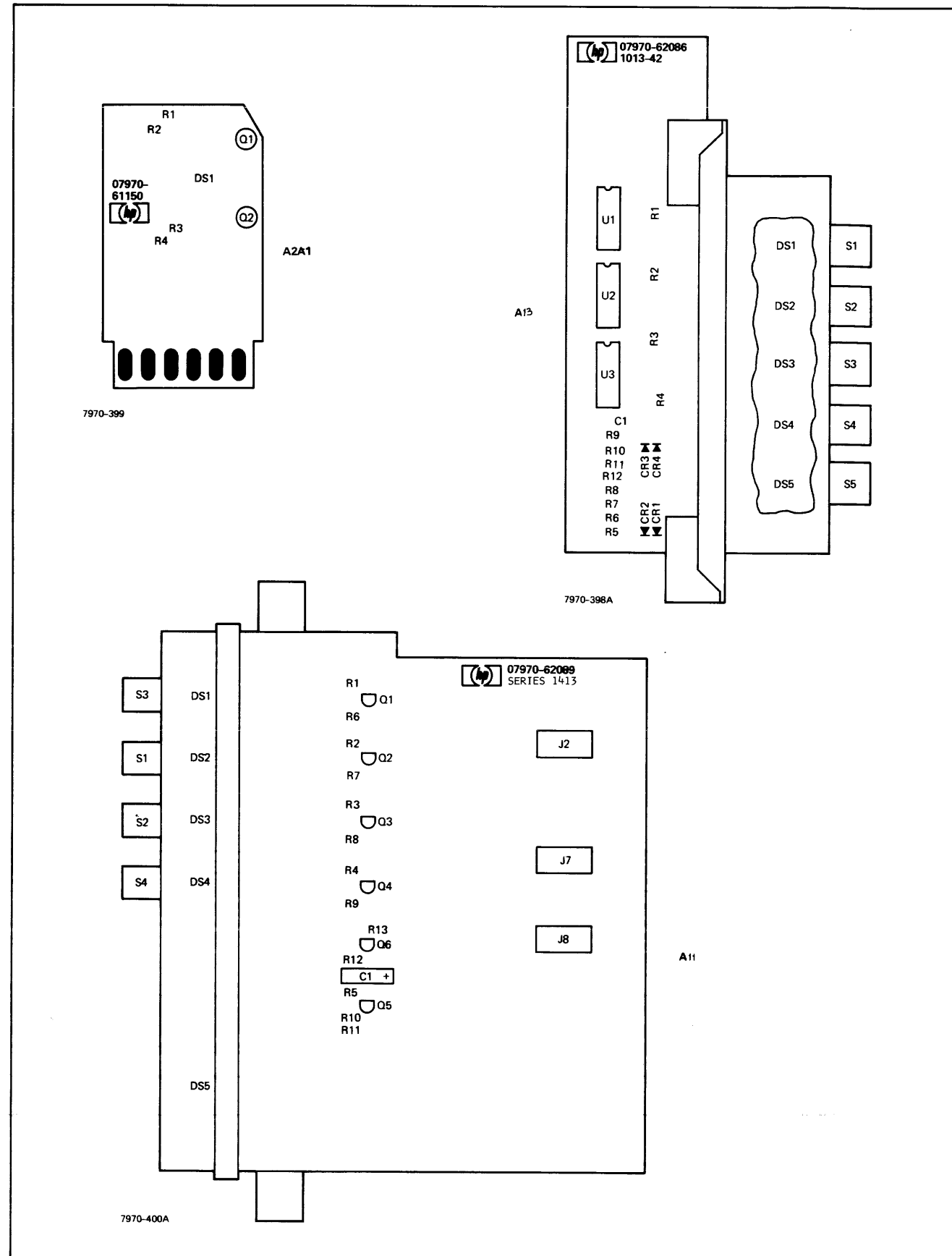
DESCRIPTION
ROL AND STATUS PCA (Series 1643)
.CITOR, fxd, .01uf, 100V
.CITOR, fxd, .1uf, 10%
.CITOR, fxd, 33uf, + 10%, 10VDC, TA
.CITOR, fxd, 1uf, + 20%, 25VDC, CER
.CITOR, fxd, 300 pf, + 5%, 300VDC
E, 30V, 50MA
SISTOR, 2N3904, PL5
SISTOR, NPN, SI, TO18
NSULATOR, Transistor
STOR, fxd, 619, 1%, .125W
STOR, fxd, 6.81K, 1%, .125W
STOR, fxd, 1.62K, 1%, .125W
STOR, fxd, 1K, 1%, .125W
STOR, fxd, 100, 1%, .125W
STOR, fxd, 383K, 1%, .125W
STOR, fxd, 2.15K, 1%, .125W
STOR, fxd, 825, 1%, .125W
STOR, fxd, 46.4K, 1%, .125W
STOR, fxd, 10K, 1%, .125W
STOR, fxd, 11K, 1%, .125W
STOR, fxd, 2.87K, 1%, .125W
STOR, fxd, 21.5K, 1%, .125W
DIGITAL, 7400
DIGITAL, 7420
DIGITAL, 7474
MC858P
DIGITAL, MC3001
MC844P
DIGITAL, 7427
DIGITAL, F9602
Connector, PC
ECTOR; PC 2 x 24
ECTOR, PC, Wrap
ECTOR, Contact, PC Female
ECTOR, Contact, PC Male
E, JUMPER



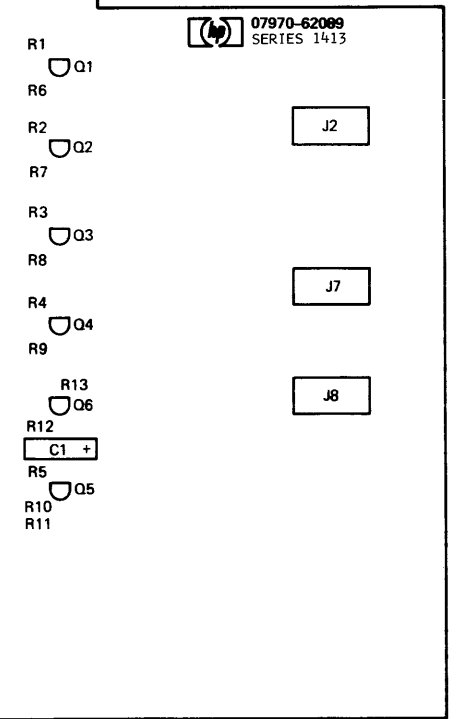
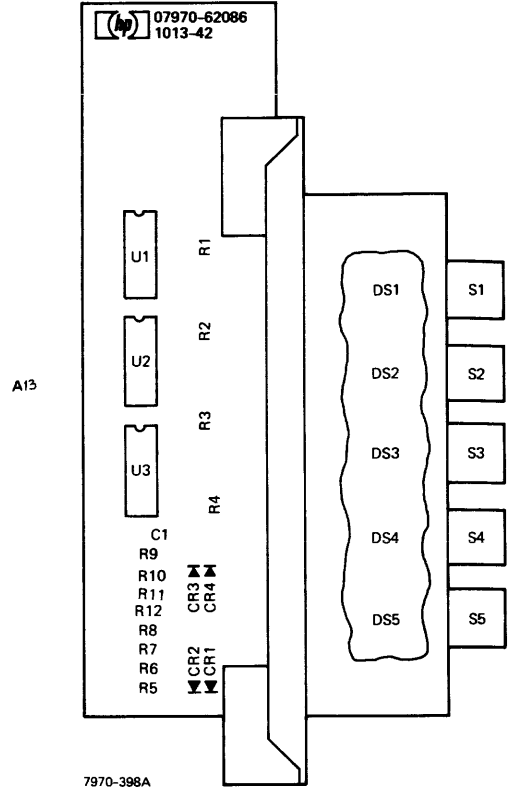
CONTROL AND STATUS PCA PARTS LIST  
 07970-61080 (Series 1042,1109,1348)  
 07970-62062 (Series 1042,1109,1348)

REF. DES./ INDEX NO.	HP PART NO.	DESCRIPTION
	07970-61080	CONTROL & STATUS PCA (1042, 1109)
*C1,2,4-16	0160-2055	CAPACITOR, fxd, .01uf, 100V
*C3,17,20-23	0150-0121	CAPACITOR, fxd, .1uf, 10%
CR2-11,100	1901-0040	DIODE, 30V, 50MA
Q1-4	1854-0215	TRANSISTOR, 2N3904, PL5
Q5,6	1854-0045	TRANSISTOR, NPN Silicone TO18
R1-5,9,27,41,42 44,46,48,103	0757-0418	RESISTOR, fxd, 619, 1%, .125W
R6,112	0757-0439	RESISTOR, fxd, 6.81K, 1%, .125W
R7,8,10,11,12,14 17,28,29,31,40,43, 45,47,49,51,100-102	0757-0428	RESISTOR, fxd, 1.62K, 1%, .125W
R13,24,30	0757-0280	RESISTOR, fxd, 1K, 1%, .125W
R15	0757-0401	RESISTOR, fxd, 100, 1%, .125W
R16,25	0698-3446	RESISTOR, fxd, 383, 1%, .125W
R18,23	0698-0084	RESISTOR, fxd, 2.15K, 1%, .125W
R19,21	0757-0421	RESISTOR, fxd, 825, 1%, .125W
R20	0698-3162	RESISTOR, fxd, 46.6K, 1%, .125W
*R22	0698-3161	RESISTOR, fxd, 38.3K, 1%, .125W
R26	0757-0442	RESISTOR, fxd, 10K, 1%, .125W
*R110,113	0757-0199	RESISTOR, fxd, 21.5K, 1%, .125W
U1,4,14,16,19,21	1820-0054	IC, DIGITAL, 7400
U2,3,22	1820-0069	IC, DIGITAL, 7420
U6,12,17	1820-0077	IC, DIGITAL, FF, 7474
U7-10	1820-0256	IC, MC858P
U11,13,23	1820-0141	IC, DIGITAL, MC3001
U15,18	1820-0348	IC, MC844P
	1251-2025	CONNECTOR, PC 2X24
	1251-2503	CONNECTOR, Contact, PC Female
	1251-2504	CONNECTOR, Contact, PC Male
	1251-1115	KEY, Connector, PC
	07970-62286	CABLE JUMPER
	07970-62062	CONTROL & STATUS PCA (Series 1042,1109)
*C5	0150-0121	CAPACITOR, fxd, luf
*C17	0160-2055	CAPACITOR, fxd, .01uf
	07970-61080/62062	Series 1348
*R22	0698-3162	RESISTOR, fxd, 46.4K
*R113	0757-0199	RESISTOR, fxd, 21.5K, 1%, Added to Bd.

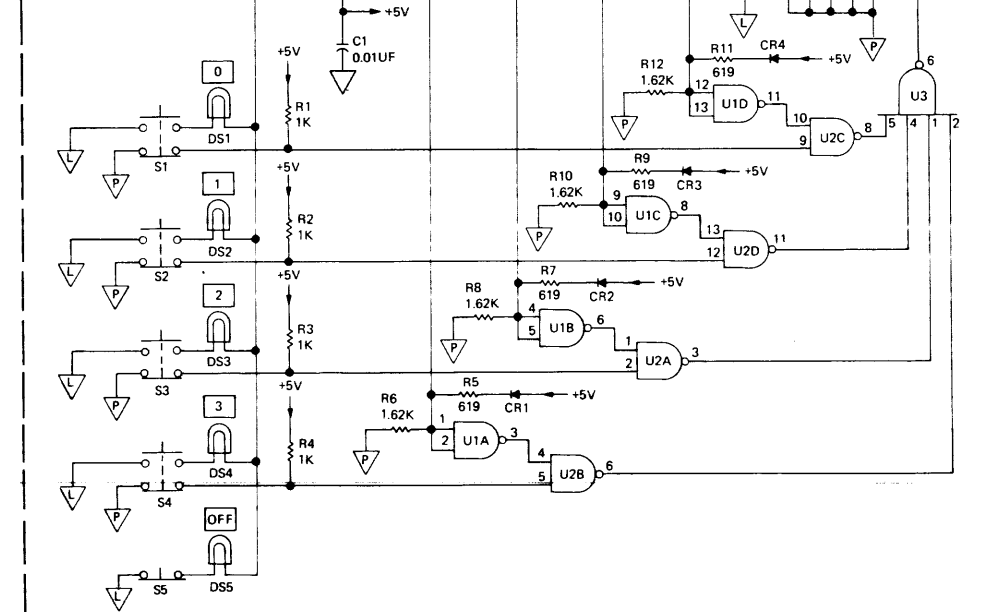
DESCRIPTION
OL & STATUS PCA (1042, 1109)
ITOR, fxd, .01uf, 100V
ITOR, fxd, .1uf, 10%
, 30V, 50MA
ISTOR, 2N3904, PL5
ISTOR, NPN Silicone TO18
FOR, fxd, 619, 1%, .125W
FOR, fxd, 6.81K, 1%, .125W
FOR, fxd, 1.62K, 1%, .125W
FOR, fxd, 1K, 1%, .125W
FOR, fxd, 100, 1%, .125W
FOR, fxd, 383, 1%, .125W
FOR, fxd, 2.15K, 1%, .125W
FOR, fxd, 825, 1%, .125W
FOR, fxd, 46.6K, 1%, .125W
FOR, fxd, 38.3K, 1%, .125W
FOR, fxd, 10K, 1%, .125W
FOR, fxd, 21.5K, 1%, .125W
IGITAL, 7400
IGITAL, 7420
IGITAL, FF, 7474
C858P
IGITAL, MC3001
C844P
CTOR, PC 2X24
CTOR, Contact, PC Female
CTOR, Contact, PC Male
Connector, PC
JUMPER
OL & STATUS PCA (Series 1042,1109)
ITOR, fxd, luf
ITOR, fxd, .01uf
s 1348
FOR, fxd, 46.4K
FOR, fxd, 21.5K, 1%, Added to Bd.



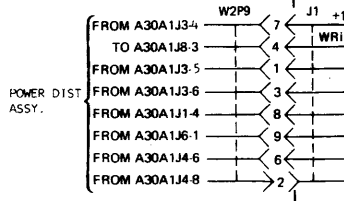
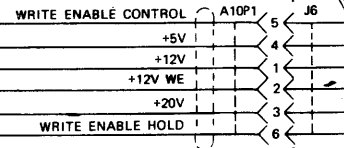
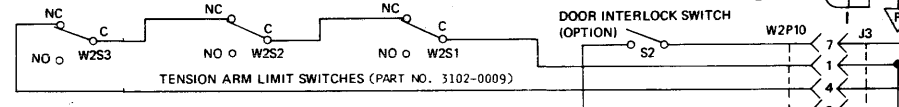
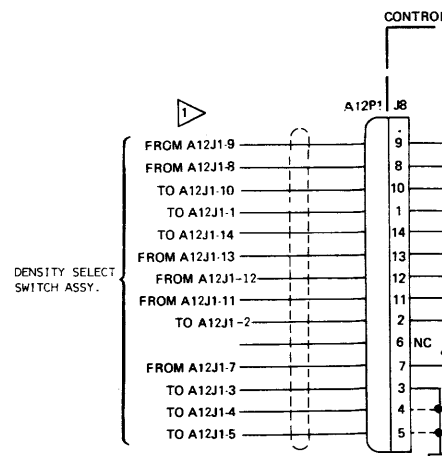
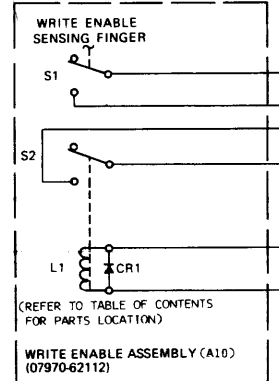
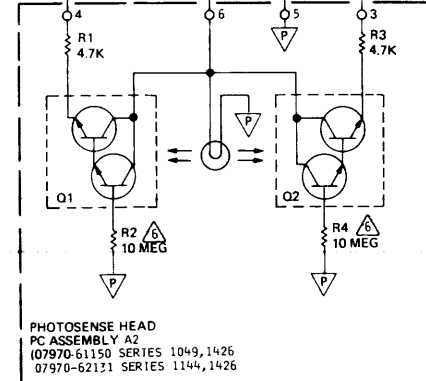
07970-62086  
1013-42



UNIT SELECT SWITCH  
ASSEMBLY A13  
(07970-62086,  
SERIES 1013)



07970-90636 DWG. REV. A



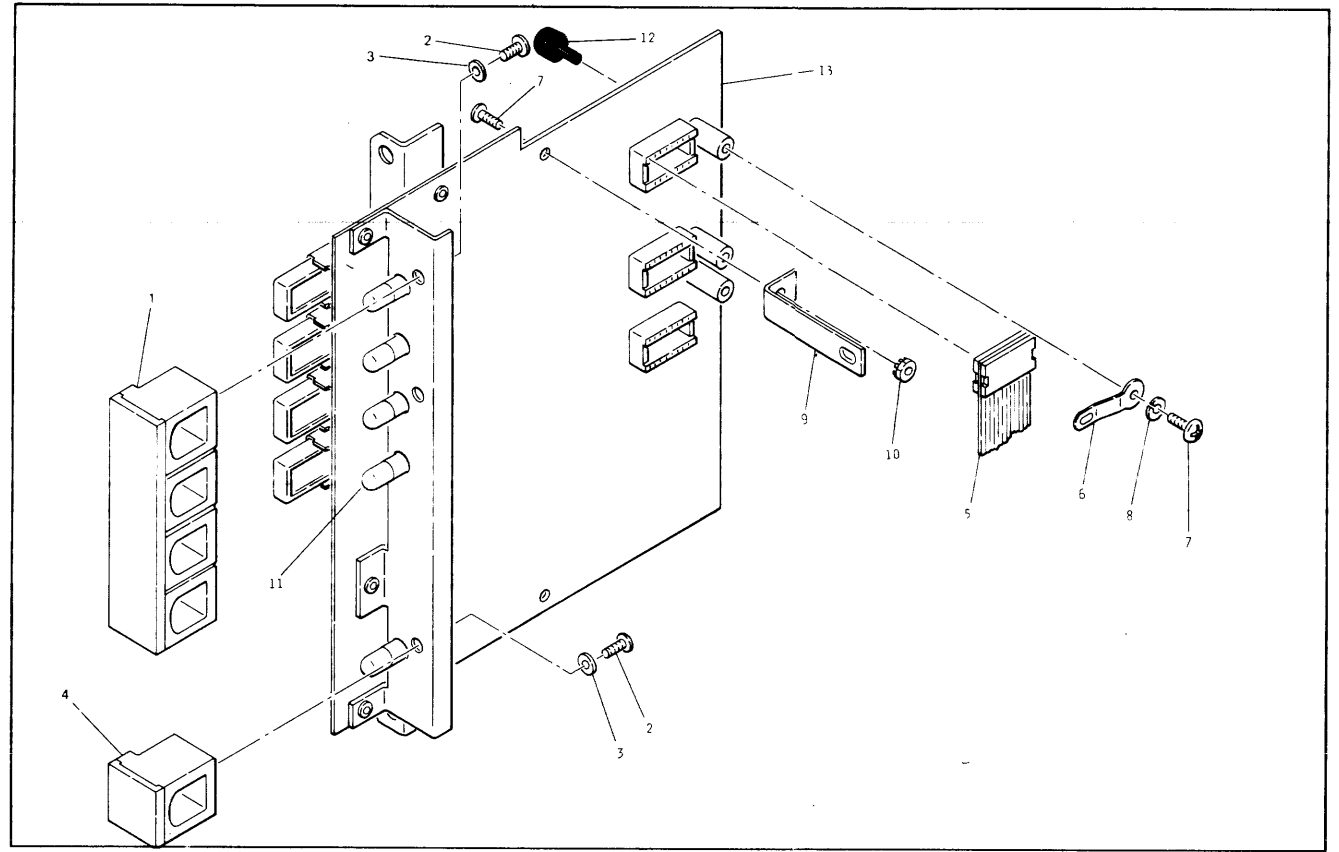




CONTROL SWITCH PCA  
 07970-62089 (Series 1107,1206,1413)  
 07970-62102 (Series 1107)

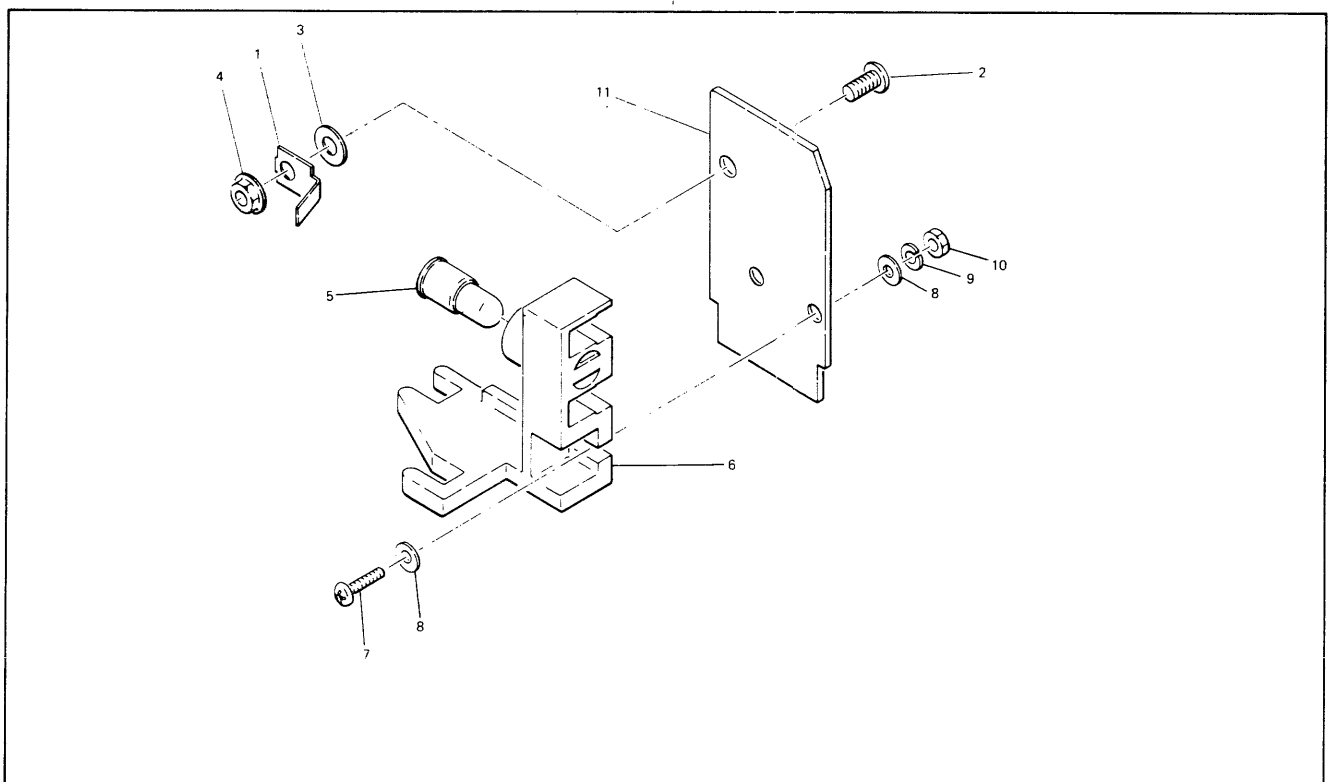
REF. DES./ INDEX NO.	HP PART NO.	DESCRIPTION
	07970-62089 07970-62102	CONTROL SWITCH (Series 1107) CONTROL SWITCH (Series 1107)
*C1		
DS1-5	2140-0209	LAMP, 382, 14V
*Q1-6	1854-0215	TRANSISTOR, 2N3904, PL5
R1-5	0683-3315	RESISTOR, fxd, 330, 5%, .25W
R6-10	0686-2215	RESISTOR, fxd, 220, 5%, .5W
R11	0683-6815	RESISTOR, fxd, 680, 5%, .25W
*R12,13		RESISTOR, fxd
S1-4	3101-0846	SWITCH, Pushbutton
SJ2,7,8	1200-0426	IC, SOCKET
SJ4,5	1251-2361	CONTACT, PC MALE
1	07970-60340	LENS BLOCK ASSY
2	0624-0077	SCREW, Tapping, 4-40
3	2190-0416	WASHER, Flat, #3
4	07970-60960	LENS BLOCK, Write Enable
	0624-0077	SCREW, Tapping, 4-40
	2190-0416	WASHER, Flat, #4
5	07970-62026	CABLE, CAPSTAN
6	07970-00620	CLAMP
7	2360-0115	SCREW, 6-32X, .312L
8	2190-0400	WASHER, Flat
9	07970-00310	BRACKET, ANGLE
	2360-0115	SCREW, 6-32X, .312L
10	2420-0001	NUT, HEX, 6-32
11	2140-0209	LAMP, 382
12	0403-0088	BUMPER, RUBBER, 6-32 Shank
13	07970-80080	CONTROL SWITCH, PCB
	Series 1206	07970-62089
*C1	0180-0061	CAPACITOR, 100uf, -10+75%
*Q6	1854-0215	2N3904
*R12	0683-3925	3900, 5%, .25W
*R13	0683-1035	10K, 5%, .25W
	Series 1413	07970-62089
		NO PARTS CHANGE, Schematic Only

} Added to Board



2225-105A

Control Switch Assembly A11

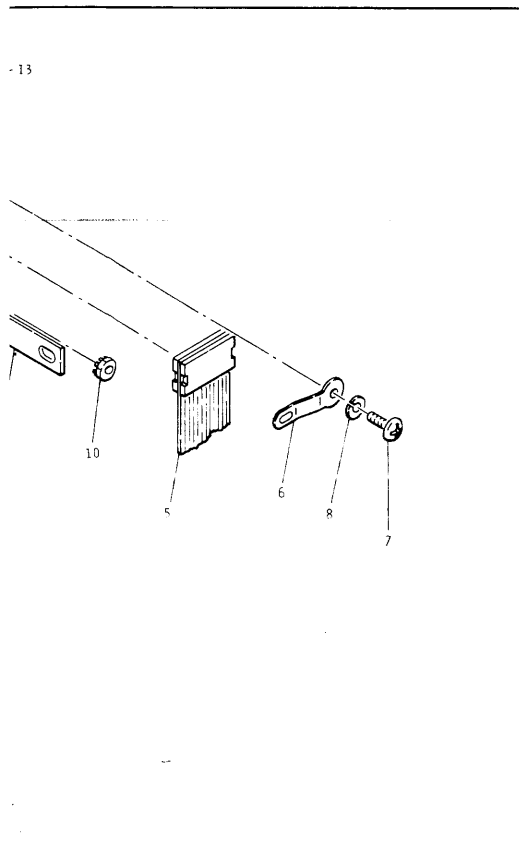


2225-106

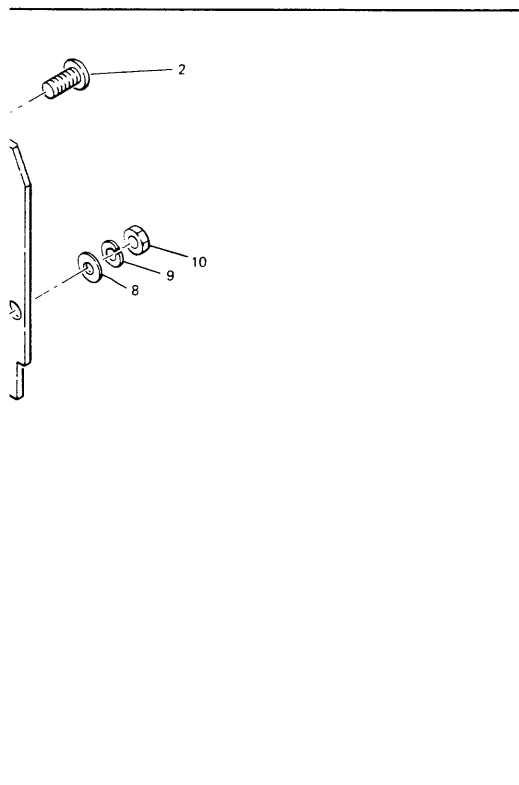
Photosense Head Assembly A2

PHOTOSENSE HEAD PCA PARTS LIST  
 07970-61150 (Series 1049,1426)  
 07970-62131 (Series 1144,1426)

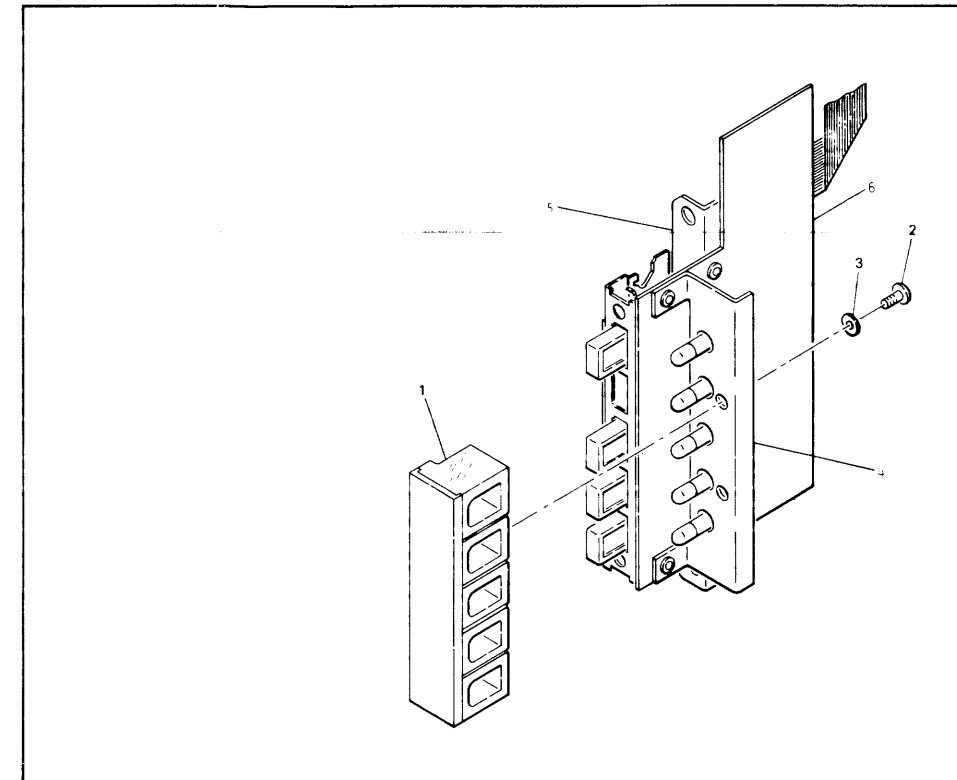
REF.DES. / INDEX NO.	HP PART NO.	DESCRIPTION
	07970-61150	PHOTOSENSE HEAD PCA, (Series 1049)
DS1	2140-0203	LAMP, 8428, 5V
Q1,Q2	1990-0087	PHOTOTRANSISTOR, Silicon
	0340-0726	INSULATOR, Transistor
*R1,3	0698-5999	RESISTOR, fxd, 4.7K, 5%, .125W
*R2,4	0698-7027	RESISTOR, fxd, 10M, 10%, .125W
1	07970-00010	LAMP CONTACT
2	2200-0139	SCREW, 4-40, .25 Pan
3	3050-0105	WASHER, #4
4	2260-0009	NUT, LOCK, 4-40
5	2140-0203	LAMP
6	0050-1647	CASTING, PHOTOSENSE Aluminum
7	0520-0129	SCREW, 2-56, .312
8	2190-0417	WASHER, Flat
9	2190-0045	WASHER, Lock
10	0610-0001	NUT, Hex, 2-56
11	07970-82042	PHOTOSENSE HEAD PCB
	07970-61150	(Series 1426)
*R2,4	0698-7187	RESISTOR, fxd, 2M, 5%, .125W
	07970-62131	(Series 1144)
*R1,3	0757-0940	RESISTOR, fxd, 4.7K, 2%, .125W
*R2,4	0698-8157	RESISTOR, fxd, 9.1M, 1%, .125W
	07970-62131	(Series 1426)
*R2,4	0698-8156	RESISTOR, 2.2M, 1%, .125W



A11



y A2



2225-109A

Unit Select Switch Assembly A13

UNIT SELECT SWITCH ASSY PARTS LIST  
 07970-62086 (Series 1013)

REF. DES. / INDEX NO.	HP PART NO.	DESCRIP
	07970-62086	UNIT SELECT SWIT
C1	0160-0161	CAPACITOR, fxd,
CR1-4	1901-0040	DIODE, 30V, 50 M
DS1-5	2140-0209	LAMP, 382, 14V
R1-4	0757-0280	RESISTOR, fxd, 1
R5,7,9,11	0757-0418	RESISTOR, fxd, 6
R6,8,10,12	0757-0428	RESISTOR, fxd, 1
U1,2	1820-0054	IC, DIGITAL, 740
U3	1820-0348	IC, MC844P
1	07970-60360	LENS BLOCK, Unit
2	0624-0077	SCREW, Tapp
3	2190-0416	WASHER, Fla
4	07970-00540	BRACKET, LENS
5	07970-00550	BRACKET, MOUNTIN
6	07970-80100	UNIT SELECT PCB

Control Switch Assembly A11, Photosense He  
 and Unit Select Switch Assembly A13

DESCRIPTION

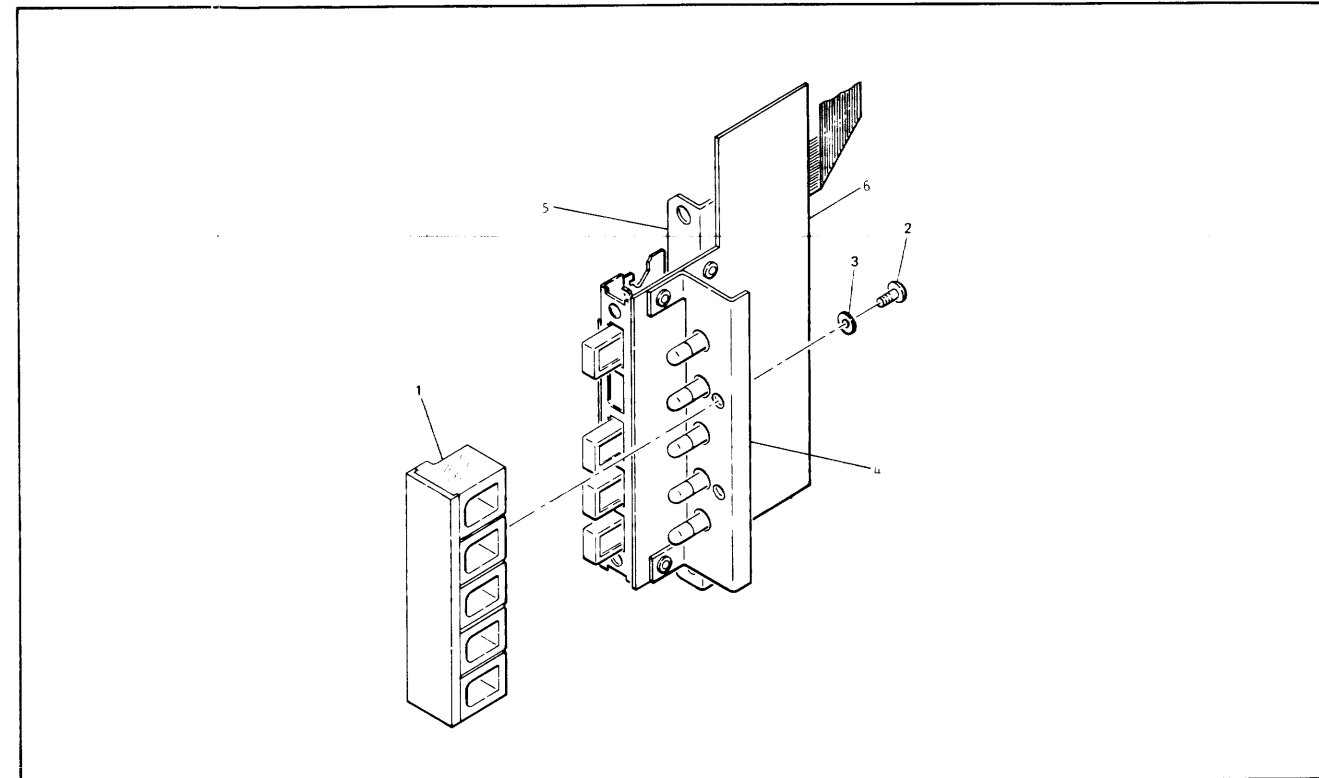
PHOTOSENSE HEAD PCA, (Series 1049)

LAMP, 8428, 5V  
 PHOTOTRANSISTOR, Silicon  
 INSULATOR, Transistor  
 RESISTOR, fxd, 4.7K, 5%, .125W  
 RESISTOR, fxd, 10M, 10%, .125W  
 LAMP CONTACT  
 SCREW, 4-40, .25 Pan  
 WASHER, #4  
 NUT, LOCK, 4-40  
 LAMP  
 CASTING, PHOTOSENSE Aluminum  
 SCREW, 2-56, .312  
 WASHER, Flat  
 WASHER, Lock  
 NUT, Hex, 2-56  
 PHOTOSENSE HEAD PCB

(Series 1426)  
 RESISTOR, fxd, 2M, 5%, .125W

(Series 1144)  
 RESISTOR, fxd, 4.7K, 2%, .125W  
 RESISTOR, fxd, 9.1M, 1%, .125W

(Series 1426)  
 RESISTOR, 2.2M, 1%, .125W

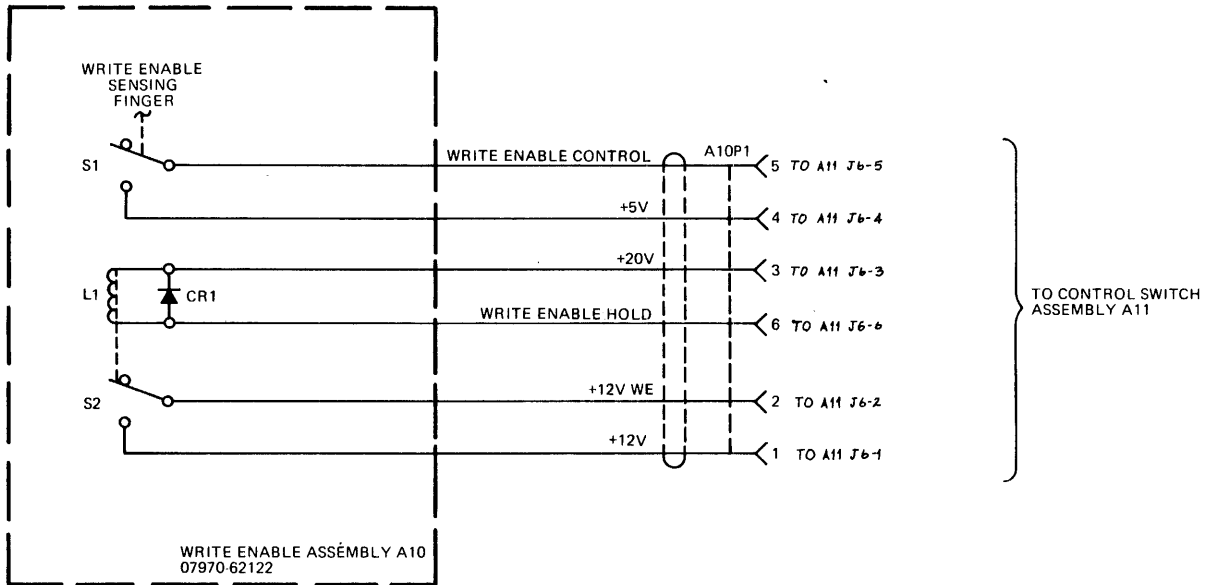


Unit Select Switch Assembly A13

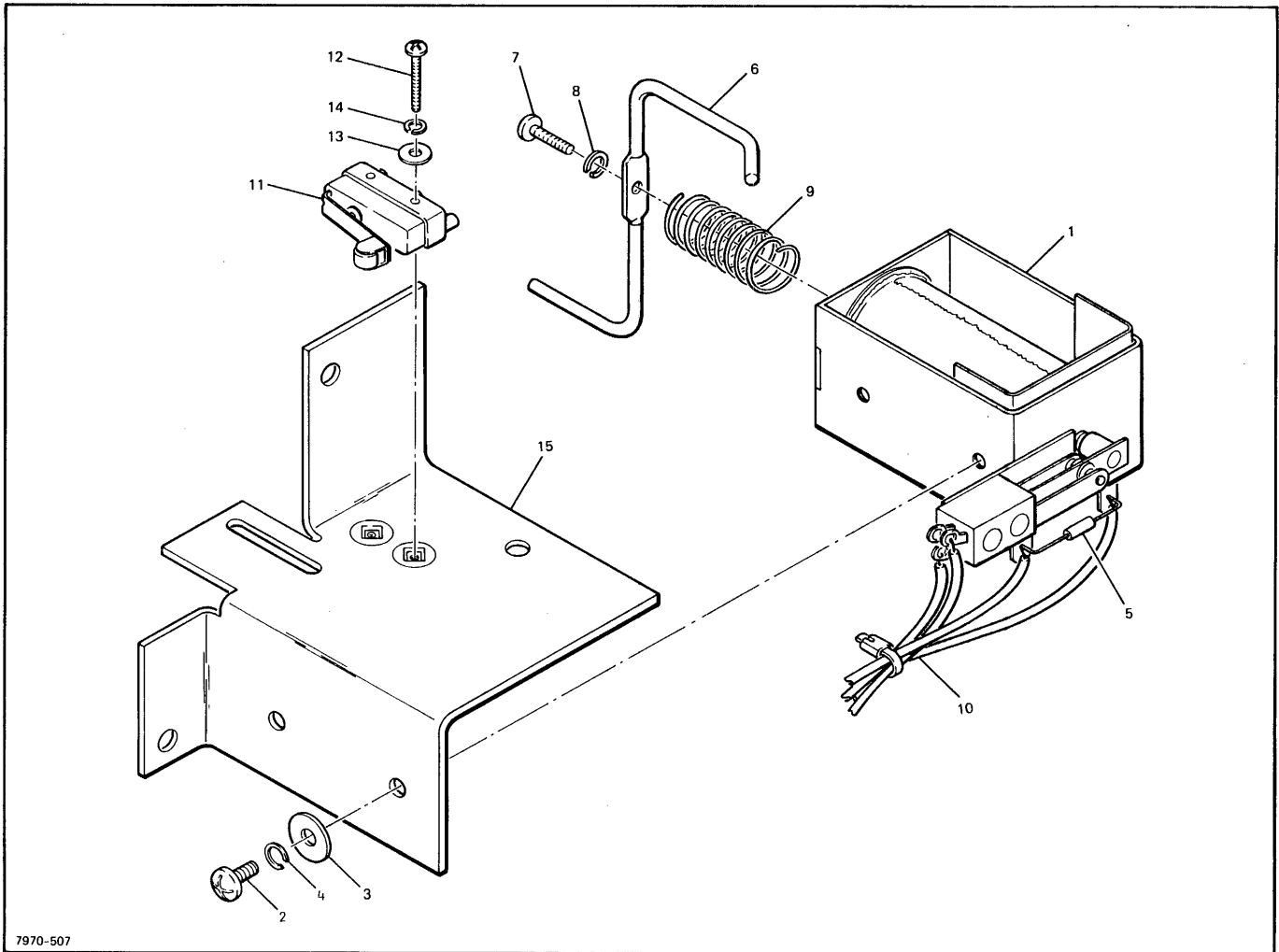
UNIT SELECT SWITCH ASSY PARTS LIST  
 07970-62086 (Series 1013)

REF. DES. / INDEX NO.	HP PART NO.	DESCRIPTION
	07970-62086	UNIT SELECT SWITCH (Series 1013)
C1	0160-0161	CAPACITOR, fxd, .01uf, 10%
CR1-4	1901-0040	DIODE, 30V, 50 MA
DS1-5	2140-0209	LAMP, 382, 14V
R1-4	0757-0280	RESISTOR, fxd, 1K, 1%, .125W
R5,7,9,11	0757-0418	RESISTOR, fxd, 619, 1%, .125W
R6,8,10,12	0757-0428	RESISTOR, fxd, 1.62K, 1%, .125W
U1,2	1820-0054	IC, DIGITAL, 7400
U3	1820-0348	IC, MC844P
1	07970-60360	LENS BLOCK, Unit Select
2	0624-0077	SCREW, Tapping 4-40
3	2190-0416	WASHER, Flat, #4
4	07970-00540	BRACKET, LENS
5	07970-00550	BRACKET, MOUNTING
6	07970-80100	UNIT SELECT PCB

Control Switch Assembly A11, Photosense Head Assembly A2,  
 and Unit Select Switch Assembly A13



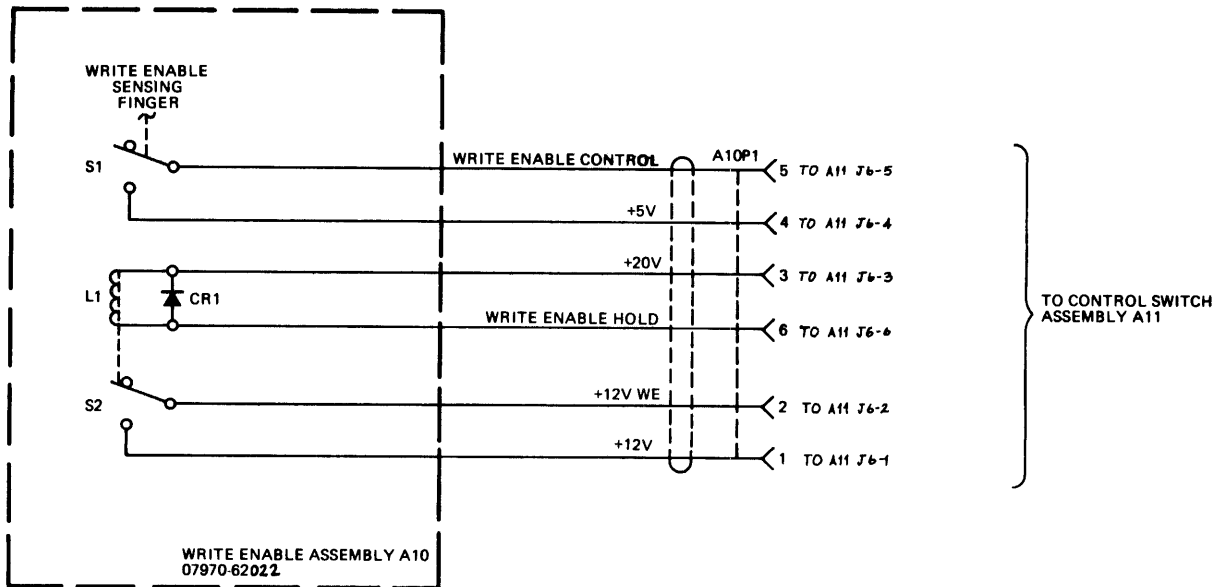
7970-525



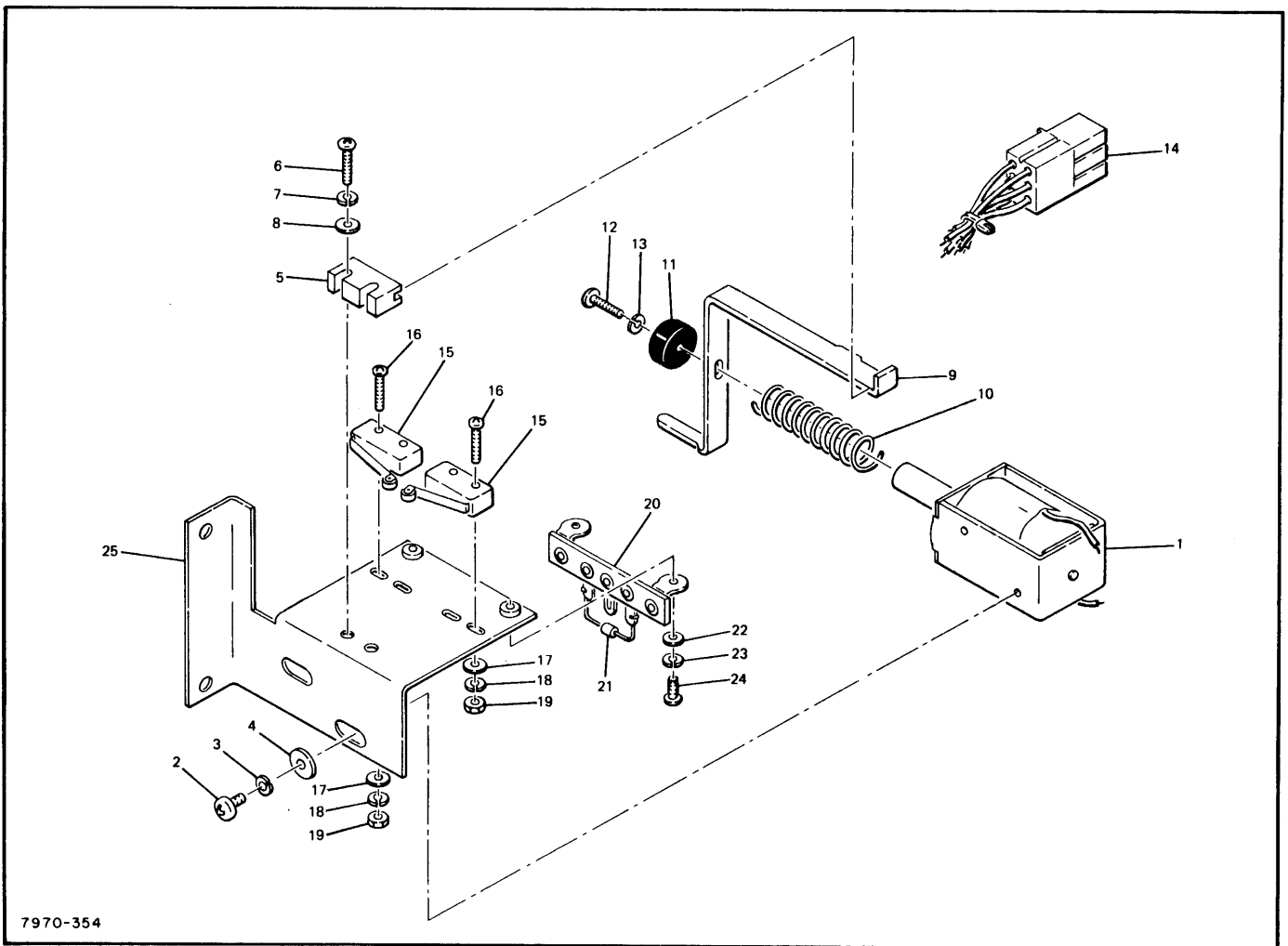
Write Enable Assembly A10

WRITE ENABLE ASSEMBLY PARTS LIST  
07970-62122

REF. DES. / INDEX NO.	HP PART NO.	DESCRIPTION
	07970-62122	WRITE ENABLE ASSEMBLY
1	0491-0062	SOLENOID, 24 VDC, (L1)
2	2360-0193	SCREW, 6-32, .25 Pan
3	3050-0066	WASHER, Flat, #6
4	2190-0003	WASHER, Lock, #4
5	1901-0039	DIODE, 50V, 30MA (CR1)
6	1460-1472	ACTUATOR, Write Enable
7	2200-0141	SCREW, 4-40, .312 in.
8	2190-0061	WASHER, Lock, Hel, #4
9	1460-1288	SPRING, Compression
10	07970-62123	CABLE ASSEMBLY, (W1)
11	3102-0009	SWITCH, Sensitive (S2)
12	0520-0131	SCREW, 2-5X, .437 in.
13	2190-0417	WASHER, Flat, #2
14	2190-0428	WASHER, Lock, Hel, #2
15	07970-01187	BRACKET, Write Enable



7970-526



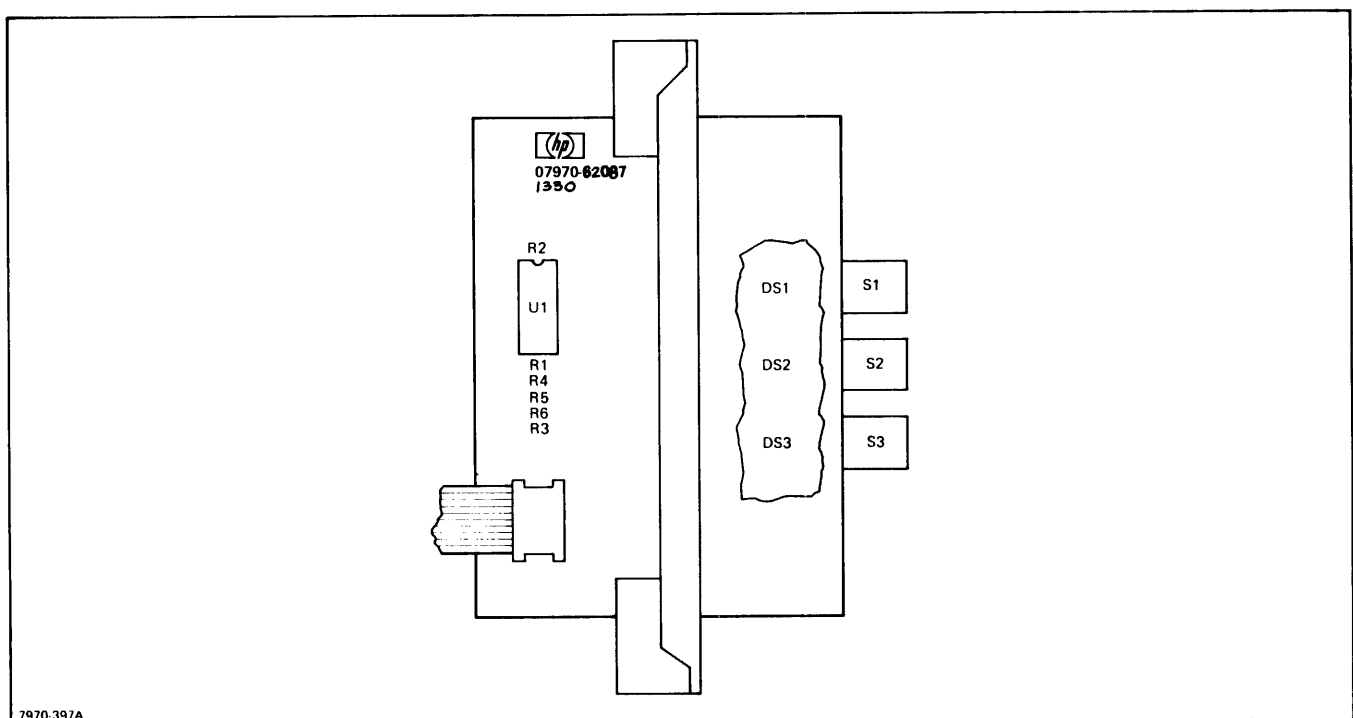
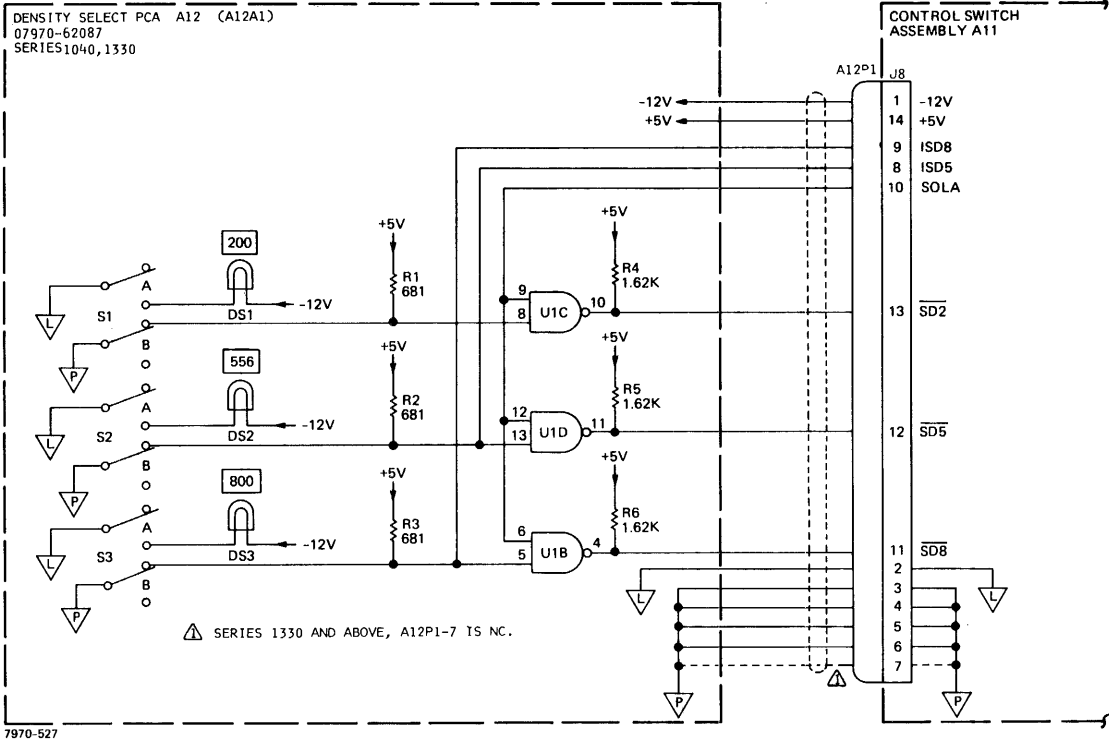
7970-354

Write Enable Assembly A10

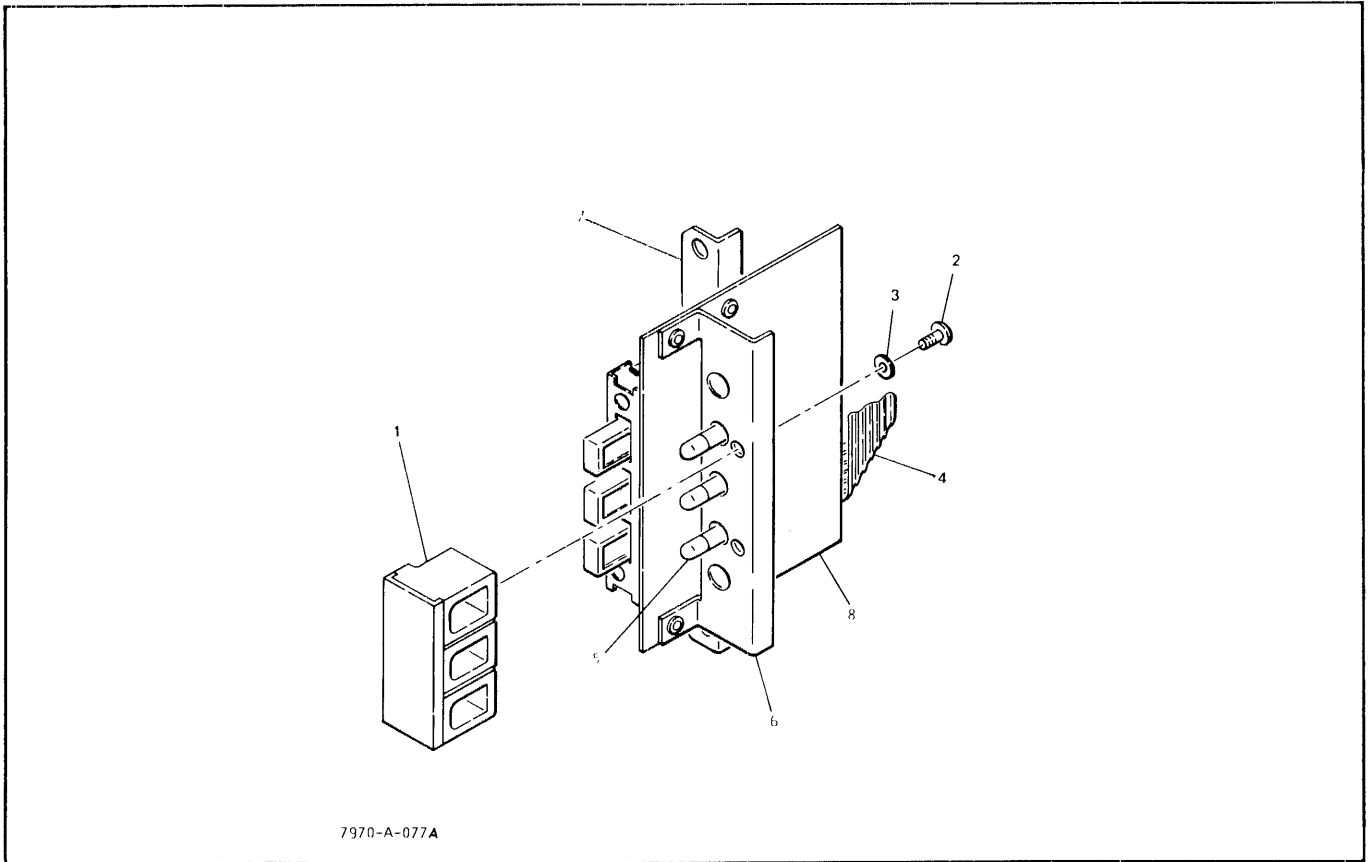
WRITE ENABLE ASSEMBLY PARTS LIST  
07970-62022

REF. DES. / INDEX NO.	HP PART NO.	DESCRIPTION
	07970-62022	WRITE ENABLE ASEMBLY
1	0491-0058	SOLENOID, 24 VDC (L1)
2	2360-0193	SCREW, 6-32, .25 in.
3	2190-0085	WASHER, Lock, Hel, #6
4	3050-0066	WASHER, Flat, #6
5	07970-40201	GUIDE, Write Enable
6	2200-0147	SCREW, 4-40, .5 in.
7	2190-0003	WASHER, Lock, Hel, #4
8	2190-0416	WASHER, Flat, #4
9	07970-00674	ACTUATOR, Write Enable
10	1460-1239	SPRING, Compression
11	0403-0091	BUMPER, Rubber
12	2200-0145	SCREW, 4-40, .312 in.
13	2190-0003	WASHER, Lock, Hel, #4
14	07970-60641	CABLE, Write Enable (W1)
15	3102-0009	SWITCH, Sensitive (S1,2)
16	0520-0133	SCREW, 2-56, .5 in.
17	2190-0417	WASHER, Flat, #2
18	2190-0428	WASHER, Lock, Hel, #2
19	0610-0001	NUT, Hex, 2-56
20	0360-1290	STRIP, Terminal (TB1)
21	1901-0026	DIODE, SI, 200 PIV
22	2190-0416	WASHER, Flat, #4
23	2190-0003	WASHER, Lock, Hel, #4
24	2200-0139	SCREW, 4-40, .25 in.
25	07970-00675	BRACKET, Write Enable





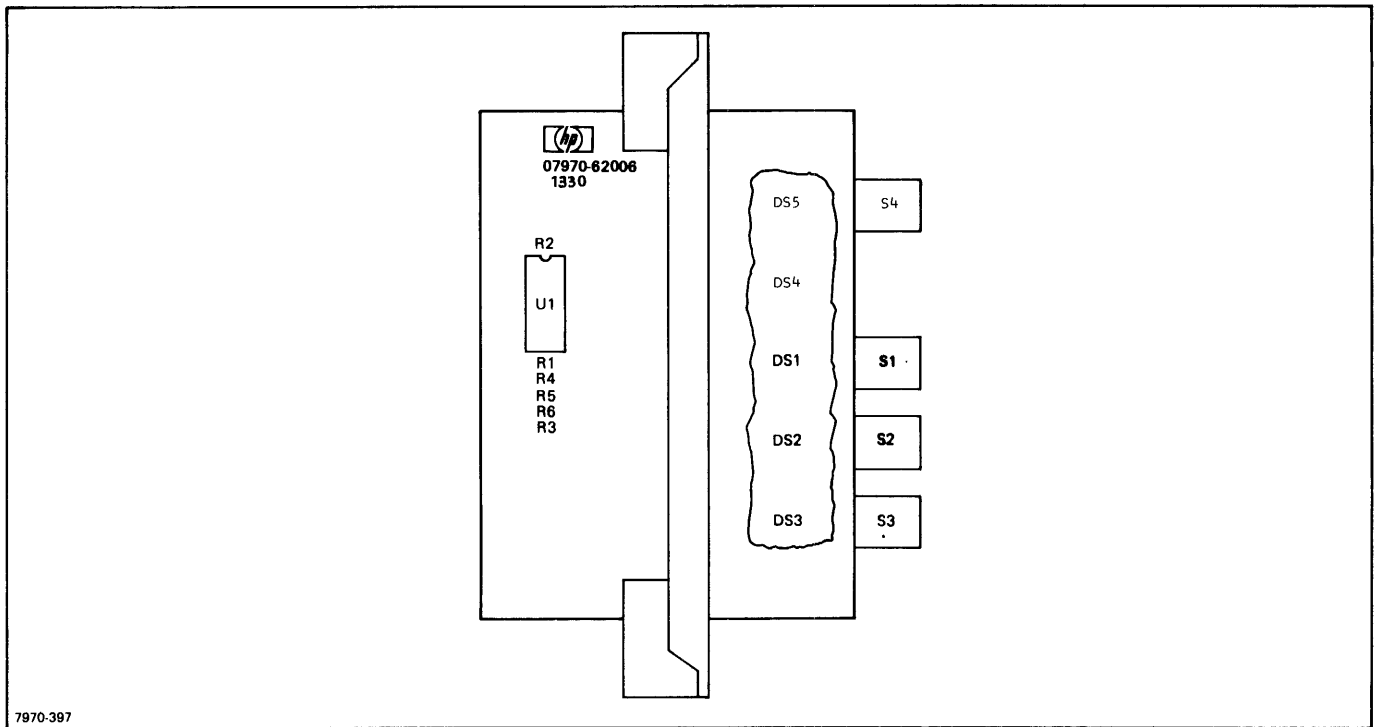
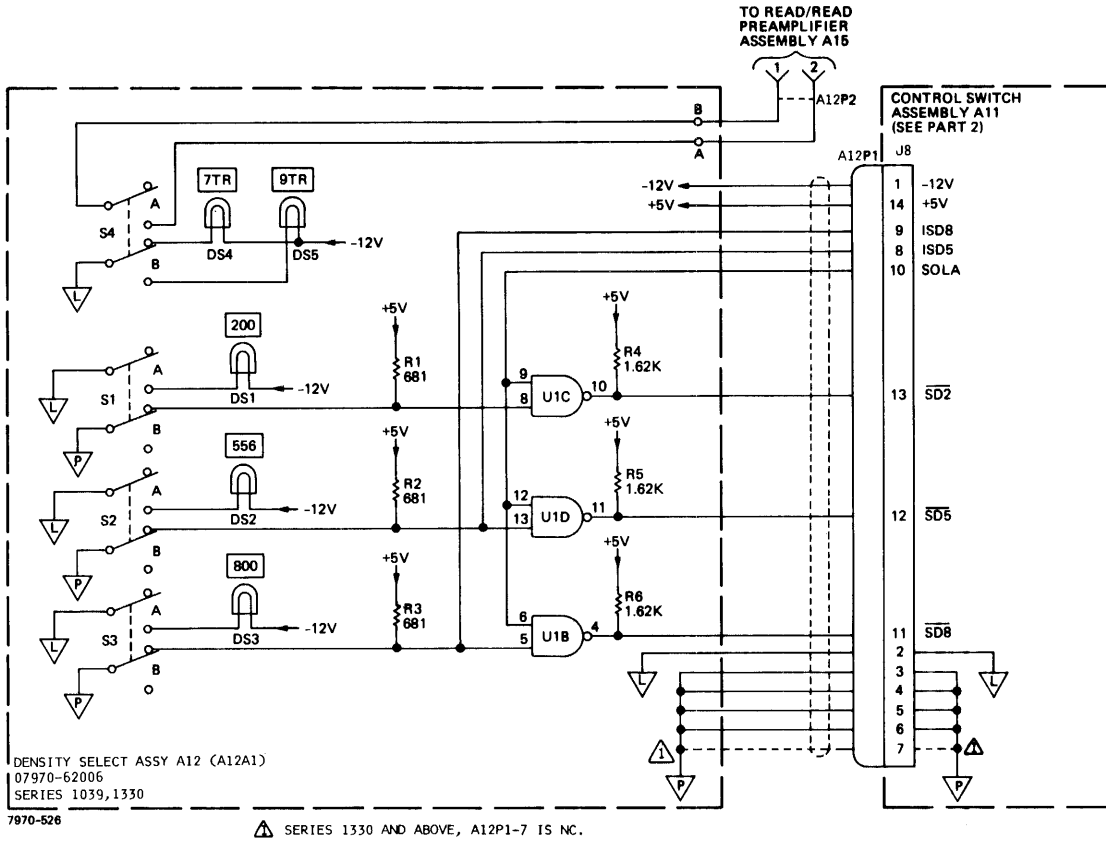
Density Select Switch Assembly A12



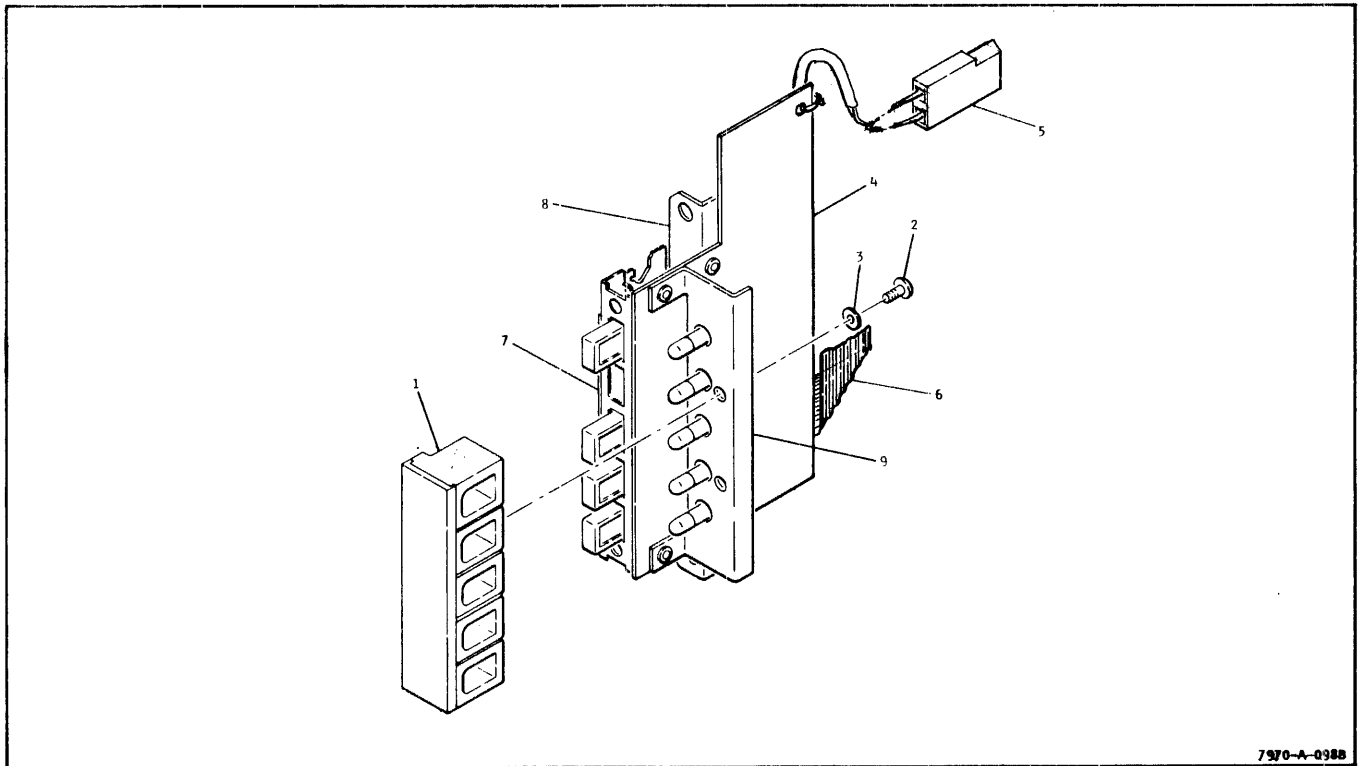
DENSITY SELECT SWITCH ASSEMBLY PARTS LIST  
07970-62087 (Series 1040, 1330)

REF. DES./ INDEX NO.	HP PART NO.	DESCRIPTION
	07970-62087	DENSITY SELECT SWITCH(Series 1040,1330)
DS1,2,3	2140-0209	LAMP, 382, 14V
R1-3	0757-0419	RESISTOR, fxd, 681, 1%, .125W
R4-6	0757-0428	RESISTOR, fxd, 1.62K, 1%, .125W
S1-3	3101-0847	SWITCH, Pushbutton, DPDT
U1	1820-0256	IC, MC858P
1	07970-60350	LENS, ASSEMBLY
2	0624-0077	SCREW, Tapping, 4-40
3	2190-0400	WASHER, Flat, #4
4	07970-60620	CABLE, Density Select
5	2140-0209	LAMP, 14V
6	07970-00540	BRACKET, Lens
7	07970-00550	BRACKET, Mounting
8	07970-80090	DENSITY SELECT PCB

Density Select Switch Assembly A12



Read/Read Density Select Switch Assembly A12



7970-A-0388

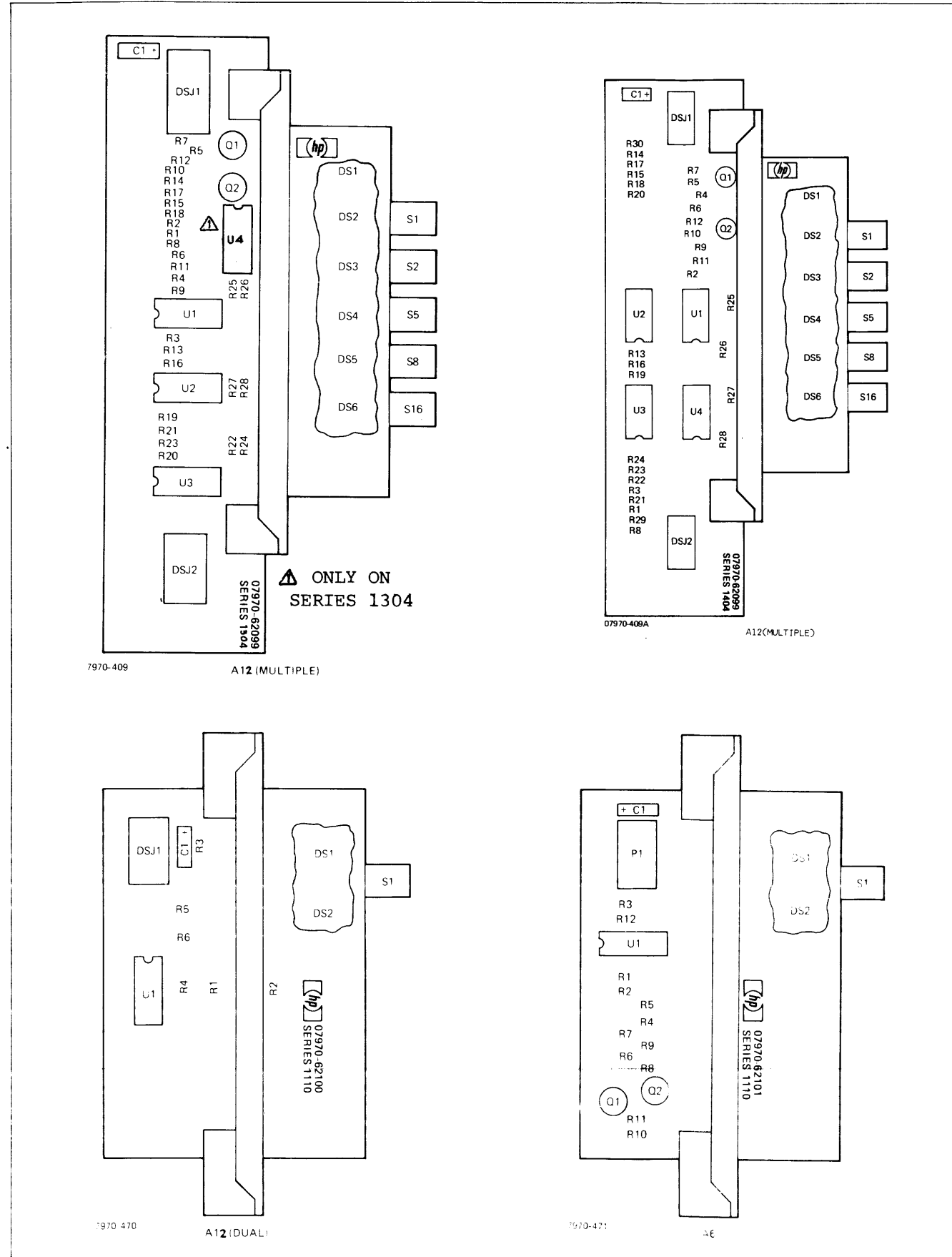
READ READ DENSITY SELECT SWITCH PCA PARTS LIST

07970-62006 (Series 1039, 1330)

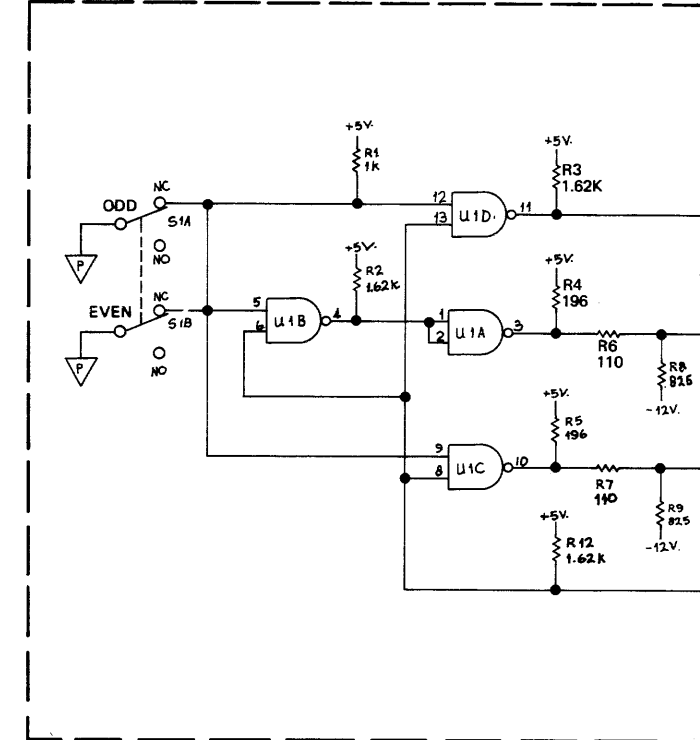
07970-62088 (Series 1039, 1330)

REF. DES./ INDEX NO.	HP PART NO.	DESCRIPTION
①	07970-62006	READ/READ DENSITY SELECT PCA (Series 1039, 1330)
DS1-5	2140-0209	LAMP, 382, 14V
R1,2,3,	0757-0419	RESISTOR, fxd, 681, 1%, .125W
R4,5,6	0757-0428	RESISTOR, fxd, 1.62K, 1%, .125W
S1-4	3101-1535	SWITCH, Pushbutton
U1	1820-0256	IC, MC858P
① 1	07970-62007	LENS BLOCK ASSY, Density Select Switch
2	0624-0077	SCREW, Tapping 4-40
3	2190-0416	WASHER, Flat, #4
4	07970-62006	DENSITY SELECT, PCA
5	1251-2505	CONNECTOR, 2 Pin
6	07970-60620	CABLE ASSEMBLY, Density Select Switch
7	3101-1535	SWITCH ASSEMBLY, (S1-S4) (Not field replaceable)
8	07970-00550	BRACKET, Mounting
9	07970-00540	BRACKET, Lens
① 07970-62088 is the same unit as 07970-62006 with added LENS BLOCK ASSEMBLY, part number 07970-62007.		

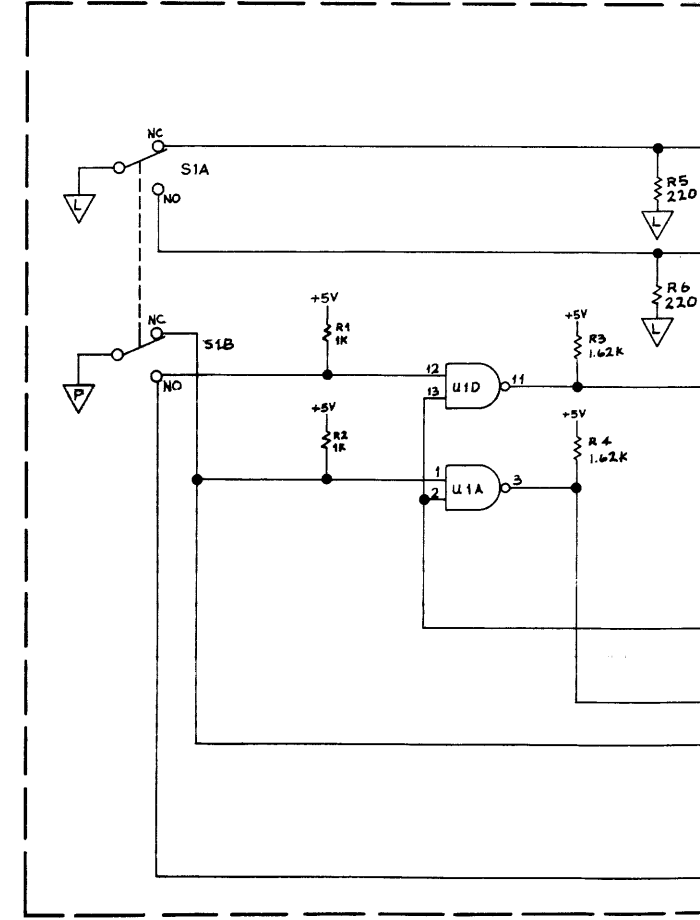
Read/Read Density Select Switch Assembly A12

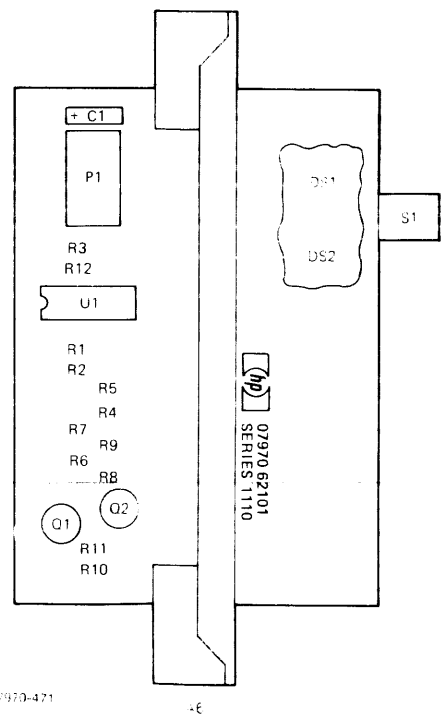
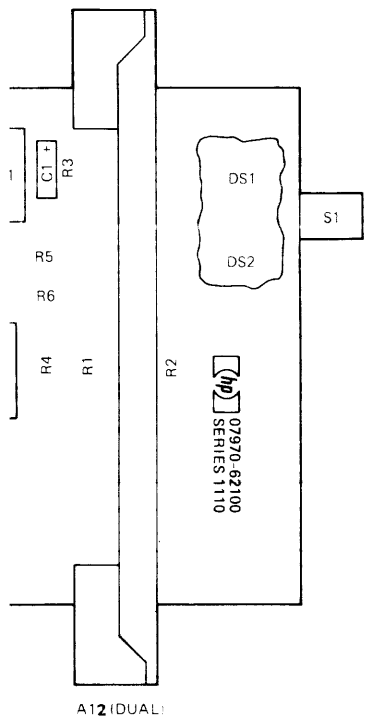
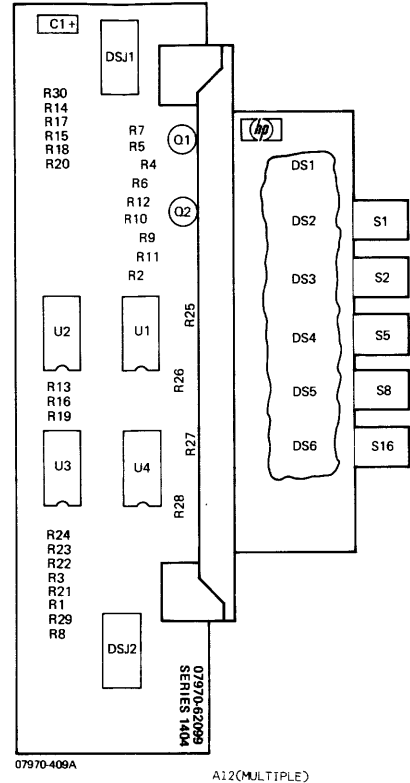
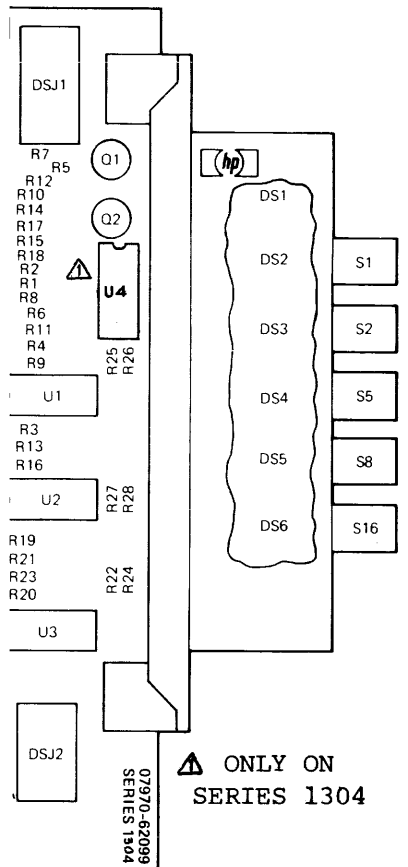


PARITY SELECT SWITCH ASSEMBLY A6  
(07970-62101, SERIES 1110)

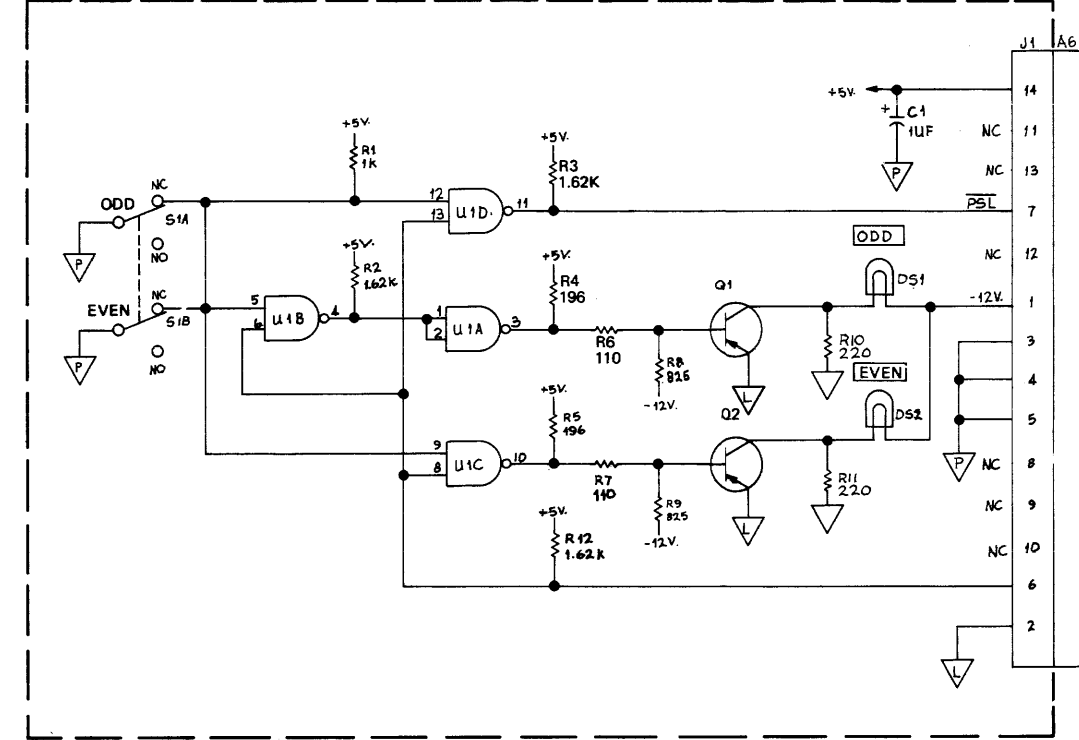


DUAL DENSITY SELECT SWITCH ASSEMBLY A12  
(07970-62100, SERIES 1110)

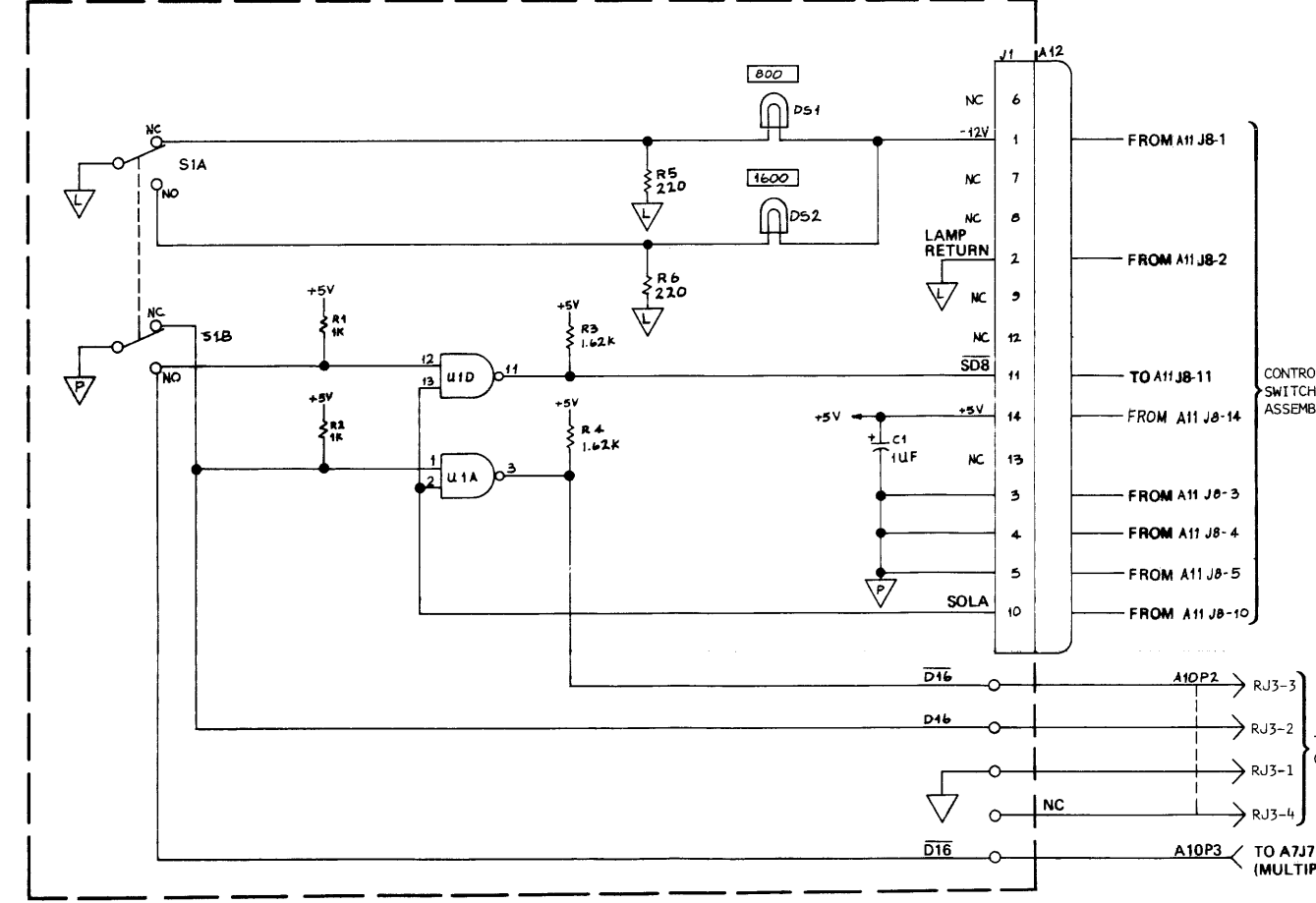




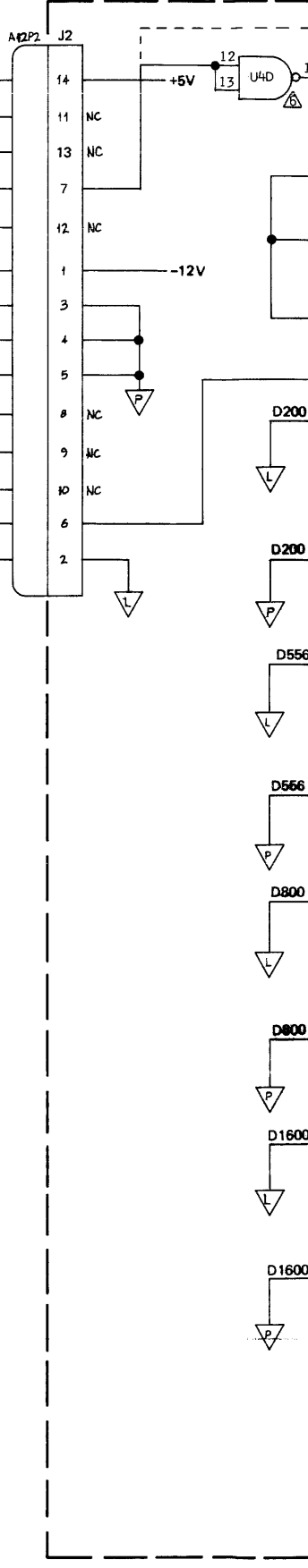
PARITY SELECT SWITCH ASSEMBLY A6  
(07970-62101, SERIES 1110)



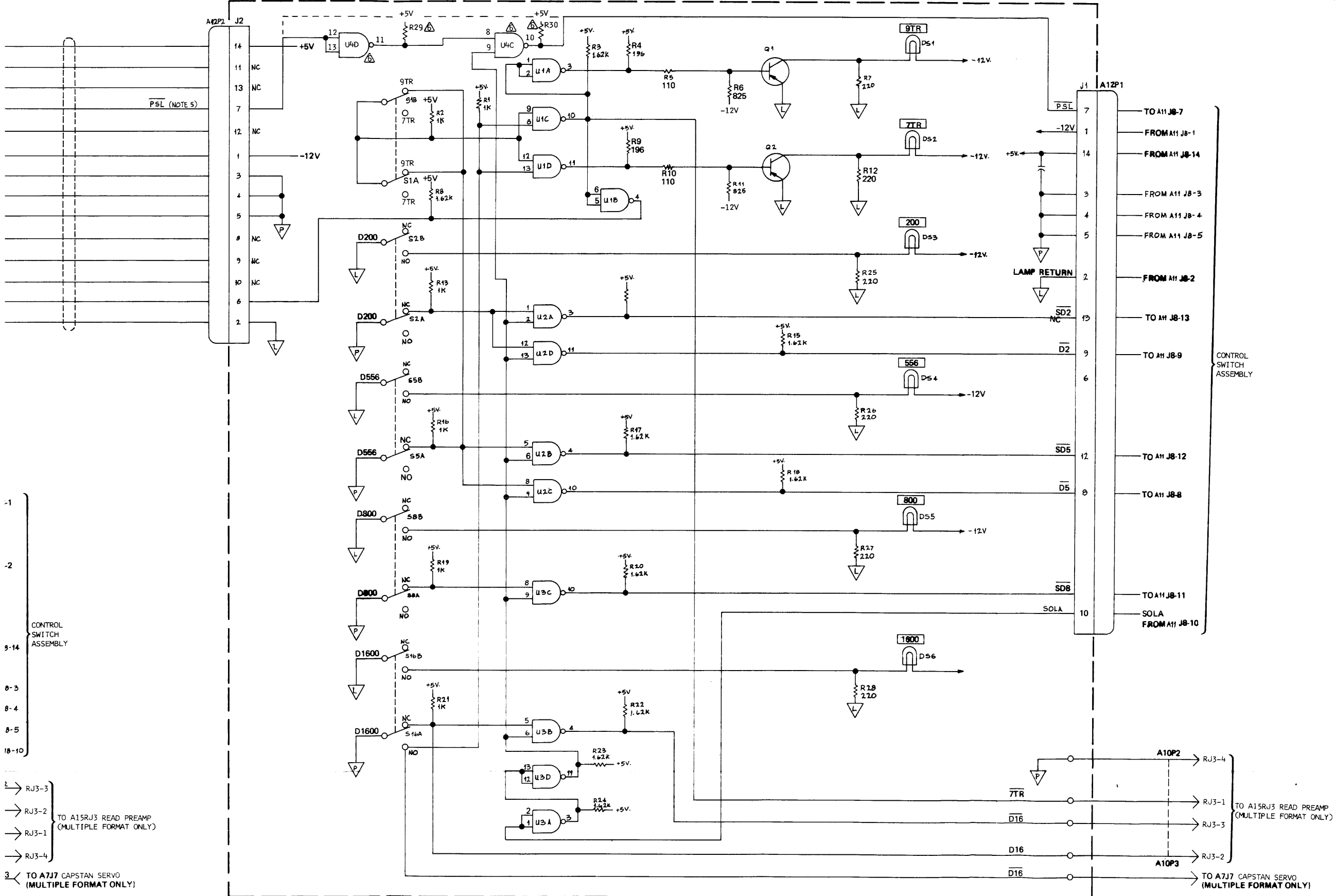
DUAL DENSITY SELECT SWITCH ASSEMBLY A12  
(07970-62100, SERIES 1110)



MULTIPLE DENSITY SELECT SWITCH A  
(07970-62099, SERIES 1124, 1304, 1404)



MULTIPLE DENSITY SELECT SWITCH ASSEMBLY A12  
(07970-62099, SERIES 1124, 1304, 1404)

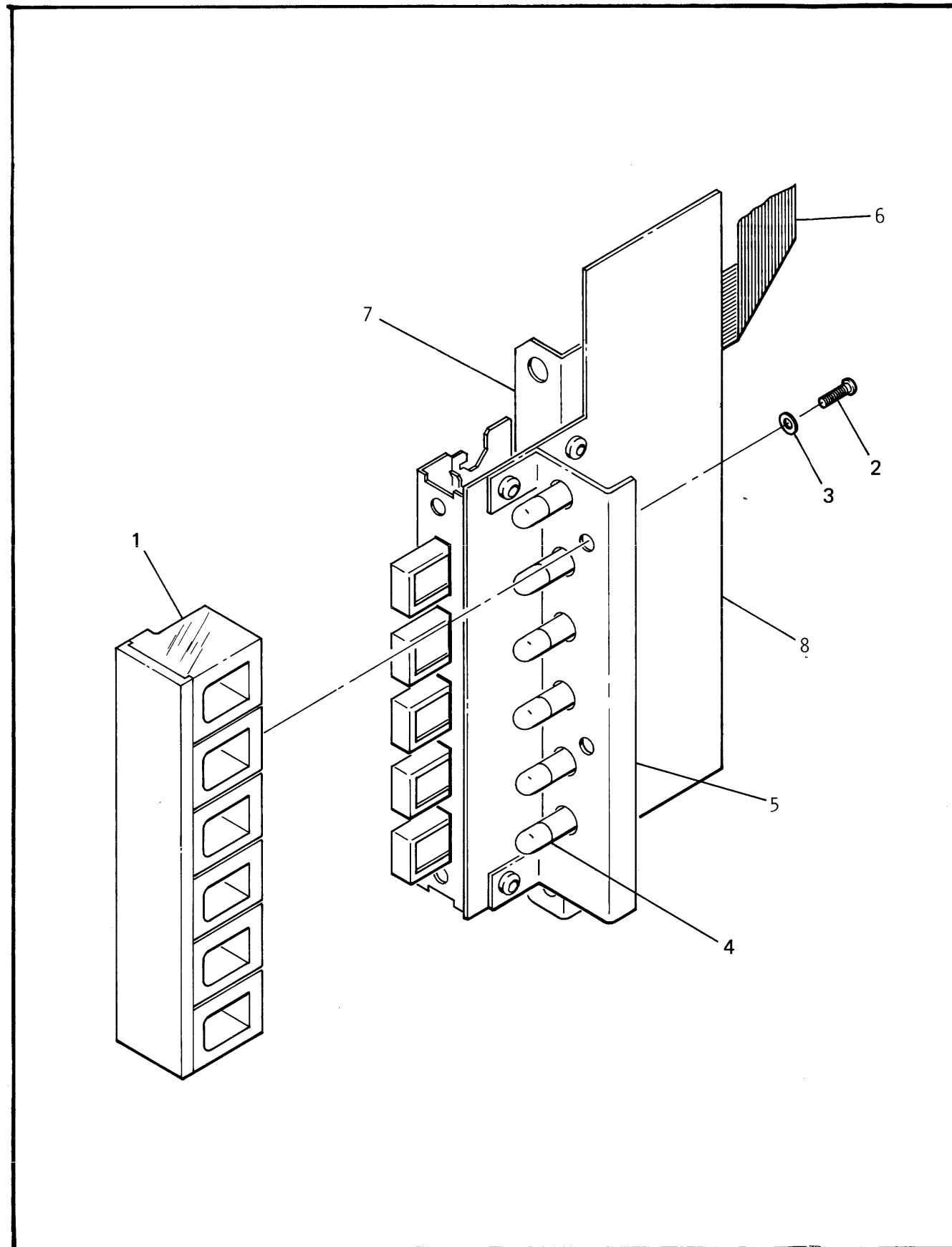


- NOTES:
1. ALL RESISTORS ARE 1/8W.M.F. UNLESS OTHERWISE NOTED
  2. ALL IC'S ARE MC-858P hp #1820-0256.
  3. ALL LAMPS ARE #382 M.D. FLANGE.
  4. DENSITY SWITCHES S1, S2, S5, S8, AND S16 ARE INTERLOCKED TO SELECT ONLY ONE SWITCH AT A TIME.
  5. PSL IS FORMED BY EVEN PARITY AND 7 TR SELECTED: 7 TR = (D16), 7 TR SELECTED PSL IS FORMED BY ODD PARITY AND 9 TR SELECTED: 9 TR = (D16) + (D5 · 9 TR SELECTED).
- THESE POINTS ARE COMMON (LAMP RETURN)  
 THESE POINTS ARE COMMON (POWER RETURN)
6. SERIES 1124 DOES NOT HAVE U4, R29, AND R30, AND J1-7 TO J2-7 IS A DIRECT CONNECTION.

Density Select Switch Assemblies A12, and Parity Select Switch Assembly A6





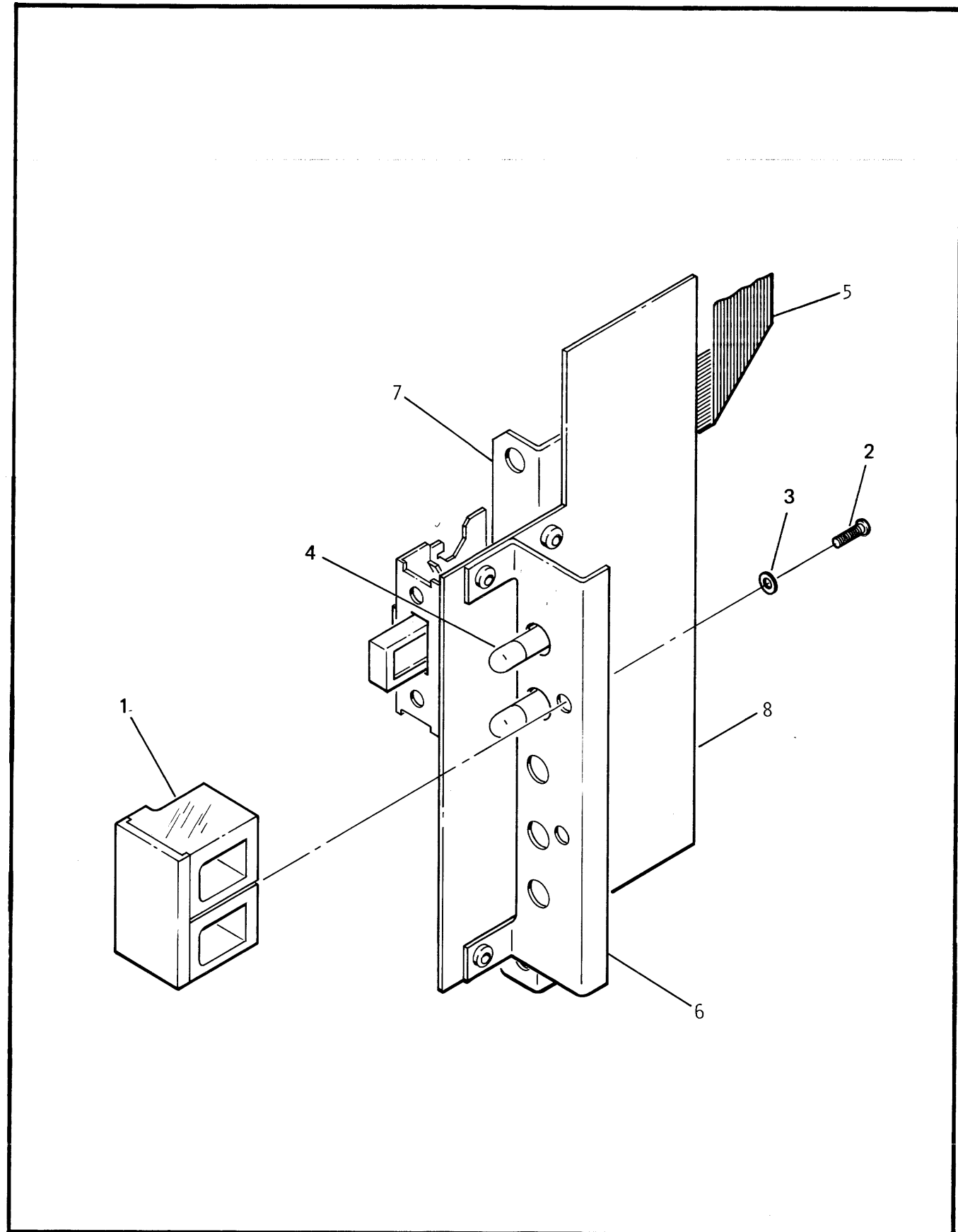


DENSITY SELECT PCA PARTS LIST  
07970-62099 (Series 1124, 1304, 1404)

REF. DES./ INDEX NO.	HP PART NO.	DESCRIPTION
	07970-62099	DENSITY SELECT PCA (Series 1124)
C1	0180-0291	CAPACITOR, fxd, 1uf, 35VDC
DS1-6	2140-0209	LAMP, 382, 14V
Q1,2	1853-0016	TRANSISTOR, 2N3638, TO92
	0340-0164	INSULATOR, Transistor
R1,2,3,13,16,19,21	0757-0280	RESISTOR, fxd, 1K, 1%, .125W
R3,8,14,15,17, 18,20, 22-24, *(29,30)	0757-0428	RESISTOR, fxd, 1.62K, 1%, .125W
R4,9	0757-1060	RESISTOR, fxd, 196, 1%, .5W
R5,10	0757-0402	RESISTOR, fxd, 110, 1%, .125W
R6,11	0757-0818	RESISTOR, fxd, 825, 1%, .5W
R7,12,25-28	0686-2215	RESISTOR, fxd, 220, 5%, .5W
S1,2,5,8,16	3101-1647	SWITCH, PUSHBUTTON
*U1-4	1820-0256	IC, MC858P
1	07970-62264	LENS ASSEMBLY, DENSITY SELECT
2	0624-0077	SCREW, Tapping, 4-40
3	2190-0400	WASHER, Flat
4	2140-0209	LAMP, 14V
5	07970-01183	BRACKET, LENS
6	07970-62081	CABLE, DENSITY SELECT
7	07970-01177	BRACKET, MOUNTING
8	07970-82025	DENSITY SELECT PCB
*R29, R30	Series 1304 0757-0428	RESISTOR, fxd, 1K, Added to Board
*U4	1820-0256	IC, Digital MC858P Added to Board
	Series 1404	PARTS LAYOUT AND ART WORK CHANGE ONLY

DESCRIPTION
SELECT PCA (Series 1124)
3R, fxd, 1uf, 35VDC
32, 14V
FOR, 2N3638, T092
3ULATOR, Transistor
3, fxd, 1K, 1%, .125W
3, fxd, 1.62K, 1%, .125W
3, fxd, 196, 1%, .5W
3, fxd, 110, 1%, .125W
3, fxd, 825, 1%, .5W
3, fxd, 220, 5%, .5W
PUSHBUTTON
58P
SEMBLY, DENSITY SELECT
REW, Tapping, 4-40
SHER, Flat
4V
, LENS
DENSITY SELECT
, MOUNTING
SELECT PCB

3, fxd, 1K, Added to Board  
 ital MC858P Added to Board  
 LAYOUT AND ART WORK CHANGE ONLY



2225-123  
 2225-124

Select Switch Assemblies A12 and A6

DUAL DENSITY SWITCH PCA PARTS LIST  
 07970-62100 (Series 1110)

REF. DES./ INDEX NO.	HP PART NO.	DESCRIPTION
C1	0180-0291	CAPACITOR, fxd, 1uf, 35VDC
DS1,2	2140-0209	LAMP, 382, 14V
R1,2	0757-0280	RESISTOR, fxd, 1K, 1%, .125W
R3,4	0757-0428	RESISTOR, fxd, 1.62K, 1%, .125W
R5,6	0686-2215	RESISTOR, fxd, 220, 5%, .5W
S1	3101-1630	SWITCH, Pushbutton
U1	1820-0256	IC, MC858P
1	07970-62261	LENS ASSEMBLY
2	0624-0077	SCREW, Tapping, 4-40
3	2190-0400	WASHER, Flat, #4
4	2140-0209	LAMP, 14V
5	07970-62081	CABLE, Density Select
6	07970-00540	BRACKET, Lens
7	07970-00550	BRACKET, Mounting
8	07970-82030	DUAL DENSITY SELECT PCB

PARITY SELECT SWITCH ASSEMBLY PARTS LIST  
 07970-62101 (Series 1110)

REF. DES./ INDEX NO.	HP PART NO.	DESCRIPTION
C1	0180-0291	CAPACITOR, fxd, 1uf, 35VDC
DS1,2	2140-0209	LAMP, 382, 14V
Q1,2	1853-0016	TRANSISTOR, 2N3638, T092
	0340-0164	INSULATOR, Transistor
R1	0757-0280	RESISTOR, fxd, 1K, 1%, .125W
R2,3,12	0757-0428	RESISTOR, fxd, 1.62K, 1%, .125W
R4,5	0757-1060	RESISTOR, fxd, 196, 1%, .5W
R6,7	0757-0402	RESISTOR, fxd, 110, 1%, .125W
R8,9	0757-0818	RESISTOR, fxd, 825, 1%, .5W
R10,11	0686-2215	RESISTOR, fxd, 220, 5%, .5W
S1	3101-1630	SWITCH
U1	1820-0256	IC, MC858P
1	07970-62262	LENS ASSEMBLY, PARITY SELECT
2	0624-0077	SCREW, Tapping, 4-40
3	2190-0400	WASHER, Flat, #4
4	2140-0209	LAMP, 14V
5	07970-62080	CABLE, Parity
6	07970-00540	BRACKET, LENS
7	07970-00550	BRACKET, Mounting
8	07970-82026	PARITY SELECT PCB

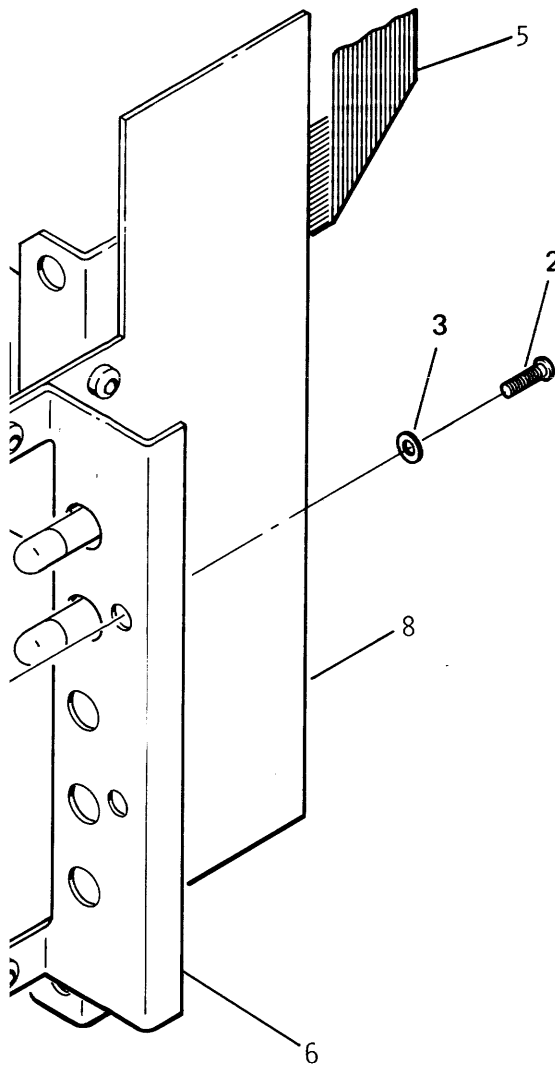
Density Select Switch Assemblies A12,  
 and Parity Select Switch Assembly A6

DUAL DENSITY SWITCH PCA PARTS LIST  
07970-62100 (Series 1110)

REF. DES./ INDEX NO.	HP PART NO.	DESCRIPTION
C1	0180-0291	CAPACITOR, fxd, luf, 35VDC
DS1,2	2140-0209	LAMP, 382, 14V
R1,2	0757-0280	RESISTOR, fxd, 1K, 1%, .125W
R3,4	0757-0428	RESISTOR, fxd, 1.62K, 1%, .125W
R5,6	0686-2215	RESISTOR, fxd, 220, 5%, .5W
S1	3101-1630	SWITCH, Pushbutton
U1	1820-0256	IC, MC858P
1	07970-62261	LENS ASSEMBLY
2	0624-0077	SCREW, Tapping, 4-40
3	2190-0400	WASHER, Flat, #4
4	2140-0209	LAMP, 14V
5	07970-62081	CABLE, Density Select
6	07970-00540	BRACKET, Lens
7	07970-00550	BRACKET, Mounting
8	07970-82030	DUAL DENSITY SELECT PCB

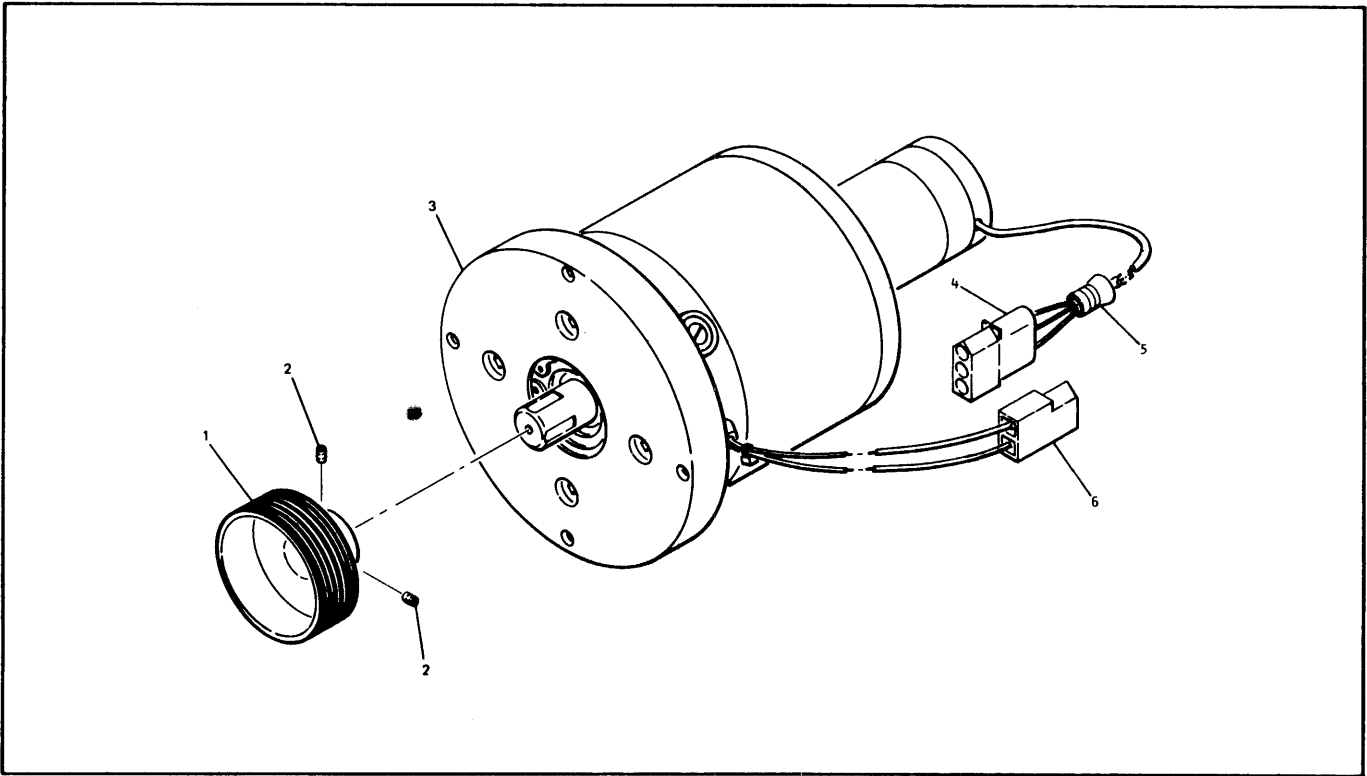
PARITY SELECT SWITCH ASSEMBLY PARTS LIST  
07970-62101 (Series 1110)

REF. DES./ INDEX NO.	HP PART NO.	DESCRIPTION
C1	0180-0291	CAPACITOR, fxd, luf, 35VDC
DS1,2	2140-0209	LAMP, 382, 14V
Q1,2	1853-0016	TRANSISTOR, 2N3638, TO92
	0340-0164	INSULATOR, Transistor
R1	0757-0280	RESISTOR, fxd, 1K, 1%, .125W
R2,3,12	0757-0428	RESISTOR, fxd, 1.62K, 1%, .125W
R4,5	0757-1060	RESISTOR, fxd, 196, 1%, .5W
R6,7	0757-0402	RESISTOR, fxd, 110, 1%, .125W
R8,9	0757-0818	RESISTOR, fxd, 825, 1%, .5W
R10,11	0686-2215	RESISTOR, fxd, 220, 5%, .5W
S1	3101-1630	SWITCH
U1	1820-0256	IC, MC858P
1	07970-62262	LENS ASSEMBLY, PARITY SELECT
2	0624-0077	SCREW, Tapping, 4-40
3	2190-0400	WASHER, Flat, #4
4	2140-0209	LAMP, 14V
5	07970-62080	CABLE, Parity
6	07970-00540	BRACKET, LENS
7	07970-00550	BRACKET, Mounting
8	07970-82026	PARITY SELECT PCB



semblies A12 and A6

Density Select Switch Assemblies A12,  
and Parity Select Switch Assembly A6



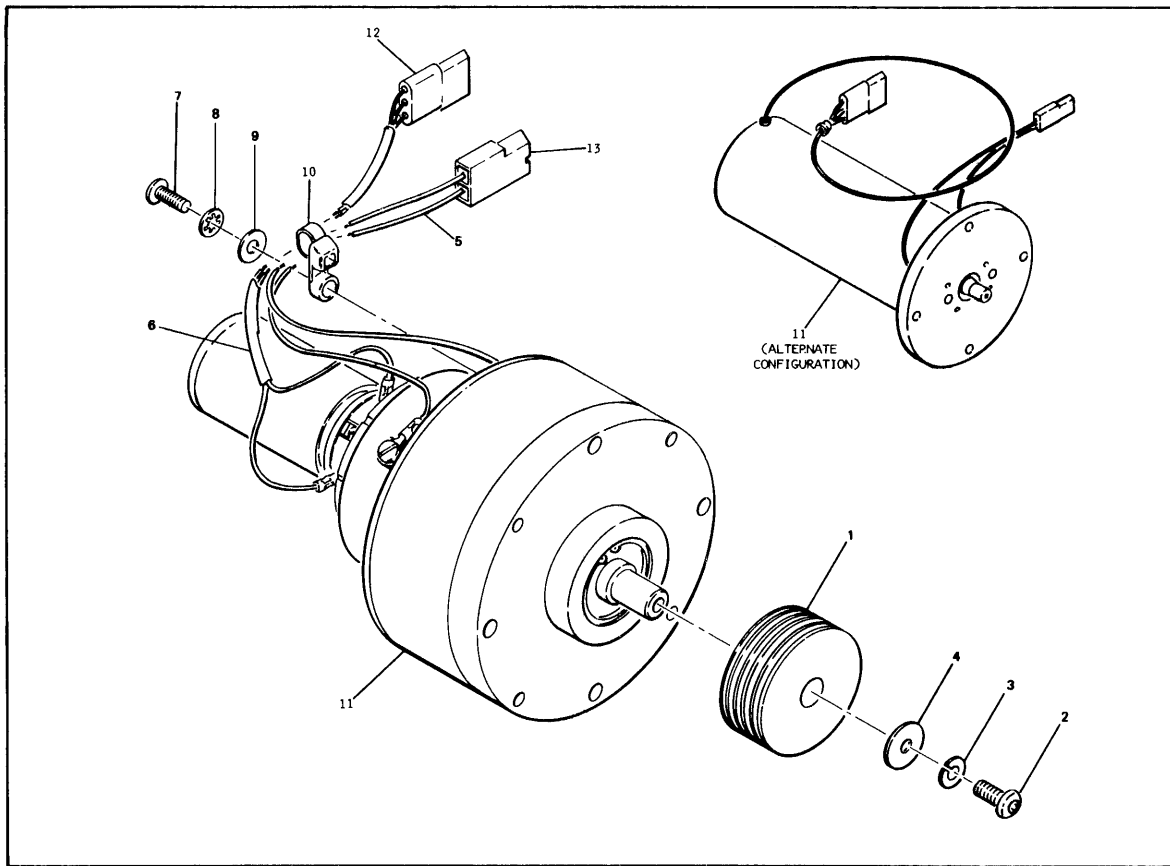
2228-110

**CAPSTAN MOTOR ASSEMBLY PARTS LIST  
07970-60140**

REF. DES./	HP PART NO.	DESCRIPTION
	07970-60140	CAPSTAN MOTOR ASSEMBLY (10-37.5 ips)
1	07970-20390	CAPSTAN
2	3030-0007	SETSCREW, 4-40, .125 in.
3	3140-0705	MOTOR, Tachometer
4	1251-2508	CONNECTOR, 3 Pin
	1251-2599	CONTACT, Male
	1251-2600	CONTACT, Female
5	0362-0018	CABLE SLEEVE
6	1251-2505	CONNECTOR, 2 Pin
	1251-2599	CONTACT, Male
	1251-2600	CONTACT, Female

Capstan Motor Assembly MGI

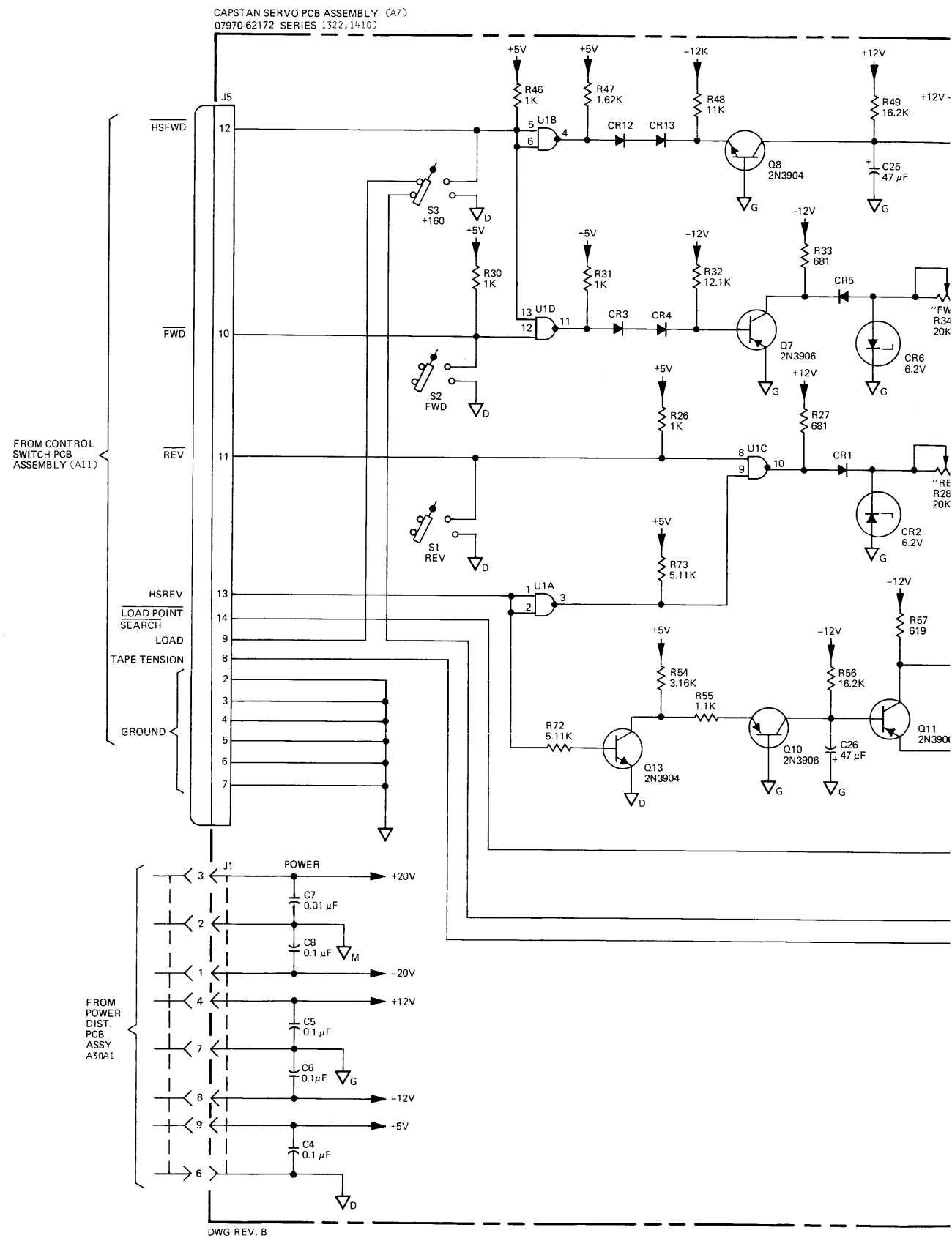
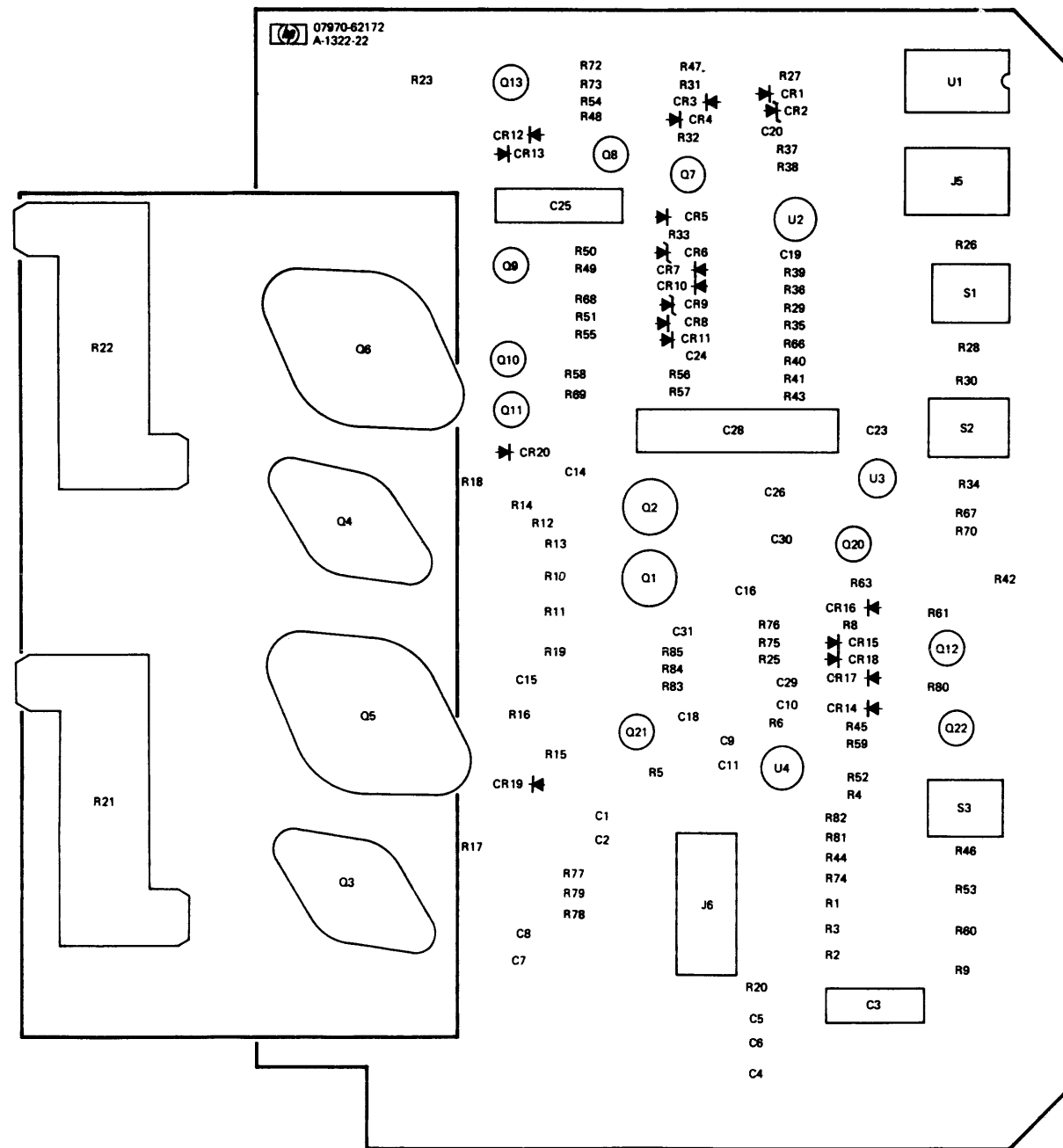


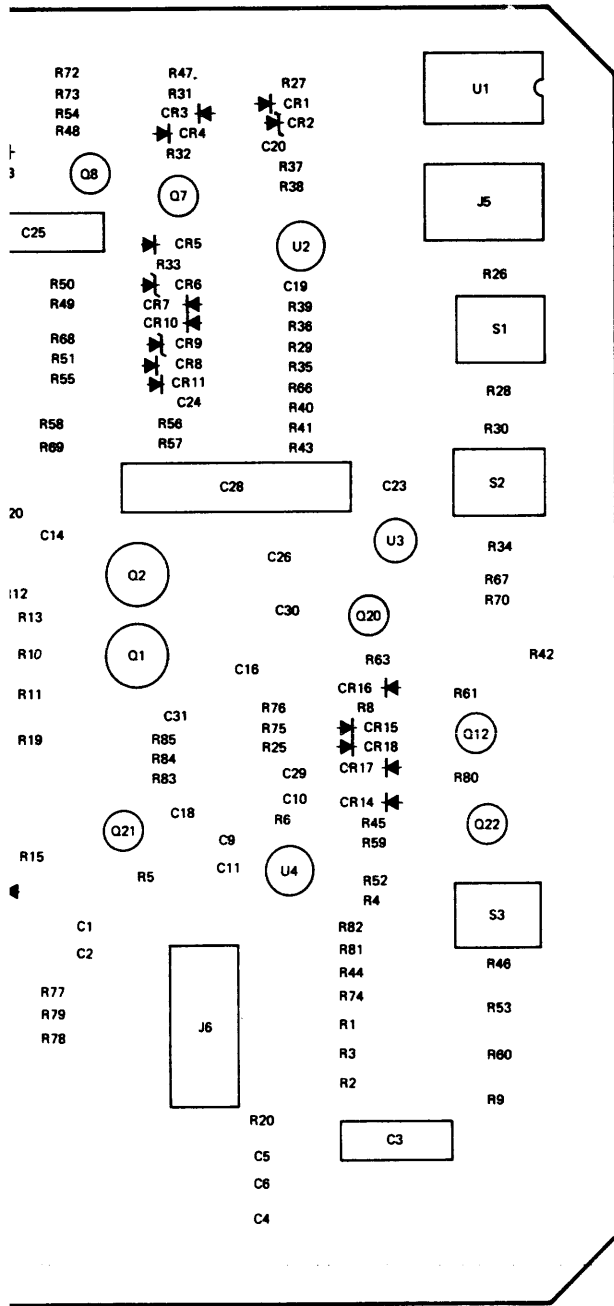


2225-1114

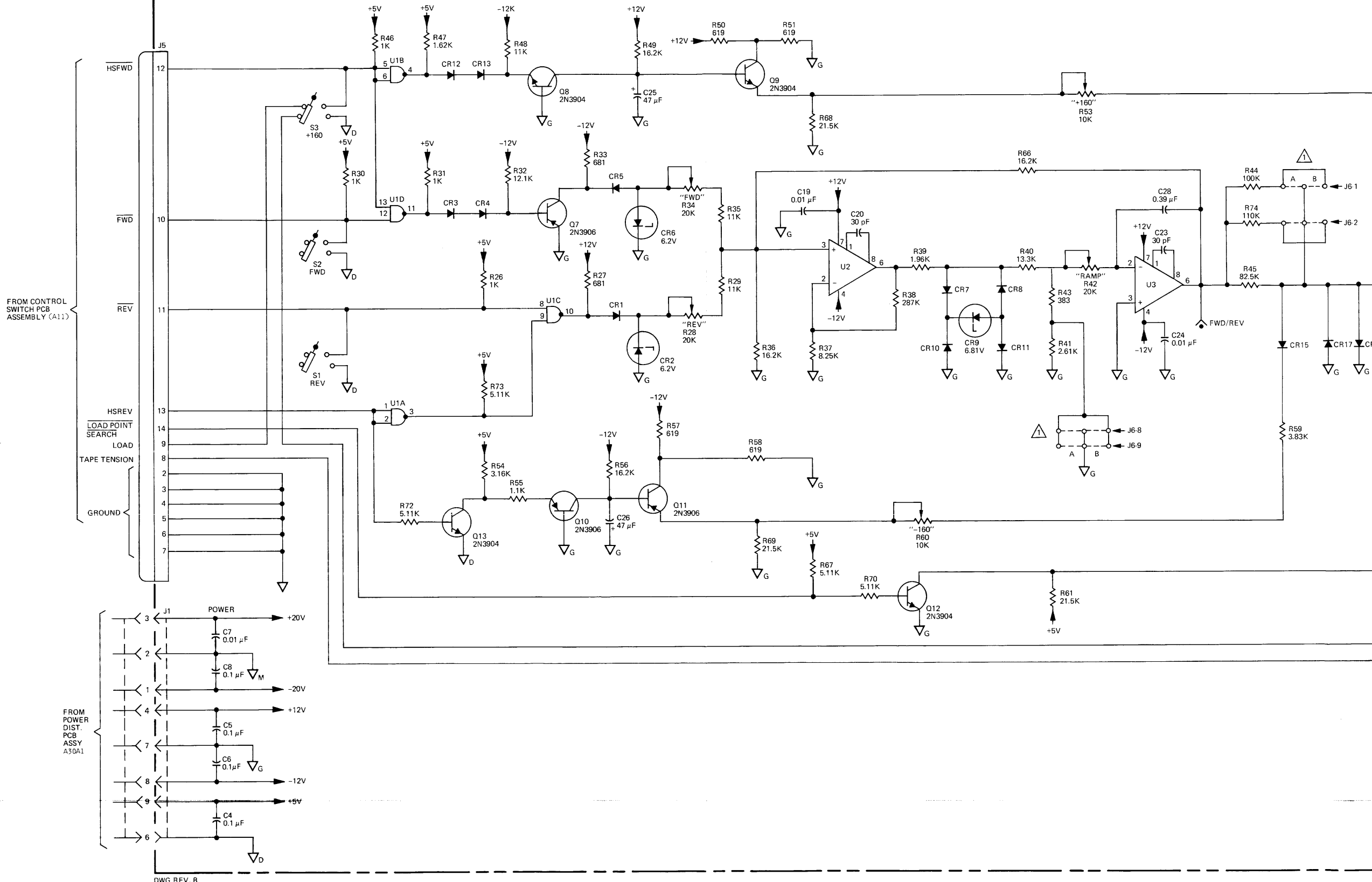
**CAPSTAN MOTOR ASSEMBLY PARTS LIST  
07970-60141**

REF. DES. /	HP PART NO.	DESCRIPTION
	07970-60141	CAPSTAN MOTOR ASSEMBLY (10-45 ips)
1	07970-20391	CAPSTAN
2	3030-0425	SCREW, 10-32, .5 in.
3	2190-0483	WASHER, Lock, Hel, #10
4	3050-0055	WASHER, Flat, #6
5	07970-62160	LEAD ASSEMBLY, Capstan Motor
6	07970-62161	CABLE ASSEMBLY, Capstan Motor
7	2360-0205	SCREW, 6-32, .75 in.
8	2190-0918	WASHER, Lock, Hel, #6
9	3050-0066	WASHER, Flat, #6
10	1400-0440	CLAMP, Cable
11	3140-0748	MOTOR, Tachometer
12	1251-2508	CONNECTOR, 3 Pin
	1251-2599	CONTACT, Male
	1251-2600	CONTACT, Female
13	1251-2505	CONNECTOR, 2 Pin
	1251-2599	CONTACT, Male
	1251-2600	CONTACT, Female





CAPSTAN SERVO PCB ASSEMBLY (A7)  
07970-62172 SERIES 1322, 1410



DWG REV. B



SINGLE SPEED CAPSTAN SERVO PCA PARTS LIST  
07970-62172 (Series 1322, 1410)

REF. DES./ INDEX NO.	HP PART NO.	DESCRIPTION
	07970-62172	CAPSTAN SERVO PCA (Series 1322)
C1,2	0160-2151	CAPACITOR, fxd, .011uf, 5%
C3	0160-2414	CAPACITOR, fxd, .022uf, 5%
C4-8	0150-0121	CAPACITOR, fxd, .1uf, 10%
C9,10,19,24	0160-2055	CAPACITOR, fxd, .01uf, 100V
C11	0160-2207	CAPACITOR, fxd, 300pf, 5%
C14,15	0160-0153	CAPACITOR, fxd, .001uf, 10%
C16	0160-0165	CAPACITOR, fxd, .056uf, 10%
C18	0160-2250	CAPACITOR, fxd, 5.1pf, 5%
C20,23	0160-2199	CAPACITOR, fxd, 30pf, 5%
C25,26	0180-0097	CAPACITOR, fxd, 47uf, 35VDC
C28	0160-3387	CAPACITOR, fxd, .39uf, 10%
C29	0160-3536	CAPACITOR, fxd, 620pf, 5%
C30	0160-0174	CAPACITOR, fxd, .47uf, -20+80%
C31	0160-2224	CAPACITOR, fxd, 1800pf, 5%
CR1,3-5,7,8,10-18	1901-0040	DIODE, 30V, 50MA
CR2,6	1902-0033	DIODE, Zener, 6.2V
CR9	1902-0048	DIODE, Zener, 6.81V
CR19,20	1901-0026	DIODE, Power Rectifier, 200V
J5	1200-0426	SOCKET, IC
J6	07970-62120	DUMMY PLUG ASSEMBLY
Q1	1854-0053	TRANSISTOR, 2N2218, TO5
	0340-0164	INSULATOR, Transistor
Q2	1853-0012	TRANSISTOR, 2N2904A, TO5
	0340-0164	INSULATOR, Transistor
Q3	1853-0323	TRANSISTOR, 2N4900, TO66
	0340-0180	INSULATOR, Friction
	2200-0147	SCREW, 4-40, .5 Pan
	2260-0009	NUT, Lock, 4-40
Q4	1854-0399	TRANSISTOR, 2N4912
	0340-0180	INSULATOR, Friction
	2200-0147	SCREW, 4-40, .5 Pan
	2260-0009	NUT, Lock, 4-40
*Q5,6	1854-0576	TRANSISTOR, 2N6258, TO3
	1200-0077	INSULATOR, Transistor
	2200-0147	SCREW, 4-40, .5 Pan
	2260-0009	NUT, Lock, 4-40
Q7,10,11,21	1853-0036	TRANSISTOR, 2N3906, PL18
Q8,9,12,13,22	1854-0215	TRANSISTOR, 2N3904, PL5
Q20	1853-0322	TRANSISTOR, 2N2946A, TO46
R1,2	0698-3152	RESISTOR, fxd, 3.48K, 1%, .125W
R3	0698-3202	RESISTOR, fxd, 1.74K, 1%, .125W
R4	0757-0290	RESISTOR, fxd, 6.19K, 1%, .125W
R5,6	0683-1015	RESISTOR, fxd, 100, 5%, .25W
R8	0683-1055	RESISTOR, fxd, 1M, 5%, .25W
R9,28,34	2100-1972	RESISTOR, Variable, 20K, 10%
R10	0757-0797	RESISTOR, fxd, 90.9, 1%, .5W

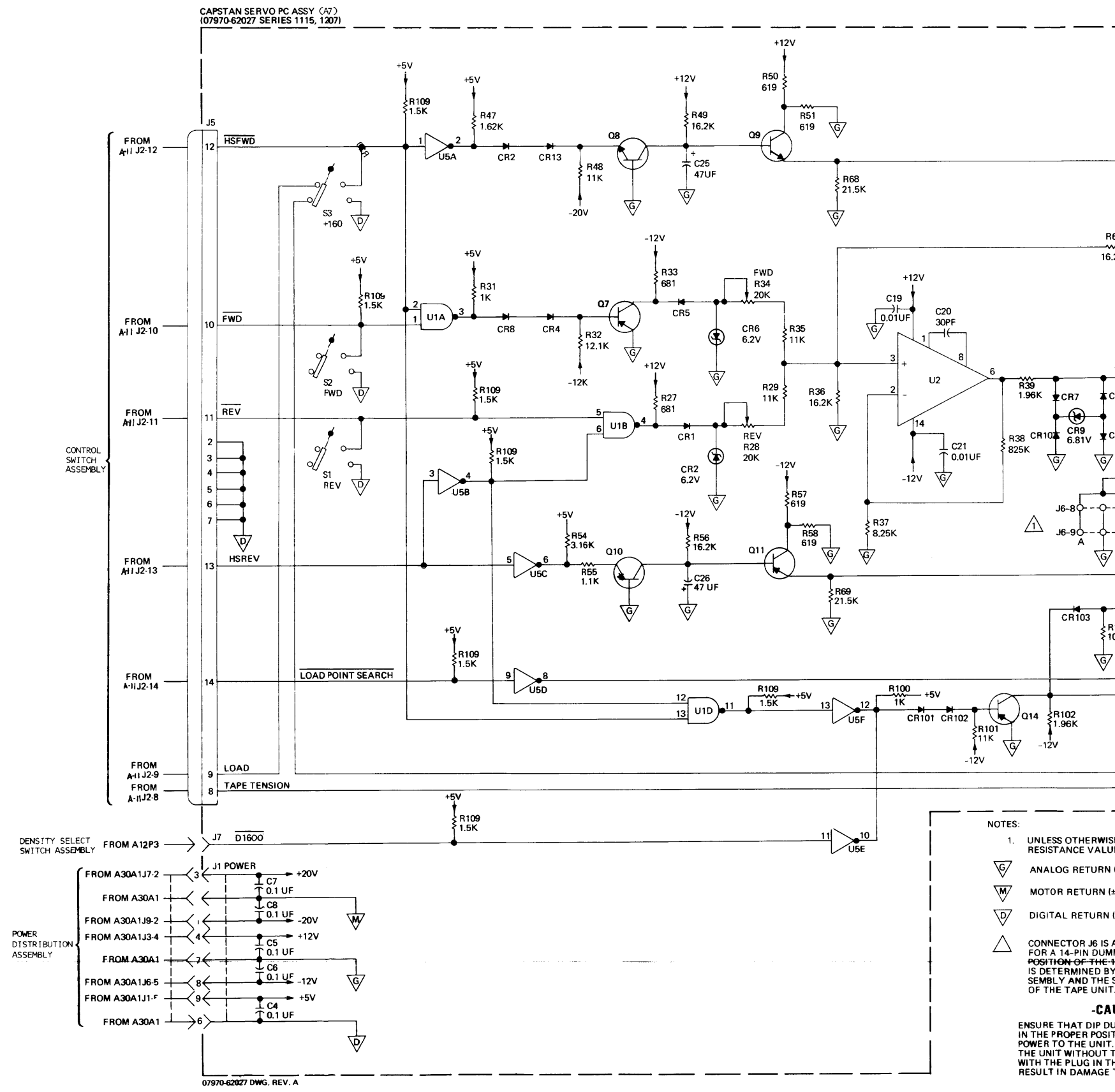
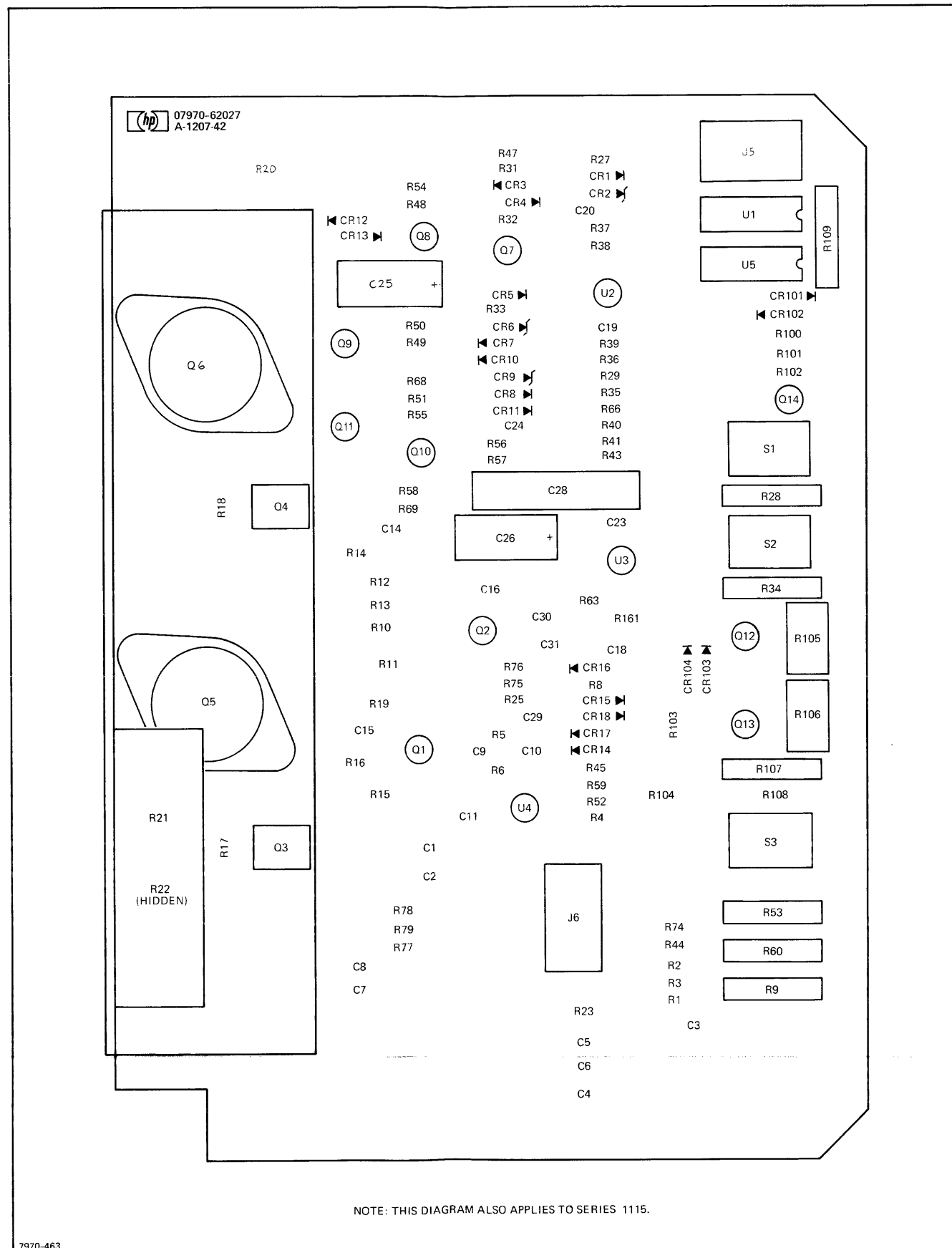
REF. DES./ INDEX NO.	HP PART NO.	DESCRIPTION
R11	0698-3637	RESISTOR, fxd, 820, 5%, 2W
R12	0757-0401	RESISTOR, fxd, 100, 1%, .125W
R13,15	0761-0058	RESISTOR, fxd, 750, 5%, 1W
R14,16	0683-1025	RESISTOR, fxd, 1K, 5%, .25W
R17,18	0698-3113	RESISTOR, fxd, 100, 5%, .125W (fusible)
R19	0757-0198	RESISTOR, fxd, 100, 1%, .5W
R20,23	0683-1035	RESISTOR, fxd, 10K, 5%, .25W
R21,22	0811-2966	RESISTOR, fxd, 3, 1%, 50W
R25	0698-3260	RESISTOR, fxd, 464K, 1%, .125W
R26,30,31,46,85	0757-0280	RESISTOR, fxd, 1K, 1%, .125W
R27,33	0757-0419	RESISTOR, fxd, 681, 1%, .125W
R29,35,48	0757-0443	RESISTOR, fxd, 11K, 1%, .125W
R32	0757-0444	RESISTOR, fxd, 12.1K, 1%, .125W
R36,49,56,66	0757-0447	RESISTOR, fxd, 16.2K, 1%, .125W
R37	0757-0441	RESISTOR, fxd, 8.25K, 1%, .125W
R38	0698-3456	RESISTOR, fxd, 287K, 1%, .125W
R39	0698-0083	RESISTOR, fxd, 1.96K, 1%, .125W
R40	0757-0289	RESISTOR, fxd, 13.3K, 1%, .125W
R41	0698-0085	RESISTOR, fxd, 2.61K, 1%, .125W
R42	2100-1762	RESISTOR, Variable, 20K, 5%
R43	0698-3446	RESISTOR, fxd, 383, 1%, .125W
R44	0757-0465	RESISTOR, fxd, 100K, 1%, .125W
R45	0757-0463	RESISTOR, fxd, 82.5K, 1%, .125W
R47	0757-0428	RESISTOR, fxd, 1.62K, 1%, .125W
R50,51,57,58	0757-0418	RESISTOR, fxd, 619, 1%, .125W
R52,59	0698-3153	RESISTOR, fxd, 3.83K, 1%, .125W
R53,60	2100-2850	RESISTOR, Variable, 10K, 10%
R54	0757-0279	RESISTOR, fxd, 3.16K, 1%, .125W
R55	0757-0424	RESISTOR, fxd, 1.1K, 1%, .125W
R61,63,68,69	0757-0199	RESISTOR, fxd, 21.5K, 1%, .125W
R67,70,72,73,80,83	0757-0438	RESISTOR, fxd, 5.11K, 1%, .125W
R74	0757-0466	RESISTOR, fxd, 110K, 1%, .125W
R75	0757-0470	RESISTOR, fxd, 162K, 1%, .125W
R76	0698-3457	RESISTOR, fxd, 316K, 1%, .125W
R77,78	0698-3151	RESISTOR, fxd, 2.87K, 1%, .125W
R79	0757-0317	RESISTOR, fxd, 1.33K, 1%, .125W
R81	0757-0403	RESISTOR, fxd, 121, 1%, .125W
R82	0757-1094	RESISTOR, fxd, 1.47K, 1%, .125W
R84	0757-0416	RESISTOR, fxd, 511, 1%, .125W
S1-3	3101-1213	SWITCH, Toggle, DPST
U1	1820-0256	IC, MC858P
U2-4	1820-0223	IC, LM301AH
	0340-0456	INSULATOR, IC Pad
	0380-0311	SPACER, #6, .5 in.
	2360-0193	SCREW, 6-32, .25 Pan
	2190-0006	WASHER, Lock, Hel, #6
	07970-00620	CLAMP, Connector
	07970-20850	BRACKET, Capstan
	2200-0145	SCREW, 4-40, .438 Pan
	2260-0009	NUT, Lock, 4-40

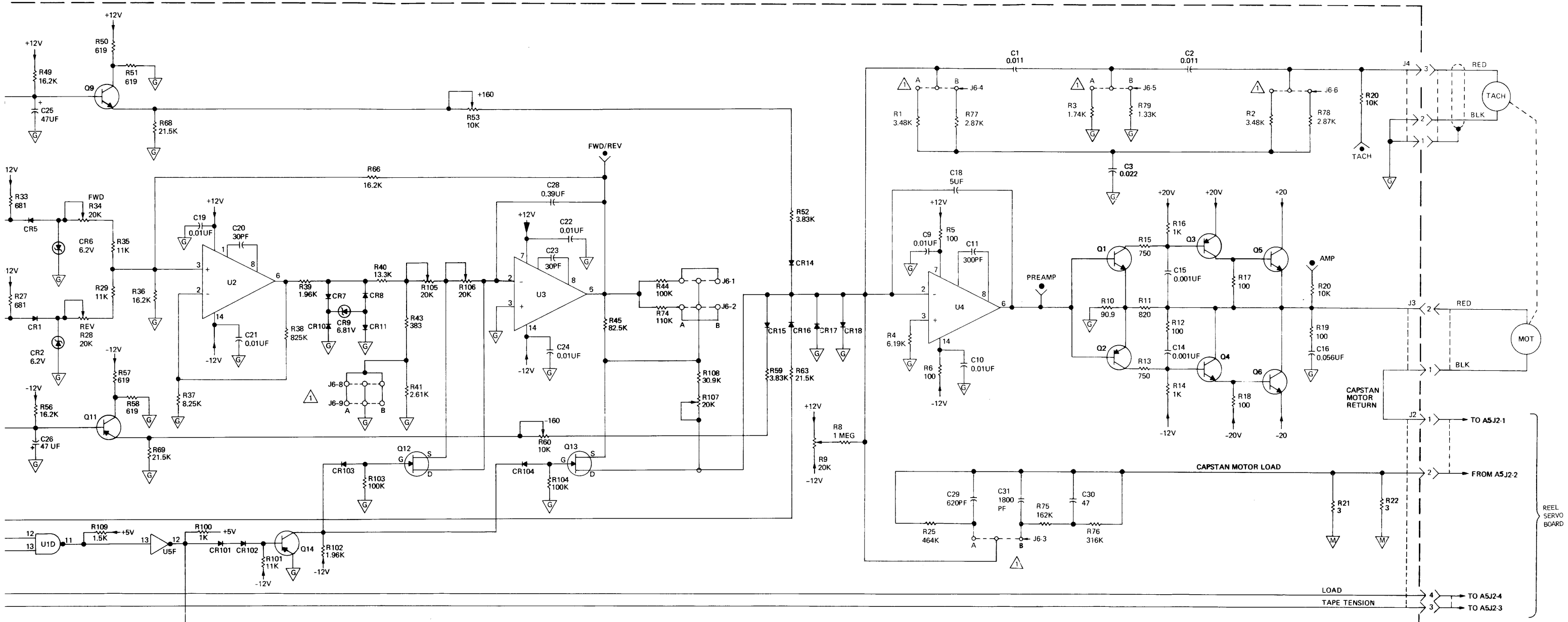
REF  
IND

\*Q5,6

DESCRIPTION
R, fxd, 820, 5%, 2W
R, fxd, 100, 1%, .125W
R, fxd, 750, 5%, 1W
R, fxd, 1K, 5%, .25W
R, fxd, 100, 5%, .125W (fusible)
R, fxd, 100, 1%, .5W
R, fxd, 10K, 5%, .25W
R, fxd, 3, 1%, 50W
R, fxd, 464K, 1%, .125W
R, fxd, 1K, 1%, .125W
R, fxd, 681, 1%, .125W
R, fxd, 11K, 1%, .125W
R, fxd, 12.1K, 1%, .125W
R, fxd, 16.2K, 1%, .125W
R, fxd, 8.25K, 1%, .125W
R, fxd, 287K, 1%, .125W
R, fxd, 1.96K, 1%, .125W
R, fxd, 13.3K, 1%, .125W
R, fxd, 2.61K, 1%, .125W
R, Variable, 20K, 5%
R, fxd, 383, 1%, .125W
R, fxd, 100K, 1%, .125W
R, fxd, 82.5K, 1%, .125W
R, fxd, 1.62K, 1%, .125W
R, fxd, 619, 1%, .125W
R, fxd, 3.83K, 1%, .125W
R, Variable, 10K, 10%
R, fxd, 3.16K, 1%, .125W
R, fxd, 1.1K, 1%, .125W
R, fxd, 21.5K, 1%, .125W
R, fxd, 5.11K, 1%, .125W
R, fxd, 110K, 1%, .125W
R, fxd, 162K, 1%, .125W
R, fxd, 316K, 1%, .125W
R, fxd, 2.87K, 1%, .125W
R, fxd, 1.33K, 1%, .125W
R, fxd, 121, 1%, .125W
R, fxd, 1.47K, 1%, .125W
R, fxd, 511, 1%, .125W
Toggle, DPST
58P
01AH
SULATOR, IC Pad
#6, .5 in.
REW, 6-32, .25 Pan
SHER, Lock, Hel, #6
AMP, Connector
, Capstan
REW, 4-40, .438 Pan
T, Lock, 4-40

REF. DES. / INDEX NO.	HP PART NO.	DESCRIPTION
	1251-2503	CONNECTOR, Contact, Female
	1251-2504	CONNECTOR, Contact, Male
*Q5,6	SERIES 1410 1854-0490	TRANSISTOR, 2N3773, TO3



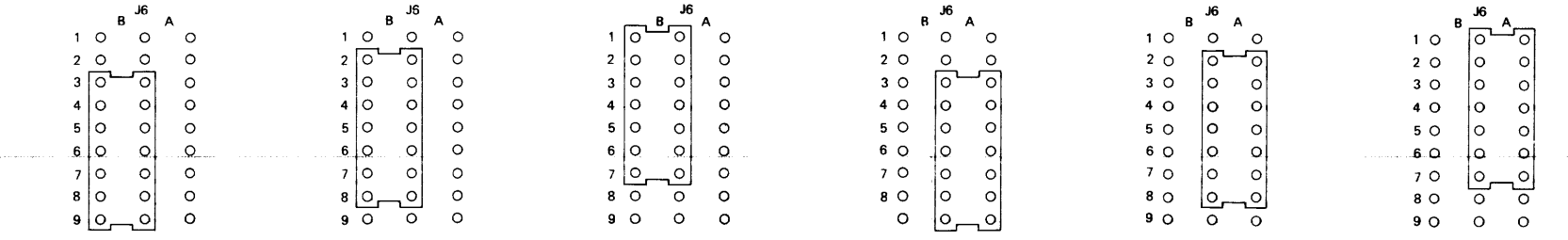


NOTES:

- UNLESS OTHERWISE SPECIFIED ALL RESISTANCE VALUES ARE IN OHMS.
- ANALOG RETURN (+12V)
  - MOTOR RETURN (+20V)
  - DIGITAL RETURN (+5V)
  - CONNECTOR J6 IS A 3 x 9 PIN SOCKET FOR A 14-PIN DUMMY PLUG. THE POSITION OF THE 14-PIN DUMMY PLUG IS DETERMINED BY THE CAPSTAN ASSEMBLY AND THE SYNCHRONOUS SPEED OF THE TAPE UNIT.

**-CAUTION-**

ENSURE THAT DIP DUMMY PLUG IS INSTALLED IN THE PROPER POSITION PRIOR TO APPLYING POWER TO THE UNIT. ATTEMPTING TO OPERATE THE UNIT WITHOUT THE PLUG INSTALLED OR WITH THE PLUG IN THE WRONG POSITION MAY RESULT IN DAMAGE TO THE UNIT.



- 10 TO 18 IPS POSITION WITH 07970-60141 CAPSTAN MOTOR ASSEMBLY MG1
- 18.1 TO 25 IPS POSITION WITH 07970-60141 CAPSTAN MOTOR ASSEMBLY MG1
- 25.1 TO 45 IPS POSITION WITH 07970-60141 CAPSTAN MOTOR ASSEMBLY MG1
- 10 TO 18 IPS POSITION WITH 07970-60140 CAPSTAN MOTOR ASSEMBLY MG1
- 18.1 TO 25 IPS POSITION WITH 07970-60140 CAPSTAN MOTOR ASSEMBLY MG1
- 25.1 TO 37.5 IPS POSITION WITH 07970-60140 CAPSTAN MOTOR ASSEMBLY MG1

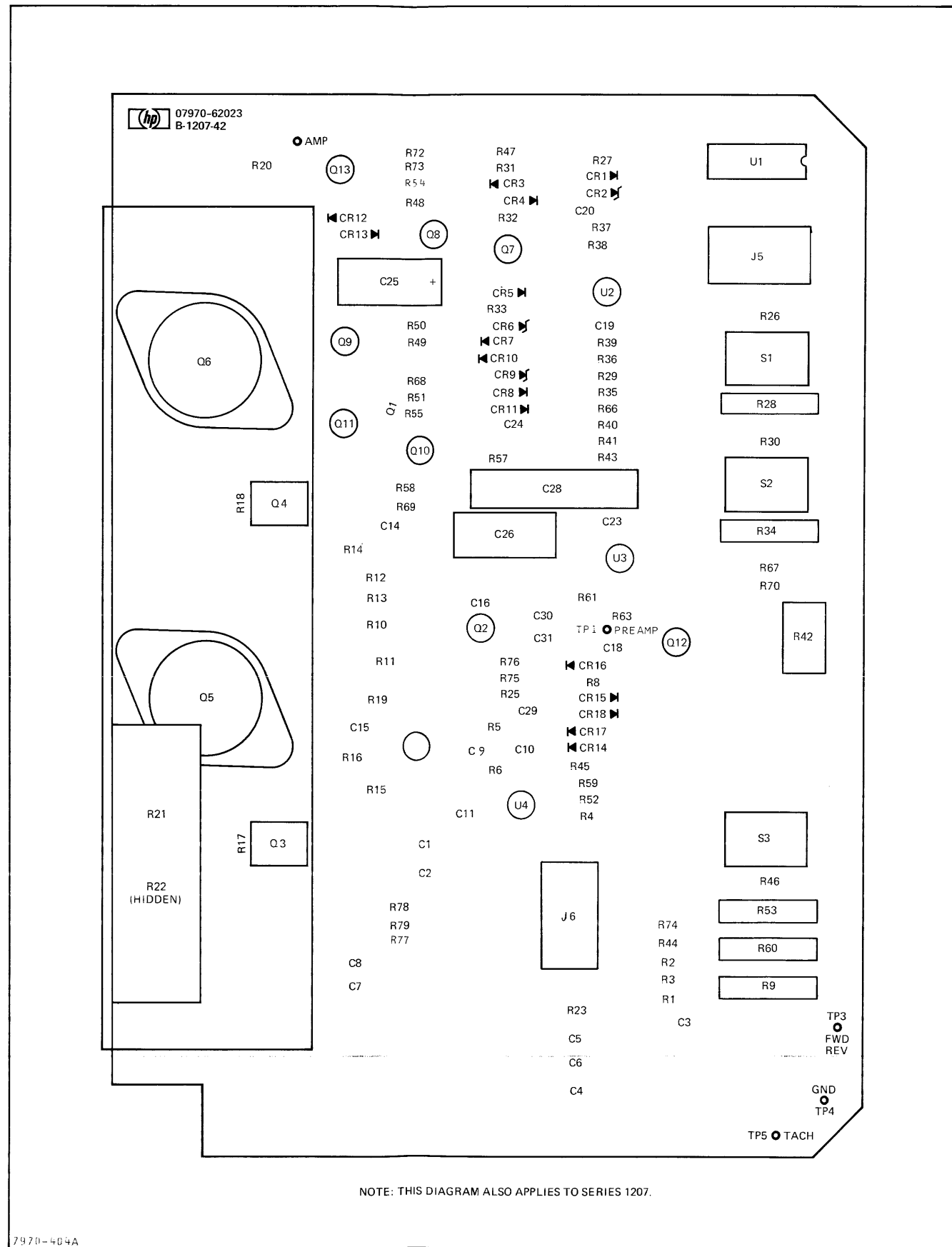
DUAL SPEED CAPSTAN SERVO PCA PARTS LIST  
07970-62027 (Series 1115, 1207)

REF. DES./	HP PART NO.	DESCRIPTION
	07970-62027	DUAL SPEED CAPSTAN SERVO PCA (Series 1115)
C1,2	0160-2151	CAPACITOR, fxd, .011uf, 5%
C3	0160-2414	CAPACITOR, fxd, .022uf, 5%
C4-8	0150-0121	CAPACITOR, fxd, .1uf, 10%
C9,10,19,24	0160-2055	CAPACITOR, fxd, .01uf, 100V
C11	0160-2207	CAPACITOR, fxd, 300pf, 5%
C14,15	0160-0153	CAPACITOR, fxd, .001uf, 10%
C16	0160-0165	CAPACITOR, fxd, .056uf, 10%
C18	0160-2250	CAPACITOR, fxd, 5.1pf, 5%
C20,23	0160-2199	CAPACITOR, fxd, 30pf, 5%
C25,26	0180-0097	CAPACITOR, fxd, 47uf, 35VDC
C28	0160-3387	CAPACITOR, fxd, .39uf, 10%
C29	0160-3536	CAPACITOR, fxd, 620pf, 5%
C30	0160-0174	CAPACITOR, fxd, .47uf, -20+80%
C31	0160-2224	CAPACITOR, fxd, 1800pf, 5%
CR1,3-5,7,8,10-18,101-104	1901-0040	DIODE, 30V, 50MA
CR2,6	1902-0033	DIODE, Zener, 6.2V
CR9	1902-0048	DIODE, Zener, 6.81V
J5	1200-0426	SOCKET, IC
J6	07970-62025	PLUG ASSY, Dummy
Q1	1854-0053	TRANSISTOR, 2N2218, TO5
	0340-0164	INSULATOR, Transistor
Q2	1853-0012	TRANSISTOR, 2N2904A, TO5
	0340-0164	INSULATOR, Transistor
Q3	1853-0204	TRANSISTOR, 2N4920, X58
	2190-0800	WASHER, Mica, #6
	3050-0300	WASHER, Nylon, #4
	2200-0091	SCREW, 4-40, .562 in.
	2260-0009	NUT, Lock, 4-40
Q4	1854-0347	TRANSISTOR, 2N4923
	2190-0800	WASHER, Mica, #6
	3050-0300	WASHER, Nylon, #4
	2200-0091	SCREW, 4-40, .562 in.
	2260-0009	NUT, Lock, 4-40
Q5,6	1854-0264	TRANSISTOR, 2N3715, TO3
	1200-0077	INSULATOR, Transistor
	2200-0147	SCREW, 4-40, .5 Pan
	2260-0009	NUT, Lock, 4-40
Q7,10,11,14	1853-0036	TRANSISTOR, 2N3906, PL18
Q8,9	1854-0215	TRANSISTOR, 2N3904, PL5
Q12,13	1855-0062	TRANSISTOR, FET, PL18
R1,2	0698-3152	RESISTOR, fxd, 3.48K, 1%, .125W
R3	0698-3202	RESISTOR, fxd, 1.74K, 1%, .125W
R4	0757-0290	RESISTOR, fxd, 6.19K, 1%, .125W
R5,6	0683-1015	RESISTOR, fxd, 100, 5%, .25W
R8	0683-1055	RESISTOR, fxd, 1M, 5%, .25W

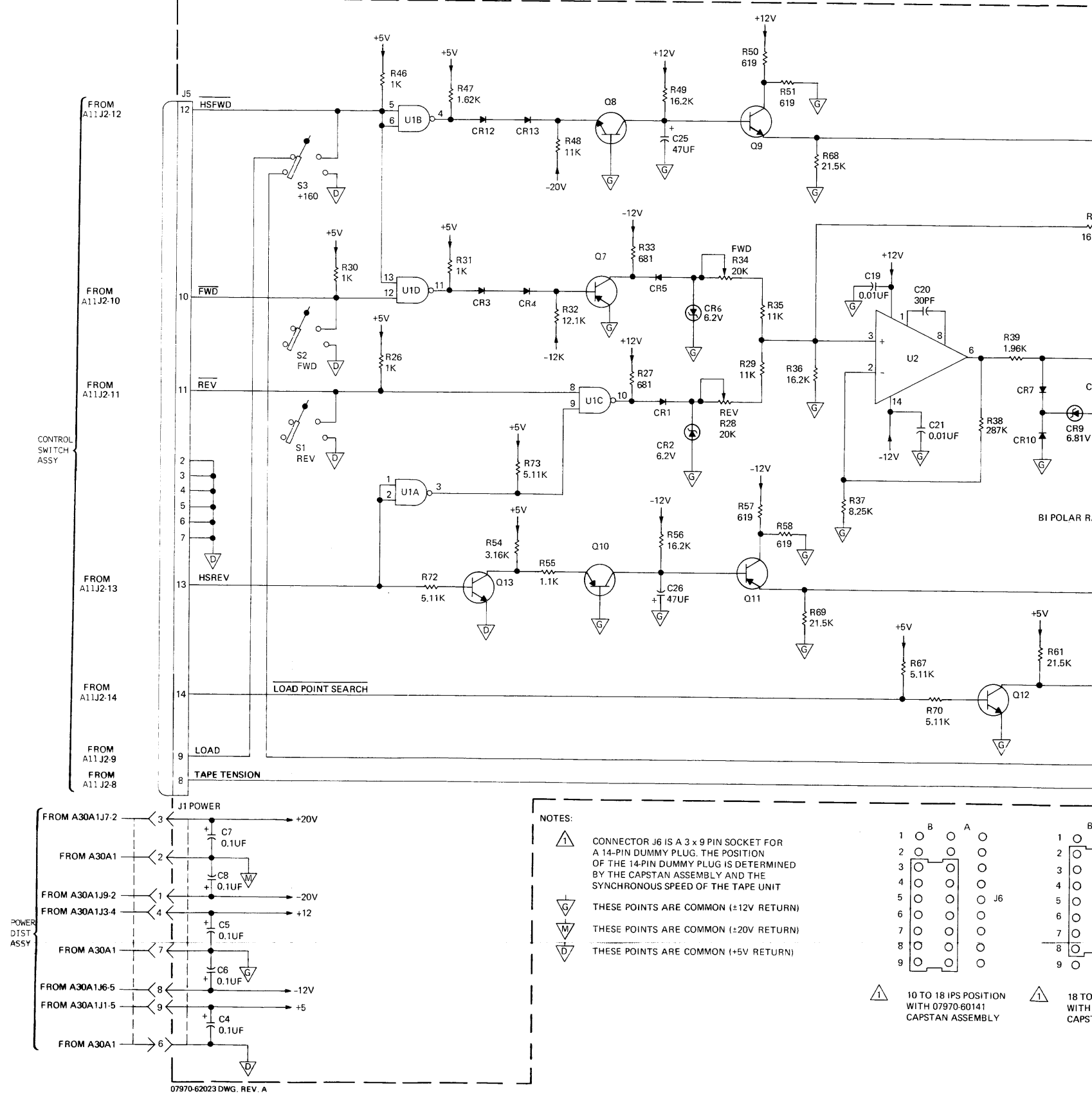
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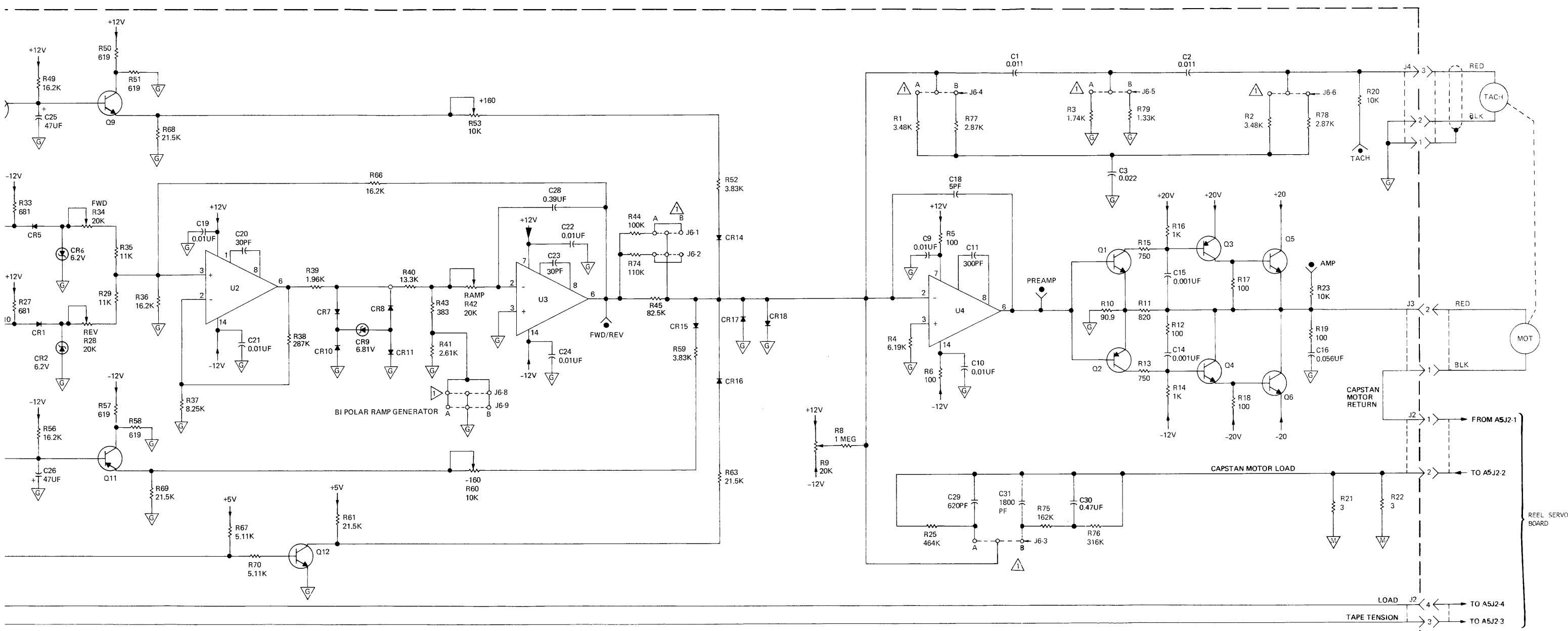
REF. DES./	HP PART NO.	DESCRIPTION
R9,28,34,107	2100-1972	RESISTOR, Variable, 20K, 10%
R10	0757-0797	RESISTOR, fxd, 90.9, 1%, .5W
R11	0698-3637	RESISTOR, fxd, 820, 5%, 2W
R12	0757-0401	RESISTOR, fxd, 100, 1%, .125W
R13,15	0761-0058	RESISTOR, fxd, 750, 5%, 1W
R14,16	0683-1025	RESISTOR, fxd, 1K, 5%, .25W
R17,18	0698-3113	RESISTOR, fxd, 100, 5%, .125W
R19	0757-0198	RESISTOR, fxd, 100, 1%, .125W
R20,23	0683-1035	RESISTOR, fxd, 10K, 5%, .25W
R21,22	0811-2966	RESISTOR, fxd, 3, 1%, 50W
R25	0698-3260	RESISTOR, fxd, 464K, 1%, .125W
R27,33	0757-0419	RESISTOR, fxd, 681, 1%, .125W
R29,32,35,48,101	0757-0443	RESISTOR, fxd, 11K, 1%, .125W
R31,100	0757-0280	RESISTOR, fxd, 1K, 1%, .125W
R36,49,56,66	0757-0447	RESISTOR, fxd, 16.2K, 1%, .125W
R37	0757-0441	RESISTOR, fxd, 8.25K, 1%, .125W
R38	0698-3456	RESISTOR, fxd, 287K, 1%, .125W
R39,102	0698-0083	RESISTOR, fxd, 1.96K, 1%, .125W
R40	0757-0289	RESISTOR, fxd, 13.3K, 1%, .125W
R41	0698-0085	RESISTOR, fxd, 2.61K, 1%, .125W
R43	0698-3446	RESISTOR, fxd, 383, 1%, .125W
R44,103,104	0757-0465	RESISTOR, fxd, 100K, 1%, .125W
R45	0757-0463	RESISTOR, fxd, 82.5K, 1%, .125W
R47	0757-0428	RESISTOR, fxd, 1.62K, 1%, .125W
R50,51,57,58	0757-0418	RESISTOR, fxd, 619, 1%, .125W
R52,59	0698-3153	RESISTOR, fxd, 3.83K, 1%, .125W
R53,60	2100-2850	RESISTOR, Variable, 10K, 10%
R54	0757-0279	RESISTOR, fxd, 3.16K, 1%, .125W
R55	0757-0424	RESISTOR, fxd, 1.1K, 1%, .125W
R61,63,68,69	0757-0199	RESISTOR, fxd, 21.5K, 1%, .125W
R74	0757-0466	RESISTOR, fxd, 110K, 1%, .125W
R75	0757-0470	RESISTOR, fxd, 162K, 1%, .125W
R76	0698-3457	RESISTOR, fxd, 316K, 1%, .125W
R77,78	0698-3151	RESISTOR, fxd, 2.87K, 1%, .125W
R79	0757-0317	RESISTOR, fxd, 1.33K, 1%, .125W
R105,106	2100-1762	RESISTOR, Variable, 20K, 5%
R108	0698-4491	RESISTOR, fxd, 30.9K, 1%, .125W
R109	1810-0020	RESISTOR, Network, 1.5K, 5%, .15W
S1-3	3101-1213	SWITCH, Toggle, DPST
U1	1820-0256	IC, MC858P
U2-4	1820-0223	IC, LM301AH
	0340-0456	INSULATOR, IC Pad
U5	1820-0175	IC, SN7405, Inverter
	0380-0311	SPACER, #6, .5 in.
	2360-0195	SCREW, 6-32, .312 Pan
	2190-0008	WASHER, Lock, #6
	07970-00620	CLAMP, Connector
	07970-00291	BRACKET, Capstan
	2200-0143	SCREW, 4-40, .375 Pan
	2260-0009	NUT, Lock, 4-40
	1251-2503	CONNECTOR, Contact, Female
	1251-2504	CONNECTOR, Contact, Male

1 Added on series 1207



CAPSTAN SERVO PC ASSY A1  
(07970-62023 SERIES 1102, 1207)





REEL SERVO BOARD

FROM A5J2-1

TO A5J2-2

TO A5J2-4

TO A5J2-3

TAPE TENSION

LOAD

J2

J3

J4

J6-1

J6-2

J6-3

J6-4

J6-5

J6-6

J6-8

J6-9

J6

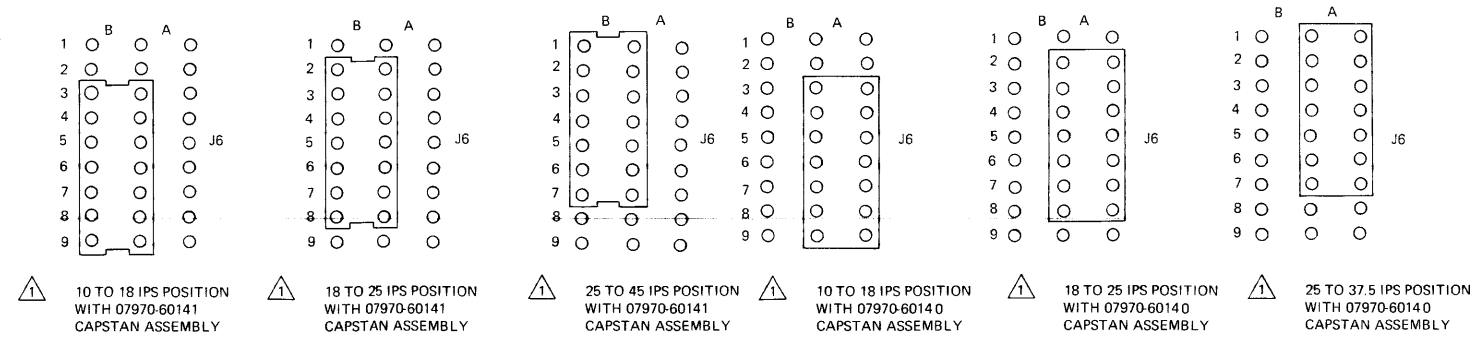
J6

J6

J6

J6

J6



**- CAUTION -**

ENSURE THAT DIP DUMMY PLUG IS INSTALLED IN THE PROPER POSITION PRIOR TO APPLYING POWER TO THE UNIT. ATTEMPTING TO OPERATE THE UNIT WITHOUT THE PLUG INSTALLED OR WITH THE PLUG IN THE WRONG POSITION MAY RESULT IN DAMAGE TO THE UNIT.

SINGLE SPEED CAPSTAN SERVO PCA PARTS LIST  
07970-62023 (Series 1102, 1207)

REF. DES./	HP PART NO.	DESCRIPTION
	07970-62023	CAPSTAN SERVO PCA (Series 1102)
C1,2	0160-2151	CAPACITOR, fxd, .011uf
C3	0160-2414	CAPACITOR, fxd, .022uf
C4-8	0150-0121	CAPACITOR, fxd, .1uf, 50V
C9,10,19,24	0160-2055	CAPACITOR, fxd, .01uf
C11	0160-2207	CAPACITOR, fxd, 300pf
C14,15	0160-0153	CAPACITOR, fxd, .001uf
C16	0160-0165	CAPACITOR, fxd, .056uf
C18	0160-2250	CAPACITOR, fxd, 5.1pf
C20,23	0160-2199	CAPACITOR, fxd, 30pf
C25,26	0180-0097	CAPACITOR, fxd, 47uf, 35V
C28	0160-3387	CAPACITOR, fxd, .39uf, 80V
C29	0160-3536	CAPACITOR, fxd, 620pf, 5%
C30	0160-0174	CAPACITOR, fxd, .47uf
C31	0160-2224	CAPACITOR, fxd, 1800pf
CR1,3-5,7,8,10-18	1901-0040	DIODE, 30V, 50MA
CR2,6	1902-0033	DIODE, 1N823, 180V, 200MA
CR9	1902-0048	DIODE, Breakdown, 6.81V
J5	1200-0426	SOCKET, IC
J6	07970-62025	PLUG ASSEMBLY, Dummy
Q1	1854-0053	TRANSISTOR, 2N2218
	0340-0164	INSULATOR, Transistor
Q2	1853-0012	TRANSISTOR, 2N2904A
	0340-0164	INSULATOR, Transistor
Q3	1853-0204	TRANSISTOR, 2N4920
Q4	1854-0347	TRANSISTOR, 2N4923
Q5,6	1854-0264	TRANSISTOR, 2N3715
	1200-0077	INSULATOR, Transistor
	2200-0147	SCREW, 4-40, .5 Pan
	2260-0009	NUT, Lock, 4-40
Q7,10,11	1853-0036	TRANSISTOR, 2N3906
Q8,9,12,13	1854-0215	TRANSISTOR, 2N3904
R1,2	0698-3152	RESISTOR, fxd, 3.48K, 1%, .125W
R3	0698-3202	RESISTOR, fxd, 1.74K, 1%, .125W
R4	0757-0290	RESISTOR, fxd, 6.19K, 1%, .125W
R5,6	0683-1015	RESISTOR, fxd, 100, .25W
R8	0683-1055	RESISTOR, fxd, 1M, .25W
R9,28,34	2100-1972	RESISTOR, Variable, 20K, 10%
R10	0757-0797	RESISTOR, fxd, 90.9, .5W
R11	0698-3637	RESISTOR, fxd, 820, 5%, 2W
R12	0757-0401	RESISTOR, fxd, 100, .125W
R13,15	0761-0058	RESISTOR, fxd, 750, 5%, 1W
R14,16	0683-1025	RESISTOR, fxd, 1K, .25W
R17,18	0698-3113	RESISTOR, fxd, 100, .125W
R19	0757-0198	RESISTOR, fxd, 100, .5W
R20,23	0683-1035	RESISTOR, fxd, 10K, .25W
R21,22	0811-2966	RESISTOR, fxd, 3, 1%
R25	0698-3260	RESISTOR, fxd, 464K, 1%, .125W

REF. DES./	HP PART NO.	DESCRIPTION
R26,30,31,46	0757-0280	RESISTOR, fxd, 1K, 1%, .125W
R27,33	0757-0419	RESISTOR, fxd, 681, 1%, .125W
R29,35,48	0757-0443	RESISTOR, fxd, 11K, 1%, .125W
R32	0757-0444	RESISTOR, fxd, 12.1K, 1%, .125W
R36,49,56,66	0757-0447	RESISTOR, fxd, 16.2K, 1%, .125W
R37	0757-0441	RESISTOR, fxd, 8.25K, 1%, .125W
R38	0698-3456	RESISTOR, fxd, 287K, 1%, .125W
R39	0698-0083	RESISTOR, fxd, 1.96K, 1%, .125W
R40	0757-0289	RESISTOR, fxd, 13.3K, 1%, .125W
R41	0698-0085	RESISTOR, fxd, 2.61K, 1%, .125W
R42	2100-1762	RESISTOR, Variable, 20K, 5%
R43	0698-3446	RESISTOR, fxd, 383, 1%, .125W
R44	0757-0465	RESISTOR, fxd, 100K, 1%, .125W
R45	0757-0463	RESISTOR, fxd, 82.5K, 1%, .125W
R47	0757-0428	RESISTOR, fxd, 1.62K, 1%, .125W
R50,51,57,58	0757-0418	RESISTOR, fxd, 619, 1%, .125W
R52,59	0698-3153	RESISTOR, fxd, 3.83K, 1%, .125W
R53,60	2100-2850	RESISTOR, Variable, 10K
R54	0757-0279	RESISTOR, fxd, 3.16K, 1%, .125W
R55	0757-0424	RESISTOR, fxd, 1.1K, 1%, .125W
R61,63	0757-0199	RESISTOR, fxd, 21.5K, 1%, .125W
R67,70,72,73	0757-0438	RESISTOR, fxd, 5.11K, 1%, .125W
R74	0757-0466	RESISTOR, fxd, 110K, 1%, .125W
R75	0757-0470	RESISTOR, fxd, 162K, 1%, .125W
R76	0698-3457	RESISTOR, fxd, 316K, 1%, .125W
R77,78	0698-3151	RESISTOR, fxd, 2.87K, 1%, .125W
R79	0757-0317	RESISTOR, fxd, 1.33K, 1%, .125W
S1-3	3101-1213	SWITCH, Toggle, DPST
U1	1820-0256	IC, MC858P
U2-4	1820-0223	IC, LM301AH
	0340-0456	INSULATOR, IC, Pad
	0380-0311	SPACER, #6, .5 in.
	2360-0193	SCREW, 6-32, .25 Pan
	2190-0006	WASHER, Lock, Hel, #6
	07970-00620	CLAMP, Connector
	07970-62025	BRACKET, Capstan
	2200-0145	SCREW, 4-40, .438 Pan
	2260-0009	NUT, Lock, 4-40
	1251-2503	CONNECTOR, Contact, Female
	1251-2504	CONNECTOR, Contact, Male

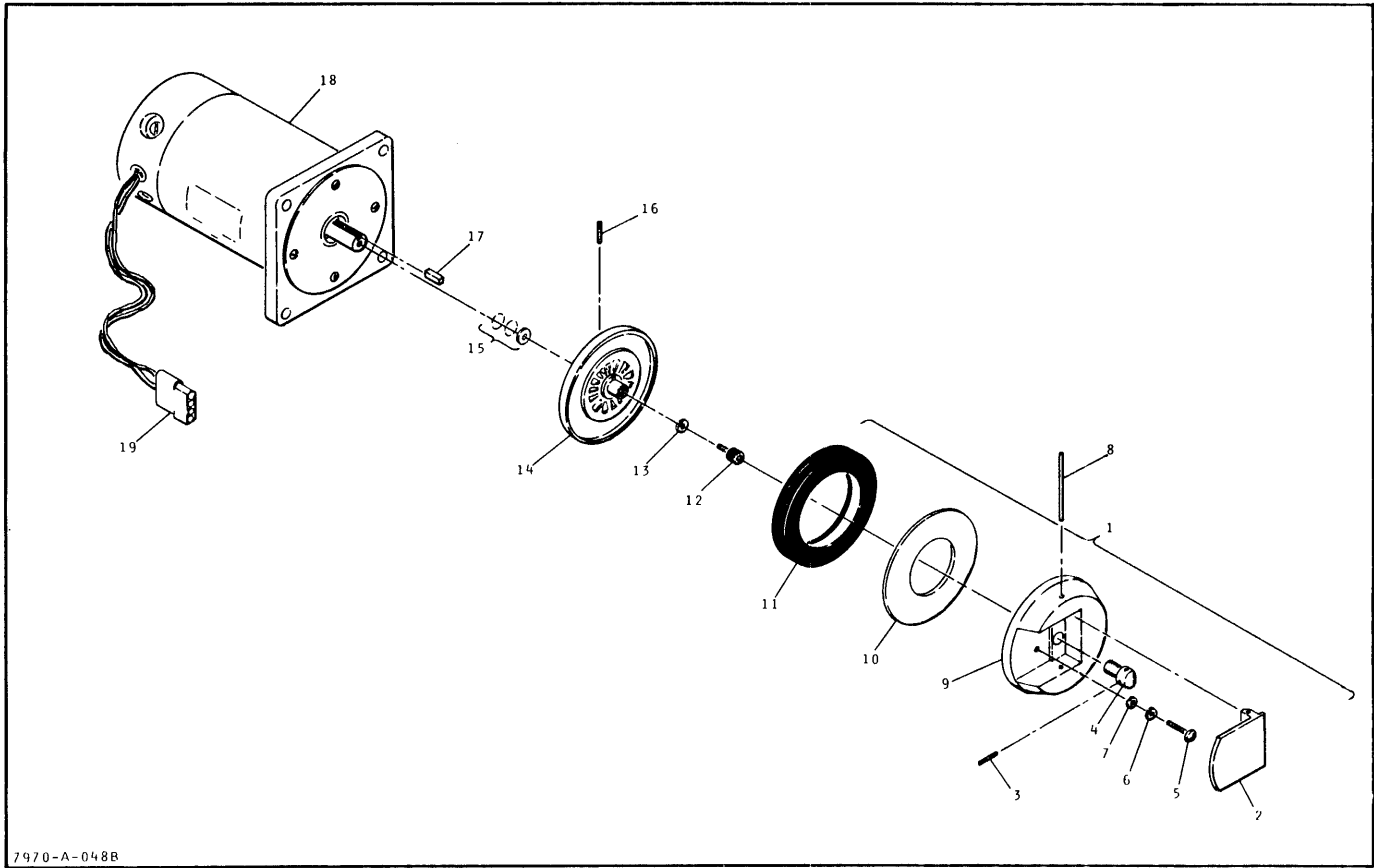
① Added on series 1207.



ON

K, 1%, .125W  
81, 1%, .125W  
1K, 1%, .125W  
2.1K, 1%, .125W  
6.2K, 1%, .125W  
1.25K, 1%, .125W  
87K, 1%, .125W  
96K, 1%, .125W  
3.3K, 1%, .125W  
1.61K, 1%, .125W  
ole, 20K, 5%  
83, 1%, .125W  
00K, 1%, .125W  
2.5K, 1%, .125W  
62K, 1%, .125W  
19, 1%, .125W  
83K, 1%, .125W  
ole, 10K  
16K, 1%, .125W  
1K, 1%, .125W  
1.5K, 1%, .125W  
1.1K, 1%, .125W  
10K, 1%, .125W  
62K, 1%, .125W  
16K, 1%, .125W  
87K, 1%, .125W  
33K, 1%, .125W  
DPST

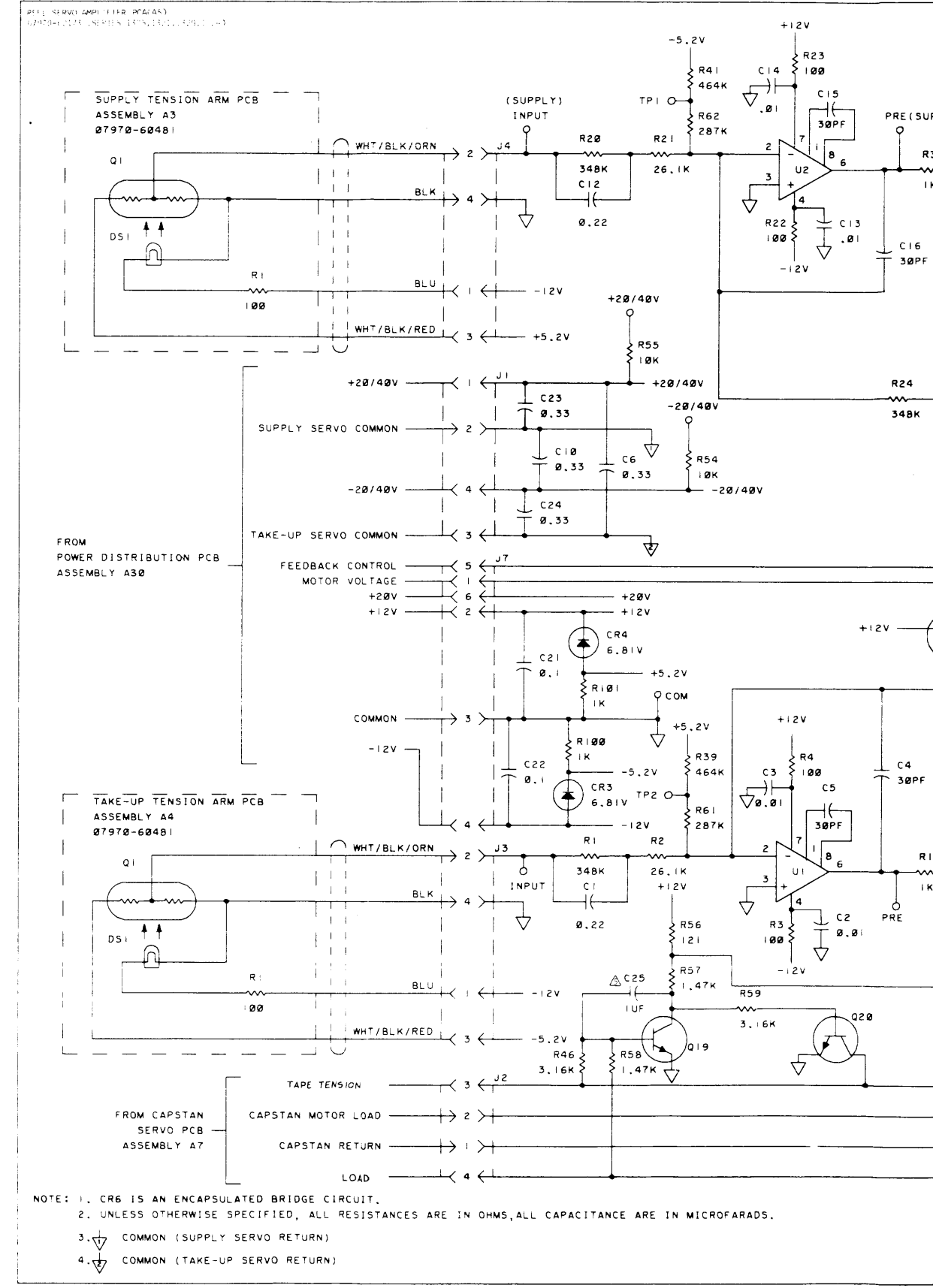
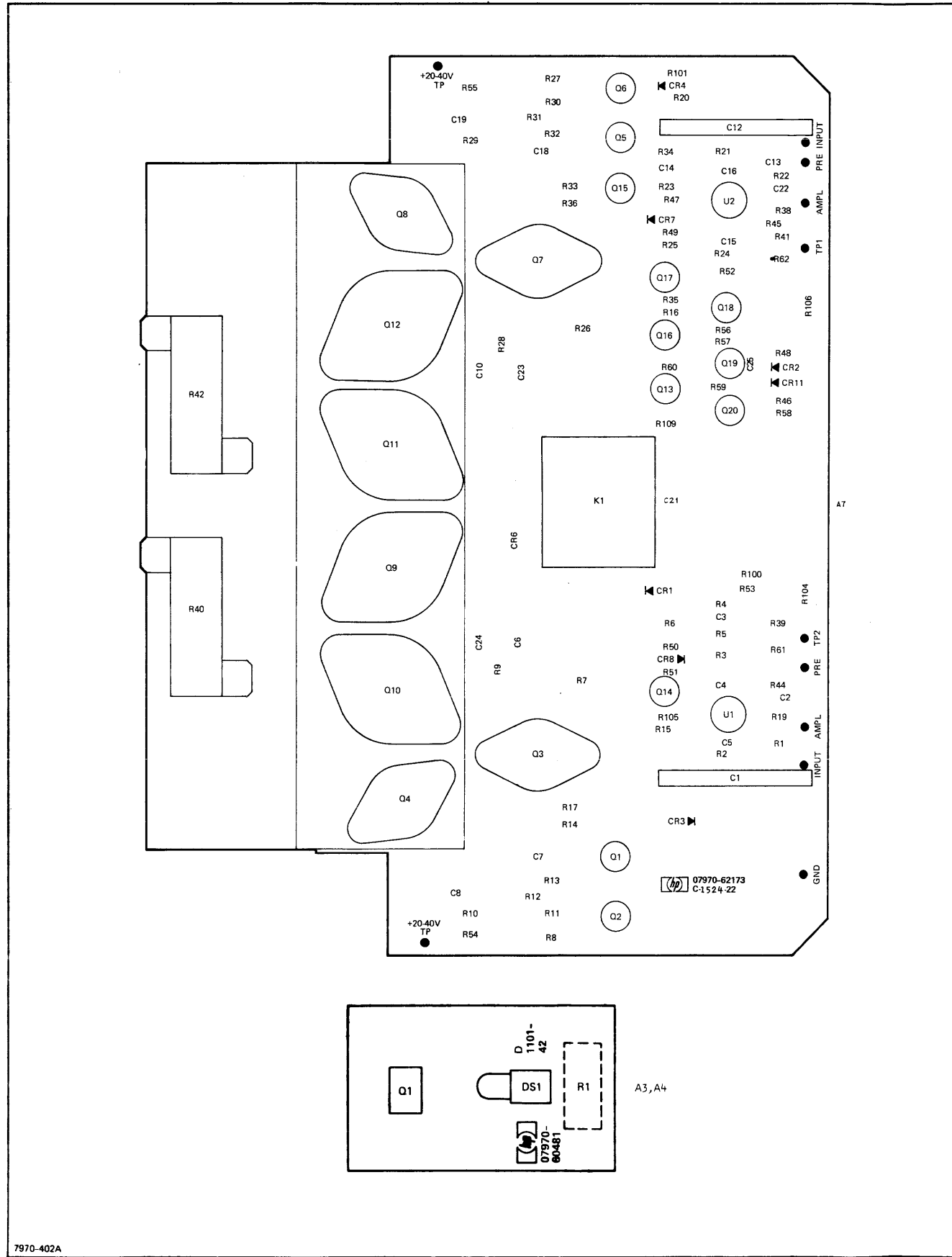
IC, Pad  
n.  
2, .25 Pan  
k, Hel, #6  
ector  
t  
, .438 Pan  
4-40  
ct, Female  
ct, Male

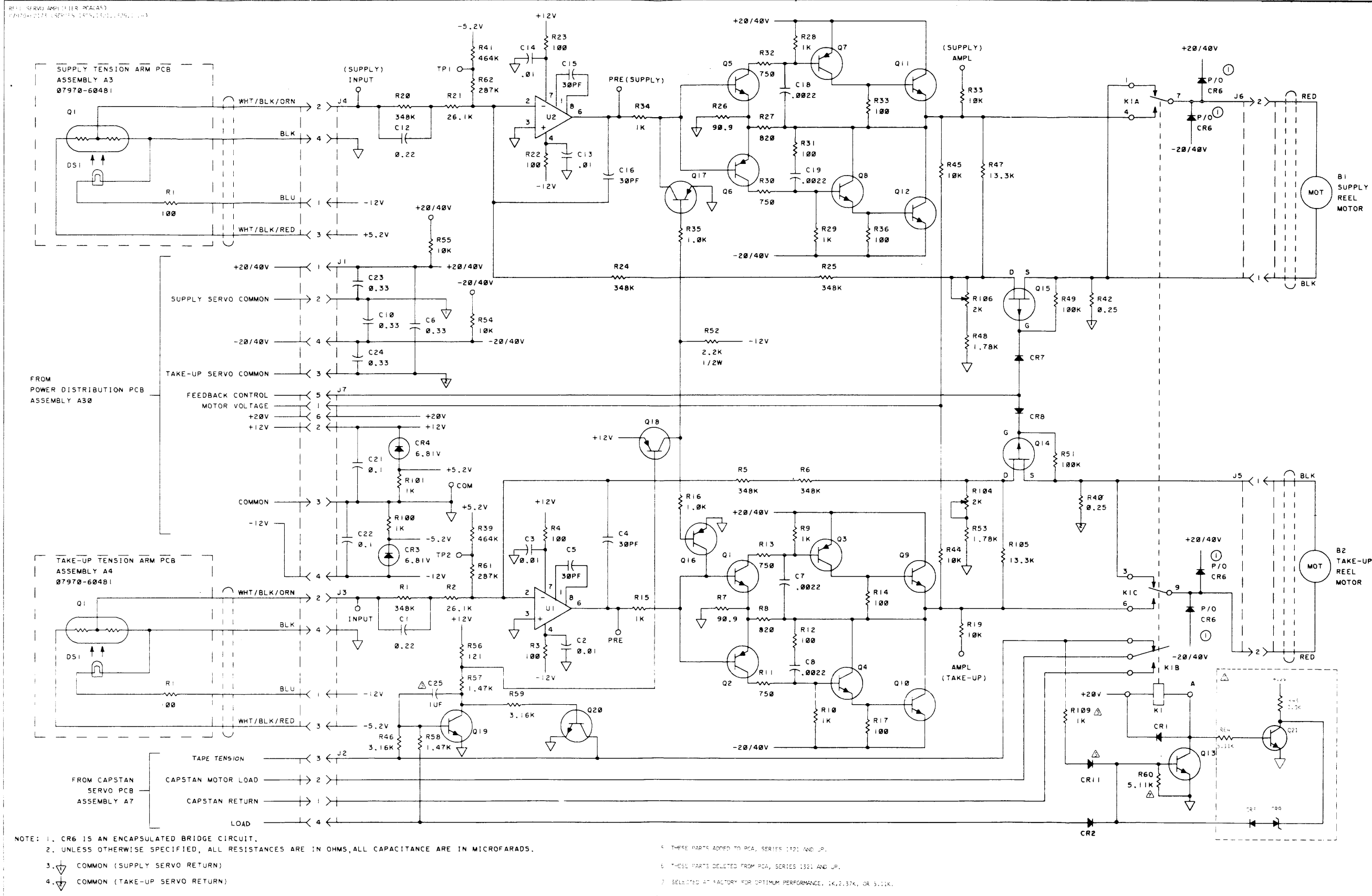


Reel Motor Assembly B1-B2  
(07970-60170 and 07970-60171)

REEL MOTOR ASSEMBLY PARTS LIST  
 07970-60170  
 07970-60171

REF. DES./ INDEX NO.	HP PART NO.	DESCRIPTION
	07970-60170	REEL MOTOR ASSEMBLY
1	07970-61040	REEL HOLDDOWN ASSEMBLY
2	07970-40090	HANDLE, HOLD DOWN
3	3030-0196	SCREW, SET, 4-40
4	07970-20700	STUD, HOLD DOWN
5	2200-0153	SCREW, 4-40X, .875
6	2190-0034	WASHER, Lock, #10
7	2190-0416	WASHER, Flat, #4
8	07970-20440	PIN, HOLD DOWN
9	07970-40070	BODY, HOLD DOWN
10	3050-0729	WASHER, 1.750
11	07970-40080	RING, REEL RETAINING
12	3030-0039	SCREW, 10-32, .625L
13	2190-0034	WASHER, Lock, #10
14	07970-20420	TURNTABLE, REEL
15	07975 - 44	SHIM, .002 in. width
	07975 - 43	SHIM, .005 in. width
	07975 - 40	SHIM, .010 in. width
	07975 - 41	SHIM, .032 in. width
16	3030-0010	SCREW, SET, 10-32
17	07970-20140	KEY, 5/8 Long
*18	07970-62267	MOTOR, REEL, Subassembly
19	1251-2514	CONNECTOR, Molex, 4 pin
	07970-60171	
*18	07970-62266	MOTOR, Reel, Subassembly

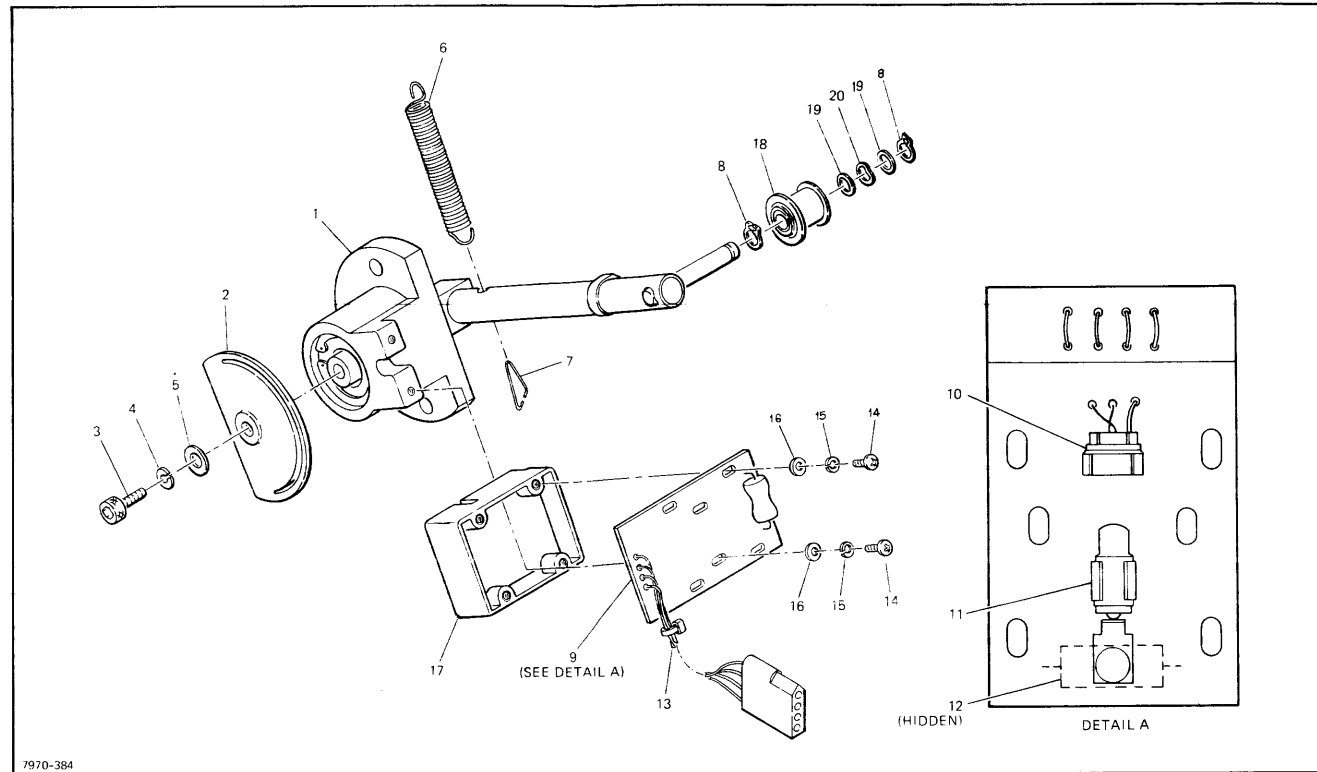




Tension Arm Assembly A3/A4 and Reel Servo PC Assembly A5

REEL SERVO PCA PARTS LIST  
07970-62173 (Series 1305, 1321, 1329, 1524)

REF. DES./ INDEX NO.	HP PART NO.	DESCRIPTION
	07970-62173	REEL SERVO ASSY (SERIES 1305)
C1, 12	0160-0380	CAPACITOR, fxd, .22uf, 10%
C2,3,13,14	0160-2055	CAPACITOR, fxd, .01uf, 100V
C4,5,15,16	0160-2199	CAPACITOR, fxd, 30pf, 5%
C6,10,23,24	0160-2128	CAPACITOR, fxd, .33uf, 20%
C7,8,18,19	0160-0154	CAPACITOR, fxd, .0022uf, 10%
C21,22	0150-0121	CAPACITOR, fxd, .1uf, 10%
*C25		CAPACITOR
*CR1,2,5,7,8,11	1901-0040	DIODE, 30V, 50ma
CR3,4	1902-0048	DIODE, Zener, 6.81V
CR6	1901-0364	DIODE, BRIDGE RECTIFIER
*CR9	1902-3139	DIODE, ZENER, 8.25V
K1	0490-0891	RELAY, 3PDT, 24VDC
	0490-0890	SOCKET, RELAY
	1460-1182	SPRING, HOLD DOWN
Q1,5	1854-0022	TRANSISTOR, 2N2101 TO5
Q2,6	1853-0080	TRANSISTOR, 2N4888 PL5
*Q3,7,	1853-0328	TRANSISTOR, 2N6211
*Q4,8	1854-0282	TRANSISTOR, 2N3583
*Q9-12	1854-0577	TRANSISTOR, 2N6259
*Q13,19,20,21	1854-0215	TRANSISTOR, 2N3904 PL5
Q14,15	1855-0056	TRANSISTOR, 2N4342 TO18
Q16,17	1853-0322	TRANSISTOR, 2N2946A TO46
Q18	1853-0036	TRANSISTOR, 2N3906 PL18
	0340-0177	INSULATOR, BUSHING
	2200-0147	SCREW, 4-40, .5 Pan
	2260-0001	NUT, HEX, 4-40
	2260-0009	NUT, Lock, 4-40
R1,5,6,20, 24,25	0698-3458	RESISTOR, fxd, 348K, 1%, .125W
R2,21	0698-3159	RESISTOR, fxd, 26.1K, 1%, .125W
R3,4,22,23	0683-1015	RESISTOR, fxd, 100, 5%, .25W
R7,26	0757-0797	RESISTOR, fxd, 90.9, 1%, .5W
R8,27	0698-3637	RESISTOR, fxd, 820, 5%, 2W
*R9,10,15,28,29, 34,43,100,101,109	0683-1025	RESISTOR, fxd, 1K, 5%, .25W
R11,13,30,32	0761-0058	RESISTOR, fxd, 750, 5%, 1W
R12,31	0757-0401	RESISTOR, fxd, 100, 1%, .125W
R14,17,33,36	0698-3113	RESISTOR, fxd, 100, 5%, .125W
R16,35	0757-0280	RESISTOR, fxd, 1K, 1%, .125W
R19,38,54,55	0683-1035	RESISTOR, fxd, 10K, 5%, .25W
R39,41	0698-3260	RESISTOR, fxd, 464K, 1%, .125W
R40,42	0811-2048	RESISTOR, fxd, .25, 1%, 25W
R44,45	0686-1035	RESISTOR, fxd, 10K, 5%, .5W
R46,59	0757-0279	RESISTOR, fxd, 3.16K, 1%, .125W
R47,105	0757-0289	RESISTOR, fxd, 13.3K, 1%, .125W
R48,53	0757-0278	RESISTOR, 1.78K, 1%, .125W



TENSION ARM ASSEMBLY PARTS LIST  
07970-60181

REF. DES./ INDEX NO.	HP PART NO.	DESCRIPTION
	07970-60181	TENSION ARM ASSEMBLY
1	07970-20190	HOUSING, Bearing
2	07970-00380	SHADE, Photocell
3	3030-0038	SCREW, 10-32, .5 in.
4	2190-0034	WASHER, Lock, #10
5	2190-0420	WASHER, Flat #10
6	1460-1181	SPRING, Extension
7	1460-1250	SPRING, Torsion
8	0510-0238	RING, Retaining
9	07970-60481	PCA, Tension Arm
10	1990-0307	PHOTOCONDUCTOR, dual (Q1)
11	2140-0351	LAMP, 6V, #328, (DS1)
12	0698-3620	RESISTOR, fxd, 100, 5%, 2W, (R1)
13	07970-60870	CABLE, Tension Arm
14	2200-0141	SCREW, 4-40, .312 Pan
15	2190-0003	WASHER, Lock, #4
16	3050-0105	WASHER, Flat, #4
17	07970-40203	HOOD, Tension Arm
18	07970-60130	GUIDE, Tape
19	3050-0032	WASHER, Flat, .010 thick
20	3050-0253	WASHER, Spring, #10

REF  
INI

R49,  
R50  
R52  
R56  
R57,  
\*R60,  
R61,  
R104  
U1,2

C25  
CR11  
CR5  
CR9  
Q9-1  
R43  
R64  
R109

Q3,7  
Q4,8

R60  
R60  
R60

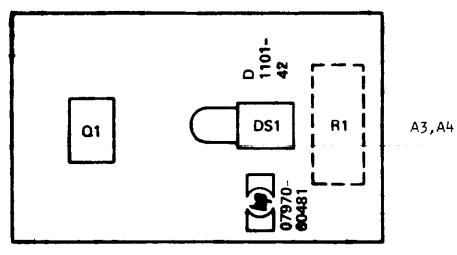
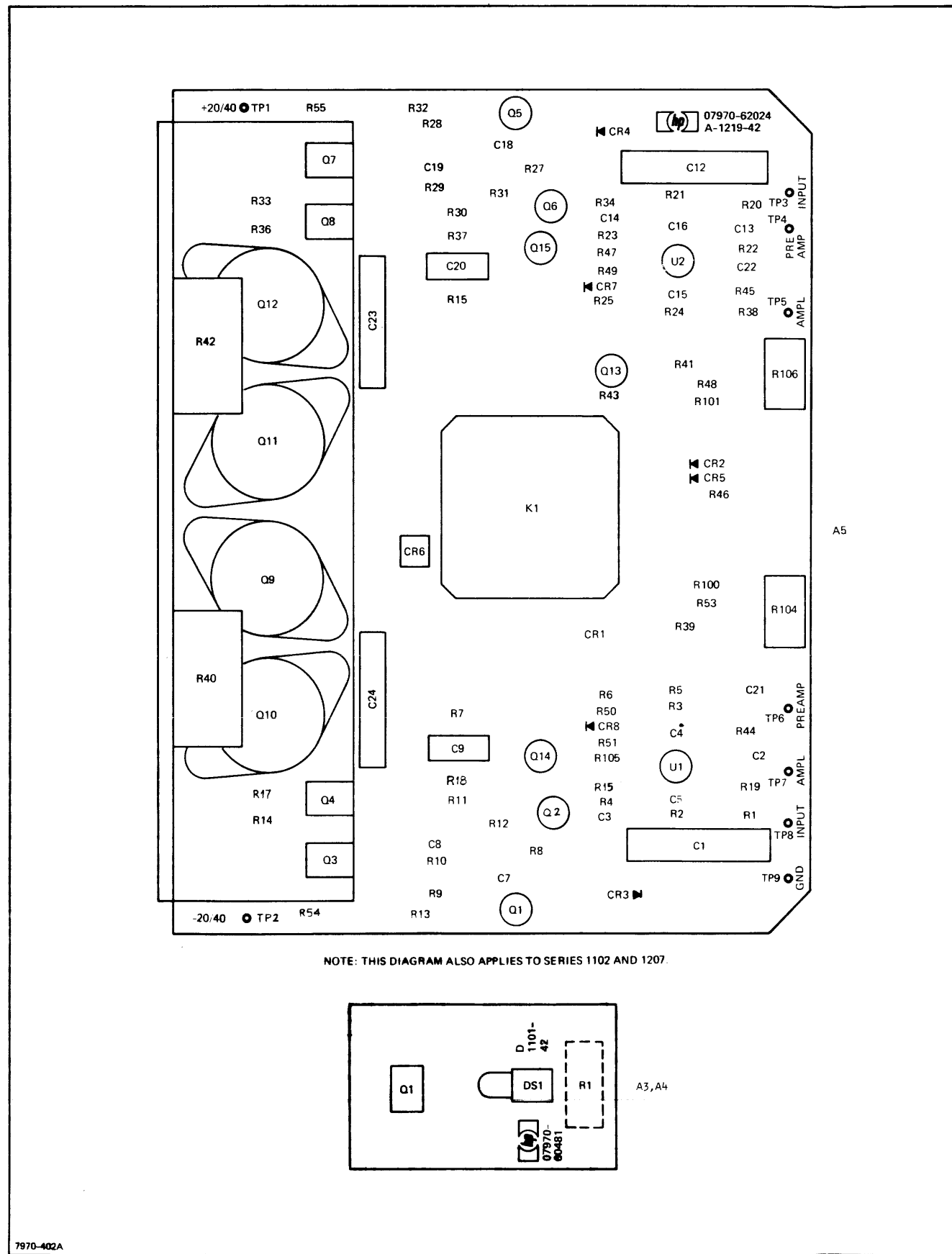
Tens  
Ree

REEL SERVO PCA PARTS LIST  
07970-62173 (Series 1305, 1321, 1329, 1524)

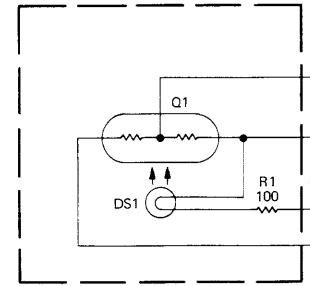
REF. DES./ INDEX NO.	HP PART NO.	DESCRIPTION
	07970-62173	REEL SERVO ASSY (SERIES 1305)
C1, 12	0160-0380	CAPACITOR, fxd, .22uf, 10%
C2,3,13,14	0160-2055	CAPACITOR, fxd, .01uf, 100V
C4,5,15,16	0160-2199	CAPACITOR, fxd, 30pf, 5%
C6,10,23,24	0160-2128	CAPACITOR, fxd, .33uf, 20%
C7,8,18,19	0160-0154	CAPACITOR, fxd, .0022uf, 10%
C21,22	0150-0121	CAPACITOR, fxd, .1uf, 10%
*C25		CAPACITOR
*CR1,2,5,7,8,11	1901-0040	DIODE, 30V, 50ma
CR3,4	1902-0048	DIODE, Zener, 6.81V
CR6	1901-0364	DIODE, BRIDGE RECTIFIER
*CR9	1902-3139	DIODE, ZENER, 8.25V
K1	0490-0891	RELAY, 3PDT, 24VDC
	0490-0890	SOCKET, RELAY
	1460-1182	SPRING, HOLD DOWN
Q1,5	1854-0022	TRANSISTOR, 2N2101 TO5
Q2,6	1853-0080	TRANSISTOR, 2N4888 PL5
*Q3,7,	1853-0328	TRANSISTOR, 2N6211
*Q4,8	1854-0282	TRANSISTOR, 2N3583
*Q9-12	1854-0577	TRANSISTOR, 2N6259
*Q13,19,20,21	1854-0215	TRANSISTOR, 2N3904 PL5
Q14,15	1855-0056	TRANSISTOR, 2N4342 TO18
Q16,17	1853-0322	TRANSISTOR, 2N2946A TO46
Q18	1853-0036	TRANSISTOR, 2N3906 PL18
	0340-0177	INSULATOR, BUSHING
	2200-0147	SCREW, 4-40, .5 Pan
	2260-0001	NUT, HEX, 4-40
	2260-0009	NUT, Lock, 4-40
R1,5,6,20, 24,25	0698-3458	RESISTOR, fxd, 348K, 1%, .125W
R2,21	0698-3159	RESISTOR, fxd, 26.1K, 1%, .125W
R3,4,22,23	0683-1015	RESISTOR, fxd, 100, 5%, .25W
R7,26	0757-0797	RESISTOR, fxd, 90.9, 1%, .5W
R8,27	0698-3637	RESISTOR, fxd, 820, 5%, 2W
*R9,10,15,28,29, 34,43,100,101,109	0683-1025	RESISTOR, fxd, 1K, 5%, .25W
R11,13,30,32	0761-0058	RESISTOR, fxd, 750, 5%, 1W
R12,31	0757-0401	RESISTOR, fxd, 100, 1%, .125W
R14,17,33,36	0698-3113	RESISTOR, fxd, 100, 5%, .125W
R16,35	0757-0280	RESISTOR, fxd, 1K, 1%, .125W
R19,38,54,55	0683-1035	RESISTOR, fxd, 10K, 5%, .25W
R39,41	0698-3260	RESISTOR, fxd, 464K, 1%, .125W
R40,42	0811-2048	RESISTOR, fxd, .25, 1%, 25W
R44,45	0686-1035	RESISTOR, fxd, 10K, 5%, .5W
R46,59	0757-0279	RESISTOR, fxd, 3.16K, 1%, .125W
R47,105	0757-0289	RESISTOR, fxd, 13.3K, 1%, .125W
R48,53	0757-0278	RESISTOR, 1.78K, 1%, .125W

REF. DES./ INDEX NO.	HP PART NO.	DESCRIPTION
R49,51	0757-0465	RESISTOR, fxd, 100K, 1%, .125W
R50	0757-0458	RESISTOR, fxd, 51.1K, 1%, .125W
R52	0686-2225	RESISTOR, fxd, 2.2K, 5%, .25W
R56	0757-0403	RESISTOR, fxd, 121, 1%, .125W
R57,58	0757-1094	RESISTOR, fxd, 1.47K, 1%, .125W
*R60,64	0757-0438	RESISTOR, fxd, 5.11K, 1%, .125W
R61,62	0698-3456	RESISTOR, fxd, 287K, 1%, .125W
R104,106	2100-1759	RESISTOR, Variable, 2K, 5%, 1W
U1,2	1820-0223	IC, LM301AH
	07970-20849	BRACKET, REEL SERVO
	1205-0085	HEAT DISSIPATOR (Q3,Q7)
	Series 1321	
C25	0160-0127	CAPACITOR, 1.0uf (Added to PCA)
CR11	1901-0040	DIODE (Added to PCA)
CR5	1901-0040	DIODE (Deleted from PCA)
CR9	1902-3139	DIODE (Deleted from PCA)
Q9-12	1854-0490	TRANSISTORS, 2N3773 (New Part No.)
R43	0683-1025	RESISTOR (Deleted from PCA)
R64	0757-0438	RESISTOR (Deleted from PCA)
R109	0683-1025	RESISTOR (Added to PCA)
	Series 1329	
Q3,7	1853-0323	TRANSISTORS, 2N4900 (New Part No.)
Q4,8	1854-0399	TRANSISTORS, 2N4912 (New Part No.)
	Series 1524	
R60	0757-0938	RESISTOR, 5.11K } Selected at factory RESISTOR, 1K } for optimum RESISTOR, 2.37K } performance, 1K or 2.37K or 5.11K
R60	0757-0280	
R60	0698-3150	

Tension Arm Assembly A3/A4 and  
Reel Servo PC Assembly A5



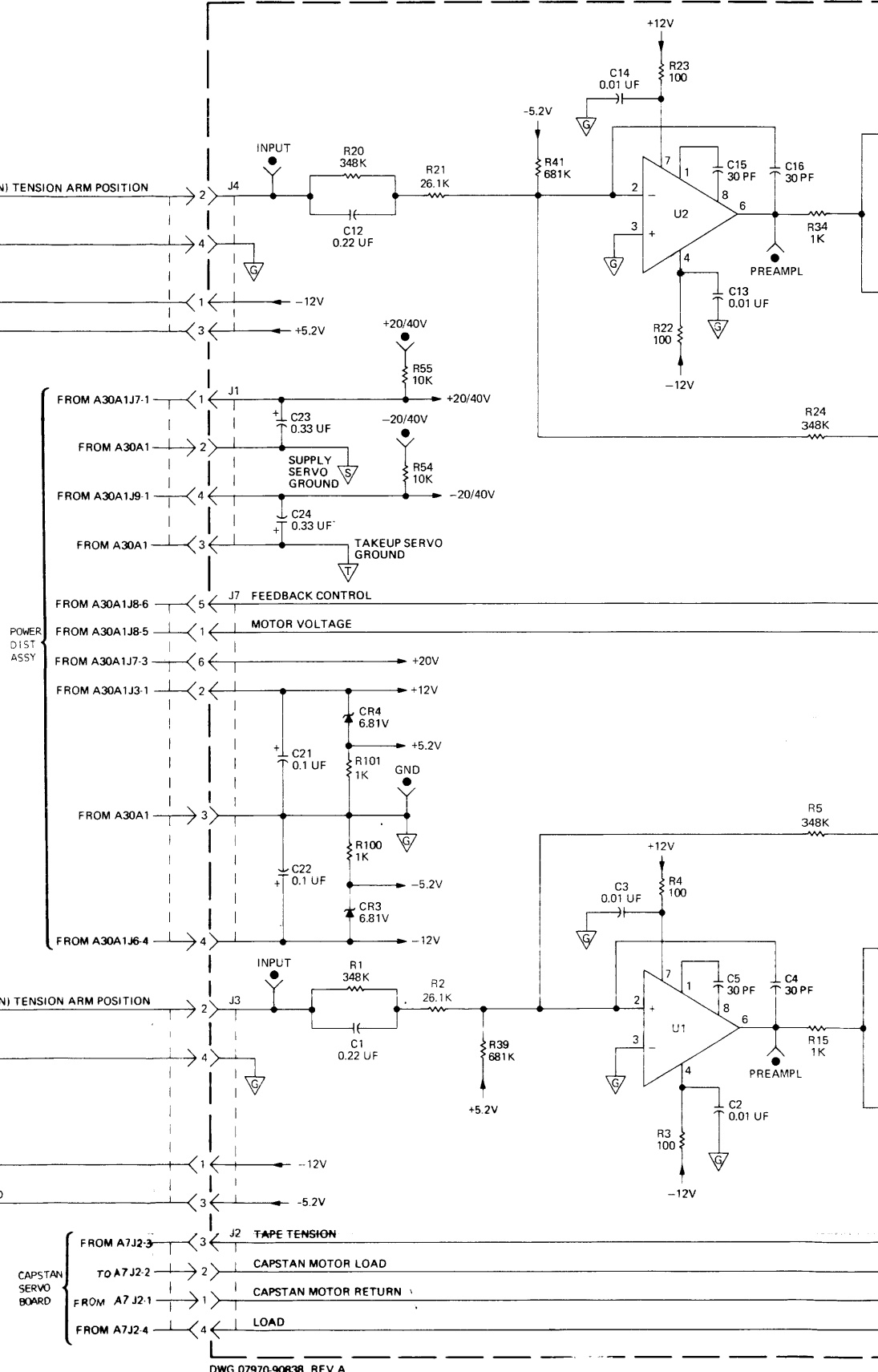
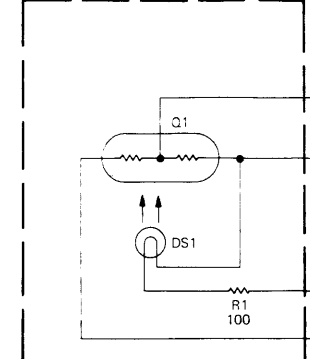
SUPPLY TENSION ARM PCB ASSEMBLY A3  
 (07970-60481)  
 SERIES 1101



NOTES:

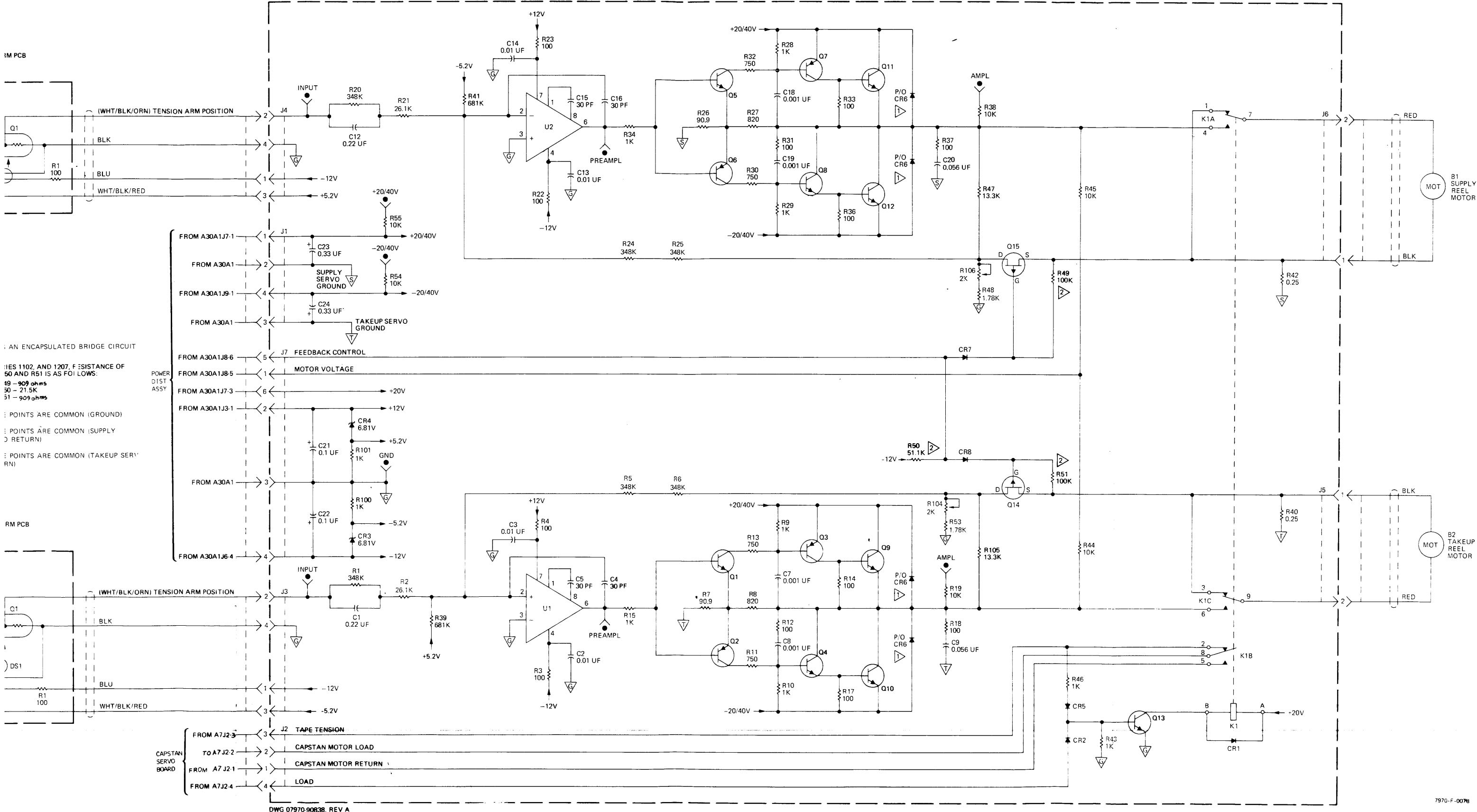
- ▷ CR6 IS AN ENCAPSULATED BRIDGE CIRCUIT
- ▷ IN SERIES 1102, AND 1207, RESISTANCE OF R49, R50 AND R51 IS AS FOLLOWS:  
 R49 - 909 ohms  
 R50 - 21.5K  
 R51 - 909 ohms
- ⊥ THESE POINTS ARE COMMON (GROUND)
- ⊥ THESE POINTS ARE COMMON (SUPPLY SERVO RETURN)
- ⊥ THESE POINTS ARE COMMON (TAKEUP SERVO RETURN)

TAKEUP TENSION ARM PCB ASSEMBLY A4  
 (07970-60481)  
 SERIES 1101





REEL SERVO AMPLIFIER PCB ASSEMBLY (A5)  
 (07970 62024;  
 SERIES 1102, 1207, 1219



IM PCB

AN ENCAPSULATED BRIDGE CIRCUIT

SERIES 1102, AND 1207, RESISTANCE OF  
 R50 AND R51 IS AS FOLLOWS:  
 49 - 909 ohms  
 50 - 21.5K  
 51 - 909 ohms

POINTS ARE COMMON (GROUND)  
 POINTS ARE COMMON (SUPPLY  
 RETURN)  
 POINTS ARE COMMON (TAKEUP SERVO  
 RETURN)

RM PCB

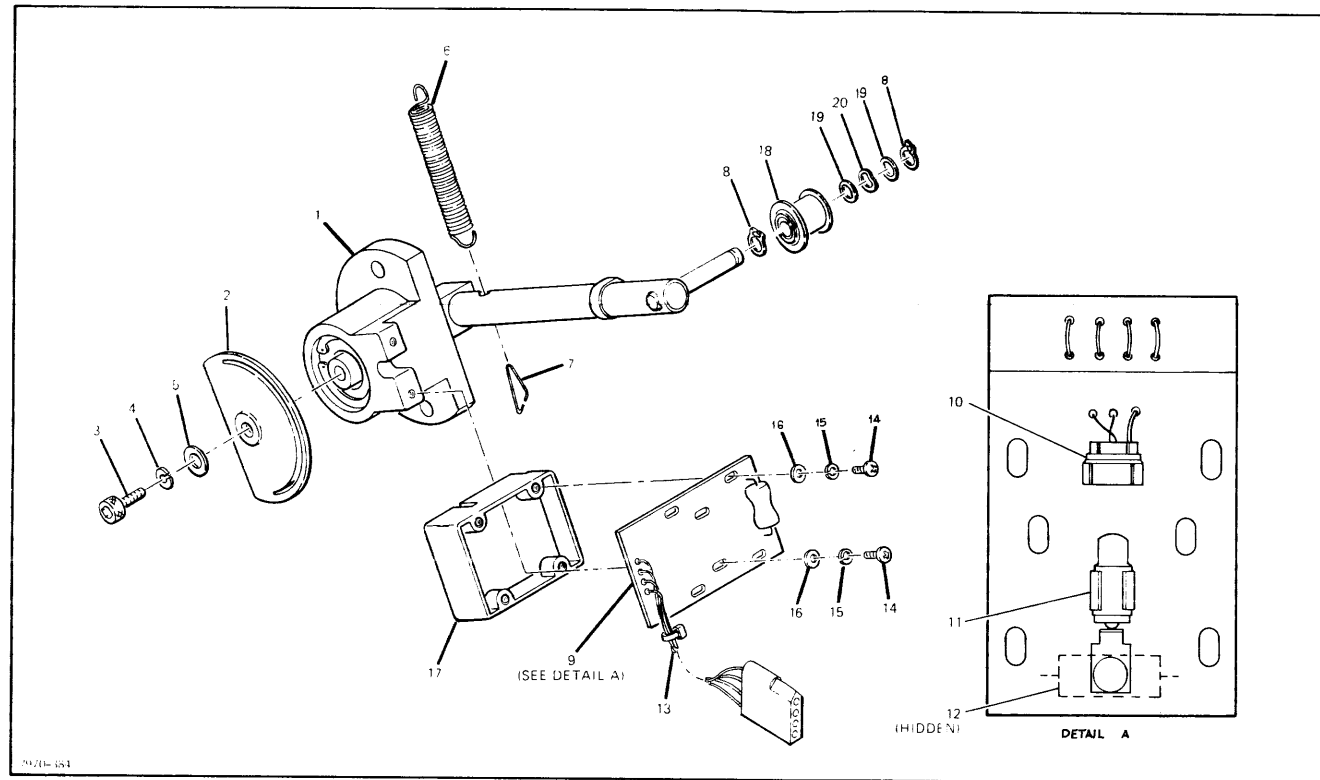
POWER  
 DIST  
 ASSY

CAPSTAN  
 SERVO  
 BOARD

DWG 07970-90838, REV A

7970-F-0078

Tension Arm Assembly A3/A4 and  
 Reel Servo PC Assembly A5



TENSION ARM ASSEMBLY PARTS LIST  
07970-60181

REF. DES./ INDEX NO.	HP PART NO.	DESCRIPTION
	07970-60181	TENSION ARM ASSEMBLY
1	07970-20190	HOUSING, Bearing
2	07970-00380	SHADE, Photocell
3	3030-0038	SCREW, 10-32, .5 in.
4	2190-0034	WASHER, Lock, #10
5	2190-0420	WASHER, Flat #10
6	1460-1181	SPRING, Extension
7	1460-1250	SPRING, Torsion
8	0510-0238	RING, Retaining
9	07970-60481	PCA, Tension Arm
10	1990-0307	PHOTOCONDUCTOR, dual (Q1)
11	2140-0351	LAMP, 6V, #328, (DS1)
12	0698-3620	RESISTOR, fxd, 100, 5%, 2W, (R1)
13	07970-60870	CABLE, Tension Arm
14	2200-0141	SCREW, 4-40, .312 Pan
15	2190-0003	WASHER, Lock, #4
16	3050-0105	WASHER, Flat, #4
17	07970-40203	HOOD, Tension Arm
18	07970-60130	GUIDE, Tape
19	3050-0032	WASHER, Flat, .010 thick
20	3050-0253	WASHER, Spring, #10

REEL SERVO PCA PARTS LIST  
07970-62024 (Series 1102, 1207, 1219)

REF. DES./ INDEX NO.	HP PART NO.	DESCRIPTION
	07970-62024	REEL SERVO PCA (Series 1102)
C1, 12	0160-0380	CAPACITOR, fxd, .22uf, 10%
C2,3,13,14	0160-2055	CAPACITOR, fxd, .01uf, -20 + 80%
C4,5,15,16	0160-2199	CAPACITOR, fxd, 30pf, 5%
C7,8,18,19	0160-0153	CAPACITOR, fxd, .001uf, 10%
C9,20	0160-0165	CAPACITOR, fxd, .056uf, 10%
C21,22	0150-0121	CAPACITOR, fxd, .1uf, 50V
C23,24	0160-2128	CAPACITOR, fxd, .33uf, 200V
CR1,2,5,7,8	1901-0040	DIODE, 30V, 50MA
CR3,4,	1902-0048	DIODE, Breakdown, 6.81V
CR6	1901-0364	DIODE, Bridge Rect
K1	0490-0891	RELAY, 10, Amp
	0490-0890	SOCKET, Relay
	1460-1182	SPRING, Holddown
Q1,5	1854-0022	TRANSISTOR, NPN, SI, TO39
Q2,6	1853-0080	TRANSISTOR, 2N4888
Q3,7	1853-0204	TRANSISTOR, 2N4920
Q4,8	1854-0347	TRANSISTOR, 2N4923
Q9-12	1854-0490	TRANSISTOR, Power, NPN, TO3
①	1200-0077	INSULATOR, Transistor
	2200-0147	SCREW, 4-40, .5 Pan
	2260-0009	NUT, Lock, 4-40
Q13	1854-0215	TRANSISTOR, 2N3904
Q14,15	1855-0052	TRANSISTOR, FET, TO92
R1,5,6,20,24,25	0698-3458	RESISTOR, fxd, 348K, 1%, .125W
R2,21	0698-3159	RESISTOR, fxd, 26.1K, 1%, .125W
R3,4,22,23	0683-1015	RESISTOR, fxd, 100, 5%, .25W
R7,26	0757-0797	RESISTOR, fxd, 90.9, 1%, .5W
R8,27	0698-3637	RESISTOR, fxd, 820, 5%, 2W
R9,10,15,28,29, 34,43,46,100,101	0683-1025	RESISTOR, fxd, 1K, 5%, .25W
R11,13,30,32	0761-0058	RESISTOR, fxd, 750, 5%, 1W
R12,31	0757-0401	RESISTOR, fxd, 100, 1%, .125W
R14, 17,33,36	0698-3113	RESISTOR, fxd, 100, 5%, .125W
R18,37	0757-0198	RESISTOR, fxd, 100, 1%, .5W
R19,38	0683-1035	RESISTOR, fxd, 10K, 5%, .25W
R39,41	0757-0869	RESISTOR, fxd, 681K, 1%, .5W
R40,42	0811-2048	RESISTOR, fxd, 0.25, 1%, 25W
R44,45	0686-1035	RESISTOR, fxd, 10K, 5%, .5W
R47,105	0757-0289	RESISTOR, fxd, 13.3K, 1%, .125W
R48,53	0757-0278	RESISTOR, fxd, 1.78K, 1%, .125W
*R49,51	0757-0422	RESISTOR, fxd, 909, 1%, .125W
*R50	0757-0199	RESISTOR, fxd, 21.5K, 1%, .125W

REF. DES  
INDEX NO

R104,106  
U1,2

\*R49,51  
\*R50

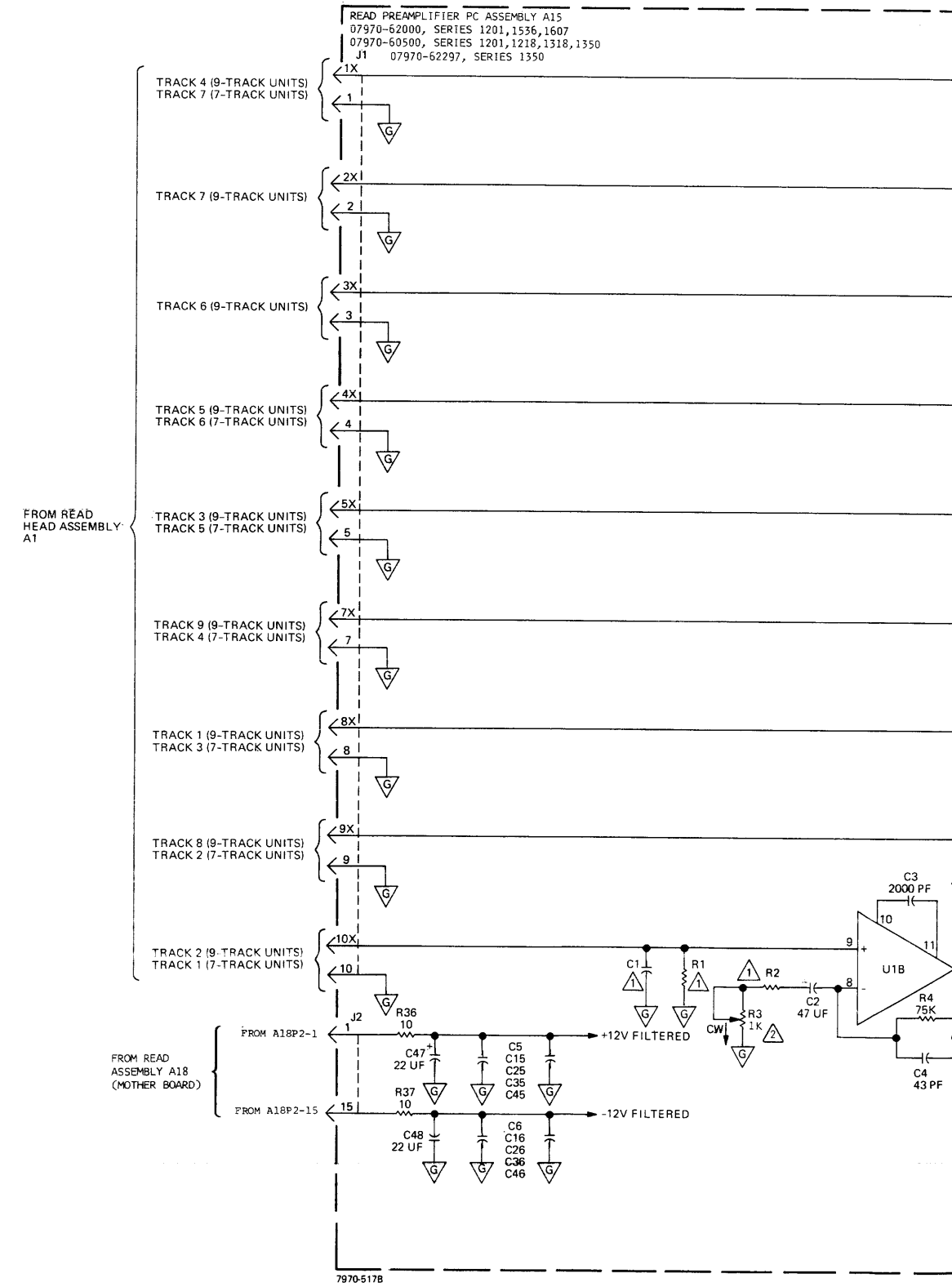
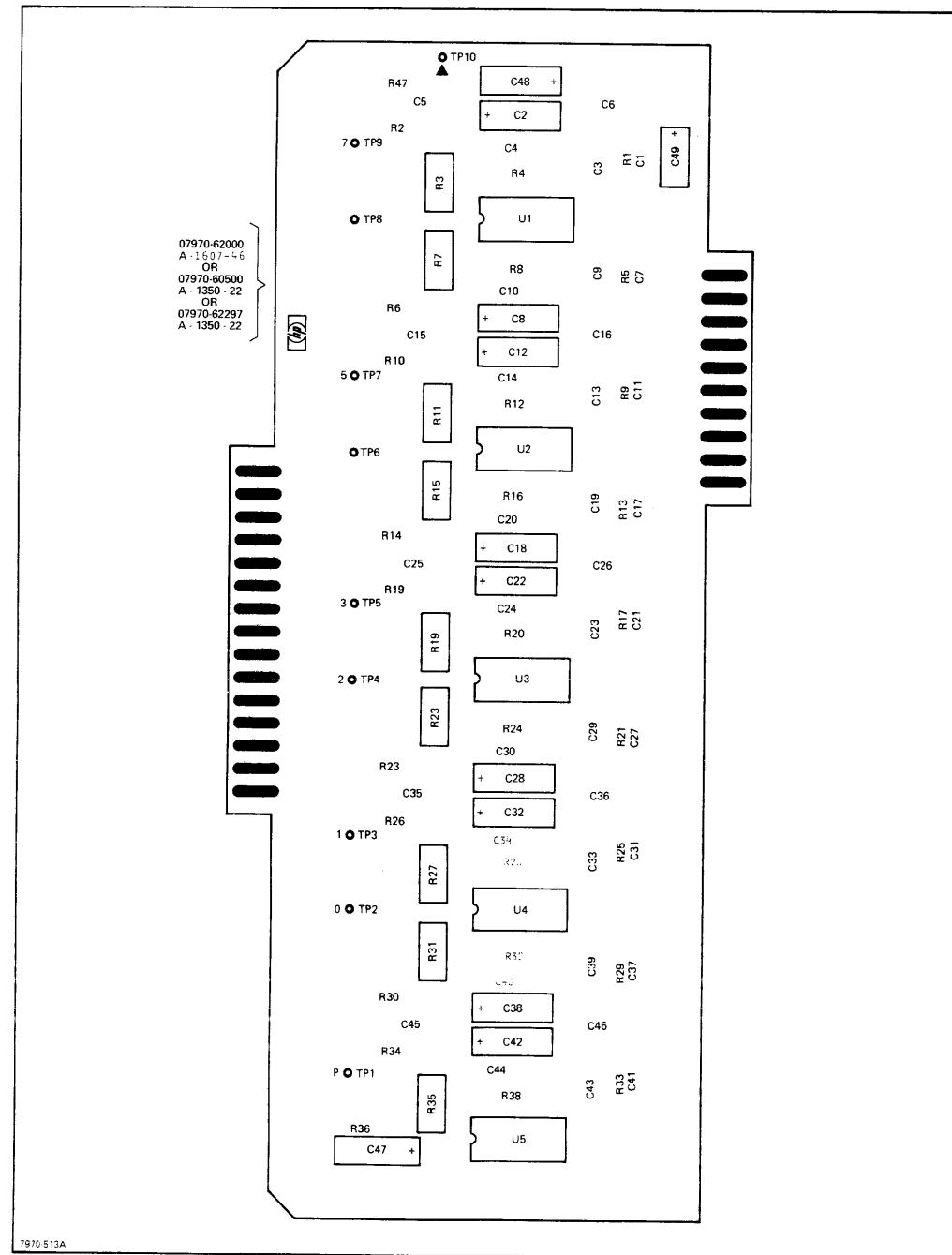
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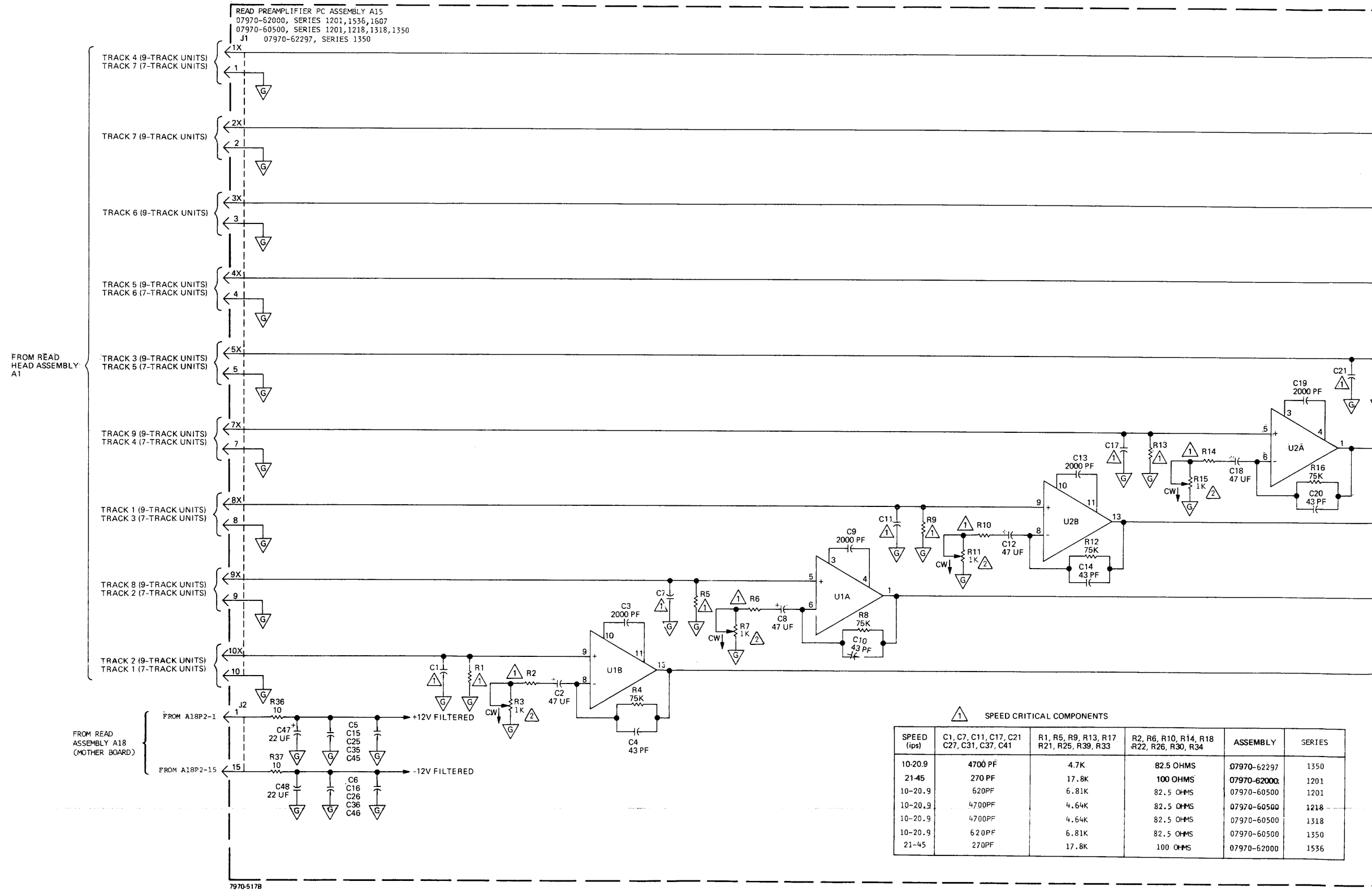
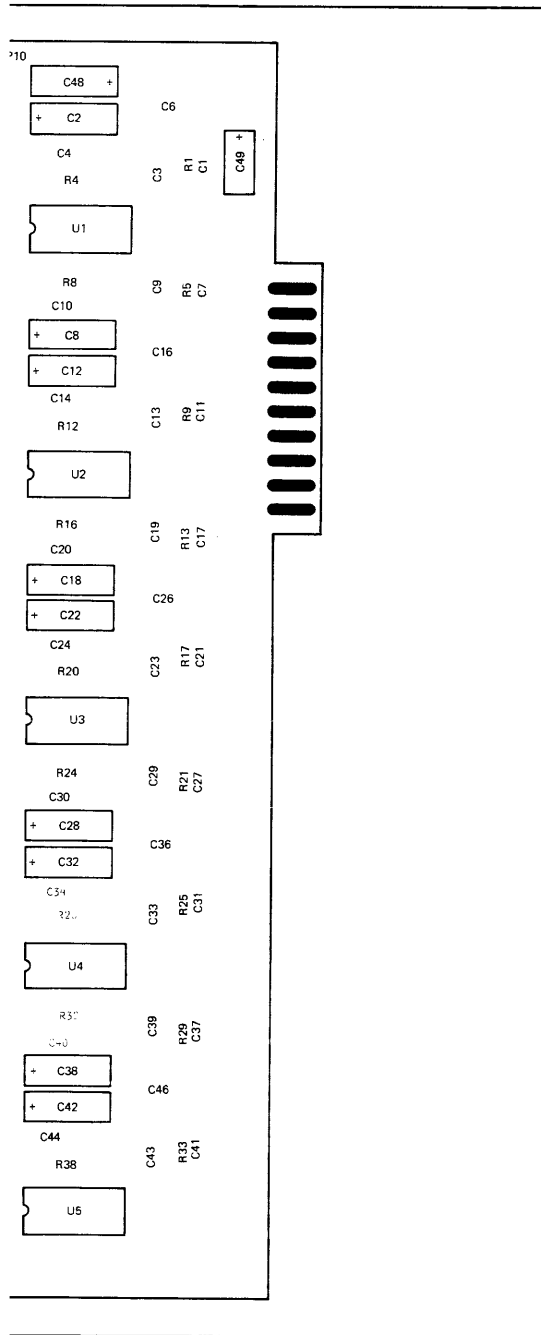
RTS LIST  
 es 1102, 1207, 1219)

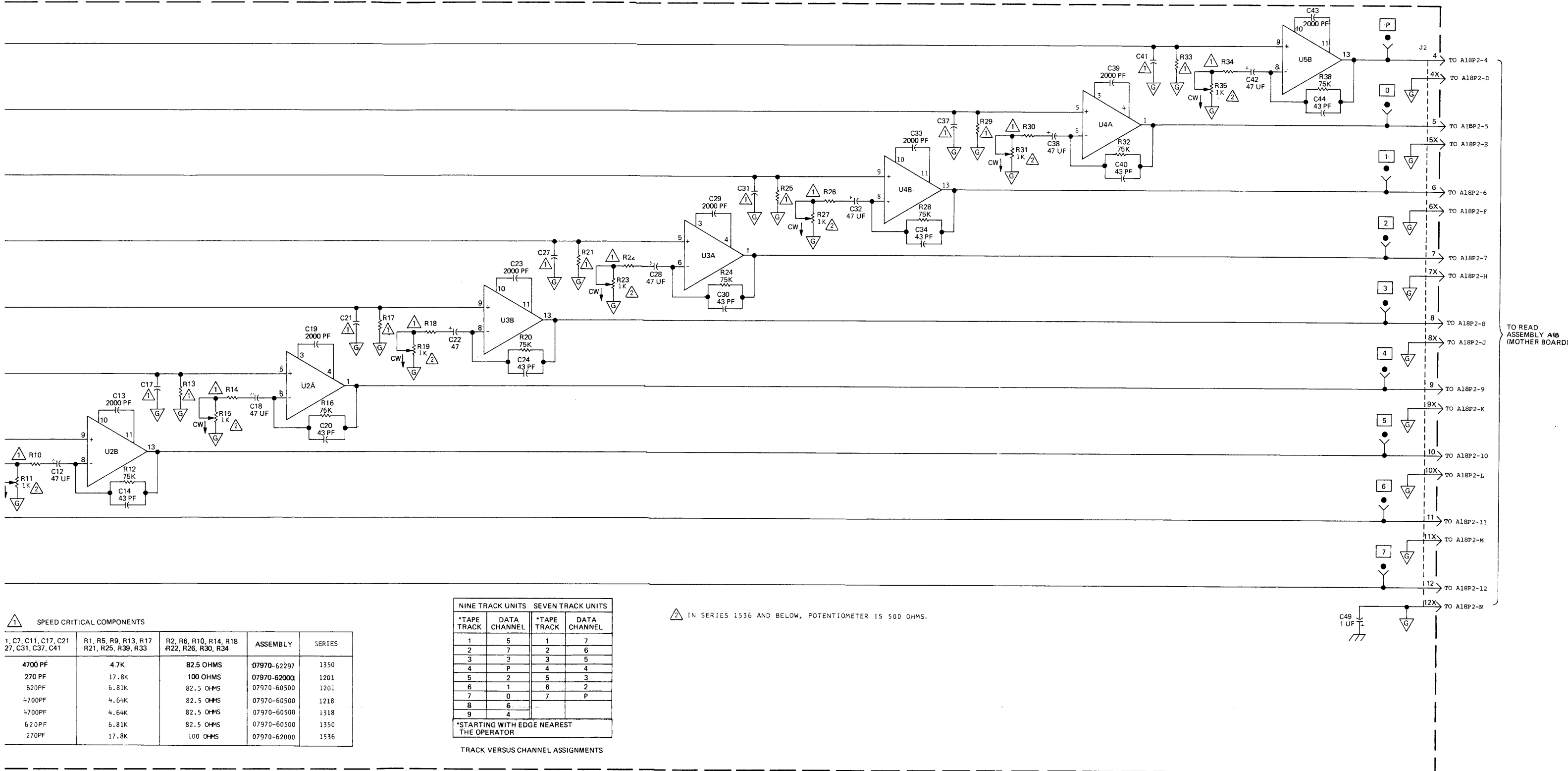
HP PART NO.	DESCRIPTION
07970-62024	REEL SERVO PCA (Series 1102)
0160-0380	CAPACITOR, fxd, .22uf, 10%
0160-2055	CAPACITOR, fxd, .01uf, -20 + 80%
0160-2199	CAPACITOR, fxd, 30pf, 5%
0160-0153	CAPACITOR, fxd, .001uf, 10%
0160-0165	CAPACITOR, fxd, .056uf, 10%
0150-0121	CAPACITOR, fxd, .1uf, 50V
0160-2128	CAPACITOR, fxd, .33uf, 200V
1901-0040	DIODE, 30V, 50MA
1902-0048	DIODE, Breakdown, 6.81V
1901-0364	DIODE, Bridge Rect
0490-0891	RELAY, 10, Amp
0490-0890	SOCKET, Relay
1460-1182	SPRING, Holddown
1854-0022	TRANSISTOR, NPN, SI, TO39
1853-0080	TRANSISTOR, 2N4888
1853-0204	TRANSISTOR, 2N4920
1854-0347	TRANSISTOR, 2N4923
1854-0490	TRANSISTOR, Power, NPN, TO3
1200-0077	INSULATOR, Transistor
2200-0147	SCREW, 4-40, .5 Pan
2260-0009	NUT, Lock, 4-40
1854-0215	TRANSISTOR, 2N3904
1855-0052	TRANSISTOR, FET, TO92
0698-3458	RESISTOR, fxd, 348K, 1%, .125W
0698-3159	RESISTOR, fxd, 26.1K, 1%, .125W
0683-1015	RESISTOR, fxd, 100, 5%, .25W
0757-0797	RESISTOR, fxd, 90.9, 1%, .5W
0698-3637	RESISTOR, fxd, 820, 5%, 2W
0683-1025	RESISTOR, fxd, 1K, 5%, .25W
0761-0058	RESISTOR, fxd, 750, 5%, 1W
0757-0401	RESISTOR, fxd, 100, 1%, .125W
0698-3113	RESISTOR, fxd, 100, 5%, .125W
0757-0198	RESISTOR, fxd, 100, 1%, .5W
0683-1035	RESISTOR, fxd, 10K, 5%, .25W
0757-0869	RESISTOR, fxd, 681K, 1%, .5W
0811-2048	RESISTOR, fxd, 0.25, 1%, 25W
0686-1035	RESISTOR, fxd, 10K, 5%, .5W
0757-0289	RESISTOR, fxd, 13.3K, 1%, .125W
0757-0278	RESISTOR, fxd, 1.78K, 1%, .125W
0757-0422	RESISTOR, fxd, 909, 1%, .125W
0757-0199	RESISTOR, fxd, 21.5K, 1%, .125W

REF. DES./ INDEX NO.	HP PART NO.	DESCRIPTION
R104,106 U1,2	2100-1759 1820-0223 0340-0465 1251-2503 1251-2504 07970-00271	RESISTOR, Variable, 2K, 5%, 1W IC, LM301AH INSULATOR, IC, Pad CONNECTOR, Contact, Female CONNECTOR, Contact, Male BRACKET, Reel Servo
*R49,51 *R50	Series 1219 0757-0465 0757-0458	RESISTOR, fxd, 100K, 1%, .125W RESISTOR, fxd, 51.1K, 1%, .125W
<p>1 Added on series 1207</p>		

Tension Arm Assembly A3/A4 and  
 Reel Servo PC Assembly A5







TO READ ASSEMBLY A16 (MOTHER BOARD)

**△ SPEED CRITICAL COMPONENTS**

1, C7, C11, C17, C21, C27, C31, C37, C41	R1, R5, R9, R13, R17, R21, R25, R39, R33	R2, R6, R10, R14, R18, R22, R26, R30, R34	ASSEMBLY	SERIES
4700 PF	4.7K	82.5 OHMS	07970-62297	1350
270 PF	17.8K	100 OHMS	07970-62000	1201
520PF	6.81K	82.5 OHMS	07970-60500	1201
4700PF	4.64K	82.5 OHMS	07970-60500	1218
4700PF	4.64K	82.5 OHMS	07970-60500	1318
620PF	6.81K	82.5 OHMS	07970-60500	1350
270PF	17.8K	100 OHMS	07970-62000	1536

NINE TRACK UNITS		SEVEN TRACK UNITS	
*TAPE TRACK	DATA CHANNEL	*TAPE TRACK	DATA CHANNEL
1	5	1	7
2	7	2	6
3	3	3	5
4	P	4	4
5	2	5	3
6	1	6	2
7	0	7	P
8	6		
9	4		

\*STARTING WITH EDGE NEAREST THE OPERATOR

TRACK VERSUS CHANNEL ASSIGNMENTS

△ IN SERIES 1536 AND BELOW, POTENTIOMETER IS 500 OHMS.

Read Pre-amplifier PC Assembly A15

READ PREAMPLIFIER PCA PARTS LIST  
 07970-62000 (SERIES 1201, 1536, 1607)  
 07970-60500 (SERIES 1201, 1213, 1318, 1350)  
 07970-62297 (SERIES 1350)

REF. DES./ INDEX NO.	HP PART NO.	DESCRIPTION
	07970-62000	READ PREAMPLIFIER PCA (SERIES 1201)
*C1,7,11,17,21, 27,31,37,41	0140-0210	CAPACITOR, fxd, 270pf, 5%
C2,8,12,18,22, 28,32,38,42	0180-1704	CAPACITOR, fxd, 47uf, 10%
C3,9,13,19,23, 29,33,39,43	0160-2225	CAPACITOR, fxd, 2000pf, 5%
C4,10,14,20, 24,30,34,40,44	0160-2200	CAPACITOR, fxd, 43pf, 5%
C5,6,15,16,25, 26,35,36,45,46	0160-2055	CAPACITOR, fxd, .01uf, 100V
C47,48	0180-0228	CAPACITOR, fxd, 22uf, 15VDC
C49	0180-0291	CAPACITOR, fxd, 1uf, 35VDC
*R1,5,9,13,17 21,25,29,33	0698-3136	RESISTOR, fxd, 17.8K, 1%, .125W
*R2,6,10,14,18 22,26,30,34	0757-0401	RESISTOR, fxd, 100, 1%, .125W
*R3,7,11,15,19 23,27,31,35	2100-3251	RESISTOR, Variable, 500, .5W
R4,8,12,16,20 24,28,32,38	0757-0462	RESISTOR, fxd, 75K, 1%, .125W
R36, 37	0757-0346	RESISTOR, fxd, 10, 1%, .125W
*U1-5	1826-0044	IC, Linear, Ceramic Case
	07970-00430	BRACKET, Read Preamp
	2360-0115	SCREW, 6-32, .312 in.
	3050-0228	WASHER, Flat, .312
	07970-60500	(SERIES 1201)
*C1,7,11,17,21 27,31,37,41	0160-0363	CAPACITOR, fxd, 620pf, 5%
*R1,5,9,13,17, 21,25,29,33	0757-0439	RESISTOR, fxd, 6.81K, 1%, .125W
	07970-60500	(SERIES 1218)
*C1,7,11,17,21 27,31,37,41	0160-0157	CAPACITOR, fxd, 4700pf, 10%
*R1,5,9,13,17 21,25,29,33	0698-3155	RESISTOR, fxd, 4.64K, 1%, .125W
*R2,6,10,14,18 22,26,30,34	0757-0399	RESISTOR, fxd, 82.5, 1%, .125W

REF. DES./ INDEX NO.	HP PART NO.	DESCRIPTION
*C1,7,11,17,21, 27,31,37,41	07970-60500 0160-0911	(SERIES 1318) CAPACITOR, fxd, 4700pf, 10%
*R1,5,9,13,17, 21,25,29,33	0698-3155	RESISTOR, fxd, 4.64K, 1%, .125W
*R2,6,10,14,18 22,26,30,34	0757-0399	RESISTOR, fxd, 82.5, 1%, .125W
	07970-60500	(SERIES 1350)
*C1,7,11,17,21 27,31,37,41	0160-0363	CAPACITOR, fxd, 620pf, 5%
*R1,5,9,13,17 21,25,29,33	0757-0439	RESISTOR, fxd, 6.81K, 1%, .125W
*R2,6,10,14,18, 22,26,30,34	0757-0399	RESISTOR, fxd, 82.5, 1%, .125W
	07970-62297	(SERIES 1350)
*C1,7,11,17,21, 27,31,37,41	0160-0911	CAPACITOR, fxd, .0047uf, 10%
*R1,5,9,13,17, 21,25,29,33	0698-3155	RESISTOR, fxd, 4.64K, 1%, .125W
*R2,6,10,14,18 22,26,30,34	0757-0399	RESISTOR, fxd, 82.5, 1%, .125W
	07970-62000	(SERIES 1536)
*U1-5	1826-0318	IC, Linear, Plastic Case
	07970-62000	(SERIES 1607)
*R3,7,11,15,19 23,27,31,35	2100-3352	RESISTOR, Variable, 1K, 10%
*U1-5	1826-0318	IC, Linear, Plastic Case

ION

00pF, 10%

1K, 1%, .125W

5, 1%, .125W

0pF, 5%

1K, 1%, .125W

5, 1%, .125W

047uF, 10%

1K, 1%, .125W

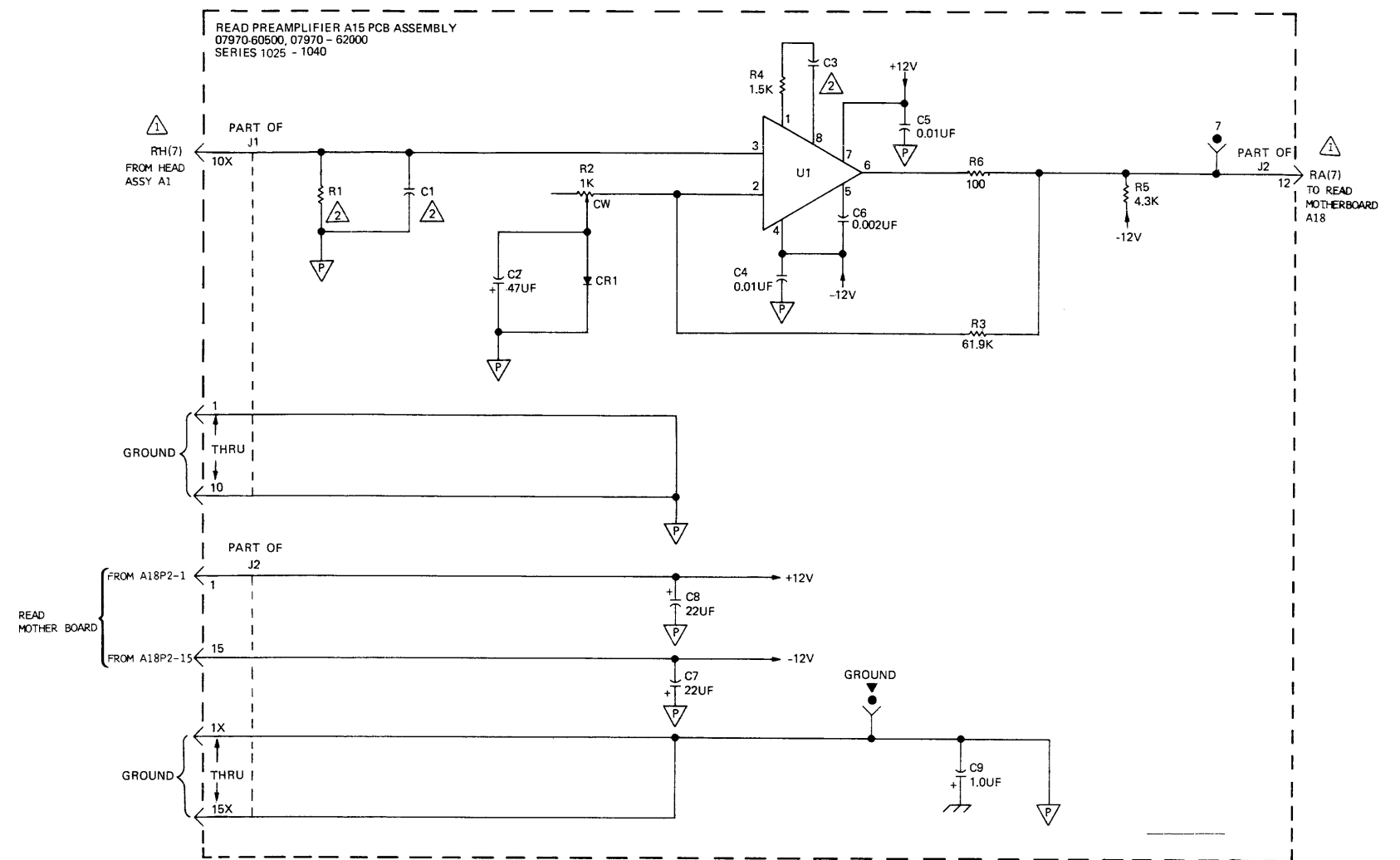
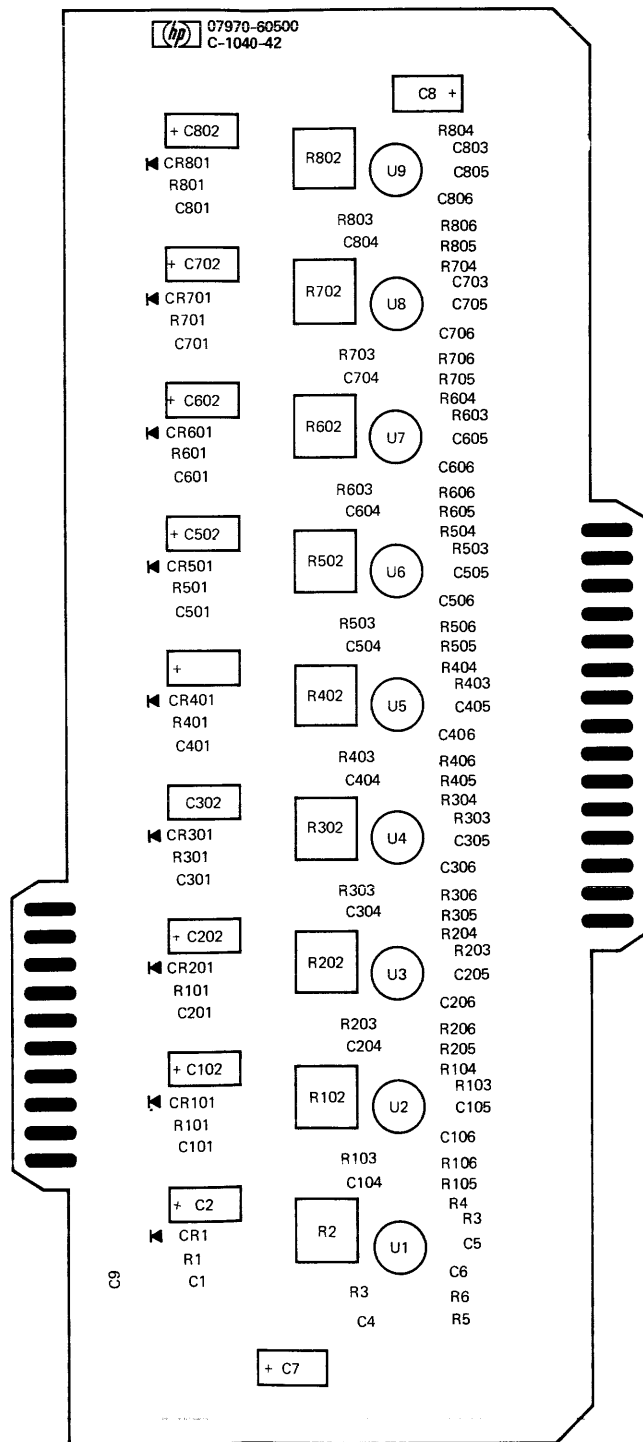
5, 1%, .125W

c Case

, 1K, 10%

c Case



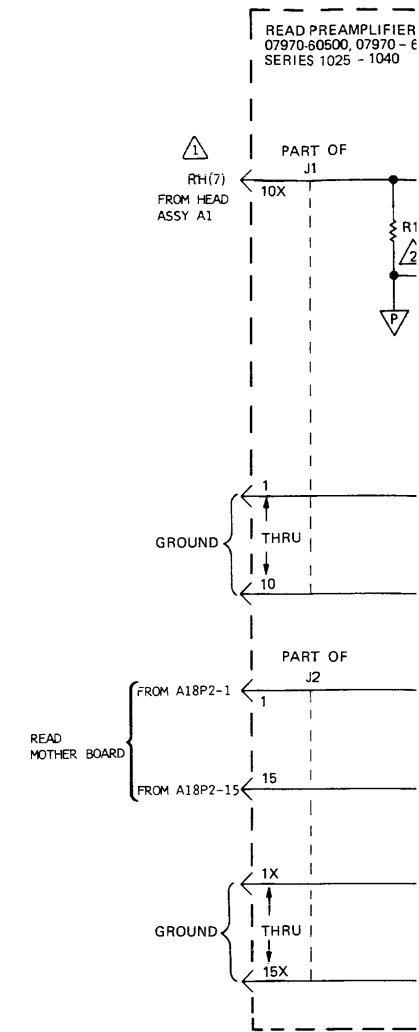
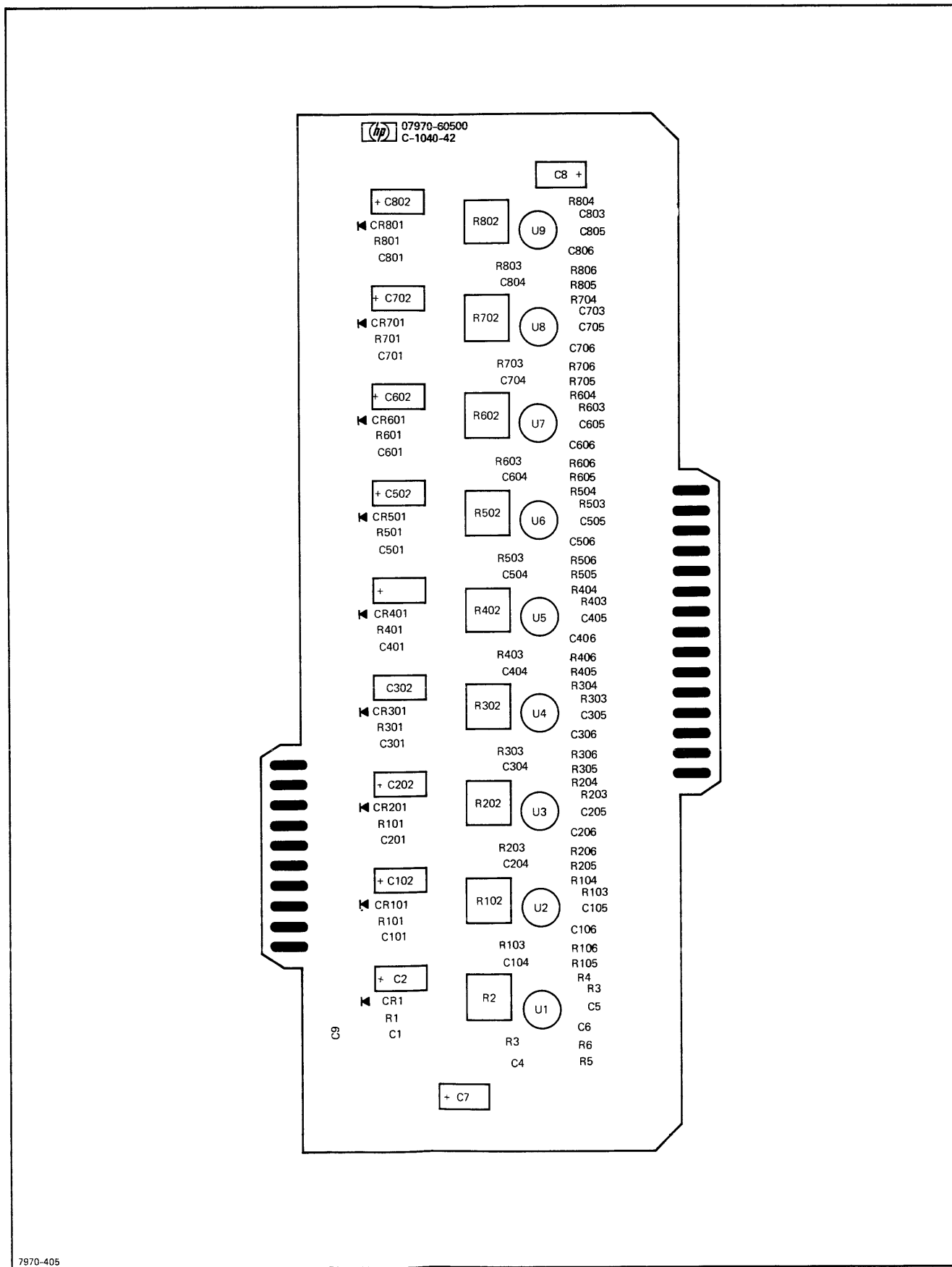


⚠ NINE IDENTICAL PREAMPLIFIER CIRCUITS COMPRISE THIS PCB ASSEMBLY. ONE SUCH CIRCUIT AND COMMON POWER AND GROUNDING CIRCUITS ARE SHOWN. FOR SIGNAL AND REFERENCE DESIGNATIONS OF ALL NINE PREAMPLIFIER CIRCUITS, SEE TABLE I.

CONNECTOR J1		CONNECTOR J2		TEST POINT IDENT	REF DESIG MODIFIER (DEVICE EXCEPTED)	REF DESIG (DEVICE ONLY)
SIGNAL	PIN	SIGNAL	PIN			
RH(7)	10X	RA(7)	12	7	000	U1
RH(6)	9X	RA(6)	11	6	100	U2
RH(5)	8X	RA(5)	10	5	200	U3
RH(4)	7X	RA(4)	9	4	300	U4
RH(3)	5X	RA(3)	8	3	400	U5
RH(2)	4X	RA(2)	7	2	500	U6
RH(1)	3X	RA(1)	6	1	600	U7
RH(0)	2X	RA(0)	5	0	700	U8
RH(P)	1X	RA(P)	4	P	800	U9

SPEED (ips)	SPEED CRITICAL COMPONENT			ASSEMBLY
	R1 R101--	C1 C101--	C3 C103--	
10 - 20.9	6.8K	620 pF	680 pF	07970-60500
21 - 45	6.8K	620 pF	330 pF	07970-62000

7970-F-015A



SIGNAL	PIN
RH(7)	10X
RH(6)	9X
RH(5)	8X
RH(4)	7X
RH(3)	5X
RH(2)	4X
RH(1)	3X
RH(0)	2X
RH(P)	1X

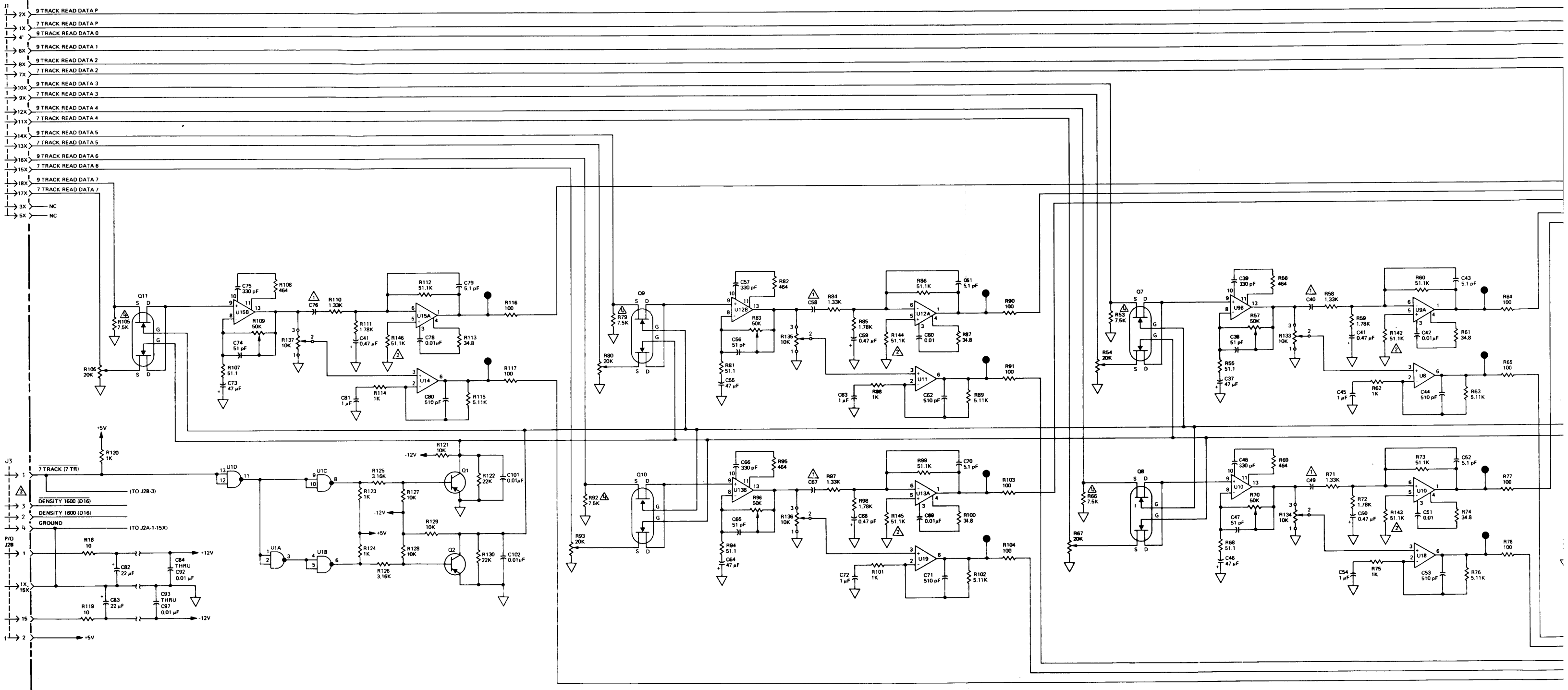
READ PREAMPLIFIER PCA PARTS LIST  
 07970-60500 (SERIES 1040)  
 07970-62000 (SERIES 1025)

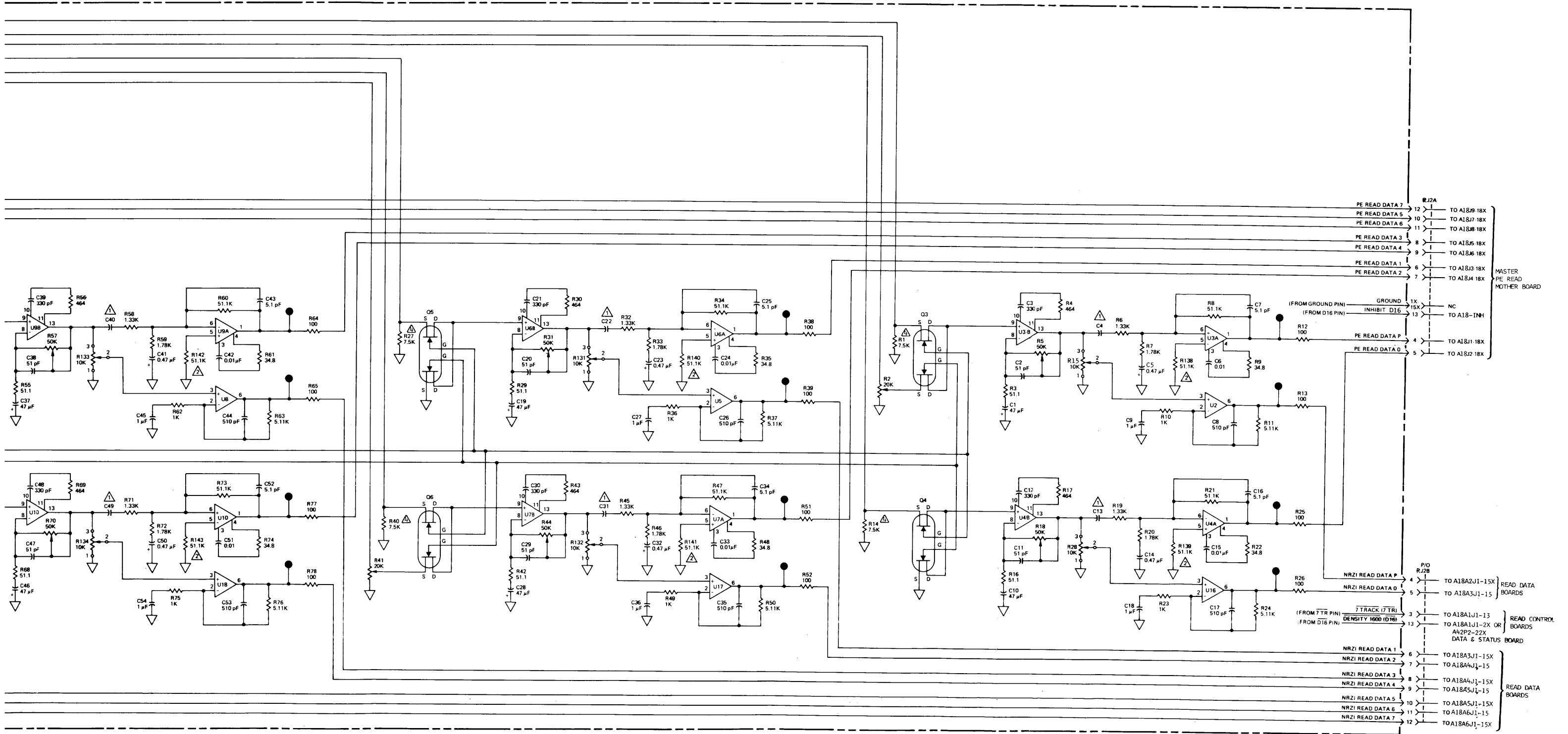
REF. DES./ INDEX NO.	HP PART NO.	DESCRIPTION
	07970-60500	READ PREAMPLIFIER PCA (SERIES 1040)
*C1,101,201,301, 401,501,601,701, 801	0160-2213	CAPACITOR, fxd, 620pf, 300VDC
C2,102,202,302, 402,502,602,702, 802	0180-1704	CAPACITOR, fxd, 47uf, 6VDC
*C3,103,203,303, 403,503,603,703 803	0140-0208	CAPACITOR, fxd, 680pf, 300VDC
C4,5,104,105,204 205,304,305,404, 405,504,505,604, 605,704,705,804, 805	0160-2055	CAPACITOR, fxd, 10uf, 30VDC
C6,106,206,306 406,506,606,706, 806	0160-3449	CAPACITOR, fxd, 2000pf, 250VDC
C7,8	0180-0228	CAPACITOR, fxd, 22uf, 15VDC
C9	0180-0291	CAPACITOR, fxd, 1uf, 35VDC
CR1,101,201,301 401,501,601,701, 801	1901-0040	DIODE, 30V, 50MA
*R1,101,201,301, 401,501,601,701 801	0683-6825	RESISTOR, fxd, 6.8K, 5%, .25W
R2,102,202,302 402,502,602,702, 802	2100-1758	RESISTOR, Variable, 1K, 5%, 1W
R3,103,203,303, 403,503,603,703 803	0757-0460	RESISTOR, fxd, 61.9K, 1%, .125W
R4,104,204,304 404,504,604,704, 804	0683-1525	RESISTOR, fxd, 1.5K, 5%, .25W
R5,105,205,305, 405,505,605,705, 805	0683-4325	RESISTOR, fxd, 43K, 5%, .25W
R6,106,206,306, 406,506,606,706, 806	0683-1025	RESISTOR, fxd, 1K, 5%, .25W
U1-9	07970-80050	IC, pretested
	0340-0456	Insulator, IC pad
	07970-00430	BRACKET, read preamplifier
	2360-0195	SCREW 6-32, .312 in.
	2190-0085	WASHER, Lock, #6, Hel
	3050-0228	WASHER, Flat, #6

REF. DES./ INDEX NO.	HP PART NO.	DESCRIPTION
*C1,101,201,301 401,501,601,701, 801	07970-62000 0140-0210	(SERIES 1025) CAPACITOR, fxd, 270pf, 300VDC
*C3,103,203,303, 403,503,603,703 803	0160-2208	CAPACITOR, fxd, 330pf, 300VDC
*R1,101,201,301 401,501,601,701, 801	0698-3136	RESISTOR, fxd, 17.8K, 1%, .125W

REF. DES./ INDEX NO.	HP PART NO.	DESCRIPTION
*C1,101,201,301 401,501,601,701, 801	07970-62000 0140-0210	(SERIES 1025) CAPACITOR, fxd, 270pf, 300VDC
*C3,103,203,303, 403,503,603,703 803	0160-2208	CAPACITOR, fxd, 330pf, 300VDC
*R1,101,201,301 401,501,601,701, 801	0698-3136	RESISTOR, fxd, 17.8K, 1%, .125W

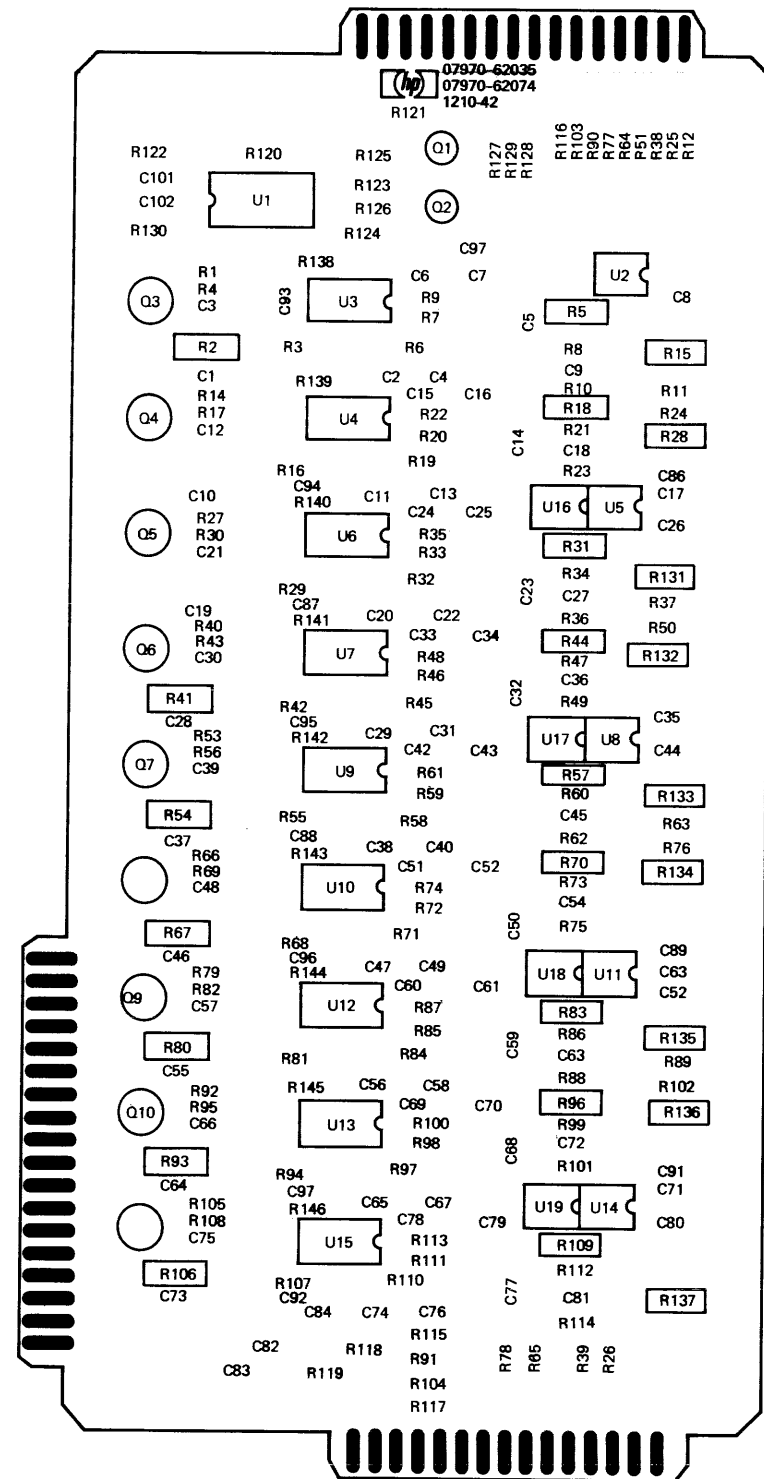






Multiple Read Pre-amplifier PC Assembly A15

MULTIPLE READ PREAMPLIFIER PCA PARTS LIST  
 07970-62035 (SERIES 1115, 1210, 1439)  
 07970-62074 (SERIES 1115, 1210)



REF. DES./ INDEX NO.	HP PART NO.	DESCRIPTION
	07970-62035	MULTIPLE READ PREAMPLIFIER PCA (SERIES 1115)
C1,10,19,28,37, 46,55,64,73	0180-1704	CAPACITOR, fxd, 47uf, 10%
C2,11,20,29,38, 47,56,65,74	0160-2201	CAPACITOR, fxd, 51pf, 5%
C3,12,21,30,39, 48,57,66,75	0160-2208	CAPACITOR, fxd, 330pf, 5%
<sup>1</sup> C4,13,22,31,40, 49,58,67,76	0140-0200	CAPACITOR, fxd, 390pf, 300V
C5,14,23,32,41, 50,59,68,77	0180-0376	CAPACITOR, fxd, .47uf, 10%
C6,15,24,33,42, 51,60,69,78,84-97, 101,102	0160-2055	CAPACITOR, fxd, .01uf, 100V
C7,16,25,34,43 52,61,70,79	0160-2250	CAPACITOR, fxd, 5.1pf, 5%
C8,17,26,35,44, 53,62,71,80	0160-3534	CAPACITOR, fxd, 510pf, 5%
C9,18,27,36,45, 54,63,72,81	0180-0291	CAPACITOR, fxd, 1uf, 35VDC
C82,83	0180-0228	CAPACITOR, fxd, 22uf, 15VDC
Q1,2	1853-0036	TRANSISTOR, 2N3906, PL18
Q3-11	1855-0370	TRANSISTOR, FET, TO71
*R1,14,27,40,53, 66,79,92,105	0757-0440	RESISTOR, fxd, 7.5K, 1%, .125W
R2,41,54,67,80, 93,106	2100-1972	RESISTOR, Variable, 20K, 10%
R3,16,29,42,55, 68,81,94,107	0757-0394	RESISTOR, fxd, 51.1, 1%, .125W
R4,17,30,43,56, 69,82,95,108	0698-0082	RESISTOR, fxd, 464, 1%, .125W
R5,18,31,44,57, 70,83,96,109	2100-2707	RESISTOR, Variable, 50K, 10%
R6,19,32,45,58, 71,84,97,110	0757-0317	RESISTOR, fxd, 1.33K, 1%
R7,20,33,46,59 72,85,98,111	0757-0278	RESISTOR, fxd, 1.78K, 1%, .125W
*R8,21,34,47,60, 73,86,99,112, (138-146)	0757-0458	RESISTOR, fxd, 51.1K, 1%, .125W
R9,22,35,48,61, 74,87,100,113	0698-3434	RESISTOR, fxd, 34.8, 1%, .125W
R10,23,36,49,62 75,88,101,114,120, 123,124	0757-0280	RESISTOR, fxd, 1K, 1%, .125W
R11,24,37,50,63, 76,89,102,115	0757-0438	RESISTOR, fxd, 5.11K, 1%, .125W

REF. INDE


R12,13,2  
 39,51,52  
 78,90,91  
 116,117  
 R15,28,1  
 R118,119  
 R121,127  
 R122,130  
 R125,126  
 U1  
 U2,5,8,1  
 16-19  
 U3,4,6,7  
 12,13,15

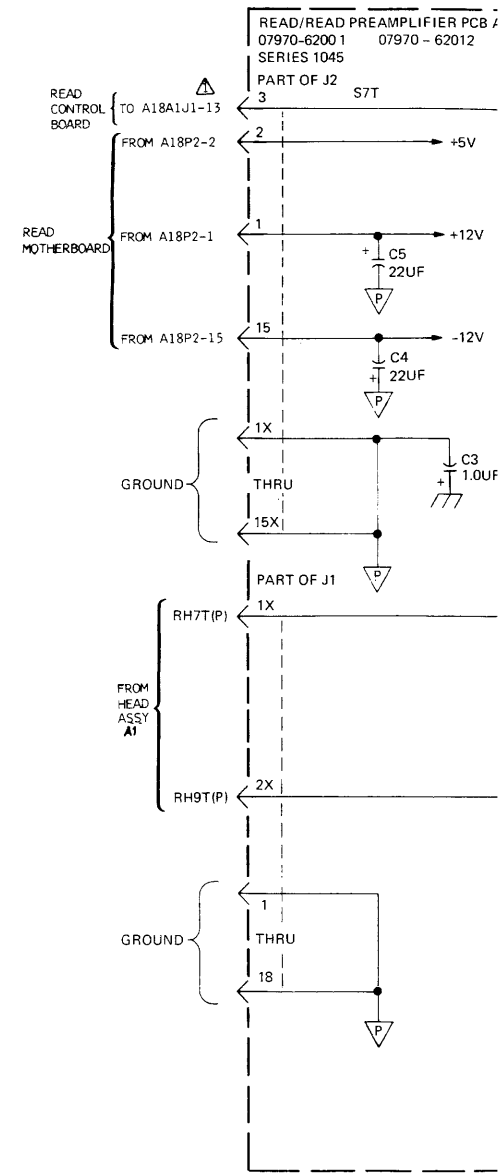
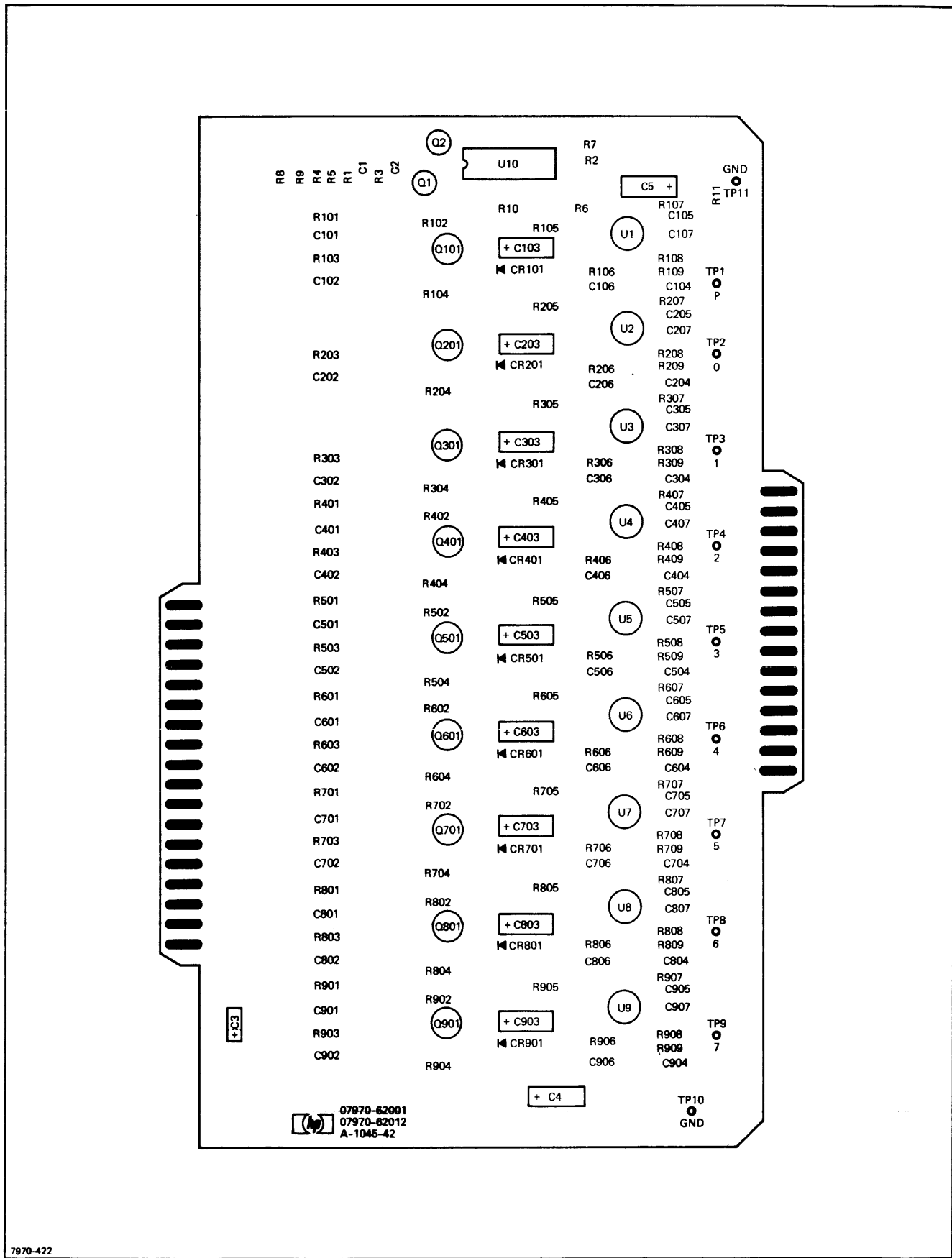
\*R138-146

\*R138-146  
 \*R1,14,27  
 66,79,92



DESCRIPTION
REAMPLIFIER PCA (SERIES 1115)
47uf, 10%
51pf, 5%
330pf, 5%
390pf, 300V
.47uf, 10%
.01uf, 100V
5.1pf, 5%
510pf, 5%
1uf, 35VDC
22uf, 15VDC
906, PL18, T071
7.5K, 1%, .125W
10K, 1%, 10%
51.1, 1%, .125W
464, 1%, .125W
10K, 50K, 10%
1.33K, 1%
1.78K, 1%, .125W
51.1K, 1%, .125W
4.8, 1%, .125W
10K, 1%, .125W
1.11K, 1%, .125W

REF.DES./INDEX NO.	HP PART NO.	DESCRIPTION
R12,13,25,26,38,39,51,52,64,65,77,78,90,91,103,104,116,117	0757-0401	RESISTOR, fxd, 100, 1%, .125W
R15,28,131-137	2100-2850	RESISTOR, Variable, 10K, 10%
R118,119	0683-1005	RESISTOR, fxd, 10, 5%, .25W
R121,127-129	0757-0442	RESISTOR, fxd, 10K, 1%, .125W
R122,130	0683-2235	RESISTOR, fxd, 22K, 5%, .25W
R125,126	0757-0279	RESISTOR, fxd, 3.16K, 1%, .125W
U1	1820-0054	IC DIGITAL 7400
U2,5,8,11,14,16-19	1826-0068	IC DIGITAL
U3,4,6,7,9,10,12,13,15	1826-0044	IC Operational Amp
	07970-01169	BRACKET, R.R.R. Preamp
	2360-0115	SCREW, 6-32X
	3050-0228	WASHER, FLAT
	4330-0145	INSULATOR
*R138-146	SERIES 1210 0757-0458	(07970-62035 & 07970-62074) RESISTOR, 51.1K (Added)
*R138-146	07970-62035 0757-0458	(SERIES 1439) RESISTOR, 51.1K
*R1,14,27,40,53,66,79,92,105	0757-0465	RESISTOR, 100K, 1%
 07970-62074 PCA's use 1200pf part no. 0160-2220		



CONNECTOR J1		CONN J2
SIGNAL	PIN	SIGNAL
RH7T(P)	1X	RA(P)
RH9T(P)	2X	
RH7T(N/A)	-	RA(0)
RH9T(0)	4X	
RH7T(N/A)	-	RA(1)
RH9T(1)	6X	
RH7T(2)	7X	RA(2)
RH9T(2)	8X	
RH7T(3)	9X	RA(3)
RH9T(3)	10X	
RH7T(4)	11X	RA(4)
RH9T(4)	12X	
RH7T(5)	13X	RA(5)
RH9T(5)	14X	
RH7T(6)	15X	RA(6)
RH9T(6)	16X	
RH7T(7)	17X	RA(7)
RH9T(7)	18X	

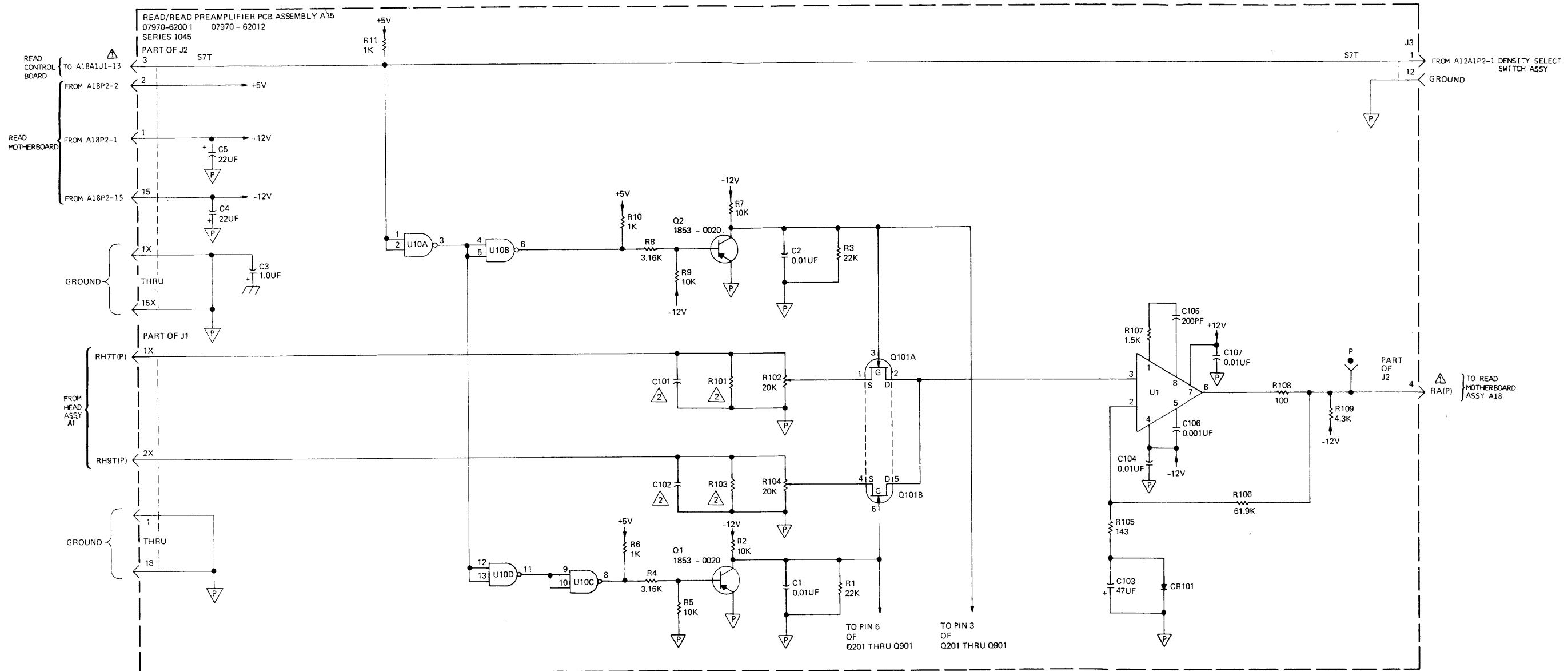


TABLE I

CONNECTOR J1		CONNECTOR J2		TEST POINT IDENT	REF DESIG SERIES (DEVICE AND COMMON CIRCUITS EXCEPTED)	REF DESIG (DEVICE ONLY)	REMARKS
SIGNAL	PIN	SIGNAL	PIN				
RH7T(P)	1X	RA(P)	4	P	100	U1	
RH9T(P)	2X						
RH7T(N/A)		RA(0)	5	0	200	U2	C201, R201, R202 OMITTED
RH9T(0)	4X						
RH7T(N/A)		RA(1)	6	1	300	U3	C301, R301, R302 OMITTED
RH9T(1)	6X						
RH7T(2)	7X	RA(2)	7	2	400	U4	
RH9T(2)	8X						
RH7T(3)	9X	RA(3)	8	3	500	U5	
RH9T(3)	10X						
RH7T(4)	11X	RA(4)	9	4	600	U6	
RH9T(4)	12X						
RH7T(5)	13X	RA(5)	10	5	700	U7	
RH9T(5)	14X						
RH7T(6)	15X	RA(6)	11	6	800	U8	
RH9T(6)	16X						
RH7T(7)	17X	RA(7)	12	7	900	U9	
RH9T(7)	18X						

1 THIS PCB ASSEMBLY INCLUDES NINE IDENTICAL CIRCUITS. ONE SUCH CIRCUIT AND COMMON GATING, POWER, AND GROUNDING CIRCUITS ARE SHOWN. SHOULD AN INPUT SIGNAL BE NOT APPLICABLE(N/A), THE NORMALLY ASSOCIATED ADJUSTMENT NETWORK IS OMITTED AND THE SOURCE CONNECTION (PIN 1) OF THE ASSOCIATED FET RETURNED TO POWER GROUND. FOR SIGNAL AND REFERENCE DESIGNATIONS OF ALL NINE IDENTICAL CIRCUITS, SEE TABLE I.

SPEED	R101 R103	C101 C102	ASSEMBLY
10 - 20.9	6.8K	620PF	07970 - 62001
21 - 45	17.8K	270PF	07970 - 62012

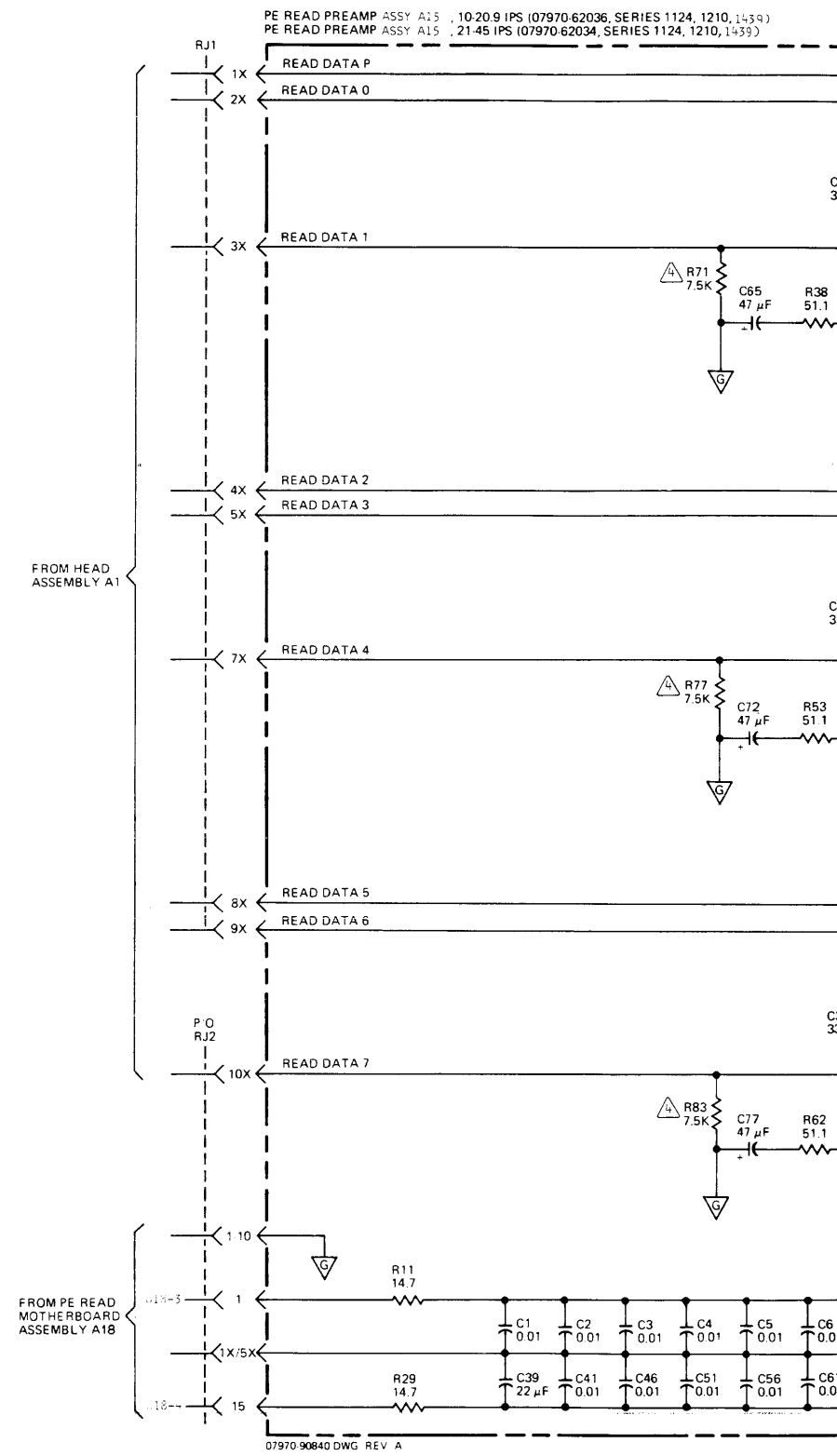
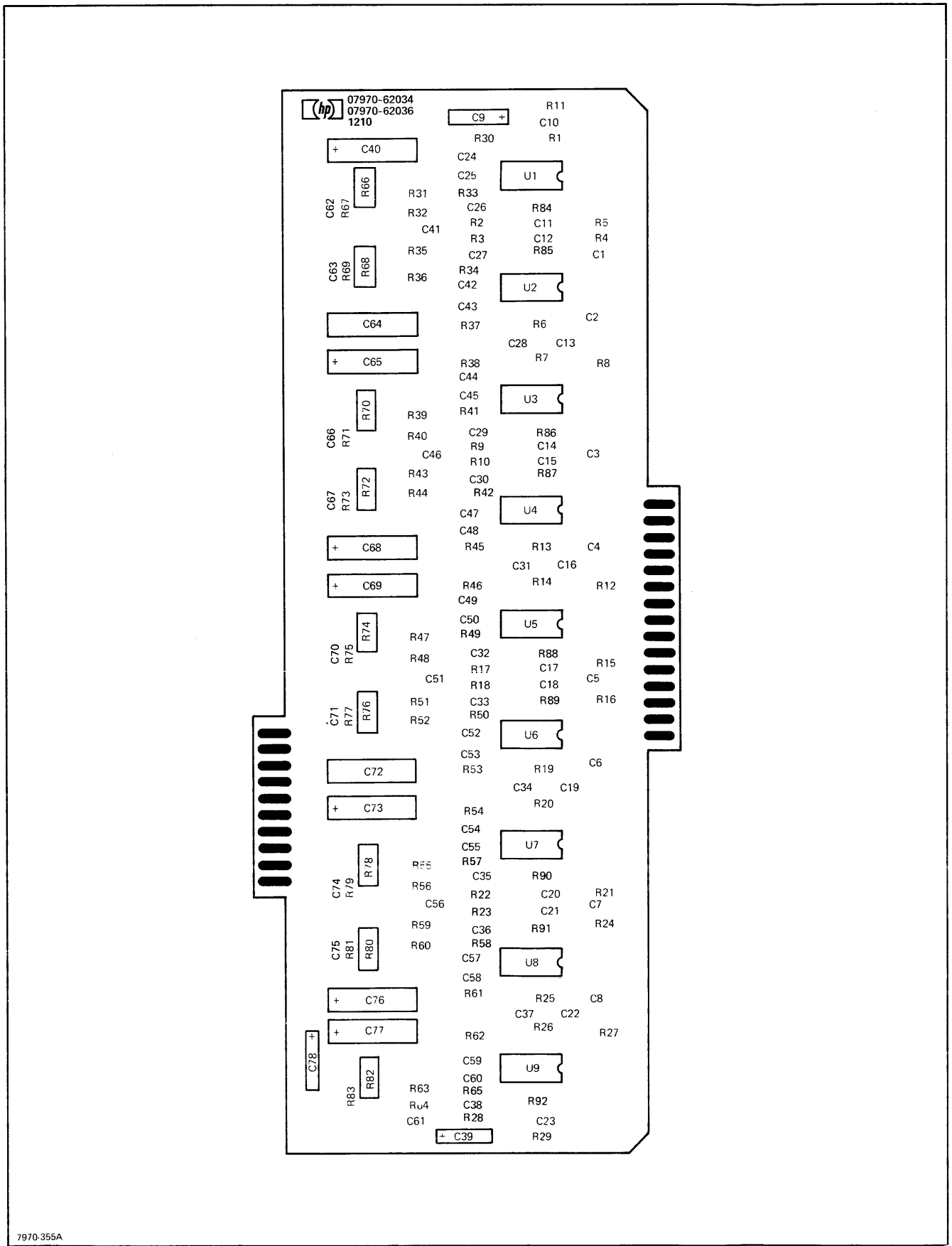
7970-F-020A

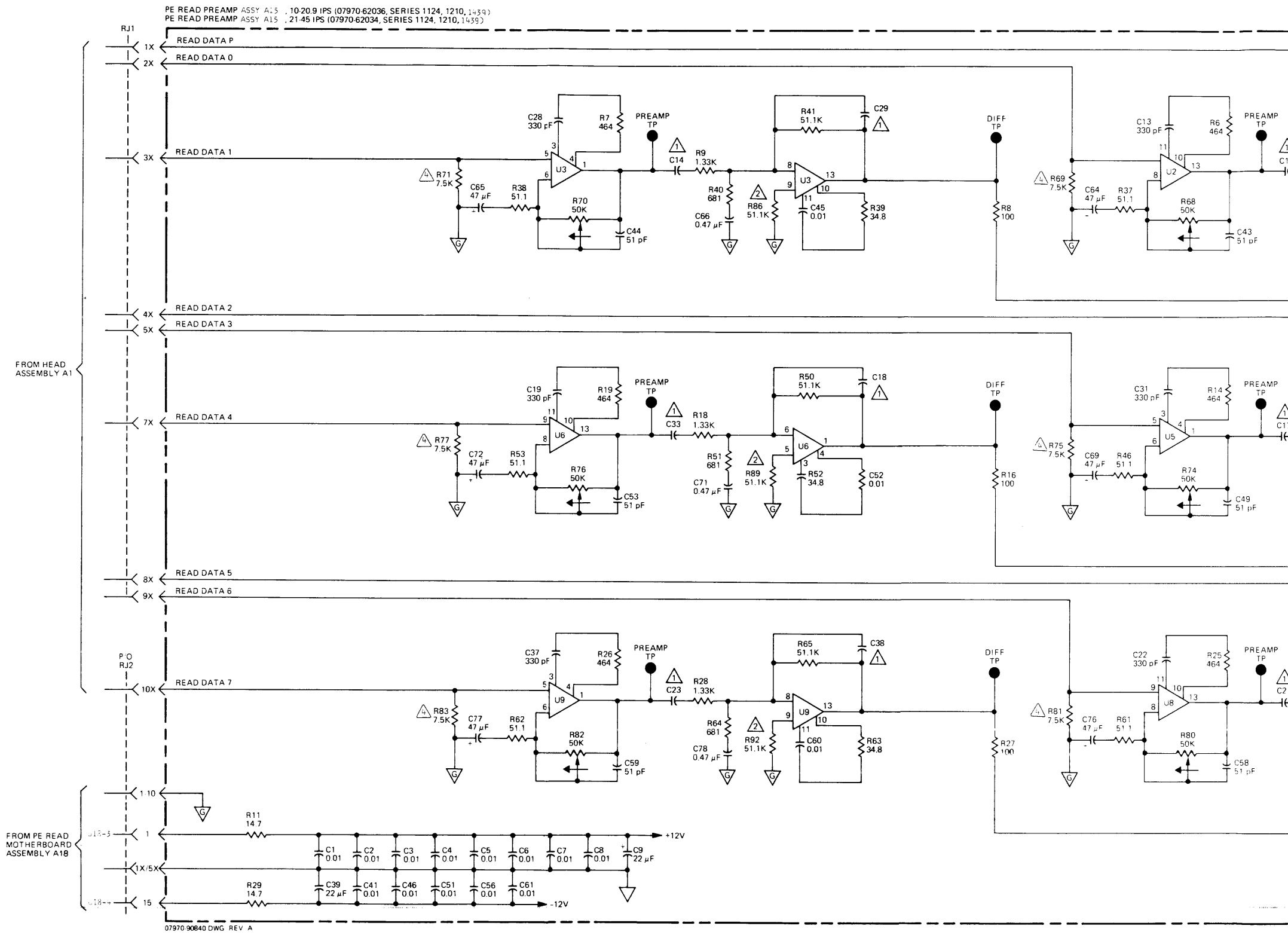
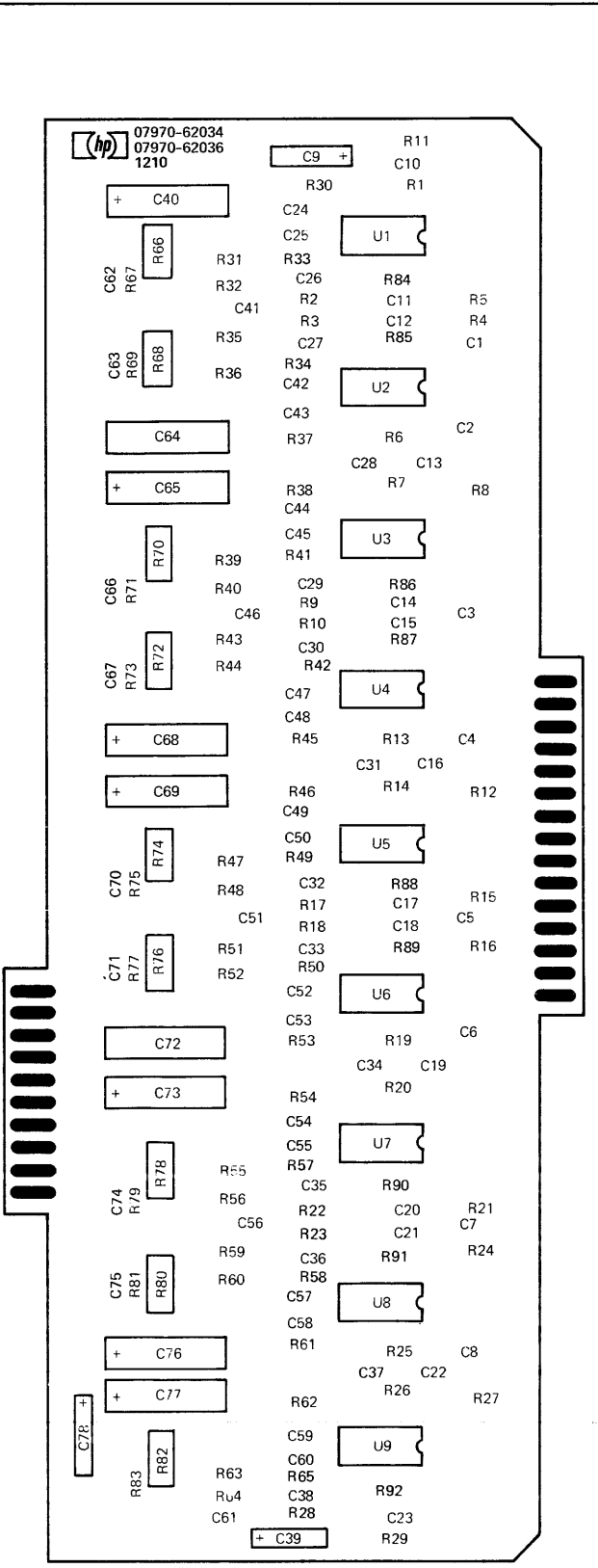
READ/READ PREAMPLIFIER PCA PARTS LIST  
 07970-62001 (SERIES 1045)  
 07970-62012 (SERIES 1045)

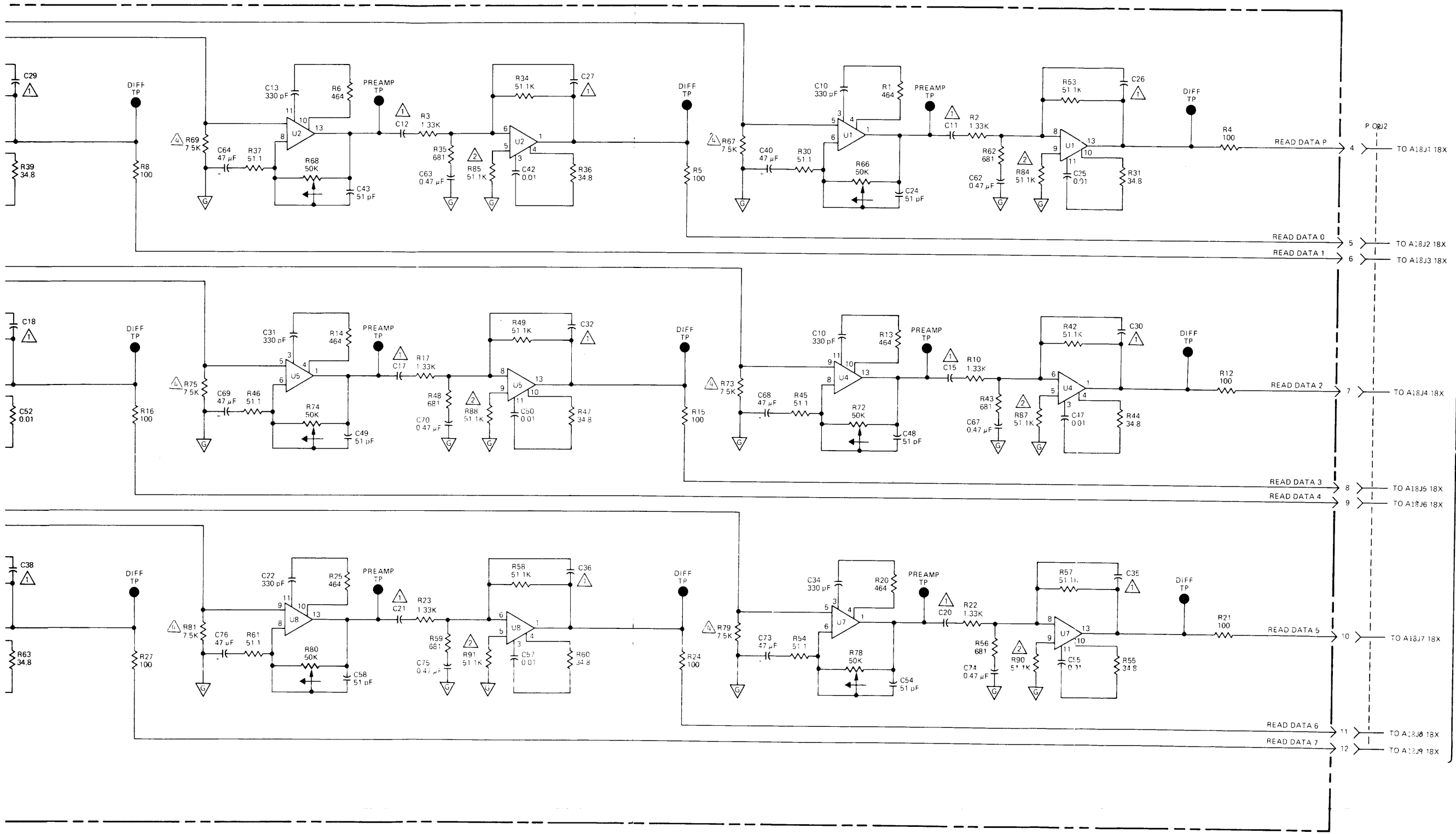
REF. DES./ INDEX NO.	HP PART NO.	DESCRIPTION
	07970-62001	READ/READ PREAMPLIFIER PCA (SERIES 1045)
C1,2,104,107, 204,207,304,307, 404,407,504,507, 604,607,704,707, 804,807,904,907	0160-2055	CAPACITOR, fxd, .01uf, 100V
C3	0180-0291	CAPACITOR, fxd, 1uf, 35VDC
C4,5	0180-0228	CAPACITOR, fxd, 22uf, 15VDC
*C101,102,202,302, 401,402,501,502, 601,602,701,702, 801,802,901,902	0160-2213	CAPACITOR, fxd, 620pf, 5%
C103,203,303,403, 503,603,703,803, 903	0180-1704	CAPACITOR, fxd, 47uf, 10%
C105,205,305,405 505,605,705,805, 905	0140-0198	CAPACITOR, fxd, 200pf, 5%
C106,206,306,406, 506,606,706,806, 906	0160-3456	CAPACITOR, fxd, 1000pf Ceramic
CR101,201,301,401, 501,601,701,801, 901	1901-0040	DIODE, 30V, 50ma
Q1,Q2	1853-0020	TRANSISTOR, PNP, Silicon PL18
Q101,201,301,401, 501,601,701,801, 901	1855-0370	TRANSISTOR, FET 2, TO71
R1,3	0683-2235	RESISTOR, fxd, 22K, 5%, .25W
R2,7	0683-1035	RESISTOR, fxd, 10K, 5%, .25W
R4,8	0757-0279	RESISTOR, fxd, 3.16K, 1%, .125W
R5,9	0757-0442	RESISTOR, fxd, 10K, 1%, .125W
R6,10	0757-0280	RESISTOR, fxd, 1K, 1%, .125W
R11	0683-1025	RESISTOR, fxd, 1K, 5%, .25W
*R101,103,203,303, 401,403,501,503, 601,603,701,703, 801,803,901,903	0683-6825	RESISTOR, fxd, 6.8K, 5%, .25W
R102,104,204,304, 402,404,502,504, 602,604,702,704, 802,804,902,904	2100-1972	RESISTOR, fxd, Variable, 20K, 10%
R105,205,305,405, 505,605,705,805, 905	0698-4412	RESISTOR, fxd, 143, 1%, .125W

REF. DES./ INDEX NO.	HP PART NO.	DESCRIPTION
R106,206,306,406 506,606,706,806 906	0757-0460	RESISTOR, fxd, 61.9K, 1%, .125W
R107,207,307,407 507,607,707,807, 907	0683-1525	RESISTOR, fxd, 1.5K, 5%, .25W
R108,208,308,408 508,608,708,808, 908	0683-1015	RESISTOR, fxd, 100, 5%, .25W
R109,209,309,409 509,609,709,809, 909	0683-4325	RESISTOR, fxd, 4.3K, 5%, .25W
U1-9	07970-80050	IC, pretested
U10	1820-0349	IC, MC849P
	0340-0456	Insulator, IC Pad
	07970-00672	BRACKET, R.R., Preamp
	2360-0115	SCREW, 6x32
	3050-0228	WASHER
	07970-62012	(SERIES 1045)
*R101,103	0698-3136	RESISTOR, 17.8K
*C101,102	0140-0210	CAPACITOR, 270pf

REF. DES. / INDEX NO.	HP PART NO.	DESCRIPTION
R106,206,306,406 506,606,706,806 906	0757-0460	RESISTOR, fxd, 61.9K, 1%, .125W
R107,207,307,407 507,607,707,807, 907	0683-1525	RESISTOR, fxd, 1.5K, 5%, .25W
R108,208,308,408 508,608,708,808, 908	0683-1015	RESISTOR, fxd, 100, 5%, .25W
R109,209,309,409 509,609,709,809, 909	0683-4325	RESISTOR, fxd, 4.3K, 5%, .25W
U1-9	07970-80050	IC, pretested
U10	1820-0349	IC, MC849P
	0340-0456	Insulator, IC Pad
	07970-00672	BRACKET, R.R., Preamp
	2360-0115	SCREW, 6x32
	3050-0228	WASHER
	07970-62012	(SERIES 1045)
*R101,103	0698-3136	RESISTOR, 17.8K
*C101,102	0140-0210	CAPACITOR, 270pf







TO PE HEAD MOTHER BOARD

- NOTES
- ⚠ THE FOLLOWING COMPONENTS ARE SPEED CRITICAL
- | SPEED (FS) | ASSEMBLY PART NO | CAPACITORS C11 12 14 15 17 18 20 21 23 | CAPACITORS C26 30 32 33 35 36 38 |
|------------|------------------|--|----------------------------------|
| 10 209     | 07970 62036      | 1200 PF                                | 68 PF                            |
| 45         | 07970 62034      | 390 PF                                 | 5.1 PF                           |
- ⚠ RESISTORS R84 THROUGH R92 (51.1K) FIRST USED ON SERIES 1210 ASSEMBLIES
  - ⚠ DENOTES POWER SUPPLY COMMON (GROUND)
  - ⚠ SERIES 1-39 AND UP USE 100K RESISTORS.



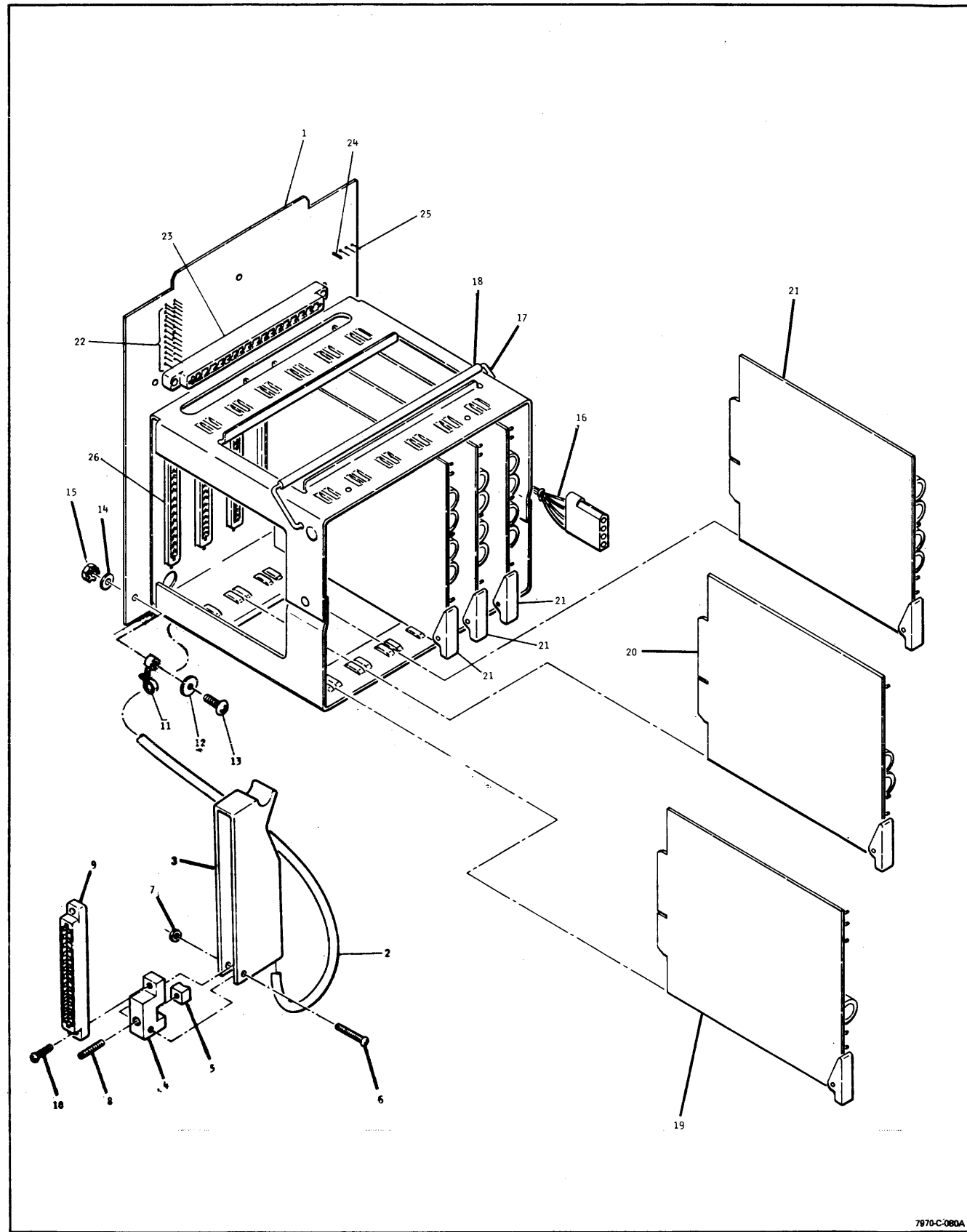
PE READ PREAMPLIFIER PCA PARTS LIST  
 07970-62034 (SERIES 1124,1210,1439)  
 07970-62036 (SERIES 1124,1210,1439)

REF. DES./ INDEX NO.	HP PART NO.	DESCRIPTION
	07970-62034	PE READ PREAMPLIFIER PCA (SERIES 1124)
C1-8,25,41,42, 45-47,50-52, 55-57,60,61 C9,39	0160-2055	CAPACITOR, fxd, .01uf, 100V
C10,13,16,19, 22,28,31,34,37	0180-0228 0160-2208	CAPACITOR, fxd, 22uf, 15VDC CAPACITOR, fxd, 330pf, 5%
① C11,12,14,15, 17,18,20,21,23	0140-0200	CAPACITOR, fxd, 390pf, 300V
C24,43,44,48,49, 53,54,58,59	0160-2201	CAPACITOR, fxd, 51pf, 5%
② C26,27,29,30, 32,33,35,36,38	0160-2250	CAPACITOR, fxd, 5.1pf, 5%
C40,64,65,68,69, 72,73,76,77	0180-1704	CAPACITOR, fxd, 47uf, 10%
C62,63,66,67,70, 71,74,75,78	0180-0376	CAPACITOR, fxd, .47uf, 10%
R1,6,7,13,14,19, 20,25,26	0698-0082	RESISTOR, fxd, 464, 1%, .125
R2,3,9,10,17,18, 22,23,28	0757-0317	RESISTOR, fxd, 1.33K, 1%, .125W
R4,5,8,12,15,16, 21,24,27	0757-0401	RESISTOR, fxd, 100, 1%, .125W
R11,29	0698-3428	RESISTOR, fxd, 14.7, 1%, .125W
R30,37,38,45,46, 53,54,61,62	0757-0394	RESISTOR, fxd, 51.1, 1%, .125W
R31,36,39,44,47, 52,55,60,63	0698-3434	RESISTOR, fxd, 34.8, 1%, .125W
R32,35,40,43,48, 51,56,59,64	0757-0419	RESISTOR, fxd, 681, 1%, .125W
*R33,34,41,42,49, 50,57,58,65,84-92	0757-0458	RESISTOR, fxd, 51.1K, 1%, .125W
R66,68,70,72,74, 76,78,80,82	2100-0942	RESISTOR, fxd, Variable, 50K, 20%
*R67,69,71,73,75, 77,79,81,83	0757-0440	RESISTOR, fxd, 7.5K, 1%, .125W
U1-9	1826-0044	TRANSISTOR, preamp
	07970-01180	BRACKET, mounting
	2360-0115	SCREW, 6-32
	3050-0228	WASHER, flat
	4330-0145	INSULATOR, bead
*R33,34,41,42, 49,50,57,58,65, 84-92	SERIES 1210 0757-0458	(07970-62034 & 07970-62036 PCA's) RESISTOR, 51.1K, Added to board

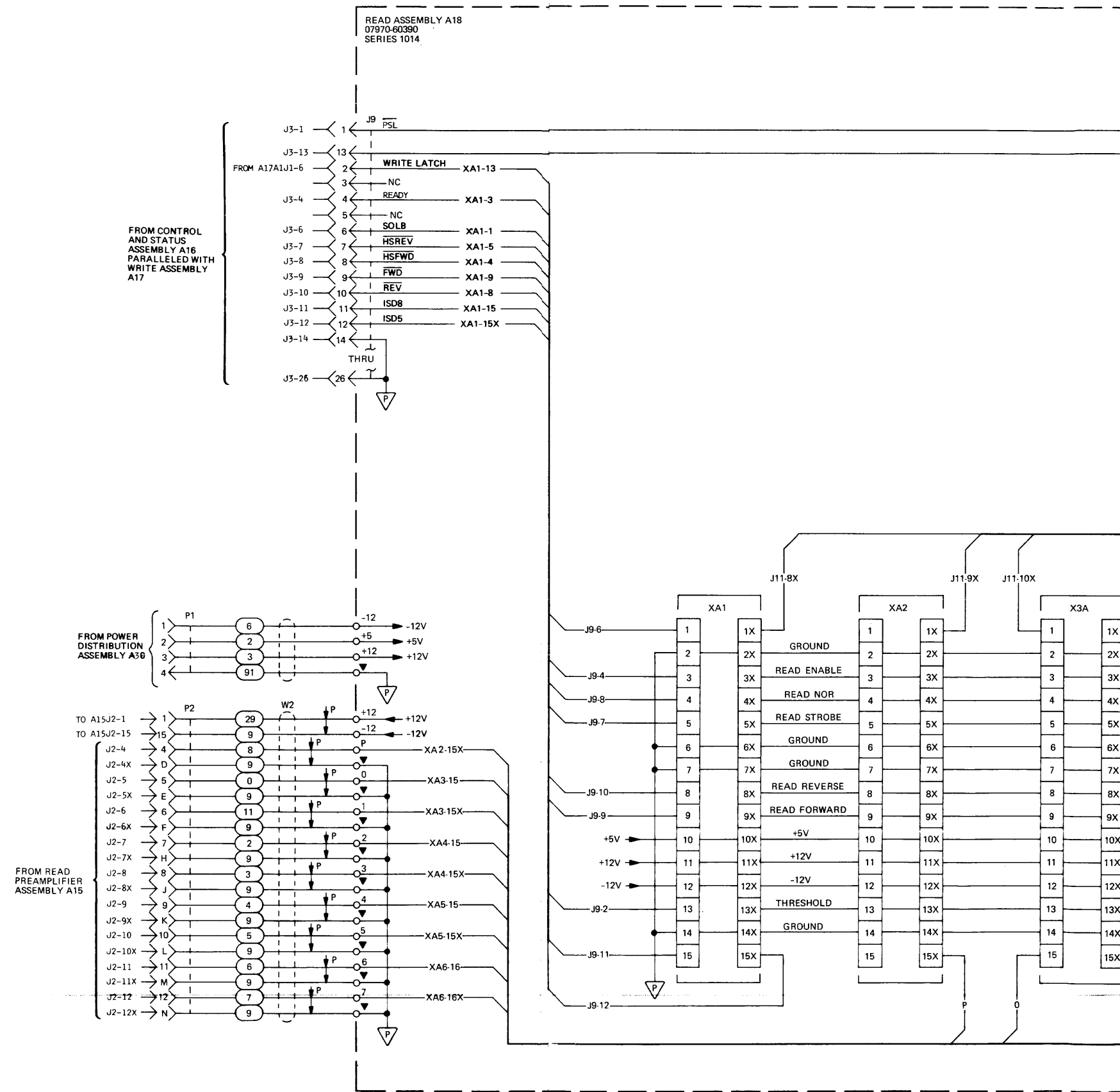
REF. DES./ INDEX NO.	HP PART NO.	DESCRIPTION
*R33,34,41,42, 49,50,57,58,65 84-92	SERIES 1439 0757-0458	(07970-62034 & 07970-62036 PCA's) RESISTOR, 51.1K
*R67,69,71,73, 75,77,79,81,83	0757-0465	RESISTOR, 100K
①		07970-62036 PCA's use 1200pf part no. 0160-2220
②		07970-62036 PCA's use 68pf, part no. 0140-0192

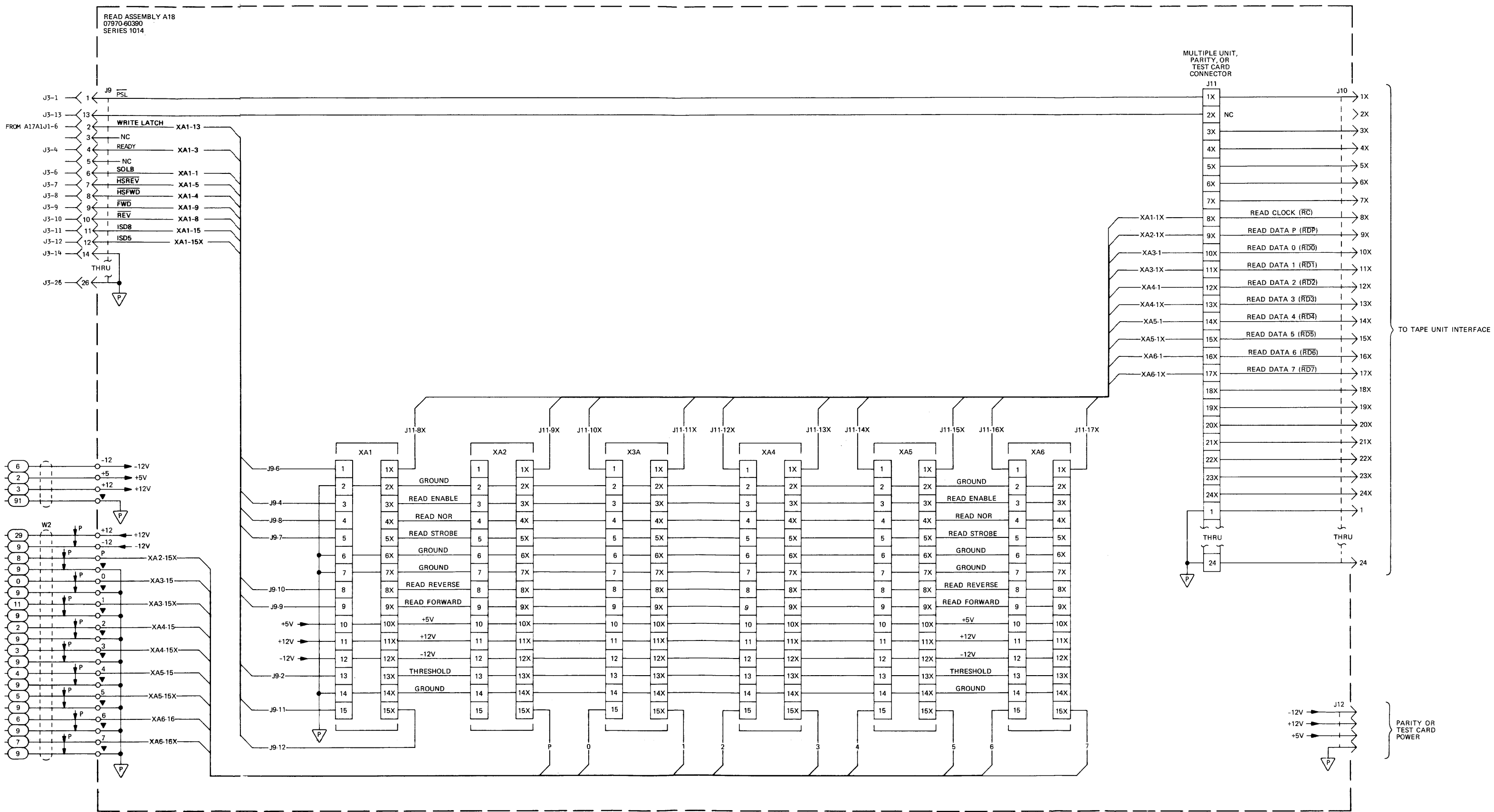
DN

-62036 PCA's)



7970-C-080A





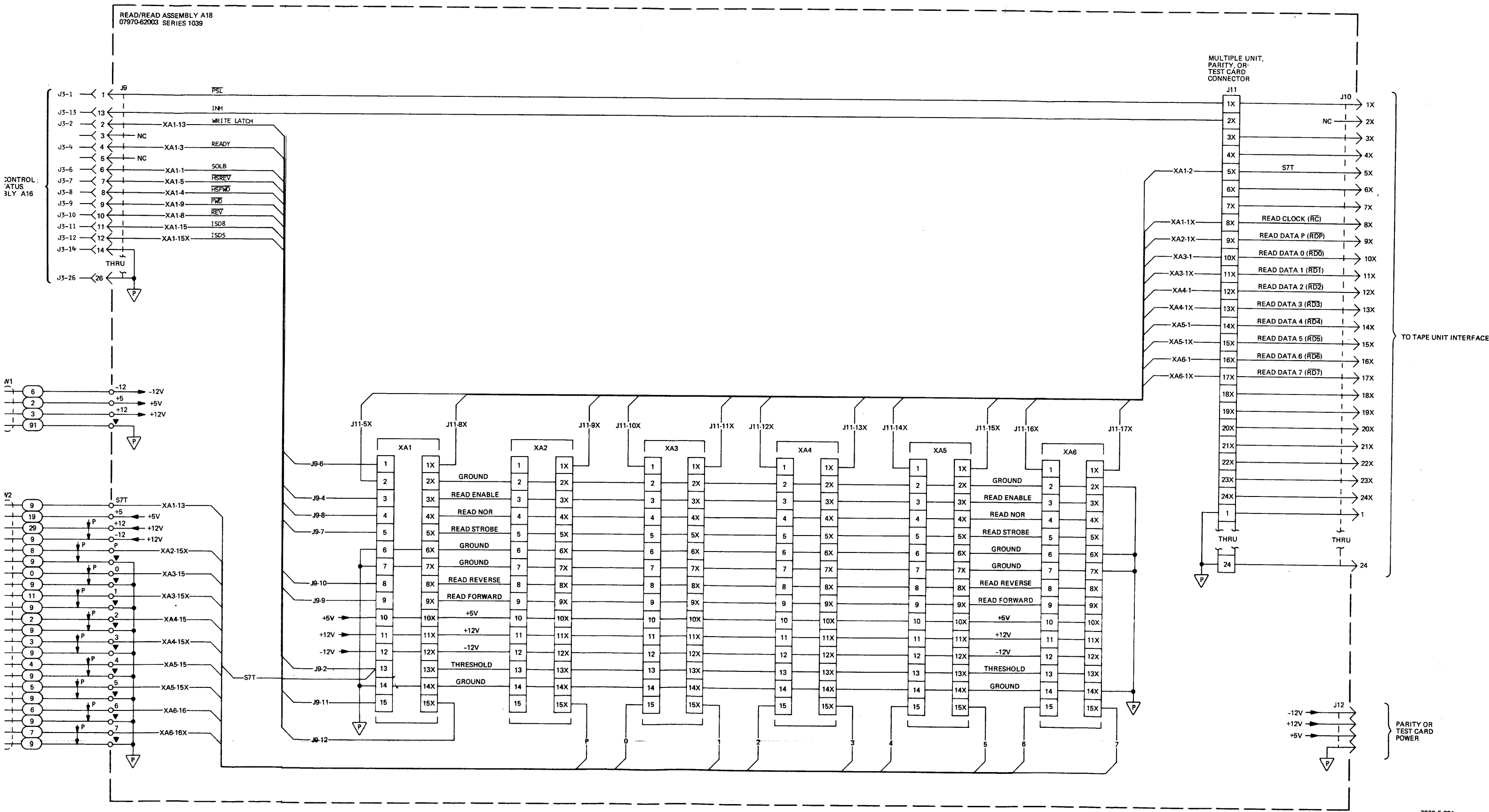
7970-F-016A

Read Motherboard Assembly A18

READ PCA MOTHERBOARD PARTS LIST  
07970-60390 (Series 1014)

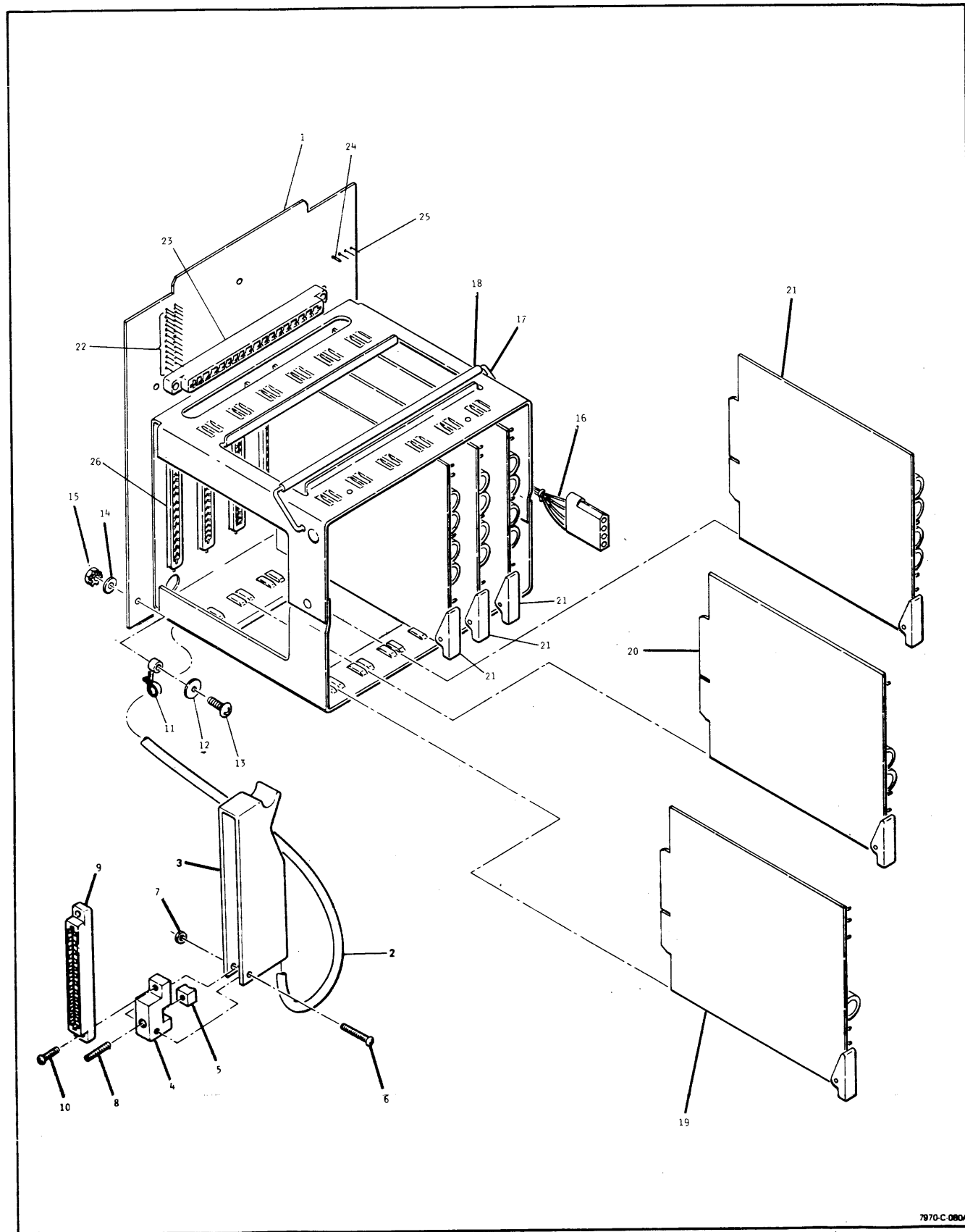
REF. DES./ INDEX NO.	HP PART NO.	DESCRIPTION
1	07970-60390	READ MOTHERBOARD ASSY. (Series 1014)
2	07970-60860	CABLE, READ MOTHERBOARD
3	5040-6086	HOOD, Connector
4	5040-6072	BLOCK, Connector Mounting
5	5040-6003	CLAMP, Cable
6	2200-0091	SCREW, pozi, 4-40x, .562L
7	2260-0002	NUT, Hex, 4-40
8	3030-0143	SCREW, Set, 6-32, .5 in.
9	1251-0159	CONNECTOR, PC 2x15
10	0624-0098	SCREW, Tapping, 4-40
11	1400-0440	CLAMP, Cable
12	3050-0066	WASHER, Flat, #6
13	2360-0201	SCREW, 6-32, .5 in.
14	3050-0066	WASHER, Flat, #6
15	2420-0001	NUT, Hex, 6-32
16	07970-60430	CABLE ASSEMBLY, Read Power
17	1460-0573	SPRING, Retaining, PC Board
18	1400-0249	TIE, Cable, Spiral
19		READ CONTROL PC ASSY
20		READ DATA PC ASSY Single Channel
21		READ DATA PC ASSY Dual Channel
22	1251-2361	CONTACT, Male 26 pin
23	1251-2025	CONNECTOR, PC 24 pin
24	1251-2503	CONNECTOR, PC Female pin
25	1251-2504	CONNECTOR, PC Male pins
26	1251-1886	CONNECTOR, PC 15 pin
	1251-1115	KEY, Connector PC

Read Motherboard Assembly A18

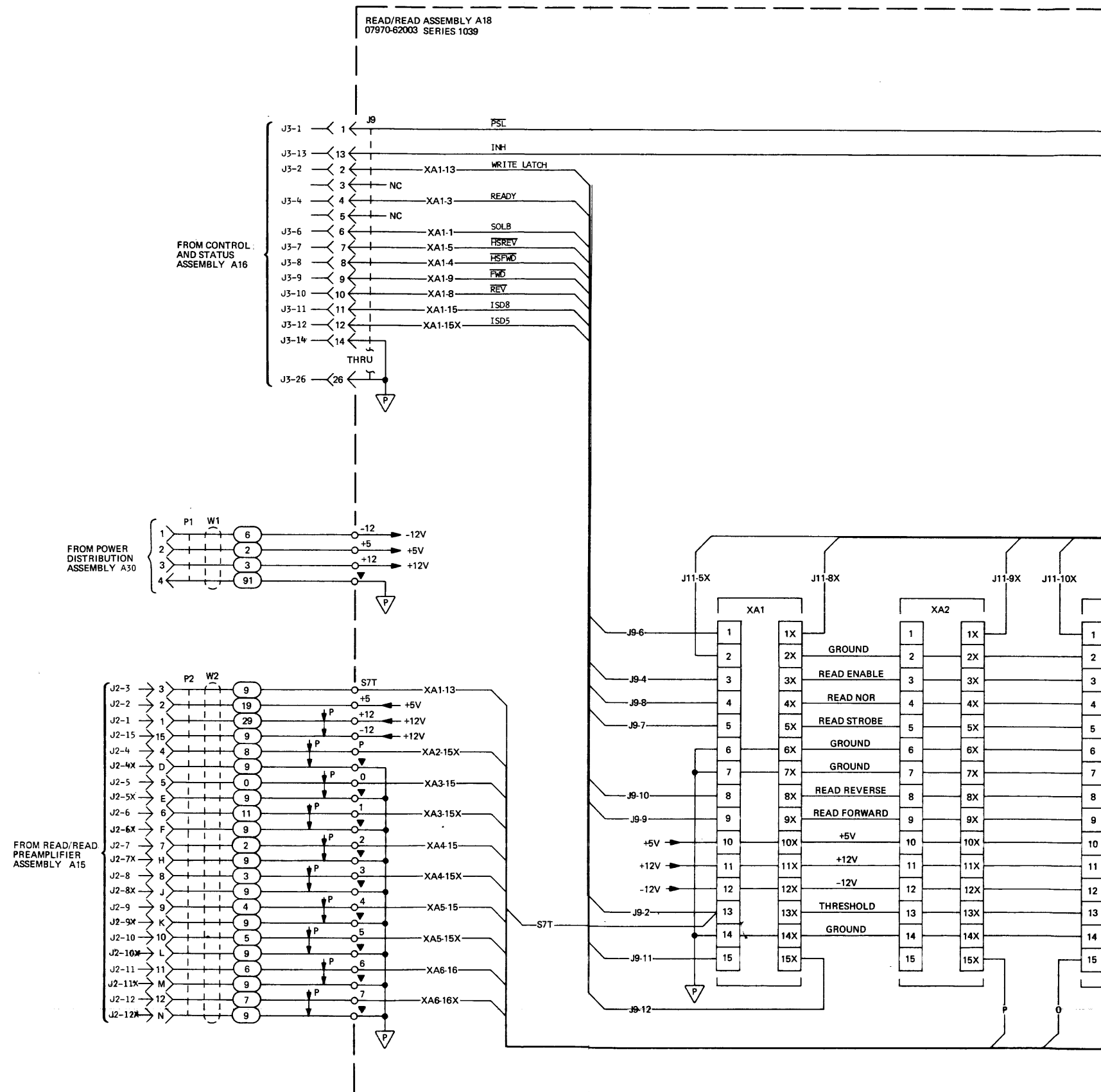


7970-F-021

Read/Read Motherboard Assembly A18



7970-C-080A



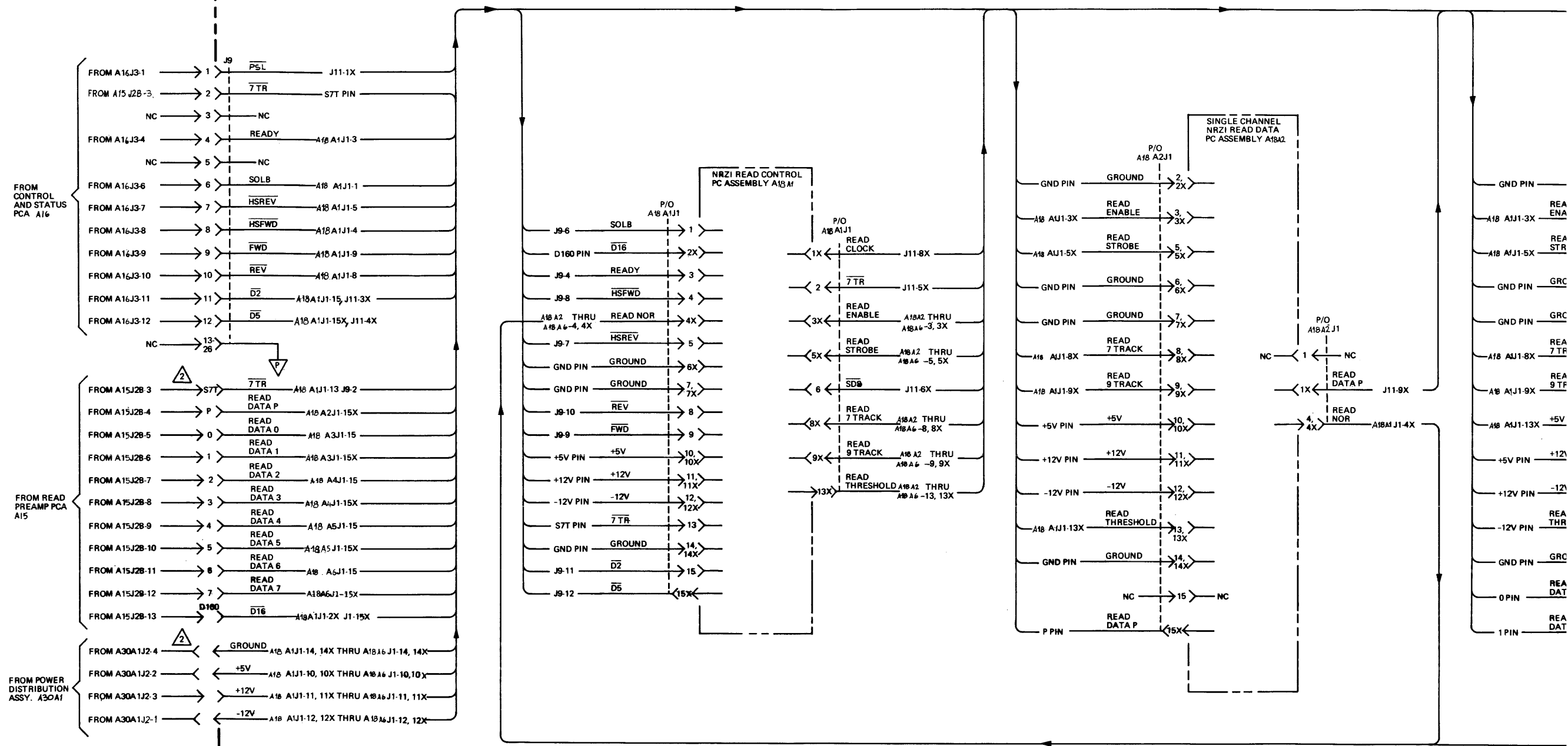


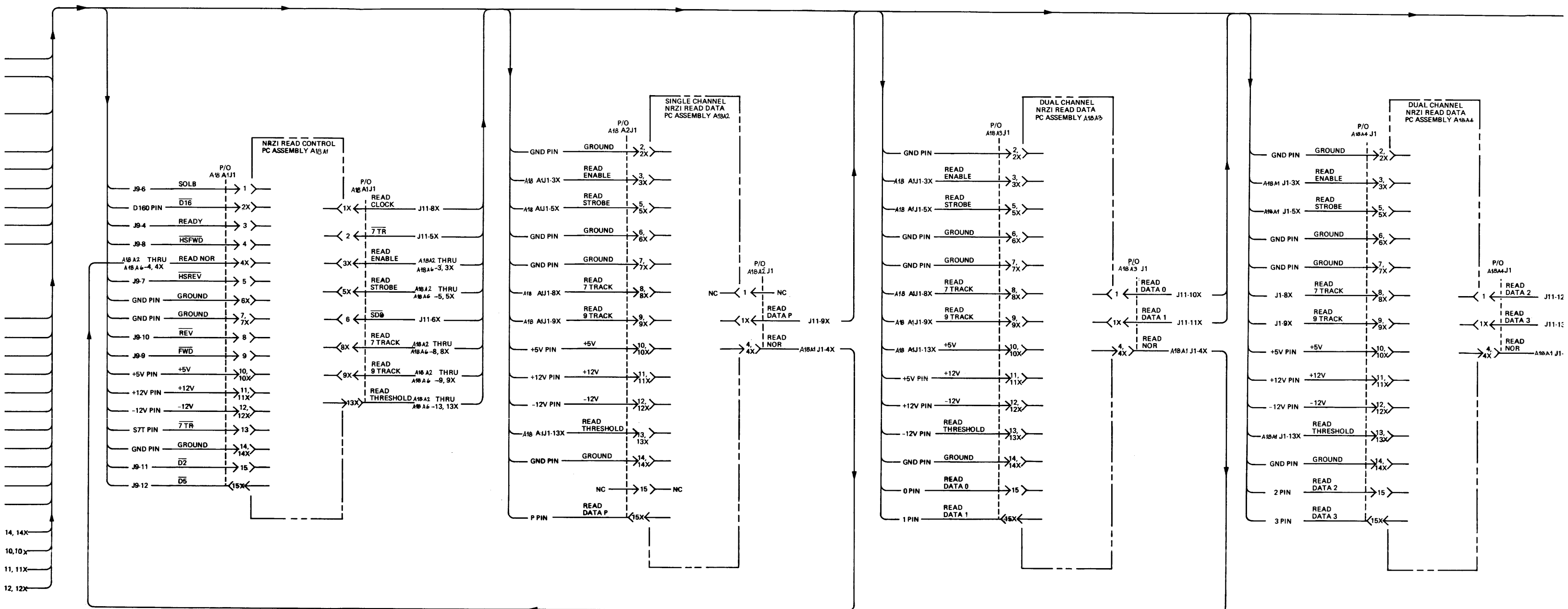
READ/READ PCA MOTHERBOARD PARTS LIST  
07970-62003 (Series 1039)

REF. DES./ INDEX NO.	HP PART NO.	DESCRIPTION
1	07970-62003	READ/READ MOTHERBOARD ASSY (Series 1039)
2	07970-62009	CABLE, Read Motherboard
3	5040-6086	HOOD, Connector
4	5040-6072	BLOCK, Connector Mounting
5	5040-6003	CLAMP, Cable
6	2200-0091	SCREW, Pozi, 4-40X, .562 in.
7	2260-0002	NUT, Hex, 4-40
8	3030-0143	SCREW, Set, 6-32, .5 in.
9	1251-0159	CONNECTOR, PC 2x15
10	0624-0098	SCREW, Tapping, 4-40
11	1400-0440	CLAMP, Cable
12	3050-0066	WASHER, Flat, #6
13	2360-0201	SCREW, 6-32, .5 in.
14	3050-0066	WASHER, Flat, #6
15	2420-0001	NUT, Hex, 6-32
16	07970-60430	CABLE ASSEMBLY, read power
17	1460-0573	SPRING, Retaining, PC Board
18	1400-0249	TIE, Cable, Spiral
19		READ/READ CONTROL PCA
20		READ DATA PCA, Single Channel
21		READ DATA PCA, Dual Channel
22	1251-2361	CONNECTOR, Male, 26 pin
23	1251-2025	CONNECTOR, PC, 24 pin
24	1251-2503	CONNECTOR, PC, Female Pin
25	1251-2504	CONNECTOR, PC, Male Pins
26	1251-1886	CONNECTOR, PC, 2x15
	1251-1115	KEY, PC, Connector

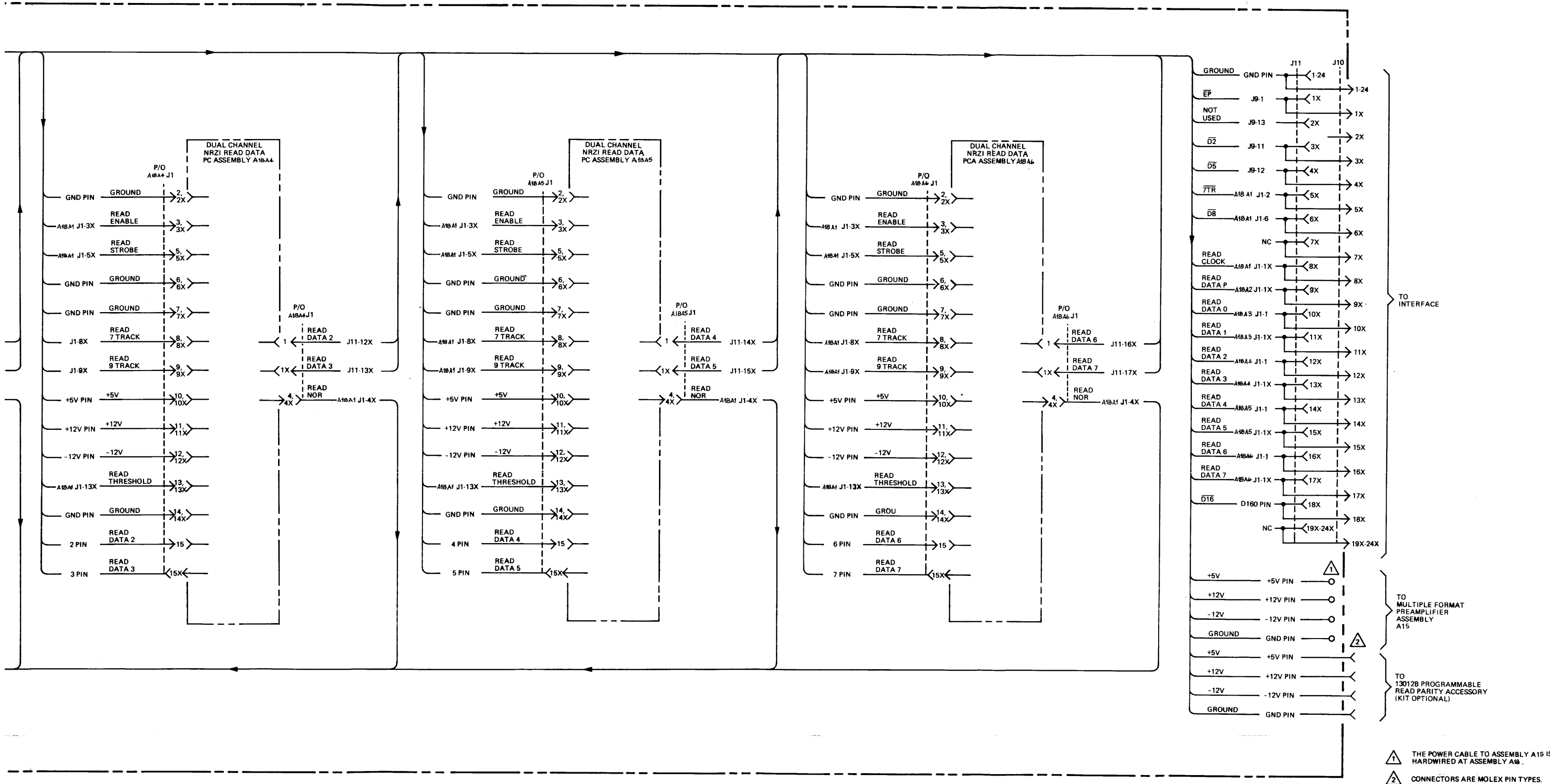


NRZI READ MOTHERBOARD ASSEMBLY (A18) (Q7970-62060, SERIES 110P)

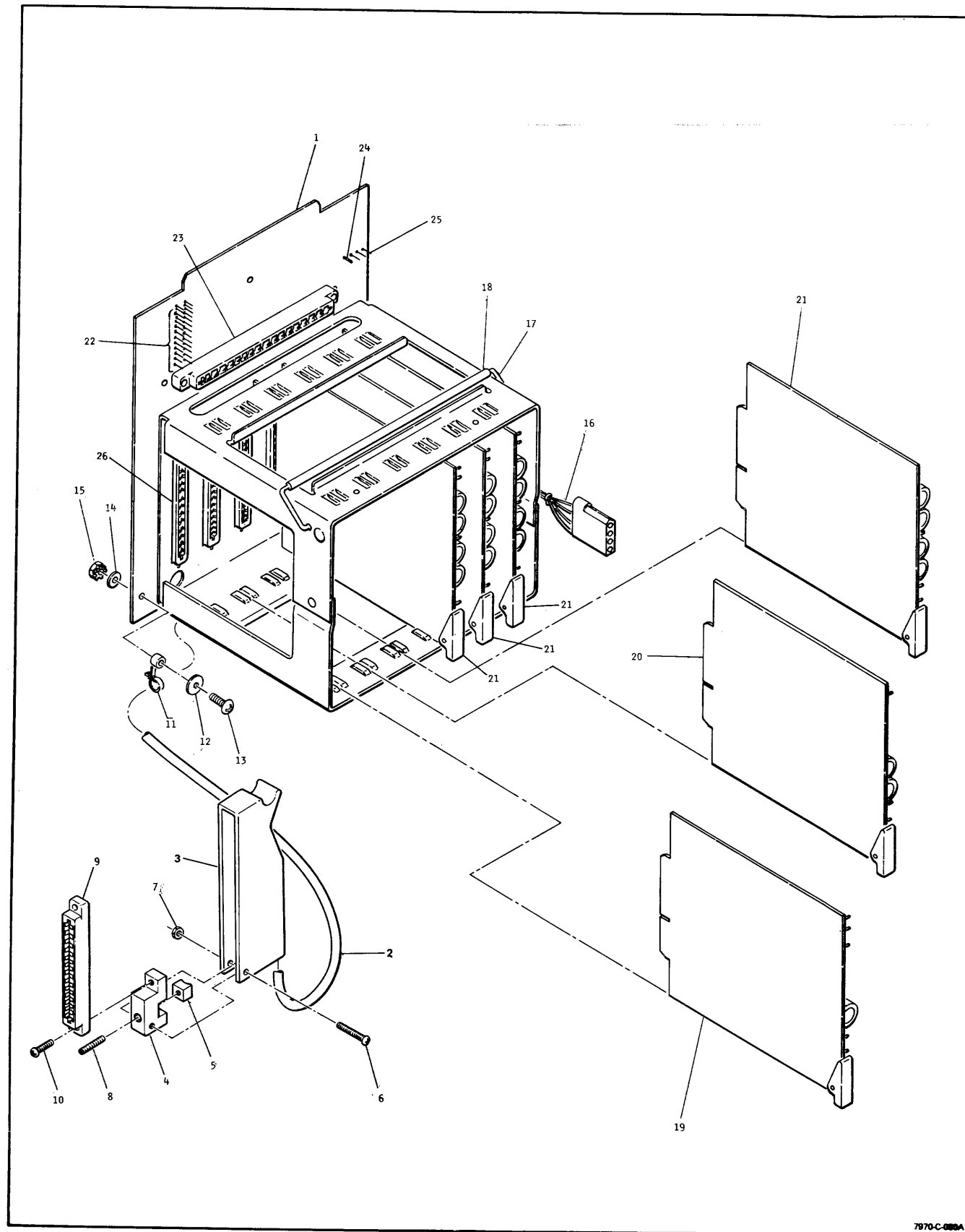




14, 14X  
10, 10X  
11, 11X  
12, 12X



NRZI Read Motherboard Assembly A18

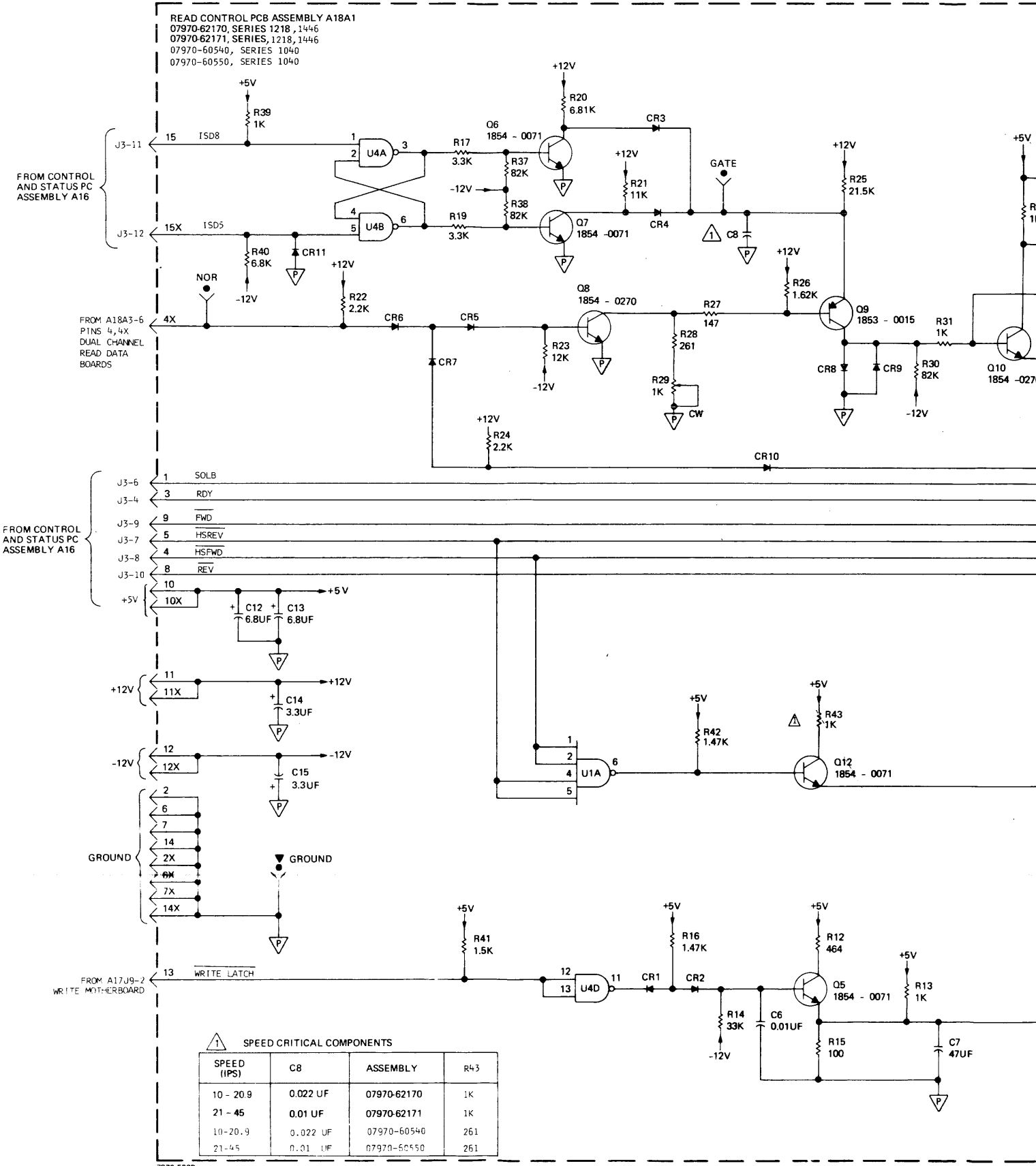
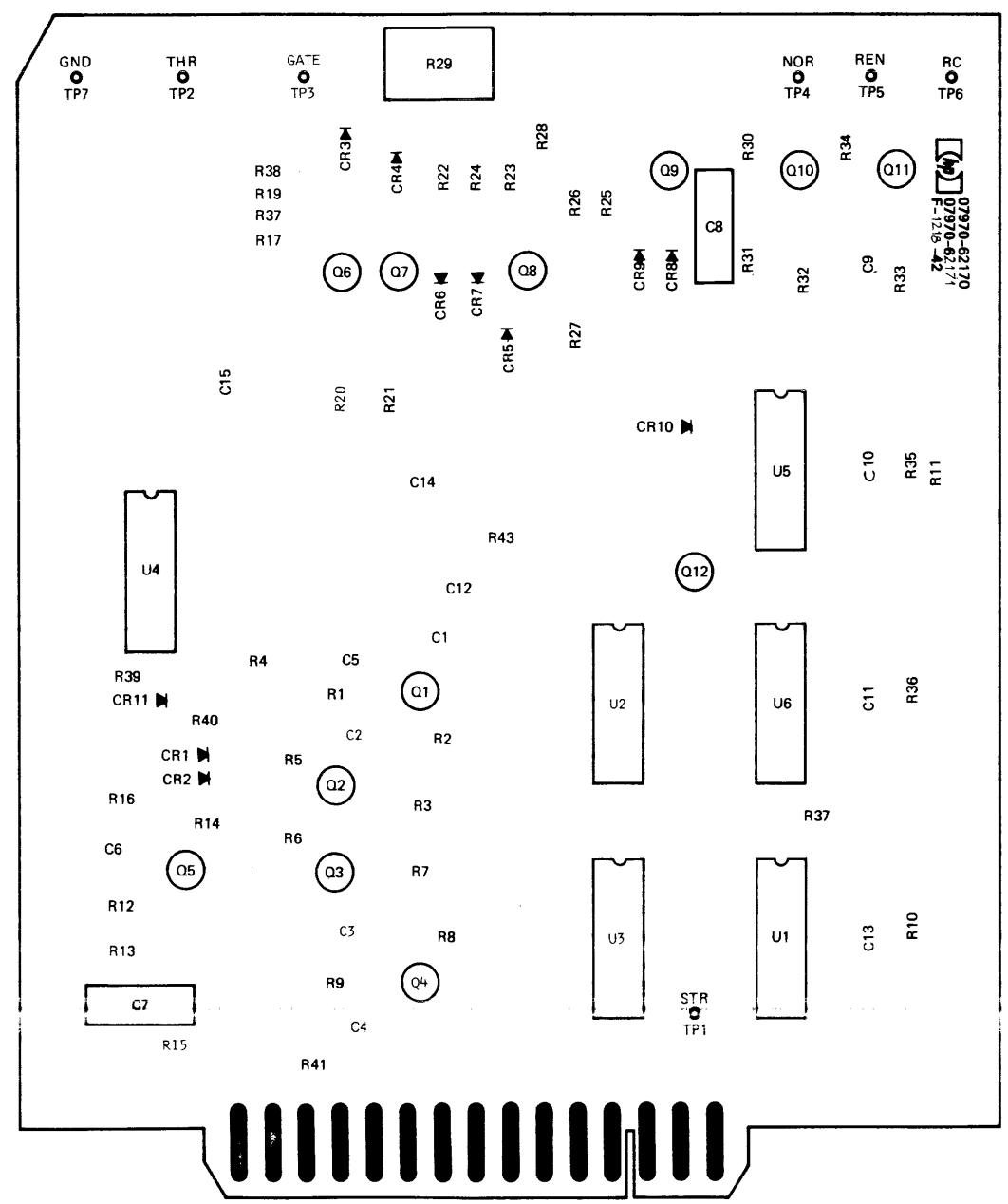


NRZI READ PCA (MOTHERBOARD) PARTS LIST  
07970-62060 (Series 1109)

REF. DES./ INDEX NO.	HP PART NO.	DESCRIPTION
1	07970-62060	READ MOTHERBOARD ASSY
2	07970-62077	CABLE, READ MOTHER BOARD
3	5040-6086	HOOD, Connector
4	5040-6072	BLOCK, Connector Mounting
5	5040-6003	CLAMP, Cable
6	2200-0091	SCREW, 4-40, .562 in.
7	2260-0002	NUT, Hex, 4-40
8	3030-0143	SCREW, Set, 6-32, .5 in.
9	1251-0159	CONNECTOR, PC 2x15
10	0624-0098	SCREW, Tapping, 4-40
11	1400-0440	CLAMP, Cable
12	3050-0066	WASHER, Flat, #6
13	2360-0201	SCREW, 6-32, .5 in.
14	3050-0066	WASHER, Flat, #6
15	2420-0001	NUT, Hex, 6-32
16	07970-60430	CABLE ASSEMBLY, Read Power
17	1460-0573	SPRING, Retaining, PC Board
18	1400-0249	TIE, Cable, spiral
19		READ/READ CONTROL PCA
20		READ DATA PCA, Single Channel
21		READ DATA PCA, Dual Channel
22	1251-2361	CONTACT, PC, Male 26 pin
23	1251-2025	CONNECTOR, PC, 2x24
24	1251-2503	CONNECTOR, Contact PC, Female
25	1251-2504	CONNECTOR, Contact PC, Male
26	1251-1886	CONNECTOR, PC, 2x15
	1251-1115	KEY, Connector PC

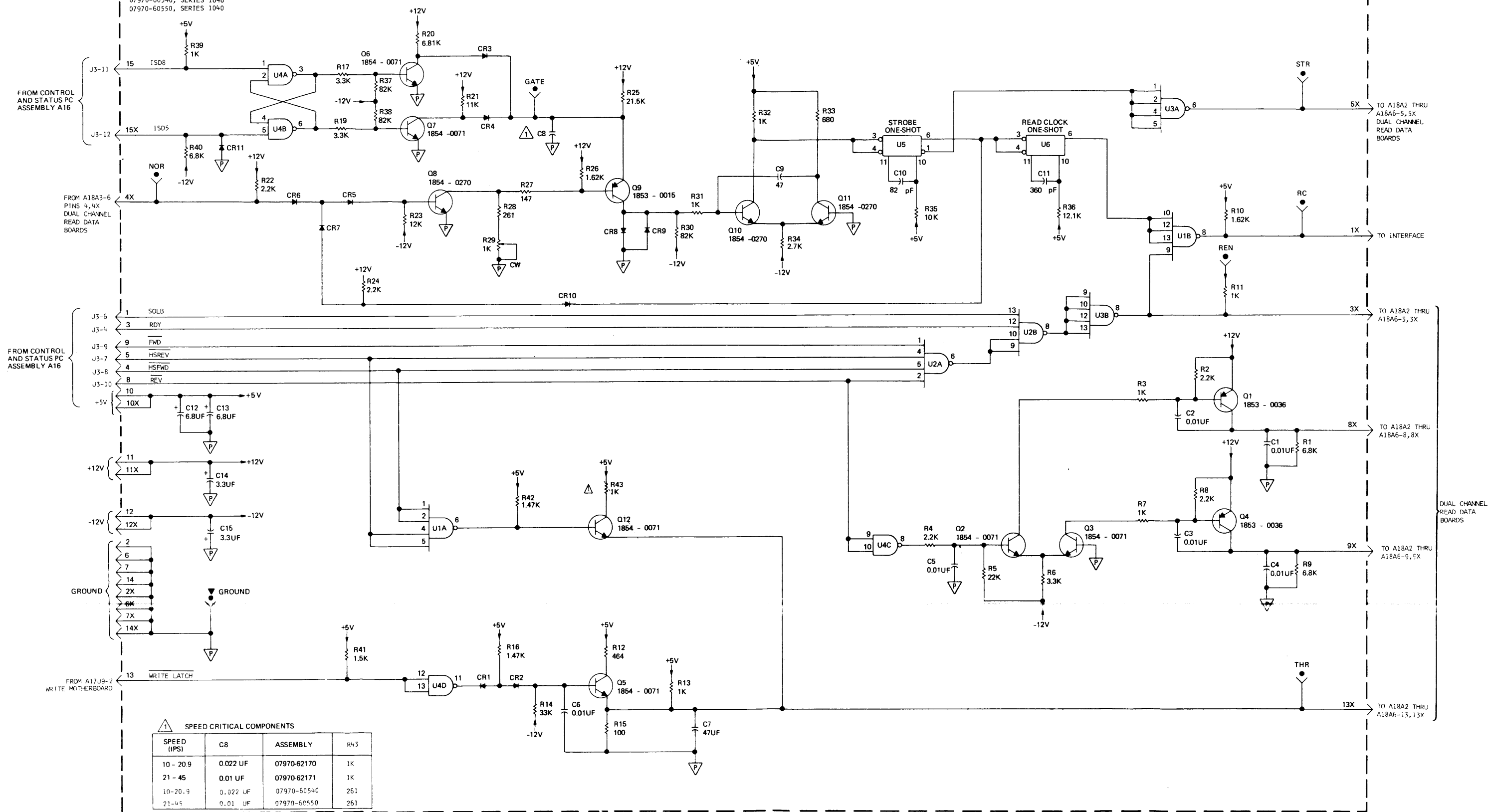
DESCRIPTION

BOARD ASSY  
MOTHER BOARD  
connector  
connector Mounting  
able  
-40, .562 in.  
, 4-40  
et, 6-32, .5 in.  
3, PC 2x15  
apping, 4-40  
  
Flat, #6  
-32, .5 in.  
Flat, #6  
, 6-32  
Y, Read Power  
ning, PC Board  
e, spiral  
CONTROL PCA  
a, Single Channel  
a, Dual Channel  
male 26 pin  
l, 2x24  
contact PC, Female  
contact PC, Male  
l, 2x15  
or PC





READ CONTROL PCB ASSEMBLY A18A1  
 07970-62170, SERIES 1218, 1446  
 07970-62171, SERIES 1218, 1446  
 07970-60540, SERIES 1040  
 07970-60550, SERIES 1040



**1** SPEED CRITICAL COMPONENTS

SPEED (IPS)	C8	ASSEMBLY	R43
10 - 20.9	0.022 UF	07970-62170	1K
21 - 45	0.01 UF	07970-62171	1K
10 - 20.9	0.022 UF	07970-60540	261
21 - 45	0.01 UF	07970-60550	261

7970-5338

Read Control PC Assembly A18A1

READ CONTROL PCA PARTS LIST  
 07970-60540 (Series 1040)  
 07970-60550 (Series 1040)  
 07970-62170 (Series 1218,1446)  
 07970-62171 (Series 1218,1446)

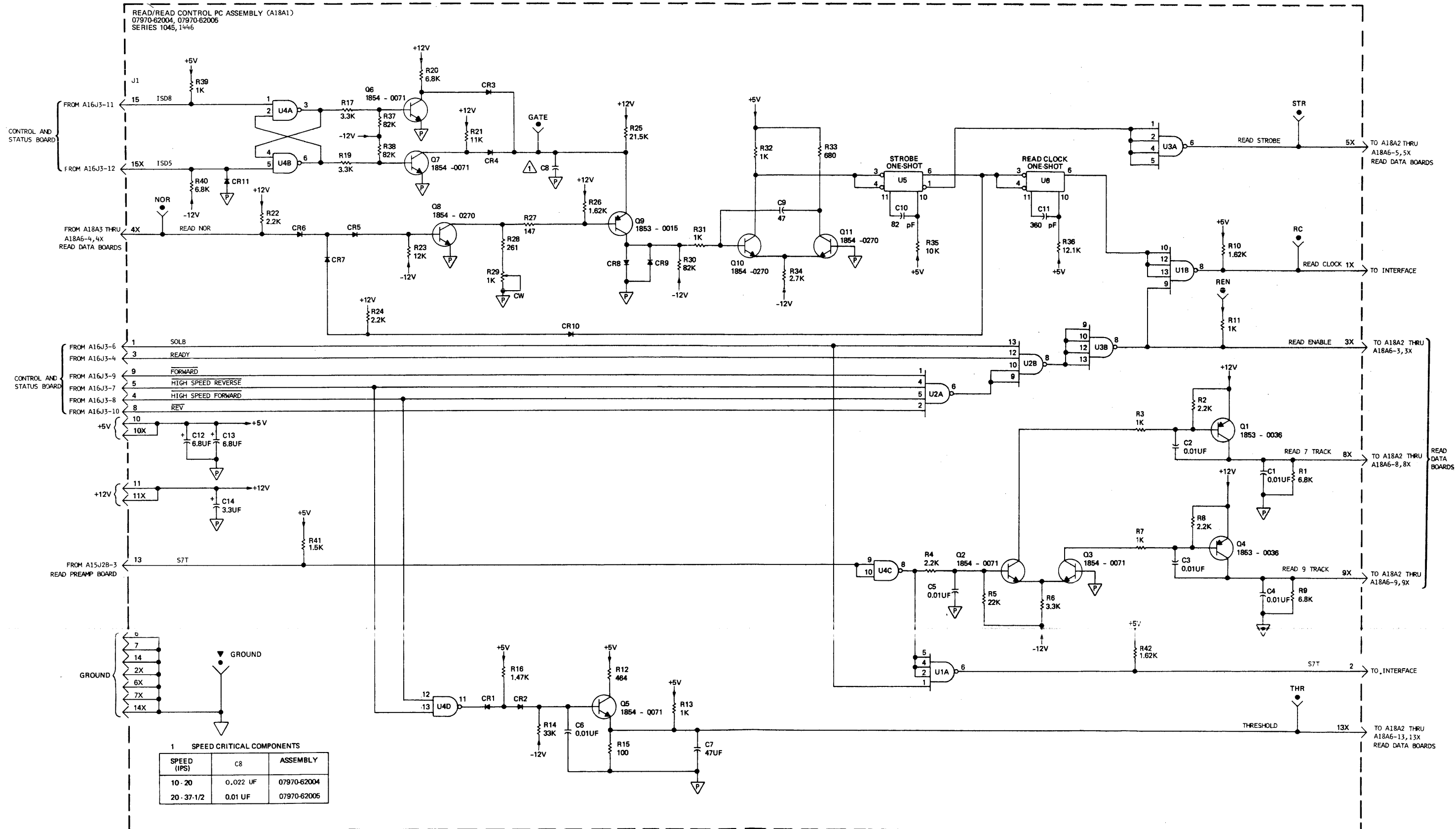
REF. DES./ INDEX NO.	HP PART NO.	DESCRIPTION
	07970-62170	READ CONTROL PCA (Series 1218)
C1-6	0160-2055	CAPACITOR, fxd, .01uf, 100V
C7	0180-1704	CAPACITOR, fxd, 47uf, 10%
<sup>1</sup> C8	0160-0162	CAPACITOR, fxd, .022uf, 10%
C9	0160-2307	CAPACITOR, fxd, 47pf, 300V
C10	0140-0193	CAPACITOR, fxd, 82pf, 5%
C11	0160-2209	CAPACITOR, fxd, 360pf, 5%
C12,13	0180-1701	CAPACITOR, fxd, 6.8uf, 20%
C14,15	0180-0210	CAPACITOR, fxd, 3.3uf, 15VDC
CR1-11	1901-0040	DIODE, 30V, 50MA
Q1-4	1853-0036	TRANSISTOR, 2N3906, PL18
Q2,3,5-7,12	1854-0071	TRANSISTOR, SI, TO18
*Q8,10,11	1854-0270	TRANSISTOR, NPN, SI, 2N4265
Q9	1853-0015	TRANSISTOR, 2N3640, PL18
R1,9,40	0683-6825	RESISTOR, fxd, 6.8K, 5%, .25W
R2,4,8,22,24	0683-2225	RESISTOR, fxd, 2.2K, 5%, .25W
R3,7,11,31,32,39	0683-1025	RESISTOR, fxd, 1K, 5%, .25W
R5	0683-2235	RESISTOR, fxd, 22K, 5%, .25W
R6,17,19	0683-3325	RESISTOR, fxd, 3.3K, 5%, .25W
R10,26	0757-0428	RESISTOR, fxd, 1.62K, 1%, .125W
R12	0698-0082	RESISTOR, fxd, 464, 1%, .125W
<sup>2</sup> R13,43	0757-0280	RESISTOR, fxd, 1K, 1%, .125W
R14	0683-3335	RESISTOR, fxd, 33K, 5%, .25W
R15	0757-0401	RESISTOR, fxd, 100, 1%, .125W
R16,42	0757-1094	RESISTOR, fxd, 1.47K, 1%, .125W
R20	0757-0439	RESISTOR, fxd, 6.81K, 1%, .125W
R21	0757-0443	RESISTOR, fxd, 11K, 1%, .125W
R23	0683-1235	RESISTOR, fxd, 12K, 5%, .25W
R25	0757-0199	RESISTOR, fxd, 21.5K, 1%, .125W
R27	0698-3438	RESISTOR, fxd, 147, 1%, .125W
R28	0698-3132	RESISTOR, fxd, 261, 1%, .125W
R29	2100-1758	RESISTOR, Variable, 1K, 5%
R30,37,38	0683-8235	RESISTOR, fxd, 82K, 5%, .25W
R33	0683-6815	RESISTOR, fxd, 680, 5%, .25W
R34	0683-2725	RESISTOR, fxd, 2.7K, 5%, .25W
R35	0757-0442	RESISTOR, fxd, 10K, 1%, .125W
R36	0757-0444	RESISTOR, fxd, 12.1K, 1%, .125W
R41	0683-1525	RESISTOR, fxd, 1.5K, 5%, .25W
U1	1820-0348	IC, MC844P
U2	1820-0069	IC, DIGITAL, Gate 7420
U3	1820-0376	IC, SN74H40N

REF. DES./ INDEX NO.	HP PART NO.	DESCRIPTION
U4 U5,6	1820-0349 1820-0088 5040-6001 1480-0116	IC, MC849P IC, MC851P EXTRACTOR, PC PIN, Grooved, .062 in.
	Series 1446	07970-62170 and 07970-62171 PCA's
*Q8,10,11	1854-0215	TRANSISTOR, 2N3904, PL5
<sup>1</sup>	On 07970-62171 and 07970-60550 PCA's use .01uf, part number 0160-0161	
<sup>2</sup>	On 07970-60540 and 07970-60550 PCA's R43 is 261 ohm, part number 0698-3132	

REF. DES./ INDEX NO.	HP PART NO.	DESCRIPTION
U4 U5,6   *Q8,10,11	1820-0349 1820-0088 5040-6001 1480-0116  Series 1446  1854-0215	IC, MC849P IC, MC851P EXTRACTOR, PC PIN, Grooved, .062 in.  07970-62170 and 07970-62171 PCA's  TRANSISTOR, 2N3904, PL5

- ① On 07970-62171 and 07970-60550 PCA's use .01uf, part number 0160-0161
- ② On 07970-60540 and 07970-60550 PCA's R43 is 261 ohm, part number 0698-3132





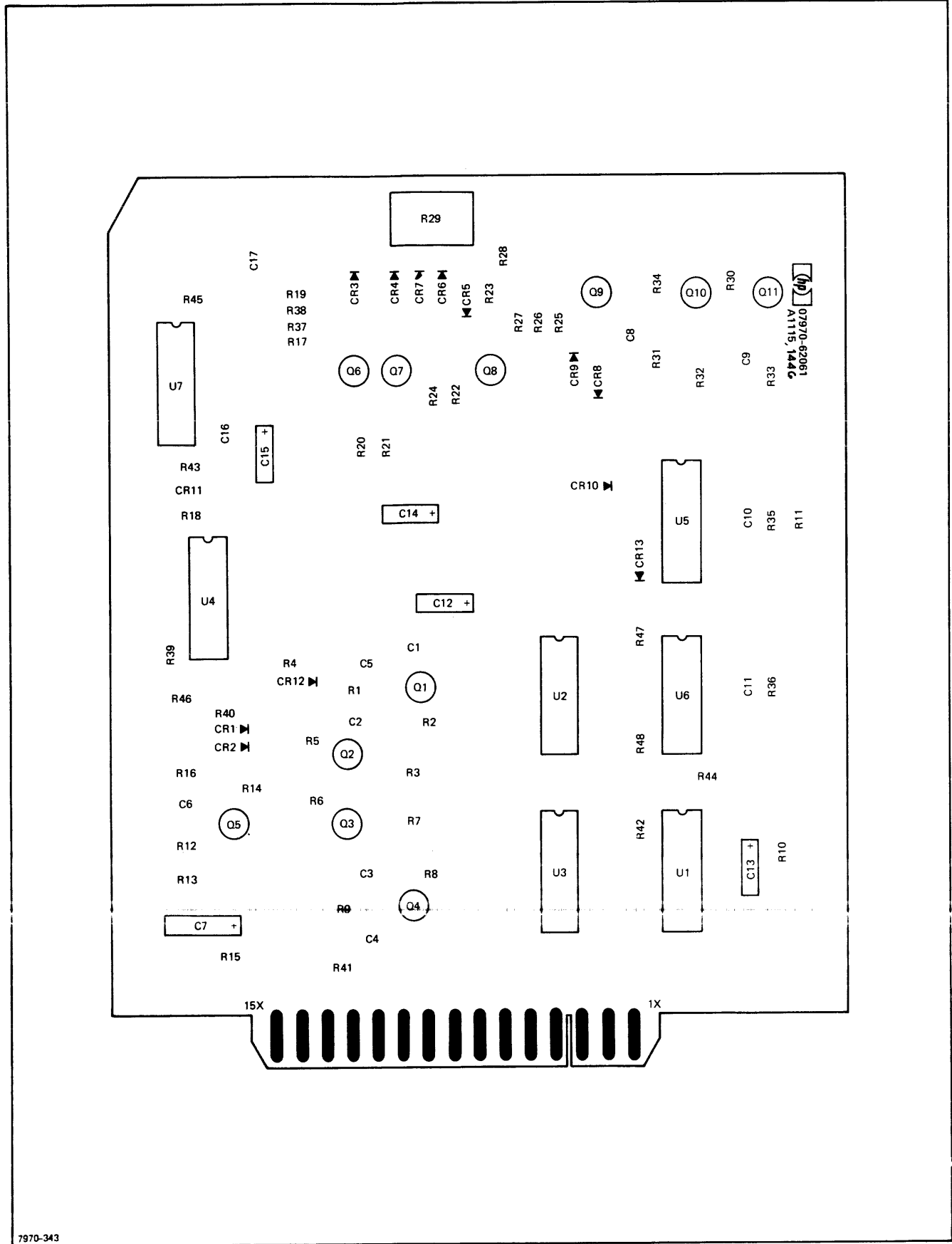
7970-F-022A

READ/READ CONTROL PCA PARTS LIST  
 07970-62004 (Series 1045, 1446)  
 07970-62005 (Series 1045, 1446)

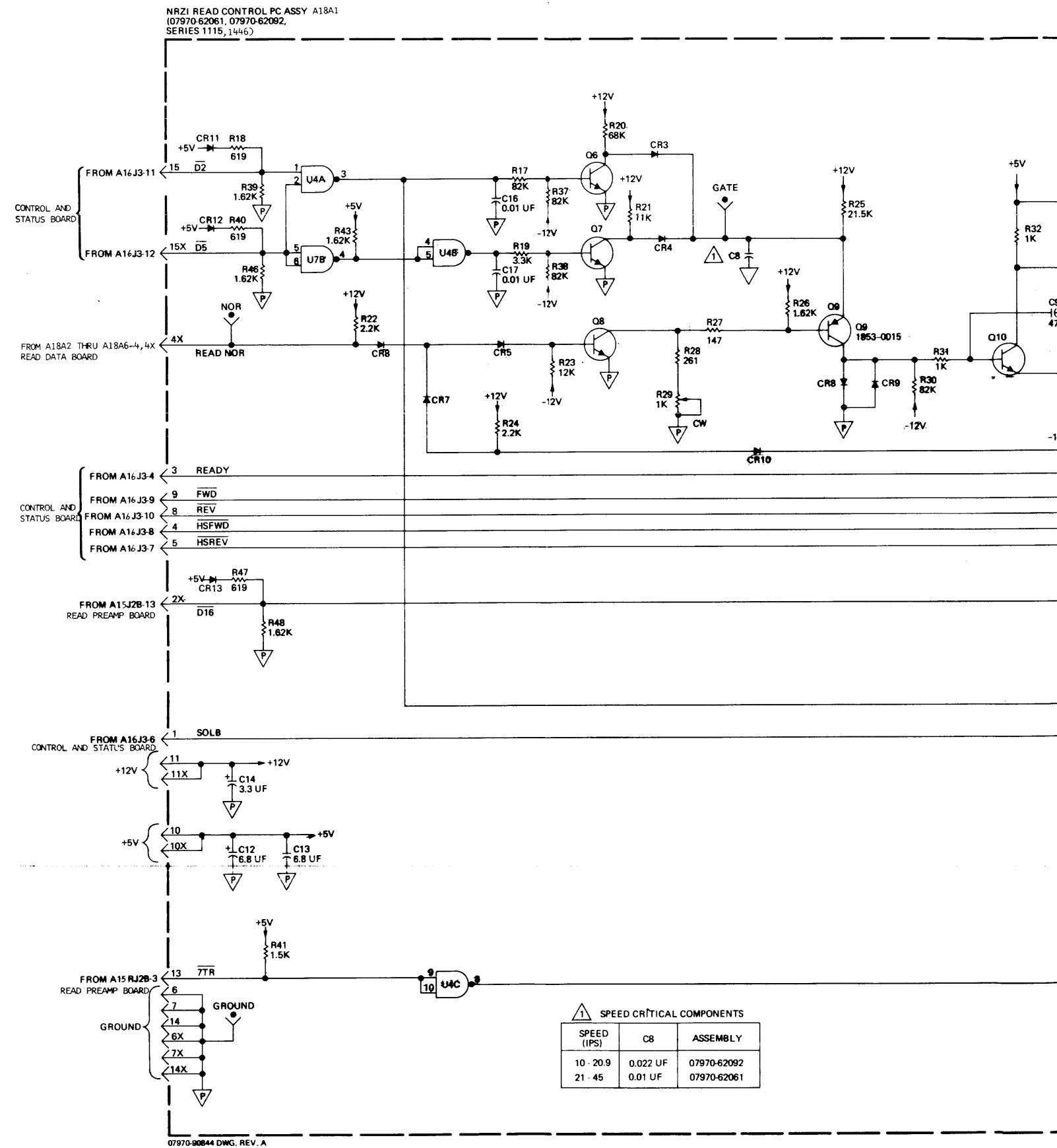
REF. DES./ INDEX NO.	HP PART NO.	DESCRIPTION
	07970-62004	READ/READ CONTROL PCA (Series 1045)
C1-6	0160-2055	CAPACITOR, fxd, .01uf, 100V
C7	0180-1704	CAPACITOR, fxd, 47uf, 10%
<sup>1</sup> C8	0160-0162	CAPACITOR, fxd, .022uf, 10%
C9	0160-2307	CAPACITOR, fxd, 47pf, 300V
C10	0140-0193	CAPACITOR, fxd, 82pf, 5%
C11	0160-2209	CAPACITOR, fxd, 360pf, 5%
C12,13	0180-1701	CAPACITOR, fxd, 6.8uf, 20%
<del>C14,15</del>	<del>0180-0210</del>	<del>CAPACITOR, fxd, 3.3uf, 15VDC</del>
CR1-11	1901-0040	DIODE, 30V, 50MA
Q1-4	1853-0036	TRANSISTOR, 2N3906, PL18
Q2,3,5-7	1854-0071	TRANSISTOR, SI, T018
*Q8,10,11	1854-0270	TRANSISTOR, NPN, SI, 2N4265
Q9	1853-0015	TRANSISTOR, 2N3640, PL18
R1,9,40	0683-6825	RESISTOR, fxd, 6.8K, 5%, .25W
R2,4,8,22,24	0683-2225	RESISTOR, fxd, 2.2K, 5%, .25W
R3,7,11,31,32,39	0683-1025	RESISTOR, fxd, 1K, 5%, .25W
R5	0683-2235	RESISTOR, fxd, 22K, 5%, .25W
R6,17,19	0683-3325	RESISTOR, fxd, 3.3K, 5%, .25W
R10,26,42	0757-0428	RESISTOR, fxd, 1.62K, 1%, .125W
R12,28	0698-3132	RESISTOR, fxd, 261, 1%, .125W
R13	0757-0280	RESISTOR, fxd, 1K, 1%, .125W
R14	0683-3335	RESISTOR, fxd, 33K, 5%, .25W
R15	0757-0401	RESISTOR, fxd, 100, 1%, .125W
R16	0757-1094	RESISTOR, fxd, 1.47K, 1%, .125W
R20	0757-0439	RESISTOR, fxd, 6.81K, 1%, .125W
R21	0757-0443	RESISTOR, fxd, 11K, 1%, .125W
R23	0683-1235	RESISTOR, fxd, 12K, 5%, .25W
R25	0757-0199	RESISTOR, fxd, 21.5K, 1%, .125W
R27	0698-3438	RESISTOR, fxd, 147, 1%, .125W
R29	2100-1758	RESISTOR, Variable, 1K, 5%
R30,37,38	0683-8235	RESISTOR, fxd, 82K, 5%, .25W
R33	0683-6815	RESISTOR, fxd, 680, 5%, .25W
R34	0683-2725	RESISTOR, fxd, 2.7K, 5%, .25W
R35	0757-0442	RESISTOR, fxd, 10K, 1%, .125W
R36	0757-0444	RESISTOR, fxd, 12.1K, 1%, .125W
R41	0683-1525	RESISTOR, fxd, 1.5K, 5%, .25W
U1	1820-0348	IC, MC844P
U2	1820-0069	IC, Digital, Gate, 7420
U3	1820-0376	IC, SN74H40N
U4	1820-0349	IC, MC849P
U5,6	1820-0088	IC, MC851P
	5040-6001	EXTRACTOR, PC
	1480-0116	PIN, Grooved, .062 in.
*Q8,10,11	Series 1446 1854-0215	07970-62004 & 07970-62005 PCA's TRANSISTOR, 2N3904, PL5

<sup>1</sup> On 07970-62005 PCA's use .01uf, part number 0160-0162

Read/Read Control PC Assembly A18A1

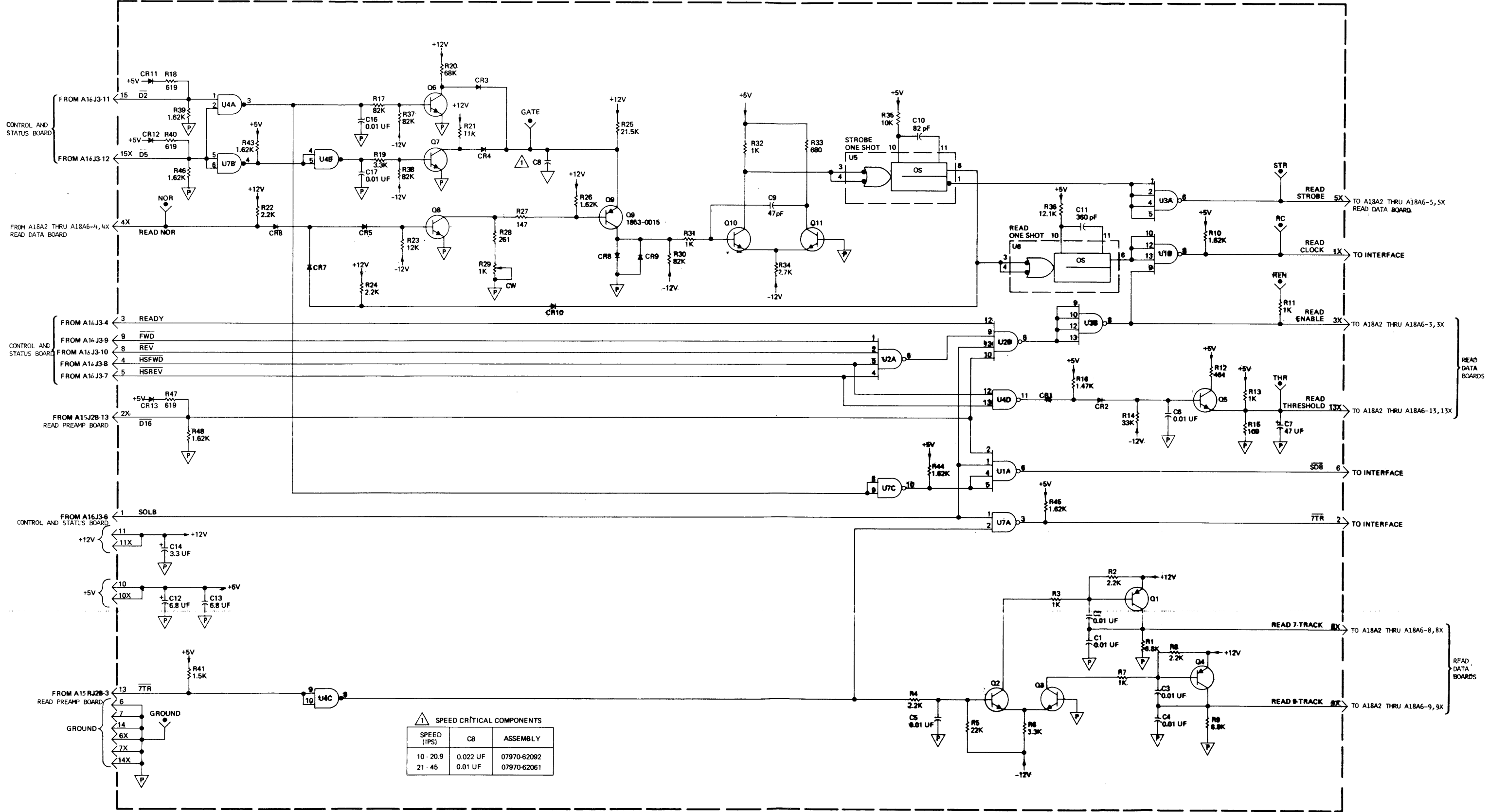


7970-343





NRZI READ CONTROL PC ASSY A18A1  
 (07970-62061, 07970-62092,  
 SERIES 1115, 1446)



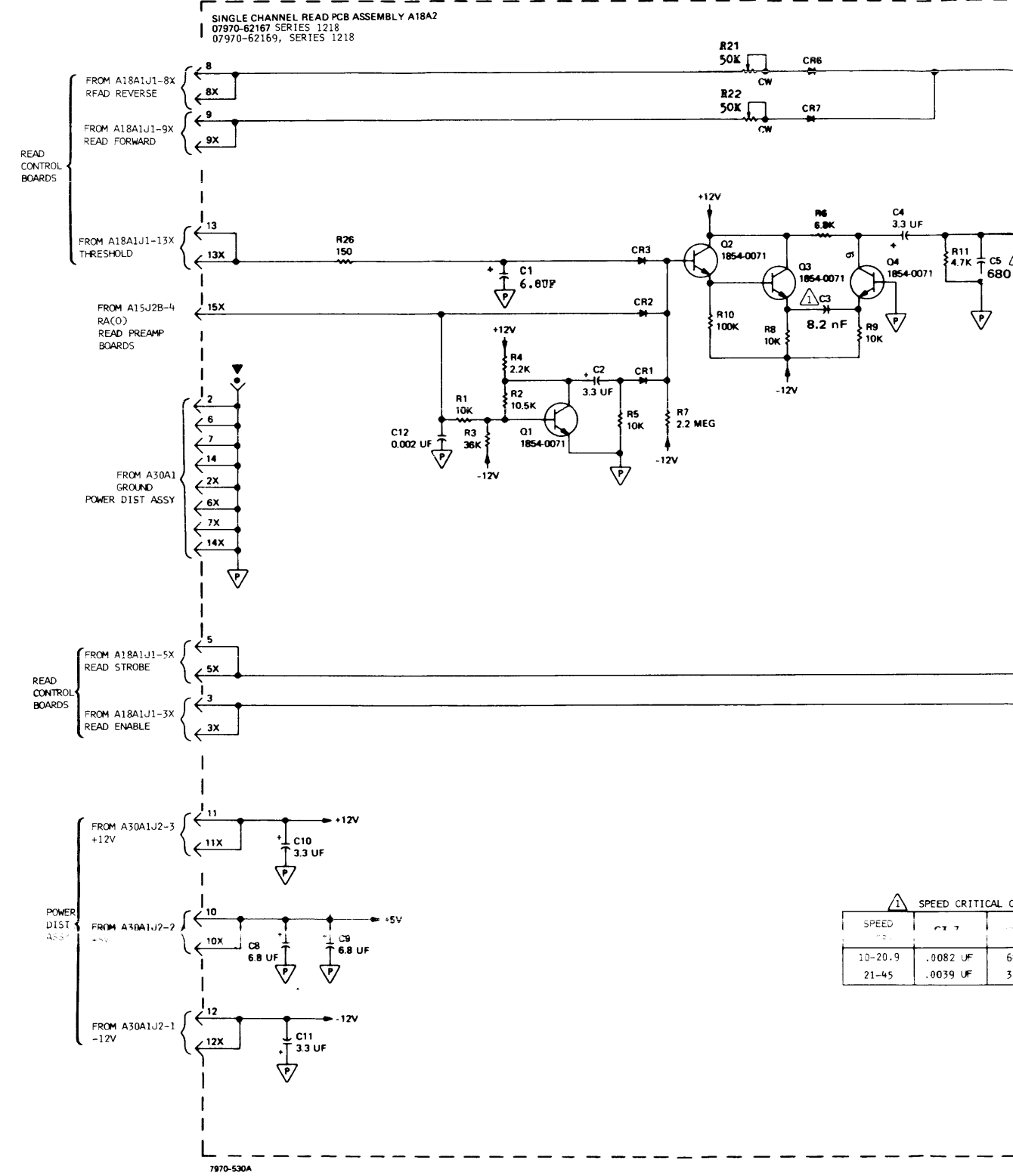
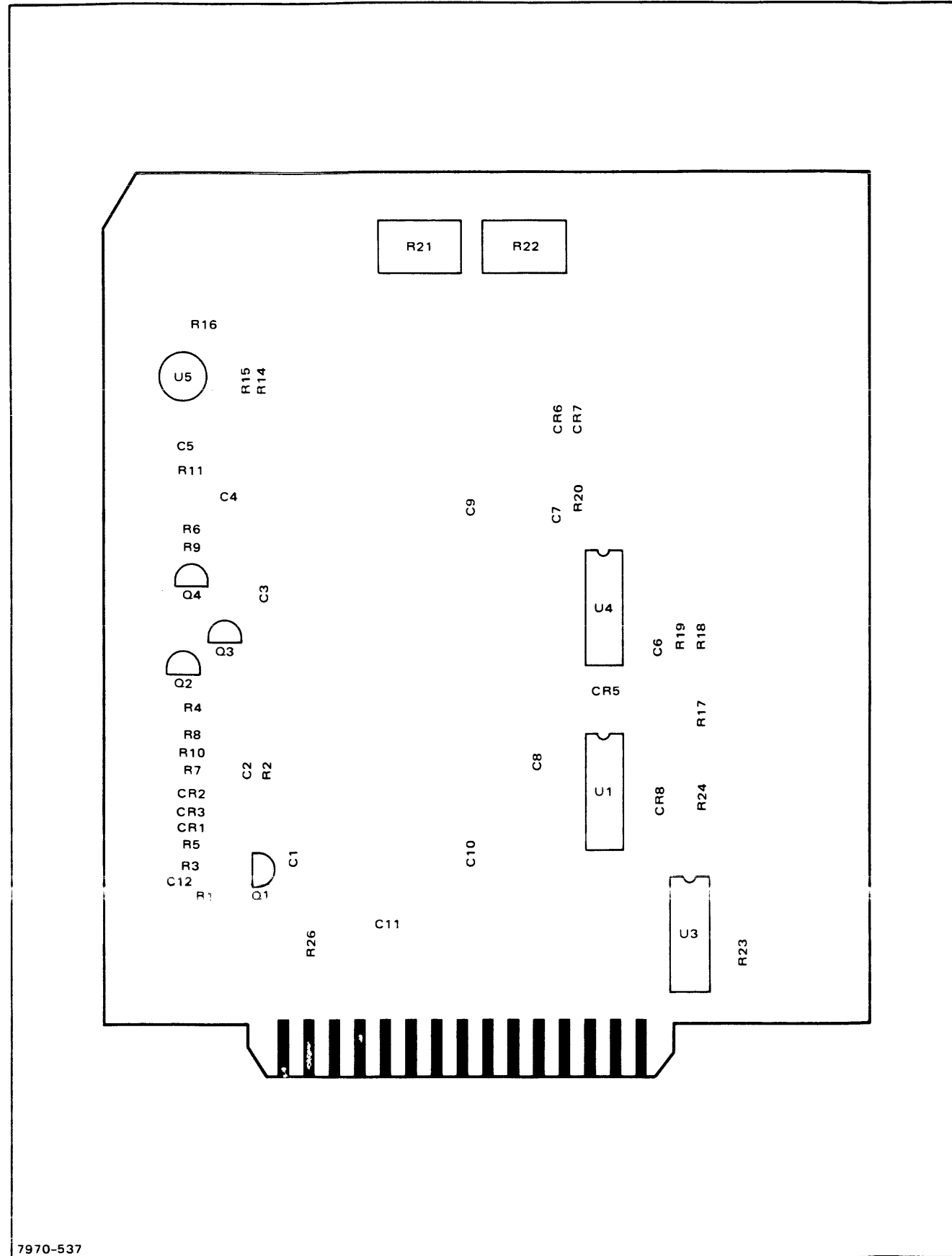
07970-90844 DWG. REV. A

NRZI READ CONTROL PCA PARTS LIST  
 07970-62061 (Series 1115, 1446)  
 07970-62092 (Series 1115, 1446)

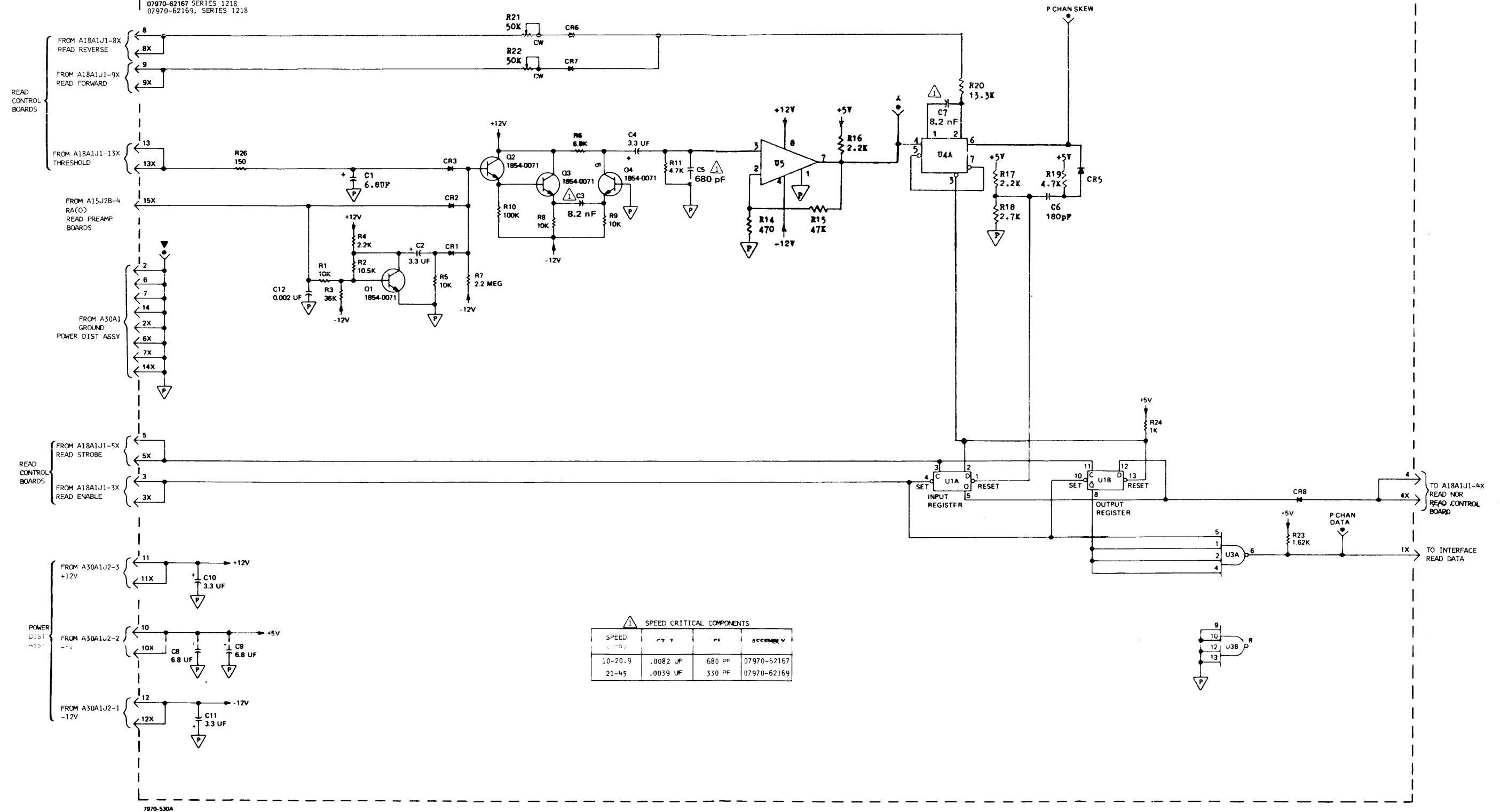
REF. DES./ INDEX NO.	HP PART NO.	DESCRIPTION
	07970-62092	NRZI READ CONTROL PCA (Series 1115)
1 C1-6,16,17	0160-2055	CAPACITOR, fxd, .01uf, 100V
C7	0180-1704	CAPACITOR, fxd, 47uf, 10%
C8	0160-0162	CAPACITOR, fxd, .022uf, 10%
C9	0160-2307	CAPACITOR, fxd, 47pf, 300V
C10	0140-0193	CAPACITOR, fxd, 82pf, 5%
C11	0160-2209	CAPACITOR, fxd, 360pf, 5%
C12,13	0180-1701	CAPACITOR, fxd, 6.8uf, 20%
C14,15	0180-0210	CAPACITOR, fxd, 3.3uf, 15VDC
CR1-13	1901-0040	DIODE, 30V, 50MA
Q1,4	1853-0036	TRANSISTOR, 2N3906, PL18
Q2,3,5-7	1854-0071	TRANSISTOR, SI, TO18
*Q8,10,11	1854-0270	TRANSISTOR, 2N4265, PL5
Q9	1853-0015	TRANSISTOR, 2N3640, PL18
R1,9	0683-6825	RESISTOR, fxd, 6.8K, 5%, .25W
R2,4,8,22,24	0683-2225	RESISTOR, fxd, 2.2K, 5%, .25W
R3,7,11,31,32	0683-1025	RESISTOR, fxd, 1K, 5%, .25W
R5	0683-2325	RESISTOR, fxd, 22K, 5%, .25W
R6,17,19	0683-3325	RESISTOR, fxd, 3.3K, 5%, .25W
R10,26,39	0757-0428	RESISTOR, fxd, 1.62K, 1%, .125W
42-46,48		
R12,28	0698-3132	RESISTOR, fxd, 261, 1%, .125W
R13	0757-0280	RESISTOR, fxd, 1K, 1%, .125W
R14	0683-3335	RESISTOR, fxd, 33K, 5%, .25W
R15	0757-0401	RESISTOR, fxd, 100, 1%, .125W
R16	0757-1094	RESISTOR, fxd, 1.47K, 1%, .125W
R18,40,47	0757-0418	RESISTOR, fxd, 619, 1%, .125W
R20	0757-0439	RESISTOR, fxd, 6.81K, 1%, .125W
R21	0757-0443	RESISTOR, fxd, 11K, 1%, .125W
R23	0683-1235	RESISTOR, fxd, 12K, 5%, .25W
R25	0757-0199	RESISTOR, fxd, 21.5K, 1%, .125W
R27	0698-3438	RESISTOR, fxd, 147, 1%, .125W
R29	2100-1758	RESISTOR, Variable, 1K, 5%
R30,37,38	0683-8235	RESISTOR, fxd, 82K, 5%, .25W
R33	0683-6815	RESISTOR, fxd, 680, 5%, .25W
R34	0683-2725	RESISTOR, fxd, 2.7K, 5%, .25W
R35	0757-0442	RESISTOR, fxd, 10K, 1%, .125W
R36	0757-0444	RESISTOR, fxd, 12.1K, 1%, .125W
R41	0683-1525	RESISTOR, fxd, 1.5K, 5%, .25W
U1	1820-0348	IC, MC844P
U2	1820-0069	IC, Digital, Gate, 7420
U3	1820-0376	IC, SN74H40N
U4	1820-0349	IC, MC849P
U5,6	1820-0088	IC, MC851P
U7	1820-0256	IC, MC858P
	5040-6001	EXTRACTOR, PC
	1480-0116	PIN, Grooved, .062 in.

REF. DES./ INDEX NO.	HP PART NO.	DESCRIPTION
*Q8,10,11	Series 1446 1854-0215	07970-62061 & 07970-62092 PCA's TRANSISTOR, 2N3904, PL5
1	07970-62061 PCA's use .01uf, part number 0160-0161	

REF. DES./ INDEX NO.	HP PART NO.	DESCRIPTION
*Q8,10,11	Series 1446 1854-0215	07970-62061 & 07970-62092 PCA's TRANSISTOR, 2N3904, PL5
<p>△ 07970-62061 PCA's use .01uf, part number 0160-0161</p>		



SINGLE CHANNEL READ PCB ASSEMBLY A18A2  
 07970-62167 SERIES 1218  
 07970-62169, SERIES 1218

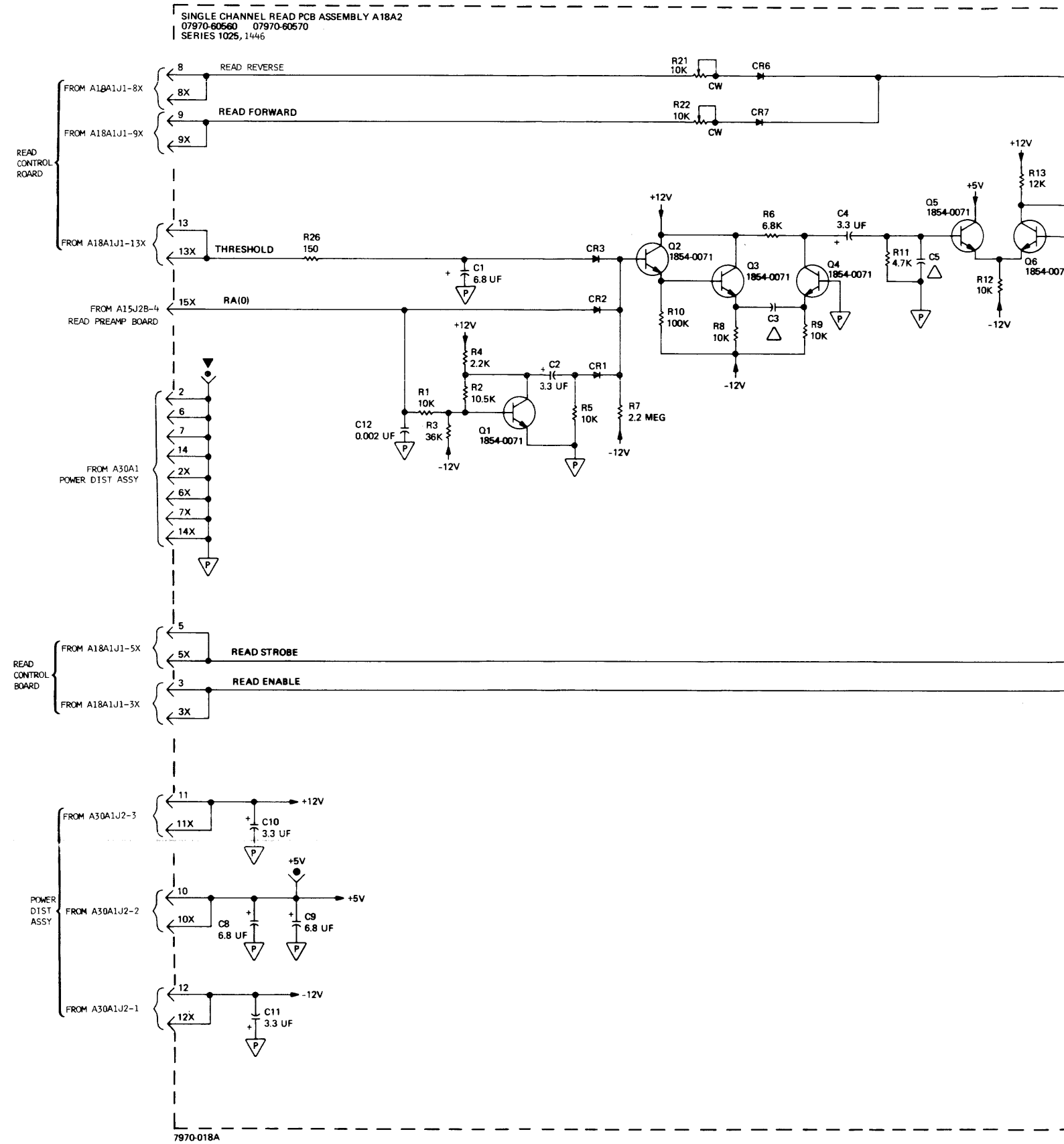
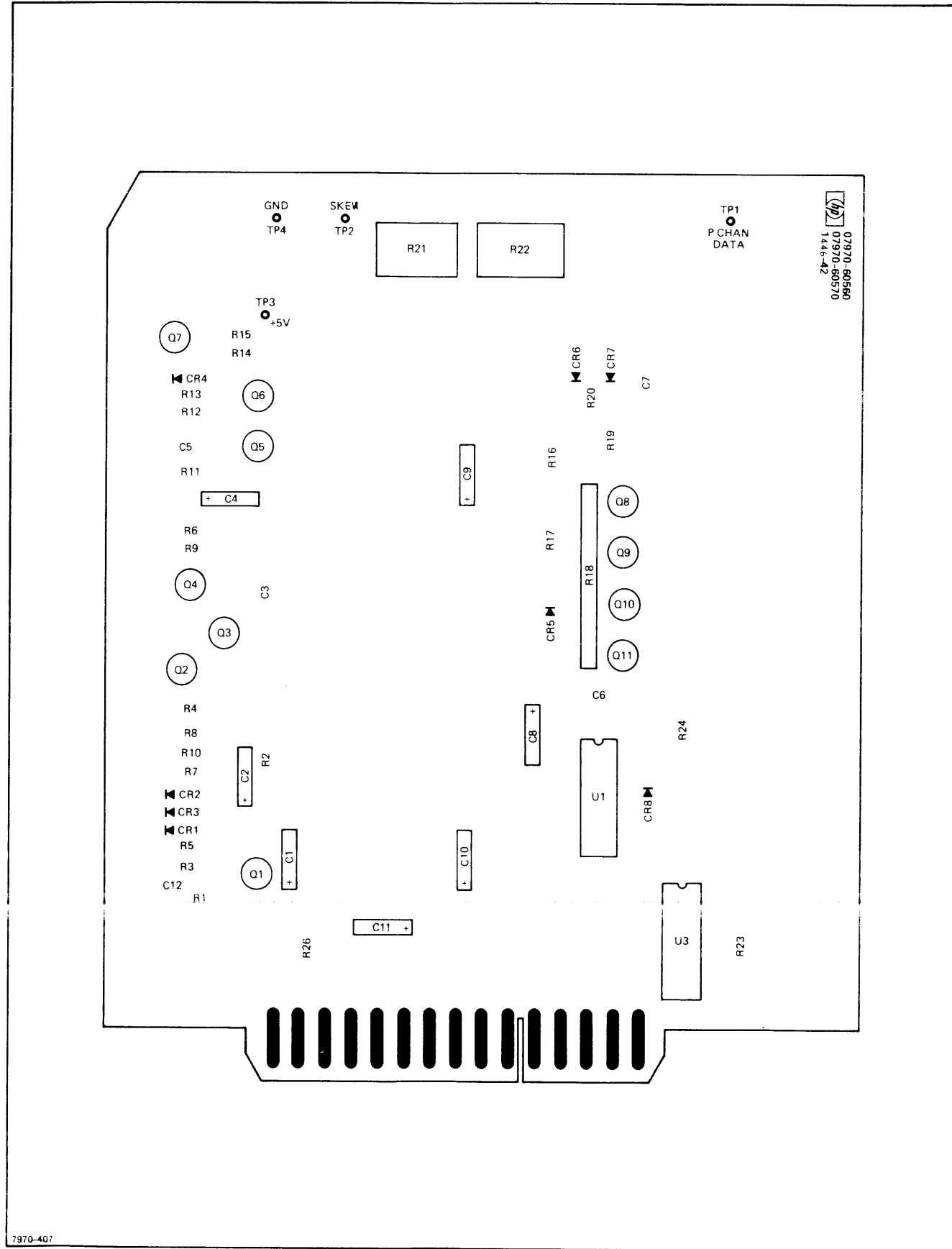


SPEED CRITICAL COMPONENTS			
SPEED	CAP	RES	ASSEMBLY
10-20.9	.0082 UF	680 PF	07970-62167
21-45	.0039 UF	330 PF	07970-62169

SINGLE CHANNEL READ PCA PARTS LIST  
 07970-62167 (Series 1218, 1639)  
 07970-62169 (Series 1218, 1639)

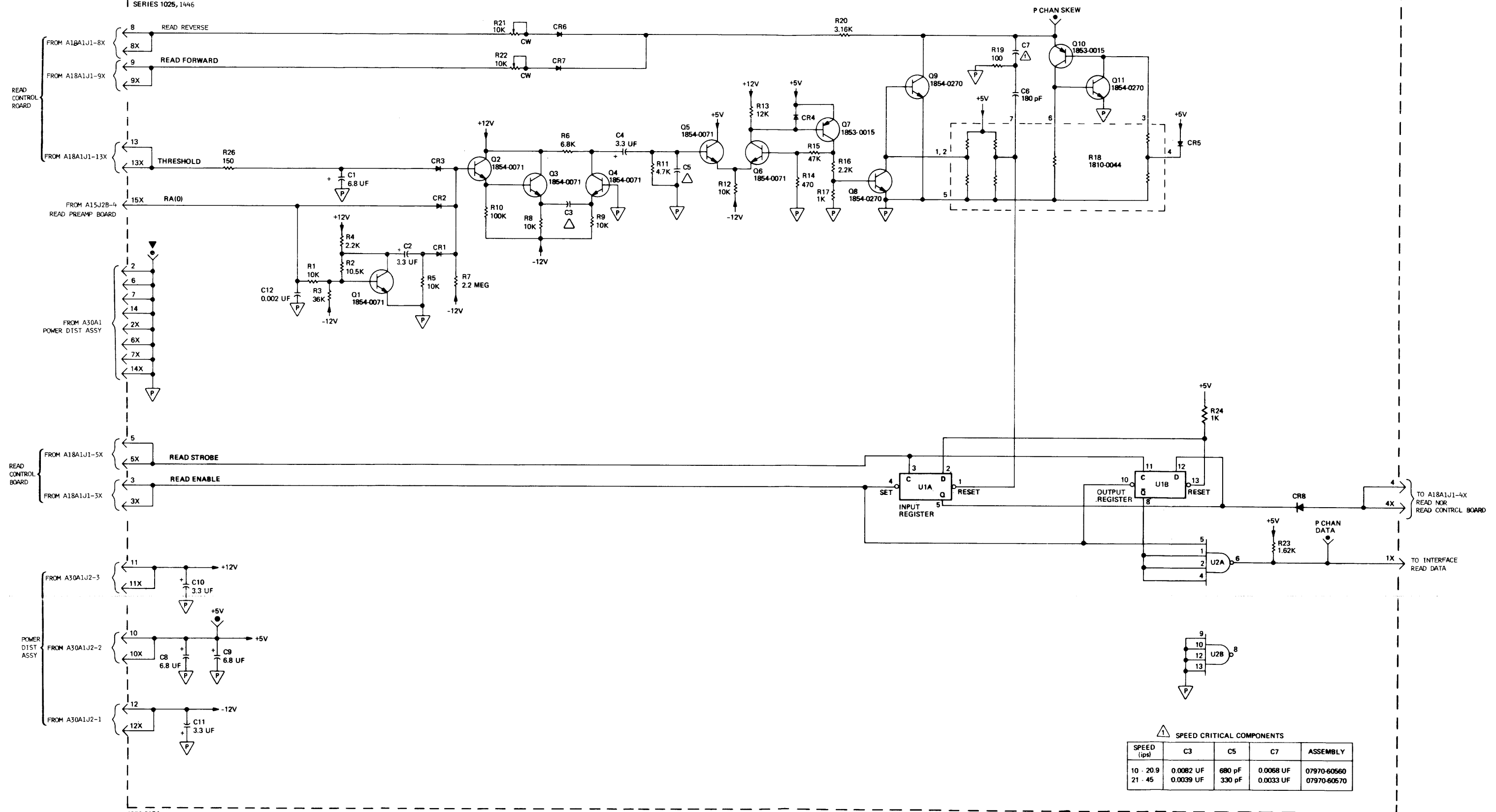
REF. DES./ INDEX NO.	HP PART NO.	DESCRIPTION
	07970-62167	SINGLE CHANNEL READ PCA (Series 1218)
C1,8,9	0180-1701	CAPACITOR, fxd, 6.8uf, 20%
C2,4,10,11	0180-0210	CAPACITOR, fxd, 3.3uf, 15VDC
⚠ C3,7	0160-0160	CAPACITOR, fxd, .0082uf, 10%
⚠ C5	0160-3573	CAPACITOR, fxd, 680pf, 10%
C6	0140-0197	CAPACITOR, fxd, 180pf, 5%
C12	0160-3457	CAPACITOR, fxd, 2000pf, 10%
CR1-3	1901-0450	DIODE, 50V, 100ma
CR5-8	1901-0040	DIODE, 30V, 50ma
Q1-4	1854-0071	TRANSISTOR, Silicone, T018
R1	0757-0442	RESISTOR, fxd, 10K, 1%, .125W
R2	0698-4477	RESISTOR, fxd, 10.5K, 1%, .125W
R3	0683-3635	RESISTOR, fxd, 36K, 5%, .25W
R4,16,17	0683-2225	RESISTOR, fxd, 2.2K, 5%, .25W
R5,8,9	0683-1035	RESISTOR, fxd, 10K, 5%, .25W
R6	0683-6825	RESISTOR, fxd, 6.8K, 5%, .25W
R7	0683-2255	RESISTOR, fxd, 2.2M, 5%, .25W
R10	0683-1045	RESISTOR, fxd, 100K, 5%, .25W
R11,19	0683-4725	RESISTOR, fxd, 4.7K, 5%, .25W
R14	0683-4715	RESISTOR, fxd, 470, 5%, .25W
R15	0683-4735	RESISTOR, fxd, 47K, 5%, .25W
R18	0683-2725	RESISTOR, fxd, 2700, 5%, .25W
R20	0757-0289	RESISTOR, fxd, 13.3K, 1%, .125W
*R21,22	2100-1923	RESISTOR, Variable, 50K, 5%
R23	0757-0428	RESISTOR, fxd, 1.62K, 1%, .125W
R24	0683-1025	RESISTOR, fxd, 1K, 5%, .25W
R26	0683-1515	RESISTOR, fxd, 150, 5%, .25W
U1	1820-0077	IC, DIGITAL, FF 7474
U3	1820-0348	IC, MC844P
U4	1820-0515	IC, DIGITAL 9602
U5	1826-0065	IC, LINEAR
	5040-6001	EXTRACTOR, PC
	1480-0116	PIN, Grooved, .062
	Series 1639	07970-62167 and 07970-62169 PCA's
*R21,22	2100-3758	RESISTOR, Variable, 50K, 5%
⚠ 07970-62169 use following part numbers C3,7            0160-0156            .0039uf C5             0160-3572            330pf		

Single Channel Read Data PC Assembly A18A2





SINGLE CHANNEL READ PCB ASSEMBLY A18A2  
 07970-60560 07970-60570  
 SERIES 1025, 1446



△ SPEED CRITICAL COMPONENTS

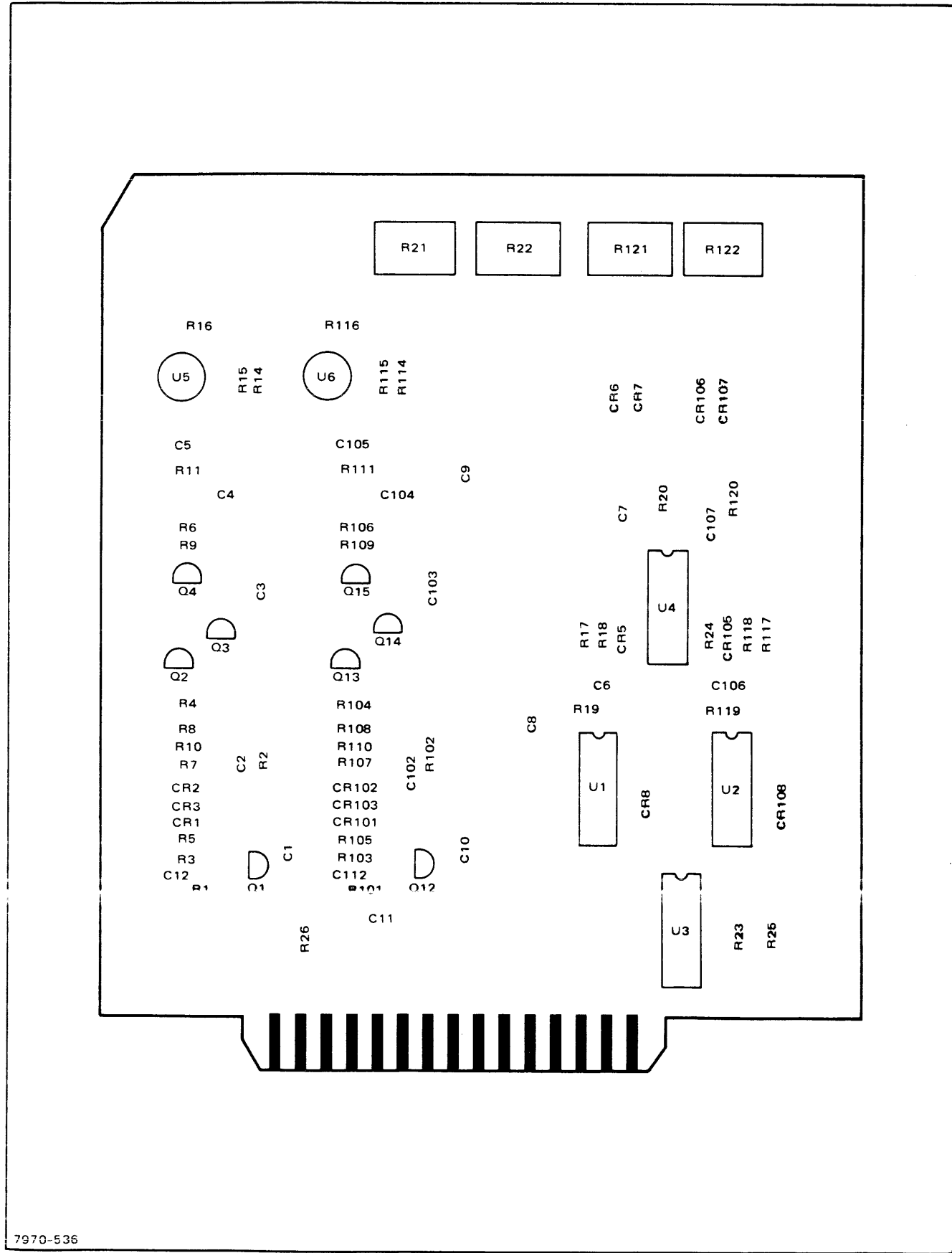
SPEED (ips)	C3	C5	C7	ASSEMBLY
10 - 20.9	0.0082 UF	680 pF	0.0068 UF	07970-60560
21 - 45	0.0039 UF	330 pF	0.0033 UF	07970-60570

7970-018A

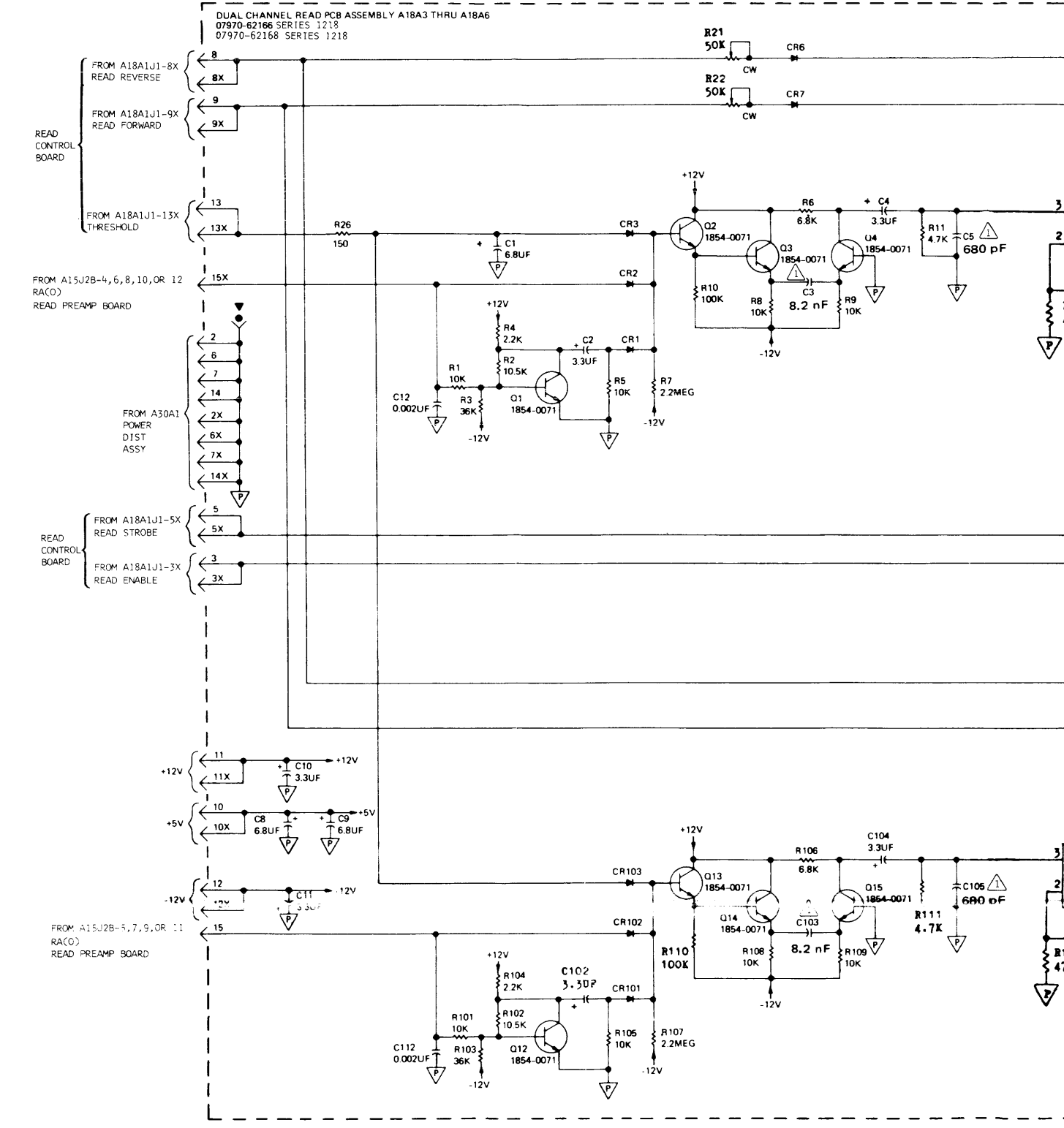
SINGLE CHANNEL READ PCA PARTS LIST  
 07970-60560 (Series 1025, 1446)  
 07970-60570 (Series 1025, 1446)

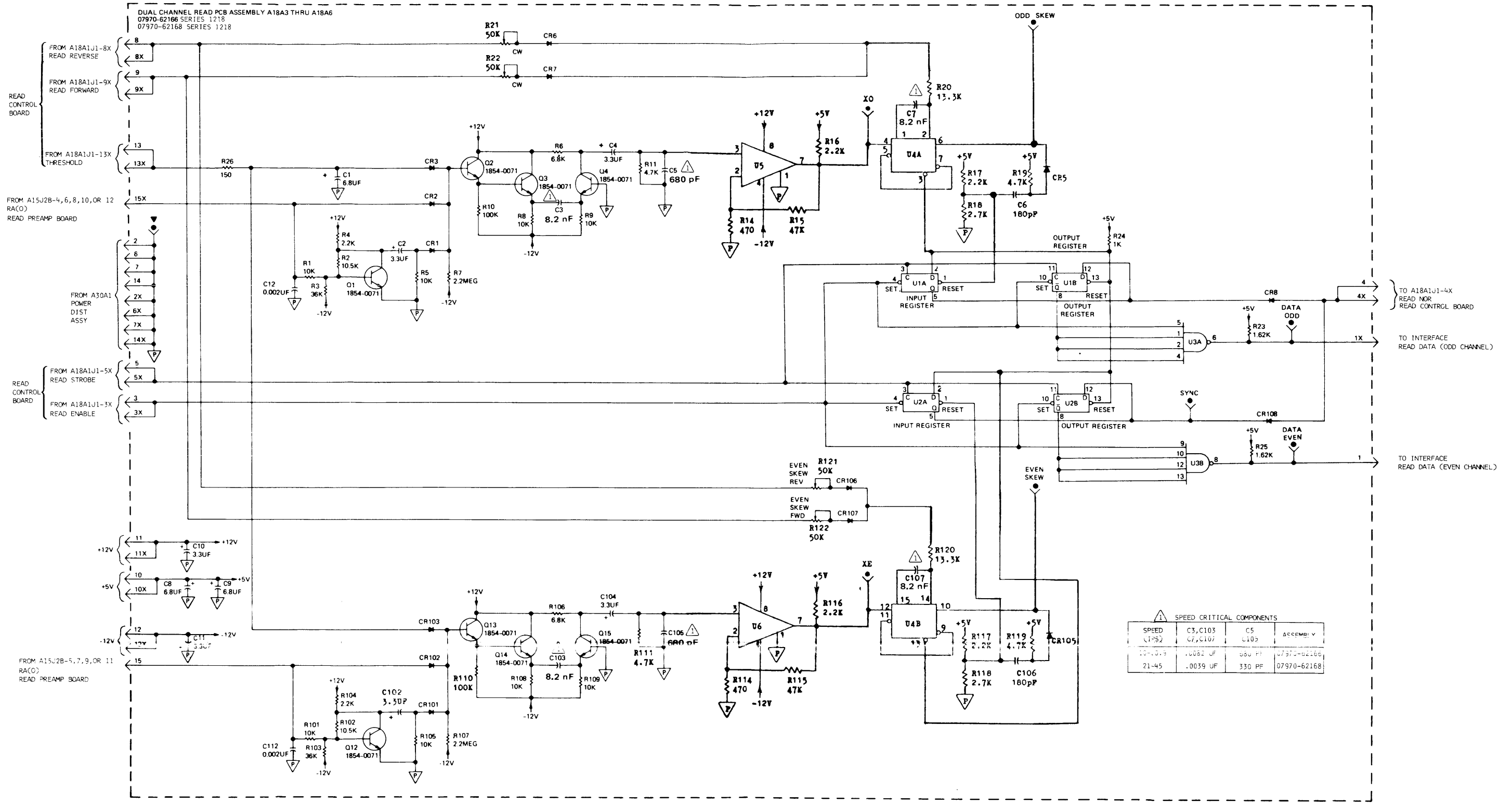
REF.DES./ INDEX NO.	HP PART NO.	DESCRIPTION
	07970-60560	SINGLE CHANNEL READ PCA (Series 1025)
C1,8,9	0180-1701	CAPACITOR, fxd, 6.8uf, 20%
C2,4,10,11	0180-0210	CAPACITOR, fxd, 3.3uf, 15VDC
⚠ C3	0160-0160	CAPACITOR, fxd, .0082uf, 10%
⚠ C5	0160-3573	CAPACITOR, fxd, 680pf, 10%
C6	0140-0197	CAPACITOR, fxd, 180pf, 5%
⚠ C7	0160-0159	CAPACITOR, fxd, .068uf, Mylar
C12	0160-3457	CAPACITOR, fxd, 2000pf, 10%
CR1-3	1901-0450	DIODE, 50V, 100ma
CR4-8	1901-0040	DIODE, 30V, 50ma
Q1-6	1854-0071	TRANSISTOR, Silicon, TO18
Q7,10	1853-0015	TRANSISTOR, 2N3640, PL18
*Q8,9,11	1854-0270	TRANSISTOR, 2N4265, PL5
R1	0757-0442	RESISTOR, fxd, 10K, 1%, .125W
R2	0698-4477	RESISTOR, fxd, 10.5K, 1%, .125W
R3	0683-3635	RESISTOR, fxd, 36K, 5%, .25W
R4,16	0683-2225	RESISTOR, fxd, 2.2K, 5%, .25W
R5,8,9,12	0683-1035	RESISTOR, fxd, 10K, 5%, .25W
R6	0683-6825	RESISTOR, fxd, 6.8K, 5%, .25W
R7	0683-2255	RESISTOR, fxd, 2.2M, 5%, .25W
R10	0683-1045	RESISTOR, fxd, 100K, 5%, .25W
R11	0683-4725	RESISTOR, fxd, 4.7K, 5%, .25W
R13	0683-1235	RESISTOR, fxd, 12K, 5%, .25W
R14	0683-4715	RESISTOR, fxd, 470, 5%, .25W
R15	0683-4735	RESISTOR, fxd, 47K, 5%, .25W
R17,24	0683-1025	RESISTOR, fxd, 1K, 5%, .25W
R18	1810-0044	RESISTOR, fxd, Network, (7 Resistors)
R19	0683-1015	RESISTOR, fxd, 100, 5%, .25W
R20	0757-0279	RESISTOR, fxd, 3.16K, 1%, .125W
R21,22	2100-1761	RESISTOR, Variable, 10K
R23	0757-0428	RESISTOR, fxd, 1.62K, 1%, .125W
R26	0683-1515	RESISTOR, fxd, 150, 5%, .25W
U1	1820-0077	IC, DIGITAL FF 7474
U3	1820-0348	IC, MC844P
	5040-6001	EXTRACTOR, PC
	1480-0116	PIN, Grooved, .062 in.
	Series 1446	07970-60560 & 07970-60570 PCA's (These transistors are interchangeable)
*Q8,9,11	1854-0215	TRANSISTOR, 2N3904
⚠ 07970-60570 uses the following part numbers		
C3	0160-0156	.0039uf
C5	0160-3572	330pf
C7	0160-0155	.0033pf

Single Channel Read Data PC Assembly A18A2



DUAL CHANNEL READ PCB ASSEMBLY A18A3 THRU A18A6  
07970-62166 SERIES 1218  
07970-62168 SERIES 1218





⚠ SPEED CRITICAL COMPONENTS

SPEED (IPS)	C3, C103	C5	ASSEMBLY
10-15.9	.0082 UF	.080 PF	07970-62166
21-45	.0039 UF	.330 PF	07970-62168

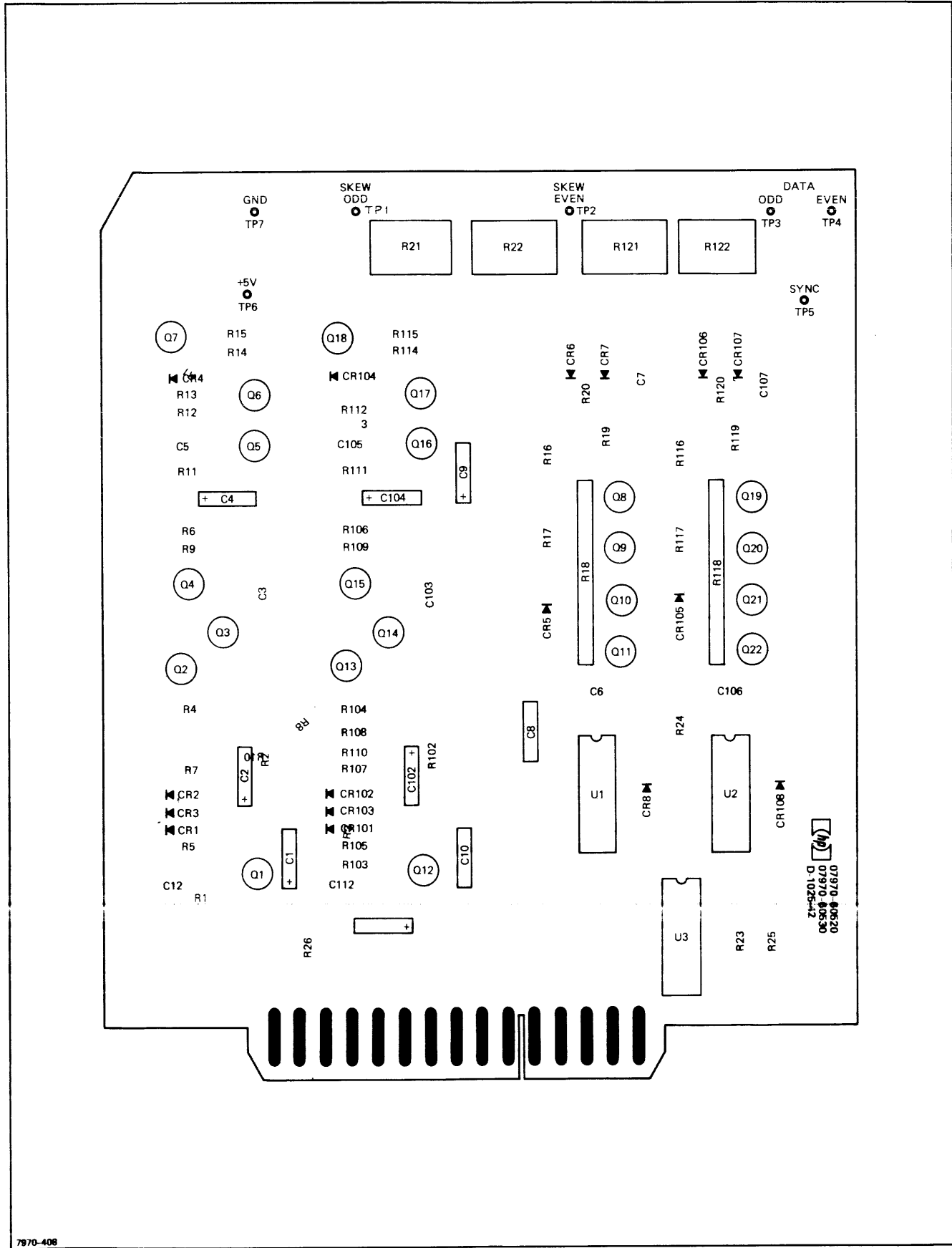
Dual Channel Read Data PC Assembly  
A18A3 thru A18A6

DUAL CHANNEL READ DATA PCA PARTS LIST  
07970-62166 (Series 1218, 1639)  
07970-62168 (Series 1218, 1639)

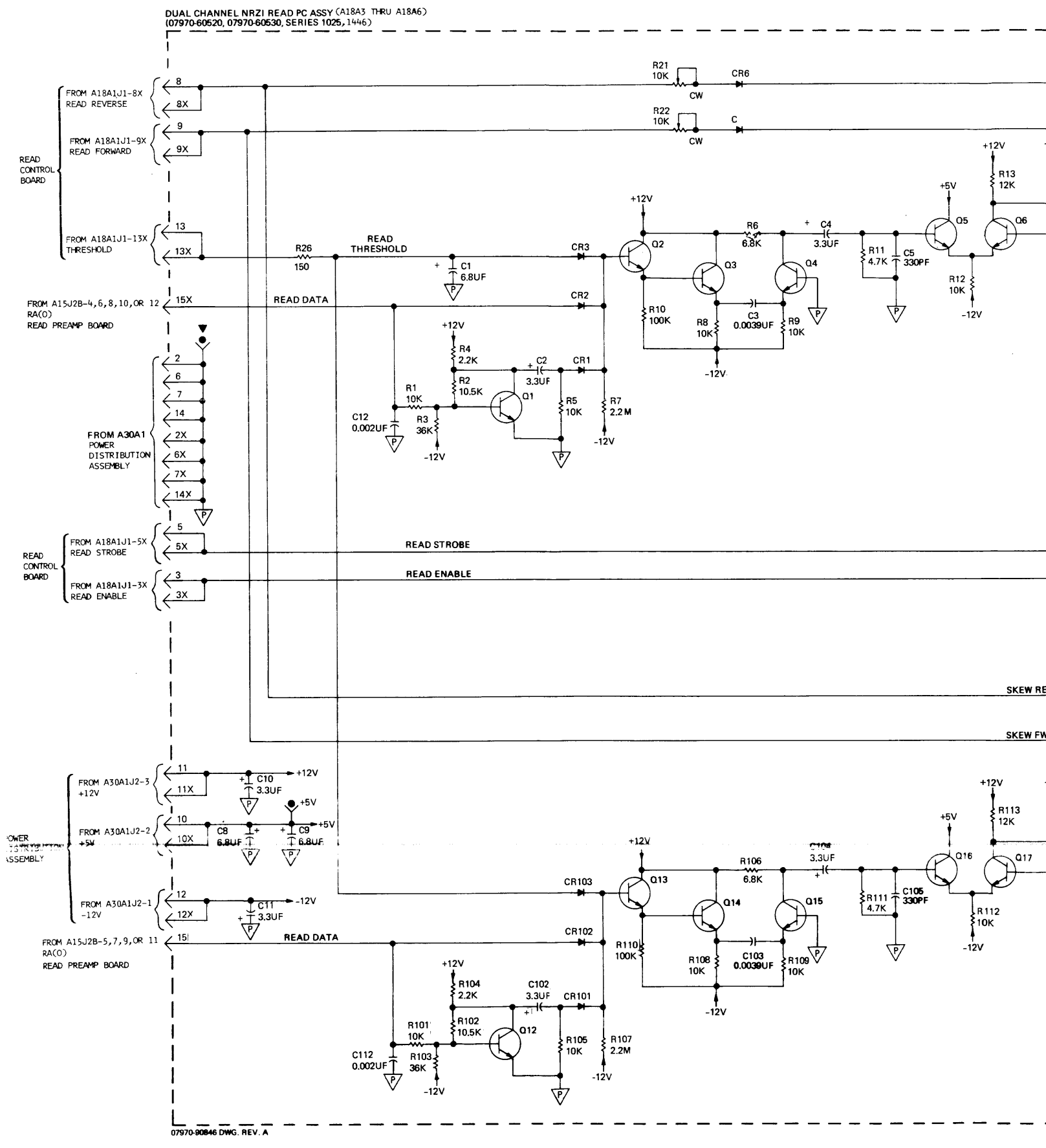
REF. DES./	HP PART NO.	DESCRIPTION
	07970-62166	DUAL CHANNEL READ DATA PCA (Series 1218)
C1,8,9	0180-1701	CAPACITOR, fxd, 6.8uf, 20%
C2,4,10,11,102,104	0180-0210	CAPACITOR, fxd, 3.3uf, 15VDC
⚠ C3,7, 103,107	0160-0160	CAPACITOR, fxd, .0082uf, 10%
⚠ C5,105	0160-3573	CAPACITOR, fxd, 680pf, 10%
C6,106	0140-0197	CAPACITOR, fxd, 180pf, 5%
C12,112	0160-3457	CAPACITOR, fxd, 2000pf, 10%
CR1-3, 101-103	1901-0450	DIODE, 50V, 100MA
CR5-8,105-108	1901-0040	DIODE, 30V, 50MA
Q1-4,12-15	1854-0071	TRANSISTOR, SI, TO18
R1,101	0757-0442	RESISTOR, fxd, 10K, 1%, .125W
R2,102	0698-4477	RESISTOR, fxd, 10.5K, 1%, .125W
R3,103	0683-3635	RESISTOR, fxd, 36K, 5%, .25W
R4,16,17,104, 116,117	0683-2225	RESISTOR, fxd, 2.2K, 5%, .25W
R5,8,9,105,108,109	0683-1035	RESISTOR, fxd, 10K, 5%, .25W
R6,106	0683-6825	RESISTOR, fxd, 6.8K, 5%, .25W
R7,107	0683-2255	RESISTOR, fxd, 2.2M, 5%, .25W
R10,110	0683-1045	RESISTOR, fxd, 100K, 5%, .25W
R11,19,111,119	0683-4725	RESISTOR, fxd, 4.7K, 5%, .25W
R14,114	0683-4715	RESISTOR, fxd, 470, 5%, .25W
R15,115	0683-4735	RESISTOR, fxd, 47K, 5%, .25W
R18,118	0683-2725	RESISTOR, fxd, 2.7K, 5%, .25W
R20,120	0757-0289	RESISTOR, fxd, 13.3K, 1%, .125W
*R21,22,121,122	2100-1923	RESISTOR, Variable, 50K, 5%
R23,25	0757-0428	RESISTOR, fxd, 1.62K, 1%, .125W
R24	0683-1025	RESISTOR, fxd, 1K, 5%, .25W
R26	0683-1515	RESISTOR, fxd, 150, 5%, .25W
U1,2	1820-0077	IC, DIGITAL, 7474
U3	1820-0348	IC, MC844P
U4	1820-0515	IC, DIGITAL, 9602
U5,6	1826-0065	IC, LM311N
	5040-6001	EXTRACTOR, PC
	1480-0116	PIN, Grooved, .062 in.
	Series 1639	07970-62167 and 07970-62169 PCA's
*R21,22,121,122	2100-3758	RESISTOR, Variable, 50K, 5%

⚠ On PCA 07970-62168 C3,7,103,107 are .0039uf, part number 0160-0156 and C5,105 are 330pf, part number 0160-3572

Dual Channel Read Data PC Assembly  
A18A3 thru A18A6

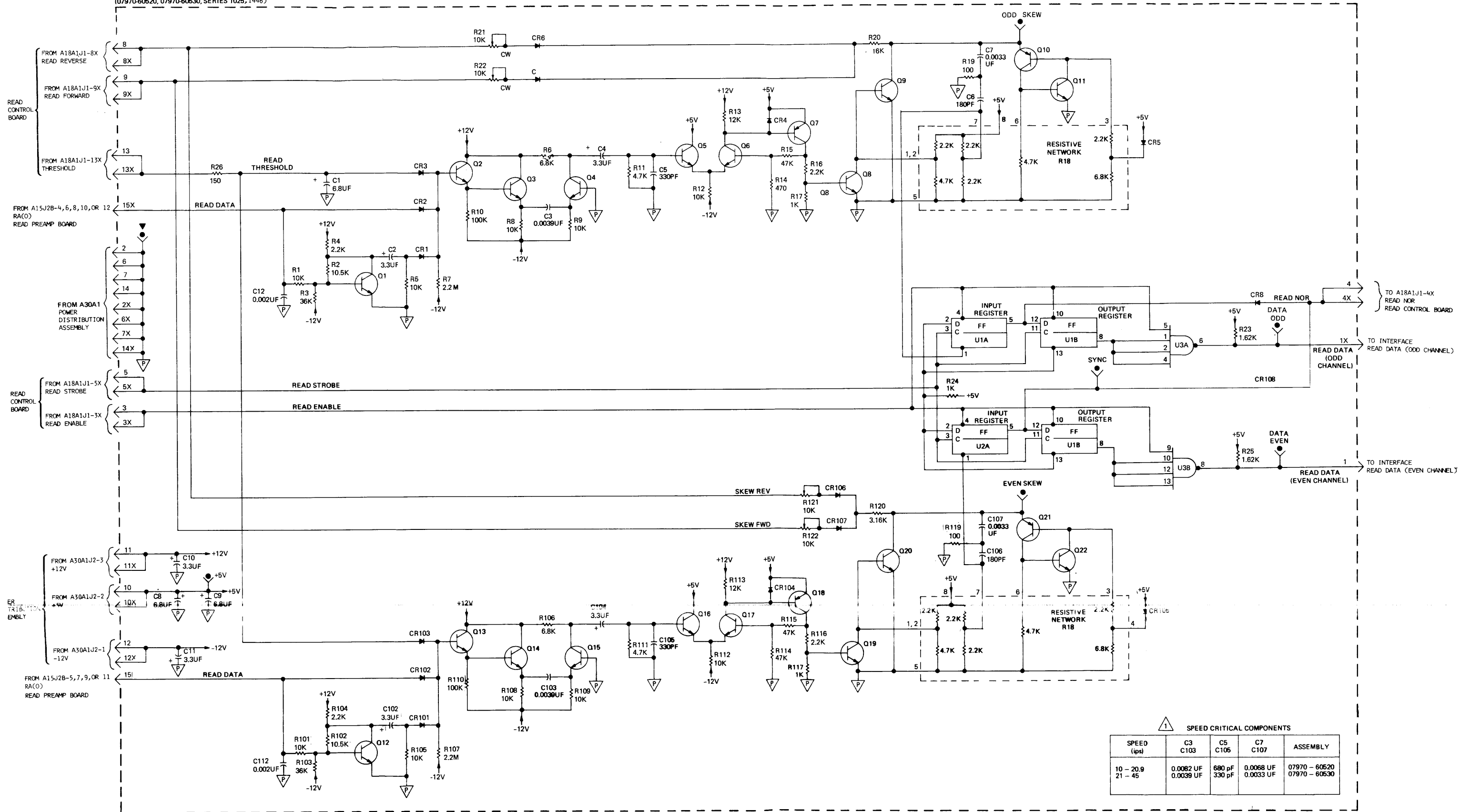


7970-408





DUAL CHANNEL NRZI READ PC ASSY (A18A3 THRU A18A6)  
 (07970-60520, 07970-60530, SERIES 1025, 1446)



SPEED (ips)	SPEED CRITICAL COMPONENTS			ASSEMBLY
	C3 C103	C5 C105	C7 C107	
10 - 20.9	0.0082 UF	680 pF	0.0068 UF	07970 - 60520
21 - 45	0.0039 UF	330 pF	0.0033 UF	07970 - 60530

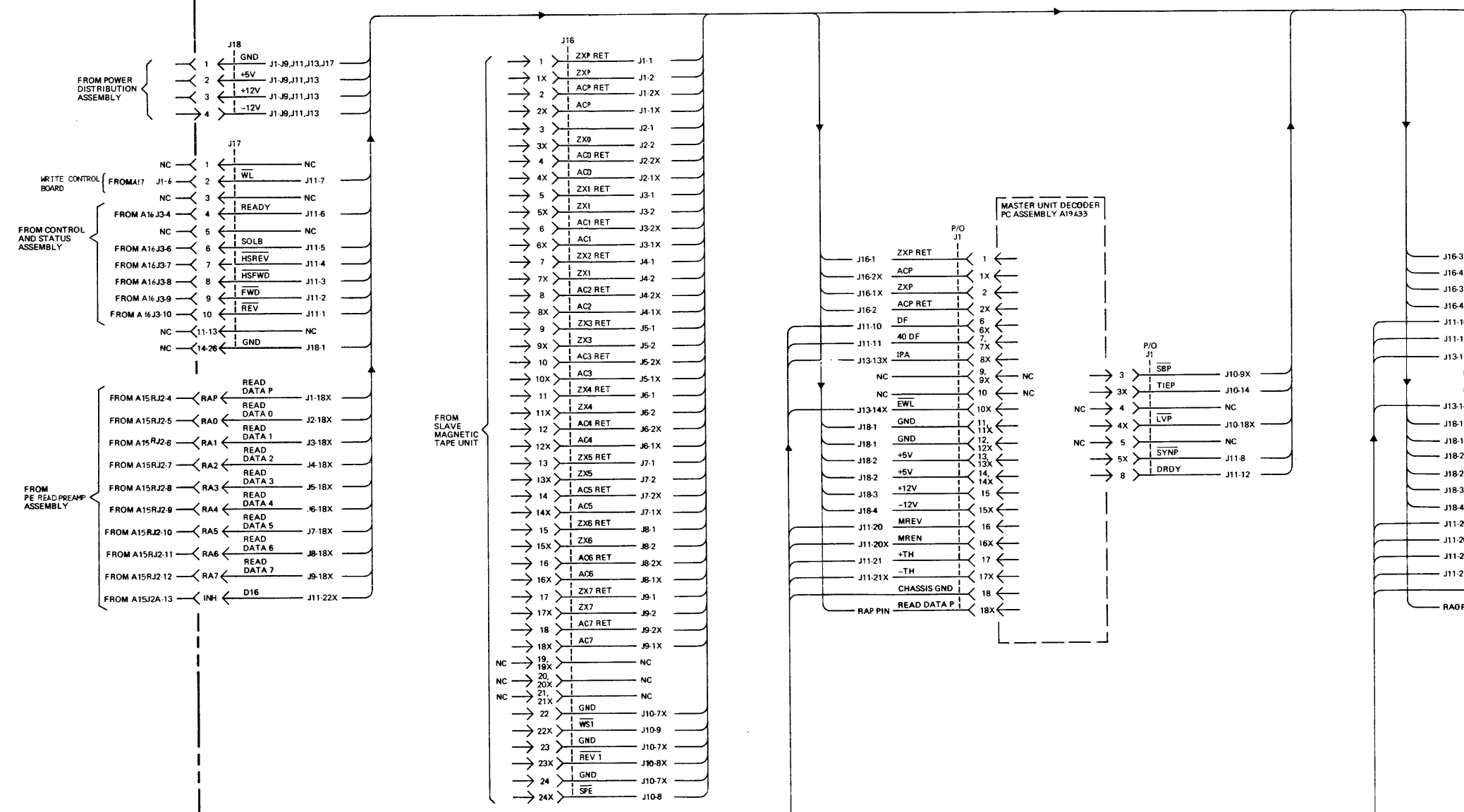
07970-90846 DWG. REV. A

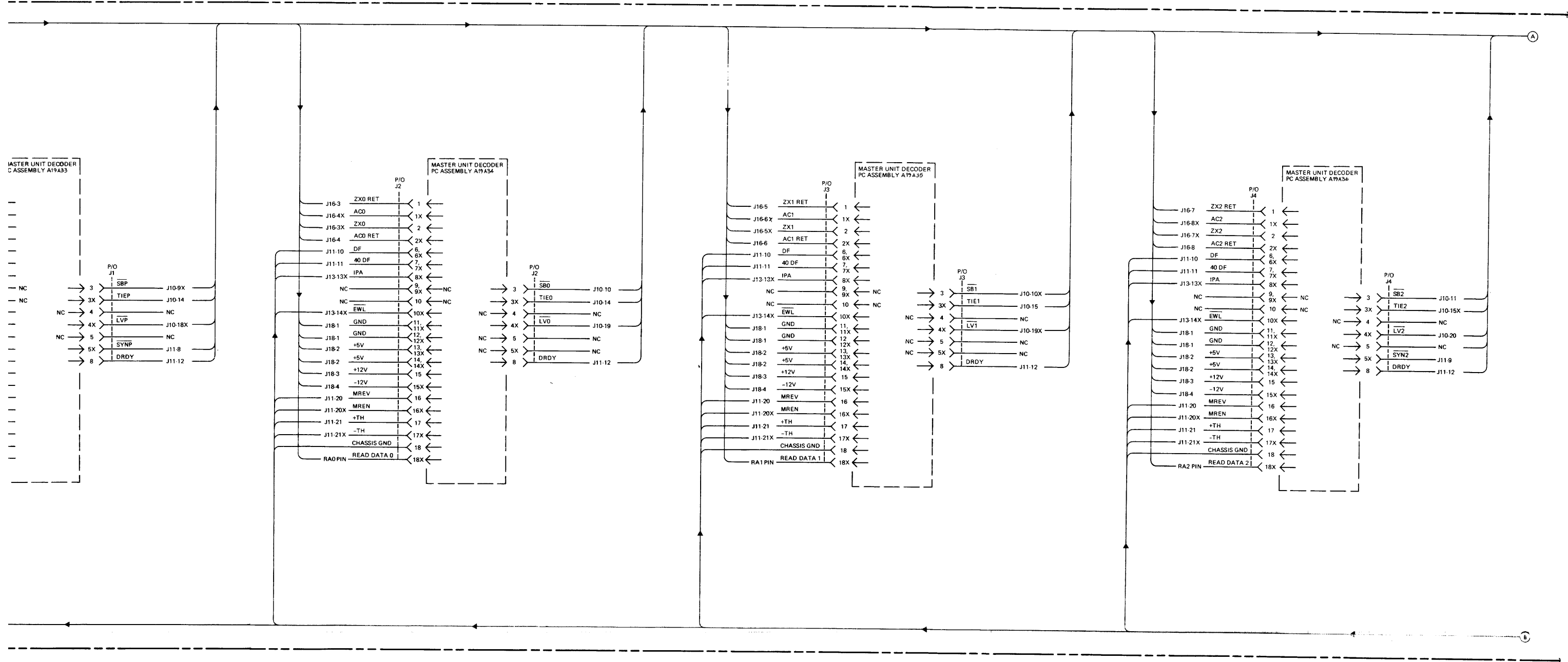
Dual Channel Read Data PC Assembly  
 A18A3 thru A18A6

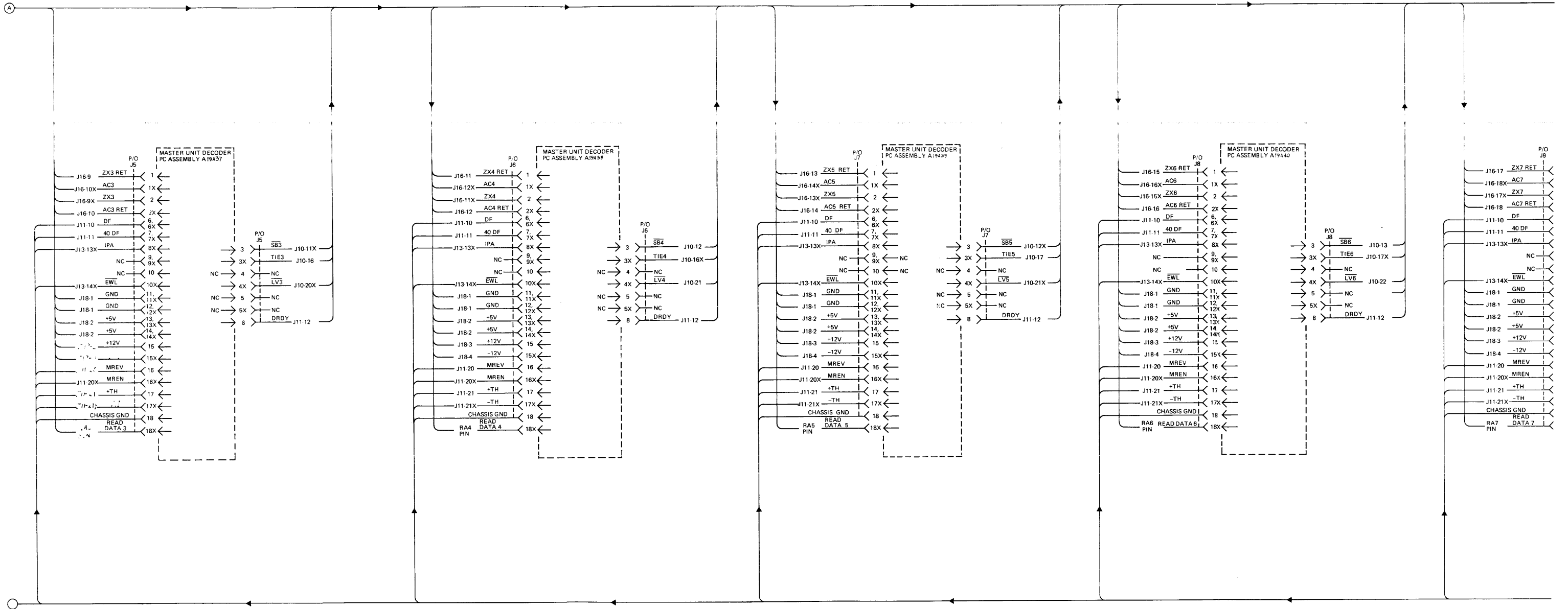
DUAL CHANNEL READ DATA PCA PARTS LIST  
 07970-60520 (Series 1025, 1446)  
 07970-60530 (Series 1025, 1446)

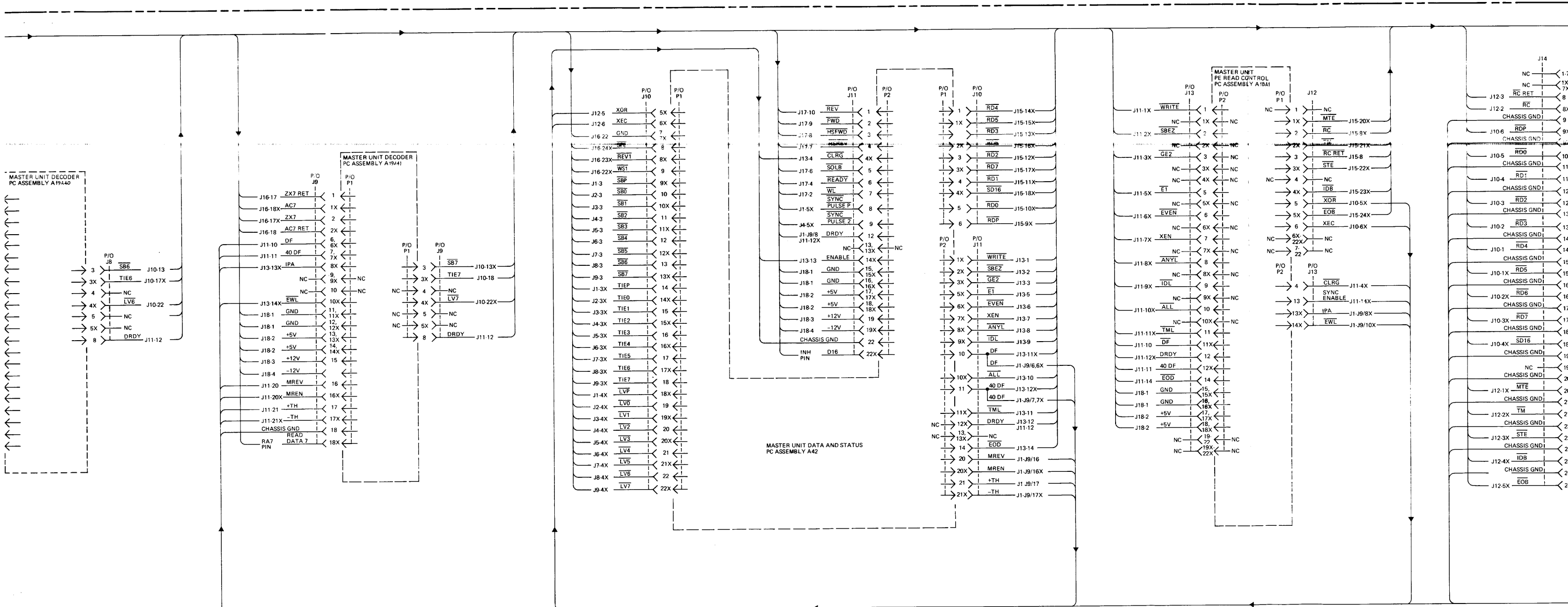
REF. DES./ INDEX NO.	HP PART NO.	DESCRIPTION
	07970-60520	DUAL CHANNEL READ DATA PCA (Series 1025)
C1,8,9	0180-1701	CAPACITOR, fxd, 6.8uf, 20%
C2,4,10,11,102,104	0180-0210	CAPACITOR, fxd, 3.3uf, 15VDC
⚠ C3,103	0160-0160	CAPACITOR, fxd, .0082uf, 10%
⚠ C5,105	0160-3573	CAPACITOR, fxd, 680pf, 10%
C6,106	0140-0197	CAPACITOR, fxd, 180pf, 5%
⚠ C7,107	0160-0159	CAPACITOR, fxd, .0068uf, Mylar
C12,112	0160-3457	CAPACITOR, fxd, 2000pf, 10%
CR1-3,101-103	1901-0450	DIODE, 50V, 100MA
CR4-8,104-108	1901-0040	DIODE, 30V, 50MA
Q1-6,12-17	1854-0071	TRANSISTOR, SI, TO18
Q7,10,18,21	1853-0015	TRANSISTOR, 2N3640, PL18
*Q8,9,11,19,20,22	1854-0270	TRANSISTOR, 2N4265
R1,101	0757-0442	RESISTOR, fxd, 10K, 1%, .125W
R2,102	0698-4477	RESISTOR, fxd, 10.5K, 1%, .125W
R3,103	0683-3635	RESISTOR, fxd, 36K, 5%, .25W
R4,16,104,116	0683-2225	RESISTOR, fxd, 2.2K, 5%, .25W
R5,8,9,12,105,108, 109,112	0683-1035	RESISTOR, fxd, 10K, 5%, .25W
R6,106	0683-6825	RESISTOR, fxd, 6.8K, 5%, .25W
R7,107	0683-2255	RESISTOR, fxd, 2.2M, 5%, .25W
R10,110	0683-1045	RESISTOR, fxd, 100K, 5%, .25W
R11,111	0683-4725	RESISTOR, fxd, 4.7K, 5%, .25W
R13,113	0683-1235	RESISTOR, fxd, 12K, 5%, .25W
R14,114	0683-4715	RESISTOR, fxd, 470, 5%, .25W
R15,115	0683-4735	RESISTOR, fxd, 47K, 5%, .25W
R17,24,117	0683-1025	RESISTOR, fxd, 1K, 5%, .25W
R18,118	1810-0044	RESISTOR, fxd, Network
R19,119	0683-1015	RESISTOR, fxd, 100, 5%, .25W
R20,120	0757-0279	RESISTOR, fxd, 3.16K, 1%, .125W
R21,22,121,122	2100-1761	RESISTOR, Variable, 10K, 5%
R23,25	0757-0428	RESISTOR, fxd, 1.62K, 1%, .125W
R26	0683-1515	RESISTOR, fxd, 150, 5%, .25W
U1,2	1820-0077	IC, Digital, 7474
U3	1820-0348	IC, MC844P
	5040-6001	EXTRACTOR, PC
	1480-0116	PIN, Grooved, .062 in.
*Q8,9,11,19,20,22	Series 1446 1854-0215	07970-60520 & 07970-60530 PCA's TRANSISTOR, 2N3904, PL5
⚠ On 07970-60530 PCA's use the following components: C3, 103 are .0039uf, part no. 0160-0156 C5, 105 are 330pf, part no. 0160-3572 C7, 107 are .0033uf, part no. 0160-0155		

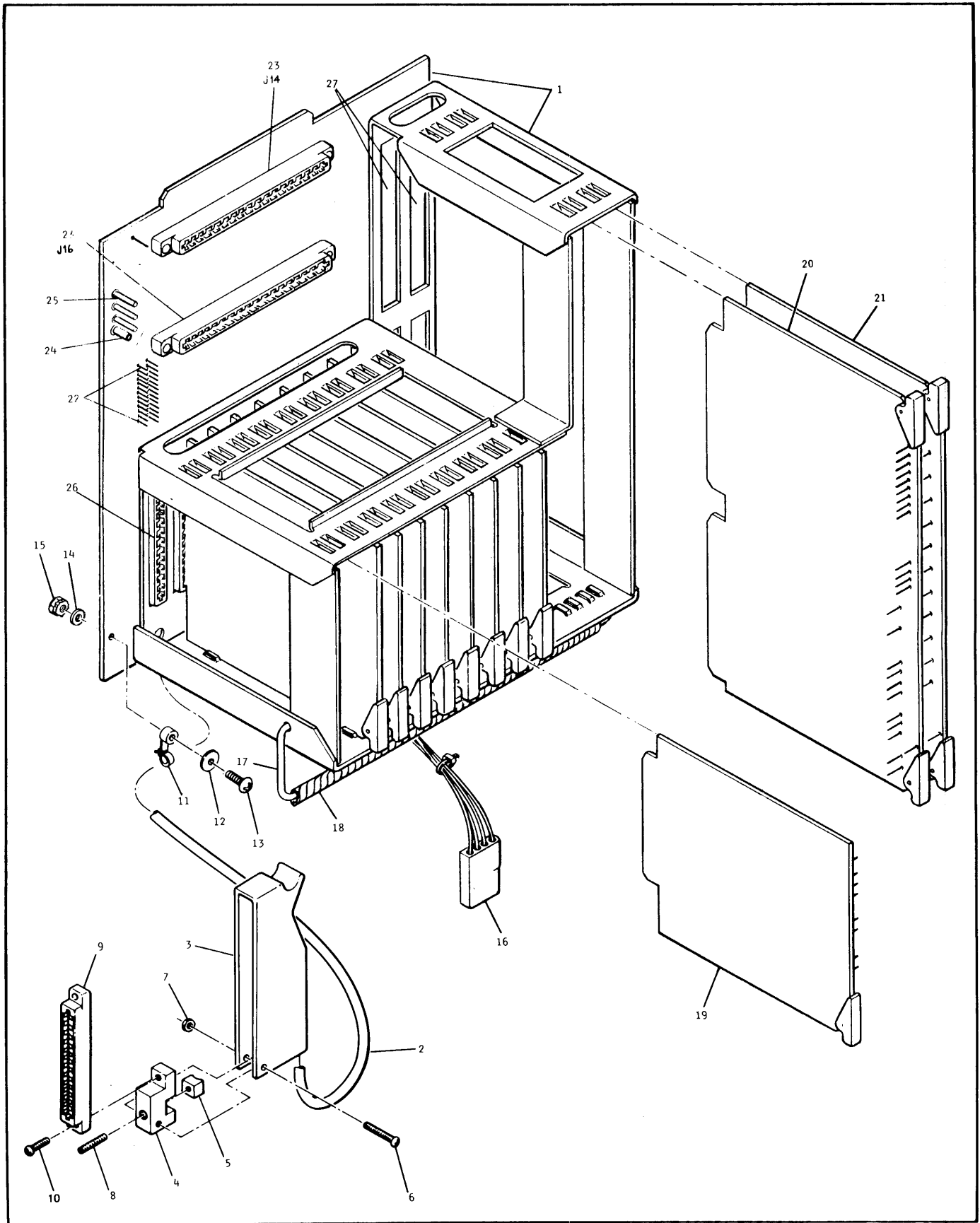
Dual Channel Read Data PC Assembly  
A18A3 thru A18A6











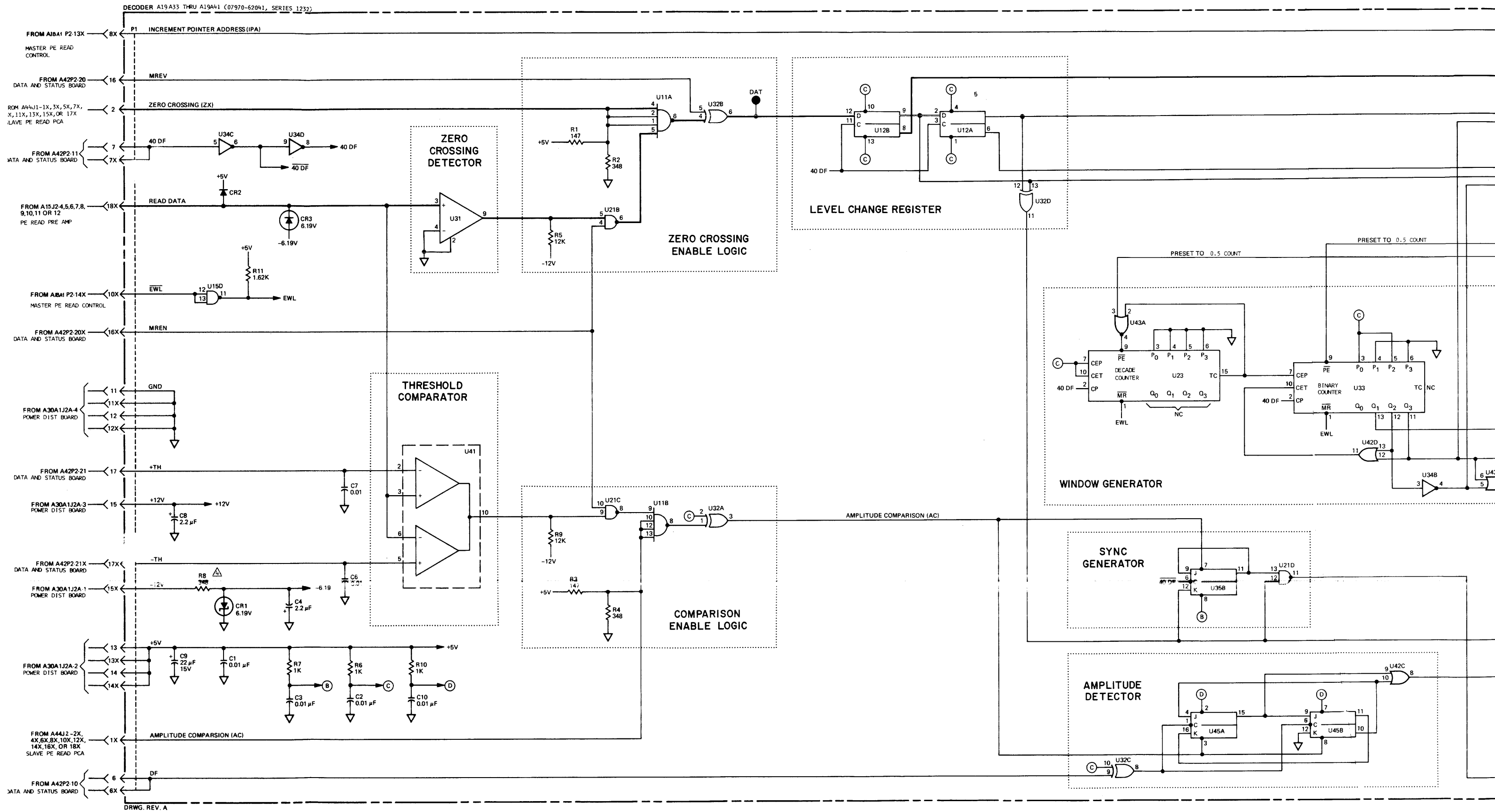
2225-113A

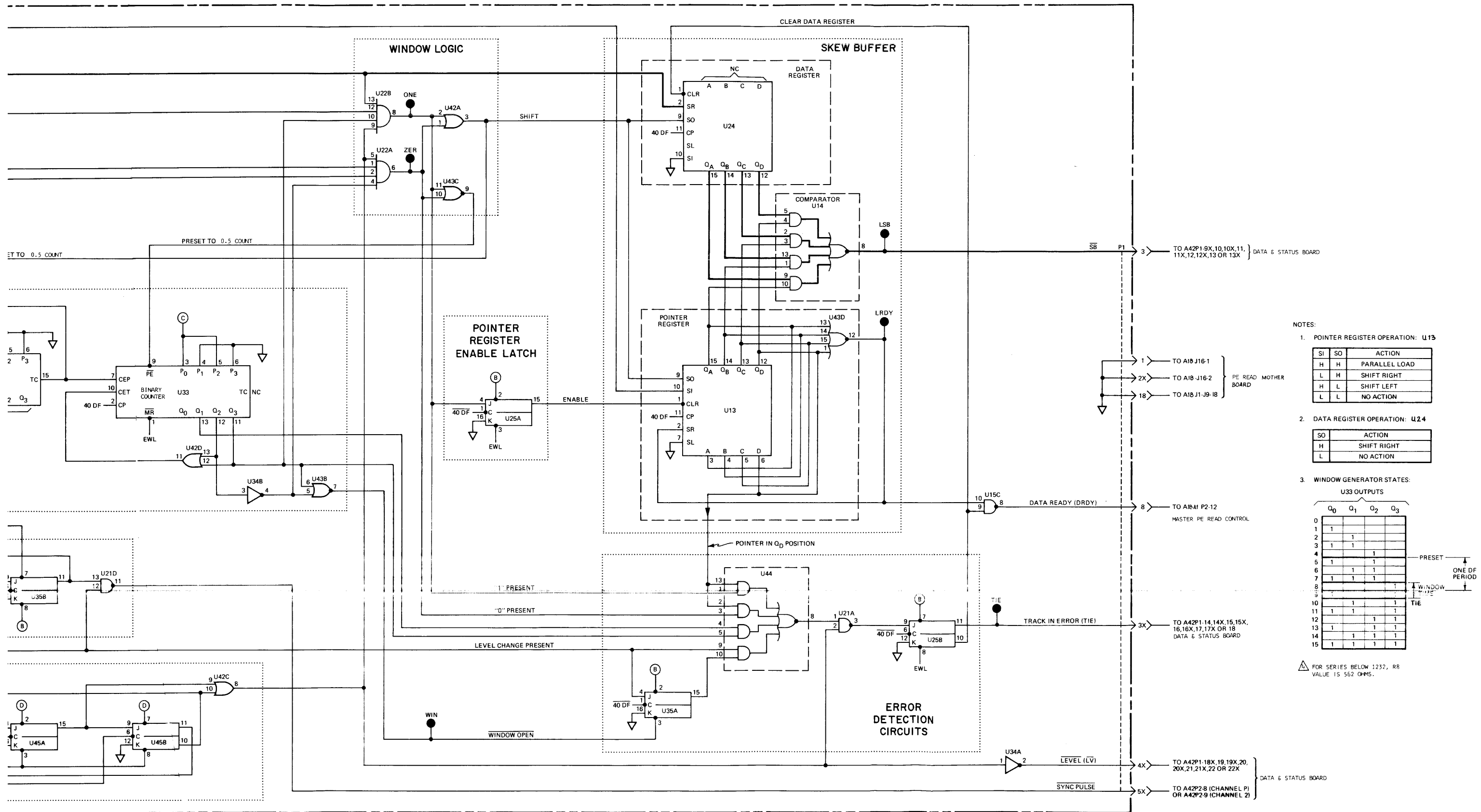
Master PE Read Motherboard Assembly A32



PE READ MOTHERBOARD PARTS LIST  
07970-62040 (Series 1125)

REF. DES./ INDEX NO.	HP PART NO.	DESCRIPTION
1	07970-62040	PE READ MOTHERBOARD ASSY (Series 1125)
2	07970-62077	CABLE, Read Slave/Master
3	5040-6086	HOOD, Connector
4	5040-6072	BLOCK, Connector, Mounting
5	5040-6003	CLAMP, Cable
6	2200-0091	SCREW, 4-40, .562 in.
7	2260-0002	NUT, Hex, 4-40
8	3030-0143	SCREW, Set, 6-32, .5 in.
9	1251-0159	CONNECTOR
10	0624-0098	SCREW, Tapping, 4-40
11	1400-0440	CLAMP, Cable
12	3050-0066	WASHER, Flat, #6
13	2360-0201	SCREW, 6-32x, .5 in.
14	3050-0066	WASHER, Flat, #6
15	2420-0001	NUT, Hex, 6-32
16	07970-62098	CABLE ASSEMBLY, Read Power, PE
17	07970-01178	SPRING, Retaining, PC Board
18	1400-0249	TIE, Cable, spiral
19		DECODER PCA
20		DATA AND STATUS PCA
21		MASTER PE READ CONTROL PCA
22	1251-2361	CONTACT, Male, 26 pin (J17)
23	1251-2025	CONNECTOR, PC 2x24
24	1251-2503	CONNECTOR, PC, Female
25	1251-2504	CONNECTOR, PC, Male
26	1251-2134	CONNECTOR, PC 2x18
27	1251-1887	CONNECTOR, PC 2x22
	1251-1115	KEY, PC Connector



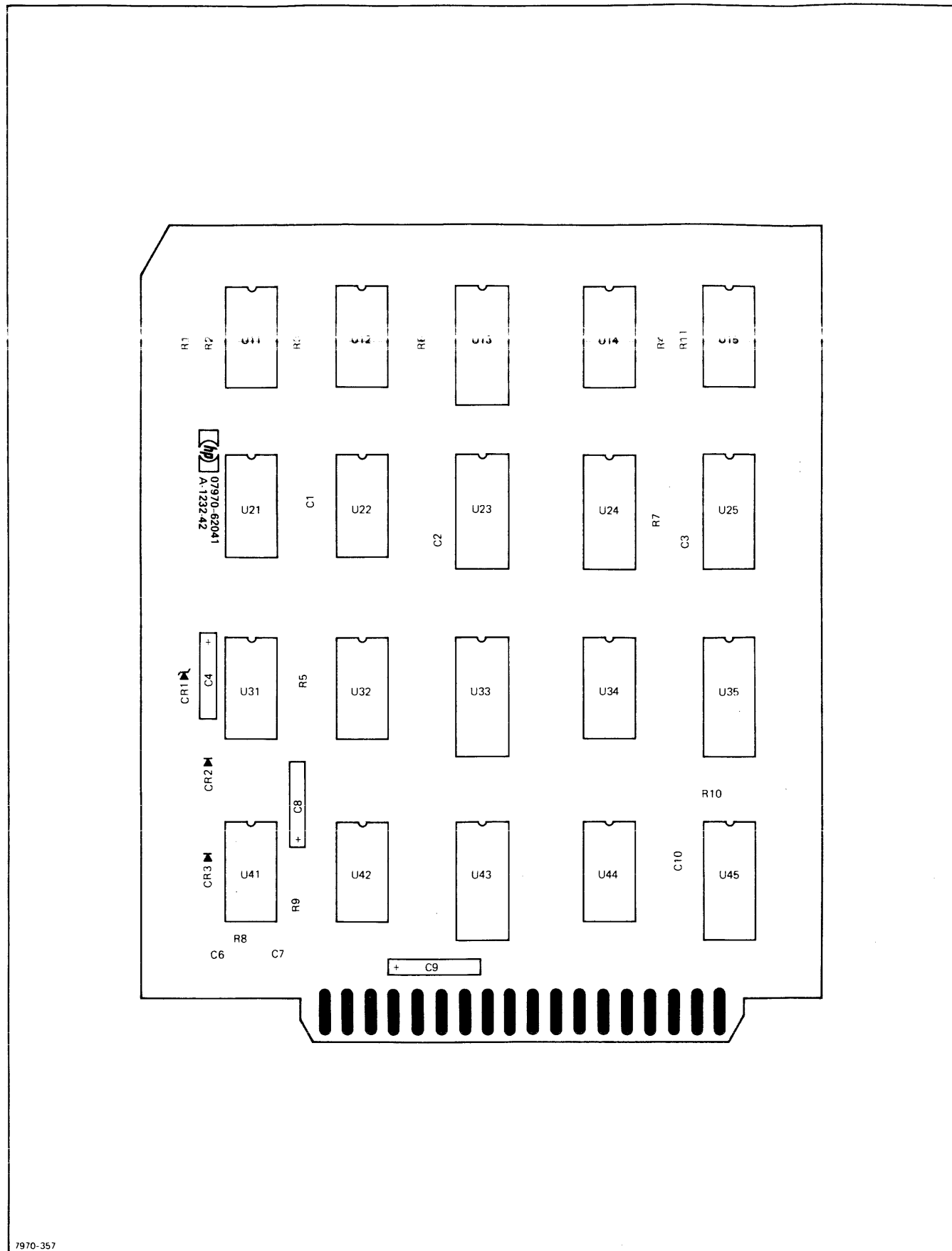


- NOTES:
1. POINTER REGISTER OPERATION: U13
 

SI	SO	ACTION
H	H	PARALLEL LOAD
L	H	SHIFT RIGHT
H	L	SHIFT LEFT
L	L	NO ACTION
  2. DATA REGISTER OPERATION: U24
 

SO	ACTION
H	SHIFT RIGHT
L	NO ACTION
  3. WINDOW GENERATOR STATES:
 

U33 OUTPUTS				
	Q <sub>0</sub>	Q <sub>1</sub>	Q <sub>2</sub>	Q <sub>3</sub>
0	1			
1		1		
2	1	1		
3			1	
4				1
5	1		1	
6		1	1	
7	1	1	1	
8				1
9	1		1	1
10	1	1	1	1
11	1	1	1	1
12		1	1	1
13	1	1	1	1
14		1	1	1
15	1	1	1	1
- FOR SERIES BELOW 1232, R8 VALUE IS 562 OHMS.

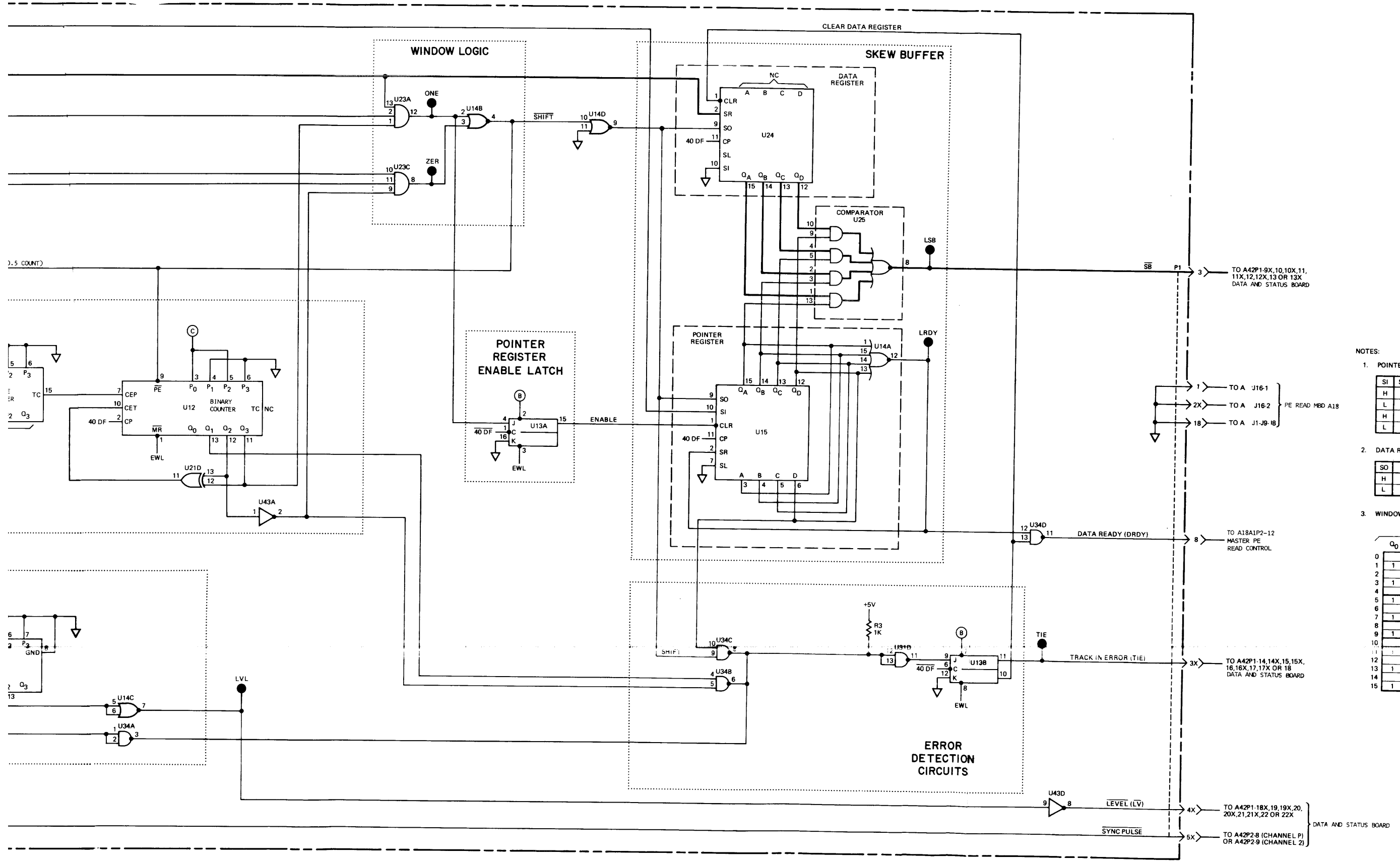


DECODER PCA PARTS LIST  
07970-62041 (Series 1232)

REF. DES./ INDEX NO.	HP PART NO.	DESCRIPTION
	07970-62041	DECODER PCA (Series 1232)
C1-3,6,7,10	0160-2055	CAPACITOR, fxd, .01uf, 100V
C4,8	0180-0197	CAPACITOR, fxd, 2.2uf, 10%
C9	0180-0228	CAPACITOR, fxd, 22uf, 15VDC
CR1	1902-0049	DIODE, Zener, 6.19V
CR2,3	1902-0040	DIODE, 30V, 50ma
R1,3	0698-3438	RESISTOR, fxd, 147, 1%, .125W
*R2,4,8	0698-3445	RESISTOR, fxd, 348, 1%, .125W
R5,9	0683-1235	RESISTOR, fxd, 12K, 5%, .25W
R6,7,10	0757-0280	RESISTOR, fxd, 1K, 1%, .125W
R11	0757-0428	RESISTOR, fxd, 1.62K, 1%, .125W
U11	1820-0537	IC, DIGITAL, 7413
U12	1820-0072	IC, DIGITAL, FF 7474
U13,24	1820-0743	IC, SN74194N
U14,44	1820-0074	IC, DIGITAL, 7454
U15	1820-0269	IC, SN7403N
U21	1820-0054	IC, DIGITAL, 7400
U22	1820-0374	IC, SN74H21N
U23	1820-0705	IC, U7B931059X
U25,35,45	1820-0076	IC, DIGITAL, FF 7476
U31	1820-0398	IC, U6A7710393
U32	1820-0282	IC, DIGITAL, 7486
U33	1820-0231	IC, U6B931659X
U34	1820-0424	IC, SN74H04N
U41	1826-0055	IC, LINEAR
U42	1820-0205	IC, MC3003P
U43	1820-0745	IC, U6B901559X
	5040-6001	EXTRACTOR, PC
	1480-0116	PIN, Grooved
	Below Series 1232	
*R8	0757-0417	562 OHMS

DESCRIPTION
PCA (Series 1232)
1, fxd, .01uf, 100V
1, fxd, 2.2uf, 10%
1, fxd, 22uf, 15VDC
mer, 6.19V
W, 50ma
fxd, 147, 1%, .125W
fxd, 348, 1%, .125W
fxd, 12K, 5%, .25W
fxd, 1K, 1%, .125W
fxd, 1.62K, 1%, .125W
AL, 7413
AL, FF 7474
94N
AL, 7454
3N
AL, 7400
21N
1059X
AL, FF 7476
10393
AL, 7486
1659X
04N
R
3P
1559X
, PC
Grooved





NOTES:

1. POINTER REGISTER OPERATION: U15

SI	SO	ACTION
H	H	PARALLEL LOAD
L	H	SHIFT RIGHT
H	L	SHIFT LEFT
L	L	NO ACTION

2. DATA REGISTER OPERATION: U24

SO	ACTION
H	SHIFT RIGHT
L	NO ACTION

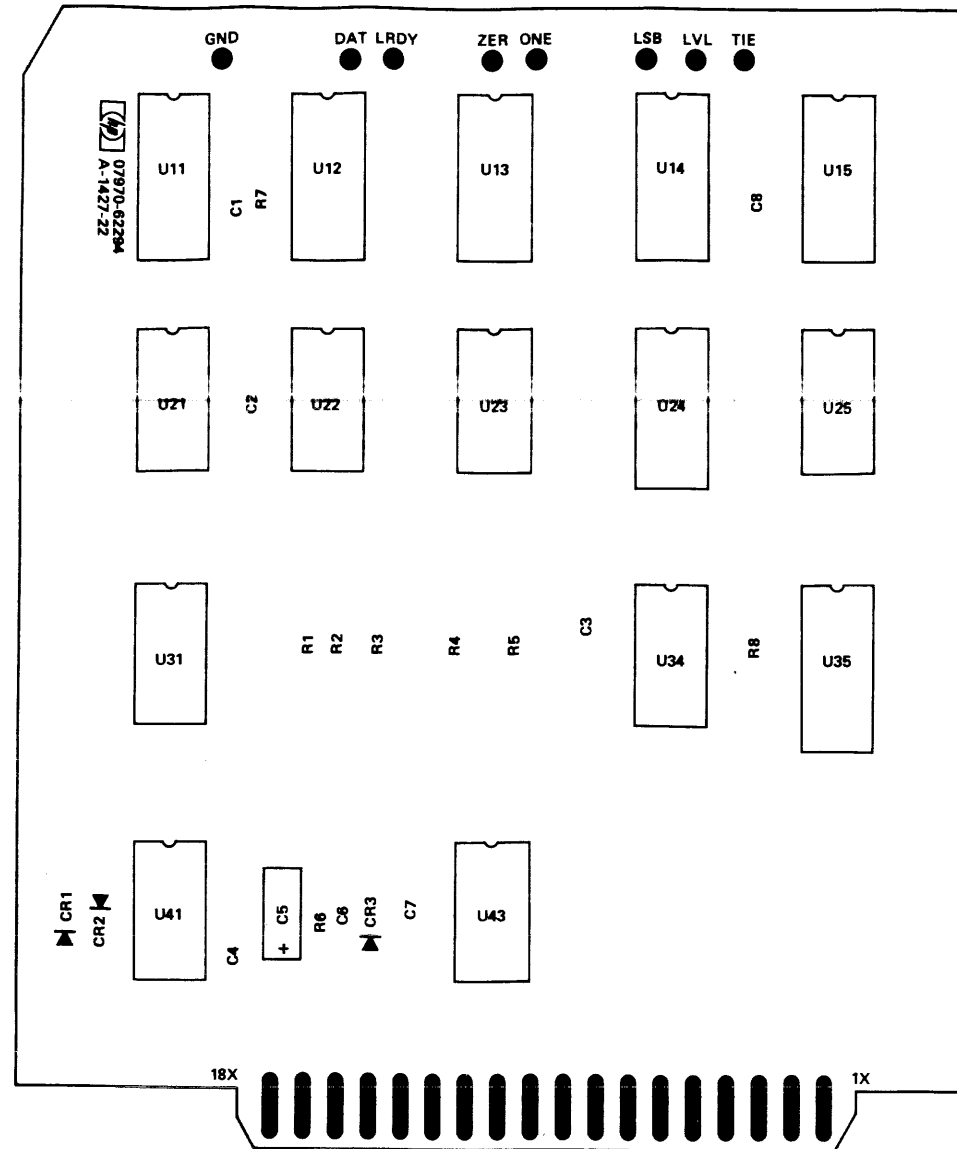
3. WINDOW GENERATOR STATES:

U12 OUTPUTS

	Q <sub>0</sub>	Q <sub>1</sub>	Q <sub>2</sub>	Q <sub>3</sub>
0				
1	1			
2		1		
3	1	1		
4			1	
5	1	1	1	
6		1	1	
7	1	1	1	
8				1
9	1	1	1	1
10		1	1	1
11	1	1	1	1
12			1	1
13	1	1	1	1
14		1	1	1
15	1	1	1	1

PRESET → ONE DF PERIOD  
WINDOW TIME → TIE

DECODER PCA PARTS LIST  
07970-62294 (Series 1427)

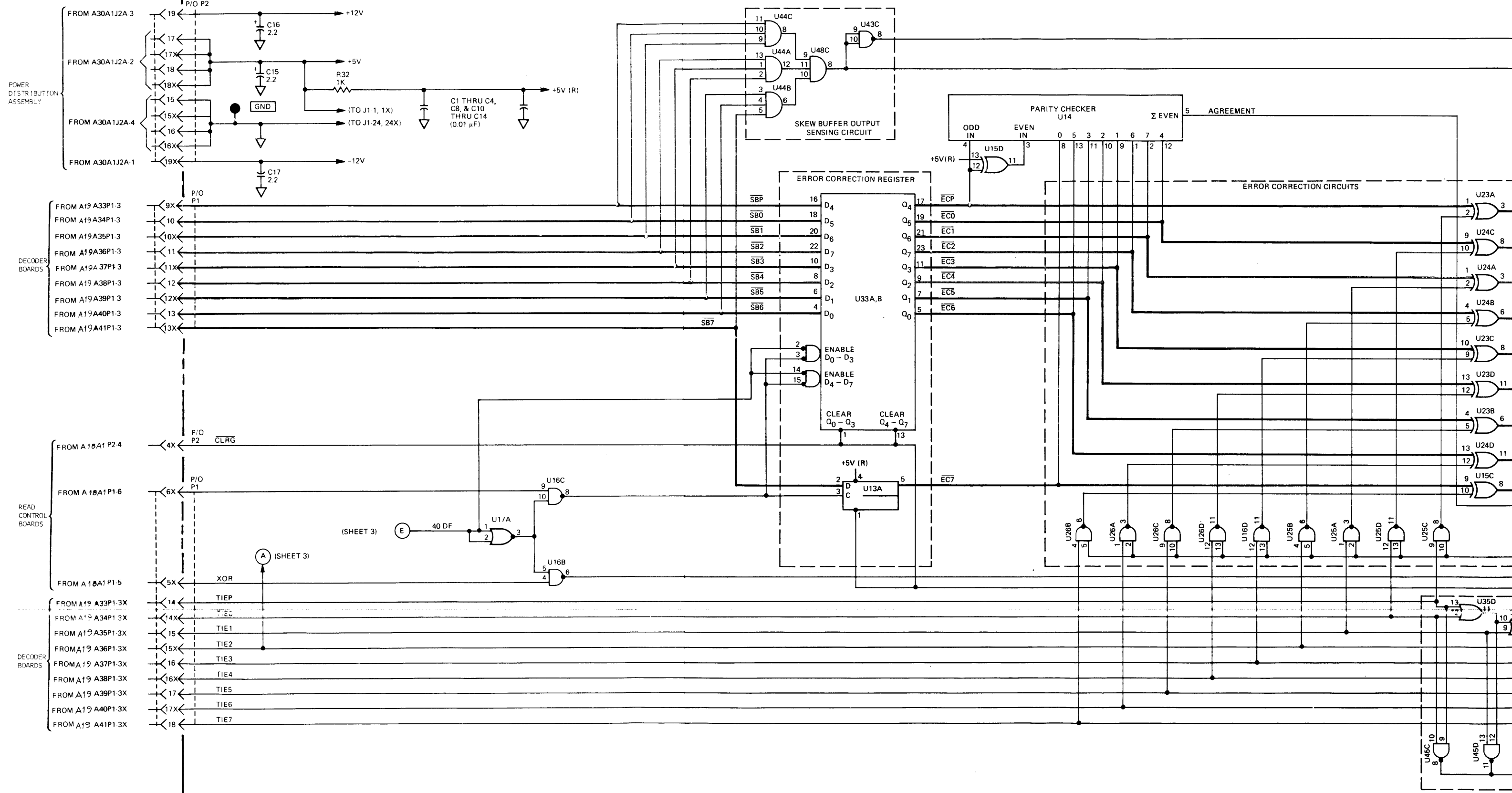


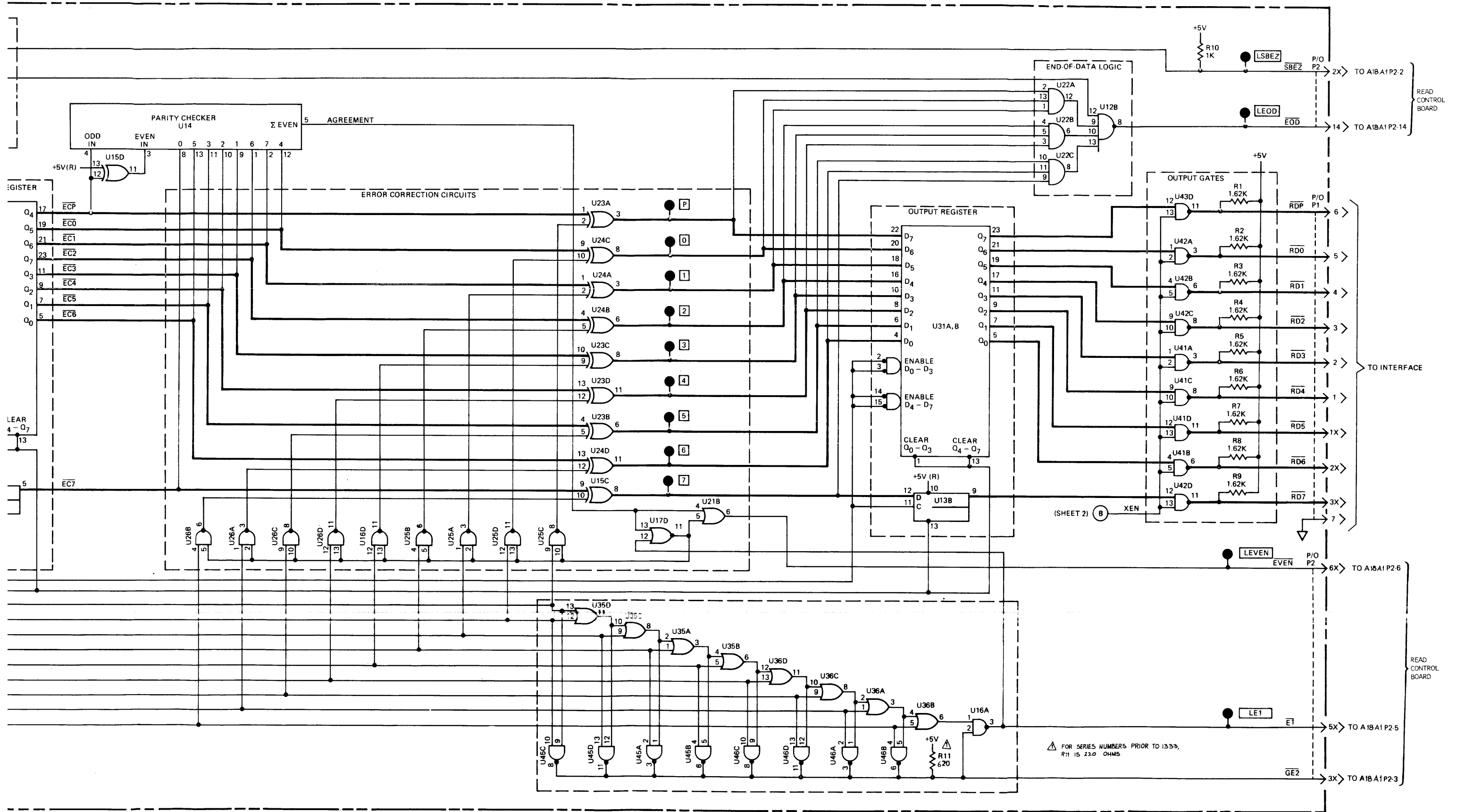
7970-542A

REF.DES./ INDEX NO.	HP PART NO.	DESCRIPTION
	07970-62294	DECODER PCA (Series 1427)
C1,2,3,4,8	0160-2055	CAPACITOR, fxd, .01uf, 100V
C5,6	0180-0197	CAPACITOR, fxd, 2.2uf, 10%
C7	0180-0228	CAPACITOR, fxd, 22uf, 15VDC
CR1,2	1901-0040	DIODE, 30V, 50MA
CR3	1902-0049	DIODE, Zener, 6.19V
R1,4,6	0698-3445	RESISTOR, fxd, 348, 1%, .125W
R2,5	0698-3438	RESISTOR, fxd, 147, 1%, .125W
R3,7,8	0757-0280	RESISTOR, fxd, 1K, 1%, .125W
U11	1820-0669	IC, U7B93L1059X
U12	1820-0778	IC, U7B93L1659X
U13	1820-0076	IC, DIGITAL, FF 7476
U14	1820-0745	IC, U6B901559X
U15,24	1820-0743	IC, SN74194N
U21	1820-0282	IC, DIGITAL, 7486
U22	1820-0077	IC, DIGITAL, FF 7474
U23	1820-1066	IC, U9A741159X
U25	1820-0074	IC, DIGITAL 7454
U31	1820-0054	IC, DIGITAL 7400
U34	1820-0269	IC, SN7403N
U35	1820-0659	IC, U7B93L0059X
U41	1826-0051	IC, MC1414 LINEAR
U43	1820-0174	IC, DIGITAL 7404
	5040-6001	EXTRACTOR
	1480-0116	PIN, Grooved

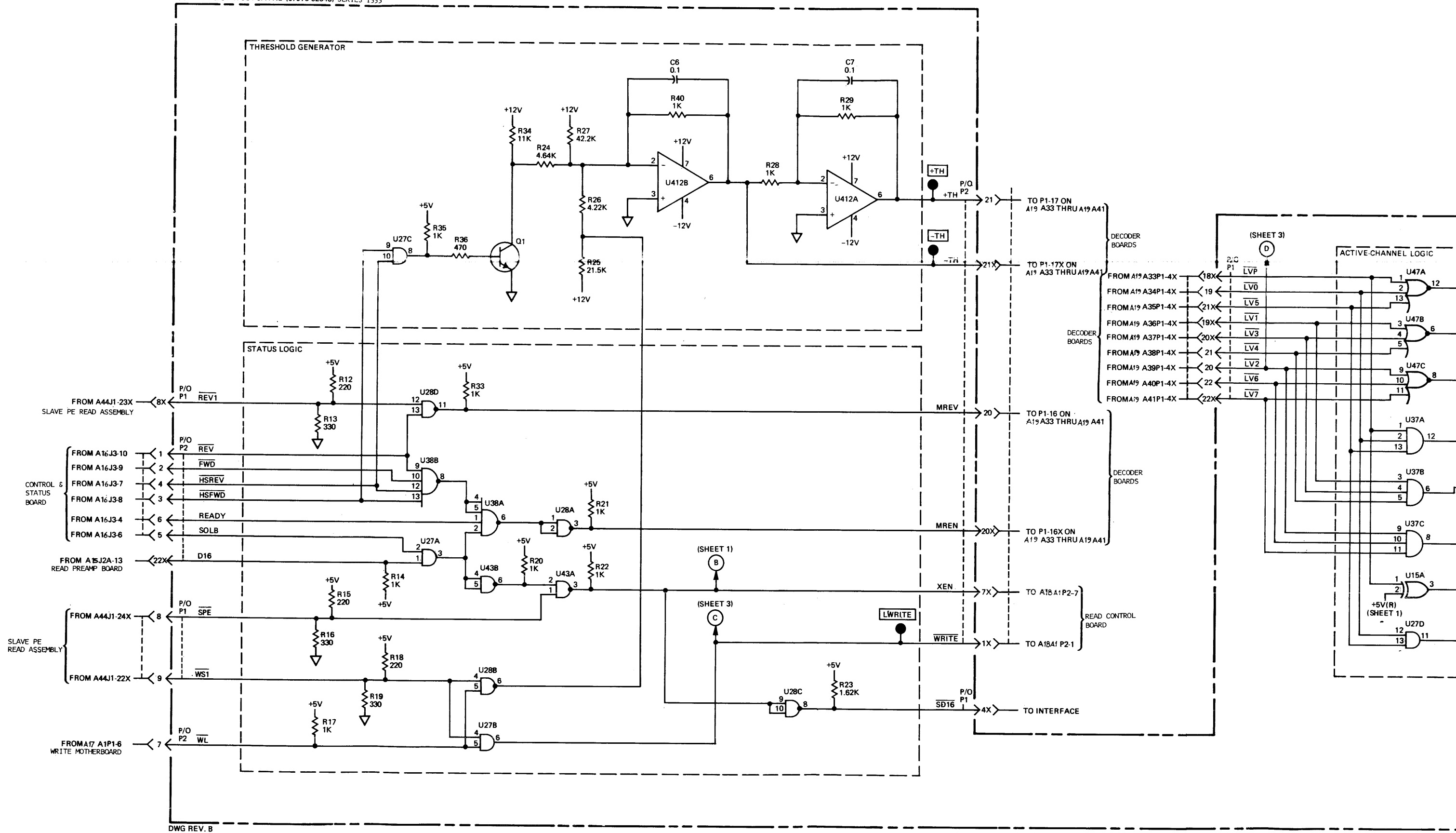


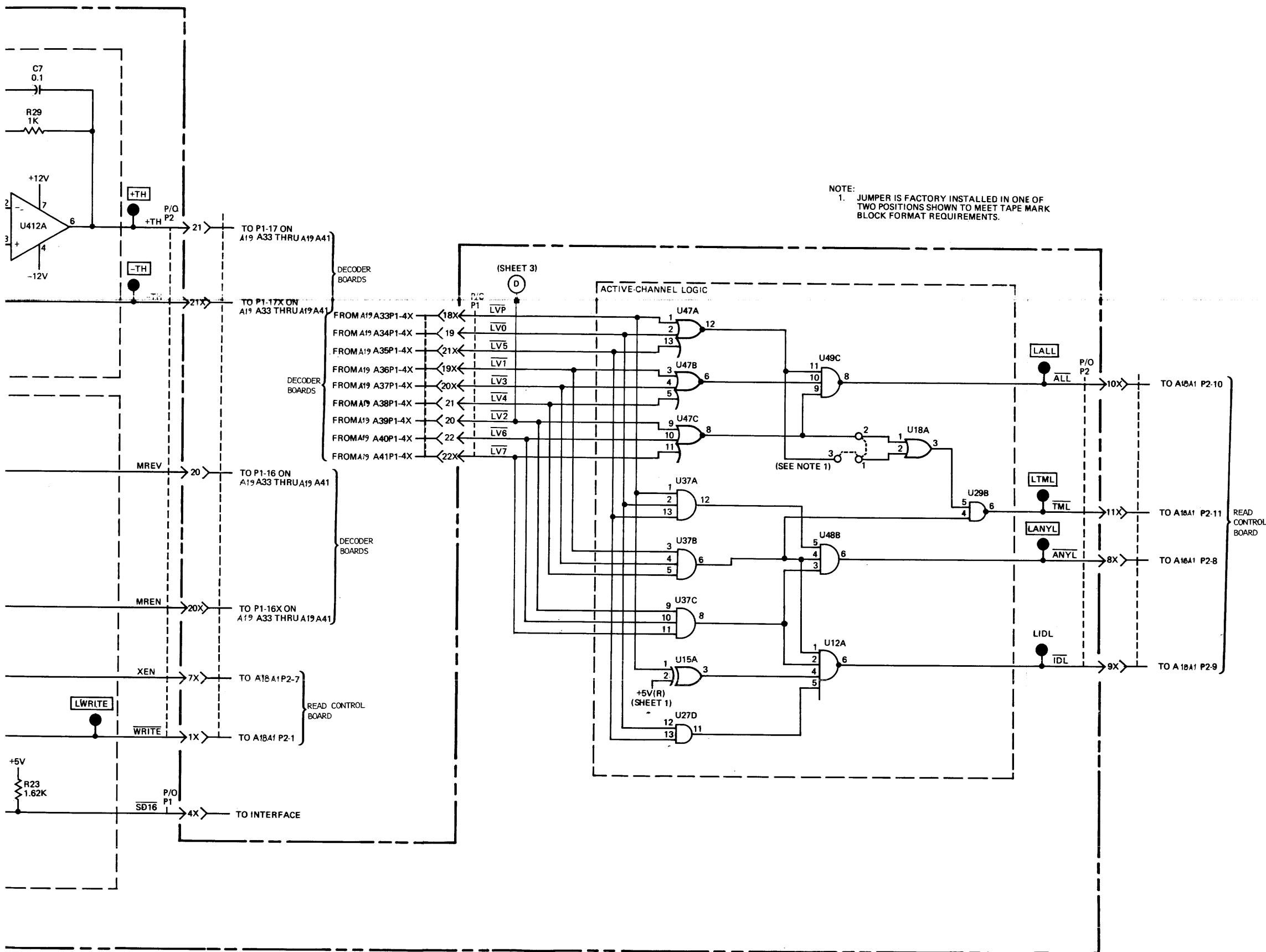
DESCRIPTION
<p>           MA (Series 1427)            fxd, .01uf, 100V            fxd, 2.2uf, 10%            fxd, 22uf, 15VDC            , 50MA            er, 6.19V            fxd, 348, 1%, .125W            fxd, 147, 1%, .125W            fxd, 1K, 1%, .125W            .1059X            .1659X            L, FF 7476            .559X            4N            L, 7486            L, FF 7474            159X            L 7454            L 7400            N            .0059X            LINEAR            L 7404            rooved         </p>

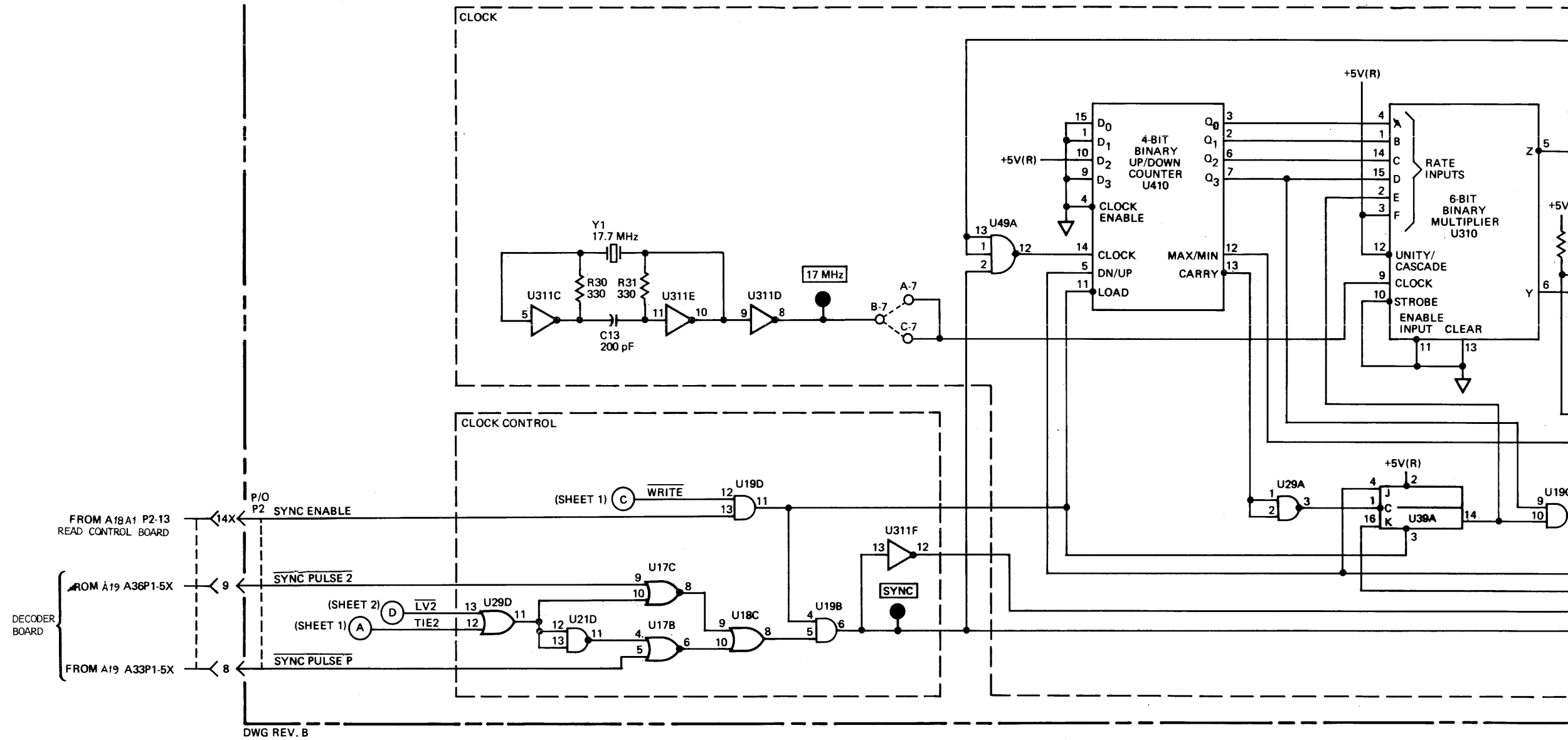


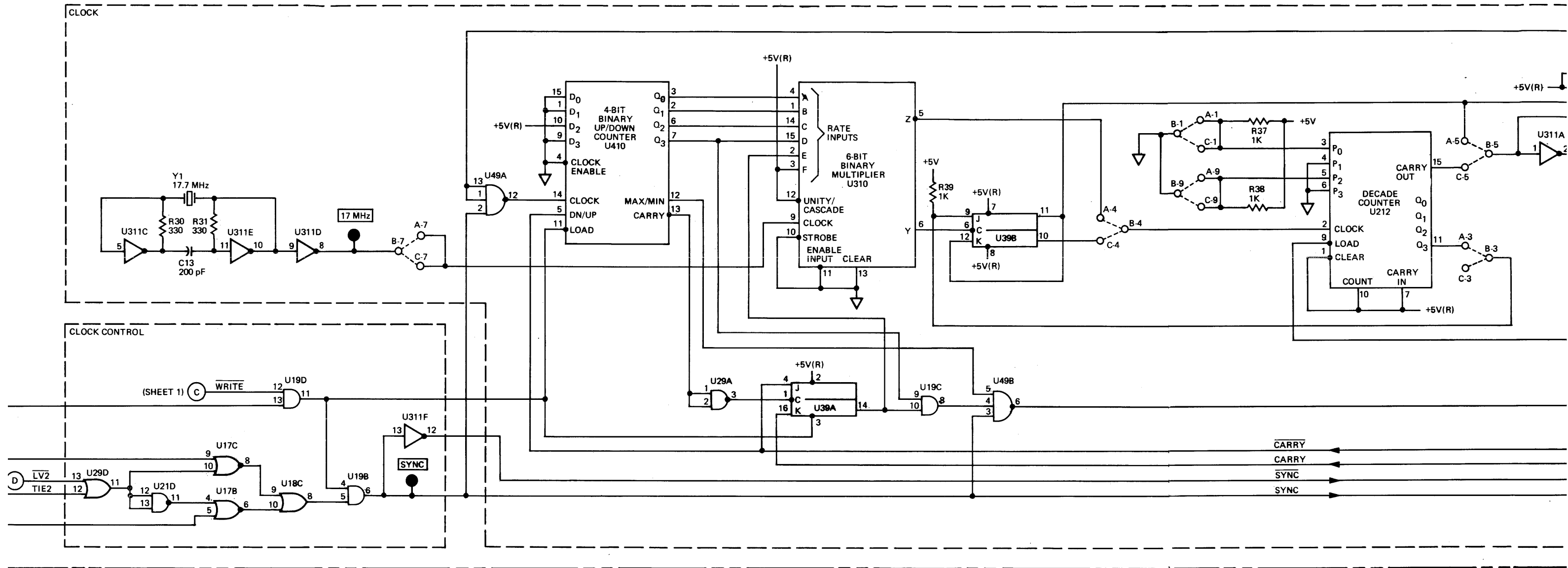


Data and Status PC Assembly A42  
Sheet 1 of 3



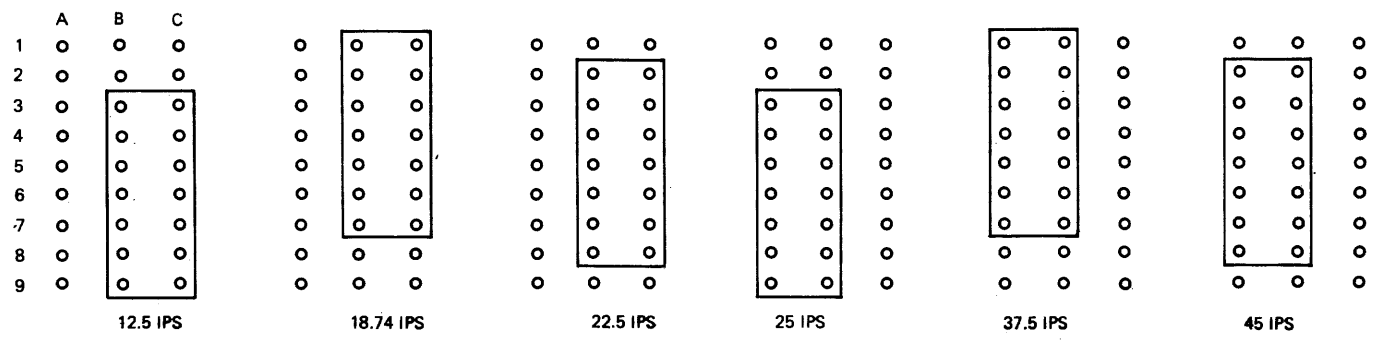
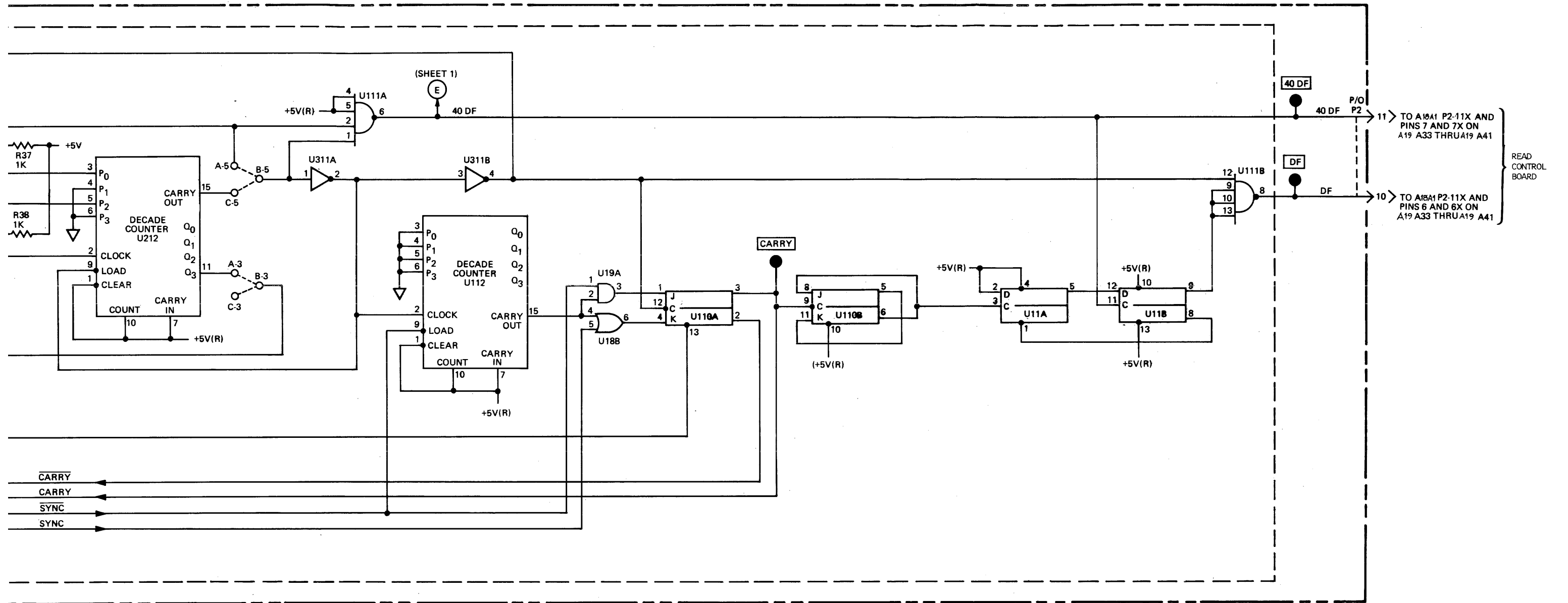






	A	B	C			
1	o	o	o	o	o	o
2	o	o	o	o	o	o
3	o	o	o	o	o	o
4	o	o	o	o	o	o
5	o	o	o	o	o	o
6	o	o	o	o	o	o
7	o	o	o	o	o	o
8	o	o	o	o	o	o
9	o	o	o	o	o	o

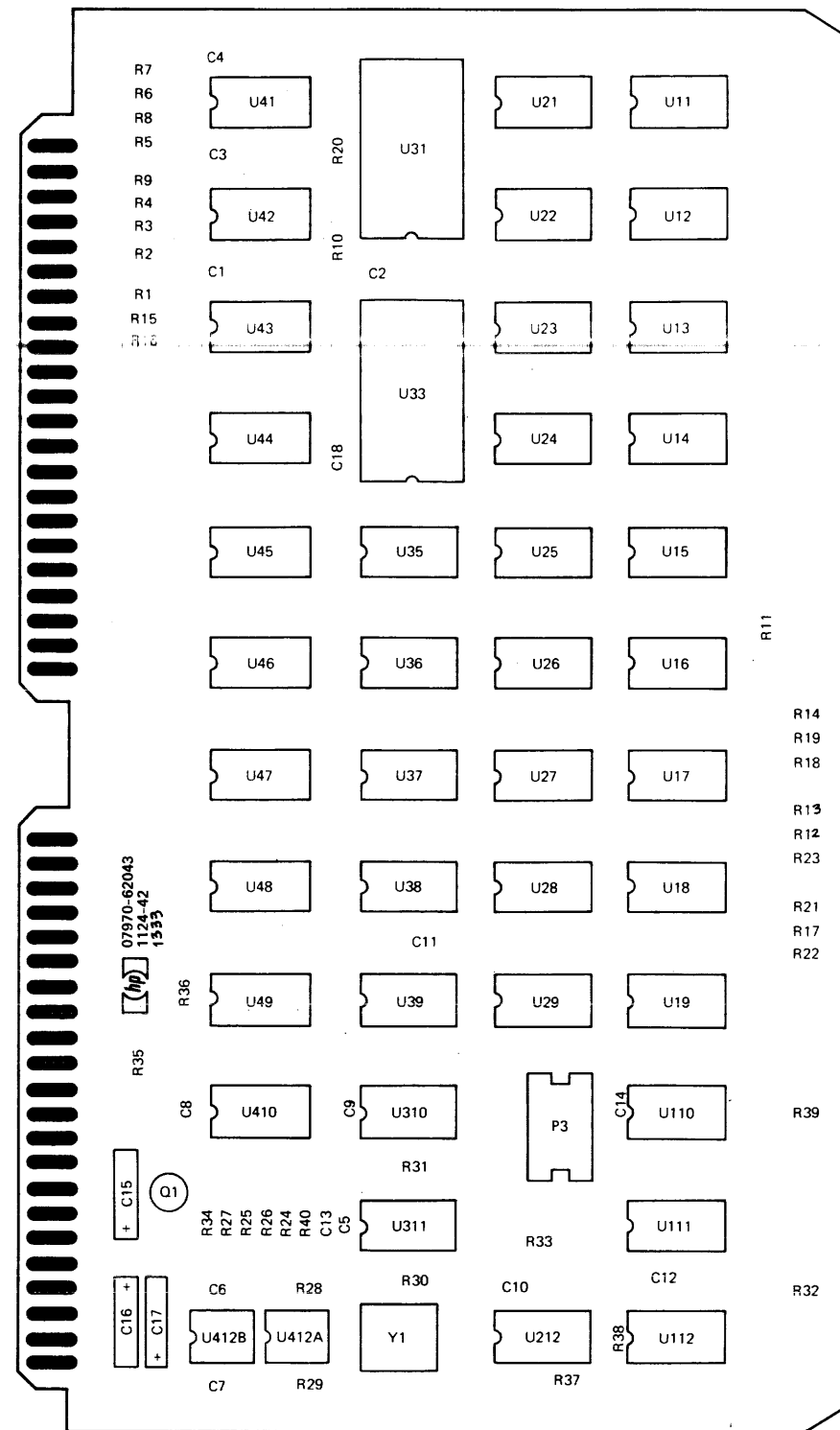
12.5 IPS                      18.74 IPS



NOTES:  
1. POSITION OF PLUG, AS SHOWN ON LEFT, DEPENDS ON TAPE SPEED. PLUG IS FACTORY INSTALLED.

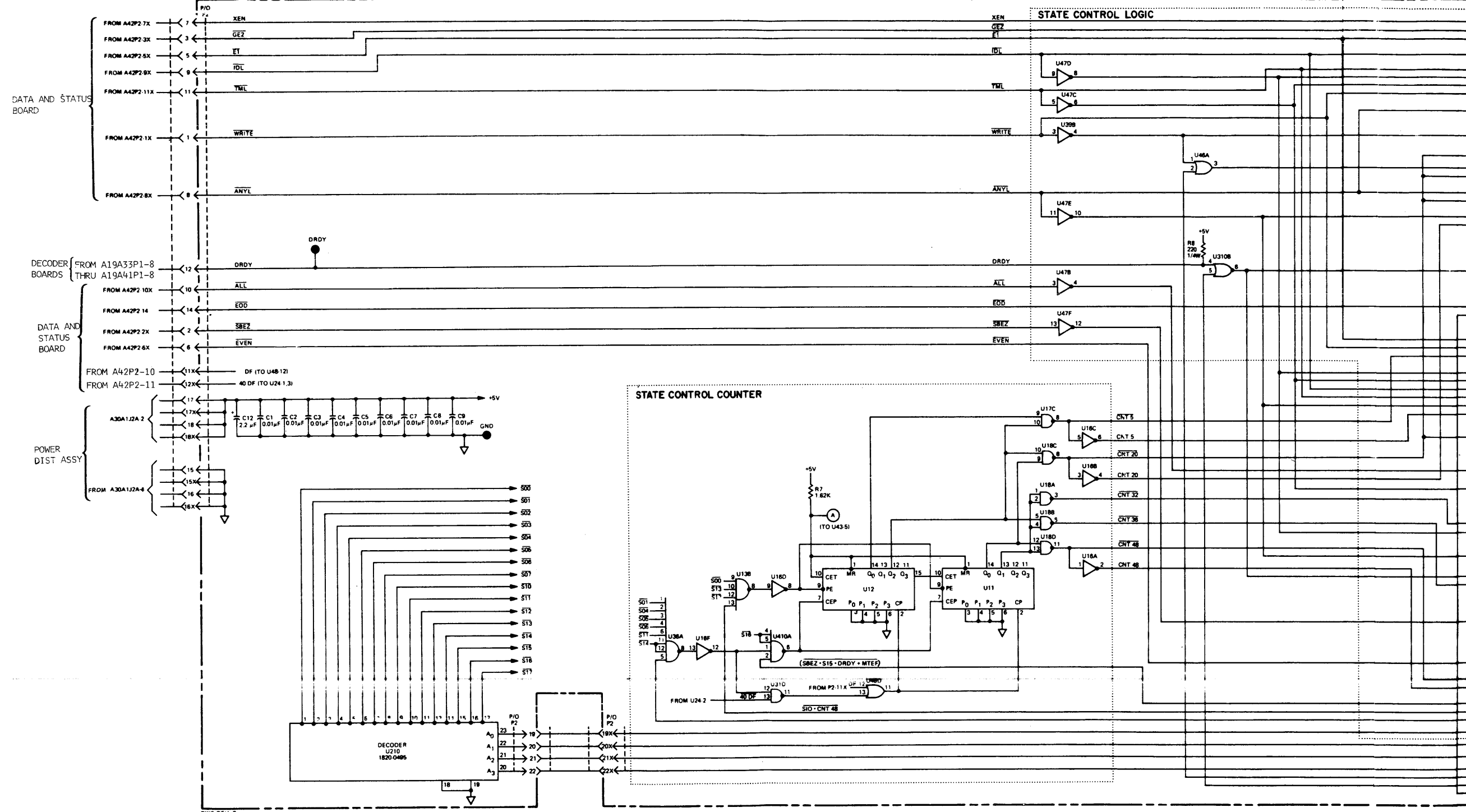


DATA AND STATUS PCA PARTS LIST  
07970-62043 (Series 1124, 1333)

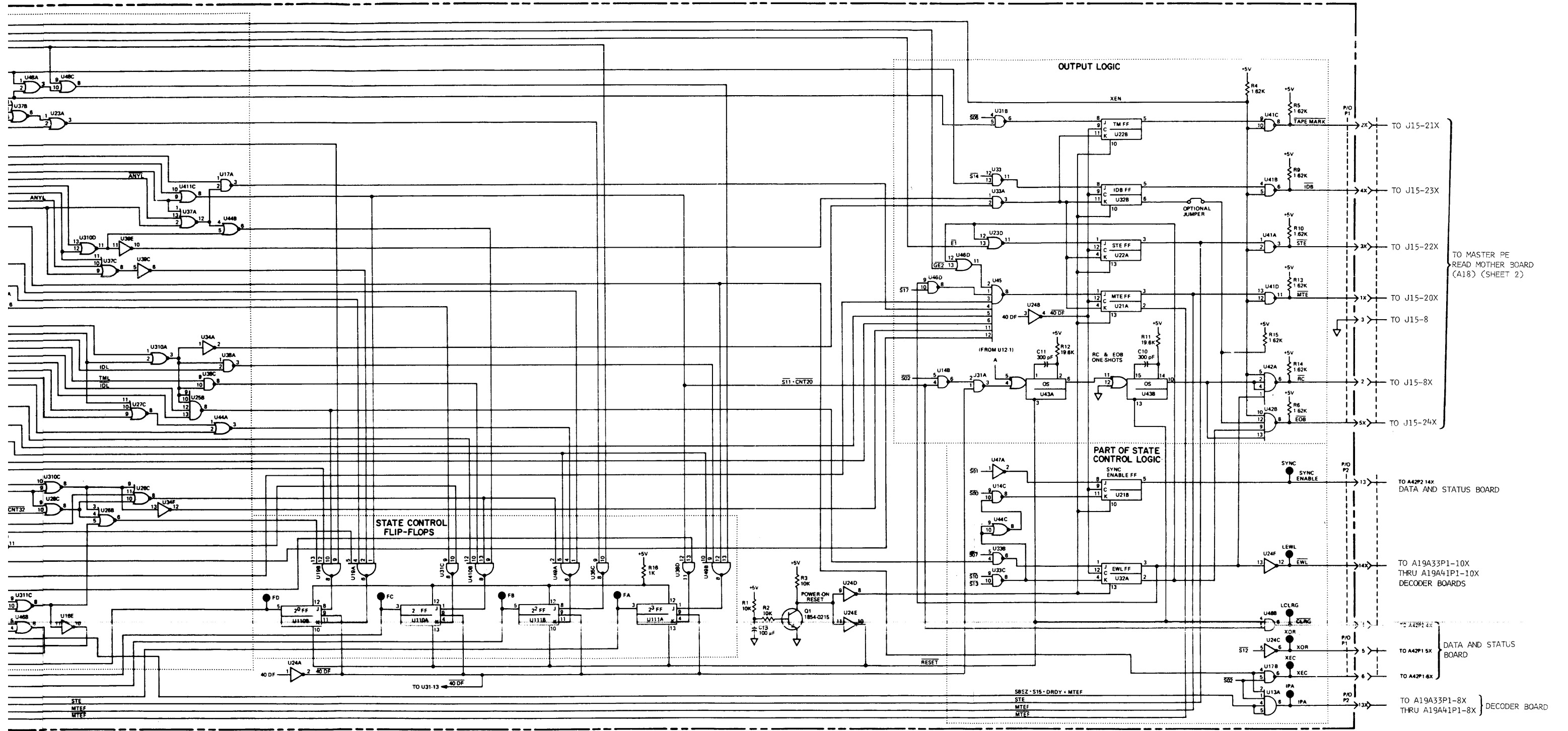


REF. DES./ INDEX NO.	HP PART NO.	DESCRIPTION
	07970-62043	DATA & STATUS PCA (Series 1124)
C1-5,8-12,14,18 C6,7 C13 C15,17 Q1 R1-9,23 R10,14,17,20-22, 32,33,35,37-39	0160-2055 0150-0121 0140-0198 0180-0197 1854-0215 0757-0428 0683-1025	CAPACITOR, fxd, .01uf, 100V CAPACITOR, fxd, .1uf, 10% CAPACITOR, fxd, 200pf, 5% CAPACITOR, fxd, 2.2uf, 10% TRANSISTOR, 2N3904 PL5 RESISTOR, fxd, 1.62K, 1%, .125W RESISTOR, fxd, 1K, 5%, .25W
*R11	0683-2215	RESISTOR, fxd, 220, 5%, .25W
R12,15,18	0683-2215	RESISTOR, fxd, 220, 5%, .25W
R13,16,19,30,31	0683-3315	RESISTOR, fxd, 330, 5%, .25W
R24	0698-3155	RESISTOR, fxd, 4.64K, 1%, .125W
R25	0757-0199	RESISTOR, fxd, 21.5K, 1%, .125W
R26	0698-3154	RESISTOR, fxd, 4.22K, 1%, .125W
R27	0698-3450	RESISTOR, fxd, 42.2K, 1%, .125W
R28,29,40	0757-0280	RESISTOR, fxd, 1K, 1%, .125W
R34	0757-0443	RESISTOR, fxd, 11K, 1%, .125W
R36	0683-4715	RESISTOR, fxd, 470, 5%, .25W
U11,13	1820-0077	IC, DIGITAL FF 7474
U12,38	1820-0069	IC, DIGITAL 7420
U14	1820-0435	IC, SN74180N
U15,23,24	1820-0282	IC, DIGITAL 7486
U16,25,26,29	1820-0054	IC, DIGITAL 7400
U17	1820-0239	IC, MC3002P
U18,21,35,36	1820-0205	IC, MC3003P
U19,27	1820-0141	IC, DIGITAL MC3001
U22,37,44,48	1820-0372	IC, DIGITAL SN74H11
U28,41,42,43	1820-0621	IC, SN7438N
U31,33	1820-0742	IC, U6930859X
U39	1820-0752	IC, SN74H76N
U45,46	1820-0269	IC, SN7403N
U47	1820-0637	IC, N8875A
U49	1820-0068	IC, DIGITAL 7410
U110	1820-0281	IC, DIGITAL FF 74107
U111	1820-0376	IC, SN74H40N
U112,212	1820-0705	IC, U7B931059X
U310	1820-0744	IC, SN7497N
U410	1820-0545	IC, DIGITAL 74191
U412A,B	1820-0493	IC, LM307N
Y1	0410-0444	CRYSTAL, 17.7231 MHz
	0460-1100	TAPE, Electrical
	5040-6001	EXTRACTOR
	1480-0116	PIN, Ground
	Series 1333	
*R11	0683-6215	RESISTOR, fxd, 620, 5%, .25W

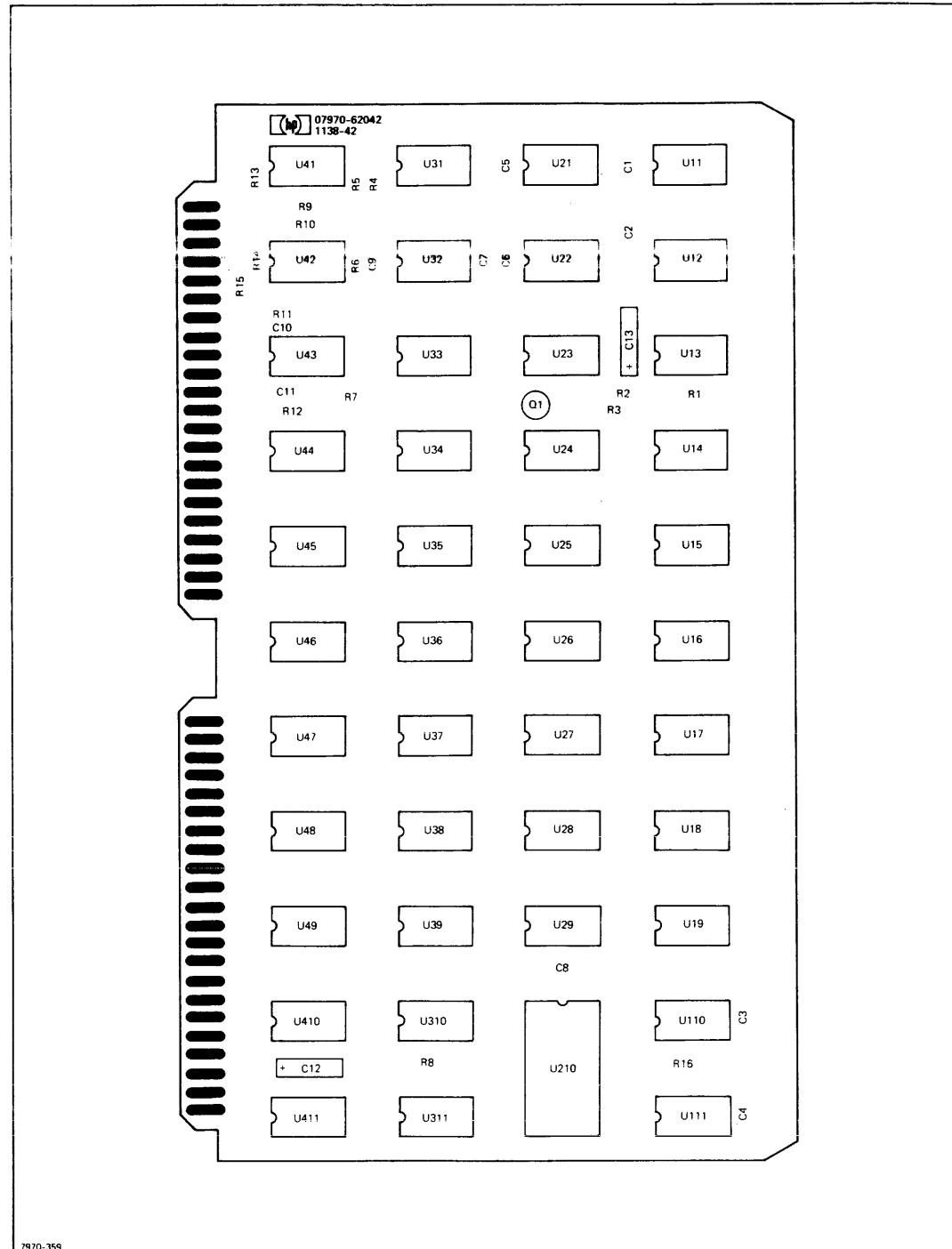
DESCRIPTION
TUS PCA (Series 1124)
fxd, .01uf, 100V
fxd, .1uf, 10%
fxd, 200pf, 5%
fxd, 2.2uf, 10%
, 2N3904 PL5
fxd, 1.62K, 1%, .125W
fxd, 1K, 5%, .25W
fxd, 220, 5%, .25W
fxd, 220, 5%, .25W
fxd, 330, 5%, .25W
fxd, 4.64K, 1%, .125W
fxd, 21.5K, 1%, .125W
fxd, 4.22K, 1%, .125W
fxd, 42.2K, 1%, .125W
fxd, 1K, 1%, .125W
fxd, 11K, 1%, .125W
fxd, 470, 5%, .25W
L FF 7474
L 7420
ON
L 7486
L 7400
P
P
L MC3001
L SN74H11
N
59X
5N
N
L 7410
L FF 74107
ON
059X
N
L 74191
7.7231 MHz
Electrical
ound
fxd, 620, 5%, .25W







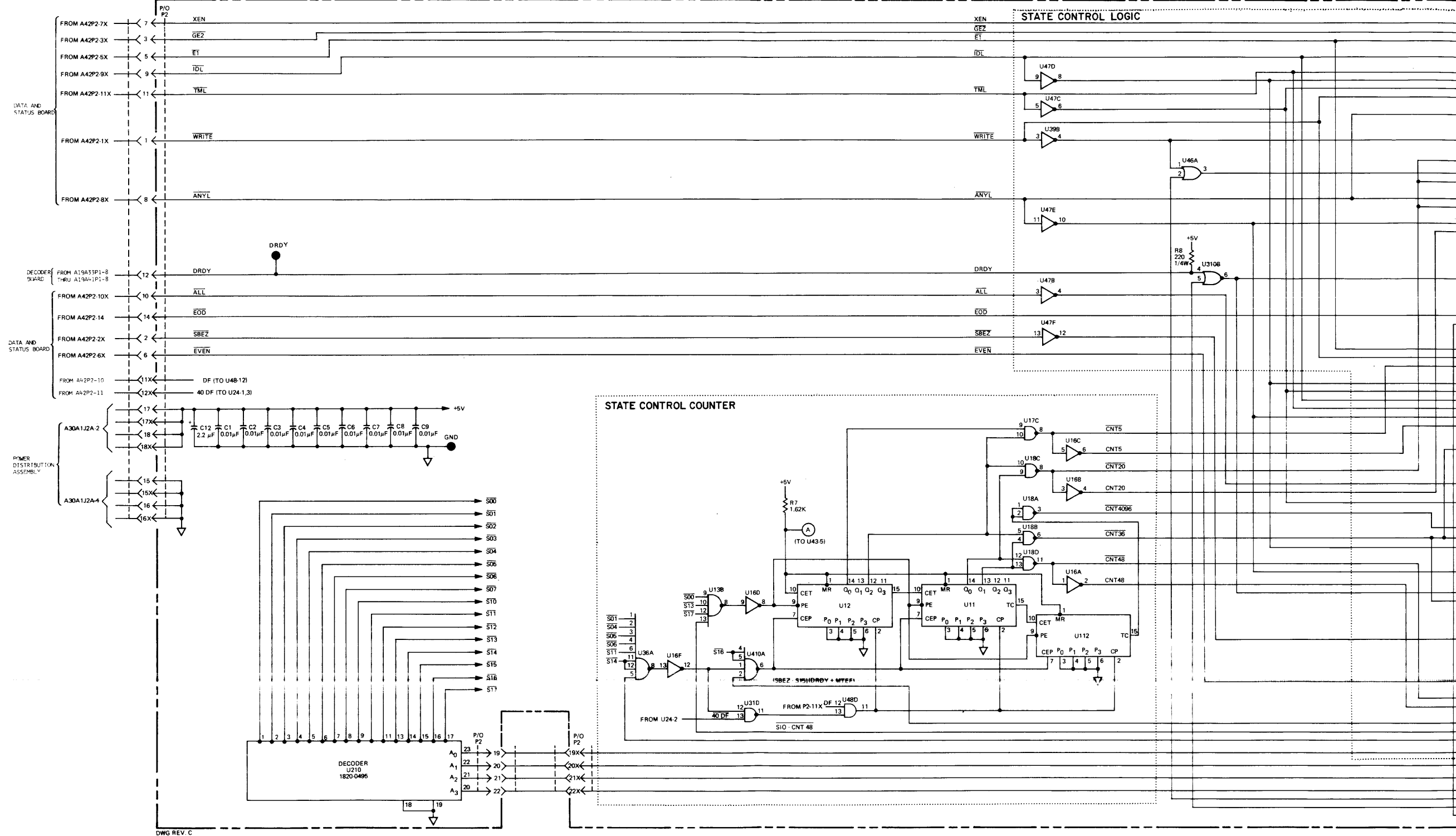
MASTER PE READ CONTROL PCA PARTS LIST  
07970-62042 (Series 1138)



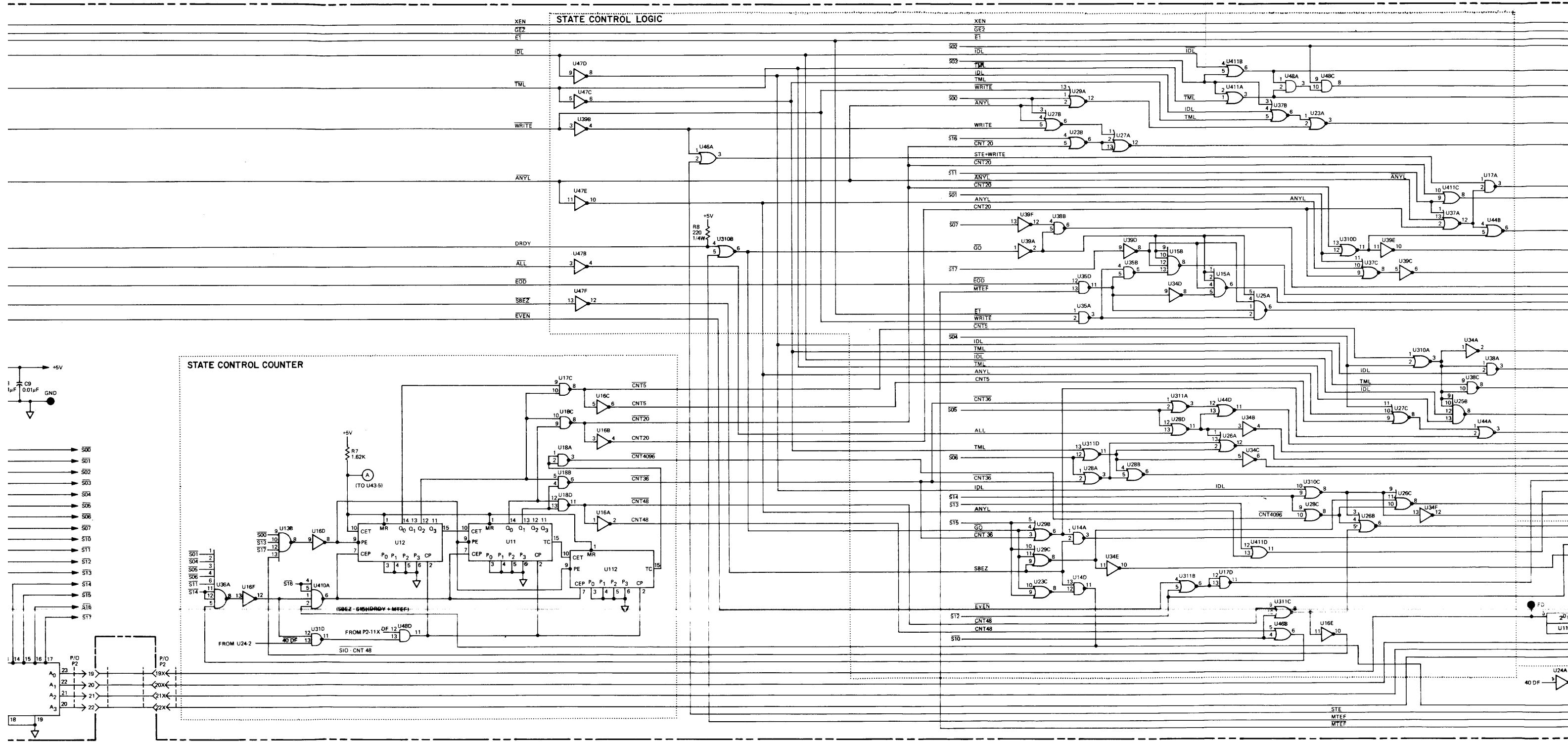
7970-359

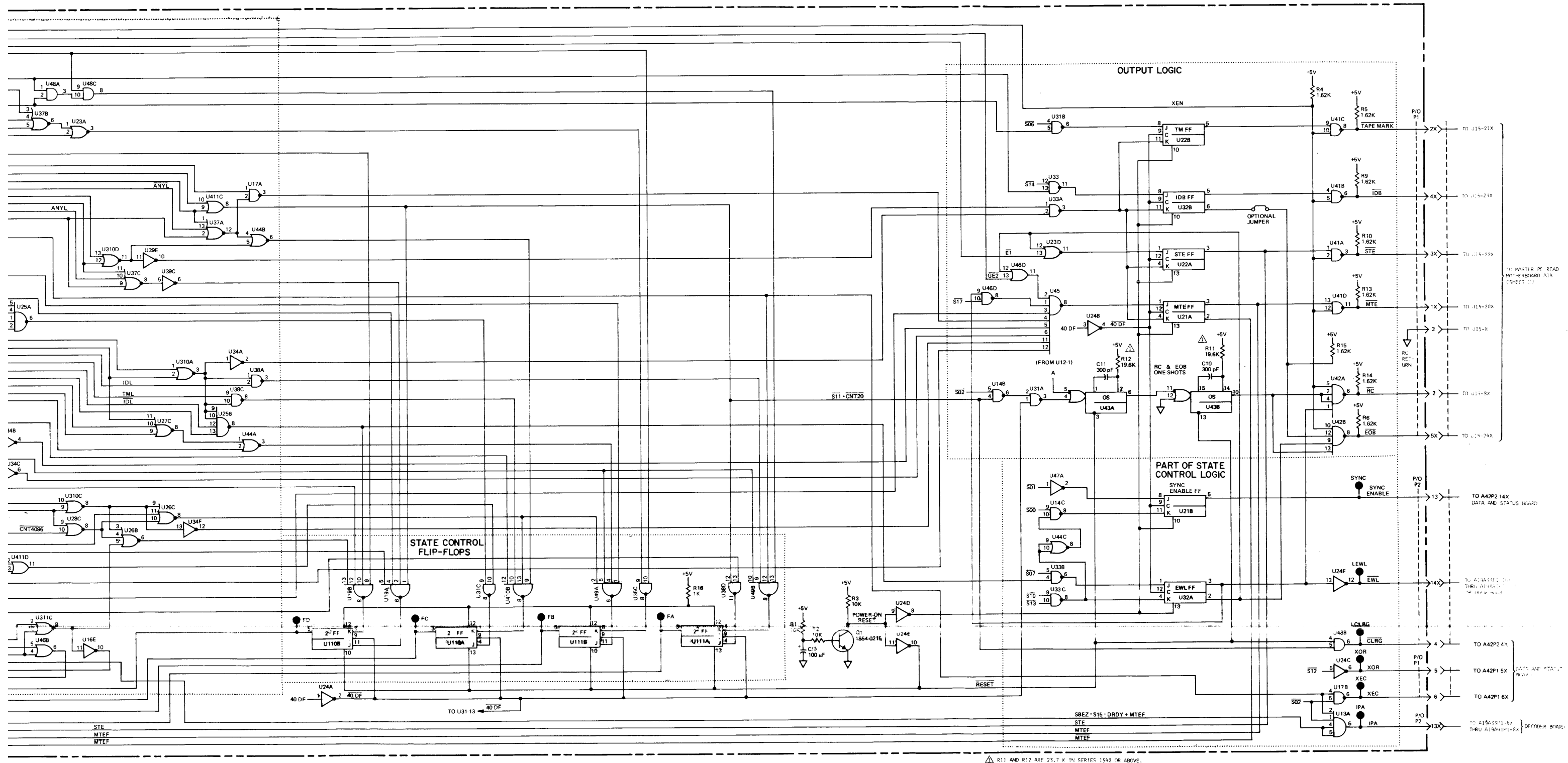
REF. DES./ INDEX NO.	HP PART NO.	DESCRIPTION
	07970-62042	MASTER PE READ CONTROL PCA (Series 1138)
C1-9	0160-2055	CAPACITOR, fxd, 0.01uf, 100V
C10,11	0160-2207	CAPACITOR, fxd, 300pf, 5%
C12	0180-0197	CAPACITOR, fxd, 2.2uf, 10%
C13	0180-2207	CAPACITOR, fxd, 100uf, 10%
Q1	1854-0215	TRANSISTOR, 2N3904, PL5
R1-3	0757-0442	RESISTOR, fxd, 10K, 1%, .125W
R4-7,9,10,13-15	0757-0428	RESISTOR, fxd, 1.62K, 1%, .125W
R8	0683-2215	RESISTOR, fxd, 220, 5%, .25W
R11,12	0698-3157	RESISTOR, fxd, 19.6K, 1%, .125W
R16	0757-0280	RESISTOR, fxd, 1K, 1%, .125W
U11,12	1820-0231	IC, U6B931659X
U13,15,19,25,49, 410	1820-0069	IC, Digital, 7420
U14,17,18,31,33, 35,38	1820-0054	IC, Digital, 7400
U16,34,39,47	1820-0174	IC, Digital, 7404
U21,22,32	1820-0281	IC, Digital, 74107
U23,28,44,310,311	1820-0239	IC, MC3002P
U24	1820-0424	IC, SN74H04N
U26,27,29,37	1820-0637	IC, N8875A
U36,45	1820-0070	IC, SN7430N
U41	1820-0621	IC, SN7438N
U42	1820-0348	IC, MC844P
U43	1820-0515	IC, Digital, 9602
U46,411	1820-0205	IC, MC3003P
U48	1820-0141	IC, Digital, MC3001
U110,111	1820-0631	IC, SN74H108N
U210	1820-0495	IC, SN74154N
	5040-6001	EXTRACTOR, PC
	1480-0116	PIN, Grooved

Master PE Read Control PC Assembly A18A1



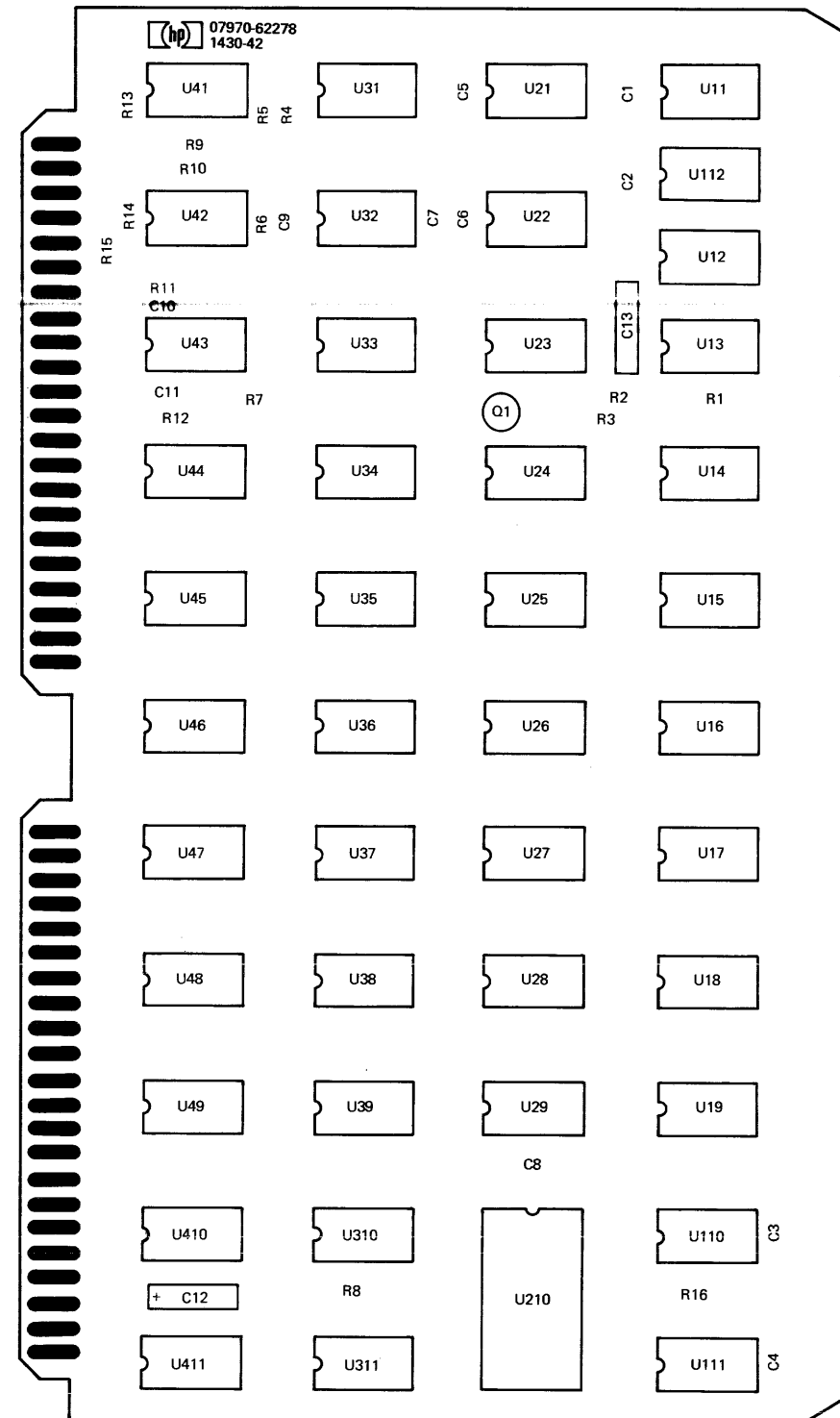






Master PE Read Control PC Assembly A18A1

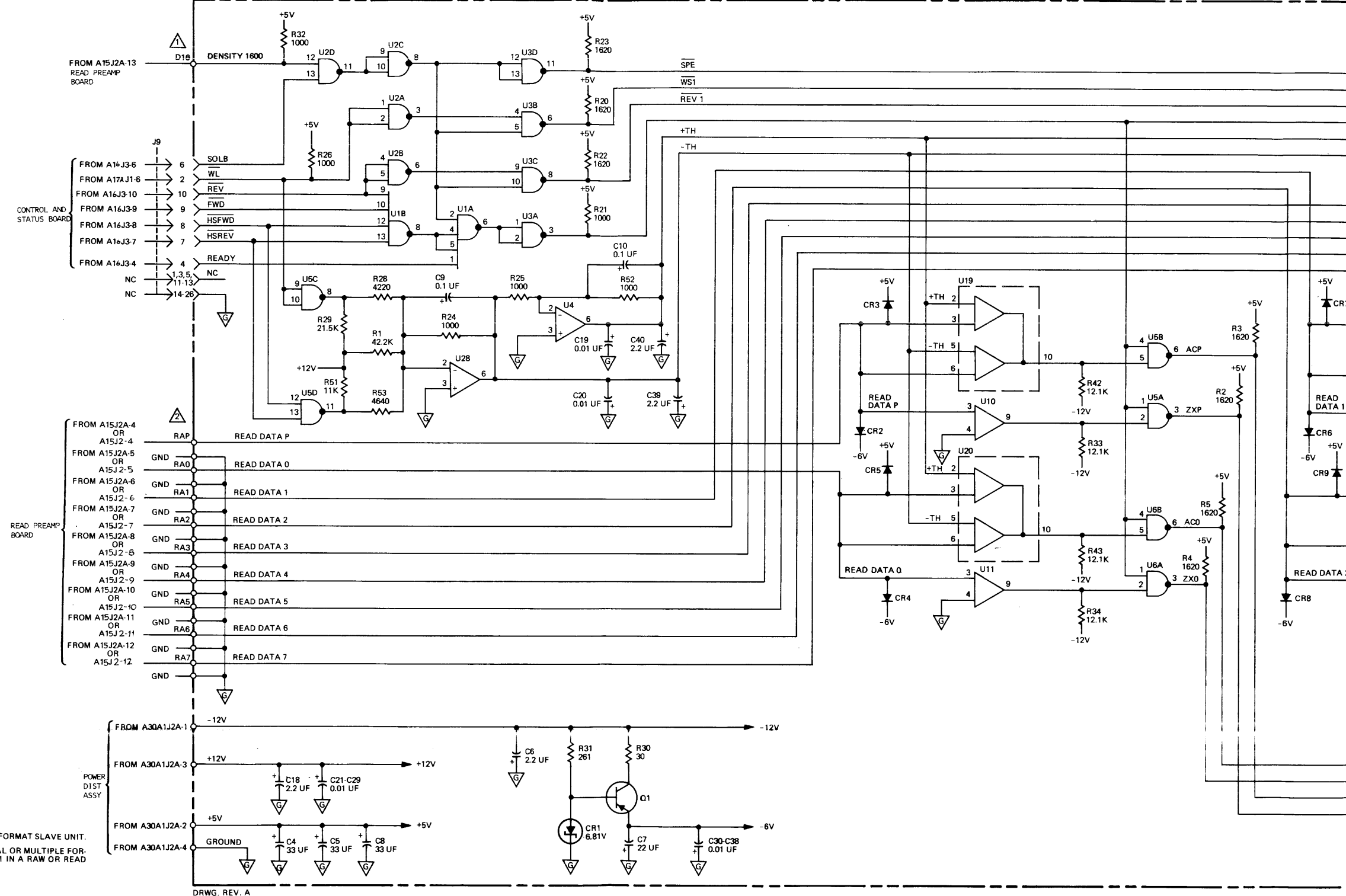
MASTER PE READ CONTROL PCA PARTS LIST  
07970-62278 (Series 1430, 1542)



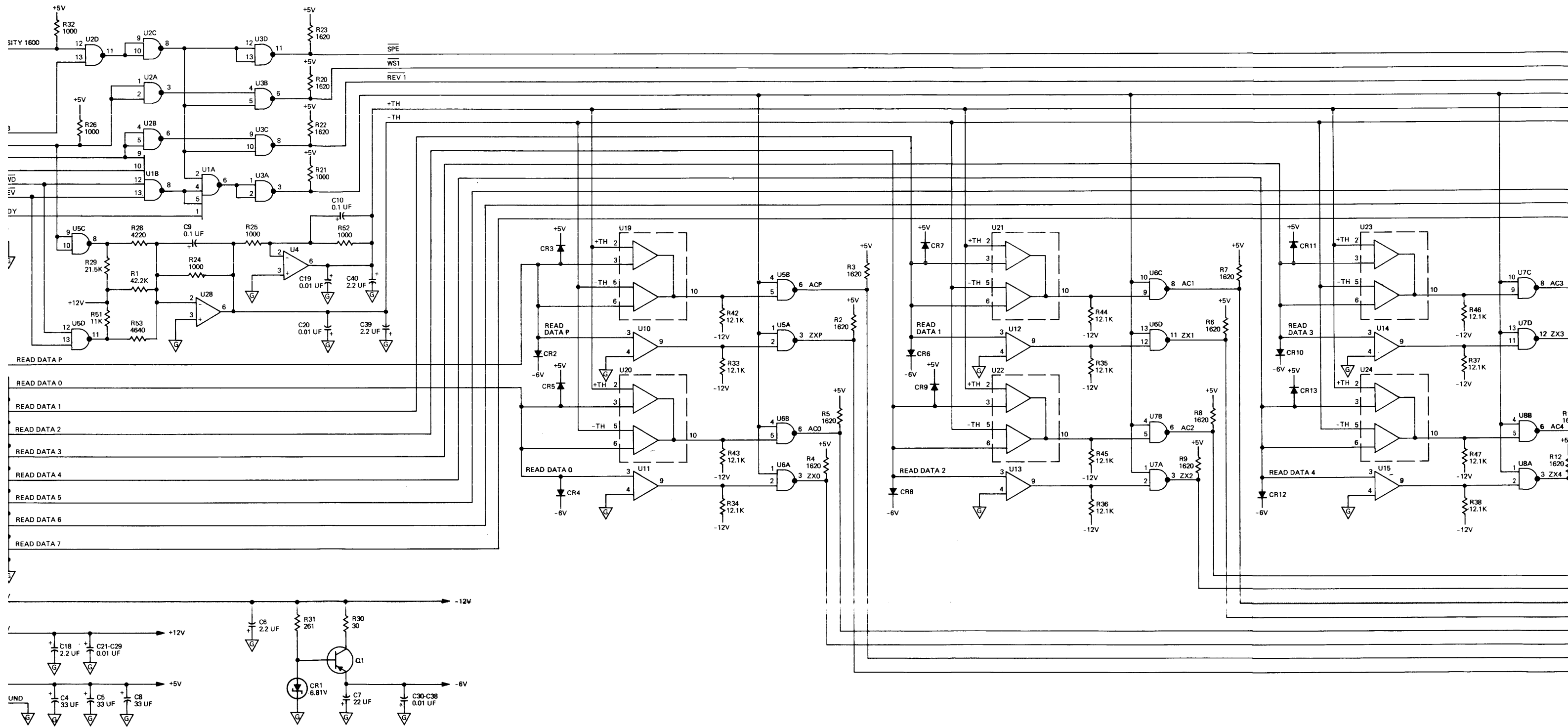
REF. DES/ INDEX NO.	HP PART NO.	DESCRIPTION
	07970-62278	MASTER PE READ CONTROL (Series 1430)
C1-9	0160-2055	CAPACITOR, fxd, 0.01uf, 100V
C10,11	0160-2207	CAPACITOR, fxd, 300pf, 5%
C12	0180-0197	CAPACITOR, fxd, 2.2uf, 10%
C13	0180-2207	CAPACITOR, fxd, 100uf, 10%
Q1	1854-0215	TRANSISTOR, 2N3904 PL5
R1-3	0757-0442	RESISTOR, fxd, 10K, 1%, .125W
R4-7,9,10,13-15	0757-0428	RESISTOR, fxd, 1.62K, 1%, .125W
R8	0683-2215	RESISTOR, fxd, 220, 5%, .25W
*R11,12	0698-3157	RESISTOR, fxd, 19.6K, 1%, .125W
R16	0757-0280	RESISTOR, fxd, 1K, 1%, .125W
U11,12,112	1820-0231	IC, U6B931659X
U13,15,19,25, 49,410	1820-0069	IC, DIGITAL 7420
U14,17,18,31, 33,35,38	1820-0054	IC, DIGITAL 7400
U16,34,39,47	1820-0174	IC, DIGITAL 7404
U21,22,32	1820-0281	IC, DIGITAL 74107
U23,28,44, 310,311	1820-0239	IC, MC3002P
U24	1820-0424	IC, SN74H04N
U26,27,29,37	1820-0637	IC, N8875A
U36,45	1820-0070	IC, SN7430N
U41	1820-0621	IC, SN7438N
U42	1820-0348	IC, MC844P
U43	1820-0515	IC, Digital, 9602
U46,411	1820-0205	IC, MC3003P
U48	1820-0141	IC, Digital, MC3001P
U110,111	1820-0631	IC, SN74H108N
U210	1820-0495	IC, SN74154N
	5040-6001	EXTRACTOR, PC
	1480-0116	Pin, Grooved
	Series 1542	
*R11,12	0698-3158	RESISTOR, fxd, 23.7K, 1%, .125W

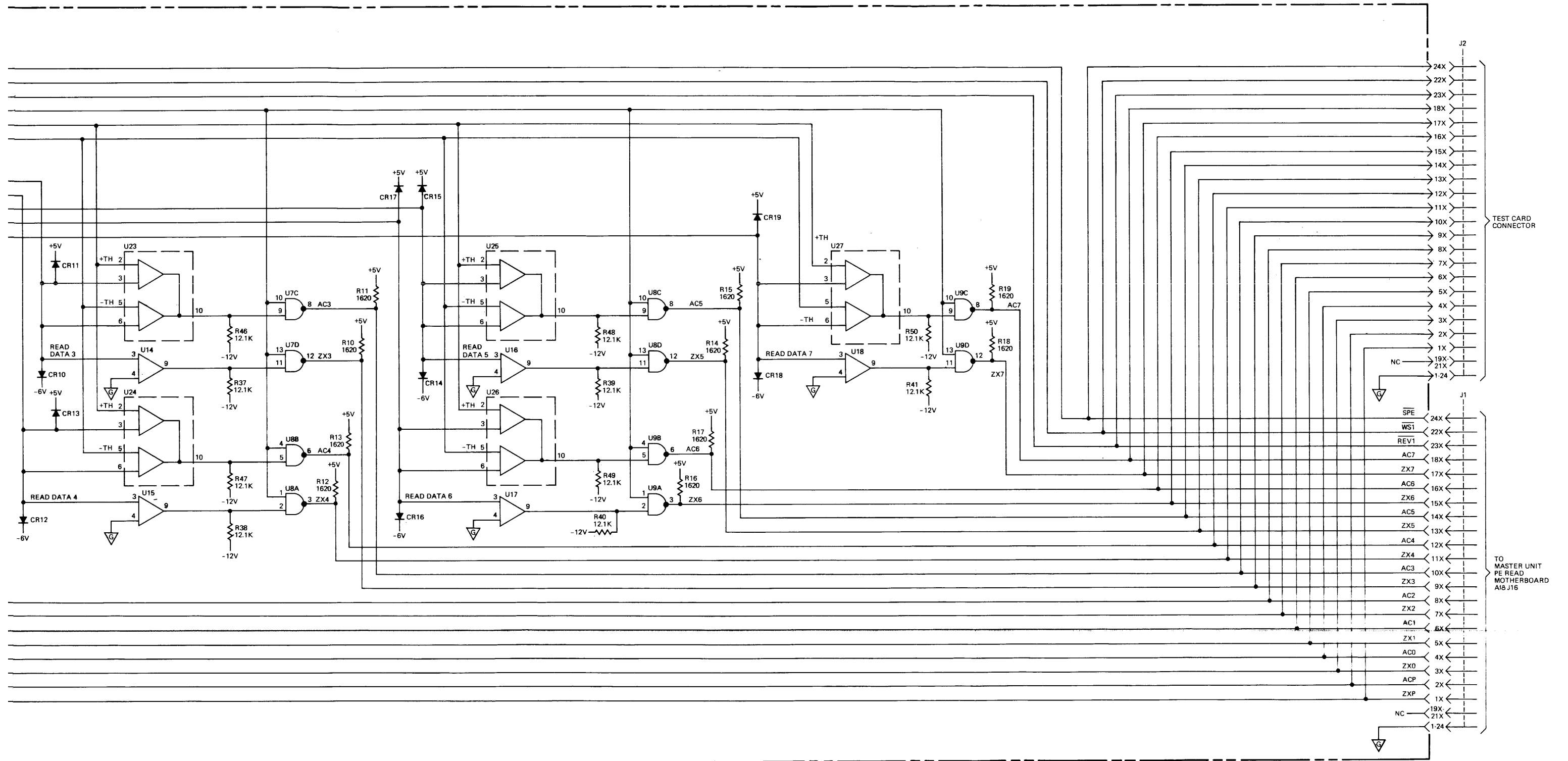
DESCRIPTION
PE READ CONTROL (Series 1430)
CR, fxd, 0.01uf, 100V
CR, fxd, 300pf, 5%
CR, fxd, 2.2uf, 10%
CR, fxd, 100uf, 10%
FOR, 2N3904 PL5
R, fxd, 10K, 1%, .125W
R, fxd, 1.62K, 1%, .125W
R, fxd, 220, 5%, .25W
R, fxd, 19.6K, 1%, .125W
R, fxd, 1K, 1%, .125W
31659X
ITAL 7420
ITAL 7400
ITAL 7404
ITAL 74107
002P
04N
75A
30N
38N
4P
tal, 9602
003P
tal, MC3001P
H108N
154N
OR, PC
Grooved
R, fxd, 23.7K, 1%, .125W

SLAVE PE READ PC ASSEMBLY (A44) (07970-62037, SERIES 1118)

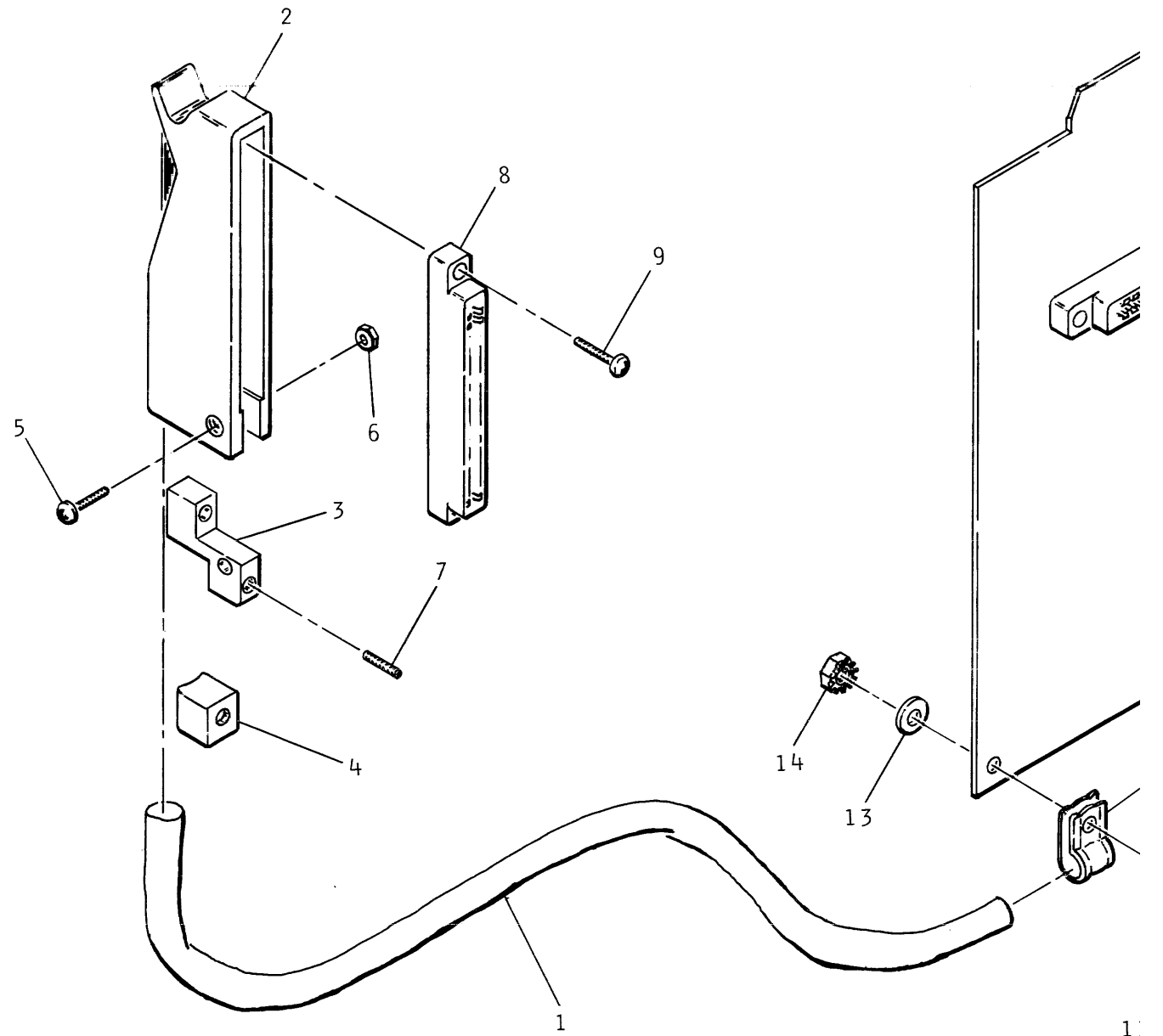
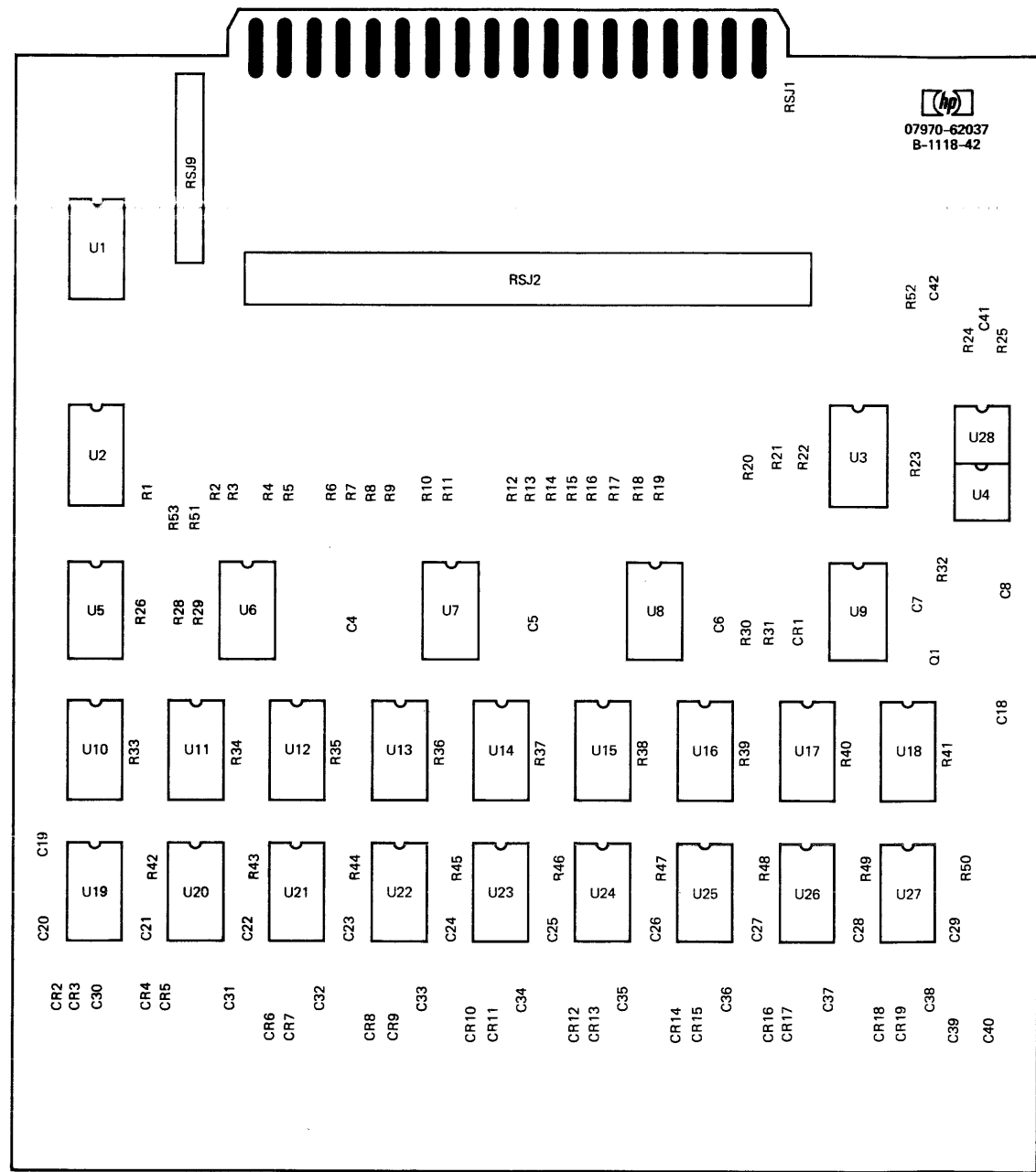


NOTES:  
 △ CONNECTED ONLY IN A MULTIPLE FORMAT SLAVE UNIT.  
 △ CONNECTED WITH A13J2A IN A DUAL OR MULTIPLE FORMAT UNIT. CONNECTED WITH A13J1 IN A RAW OR READ ONLY UNIT.



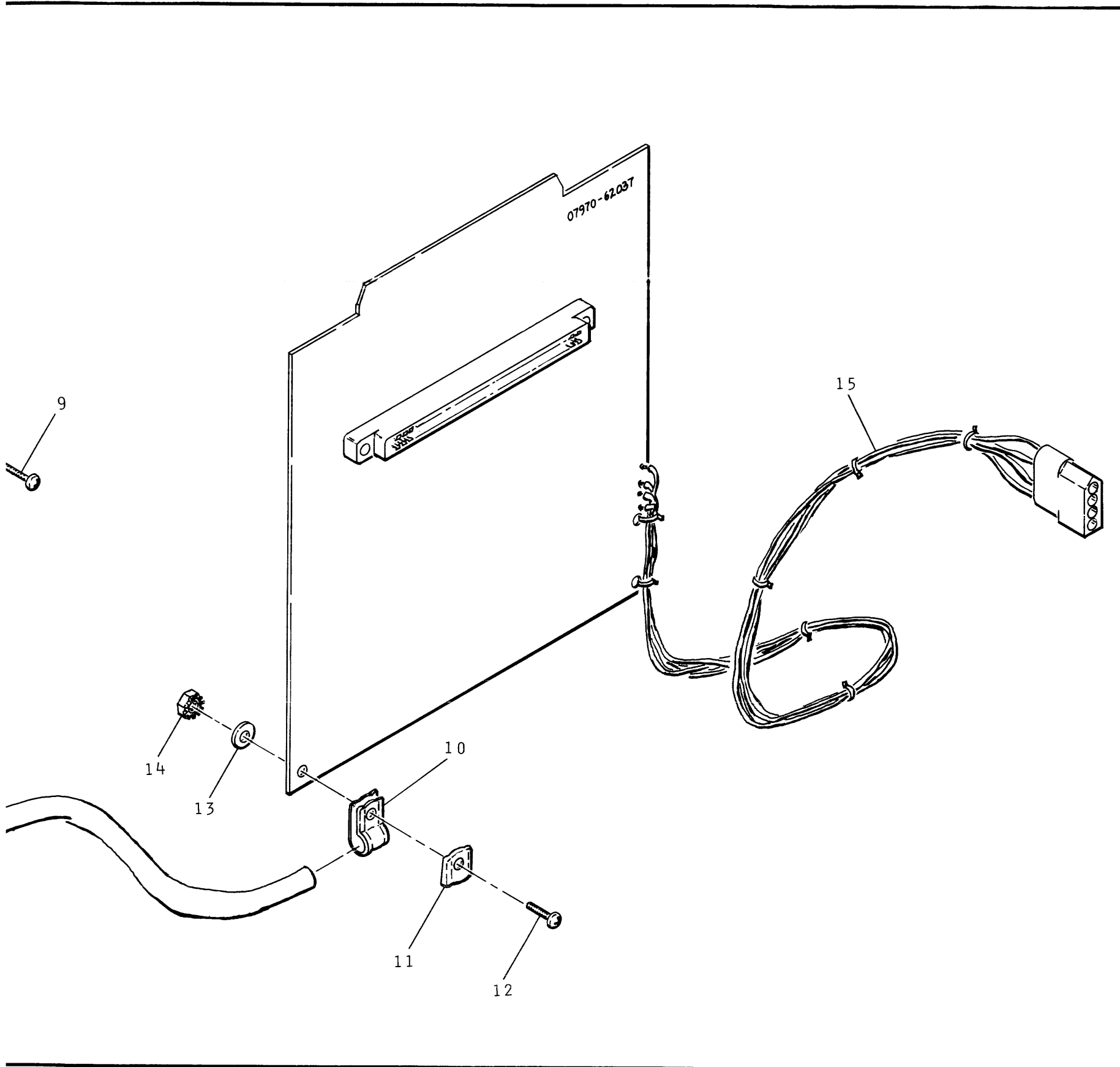


Slave PE Read PC Assembly A44





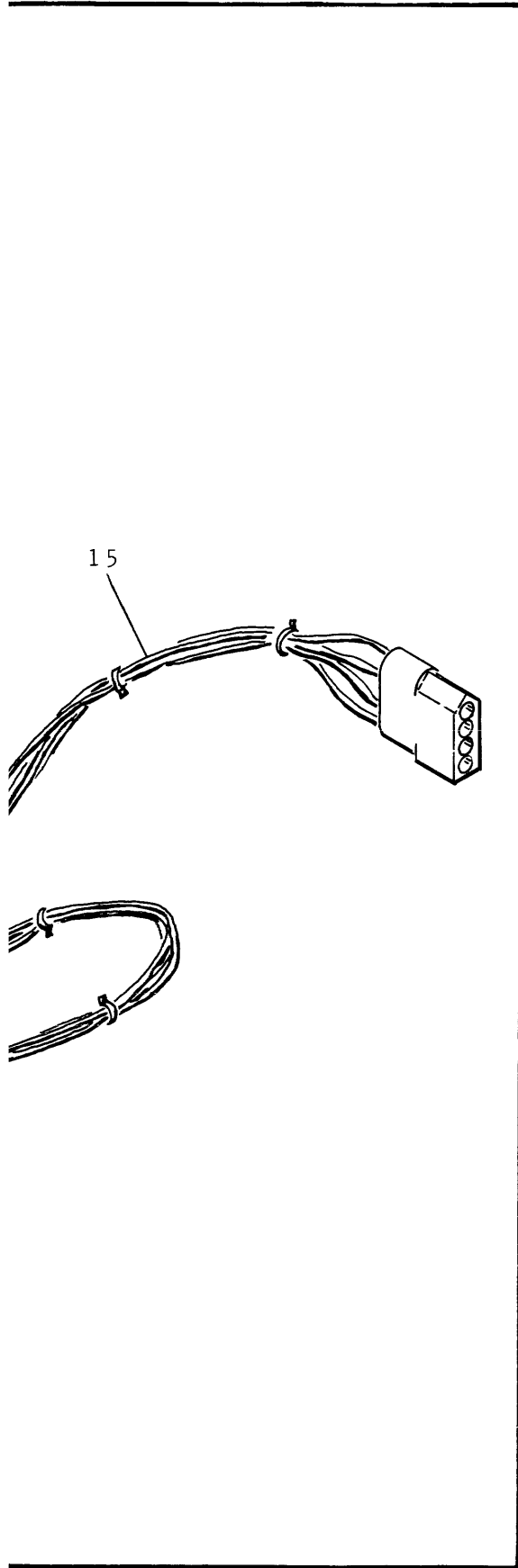
SLAVE PE READ PCA PARTS LIST  
07970-62037 (Series 1118)



REF. DES./ INDEX NO.	HP PART NO.	DESCRIPTION
	07970-62037	SLAVE PE READ PCA (Series 1118)
C4,5,8	0180-0229	CAPACITOR, fxd, 33uf, 10VDC
C6,18,39,40	0180-0197	CAPACITOR, fxd, 2.2uf, 10%
C7	0180-0228	CAPACITOR, fxd, 22uf, 15VDC
C19-38	0160-2055	CAPACITOR, fxd, .01uf, 100V
C41,42	0150-0121	CAPACITOR, fxd, 0.1uf, 10%
CR1	1902-0048	DIODE, Zener, 6.81v
CR2-19	1901-0040	DIODE, 50MA, 30V
Q1	1853-0001	TRANSISTOR, PNP, Silicone T05
	0340-0164	Insulator, Transistor
R1	0698-3450	RESISTOR, fxd, 42.2K, 1%, .125W
R2-20,22,23	0757-0428	RESISTOR, fxd, 1.62K, 1%, .125W
R21,26,32	0683-1025	RESISTOR, fxd, 1K, 5%, .25W
R24,25,52	0757-0280	RESISTOR, fxd, 1K, 1%, .125W
R28	0698-3154	RESISTOR, fxd, 4.22K, 1%, .125W
R29	0757-0199	RESISTOR, fxd, 21.5K, 1%, .125W
R30	0811-2192	RESISTOR, fxd, 30, 5%
R31	0698-3132	RESISTOR, fxd, 261, 1%, .125W
R33-50	0757-0444	RESISTOR, fxd, 12.1K, 1%, .125W
R51	0757-0443	RESISTOR, fxd, 11K, 1%, .125W
R53	0698-3155	RESISTOR, fxd, 4.64K, 1%, .125W
RSJ2	1251-2025	CONNECTOR, PC 2x24
RSJ9	1251-2361	CONTACT PC Male
U1	1820-0069	IC, DIGITAL 7420
U2	1820-0054	IC, DIGITAL 7400
U3,5-9	1820-0621	IC, SN7438N
U4,28	1820-0493	IC, LM307N
U10-18	1820-0398	IC, U6A7710393
U19-27	1826-0055	IC, Linear
INDEX NO.		
1	07970-62077	CABLE, Slave/Master
2	5040-6086	Hood, Connector
3	5040-6072	Block, Connector, Mounting
4	5040-6003	Clamp, Cable
5	2200-0091	Screw, 4-40, .562 in.
6	2260-0002	Nut, Hex, 4-40
7	3030-0143	Screw, Set, 6-32, .5 in.
8	1251-0159	Connector, PC 2x15, .156
9	0624-0098	Screw, Tapping 4-40
10	1400-0187	CLAMP, Cable, 0.250 in.
11	3050-0227	Washer, Flat
12	2360-0201	Screw, 6-32, .5 in.
13	2190-0034	Washer, Lock, #10
14	2420-0001	Nut, Hex, 6-32
15	07970-62098	CABLE, Power

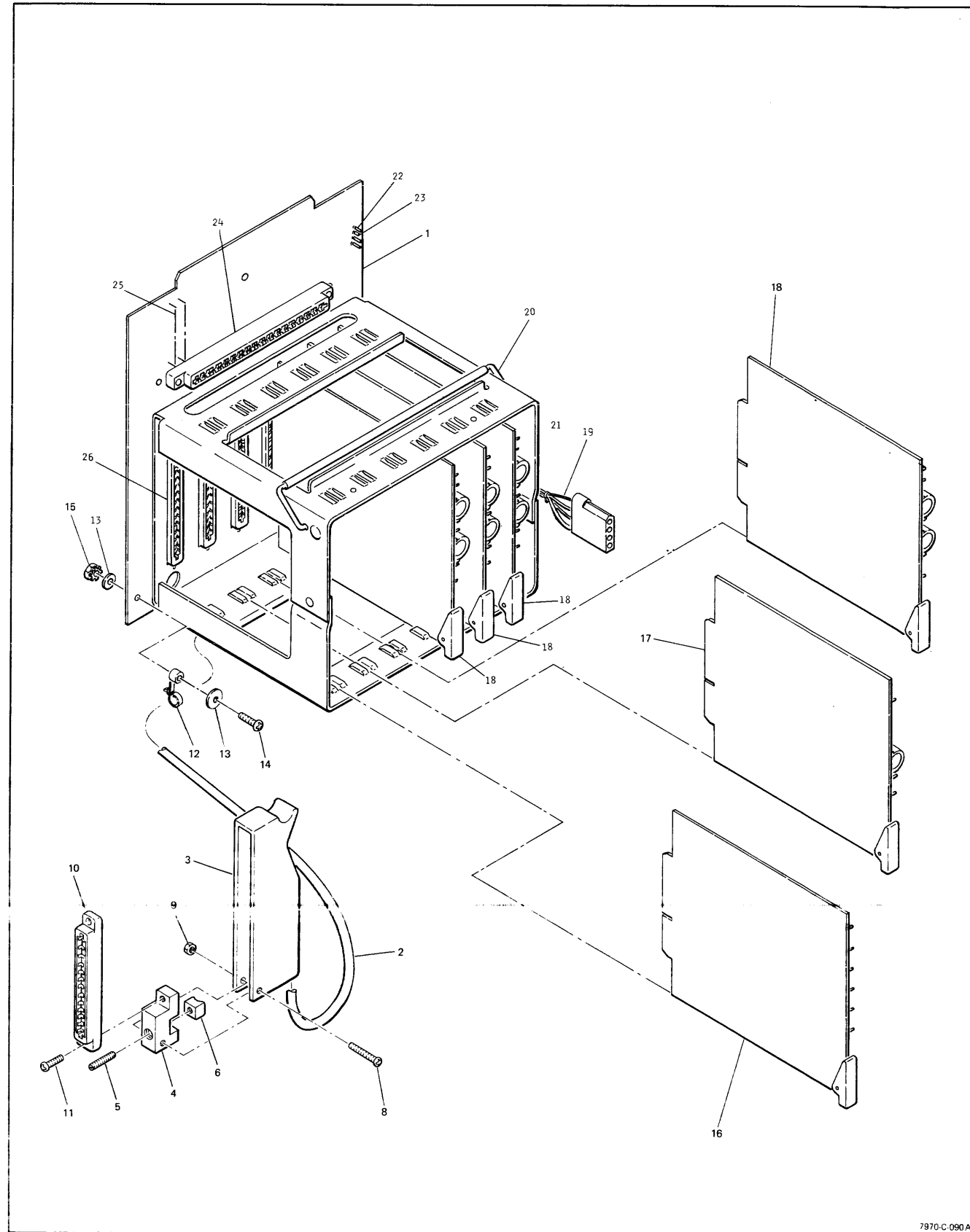
Slave PE Read PC Assembly A44

SLAVE PE READ PCA PARTS LIST  
07970-62037 (Series 1118)

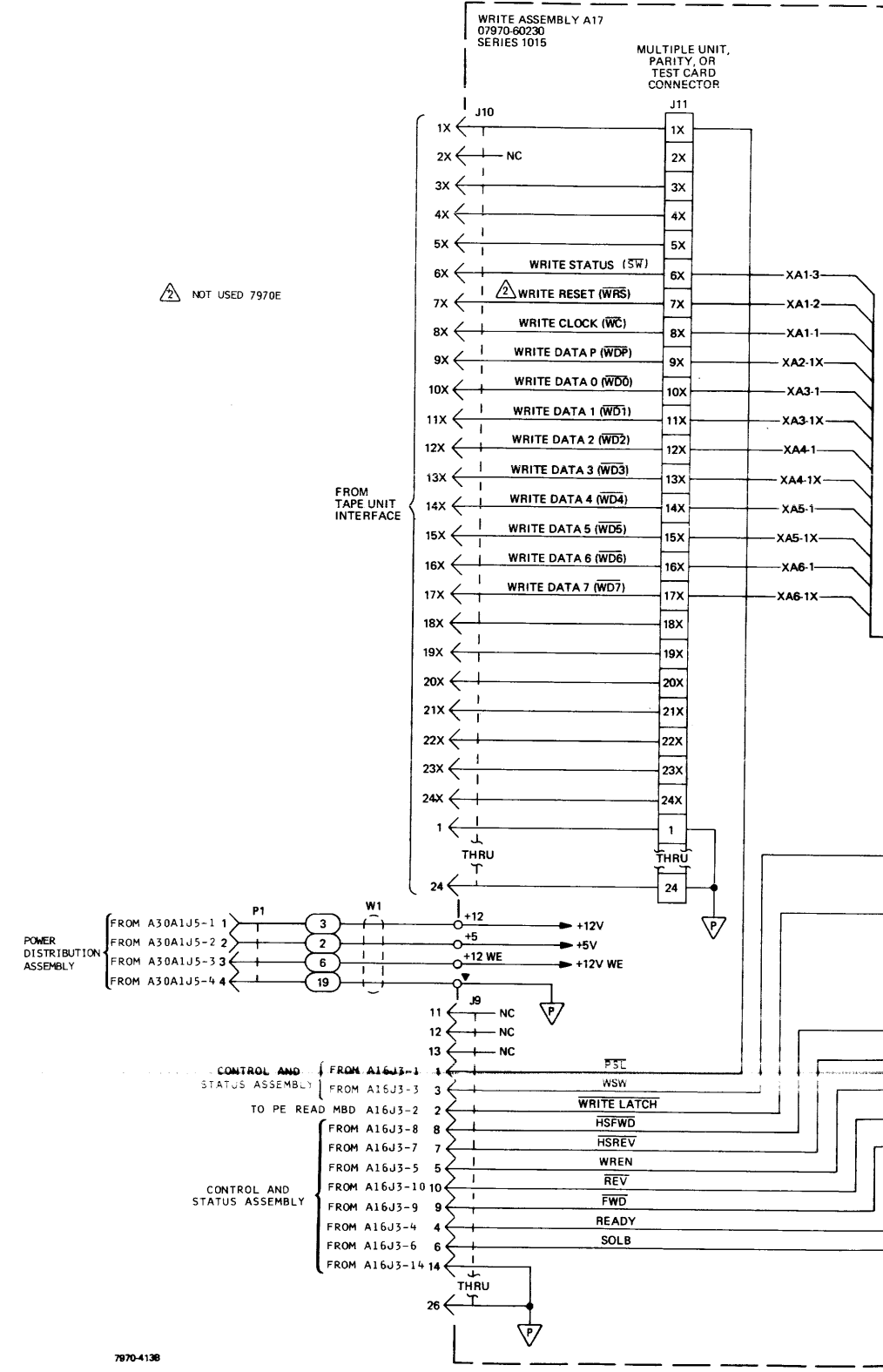


REF. DES./ INDEX NO.	HP PART NO.	DESCRIPTION
	07970-62037	SLAVE PE READ PCA (Series 1118)
C4,5,8	0180-0229	CAPACITOR, fxd, 33uf, 10VDC
C6,18,39,40	0180-0197	CAPACITOR, fxd, 2.2uf, 10%
C7	0180-0228	CAPACITOR, fxd, 22uf, 15VDC
C19-38	0160-2055	CAPACITOR, fxd, .01uf, 100V
C41,42	0150-0121	CAPACITOR, fxd, 0.1uf, 10%
CR1	1902-0048	DIODE, Zener, 6.81v
CR2-19	1901-0040	DIODE, 50MA, 30V
Q1	1853-0001	TRANSISTOR, PNP, Silicone T05
	0340-0164	Insulator, Transistor
R1	0698-3450	RESISTOR, fxd, 42.2K, 1%, .125W
R2-20,22,23	0757-0428	RESISTOR, fxd, 1.62K, 1%, .125W
R21,26,32	0683-1025	RESISTOR, fxd, 1K, 5%, .25W
R24,25,52	0757-0280	RESISTOR, fxd, 1K, 1%, .125W
R28	0698-3154	RESISTOR, fxd, 4.22K, 1%, .125W
R29	0757-0199	RESISTOR, fxd, 21.5K, 1%, .125W
R30	0811-2192	RESISTOR, fxd, 30, 5%
R31	0698-3132	RESISTOR, fxd, 261, 1%, .125W
R33-50	0757-0444	RESISTOR, fxd, 12.1K, 1%, .125W
R51	0757-0443	RESISTOR, fxd, 11K, 1%, .125W
R53	0698-3155	RESISTOR, fxd, 4.64K, 1%, .125W
RSJ2	1251-2025	CONNECTOR, PC 2x24
RSJ9	1251-2361	CONTACT PC Male
U1	1820-0069	IC, DIGITAL 7420
U2	1820-0054	IC, DIGITAL 7400
U3,5-9	1820-0621	IC, SN7438N
U4,28	1820-0493	IC, LM307N
U10-18	1820-0398	IC, U6A7710393
U19-27	1826-0055	IC, Linear
INDEX NO.		
1	07970-62077	CABLE, Slave/Master
2	5040-6086	Hood, Connector
3	5040-6072	Block, Connector, Mounting
4	5040-6003	Clamp, Cable
5	2200-0091	Screw, 4-40, .562 in.
6	2260-0002	Nut, Hex, 4-40
7	3030-0143	Screw, Set, 6-32, .5 in.
8	1251-0159	Connector, PC 2x15, .156
9	0624-0098	Screw, Tapping 4-40
10	1400-0187	CLAMP, Cable, 0.250 in.
11	3050-0227	Washer, Flat
12	2360-0201	Screw, 6-32, .5 in.
13	2190-0034	Washer, Lock, #10
14	2420-0001	Nut, Hex, 6-32
15	07970-62098	CABLE, Power

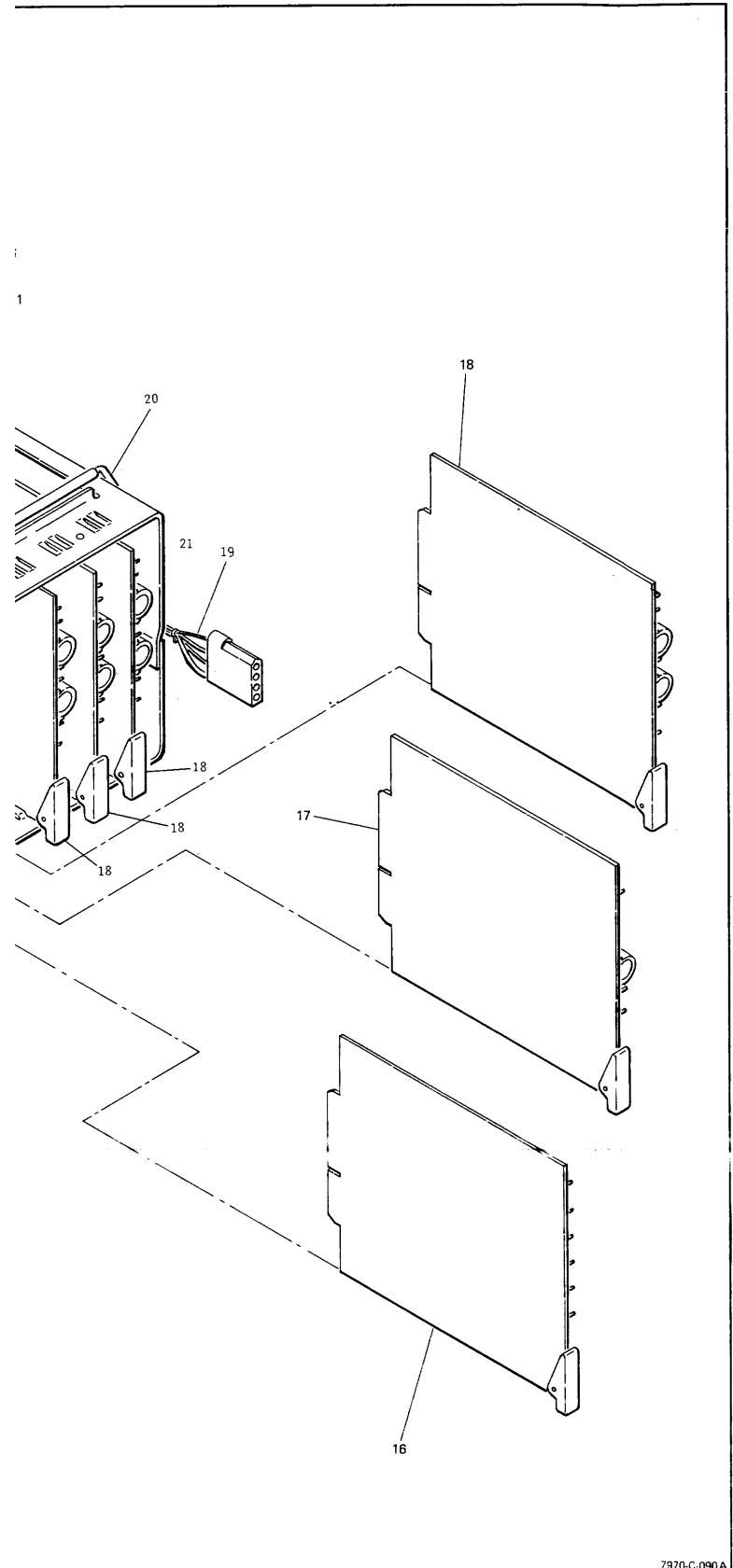
Slave PE Read PC Assembly A44



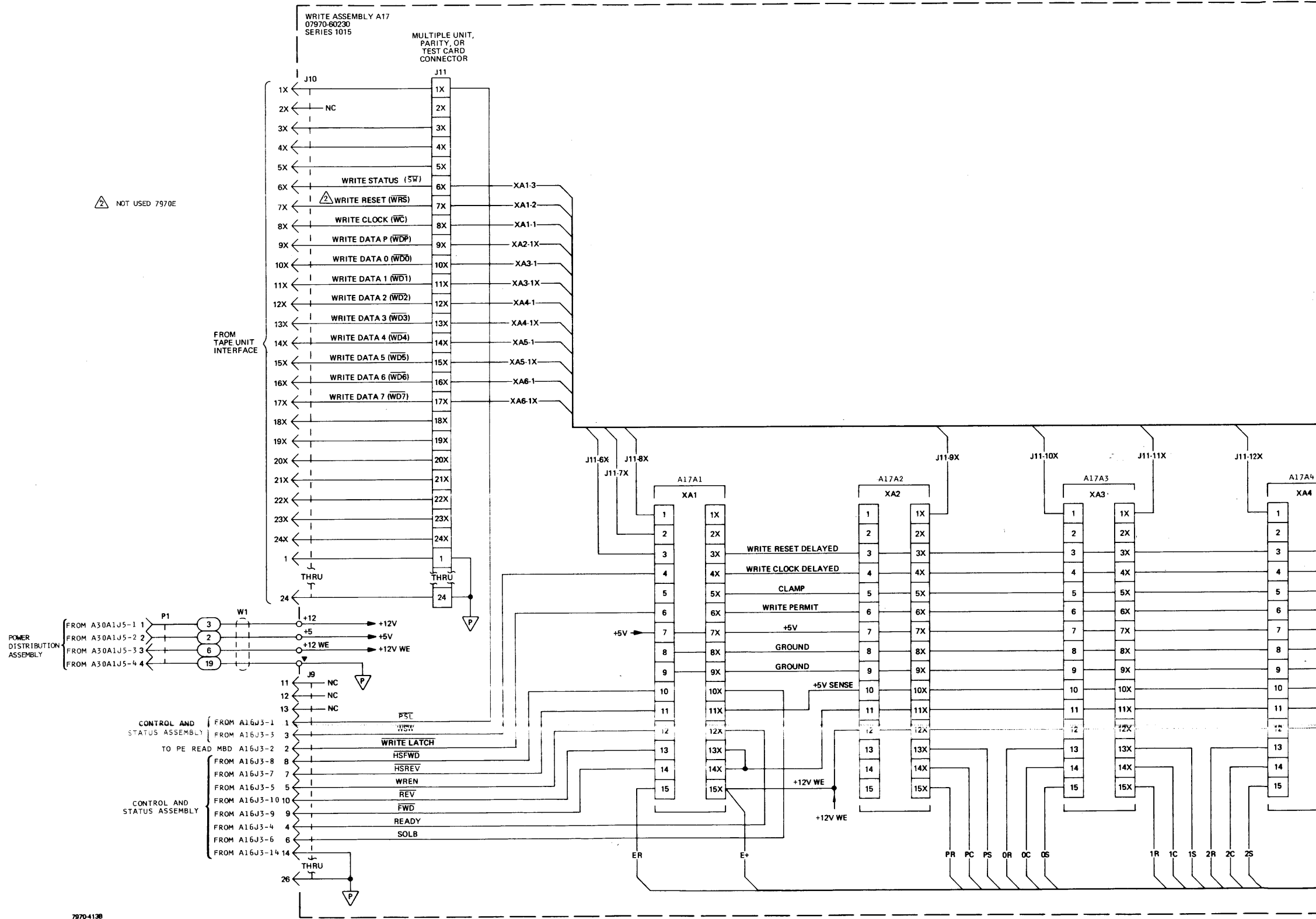
7970-C-090A



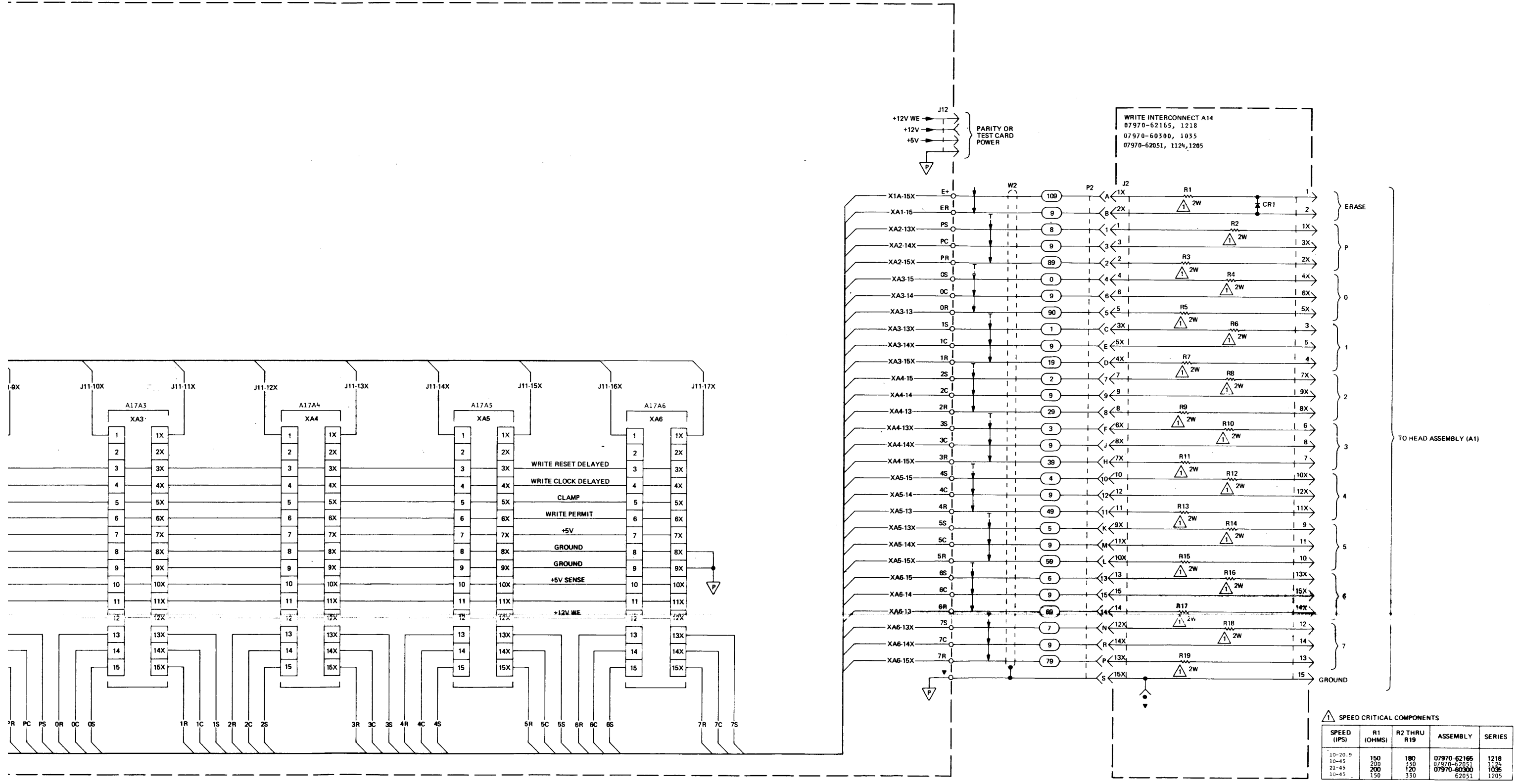
7970-413B



7970-C-090A



7970-4138



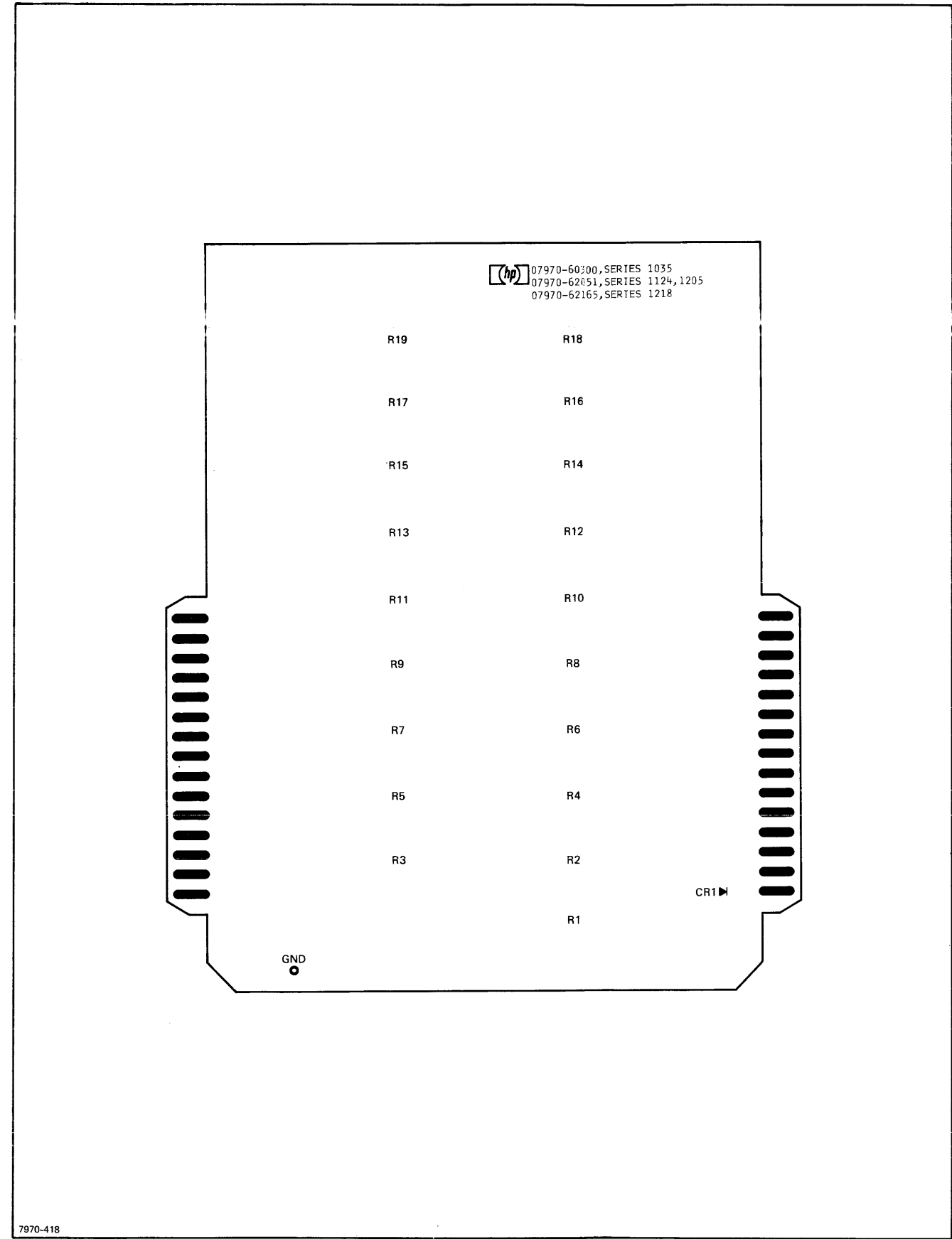
⚠ SPEED CRITICAL COMPONENTS

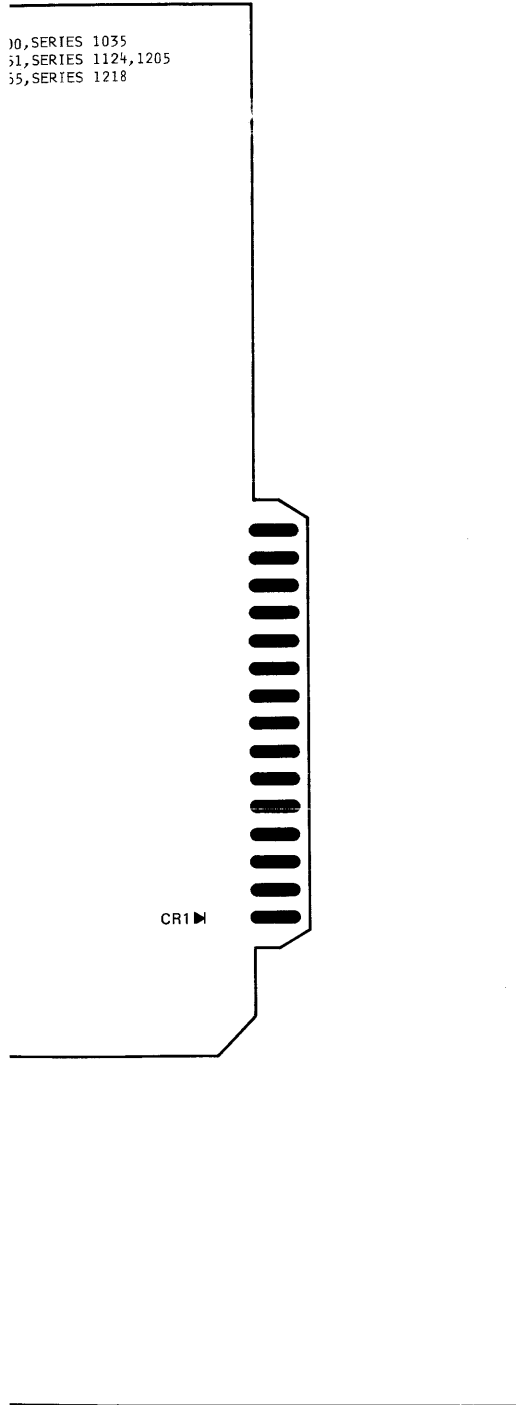
SPEED (IPS)	R1 (OHMS)	R2 THRU R19	ASSEMBLY	SERIES
10-20.9	150	180	07970-62165	1218
10-45	200	330	07970-62051	1124
21-45	200	120	07970-60300	1035
10-45	150	330	07970-62051, 1124, 1205	1205

Write Interconnect PC Assembly A14 and Write Motherboard Assembly A17

WRITE MOTHERBOARD ASSEMBLY PARTS LIST  
07970-60230 (Series 1015)

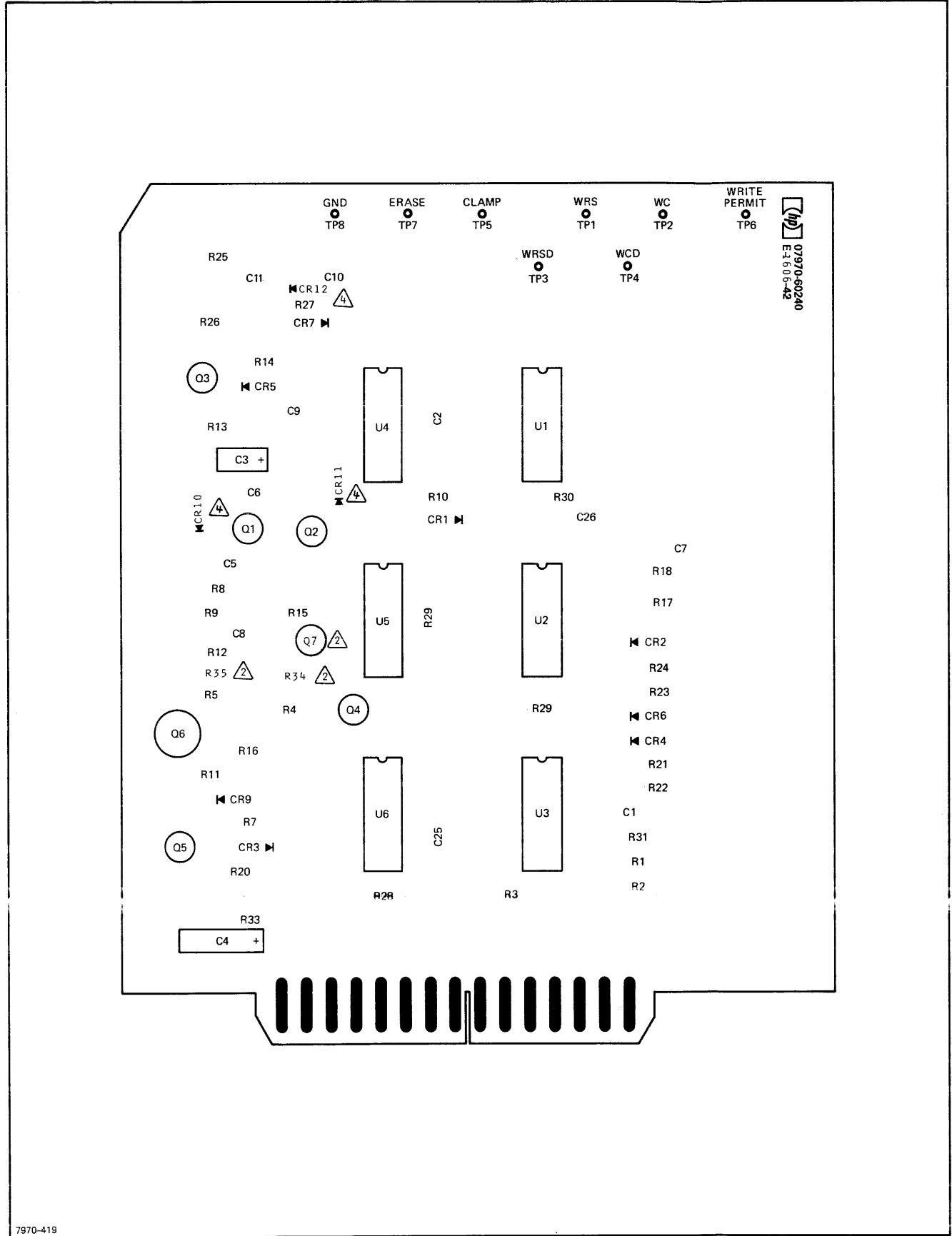
REF. DES./ INDEX NO.	HP PART NO.	DESCRIPTION
1	07970-60230	WRITE MOTHERBOARD ASSEMBLY (Series 1015)
2	8120-0689	CABLE, Write Motherboard
3	5040-6086	HOOD, Connector
4	5040-6072	CONNECTOR, Mounting Block
5	3030-0143	SCREW, Set, 6-32, .5 in.
6	5040-6003	CLAMP, Cable
7	2190-0061	WASHER, Lock, #4, Hel
8	2200-0091	SCREW, 4-40, .562 in.
9	<del>2260-0002</del>	<del>NUT, 4-40</del>
10	1251-0159	CONNECTOR, PC, 2x15
11	0624-0098	SCREW, Tap, 4-40
12	1400-0440	CLAMP, Cable
13	3050-0066	WASHER, Flat, #6
14	2360-0201	SCREW, 6-32, .5 in.
15	2420-0001	NUT, Hex, 6-32
16		WRITE CONTROL PC ASSY
17		WRITE DATA PC ASSY, Single Channel
18		WRITE DATA PC ASSY, Dual Channel
19	07970-60410	CABLE ASSEMBLY, Write, power
20	1460-0573	SPRING, Retaining, PC Board
21	1400-0795	TIE, Cable, Spiral
22	1251-2504	CONNECTOR, Contact, Male
23	1251-2503	CONNECTOR, Contact, Female
24	1251-2025	CONNECTOR, PC, 24 Pin
25	1251-2361	CONTACT, Male, 26 Pin
26	1251-1886	CONNECTOR, PC, 15 Pin
	1251-1115	KEY, PC Connector



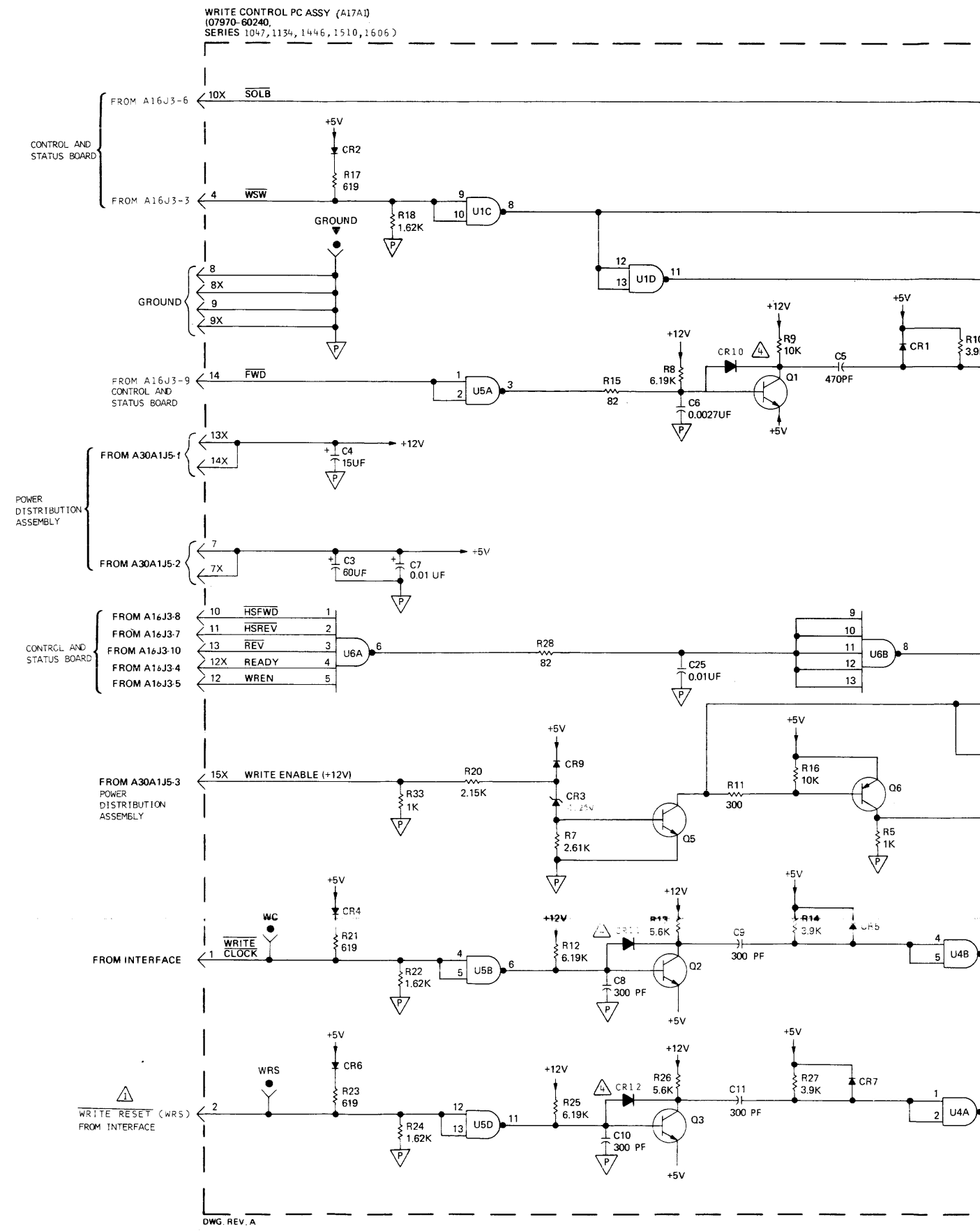


WRITE INTERCONNECT PCA PARTS LIST  
 07970-60300 (Series 1035)  
 07970-62051 (Series 1124,1205)  
 07970-62165 (Series 1218)

REF. DES./ INDEX NO.	HP PART NO.	DESCRIPTION
	07970-60300	WRITE INTERCONNECT PCA (Series 1035)
CR1	1901-0025	DIODE, 100V
*R1	0698-3627	RESISTOR, fxd, 200, 5%, 2W
*R2-19	0698-3622	RESISTOR, fxd, 120, 5%, 2W
	07970-00440	BRACKET, Write Interconnect
	2360-0197	SCREW, 6-32, .375 Pan
	2190-0918	WASHER, Lock, #6, Hel
	3050-0228	WASHER, Flat, .312
	07970-62051	(Series 1124)
*R1	0698-3627	RESISTOR, fxd, 200, 5%, 2W
*R2-19	0698-3631	RESISTOR, fxd, 330, 5%, 2W
	07970-62051	(Series 1205)
*R1	0698-3624	RESISTOR, fxd, 150, 5%, 2W
*R2-19	0698-3631	RESISTOR, fxd, 330, 5%, 2W
	07970-62165	(Series 1218)
*R1	0698-3624	RESISTOR, fxd, 150, 5%, 2W
*R2-19	0698-3626	RESISTOR, fxd, 180, 5%, 2W



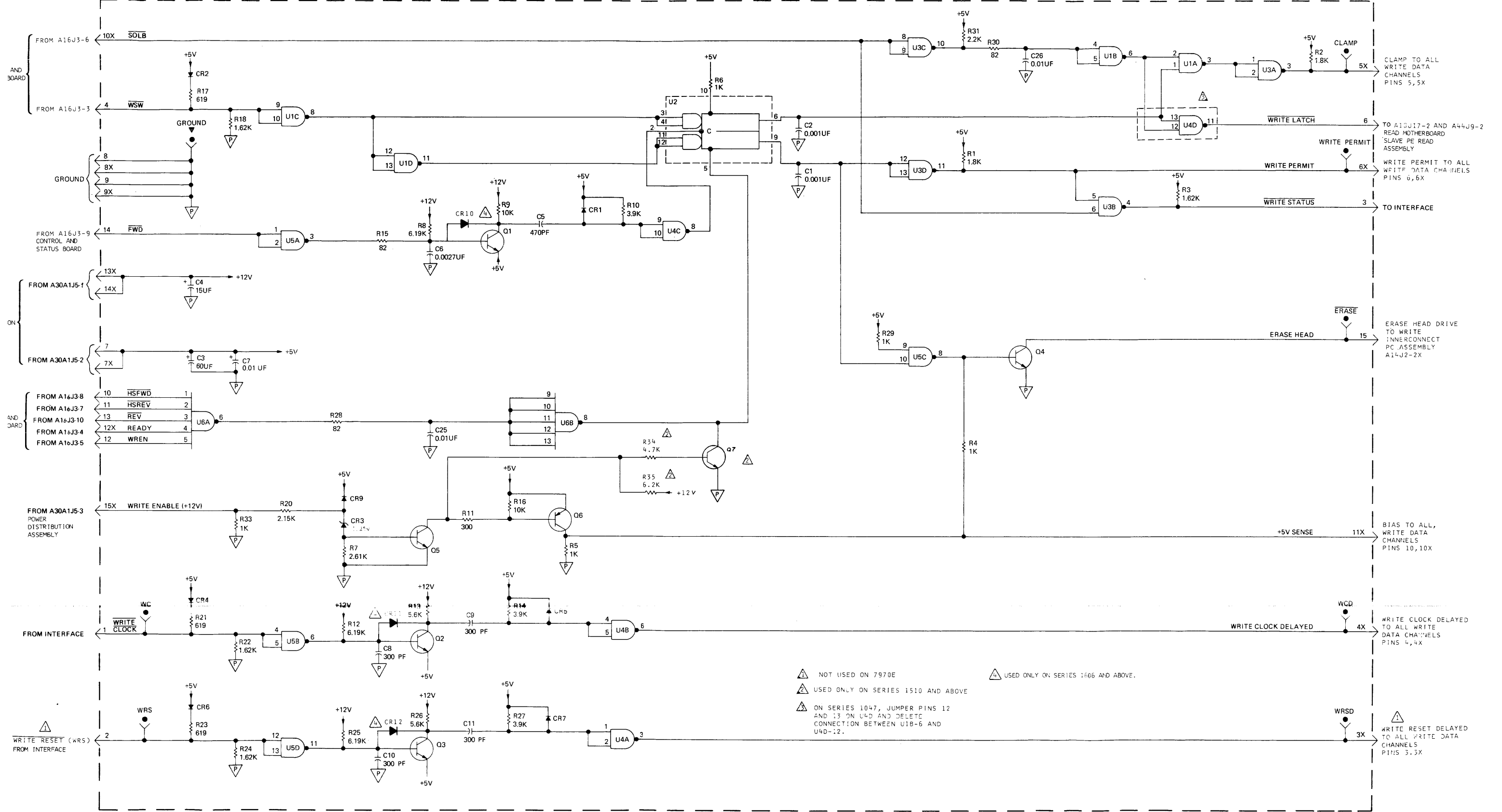
7970-419



DWG. REV. A



WRITE CONTROL PC ASSY (A17A1)  
 (07970-60240,  
 SERIES 1047, 1134, 1446, 1510, 1605)



DWG. REV. A

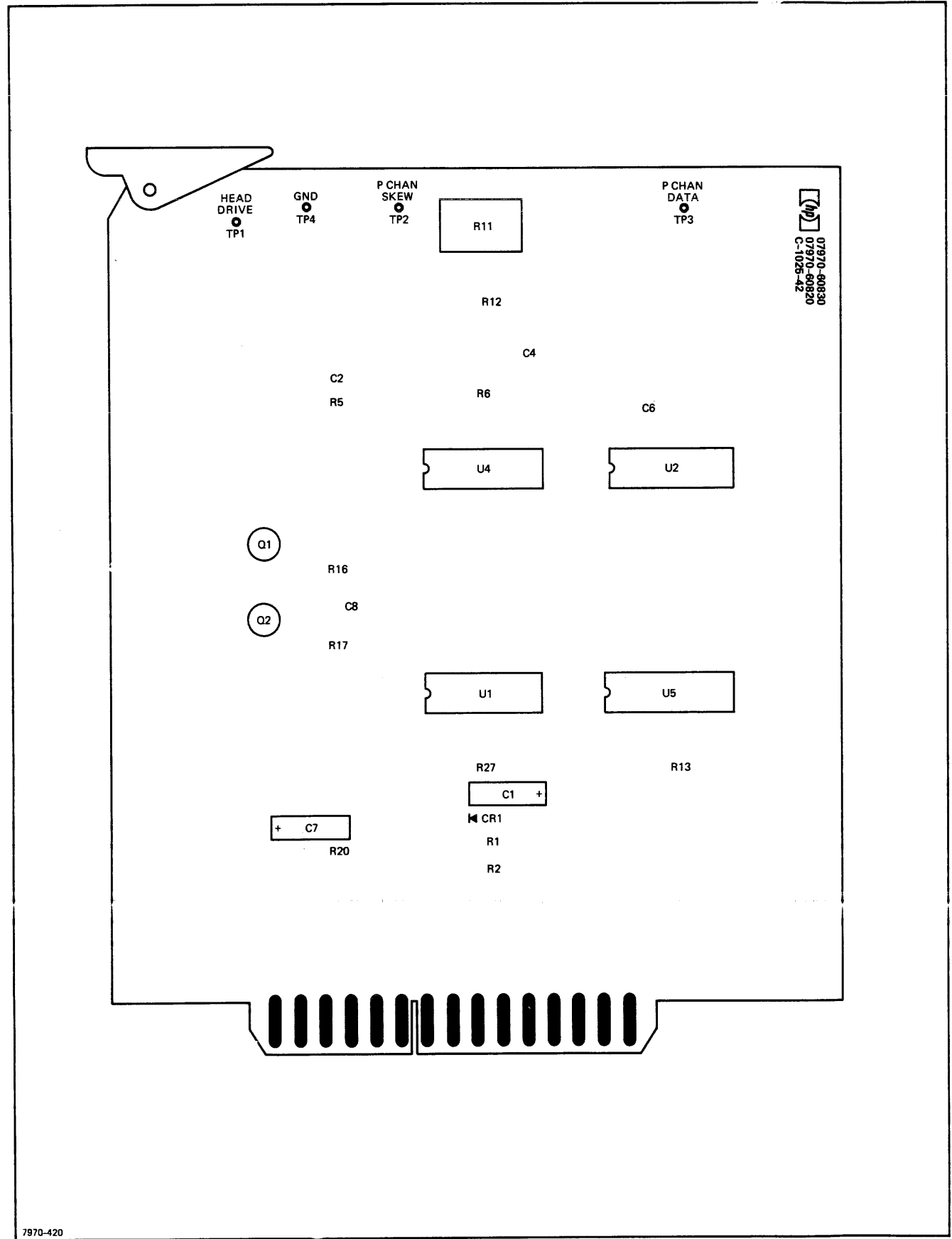
Write Control PC Assembly A17A1

WRITE CONTROL PCA PARTS LIST  
07970-60240 (Series 1047, 1134, 1446, 1510, 1606)

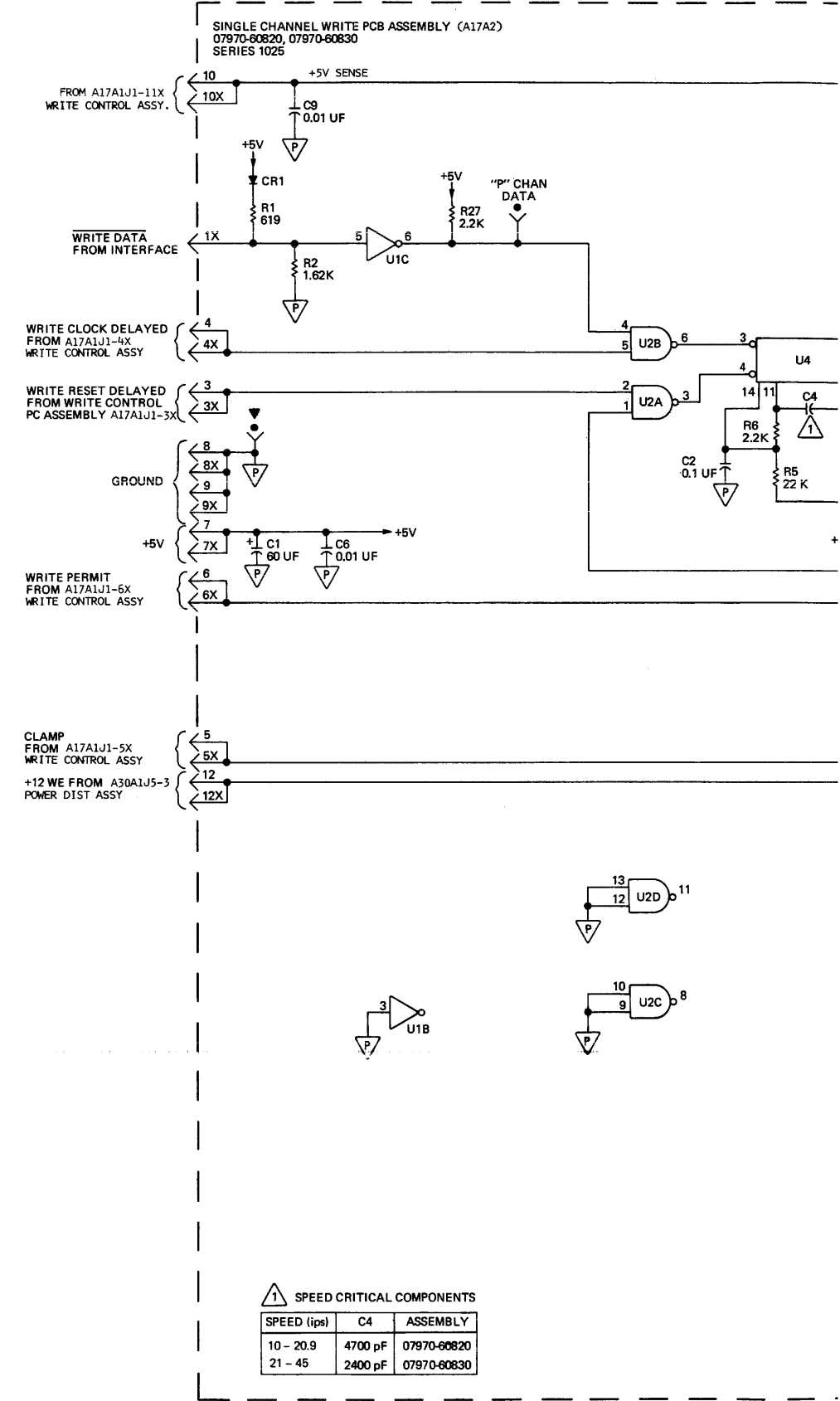
REF. DES./ INDEX NO.	HP PART NO.	DESCRIPTION
	07970-60240	WRITE CONTROL PCA (Series 1134)
C1,2	0160-0153	CAPACITOR, fxd, .001uf, 10%
C3	0180-0106	CAPACITOR, fxd, 60uf, 20%
C4	0180-1746	CAPACITOR, fxd, 15uf, 10%
C5	0160-2210	CAPACITOR, fxd 470pf, 5%
C6	0160-0300	CAPACITOR, fxd, .0027uf, 200V
C7	0160-2055	CAPACITOR, fxd, .01uf, 100V
C8-11	0160-2207	CAPACITOR, fxd, 300pf, 5%
C25,26	0160-0161	CAPACITOR, fxd, .01uf, 10%
CR1,5,7	1910-0016	DIODE, 1N292, 60V
CR2,4,6,9	1901-0040	DIODE, 30V, 50ma
CR3	1902-1261	DIODE, Zener
*CR10,11,12	1901-0539	DIODE, Schottky
*Q1,2,3,5,7	1854-0270	TRANSISTOR, 2N4265 PL5
Q4	1854-0246	TRANSISTOR, 2N3643 PL5
Q6	1853-0016	TRANSISTOR, 2N3638 T092
R1,2	0683-1825	RESISTOR, fxd, 1800, 5%, .25W
R3,18,22,24	0757-0428	RESISTOR, fxd, 1.62K, 1%, .125W
R4,5,6,29,33	0683-1025	RESISTOR, fxd, 1K, 5%, .25W
R7	0698-0085	RESISTOR, fxd, 2.61K, 1%, .125W
R8,12,25	0757-0290	RESISTOR, fxd, 6.19K, 1%, .125W
R9,16	0683-1035	RESISTOR, fxd, 10K, 5%, .25W
R10,14,27	0683-3925	RESISTOR, fxd, 3900, 5%, .25W
R11	0683-3015	RESISTOR, fxd, 300, 5%, .25W
R13,26	0683-5625	RESISTOR, fxd, 5600, 5%, .25W
R15,28,30	0683-8205	RESISTOR, fxd, 82, 5%, .25W
R17,21,23	0757-0418	RESISTOR, fxd, 619, 1%, .125W
R20	0698-0084	RESISTOR, fxd, 2.15K, 1%, .125W
R31	0683-2225	RESISTOR, fxd, 2.2K, 5%, .25W
*R34	0683-4725	RESISTOR, fxd, 4.7K, 5%, .25W
*R35	0683-6225	RESISTOR, fxd, 6.2K, 5%, .25W
U1,4	1820-0054	IC, DIGITAL 7400
U2	1820-0095	IC, MC848P
U3	1820-0256	IC, MC858P
U5	1820-0269	IC, SN7403N
U6	1820-0441	IC, MC1801P
	5040-6001	EXTRACTOR, PC
	1480-0116	PIN, Grooved
	Series 1134 NO PARTS CHANGE	
	Series 1446	
*Q1-3,5,7	1854-0215	TRANSISTOR, 2N3904

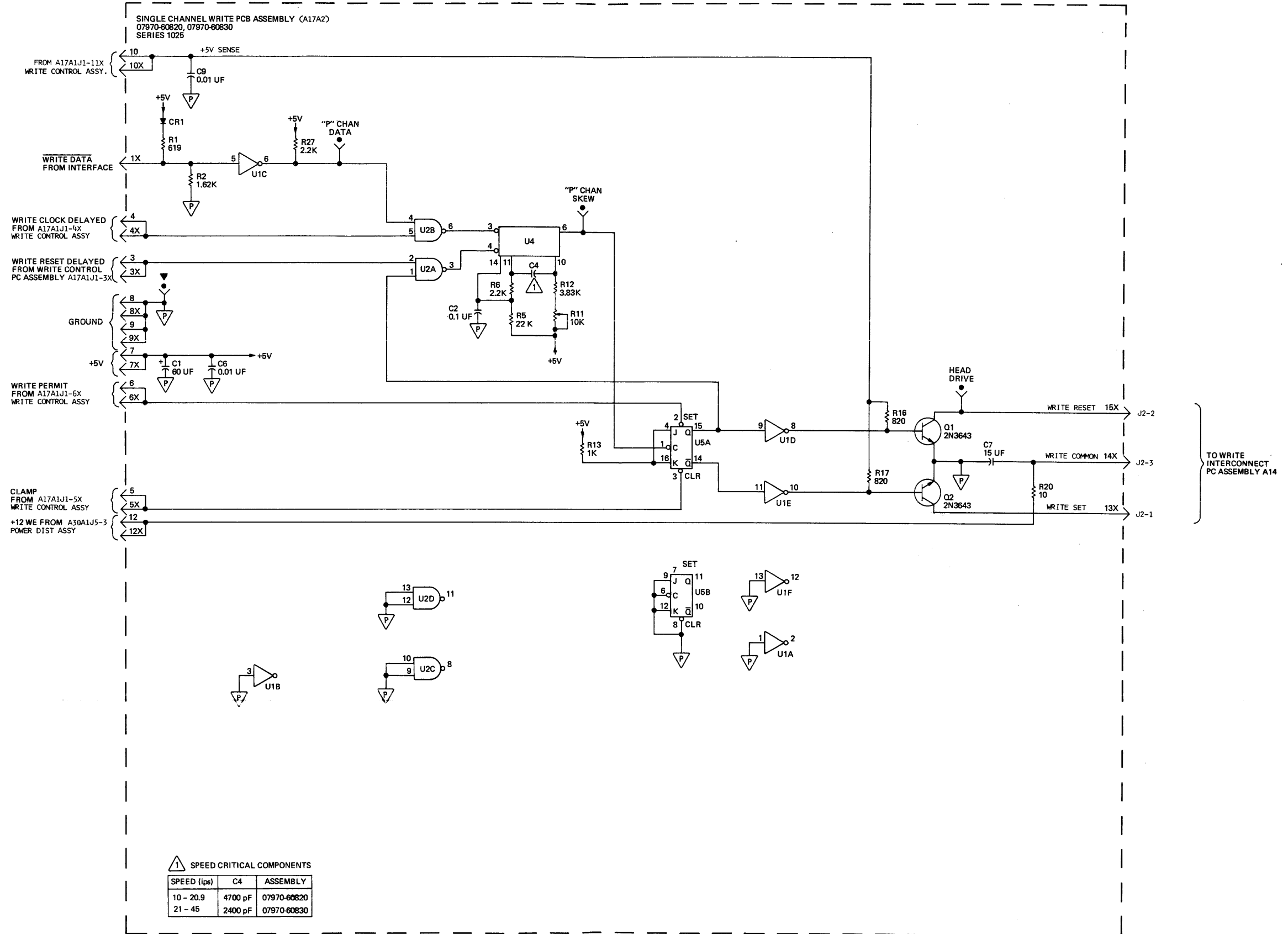
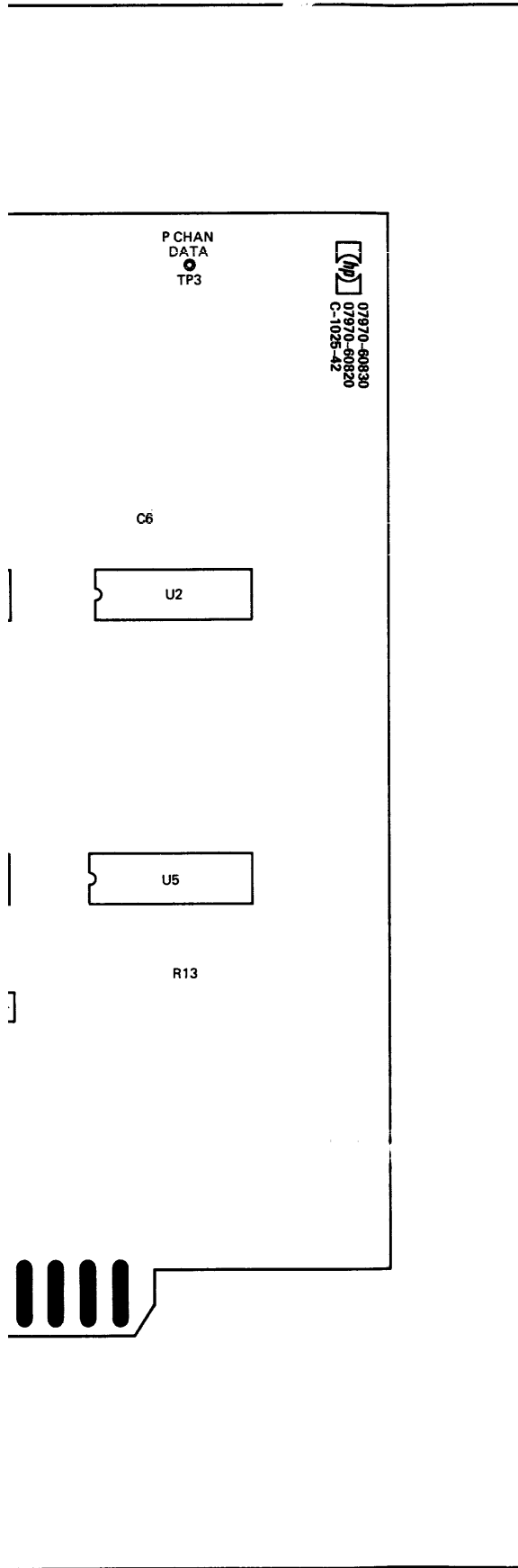
REF. DES./ INDEX NO.	HP PART NO.	DESCRIPTION
*Q1-3,5,7 *R34 *R35	Series 1510 1854-0215 0683-4725 0683-6225	TRANSISTOR, 2N3904, Added to PCA RESISTOR, fxd, 4.7K, 5%, .25W RESISTOR, fxd, 6.2K, 5%, .25W
*CR10-12 *Q1-3,5,7 *R34 *R35	Series 1606 1901-0539 1854-0215 0683-4725 0683-6225	CR10-12 added to PCA DIODE, Schottky TRANSISTOR, 2N3904, RESISTOR, fxd, 4.7K, 5%, .25W RESISTOR, fxd, 6.2K, 5%, .25W

F. DES./ INDEX NO.	HP PART NO.	DESCRIPTION
-3,5,7 4 5	Series 1510 1854-0215 0683-4725 0683-6225	TRANSISTOR, 2N3904, Added to PCA RESISTOR, fxd, 4.7K, 5%, .25W RESISTOR, fxd, 6.2K, 5%, .25W
10-12 -3,5,7 4 5	Series 1606 1901-0539 1854-0215 0683-4725 0683-6225	CR10-12 added to PCA DIODE, Schottky TRANSISTOR, 2N3904, RESISTOR, fxd, 4.7K, 5%, .25W RESISTOR, fxd, 6.2K, 5%, .25W



7970-420





7970-F-013B

SINGLE CHANNEL WRITE DATA PCA PARTS LIST  
 07970-60820 (Series 1025)  
 07970-60830 (Series 1025)

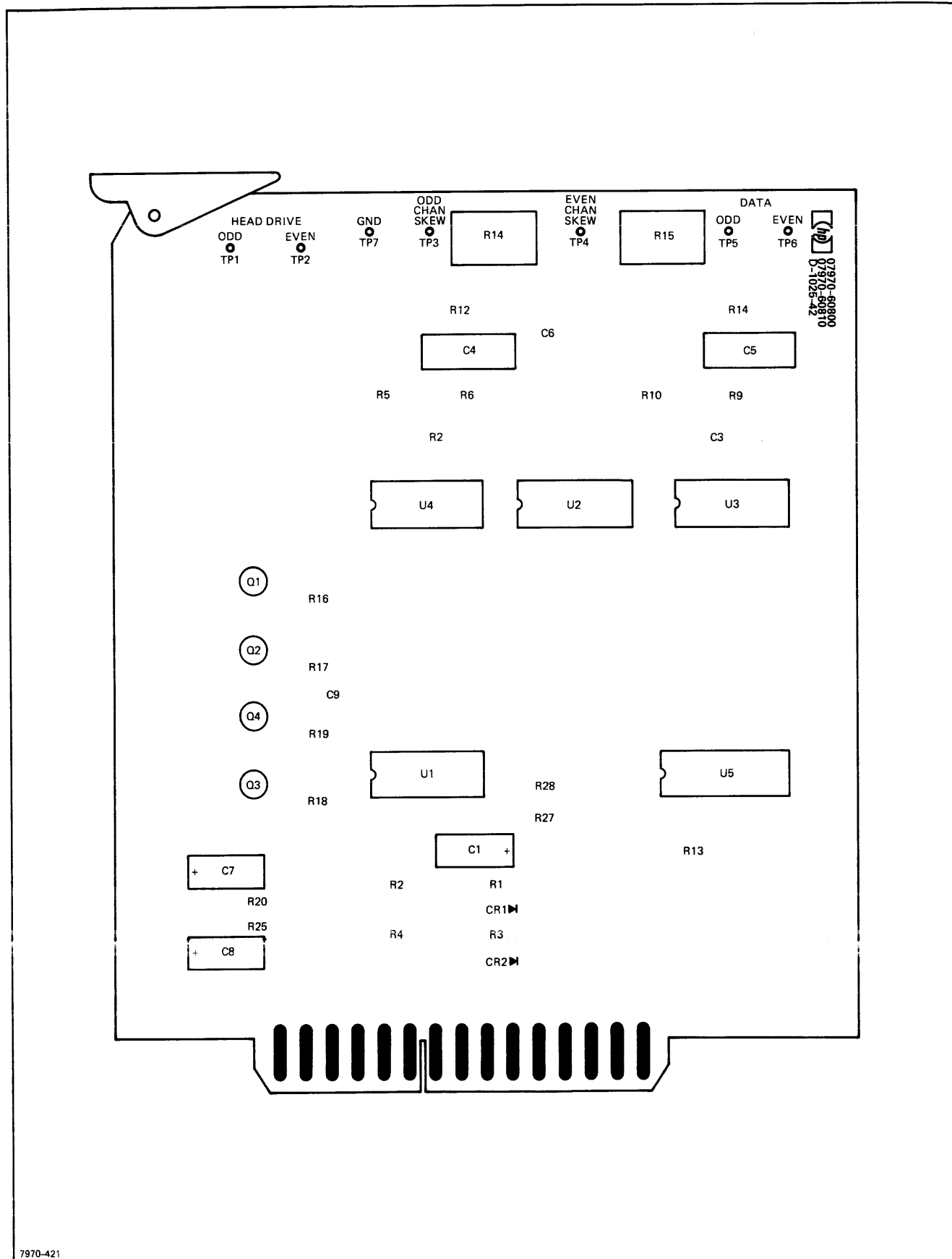
REF. DES./ INDEX NO.	HP PART NO.	DESCRIPTION
	07970-60820	SINGLE CHANNEL WRITE DATA PCA (Series 1025)
C1	0180-0106	CAPACITOR, fxd, 60uf, 20%
C2	0150-0121	CAPACITOR, fxd, .1uf, 10%
△ C4	0160-2373	CAPACITOR, fxd, 4700pf, 2%
C6,9	0160-2055	CAPACITOR, fxd, .01uf, 100V
C7	0180-1746	CAPACITOR, fxd, 15uf, 10%
CR1	1901-0040	DIODE, 30V, 50MA
Q1,2	1854-0246	TRANSISTOR, 2N3643, PL5
R1	0757-0418	RESISTOR, fxd, 619, 1%, .125W
R2	0757-0428	RESISTOR, fxd, 1.62K, 1%, .125W
R5	0683-2205	RESISTOR, fxd, 22, 5%, .25W
R6,27	0683-2225	RESISTOR, fxd, 2.2K, 5%, .25W
R11	2100-1761	RESISTOR, Variable, 10K, 5%
R12	0698-3153	RESISTOR, 3.83K, 1%, .125W
R13	0683-1025	RESISTOR, fxd, 1K, 5%, .25W
R16,17	0683-8215	RESISTOR, fxd, 820, 5%, .25W
R20	0683-1005	RESISTOR, fxd, 10, 5%, .25W
U1	1820-0479	IC, MC835P
U2	1820-0094	IC, MC846P
U4	1820-0088	IC, MC851P
U5	1820-0076	IC, Digital 7476
	5040-6001	EXTRACTOR PC
	1480-0116	PIN, Grooved, .062 in.

△ 07970-60830 PCA's use 2400pf,  
 part number 0160-2227

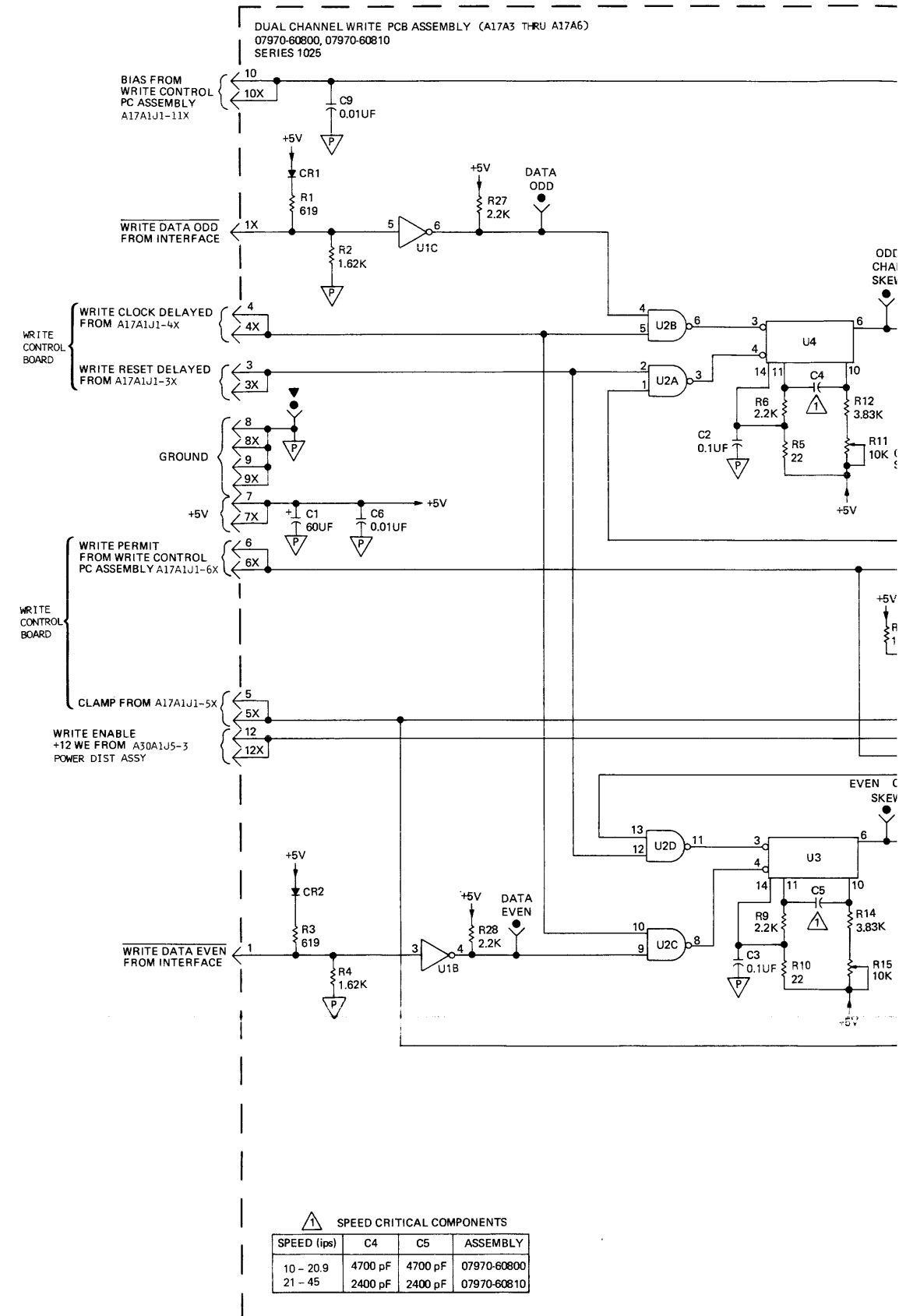
.025)

Single Channel Write Data PC Assembly A17A2

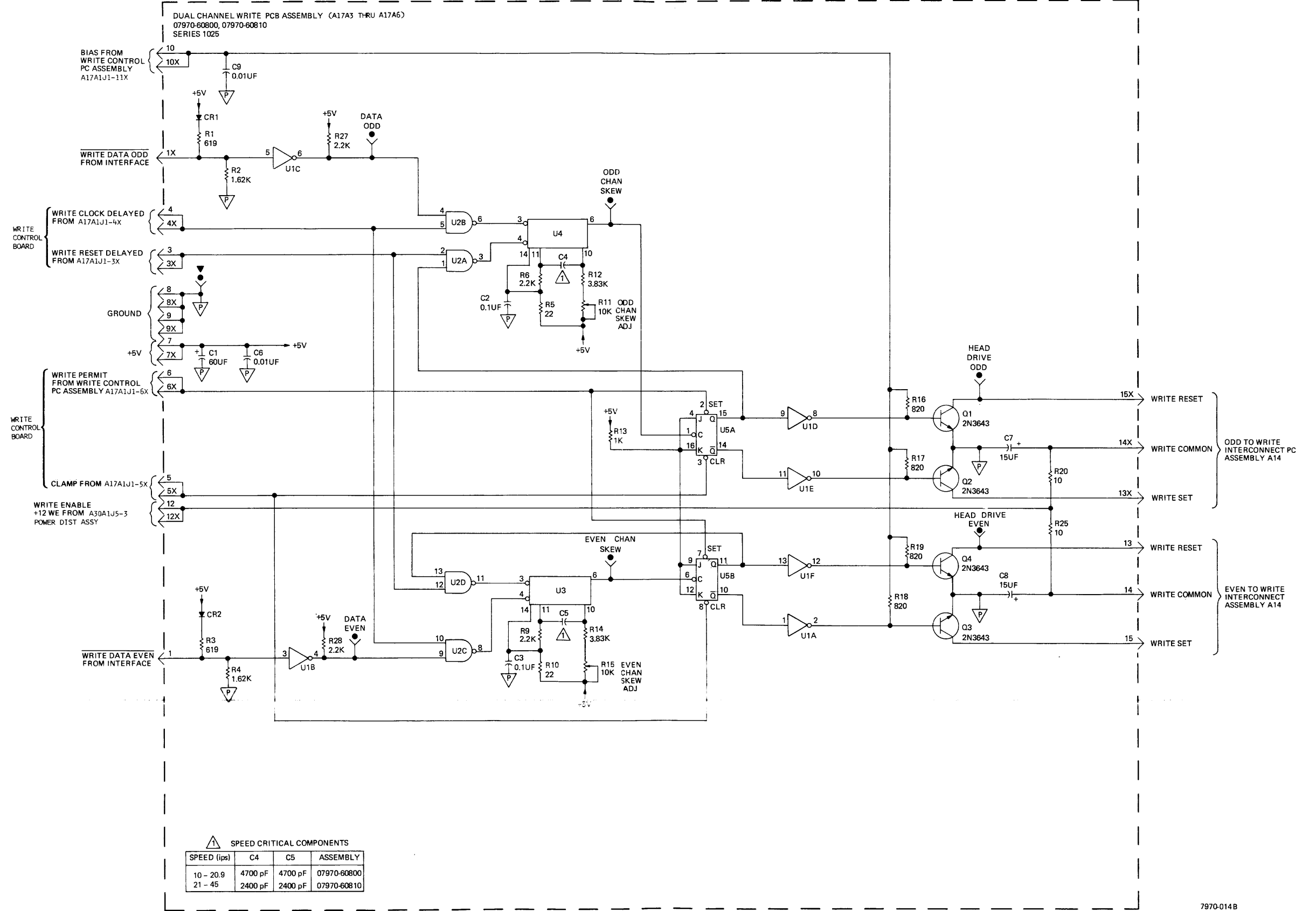
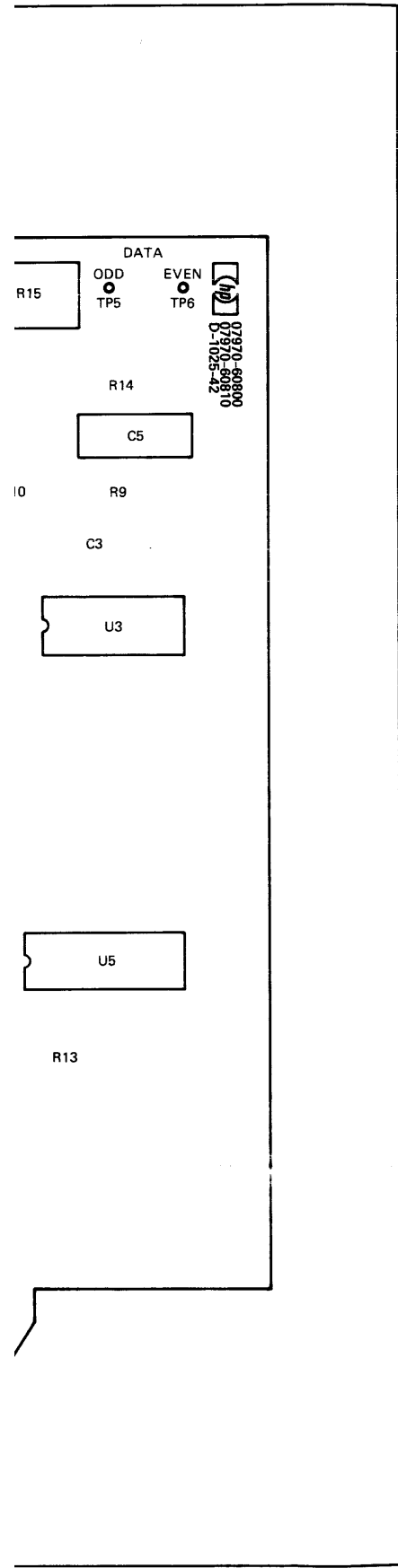
2-112



7970-421







7970-014B

Dual Channel Write Data PC Assembly  
A17A3 thru A17A6

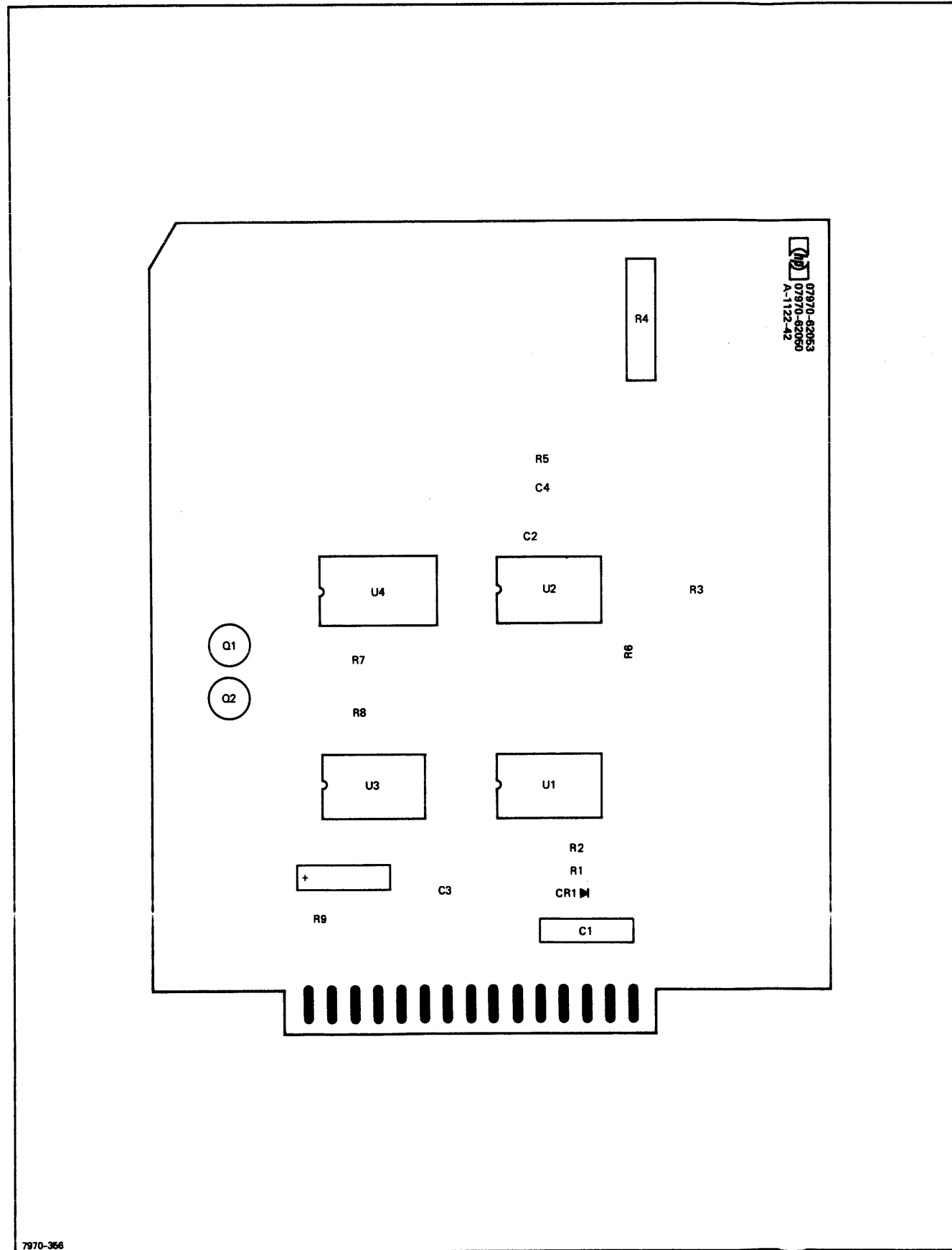
DUAL CHANNEL WRITE PCA PARTS LIST  
 07970-60800 (Series 1025)  
 07970-60810 (Series 1025)

REF. DES. / INDEX NO.	HP PART NO.	DESCRIPTION
	07970-60800	DUAL CHANNEL WRITE DATA PCA (Series 1025)
C1	0180-0106	CAPACITOR, fxd, 60uf
C2,3	0150-0121	CAPACITOR, fxd, 0.1uf
① C4,5	0160-2373	CAPACITOR, fxd, 4700pf
C6,9	0160-2055	CAPACITOR, fxd, 0.01uf
C7,8	0180-1746	CAPACITOR, fxd, 15uf
CR1,2	1901-0040	DIODE, 30V, 50 MA
Q1-4	<del>1854-0246</del>	<del>TRANSISTOR, 2N3643, PL5</del>
R1,3	0757-0418	RESISTOR, fxd, 619, .125W
R2,4	0757-0428	RESISTOR, fxd, 1.62K, .125W
R5,10	0683-2205	RESISTOR, fxd, 22, .25W
R6,9,27,28	0683-2225	RESISTOR, fxd, 2.2K, .25W
R11,15	2100-1761	RESISTOR, fxd, 10K
R12,14	0698-3153	RESISTOR, fxd, 3.83K, .125W
R13	0683-1025	RESISTOR, fxd, 1K, .25W
R16-19	0683-8215	RESISTOR, fxd, 820, .25W
R20,25	0683-1005	RESISTOR, fxd, 10, .25W
U1	1820-0479	IC, MC835P
U2	1820-0094	IC, MC846P
U3,4	1820-0088	IC, MC851P
U5	1820-0076	IC, DIGITAL FF 7476
	5040-6001	EXTRACTOR, PC
	1480-0116	PIN, Grooved, .062 in.

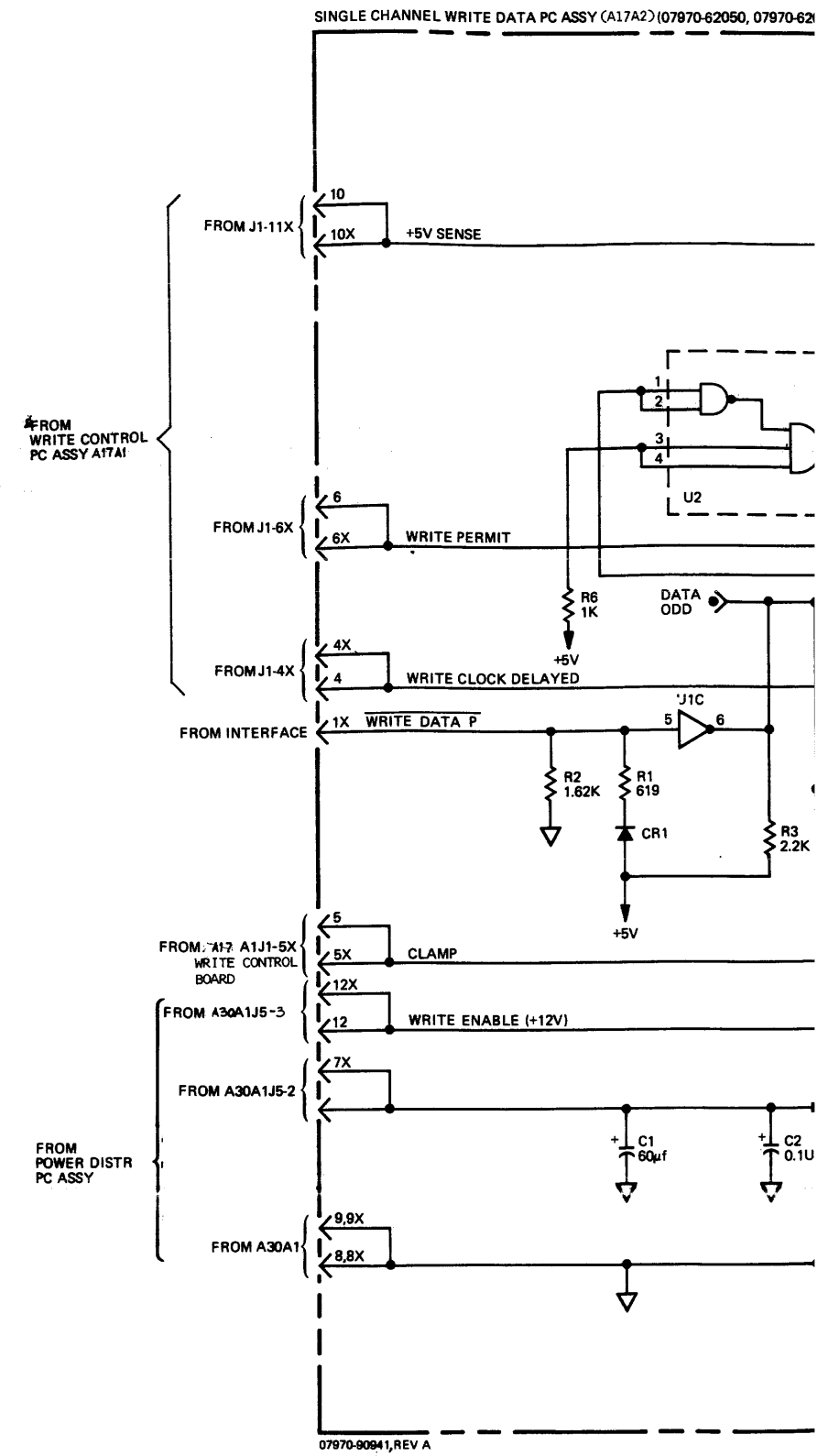
① On 07970-60810 PCA's C4,5 are 2400pf, part number 0160-2227.

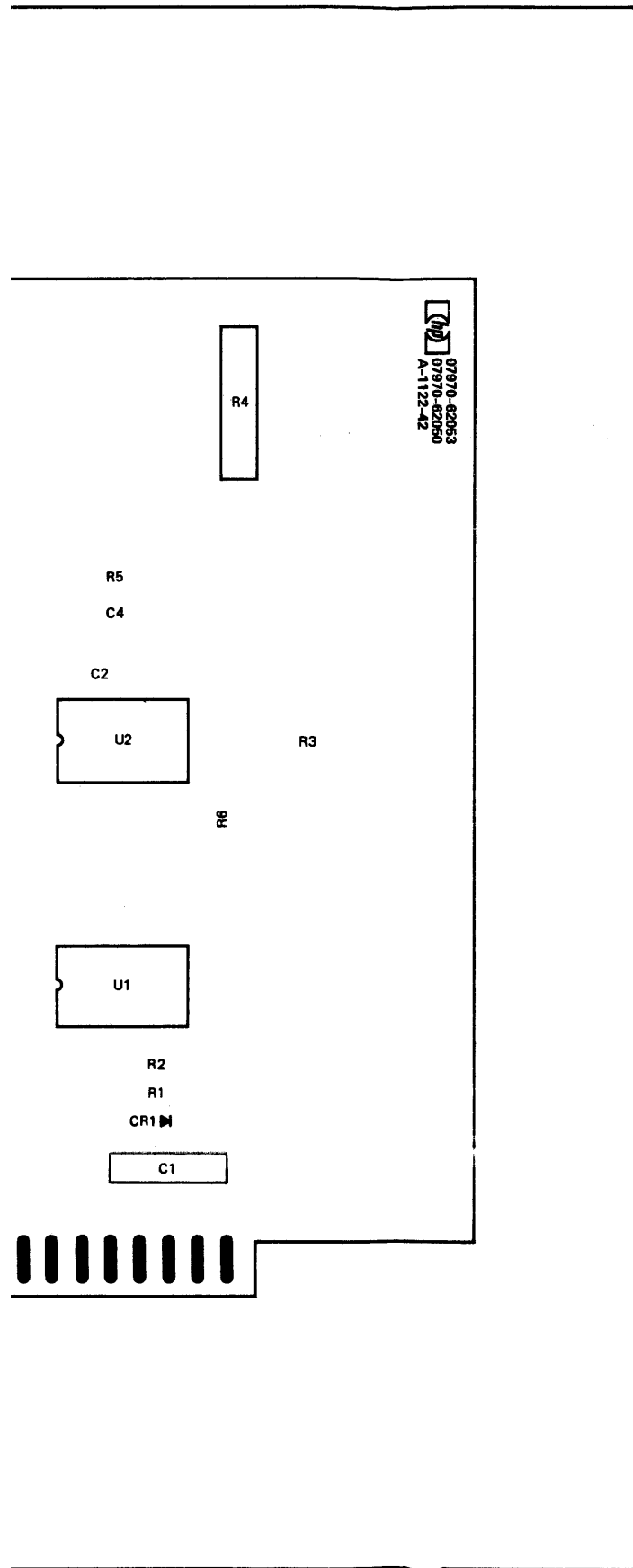
025)

Dual Channel Write Data PC Assembly  
A17A3 thru A17A6

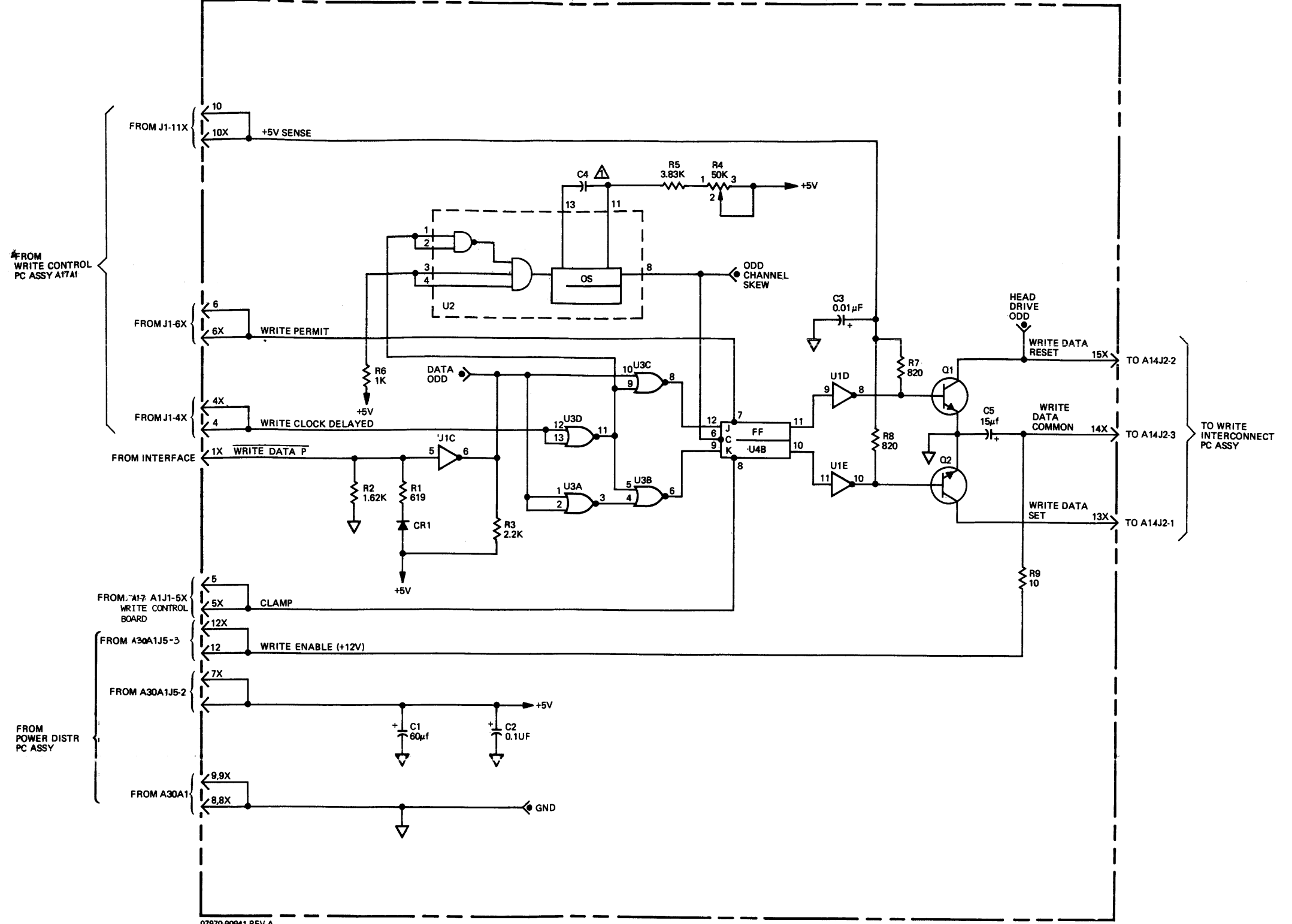


7970-366





SINGLE CHANNEL WRITE DATA PC ASSY (A17A2) (07970-62050, 07970-62053, SERIES 1122)



07970-80941, REV A

PE Single Channel Write Data PC Assembly  
A17A2

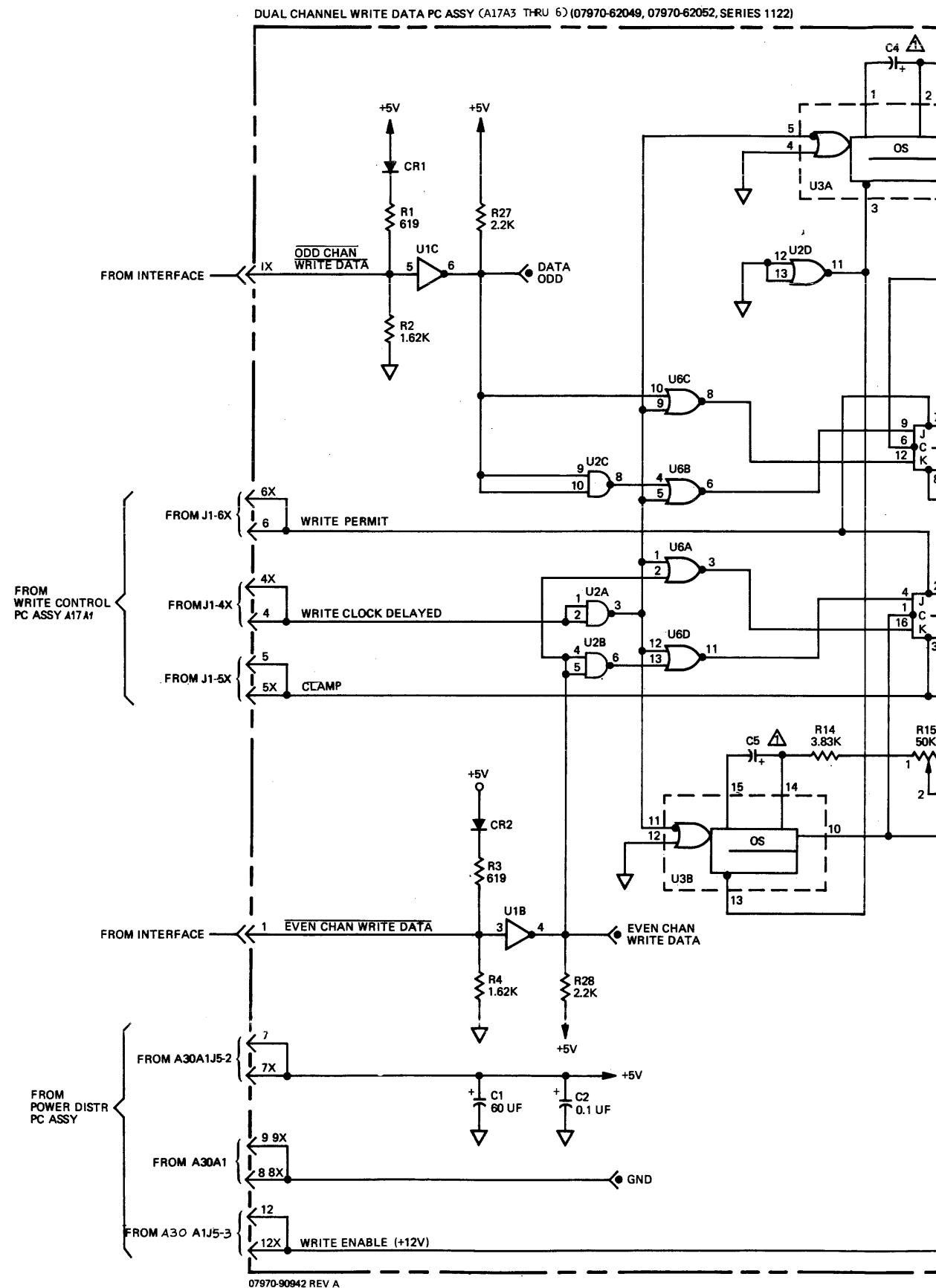
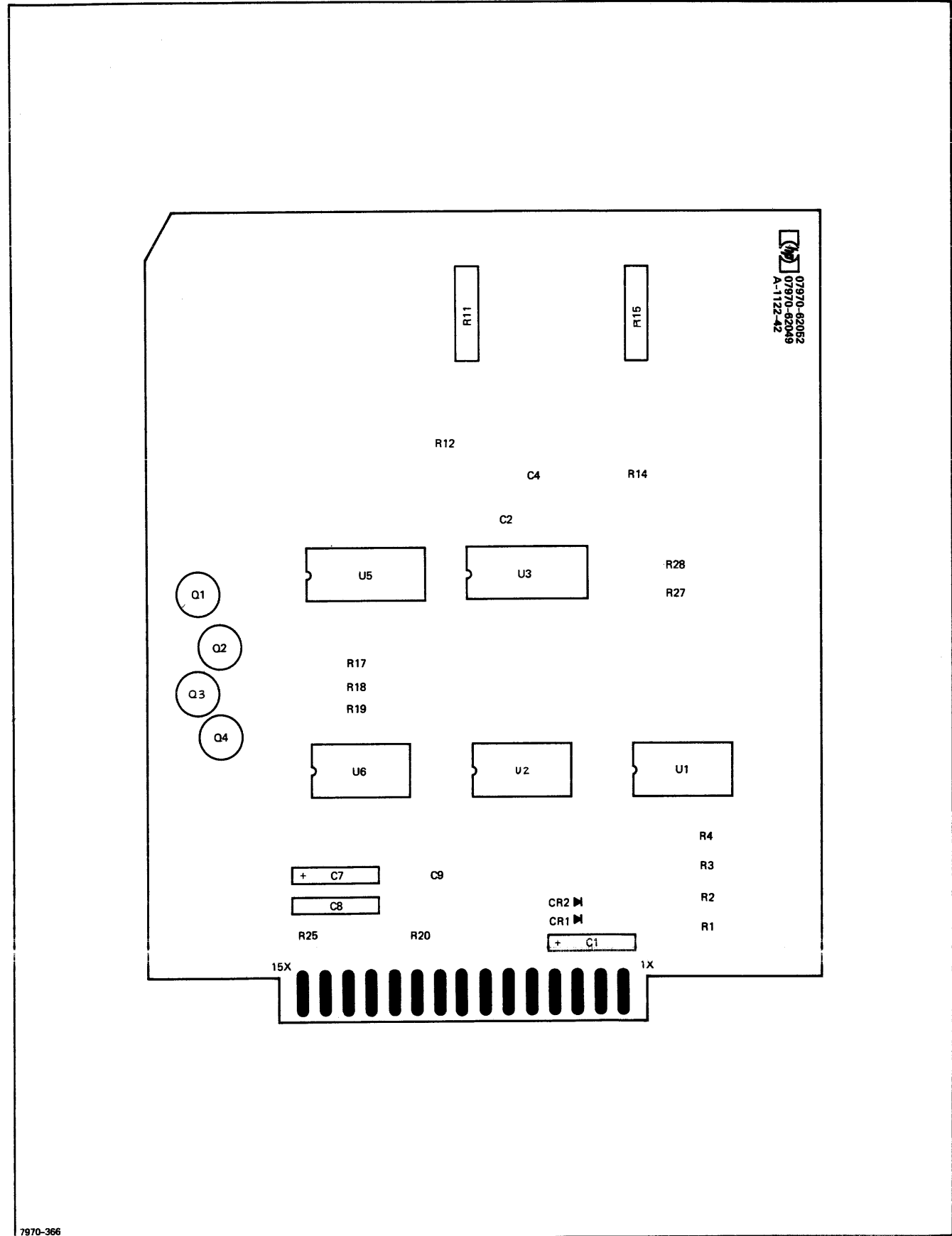
PE SINGLE CHANNEL WRITE DATA PCA PARTS LIST  
 07970-62050 (Series 1122)  
 07970-62053 (Series 1122)

REF. DES./ INDEX NO.	HP PART NO.	DESCRIPTION
	07970-62050	PE SINGLE CHANNEL WRITE DATA PCA (Series 1122)
C1	0180-0106	CAPACITOR, fxd, 60uf, 20%
C2	0150-0121	CAPACITOR, fxd, .1uf, 10%
C3	0160-2055	CAPACITOR, fxd, .01uf, 100V
△ C4	0160-3539	CAPACITOR, fxd, 820pf, 5%
C5	0180-1746	CAPACITOR, fxd, 15uf, 10%
CR1	1901-0040	DIODE, 30V, 50MA
Q1,2	1854-0246	TRANSISTOR, 2N3643, PL5
R1	0757-0418	RESISTOR, fxd, 619, 1%, .125W
R2	0757-0428	RESISTOR, fxd, 1.62K, 1%, .125W
R3	0683-2225	RESISTOR, fxd, 2.2K, 5%, .25W
R4	2100-2707	RESISTOR, Variable, 50K, 10%
R5	0698-3153	RESISTOR, fxd, 3.83K, 1%, .125W
R6	0683-1025	RESISTOR, fxd, 1K, 5%, .25W
R7,8	0683-8215	RESISTOR, fxd, 820, 5%, .25W
R9	0683-1005	RESISTOR, fxd, 10, 5%, .25W
U1	1820-0175	IC, Inverter, SN7405
U2	1820-0207	IC, MC8601P
U3	1820-0239	IC, MC3002P
U4	1820-0076	IC, Digital, 7476
	5040-6001	EXTRACTOR, PC
	1480-0116	PIN, Grooved, .062 in.

△ 07970-62053 PCA's use 1600pf,  
 part no. 0160-2223

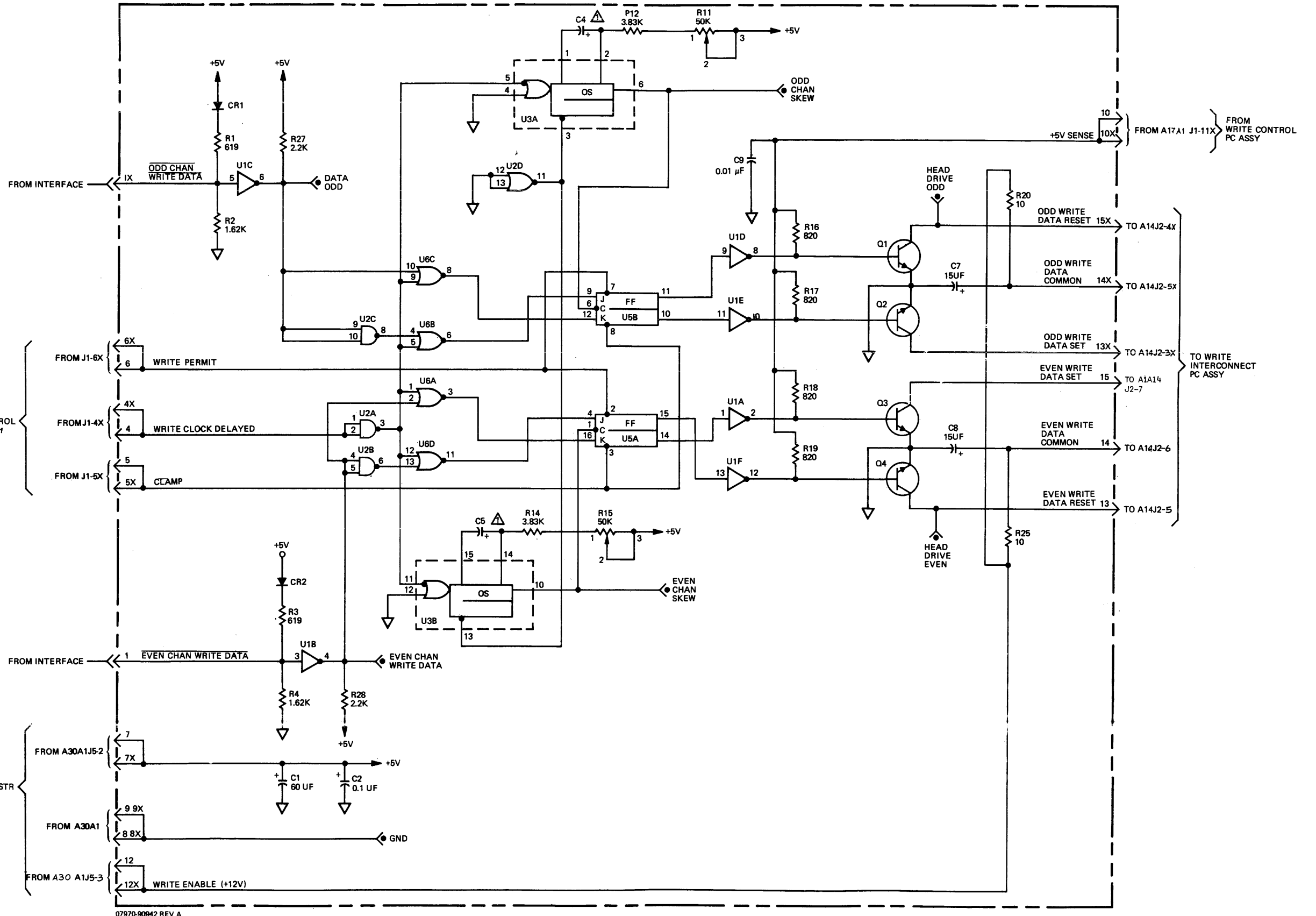
es  
)

PE Single Channel Write Data PC Assembly  
A17A2





DUAL CHANNEL WRITE DATA PC ASSY (A17A3 THRU 6) (07970-62049, 07970-62052, SERIES 1122)




07970-90942 REV A

- 07970-62052
  - 07970-62049
  - A-1122-42
- 
- R28
  - R27
- 
- U1
- 
- R4
  - R3
  - R2
  - R1

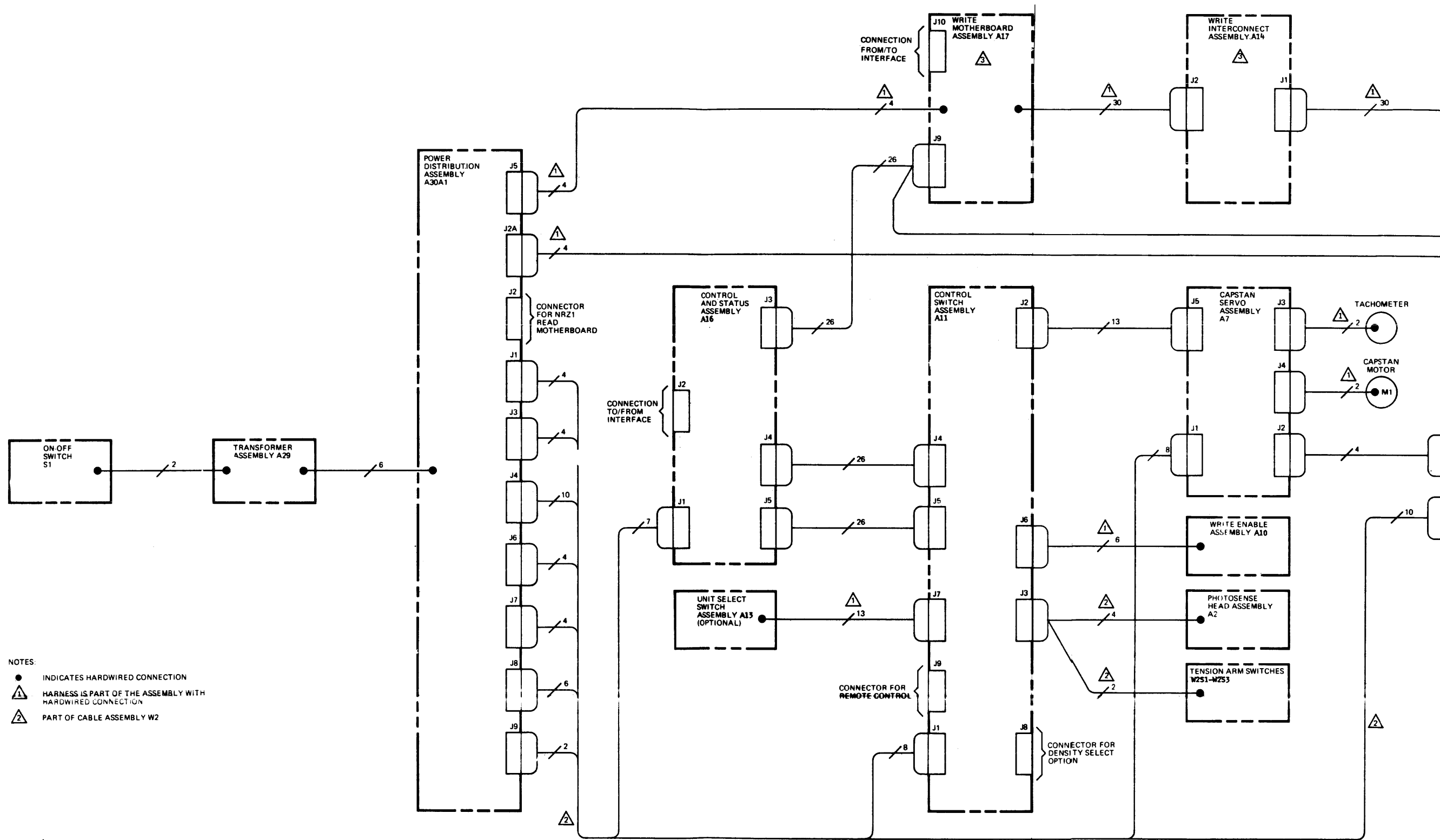
PE Dual Channel Write Data PC Assembly  
A17A3 thru A17A6

PE DUAL CHANNEL WRITE PCA PARTS LIST  
 07970-62049 (Series 1122)  
 07970-62052 (Series 1122)

REF. DES./ INDEX NO.	HP PART NO.	DESCRIPTION
	07970-62049	PE WRITE PCA (Series 1122)
C1	0180-0106	CAPACITOR, fxd, 60uf, 20%
C2	0150-0121	CAPACITOR, fxd, .1uf, 10%
△ C4,5	0160-3539	CAPACITOR, fxd, 820pf, 5%
C7,8	0180-1746	CAPACITOR, fxd, 15uf, 10%
C9	0160-2055	CAPACITOR, fxd, .01uf, 10%
CR1-2	1901-0040	DIODE, 30V, 50MA
Q1-4	1854-0246	TRANSISTOR, 2N3643, PL5
R1,3	0757-0418	RESISTOR, fxd, 619, 1%, .125W
R2,4	0757-0428	RESISTOR, fxd, 1.62K, 1%, .125W
R11,15	2100-2707	RESISTOR, Variable
R12,14	0698-3153	RESISTOR, fxd, 3.83K, 1%, .125W
R16,17,18,19	0683-8215	RESISTOR, fxd, 820, 5%, .25W
R20,25	0683-1005	RESISTOR, fxd, 10, 5%, .25W
R27,28	0683-2225	RESISTOR, fxd, 2.2K, 5%, .25W
U1	1820-0175	IC, INVERTER SN7405
U2	1820-0054	IC, DIGITAL 7400
U3	1820-0515	IC, DIGITAL 9602
U5	1820-0076	IC, DIGITAL FF 7476
U6	1820-0239	IC, MC3002P
	5040-6001	EXTRACTOR, PC
	1480-0116	PIN, Grooved, .062 in.
△ 07970-62052 PCA use 1600pf, part number 0160-2223		



PE Dual Channel Write Data PC Assembly  
A17A3 thru A17A6



- NOTES:
- INDICATES HARDWIRED CONNECTION
  - △ HARNESS IS PART OF THE ASSEMBLY WITH HARDWIRED CONNECTION
  - △ PART OF CABLE ASSEMBLY W2

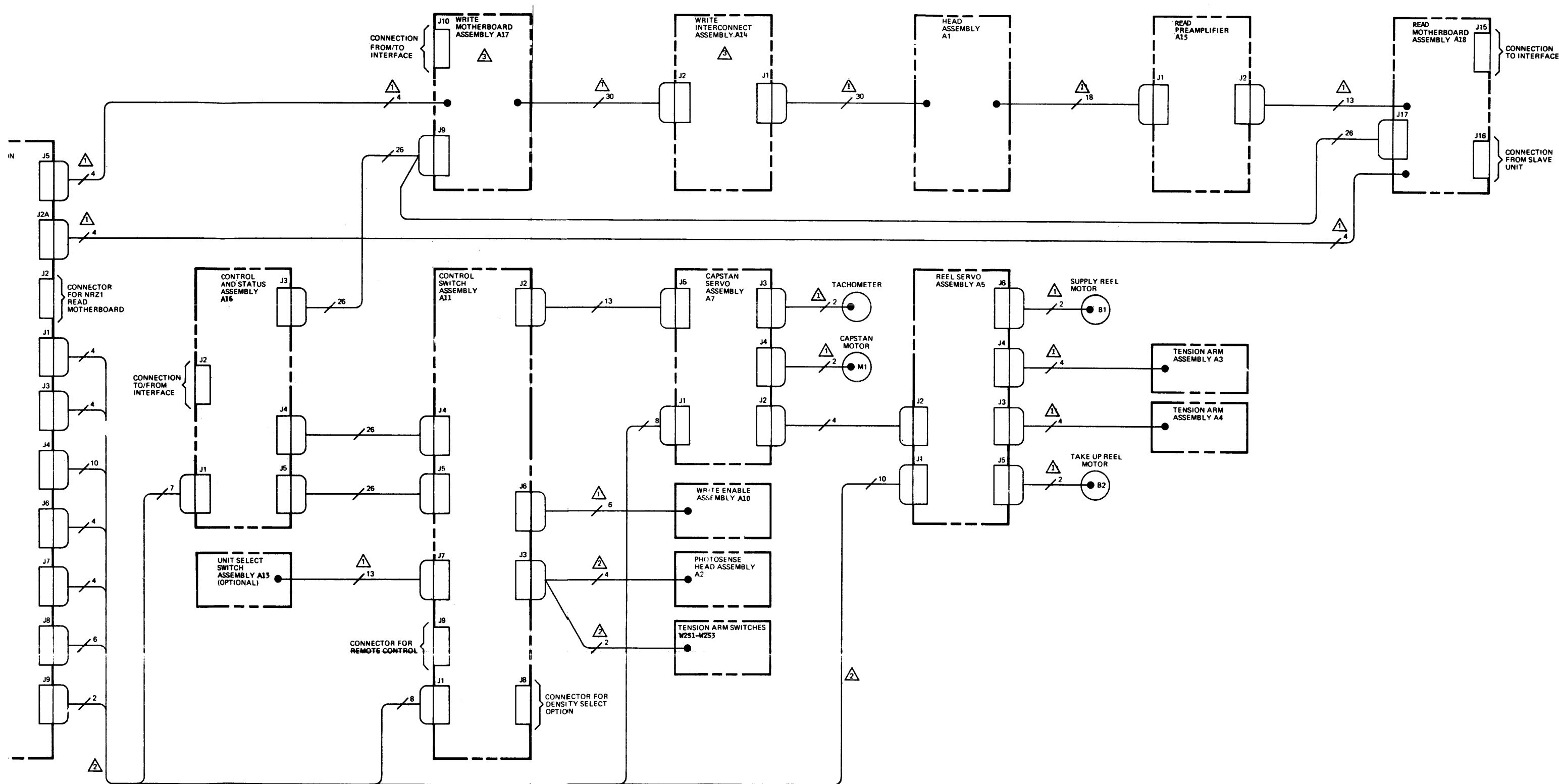
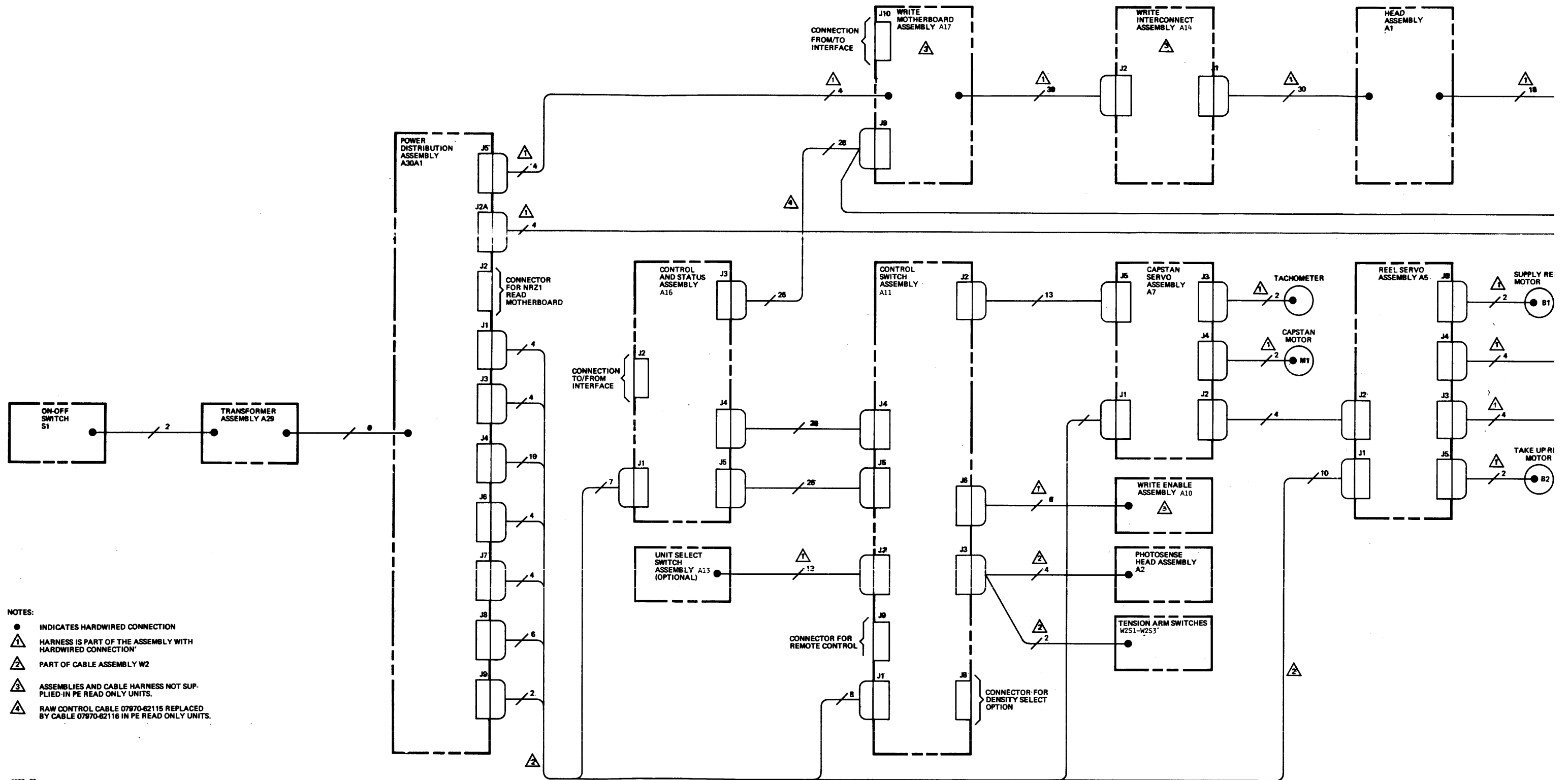


Figure 2-5. 7970B Read-After-Write Tape Units, Cabling Diagram



- NOTES:
- INDICATES HARDWIRED CONNECTION
  - ① HARNESS IS PART OF THE ASSEMBLY WITH HARDWIRED CONNECTION
  - ② PART OF CABLE ASSEMBLY W2
  - ③ ASSEMBLIES AND CABLE HARNESS NOT SUPPLIED IN PE READ ONLY UNITS.
  - ④ RAW CONTROL CABLE 07970-82115 REPLACED BY CABLE 07970-82116 IN PE READ ONLY UNITS.

2228-61

Figure 2-6. 7970E Re Read-Only Tape Units

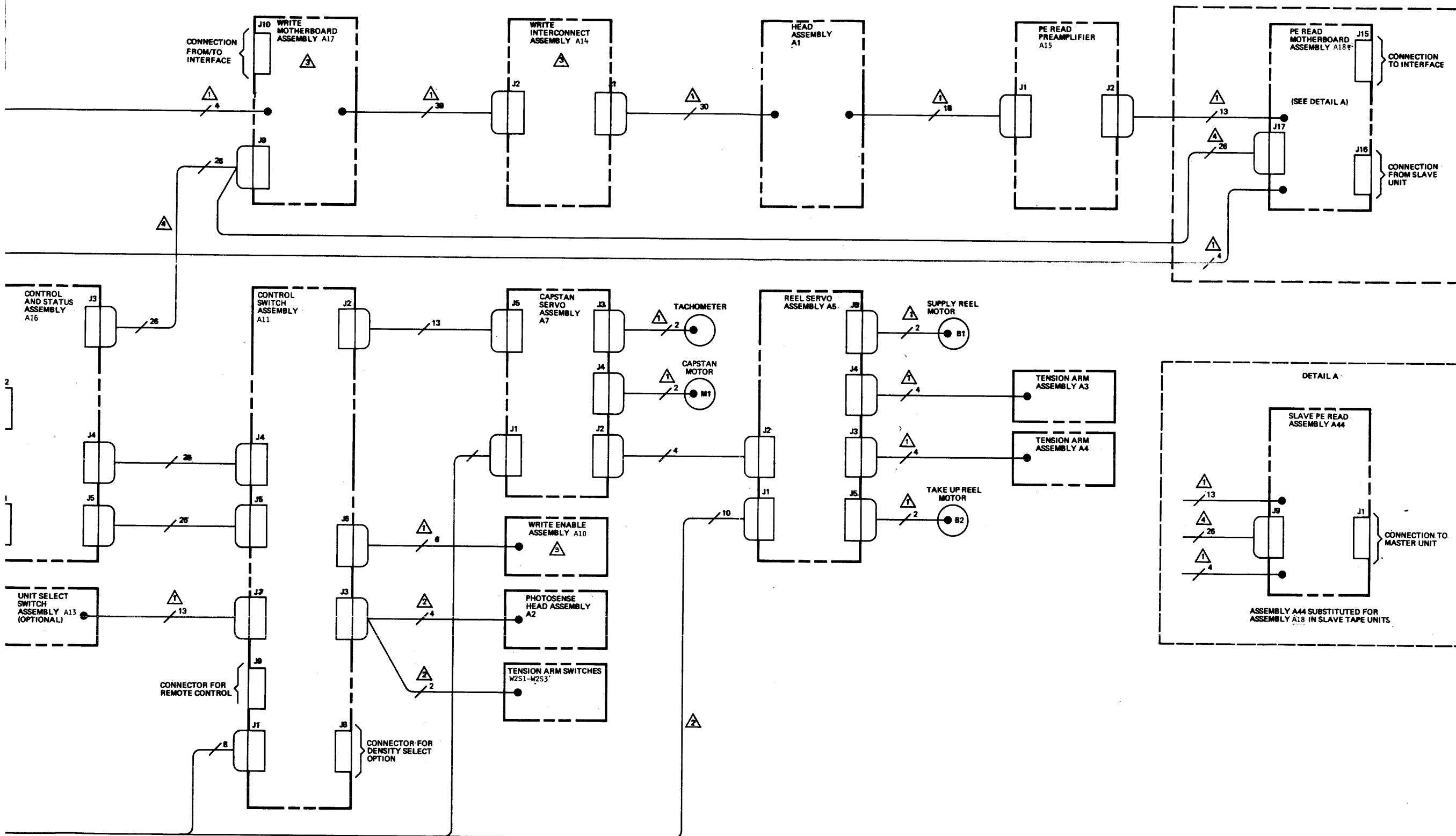
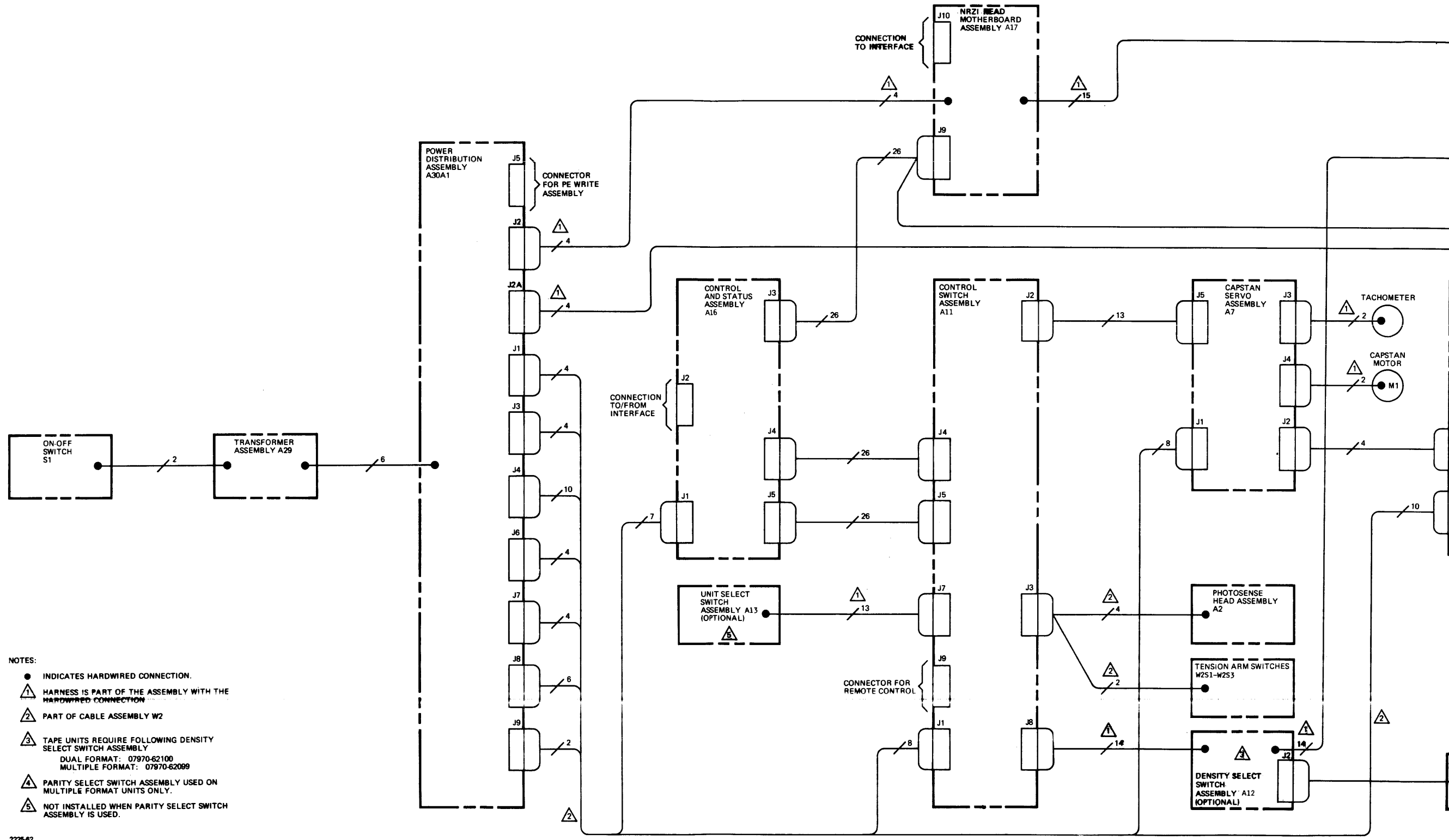


Figure 2-6. 7970E Read-After-Write and Read-Only Tape Units, Cabling Diagram



- NOTES:
- INDICATES HARDWIRED CONNECTION.
  - ⚠ HARNESS IS PART OF THE ASSEMBLY WITH THE HARDWIRED CONNECTION
  - ⚠ PART OF CABLE ASSEMBLY W2
  - ⚠ TAPE UNITS REQUIRE FOLLOWING DENSITY SELECT SWITCH ASSEMBLY  
DUAL FORMAT: 07970-62100  
MULTIPLE FORMAT: 07970-62099
  - ⚠ PARITY SELECT SWITCH ASSEMBLY USED ON MULTIPLE FORMAT UNITS ONLY.
  - ⚠ NOT INSTALLED WHEN PARITY SELECT SWITCH ASSEMBLY IS USED.



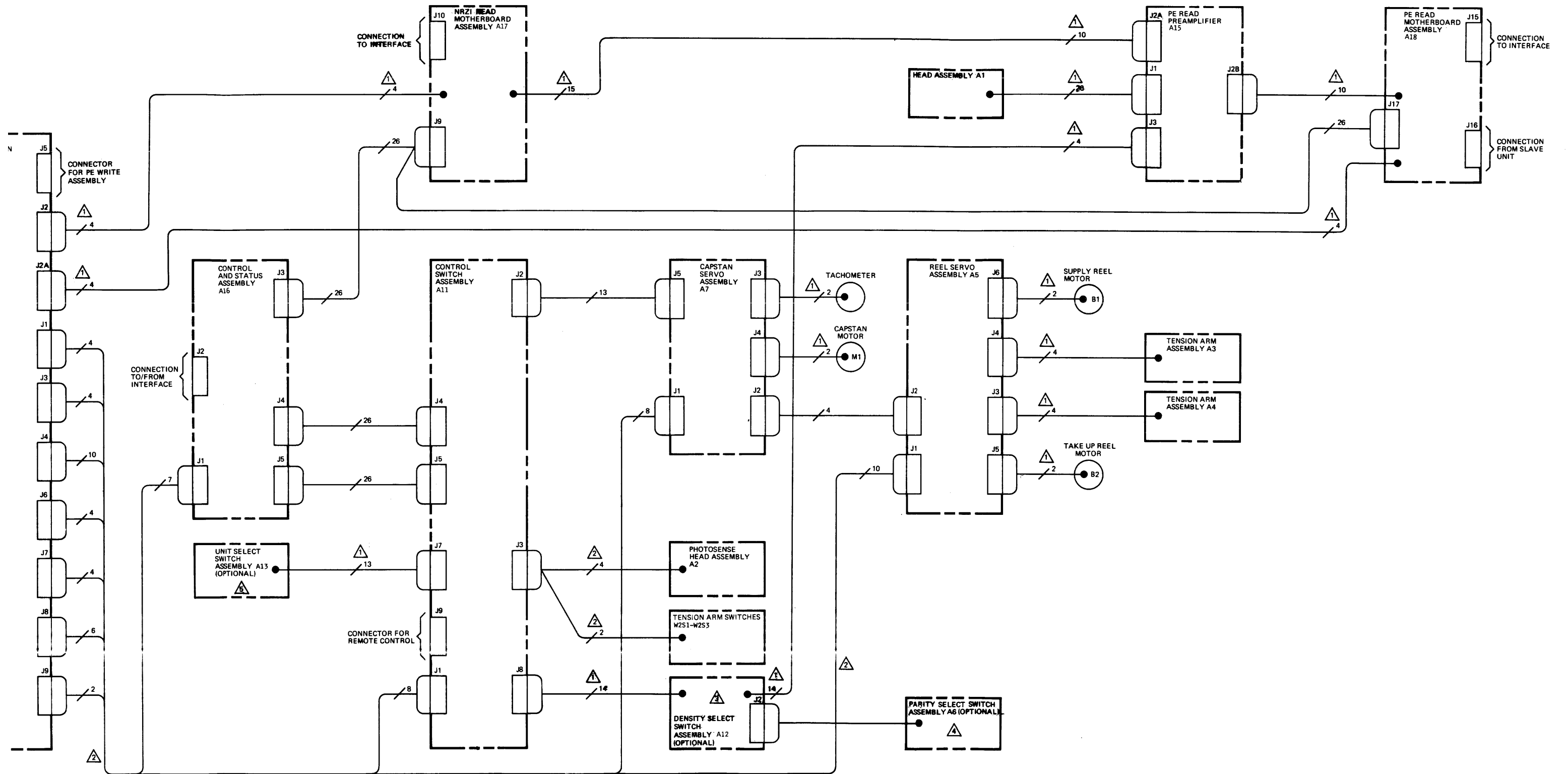
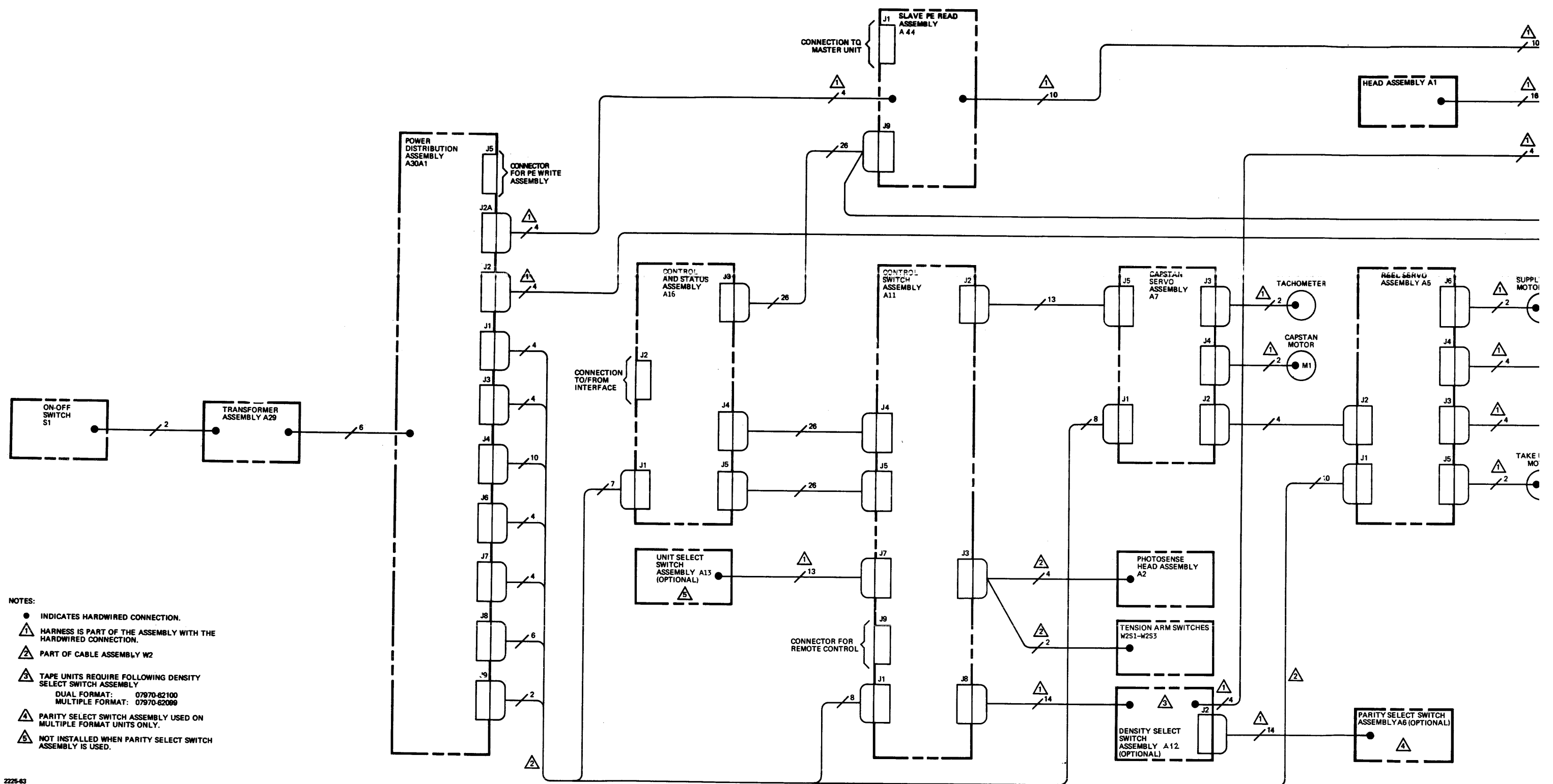


Figure 2-7. 7970E Master Dual and Multiple Format Tape Units, Cabling Diagram



- NOTES:
- INDICATES HARDWIRED CONNECTION.
  - ① HARNESS IS PART OF THE ASSEMBLY WITH THE HARDWIRED CONNECTION.
  - ② PART OF CABLE ASSEMBLY W2
  - ③ TAPE UNITS REQUIRE FOLLOWING DENSITY SELECT SWITCH ASSEMBLY  
DUAL FORMAT: 07970-62100  
MULTIPLE FORMAT: 07970-62089
  - ④ PARITY SELECT SWITCH ASSEMBLY USED ON MULTIPLE FORMAT UNITS ONLY.
  - ⑤ NOT INSTALLED WHEN PARITY SELECT SWITCH ASSEMBLY IS USED.

2226-63

Figure 2-8. 7970E S. Multiple Format Tape

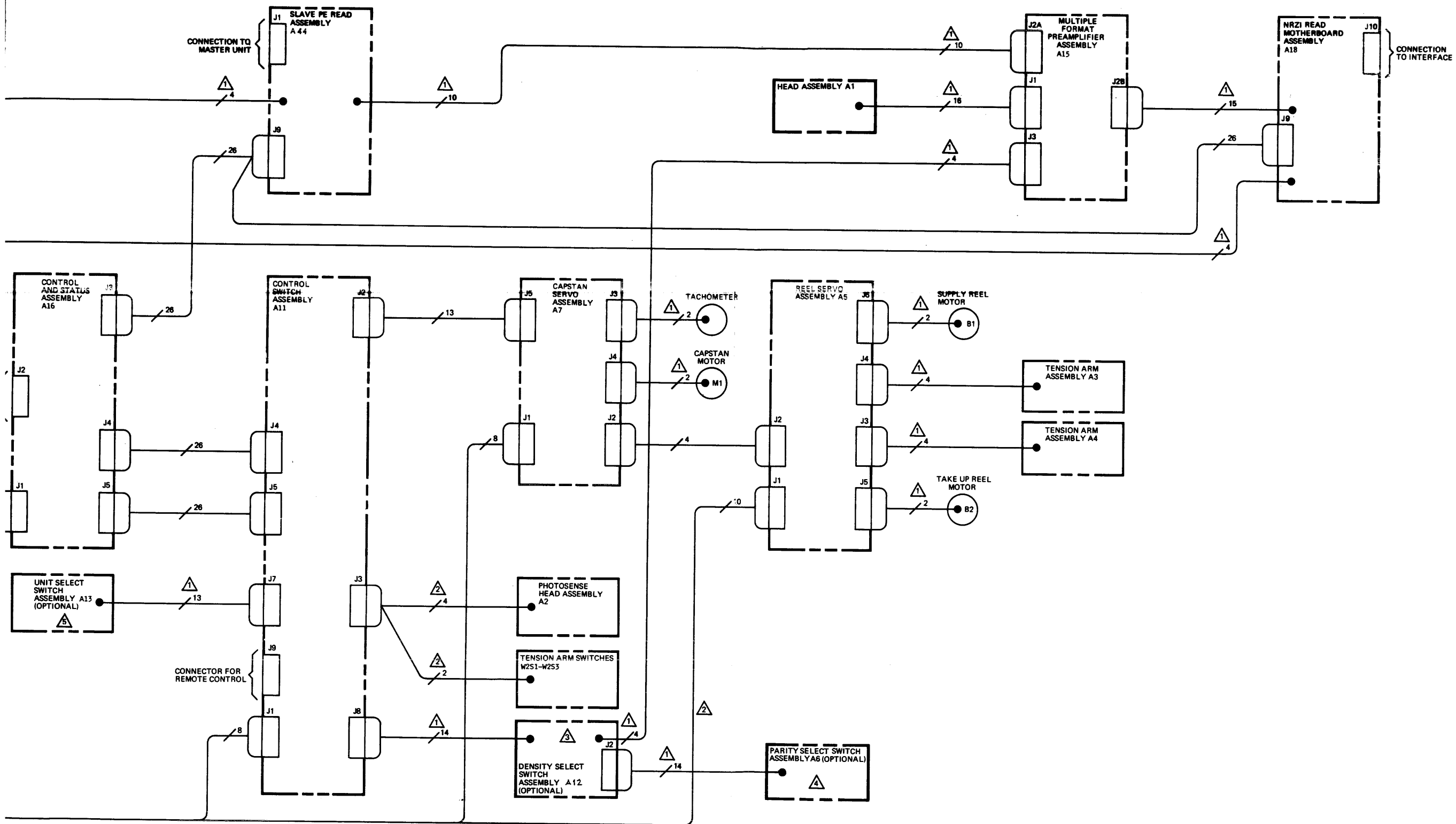
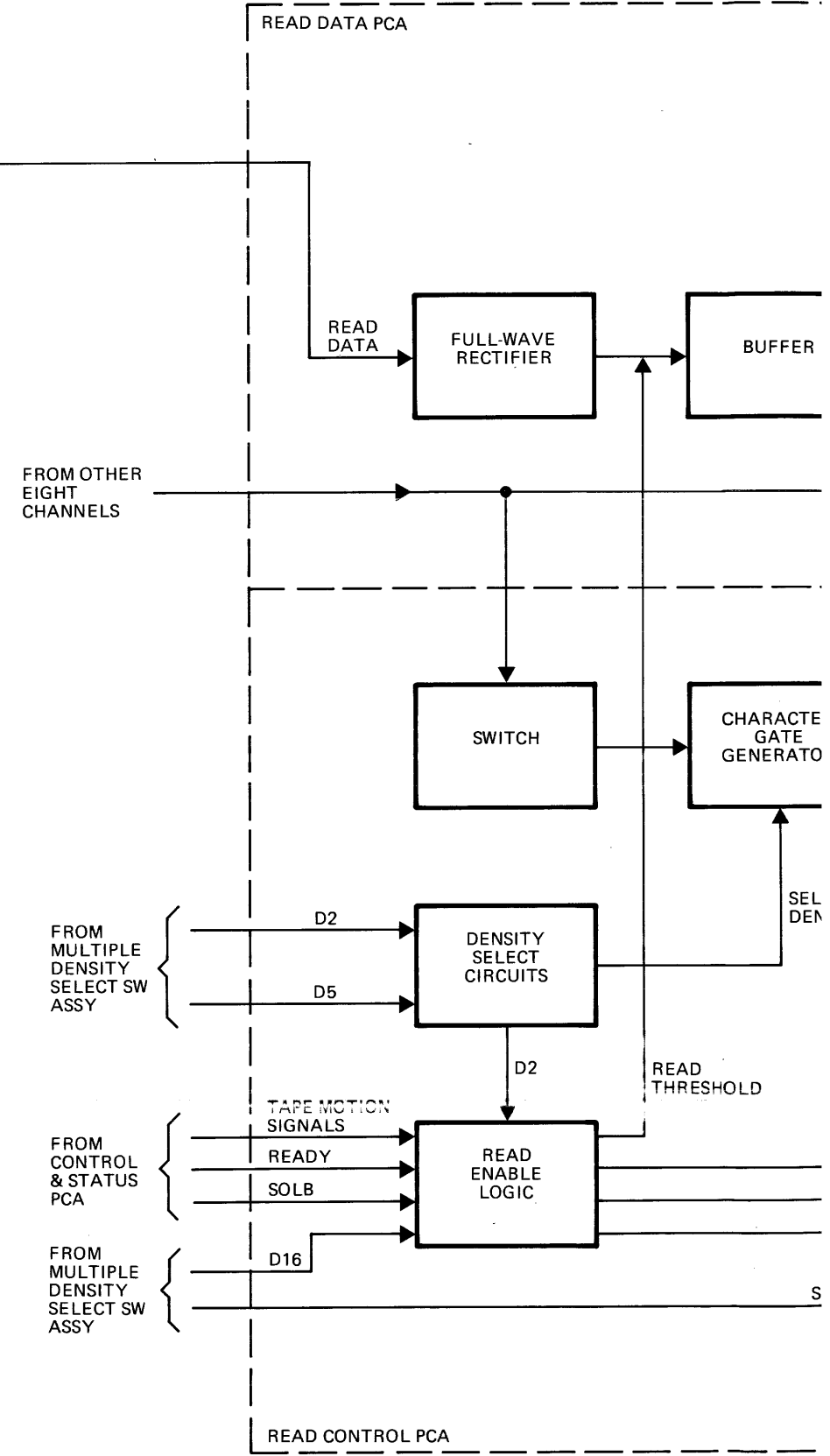
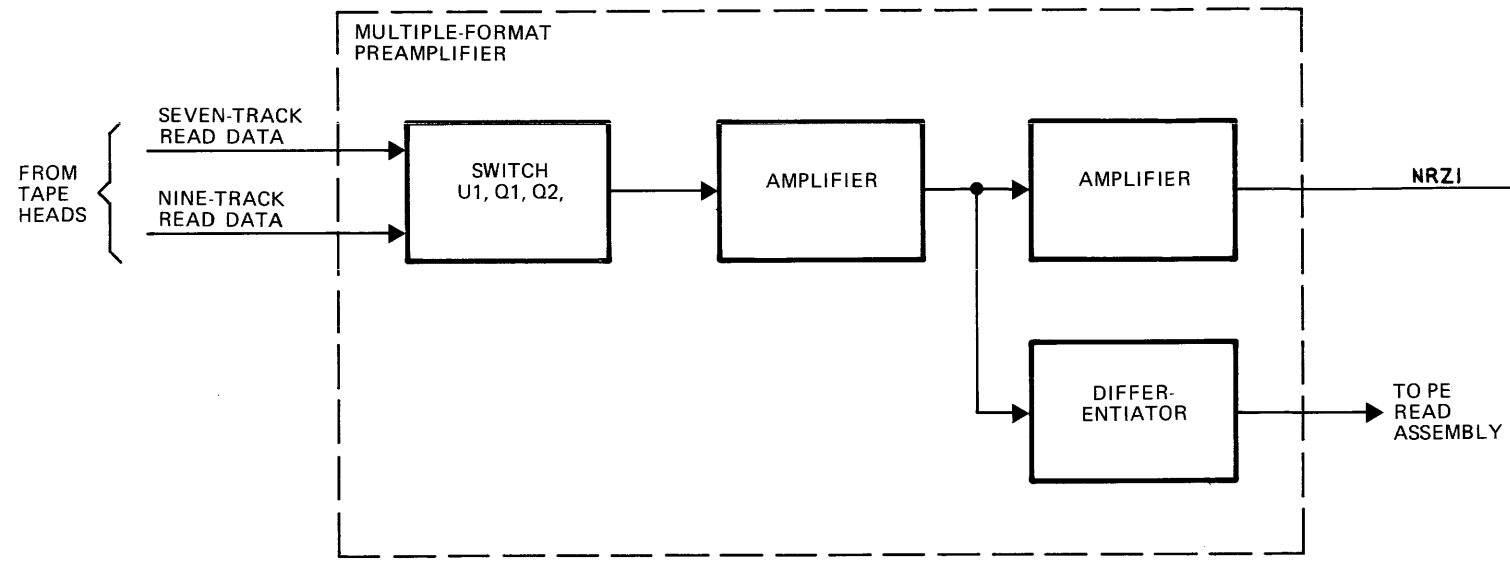
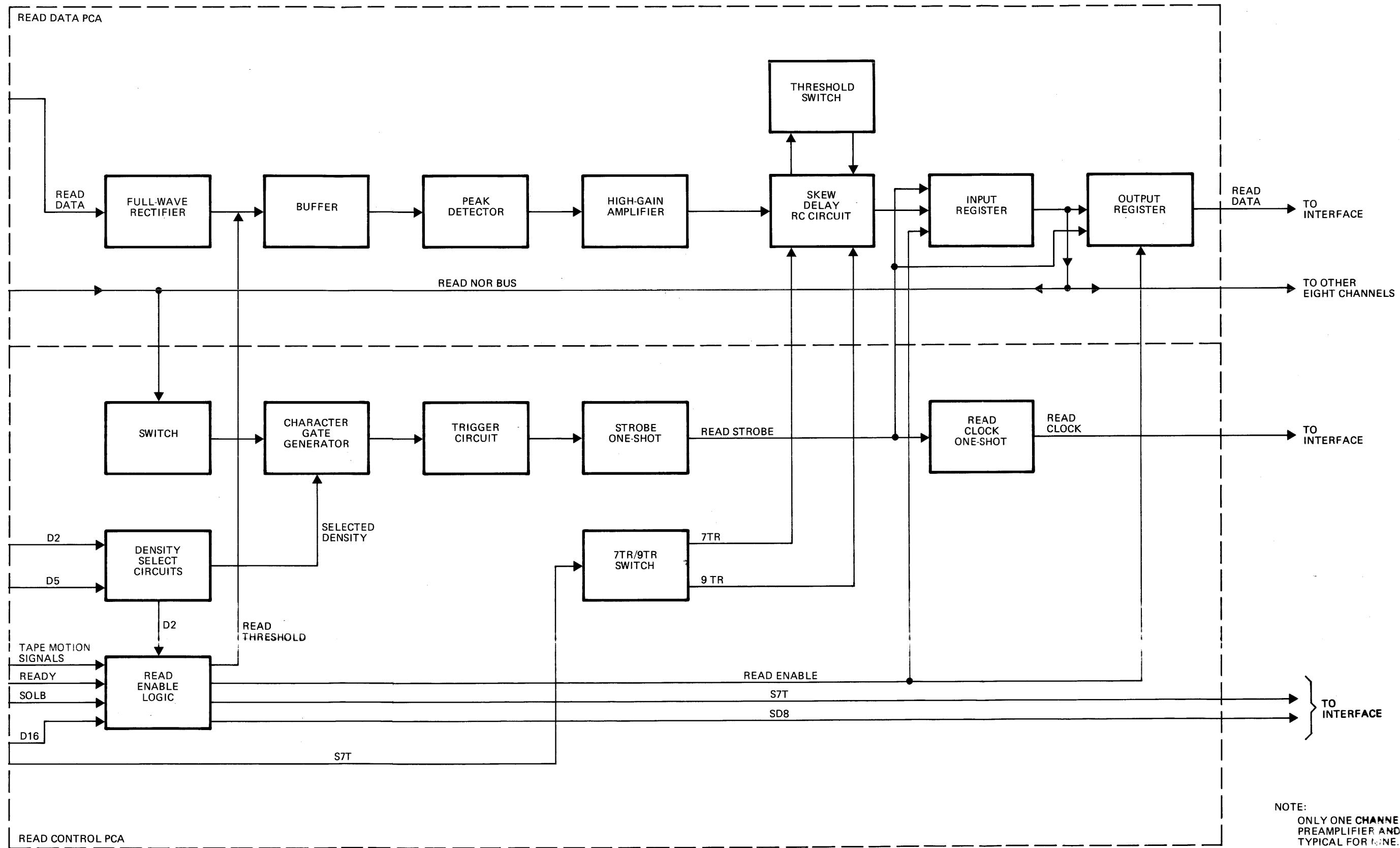


Figure 2-8. 7970E Slave Dual and Multiple Format Tape Units, Cabling Diagram

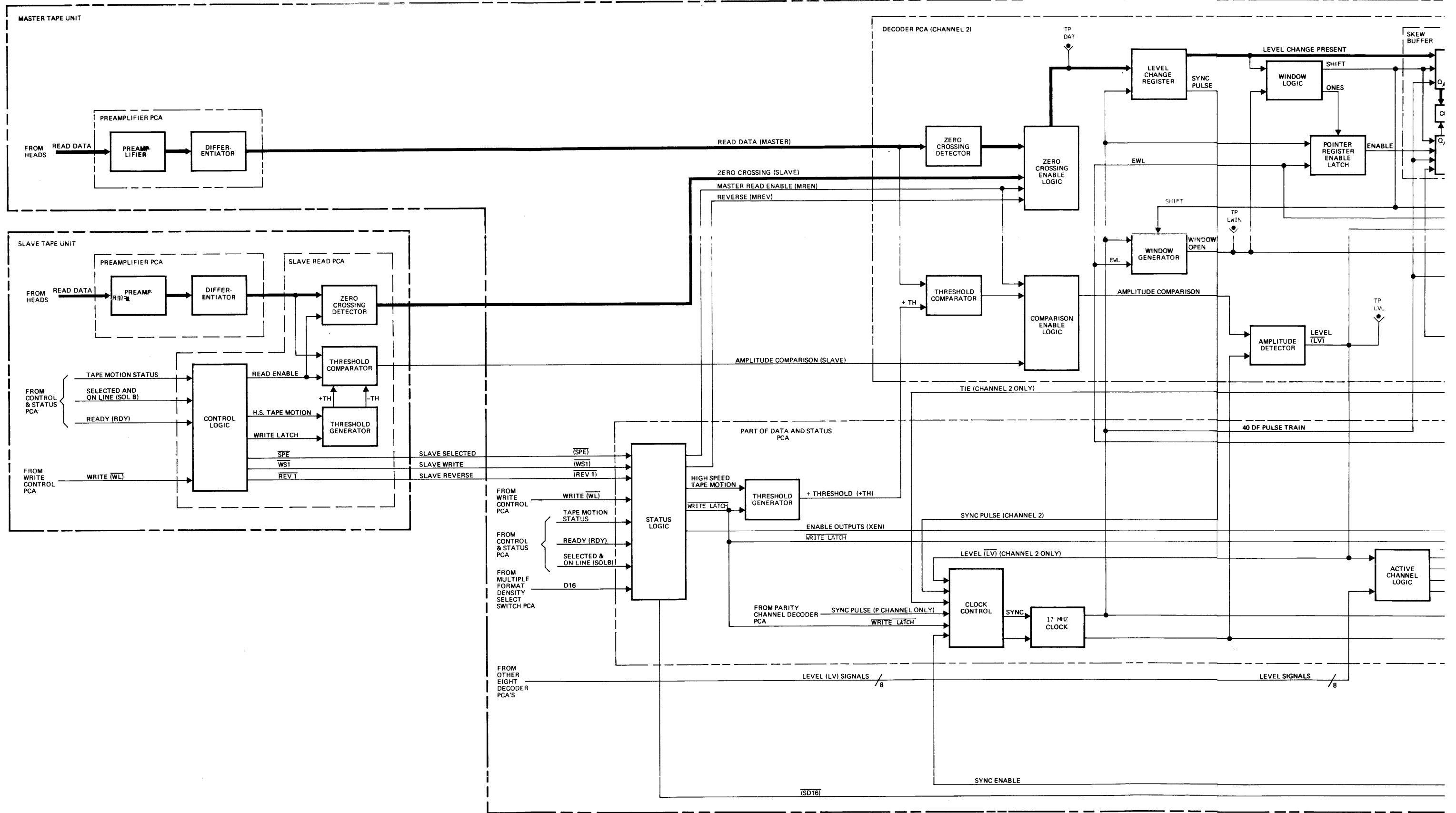






2225-29

Figure 2-11. 7970E NRZI Read Circuits Block Diagram



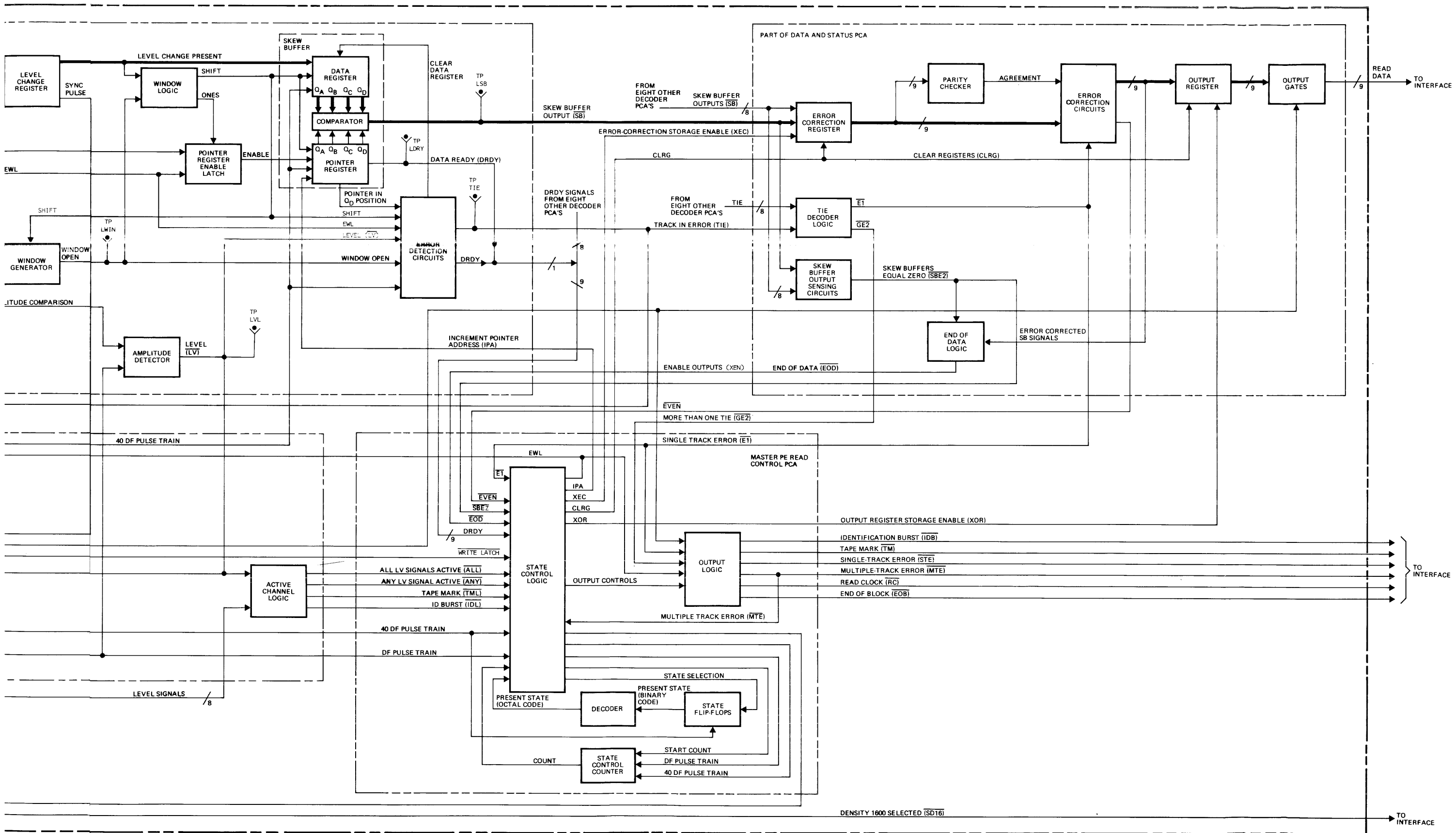


Figure 2-12. 7970E PE Read Circuit Block Diagram



## CHANGE TO:

HP 7970B/E Digital Magnetic Tape Units  
Diagrams and Parts Manual

---

**CHANGE DESCRIPTION:** This change to the manual reflects the addition of two new assemblies; a Photosense Head Assembly and a Power Transformer Assembly. Also included are errata corrections and parts changes for improved reliability.

### CHANGE INSTRUCTIONS:

1                    Insert the pages included with this change notice into the manual and remove the original pages. Page 2-32A/2-32B does not require the removal of any pages. The following pages are included with this change notice:

"Changed 22 December 1976":

Title page, iii, 2-17, 2-20A, 2-20B, and 2-25.

"Changed 1 December 1976":

2-18, 2-26, and 2-31.

"Added 1 December 1976":

2-32A/2-32B.



DIAGRAMS AND PARTS MANUAL  
7970B/E

DIGITAL MAGNETIC TAPE UNITS

Manual Part No. 07970-90886

Microfiche Part No. 07970-90891

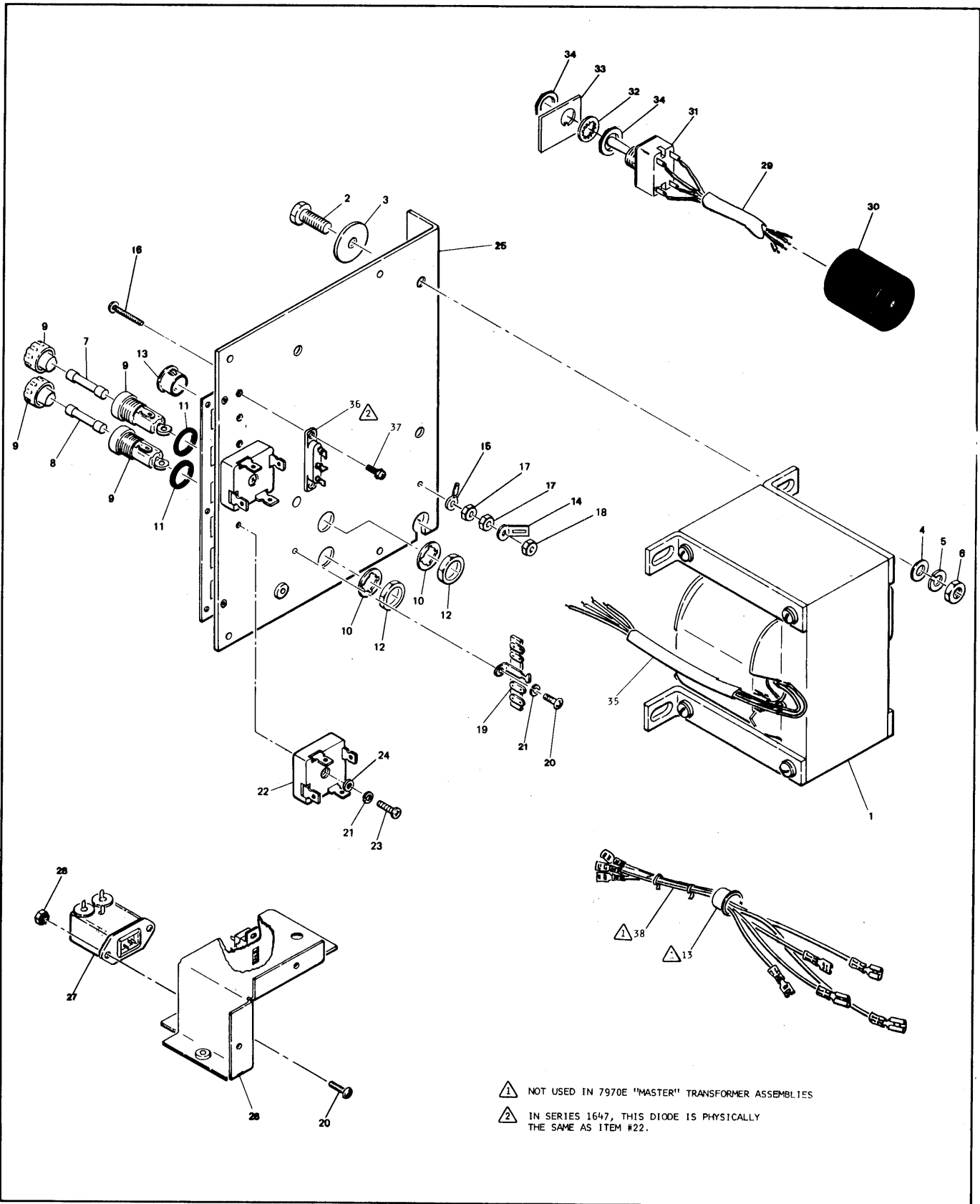
Serial Numbers Prefixed:

7970B--1107 thru 1648

7970E--1127 thru 1648

## TABLE OF CONTENTS (CONTINUED)

Title	Page
07970-62100 (Series 1110) Dual Density Select Switch Assembly . . . . .	2-41
07970-62101 (Series 1110) Parity Select, Switch Assembly . . . . .	2-41
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07970-62113 Master PE Power Supply Assembly (used with 07970-62072 Power Regulator PCA, Series 1323 and higher). . . . .	2-27
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07970-62168 (Series 1218, 1639) Dual Channel Read Data PCA . . . . .	2-85
07970-62169 (Series 1218, 1639) Single Channel Read Data PCA . . . . .	2-81
07970-62170 (Series 1218, 1446) Read Control PCA . . . . .	2-75
07970-62171 (Series 1218, 1446) Read Control PCA . . . . .	2-75
07970-62172 (Series 1322, 1410) Capstan Servo PCA . . . . .	2-47
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07970-62278 (Series 1430, 1542) Master PE Read Control PCA . . . . .	2-103
07970-62294 (Series 1427) Decoder PCA . . . . .	2-95
07970-62297 (Series 1350) Read Preamplifier PCA . . . . .	2-59
07970-62336 (Series 1643) Control and Status PCA . . . . .	2-30A
07970-62345 (Series 1650) Photosense Head Assembly . . . . .	2-32A
07970-63351 (Series 1648) Transformer Assembly . . . . .	2-20A

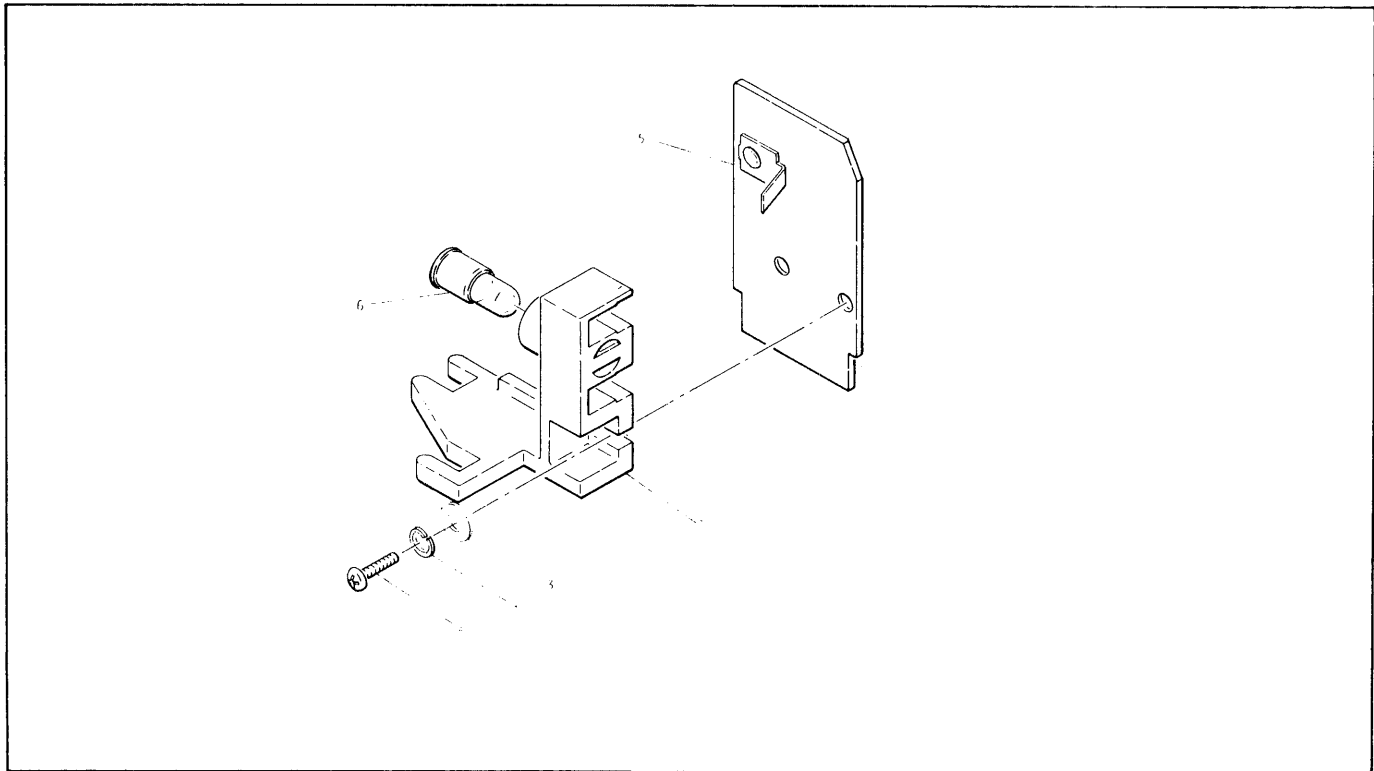


2226-110A

7970 B & E Power Transformer  
Assembly A29

PHOTOSENSE HEAD PCA PARTS LIST  
 07970-62345 (Series 1650)

REF. DES. / INDEX NO.	HP PART NO.	DESCRIPTION
	07970-62345	PHOTOSENSE HEAD PCA, (Series 1650)
DS1	2140-0203	LAMP, 8428, 5V
Q1,2	1990-0087	PHOTOTRANSISTOR, Silicon
	0340-0726	INSULATOR, Transistor
R1,3	0757-0940	RESISTOR, fwd, 4.7K, 2%, .125W
R2,4	0698-8156	RESISTOR, fwd, 2.2M, 1%, .125W
1	0050-0685	CASTING, Aluminum
2	0520-0129	SCREW, 2-56, .312 in.
3	2190-0479	WASHER, Flat, #2
4	2190-0428	WASHER, Lock, #2
5	07970-82074	PHOTOSENSE HEAD PCB
6	2140-0203	LAMP, 8428, 5V



2225-106A

07970-62345 Photosense Head Assembly A2

CHANGE TO:

HP 7970B/E Digital Magnetic Tape Units  
Diagrams and Parts Manual

---

CHANGE DESCRIPTION: This change to the manual reflects component changes due to parts availability problems.

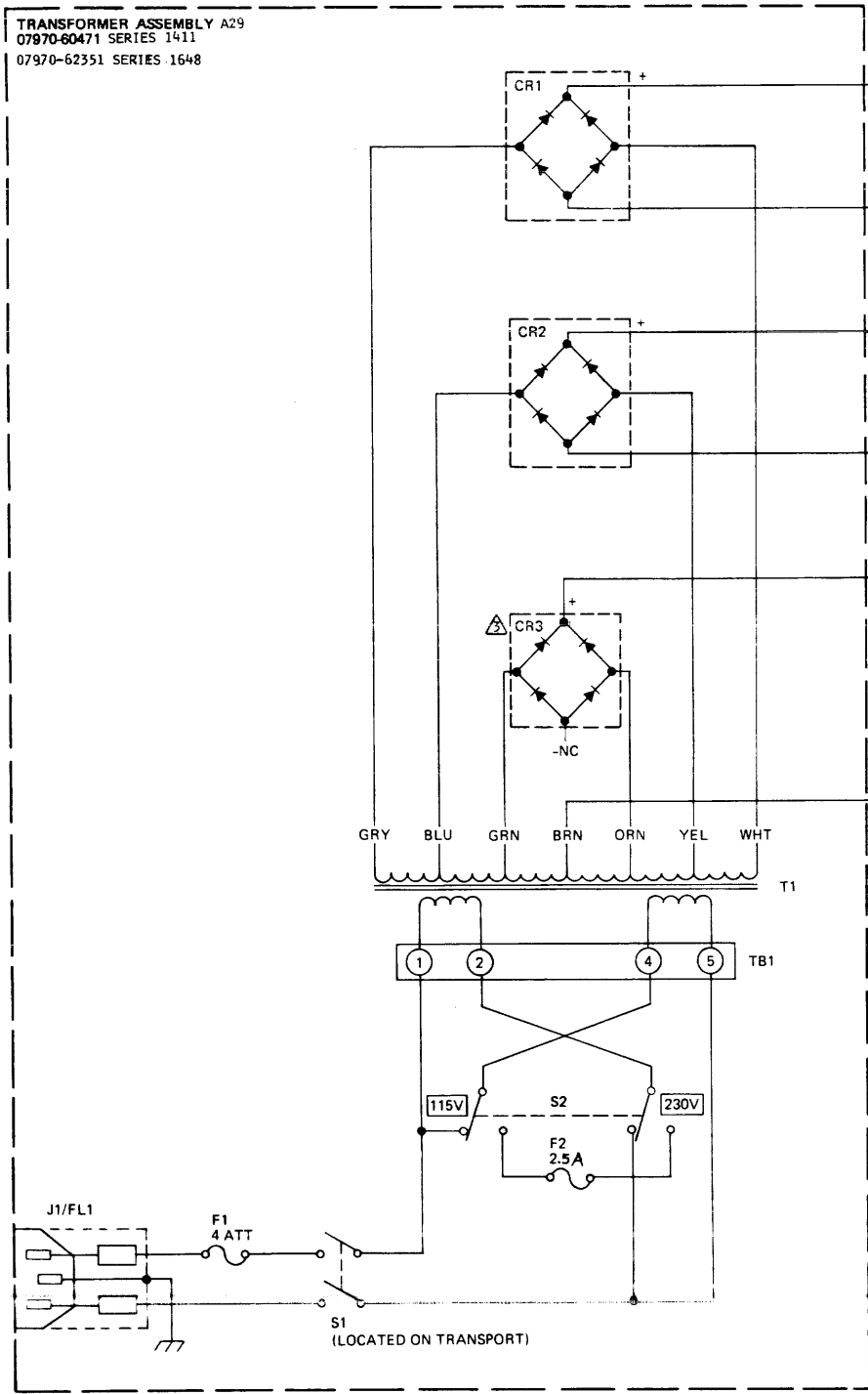
CHANGE INSTRUCTIONS: On the parts lists for the following assemblies, change component part numbers as follows:

PCA	MANUAL PAGE	REF. DES.	FROM	CHANGE TO
07970-60800 07970-60810	2-114	R11,15	2100-1761	2100-3580
07970-60820 07970-60830	2-112	R11	2100-1761	2100-3580

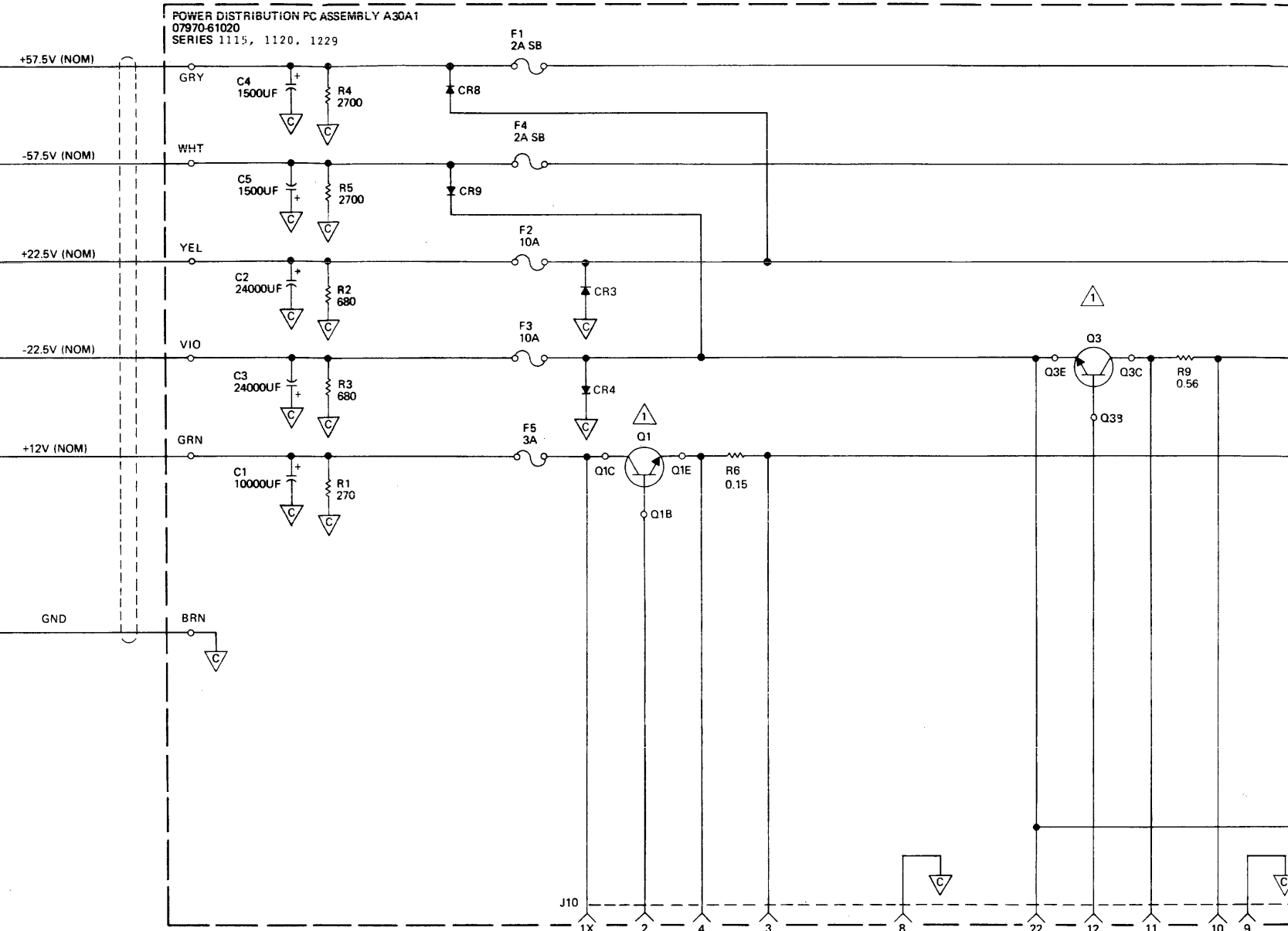
Change all PCA series numbers from 1025 to 1707.

Change 7970B and 7970E Tape Units serial number prefix from 1648 to 1707.

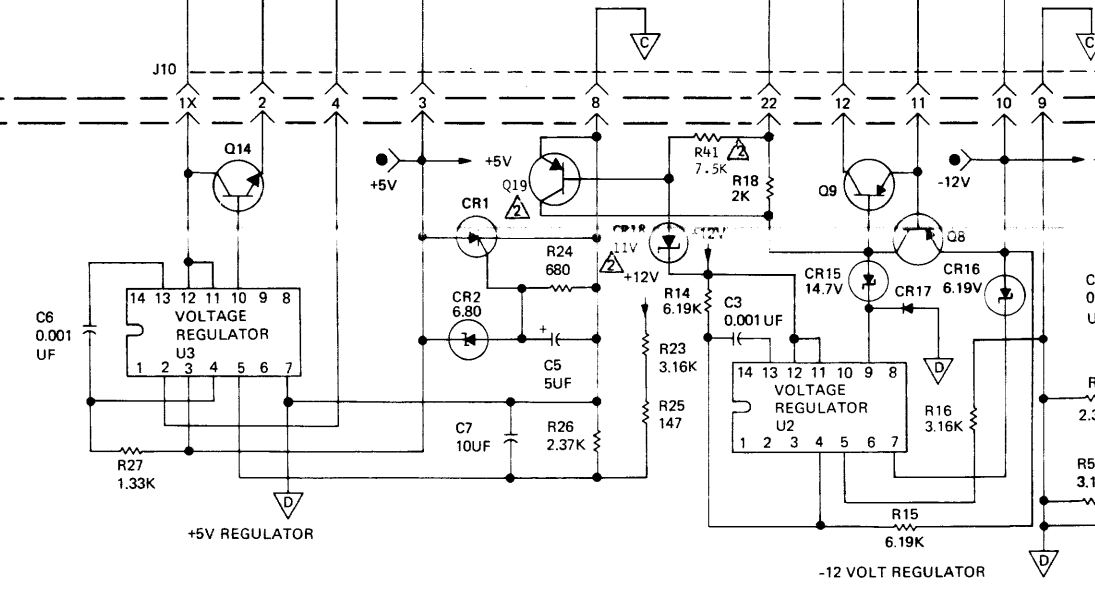
TRANSFORMER ASSEMBLY A29  
07970-60471 SERIES 1411  
07970-62351 SERIES 1648



POWER DISTRIBUTION PCB ASSEMBLY A30A1  
07970-61020  
SERIES 1115, 1120, 1229

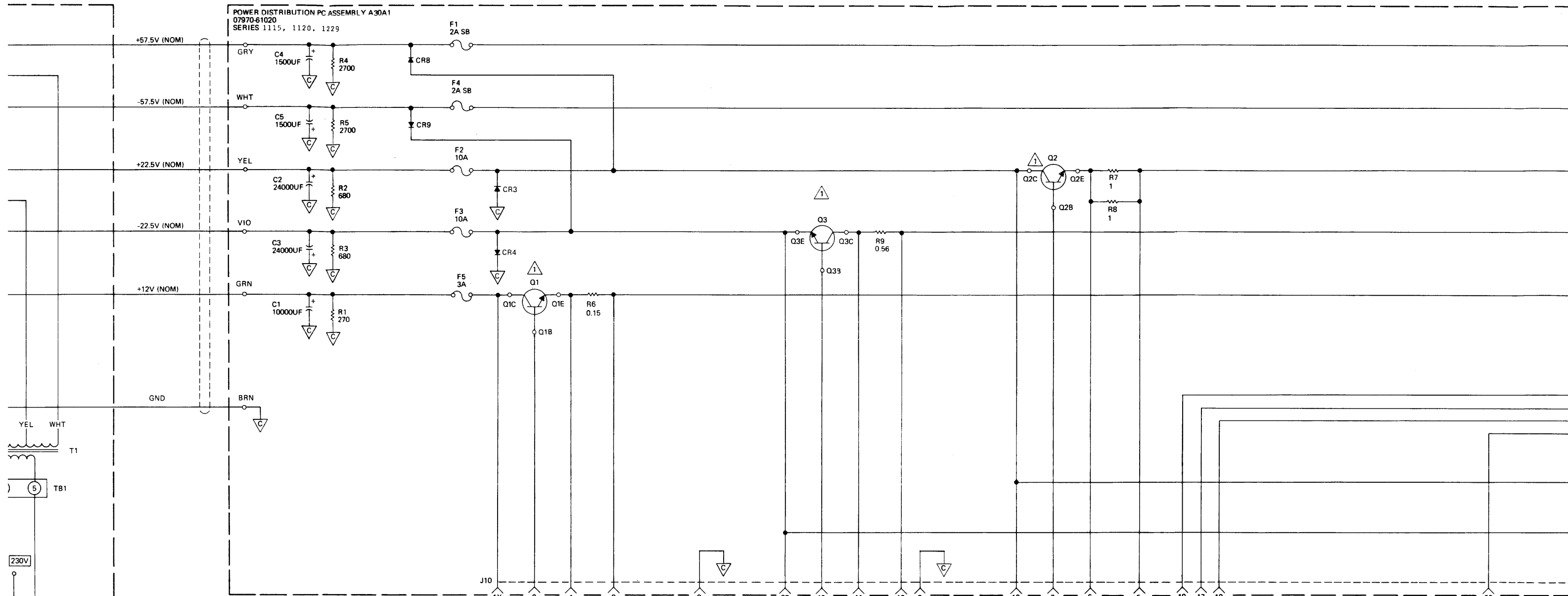


POWER REGULATOR PCB ASSEMBLY A31  
07970-61010  
SERIES 1323, 1344

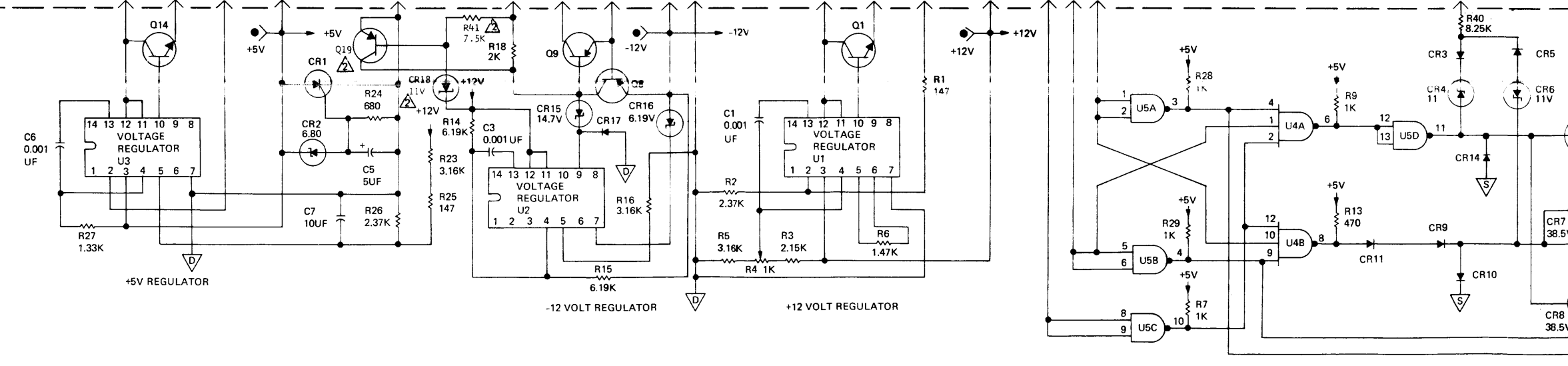


- NOTES:
- ⚠ THESE COMPONENTS ARE EXTERNALLY MOUNTED ON HEAT SINKS OR CHASSIS
  - Ⓜ THESE POINTS ARE COMMON (GROUND)
  - Ⓢ THESE POINTS ARE COMMON (SIGNAL RETURN)
  - ⚡ USED ONLY ON SERIES 1344 OR HIGHER
  - ⚠ BOTTOM TWO DIODES ABSENT IN CR3 ON 07970-62351 ASSEMBLIES.

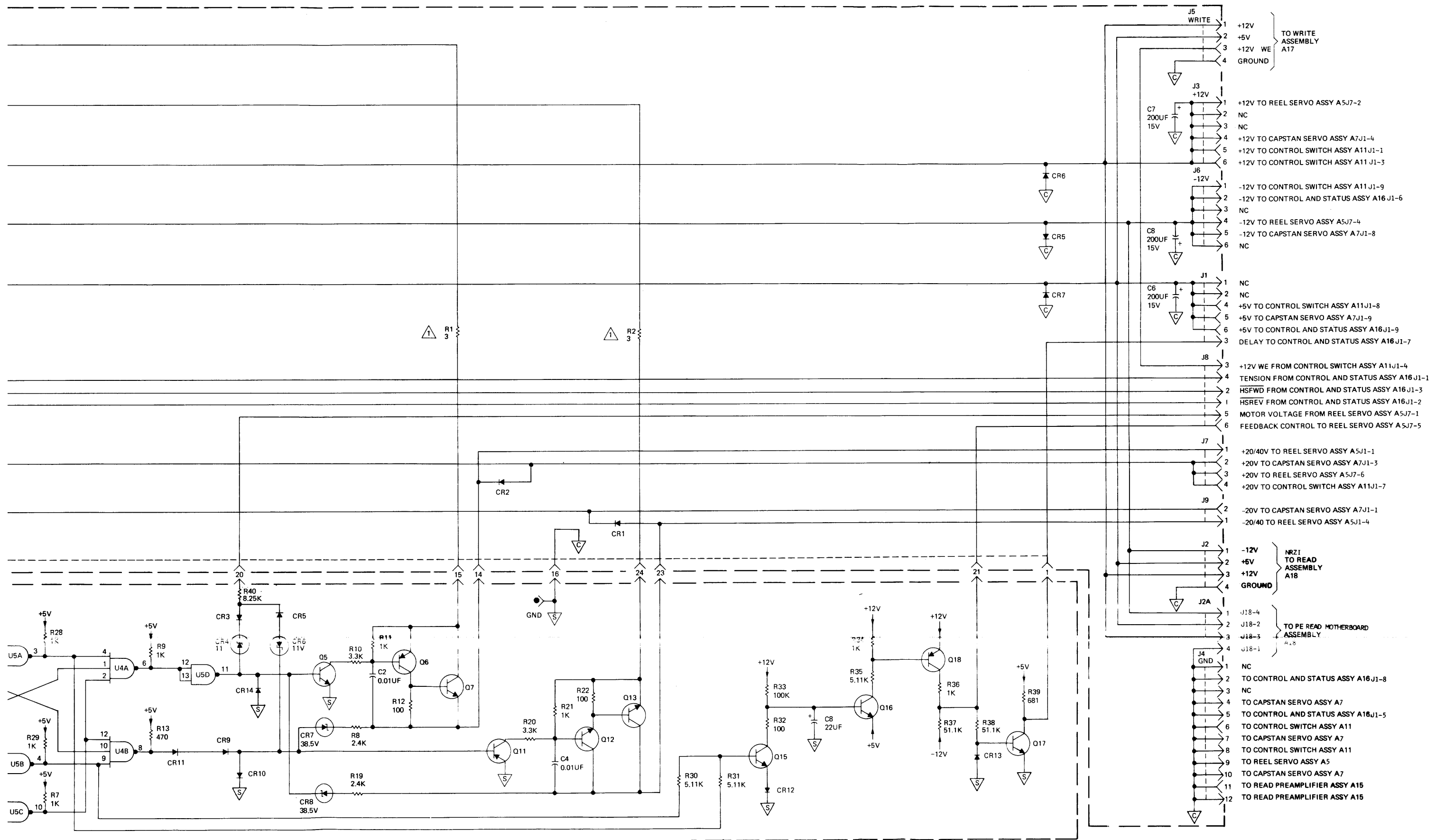
**POWER DISTRIBUTION PCB ASSEMBLY A30A1**  
 07970-61020  
 SERIES 1115, 1120, 1229



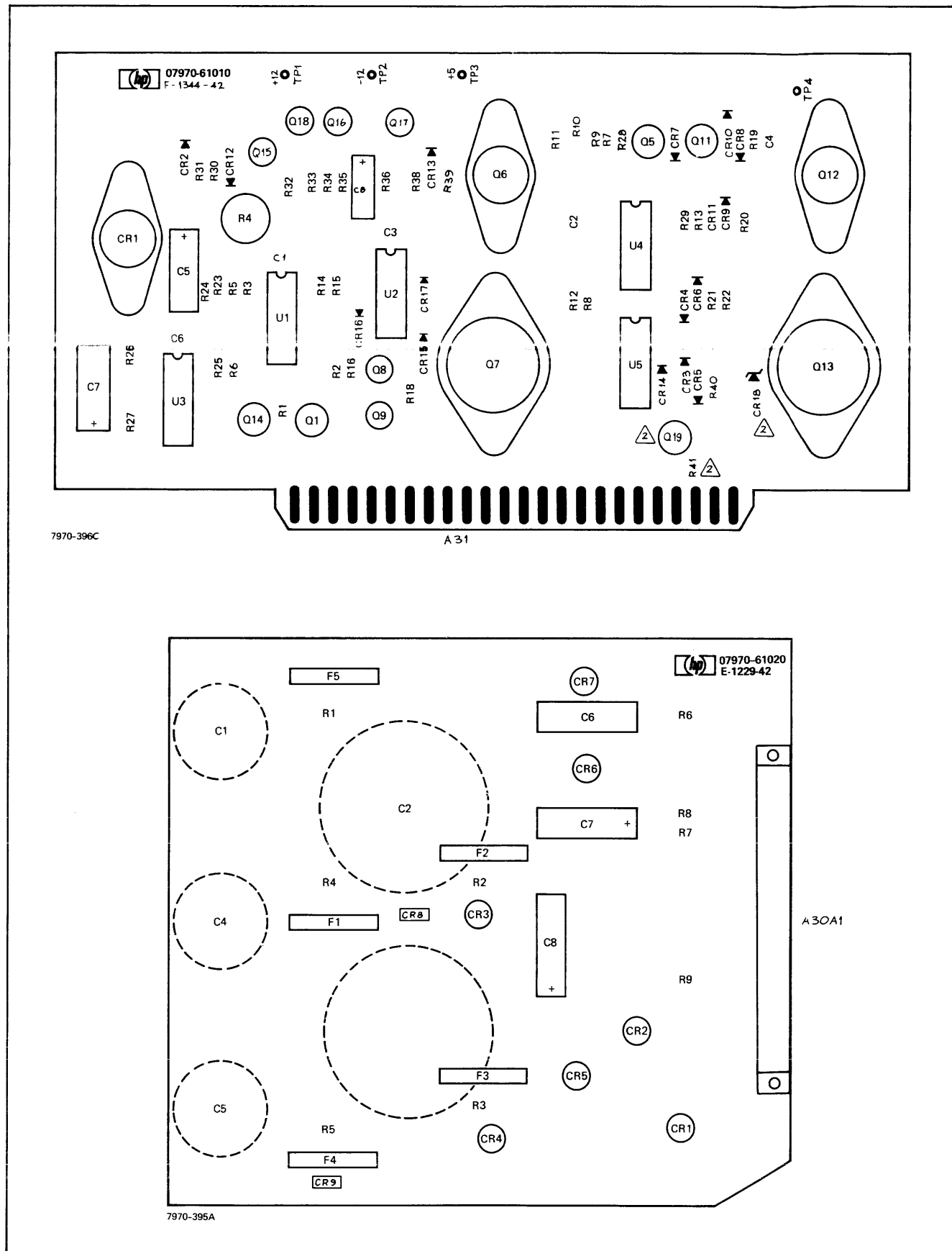
**POWER REGULATOR PCB ASSEMBLY A31**  
 07970-61010  
 SERIES 1323, 1344







7970 B & Slave "E" Power Supply Assemblies A29/30/31



POWER REGULATOR PCA PARTS LIST  
07970-61010 (SERIES 1323, 1344)

REF. DES./ INDEX NO.	HP PART NO.	DESCRIPTION
	07970-61010	POWER REGULATOR PCA (SERIES 1323)
C1, C3, C6	0160-3456	CAPACITOR, Fxd, 1000pf, Cer.
C2, C4	0160-2055	CAPACITOR, Fxd, .01uf, 100V
C5	0180-0172	CAPACITOR, Fxd, 5uf, -10 + 75%
C7	0180-0059	CAPACITOR, Fxd, 10uf, -10 + 75%
C8	0180-0228	CAPACITOR, Fxd, 22uf, 15 VDC
CR1	1884-0088	THYRISTOR, 2N3228
	0340-0180	INSULATOR, Friction
	2360-0195	SCREW, 6-32, .312 Pan
	2420-0001	NUT, hex, 6-32
CR2	1902-0048	DIODE, Zener, 6.81V
CR3, CR5	1901-0025	DIODE, 100V, 200MA
CR4, CR6, CR18	1902-3171	DIODE, Zener, 11V
CR7, CR8	1902-3311	DIODE, Breakdown, 38.3V
CR9-14, CR17	1901-0040	DIODE, 30V, 50MA
CR15	1902-3202	DIODE, Zener, 14.7V
CR16	1902-0049	DIODE, Zener, 6.19V
Q1, Q14	1854-0039	TRANSISTOR, 2N3053, TO5
Q5	1854-0022	TRANSISTOR, 2N2102, TO5
Q6	1853-0052	TRANSISTOR, 2N3740, TO66
	0340-0180	INSULATOR, Friction
	2360-0195	SCREW, 6-32, .312 Pan
	2420-0001	NUT, hex, 6-32
Q7, Q13	1854-0063	TRANSISTOR, 2N3055, TO3
	0340-0458	INSULATOR, Transistor
	2360-0197	SCREW, 6-32, .375 Pan
	2420-0001	NUT, hex, 6-32
Q8, Q18, Q19	1853-0036	TRANSISTOR, 2N3906, PL18
Q9	1853-0027	TRANSISTOR, PNP, SI, TO5
Q11	1853-0080	TRANSISTOR, 2N4888, PL5
Q12	1854-0072	TRANSISTOR, 2N3054, TO66
	0340-0180	INSULATOR, Friction
	2360-0195	SCREW, 6-32, .312 Pan
	2420-0001	NUT, hex, 6-32
Q15, Q16, Q17	1854-0215	TRANSISTOR, 2N3904, PL5
R1,25	0698-3438	RESISTOR, Fxd, 147, 1%, .125W
R2,26	0698-3150	RESISTOR, Fxd, 2.37K, 1%, .125W
R3	0698-0084	RESISTOR, Fxd, 2.15K, 1%, .125W
R4	2100-1773	RESISTOR, Variable, 1K
R5, R16, R23	0757-0279	RESISTOR, Fxd, 1K, 5%, .25W
R6	0757-1094	RESISTOR, Fxd, 1.47K, 1%, .125W
R7, R9, R11	0683-1025	RESISTOR, Fxd, 1K, 5%, .25W
R21, R28, R29		
R8, R19	0683-2425	RESISTOR, Fxd, 2.4K, 5%, .25W
R10, R20	0686-3325	RESISTOR, Fxd, 3.3K, 5%, .5W
R12, R22	0683-1015	RESISTOR, Fxd, 100, 5%, .25W
R13	0683-4715	RESISTOR, Fxd, 470, 5%, .25W

1

POWER DISTRIBUTION PCA  
07970-61020 (SERIES 1115, 1120, 1229)

DESCRIPTION
LATOR PCA (SERIES 1323) Fxd, 1000pf, Cer. Fxd, .01uf, 100V Fxd, 5uf, -10 + 75% Fxd, 10uf, -10 + 75% Fxd, 22uf, 15 VDC 2N3228 TOR, Friction 6-32, .312 Pan ex, 6-32 er, 6.81V 7, 200MA er, 11V ikdown, 38.3V , 50MA er, 14.7V er, 6.19V , 2N3053, TO5 , 2N2102, TO5 , 2N3740, TO66 TOR, Friction 6-32, .312 Pan ex, 6-32 , 2N3055, TO3 TOR, Transistor 6-32, .375 Pan ex, 6-32 , 2N3906, PL18 , PNP, SI, TO5 , 2N4888, PL5 , 2N3054, TO66 TOR, Friction 6-32, .312 Pan ex, 6-32 , 2N3904, PL5 'xd, 147, 1%, .125W 'xd, 2.37K, 1%, .125W 'xd, 2.15K, 1%, .125W 'variable, 1K 'xd, 1K, 5%, .25W 'xd, 1.47K, 1%, .125W 'xd, 1K, 5%, .25W  'xd, 2.4K, 5%, .25W 'xd, 3.3K, 5%, .5W 'xd, 100, 5%, .25W 'xd, 470, 5%, .25W

REF. DES./ INDEX NO.	HP PART NO.	DESCRIPTION
R14, R15	0757-0290	RESISTOR, Fxd, 6.19k, 1%, .125W
R16	0757-0279	RESISTOR, Fxd, 3.16K, 1%, .125W
R18	0686-2025	RESISTOR, Fxd, 2K, 5%, .5W
R24	0683-6815	RESISTOR, Fxd, 680, 5%, .25W
R27	0757-0317	RESISTOR, Fxd, 1.33K, 1%, .125W
R30, R31, R35	0757-0438	RESISTOR, Fxd, 5.11K, 1%, .125W
R32	0757-0198	RESISTOR, Fxd, 100, 1%, .5W
R33	0757-0465	RESISTOR, Fxd, 100K, 1%, .125W
R34, R36	0757-0280	RESISTOR, Fxd, 1K, 1%, .125W
R37, R38	0757-0458	RESISTOR, Fxd, 51.1K, 1%, .125W
R39	0757-0419	RESISTOR, Fxd, 681, 1%, .125W
R40	0757-0441	RESISTOR, Fxd, 8.25K, 1%, .125W
① R41	0757-0440	RESISTOR, Fxd, 7.5K, 1%, .125W
U1-3	1820-0439	IC, Voltage Regulator
U4	1820-0348	IC, Digital, MC844P
U5	1820-0256	IC, Digital, MC858P
① CR18, Q19 and R41 used only on series 1344 or above.		

REF. DES./ INDEX NO.	HP PART NO.
	07970-61020
C1	0180-2326
	2680-0128
	2190-0012
C2, C3	0180-2681
	2680-0128
	2190-0012
C4, C5	0180-2325
	2680-0128
	2190-0012
C6, C8	0180-0104
CR1, CR2	1901-0630
CR3-CR7	1901-0415
	0340-0164
CR8, CR9	1901-0026
F1, F4	2110-0303
F2, F3	2110-0051
F5	2110-0003
	2110-0257
	7124-2099
	0360-1613
	2680-0099
	2740-0003
	07970-80110
R1	0698-3629
R2, R3	0698-3635
R4, R5	0764-0043
R6	0812-0045
R7, R8	0811-1666
*R9	0811-1552
J10	1251-2025
	1251-2503
	1251-2504
	0361-0013
	0361-0137
	SERIES 1120
*R9	0811-1665
	SERIES 1229
*R9	0811-1552

7970 B & Slave "E" Power Supply Assemb.

POWER DISTRIBUTION PCA  
07970-61020 (SERIES 1115, 1120, 1229)

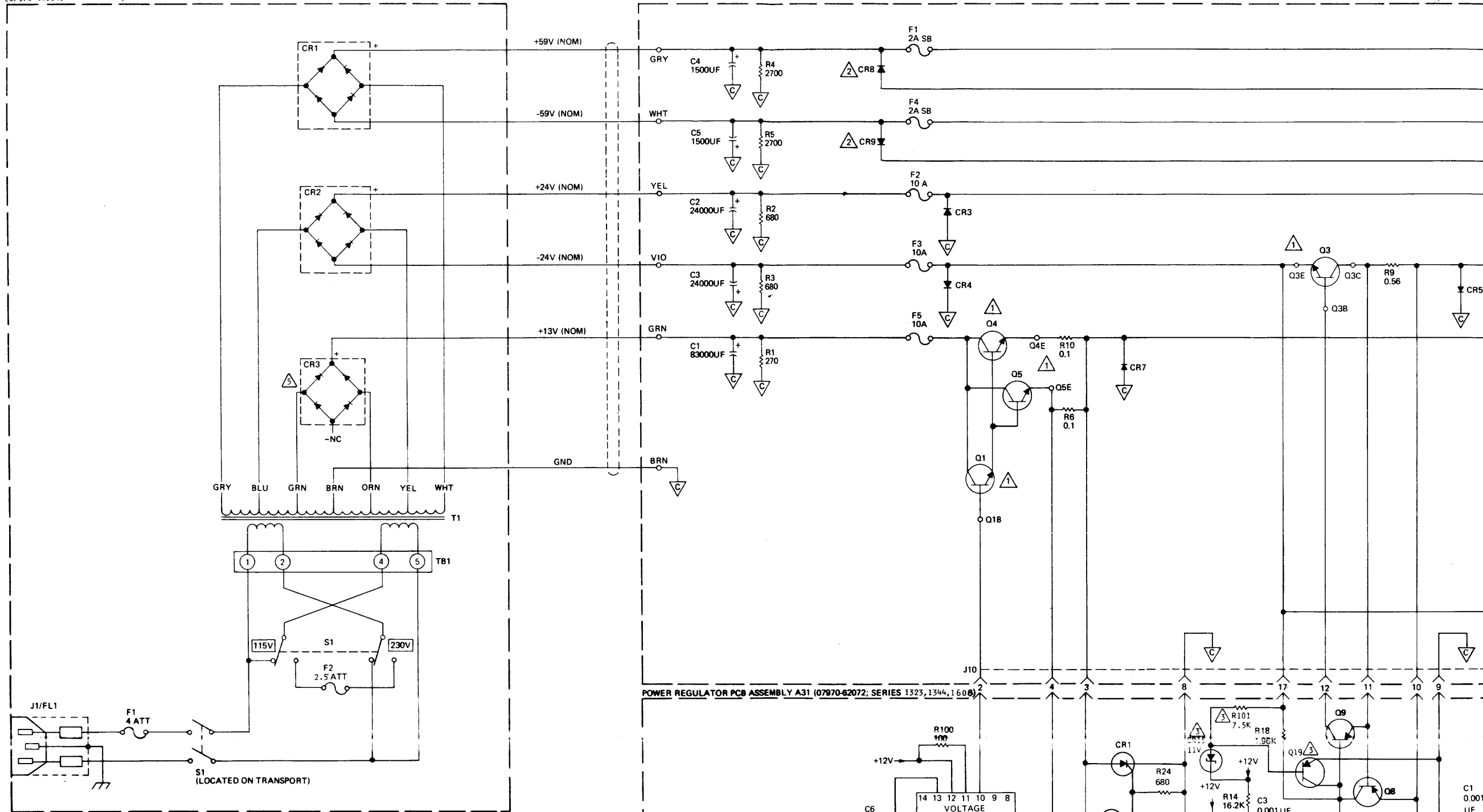
DESCRIPTION
RESISTOR, Fxd, 6.19k, 1%, .125W
RESISTOR, Fxd, 3.16K, 1%, .125W
RESISTOR, Fxd, 2K, 5%, .5W
RESISTOR, Fxd, 680, 5%, .25W
RESISTOR, Fxd, 1.33K, 1%, .125W
RESISTOR, Fxd, 5.11K, 1%, .125W
RESISTOR, Fxd, 100, 1%, .5W
RESISTOR, Fxd, 100K, 1%, .125W
RESISTOR, Fxd, 1K, 1%, .125W
RESISTOR, Fxd, 51.1K, 1%, .125W
RESISTOR, Fxd, 681, 1%, .125W
RESISTOR, Fxd, 8.25K, 1%, .125W
RESISTOR, Fxd, 7.5K, 1%, .125W
IC, Voltage Regulator
IC, Digital, MC844P
IC, Digital, MC858P
1344 or above.

REF. DES./ INDEX NO.	HP PART NO.	DESCRIPTION
	07970-61020	POWER DISTRIBUTION PCA (SERIES 1115)
C1	0180-2326	CAPACITOR, 1000uf
	2680-0128	SCREW, 10-32, .25 Pan
	2190-0012	WASHER, Lock, #10
C2, C3	0180-2681	CAPACITOR, 24000uf
	2680-0128	SCREW, 10-32, .25 Pan
	2190-0012	WASHER, Lock, #10
C4, C5	0180-2325	CAPACITOR, 1500uf
	2680-0128	SCREW, 10-32, .25 Pan
	2190-0012	WASHER, Lock, #10
C6, C8	0180-0104	CAPACITOR, 200uf
CR1, CR2	1901-0630	DIODE, Rectifier, Silicone
CR3-CR7	1901-0415	DIODE, Power 1N4997
	0340-0164	INSULATOR
CR8, CR9	1901-0026	DIODE
F1, F4	2110-0303	FUSE, 2A, 250V
F2, F3	2110-0051	FUSE, 10A
F5	2110-0003	FUSE, 3A
	2110-0257	FUSE, Clip
	7124-2099	LABEL
	0360-1613	LUG, Solder #5
	2680-0099	SCREW, 10-32, .375 Pan
	2740-0003	NUT, Lock
	07970-80110	PCB, Power Supply
R1	0698-3629	RESISTOR, fxd, 270, 5%, 2W
R2, R3	0698-3635	RESISTOR, fxd, 680, 5%, 2W
R4, R5	0764-0043	RESISTOR, fxd, 2.7K, 5%, 2W
R6	0812-0045	RESISTOR, fxd, 0.15, 5%, 3W
R7, R8	0811-1666	RESISTOR, fxd, 1.0, 5%, 2W
*R9	0811-1552	RESISTOR, fxd, 0.56, 5%, 2W
J10	1251-2025	CONNECTOR, PC 2 x 24 156D
	1251-2503	CONNECTOR, (Female Pins) Contact PC
	1251-2504	CONNECTOR, (Male Pins) Contact PC
	0361-0013	RIVET, 123DX, .375
	0361-0137	RIVET, 123DX, .188
	SERIES 1120	
*R9	0811-1665	RESISTOR, fxd, 0.82, 5%, 2W
	SERIES 1229	
*R9	0811-1552	RESISTOR, fxd, 0.56, 5%, 2W

7970 B & Slave "E" Power Supply Assemblies A29/30/31

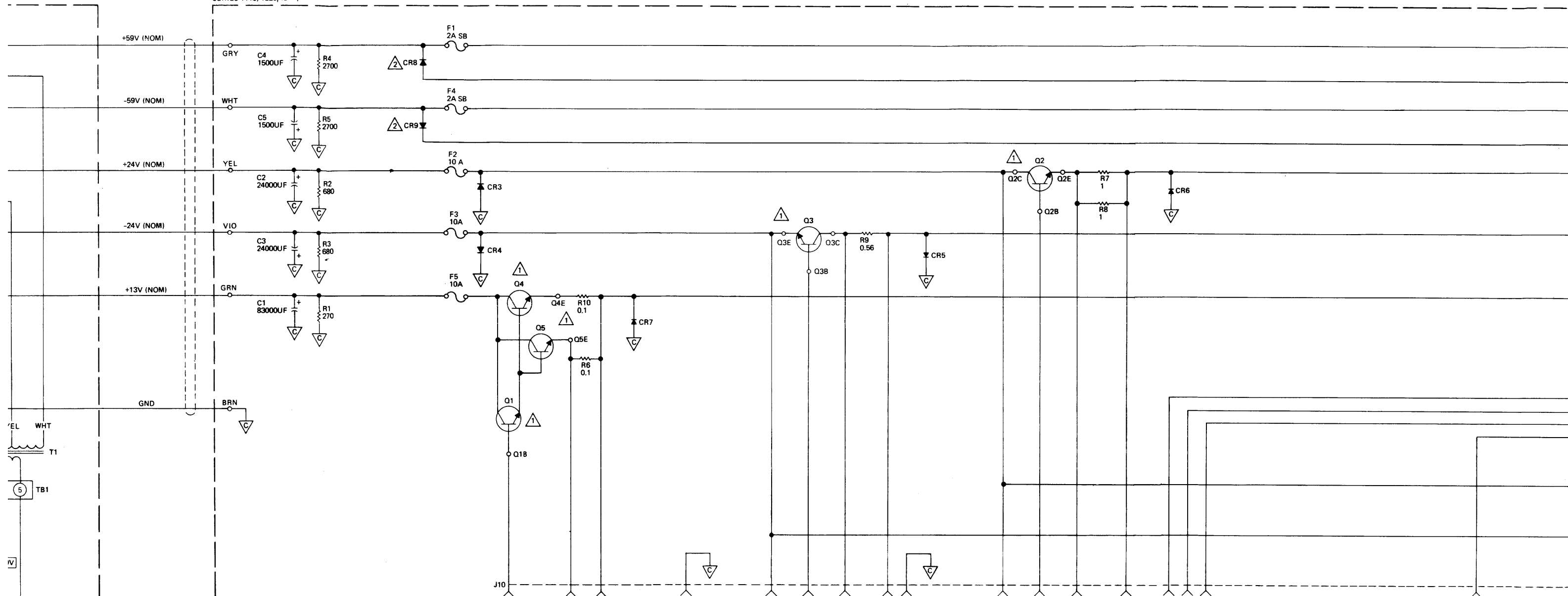
MASTER UNIT TRANSFORMER ASSEMBLY A29  
 (07970-62073) SERIES 1411  
 (07970-62351) SERIES 1647,1648

POWER DISTRIBUTION PCB ASSEMBLY A30A1  
 (07970-62071)  
 SERIES 1115, 1229, 1341)

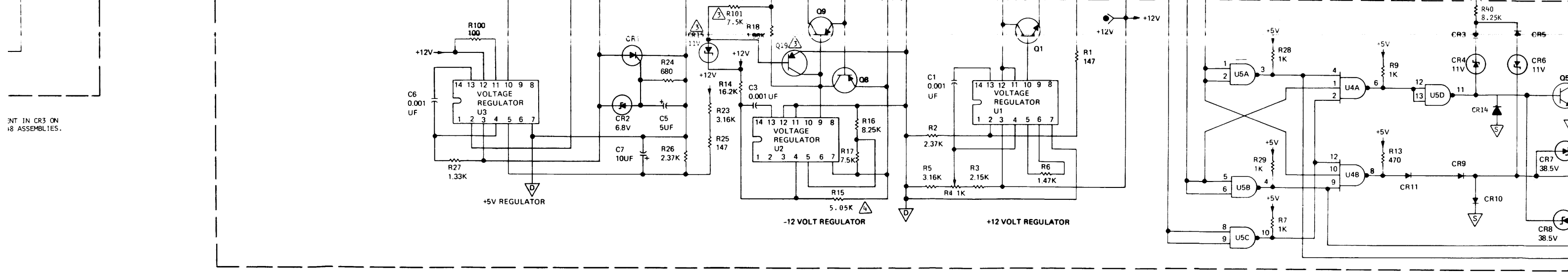


- NOTES:
- ① THESE COMPONENTS ARE EXTERNALLY MOUNTED ON HEAT SINKS OR CHASSIS.
  - ② DIODES CR8 AND CR9 FIRST USED ON SERIES 1229.
  - ③ THESE COMPONENTS FIRST USED ON SERIES 1344.
  - ④ SERIES 1344 AND BELOW, R15 IS 5.11K.
  - ⊕ THESE POINTS ARE COMMON (GROUND)
  - ⊖ THESE POINTS ARE COMMON (SIGNAL RETURN).
  - ⚠ BOTTOM TWO DIODES ABSENT IN CR3 ON 07970-62351 SERIES 1648 ASSEMBLIES.

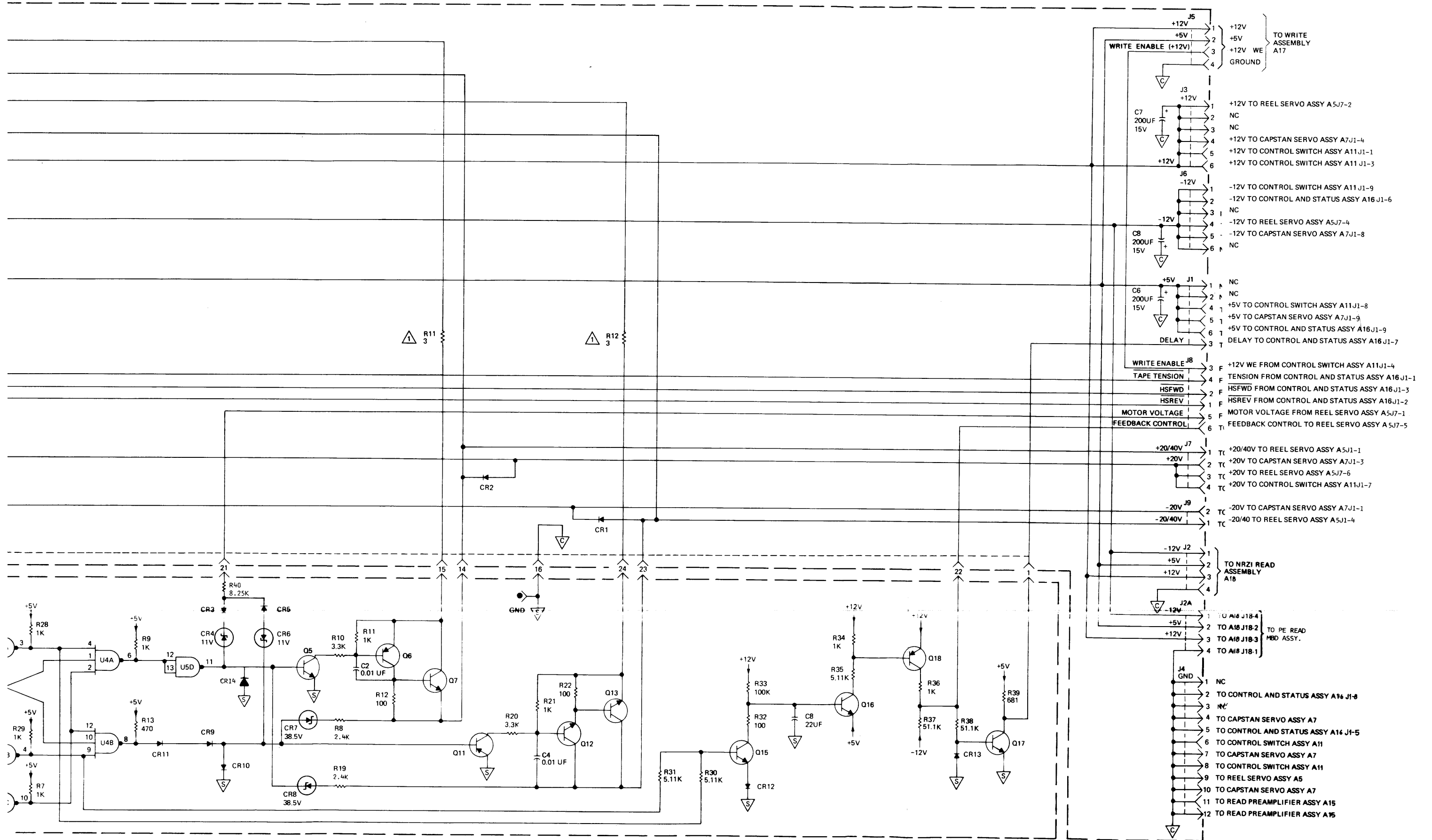
POWER DISTRIBUTION PCB ASSEMBLY A30A1  
 (07970-62071;  
 SERIES 1115, 1229, 1341)



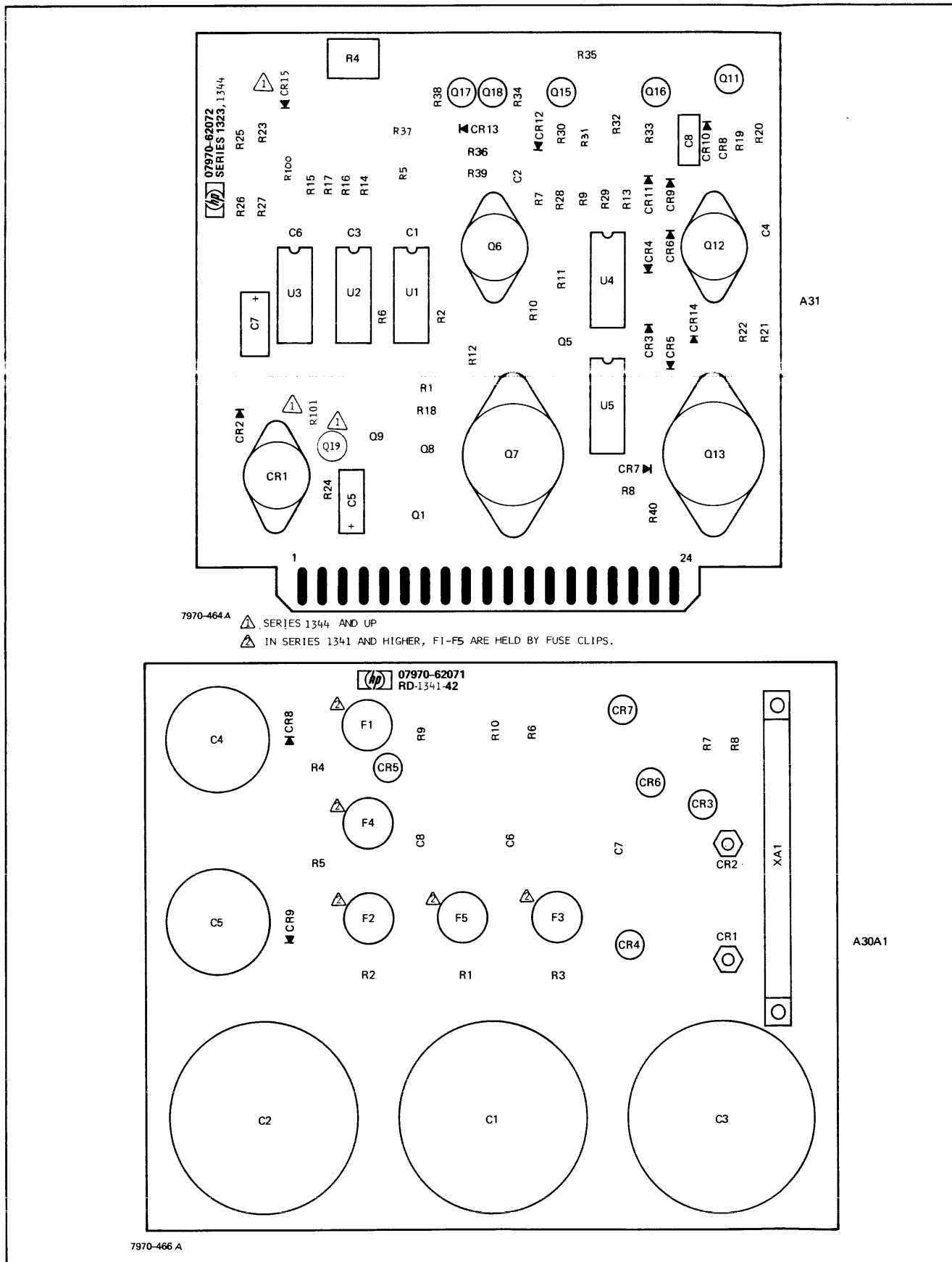
POWER REGULATOR PCB ASSEMBLY A31 (07970-62072; SERIES 1323, 1344, 1608)



NOTE IN CR3 ON  
 18 ASSEMBLIES.



7970E Master Power Supply Assemblies A29/30/31



PE POWER REGULATOR PCA (SERIES 1323, 1344, 1608)  
07970-62072

REF. DES. / INDEX NO.	HP PART NO.	DESCRIPTION
	07970-62072	PE POWER REGULATOR PCA (SERIES 1323, 1344)
C1, C3, C6	0160-3456	CAPACITOR, fxd, 1000pf, Ceramic
C2, C4	0160-2055	CAPACITOR, fxd, .01uf, 100V
C5	0180-0172	CAPACITOR, fxd, 5uf, - 10 + 75%
C7	0180-0059	CAPACITOR, fxd, 10uf, - 10 + 75%
C8	0180-0228	CAPACITOR, fxd, 22uf, 15VDC
CR1	1884-0088	THYRISTOR, 2N3228
	2200-0141	SCREW, 4-40, .312 Pan
	2260-0009	NUT, Lock, 4-40
CR2	1902-0048	DIODE, Zener, 6.81V
CR3, CR5	1901-0025	DIODE, 100V
CR4, CR6, CR15	1902-3171	DIODE, Zener, 11V
CR7, CR8	1902-3311	DIODE, Breakdown, 38.3V
CR9-CR14	1901-0040	DIODE, 30V, 50MA
Q1	1854-0039	TRANSISTOR, 2N3053, TO5
Q5	1854-0022	TRANSISTOR, 2N2102, TO5
Q6	1853-0052	TRANSISTOR, 2N3740, TO66
	2200-0141	SCREW, 4-40, .312 Pan
	2260-0009	NUT, Lock, 4-40
Q7, Q13	1854-0063	TRANSISTOR, 2N3055, TO3
	2200-0141	SCREW, 4-40, .312 Pan
	2260-0009	NUT, Lock, 4-40
Q8, Q18, Q19	1853-0036	TRANSISTOR, 2N3906, PL18
Q9	1853-0027	TRANSISTOR, PNP, SI, TO5
Q11	1853-0080	TRANSISTOR, 2N4888, PL5
Q12	1854-0072	TRANSISTOR, 2N3054, TO66
	2200-0141	SCREW, 4-40, .312 Pan
	2260-0009	NUT, Lock, 4-40
Q15-Q17	1854-0215	TRANSISTOR, 2N3904, PL5
R1, 25	0698-3438	RESISTOR, fxd, 147, 1%, .125W
R2, 26	0698-3150	RESISTOR, fxd, 2.37K, 1%, .125W
R3	0698-0084	RESISTOR, fxd, 2.15K, 1%, .125W
R4	2100-1758	RESISTOR, Variable, 1K, 5%
R5, 23	0757-0279	RESISTOR, fxd, 3.16K, 1%, .125W
R6	0757-1094	RESISTOR, fxd, 1.47K, 1%, .125W
R7, 9, 11, 21, 28, 29	0683-1025	RESISTOR, fxd, 1K, 5%, .25W
R8, 19	0683-2425	RESISTOR, fxd, 2.4K, 5%, .25W
R10, R20	0686-3325	RESISTOR, fxd, 3.3K, 5%, .5W
R12, R22	0683-1015	RESISTOR, fxd, 100, 5%, .25W
R13	0683-4715	RESISTOR, fxd, 470, 5%, .25W
R14	0757-0447	RESISTOR, fxd, 16.2K, 1%, .125W
*R15, 30, 31, 35	0757-0438	RESISTOR, fxd, 5.11K, 1%, .125W
R16, 40	0757-0441	RESISTOR, fxd, 8.25K, 1%, .125W
R17, 101	0757-0440	RESISTOR, fxd, 7.5K, 1%, .125W
R18	0698-0083	RESISTOR, fxd, 1.96K, 1%, .125W
R24	0683-6815	RESISTOR, fxd, 680, 5%, .25W



POWER DISTRIBUTION PCA  
07970-62071 (SERIES 1341)

REF. DES./ INDEX NO.	HP PART NO.	DESCRIPTION
R27	0757-0317	RESISTOR, fxd, 1.33K, 1%, .125W
R32,100	0757-0198	RESISTOR, fxd, 100, 1%, .5W
R33	0757-0465	RESISTOR, fxd, 100K, 1%, .125W
R34, R36	0757-0280	RESISTOR, fxd, 1K, 1%, .125W
R37, R38	0757-0458	RESISTOR, fxd, 51.1K, 1%, .125W
R39	0757-0419	RESISTOR, fxd, 681, 1%, .125W
U1, U2, U3	1820-0439	IC, Voltage Regulator
U4	1820-0348	IC, MC844P
U5	1820-0256	IC, MC858P
*R15	Series 1608 0698-7053	RESISTOR, fxd, 5.05K, .5W, .125W

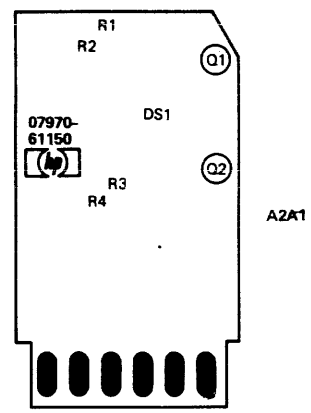
① CR15, Q19, and R101 first used on series codes 1344.

REF. DES./ INDEX NO.	HP PART NO.
C1	07970-62071 0180-2426 2680-0099 2190-0012
C2, C3	0180-2681 2680-0099 2190-0012
C4, C5	0180-2325 2680-0099 2190-0012
C6, C7, C8 CR1, CR2	0180-0104 1901-0630 2740-0003
CR3-CR7	1901-0415 0340-0164
CR8, CR9	1901-0026
F1,4	2110-0303
F2, F3, F5	2110-0051
*XF1-5	2110-0257
R1	0698-3629
R2, R3	0698-3635
R4, R5	0764-0043
R6, R10	0811-2490
R7, R8	0811-1666
R9	0811-1552
J5	1251-2025
J1-4, 6-9	1251-2503
J1-4, 6-9	1251-2504 0360-1613 2190-0008
*XF1-5	SERIES 1341 2110-0257

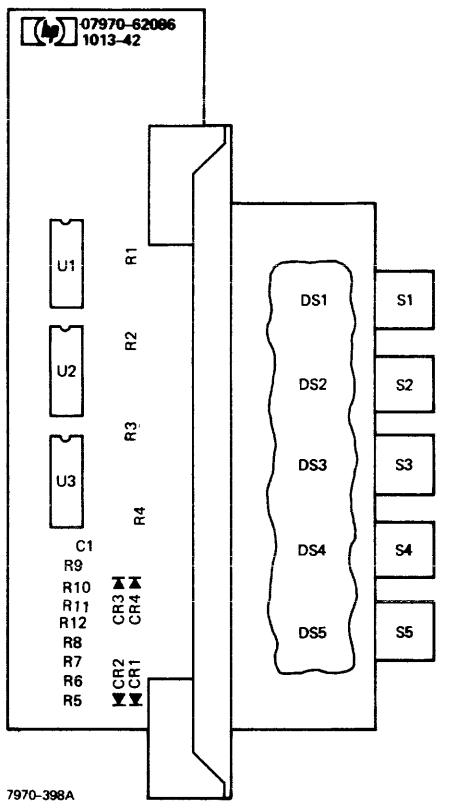
POWER DISTRIBUTION PCA  
07970-62071 (SERIES 1341)

DESCRIPTION
RESISTOR, fxd, 1.33K, 1%, .125W RESISTOR, fxd, 100, 1%, .5W RESISTOR, fxd, 100K, 1%, .125W RESISTOR, fxd, 1K, 1%, .125W RESISTOR, fxd, 51.1K, 1%, .125W RESISTOR, fxd, 681, 1%, .125W IC, Voltage Regulator IC, MC844P IC, MC858P
RESISTOR, fxd, 5.05K, .5W, .125W
series codes 1344.

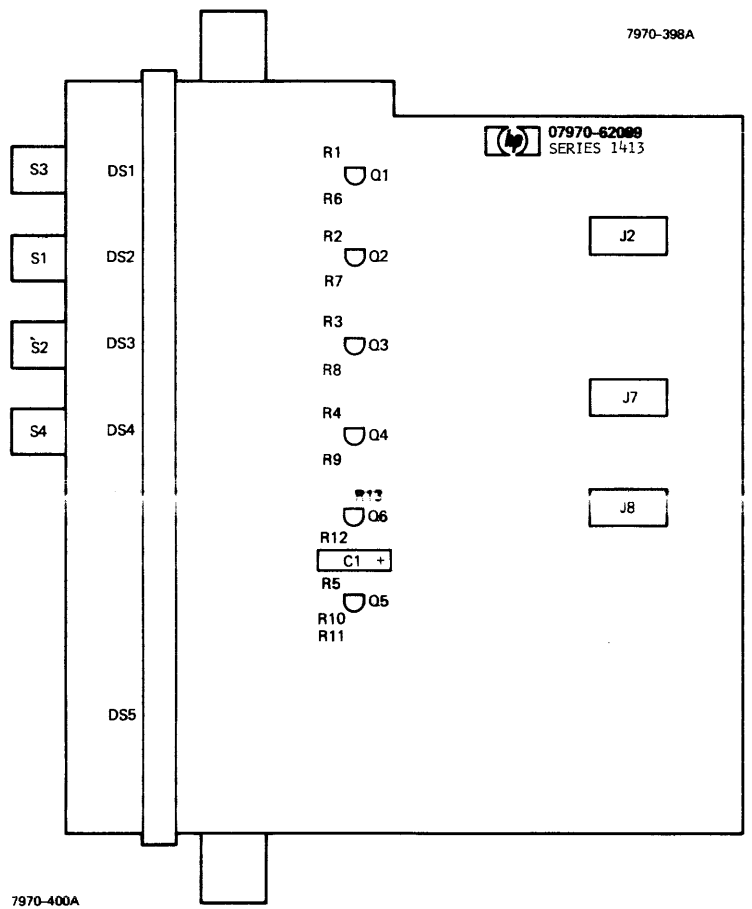
REF. DES./ INDEX NO.	HP PART NO.	DESCRIPTION
C1	07970-62071 0180-2426 2680-0099 2190-0012	POWER DISTRIBUTION PCA (SERIES 1341) CAPACITOR, fxd, 83000uf SCREW, 10-32, .375 Pan WASHER, Lock, #10
C2, C3	0180-2681 2680-0099 2190-0012	CAPACITOR, fxd, 24000 uf SCREW, 10-32, .375 Pan WASHER, Lock, #10
C4, C5	0180-2325 2680-0099 2190-0012	CAPACITOR, fxd, 1500uf SCREW, 10-32, .375 Pan WASHER, Lock, #10
C6, C7, C8 CR1, CR2	0180-0104 1901-0630 2740-0003	CAPACITOR, fxd, 200uf DIODE, Rectifier, Silicone NUT, Lock, 10-32
CR3-CR7	1901-0415 0340-0164	DIODE, Power INSULATOR, Transistor
CR8, CR9 F1,4 F2, F3, F5 *XF1-5	1901-0026 2110-0303 2110-0051 2110-0257	DIODE FUSE, 2A, 250V, SLO BLO FUSE, 10A, MB CLIP, Fuse Holder
R1 R2, R3 R4, R5 R6, R10 R7, R8 R9	0698-3629 0698-3635 0764-0043 0811-2490 0811-1666 0811-1552	RESISTOR, fxd, 270, 5%, 2W RESISTOR, fxd, 680, 5%, 2W RESISTOR, fxd, 2.7K, 5%, 2W RESISTOR, fxd; 0.1, 3%, 5W RESISTOR, fxd, 1, 5%, 2W RESISTOR, fxd, .56, 5%, 2W
J5 J1-4, 6-9 J1-4, 6-9	1251-2025 1251-2503 1251-2504 0360-1613 2190-0008	CONNECTOR, PC 2x24 .1560 CONTACT PC Female Pins CONTACT PC Male Pins LUG, Solder #5 WASHER, Lock #6
*XF1-5	SERIES 1341 2110-0257	CLIP, Fuse Holder



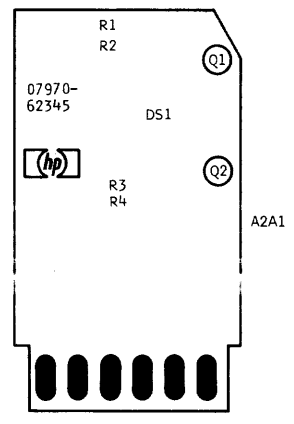
7970-399



7970-398A

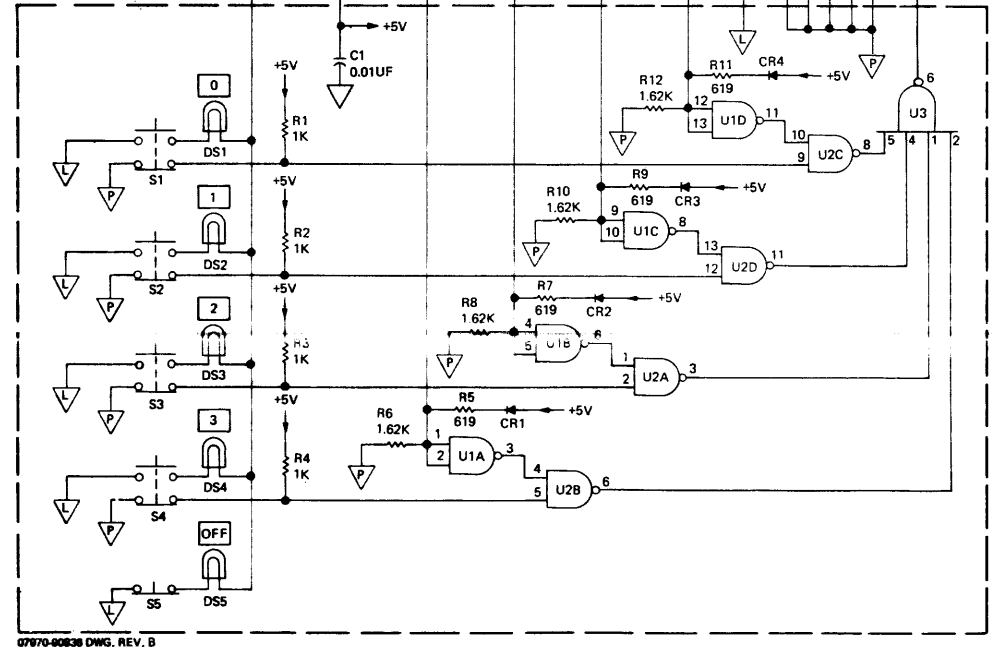


7970-400A

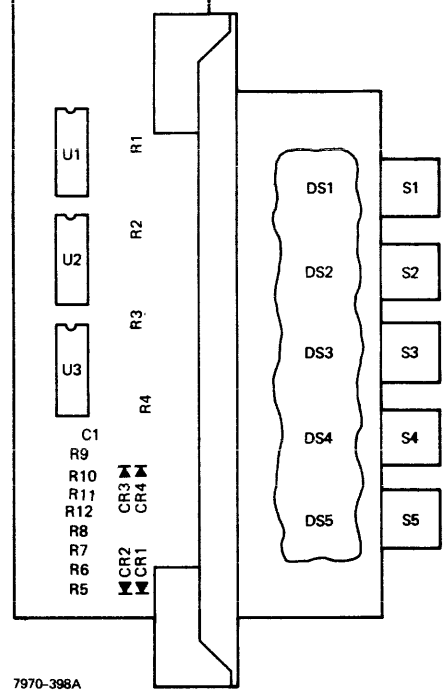


7970-399A

UNIT SELECT SWITCH  
ASSEMBLY A13  
07970-62086  
SERIES 1013

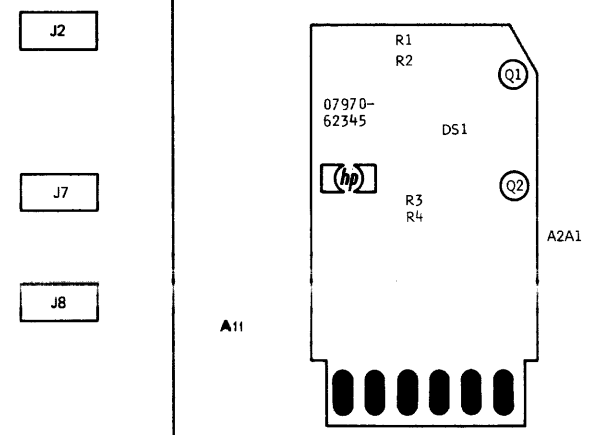


07970-62086  
1013-42



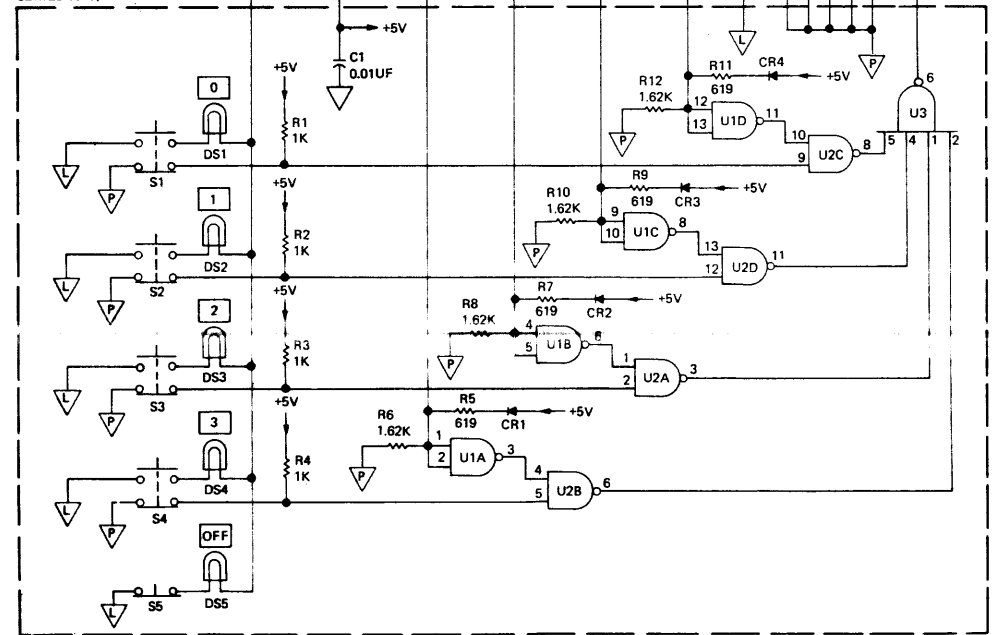
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1-62089  
ES 1413



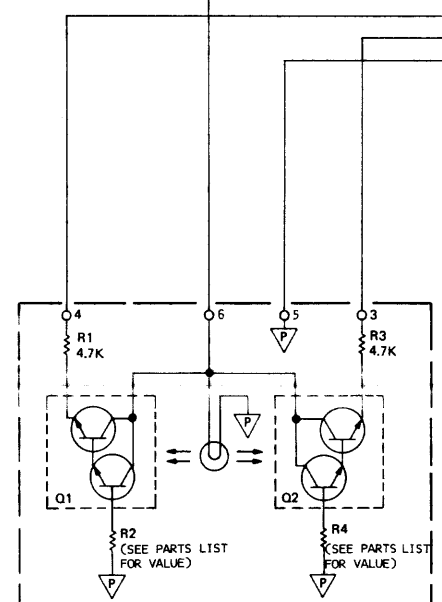
7970-399A

UNIT SELECT SWITCH  
ASSEMBLY A13  
(07970-62086  
SERIES 1013)

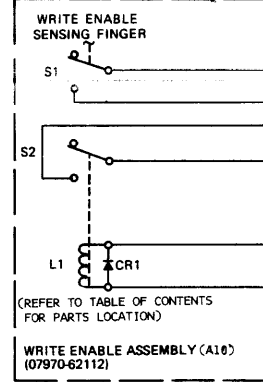


07970-62086 DWG. REV. B

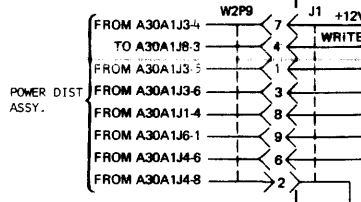
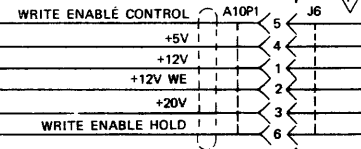
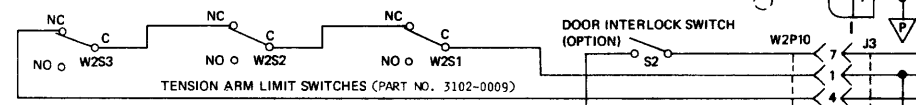
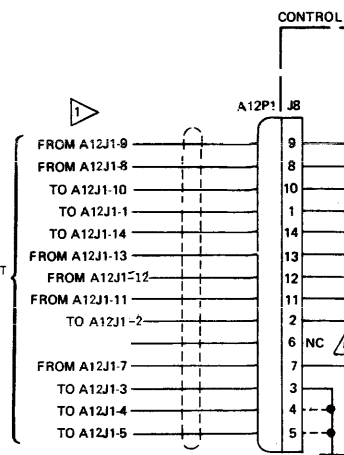
PHOTOSENSE HEAD  
PC ASSEMBLY A2  
(07970-61150 SERIES 1049,1426  
07970-62131 SERIES 1144,1426)



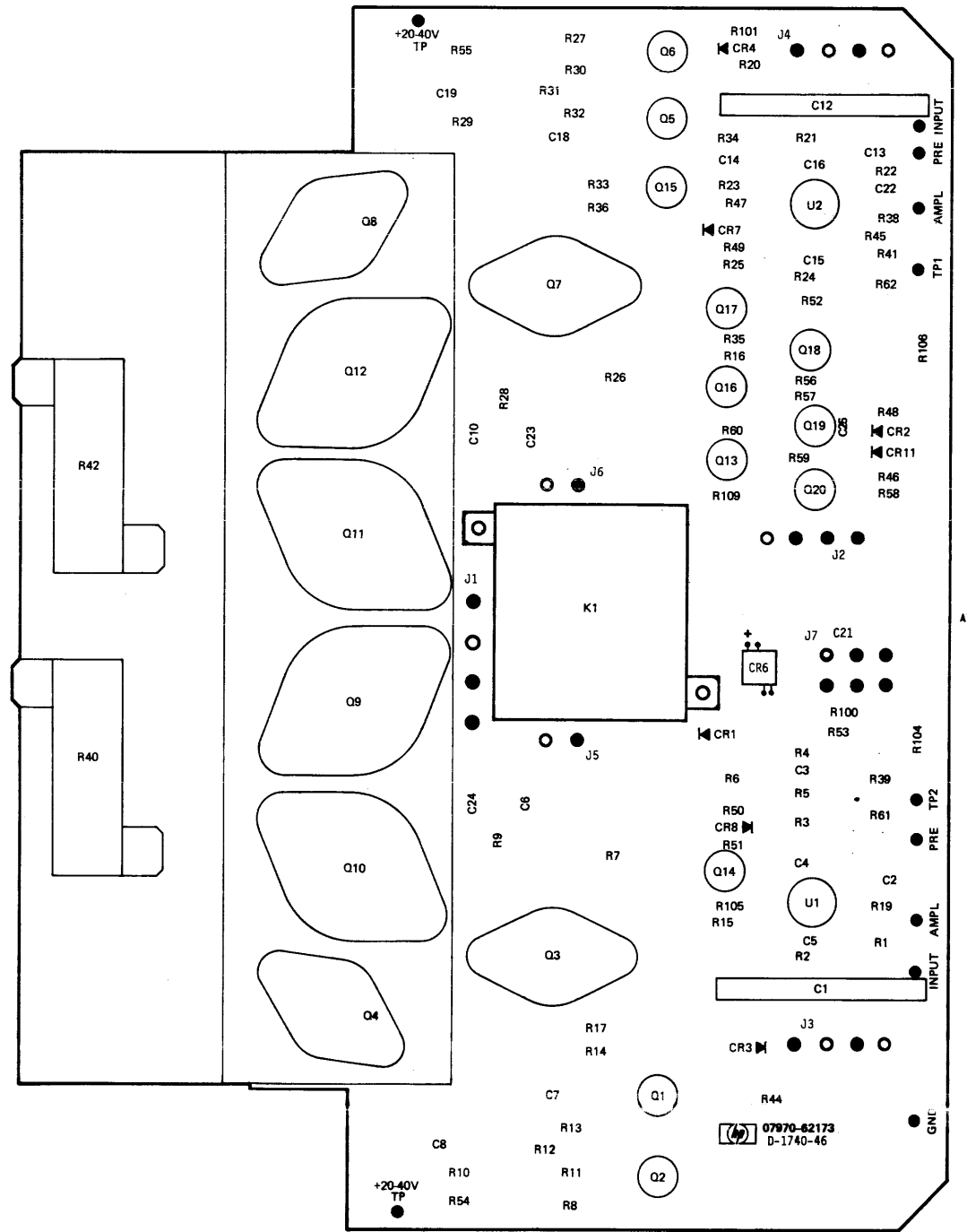
07970-62345, SERIES 1650



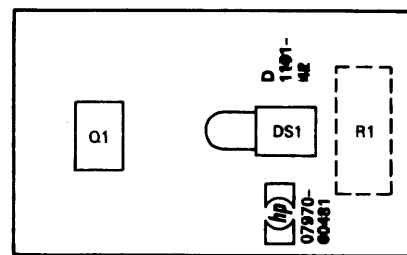
DENSITY SELECT SWITCH ASSY.



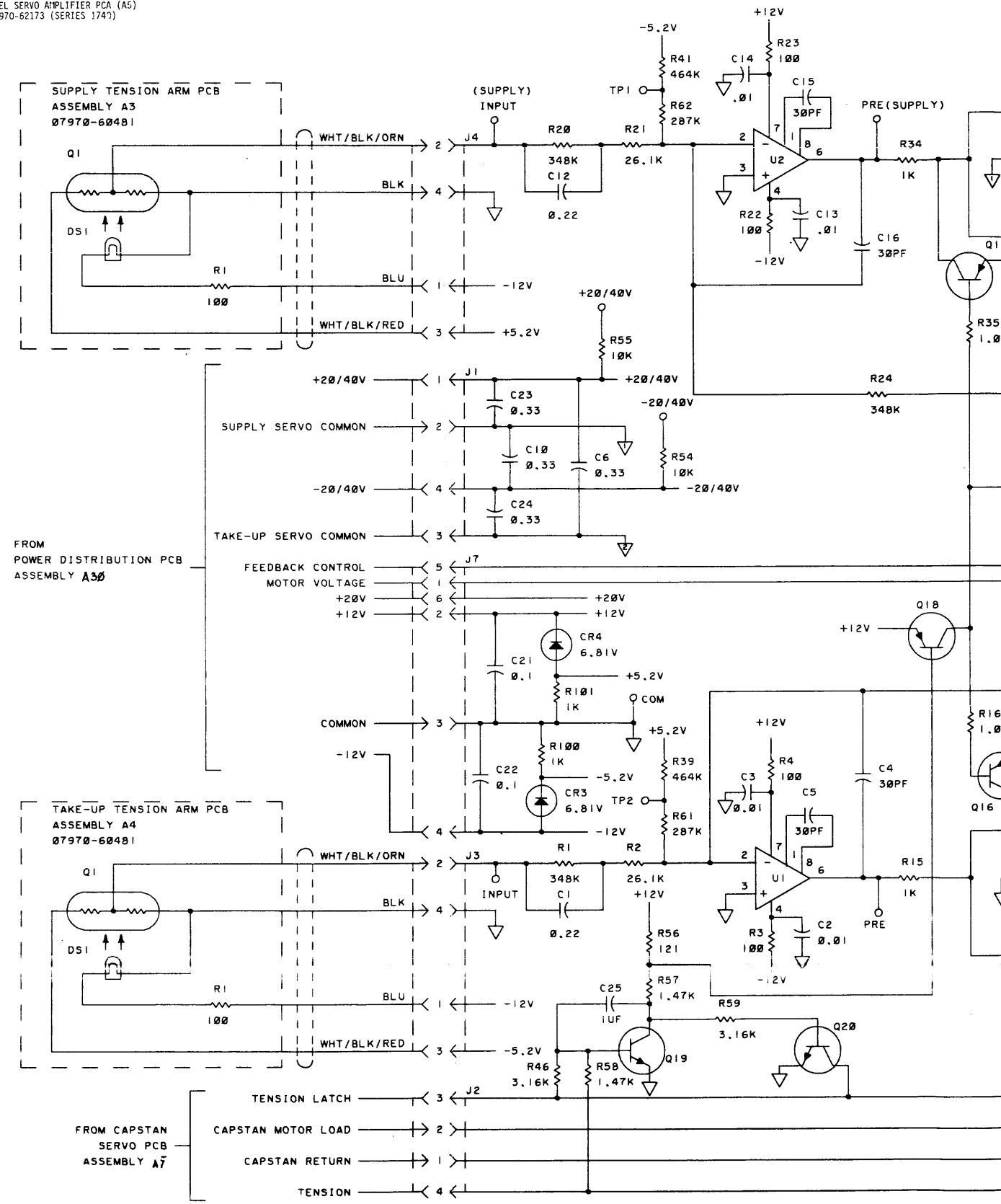




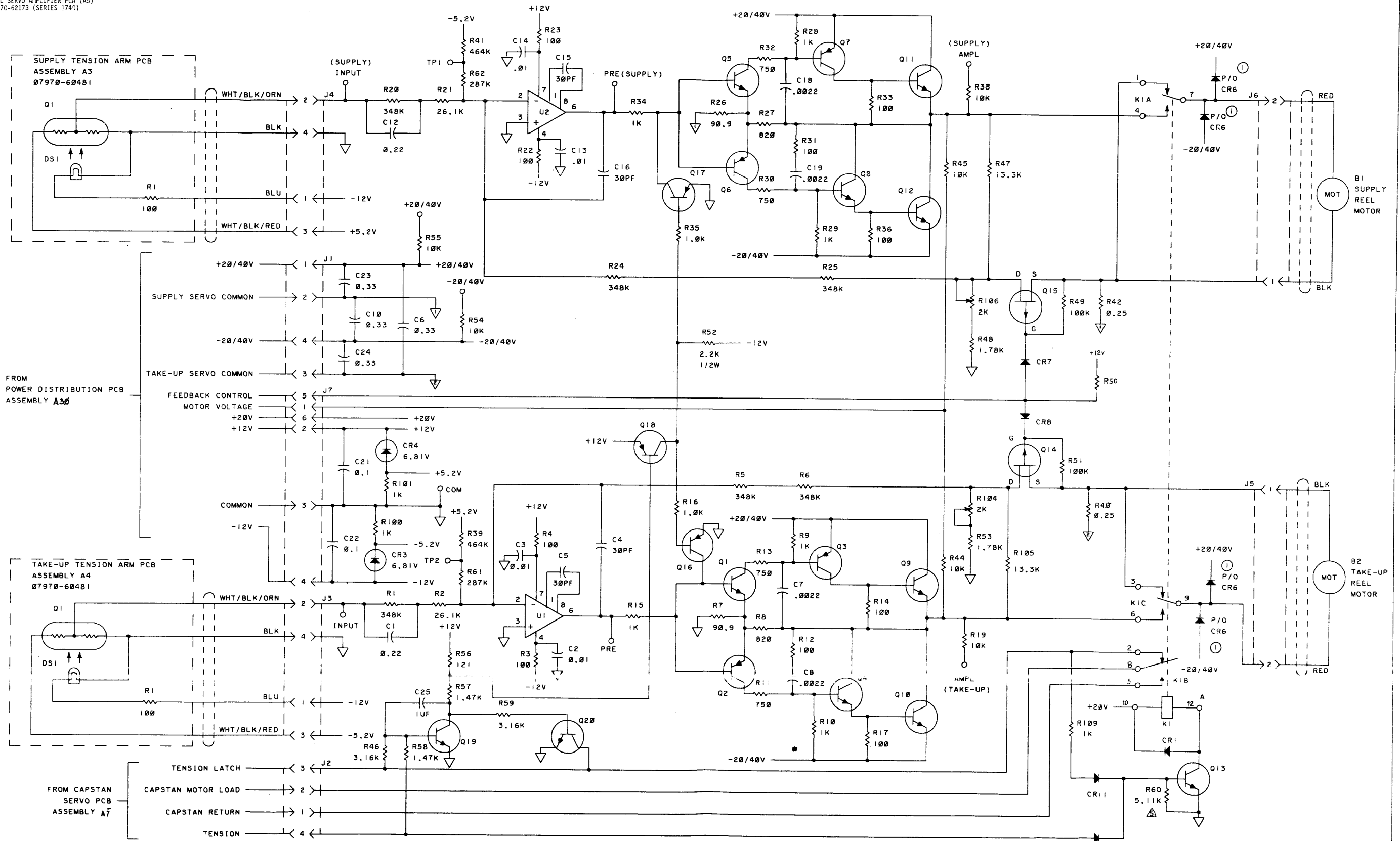
7970-62173AB



REEL SERVO AMPLIFIER PCA (A5)  
07970-62173 (SERIES 1740)



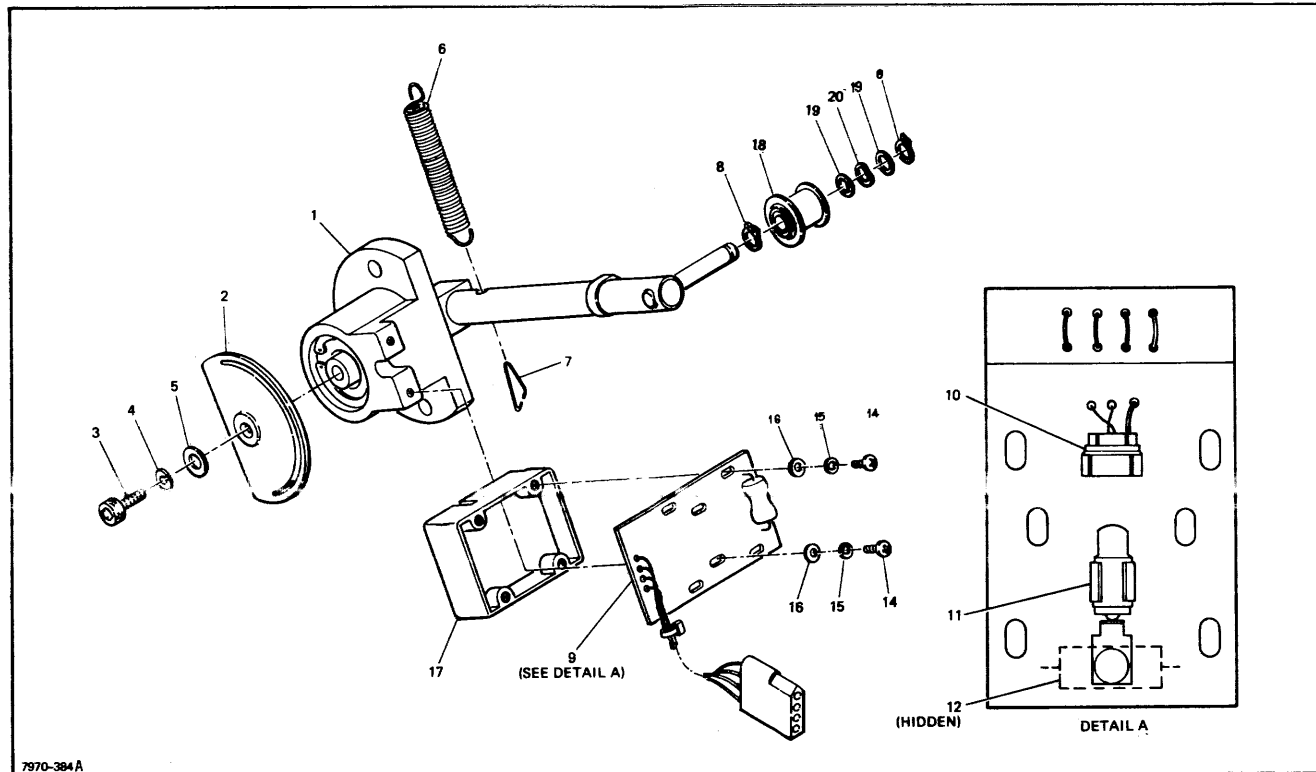
NOTE: 1. CR6 IS AN ENCAPSULATED BRIDGE CIRCUIT.  
 2. UNLESS OTHERWISE SPECIFIED, ALL RESISTANCES ARE IN OHMS, ALL CAPACITANCE ARE IN MICROFARADS. 5. SELECTED FOR OPTIMUM PERFORMANCE 1K, 2.37  
 3. COMMON (SUPPLY SERVO RETURN)  
 4. COMMON (TAKE-UP SERVO RETURN)



- NOTE: 1. CR6 IS AN ENCAPSULATED BRIDGE CIRCUIT.  
 2. UNLESS OTHERWISE SPECIFIED, ALL RESISTANCES ARE IN OHMS, ALL CAPACITANCE ARE IN MICROFARADS. 3. SELECTED FOR OPTIMUM PERFORMANCE 1K, 2.37K, OR 3.11K  
 3. COMMON (SUPPLY SERVO RETURN)  
 4. COMMON (TAKE-UP SERVO RETURN)

Tension Arm Assembly A3/A4 and  
Reel Servo PC Assembly A5

REEL SERVO PCA PARTS LIST  
07970-62173 (Series 1740)



TENSION ARM ASSEMBLY PARTS LIST  
07970-60181

REF. DES/ INDEX NO.	HP PART NO.	DESCRIPTION
	07970-60181	TENSION ARM ASSEMBLY
1	07970-20190	HOUSING, Bearing
2	07970-00380	SHADE, Photocell
3	3030-0038	SCREW, 10-32, .5in.
4	2190-0034	WASHER, Lock, #10
5	2190-0420	WASHER, Flat, #10
6	1460-1181	SPRING, Extension
7	1460-1250	SPRING, Torsion
8	0510-0238	RING, Retaining
9	07970-60481	PCA, Tension Arm & Cable
10	1990-0307	PHOTOCONDUCTOR, Dual (Q1)
11	2140-0351	LAMP, 6V, #328, (DS1)
12	0698-3620	RESISTOR, fxd, 100, 5%, 2W, (R1)
14	2200-0141	SCREW, 4-40, .312 Pan
15	2190-0003	WASHER, Lock, #4
16	3050-0105	WASHER, Flat, #4
17	07970-40203	HOOD, Tension Arm
18	07970-60130	GUIDE, Tape
19	3050-0032	WASHER, Flat .010 thick
20	3050-0253	WASHER, Spring, #10

REF. DES./ INDEX NO.	HP PART NO.	DESCRIPTION
	07970-62173	REEL SERVO ASSY (Series 1740)
C1, 12	0160-0380	CAPACITOR, fxd, .22uf, 10%
C2, 3, 13, 14	0160-2055	CAPACITOR, fxd, .01uf, 100V
C4, 5, 15, 16	0160-2199	CAPACITOR, fxd, 30pf, 5%
C6, 10, 23, 24	0160-2128	CAPACITOR, fxd, .33uf, 20%
C7, 8, 18, 19	0160-0154	CAPACITOR, fxd, .0022uf, 10%
C21, 22	0150-0121	CAPACITOR, fxd, .1uf, 10%
C25	0160-0127	CAPACITOR, fxd, 1.0uf
CR1, 2, 5, 7, 8, 11	1901-0040	DIODE, 30V, 50ma
CR3, 4	1902-0048	DIODE, Zener, 6.8iv
CR6	1901-0035	DIODE, Bridge Rectifier
CR11	1901-0040	DIODE
K1	0490-0891	RELAY, 3PDT, 24Vdc
	0490-0890	SOCKET, Relay
	1460-1182	SPRING, Hold Down
Q1, 5	1854-0022	TRANSISTOR, 2N2101 TO5
Q2, 6	1853-0080	TRANSISTOR, 2N4888 PL5
Q3, 7	1853-0323	TRANSISTOR, 2N6211
Q4, 8	1854-0399	TRANSISTOR, 2N3583
Q9-12	1854-0490	TRANSISTOR, 2N6259
Q13, 19, 20, 21	1854-0215	TRANSISTOR, 2N3904 PL5
Q14, 15	1855-0390	TRANSISTOR, 2N4342 TO18
Q16, 17	1853-0322	TRANSISTOR, 2N2946A TO46
Q18	1853-0036	TRANSISTOR, 2N3906 PL18
	0340-0177	INSULATOR, Bushing
	2200-0147	SCREW, 4-40, .5 Pan
	2260-0001	NUT, Hex, 4-40
	2260-0009	NUT, Lock, 4-40
R1, 5, 6, 20, 24, 25	0698-3458	RESISTOR, fxd, 348K, 1%, .125W
R2, 21	0698-3159	RESISTOR, fxd, 2.61K, 1% .125W
R3, 4, 22, 23	0683-1015	RESISTOR, fxd, 100, 5%, .25W
R7, 26	0757-0797	RESISTOR, fxd, 90.9, 1% .5W
R8, 27	0698-3637	RESISTOR, fxd, 820, 5% 2W
R9, 10, 15, 28, 29	0683-1025	RESISTOR, fxd, 1K, 5% .25W
34, 100, 101, 109		
R11, 13, 30, 32	0761-0058	RESISTOR, fxd, 750, 5% 1W
R12, 31	0757-0401	RESISTOR, fxd, 100, 1% .125W
R14, 17, 33, 36	0758-0086	RESISTOR, fxd, 100 1% .25W
R16, 35	0757-0280	RESISTOR, fxd, 1K, 1% .125W
R19, 38, 54, 55	0683-1035	RESISTOR, fxd, 10K, 5% .25W
R39, 41	0698-3260	RESISTOR, fxd, 464K, 1%, .125W
R40, 42	0811-2048	RESISTOR, fxd, .25, 1%, .25W
R44, 45	0686-1035	RESISTOR, fxd, 10k, 5%, .125W
R46, 59	0757-0279	RESISTOR, fxd, 3.16K, 1%, .125W
R47, 105	0757-0289	RESISTOR, fxd, 13.3K, 1% .125W
R48, 53	0757-0278	RESISTOR, fxd, 1.78K, 1%, .125W
R49, 51	0757-0465	RESISTOR, fxd, 100K 1%, .125W



REEL SERVO PCA PARTS LIST  
07970-62173 (Series 1740)

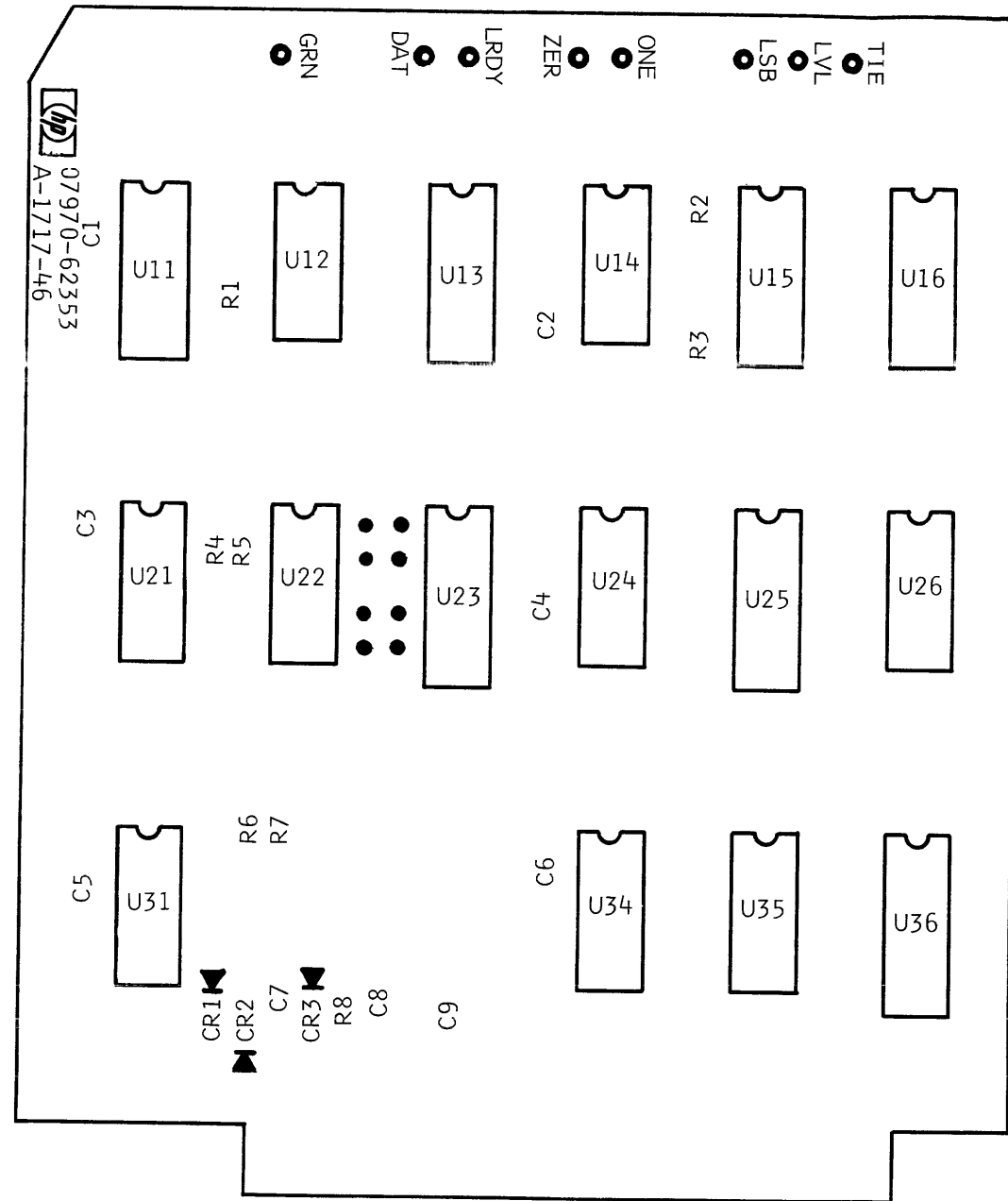
REF. DES./ INDEX NO.	HP PART NO.	DESCRIPTION
	07970-62173	REEL SERVO ASSY (Series 1740)
C1, 12	0160-0380	CAPACITOR, fxd, .22uf, 10%
C2,3,13,14	0160-2055	CAPACITOR, fxd, .01uf, 100V
C4,5,15,16	0160-2199	CAPACITOR, fxd, 30pf, 5%
C6,10,23,24	0160-2128	CAPACITOR, fxd, .33uf, 20%
C7,8,18,19	0160-0154	CAPACITOR, fxd, .0022uf, 10%
C21,22	0150-0121	CAPACITOR, fxd, .1uf, 10%
C25	0160-0127	CAPACITOR, fxd, 1.0uf
CR1,2,5,7,8,11	1901-0040	DIODE, 30V, 50ma
CR3,4	1902-0048	DIODE,Zener, 6.8iv
CR6	1901-0035	DIODE, Bridge Rectifier
CR11	1901-0040	DIODE
K1	0490-0891	RELAY, 3PDT, 24Vdc
	0490-0890	SOCKET, Relay
	1460-1182	SPRING, Hold Down
Q1,5	1854-0022	TRANSISTOR, 2N2101 TO5
Q2,6	1853-0080	TRANSISTOR, 2N4888 PL5
Q3,7	1853-0323	TRANSISTOR, 2N6211
Q4,8	1854-0399	TRANSISTOR, 2N3583
Q9-12	1854-0490	TRANSISTOR, 2N6259
Q13,19,20,21	1854-0215	TRANSISTOR, 2N3904 PL5
Q14,15	1855-0390	TRANSISTOR, 2N4342 TO18
Q16,17	1853-0322	TRANSISTOR, 2N2946A TO46
Q18	1853-0036	TRANSISTOR, 2N3906 PL18
	0340-0177	INSULATOR, Bushing
	2200-0147	SCREW, 4-40, .5 Pan
	2260-0001	NUT, Hex, 4-40
	2260-0009	NUT, Lock, 4-40
R1,5,6,20,24,25	0698-3458	RESISTOR, fxd, 348K, 1%, .125W
R2,21	0698-3159	RESISTOR, fxd, 2.61K, 1% .125W
R3,4,22,23	0683-1015	RESISTOR, fxd, 100, 5%, .25W
R7,26	0757-0797	RESISTOR, fxd, 90.9, 1% .5W
R8,27	0698-3637	RESISTOR, fxd, 820, 5% 2W
R9,10,15,28,29 34,100,101,109	0683-1025	RESISTOR, fxd, 1K, 5% .25W
R11,13,30,32	0761-0058	RESISTOR, fxd, 750, 5% 1W
R12,31	0757-0401	RESISTOR, fxd, 100, 1% .125W
R14,17,33,36	0758-0086	RESISTOR, fxd, 100 1% .25W
R16,35	0757-0280	RESISTOR, fxd, 1K, 1% .125W
R19,38,54,55	0683-1035	RESISTOR, fxd, 10K, 5% .25W
R39,41	0698-3260	RESISTOR, fxd, 464K, 1%, .125W
R40,42	0811-2048	RESISTOR, fxd, .25, 1%, 25W
R44,45	0686-1035	RESISTOR, fxd, 10k, 5%, .125W
R46,59	0757-0279	RESISTOR, fxd, 3.16K,1%, .125W
R47,105	0757-0289	RESISTOR, fxd, 13.3K,1% .125W
R48,53	0757-0278	RESISTOR, fxd, 1.78K,1%, .125W
R49,51	0757-0465	RESISTOR, fxd, 100K 1%, .125W

REF. DES./ INDEX NO.	HP PART NO.	DESCRIPTION
R50	0757-0458	RESISTOR, fxd, 51.1K, 1%, .125W
R52	0686-2225	RESISTOR, fxd, 2.2K, 5%, .25W
R56	0757-0403	RESISTOR, fxd, 121K, 1%, .125W
R57,58	0757-1094	RESISTOR, fxd, 1.47K, 1%, .125W
*R60	{0757-0438	RESISTOR, fxd, 5.11K, 1%, .125W
	{0757-0280	RESISTOR, fxd, 1K, 1%, .125W
	{0757-3150	RESISTOR, fxd, 2.37K, 1%, .125W
R61,62	0698-3456	RESISTOR, fxd, 287K 1%, .125W
R104,106	2100-1759	RESISTOR, Var, 2K, 5%, 1W
U1,2	1820-0223	IC, LM301AH
	07970-20849	BRACKET, Reel Servo
	1205-0085	DISSIPATOR, Heat (Q3&7)

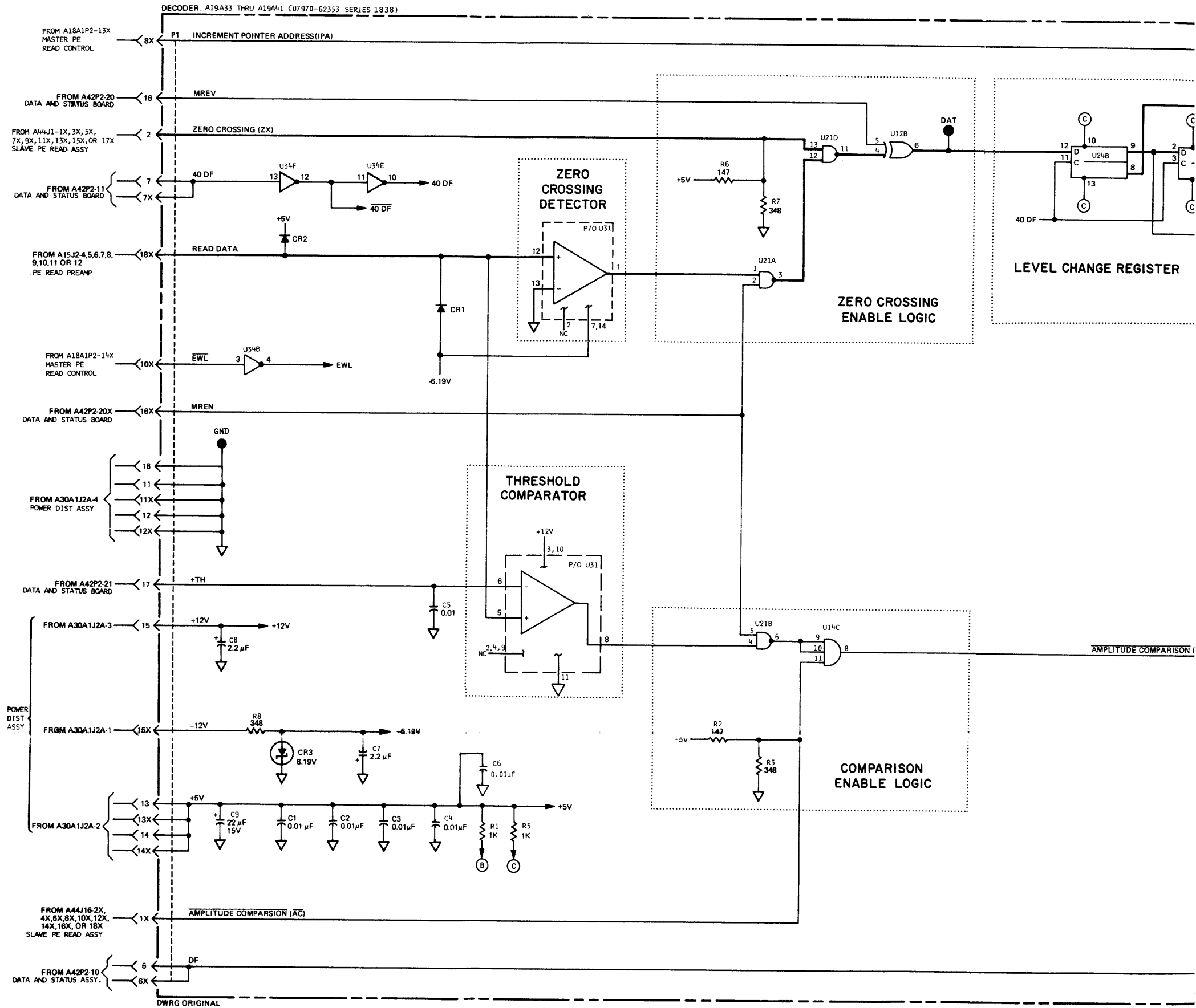
\*R60 is selected for optimum performance

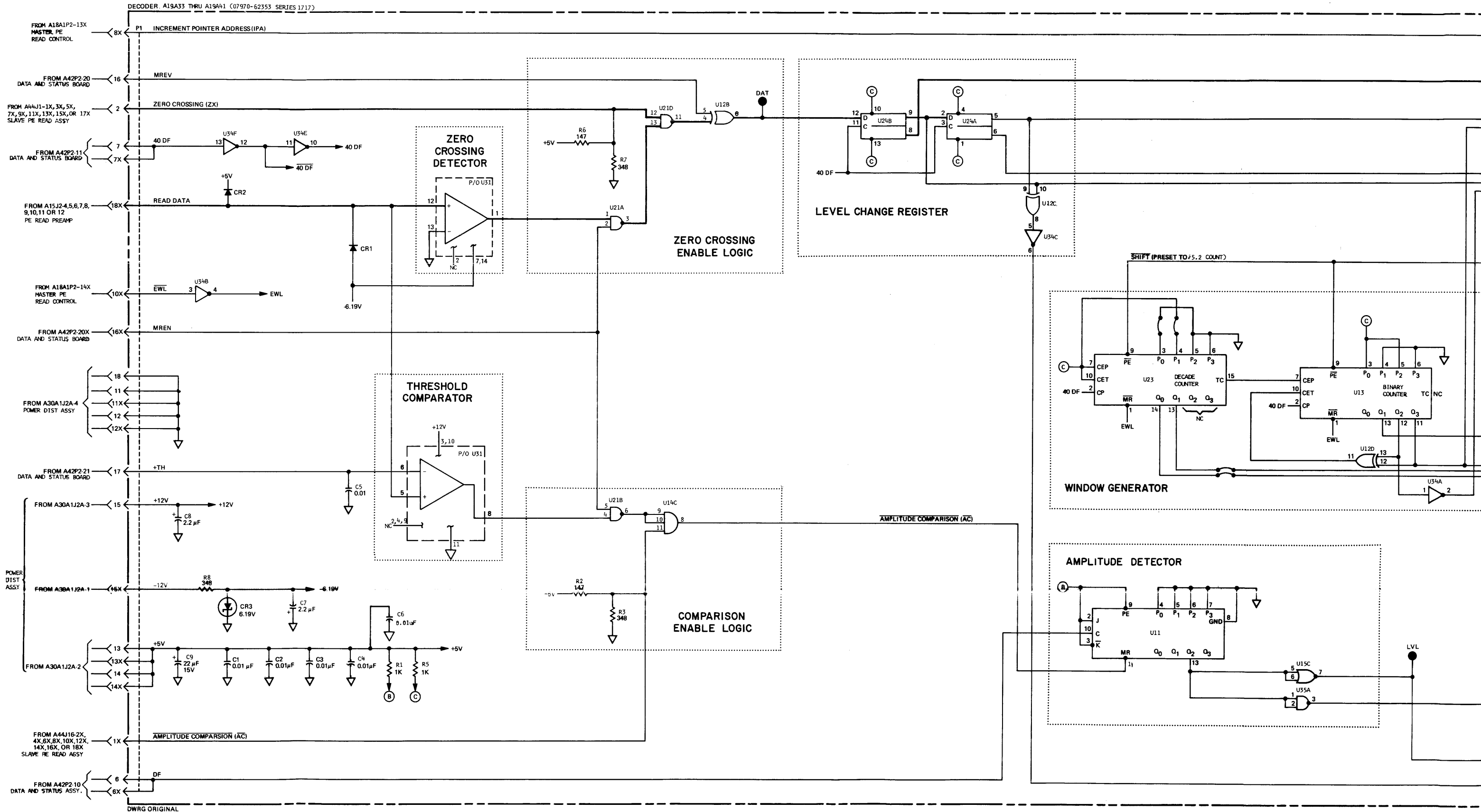
Tension Arm Assembly A3/A4 and  
Reel Servo PC Assembly A5

DECODER PCA PARTS LIST  
07970-62353 (Series 1717)



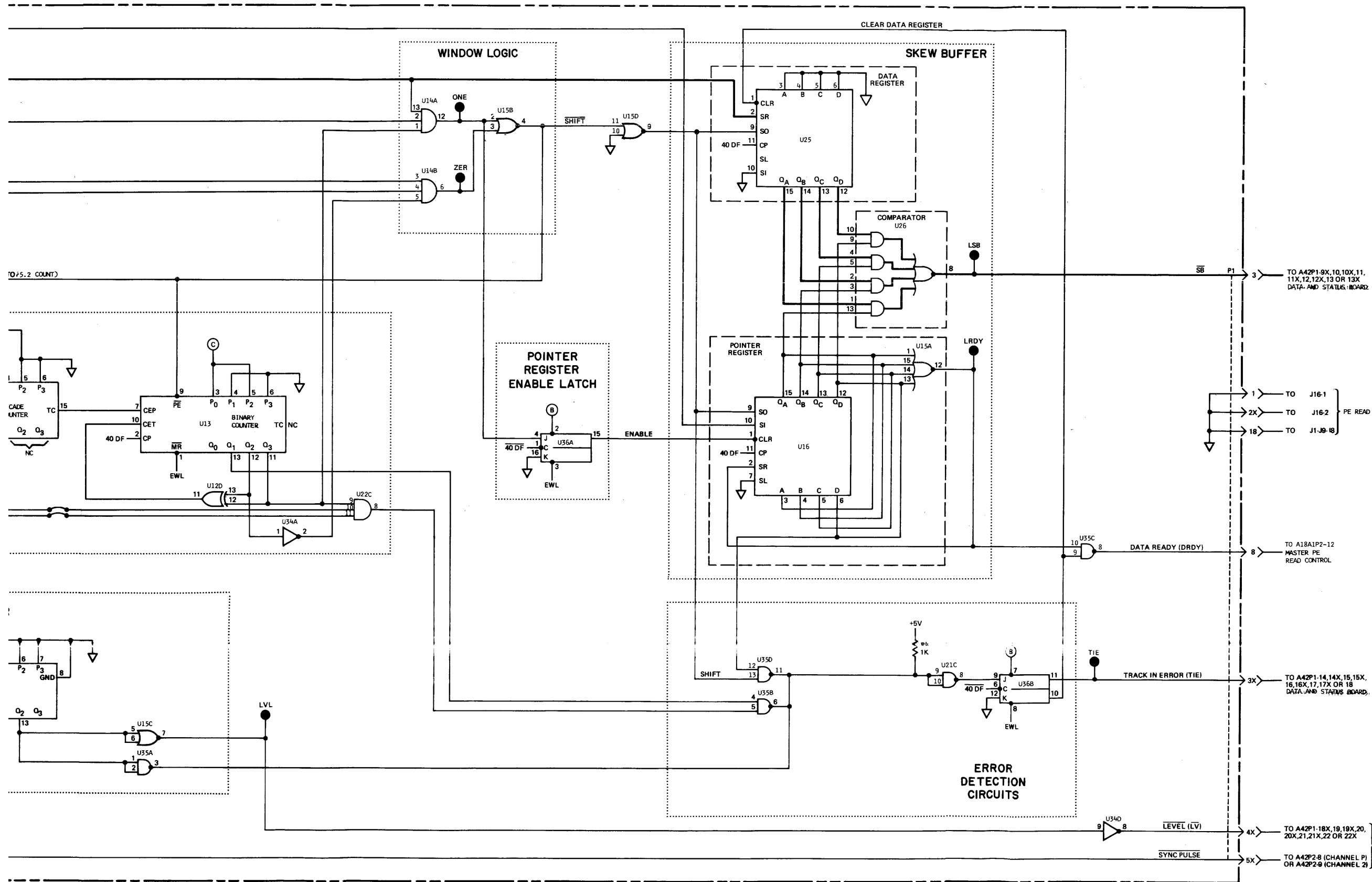
REF. DES./ INDEX NO.	HP PART NO.	DESCRIPTION
C1-6	0160-2055	CAPACITOR, fxd, .01uf, 100V
C7,8	0180-0197	CAPACITOR, fxd, 2.2uf, 10%
C9	0180-0228	CAPACITOR, fxd, 22uf, 15Vdc
CR1,2	1901-0040	DIODE, 30V, 50MA
CR3	1902-0049	DIODE, Zener, 6.19V
R1,4,5	0757-0280	RESISTOR, fxd, 1K, 1%, .125W
R2,6	0698-3438	RESISTOR, fxd, 147, 1%, .125W
R3,7,8	0698-3445	RESISTOR, fxd, 348, 1%, .125W
U11	1820-0659	IC, 93L00PC, Shift Register
U12	1820-0282	IC, Digital, SN7486N, Gate
U13	1820-0778	IC, 93L16PC, Counter
U14,22	1820-1066	IC, 7411PC, Gate
U15	1820-0745	IC, 9015DC, Gate
U16,25	1820-0743	IC, SN7419N, Shift Register
U21	1820-0054	IC, Digital, SN7400N, Gate
U23	1820-0669	IC, 93L10DC, Counter
U24	1820-0077	IC, Digital, SN7474N, FF
U26	1820-0074	IC, Digital, SN7454N, Gate
U31	1826-0051	IC, UA702C, Op Amp
U34	1820-0174	IC, Digital, SN7404N, Inverter
U35	1820-0269	IC, SN7403N, Gate
U36	1820-0076	IC, Digital, SN7476N, FF
	5040-6001	EXTRACTOR
	1480-0116	PIN, Grooved





DECODER, A19A33 THRU A19A41 (07970-62353 SERIES 1717)

DWRG ORIGINAL



NOTES:

1. POINTER REGISTER OPERATION: U16

SI	SO	ACTION
H	H	PARALLEL LOAD
L	H	SHIFT RIGHT
H	L	SHIFT LEFT
L	L	NO ACTION

2. DATA REGISTER OPERATION: U25

SD	ACTION
H	SHIFT RIGHT
L	NO ACTION

3. WINDOW GENERATOR STATES: U11 OUTPUTS

	Q <sub>0</sub>	Q <sub>1</sub>	Q <sub>2</sub>	Q <sub>3</sub>
0				
1	1			
2		1		
3	1	1		
4			1	
5	1		1	
6		1	1	
7	1	1	1	
8				1
9	1			1
10		1		1
11	1	1		1
12			1	1
13	1		1	1
14		1	1	1
15	1	1	1	1

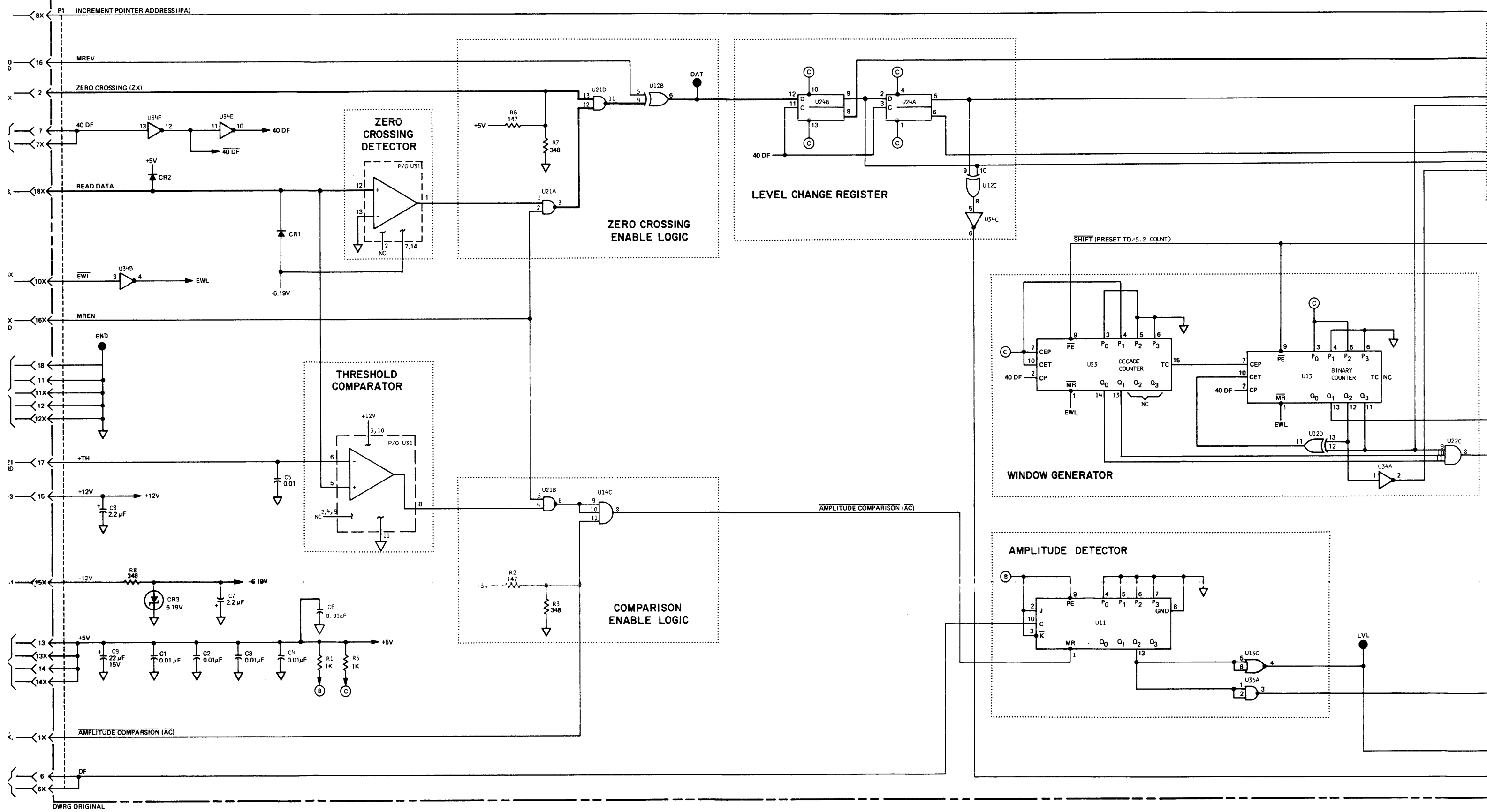
PRESET 5.2 COUNT  
B.D. COUNT  
WINDOW TIME  
TIE 10.3 COUNT

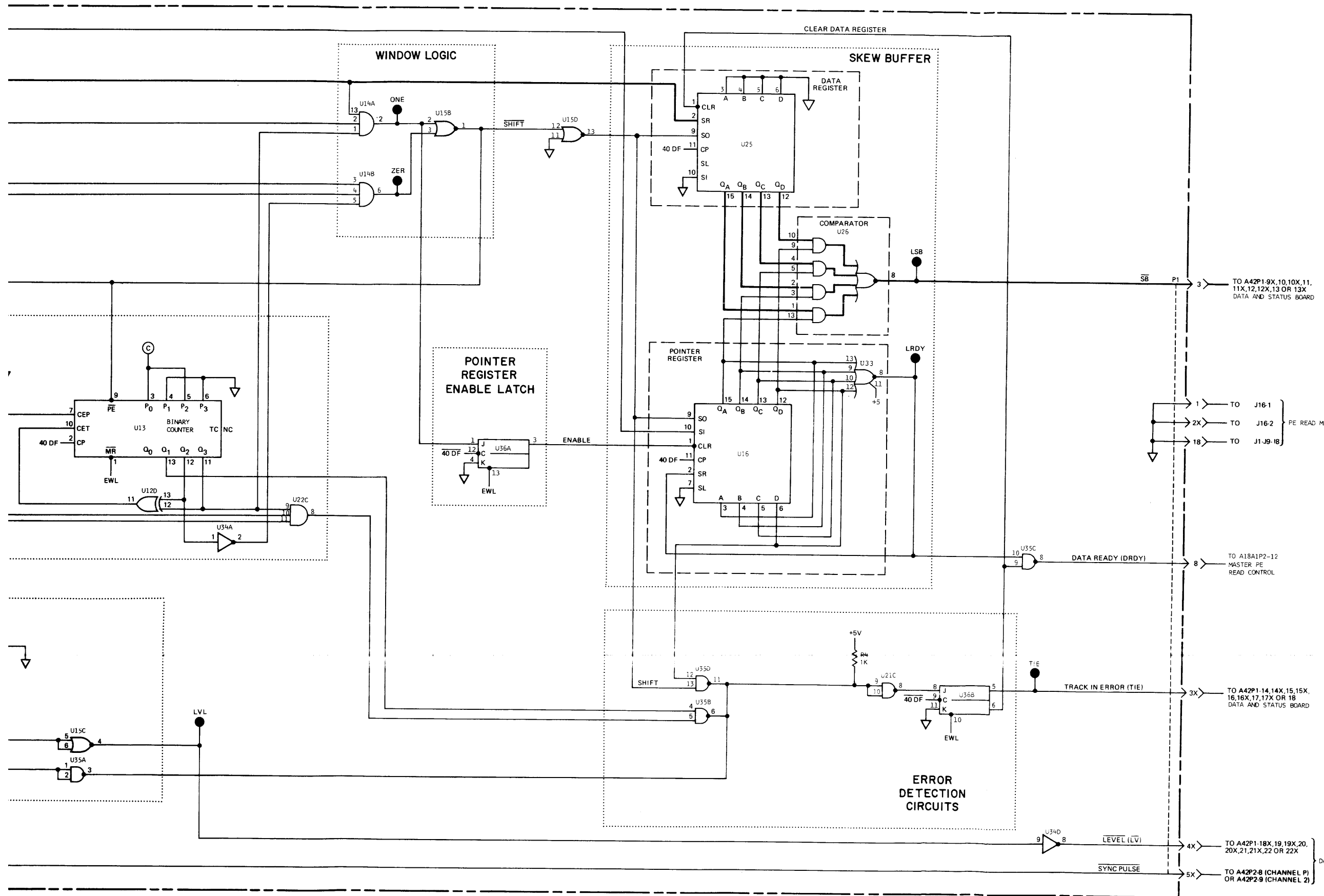
4. PRESCALER U11 HAS OUTPUT STATES .0 THRU .9 FOR EACH OUTPUT STATE OF U12.

Decoder PC Assembly A19A33 thru A19A41

2-96B

Added 28 July, 1977





NOTES:

1. POINTER REGISTER OPERATION: U16
 

SI	SO	ACTION
H	H	PARALLEL LOAD
L	H	SHIFT RIGHT
H	L	SHIFT LEFT
L	L	NO ACTION
2. DATA REGISTER OPERATION: U25
 

SO	ACTION
H	SHIFT RIGHT
L	NO ACTION
3. WINDOW GENERATOR STATES:
 

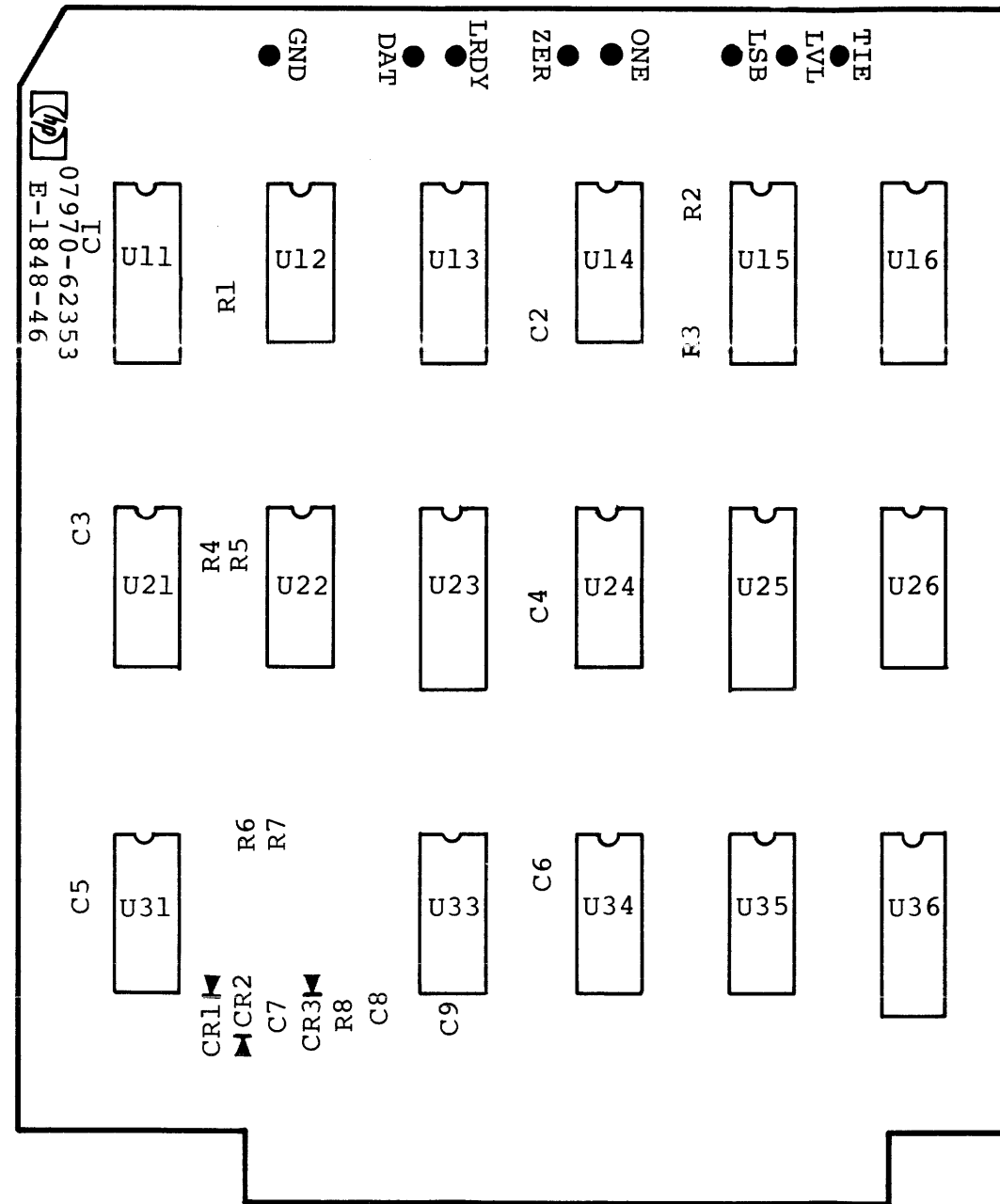
U12 OUTPUTS	U12 OUTPUTS			
	Q <sub>0</sub>	Q <sub>1</sub>	Q <sub>2</sub>	Q <sub>3</sub>
0	1			
1	1	1		
2	1	1	1	
3	1	1	1	1
4	1	1	1	1
5	1	1	1	1
6	1	1	1	1
7	1	1	1	1
8	1	1	1	1
9	1	1	1	1
10	1	1	1	1
11	1	1	1	1
12	1	1	1	1
13	1	1	1	1
14	1	1	1	1
15	1	1	1	1

PRESET 5.2 COUNT  
8.0 COUNT  
WINDOW TIME  
TIE 10.3 COUNT

4. PRESCALER U11 HAS OUTPUT STATES .0 THRU .9 FOR EACH OUTPUT STATE OF U12.



DECODER PCA PARTS LIST  
07970-62353 (Series 1838)



REF. DES./ INDEX NO.	HP PART NO.	DESCRIPTION
C1-6	0160-2055	CAPACITOR, Fxd, .01uf, 100Vdc
C7,8	0180-0197	CAPACITOR, fxd, 2.2uf, 10%
C9	0180-0228	CAPACITOR, fxd, 22uf, 15Vdc
CR1,2	1901-0040	DIODE, 30V, 50MA
CR3	1902-0049	DIODE, Zener, 6.19V
R1,4,5	0757-0280	RESISTOR, fxd, 1K, 1%, .125W
R2,6	0698-3438	RESISTOR, fxd, 147, 1%, .125W
R3,7,8	0698-3445	RESISTOR, fxd, 348, 1%, .125W
U11	1820-1300	IC, SN74LS195AN
U12	1820-1211	IC, DN74LS86N, Gate
U13	1820-0778	IC, 93L16PC, Counter
U14,22	1820-1203	IC, SN74LS11N, Gate
U15	1820-1144	IC, SN74LS02N, Gate
U16,25	1820-0743	IC, SN7419N, Shift Register
U21	1820-1197	IC, SN7400N, Gate, DM74LS00N
U23	1820-0669	IC, 94L10DC, Counter
U24	1820-1112	IC, SN74LS74AN, FF
U26	1820-0074	IC, SN7454N, Gate
U31	1826-0051	IC, UA702C, Op Amp
U33	1820-0655	IC, SN7425N, Gate
U34	1820-0174	IC, SN7404N, Inverter
U35	1820-0269	IC, SN7403N, Gate
U36	1820-0281	IC, SN7476N, FF
	5040-6001	EXTRACTOR
	1480-0116	PIN, Grooved

DESCRIPTION

, Fxd, .01uf, 100Vdc  
, fxd, 2.2uf, 10%  
, fxd, 22uf, 15Vdc  
, 50MA  
er, 6.19V  
fxd, 1K, 1%, .125W  
fxd, 147, 1%, .125W  
fxd, 348, 1%, .125W  
195AN  
86N, Gate  
C, Counter  
11N, Gate  
02N, Gate  
N, Shift Register  
N, Gate, DM74LS00N  
C, Counter  
74AN, FF  
N, Gate  
, Op Amp  
N, Gate  
N, Inverter  
N, Gate  
N, FF

ed

Decoder PC Assembly A19A33 thru A19A41

2-96D

Added FEB 1979

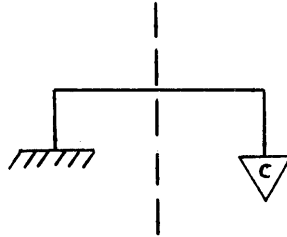
CHANGE TO:

HP 7970B/E Digital Magnetic Tape Units  
Diagrams and Parts Manual

---

**CHANGE DESCRIPTION:** A grounding change has been made to 7970 series tape unit power distribution assemblies to further protect the 24Vdc supply. This manual change reflects this. In addition, this change details component changes made necessary due to parts availability problems.

**CHANGE INSTRUCTIONS:** On power distribution PCA's, part no's. 07970-61020 and 07970-62071, indicate on the schematic diagrams the addition of a chassis common connection as shown below:



Note that this connection is made by adding short wire jumpers from the ground plane of the PCA to the chassis mounting points at the corners of the PCA.

Change the series numbers of both PCAs from 1229 to 1709.

CHANGE TO:

HP 7970B/E Digital Magnetic Tape Unit  
Diagrams and Parts Manual

---

**CHANGE DESCRIPTION:** This change reflects information being added to the manual for parts changes to the 07970-62351 Power Transformer Assembly. The assembly series code changes from 1648 to 1720.

**CHANGE INSTRUCTIONS:** Insert the pages included with this change notice into the manual. Remove the original title page and pages iii and iv. The following pages are included with this change notice:

Title page, iii, iv, 2-20C, and 2-20D



DIAGRAMS AND PARTS MANUAL

7970B/E

DIGITAL MAGNETIC TAPE UNITS

Manual Part No. 07970-90886

Microfiche Part No. 07970-90891

Serial Numbers Prefixed:

7970B--1107 thru 1720

7970E--1127 thru 1720

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# ILLUSTRATIONS





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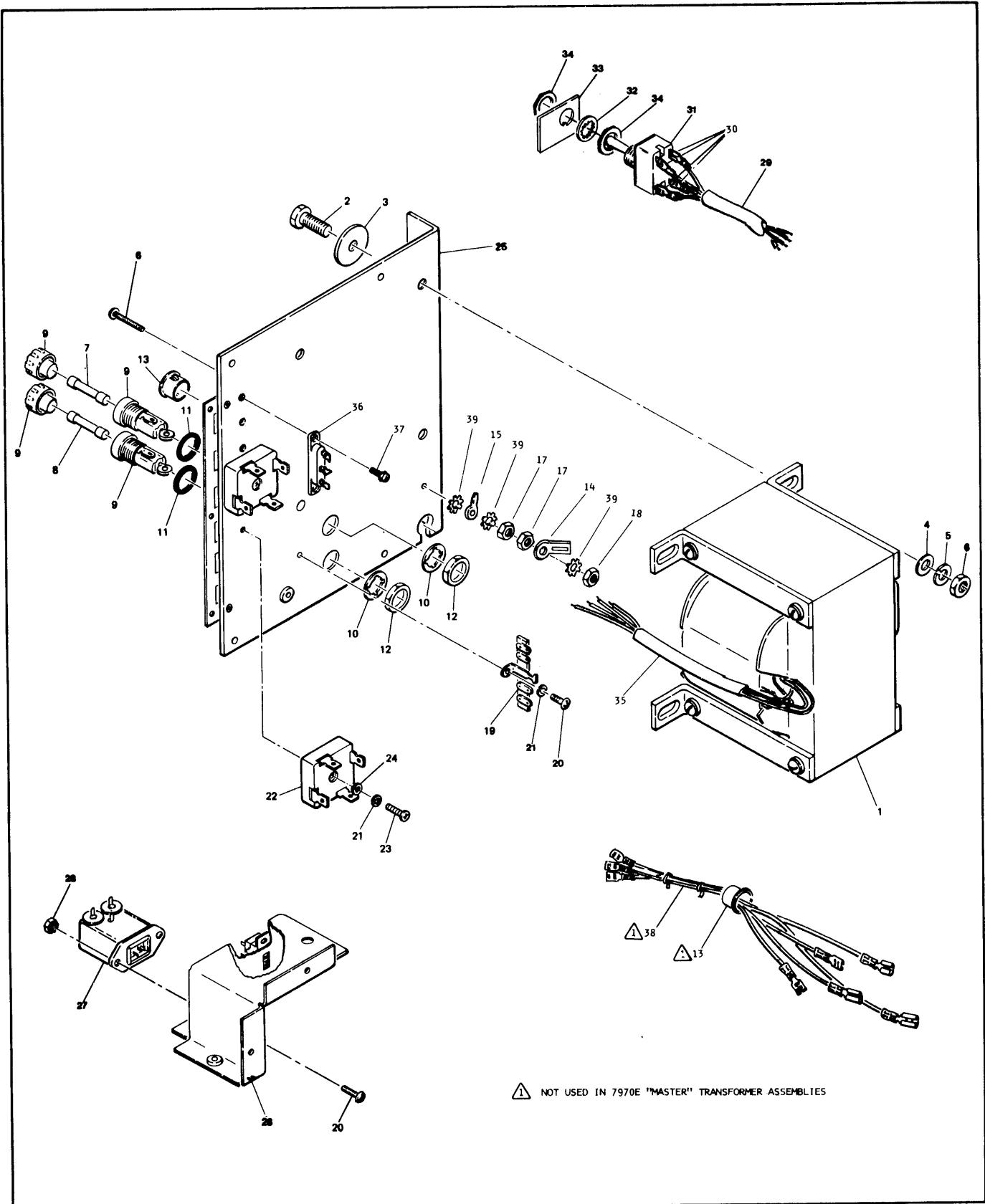
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TRANSFORMER ASSEMBLY  
07970-62351 (SERIES 1647, 1648)

REF. DES./ INDEX NO.	HP PART NO.	DESCRIPTION
	07970-62351	TRANSFORMER ASSEMBLY (SERIES 1647)
1	9100-3921	TRANSFORMER, POWER (T1)
2	0570-0108	BOLT, hex, 1/4-20, .75 in.
3	3050-0723	WASHER, flat, .26 in. ID
4	3050-0225	WASHER, flat, .25 in. ID
5	2190-0431	WASHER, lock, .25 in.
6	2950-0004	NUT, hex, 1/4-20
7	2110-0365	FUSE, 4A, 250V, SLO-BLO (F1)
8	2110-0380	FUSE, 2.5A, 250V, SLO-BLO (F2)
9	1400-0084	FUSE HOLDER, Post Type (XF1, XF2)
10	2190-0037	WASHER, lock, .5 Int.
11	0900-0016	O-RING, 15 in. ID
12	2950-0038	NUT, fuse holder, 1/2-24
 13	0400-0056	BUSHING, SNAP, NYLON, .375 ID
14	0360-0043	TERMINAL, SOLDER LUG, #5
15	0362-0452	LUG, CRIMP, #6
16	2360-0203	SCREW, 6-32, .625 PAN
17	2420-0002	NUT, HEX, 6-32
18	2420-0001	NUT, HEX, 6-32
19	0360-1590	TERMINAL STRIP, LUG TYPE
20	2200-0141	SCREW, 4-40, .312 PAN
21	2190-0003	WASHER, lock, #4
22	1906-0017	DIODE BRIDGE, RECTIFIER (CR1, CR2)
23	2200-0091	SCREW, 4-40, .562 in.
24	2190-0416	WASHER, #4
25	07970-01171	PANEL, POWER TRANSFORMER
26	07970-60461	BRACKET, ASSEMBLY (INCLUDES S2)
27	9100-0531	FILTER (FL1) AND J1
28	2260-0009	NUT, LOCK, 4-40
29	8120-1624	CABLE, POWER
30	1401-0083	CAP, Protective
31	3101-0646	SWITCH, Toggle, dpst
32	2190-0102	WASHER, Lock
33	7120-4575	PLATE, Indicator
34	2950-0035	NUT, 15/32 - 32
35	0890-0291	SLEEVING, 3/8 in.
*36	1906-0017	DIODE BRIDGE, RECTIFIER (CR3)
 37	2360-0119	SCREW, 6-32, .438 in.
 38	07970-60920	CABLE, TRANSFORMER
	Series 1648	
*36	1906-0039	DIODE BRIDGE, RECTIFIER (CR3)
 Not used in 7970E "Master" Transformer Assemblies		

7970 B & E Power Transformer  
Assembly A 29



2226-116B

7970 B & E Power Transformer  
Assembly A29

2-20C  
Added 13 May, 1977

CHANGE TO:

HP 7970B/E Digital Magnetic Tape Units  
Diagrams and Parts Manual

---

**CHANGE DESCRIPTION:** This change to the manual reflects the addition of a new Decoder printed-circuit assembly for improved performance of 7970E tape units.

**CHANGE INSTRUCTIONS:**

1 Insert the pages included with this change notice into the manual. Discard pages iii and iv. The following pages are included with this change notice:

Changed 28 July 1977 - page iii

Page iv

Added 28 July 1977 - pages 2-96A and 2-96B

CHANGE TO:

7970B/E DIGITAL MAGNETIC TAPE UNIT  
Diagrams and Parts Manual

---

**CHANGE DESCRIPTION:** This change documents parts and instructions necessary to update the manual to current standards. The following series code changes

07970-62173 from 1524 to 1740

The unit serial prefix changes

from 1524 to 1740

**CHANGE INSTRUCTIONS:**

1. Insert the enclosed new pages in the appropriate location in the manual. Discard the old title page
2. Page 2-34, Write Enable Parts List 07970-62122, Ref. Des./Index no. item 13. Delete part no. 2190-0417 and add part no. 2190-0479 in its place.
3. Page 2-54, Reel Motor Assembly Parts List, 07970-60170/60171, Ref. Des./Index no. item 4. Delete part no 07970-20700 and add part no. 0510-0617 in its place.
4. Page 2-56, Tension Arm Assembly Parts List, Ref. Des./Index no. item 9. Delete item 13 - 07970-60870 Cable - and add the words "and Cable" to item 9.

DIAGRAMS AND PARTS MANUAL

7970B/E

DIGITAL MAGNETIC TAPE UNITS

Manual Part No. 07970-90886

Microfiche Part No. 07970-90891

Serial Numbers Prefixed:

7970B--1107 thru 1740

7970E--1127 thru 1740

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Page 7  
1978

Manual Part No.: 07970-90886  
Print date: NOV 1976

CHANGE TO:  
7970B/E DIGITAL MAGNETIC TAPE UNIT  
Diagrams and Parts Manual

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CHANGE DESCRIPTION: Due to a dimensional change to the casting, the unit serial prefix changes from 1740 to 1802.

CHANGE INSTRUCTIONS: Change the series on the Title page from 1740 to 1802.



P.O. Box 15, Boise, Idaho 83707, Tel. 208-376-6000, TWX 910-970-5784



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CHANGE TO:  
HP 7970B/E Digital Magnetic Tape Units  
Diagrams and Parts Manual  
Manual Part No. 07970-90886

pco 46-1083

CHANGE DESCRIPTION

This change changes the solenoid mounting screw and washer on the Write Enable Assembly. It also up-dates some parts modifications.

CHANGE INSTRUCTIONS

Make the following changes to parts list on page 2-34:

Write Enable Assy. 07970-62122

	Ref. Des. Indes No.	HP Part No.	Description
Delete	3	3050-0066	WASHER, Flat #6
Delete	8	2190-0061	WASHER, Lk, Hel, #4

Change the following parts to read as indicated below:  
(The underline portion shows the changed information)

	2	2360- <u>0191</u>	SCREW, 6-32, .25Pan
	4	2190- <u>0085</u>	WASHER, Lk, #6
	7	2200- <u>0105</u>	SCREW, 4-40, .312Pan
	11	<u>3101-2140</u>	SWITCH, Sens., (S2)
	13	2190- <u>0479</u>	WASHER, Flat, #2

CHANGE TO:  
7970B/E DIAGRAMS AND PARTS MANUAL

Manual Part No. 07970-90886

---

CHANGE DESCRIPTION

This change notice describes modification to the tape unit to satisfy VDE requirements for European customers.

The serial prefix number of the tape unit changes from 1802 to 1838.


CHANGE INSTRUCTIONS

1. Insert new page (2-20E/F) provided with this change.
2. On page 2-20D (Transformer Assy. 07970-62351) place an astrisk (\*) in front of the following index numbers: 1,9,10,11,12,27,28, and 31.
3. At the bottom of page 2-20D, below 1 Not used in 7970E "Master" Transformer Assy., add:  
\* These parts have changed at series 1838, see series parts listing on page 2-20E.
3. Change the manual title page series number from 1802 to 1838.



TRANSFORMER ASSEMBLY  
07970-62351 (SERIES 1720)

REF. DES./ INDEX NO.	HP PART NO.	DESCRIPTION
	07970-62351	TRANSFORMER ASSEMBLY (SERIES 1720)
1	9100-3921	TRANSFORMER, Power (T1)
2	0570-0108	BOLT, hex, 1/4-20, .75 in.
3	3050-0723	WASHER, flat, .26 in. ID
4	3050-0225	WASHER, flat, .25 in. ID
5	2190-0431	WASHER, lock, .25 in.
6	2950-0004	NUT, hex, 1/4-20
7	2110-0365	FUSE, 4A, 250V, SLO-BLO (F1)
8	2110-0380	FUSE, 2.5A, 250V, SLO-BLO (F2)
9	1400-0084	FUSE HOLDER, Post Type (XF1, XF2)
10	2190-0037	WASHER, lock, .5 Int.
11	0900-0016	O-RING, .5 ID
12	2950-0038	NUT, Fuseholder, 1/2-24
13	0400-0056	BUSHING, Snap, nylon, .375 ID
14	0360-0043	TERMINAL, Solder Lug, #5
15	0362-0452	LUG, Crimp, #6
16	2360-0203	SCREW, 6-32, .625 Pan
17	2420-0002	NUT, hex, 6-32
18	2420-0001	NUT, hex, 6-32
19	0360-1590	TERMINAL STRIP, Lug Type
20	2200-0141	SCREW, 4-40, .312 Pan
21	2190-0003	WASHER, #4
22	1906-0017	DIODE BRIDGE, Rectifier (CR1, CR2)
23	2200-0091	SCREW, 4-40, .562 in.
24	2190-0416	WASHER, #4
25	07970-01171	PANEL, Power Transformer
26	07970-60461	BRACKET, Assembly (Includes S2)
27	9100-0531	FILTER, (FL1) and J1
28	2260-0009	NUT, Lock, 4-40
29	8120-1624	CABLE, Power
30	0362-0522	LUG, Crimp
31	3101-2173	SWITCH, Toggle, dpst
32	2190-0102	WASHER, Lock
33	7120-4575	PLATE, Indicator
34	2950-0035	NUT, 15/32-32
35	0890-0769	SLEEVING, Heat Shrink
36	1906-0039	DIODE BRIDGE, Rectifier (CR3)
37	2360-0119	SCREW, 6-32, .438 in.
38	07970-60920	CABLE, Transformer
39	2190-0008	WASHER, Lock, external

 Not used in 7970E "Master" Transformer Assemblies.

7970 B & E Power Transformer  
Assembly A29

REF. DES./ INDEX NO.	HP PART NO.	DESCRIPTION
	<u>SERIES 1838</u>	
* 1	9100-4094	TRANSFORMER, Power (T1)
* 9	2100-0566	FUSE HOLDER, Post Type (XF1, XF2)
*10	DELETE	NOT USED ON SERIES 1838
*11	DELETE	NOT USED ON SERIES 1838
*12	2110-0569	NUT, Fuseholder
*27	9135-0092	FILTER, (F1) and J1
*28	DELETE	NOT USED OF SERIES 1838
*31	3103-2333	SWITCH, Toggle, dpst

CHANGE TO:  
7970B/E DIGITAL MAGNETIC TAPE UNIT  
PARTS AND DIAGRAMS MANUAL

---

Change Description

This change to the manual reflects design changes to the tape unit and manual errata correction.

Change Instructions

Page 2-67.

In the table under Notes  $\triangle 1$ , change the 21-45 ips capacitor value in the last column of the table from 5.1 pfd to 33 pfd.

Add this statement to Note  $\triangle 1$  - Series 1838 changes the 21-45 ips 5.1 pfd capacitor to 33 pfd.

This change changes the series of the preamp from 1709 to 1838.

Under Notes  $\triangle 1$ , in the last column of the table, add capacitor designators 27 and 29 to the list.

In the schematic change C18 to C33 and C33 to C18.

CHANGE TO:  
7970B/E DIGITAL MAGNETIC TAPE UNIT  
PARTS AND DIAGRAMS MANUAL


CHANGE DESCRIPTION


This change to the manual reflects design changes to the tape unit.

CHANGE INSTRUCTIONS

Page 2-29

1251

Control and Status PC Assemblies A16 (07970-62062). Add 1850 to the series numbers in the upper left corner of the schematic and place a "  " beside the 1850. Add the following note to the lower left of the schematic:

 — Series 1850 changes U4  
from 1820-0054 to 1820-1197.

Page 2-30


1251


Control and Status PCA Parts List (7970-62062). Add 1850 to the series numbers for 07970-62062. Place an asterisk in front of the Ref. Des./Index no. listing U1, 4, 14, 16, 19, 21. At the bottom of the parts list make the following addition:

*U4	1820-1197	Series 1850 changes U4 from 1820-0054 to 1820-1197.
-----	-----------	---

Page 2-30A

1251

Control and Status PC Assembly A16 (07970-62336). Add 1850 to the series number in the upper left corner of the schematic and place a "  " beside the 1850. Add the following note to the lower left of the schematic.

 Series 1850 changes U4  
from 1820-0054 to 1820-1197.

Page 2-30B

1251

Control and Status PCA Parts List (07970-62336). Add 1850 to the series number. Place an asterisk in front of the Ref. Des./Index no. U1, 4, 14. At the bottom of the parts list make the following addition:

*U4	1820-1197	Series 1850 changes U4 from 1820-0054 to 1820-1197.
-----	-----------	---

Page 2-47 1190

Capstan Servo PC Assembly A7. Add 1826 to the series numbers at the top left of the schematic.

Page 4-48 1190

Single Speed Capstan Servo PCA Parts List. Add 1826 to the Series 1344, 1410 numbers. Change Ref. Des./Index No. U1 part number from 1820-0256 to 1820-0269 and change its parts description to - Quad dual input TTL NAND gate.

Page 2-50 1048


Dual Speed Capstan Servo PCA Parts List. Delete part 2190-0008, Washer, Lock #6 and change part 2360-0195 Screw 6-32, .312 Pan to 2360-0115 Screw 6-32, .312/Washer.

Page 2-105 1228

Slave PE Read PC Assembly A44. Change the value of R1 to the schematic from 42.2K to 43.2K. Also add 1850 to the series number (1118) at the top left of the schematic. Below "Notes:" add the following note:



Series 1850 changes R1  
from 42.2K to 43.2K.

Place a "  " by R1 in the schematic and the 1850 series number.

Page 2-106 1228

Slave PE Read PCA Parts List. Add 1850 to the parts list series number (1118). Change Ref. Des./Index No. R1 from 0340-3450 to 0757-0256 and the value 42.2K to 43.2K.

Page 2-56B 1034

Tension Arm Assembly A3/A4. Delete Ref. Des./Index No. item 8, it is no longer used. Delete item 8 in both the parts list and the exploded view.

Page 2-83 Errata

Single Channel Read Data PC Assembly A18A2. On the parts layout diagram IC U3 should be U2.

Page 2-84 Errata

Single Channel Read PC Assembly. In the parts list Ref. Des./Index No. item U3 should read U2.

Reel Motor Assembly Part List-Change the part numbers of designator item 15 and 17 from their present value to the new part number as listed in the table below.

Ref. Des./ Index No.	Old Part Number	New Part Number
15	07970-00044	3050-0943
	07970-00043	3050-0942
	07970-00040	3050-0939
	07970-00041	3050-0940
17	07975-20140	1500-0524



CHANGE TO:  
7970B/E DIGITAL MAGNETIC TAPE UNIT  
PARTS AND DIAGRAMS MANUAL

---

CHANGE DESCRIPTION

This change to the manual reflects design changes to the tape unit.

CHANGE INSTRUCTIONS

Change part number and description of the following transistor from 1853-0080 -- 2N4888 PL5 to 1853-0456 -- 2N4888 TO92. Make this change to the parts lists on the manual pages indicated below.

Page	Parts List	Transistor
Page 2-14 and Page 2-18 and Page 2-22	Power Regulator PCA 07970-61010	Q11
Page 2-26	PE Regulator PCA 07970-62072	Q11
Page 2-56 and Page 2-56B	Reel Servo PCA 07970-62173	Q2,6
Page 2-58	Reel Servo PCA 07970-62024	Q2,6

CHANGE TO:  
7970B/E DIGITAL MAGNETIC TAPE UNIT  
PARTS AND DIAGRAMS MANUAL

---

CHANGE DESCRIPTION

This change to the manual reflects design changes to the unit.

CHANGE INSTRUCTIONS

Insert page 2-69C/D, which is provided with this change notice into the proper section of the manual.

CHANGE TO:  
7970B/E DIGITAL MAGNETIC TAPE UNIT  
PARTS AND DIAGRAMS MANUAL

---

CHANGE DESCRIPTION

This change to the manual reflects design changes to the tape unit.

CHANGE INSTRUCTIONS

Page 2-45/2-46 CAPSTAN MOTOR ASSEMBLY PARTS LIST, 07970-60141

To Ref. Des., item #1 (Capstan - 07970-20391), add the part number \*07970-20889 and place an asterisk in front of this number as shown.

Also, add the following note to the bottom of the parts list -

\* - The 07970-20889 capstan pulley is used only on capstan motors which contain the label "Use 07970-20889 replacement pulley for this motor."

Use capstan 07970-20391 on all other Capstan Motor Assemblies.

CHANGE TO:  
7970B/E DIGITAL MAGNETIC TAPE UNIT  
PARTS AND DIAGRAMS MANUAL

CHANGE DESCRIPTION

This change updates the manual to reflect modifications to the tape unit.

CHANGE INSTRUCTIONS

The table below contains IC part number changes to be made to the parts lists located on the pages as indicated below.

Manual Page #	Parts List ASSEMBLY	DESIGNATOR	PART NUMBER		QUANTITY
			CHANGE FROM	CHANGE TO	
113	07970-60800	U1	1820-0479	1820-0175	1
		U2	1820-0094	1820-1197	1
113	07970-60810	U1	1820-0479	1820-0175	1
		U2	1820-0094	1820-1197	1
111	07970-60820	U1	1820-0479	1820-0175	1
		U2	1820-0094	1820-1197	1
111	07970-60830	U1	1820-0479	1820-0175	1
		U2	1820-0094	1820-1197	1
17	07970-61010	U4	1820-0348	1820-1256	1
77	07970-62004	U1	1820-0348	1820-1256	1
		U4	1820-0349	1820-0054	1
97	07970-62043	U18,21 35,36	1820-0205	1820-1208	4
		U19,27	1820-0141	1820-0511	2
		U31,33	1820-0742	1820-1793	2
		U47	1820-0637	1820-1206	1
		U112,212	1820-0899	1820-0705	2
79	07970-62061	U1	1820-0348	1820-1256	1
		U4	1820-0349	1820-0054	1

Manual Page #	Parts List ASSEMBLY	DESIGNATOR	PART NUMBER		QUANTITY
			CHANGE FROM	CHANGE TO	
29	07970-62062	U11,13,23 U15,18	1820-0141	1820-0511	3
			1820-0348	1820-1256	2
25	07970-62072	U4	1820-0348	1820-1256	1
79	07970-62092	U1	1820-0348	1820-1256	1
		U4	1820-0349	1820-0054	1
85	07970-62166	U3	1820-0348	1820-1256	1
81	07970-62167	U3	1820-0348	1820-1256	1
85	07970-62168	U3	1820-0348	1820-1256	1
81	07970-62169	U3	1820-0348	1820-1256	1
75	07970-62170	U1	1820-0348	1820-1256	1
		U4	1820-0349	1820-0054	1
75	07970-62171	U1	1820-0348	1820-1256	1
		U4	1820-0349	1820-0054	1
103	07970-62278	U11,12,112	1820-0231	1820-0716	3
		U26,27,29, 37	1820-0637	1820-1206	4
		U42	1820-0348	1820-1256	1
		U46,411	1820-0205	1820-1208	2
		U48	1820-0141	1820-0511	1
95	07970-62294	U11	1820-0669	1820-0899	1
		U12	1820-0778	1820-0716	1
96A	07970-62353	U13	1820-0778	1820-0716	1
		U23	1820-0669	1820-0889	1
30A	07970-62336	U11,13,23	1820-0141	1820-0511	3
		U15,18	1820-0348	1820-1256	2