

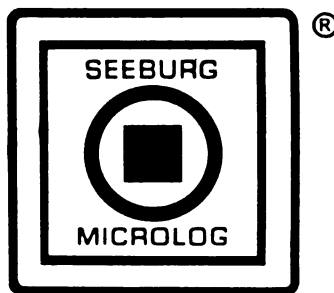
# **SEEBURG®**

## **"160" PHONOGRAPH**

### **ELECTRONIC UNITS PARTS CATALOG**

For All Models Starting With Model SPS160

**HIGH POWER AMPLIFIER  
DIGITAL CONTROL CENTER  
SOLID STATE AUTO-SPEED UNIT  
DIGITAL ELECTRONIC SELECTOR  
DIGITAL RECEIVER DECODER  
DIGITAL TRANS. PRICING UNIT  
5 BIT SEQUENCER**



ELECTRONIC UNITS

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**EXPORT NOTE**

U.S. TYPE NUMBERS ARE USED IN TEXT OF THIS MANUAL. FOR EXPORT TYPES -5 & H5 SEE PAGE FOR BASIC TYPE NUMBER.

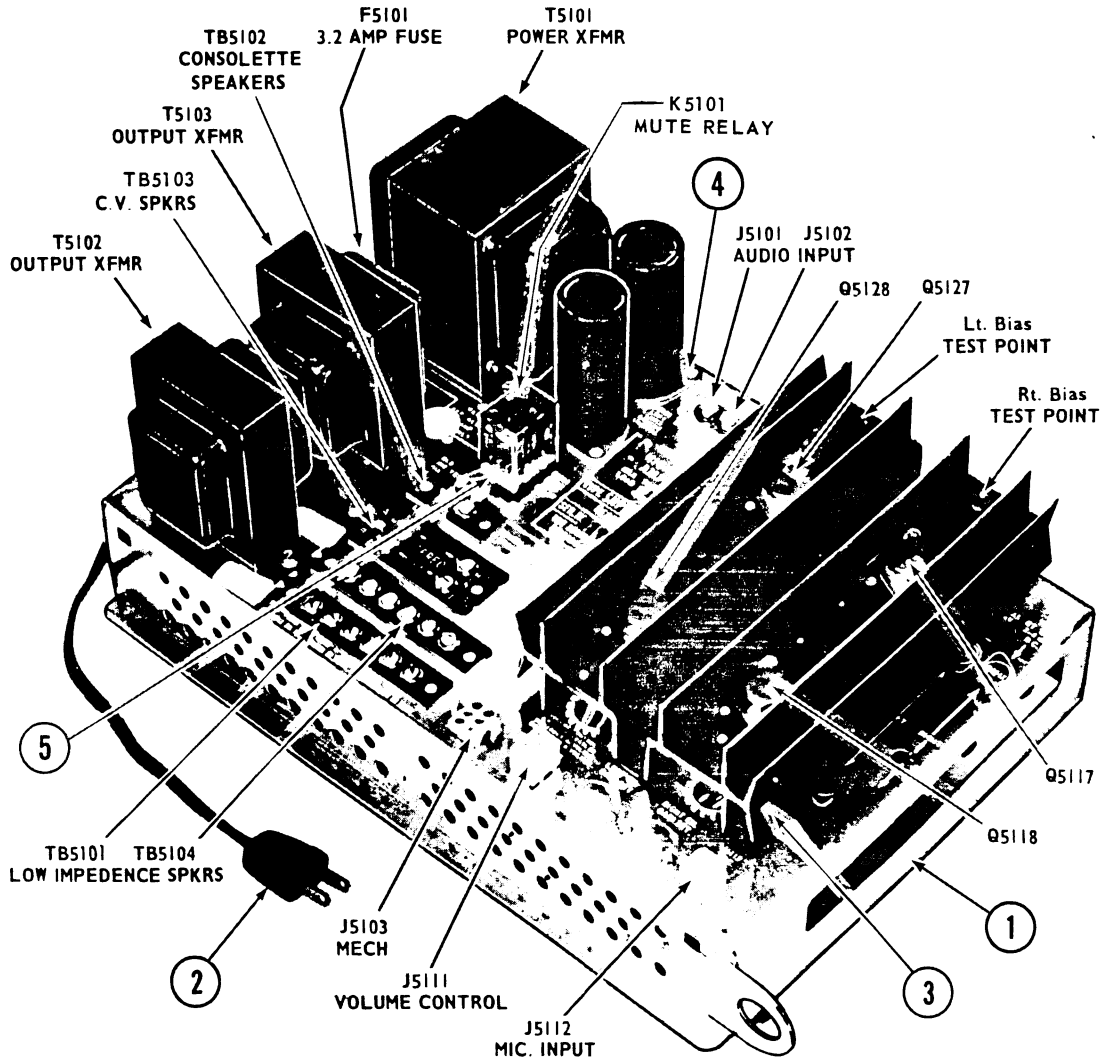
ELECTRONIC UNITS

SEEBURG HIGH POWER AMPLIFIER VARIATIONS

MODELS	HIGH POWER AMPLIFIER		CONTROLS				HINGE NO.
	TYPE	NO.	BASS	TREBLE	EQUAL.	SCRATCH COMP.	
SPS160, HSPS160, SPS2, HSPS2	SHP1	10-319225	YES	YES	YES	YES	12-499335 TOP
	SHP1-5	10-319226	"	"	"	"	12-499336 BOT.
	SHP1-H5	10-319227	"	"	"	"	"
FC1	SHP11	10-319228	YES	YES	YES	YES	- - -
	SHP11-5	10-319229	"	"	"	"	- - -
	SHP11-H5	10-319230	"	"	"	"	- - -
STD160, HSTD160, SQS160, STD2, HSTD2, STD3, HSTD3, FC2 STD4, HSTD4	SHP3-56	10-319237	YES	YES	PRE-SET	PRE-SET	12-457376 (2)
	SHP3-H5	10-319239	"	"	"	"	"

ELECTRONIC UNITS

SEEBURG HIGH POWER AMPLIFIER

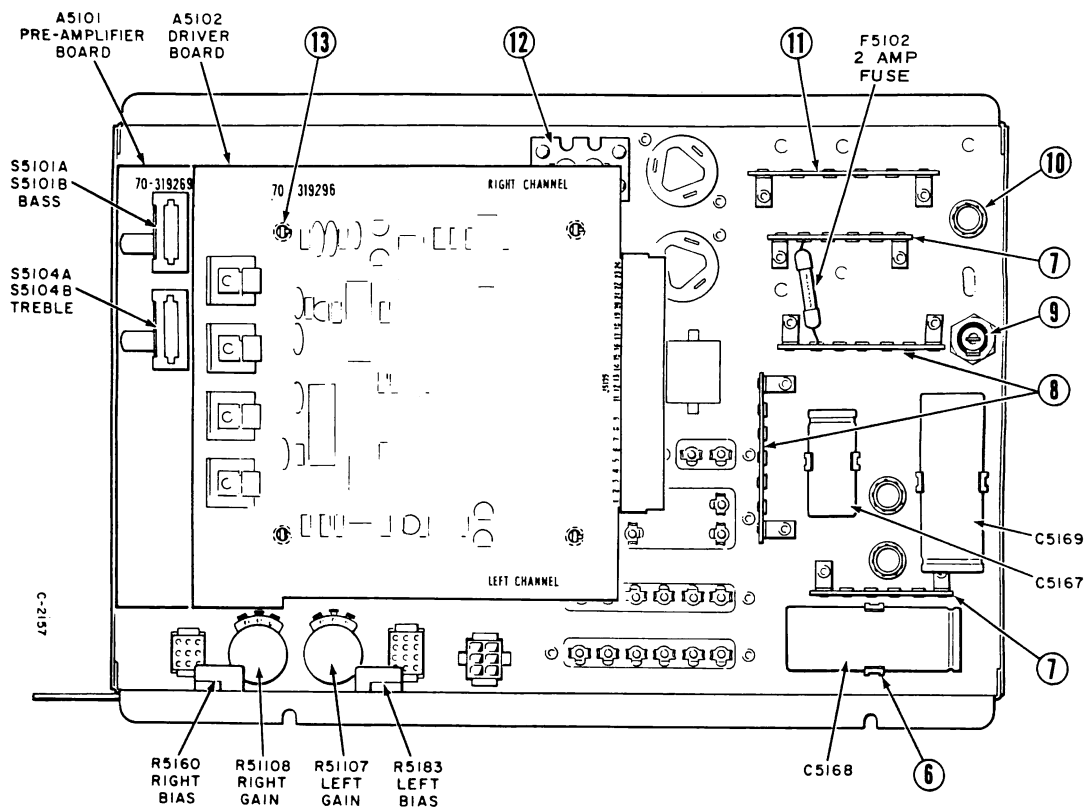


Item	Part No.	Description	Item	Part No.	Description
1	10-319245	Chassis Assembly (SHP1)	4	26-10831	Insulated Lytic Mtg. Plate
	10-319261	Chassis Assembly (SHP3)	5	17-509809	Relay Hold Down Spring
2	70-171587	Line Cord		32-509804	Relay Socket Mtg. Clip (Earlier Amplifiers)
	33-306305	Strain Relief Bushing			
3	10-319326	Heat Sink Assembly (Includes the following)	J5101 } 73-306916	2 Contact Socket	
	15-319327	Finished Heat Sink	J5102 }		
	73-84312	Transistor Socket	J5103	73-309355	6 Cont. Org Skt. Hsg.
	73-400697	1 Lug Terminal Strip	J5111	73-309574	12 Cont. Wht. Skt. Hsg.
	73-319333	4 Lug Terminal Strip	J5112	73-309562	9 Cont. Wht. Skt. Hsg.
	73-307508	Red Pin Jack			
	*73-375074	Insulator			
	*31-960677	#6 x 5/8 S.M. Screw			

\*Not part of Assembly.

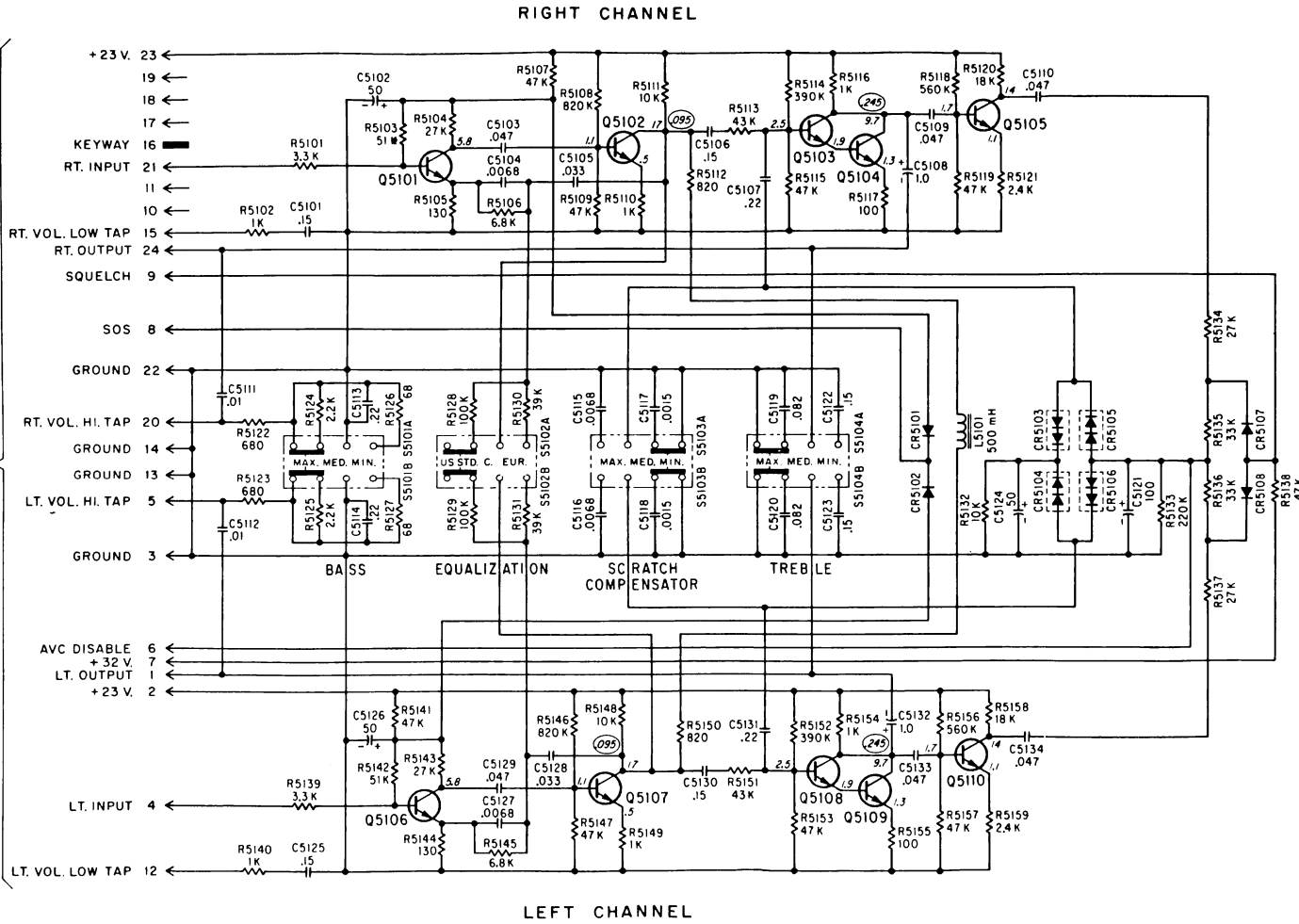
ELECTRONIC UNITS

Type SHP3, SEEBURG HIGH POWER AMPLIFIER



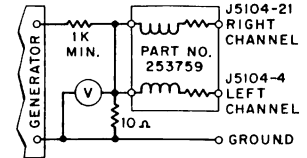
Item	Part No.	Description
6	32-602676	3/4" Capacitor Mtg. Clip
7	73-305549	4 Lug Terminal Strip
8	73-305210	5 Lug Terminal Strip
9	73-300061	Fuse Holder
10	33-988274	Grommet
11	73-303581	4 Lug Terminal Strip
12	73-306916	2 Contact Socket (J5101 & J5102)
13	73-941885	Short P.C. Board Support
	73-941886	Long P.C. Board Support

J5104  
TO P5104 IN SHP CHASSIS

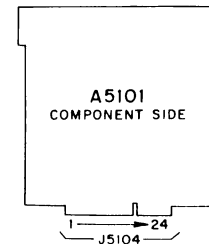


**NOTES:**

1. ALL RESISTORS ARE IN OHMS, UNLESS OTHERWISE SPECIFIED.
2. ALL CAPACITORS ARE IN MICRO-FARADS, UNLESS OTHERWISE SPECIFIED.
3. PROPER SIGNAL GENERATOR IMPEDANCE FOR OBTAINING RESPONSE CURVES AND SIGNAL VOLTAGES MAY BE OBTAINED AS SHOWN.



4. A.C. SIGNAL VOLTAGES SHOWN ENCIRCLED CAN VARY ± 20% AND WERE MEASURED WITH .0019 V., 1000 HZ. INPUT SIGNAL TO J5104-4 AND J5104-21 USING A 5 MEGOHM INPUT VTVM WITH C5121 SHORTED TO GND.
5. D.C. VOLTAGES WERE MEASURED TO GND. USING A 20,000 OHM/VOLT VOLTMETER WITH 23 V. APPLIED TO J5104-2 AND J5104-23. NO SIGNAL INPUT B WITH A 560 OHM RESISTOR CONNECTED BETWEEN J5104-4 AND GND. & J5104-21 AND GND.
6. SQUELCH ACTION OF CIRCUIT CAN BE CHECKED BY SHORTING J5104-9 TO GROUND FOR SEVERAL SECONDS AND THEN RELEASING. (SHORT ACROSS C5121 REMOVED AND 32 V. APPLIED TO J5104-7).



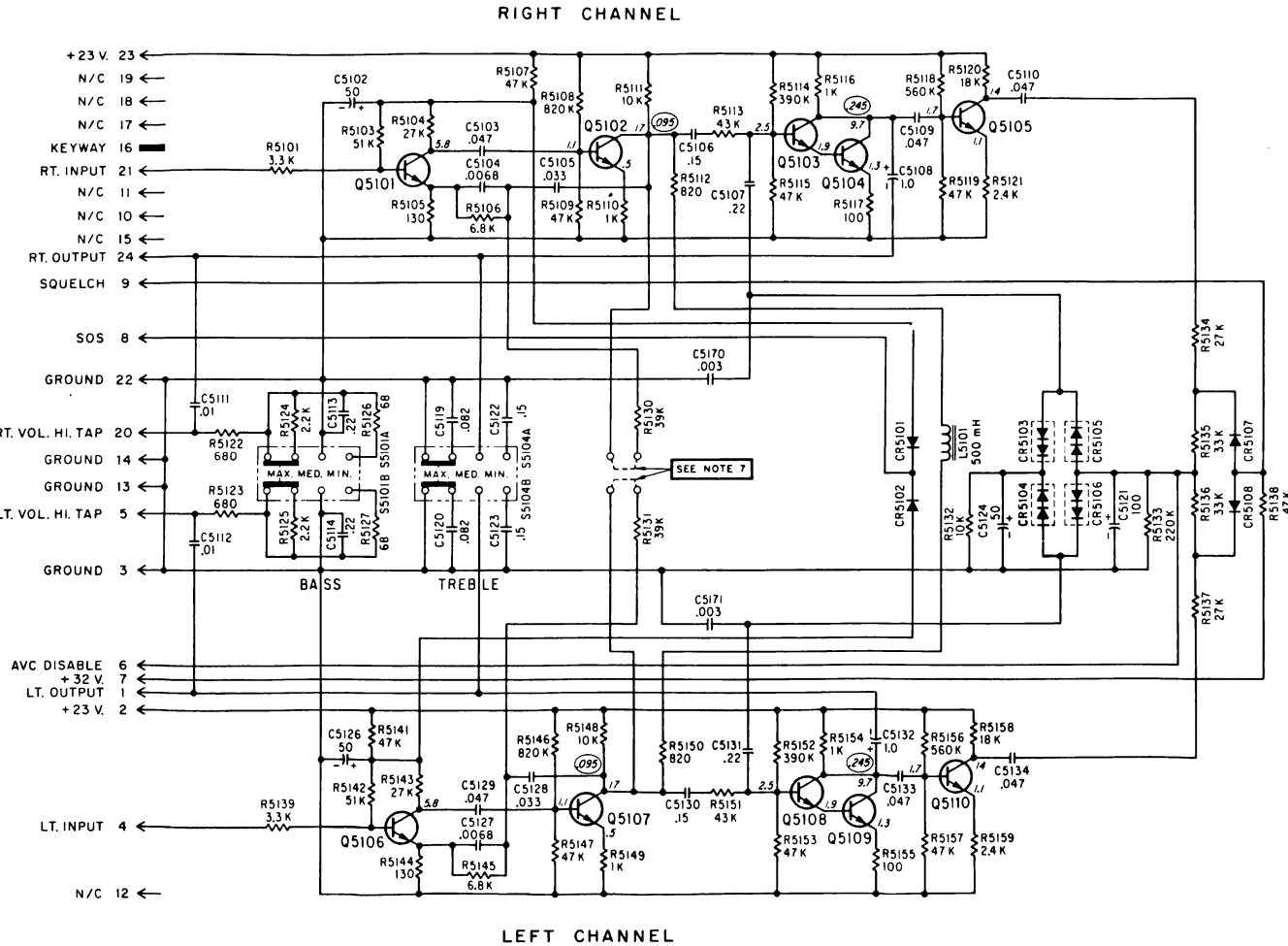
PRINTED CIRCUIT BOARD CONNECTOR DESIGNATION

PRE-AMP SCHEMATIC DIAGRAM, Type SHP1

ELECTRONIC UNITS

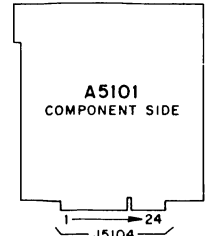
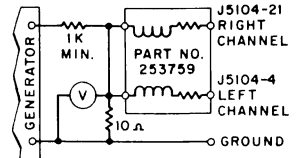
9-11952E1-10 50-17-0

J5104  
TO P5104 IN SHP CHASSIS



**NOTES:**

1. ALL RESISTORS ARE IN OHMS, UNLESS OTHERWISE SPECIFIED.
2. ALL CAPACITORS ARE IN MICRO-FARADS, UNLESS OTHERWISE SPECIFIED.
3. PROPER SIGNAL GENERATOR IMPEDANCE FOR OBTAINING RESPONSE CURVES AND SIGNAL VOLTAGES MAY BE OBTAINED AS SHOWN.
4. A.C. SIGNAL VOLTAGES SHOWN ENCIRCLED CAN VARY  $\pm 20\%$  AND WERE MEASURED WITH .0019 V, 1000 HZ. INPUT SIGNAL TO J5104-4 AND J5104-21 USING A 5 MEGOHM INPUT VTVM WITH C5121 SHORTED TO GND.
5. D.C. VOLTAGES WERE MEASURED TO GND. USING A 20,000 OHM/VOLT VOLTMETER WITH 23 V. APPLIED TO J5104-2 AND J5104-23, NO SIGNAL INPUT & WITH A 560 OHM RESISTOR CONNECTED BETWEEN J5104-4 AND GND. & J5104-21 AND GND.
6. SQUELCH ACTION OF CIRCUIT CAN BE CHECKED BY SHORTING J5104-9 TO GROUND FOR SEVERAL SECONDS AND THEN RELEASING. (SHORT ACROSS C5121 REMOVED AND 32 V. APPLIED TO J5104-7).
7. ADD JUMPERS TO PROVIDE EUROPEAN EQUALIZATION (AS IDENTIFIED ON P.C. BOARD) IF REQUIRED.



PRINTED CIRCUIT BOARD CONNECTOR DESIGNATION

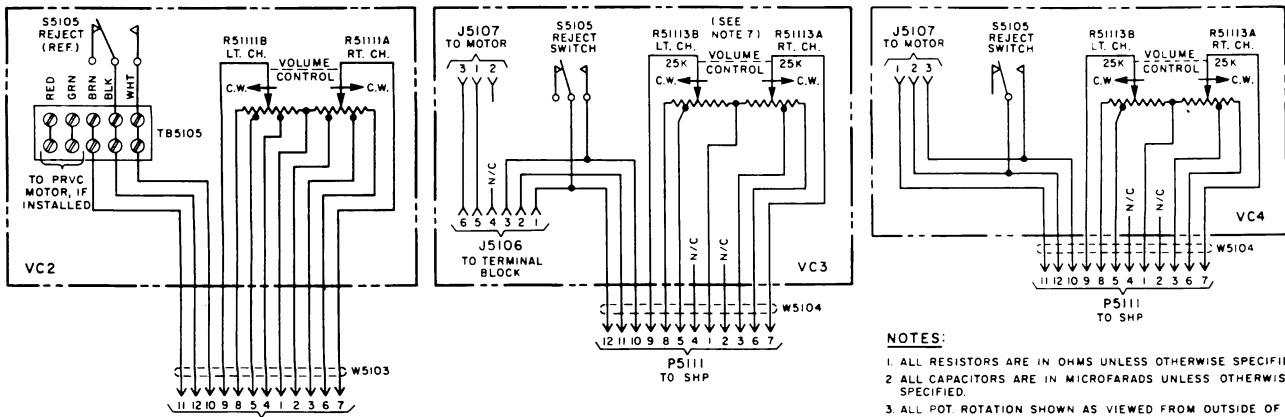
16-18261(C-NO) 5071-0

**PRE-AMP SCHEMATIC DIAGRAM, Type SHP3**

**ELECTRONIC UNITS**

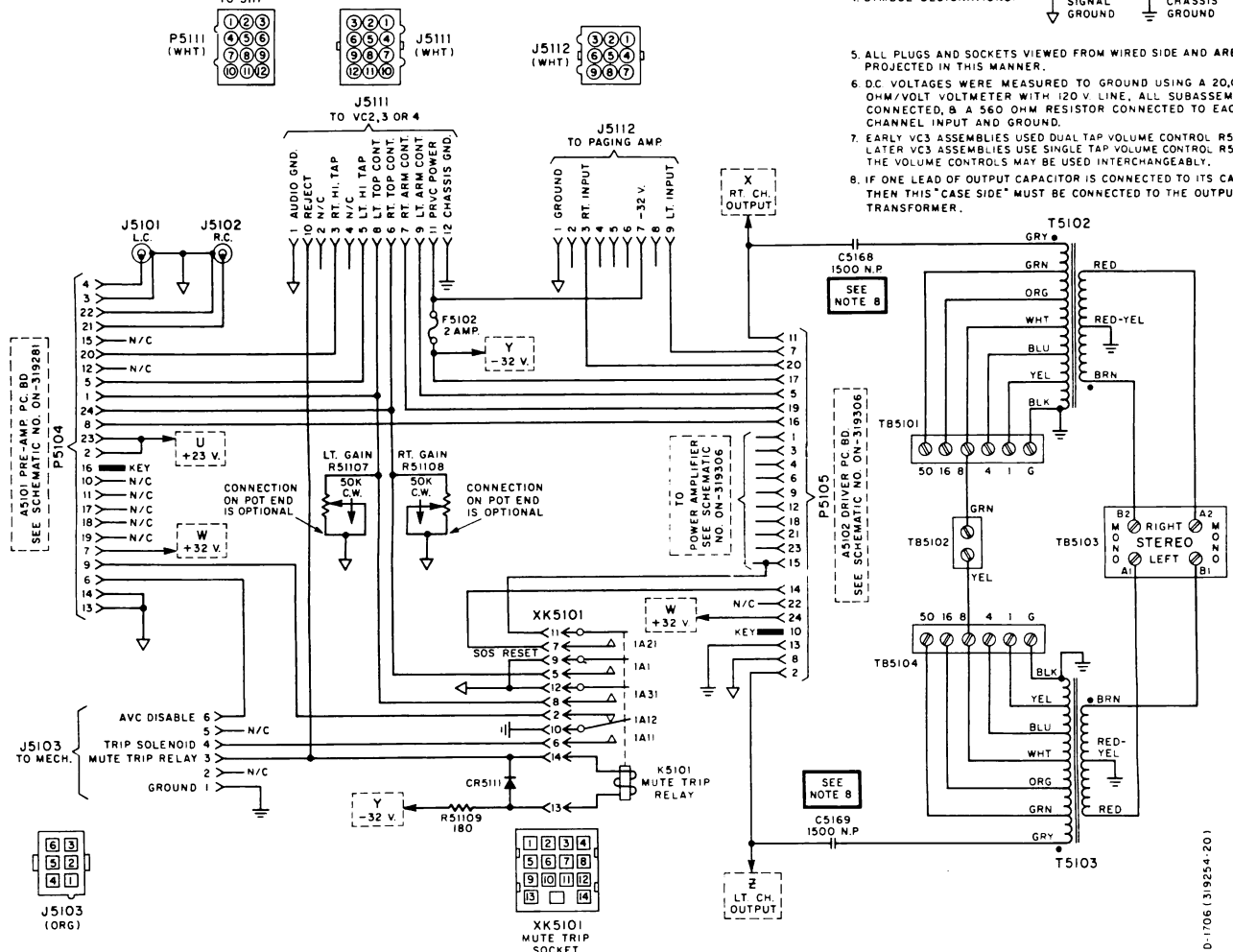
ELECTRONIC UNITS

CHASSIS SCHEMATIC DIAGRAM, Types SHP1 & SHP3

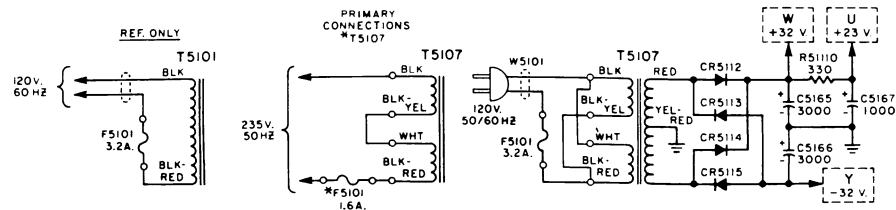


NOTES:

1. ALL RESISTORS ARE IN OHMS UNLESS OTHERWISE SPECIFIED.
2. ALL CAPACITORS ARE IN MICROFARADS UNLESS OTHERWISE SPECIFIED.
3. ALL POT ROTATION SHOWN AS VIEWED FROM OUTSIDE OF CHASSIS.
4. SYMBOL DESIGNATIONS:  $\nabla$  SIGNAL GROUND  $\perp$  CHASSIS GROUND
5. ALL PLUGS AND SOCKETS VIEWED FROM WIRED SIDE AND ARE PROJECTED IN THIS MANNER.
6. DC VOLTAGES WERE MEASURED TO GROUND USING A 20,000 OHM/VOLT VOLTMETER WITH 120 V. LINE. ALL SUBASSEMBLIES CONNECTED, & A 560 OHM RESISTOR CONNECTED TO EACH CHANNEL INPUT AND GROUND.
7. EARLY VC3 ASSEMBLIES USED DUAL TAP VOLUME CONTROL R5112. LATER VC3 ASSEMBLIES USE SINGLE TAP VOLUME CONTROL R5113. THE VOLUME CONTROLS MAY BE USED INTERCHANGEABLY.
8. IF ONE LEAD OF OUTPUT CAPACITOR IS CONNECTED TO ITS CASE, THEN THIS "CASE SIDE" MUST BE CONNECTED TO THE OUTPUT TRANSFORMER.



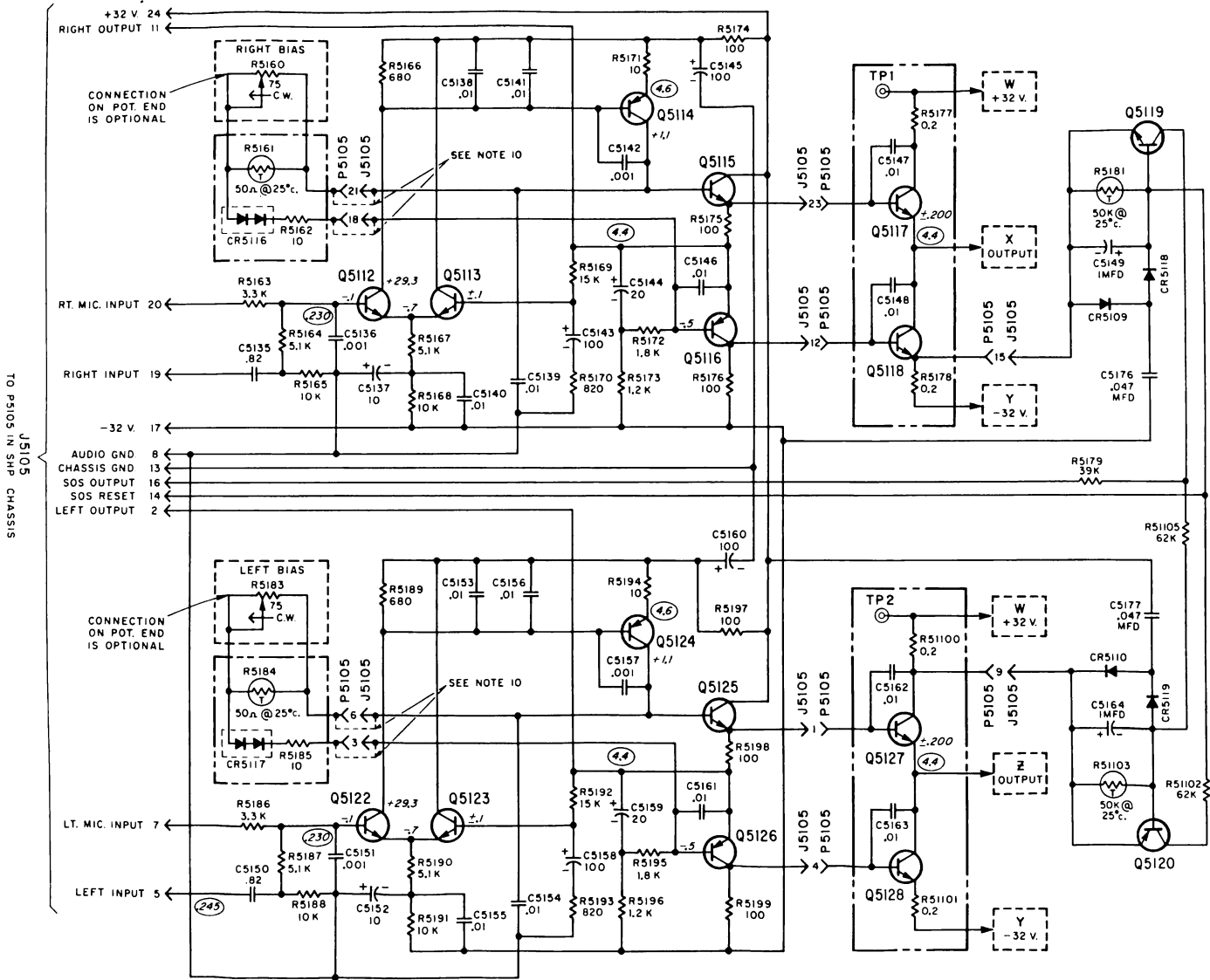
D-1706 (319254-20)





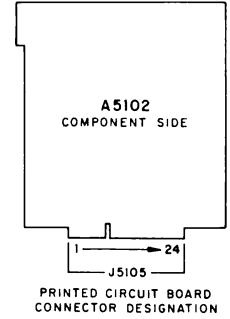
RIGHT CHANNEL

LEFT CHANNEL



NOTES:

1. ALL RESISTORS ARE IN OHMS UNLESS OTHERWISE SPECIFIED.
2. ALL CAPACITORS ARE IN MICROFARADS UNLESS OTHERWISE SPECIFIED.
3. ALL POT. ROTATION SHOWN AS VIEWED FROM OUTSIDE OF CHASSIS.
4. D.C. VOLTAGES WERE MEASURED TO GND, USING A 20,000 OHM/VOLT VOLTMETER WITH + B -32 V.
5. PROPER SIGNAL GENERATOR IMPEDANCE FOR SIGNAL VOLTAGES IS 1000Ω.
6. A.C. SIGNAL VOLTAGES SHOWN EN-CIRCLED CAN VARY ±20%, AND WERE MEASURED WITH A.245 V, 1000 HZ. INPUT SIGNAL APPLIED TO J5105-5 AND J5105-19 USING A 5 MEGOHM INPUT VTVM.
7. PARTS SHOWN WITH - - - - ARE MOUNTED ON POWER AMPLIFIER SUB-ASSEMBLY PART NO 70-319320.
8. PARTS SHOWN WITH - - - - ARE MOUNTED IN SHP CHASSIS.
9. W, X, Y & Z DENOTES CONNECTIONS MADE WITHIN THE SHP CHASSIS, SEE SCHEMATIC NO. ON-319254
10. WIRES FROM POWER AMPLIFIER SOLDERED TO DRIVER BOARD



D-1710 (319306-20)

Types SHP1 & SHP3, DRIVER SCHEMATIC DIAGRAM

ELECTRONIC UNITS

Item	Part No.	Description	Item	Part No.	Description	Item	Part No.	Description
A5101	70-319269	Pre-Amp Board Assembly (SHP2 & 3)	C5141	52-86313	.01, 500 V., Ceramic	CR5112	62-309701	Sil. Diode, 100 PIV -3A.
	70-319270	Pre-Amp Board Assembly (SHP1)	C5142	52-86309	1000 PFD, 500 V., Ceramic	CR5113	62-309701	Sil. Diode, 100 PIV -3A.
A5102	70-319295	Driver Board Assembly (SHP1 & 3)	C5143	52-87700	100, 35 V., Lytic	CR5114	62-309701	Sil. Diode, 100 PIV -3A.
	70-319296	Driver Board Assembly (SHP2-56)	C5144	52-87690	20, 75 V., Lytic	CR5115	62-309701	Sil. Diode, 100 PIV -3A.
C5101	52-86303	.15, 50 V., Mylar	C5145	52-87700	100, 35 V., Lytic	CR5116	62-309478	Silicon Stabistor
C5102	52-87703	50, 12 V., Lytic	C5146	52-86313	.01, 500 V., Ceramic	CR5117	62-309478	Silicon Stabistor
C5103	52-86327	.047, 50 V., Mylar	C5147	52-86313	.01, 500 V., Ceramic	CR5118	62-309481	Silicon Diode, 40 PIV
C5104	52-86332	.0068, 50 V., Mylar	C5148	52-86313	.01, 500 V., Ceramic	CR5119	62-309481	Silicon Diode, 40 PIV
C5105	52-86336	.033, 50 V., Mylar	C5149	52-87754	1.0, 35 V., Tantalum	CR5120	62-309476	Silicon Diode, 100 PIV-1A.
C5106	52-86303	.15, 50 V., Mylar	C5150	52-86368	.82, 100 V., Met. Mylar	CR5121	62-309476	Silicon Diode, 100 PIV-1A.
C5107	52-86331	.22, 50 V., Mylar	C5151	52-86309	1000 PFD, 500 V., Ceramic	CR5122	62-309476	Silicon Diode, 100 PIV-1A.
C5108	52-87754	1.0, 35 V., Tantalum	C5152	52-87743	10, 35 V., Lytic	CR5123	62-309476	Silicon Diode, 100 PIV-1A.
C5109	52-86327	.047, 50 V., Mylar	C5153	52-86313	.01, 500 V., Ceramic	F5101	45-319401	Slow-Blowing Fuse, 3.2 A.
C5110	52-86327	.047, 50 V., Mylar	C5154	52-86313	.01, 500 V., Ceramic	*F5101	45-319400	Slow-Blowing Fuse, 1.6 A.
C5111	52-86313	.01, 500 V., Ceramic	C5155	52-86313	.01, 500 V., Ceramic	F5102	45-317946	Pigtail Fuse, 2 A.
C5112	52-86313	.01, 500 V., Ceramic	C5156	52-86313	.01, 500 V., Ceramic	F5103	45-319400	Slow-Blowing Fuse, 1.6 A.
C5113	52-86331	.22, 50 V., Mylar	C5157	52-86309	1000 PFD, 500 V., Ceramic	*F5103	45-375650	Slow-Blowing Fuse, 0.8 A.
C5114	52-86331	.22, 50 V., Mylar	C5158	52-87700	100, 35 V., Lytic	J5106	73-309550	6 Contact Wht. Hsg.
C5115	52-86332	.0068, 50 V., Mylar	C5159	52-87690	20, 75 V., Lytic	J5107	73-309526	3 Contact Wht. Hsg.
C5116	52-86332	.0068, 50 V., Mylar	C5160	52-87700	100, 35 V., Lytic	K5101	44-319253	Relay
C5117	52-86240	1500 PFD, 500 V., Ceramic	C5161	52-86313	.01, 500 V., Ceramic	L5101	53-306792	500 MH Inductor
C5118	52-86240	1500 PFD, 500 V., Ceramic	C5162	52-86313	.01, 500 V., Ceramic	P5104	73-309634	24 Position Edge Connector
C5119	52-86380	.082, 50 V., Mylar	C5163	52-86313	.01, 500 V., Ceramic	P5105	73-309634	24 Position Edge Connector
C5120	52-86380	.082, 50 V., Mylar	C5164	52-87754	1.0, 35 V., Tantalum	P5111	73-309580	12 Contact Wht. Hsg.
C5121	52-87752	100, 10 V., Lytic	C5165	52-87764	3000, 35 V., Lytic	Q5101	61-309686	NPN
C5122	52-86303	.15, 50 V., Mylar	C5166	52-87764	3000, 35 V., Lytic	Q5102	61-309686	NPN
C5123	52-86303	.15, 50 V., Mylar	C5167	52-87725	1000, 35 V., Lytic	Q5103	61-309686	NPN
C5124	52-87696	50, 6 V., Lytic	C5168	52-87763	1500, 35 V., N.P., Lytic	Q5104	61-309686	NPN
C5125	52-86303	.15, 50 V., Mylar	C5169	52-87763	1500, 35 V., N.P., Lytic	Q5105	61-309686	NPN
C5126	52-87703	50, 12 V., Lytic	C5170	52-86278	3000 PFD, 500 V., Ceramic	Q5106	61-309686	NPN
C5127	52-86332	.0068, 50 V., Mylar	C5171	52-86278	3000 PFD, 500 V., Ceramic	Q5107	61-309686	NPN
C5128	52-86336	.033, 50 V., Mylar	C5172	52-87705	1500, 35 V., Lytic	Q5108	61-309686	NPN
C5129	52-86327	.047, 50 V., Mylar	C5173	52-87705	1500, 35 V., Lytic	Q5109	61-309686	NPN
C5130	52-86303	.15, 50 V., Mylar	C5174	52-87766	500, 35 V., N.P., Lytic	Q5110	61-309686	NPN
C5131	52-86331	.22, 50 V., Mylar	C5175	52-87766	500, 35 V., N.P., Lytic	Q5112	61-309687	NPN
C5132	52-87754	1.0, 35 V., Tantalum	C5176	52-86327	.047, 50 V., Mylar	Q5113	61-309687	NPN
C5133	52-86327	.047, 50 V., Mylar	C5177	52-86327	.047, 50 V., Mylar	Q5114	61-309688	PNP
C5134	52-86327	.047, 50 V., Mylar	CR5101	62-309481	Silicon Diode, 40 PIV	Q5115	61-309689	NPN
C5135	52-86368	.82, 100 V., Met. Mylar	CR5102	62-309481	Silicon Diode, 40 PIV	Q5116	61-309690	PNP
C5136	52-86309	1000 PFD, 500 V., Ceramic	CR5103	62-309463	Silicon Stabistor	Q5117	61-309449	NPN Power
C5137	52-87743	10, 35 V., Lytic	CR5104	62-309463	Silicon Stabistor	Q5118	61-309449	NPN Power
C5138	52-86313	.01, 500 V., Ceramic	CR5105	62-309463	Silicon Stabistor	Q5119	61-309691	NPN
C5139	52-86313	.01, 500 V., Ceramic	CR5106	62-309463	Silicon Stabistor	Q5120	61-309692	PNP
C5140	52-86313	.01, 500 V., Ceramic	CR5107	62-309481	Silicon Diode, 40 PIV	Q5122	61-309687	NPN
			CR5108	62-309481	Silicon Diode, 40 PIV	Q5123	61-309687	NPN
			CR5109	62-309481	Silicon Diode, 40 PIV			
			CR5110	62-309481	Silicon Diode, 40 PIV			
			CR5111	62-309384	Silicon Diode, 170 PIV			

Item	Part No.	Description	Item	Part No.	Description	Item	Part No.	Description
Q5124	61-309688	PNP	R5145	51-82434	6800	R5196	51-82425	1200
Q5125	61-309689	NPN	R5146	51-82459	820,000	R5197	51-82412	100
Q5126	61-309690	PNP	R5147	51-82444	47,000	R5198	51-82886	100 Flame-Proof, 1 W.
Q5127	61-309449	NPN Power	R5148	51-82436	10,000	R5199	51-82886	100 Flame-Proof, 1 W.
Q5128	61-309449	NPN Power	R5149	51-82424	1000	R51100	51-81311	0.2, W.W., 5 W.
R5101	51-82624	3300, 5%	R5150	51-82423	820	R51101	51-81311	0.2, W.W., 5 W.
R5102	51-82424	1000	R5151	51-82678	43,000, 5%	R51102	51-82682	62,000, 5%
R5103	51-82796	51,000, 5%	R5152	51-82455	390,000	R51103	51-82888	50,000 @ 25°C Thermistor
R5104	51-82441	27,000	R5153	51-82676	47,000, 5%	R51105	51-82682	62,000, 5%
R5105	51-82655	130, 5%	R5154	51-82424	1000	R51107	51-306319	50,000 Potentiometer
R5106	51-82434	6800	R5155	51-82618	100, 5%	R51108	51-306319	50,000 Potentiometer
R5107	51-82444	47,000	R5156	51-82457	560,000	R51109	51-81297	180, W.W., 2 W.
R5108	51-82459	820,000	R5157	51-82444	47,000	R51110	51-81300	330, W.W., 2 W.
R5109	51-82444	47,000	R5158	51-82439	18,000	R51111A		
R5110	51-82424	1000	R5159	51-82613	2400, 5%	R51111B	51-306318	25,000 Potentiometer
R5111	51-82436	10,000	R5160	51-319397	75 Potentiometer	R51112A		
R5112	51-82423	820	R5161	51-82887	50 @ 25°C Thermistor	R51112B	51-318369	25,000 Potentiometer
R5113	51-82678	43,000, 5%	R5162	51-82400	10	R51113A		
R5114	51-82455	390,000	R5163	51-82430	3300	R51113B	51-318372	25,000 Potentiometer
R5115	51-82676	47,000, 5%	R5164	51-82628	5100, 5%	S5101	41-319280	P.C. Slide Switch
R5116	51-82424	1000	R5165	51-82436	10,000	S5102	41-319280	P.C. Slide Switch
R5117	51-82618	100, 5%	R5166	51-82422	680	S5103	41-319280	P.C. Slide Switch
R5118	51-82457	560,000	R5167	51-82628	5100, 5%	S5104	41-319280	P.C. Slide Switch
R5119	51-82444	47,000	R5168	51-82436	10,000	S5105	41-305635	Slide Switch
R5120	51-82439	18,000	R5169	51-82438	15,000			
R5121	51-82613	2400, 5%	R5170	51-82651	820, 5%	*T5101	53-319249	Power Transformer
R5122	51-82422	680	R5171	51-82400	10	T5102	53-319252	Output Transformer
R5123	51-82422	680	R5172	51-82427	1800	T5103	53-319252	Output Transformer
R5124	51-82428	2200	R5173	51-82425	1200	T5104	53-319392	Power Transformer
R5125	51-82428	2200	R5174	51-82412	100	T5105	53-319394	Output Transformer
R5126	51-82410	68	R5175	51-82886	100 Flame-Proof, 1 W.	T5106	53-319394	Output Transformer
R5127	51-82410	68	R5176	51-82886	100 Flame-Proof, 1 W.	*T5107	53-319250	Power Transformer
R5128	51-82448	100,000	R5177	51-81311	0.2, W.W., 5 W.	TB5101	73-306304	6 Lug Terminal Board
R5129	51-82448	100,000	R5178	51-81311	0.2, W.W., 5 W.	TB5102	73-307650	2 Lug Terminal Board
R5130	51-82443	39,000	R5179	51-82443	39,000	TB5103	73-306338	4 Lug Terminal Board
R5131	51-82443	39,000	R5181	51-82888	50,000 @ 25°C Thermistor	TB5104	73-306304	6 Lug Terminal Board
R5132	51-82436	10,000	R5183	51-319397	75 Potentiometer	TB5105	73-306769	5 Lug Barrier Strip
R5133	51-82452	220,000	R5184	51-82887	50 @ 25°C Thermistor	TB5106	73-306987	4 Lug Terminal Board
R5134	51-82441	27,000	R5185	51-82400	10	TB5107	73-306987	4 Lug Terminal Board
R5135	51-82442	33,000	R5186	51-82430	3300	W5101	70-171587	Line Cord
R5136	51-82442	33,000	R5187	51-82628	5100, 5%	W5102	70-319260	Cable Assembly
R5137	51-82441	27,000	R5188	51-82436	10,000	W5103	70-306777	Cable Assembly
R5138	51-82444	47,000	R5189	51-82422	680	W5104	70-318370	Cable Assembly
R5139	51-82624	3300, 5%	R5190	51-82628	5100, 5%	W5105	70-319391	Cable Assembly
R5140	51-82424	1000	R5191	51-82436	10,000	XK5101	73-509803	Relay Socket
R5141	51-82444	47,000	R5192	51-82438	15,000		73-309725	Relay Socket (Later Issue)
R5142	51-82796	51,000, 5%	R5193	51-82651	820, 5%			
R5143	51-82441	27,000	R5194	51-82400	10			
R5144	51-82655	130, 5%	R5195	51-82427	1800			

Types SHP1 &amp; SHP3, AMPLIFIER PARTS LIST

ELECTRONIC UNITS

\* T5107 May be substituted for T5101

## ELECTRONIC UNITS

## DIGITAL CONTROL CENTER VARIATIONS

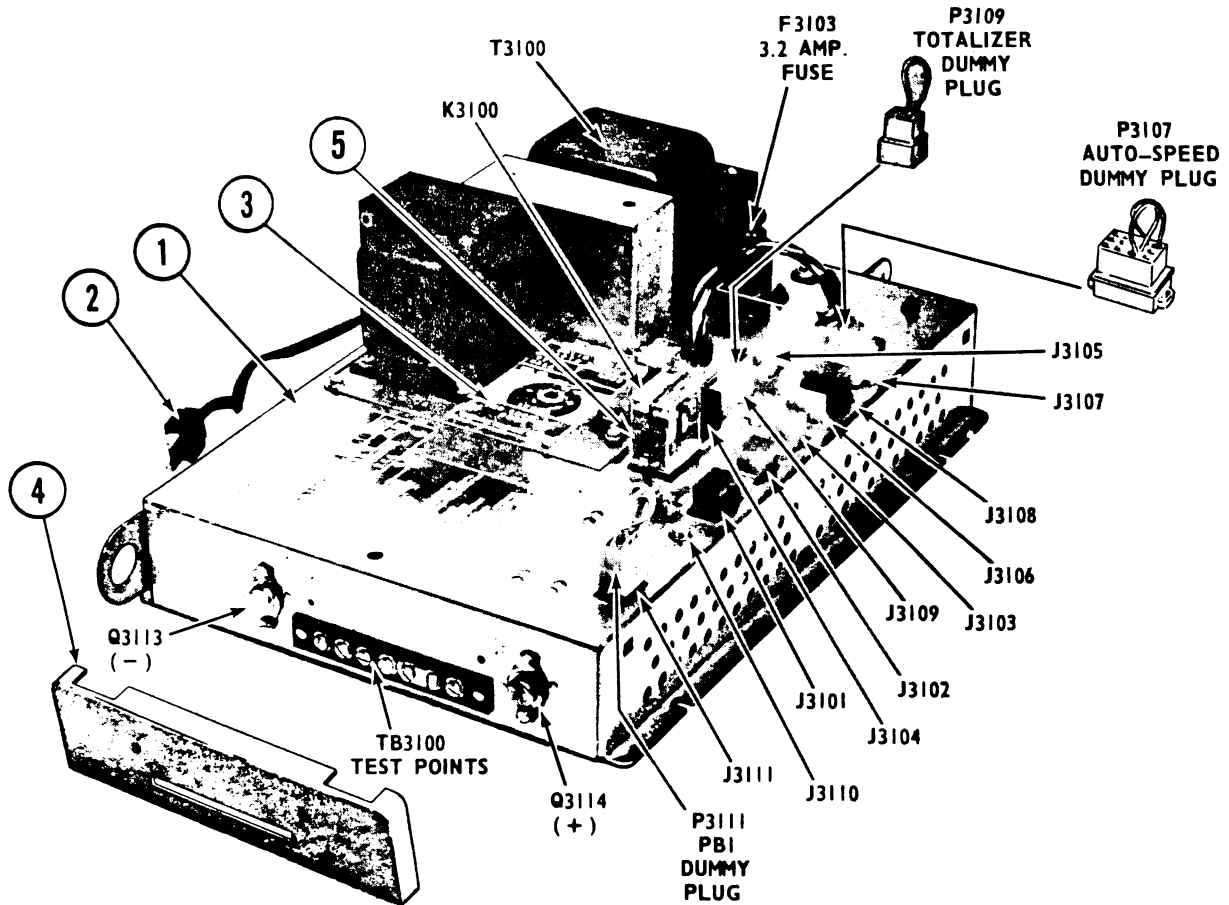
MODELS	DIGITAL CONTROL CENTER		RELAY USED	** STANDBY UNIT	* SOLID STATE AUTO SPEED		HINGE NO.
	TYPE	NO.			TYPE	NO.	
SPS160, HSPS160	DCC3	10-311480	12 V.	NO	--	--	12-499335 TOP
							12-499641 BOT.
	DCC3-5	10-311481	12 V.	NO	--	--	"
	DCC3-H5	10-311482	12 V.	NO	--	--	"
	DCC31	10-311483	12 V.	NO	SAS2	50-317862	"
	DCC31-5	10-311484	12 V.	NO	SAS2-5	50-317863	"
	DCC31-H5	10-311485	12 V.	NO	SAS2-5	50-317863	"
FC1	DCC32	10-311486	12 V.	NO	--	--	14-498091 (2)
	DCC32-5	10-311487	12 V.	NO	--	--	"
	DCC32-H5	10-311488	12 V.	NO	--	--	"
	DCC33	10-311489	12 V.	NO	SAS2	50-317862	"
	DCC33-5	10-311490	12 V.	NO	SAS2-5	50-317863	"
	DCC33-H5	10-311491	12 V.	NO	SAS2-5	50-317863	"
SPS2, HSPS2	DCC4	10-311550	24 V.	YES	--	--	12-499335 TOP
							12-499641 BOT.
	DCC4-5	10-311551	24 V.	YES	--	--	"
	DCC4-H5	10-311552	24 V.	YES	--	--	"
	DCC41	10-311553	24 V.	YES	SAS2	50-317862	"
	DCC41-5	10-311554	24 V.	YES	SAS2-5	50-317863	"
	DCC41-H5	10-311555	24 V.	YES	SAS2-5	50-317863	"
STD160, SQS160, HSTD160, STD2, HSTD2, STD3, HSTD3, FC2, STD4, HSTD4	DCC42	10-311556	24 V.	YES	--	--	12-457376 (2)
	DCC42-5	10-311557	24 V.	YES	--	--	"
	DCC42-H5	10-311558	24 V.	YES	--	--	"

\*\* When Type PBI Stand-By Service Unit is used, delete Stand-By Unit Dummy Plug.

\* When Auto Speed Unit is used, delete Cover Plate & Auto Speed Dummy Plug

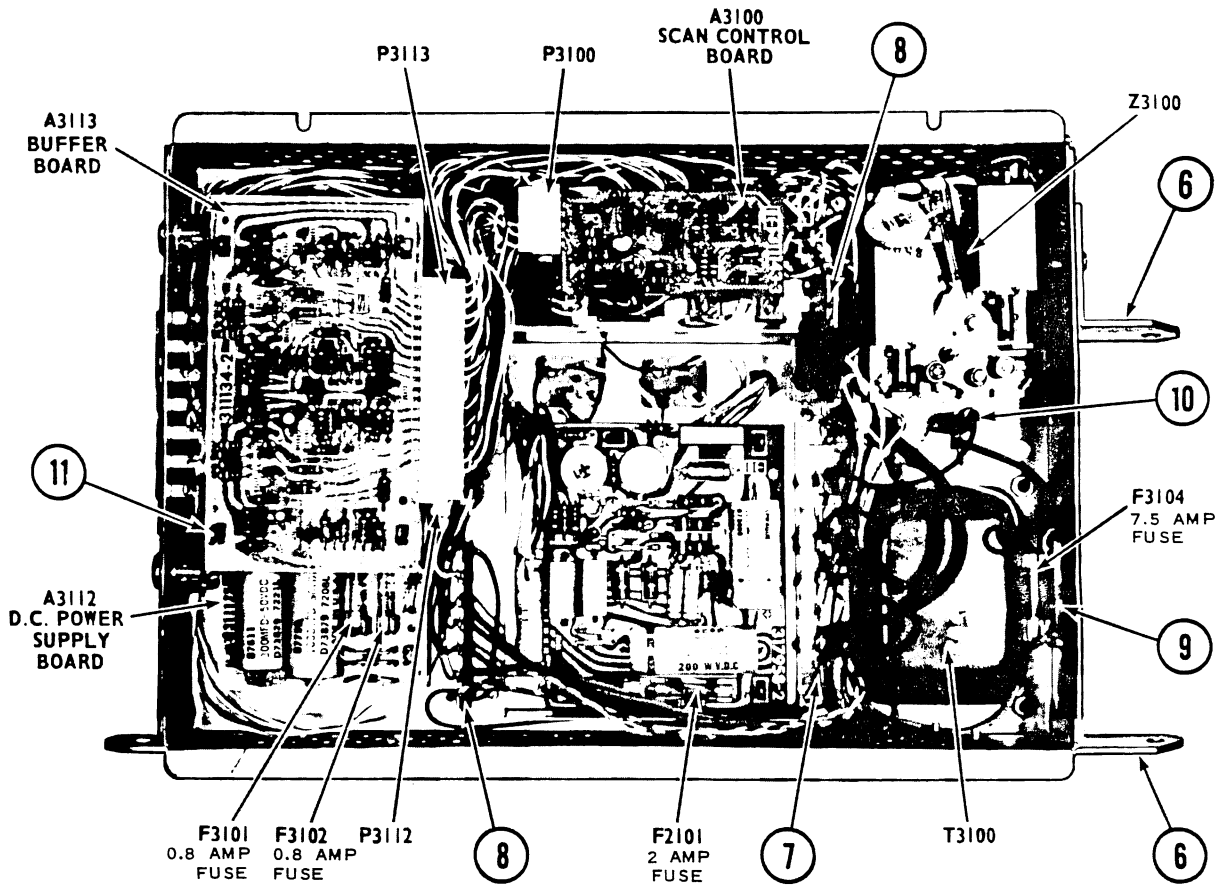
ELECTRONIC UNITS

DIGITAL CONTROL CENTER



Item	Part No.	Description
1	10-311495	Chassis Riveted Assem.-DCC3
	10-311568	Chassis Riveted Assem.-DCC4
	73-317872	Transistor Socket
	*73-317882	Insulator
2	70-171587	Line Cord
	33-306305	Strain Relief Bushing
3	50-317862	Type SAS2 Solid State Auto-Speed (60 Hz.) (Accessory)
	50-317863	Type SAS2-5 Solid State Auto-Speed (50 Hz.) (Accessory)
	12-317956	Cover Plate
	31-960980	8-32 x 1/4 S.T. Screw
4	10-311151	Finished Test Point Cover
	31-960788	6-32 x 3/4 S.T. Screw
5	17-509809	Hold Down Spring

ELECTRONIC UNITS  
DIGITAL CONTROL CENTER



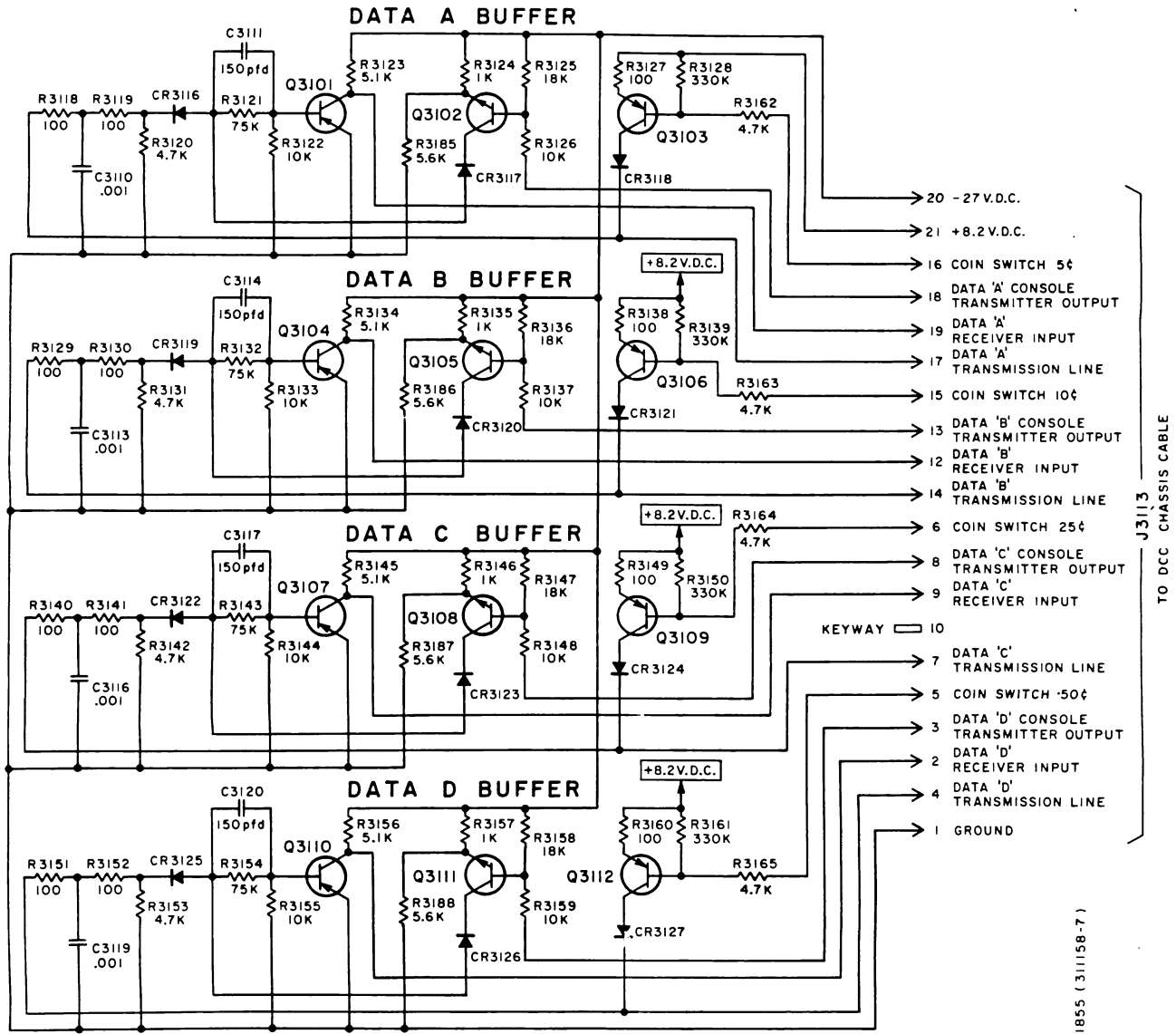
Item	Part No.	Description
**6	--	Top Hinge
	--	Bottom Hinge
	31-902394	Tinnerman Twin Nut
	31-961123	#10 x 3/8 S.M. Screw
7	73-311107	5 Lug Terminal Strip
8	73-317935	7 Lug Terminal Strip
9	73-307555	Fuse Holder
10	73-303712	Fuse Holder
	32-303693	Fuse Holder Mtg. Clip
11	72-941884	P.C. Board Fastener Clip

\*Not part of this assembly.

\*\*See page 12 for hinge variations.



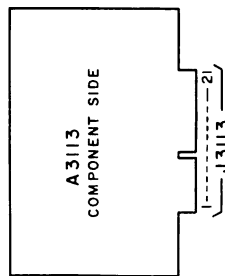
BUFFER CIRCUIT SCHEMATIC



NOTES

1. UNLESS OTHERWISE SPECIFIED ALL RESISTORS ARE IN OHMS.
2. UNLESS OTHERWISE SPECIFIED ALL CAPACITORS ARE IN MICROFARADS.
3. ALL VOLTAGES MEASURED WITH BOARD IN COMPLETE ASSEMBLY AND ENTIRE SYSTEM IN STANDBY OR QUIESCENT STATE.
4. ALL VOLTAGES MEASURED WITH 20,000 OHMS PER VOLT VCLTMETER.

P.C. BOARD CONNECTOR DESIGNATIONS

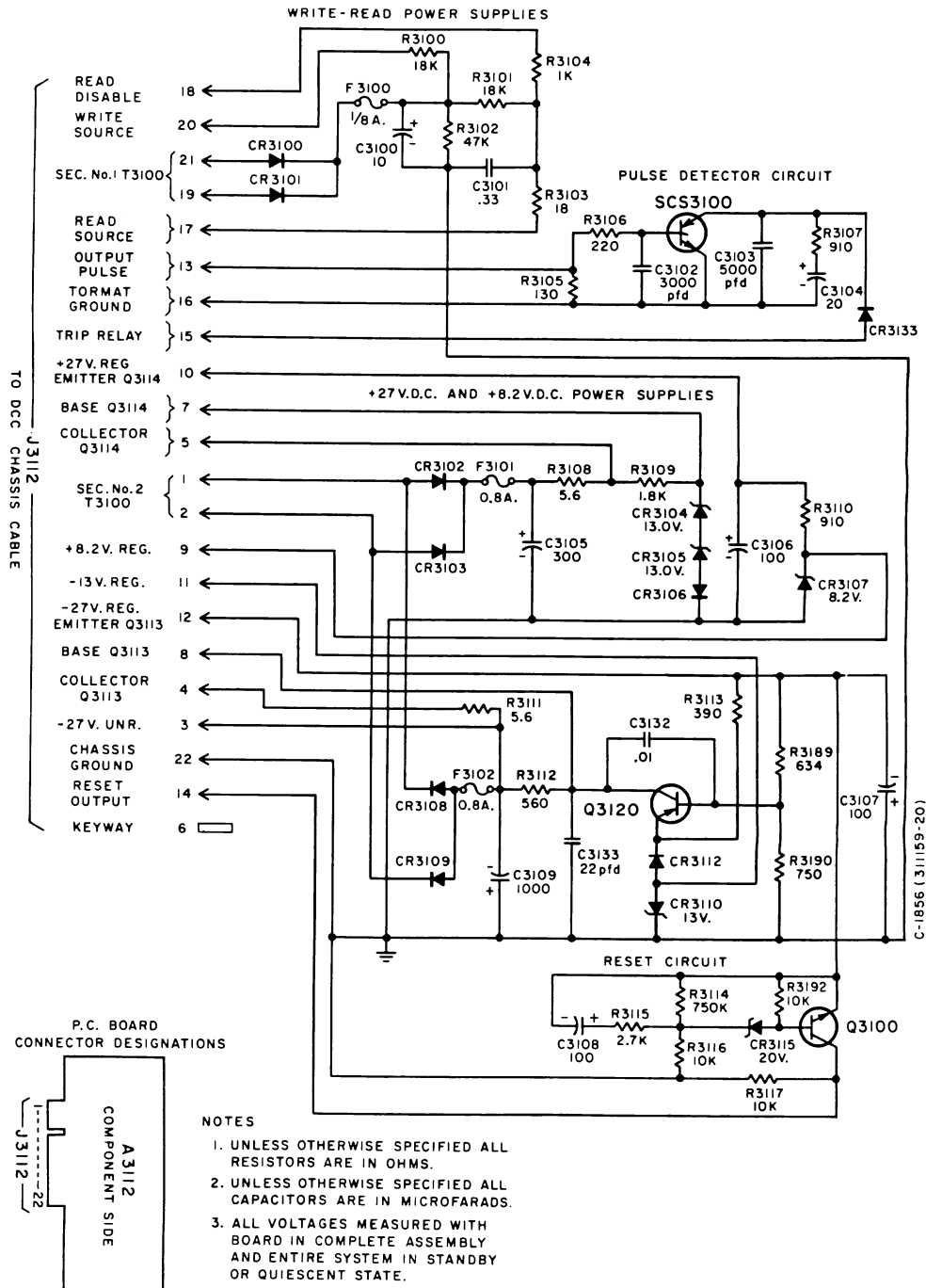


C-1855 (311158-7)



ELECTRONIC UNITS

D. C. POWER SUPPLY SCHEMATIC DIAGRAM



Item	Part No.	Description	Item	Part No.	Description	Item	Part No.	Description
A3100	70-311143	Scan Control Brd. Assem.	CR3102	62-309476	Silicon Diode, 100 PIV. -1A	J3104	73-309590	15 Cont. Grn. Skt. Hsg.
A3112	70-311125	Power Supply Brd. Assem.	CR3103	62-309476	Silicon Diode, 100 PIV. -1A	J3105	73-309550	6 Cont. Wht. Skt. Hsg.
A3113	70-311134	Buffer Board Assembly	CR3104	62-309613	Zener Diode, 13 V.	J3106	73-309538	5 Cont. Wht. Skt. Hsg.
C3100	52-87593	10, 150 V., Lytic	CR3105	62-309613	Zener Diode, 13 V.	J3107	73-710315	12 Cont. Wht. Skt. Hsg.
C3101	52-86360	.33, 200 V., Mylar	CR3106	62-309481	Silicon Diode, 40 PIV.	J3108	73-309328	3 Cont. Brn. Skt. Hsg.
	52-86372	.33, 200 V., Met. Mylar	CR3107	62-309612	Zener Diode, 8.2 V.	J3109	73-309562	9 Cont. Wht. Skt. Hsg.
C3102	52-86278	.003, 500 V., Ceramic	CR3108	62-309476	Silicon Diode, 100 PIV. -1A	J3110	73-303446	Single Prong Socket
C3103	52-86250	.005, 500 V., Ceramic	CR3109	62-309476	Silicon Diode, 100 PIV. -1A	J3111	73-309575	12 Cont. Red Skt. Hsg.
C3104	52-87662	20, 50 V., Lytic	CR3110	62-309613	Zener Diode, 13 V.	J3112	--	Part Of Assembly A3112
C3105	52-87611	300, 50 V., Lytic	CR3112	62-309384	Silicon Diode, 170 PIV.	J3113	--	Part Of Assembly A3113
C3106	52-87700	100, 35 V., Lytic	CR3115	62-309487	Zener Diode, 20 V.	K3100	44-509802	24 V. Relay (DCC4)
C3107	52-87700	100, 35 V., Lytic	CR3116	62-309481	Silicon Diode, 40 PIV.	K3101	53-303745	Part Of Assembly Z3100
C3108	52-87700	100, 35 V., Lytic	CR3117	62-309481	Silicon Diode, 40 PIV.	K3102	53-303741	Part Of Assembly Z3100
C3109	52-87759	1000, 50 V., Lytic	CR3118	62-309481	Silicon Diode, 40 PIV.	K3103	44-311367	12 V. Relay (DCC3)
C3110	52-86309	.001, 500 V., Ceramic	CR3119	62-309481	Silicon Diode, 40 PIV.	P3100	73-309630	6 Position Edge Connector
C3111	52-86243	.00015, 500 V., Ceramic	CR3120	62-309481	Silicon Diode, 40 PIV.	P3107	70-317957	Autospeed Dummy Plug Assem.
C3112	52-86313	.01, 500 V., Ceramic	CR3121	62-309481	Silicon Diode, 40 PIV.	P3109	70-311109	Totalizer Dummy Plug Assem.
C3113	52-86309	.001, 500 V., Ceramic	CR3122	62-309481	Silicon Diode, 40 PIV.	P3111	70-311576	Stand-By Dummy Plug Assem.
C3114	52-86243	.00015, 500 V., Ceramic	CR3123	62-309481	Silicon Diode, 40 PIV.	P3112	73-318102	22 Position Edge Connector
C3116	52-86309	.001, 500 V., Ceramic	CR3124	62-309481	Silicon Diode, 40 PIV.	P3113	73-309633	21 Position Edge Connector
C3117	52-86243	.00015, 500 V., Ceramic	CR3125	62-309481	Silicon Diode, 40 PIV.	Q3100	61-309684	NPN
C3119	52-86309	.001, 500 V., Ceramic	CR3126	62-309481	Silicon Diode, 40 PIV.	Q3101	61-309683	PNP
C3120	52-86243	.00015, 500 V., Ceramic	CR3127	62-309481	Silicon Diode, 40 PIV.	Q3102	61-309684	NPN
C3122	52-86331	.22, 50 V., Mylar	CR3128	62-309384	Silicon Diode, 170 PIV.	Q3103	61-309683	PNP
C3123	52-86313	.01, 500 V., Ceramic	CR3129	62-309481	Silicon Diode, 40 PIV.	Q3104	61-309683	PNP
C3124	52-87754	1.0, 35 V., Tantalum	CR3130	62-309481	Silicon Diode, 40 PIV.	Q3105	61-309683	PNP
C3125	52-86278	.003, 500 V., Ceramic	CR3131	62-309481	Silicon Diode, 40 PIV.	Q3106	61-309684	NPN
C3126	52-86313	.01, 500 V., Ceramic	CR3132	62-309481	Silicon Diode, 40 PIV.	Q3106	61-309683	PNP
C3127	52-86250	.005, 500 V., Ceramic	CR3133	62-309703	Sil. Switching Diode, 75 V.	Q3107	61-309683	PNP
C3128	52-86191	.22, 200 V., Mylar	F3100	45-311157	Slow-Blowing Fuse, 1/8 A.	Q3108	61-309684	NPN
C3129	52-86191	.22, 200 V., Mylar	F3101	45-375650	Slow-Blowing Fuse, 0.8 A.	Q3109	61-309683	PNP
C3130	52-86317	.01, 1400 V., Ceramic	F3102	45-375650	Slow-Blowing Fuse, 0.8 A.	Q3110	61-309683	PNP
C3131	52-86278	.003, 500 V., Ceramic	F3103	45-303713	Fuse, 3.2 A.	Q3111	61-309684	NPN
C3132	52-86313	.01, 500 V., Ceramic	F3104	45-307536	Fuse, 7.5 A.	Q3112	61-309683	PNP
C3133	52-86263	22 PFD, 500 V., Ceramic	J3100	--	Part Of Assembly A3100	Q3113	61-309462	PNP
CR3100	62-309372	Silicon Diode, 600 PIV.	J3101	73-309591	15 Cont. Blu. Skt. Hsg.	Q3114	61-309441	NPN
CR3101	62-309372	Silicon Diode, 600 PIV.	J3102	73-309576	12 Cont. Org. Skt. Hsg.	Q3115	61-309504	Bi-Directional Thyristor
			J3103	73-309565	9 Cont. Yel. Skt. Hsg.	Q3116	61-309683	PNP
						Q3117	61-309683	PNP

Item	Part No.	Description	Item	Part No.	Description	Item	Part No.	Description
Q3118	61-309443	Unijunction Transistor	R3138	51-82412	100	R3180	51-82448	100,000
Q3119	61-309683	PNP	R3139	51-82454	330,000	R3181	51-82427	1800
Q3120	61-309685	PNP	R3140	51-82412	100	R3182	51-82442	33,000
R3100	51-82821	18,000, 2 W.	R3141	51-82412	100	R3183	51-82418	330
R3101	51-82821	18,000, 2 W.	R3142	51-82432	4700	R3184	51-82412	100
R3102	51-82714	47,000, 1 W.	R3143	51-82606	75,000, 5%	R3185	51-82433	5600
R3103	51-82153	18, 5%	R3144	51-82436	10,000	R3186	51-82433	5600
R3104	51-82424	1000	R3145	51-82628	5100, 5%	R3187	51-82433	5600
R3105	51-82655	130, 5%	R3146	51-82424	1000	R3188	51-82433	5600
R3106	51-82658	220, 5%	R3147	51-82439	18,000	R3189	51-82576	634, 1%
R3107	51-82661	910, 5%	R3148	51-82436	10,000	R3190	51-82577	750, 1%
R3108	51-82884	5.6, 1 W.	R3149	51-82412	100	R3191	51-81267	150, W.W., 2 W.
R3109	51-82427	1800	R3150	51-82454	330,000	R3192	51-82436	10,000
R3110	51-81302	910, W.W., 2 W., 5%	R3151	51-82412	100			
R3111	51-82884	5.6, 1 W.	R3152	51-82412	100	SCS3100	61-309472	Silicon Cont.Switch, 60 V.
R3112	51-82660	560, 5%	R3153	51-82432	4700			
R3113	51-81303	390, W.W., 2 W., 5%	R3154	51-82606	75,000, 5%	T3100	53-311220	Transformer, 120 VAC
R3114	51-82607	750,000, 5%	R3155	51-82436	10,000	*T3100	53-311221	Transformer, 120 VAC
R3115	51-82429	2700	R3156	51-82628	5100, 5%	**T3101	53-311222	Transformer, 235 VAC
R3116	51-82436	10,000	R3157	51-82424	1000	***T3102	53-311578	Transformer ( All Models )
R3117	51-82436	10,000	R3158	51-82439	18,000			
R3118	51-82412	100	R3159	51-82436	10,000	TB3100	73-311108	7 Lug Terminal Board
R3119	51-82412	100	R3160	51-82412	100			
R3120	51-82432	4700	R3161	51-82454	330,000			
R3121	51-82606	75,000, 5%	R3162	51-82432	4700	W3100	70-171587	Line Cord (DCC3 & DCC4)
R3122	51-82436	10,000	R3163	51-82432	4700	W3101	70-311572	Cable Assembly
R3123	51-82628	5100, 5%	R3164	51-82432	4700			
R3124	51-82424	1000	R3165	51-82432	4700			
R3125	51-82439	18,000	R3166	51-82422	680	XK3100	73-309725	Relay Socket (DCC4)
R3126	51-82436	10,000	R3167	51-82400	10	XK3103	73-509803	Relay Socket (DCC3)
R3127	51-82412	100	R3168	51-82436	10,000			
R3128	51-82454	330,000	R3169	51-81262	1000, W.W., 2 W.	Z3100	40-303719	Play Control Assembly
R3129	51-82412	100	R3170	51-82424	1000			
R3130	51-82412	100	R3171	51-82427	1800			
R3131	51-82432	4700	R3172	51-82426	1500			
R3132	51-82606	75,000, 5%	R3173	51-82429	2700			
R3133	51-82436	10,000	R3174	51-82449	120,000			
R3134	51-82628	5100, 5%	R3175	51-82442	33,000			
R3135	51-82424	1000	R3176	51-82432	4700			
R3136	51-82439	18,000	R3177	51-82432	4700			
R3137	51-82436	10,000	R3178	51-82452	220,000			
			R3179	51-82448	100,000			

## CONTROL CENTER PARTS LIST

## ELECTRONIC UNITS

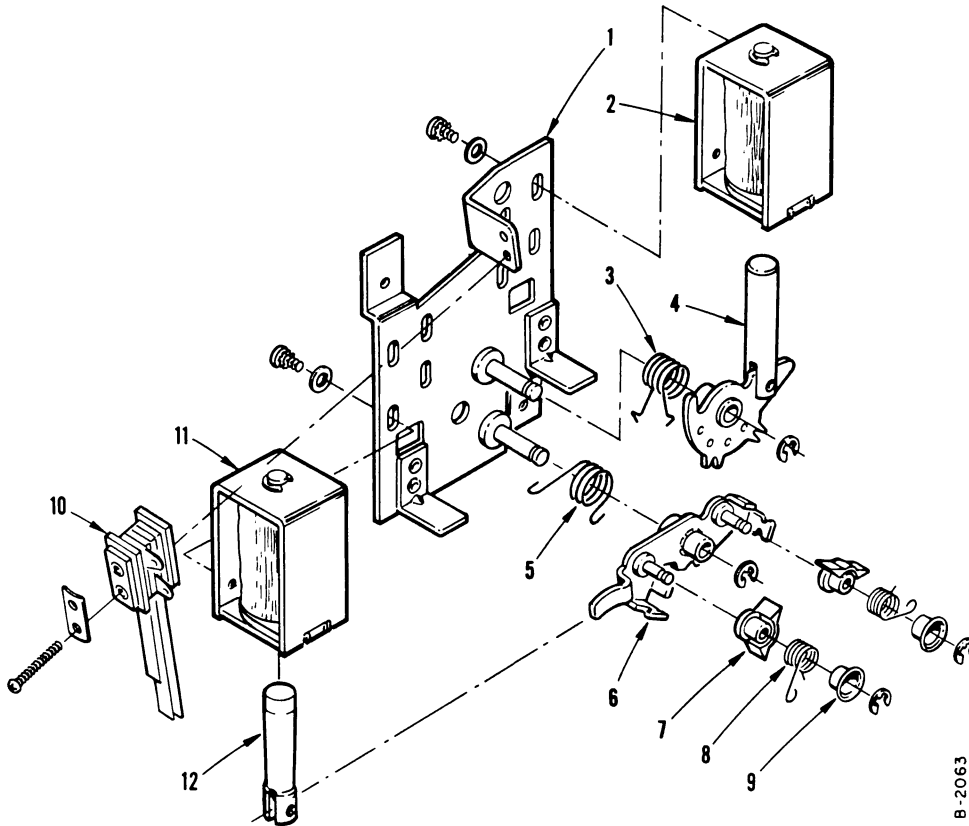
(\*) 120V., 50Hz.

(\*\*) 235V., 50Hz.

(\*\*\*) T3102 may be substituted for  
T3100 & T3101

ELECTRONIC UNITS

40-303719 PLAY CONTROL ASSEMBLY

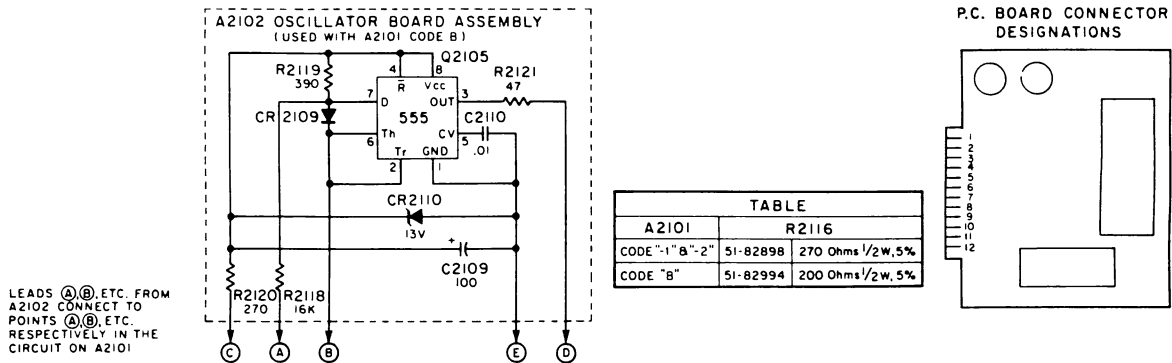


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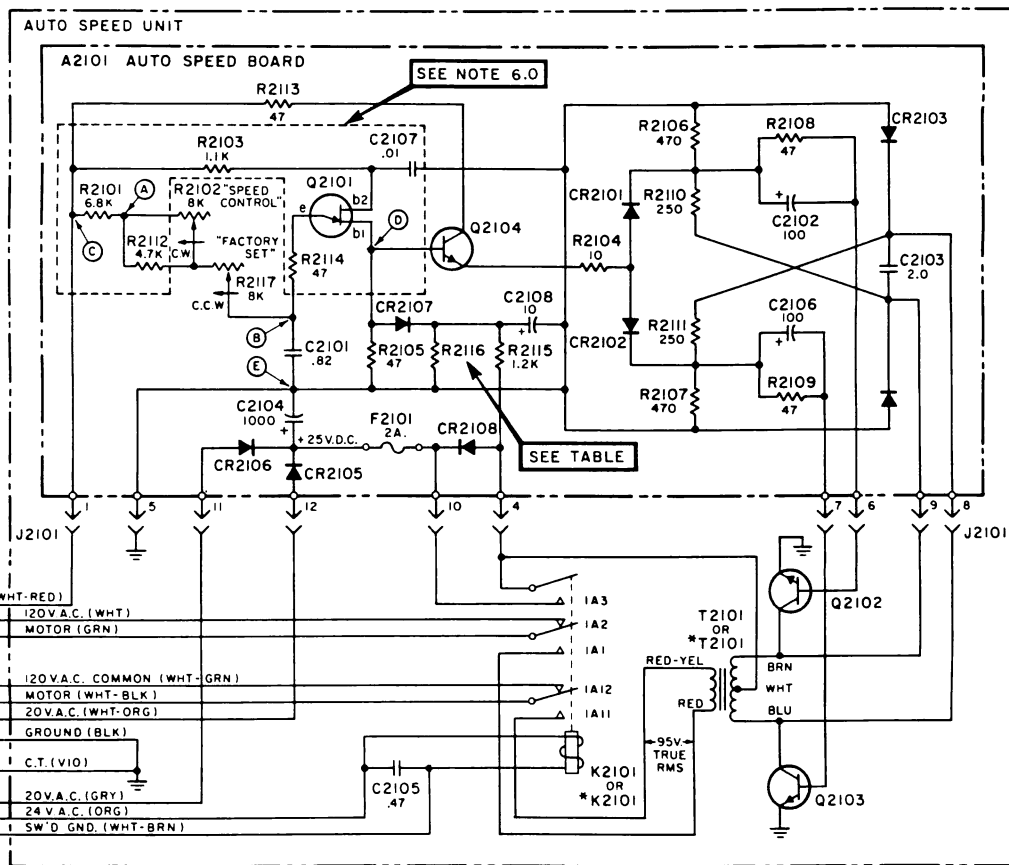
Item	Part No.	Description
1	10-303724	Mtg. Base Riveted Assem.
2	10-303482	Add Sol. & Frame Assem.
	32-920741	Flatwasher
	31-912882	6-32 x 3/16 M. Screw
3	17-303738	Ratchet Wheel Spring
4	10-303750	Wheel & Plunger Assem.
	32-231163	Retaining Ring
5	17-303736	Pawl Lever Spring
6	10-303730	Pawl Lever Staked Assem.
	32-231163	Retaining Ring
7	21-303733	Pawl
8	17-303734	Pawl Spring
9	32-986392	Eyelet
	32-125448	Retaining Ring
10	41-303749	Switch
	12-450260	Tension Plate
	31-910991	3-48 x 5/8 M. Screw
11	10-303484	Subt. Sol. & Frame Assem.
	32-920741	Flatwasher
	31-912882	6-32 x 3/16 M. Screw
12	10-303747	Solenoid Plunger Assem.

ELECTRONIC UNITS

50-317862 SOLID STATE AUTO-SPEED UNIT, Type SAS2  
 50-317863 SOLID STATE AUTO-SPEED UNIT, Type SAS2-5



LEADS (A) (B), ETC. FROM A2102 CONNECT TO POINTS (A) (B), ETC. RESPECTIVELY IN THE CIRCUIT ON A2101

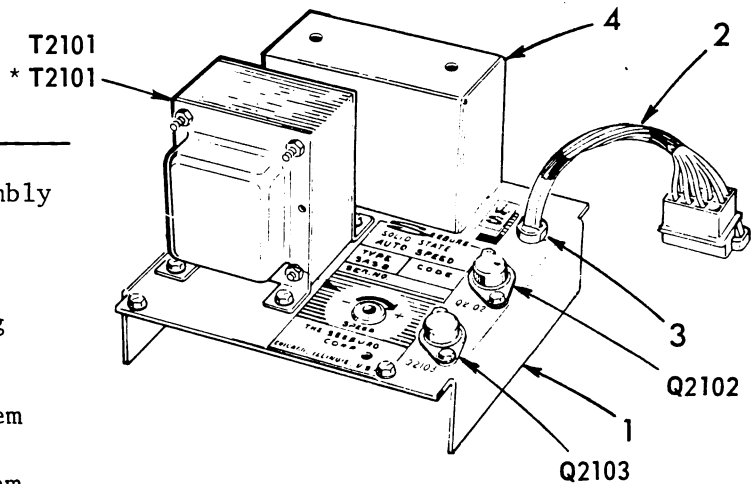


NOTES:

- FOR 50HZ. UNITS, TYPE SAS2-5, USE ALTERNATE COMPONENTS MARKED WITH AN ASTERISK (\*).
- TO SET AUTO SPEED FREQ. FIRST SET "SPEED CONTROL" R2102 TO MIN. (FULL COUNTERCLOCKWISE AS VIEWED FROM TOP OF CHASSIS) & ADJUST "FACTORY SET" CONTROL R2117 FOR UNIJUNCTION OSCILLATOR FREQ. OF APPROX. 80HZ. FOR THE SAS2 & APPROX. 70HZ. FOR THE SAS2-5 THEN ADJUST "SPEED CONTROL" TO DESIRED INVERTER OUTPUT FREQ.
- ALL PLUGS AND SOCKETS VIEWED FROM WIRED SIDE AND ARE PROJECTED IN THIS MANNER.
- ALL RESISTORS ARE IN OHMS UNLESS OTHERWISE SPECIFIED.
- ALL CAPACITORS ARE IN MICROFARADS UNLESS OTHERWISE SPECIFIED.
- PARTS ENCIRCLED WITH HEAVY DASH LINES ARE NOT USED IN CODE "B" AUTO SPEED BOARD ASSEMBLIES (A2101 P1. No. 70-317958-B)
- OSCILLATOR CIRCUIT ON A2101:
  - CODE "1" & "2" USES Q2101 (UNIUNION TRANSISTORS) & ASSOCIATED COMPONENTS
  - CODE "B" USES Q2105 (555 TIMER) AND ASSOCIATED COMPONENTS ON A2102

ELECTRONIC UNITS

SOLID STATE AUTO-SPEED UNIT



Item	Part No.	Description
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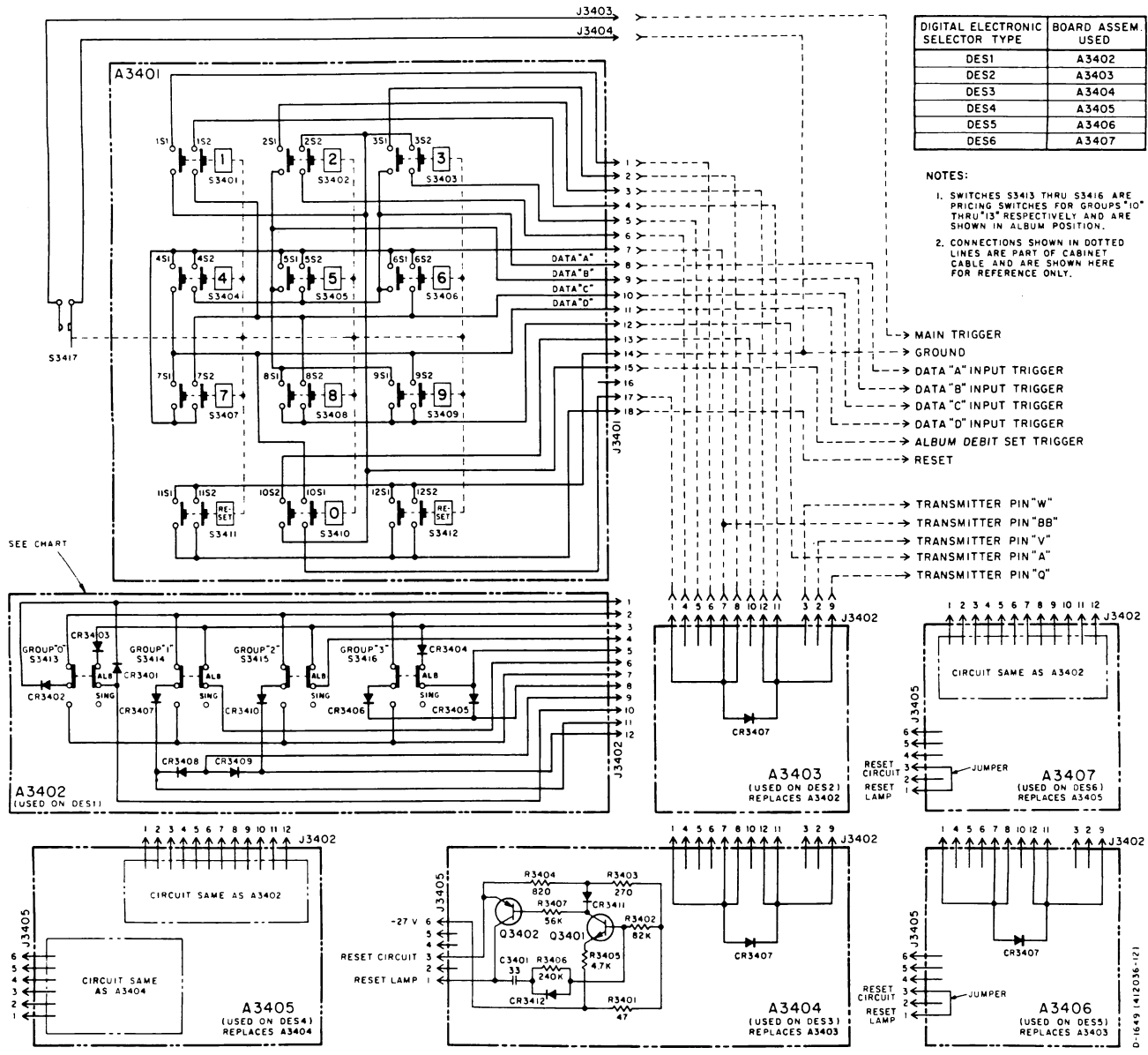
1	10-317942	Chassis Riveted Assembly
	73-317872	Transistor Socket
	73-451605	4 Lug Terminal Strip
2	70-317948	Cable Assembly
3	33-302343	Strain Relief Bushing
4	10-317883	Relay Cover Assembly
A2101	70-317958	Auto-Speed Board Assem
	72-941884	P.C. Board Clip
A2102	70-318380	Oscillator Board Assem.
C2101	52-86368	.82, 100 V., Metal Mylar
C2102	52-87752	100, 10 V., Lytic
C2103	52-86349	2.0, 200 V., Mylar
C2104	52-87725	1000, 35 V., Lytic
C2105	52-86335	.47, 200 V., Metal Mylar
C2106	52-87752	100, 10 V., Lytic
C2107	52-86313	.01, 500 V., Ceramic
C2108	52-87697	10, 6 V., Lytic
C2109	52-87770	100, 35 V., Lytic
C2110	52-86313	.01, 500 V., Ceramic
CR2101	62-309384	Sil. Diode, 170 V.
CR2102	62-309384	Sil. Diode, 170 V.
CR2103	62-309384	Sil. Diode, 170 V.
CR2104	62-309384	Sil. Diode, 170 V.
CR2105	62-309701	Sil. Diode, 100 V., 3A.
CR2106	62-309701	Sil. Diode, 100 V., 3A.
CR2107	62-309384	Sil. Diode, 170 V.
CR2108	62-309701	Sil. Diode, 100 V., 3A.
CR2109	62-309481	Sil. Diode, 40 V.
CR2110	62-309613	Zener Diode, 13V., 1W., 5%
F2101	45-300103	2 Amp. Fuse
J2101	73-309308	12 Pos. Edge Connector
K2101	44-317877	Power Relay (60 Hz.)
*K2101	44-317878	Power Relay (50 Hz.)
	31-914302	8-32 x 5/16 M. Screw
P2101	73-710316	12 Cont. Wht. Pin Hsg.
	72-941829	Pin

Item	Part No.	Description
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Q2101	61-309443	Unijunction Transistor
Q2102	61-309441	NPN Power Transistor
Q2103	61-309441	NPN Power Transistor
	73-317882	Insulator
	31-960670	#6 x 1/2 S.M. Screw
Q2104	61-309442	NPN Transistor
Q2105	64-309778	555 Timer
R2101	51-82434	6800
R2102	51-317968	8000 Potentiometer
R2103	51-82162	1100, 5%
R2104	51-82400	10
R2105	51-82408	47
R2106	51-81288	470, W.W., 2 W.
R2107	51-81288	470, W.W., 2 W.
R2108	51-81236	47, W.W., 2 W.
R2109	51-81236	47, W.W., 2 W.
R2110	51-81201	250, W.W., 5 W.
R2111	51-81201	250, W.W., 5 W.
R2112	51-82432	4700
R2113	51-82408	47
R2114	51-82408	47
R2115	51-81293	1200, W.W., 2 W., 5%
	51-82898	270, 5% (Code "-1" & "-2")
	51-82994	200, 1/2 W., 5% (Code B)
R2117	51-317968	8000 Potentiometer
R2118	51-82604	16,000, 1/2 W., 5%
R2119	51-81303	390, W.W., 2 W., 10%
R2120	51-81238	270, W.W., 2 W., 10%
R2121	51-82408	47, 1/2 W., 10%
T2101	53-317874	Output Transformer (60 Hz.)
*T2101	53-317875	Output Transformer (50 Hz.)
	31-914299	8-32 x 5/16 M. Screw
	31-901682	8-32 Nut

ELECTRONIC UNITS

DIGITAL ELECTRONIC SELECTORS

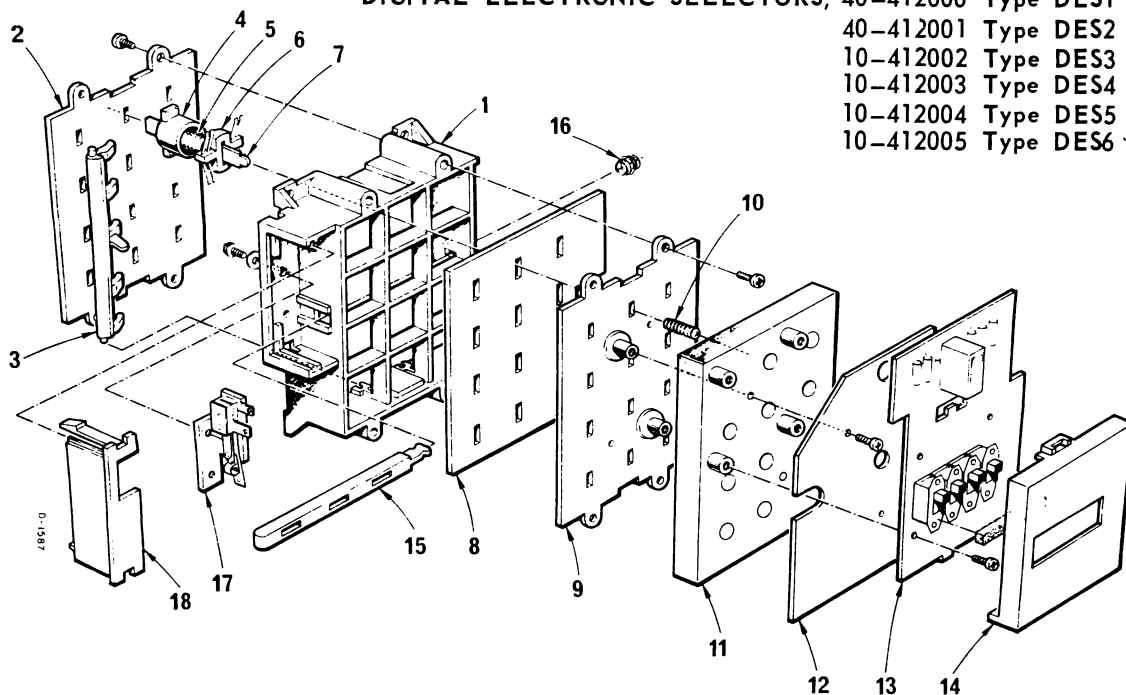


Item	Part No.	Description	Item	Part No.	Description
A3401	75-412014	Printed Contact Board	C3401	52-86372	.33, 200 V., Met. Mylar
A3402	70-412031	Switch & Circuit Bd. Assem.	CR3401 } CR3412 }	62-309481	Silicon Diode, 40 PIV
A3403	70-412063	Diode Board Assembly			
A3404	70-311470	Flasher Board Assembly			
A3405	70-311505	Flasher & Switch Bd. Assem.			
A3406	70-311580	No. 2 Diode Board Assem.			
A3407	70-311590	No. 2 Diode & Sw. Bd. Assem.			

ELECTRONIC UNITS

DIGITAL ELECTRONIC SELECTORS, 40-412000 Type DES1

- 40-412001 Type DES2
- 10-412002 Type DES3
- 10-412003 Type DES4
- 10-412004 Type DES5
- 10-412005 Type DES6



Item Part No. Description

J3401	—	Part of A3401
J3402	—	Part of A3402
J3403	—	Part of S3417
J3404	—	Part of S3417
J3405	—	Part of A3404
Q3401	61-309684	NPN
Q3402	61-309685	PNP
R3401	51-82408	47
R3402	51-82447	82,000
R3403	51-82417	270
R3404	51-82423	820
R3405	51-82432	4700
R3406	51-82164	240,000 5%
R3407	51-82445	56,000
S3401	} 21-412019	Contact Assembly
Thru S3412		
S3413		
S3413	} 41-412035	Switch
Thru S3416		
S3417		
S3417	41-412042	Switch & Bracket Assem.

NOTES: 1. Unless otherwise specified all resistors are in ohms, 1/2 watt and 10%.

2. Unless otherwise specified all capacitors are in microfarads.

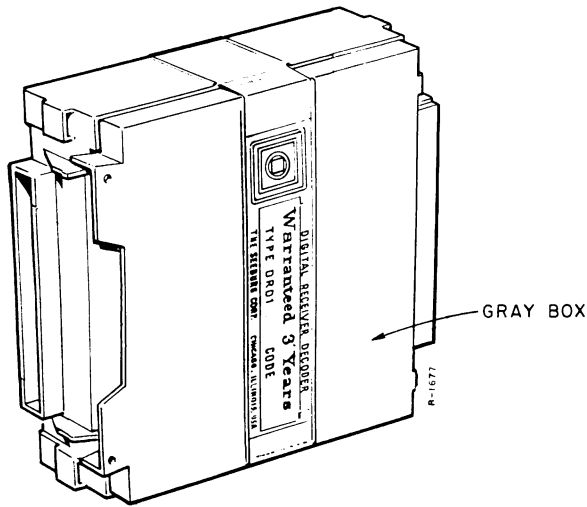
Item Part No. Description

1	21-412017	Switch Main Frame
2	12-412028	Guide Plate
	31-960666	#6 x 1/2 S.M. Screw
3	21-412027	Treadle Bar
4	21-412022	Treadle Actuator
	21-412023	Actuator Retainer
5	17-412021	Overload Spring
6	21-412019	Contact Assembly
7	13-412018	Stem
8	75-412014	Printed Contact Board
9	10-412012	Guide Plate Assembly
	31-960666	#6 x 1/2 S.M. Screw
10	17-412011	Stem Spring
11	21-412010	Stem Spring Holder
12	12-412041	Back Plate
	31-913314	6-32 x 1/2 M. Screw
13	—	(See Chart on Schematic)
	31-960635	#6 x 5/16 S.M. Screw
14	21-412039	Rear Switch Cover
	26-421313	Pad (2)
	81-412040	Switch Label
15	21-412024	Switch Actuator
16	17-412073	Actuator Spring
17	41-412042	Switch & Bracket Assembly
	32-920814	Flatwasher
	31-912897	6-32 x 3/16 M. Screw
18	21-412038	Trigger Switch Cover



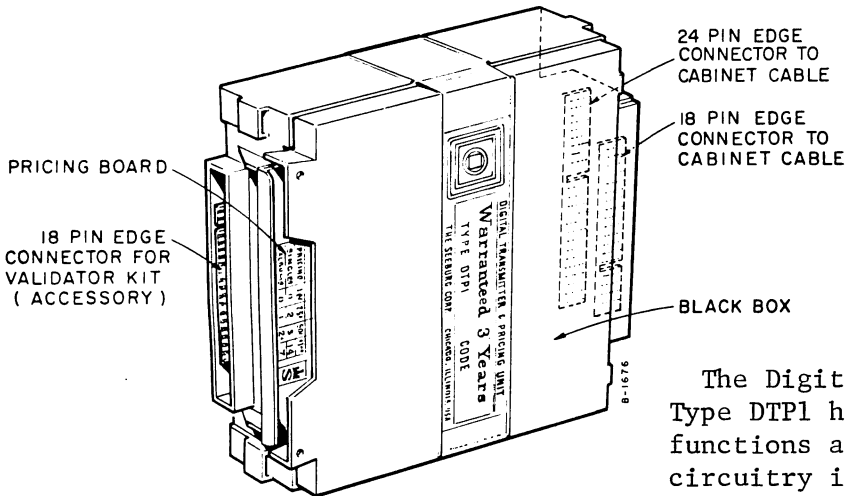
ELECTRONIC UNITS

50-311010 DIGITAL RECEIVER DECODER, Type DRD1



The Digital Receiver Decoder, Type DRD1, has no moving parts: all logic functions are performed by solid state circuitry, incorporating the latest in microelectronic technology which includes MOS (metal oxide silicon) devices. The Digital Receiver Decoder, Type DRD1 is a factory sealed unit carrying a 3-year warranty detailed in the Warranty Certificate on the phonograph.

50-311000 DIGITAL TRANSMITTER PRICING UNIT, Type DTP1

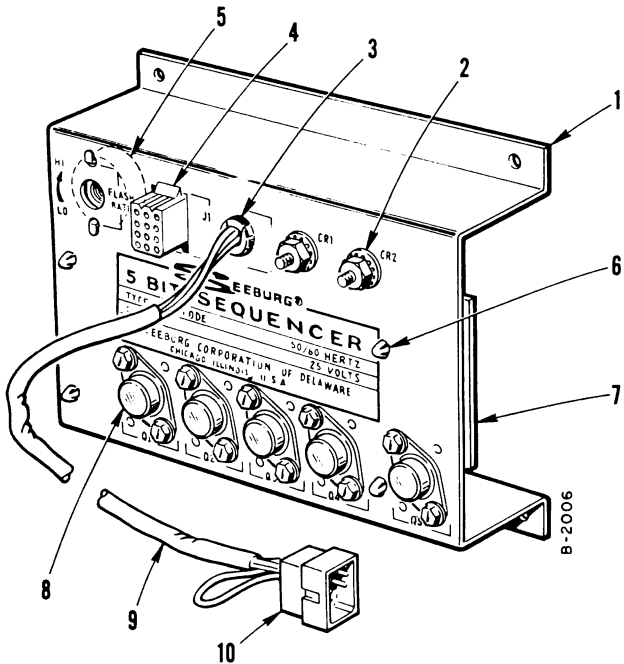


The Digital Transmitter Pricing Unit, Type DTP1 has no moving parts; all logic functions are performed by solid state circuitry incorporating the latest in microelectronic technology which includes MOS (metal oxide silicon) devices. The Digital Transmitter Pricing Unit, Type DTP1 is a factory sealed unit carrying a 3-year warranty detailed in the Warranty Certificate on the phonograph.

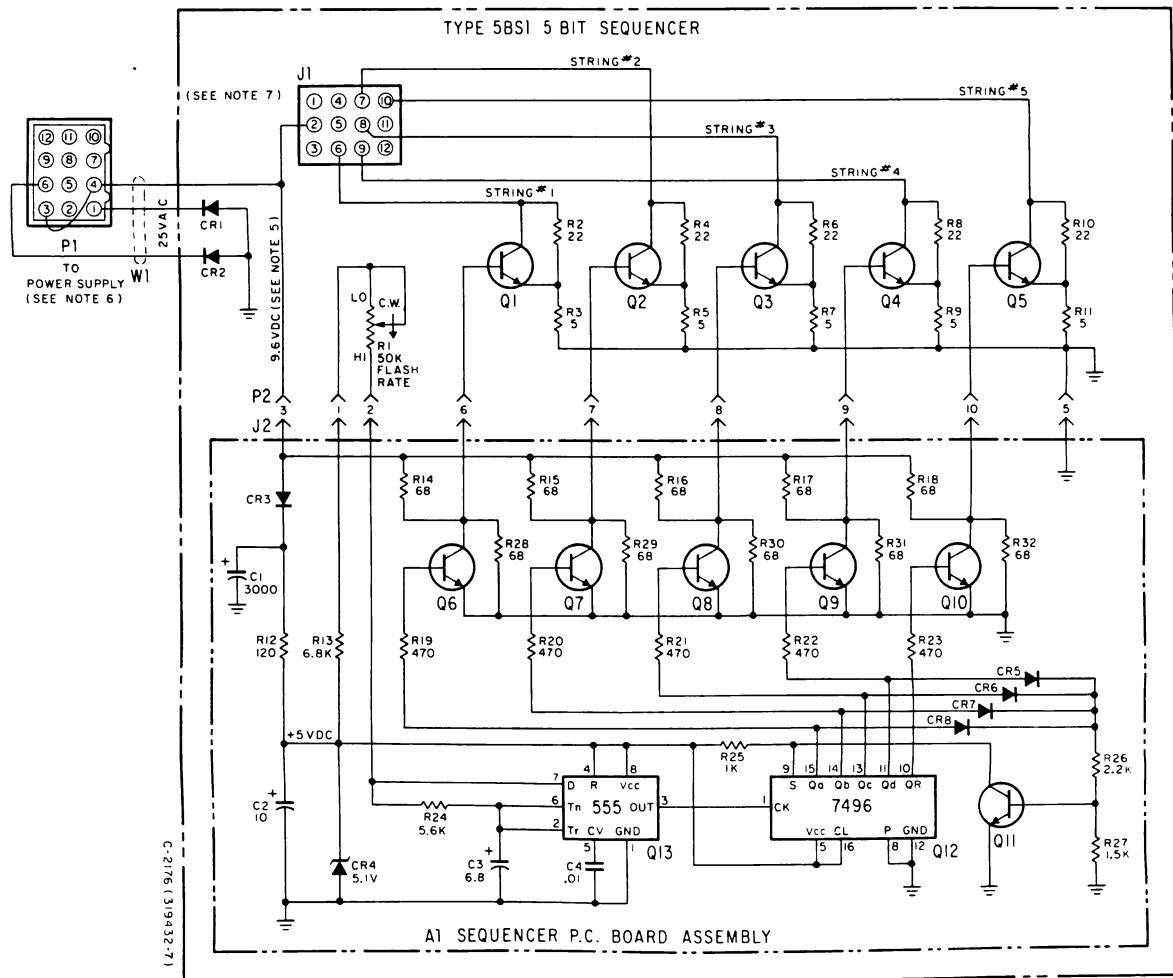
**NOTE:**  
 FOR PRICING BOARDS AND PRICING WINDOW INFORMATION SEE MODEL INSTALLATION & OPERATION MANUAL OR SERVICE MANUAL.

ELECTRONIC UNITS

10-319420 Type 5BS1 5 BIT SEQUENCER



Item	Part No.	Description
1	10-319425	Chassis Riveted Assembly
2	62-309704	Silicon Diode, 50. V., 6A.
	72-941304	Terminal
	32-921191	Flatwasher
	31-902385	10-32 Nut
3	33-306305	Strain Relief
4	73-309574	12 Cont. Wht. Skt. Hsg.
	72-941846	Contact Socket
5	51-306319	50,000 Ohm Potentiometer
6	73-941886	P.C. Board Support
7	70-319435	Sequencer P.C. Board Assem.
8	61-309441	NPN Transistor
	73-317882	Insulator
	31-960670	#6 x 1/2 S.M. Screw
9	70-319429	Output Cable Assembly (Incls. Item 10)
10	73-309580	12 Cont. Wht. Pin Hsg.
	72-941845	Contact Pin



## ELECTRONIC UNITS

## 10-319420 Type 5BS1 5 BIT SEQUENCER

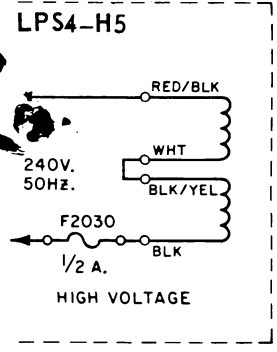
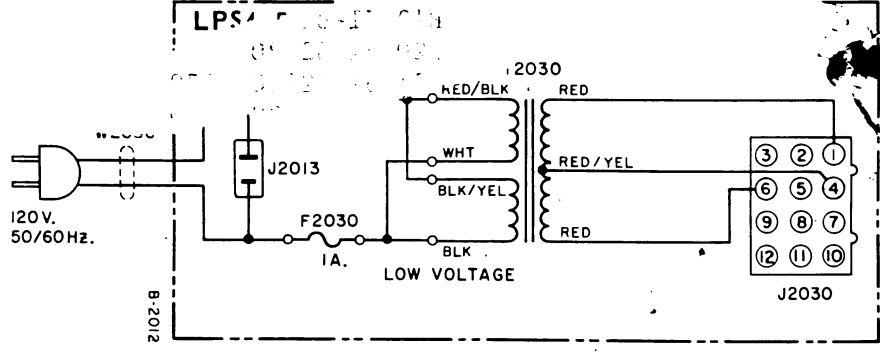
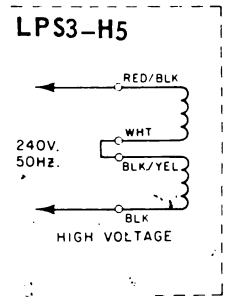
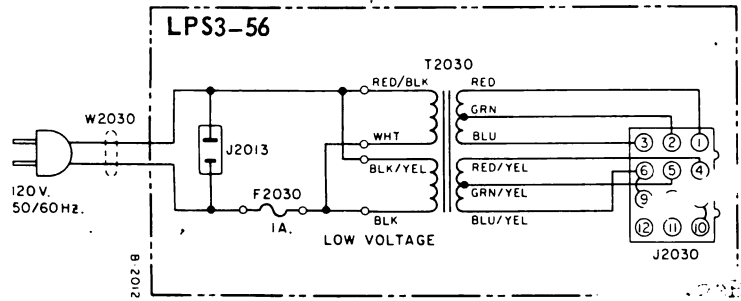
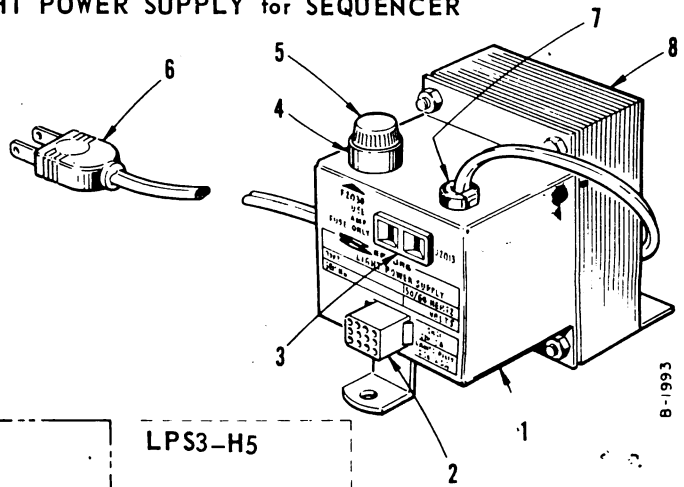
Item	Part No.	Description	Item	Part No.	Description
A1	70-319435	Sequencer Board Assembly	R1	51-306319	50,000 Potentiometer
C1	52-87765	3000, 16 V., Lytic	R2	51-81230	22, W.W., 2 W.
C2	52-87743	10, 35 V., Lytic	R3	51-81223	5, W.W., 5 W.
C3	52-87767	6.8, 6 V., 10%, Tantalum	R4	51-81230	22, W.W., 2 W.
C4	52-86313	.01, 500 V., Ceramic	R5	51-81223	5, W.W., 5 W.
CR1	62-309704	Silicon Diode, 50 PIV, 6A	R6	51-81230	22, W.W., 2 W.
CR2	62-309704	Silicon Diode, 50 PIV, 6A	R7	51-81223	5, W.W., 5 W.
CR3	62-309476	Silicon Diode, 100 PIV, 1A	R8	51-81230	22, W.W., 2 W.
CR4	62-309621	5.1V. Zener Diode, 5%, 400MW	R9	51-81223	5, W.W., 5 W.
CR5	62-309481	Silicon Diode, 40 PIV	R10	51-81230	22, W.W., 2 W.
CR6	62-309481	Silicon Diode, 40 PIV	R11	51-81223	5, W.W., 5 W.
CR7	62-309481	Silicon Diode, 40 PIV	R12	51-81275	120, W.W., 2 W.
CR8	62-309481	Silicon Diode, 40 PIV	R13	51-82434	6800
J1	73-309574	12 Cont. Wht. Skt. Hsg.	R14	51-81233	68, W.W., 2 W.
J2	73-309832	10 Pos. Friction Lock Post	R15	51-81233	68, W.W., 2 W.
P1	73-309580	12 Cont. Wht. Pin Hsg. (Part of W1)	R16	51-81233	68, W.W., 2 W.
P2	73-309850	10 Pos. Friction Lock Post	R17	51-81233	68, W.W., 2 W.
Q1	61-309441	NPN Transistor	R18	51-81233	68, W.W., 2 W.
Q2	61-309441	NPN Transistor	R19	51-82420	470
Q3	61-309441	NPN Transistor	R20	51-82420	470
Q4	61-309441	NPN Transistor	R21	51-82420	470
Q5	61-309441	NPN Transistor	R22	51-82420	470
Q6	61-309442	NPN Transistor	R23	51-82420	470
Q7	61-309442	NPN Transistor	R24	51-82433	5600
Q8	61-309442	NPN Transistor	R25	51-82424	1000
Q9	61-309442	NPN Transistor	R26	51-82428	2200
Q10	61-309442	NPN Transistor	R27	51-82426	1500
Q11	61-309684	NPN Transistor	R28	51-82410	68
Q12	64-309799	5 Bit Shift Register	R29	51-82410	68
Q13	64-309778	Timer	R30	51-82410	68
			R31	51-82410	68
			R32	51-82410	68
			W1	70-319429	Power Cable Assembly (incls. P1)

## NOTES:

- ALL RESISTORS ARE IN OHMS UNLESS OTHERWISE SPECIFIED.
- ALL CAPACITORS ARE IN MICROFARADS UNLESS OTHERWISE SPECIFIED.
- ALL POT. ROTATIONS AS VIEWED FROM OUTSIDE OF CHASSIS.
- ALL PLUGS & SOCKETS VIEWED FROM WIRED SIDE.
- D.C. VOLTAGES WERE MEASURED TO GROUND USING A SIMPSON 260 VOLTMETER WITH 120V. LINE.
- A.C. VOLTAGES WERE MEASURED BETWEEN CATHODES OF CR1 & CR2 USING A 1,000 OHM/VOLT VOLTMETER WITH 120V. LINE TO POWER SUPPLY (EITHER LPS3-56 OR LPS4-56).
- J1 CONNECTS TO LAMP LOADS. THERE ARE 5 LAMP LOADS (OR STRINGS) EACH CONSISTS OF 12 (OR 11) #2182 LAMPS (Seeburg Pl. No. 55-456049) CONNECTED IN PARALLEL BETWEEN PIN 2 OF J1 AND ITS RESPECTIVE PIN (6, 7, 8 ETC.) OF J1.

ELECTRONIC UNITS

- 10-302782 Type LPS3-56 LIGHT POWER SUPPLY for SEQUENCER
- 10-302783 Type LPS3-H5 LIGHT POWER SUPPLY for SEQUENCER
- 10-302784 Type LPS4-56 LIGHT POWER SUPPLY for SEQUENCER
- 10-302785 Type LPS4-H5 LIGHT POWER SUPPLY for SEQUENCER



Item	Part No.	Description	Item	Part No.	Description
1	10-302793	Finished Chassis LPS3	45-306369	1/2 A.SlowBlowNon-Tamp. Fuse (235V.)(late units)	
	10-302803	Finished Chassis LPS4	6	70-171587	Line Cord (W2030)
2	73-309574	12 Cont.Wht.Skt.Hsg. (J2030) (part of 8)	7	33-306305	Strain Relief Bushing
	72-941846	Contact Socket	8	10-302797	Power Transformer & Connector Assem. LPS3
3	73-307828	A.C. Receptacle (J2013)		10-302804	Power Transformer & Connector Assem. LPS4
4	73-300061	Fuse Holder (early units)	53-302798	Power Transformer (T2030) LPS3	
	73-306315	Fuse Holder (late units)	53-203805	Power Transformer (T2030) LPS4	
5	45-303275	1 A.SlowBlowFuse (F2030) (120V.) (early units)			
	45-306334	1 A.SlowBlowNon-Tamp.Fuse (120V.) (late units)			
	45-503636	1/2 A.SlowBlowFuse(F2030) (235V.) (early units)			