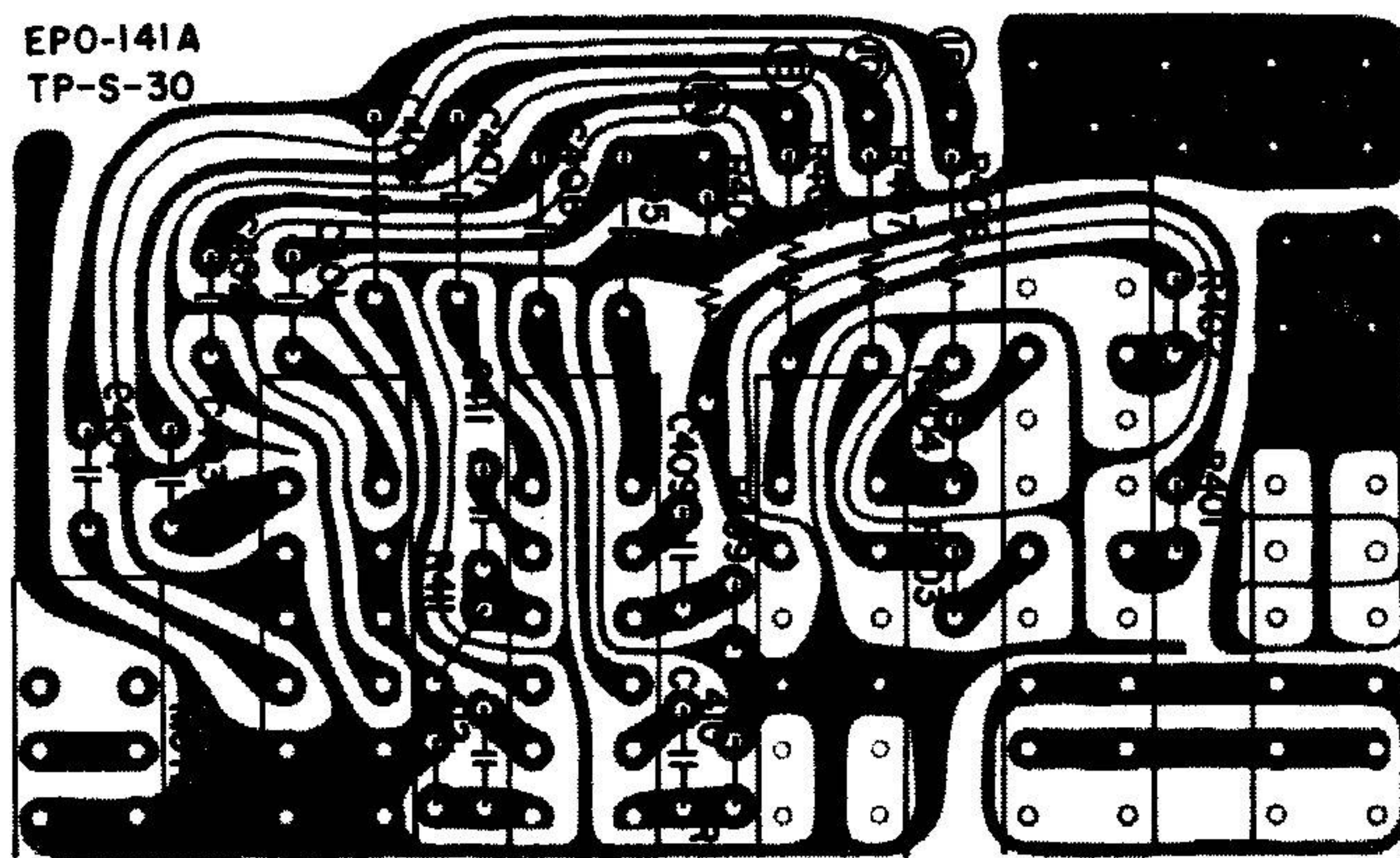
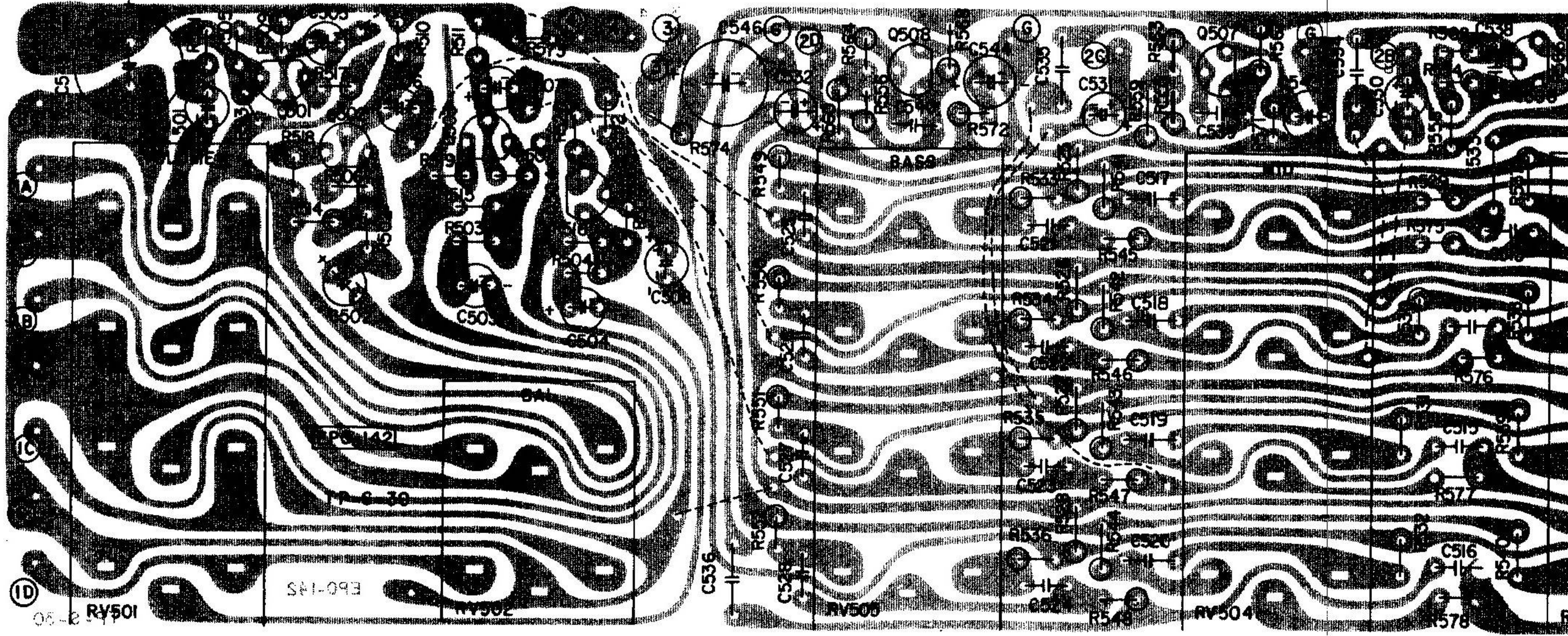


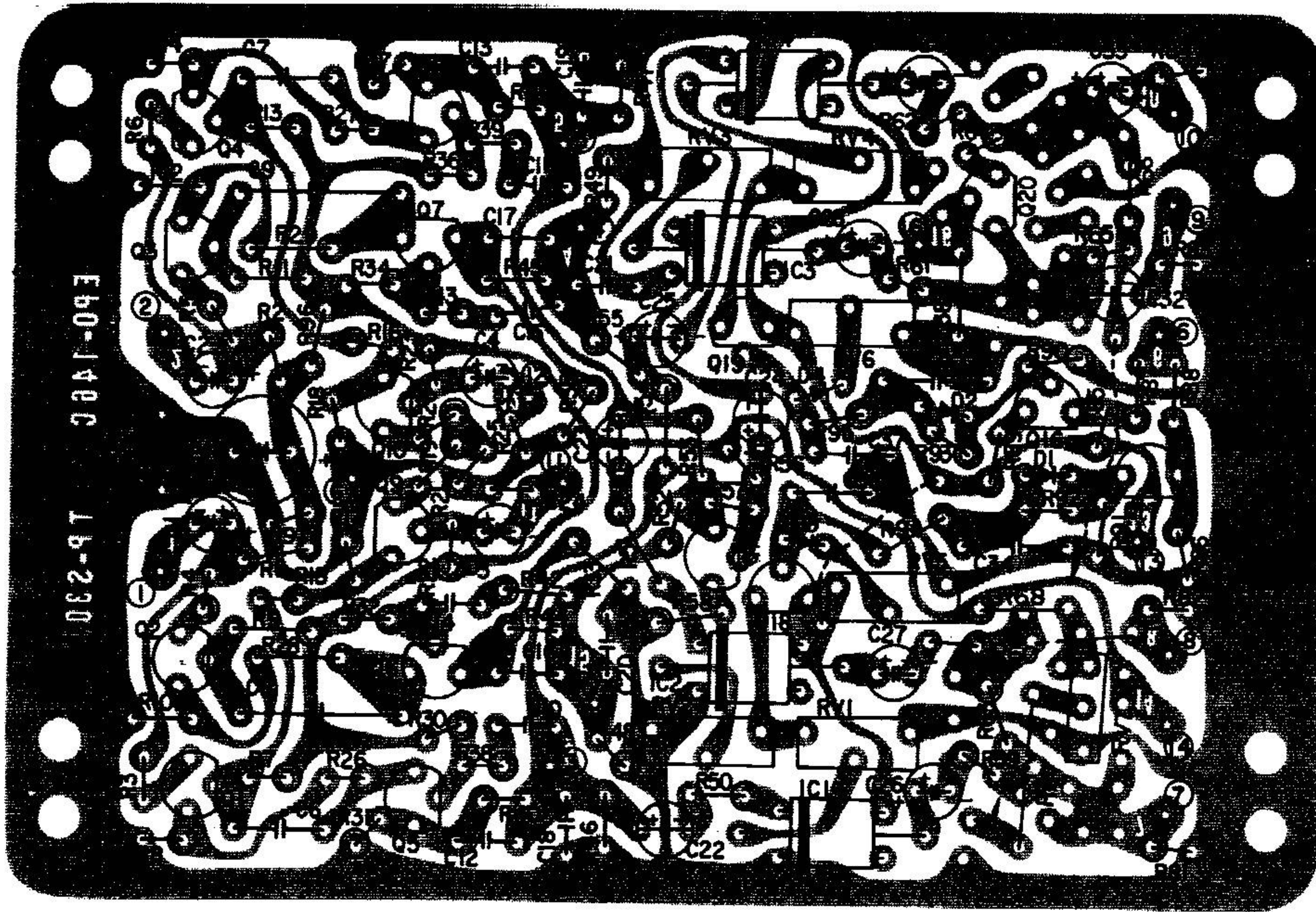
PRE-AMPLIFIER PC BOARD ASSEMBLY, EPO-140



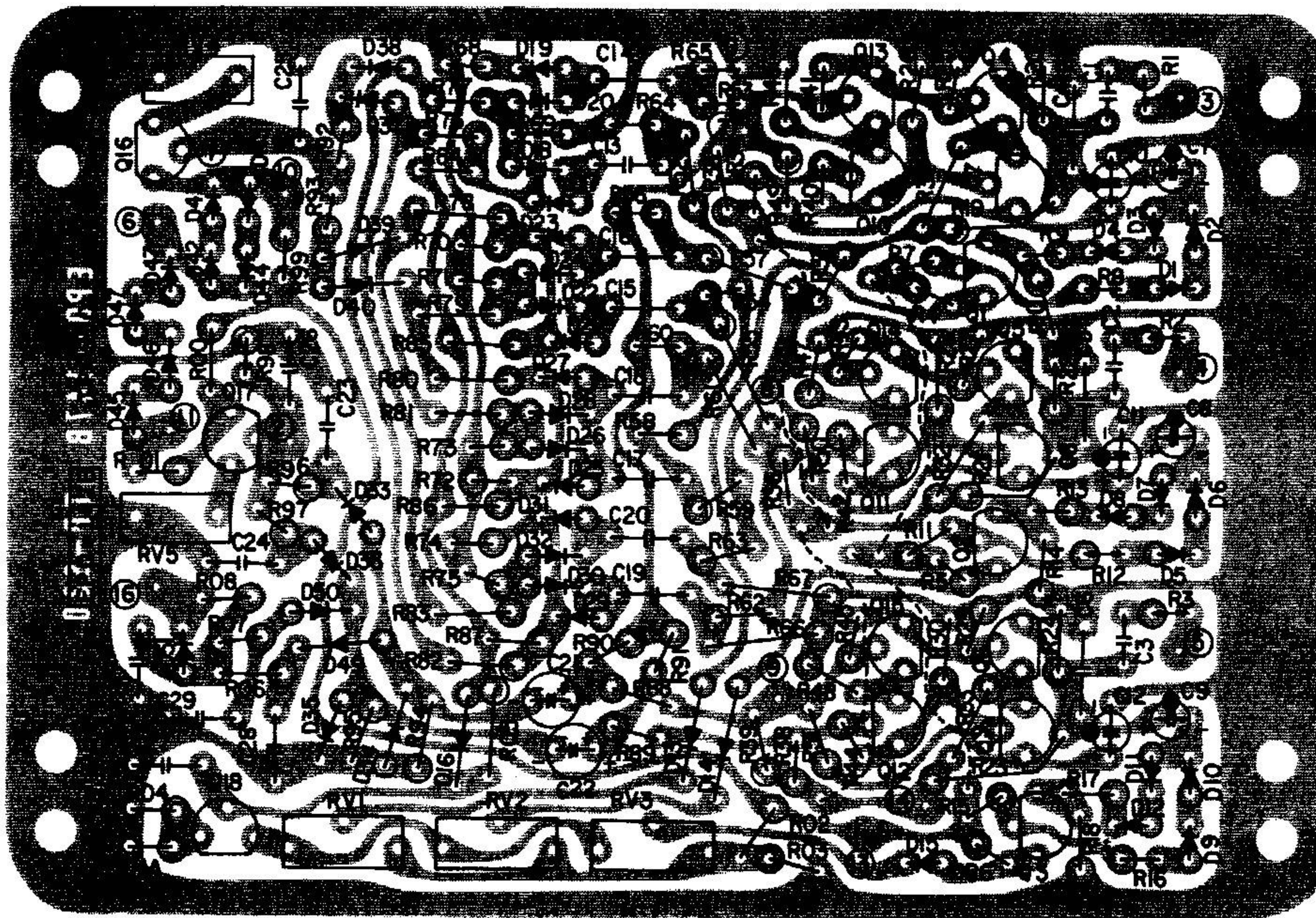
SWITCHING UNIT PC BOARD ASSEMBLY, EPO-141A



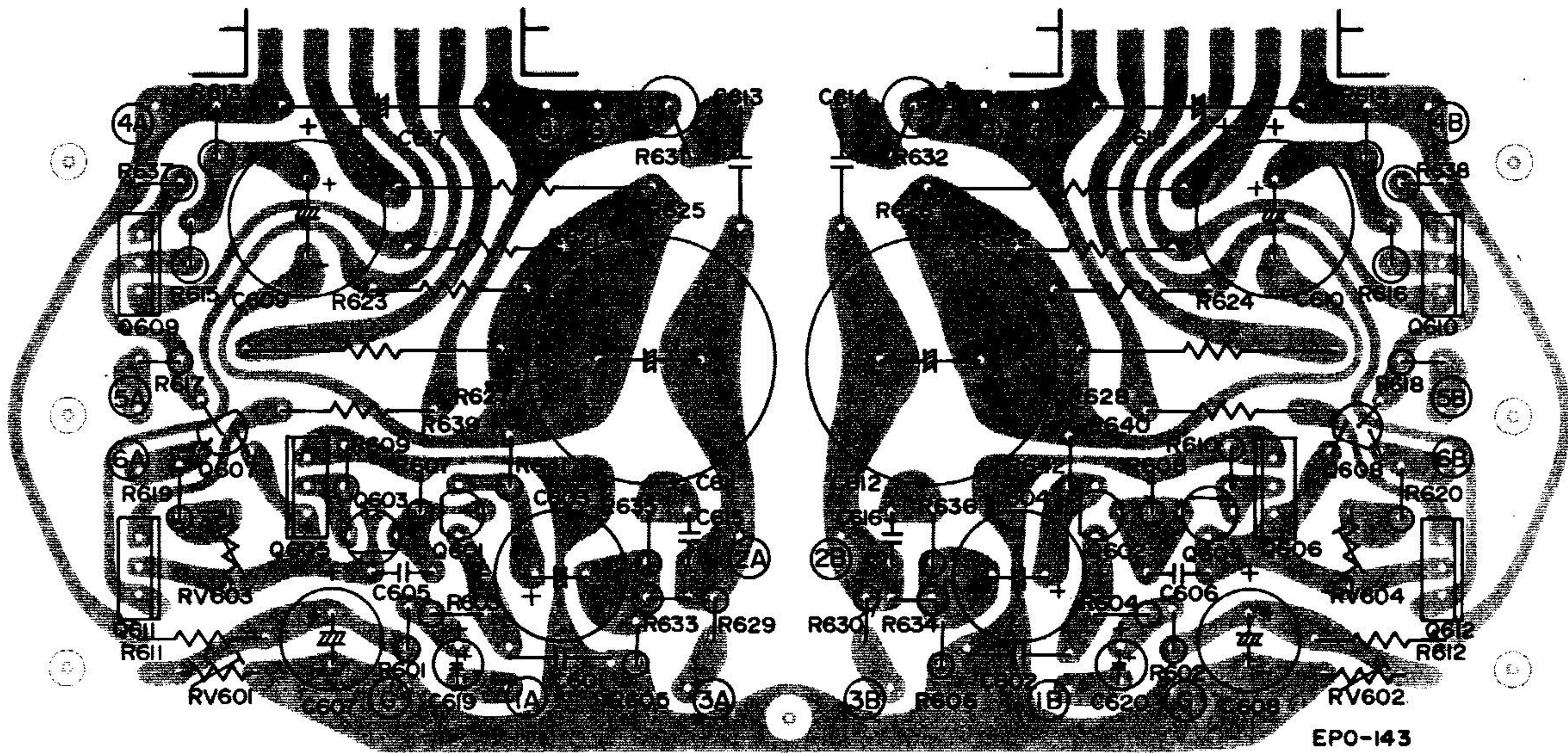
TONE CONTROL UNIT P.C BOARD ASSEMBLY, EPO-142



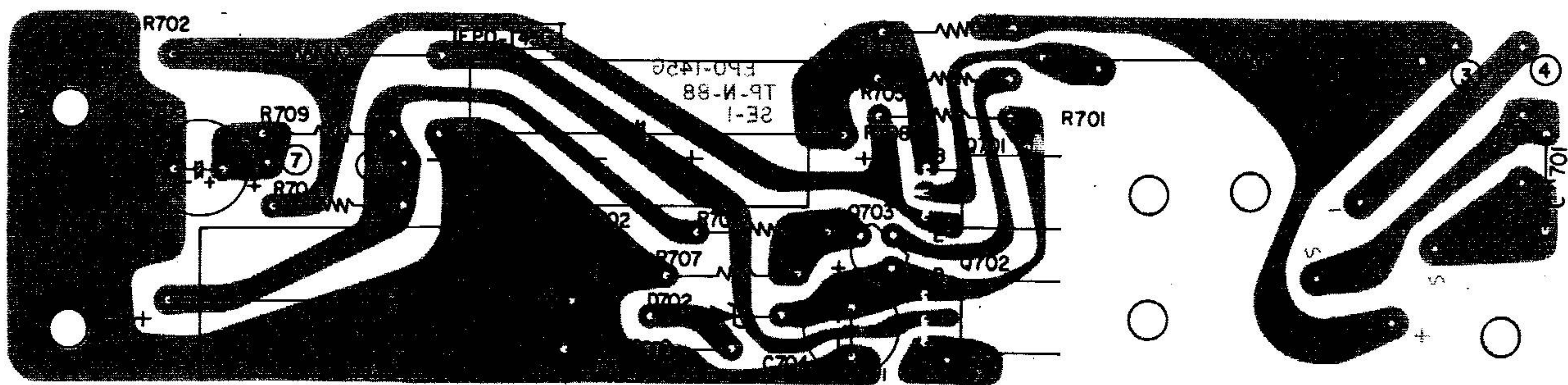
SQ-W (1) UNIT PC BOARD ASSEMBLY, EPO-146C



SQ-W (2) UNIT PC BOARD ASSEMBLY, EPO-147B



MAIN AMPLIFIER P.C BOARD ASSEMBLY, EPO-143



POWER SUPPLY PC BOARD ASSEMBLY, EPO-145G

COMPLETE PARTS LIST

Symbol No.	Description	Stock No.	Symbol No.	Description	Stock No.
Q615,616 (2)	Transistor 2SB531	2258-17	S1 (16)	E-type Rotary Switch	1941-14
Q613,614 (1)	" 2SD371	2257-17	R1	Solid Resistor 1/2W 220KΩ ±10%	
Q701,702 (3)	" 2SC1096L	2160-17	R2,3	" " 10KΩ "	
D1	Diode 1S1555	1937-17	R6	" " 820KΩ "	
D701 (4)	Rec. Diode S2HB20Z	2259-17	R13	" 1W 39 Ω "	
RS601-604(37)	Thermistor 31D26FH	1616-17	R4,5	" 1/2W 1KΩ ±5%	
M1 (30)	Signal Meter		R7,8	" " 22KΩ "	
M2 (31)	Tuning Meter		R9,10	" " 4.7KΩ "	
PT1 (5)	*Power Transformer		R11,12	" " 27KΩ "	
S2 (17)	F-type Rotary Switch		R701	Cement Resistor 7W 68Ω "	
S3-5 (18)	Push Switch	1940-14	C11	Mylar Capacitor 4700pF 50V ±10%	
S6 (14)	Slide Switch MAG/VRT (Red)	1890-14	C1	Polyester Capacitor 1000pF ±20%	3816-12
BA1	Bar Antenna		C9	" "	3857-12
L1,2	Choke Coil	2505-23	C2,3	Ceramic Capacitor 7pF 500V ±5pF	3637-12
L3,4	"	2579-23	C4-7,10	" 4700pF 50V +100% -0%	3238-12
PL1-5,9-16 (25)	Wedge Base Socket		C8 (35)	Elyt. Capacitor (Black Type) 4700μF/80V	3858-12
(38)	3P Lug		C12	" (Tubler Lead) 1000μF/35V	
(36)	5P Lug		(40)	P.C. Board (Front end)	1633-16
PL6,7	Lamp (Fuse type) 8V25A		Q103	Transistor 2SC945Q	2121-17
PL17	Pilot Lamp (Stereo ind.) 6V34mA	1003-20	Q101	" 3SK40	2157-17
PL8 (28)	Dial Pointer Lamp 5V115mA	4655-20	Q102	" 2SK47	2158-17
PL1-5,9-16(24)	Wedge Base Lamp	471820	IC101	I.C. μPC-30C	1015-25
F1-5 (6)	Fuse Holder	1417-19	C132	Ceramic Capacitor .3μF 12V ±20%	3461-12
J1 (8)	AC Receptacle (Brown)	1731-19	CT104,105-107	Trimmer Capacitor	3059-12
J2 (9)	" (Black)	1044-19	CT101,102,103	"	3340-12
J6	Lamp Holder	1859-19	J101	ANT. Transformer	2079-24
J11,12 (20)	Stereo Phone Jack	1911-19	J103	MIX Transformer	2080-24
J3 (21)	Stereo Mic Jack	2152-19	J102	RF Transformer	2081-24
J4 (22)	"	2153-19	J104	O.S.C. Transformer	2082-24
J5 (15)	Antenna Terminal	3759-20	L101	Choke Coil	2580-23
J7,8 (10)	Speaker Terminal		CF102	Ceramic Filter	1281-35
J9,10 (11)	2P Pin Jack	2155-19	CF101	"	1317-35
J6 (12)	23P Pin Jack	2154-19		Shield Plate	8288-10
P1 (13)	AC Power Cord			Tie Point	1891-19
(23)	Cord Bushing UL	4356-20	Q104	Transistor 2SC645C	1923-17
F2-5 (7)	Fuse 2A	3755-20	CV101-107	Variable Capacitor 7-gang	3471-12
(32)	P.C. Board (Power Transistor) Not completed	1618-16	T105	RF Transformer	2077-24
(33)	" (Dial Lamp) "	1619-16	T106	OSC Transformer	2078-24
(34)	" (Indicator Lamp) "	1620-16	RV101	Potentiometer 2-leg 5K	2597-13
	Tie Point				
F1 (39)	Fuse 3A				

Symbol No.	Description	Stock No.
R102	Solid Resistor ½W 1.2MΩ ±10%	
R101,103,121	Carbon Resistor ¼W 100KΩ ±5%	
R104	" " 220KΩ "	
R105,123	" " 120KΩ "	
R106	" " 220Ω "	
R107,109,114	" " 330Ω "	
R108,113	" " 12KΩ "	
R110	" " 47Ω "	
R111	" " 1.5KΩ "	
R112,125	" " 2.7KΩ "	
R115	" " 8.2KΩ "	
R116,124	" " 10KΩ "	
R117	" " 22KΩ "	
R118,126	" " 15KΩ "	
R119	" " 470Ω "	
R120	" " 2.2KΩ "	
R122	" " 390Ω "	
C126	Styloflex Capacitor 390pF	3470-12
C110,131	Mylar Capacitor .01μF 50V ±10%	2602-12
C120	" 4700pF " "	3109-12
C129x2	" .022μF " "	3108-12
C101	Ceramic Capacitor	3638-12
	8pF 500V ±.5pF	
C102,108,109,136	" 15pF " ±10%	3496-12
C127	" 22pF " "	3497-12
C116	" 5pF " ±5pF	3762-12
C118	" 5pF " "	
C119	" 15pF " ±10%	3496-12
C103,104,105,106,107,117,137	" 2200pF 50V +100% -0%	3355-12
C111,112,113,114,115,123,124	" .002μF 50V +80% -20%	2357-12
C121,122,128,130	" .01μF " "	3047-12
C125,134	Elyt. Capacitor (P.C. type) 33μF/16V	3104-12
C133	" " 100μF/16V	3078-12
C135	" " 4.7μF/25V	
(41)	P.C. Board (FM.IF/MPX)	1174-31
Q203-205	Transistor 2SC945Q	2121-17
IC202	I.C. μPC-555A	1014-25
IC201	" MC-1355P	1016-25
IC203	" MC-1301P	1023-25

Symbol No.	Description	Stock No.
D201-204	Diode 1N60	1000-17
D205,206	" 1N60P	2196-17
C223	Ceramic Capacitor	3320-12
	.47μF 25V ±20%	
C227	" .3μF 12V "	3461-12
C224	" .2μF 12V "	3543-12
C225	" .5μF 12V "	3544-12
T102	I.F.T.	1914-24
T202	"	2013-24
L205,206	Choke Coil	2342-23
L201,202	Choke Coil 36mH	2510-23
L203,204	" 56mH	2592-23
	Ceramic Filter	
CF201	"	1282-35
	Shield Plate	8269-10
	"	8270-10
	Tie Point	1891-19
Q201,202	Transistor 2SC829C	2025-17
RV201	Potentiometer 2-leg 20KΩ	2576-13
RV203	" 5KΩ	2597-13
RV202	" 50KΩ	2485-13
RV204	" 3-leg	2596-13
R221	Solid Resistor ½W 180Ω ±10%	
R201,206	" ¼W 330Ω ±5%	
R202,211	" " 220Ω "	
R203,222,223	" " 6.8KΩ "	
R204	" " 27KΩ "	
R205	Carbon Resistor ¼W 1.2KΩ "	
R207	" " 150Ω "	
R208	" " 390Ω "	
R209	" " 560Ω "	
R210	" " 100Ω "	
R212,213,234	" " 22KΩ "	
R214	" " 15KΩ "	
R215,224,225,229,230	" " 220KΩ "	
R216	" " 82KΩ "	
R217,218	" " 2.2KΩ "	
R219	" " 18KΩ "	
R220,232	" " 3.3KΩ "	
R226,227	" " 5.6KΩ "	
R228	" " 39KΩ "	
R231	" " 10KΩ "	
R233	" " 33KΩ "	

Symbol No.	Description	Stock No.
C226	Styroflex Capacitor 470pF ±5%	3864-12
C222	" 680pF "	3863-12
C228,229	" 910pF "	3865-12
C230,231	" 2000pF "	3866-12
C232,233	" 2200pF "	3036-12
C234,235	" 300pF "	3867-12
C236,237	" 1800pF "	3868-12
C240,241	Mylar Capacitor 6800pF ±5%	2254-12
C219	Ceramic Capacitor	2897-12
	6800pF 50V ±10%	
C216,217	" 180pF " "	3362-12
C211	" 8pF 500V "	
C201,203,204, 210,212,213, 214,215,243	" .022μF 50V +80% -20%	2357-12
C205,206,207, 208,209	" .01μF 50V +80% -20%	3047-12
C202	"	
C218,221	Elyt. Capacitor (P.C. type) 10μF/16V	2986-12
C242	" " 33μF/16V	3104-12
C244	" "	
C220,238,239	" " 1μF/150V	3073-12
(42)	P.C. Board EPO-140 (Pre Amp)	1175-31
Q309-312	Transistor 2SA733P	2261-17
Q303,304	" 2SC900E	2195-17
Q301,302	" 2SC900U or 2SC1328	2260-17
Q305-308	" 2SC1222	2277-17
C301,302	Elyt. Capacitor	3859-12
	Push Switch 5 gang	1942-14
	Tie Point	
CR301,302	CR-Module	3230-12
R301,302	Carbon Resistor ¼W 47KΩ ±5%	
R303,304,331- 334	" " 2.2KΩ "	
R305,306,369, 370	" " 220KΩ "	
R307,308	" " 1.5KΩ "	
R309,310,311, 312,323-326, 339-342	" " 56KΩ "	
R313,314, 351-354	" " 6.8KΩ "	
R315,316	" " 680Ω "	
R317,318	" " 390Ω "	
R319,320	" " 560KΩ "	
R321,322	" " 3.9KΩ "	

Symbol No.	Description	Stock No.
R327-330	Carbon Resistor ¼W 330KΩ ±5%	
R335-338	" " 68KΩ "	
R343-346	" " 1.8KΩ "	
R347-350	" " 470KΩ "	
R355-358	" " 5.6KΩ "	
R359-362	" " 120KΩ "	
R363-366	" " 100Ω "	
R367,368	" " 2.7KΩ "	
C307,308	Ceramic Capacitor	
C311,312	Elyt. Capacitor 100μF/5V	
C305,306	" 33μF/16V	
C317-320	" 4.7μF/25V	
C309,310	" 33μF/25V	
C303,304	" 47μF/25V	
C313-316	" 1μF/50V	3073-12
(43)	P.C. Board (Switching)	
C409-412	Ceramic Capacitor .068μF 12V ±20%	3819-12
S401-406	Push Switch	1643-14
	Tie Point	
R401-404	Carbon Resistor ¼W 3.3KΩ ±5%	
R405-408	" " 6.8KΩ "	
R409-412	" " 3.9KΩ "	
C401-404	Mylar Capacitor 6800pF 50V ±10%	2254-12
C405-408	Ceramic Capacitor 560pF " "	3508-12
(44)	P.C. Board (Tone Cont.)	1632-16
Q501-504	Transistor 2SC900E	2195-17
Q505-508	" (FET) 2SK300	2022-17
	Tie Point	
RV502A,B	Volume 2-gang (Balance)	1702-11
RV503-505	Volume 4-gang (Tone)	1700-11
RV501A-D	Volume (Master)	
R561-564	Solid Resistor ½W 2.2MΩ ±10%	
R501-504, 509-512	Carbon Resistor ¼W 2.2KΩ ±5%	
R505-508, 525-528 557-560	" " 200KΩ "	
R513-516	" " 390KΩ "	
R517-520	" " 820Ω "	
R521-524	" " 18KΩ "	
R529-532, 575-578	" " 22KΩ "	
R533-536, 545-548	" " 100KΩ "	
R537-540	" " 27KΩ "	

Symbol No.	Description	Stock No.	Symbol No.	Description	Stock No.
R541-544	Carbon Resistor ¼W 33KΩ ±5%		R617,618,641,642	Carbon Resistor ¼W 220KΩ ±5%	
R549-552	" " 120KΩ "		R635,606	" " 220KΩ "	
R553-556	" " 560KΩ "		R605,606	" " 220KΩ "	
R565-568	" " 39KΩ "		R633,634	" " 220KΩ "	
R569-572	" " 2.7KΩ "		C601,602	Ceramic Capacitor	
R573	" " 100Ω "			220pF 500V	
R574	" " 1KΩ "		C605,606	" 39pF " "	
C517-520	Styroflex Capacitor 910pF ±10%		C615,616	" 1500pF " "	3818-12
C513-516	Mylar Capacitor 1800pF 50V "		C621,622	" 0.022μF " "	2357-12
C521-524, 525-528	" 2200pF " "		C613,614	Mylar Capacitor .056μF 50V ±10%	3249-12
C537-540	Ceramic Capacitor 7pF 500V "		C603,604	Elyt. Capacitor (P.C. type)	
C509-512	" 4300pF 50V "			220μF 50V	3768-12
C533-536	" .047μF " +80% -20%	3187-12	C619,620	" 1μF 50V	3073-12
C541-544	Elyt. Capacitor 10μF/16V	2986-12	C607,608	" 33μF 50V	3510-12
C545	" 1000μF/16V	3568-12	C609,610	" 220μF 50V	2890-12
C546	" 100μF/35V	3869-12	C611,612	" 2200μF 50V	3870-12
C501-504, 505-508, 529-532	" 1μF/50V	3073-12	C617,618	" (Tubler type) 1μF 100V	
(45)	P.C. Board (Main Amp.)		(46)	P.C. Board (Power Supply)	
Q611,612	Transistor 2SA706-3-2	2262-17	Q703	Transistor 2SC945Q	2121-17
Q601,602	" 2SA733PQ	2261-17	Q702	Zenner Diode RD13AN	2006-17
Q607,608	" 2SC945Q	2121-17	L701	Choke Coil	2342-23
			Tie Point		1891-19
Q605,606,609,610	" 2SC1124-2	2263-17	R703	Solid Resistor ¼W 4.7KΩ ±10%	
Q603,604	" 2SC780A0	2264-17			
	Tie Point		R704	" " 10Ω "	
RV601,602	Potentiometer 2-leg 100KΩ	2486-13	R705	" " 560Ω "	
RV603,604	" 2-leg 2KΩ	2568-13	R708	" " 3.9KΩ "	
R625,626,627,628	Cement Resistor 3W .47Ω	2523-13	R709	" " 220Ω "	
R613,614	Solid Resistor ¼W 1.2KΩ ±10%		R706	Carbon Resistor ¼W 15KΩ ±5%	
R615,616	" " 2.7KΩ "		R707	" " 10KΩ "	
R621,622,623,624	" " 150Ω "		R702	Cement Resistor 5W 100Ω	2681-13
R629,630	" " 270Ω "		C701	Ceramic Capacitor	
R637-640	" " 5.7Ω "			4700pF +100, -0%	
R631,632	" " 5.6Ω "		C704	Elyt. Capacitor 100μF 16V	3203-13
R601,602	Carbon Resistor ¼W 220KΩ ±5%		C705	" 100μF 35V	
R603,604,619,620	" " 220KΩ "		C702,703	" 220μF 50V	
R607,608,609,610	" " 220KΩ "		(47)	P.C. Board (SQ-W-1)	
R611,612	" " 220KΩ "		Q801-806, 812-815, 807-810	Transistor 2SC945Q	2421-17
			Q811	" 2SC900E	2195-17
			Q818,819	" (FET) 2SK30GR	2265-17
			IC801-804	I.C. MFC6040	1022-25
			D801-804	Diode IS1555	1937-17
			C834,835	Ceramic Capacitor .5μF 12V ±20%	3544-12

Symbol No.	Description	Stock No.
C836,837	Ceramic Capacitor .047 μ F 25V "	3320-12
	Tie Point	1891-19
Q816	Transistor 2SA564S	2221-17
Q817	Transistor 2SC828S	1751-17
RV805,806	Potentiometer 3-leg 20K Ω	2553-13
RV801-804	" 3-leg 5K Ω	2682-13
R801,802,885,886	Carbon Resistor $\frac{1}{4}$ W 150K Ω \pm 5%	
R803-806	" " 1.2K Ω "	
R807-814,822,823,873-876	" " 4.7K Ω "	
R815,816,854,855	" " 47K Ω "	
R817,818	" " 12K Ω "	
R819,820	" " 470 Ω "	
R821	" " 560 Ω "	
R824,825,881-884	" " 220K Ω "	
R826,827,840,841,896	" " 22K Ω "	
R828,829,864,894,895	" " 27K Ω "	
R830-837	" " 22K Ω "	
R838,839,856	" " 2.7K Ω "	
R842,843	" " 3K Ω "	
R844,845	" " 24K Ω "	
R846,847	" " 18K Ω "	
R848,849,859,860,897	" " 15K Ω "	
R850,851	" " 33K Ω "	
R852,853	" " 56K Ω "	
R857	" " 100K Ω "	
R858	" " 3.3K Ω "	
R861,862	" " 8.2K Ω "	
R863,869-872	" " 82K Ω "	
R865-868	" " 270K Ω "	
R877,878	" " 1K Ω "	
R879,880	" " 820 Ω "	
R887,888	" " 68K Ω "	
R889-891	" " 3.9K Ω "	
R892,893	" " 120K Ω "	
C806,807	Mylar Capacitor .047 μ F 50V \pm 10%	3049-12
C808,809	" .15 μ F " "	3431-12
C810,811	" 6800pF " "	2254-12
C812,813	" 1500pF " "	3481-12

Symbol No.	Description	Stock No.
C814,815	" .022 μ F " "	3108-12
C816,817,820,821	" 5600pF " "	3483-12
C818,819	" 1200pF " "	3862-12
C805	Elyt. Capacitor 47 μ F/50V	
C801,802,803,804,822-825,830-833,826-829	" 1 μ F/50V	3073-12
(48)	P.C. Board (SQ-W-2)	
Q910-915	Transistor 2SC900E	2195-17
Q916,917	" (FET) 2SK300	2022-17
Q918	" (FET) 2SK30GR	2265-17
D901-952	Diode 1S1555	1937-17
C923,924	Ceramic Capacitor	3819-12
C907-909,910-912	Elyt. Capacitor	3800-12
	Tie Point	
Q904-909	Transistor 2SA564S	2221-17
Q901-903	" 2SC828S	1751-17
RV904,905	Potentiometer 2-leg 10KB	2596-13
R901-903	" 3-leg 20KB	2553-13
R05	Solid Resistor $\frac{1}{2}$ W 2.2M Ω \pm 10%	
R907-918	Carbon Resistor $\frac{1}{4}$ W 887 Ω "	
R901-903	" " 47K Ω \pm 5%	
R904-906,994,995,976-983	" " 220K Ω "	
R919-924	" " 270K Ω "	
R925-930	" " 6.8K Ω "	
R931-933	" " 27K Ω "	
R934-939	" " 1.8K Ω "	
R940-945	" " 100K Ω "	
R946-948	" " 120 Ω "	
R949-951	" " 180K Ω "	
R952-963	" " 15K Ω "	
R964-967	" " 39K Ω "	
R968-975,999	" " 33K Ω "	
R984-987	" " 620K Ω "	
R988-991	" " 56K Ω "	
R992,993,03	" " 120K Ω "	
R996,997	" " 150K Ω "	
R998	" " 68K Ω "	
R01	" " 18K Ω "	
R04	" " 8.2K Ω "	

Symbol No.	Description	Stock No.
C901-903	Mylar Capacitor 2200pF 50V ±10%	3337-12
C913-920	" .01μF " "	2602-12
C925	" .018μF " "	2602-12
C926	" .022μF " "	3108-12
C927	" 8200pF " "	3335-12
C904-906	Ceramic Capacitor 470pF 50V ±10%	3440-12
C921,922	Elyt. Capacitor 1μF " "	3073-12
(66)	* Escutcheon Ass'y (Front Panel) (Frame for Front Panel) (Smoke Glass) (Side Piece Wood) (Side Bracket Left) (Side Bracket Right) (Bracket for Smoke Glass) (Frame for Push Button) (Sponge for Front Panel)	
(78)	* Tuning Shaft Ass'y (Shaft) (Bush (A)) (Bush (B)) (Bracket for Tuning Shaft) (E-stop Ring)	
(67)	Cabinet Ass'y (Cabinet) (Mesh Panel) * Stud * Serial Number Plate	
(49)	Chassis	8271-10
(50)	Rear Plate	8272-10
(51)	Bottom Plate	8273-10
(52)	Dial Back Plate	8274-10
(53)	Lamp Box	
(54)	Pulley Adjusting Bracket	8275-10
(55)	Input Selector Sw. Mtg. Bracket	8276-10
(56)	P.C.B. Mtg. Bracket	8277-10
(57)	Stay for Dial Plate	8278-10
(58)	SPKR Mode Sw. Mtg. Bracket	8279-10
(59)	Bracket (A)	8280-10
(60)	Bracket (B)	8281-10
(61)	Bracket (C)	8282-10
	Meter Lamp Mtg. Bracket	8283-10
(63)	Function Sw. Mtg. Bracket	8284-10

Symbol No.	Description	Stock No.
(64)	Heat Sink	8285-10
(68)	Dial Scale	
	Fish Paper	4719-20
	Meter Holder	8300-10
(92)	Dial Pointer	8301-10
(93)	Mtg. Bracket for Dial Pointer	8302-10
(94)	Shelter for Lamp	8303-10
(96)	Protector	4720-20
	GNP Plate	8288-10
(97)	P.C.B. Mtg. Bracket	8289-10
(98)	Shield Plate (C)	8290-10
(99)	" (D)	8291-10
(100)	Heat Sink	8292-10
	Insulating Sheet (under input selector sw.)	
	Insulating Sheet	
	Transparency Mylar Sheet	4664-20
(86)	Pivot Plastic Pulley (Large)	7578-10
	" (Small)	7579-10
(79)	Antenna Holder	
(80)	Antenna Catcher	3720-10
(81)	Base Bracket	6314-20
(82)	Swivel Bracket	6315-10
(83)	Swivel Bracket (Insulator Mount)	7582-10
(84)	Stiffener for ANT Insulator	7583-10
(85)	Stiffener for Flywheel	7282-10
	Hexa Nut Screw	5808-10
	Pulley Pivot	5811-10
(89)	Flywheel	7315-10
	Spacer	8298-10
(95)	Spacer	4725-10
	Plastic Grommet	
	" (ANT lead)	
(88)	Plastic Pulley M10	4216-10
(77)	Push Button	1870-18
(71)	Bushing	4721-20
(72)	Pulley	4722-20
(70)	Sleeve	
(73)	Knob (Tuning)	1884-18
(74)	" (W/Lower)	
(75)	" (W/Upper)	
(76)	" (Tuner Mode Function)	
	Strain Rerife	

Symbol No.	Description	Stock No.
	Dial Cord Ring	6422-10
(90)	Spring	8299-10
(69)	Rubber Bush	
	Label C	
	Rubber Bush	
	Sponge	4723-20
	Sponge	4724-20
	" (Frame)	
(91)	Foot	
	*Inner Carton	
	* "	
	Partitioner	
	"	
	Poly Bag (Manual)	
	" (Accessory)	
	" (Unit)	
	Return Card	
	Common Card	
	I.C. Label	
	ANT Card	
	Serial Number Tag	
	FM Ant Card	
	Warranty Card	
	Addendum (Tone Control)	
	Instruction Manual	

PARTS LOCATION OF MODEL LR-4000

