

SERV. 35872

SERVICE MANUAL

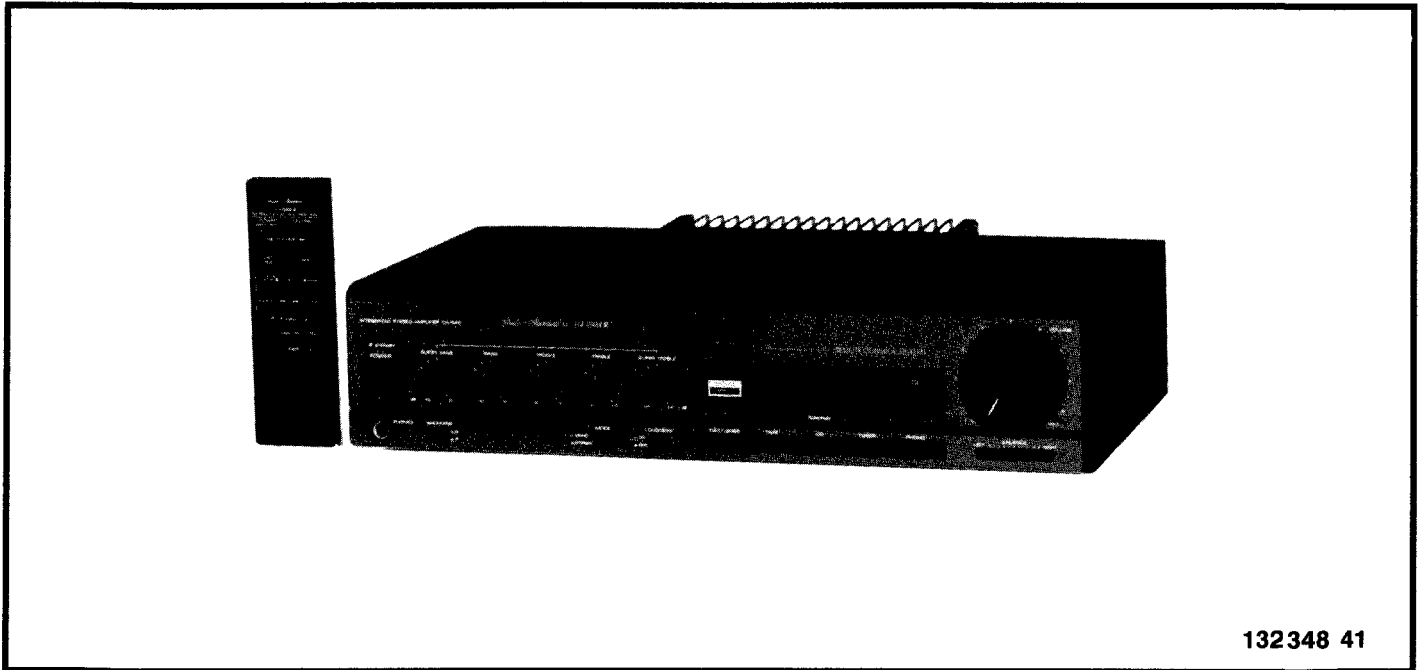


FISHER

INTEGRATED STEREO AMPLIFIER

CA-540

(EUROPE/SPAIN)



132348 41

SPECIFICATIONS

Remote Control (REM-540) 15-function,
wireless remote control

POWER AMPLIFIER SECTION

Minimum RMS sine wave power per channel
within stated bandwidth at no more than stated
distortion and with 8-ohm load 55W (DIN)
Power Bandwidth 20 Hz - 20 kHz
Total Harmonic Distortion 0.5 %
I.M. Distortion 0.5 %
Speaker Damping > 20

PREAMPLIFIER SECTION

Frequency Response
Phono (RIAA) ±1 dB
Aux (20 Hz - 20 kHz) ±1 dB
Input Sensitivity and Impedance
Phono 2.5 mV/50 kΩ
TAPE/DAT-VIDEO 150 mV/50 kΩ
Tuner/CD 150 mV/50kΩ

Phono Max. Input Capability 120 mV
MULTI-Tone Controls
SUPER BASS ±10 dB
BASS ±10 dB
MIDDLE ±10 dB
TREBLE ±10 dB
SUPER TREBLE ±10 dB
Loudness Contour (100 Hz/10 kHz) +1 dB/ +4 dB
Hum & Noise (DIN)
Phono 65 dB
TAPE/DAT-VIDEO 85 dB
Tuner/CD 85 dB

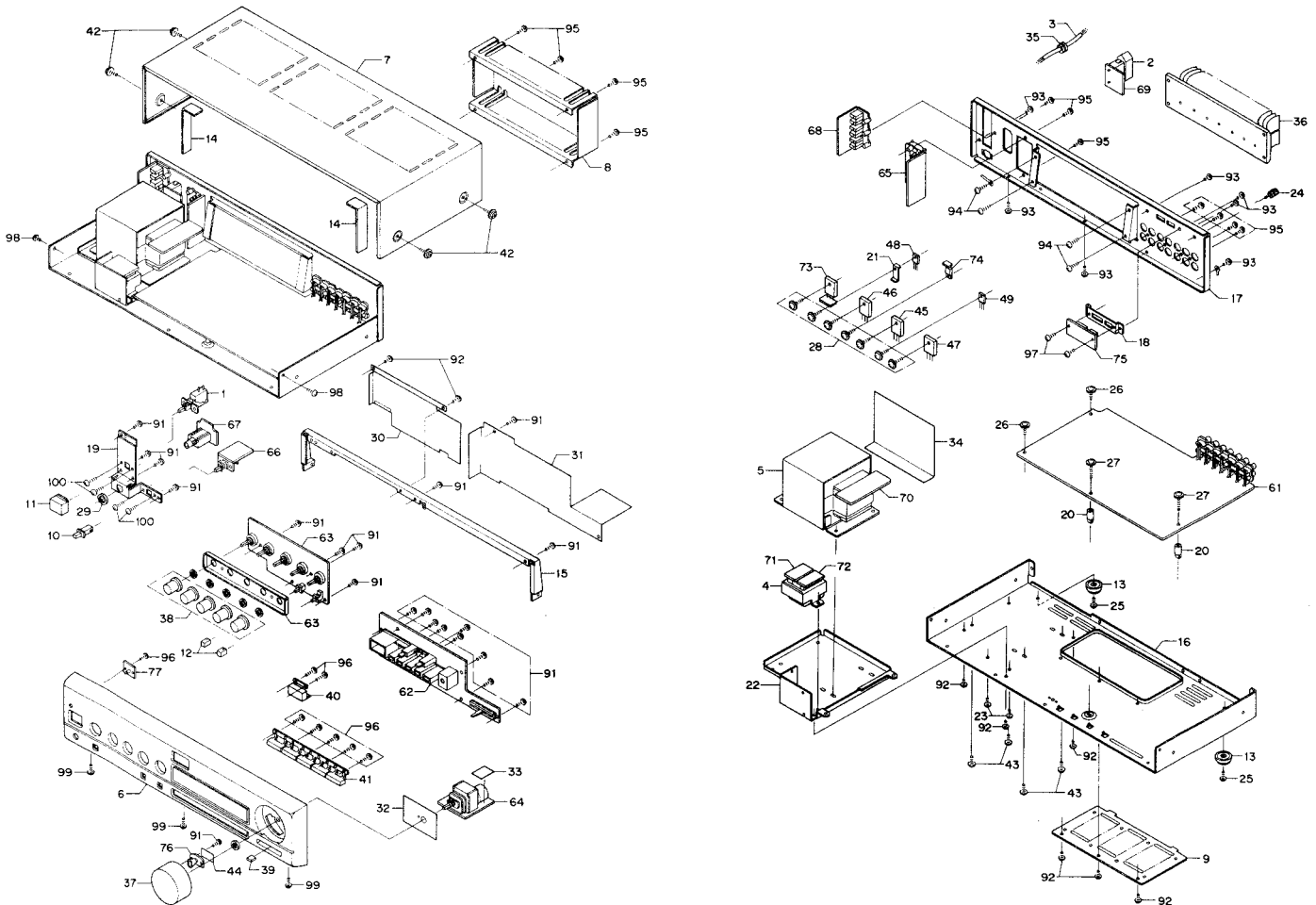
GENERAL

Power Requirements (50Hz) 220V
Power Consumption 260W
AC Outlets 1
Dimensions (W x H x D) 400 x 915 x 247 mm
Weight (approx.) 5.2 kg

— Specifications and design are subject to change without notice. —

REFERENCE No. WM-22785

CABINET & CHASSIS EXPLODED VIEW



POWER AMPLIFIER ADJUSTMENT

BEFORE ADJUSTMENT

Unplug the AC power cord and set the front panel controls as follows:

- Power Switch to OFF position.
- Set the SPEAKERS Switch to the OFF position.
- Turn the MASTER VOLUME Control to minimum.
- Connect the AC power cord and Power Switch to the ON position.

IDLING CURRENT ADJUSTMENT

This adjustment is very sensitive to changes in ambient temperature. Allow set to operate for 2 minutes before attempting this alignment.

LEFT CHANNEL AMPLIFIER

1. Connect the DC Voltmeter between pins TP1 and TP2 on the Main P.C.Board.
2. If the DC Voltmeter indicates less than 3mV, Cut the lead wire of the resistor R303 (560Ω) in the Main P.C.Board.
3. After cutting the R303, and if less than 3mV, the IC201 (μPC1298V) has anything wrong so repairment is required.
4. After cutting the R303, and if more than 20mV, the Power Transistor (Q201,Q203) has anything wrong so repairment is required.
5. If less than 20mV, the Main Amplifier Circuit is a normal operation.

RIGHT CHANNEL AMPLIFIER

1. Connect the DC Voltmeter between pins TP3 and TP4 on the Main P.C.Board.
2. If the DC Voltmeter indicates less than 3mV, Cut the lead wire of the resistor R304 (560Ω) in the Main P.C.Board.
3. After cutting the R304, and if less than 3mV, the IC202 (μPC1298V) has anything wrong so repairment is required.
4. After cutting the R304, and if more than 20mV, the Power Transistor (Q202,Q204) has anything wrong so repairment is required.
5. If less than 20mV, the Main Amplifier Circuit is a normal operation.

CABINET & CHASSIS PARTS LIST

Ref. No.	Part No.	Description	Q'ty	Ref. No.	Part No.	Description	Q'ty
PACKAGE				68	620 190 5861	Power Supply P.C.B. Assy	1
	620 000 0024	Bag Polyethylene	1	69	620 190 5878	Outlet P.C.B. Assy	1
	620 189 9924	Pad Right	1	70	620 190 5885	Main Trans P.C.B. Assy	1
	620 189 9931	Pad Left	1	71	620 190 5892	Sub Trans-1 P.C.B. Assy	1
	620 059 6596	Patching Sheet	1	72	620 190 5908	Sub Trans-2 P.C.B. Assy	1
	620 062 0543	Serial No. Sheet	2	73	620 190 5915	Power Transistor P.C.B. Assy	1
	620 190 4567	Box Corrugate-Exp.	1	74	620 191 2289	Regulator P.C.B. Assy	1
	620 148 8029	Sheet Polyethylene	1	75	620 190 5922	Remocon Terminal P.C.B. Assy	1
				76	620 190 5939	Volume IND. P.C.B. Assy	1
				77	620 190 5946	Power IND. P.C.B. Assy	1
ACCESSORIES				91	411 020 5706	SCR S-TPG BRZ 2.6X8	21
	620 190 3133	REM-540EUR (Remote Control)	1	92	411 020 7700	SCR S-TPG BRZ 3X6	8
	620 017 4459	Connector 4P Assy	1	93	411 099 9704	SCR S-TPG BRZ 3X6	7
	620 057 8783	Bag Fan	1	94	411 020 8004	SCR S-TPG BRZ 3X8	4
	620 062 0543	Serial No. Sheet	1	95	411 099 9803	SCR S-TPG BRZ 3X8	11
	620 152 2624	Certificate Card	1	96	411 021 0809	SCR S-TPG BIN 2X6	8
	620 190 7735	Explanatory Booklet	1	97	411 021 2704	SCR S-TPG BIN 2.6X6	2
				98	411 021 5705	SCR S-TPG BIN 3X6	2
				99	411 021 6603	SCR S-TPG BIN 3X8	3
				100	411 045 6702	SCR PAN + SW 3X8	4
CABINET				NOTES:			
	620 062 0543	Serial No. Sheet	1	1. Parts order must contain Model Number, Part Number and Description.			
1	△ 620 015 2341	Switch Push Power	1	2. Ordering quantity of screws and resistors must be multiple of 10 pcs.			
2	△ 620 017 1212	AC Socket	1				
3	△ 620 023 7550	Power Cord	1				
4	△ 620 182 9778	Power Trans (Sub)	1				
5	△ 620 190 4840	Power Trans (Main)	1				
6	620 190 4321	Cabinet Front Assy	1				
7	620 045 5787	Cover	1				
8	620 190 4352	Cover Heat Sink	1				
9	620 189 9658	Cover Bottom	1				
10	620 046 2716	Knob (SPEAKER SELECTOR)	1				
11	620 046 5366	Knob (POWER)	1				
12	620 046 6417	Knob Push (MODE/LOUDNESS)	2				
13	620 047 3842	Leg	2				
14	620 048 4541	Metal Reinforce (Cover)	2				
15	620 189 9719	Metal Reinforce (Front)	2				
16	620 189 9733	Chassis	1				
17	620 189 9795	Panel Rear	1				
18	620 050 2733	Metal Mount Switch	1				
19	620 189 9818	Metal Mount Switch	1				
20	620 050 4225	Mount P.C.B.	2				
21	620 186 9354	Mount P.C.B.	1				
22	620 189 9832	Metal Mount Trans	1				
23	620 051 1735	Screw, Braz. Hd. Tapp.-C, + M3.0X8	2				
24	620 051 2152	Screw Ground	1				
25	620 051 3692	Screw, Braz. Hd. Taap.-B, + M3.0X6	2				
26	620 051 3708	Screw, Braz. Hd. Tapp.-B, + M3.0X8	2				
27	620 051 3715	Screw, Braz. Hd. Tapp.-B, + M3.0X14	2				
28	620 051 3746	Screw	7				
29	620 051 4903	Nut	1				
30	620 191 0797	Plate Shield	1				
31	620 191 7123	Cover Shield	1				
32	620 191 9271	Plate Shield VR	1				
33	620 191 9509	Plate Shield	1				
34	620 189 9849	Plate Sever	1				
35	620 053 2136	Bushing (AC CORD)	1				
36	620 183 1184	Heat Sink	1				
37	620 186 6711	Knob Volume Assy (Master)	1				
38	620 191 1442	Knob (TONE VOLUME)	5				
39	620 109 6460	Knob Slide VR (BALANCE)	1				
40	620 188 1448	Knob Touch (SOURCE DIRECT)	1				
41	620 188 1455	Knob (FUNCTION)	1				
42	620 122 9738	Screw, Bind Hd. Tapping-B, + M3.0X8	4				
43	620 123 0833	Screw, Bind Hd. Tapping-C, + M4.0X10	4				
44	620 123 7658	Sheet	1				
45	405 022 1606	TR 2SD1289-Q [Q202]	1				
or	405 080 7800	TR 2SC3181N-O	1				
46	405 009 6600	TR 2SB966-Q [Q203]	1				
or	405 080 7602	TR 2SA1264N-O	1				
47	405 009 6600	TR 2SB966-Q [Q204]	1				
or	405 080 6209	TR 2SB966-R	1				
48	405 026 0803	TR 2SD947 [Q209]	1				
49	405 026 0803	TR 2SD947 [Q210]	1				
61	620 190 5793	Main P.C.B. Assy	1				
62	620 190 5809	Function Switch P.C.B. Assy	1				
63	620 190 5816	Graphic Equalizer P.C.B. Assy	1				
64	620 190 5823	Motor Volume P.C.B. Assy	1				
65	620 190 5830	Speaker Terminal P.C.B. Assy	1				
66	620 190 5847	Speaker Switch P.C.B. Assy	1				
67	620 190 5854	Phones Jack P.C.B. Assy	1				

PRODUCT SAFETY NOTICE

Each precaution in this manual should be followed during servicing. Components identified with the IEC symbol △ in the parts list and the schematic diagram designate components in which safety can be of special significance. When replacing a component identified with △, use only the replacement parts designated, or parts with the same ratings of resistance, wattage or voltage that are designated in the parts list in this manual. Leakage-current or resistance measurements must be made to determine that exposed parts are acceptably insulated from the supply circuit before returning the product to the customer.

P.C.BOARD PARTS LIST

Ref. No.	Part No.	Description	Q'ty	Ref. No.	Part No.	Description	Q'ty
MAIN P.C.B. ASSY				D210	407 008 0405	DIODE GMB01-BT	1
61	620 190 5793	Main P.C.B. Assy	1	D211	407 049 7005	ZENER DIODE GZA15Y-BT	1
	620 017 0406	Relay	1	D212	407 049 7005	ZENER DIODE GZA15Y-BT	1
	620 017 2448	Pin Jack 4P	2	D213	407 050 5502	ZENER DIODE GZA5.6Y-BT	1
	620 017 2561	Pin Jack 6P	1	D214	407 008 0405	DIODE GMB01-BT	1
	620 031 4763	Wire Wrap Terminal	6	D216	407 050 5502	ZENER DIODE GZA5.6Y-BT	1
	620 183 0910	Metal Mount (IC)	2	D217	407 088 6502	DIODE MPG06D	1
	620 053 6899	Cover Safety	1	D218	407 088 6502	DIODE MPG06D	1
	620 189 9887	Plate Heat Sink	1	D219	407 092 4105	DIODE DSA20TC-KD3	1
	411 021 3107	SCR S-TPG BIN 2.6X8	2	D220	407 092 4105	DIODE DSA20TC-KD3	1
	411 045 6702	SCR PAN + SW 3X8	2	D221	407 092 4105	DIODE DSA20TC-KD3	1
	620 020 5887	Connector 1P Assy	1	D222	407 092 4105	DIODE DSA20TC-KD3	1
	620 020 5887	Connector 1P Assy	1	D223	407 005 1603	DIODE DS135D	1
	620 055 5128	Jumper	1	D224	407 005 3805	DIODE DS442-BT	1
CF101	620 007 3349	Ceramic.OSC CSA4.00	1	C101	403 018 8509	CERAMIC 220P K 50V	1
L201	620 027 1240	AF Coil	1	C102	403 018 8509	CERAMIC 220P K 50V	1
L202	620 027 1240	AF Coil	1	C103	403 023 5807	CERAMIC 330P K 50V	1
IC101	409 057 4403	IC UPC4570C	1	C104	403 023 5807	CERAMIC 330P K 50V	1
IC102	409 109 5105	IC LC7821	1	C105	403 047 1502	ELECT 4.7U M 25V	1
IC103	409 166 5308	IC TC9215P	1	C106	403 047 1502	ELECT 4.7U M 25V	1
IC104	409 057 4403	IC UPC4570C	1	C107	403 038 2303	ELECT 100U M 6.3V	1
or	409 018 4503	IC LA6458DS	1	C108	403 038 2303	ELECT 100U M 6.3V	1
IC105	409 162 2301	IC LC6522H-3794	1	C109	403 018 8509	CERAMIC 220P K 50V	1
IC201	409 149 9101	IC UPC1298V	1	C110	403 018 8509	CERAMIC 220P K 50V	1
IC202	409 149 9101	IC UPC1298V	1	C111	403 059 0401	POLYESTER 0.018U K 50V	1
Q101	405 030 8000	TR 2SC1740SLN-R	1	C112	403 059 0401	POLYESTER 0.018U K 50V	1
or	405 030 8109	TR 2SC1740SLN-S	1	C113	403 061 8709	POLYESTER 4700P K 50V	1
Q102	405 030 8000	TR 2SC1740SLN-R	1	C114	403 061 8709	POLYESTER 4700P K 50V	1
or	405 030 8109	TR 2SC1740SLN-S	1	C115	403 047 1502	ELECT 4.7U M 25V	1
Q103	405 019 3804	TR 2SC536-G-NP	1	C116	403 047 1502	ELECT 4.7U M 25V	1
or	405 019 2708	TR 2SC536-F-NP	1	C119	403 018 8509	CERAMIC 220P K 50V	1
Q104	405 019 2708	TR 2SC536-F-NP	1	C120	403 018 8509	CERAMIC 220P K 50V	1
or	405 019 3804	TR 2SC536-G-NP	1	C123	403 018 8509	CERAMIC 220P K 50V	1
Q105	405 004 4502	TR 2SA608-F-NP	1	C124	403 018 8509	CERAMIC 220P K 50V	1
or	405 004 5004	TR 2SA608-G-NP	1	C127	403 018 8509	CERAMIC 220P K 50V	1
Q106	405 019 2708	TR 2SC536-F-NP	1	C128	403 018 8509	CERAMIC 220P K 50V	1
or	405 019 3804	TR 2SC536-G-NP	1	C131	403 018 8509	CERAMIC 220P K 50V	1
Q205	405 019 2708	TR 2SC536-F-NP	1	C132	403 018 8509	CERAMIC 220P K 50V	1
or	405 019 3804	TR 2SC536-G-NP	1	C135	403 018 8509	CERAMIC 220P K 50V	1
Q206	405 019 2708	TR 2SC536-F-NP	1	C136	403 018 8509	CERAMIC 220P K 50V	1
or	405 019 3804	TR 2SC536-G-NP	1	C139	403 018 8509	CERAMIC 220P K 50V	1
Q207	405 004 4502	TR 2SA608-F-NP	1	C140	403 018 8509	CERAMIC 220P K 50V	1
or	405 004 5004	TR 2SA608-G-NP	1	C143	403 042 0302	ELECT 10U M 16V	1
Q208	405 004 4502	TR 2SA608-F-NP	1	C144	403 042 0302	ELECT 10U M 16V	1
or	405 004 5004	TR 2SA608-G-NP	1	C145	403 009 8105	CERAMIC 100P K 50V	1
Q211	405 039 5802	TR 2SC3792	1	C146	403 009 8105	CERAMIC 100P K 50V	1
Q212	405 039 5802	TR 2SC3792	1	C147	403 042 0302	ELECT 10U M 16V	1
Q213	405 019 2708	TR 2SC536-F-NP	1	C148	403 042 0302	ELECT 10U M 16V	1
or	405 019 3804	TR 2SC536-G-NP	1	C149	403 044 0201	ELECT 47U M 16V	1
Q214	405 019 2708	TR 2SC536-F-NP	1	C150	403 044 0201	ELECT 47U M 16V	1
or	405 019 3804	TR 2SC536-G-NP	1	C151	403 074 2701	CERAMIC 0.047U Z 50V	1
Q215	405 034 6804	TR DTA114-ES	1	C152	403 074 2701	CERAMIC 0.047U Z 50V	1
Q216	405 019 2708	TR 2SC536-F-NP	1	C153	403 044 0201	ELECT 47U M 16V	1
or	405 019 3804	TR 2SC536-G-NP	1	C154	403 044 0201	ELECT 47U M 16V	1
Q217	405 019 2708	TR 2SC536-F-NP	1	C155	403 044 0201	ELECT 47U M 16V	1
or	405 019 3804	TR 2SC536-G-NP	1	C156	403 044 0201	ELECT 47U M 16V	1
Q218	405 004 4502	TR 2SA608-F-NP	1	C157	403 018 8509	CERAMIC 220P K 50V	1
or	405 004 5004	TR 2SA608-G-NP	1	C158	403 018 8509	CERAMIC 220P K 50V	1
Q220	405 007 5100	TR 2SB560-E-MP	1	C159	403 050 1209	ELECT 2.2U M 50V	1
or	405 007 5308	TR 2SB560-F-MP	1	C160	403 050 1209	ELECT 2.2U M 50V	1
Q221	405 023 8307	TR 2SD438-E-MP	1	C161	403 044 0201	ELECT 47U M 16V	1
or	405 023 8505	TR 2SD438-F-MP	1	C162	403 044 0201	ELECT 47U M 16V	1
Q222	405 019 2708	TR 2SC536-F-NP	1	C163	403 009 8105	CERAMIC 100P K 50V	1
or	405 019 3804	TR 2SC536-G-NP	1	C164	403 009 8105	CERAMIC 100P K 50V	1
Q223	405 019 6607	TR 2SC536K-E-NP	1	C165	403 008 5204	CERAMIC 10P D 50V	1
or	405 019 6706	TR 2SC536K-F-NP	1	C166	403 008 5204	CERAMIC 10P D 50V	1
Q224	405 006 6504	TR 2SA984-E	1	C167	403 042 0302	ELECT 10U M 16V	1
or	405 006 6702	TR 2SA984-F	1	C168	403 042 0302	ELECT 10U M 16V	1
D101	407 008 0405	DIODE GMB01-BT	1	C169	403 050 1209	ELECT 2.2U M 50V	1
D102	407 008 0405	DIODE GMB01-BT	1	C170	403 050 1209	ELECT 2.2U M 50V	1
D103	407 005 3805	DIODE DS442-BT	1	C171	403 049 1609	ELECT 1U M 50V	1
D104	407 008 0405	DIODE GMB01-BT	1	C172	403 022 5907	CERAMIC 33P J 50V	1
D203	407 008 0405	DIODE GMB01-BT	1	C173	403 022 5907	CERAMIC 33P J 50V	1
D204	407 008 0405	DIODE GMB01-BT	1	C174	403 047 9607	ELECT 0.1U M 50V	1
D205	407 008 0405	DIODE GMB01-BT	1	C175	403 049 1609	ELECT 1U M 50V	1
D206	407 008 0405	DIODE GMB01-BT	1	C176	403 049 1609	ELECT 1U M 50V	1
D207	407 008 0405	DIODE GMB01-BT	1	C177	403 042 0302	ELECT 10U M 16V	1
D208	407 008 0405	DIODE GMB01-BT	1	C178	403 042 3501	ELECT 100U M 16V	1
D209	407 008 0405	DIODE GMB01-BT	1	C179	403 069 8404	CERAMIC 0.01U Z 50V	1

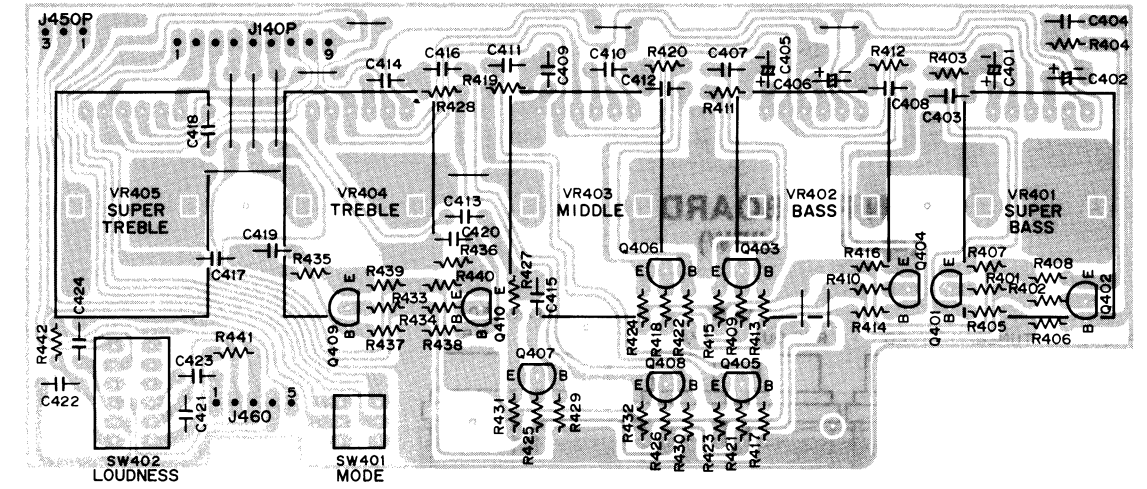
P.C.BOARD PARTS LIST (Continued)

Ref. No.	Part No.	Description	Q'ty	Ref. No.	Part No.	Description	Q'ty
C180	403 043 3104	ELECT 2200U M 16V	1	R141	401 024 7707	CARBON 100K JA 1/6W	1
C201	403 050 1209	ELECT 2.2U M 50V	1	R142	401 024 7707	CARBON 100K JA 1/6W	1
C202	403 050 1209	ELECT 2.2U M 50V	1	R143	401 024 7707	CARBON 100K JA 1/6W	1
C205	403 018 8509	CERAMIC 220P K 50V	1	R144	401 024 7707	CARBON 100K JA 1/6W	1
C206	403 018 8509	CERAMIC 220P K 50V	1	R147	401 026 1000	CARBON 2.7K JA 1/6W	1
C215	403 018 8509	CERAMIC 220P K 50V	1	R148	401 026 1000	CARBON 2.7K JA 1/6W	1
C216	403 018 8509	CERAMIC 220P K 50V	1	R149	401 025 7805	CARBON 2.2K JA 1/6W	1
C217	403 039 2906	ELECT 47U M 6.3V	1	R150	401 025 7805	CARBON 2.2K JA 1/6W	1
C218	403 039 2906	ELECT 47U M 6.3V	1	R151	401 026 9907	CARBON 4.7K JA 1/6W	1
C219	403 012 9809	CERAMIC 15P K 50V	1	R152	401 026 9907	CARBON 4.7K JA 1/6W	1
C220	403 012 9809	CERAMIC 15P K 50V	1	R153	401 016 2604	CARBON 220 JA 1/4W	1
C221	403 121 0704	ELECT 100U M 63V	1	R154	401 016 2604	CARBON 220 JA 1/4W	1
C222	403 121 0704	ELECT 100U M 63V	1	R155	401 016 2604	CARBON 220 JA 1/4W	1
C223	403 062 0900	POLYESTER 0.047U K 50V	1	R156	401 016 2604	CARBON 220 JA 1/4W	1
C224	403 062 0900	POLYESTER 0.047U K 50V	1	R157	401 016 2604	CARBON 220 JA 1/4W	1
C225	403 072 2703	CERAMIC 0.022U Z 50V	1	R158	401 016 2604	CARBON 220 JA 1/4W	1
C226	403 072 2703	CERAMIC 0.022U Z 50V	1	R159	401 016 2604	CARBON 220 JA 1/4W	1
C227	403 072 2703	CERAMIC 0.022U Z 50V	1	R160	401 016 2604	CARBON 220 JA 1/4W	1
C228	403 072 2703	CERAMIC 0.022U Z 50V	1	R161	401 024 7400	CARBON 10K JA 1/6W	1
C229	403 074 2701	CERAMIC 0.047U Z 50V	1	R163	401 024 7004	CARBON 1K JA 1/6W	1
C230	403 074 2701	CERAMIC 0.047U Z 50V	1	R164	401 024 7004	CARBON 1K JA 1/6W	1
C231	403 039 2906	ELECT 47U M 6.3V	1	R165	401 012 5708	CARBON 1K JA 1/4W	1
C234	403 039 4504	ELECT 470U M 6.3V	1	R166	401 012 5708	CARBON 1K JA 1/4W	1
C235	403 054 5807	ELECT 10U M 100V	1	R167	401 012 5708	CARBON 1K JA 1/4W	1
C236	403 044 0201	ELECT 47U M 16V	1	R168	401 024 7004	CARBON 1K JA 1/6W	1
C237	403 044 0201	ELECT 47U M 16V	1	R169	401 024 7400	CARBON 10K JA 1/6W	1
C238	403 042 3600	ELECT 100U M 16V	1	R170	401 012 7009	CARBON 10K JA 1/4W	1
C239	403 047 1502	ELECT 4.7U M 25V	1	R171	401 012 7009	CARBON 10K JA 1/4W	1
C240	403 047 4206	ELECT 47U M 25V	1	R172	401 024 7400	CARBON 10K JA 1/6W	1
C241	403 047 4206	ELECT 47U M 25V	1	R173	401 012 3407	CARBON 10 JA 1/4W	1
C242	403 047 1502	ELECT 4.7U M 25V	1	R174	401 024 7004	CARBON 1K JA 1/6W	1
C244	403 039 4504	ELECT 470U M 6.3V	1	R175	401 024 6700	CARBON 100 JA 1/6W	1
C245	403 042 6205	ELECT 1000U M 16V	1	R176	401 021 4105	CARBON 56K JA 1/4W	1
C247	620 006 6877	Capacitor 4700MF 55V	1	R177	401 025 4606	CARBON 18K JA 1/6W	1
C248	620 006 6877	Capacitor 4700MF 55V	1	R178	401 024 7400	CARBON 10K JA 1/6W	1
C249	404 012 7000	CERAMIC 0.01U P 500V	1	R179	401 027 0507	CARBON 470K JA 1/6W	1
C253	620 006 6679	Capacitor 0.01MF400V	1	R180	401 024 7400	CARBON 10K JA 1/6W	1
C254	403 074 2701	CERAMIC 0.047U Z 50V	1	R181	401 027 9005	CARBON 82K JA 1/6W	1
C302	403 038 2303	ELECT 100U M 6.3V	1	R182	401 026 7408	CARBON 39K JA 1/6W	1
R101	401 025 7805	CARBON 2.2K JA 1/6W	1	R201	401 024 7004	CARBON 1K JA 1/6W	1
R102	401 025 7805	CARBON 2.2K JA 1/6W	1	R202	401 024 7004	CARBON 1K JA 1/6W	1
R103	401 024 7707	CARBON 100K JA 1/6W	1	R205	401 021 3009	CARBON 5.6K JA 1/4W	1
R104	401 024 7707	CARBON 100K JA 1/6W	1	R206	401 027 2600	CARBON 5.6K JA 1/6W	1
R105	401 024 7707	CARBON 100K JA 1/6W	1	R215	401 025 1902	CARBON 15K JA 1/6W	1
R106	401 024 7707	CARBON 100K JA 1/6W	1	R216	401 025 1902	CARBON 15K JA 1/6W	1
R107	401 026 0607	CARBON 270 JA 1/6W	1	R217	401 027 5908	CARBON 68K JA 1/6W	1
R108	401 026 0607	CARBON 270 JA 1/6W	1	R218	401 027 5908	CARBON 68K JA 1/6W	1
R109	401 025 8703	CARBON 220K JA 1/6W	1	R219	401 026 6609	CARBON 390 JA 1/6W	1
R110	401 025 8703	CARBON 220K JA 1/6W	1	R220	401 026 6609	CARBON 390 JA 1/6W	1
R111	401 025 1902	CARBON 15K JA 1/6W	1	R221	401 027 5908	CARBON 68K JA 1/6W	1
R112	401 025 1902	CARBON 15K JA 1/6W	1	R222	401 027 5908	CARBON 68K JA 1/6W	1
R113	401 024 7707	CARBON 100K JA 1/6W	1	R223	401 015 6504	CARBON 2.2 JA 1/4W	1
R114	401 024 7707	CARBON 100K JA 1/6W	1	R224	401 015 6504	CARBON 2.2 JA 1/4W	1
R115	401 012 5708	CARBON 1K JA 1/4W	1	R225	401 015 6504	CARBON 2.2 JA 1/4W	1
R116	401 012 5708	CARBON 1K JA 1/4W	1	R226	401 015 6504	CARBON 2.2 JA 1/4W	1
R117	401 024 7004	CARBON 1K JA 1/6W	1	R227	620 004 4967	Cement 0.47X2 J	1
R118	401 024 7004	CARBON 1K JA 1/6W	1	R228	620 004 4967	Cement 0.47X2 J	1
R119	401 024 7004	CARBON 1K JA 1/6W	1	R231	401 018 2800	CARBON 330 JA 1/4W	1
R120	401 024 7004	CARBON 1K JA 1/6W	1	R232	401 018 2800	CARBON 330 JA 1/4W	1
R121	401 024 7004	CARBON 1K JA 1/6W	1	R233	401 018 2800	CARBON 330 JA 1/4W	1
R122	401 024 7004	CARBON 1K JA 1/6W	1	R234	401 018 2800	CARBON 330 JA 1/4W	1
R123	401 024 7004	CARBON 1K JA 1/6W	1	R235	401 024 7004	CARBON 1K JA 1/6W	1
R124	401 024 7004	CARBON 1K JA 1/6W	1	R236	401 024 7004	CARBON 1K JA 1/6W	1
R125	401 024 7004	CARBON 1K JA 1/6W	1	R237	401 024 7004	CARBON 1K JA 1/6W	1
R126	401 024 7004	CARBON 1K JA 1/6W	1	R238	401 024 7004	CARBON 1K JA 1/6W	1
R127	401 024 7004	CARBON 1K JA 1/6W	1	R239	401 020 2003	CARBON 4.7K JA 1/4W	1
R128	401 024 7004	CARBON 1K JA 1/6W	1	R240	401 020 2003	CARBON 4.7K JA 1/4W	1
R129	401 024 7707	CARBON 100K JA 1/6W	1	R241	401 020 8401	CARBON 5.1K JA 1/4W	1
R130	401 024 7707	CARBON 100K JA 1/6W	1	R242	401 020 8401	CARBON 5.1K JA 1/4W	1
R131	401 024 7707	CARBON 100K JA 1/6W	1	R247	401 019 3004	CARBON 39K JA 1/4W	1
R132	401 024 7707	CARBON 100K JA 1/6W	1	R248	401 019 3004	CARBON 39K JA 1/4W	1
R133	401 026 9907	CARBON 4.7K JA 1/6W	1	R249	401 019 6203	CARBON 4.7 JA 1/4W	1
R134	401 026 9907	CARBON 4.7K JA 1/6W	1	R250	401 019 6203	CARBON 4.7 JA 1/4W	1
R135	401 024 7707	CARBON 100K JA 1/6W	1	R251	401 054 7500	OXIDE-MT 10 JB 1/2W	1
R136	401 024 7707	CARBON 100K JA 1/6W	1	R252	401 054 7500	OXIDE-MT 10 JB 1/2W	1
R137	401 024 7004	CARBON 1K JA 1/6W	1	R253	401 027 3003	CARBON 56K JA 1/6W	1
R138	401 024 7004	CARBON 1K JA 1/6W	1	R254	401 027 3003	CARBON 56K JA 1/6W	1
R139	401 024 7004	CARBON 1K JA 1/6W	1	R256	401 024 9701	CARBON 12K JA 1/6W	1
R140	401 024 7004	CARBON 1K JA 1/6W	1	R257	402 039 3203	FUSIBLE RES 33 JA 1/4W	1

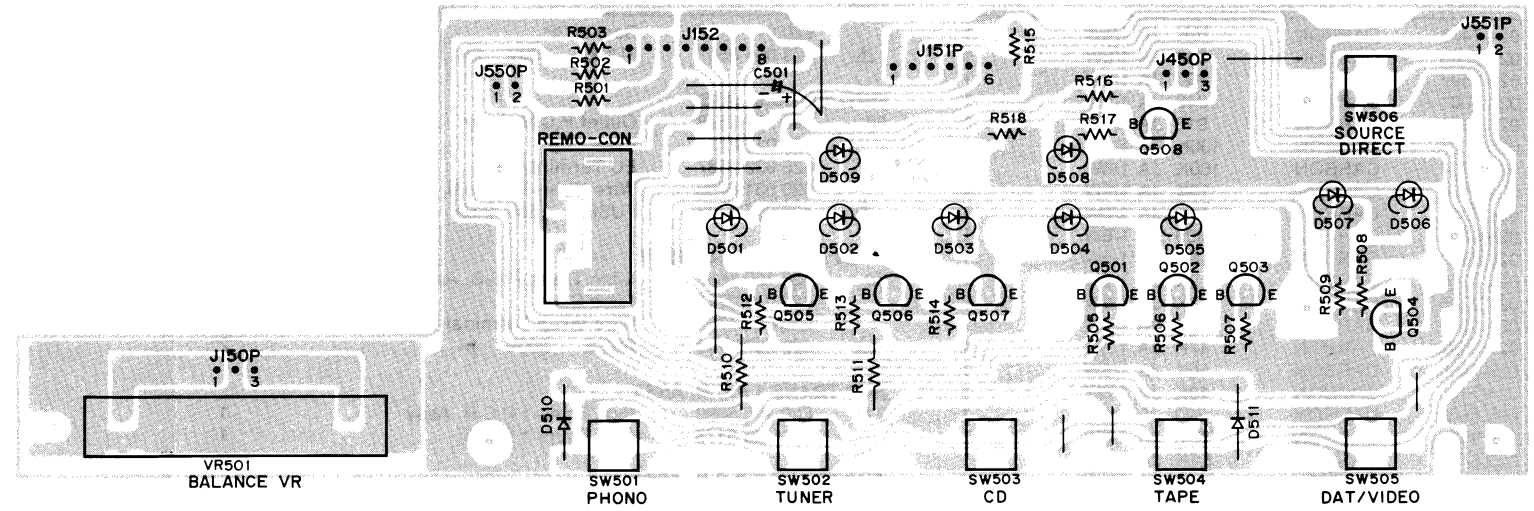
P.C.BOARD PARTS LIST (Continued)

GRAPHIC EQUALIZER P.C.BOARD
(BOTTOM VIEW)

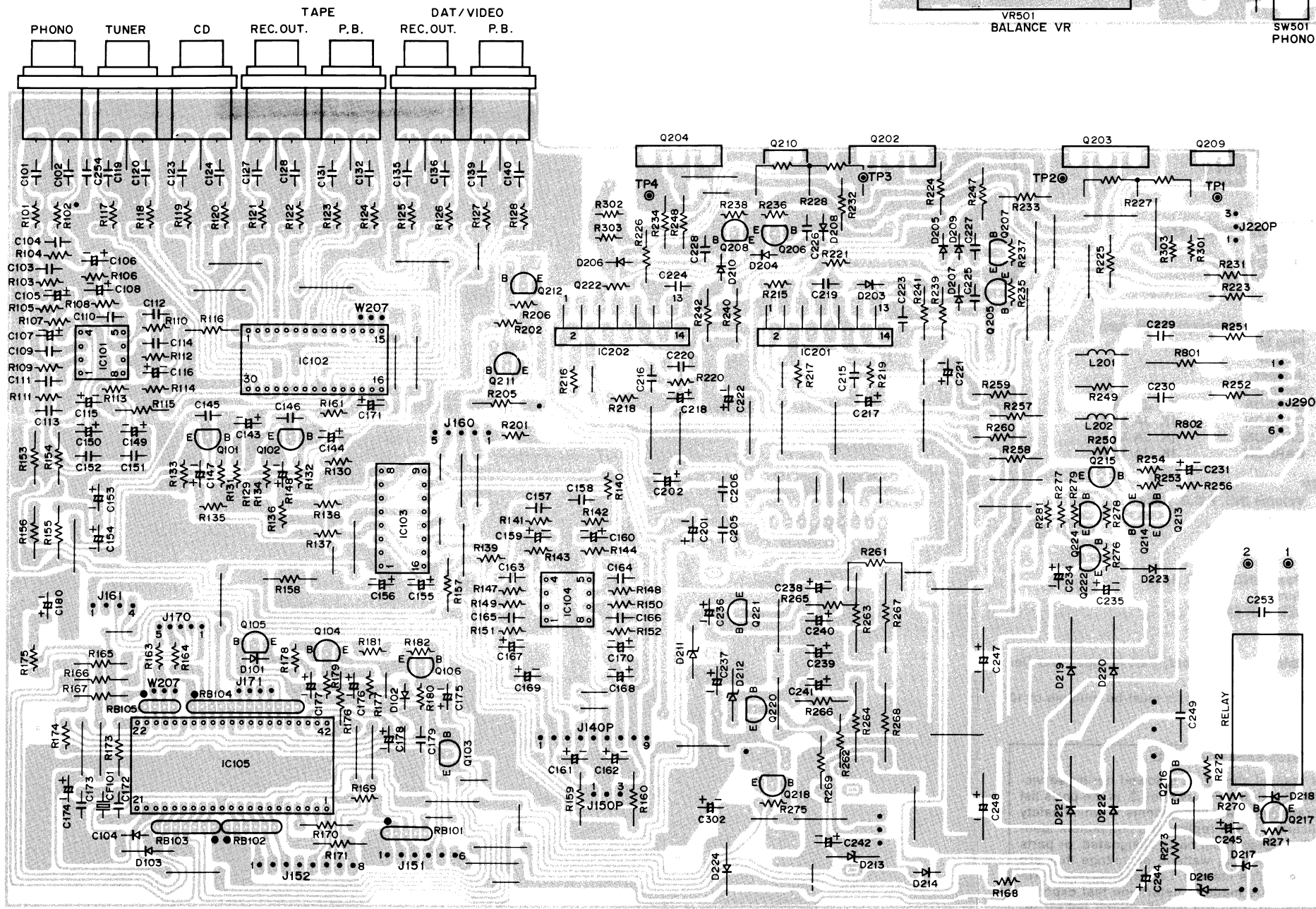
Ref. No.	Part No.	Description	Q'ty	Ref. No.	Part No.	Description	Q'ty
R408	401 024 7400	CARBON 10K JA 1/6W	1	620 017 7177	Socket 2P	1	
R409	401 026 6609	CARBON 390 JA 1/6W	1	423 005 0507	FUSE 250V 1A	2	
R410	401 026 6609	CARBON 390 JA 1/6W	1	OUTLET P.C.B. ASSY			
R411	401 028 0001	CARBON 910 JA 1/6W	1	69	620 190 5878	Outlet P.C.B. Assy	1
R412	401 028 0001	CARBON 910 JA 1/6W	1	620 017 2721	Fuse Clip	2	
R413	401 024 7707	CARBON 100K JA 1/6W	1	620 022 2587	EC Terminal 1P	2	
R414	401 024 7707	CARBON 100K JA 1/6W	1	620 031 4763	Wire Wrap Terminal	2	
R415	401 024 7400	CARBON 10K JA 1/6W	1	423 006 4702	FUSE 250V 2.5A	1	
R416	401 024 7400	CARBON 10K JA 1/6W	1	MAIN TRANS P.C.B. ASSY			
R417	401 026 6609	CARBON 390 JA 1/6W	1	70	620 190 5885	Main Trans P.C.B. Assy	1
R418	401 026 6609	CARBON 390 JA 1/6W	1	620 017 2721	Fuse Clip	4	
R419	401 024 9305	CARBON 1.2K JA 1/6W	1	620 031 4763	Wire Wrap Terminal	3	
R420	401 024 9305	CARBON 1.2K JA 1/6W	1	423 007 2103	FUSE 250V 4A	2	
R421	401 027 0309	CARBON 47K JA 1/6W	1	SUB TRANS-1 P.C.B. ASSY			
R422	401 027 0309	CARBON 47K JA 1/6W	1	71	620 190 5892	Sub Trans-1 P.C.B. Assy	1
R423	401 024 7400	CARBON 10K JA 1/6W	1	620 190 5175	Sub Trans-1 P.C.B.	1	
R424	401 024 7400	CARBON 10K JA 1/6W	1	SUB TRANS-2 P.C.B. ASSY			
R425	401 026 6609	CARBON 390 JA 1/6W	1	72	620 190 5908	Sub Trans-2 P.C.B. Assy	1
R426	401 026 6609	CARBON 390 JA 1/6W	1	620 190 5182	Sub Trans-2 P.C.B.	1	
R427	401 024 8407	CARBON 1.1K JA 1/6W	1	POWER TRANSISTOR P.C.B. ASSY			
R428	401 024 8407	CARBON 1.1K JA 1/6W	1	73	620 190 5915	Power Transistor P.C.B. Assy	1
R429	401 026 7408	CARBON 39K JA 1/6W	1	J220	620 055 3803	Jumper	1
R430	401 026 7408	CARBON 39K JA 1/6W	1	Q201	405 022 1606	TR 2SD1289-Q	1
R431	401 024 7400	CARBON 10K JA 1/6W	1	or	405 080 6100	TR 2SD1289-R	1
R432	401 024 7400	CARBON 10K JA 1/6W	1	or	405 080 7800	TR 2SC3181N-O	1
R433	401 026 6609	CARBON 390 JA 1/6W	1	or	405 080 7909	TR 2SC3181N-R	1
R434	401 026 6609	CARBON 390 JA 1/6W	1	REGURATOR P.C.B. ASSY			
R435	401 024 8407	CARBON 1.1K JA 1/6W	1	74	620 191 2289	Regurator P.C.B. Assy	1
R436	401 024 8407	CARBON 1.1K JA 1/6W	1	J221	620 055 3100	Jumper	1
R437	401 026 1307	CARBON 27K JA 1/6W	1	Q219	405 035 7206	TR 2SD1913-S	1
R438	401 026 1307	CARBON 27K JA 1/6W	1	or	405 035 7107	TR 2SD1913-R	1
R439	401 024 7400	CARBON 10K JA 1/6W	1	REMOCON TERMINAL P.C.B. ASSY			
R440	401 024 7400	CARBON 10K JA 1/6W	1	75	620 190 5922	Remocon Terminal P.C.B. Assy	1
R441	401 026 1000	CARBON 2.7K JA 1/6W	1	CN701	620 021 5947	Plug 5P	1
R442	401 026 1000	CARBON 2.7K JA 1/6W	1	CN702	620 021 5930	Plug 4P	1
MOTOR VOLUME P.C.B. ASSY				J170	620 185 1267	Jumper	1
64	620 190 5823	Motor Volume P.C.B. Assy	1	J171	620 185 1274	Jumper	1
J160	620 055 2493	Jumper	1	R701	401 024 7004	CARBON 1K JA 1/6W	1
J161	620 055 2615	Jumper	1	R702	401 024 7004	CARBON 1K JA 1/6W	1
J460	620 055 2851	Jumper	1	R703	401 024 7004	CARBON 1K JA 1/6W	1
VR601	620 190 5007	Motor VR 50K15AMX2	1	R704	401 024 7004	CARBON 1K JA 1/6W	1
IC601	409 114 4803	IC LB1641	1	VOLUME IND. P.C.B. ASSY			
D601	407 050 3706	ZENER DIODE GZA4.7Y-BT	1	76	620 190 5939	Volume IND. P.C.B. Assy	1
C601	403 069 4000	CERAMIC 1000P Z 50V	1	620 185 2820	Reflector	1	
C602	403 038 4505	ELECT 1000U M 6.3V	1	D513	407 062 7204	LED SEL2213C	1
C603	403 074 2701	CERAMIC 0.047U Z 50V	1	POWER IND. P.C.B. ASSY			
R601	401 012 3407	CARBON 10 JA 1/4W	1	77	620 190 5946	Power IND. P.C.B. Assy	1
SPEAKER TERMINAL P.C.B. ASSY				J551	620 055 3247	Jumper	1
65	620 190 5830	Speaker Terminal P.C.B. Assy	1	D512	407 108 6000	LED SLP-644B-41	1
	620 022 4956	8P Push Terminal	1	NOTES:			
	620 020 5894	Connector 1P Assy	1	1.	Parts order must contain Model Number, Part Number and Description.		
C801	403 069 1504	CERAMIC 1000P K 50V	1	2.	Ordering quantity of screws and resistors must be multiple of 10 pcs.		
C802	403 069 1504	CERAMIC 1000P K 50V	1	PRODUCT SAFETY NOTICE			
C803	403 069 1504	CERAMIC 1000P K 50V	1	Each precaution in this manual should be followed during servicing. Components identified with the IEC symbol Δ in the parts list and the schematic diagram designate components in which safety can be of special significance. When replacing a component identified with Δ , use only the replacement parts designated, or parts with the same ratings of resistance, wattage or voltage that are designated in the parts list in this manual. Leakage-current or resistance measurements must be made to determine that exposed parts are acceptably insulated from the supply circuit before returning the product to the customer.			
C804	403 069 1504	CERAMIC 1000P K 50V	1				
C805	403 069 4000	CERAMIC 1000P Z 50V	1				
C806	403 069 4000	CERAMIC 1000P Z 50V	1				
SPEAKER SWITCH P.C.B. ASSY							
66	620 190 5847	Speaker Switch P.C.B. Assy	1				
J991	620 055 3124	Jumper	1				
S801	620 016 5815	Switch Push 1 Key	1				
PHONES JACK P.C.B. ASSY							
67	620 190 5854	Phones Jack P.C.B. Assy	1				
	620 190 5557	Jack 7P	1				
J290	620 055 3124	Jumper	1				
J990	620 055 2523	Jumper	1				
R803	401 055 0005	OXIDE 120 JB 1/2W	1				
R804	401 055 0005	OXIDE 120 JB 1/2W	1				
POWER SUPPLY P.C.B. ASSY							
68	620 190 5861	Power Supply P.C.B. Assy	1				
	620 017 2721	Fuse Clip	4				
	620 017 7153	Socket 2P	1				
	620 017 7160	Socket 2P	1				



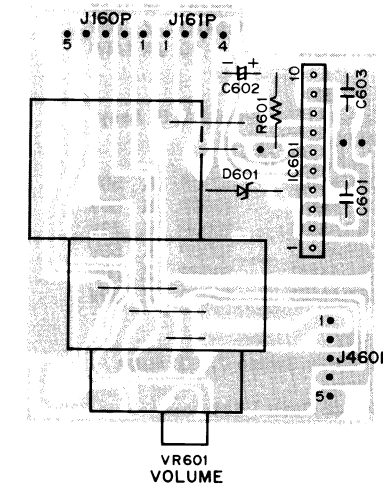
**FUNCTION SWITCH P.C.BOARD
(BOTTOM VIEW)**



**MAIN P.C.BOARD
(BOTTOM VIEW)**

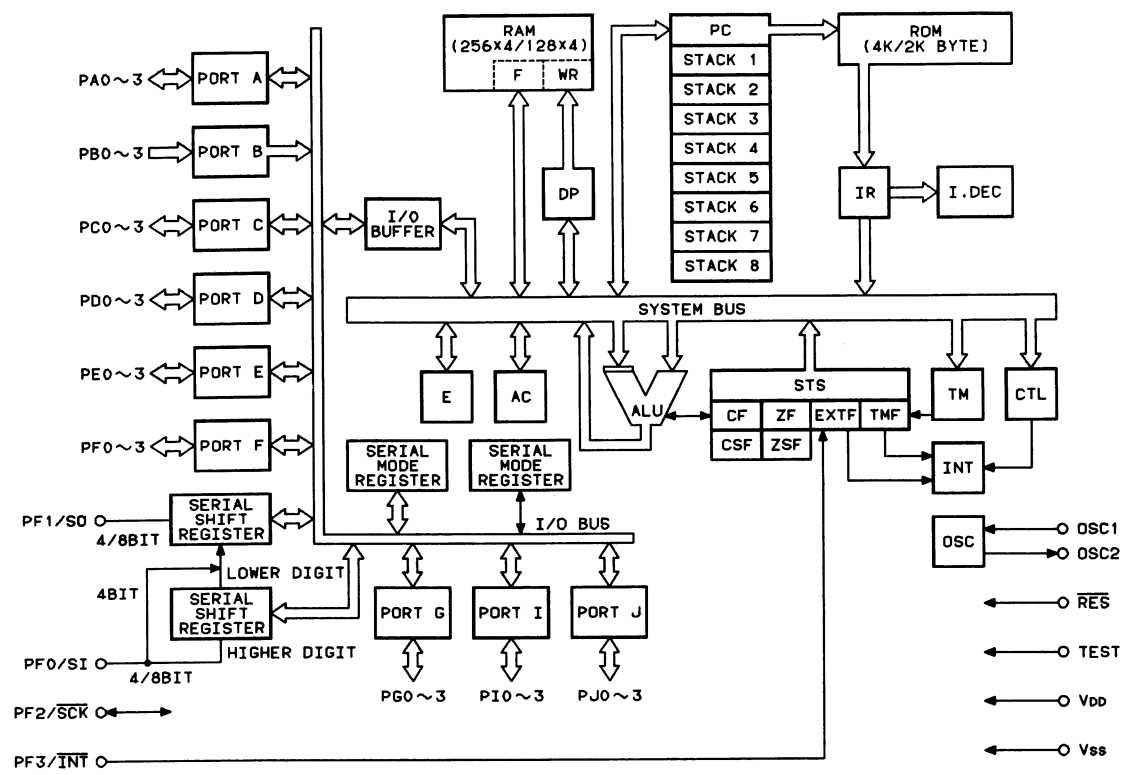


**MOTOR VOLUME P.C.BOARD
(BOTTOM VIEW)**

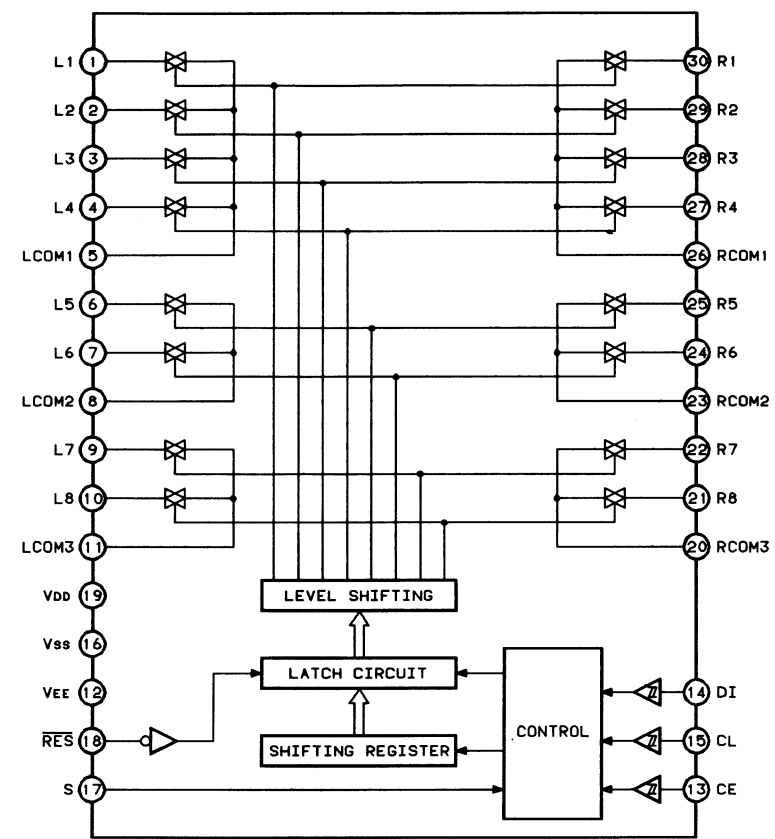


INTEGRATED CIRCUIT BLOCK DIAGRAM

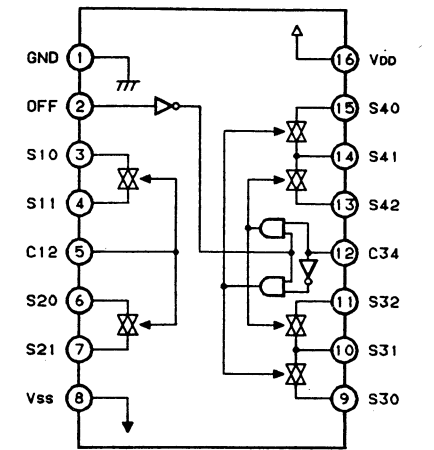
LC6522H BLOCK DIAGRAM



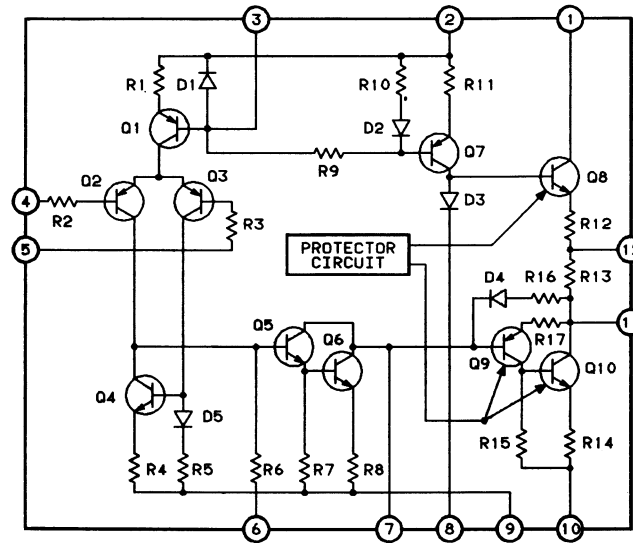
LC7821 BLOCK DIAGRAM



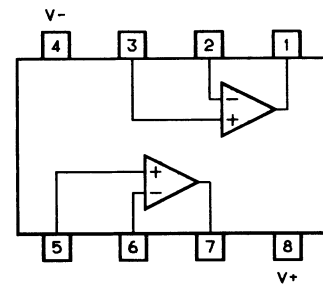
TC9215 BLOCK DIAGRAM



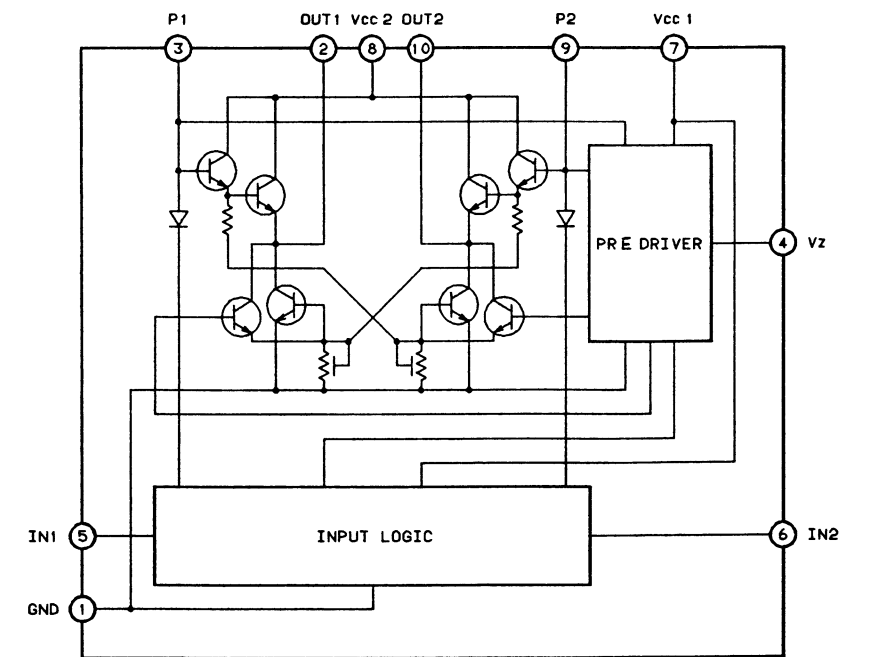
μPC1298V BLOCK DIAGRAM



μPC4570C BLOCK DIAGRAM



LB1641 BLOCK DIAGRAM



POINT TO POINT WIRING DIAGRAM

