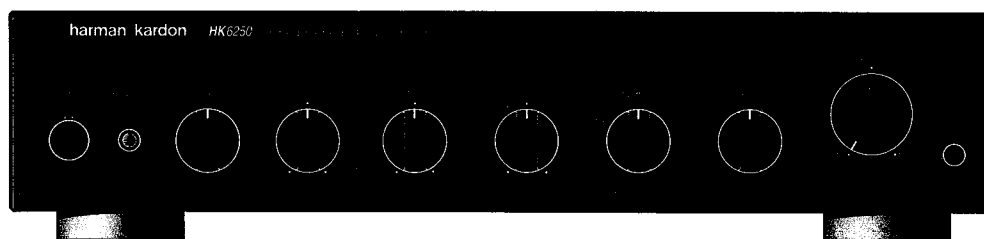


The Harman Kardon Model HK6250 INTEGRATED AMPLIFIER

Manual 182A

Technical Manual



The following marks found in the parts list of this manual identify the models as follows.

- BK** : North America area model Black version
- G** : German model
- GB** : German model Black version
- BB** : Australian model Black version
- IB** : International model Black version
- WB** : Asia/Oceania model Black version

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harman/kardon

Parts and Service Office
240 Crossways Park West, Woodbury, N.Y. 11797
1112-0170A152 P-129112 1500 Printed in Japan

HK6250

SPECIFICATIONS

	Nominal	Limit		Nominal	Limit
Continuous Average Power FTC, both channels drive, 20 - 20,000Hz	45 Watts per channel @ less than 0.1% THD into 8 Ohms, 45 Watts per channel @ less than 0.3% THD into 4 Ohms		Loudness Control (with Volume Control at -40 dB) at 10 kHz at 50 Hz	3 dB ± 1 dB 10 dB ± 2 dB	
High Instantaneous Current Capability (HCC)	32 ≥ 25A		DC Output Voltage L channel R channel	0 mV ± 60 mV 0 mV ± 60 mV	
Half Power Bandwidth (8 Ohms)	10 Hz ~ 70 kHz		RIAA Equalization (at Tape Out) (20 Hz/20 kHz) (No load)	-0.4 dB ± 0.5 dB / -0.12 dB ± 0.5 dB	
* Frequency Response (at -3 dB Down)	1 Hz ~ 150 kHz		Phono Over Load (No load) Phono (MM)	110 mV ≥ 90 mV	
Input Sensitivity (at 45W Output) Tuner, CD, Video Phono	135 mV ± 25mV 2.2 mV ± 0.2 mV		Dimensions (W × H × D)	17-1/2" × 4-1/16" × 14-1/4" (443 × 103 × 361 mm)	
Signal to Noise Ratio Tuner, CD, Video Phono	84 dB ≥ 77 dB 80 dB ≥ 73 dB		Weight North America area model International model	12 lbs. 12 oz. (5.8 kg) 15 lbs. 7 oz. (7.0 kg)	
Channel Separation at 10 kHz Tuner Phono	55 dB ≥ 45 dB 57 dB ≥ 45 dB		Power Supplies North America area model International model	AC 120 V, 60 Hz AC 230/240 V, 50/60 Hz	
IM Distortion Ratio	0.05% ≥ 0.1%		Power Consumption North America area model International model	130 W 165 W	
Damping Factor	64 ≥ 50		* International model	0.56 Hz ~ 167 kHz	
Tone Control Characteristics Bass at 50 Hz/100 Hz Boost Cut	±10 dB ± 2 dB ±10 dB ± 2 dB				
Treble at 10 kHz/30 kHz Boost Cut	±10 dB ± 2 dB ±10 dB ± 2 dB				

These specifications are service target specs.

Specifications and components are subject to change without notice. Overall performance will be maintained or improved.

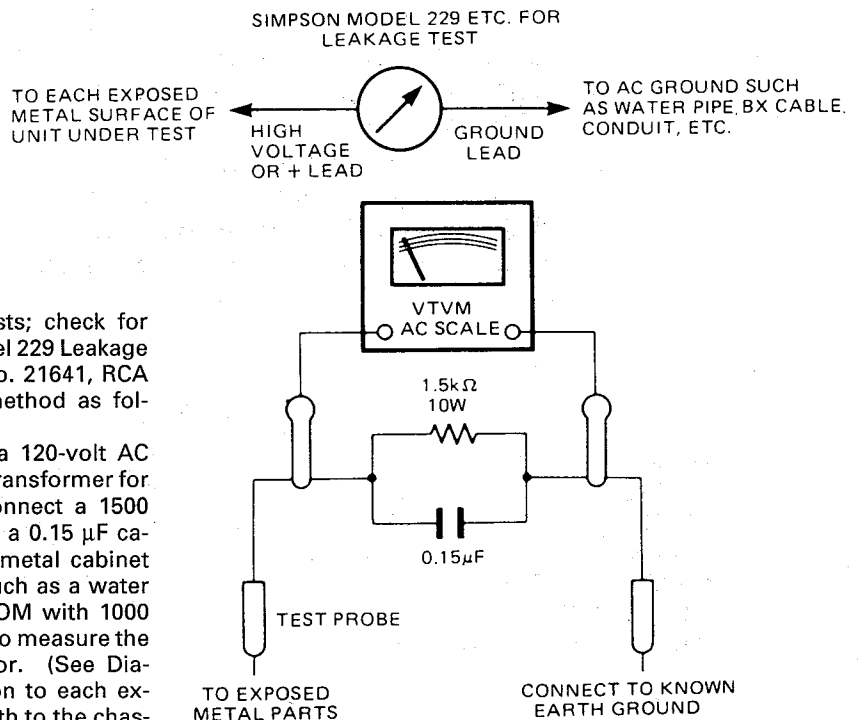
LEAKAGE TEST (FOR SERVICE ENGINEERS IN THE U.S.A)

Before returning the unit to the user, perform the following safety checks:

1. Inspect all lead dress to make certain that leads are not pinched or that hardware is not lodged between the chassis and other metal parts in the unit.
2. Be sure that any protective devices such as nonmetallic control knobs, insulating fishpapers, cabinet backs, adjustment and compartment covers or shields, isolation resistor-capacity networks, mechanical insulators, etc. which were removed for servicing are properly reinstalled.
3. Be sure that no shock hazard exists; check for leakage current using Simpson Model 229 Leakage Tester, standard equipment item No. 21641, RCA Model WT540A or use alternate method as follows:

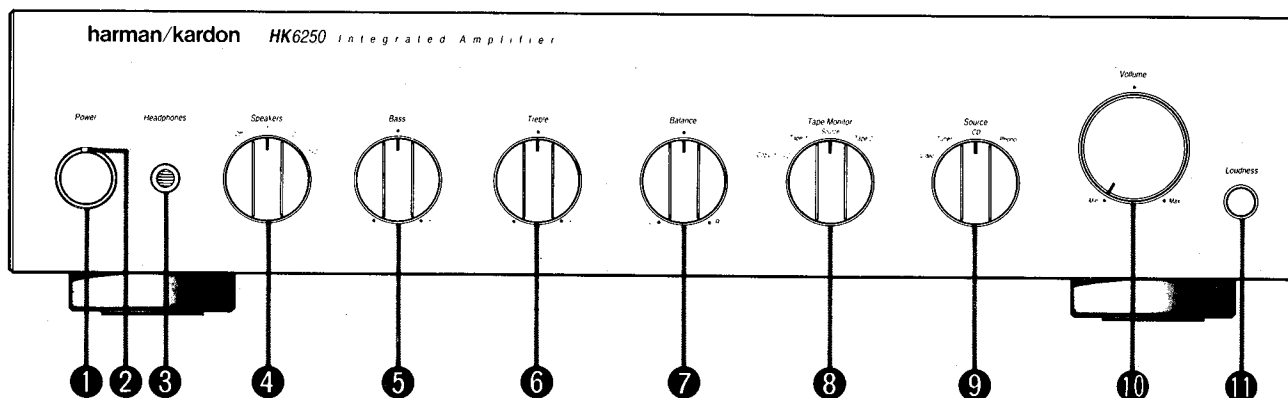
Plug the power cord directly into a 120-volt AC receptacle (do not use an Isolation Transformer for this test). Using two clip leads, connect a 1500 Ohm, 10-watt resistor paralleled by a 0.15 μF capacitor, in series with all exposed metal cabinet parts and a known earth ground, such as a water pipe or conduit. Use a VTVM or VOM with 1000 Ohms per volt, or higher sensitivity to measure the AC voltage drop across the resistor. (See Diagram.) Move the resistor connection to each exposed metal part having a return path to the chassis (antenna, metal, cabinet, screw heads, knobs and control shafts, escutcheon, etc.) and measure the AC voltage drop across the resistor. (This test should be performed with the power switch in both the On and Off positions.)

A reading of 0.35 volt RMS or more is excessive and indicates a potential shock hazard which must be corrected before returning the unit to the owner.



HK6250

CONTROLS AND FUNCTIONS



1 POWER SWITCH (POWER)

Pressing this switch will turn on the power and the *Power* indicator lights up. Press the switch again to turn the power off.

2 POWER INDICATOR

When the *POWER* switch is pressed, this indicator lights up in green.

3 HEADPHONE JACK (HEADPHONES)

Stereo headphones with a standard 1/4 inch plug can be connected to this jack. When the *SPEAKERS* selector is in the *Off* position, sound can still be obtained via the headphone jack.

4 SPEAKER SELECTOR (SPEAKERS)

This selector is used to select the desired speaker system(s). *Off*: Select this position to listen to sound via the headphone with no sound from the speaker system(s).

1: Select this position to actuate the speaker system connected to the *SPEAKER SYSTEM 1* terminal.

2: Select this position to actuate the speaker system connected to the *SPEAKER SYSTEM 2* terminal.

1 + 2: Select this position to actuate simultaneously the two speaker systems connected to the *SPEAKER SYSTEM 1* and *2* terminals respectively.

5 BASS CONTROL KNOB (BASS)

This knob controls the low frequency sound level. Turn it clockwise to boost or counterclockwise to reduce the low frequency sound level.

6 TREBLE CONTROL KNOB (TREBLE)

This knob controls the high frequency sound level. Turn it clockwise to boost or counterclockwise to reduce the high frequency sound level.

7 BALANCE CONTROL KNOB (BALANCE)

This knob is used to balance the left and the right channels. Usually, it is set at the center. Turn it to the left or right to balance the sound if it seems unbalanced from the speakers or the headphones.

8 TAPE MONITOR SELECTOR (TAPE MONITOR)

This selector is used when playing a tape deck, or monitoring during recording.

Copy 1 → 2: Select this position to duplicate a tape in the tape deck connected to the *TAPE 1* jacks onto the tape in the tape deck connected to the *TAPE 2* jacks.

Tape 1: Select this position to play a tape, or to monitor during recording on the tape deck connected to the *TAPE 1* jacks.

Source: Select this position to listen to a program source other than a tape.

Tape 2: Select this position to play a tape, or to monitor during recording on the tape deck connected to the *TAPE 2* jacks.

9 SOURCE SELECTOR (SOURCE)

This selector is used to select a program source other than a tape.

Video: Select this position to listen to the sound from a video component connected to the *VIDEO* jacks.

Tuner: Select this position to listen to an FM or AM broadcast from the stereo tuner connected to the *TUNER* jacks.

CD: Select this position to listen to the sound from a compact disc player connected to the *CD* jacks.

Phono: Select this position to listen to a disc played on the turntable connected to the *PHONO* jacks.

10 VOLUME CONTROL KNOB (VOLUME)

This knob controls the sound level. Turning clockwise increases the sound volume, and turning counterclockwise decreases it. Set this knob at a minimum level before turning the power on or changing the sound source to protect the speakers from being damaged by a sudden high level sound.

11 LOUDNESS SWITCH (LOUDNESS)

This switch is pressed to create a natural sound quality when listening at a low volume by boosting the low and high frequency ranges.

DISASSEMBLY PROCEDURES (REFER TO PAGES 7 AND 14)

1 CABINET TOP REMOVAL

Remove 6 screws (A) and then remove the Cabinet Top (131).

2 FRONT PANEL ASS'Y (AA) REMOVAL

1. Remove the Cabinet Top (131), referring to the previous step 1.
2. Pull out Volume Rotary knob (150).
3. Remove 5 screws (B) and then Front Panel Ass'y (AA).

3 MAIN P. C. BOARD (PCB-1) REMOVAL

1. Remove the Front Panel Ass'y (AA), referring to the previous step 2.
2. Open the lid of connector (CN601) on the Main P. C. Board (PCB-1).
3. Pull out 6 Rotary Knobs (152).

4. Remove 6 hexagon nuts (C) and then remove the Speaker Switch and Function P. C. Board (PCB-5 and PCB-9).

5. Remove 6 screws (D) and then remove the Main P. C. Board (PCB-1).
If necessary, unsolder the lead wires.

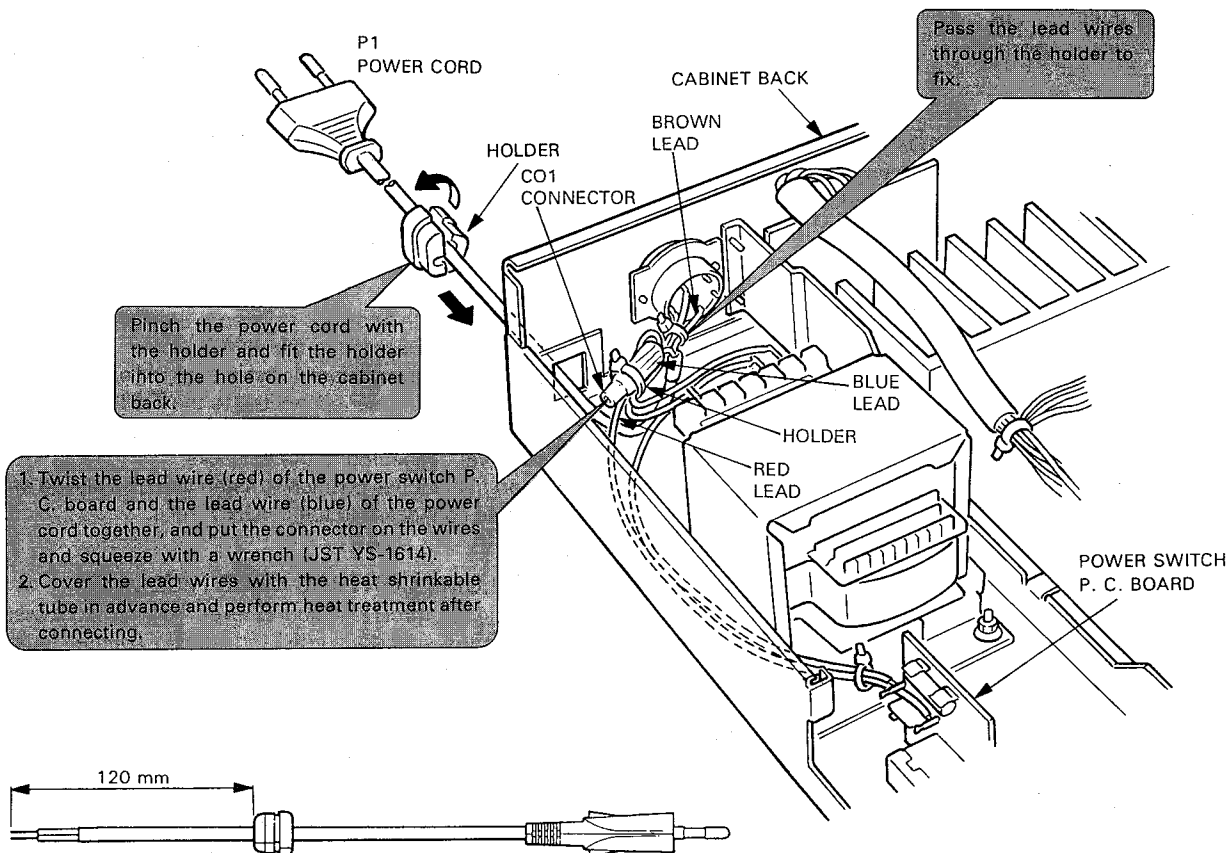
4 EQUALIZER P. C. BOARD (PCB-10) REMOVAL

1. Remove the Cabinet Top (131), referring to the previous step 1.

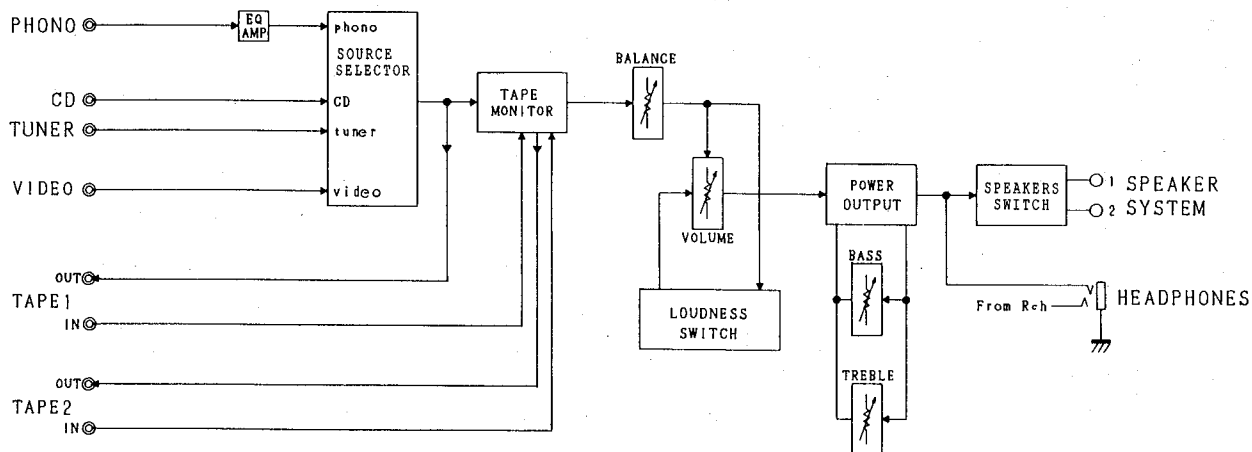
2. Remove 4 screws (E) and then remove the Equalizer P. C. Board (PCB-10).
If necessary, unsolder the lead wires.

POWER CORD REPLACEMENT (FOR SERVICE ENGINEERS OTHER THAN NORTH AMERICA)

In order to prevent fire or shock hazard when replacing the power cord, follow the procedure below to replace the parts with the standard supply parts.



BLOCK DIAGRAM



ALIGNMENT PROCEDURES (REFER TO PAGES 8, 9 AND 13)

- Conditions :**
- Set the Volume control to minimum.
 - Set the Speakers selector to "1 + 2" position.
 - Set the Speaker Operating Mode switch to "8Ω" position.
 - Make the adjustment at a room temperature of 77°F (25°C).
 - After the Power switch is pushed on, wait for 30 minutes before measuring to be sure of the most stable operation.

■ IDLING CURRENT ADJUSTMENT

Step	Connection Equipments	Adjustment	For
1	Connect the Digital Volt Meter to TP1 and TP2.	VR401 (L ch)	40 mV ±2 mV
2	Connect the Digital Volt Meter to TP3 and TP4.	VR402 (R ch)	40 mV ±2 mV

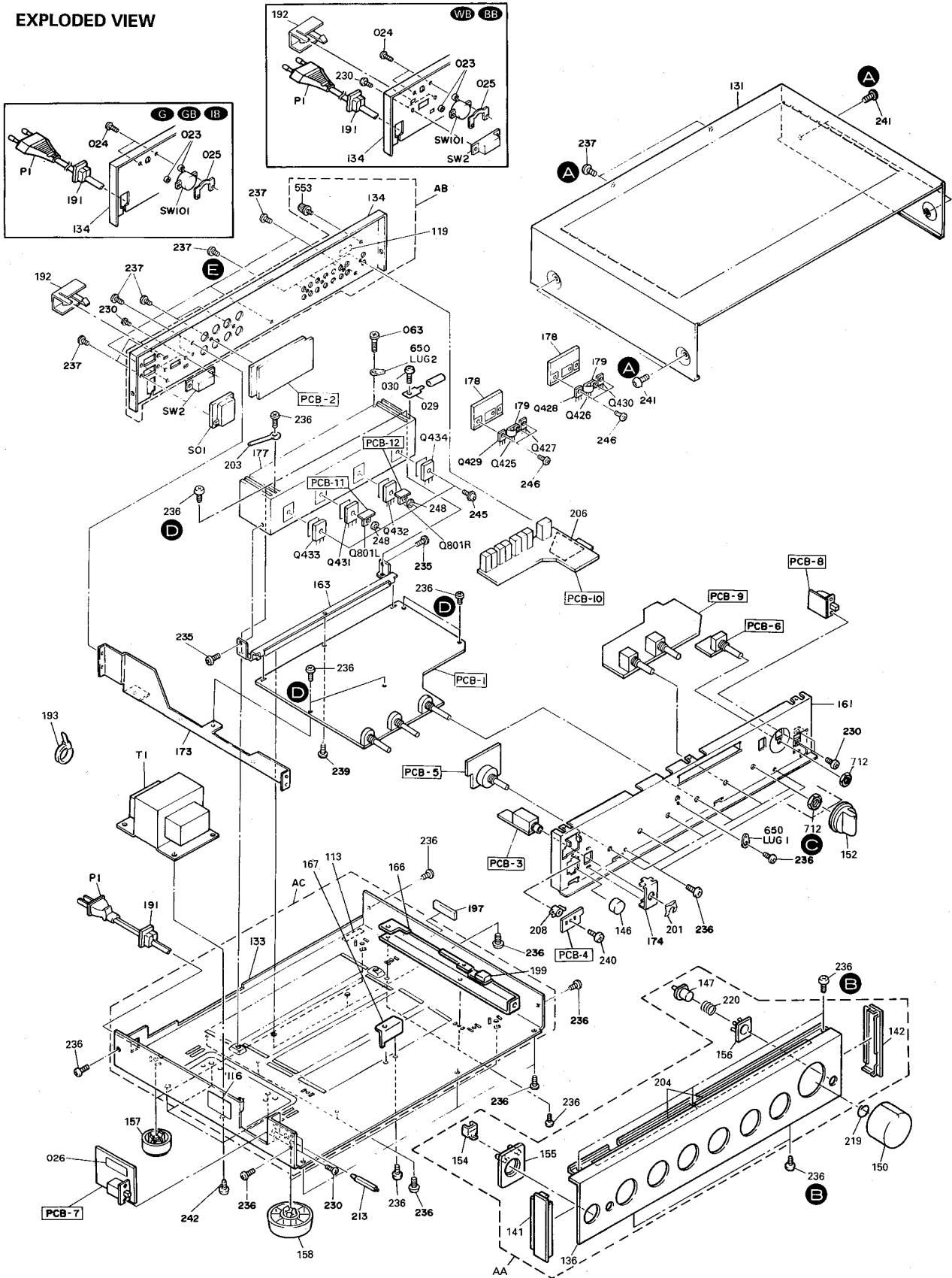
GENERAL UNIT PARTS LIST

Ref. No.	Part No.	Description	Ref. No.	Part No.	Description
AA	A443-HK6250A	CABINET FRONT ASSEMBLY G	156	1742-08401	ORNAMENT, LOUDNESS G
AA	A443-HK6250B	CABINET FRONT ASSEMBLY BK GB WB BB IB	156	1742-08402	ORNAMENT, LOUDNESS BK GB WB BB IB
AB	A424-HK6250A	CABINET BACK ASSEMBLY BK	157	1319-02201	LEG, REAR (x2)
AB	A424-HK6250C	CABINET BACK ASSEMBLY G GB IB	158	1319-03301	LEG, FRONT (x2)
AB	A424-HK6250G	CABINET BACK ASSEMBLY WB BB	161	2211-7295	CHASSIS
AC	A424-HK6250B	CABINET BOTTOM ASSEMBLY BK	163	2219-8179	METAL FITTG, MAIN HEAT SINK
023	2132-7116	SPACER (x2) G GB WB BB IB	166	2219-8347	METAL FITTG, BOTTOM
024	2327-R0130124	SCREW, BND+ (x2) G GB WB BB IB	167	2219-8348	METAL FITTG, BOTTOM CENTER
025	2440-7017	NUT, SPE G GB WB BB IB	173	2219-8207	METAL FITTG, BOTTOM
026	1756-R01TS162	LABEL, FUSE G GB WB BB IB	174	2219-8346	METAL FITTG, HEADPHONES JACK
029	2218-7011	BRACKET, FIX, WIRING IB	177	2222-7232	HEAT SINK, MAIN BK
030	2347-R0130062	SCREW, BND T+ IB	177	2222-7252	HEAT SINK, MAIN G GB WB BB IB
063	2347-R0130084	SCREW, BND T+ G GB	178	2222-7214	HEAT SINK, DRIVER (x2)
113	1117-78	SERIAL LABEL	179	2222-7067	HEAT SINK, DRIVER (x2)
116	1756-05910	LABEL, FUSE CAUTION BK	191	2240-364	HOLDER, AC CORD
119	1756-CSA	LABEL, CSA BK	192	2240-7359	HOLDER, 4/8 SWITCH BK WB BB
131	1414-11501	CABINET TOP	193	2240-R0101	HOLDER (x18)
133	1424-35601	CABINET BOTTOM	197	2112-11771	SPONGE, BOTTOM SIDE
134	1424-29004	CABINET BACK BK	199	2112-11803	SPONGE, METAL
134	1424-27009	CABINET BACK G GB IB	201	2218-89	BRACKET, FIX, HEADPHONES
134	1424-29005	CABINET BACK WB BB	203	2218-R0230	BRACKET, FIX, SPEAKER LEAD
136	1443-14003	CABINET FRONT G	204	2224-7137	INSULATOR, PANEL (x2)
136	1443-14004	CABINET FRONT BK GB WB BB IB	206	2216-7199	SHIELD PLATE, EQ
141	1562-08201	FRAME, L-SIDE G	208	2360-7026	BOSS, SPE, POWER LED
141	1562-08202	FRAME, L-SIDE BK GB WB BB IB	213	2672-7018	LEVER, POWER SHAFT
142	1562-08301	FRAME, R-SIDE G	219	2651-110518	SPRING, VOLUME
142	1562-08302	FRAME, R-SIDE BK GB WB BB IB	220	2651-2101728	SPRING, PUSH BUTTON
146	1662-66901	PUSH BUTTON, POWER G	230	2327-R0130064	SCREW, BND+ (x6)
146	1662-66902	PUSH BUTTON, POWER BK GB WB BB IB	235	2347-R0130062	SCREW, BND T+ (x2)
147	1662-67001	PUSH BUTTON, LOUDNESS G	236	2347-R0130062	SCREW, BND T+ (x27)
147	1662-67002	PUSH BUTTON, LOUDNESS BK GB WB BB IB	237	2347-R0130084	SCREW, BND T+ (x19)
150	1630-04302	ROTARY KNOB, VOLUME G	239	2347-R0130102	SCREW, BND T+
150	1630-04301	ROTARY KNOB, VOLUME BK GB WB BB IB	240	2347-R0130102	SCREW, BND T+
152	1632-21501	ROTARY KNOB, FUNCTION, BASS, TREBLE, BALANCE (x6) G	242	2347-R0140064	SCREW, BND T+ (x4)
152	1632-21502	ROTARY KNOB, FUNCTION, BASS, TREBLE, BALANCE (x6) BK GB WB BB IB	245	2557-301429	SCREW, BND T+ (x4)
154	1732-08801	INDICATOR, POWER LED	246	2557-300829	SCREW, B SPW+ (x6)
155	1742-08301	ORNAMENT, POWER G	248	2401-0373	WASHER, METAL (x2)
155	1742-08302	ORNAMENT, POWER BK GB WB BB IB	553	4214-168	TERMINAL, GND
			650	4211-4	LUG, CHASSIS EARTH
			712	2440-62	NUT, SPE

GENERAL UNIT
EXPLODED VIEW

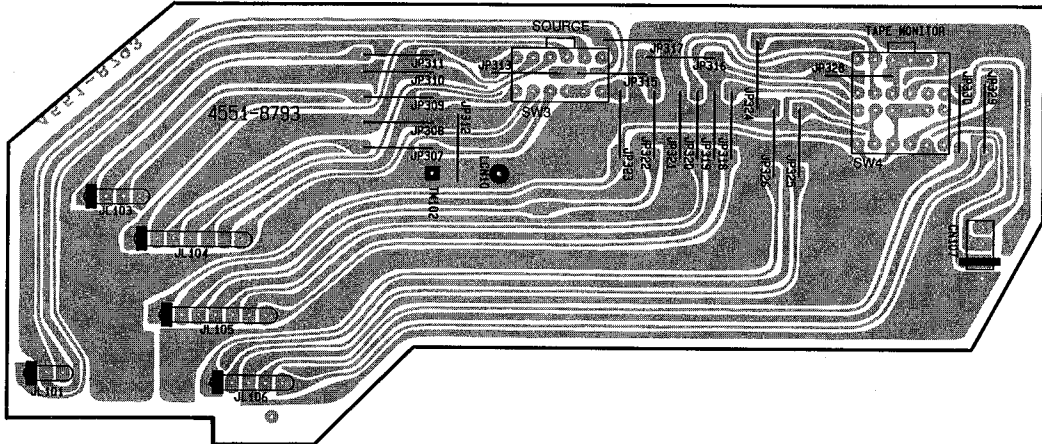
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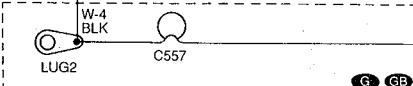
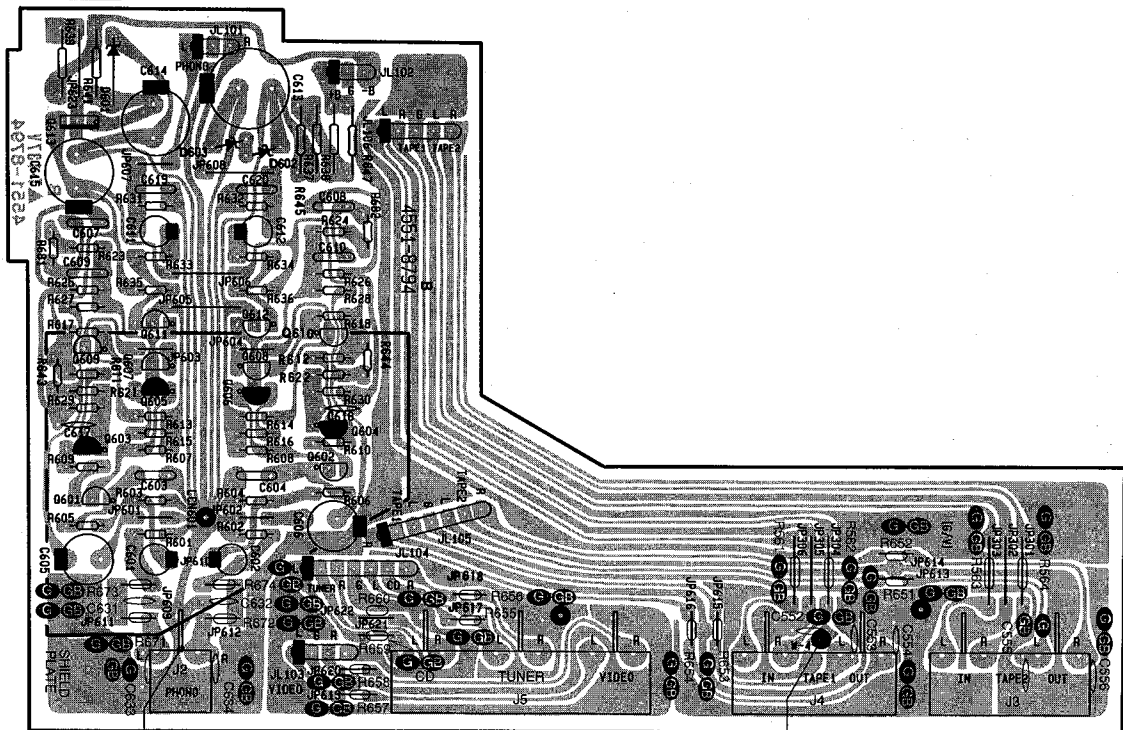


P. C. BOARD (1)

PCB-9 Function P.C. Board

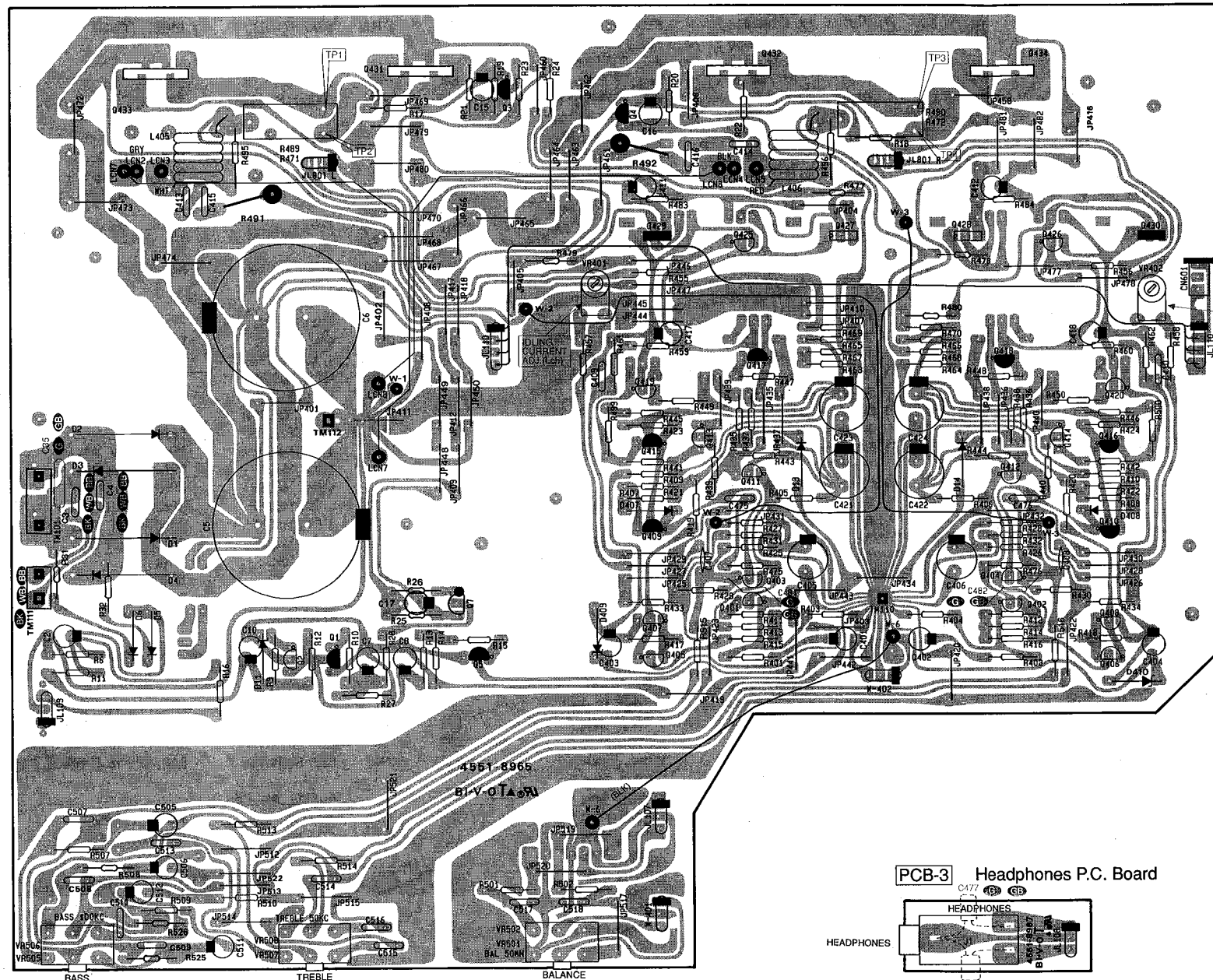


PCB-10 Equalizer P.C. Board

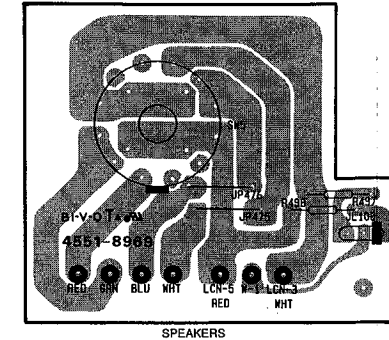


P. C. BOARDS (2)

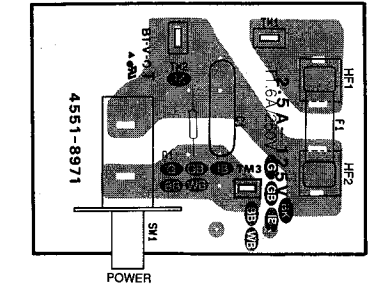
PCB-1 Main P.C. Board



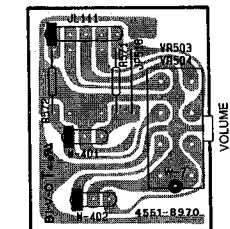
PCB-5 Speaker Switch P.C. Board



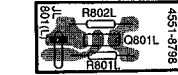
PCB-7 Power Switch P.C. Board



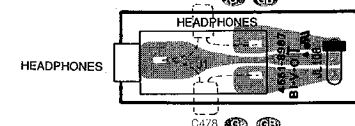
PCB-6 VR P.C. Board



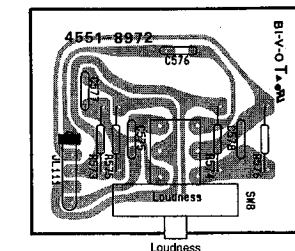
PCB-11 Bias P.C. Board (Lch)



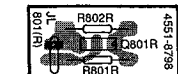
PCB-3 Headphones P.C. Board



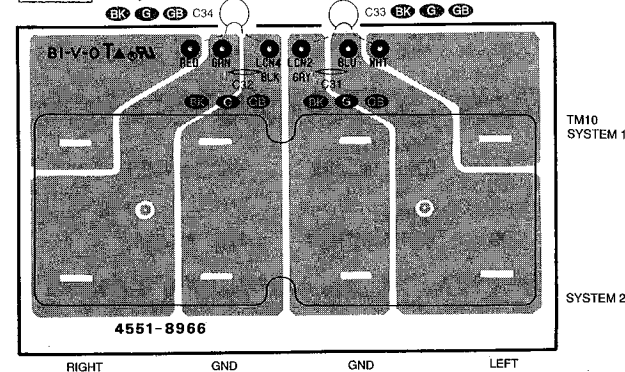
PCB-8 Loudness P.C. Board



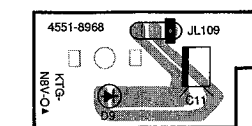
PCB-12 Bias P.C. Board (Rch)



PCB-2 Speaker Terminal P.C. Board



PCB-4 LED P.C. Board

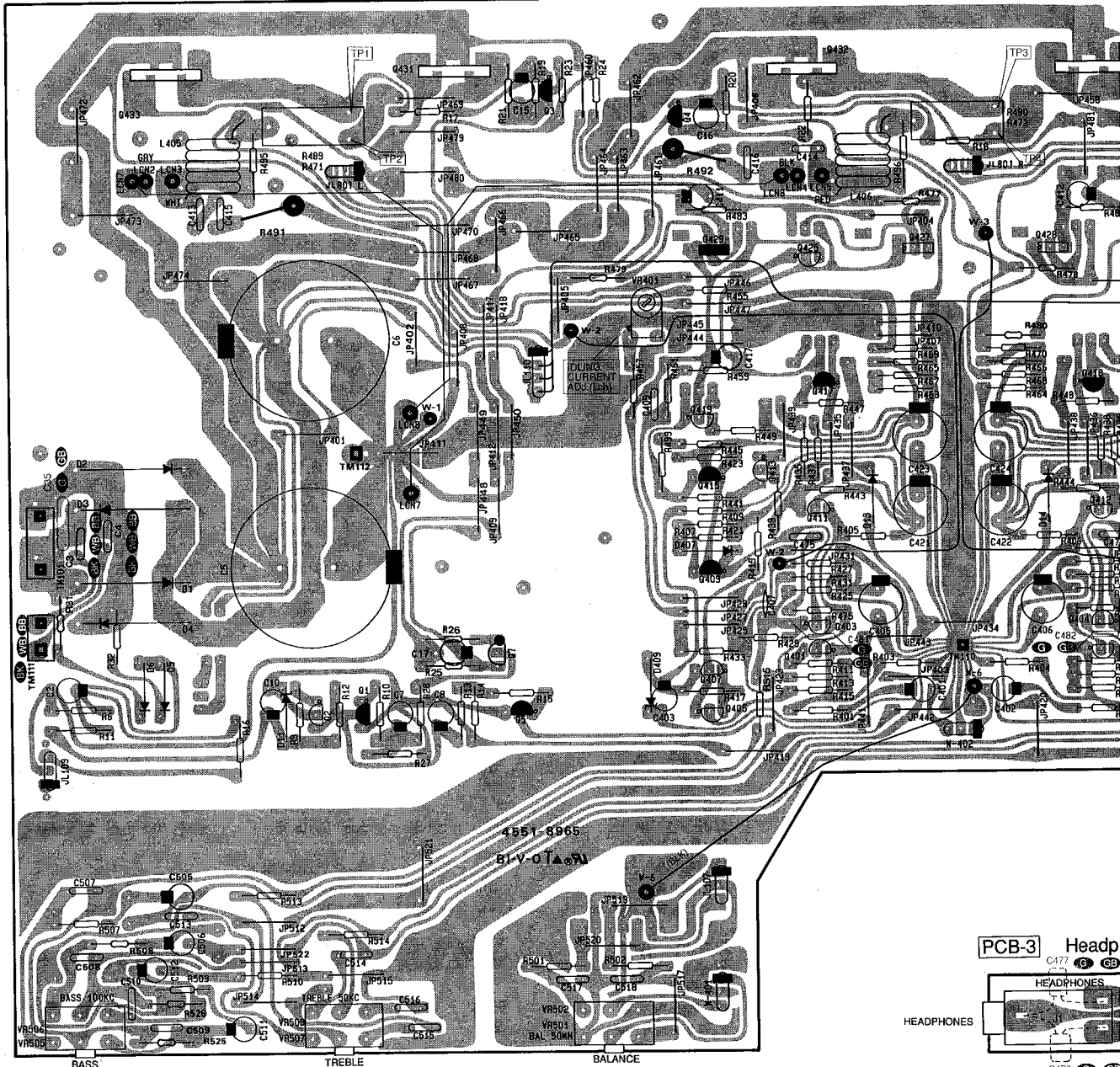


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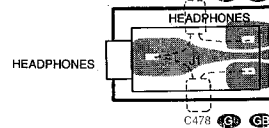
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P. C. BOARDS (2)

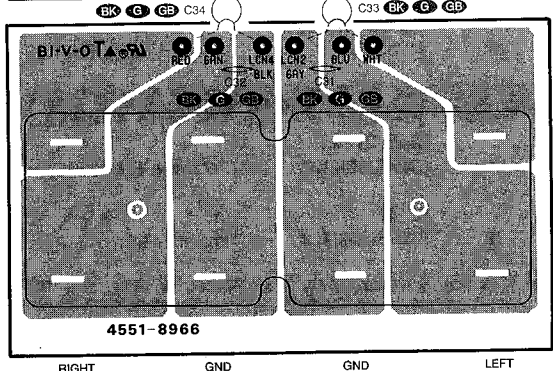
PCB-1 Main P.C. Board



PCB-3 Headp

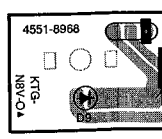


PCB-2 Speaker Terminal P.C. Board



TM10 SYSTEM 1
SYSTEM 2

PCB-4 LED



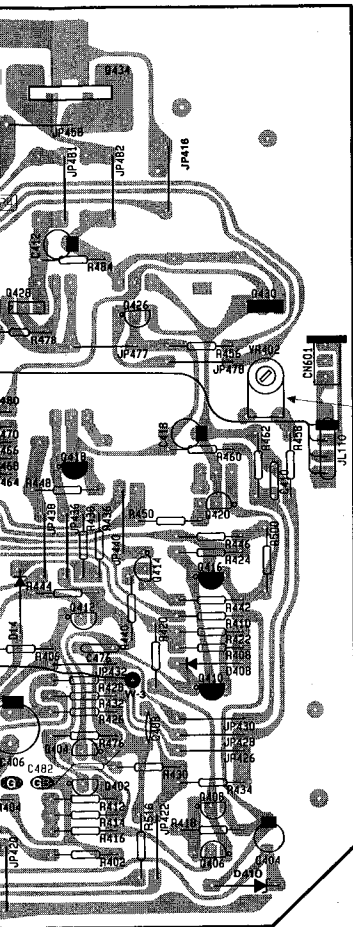
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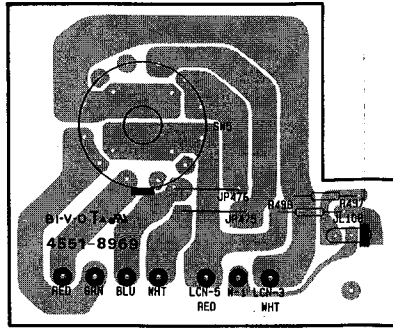
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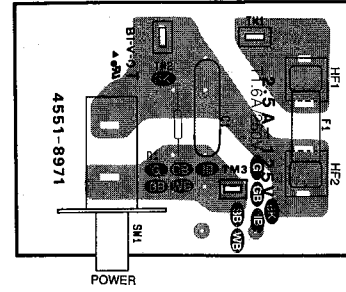
IDLING
CURRENT
ADJ.(Rch)

PCB-5 Speaker Switch P.C. Board

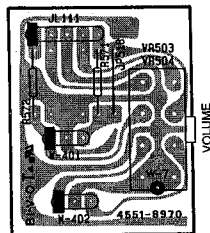


SPEAKERS

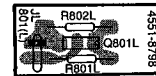
PCB-7 Power Switch P.C. Board



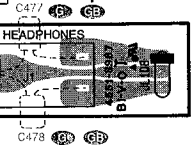
PCB-6 VR P.C. Board



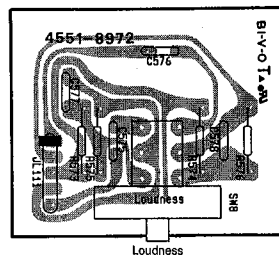
PCB-11 Bias P.C. Board (Lch)



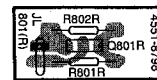
3 Headphones P.C. Board



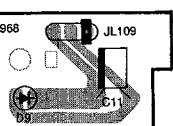
PCB-8 Loudness P.C. Board



PCB-12 Bias P.C. Board (Rch)



4 LED P.C. Board



ELECTRICAL PARTS LIST

Ser. No.	Ref. No.	Part No.	Description
PCB-1 MAIN P.C. BOARD			
CAPACITORS			
662	C2	5345-106F041	CAP, MINI ELE 10μ/50V
689	C3	5354-104593	CAP, MYL .1μ BK WB BB
689	C4	5354-104593	CAP, MYL .1μ BK WB BB
687	△ C5	5341-S07FM822	CAP, ELE 8200μ
687	△ C6	5341-S07FM822	CAP, ELE 8200μ
660	C7	5345-106F041	CAP, MINI ELE 10μ/50V
661	C8	5345-S19BM107	CAP, MINI ELE 100μ/10V
659	C10	5345-S19CM106	CAP, MINI ELE 10μ/16V
663	C15	5345-S19FM334	CAP, MINI ELE .33μ/50V
663	C16	5345-S19FM334	CAP, MINI ELE .33μ/50V
664	C17	5345-S19FM225	CAP, MINI ELE 2.2μ/50V
057B	C35	5352-1041957	CAP, MTL .1μ G GB
581	C401	5345-S19BM476	CAP, MINI ELE 47μ/10V
581	C402	5345-S19BM476	CAP, MINI ELE 47μ/10V
587	C403	5345-S19CM476	CAP, MINI ELE 47μ/16V
587	C404	5345-S19CM476	CAP, MINI ELE 47μ/16V
582	C405	5345-S19AM227	CAP, MINI ELE 220μ/6.3V
582	C406	5345-S19AM227	CAP, MINI ELE 220μ/6.3V
592	C407	5353-020934	CAP, MCA 2P
592	C408	5353-020934	CAP, MCA 2P
590	C409	5359-1015851	CAP, PPP 100P
590	C410	5359-1015851	CAP, PPP 100P
583	C411	5345-S19CM106	CAP, MINI ELE 10μ/16V
583	C412	5345-S19CM106	CAP, MINI ELE 10μ/16V
595	C413	5354-683593	CAP, MYL .068μ
595	C414	5354-683593	CAP, MYL .068μ
595	C415	5354-683593	CAP, MYL .068μ
595	C416	5354-683593	CAP, MYL .068μ
583	C417	5345-S19CM106	CAP, MINI ELE 10μ/16V
583	C418	5345-S19CM106	CAP, MINI ELE 10μ/16V
584	△ C421	5345-337F041	CAP, MINI ELE 330μ/50V
584	△ C422	5345-337F041	CAP, MINI ELE 330μ/50V
584	△ C423	5345-337F041	CAP, MINI ELE 330μ/50V
584	△ C424	5345-337F041	CAP, MINI ELE 330μ/50V
593	C475	5359-3315851	CAP, PPP 330P
593	C476	5359-3315851	CAP, PPP 330P
065B	C481	5359-1015851	CAP, PPP 100P G GB
065B	C482	5359-1015851	CAP, PPP 100P G GB
585	C505	5345-S19FM225	CAP, MINI ELE 2.2μ/50V
585	C506	5345-S19FM225	CAP, MINI ELE 2.2μ/50V
596	C507	5354-273J1HM	CAP, MYL .027μ
596	C508	5354-273J1HM	CAP, MYL .027μ
588	C509	5354-154593	CAP, MYL .15μ
588	C510	5354-154593	CAP, MYL .15μ
586	C511	5345-S19CM106	CAP, MINI ELE 10μ/16V
586	C512	5345-S19CM106	CAP, MINI ELE 10μ/16V
597	C513	5354-682J1HM	CAP, MYL 6800P
597	C514	5354-682J1HM	CAP, MYL 6800P
598	C515	5354-393J1HM	CAP, MYL .039μ
598	C516	5354-393J1HM	CAP, MYL .039μ
591	C517	5359-6805851	CAP, PPP 68P
591	C518	5359-6805851	CAP, PPP 68P
RESISTORS			
668	R6	5135-103522	RES, CBN 1/2P 10K
670	R9	5135-472522	RES, CBN 1/2P 4.7K
670	R10	5135-472522	RES, CBN 1/2P 4.7K
667	R11	5135-822522	RES, CBN 1/2P 8.2K
669	R12	5135-104522	RES, CBN 1/2P 100K
675	R13	5135-683522	RES, CBN 1/2P 68K
676	R14	5135-333522	RES, CBN 1/2P 33K
672	R15	5135-223522	RES, CBN 1/2P 22K
677	R16	5135-122522	RES, CBN 1/2P 1.2K
670	R17	5135-472522	RES, CBN 1/2P 4.7K
670	R18	5135-472522	RES, CBN 1/2P 4.7K
673	R19	5135-821522	RES, CBN 1/2P 820
673	R20	5135-821522	RES, CBN 1/2P 820
678	R21	5135-101522	RES, CBN 1/2P 100
678	R22	5135-101522	RES, CBN 1/2P 100
670	R23	5135-472522	RES, CBN 1/2P 4.7K
670	R24	5135-472522	RES, CBN 1/2P 4.7K
669	R25	5135-104522	RES, CBN 1/2P 100K
675	R26	5135-683522	RES, CBN 1/2P 68K

Ser. No.	Ref. No.	Part No.	Description
671	R27	5135-335522	RES, CBN 1/2P 3.3M
667	R28	5135-822522	RES, CBN 1/2P 8.2K
666	R31	5135-821522	RES, CBN 1/2P 820
666	R32	5135-821522	RES, CBN 1/2P 820
603	R401	5135-331522	RES, CBN 1/2P 330
603	R402	5135-331522	RES, CBN 1/2P 330
604	R403	5135-683522	RES, CBN 1/2P 68K
604	R404	5135-683522	RES, CBN 1/2P 68K
628	△ R405	5102-6814713	RES, FUSE 680
628	△ R406	5102-6814713	RES, FUSE 680
628	△ R407	5102-6814713	RES, FUSE 680
628	△ R408	5102-6814713	RES, FUSE 680
606	R409	5135-682522	RES, CBN 1/2P 6.8K
606	R410	5135-682522	RES, CBN 1/2P 6.8K
608	R411	5135-390522	RES, CBN 1/2P 39
608	R412	5135-390522	RES, CBN 1/2P 39
608	R413	5135-390522	RES, CBN 1/2P 39
608	R414	5135-390522	RES, CBN 1/2P 39
623	R415	5135-222522	RES, CBN 1/2P 2.2K
623	R416	5135-222522	RES, CBN 1/2P 2.2K
609	R417	5135-331522	RES, CBN 1/2P 330
609	R418	5135-331522	RES, CBN 1/2P 330
604	R419	5135-683522	RES, CBN 1/2P 68K
604	R420	5135-683522	RES, CBN 1/2P 68K
638	△ R421	5102-3315116	RES, FUSE 330
638	△ R422	5102-3315116	RES, FUSE 330
638	△ R423	5102-3315116	RES, FUSE 330
638	△ R424	5102-3315116	RES, FUSE 330
610	R425	5135-473522	RES, CBN 1/2P 47K
610	R426	5135-473522	RES, CBN 1/2P 47K
610	R427	5135-473522	RES, CBN 1/2P 47K
610	R428	5135-473522	RES, CBN 1/2P 47K
611	R429	5135-224522	RES, CBN 1/2P 220K
611	R430	5135-224522	RES, CBN 1/2P 220K
618	R431	5135-121522	RES, CBN 1/2P 120
618	R432	5135-121522	RES, CBN 1/2P 120
612	R433	5135-272522	RES, CBN 1/2P 2.7K BK BB WB
612B	R433	5135-242522	RES, CBN 1/2P 2.4K G GB IB
612	R434	5135-272522	RES, CBN 1/2P 2.7K BK BB WB
612B	R434	5135-242522	RES, CBN 1/2P 2.4K G GB IB
613	R435	5135-223522	RES, CBN 1/2P 22K
613	R436	5135-223522	RES, CBN 1/2P 22K
613	R437	5135-223522	RES, CBN 1/2P 22K
613	R438	5135-223522	RES, CBN 1/2P 22K
624	R439	5135-153522	RES, CBN 1/2P 15K
624	R440	5135-153522	RES, CBN 1/2P 15K
614	R441	5135-123522	RES, CBN 1/2P 12K
614	R442	5135-123522	RES, CBN 1/2P 12K
633	R443	5174-222381	RES, MTL 1/4P 2.2K
633	R444	5174-222381	RES, MTL 1/4P 2.2K
633	R445	5174-222381	RES, MTL 1/4P 2.2K
633	R446	5174-222381	RES, MTL 1/4P 2.2K
636	△ R447	5102-4705116	RES, FUSE 47
636	△ R448	5102-4705116	RES, FUSE 47
636	△ R449	5102-4705116	RES, FUSE 47
636	△ R450	5102-4705116	RES, FUSE 47
602	R455	5135-221522	RES, CBN 1/2P 220
602	R456	5135-221522	RES, CBN 1/2P 220
615	R457	5135-391522	RES, CBN 1/2P 390
615	R458	5135-391522	RES, CBN 1/2P 390
625	R459	5135-183522	RES, CBN 1/2P 18K
625	R460	5135-183522	RES, CBN 1/2P 18K
625	R461	5135-183522	RES, CBN 1/2P 18K
625	R462	5135-183522	RES, CBN 1/2P 18K
617	R463	5135-100522	RES, CBN 1/2P 10
617	R464	5135-100522	RES, CBN 1/2P 10
617	R465	5135-100522	RES, CBN 1/2P 10
617	R466	5135-100522	RES, CBN 1/2P 10
637	△ R467	5102-1005116	RES, FUSE 10
637	△ R468	5102-1005116	RES, FUSE 10
637	△ R469	5102-1005116	RES, FUSE 10
637	△ R470	5102-1005116	RES, FUSE 10

Ser. No.	Ref. No.	Part No.	Description
639	R471/489	5273-R27672	RES, CEM 3P .27
639	R472/490	5273-R27672	RES, CEM 3P .27
605	R475	5135-331522	RES, CBN 1/2P 330
605	R476	5135-331522	RES, CBN 1/2P 330
640	△ R477	5102-5R65116	RES, FUSE 5.6
640	△ R478	5102-5R65116	RES, FUSE 5.6
640	△ R479	5102-5R65116	RES, FUSE 5.6
640	△ R480	5102-5R65116	RES, FUSE 5.6
616	R483	5135-820522	RES, CBN 1/2P 82
616	R484	5135-820522	RES, CBN 1/2P 82
627	R491	5175-100581	RES, MTL 3P 10
627	R492	5175-100581	RES, MTL 3P 10
626	R495	5171-1R0581	RES, MTL 1P 1
626	R496	5171-1R0581	RES, MTL 1P 1
607	R499	5135-680522	RES, CBN 1/2P 68
607	R500	5135-680522	RES, CBN 1/2P 68
619	R501	5135-331522	RES, CBN 1/2P 330
619	R502	5135-331522	RES, CBN 1/2P 330
620	R507	5135-153522	RES, CBN 1/2P 15K
620	R508	5135-153522	RES, CBN 1/2P 15K
621	R509	5135-272522	RES, CBN 1/2P 2.7K
621	R510	5135-272522	RES, CBN 1/2P 2.7K
622	R513	5135-331522	RES, CBN 1/2P 330
622	R514	5135-331522	RES, CBN 1/2P 330
622	R515	5135-331522	RES, CBN 1/2P 330
622	R516	5135-331522	RES, CBN 1/2P 330
604	R525	5135-683522	RES, CBN 1/2P 68K
604	R526	5135-683522	RES, CBN 1/2P 68K

TRANSISTORS

652	Q1	5611-933S(S)	XISTOR, PNP R
651	Q2	5613-1740S(S)	XISTOR, NPN R
655	Q3	5611-970(BL)	XISTOR, PNP R
653	Q4	5611-970(BL)	XISTOR, PNP R
653	Q5	5611-970(BL)	XISTOR, PNP R
651	Q7	5613-1740S(S)	XISTOR, NPN R
561	Q401	5613-2240(BL)	XISTOR, NPN R
561	Q402	5613-2240(BL)	XISTOR, NPN R
561	Q403	5613-2240(BL)	XISTOR, NPN R
561	Q404	5613-2240(BL)	XISTOR, NPN R
562	Q405	5613-2320L(F)	XISTOR, NPN R
562	Q406	5613-2320L(F)	XISTOR, NPN R
562	Q407	5613-2320L(F)	XISTOR, NPN R
562	Q408	5613-2320L(F)	XISTOR, NPN R
563	Q409	5611-970(BL)	XISTOR, PNP R
563	Q410	5611-970(BL)	XISTOR, PNP R
574	Q411	5613-2320L(F)	XISTOR, NPN R
574	Q412	5613-2320L(F)	XISTOR, NPN R
573	Q413	5613-2240(BL)	XISTOR, NPN R
573	Q414	5613-2240(BL)	XISTOR, NPN R
578	Q415	5611-999L(F)	XISTOR, PNP R
578	Q416	5611-999L(F)	XISTOR, PNP R
564	Q417	5612-646A(C)	XISTOR, PNP A
564	Q418	5612-646A(C)	XISTOR, PNP A
565	Q419	5614-666A(C)	XISTOR, NPN A
565	Q420	5614-666A(C)	XISTOR, NPN A
566	Q425	5613-945(P)	XISTOR, NPN R
566	Q426	5613-945(P)	XISTOR, NPN R
567	Q427	5613-3298(Y)	XISTOR, NPN R
567	Q428	5613-3298(Y)	XISTOR, NPN R
568	Q429	5611-1306(Y)	XISTOR, PNP R
568	Q430	5611-1306(Y)	XISTOR, PNP R
569	△ Q431	5613-3182(O)	XISTOR, NPN R
569	△ Q432	5613-3182(O)	XISTOR, NPN R
571	△ Q433	5611-1265(O)	XISTOR, PNP R
571	△ Q434	5611-1265(O)	XISTOR, PNP R

DIODES

681	△ D1	5632-ERC402FL	DIODE, RECT
681	△ D2	5632-ERC402FL	DIODE, RECT
681	△ D3	5632-ERC402FL	DIODE, RECT
681	△ D4	5632-ERC402FL	DIODE, RECT
656	△ D5	5636-1S2471	DIODE, SWITCH
656	△ D6	5636-1S2471	DIODE, SWITCH
657	D11	5635-HZ6B-1L	DIODE, ZENER
658	D13	5631-1S2473	DIODE, DET

Ser. No.	Ref. No.	Part No.	Description
658	D14	5631-1S2473	DIODE, DET
575	D407	5631-1S2473	DIODE, DET
575	D408	5631-1S2473	DIODE, DET
576	D409	5635-HZ12B2L	DIODE, ZENER
576	D410	5635-HZ12B2L	DIODE, ZENER
COILS			
644	L405	5991-7125	SPRING COIL
644	L406	5991-7125	SPRING COIL
CONTROLS			
641	VR401	5101-50171913	RES, SEMI FIX 500
641	VR402	5101-50171913	RES, SEMI FIX 500
720	VR501/502	5113-S1501503	RES, V CBN 16 50K, BALANCE
714	VR505/506	5113-10447122	RES, V CBN 16 100K, BASS
717	VR507/508	5113-50348122	RES, V CBN 16 50K, TREBLE
MISCELLANEOUS			
699	CN601	4443-030185	CONNECTOR
764	JL107	4242-R0203600	JUMPER LEAD
763	JL109	4242-R0203201	JUMPER LEAD
762	JL110	4242-R0104181	JUMPER LEAD
755	JL801L	4132-R0202101	CORD, 2C
755	JL801R	4132-R0202101	CORD, 2C
747	LCN2	4163-0140026	CONNECTOR W/W
748	LCN3	4163-0140027	CONNECTOR W/W
749	LCN4	4163-0140024	CONNECTOR W/W
750	LCN5	4163-0140025	CONNECTOR W/W
751	LCN7	4163-0112024	CONNECTOR W/W
751	LCN8	4163-0112024	CONNECTOR W/W
694	△ TM101	4214-11023	TERMINAL
646	△ TM110	4214-11013	TERMINAL
645	△ TM111	4214-11021	TERMINAL BK W/B BB
646	△ TM112	4214-11013	TERMINAL

PCB-2 SPEAKER P.C. BOARD

CAPACITORS			
691	C31	5359-S010K151	CAP, PPP 150P BK G GB
691	C32	5359-S010K151	CAP, PPP 150P BK G GB
692	C33	5359-S010K151	CAP, PPP 150P BK G GB
692	C34	5359-S010K151	CAP, PPP 150P BK G GB
MISCELLANEOUS			
761	JL120	4242-043805	JUMPER LEAD
743	△ TM10	4214-156	TERMINAL, SPEAKER

PCB-3 HEADPHONES P.C. BOARD

CAPACITORS			
068B	C477	5359-S010K331	CAP, PPP 330P G GB
068B	C478	5359-S010K331	CAP, PPP 330P G GB
RESISTORS			
632	R497	5135-561522	RES, CBN 1/2P 560
632	R498	5135-561522	RES, CBN 1/2P 560
MISCELLANEOUS			
736	J1	4451-51501	JACK, 1P, HEADPHONES

PCB-4 LED P.C. BOARD

CAPACITOR			
665	C11	5345-S19CM106	CAP, MINI ELE 10µ/16V
DIODE			
741	D9	5637-SLR33MC3	LED, POWER

PCB-5 SPEAKER SWITCH P.C. BOARD

MISCELLANEOUS			
765	JL108	4242-R0103101	JUMPER LEAD
729	SW5	4411-00306403	SWITCH, ROTARY, SPEAKERS

PCB-6 VR P.C. BOARD

RESISTORS
 631 R571 5135-273522 RES, CBN 1/2P 27K
 631 R572 5135-273522 RES, CBN 1/2P 27K

CONTROLS
 711 VR503/504 5113-S1401104 RES, V CBN 16 100K, VOLUME

PCB-7 POWER SWITCH P.C. BOARD

CAPACITORS
 688 C1 5352-S010M103 CAP, MTL .01μ (G) (GB)
 688B C1 5352-1030958 CAP, MTL .01μ (G) (GB) (WB) (BB) (IB)

RESISTOR
 054B R1 5135-335522 RES, CBN 1/2P 3.3M (G) (GB) (WB) (BB) (IB)

MISCELLANEOUS
 684 HF1 4472-04501 HOLDER, FUSE
 684 HF2 4472-04501 HOLDER, FUSE
 732 SW1 4433-00401 SWITCH, PU-PW, POWER
 696 TM1 4214-122 TERMINAL
 696 TM2 4214-122 TERMINAL (BK)
 696 TM3 4214-122 TERMINAL

PCB-8 LOUDNESS P.C. BOARD

CAPACITORS
 589 C575 5359-1815851 CAP, PPP 180P
 589 C576 5359-1815851 CAP, PPP 180P
 594 C577 5354-823J1HM CAP, MYL .082μ
 594 C578 5354-823J1HM CAP, MYL .082μ

RESISTORS
 629 R573 5135-472522 RES, CBN 1/2P 4.7K
 629 R574 5135-472522 RES, CBN 1/2P 4.7K
 630 R575 5135-273522 RES, CBN 1/2P 27K
 630 R576 5135-273522 RES, CBN 1/2P 27K

MISCELLANEOUS
 766 JL111 4242-R0105800 JUMPER LEAD
 733 SW8 4431-A027610 SWITCH, PUSH, LOUDNESS

PCB-9 FUNCTION P.C. BOARD

MISCELLANEOUS
 700 CN107 4443-030185 CONNECTOR
 768 JL101 4242-R0103181 JUMPER LEAD
 769 JL103 4242-R0104301 JUMPER LEAD
 772 JL104 4242-R0107301 JUMPER LEAD
 771 JL105 4242-R0107251 JUMPER LEAD
 770 JL106 4242-R0105181 JUMPER LEAD
 753 LCN10 4163-0112039 CONNECTOR W/W
 723 SW3 4411-00214204 SWITCH, ROTARY, SOURCE
 726 SW4 4411-00213404 SWITCH, ROTARY, TAPE MONITOR
 695 TM102 4214-11013 TERMINAL

PCB-10 EQUALIZER P.C. BOARD

CAPACITORS
 058B C552 5361-103ZF CAP, CER .01μ (G) (GB)
 059B C553 5361-101KSL CAP, CER 100P (G) (GB)
 059B C554 5361-101KSL CAP, CER 100P (G) (GB)
 060B C555 5361-101KSL CAP, CER 100P (G) (GB)
 060B C556 5361-101KSL CAP, CER 100P (G) (GB)
 058B C557 5361-103ZF CAP, CER .01μ (G) (GB)
 513 C601 5345-S19CM336 CAP, MINI ELE 33μ/16V
 513 C602 5345-S19CM336 CAP, MINI ELE 33μ/16V
 520 C603 5359-1215851 CAP, PPP 120P
 520 C604 5359-1215851 CAP, PPP 120P
 514 C605 5345-S19AM227 CAP, MINI ELE 220μ/6.3V

PCB-11 BIAS (LCH) P.C. BOARD

514 C606 5345-S19AM227 CAP, MINI ELE 220μ/6.3V
 521 C607 5359-5625851 CAP, PPP 5600P
 521 C608 5359-5625851 CAP, PPP 5600P
 522 C609 5359-2025851 CAP, PPP 2000P
 522 C610 5359-2025851 CAP, PPP 2000P
 515 C611 5345-S19CM106 CAP, MINI ELE 10μ/16V
 515 C612 5345-S19CM106 CAP, MINI ELE 10μ/16V
 517 C613 5345-337F041 CAP, MINI ELE 330μ/50V
 516 C614 5345-227D041 CAP, MINI ELE 220μ/25V
 516 C615 5345-227D041 CAP, MINI ELE 220μ/25V
 523 C617 5353-040934 CAP, MCA 4P
 523 C618 5353-040934 CAP, MCA 4P
 519 C619 5359-6825851 CAP, PPP 6800P
 519 C620 5359-6825851 CAP, PPP 6800P
 056B C631 5353-101534 CAP, MCA 100P (G) (GB)
 056B C632 5353-101534 CAP, MCA 100P (G) (GB)
 059B C633 5361-101KSL CAP, CER 100P (G) (GB)
 059B C634 5361-101KSL CAP, CER 100P (G) (GB)

RESISTORS
 064B R561 5135-102522 RES, CBN 1/2P 1K (G) (GB)
 064B R562 5135-102522 RES, CBN 1/2P 1K (G) (GB)
 064B R563 5135-102522 RES, CBN 1/2P 1K (G) (GB)
 064B R564 5135-102522 RES, CBN 1/2P 1K (G) (GB)
 526 R601 5232-823J16P RES, CBN 1/6P 82K
 526 R602 5232-823J16P RES, CBN 1/6P 82K
 527 R603 5232-124J16P RES, CBN 1/6P 120K
 527 R604 5232-124J16P RES, CBN 1/6P 120K
 528 R605 5232-221J16P RES, CBN 1/6P 220
 528 R606 5232-221J16P RES, CBN 1/6P 220
 529 R607 5178-122381 RES, MTL 1/6P 1.2K
 529 R608 5178-122381 RES, MTL 1/6P 1.2K
 530 R609 5178-220381 RES, MTL 1/6P 22
 530 R610 5178-220381 RES, MTL 1/6P 22
 531 R611 5178-122381 RES, MTL 1/6P 1.2K
 531 R612 5178-122381 RES, MTL 1/6P 1.2K
 532 R613 5232-473J16P RES, CBN 1/6P 47K
 532 R614 5232-473J16P RES, CBN 1/6P 47K
 541 R615 5232-820J16P RES, CBN 1/6P 82
 541 R616 5232-820J16P RES, CBN 1/6P 82
 533 R617 5232-121J16P RES, CBN 1/6P 120
 533 R618 5232-121J16P RES, CBN 1/6P 120
 534 R621 5232-821J16P RES, CBN 1/6P 820
 534 R622 5232-821J16P RES, CBN 1/6P 820
 535 R623 5232-393J16P RES, CBN 1/6P 39K
 535 R624 5232-393J16P RES, CBN 1/6P 39K
 536 R625 5232-564J16P RES, CBN 1/6P 560K
 536 R626 5232-564J16P RES, CBN 1/6P 560K
 537 R627 5232-334J16P RES, CBN 1/6P 330K
 537 R628 5232-334J16P RES, CBN 1/6P 330K
 538 R629 5232-102J16P RES, CBN 1/6P 1K
 538 R630 5232-102J16P RES, CBN 1/6P 1K
 539 R631 5232-104J16P RES, CBN 1/6P 100K
 539 R632 5232-104J16P RES, CBN 1/6P 100K
 543 R633 5232-331J16P RES, CBN 1/6P 330
 543 R634 5232-331J16P RES, CBN 1/6P 330
 542 R635 5232-222J16P RES, CBN 1/6P 2.2K
 542 R636 5232-222J16P RES, CBN 1/6P 2.2K
 545 R637 5135-821522 RES, CBN 1/2P 820
 546 R638 5135-681522 RES, CBN 1/2P 680
 551 R639 5102-1814715 RES, FUSE 180 (BK)
 551B R639 5102-6804715 RES, FUSE 68 (G) (GB) (WB) (BB) (IB)
 544 R641 5135-472522 RES, CBN 1/2P 4.7K
 547 R643 5232-105J16P RES, CBN 1/6P 1M
 547 R644 5232-105J16P RES, CBN 1/6P 1M
 545 R645 5135-821522 RES, CBN 1/2P 820 (BK)
 546 R647 5135-681522 RES, CBN 1/2P 680
 055B R651 5232-102J16P RES, CBN 1/6P 1K (G) (GB)
 055B R652 5232-102J16P RES, CBN 1/6P 1K (G) (GB)
 055B R653 5232-102J16P RES, CBN 1/6P 1K (G) (GB)
 055B R654 5232-102J16P RES, CBN 1/6P 1K (G) (GB)
 055B R655 5232-102J16P RES, CBN 1/6P 1K (G) (GB)
 055B R656 5232-102J16P RES, CBN 1/6P 1K (G) (GB)
 055B R657 5232-102J16P RES, CBN 1/6P 1K (G) (GB)
 055B R658 5232-102J16P RES, CBN 1/6P 1K (G) (GB)

PCB-12 BIAS (RCH) P.C. BOARD

055B R659 5232-102J16P RES, CBN 1/6P 1K (G) (GB)
 055B R660 5232-102J16P RES, CBN 1/6P 1K (G) (GB)
 055B R671 5232-102J16P RES, CBN 1/6P 1K (G) (GB)
 055B R672 5232-102J16P RES, CBN 1/6P 1K (G) (GB)
 055B R673 5232-102J16P RES, CBN 1/6P 1K (G) (GB)
 055B R674 5232-102J16P RES, CBN 1/6P 1K (G) (GB)
 540 R681 5232-222J16P RES, CBN 1/6P 2.2K
 540 R682 5232-222J16P RES, CBN 1/6P 2.2K

TRANSISTORS
 501 Q601 5613-2320L(F) XISTOR, NPN R
 501 Q602 5613-2320L(F) XISTOR, NPN R
 503 Q603 5611-999L(F) XISTOR, PNP R
 503 Q604 5611-999L(F) XISTOR, PNP R
 504 Q605 5611-999L(F) XISTOR, PNP R
 504 Q606 5611-999L(F) XISTOR, PNP R
 501 Q607 5613-2320L(F) XISTOR, NPN R
 501 Q608 5613-2320L(F) XISTOR, NPN R
 501 Q609 5613-2320L(F) XISTOR, NPN R
 501 Q610 5613-2320L(F) XISTOR, NPN R
 501 Q611 5613-2320L(F) XISTOR, NPN R
 501 Q612 5613-2320L(F) XISTOR, NPN R
 505 Q613 5612-941(Q) XISTOR, PNP A

DIODES
 509 D601 5635-HZ15-2L DIODE, ZENER
 510 D602 5635-HZ9B-2L DIODE, ZENER
 510 D603 5635-HZ9B-2L DIODE, ZENER

MISCELLANEOUS
 737 J2 4482-0133 PIN JACK, 2P, PHONO
 738 J3 4484-46 PIN JACK, 4P, TAPE 1 IN/OUT
 738 J4 4484-46 PIN JACK, 4P, TAPE 2 IN/OUT
 739 J5 4486-15 PIN JACK, 6P, TUNER/CD/VIDEO
 767 JL102 4242-R0203101 JUMPER LEAD
 752 LCN601 4163-0145039 CONNECTOR W/W

PCB-11 BIAS (LCH) P.C. BOARD

RESISTORS
 634 R801L 5135-182522 RES, CBN 1/2P 1.8K
 635 R802L 5135-122522 RES, CBN 1/2P 1.2K

TRANSISTOR
 579 Q801L 5613-2682(Q)OR(P) XISTOR, NPN R

PCB-12 BIAS (RCH) P.C. BOARD

RESISTORS
 634 R801R 5135-182522 RES, CBN 1/2P 1.8K
 635 R802R 5135-122522 RES, CBN 1/2P 1.2K

TRANSISTOR
 579 Q801R 5613-2682(Q)OR(P) XISTOR, NPN R

CHASSIS MISCELLANEOUS

689 C3 5354-104593 CAP, MYL .1μ (G) (GB) (IB)
 689 C4 5354-104593 CAP, MYL .1μ (G) (GB) (IB)
 690 C18 5354-104593 CAP, MYL .1μ (BK) (BB) (WB)
 690 C19 5354-104593 CAP, MYL .1μ (BK) (BB) (WB)
 690 C20 5354-104593 CAP, MYL .1μ (BK) (BB) (WB)
 690 C21 5354-104593 CAP, MYL .1μ (BK) (BB) (WB)
 052B C01 4443-712 CONNECTOR (G) (GB) (WB) (BB) (IB)
 685 F1 5732-252031 FUSE, 2.5A/125V (BK)
 685B F1 5732-162052 FUSE, T1.6A/250V (G) (GB) (WB) (BB) (IB)
 745 P1 4161-71151 CORD W/PLUG (BK)
 745B P1 4161-7256 CORD W/PLUG (G) (GB) (WB) (BB) (IB)

745E P1 4161-04100 CORD W/PLUG (BB)
 744 S01 4474-227 SOCKET, AC OUTLET (BK)

PACKAGE PARTS LIST

734 SW2 4464-00102022 SWITCH, SEESW, SPEAKER OPERATING MODE (BK) (BB) (WB)
 051B SW101 4467-012 SELECTOR, VOLTAGE (G) (GB) (WB) (BB) (IB)
 683 T1 5584-T0604 XFORMER, POWER (BK)
 683B T1 5584-T0605 XFORMER, POWER (G) (GB) (IB)
 683D T1 5584-T0606 XFORMER, POWER (WB) (BB)
 053B 4150-8 TUBING, SPE (G) (GB) (WB) (BB) (IB)
 062B LUG 4211-4 LUG, MAIN H/S (G) (GB)

PACKAGE PARTS LIST

021 1756-06304 LABEL, 230V/50Hz (G) (GB) (WB) (BB) (IB)
 022 1756-03124 LABEL (G), (x2) (G) (GB)
 022 1756-03101 LABEL (W), (x2) (WB)
 022 1756-03111 LABEL (B), (x2) (BB)
 022 1756-03108 LABEL (I), (x2) (IB)
 027 1756-08501 LABEL, 240V (BB)
 028 1111-J30319 OWNER GUIDE, ADDENDUM FOR AUSTRALIA (BB)
 028 1111-0370J152 OWNER GUIDE, VOLTAGE SELECTOR ADDENDUM (WB)
 107 1111-0250J152 OWNER GUIDE, OG (BK) (BB) (WB)
 107 1111-0260J152 OWNER GUIDE, OG (G) (GB) (IB)
 108 1113-02501 OWNER CARD (BK)
 109 1116-03801 GUARANT CARD, WARRANTY (BK)
 110 1119-04501 ATTACH SHEET, SERVICE GUIDE (BK)
 111 1119-01201 ATTACH SHEET, UL (BK)
 121 1241-R0123351 POLYETHY BAG, OG
 122 1241-R0160601 POLYETHY BAG, SET
 124 1221-7107144 CARTON BOX (G)
 124 1221-7117144 CARTON BOX (BK) (GB) (WB) (BB) (IB)
 125 1222-7216 CUSHION (x2)
 127 1223-11729 SOFT SHEET

ABBREVIATIONS IN PARTS LIST

CAPACITORS
 CAP, MINI ELE : Electrolytic
 CAP, CER : Ceramic
 CAP, PPP : Polypropylene
 CAP, MYL : Mylar
 CAP, MCA : Mica
 470μ : 470μF
 6800P : 6800pF
 .047μ : 0.047μF

RESISTORS
 RES, CBN 1/6P : Carbon 1/6W
 2.2K : 2.2kΩ
 220 : 220Ω
 RES, FUSE : Fuse
 RES, CEM 5P : Cement 5W
 RES, MTL 1P : Metal 1W

TRANSISTORS
 XISTOR : Transistor
 FET : Field Effect Transistor

CONTROLS
 RES, V CBN : Variable Carbon Resistor
 RES, SEMI FIX : Semi - fixed Resistors

NOTE:
 SAFETY RELATED COMPONENT. USE ONLY EXACT REPLACEMENT PART AS SPECIFIED.

Ser. No. Ref. No. Part No. Description

PCB-6 VR P.C. BOARD

RESISTORS

631	R571	5135-273522	RES, CBN 1/2P 27K
631	R572	5135-273522	RES, CBN 1/2P 27K

CONTROLS

711	VR503/504	5113-S1401104	RES, V CBN 16 100K, VOLUME
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PCB-7 POWER SWITCH P.C. BOARD

CAPACITORS

688	△ C1	5352-S010M103	CAP, MTL .01μ BK
688B	△ C1	5352-1030958	CAP, MTL .01μ G GB WB BB IB

RESISTOR

054B	△ R1	5135-335522	RES, CBN 1/2P 3.3M G GB WB BB IB
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MISCELLANEOUS

684	△ HF1	4472-04501	HOLDER, FUSE
684	△ HF2	4472-04501	HOLDER, FUSE
732	△ SW1	4433-00401	SWITCH, PU-PW, POWER
696	TM1	4214-122	TERMINAL
696	TM2	4214-122	TERMINAL BK
696	TM3	4214-122	TERMINAL

PCB-8 LOUDNESS P.C. BOARD

CAPACITORS

589	C575	5359-1815851	CAP, PPP 180P
589	C576	5359-1815851	CAP, PPP 180P
594	C577	5354-823J1HM	CAP, MYL .082μ
594	C578	5354-823J1HM	CAP, MYL .082μ

RESISTORS

629	R573	5135-472522	RES, CBN 1/2P 4.7K
629	R574	5135-472522	RES, CBN 1/2P 4.7K
630	R575	5135-273522	RES, CBN 1/2P 27K
630	R576	5135-273522	RES, CBN 1/2P 27K

MISCELLANEOUS

766	JL111	4242-R0105800	JUMPER LEAD
733	SW8	4431-A027610	SWITCH, PUSH, LOUDNESS

PCB-9 FUNCTION P.C. BOARD

MISCELLANEOUS

700	CN107	4443-030185	CONNECTOR
768	JL101	4242-R0103181	JUMPER LEAD
769	JL103	4242-R0104301	JUMPER LEAD
772	JL104	4242-R0107301	JUMPER LEAD
771	JL105	4242-R0107251	JUMPER LEAD
770	JL106	4242-R0105181	JUMPER LEAD
753	△ LCN10	4163-0112039	CONNECTOR W/W
723	SW3	4411-00214204	SWITCH, ROTARY, SOURCE
726	SW4	4411-00213404	SWITCH, ROTARY, TAPE MONITOR
695	△ TM102	4214-11013	TERMINAL

PCB-10 EQUALIZER P.C. BOARD

CAPACITORS

058B	C552	5361-103ZF	CAP, CER .01μ G GB
059B	C553	5361-101KSL	CAP, CER 100P G GB
059B	C554	5361-101KSL	CAP, CER 100P G GB
060B	C555	5361-101KSL	CAP, CER 100P G GB
060B	C556	5361-101KSL	CAP, CER 100P G GB
058B	C557	5361-103ZF	CAP, CER .01μ G GB
513	C601	5345-S19CM336	CAP, MINI ELE 33μ/16V
513	C602	5345-S19CM336	CAP, MINI ELE 33μ/16V
520	C603	5359-1215851	CAP, PPP 120P
520	C604	5359-1215851	CAP, PPP 120P
514	C605	5345-S19AM227	CAP, MINI ELE 220μ/6.3V

Ser. No. Ref. No. Part No. Description

514	C606	5345-S19AM227	CAP, MINI ELE 220μ/6.3V
521	C607	5359-5625851	CAP, PPP 5600P
521	C608	5359-5625851	CAP, PPP 5600P
522	C609	5359-2025851	CAP, PPP 2000P
522	C610	5359-2025851	CAP, PPP 2000P
515	C611	5345-S19CM106	CAP, MINI ELE 10μ/16V
515	C612	5345-S19CM106	CAP, MINI ELE 10μ/16V
517	C613	5345-337F041	CAP, MINI ELE 330μ/50V
516	C614	5345-227D041	CAP, MINI ELE 220μ/25V
516	C615	5345-227D041	CAP, MINI ELE 220μ/25V
523	C617	5353-040934	CAP, MCA 4P
523	C618	5353-040934	CAP, MCA 4P
519	C619	5359-6825851	CAP, PPP 6800P
519	C620	5359-6825851	CAP, PPP 6800P
056B	C631	5353-101534	CAP, MCA 100P G GB
056B	C632	5353-101534	CAP, MCA 100P G GB
059B	C633	5361-101KSL	CAP, CER 100P G GB
059B	C634	5361-101KSL	CAP, CER 100P G GB

RESISTORS

064B	R561	5135-102522	RES, CBN 1/2P 1K G GB
064B	R562	5135-102522	RES, CBN 1/2P 1K G GB
064B	R563	5135-102522	RES, CBN 1/2P 1K G GB
064B	R564	5135-102522	RES, CBN 1/2P 1K G GB
526	R601	5232-823J16P	RES, CBN 1/6P 82K
526	R602	5232-823J16P	RES, CBN 1/6P 82K
527	R603	5232-124J16P	RES, CBN 1/6P 120K
527	R604	5232-124J16P	RES, CBN 1/6P 120K
528	R605	5232-221J16P	RES, CBN 1/6P 220
528	R606	5232-221J16P	RES, CBN 1/6P 220
529	R607	5178-122381	RES, MTL 1/6P 1.2K
529	R608	5178-122381	RES, MTL 1/6P 1.2K
530	R609	5178-220381	RES, MTL 1/6P 22
530	R610	5178-220381	RES, MTL 1/6P 22
531	R611	5178-122381	RES, MTL 1/6P 1.2K
531	R612	5178-122381	RES, MTL 1/6P 1.2K
532	R613	5232-473J16P	RES, CBN 1/6P 47K
532	R614	5232-473J16P	RES, CBN 1/6P 47K
541	R615	5232-820J16P	RES, CBN 1/6P 82
541	R616	5232-820J16P	RES, CBN 1/6P 82
533	R617	5232-121J16P	RES, CBN 1/6P 120
533	R618	5232-121J16P	RES, CBN 1/6P 120
534	R621	5232-821J16P	RES, CBN 1/6P 820
534	R622	5232-821J16P	RES, CBN 1/6P 820
535	R623	5232-393J16P	RES, CBN 1/6P 39K
535	R624	5232-393J16P	RES, CBN 1/6P 39K
536	R625	5232-564J16P	RES, CBN 1/6P 560K
536	R626	5232-564J16P	RES, CBN 1/6P 560K
537	R627	5232-334J16P	RES, CBN 1/6P 330K
537	R628	5232-334J16P	RES, CBN 1/6P 330K
538	R629	5232-102J16P	RES, CBN 1/6P 1K
538	R630	5232-102J16P	RES, CBN 1/6P 1K
539	R631	5232-104J16P	RES, CBN 1/6P 100K
539	R632	5232-104J16P	RES, CBN 1/6P 100K
543	R633	5232-331J16P	RES, CBN 1/6P 330
543	R634	5232-331J16P	RES, CBN 1/6P 330
542	R635	5232-222J16P	RES, CBN 1/6P 2.2K
542	R636	5232-222J16P	RES, CBN 1/6P 2.2K
545	R637	5135-821522	RES, CBN 1/2P 820
546	R638	5135-681522	RES, CBN 1/2P 680
551	△ R639	5102-1814715	RES, FUSE 180 BK
551B	△ R639	5102-6804715	RES, FUSE 68 G GB WB BB IB

RESISTORS

544	R641	5135-472522	RES, CBN 1/2P 4.7K
547	R643	5232-105J16P	RES, CBN 1/6P 1M
547	R644	5232-105J16P	RES, CBN 1/6P 1M
545	R645	5135-821522	RES, CBN 1/2P 820 BK
546	R647	5135-681522	RES, CBN 1/2P 680
055B	R651	5232-102J16P	RES, CBN 1/6P 1K G GB
055B	R652	5232-102J16P	RES, CBN 1/6P 1K G GB
055B	R653	5232-102J16P	RES, CBN 1/6P 1K G GB
055B	R654	5232-102J16P	RES, CBN 1/6P 1K G GB
055B	R655	5232-102J16P	RES, CBN 1/6P 1K G GB
055B	R656	5232-102J16P	RES, CBN 1/6P 1K G GB
055B	R657	5232-102J16P	RES, CBN 1/6P 1K G GB
055B	R658	5232-102J16P	RES, CBN 1/6P 1K G GB

Ser. No.	Ref. No.	Part No.	Description
055B	R659	5232-102J16P	RES, CBN 1/6P 1K
055B	R660	5232-102J16P	RES, CBN 1/6P 1K
055B	R671	5232-102J16P	RES, CBN 1/6P 1K
055B	R672	5232-102J16P	RES, CBN 1/6P 1K
055B	R673	5232-102J16P	RES, CBN 1/6P 1K
055B	R674	5232-102J16P	RES, CBN 1/6P 1K
540	R681	5232-222J16P	RES, CBN 1/6P 2.2K
540	R682	5232-222J16P	RES, CBN 1/6P 2.2K

TRANSISTORS

501	Q601	5613-2320L(F)	XISTOR, NPN R
501	Q602	5613-2320L(F)	XISTOR, NPN R
503	Q603	5611-999L(F)	XISTOR, PNP R
503	Q604	5611-999L(F)	XISTOR, PNP R
504	Q605	5611-999L(F)	XISTOR, PNP R
504	Q606	5611-999L(F)	XISTOR, PNP R
501	Q607	5613-2320L(F)	XISTOR, NPN R
501	Q608	5613-2320L(F)	XISTOR, NPN R
501	Q609	5613-2320L(F)	XISTOR, NPN R
501	Q610	5613-2320L(F)	XISTOR, NPN R
501	Q611	5613-2320L(F)	XISTOR, NPN R
501	Q612	5613-2320L(F)	XISTOR, NPN R
505	Q613	5612-941(Q)	XISTOR, PNP A

DIODES

509	D601	5635-HZ15-2L	DIODE, ZENER
510	D602	5635-HZ9B-2L	DIODE, ZENER
510	D603	5635-HZ9B-2L	DIODE, ZENER

MISCELLANEOUS

737	Δ J2	4482-0133	PIN JACK, 2P, PHONO
738	Δ J3	4484-46	PIN JACK, 4P, TAPE 1 IN/OUT
738	Δ J4	4484-46	PIN JACK, 4P, TAPE 2 IN/OUT
739	Δ J5	4486-15	PIN JACK, 6P, TUNER/CD/VIDEO
767	JL102	4242-R0203101	JUMPER LEAD
752	LCN601	4163-0145039	CONNECTOR W/W

PCB-11 BIAS (LCH) P.C. BOARD

RESISTORS

634	R801L	5135-182522	RES, CBN 1/2P 1.8K
635	R802L	5135-122522	RES, CBN 1/2P 1.2K

TRANSISTOR

579	Q801L	5613-2682(Q)OR(P)	XISTOR, NPN R
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PCB-12 BIAS (RCH) P.C. BOARD

RESISTORS

634	R801R	5135-182522	RES, CBN 1/2P 1.8K
635	R802R	5135-122522	RES, CBN 1/2P 1.2K

TRANSISTOR

579	Q801R	5613-2682(Q)OR(P)	XISTOR, NPN R
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CHASSIS MISCELLANEOUS

689	C3	5354-104593	CAP, MYL .1 μ
689	C4	5354-104593	CAP, MYL .1 μ
690	C18	5354-104593	CAP, MYL .1 μ
690	C19	5354-104593	CAP, MYL .1 μ
690	C20	5354-104593	CAP, MYL .1 μ
690	C21	5354-104593	CAP, MYL .1 μ
052B	Δ C01	4443-712	CONNECTOR
685	Δ F1	5732-252031	FUSE, 2.5A/125V
685B	Δ F1	5732-162052	FUSE, T1.6A/250V
745	Δ P1	4161-71151	CORD W/PLUG
745B	Δ P1	4161-7256	CORD W/PLUG
745E	Δ P1	4161-04100	CORD W/PLUG
744	Δ S01	4474-227	SOCKET, AC OUTLET

Ser. No.	Ref. No.	Part No.	Description
734	SW2	4464-00102022	SWITCH, SEESW, SPEAKER OPERATING MODE
051B	Δ SW101	4467-012	SELECTOR, VOLTAGE
683	Δ T1	5584-T0604	XFORMER, POWER
683B	Δ T1	5584-T0605	XFORMER, POWER
683D	Δ T1	5584-T0606	XFORMER, POWER
053B	Δ	4150-8	TUBING, SPE
062B	LUG	4211-4	LUG, MAIN H/S

PACKAGE PARTS LIST

021	1756-06304	LABEL, 230V/50Hz
022	1756-03124	LABEL (G), (x2)
022	1756-03101	LABEL (W), (x2)
022	1756-03111	LABEL (B), (x2)
022	1756-03108	LABEL (I), (x2)
027	1756-08501	LABEL, 240V
028	1111-J30319	OWNER GUIDE, ADDENDUM FOR AUSTRALIA
028	1111-0370J152	OWNER GUIDE, VOLTAGE SELECTOR ADDENDUM
107	1111-0250J152	OWNER GUIDE, OG
107	1111-0260J152	OWNER GUIDE, OG
108	1113-02501	OWNER CARD
109	1116-03801	GUARANT CARD, WARRANTY
110	1119-04501	ATTACH SHEET, SERVICE GUIDE
111	1119-01201	ATTACH SHEET, UL
121	1241-R0123351	POLYETHY BAG, OG
122	1241-R0160601	POLYETHY BAG, SET
124	1221-7107144	CARTON BOX
124	1221-7117144	CARTON BOX
125	1222-7216	CUSHION (x2)
127	1223-11729	SOFT SHEET

ABBREVIATIONS IN PARTS LIST

CAPACITORS

CAP, MINI ELE	: Electrolytic
CAP, CER	: Ceramic
CAP, PPP	: Polypropylene
CAP, MYL	: Mylar
CAP, MCA	: Mica
470 μ	: 470 μ F
6800P	: 6800pF
.047 μ	: 0.047 μ F

RESISTORS

RES, CBN 1/6P	: Carbon 1/6W
2.2K	: 2.2k Ω
220	: 220 Ω
RES, FUSE	: Fuse
RES, CEM 5P	: Cement 5W
RES, MTL 1P	: Metal 1W

TRANSISTORS

XISTOR	: Transistor
FET	: Field Effect Transistor

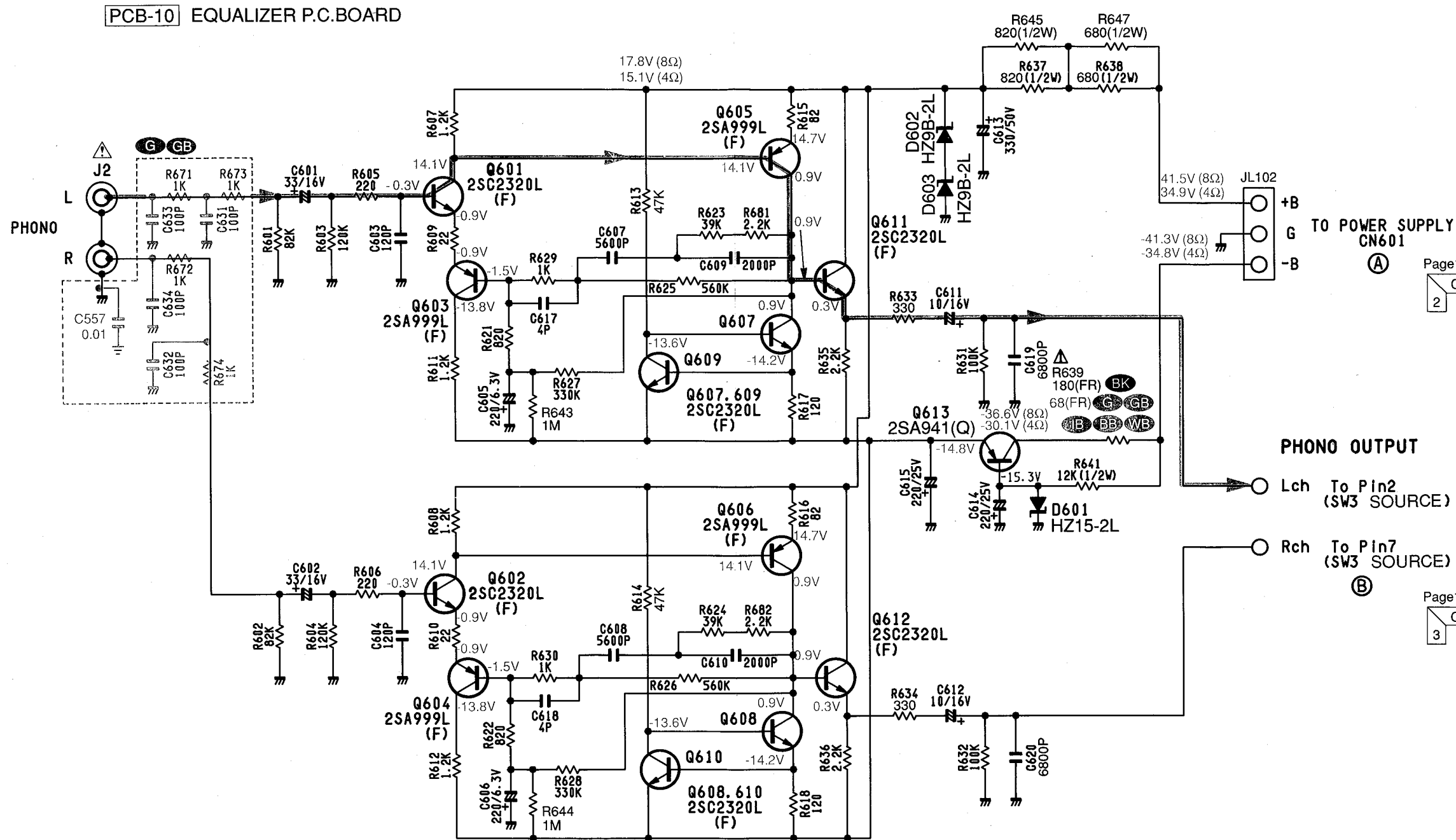
CONTROLS

RES, V CBN	: Variable Carbon Resistor
RES, SEMI FIX	: Semi - fixed Resistors

NOTE:

SAFETY RELATED COMPONENT. USE ONLY EXACT REPLACEMENT PART AS SPECIFIED.

SCHMATIC DIAGRAM (1) (PHONO AMP SECTION)



NOTE:

1. ALL RESISTANCES VALUES ARE IN Ω .
 $K\Omega=1000\Omega$, $M\Omega=1000K\Omega$.
2. THE WATTAGE OF RESISTORS IS 1/6W UNLESS OTHERWISE NOTED.
3. ALL CAPACITANCES VALUES ARE IN μF UNLESS OTHERWISE NOTED. $P=\mu\mu F$.
4. ...V:DC VOLTAGE AT NO SIGNAL UNLESS OTHERWISE NOTED.
5. SAFETY REQUIREMENTS COMPONENTS IN ACCORDANCE WITH PRESENT SAFETY REGULATIONS. THESE COMPONENTS MUST ONLY BE REPLACED BY ORIGINAL PARTS.



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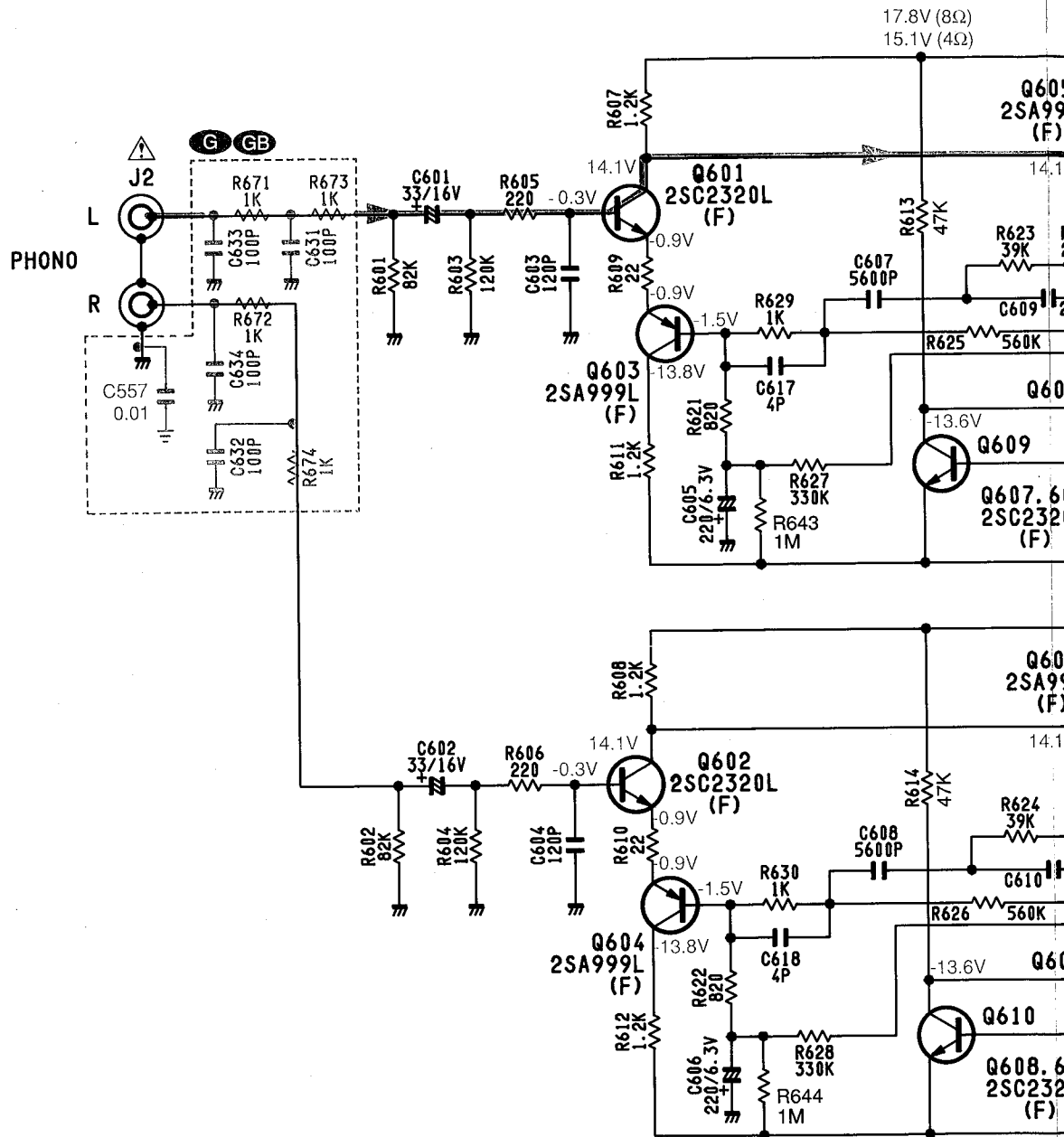
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SCHEMATIC DIAGRAM (1) (PHONO AMP SECTION)

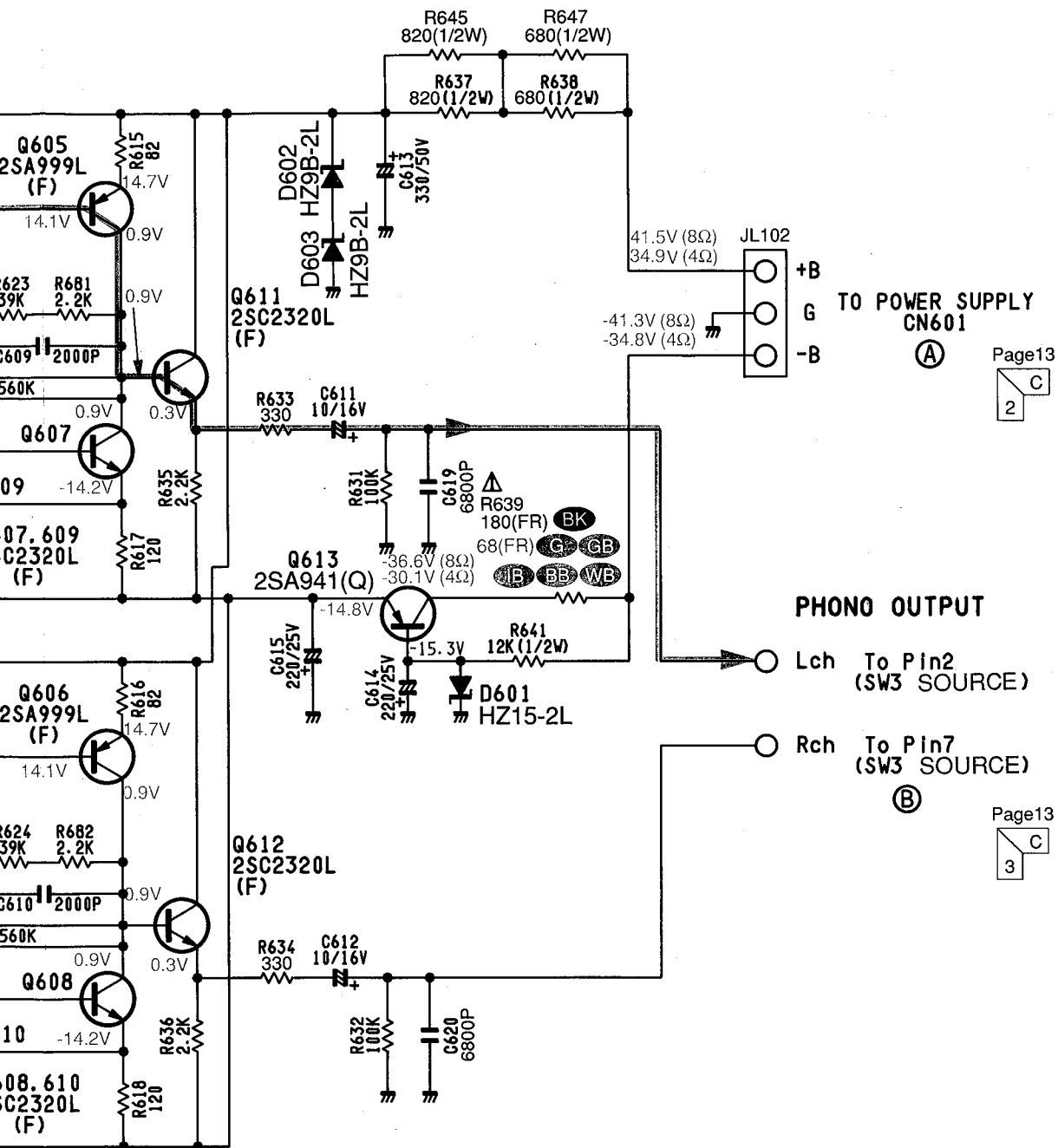
PCB-10 EQUALIZER P.C.BOARD



NOTE:

1. ALL RESISTANCES VALUES ARE IN Ω .
K Ω =1000 Ω , M Ω =1000K Ω .
2. THE WATTAGE OF RESISTORS IS 1/6W UNLESS OTHERWISE NOTED.
3. ALL CAPACITANCES VALUES ARE IN μ F UNLESS OTHERWISE NOTED. P= μ F.
4. ... V:DC VOLTAGE AT NO SIGNAL UNLESS OTHERWISE NOTED.
5. SAFETY REQUIREMENTS COMPONENTS IN ACCORDANCE WITH PRESENT SAFETY REGULATIONS, THESE COMPONENTS MUST ONLY BE REPLACED BY ORIGINAL PARTS.





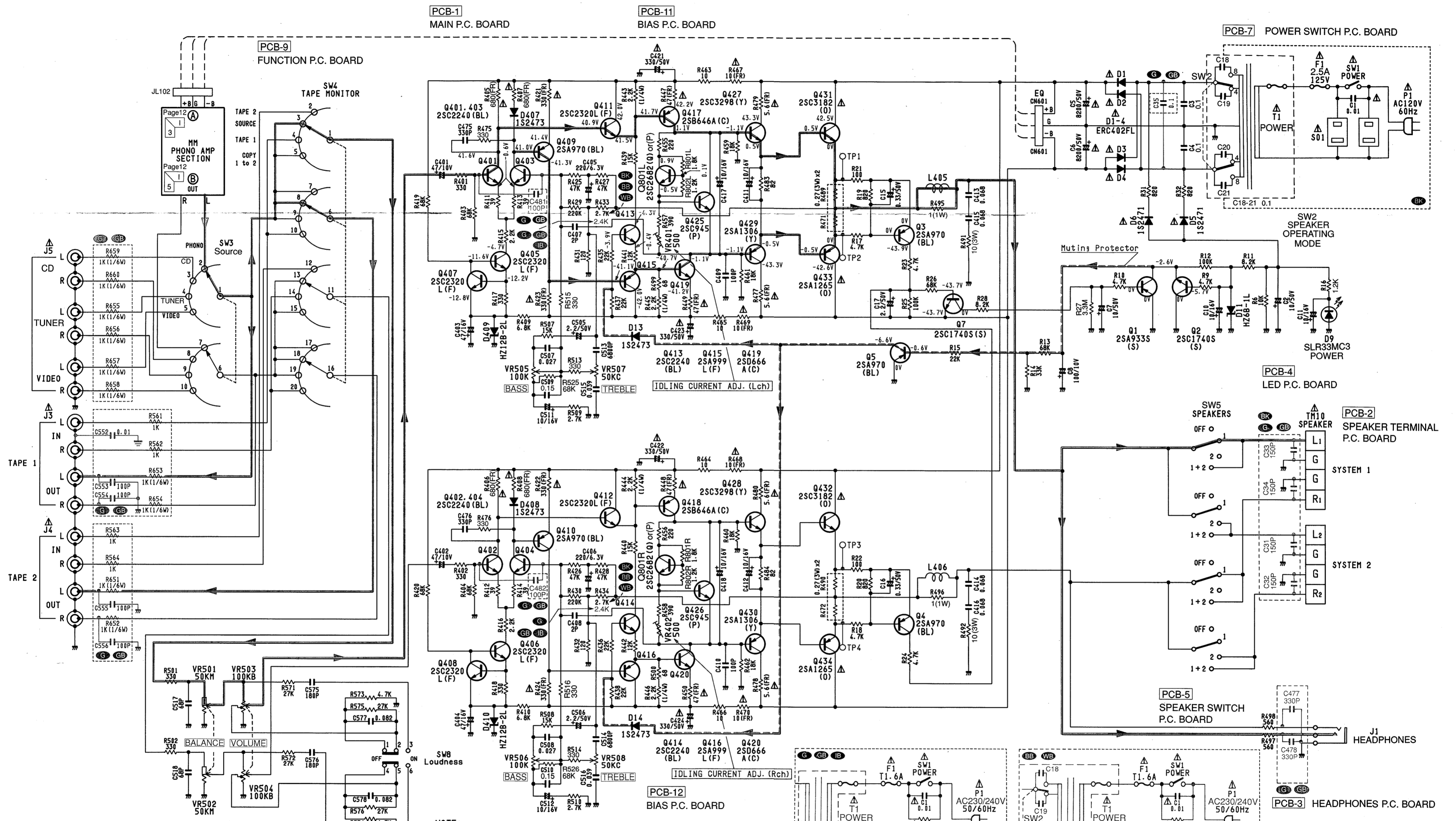
Page13



Page13



SCHEMATIC DIAGRAM (2)



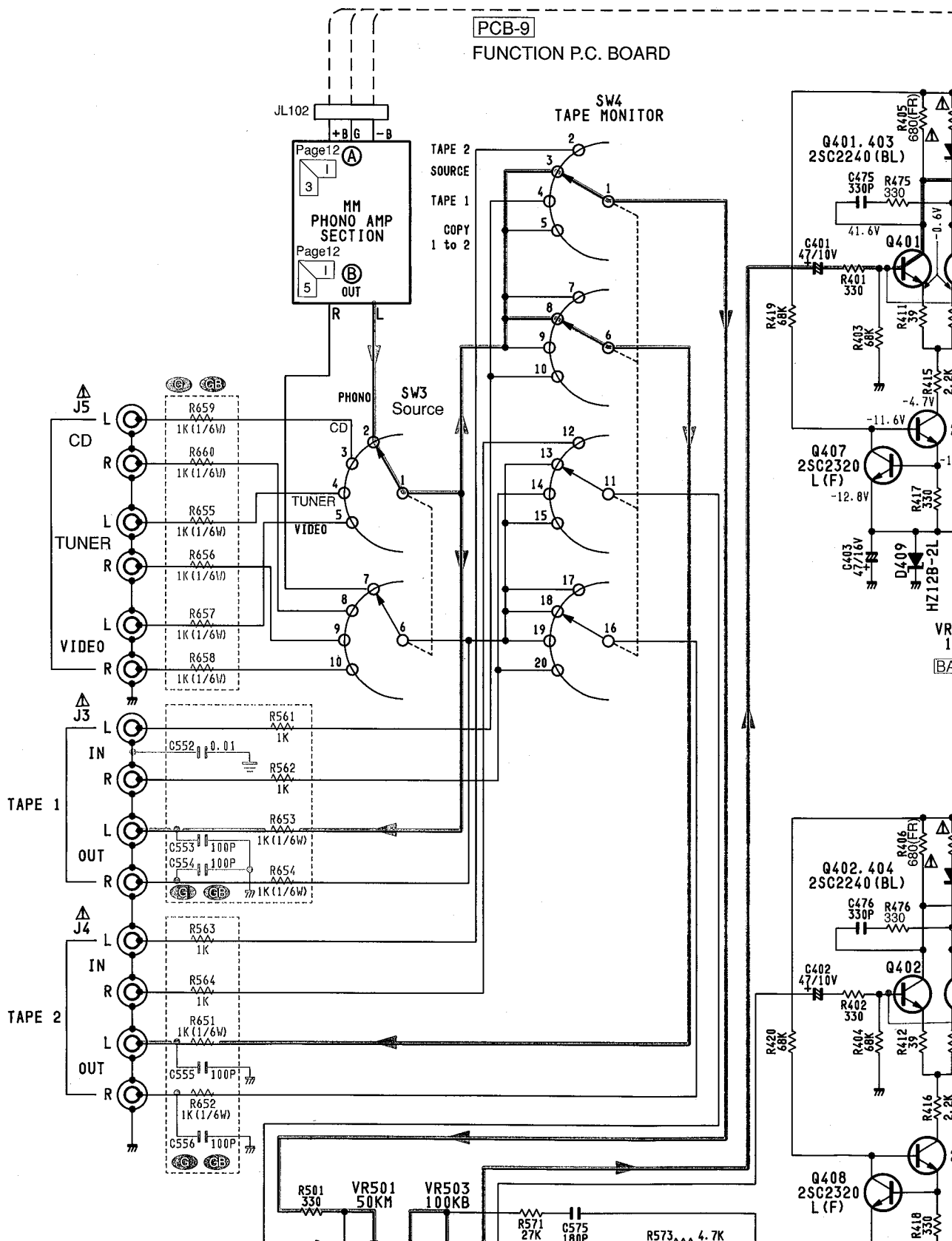
NOTE:

1. ALL RESISTANCE VALUES ARE IN Ω .
K Ω =1000 Ω , M Ω =1000K Ω .
2. THE WATTAGE OF RESISTORS IS 1/2W UNLESS OTHERWISE NOTED.
3. ALL CAPACITANCE VALUES ARE IN μ F UNLESS OTHERWISE NOTED. P=# μ F.
4. ... V:DC VOLTAGE AT NO SIGNAL UNLESS OTHERWISE NOTED.
5. SAFETY REQUIREMENTS COMPONENTS IN ACCORDANCE WITH PRESENT SAFETY REGULATIONS, THESE COMPONENTS MUST ONLY BE REPLACED BY ORIGINAL PARTS.

SCHEMATIC DIAGRAM (2)

PCB-1
MAIN P.C. BOARD

PCB-9
FUNCTION P.C. BOARD

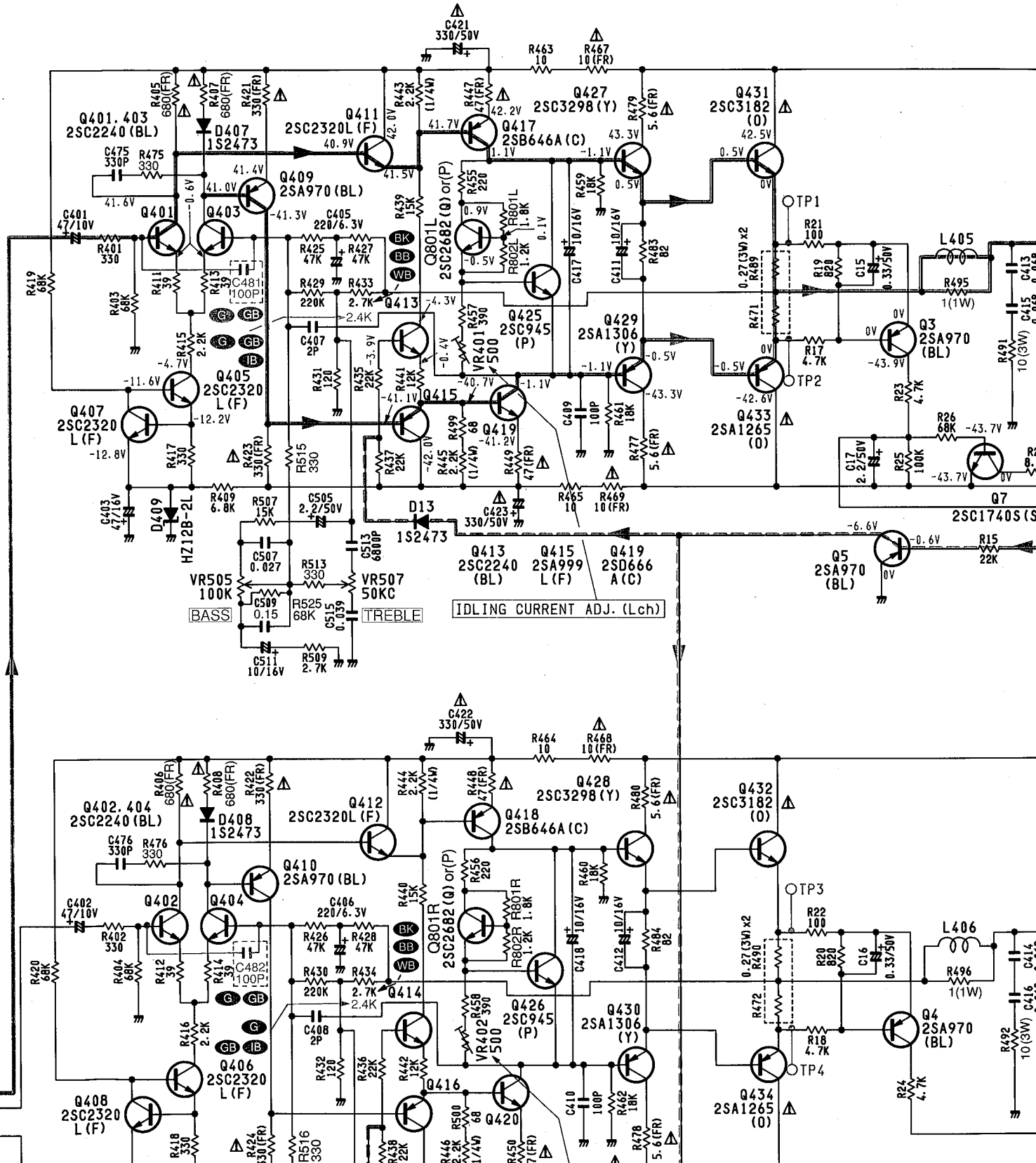


PCB-1

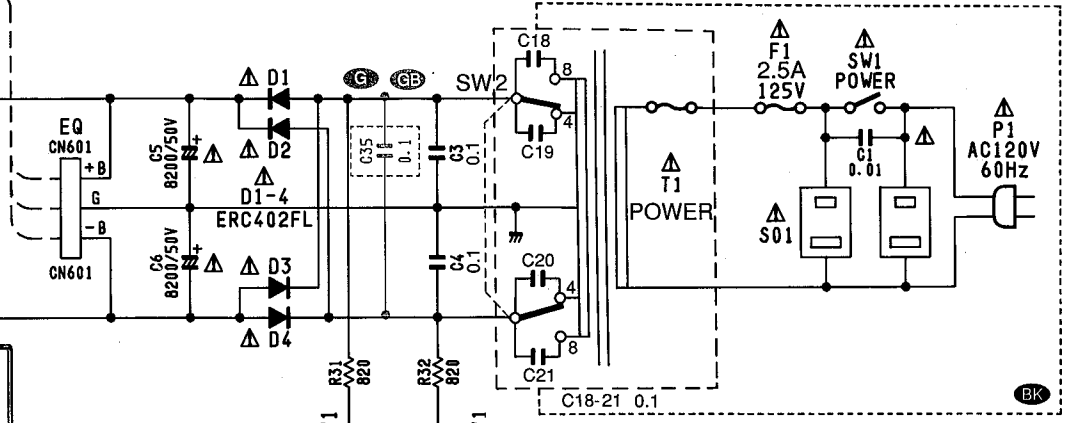
MAIN P.C. BOARD

PCB-11

BIAS P.C. BOARD



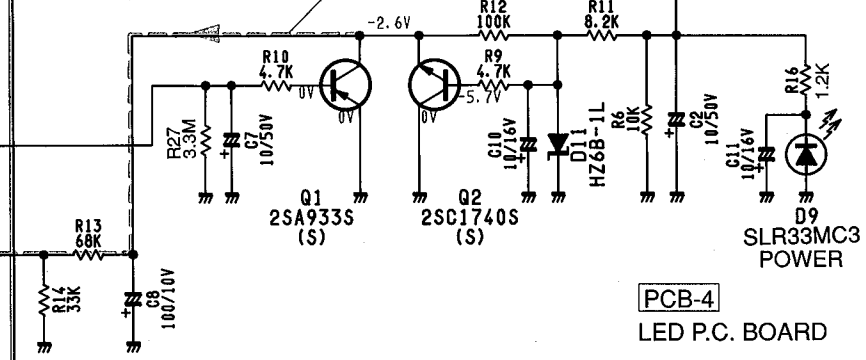
PCB-7 POWER SWITCH P.C. BOARD



SW2 SPEAKER OPERATING MODE

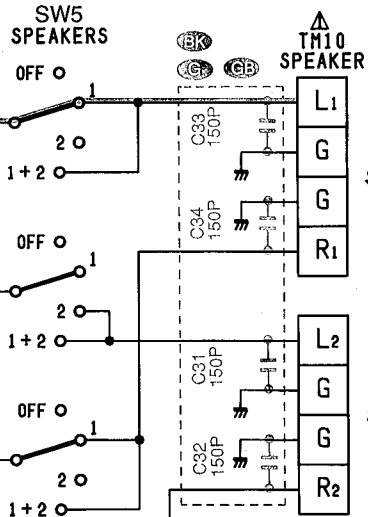
Muting Protector

PCB-4 LED P.C. BOARD



SLR33MC3 POWER

PCB-2 SPEAKER TERMINAL P.C. BOARD

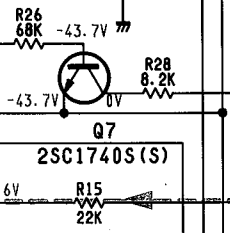
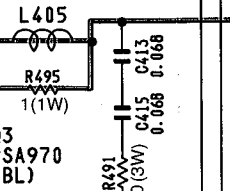


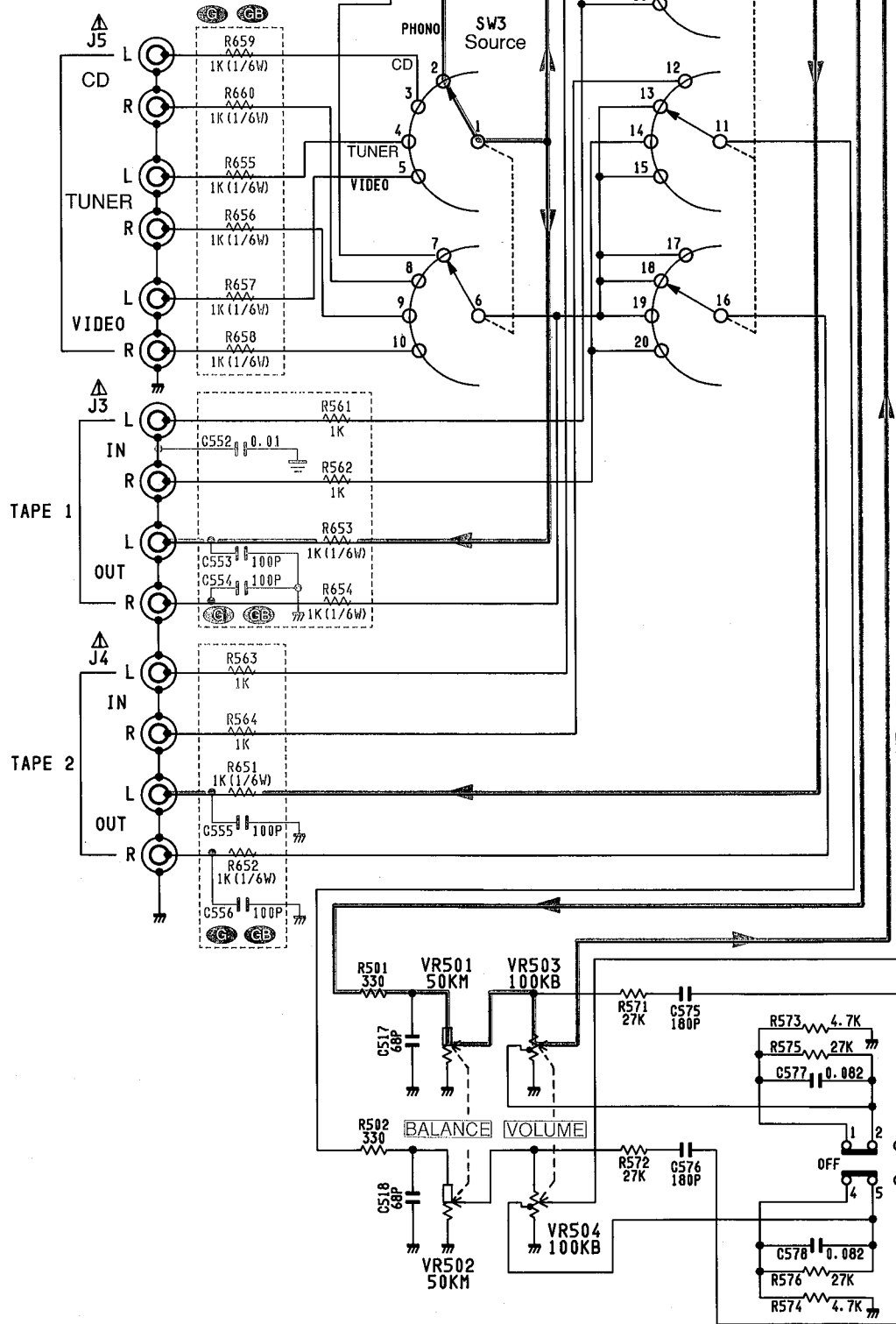
SYSTEM 1

SYSTEM 2

PCB-5

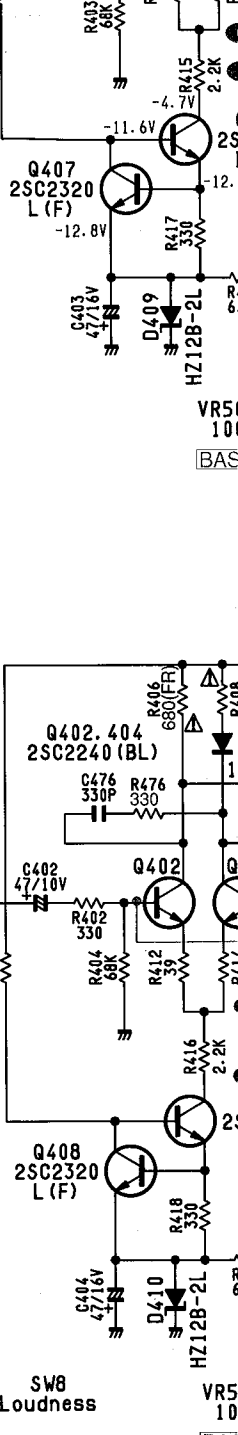
C477 330P





PCB-6 VR P.C. BOARD

PCB-8 LOUDNESS P.C. BOARD

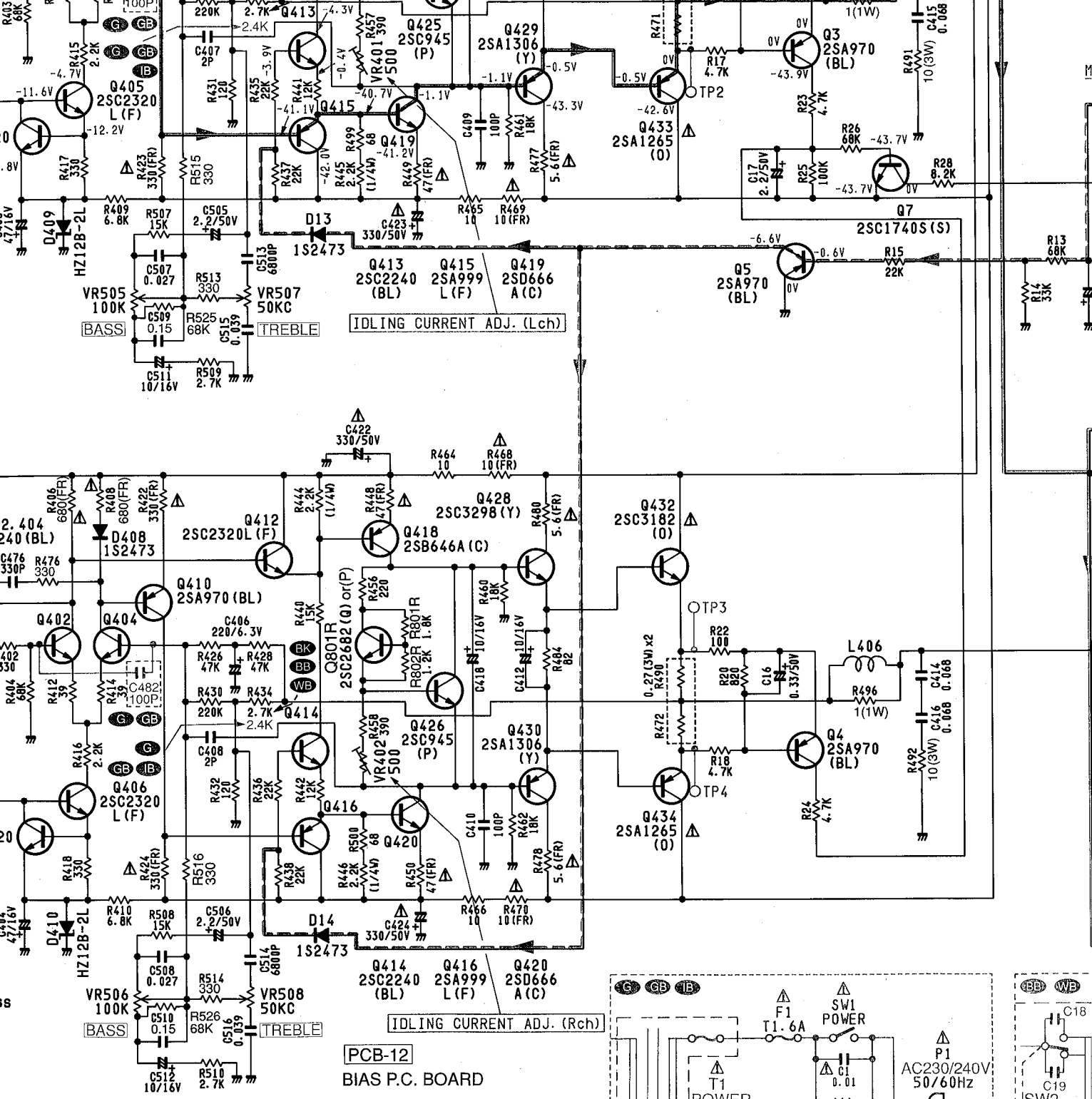


NOTE:

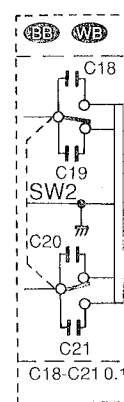
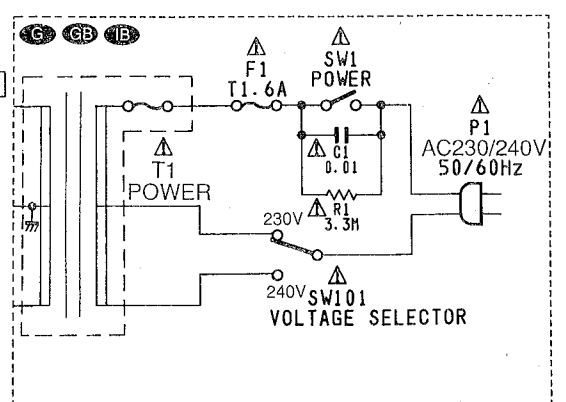
1. ALL RESISTANCE VALUES IN OHMS UNLESS OTHERWISE SPECIFIED
2. THE WATTAGE RATING OF RESISTORS IS 1/8W UNLESS OTHERWISE SPECIFIED
3. ALL CAPACITANCE VALUES IN PICO FARADS UNLESS OTHERWISE SPECIFIED
4. ... V:DC VOLTAGE
5. SAFETY BY ORIGINAL MANUFACTURER

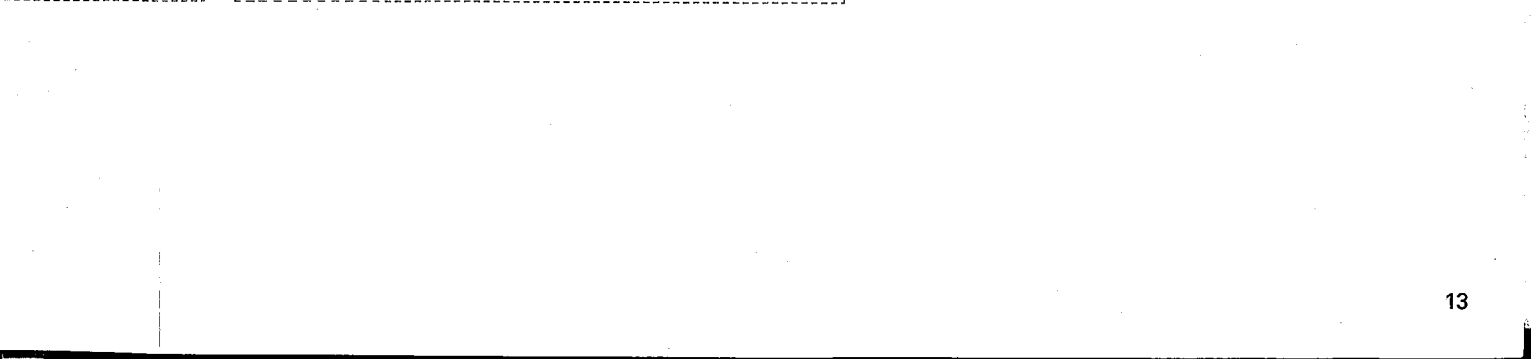
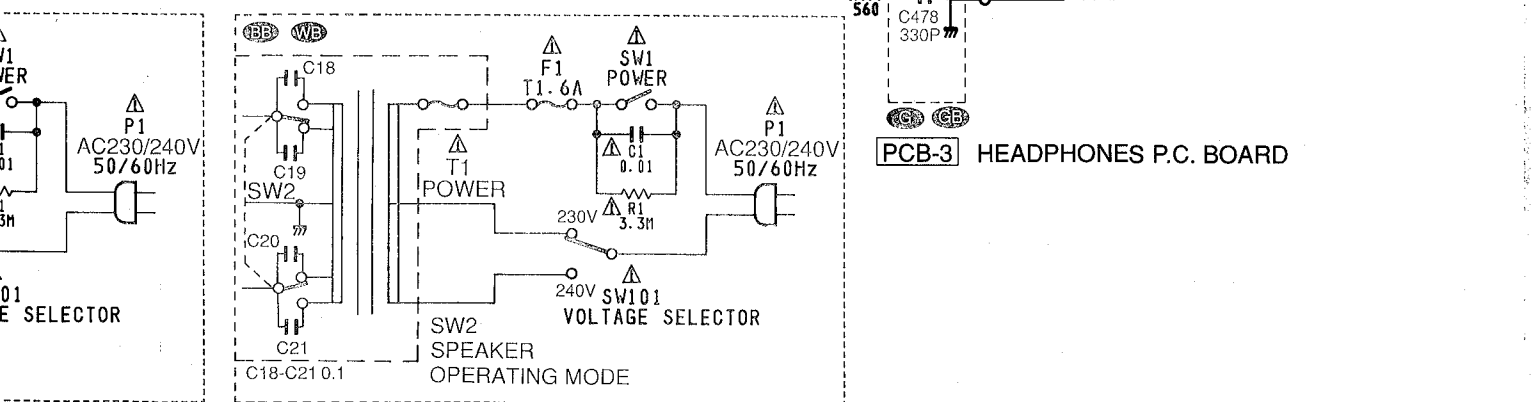
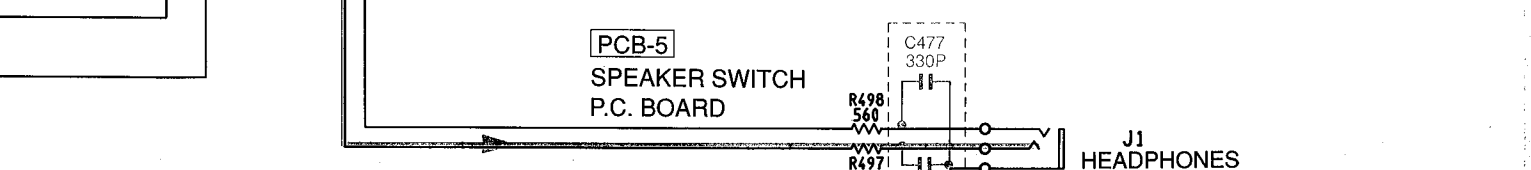
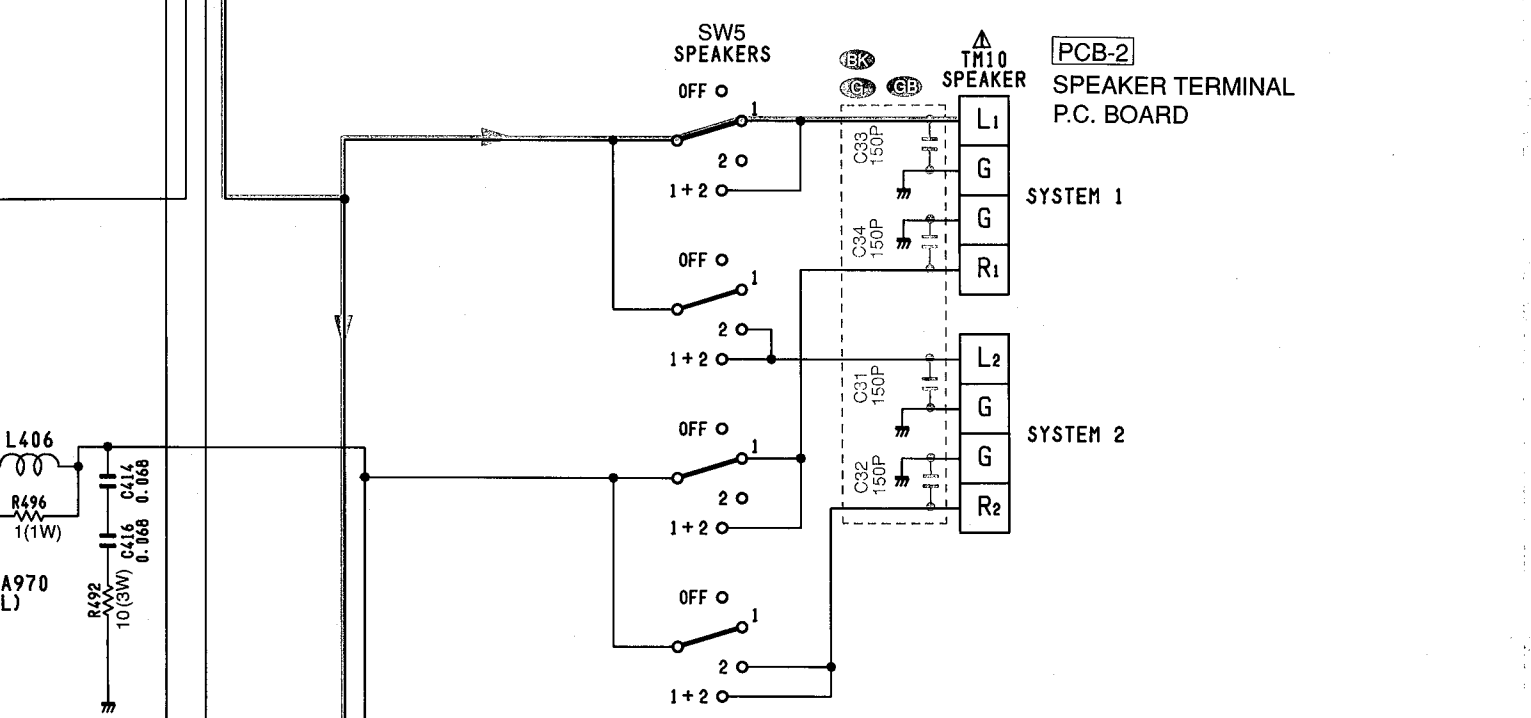
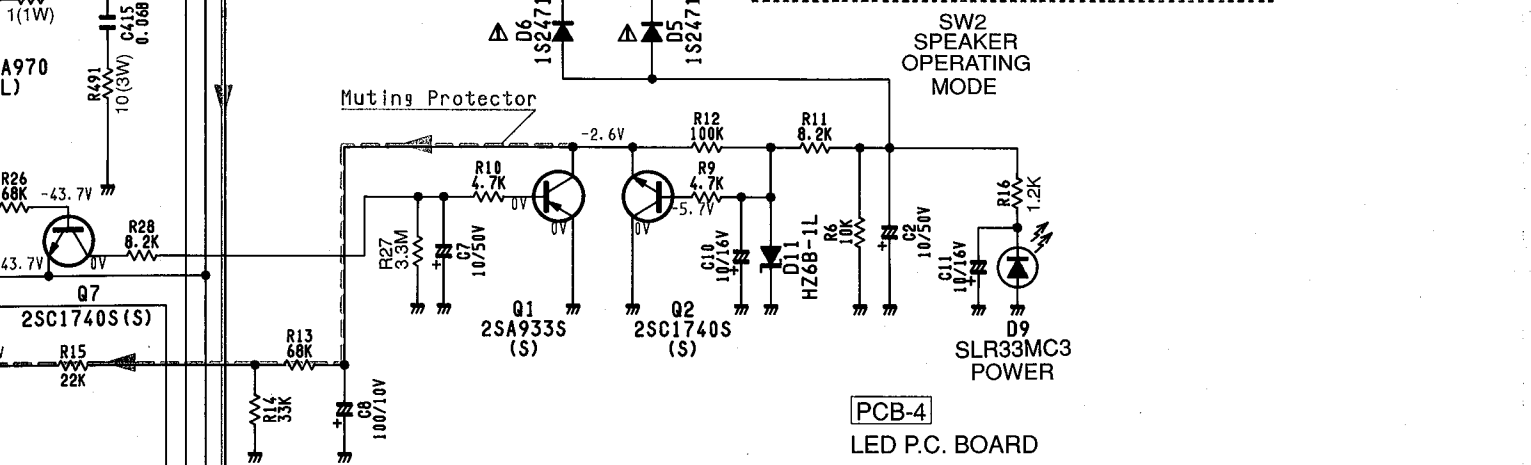


SAFETY BY ORIGINAL MANUFACTURER

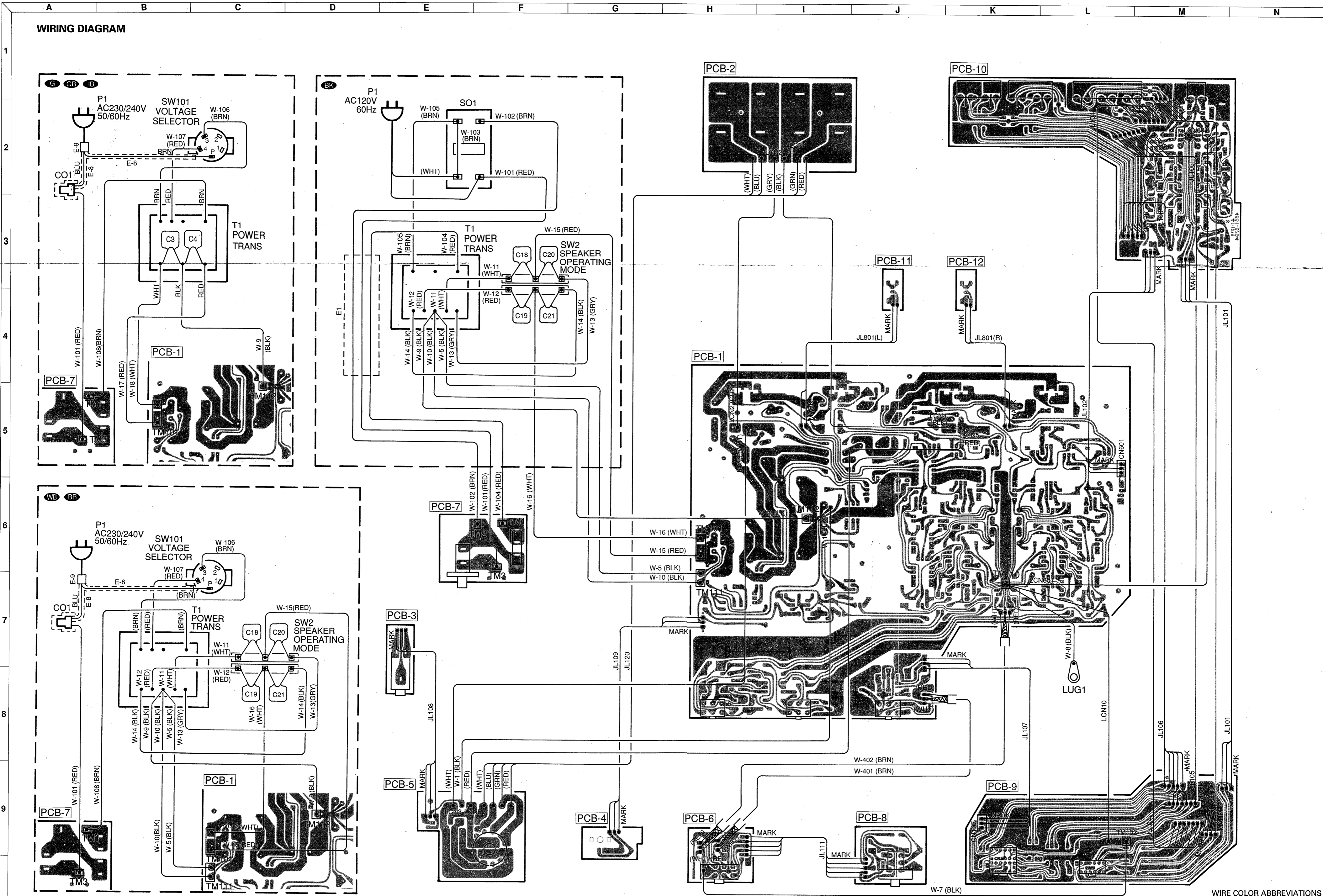


ALL RESISTANCES VALUES ARE IN Ω .
 $K\Omega=1000\Omega$, $M\Omega=1000K\Omega$.
 THE WATTAGE OF RESISTORS IS 1/2W UNLESS OTHERWISE NOTED.
 ALL CAPACITANCES VALUES ARE IN μF UNLESS OTHERWISE NOTED. P= μF .
 ... V:DC VOLTAGE AT NO SIGNAL UNLESS OTHERWISE NOTED.
 SAFETY REQUIREMENTS COMPONENTS IN ACCORDANCE WITH PRESENT SAFETY REGULATIONS. THESE COMPONENTS MUST ONLY BE REPLACED BY ORIGINAL PARTS.





WIRING DIAGRAM



WIRE COLOR ABBREVIATIONS

RED : Red	YEL : Yellow
ORG : Orange	PUP : Purple
BLU : Blue	PIK : Pink
WHT : White	BRN : Brown
BLK : Black	

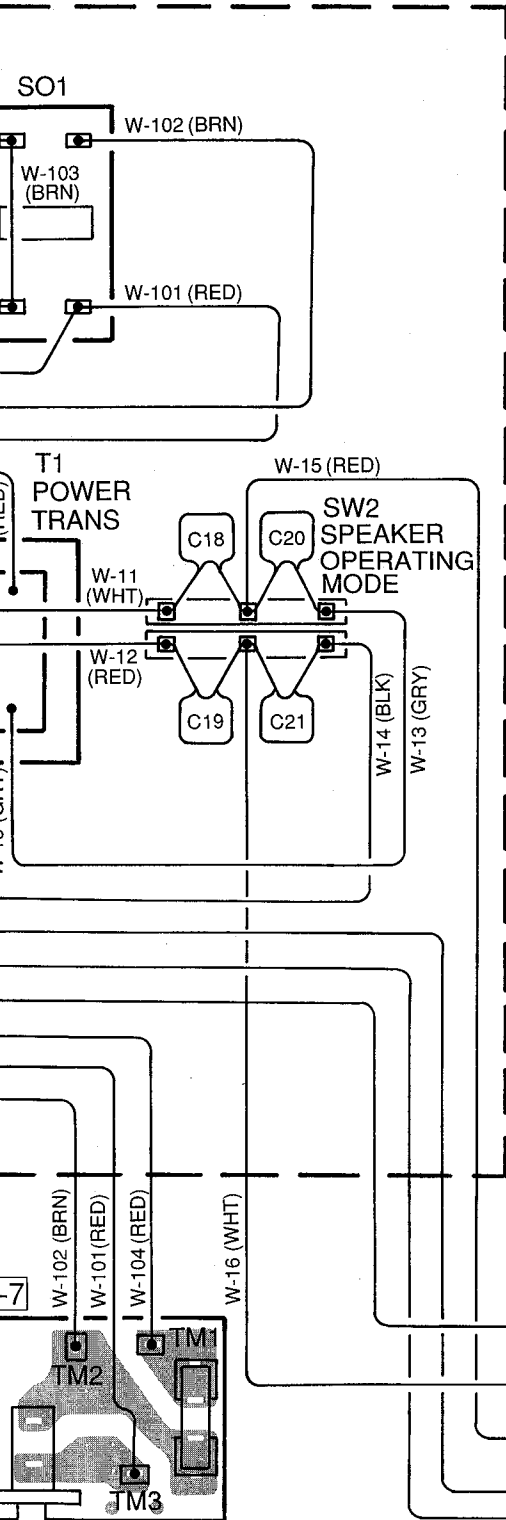
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G

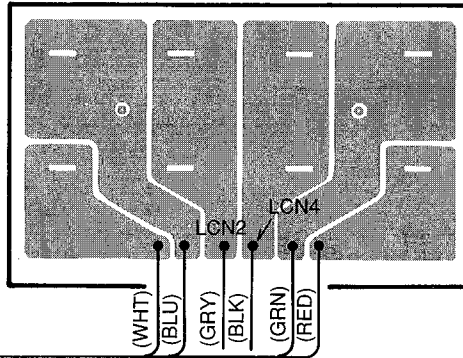
H

I

J



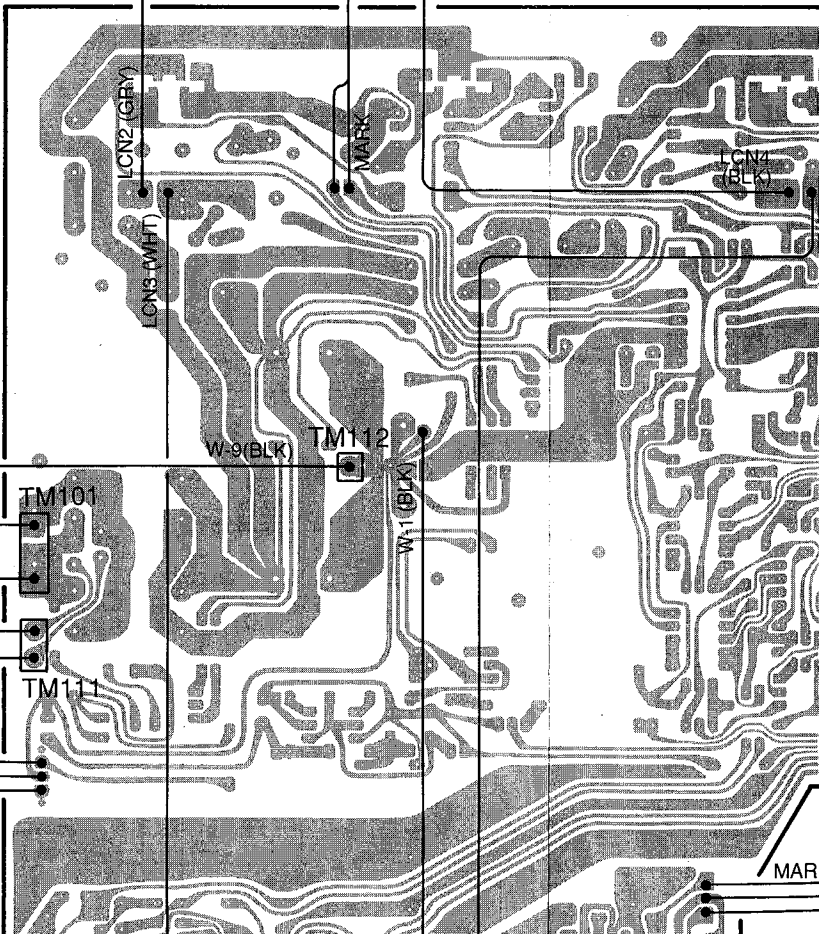
PCB-2



PCB-11



PCB-1

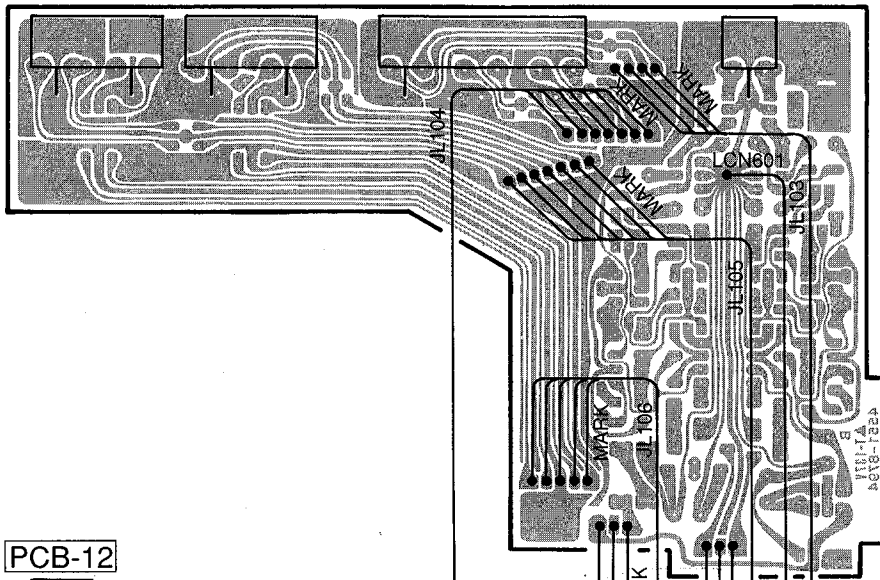


JL109

JL120

MARK

PCB-10



PCB-11



JL801(L)

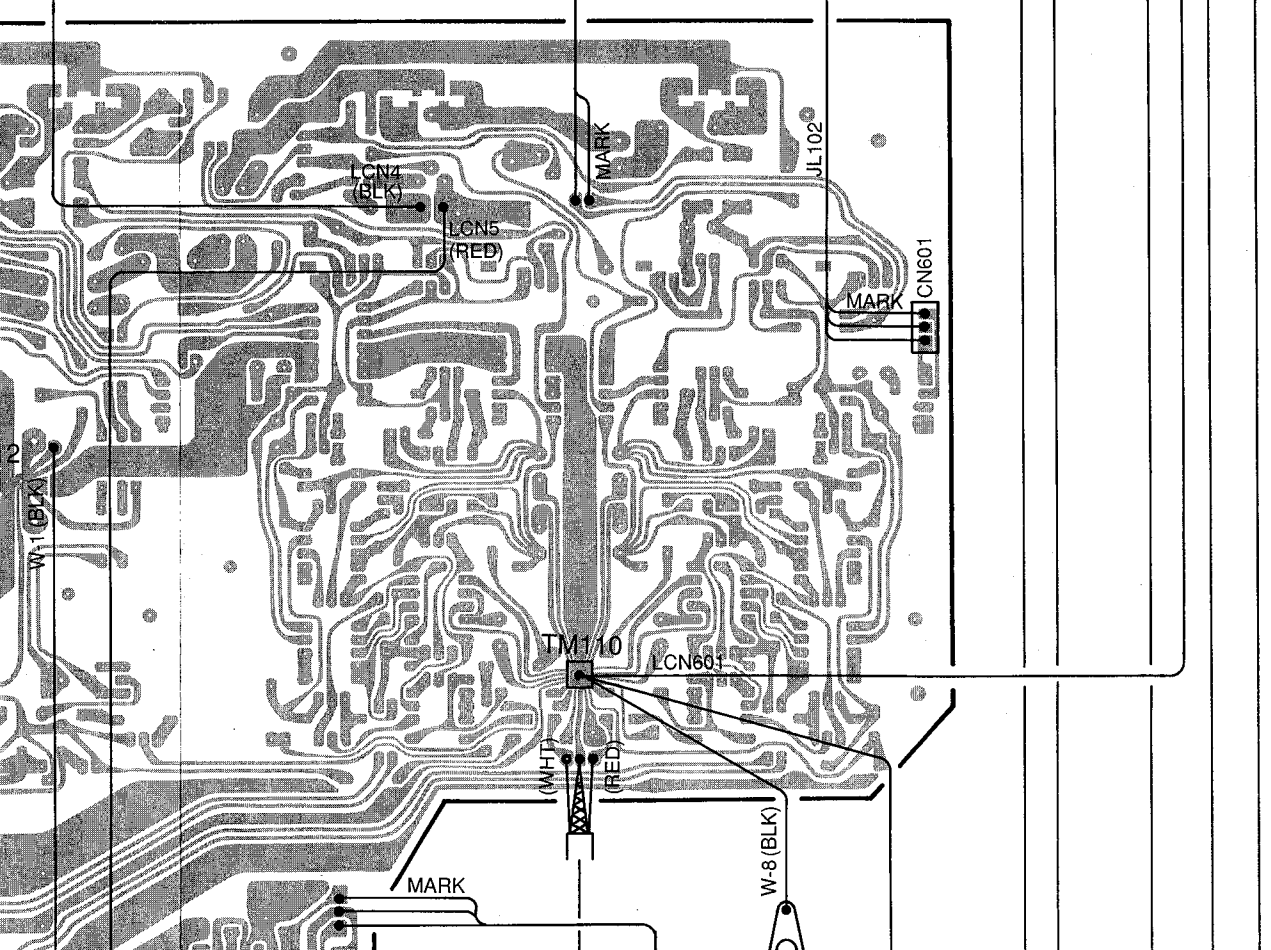
MARK

PCB-12



JL801(R)

MARK



LCN4 (BLK)

LCN5 (RED)

TM110

LCN601

MARK CN601

JL102

JL101

(WHT)

(RED)

W-8 (BLK)

MARK

MARK

MARK

W8-1A
B
PCB-122A

4

5

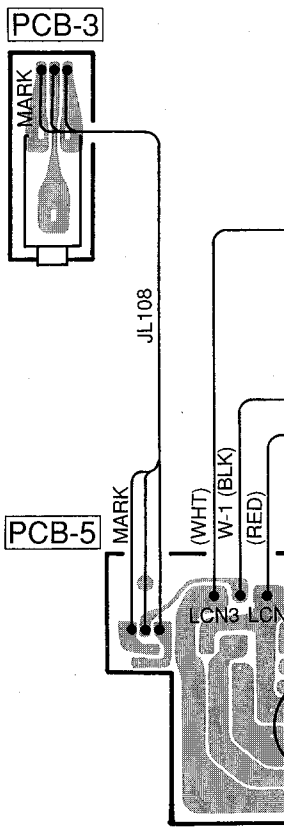
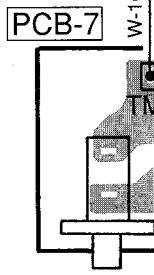
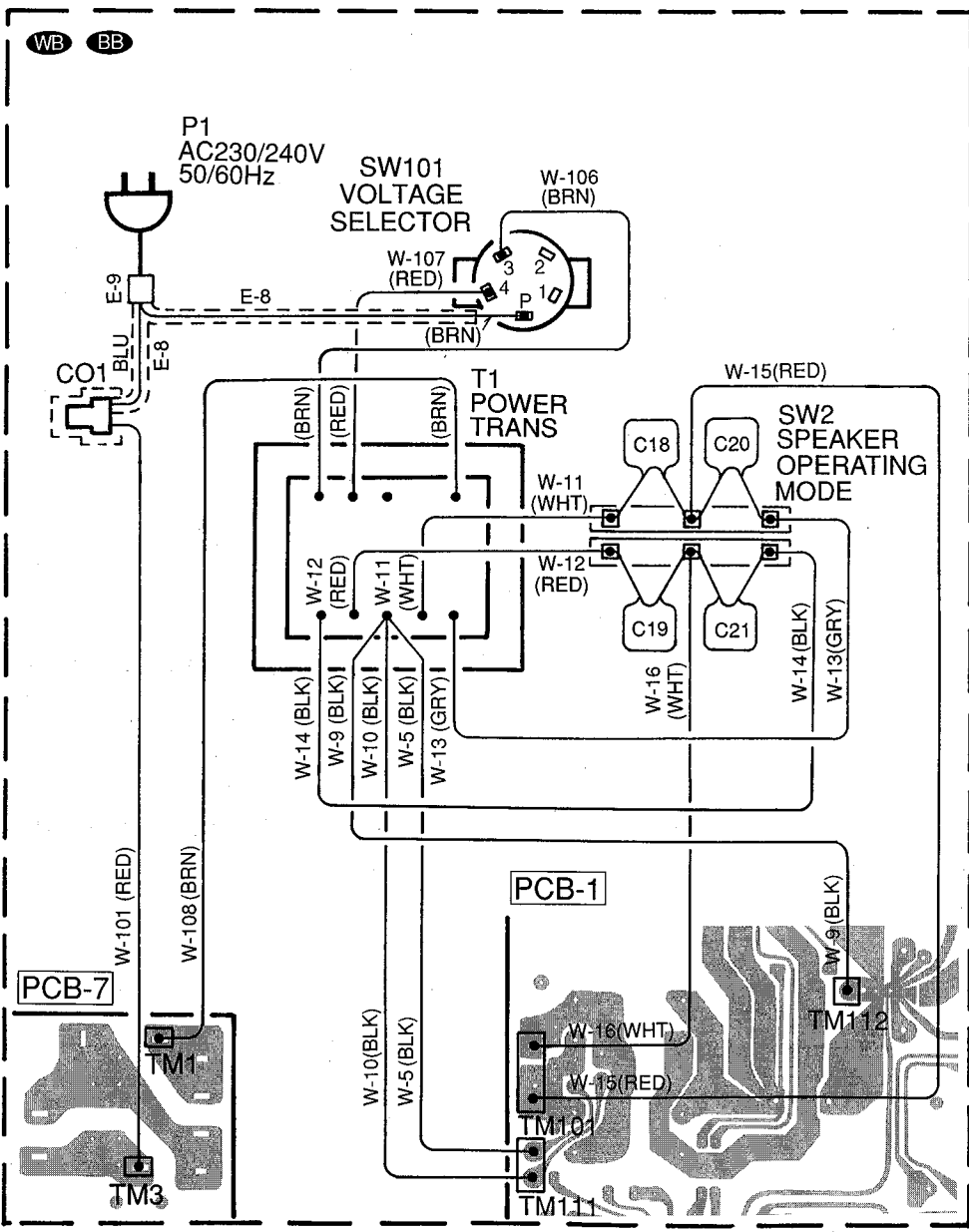
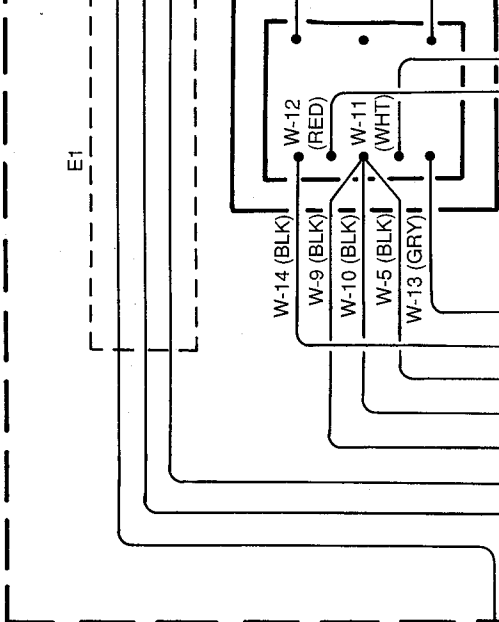
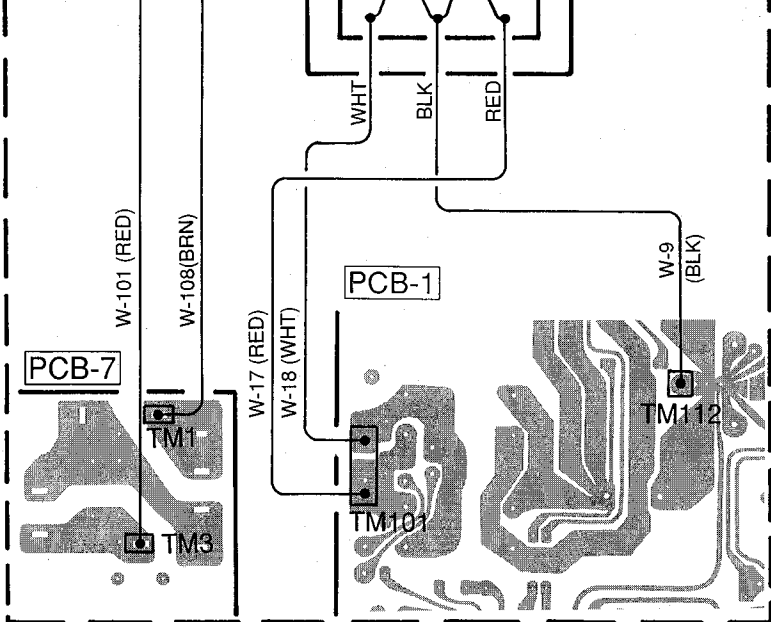
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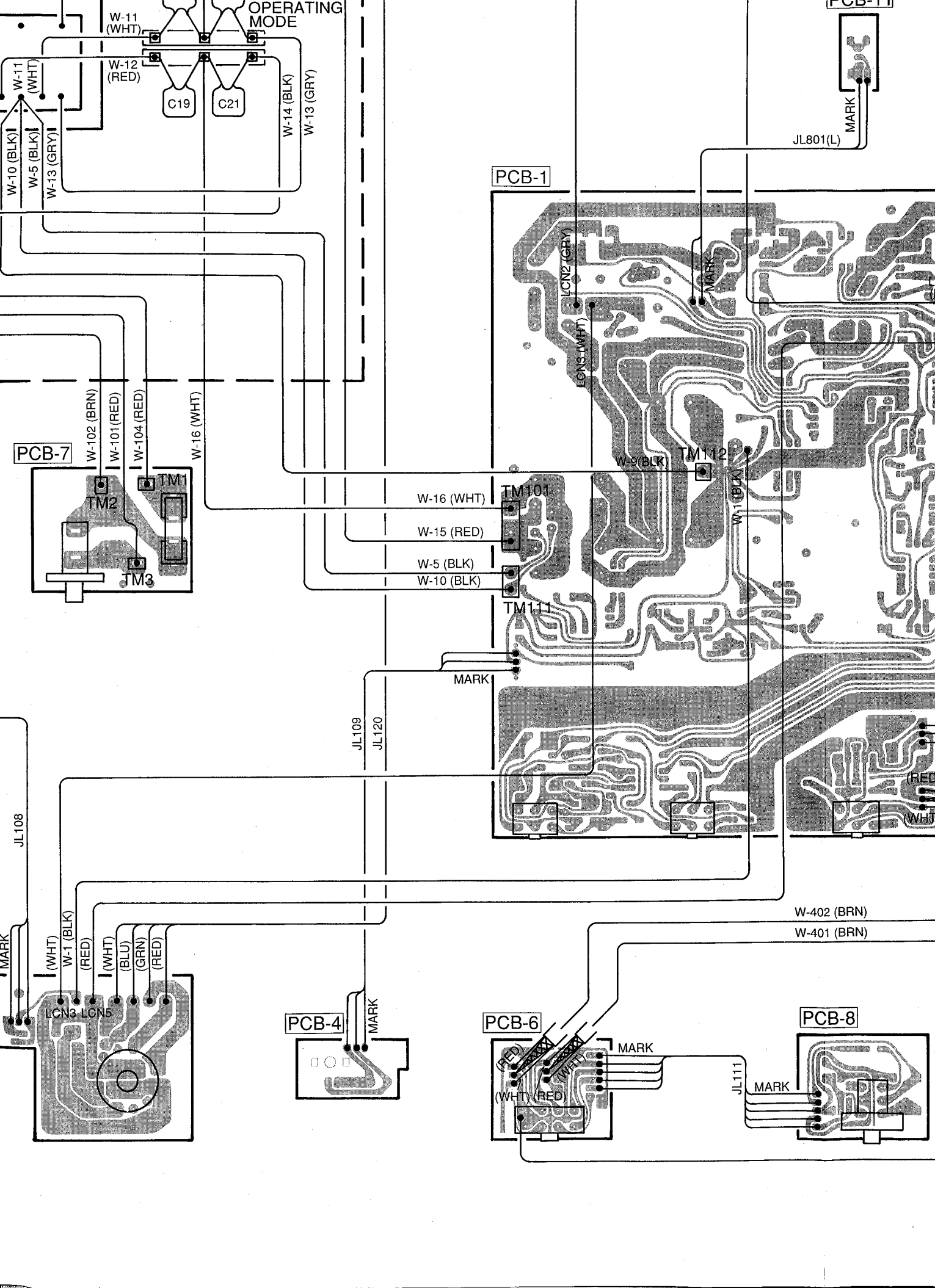
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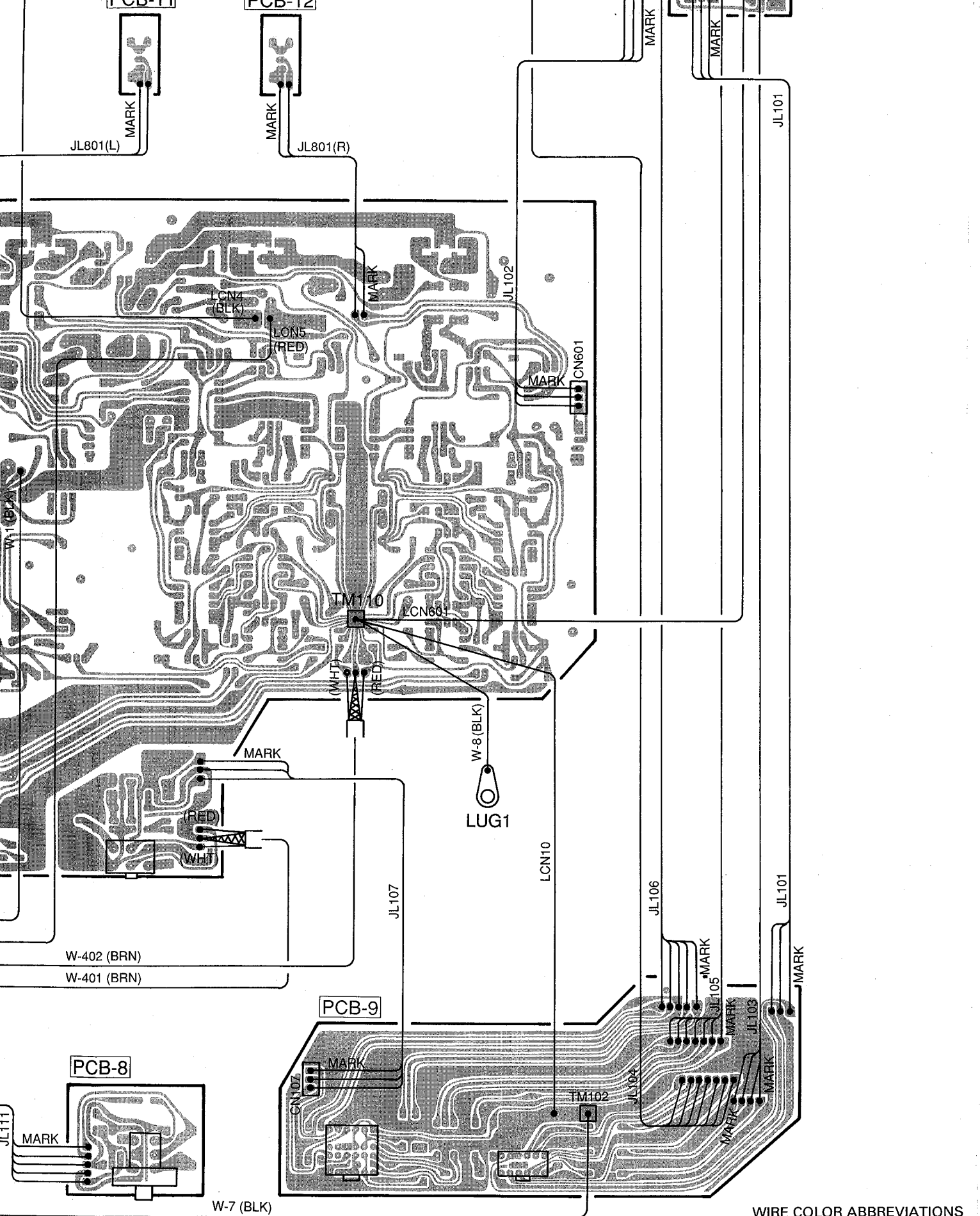
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9

10







WIRE COLOR ABBREVIATIONS

RED : Red	YEL : Yellow
ORG : Orange	PUP : Purple
BLU : Blue	PIK : Pink
WHT : White	BRN : Brown
BLK : Black	