

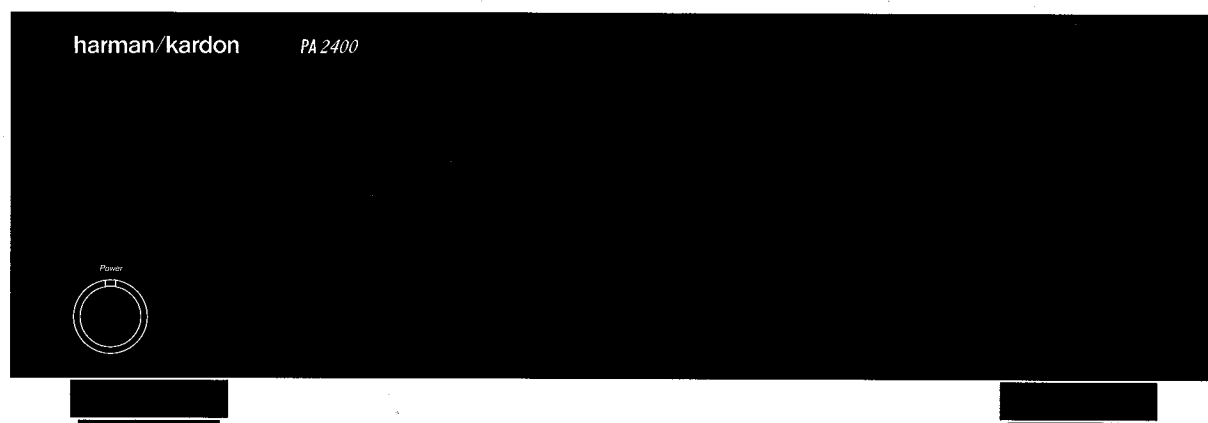
# The Harman Kardon

## Model PA2400

Manual A

### STEREO POWER AMPLIFIER

# Technical Manual



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

- Ⓚ : North America area model Black version**
- Ⓜ : World model Black version**
- Ⓢ : International model Black version**

## harman/kardon

Service and Parts Department  
240 Crossways Park West, Woodbury, N. Y. 11797  
1112-PA2400-A P9308 1200 Printed in USA

## SPECIFICATIONS

	Nominal	Limit
RMS Output Power		
8 $\Omega$ , 1kHz THD 0.08%	200W $\geq$ 170W <b>BK</b> <b>WB</b>	
	142W $\geq$ 120W <b>IB</b>	
4 $\Omega$ , 1kHz THD 0.1%	205W $\geq$ 170W <b>BK</b> <b>WB</b> <b>IB</b>	
RMS Output Power		
BTL, 8 $\Omega$ , 1kHz, THD 0.15X	390W $\geq$ 340W	
High-instantaneous Current		
Capability (HCC)	120A $\geq$ 100A	
Half Power Bandwidth	<10Hz-100kHz	<10Hz-70kHz
Frequency Response		
(at -3dB down)	0.25Hz-400kHz	<1Hz- $\geq$ 250kHz <b>BK</b>
	0.25Hz-270kHz	<1Hz- $\geq$ 250kHz <b>IB</b> <b>WB</b>
Input Sensitivity		
(at 170W output)	815mV $>$ 800mV $\pm$ 25mV	
		/33k $\Omega$ $\pm$ 3k $\Omega$
Signal to Noise Ratio	97dB $\geq$ 90dB	

Channel Separation (at 10kHz)	71dB $\geq$ 65dB
IM Distortion Ratio (at 1W)	0.027% $\leq$ 0.1%
Damping Factor (at 1kHz)	125 $\geq$ 65
DC Output Voltage	
L channel	0mV $\pm$ 60mV
R channel	0mV $\pm$ 60mV
Dimensions	17 $\frac{3}{8}$ " X 6 $\frac{3}{8}$ " X 16"
(W x H x D)	(443 x 160 x 405 mm)
Weight	35.3 lbs./16.0kg
Power Supplies	
North America area model	AC 120V, 60Hz
International and Asia/Oceania models	AC 230/240V, 50/60Hz
Power Consumption	350W(500VA) <b>BK</b>
	400W <b>IB</b> <b>WB</b>

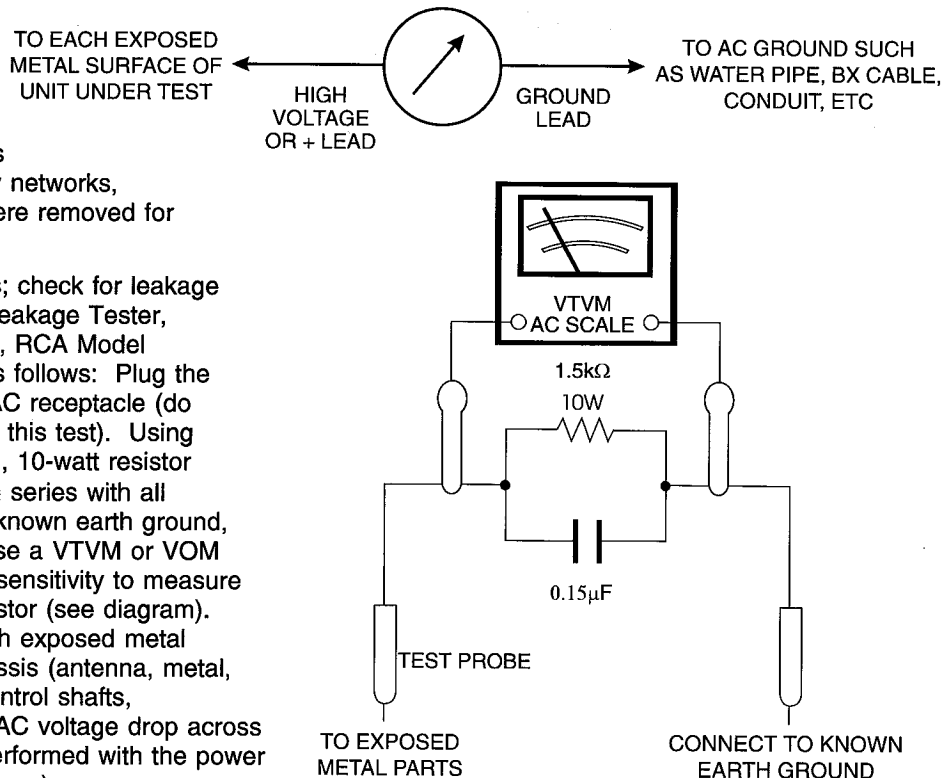
These specifications are service target specs. Specifications and components subject to change without notice. Overall performance will be maintained or improved.

## 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  $\mu$ F 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.)

SIMPSON MODEL 229 ETC. FOR LEAKAGE TEST



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.

## DISASSEMBLY PROCEDURES

### [1] CABINET TOP (131) REMOVAL

Remove 10 screws (A), then remove the Cabinet Top (131).

### [2] FRONT PANEL ASSEMBLY (AA) REMOVAL

1. Remove the Cabinet Top (131), referring to the previous step [1].
2. Remove 6 screws (B) and then remove the Front Panel Assembly (AA).

### [3] CABINET BOTTOM (AC) REMOVAL

Remove 6 screws (C), 4 screws (D) with 4 spacers (190), 2 screws (E) with 2 special bosses (206) and then remove the Cabinet Bottom (AC).

### [4] DRIVER (PCB-1) and MAIN (PCB-2 and PCB-3) P. C. BOARDS REMOVAL

1. Remove the Cabinet Top (131), referring to the previous step [1].
2. Remove the Cabinet Bottom (AC), referring to the previous step [3].
3. Unsolder the lead wires (CW401, CW402 and CW403) from reference point (TM2) on the Power Supply P. C. Board (PCB-9). Also Unsolder the lead wires (CW404, CW405 and CW406) from reference point (TM1) on the Power Supply P. C. Board (PCB-9).
4. Unsolder the lead wires (W415 and W416) from reference point (TM8) on the Power Supply P. C. Board (PCB-9).
5. Unsolder the lead wires (CW217) from reference points (TM401, TM402 and TM404) on the Driver P. C. Board (PCB-1). Also unsolder the lead wire (CW216) from reference point (TM404) on the Driver P. C. Board (PCB-1).
6. Remove 6 screws (I), then remove the Auto On/Off P. C. Board (PCB-6) and Input P. C. Board (PCB-7) from the chassis.
7. Open the lid of connector (CN201) on the Input P. C. Board (PCB-7), then disconnect lead wires (W806 and W807) from Driver P. C. Board (PCB-1).
8. Disconnect the connector with lead wire (CW1) from connector (CN405) on the Driver P. C. Board (PCB-1).  
Also disconnect the connector with lead wire (CW205) from connector (CN205) on the Driver P. C. Board (PCB-1).
9. Disconnect the lead wires (CW201, CW202, CW203 and CW204) from Speaker Terminal (672).
10. Remove 4 screws (F) and 2 spacers (190), then remove the Driver (PCB-1) and Main P. C. Boards (PCB-2 and PCB-3) with HeatSinks (183 and 184) from the chassis.
11. Open the lid of connector (CN402 and CN403) on the Driver P. C. Board (PCB-1), then disconnect lead wires (JL402 and JL403) from Driver P. C. Board (PCB-1).
12. Disconnect the connector with lead wire (CW410) from connector (CN404) on the Driver P. C. Board (PCB-1).
13. Remove 7 screws (G) and 3 washers (224, 275 and 277), then remove the Driver (PCB-1) from the Main P. C. Boards (PCB-2 and PCB-3) and HeatSinks (183 and 184) assemblies.

14. Remove 24 screws (J), then remove the Main P. C. Boards (PCB-2 and PCB-3) from the HeatSinks (183 and 184).

### [5] POWER SUPPLY P.C. BOARD (PCB-9) REMOVAL

1. Unsolder the lead wires (CW401, CW402 and CW403) from reference point (TM2) on the Power Supply P. C. Board (PCB-9). Also Unsolder the lead wires (CW404, CW405 and CW406) from reference point (TM1) on the Power Supply P. C. Board (PCB-9).
2. Unsolder the lead wires (W415 and W416) from reference point (TM8) on the Power Supply P. C. Board (PCB-9).
3. Unsolder the lead wires from reference point (TM3) on the Power Supply P. C. Board (PCB-9).  
Also unsolder the lead wires from reference point (TM4) on the Power Supply P. C. Board (PCB-9).
4. Disconnect the connector with lead wire (CW1) from connector (CN405) on the Driver P. C. Board (PCB-1).
5. Remove 5 screws (H), 3 washers (225) and 1 washer (226), then remove the Power Supply P. C. Board (PCB-9) from the chassis.

### [6] AUTO ON/OFF P.C BOARD (PCB-6) and INPUT P.C BOARD (PCB-7) REMOVAL

1. Remove the Cabinet Top (131), referring to the previous step [1].
2. Remove 6 screws (I), then remove the Auto On/Off P. C. Board (PCB-6) and Input P.C. Board (PCB-7) from the chassis.
3. Open the lid of connector (CN201) on the Input P. C. Board (PCB-7), then disconnect lead wires (W806 and W807) from Driver P. C. Board (PCB-1).
4. Unsolder the lead wires (CW217) from reference points (TM401, TM402 and TM404) on the Driver P. C. Board (PCB-1).  
Also unsolder the lead wire (CW216) from reference point (TM404) on the Driver P. C. Board (PCB-1).
5. Disconnect the connector with lead wire (CW205) from connector (CN205) on the Driver P. C. Board (PCB-1).  
Also disconnect the connector with lead wire (CW220) from connector (CN220) on the Led P. C. Board (PCB-10).
6. Disconnect the connector with lead wire (CW221) from connector (CN221) on the Supply P. C. Board (PCB-8).

### [7] LED P.C BOARD (PCB-10) REMOVAL

1. Disconnect the connector with lead wire (CW220) from connector (CN220) on the Led P. C. Board (PCB-10).
2. Unbend the 2 catches fixing the Led P.C Board (PCB-7) on the chassis and remove it.

## PROTECTION CIRCUIT

When the power switch is turned on, there will be no sound for about 8 seconds. This is the normal operation of the "Turn-on muting protection circuit" which protects the speaker systems from turn-on transients. After about 8 seconds, the amplifier will operate. It is suggested that the preamplifier volume control be set to a low level during the turn-on period. It is also advisable to turn on all other high fidelity components in the system before turning on the power amplifier. When a short circuit or a load of less than 2 ohms is placed across the speaker terminals for more than 4 milliseconds (4/1000 of a second), the protection circuit will activate and the amplifier will be muted for about 8 seconds. The muting will turn off and the amplifier will begin operating again after 8 seconds.

When the temperature of the internal heatsink rises too high, the protection circuit will activate and the amplifier will be muted. When the unit cools off, the amplifier will automatically become operational. However, unlike the turn-on and short circuit protection, the temperature protections may not restore operation in only 8 seconds because of the time required for the unit to cool off.

While you are connecting your power amplifier to the rest of your high fidelity system, please unplug the power cords of not only the power amplifier but all the components from the AC outlet.

## AUTO-STANDBY FEATURE OPERATION

The PA2400 has a unique ability to sense when it is not receiving a music signal and it can automatically switch into a "Standby" mode. When this happens, the power amplifier circuitry completely shuts off and the front panel power indicator color changes from green (for "On") to amber (for "Standby"). When the amplifier again receives a music signal, it will return to the "On" state. The Auto-Standby feature instantly switches the amplifier "On", and switches it to "Standby" approximately 2 minutes after the incoming music signal stops. The 2 minute time before switching to "Standby" is to prevent the amplifier from unnecessarily switching between modes during use, or while the user is changing inputs or selecting software. This feature allows leaving the amplifier power switch in the "On" position when the amplifier is not in use. This can be a benefit in many systems and installations where the amplifier is not located within reach or is in another room. The "Auto-Standby" feature is also defeatable, for those customers that prefer the amplifier to behave in a conventional way. The "Auto-Standby" defeat switch is set in the "Off" position at the factory.

## BRIDGED MONO OPERATION

This feature permits both amplifier channels to drive one 8Ω loudspeaker. To operate the amplifier in this way, set the 8Ω/4Ω switch in the 4Ω position, set the "Bridged Mono" switch in the "On" position and connect the amplifier's Left (Mono +) speaker terminal to the loudspeaker's "+" wire and the amplifier's Right (Mono -) speaker terminal to the loudspeaker's "-" wire.

**Please note:** The amplifier is not designed to drive a 4Ω speaker in the Bridged Mono mode.

## ALIGNMENT PROCEDURES

### ■ Conditions:

Set the Source selector to the "CD" position.  
 Set the Volume control to minimum.  
 Set the Speaker selector to the "off" position.  
 Make the adjustment at a room temperature of 77°F (25°C).

**Note:** Use a non-metallic tool for adjustments (e.g. plastic or nylon).

### ■ IDLING CURRENT ADJUSTMENT

Step	Connection Equipments	Adjustment	For
1	Connect the Digital Volt Meter to TP403.	VR405	25 mV
2	Connect the Digital Volt Meter to TP404.	VR406	25 mV

### ■ MAIN OFFSET DC BALANCE ADJUSTMENT

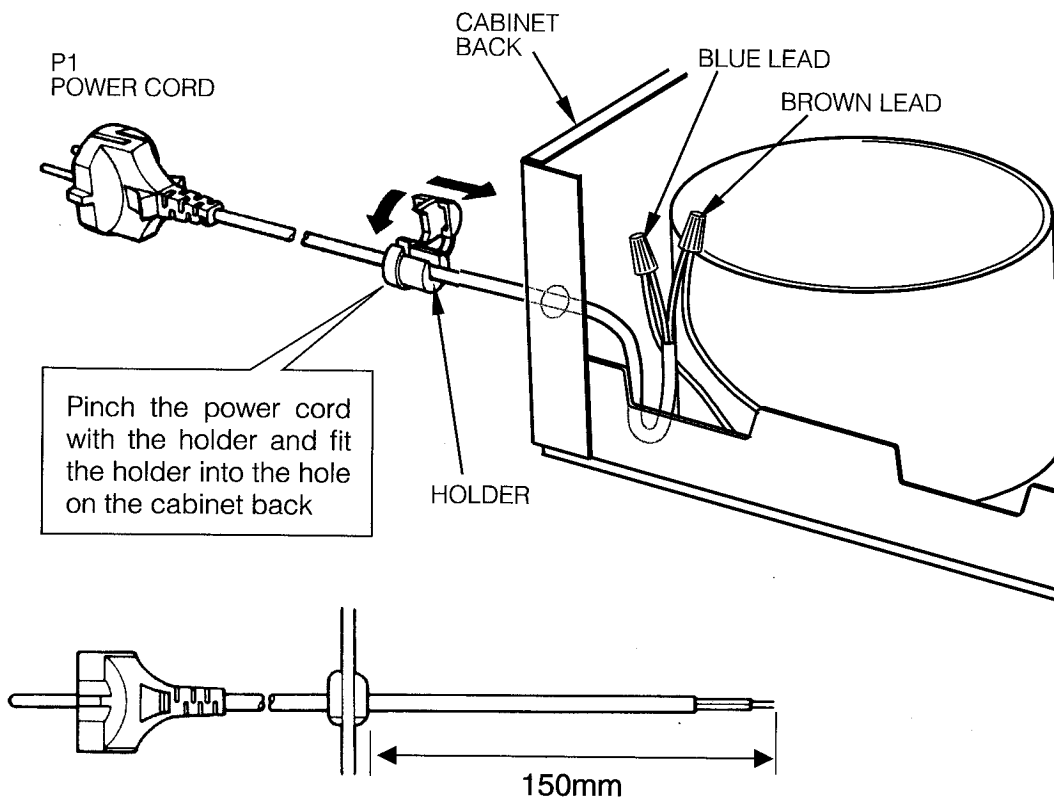
Set the Speaker Selector switch to the "1" position.

Step	Connection Equipments	Adjustment	For
1	Connect the Digital Volt Meter to TM15 and TM17.	VR401	0 mV
2	Connect the Digital Volt Meter to TM16 and TM18.	VR402	0 mV

■ After the above adjustment, leave the unit with its power on for longer than 30 minutes and then repeat the same adjustment.

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

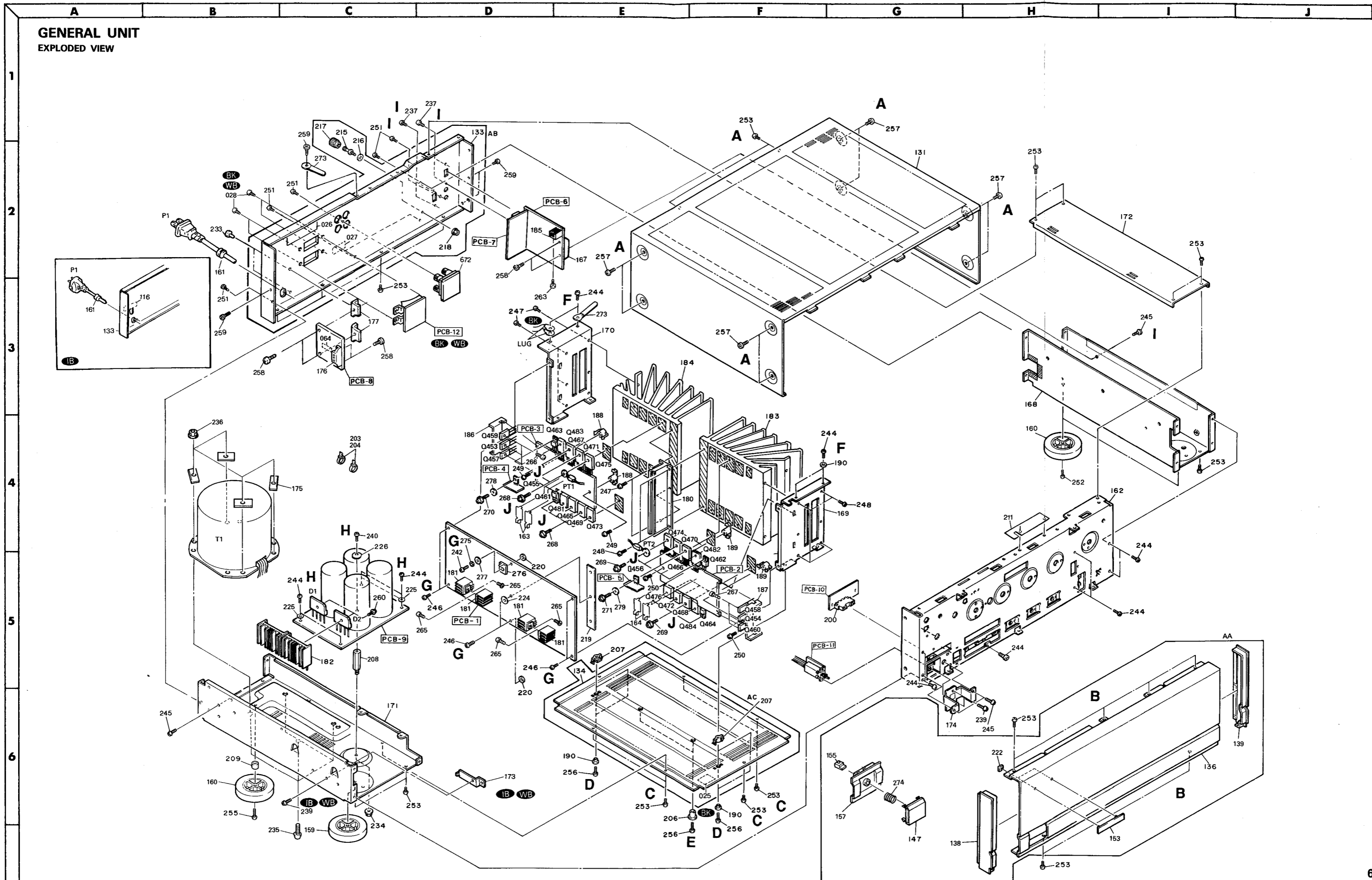
In order to prevent fire or shock hazard when replacing the power cord, follow the procedure below to replace the parts with the standard supply parts.



## GENERAL UNIT PARTS LIST

Ref.No.	Part No.	Description	Ref.No.	Part No.	Description
AA	A443-PA2400A	FRONT PANEL ASSEMBLY	226	2401-0473	WASHER, METAL
AB	A424-PA2400C	CABINET BACK ASSEMBLY (BK)	233	2459-3003511	RIVET, PLASTIC, POWER IN PCB (X2)
AB	A424 PA2400A	CABINET BACK ASSEMBLY (IB)	234	2440-7016	NUT, SPE, TRANS BOTTOM
AB	A424-PA2400E	CABINET BACK ASSEMBLY (WB)	235	2327-R0140102	SCREW, BND+ (4X10 mm) (X4)
AC	A424-PA2400D	CABINET BOTTOM ASSEMBLY (BK)	236	2440-60	NUT, SPE, TRANS (X4)
AC	A424-PA2400B	CABINET BOTTOM ASSEMBLY (IB) (WB)	237	2327-R0126044	SCREW, BND+ (2.6X4 mm) (X4)
025	1751-01018	LABEL, UL (BK)	239	2327-R0130062	SCREW, BND+ (3X6 mm) (X2) (BK)
026	1756-11301	LABEL, FUSE CAUTION (BK)	239	2327-R0130062	SCREW, BND+ (3X6 mm) (X3) (IB)(WB)
027	1756-CSA	LABEL, CSA (BK)	240	2327-R0130082	SCREW, BND+ (3X8 mm)
028	2327-R0130064	SCREW, BND+ (3X6 mm)(X4)(BK)	242	2347-R0130102	SCREW, BND T+ (3X10 mm)
064	1756-R011N122	LABEL, F201 (BK)	244	2347-R0130062	SCREW, BND T+ (3X6 mm) (X18)
116	1756-21910	LABEL, FTZ (IB)	245	2347-R0130062	SCREW, BND T+ (3X6 mm) (X4)
131	1414-14901	CABINET, TOP COVER	246	2347-R0130082	SCREW, BND T+ (3X8 mm) (X6)
133	1424-37501	CABINET BACK, REAR (BK)	247	2347-R0130082	SCREW, BND T+ (3X8 mm) (X6)
133	1424-37502	CABINET BACK, REAR (IB)	248	2347-R0130082	SCREW, BND T+ (3X8 mm)(X6)
133	1424-37503	CABINET BACK, REAR (WB)	249	2347-R0130122	SCREW, BND T+ (3X12 mm) (X2)
134	1424-29901	CABINET BACK, BOTTOM	250	2347-R0130122	SCREW, BND T+ (3X12 mm) (X2)
136	1443-14802	PANEL, FRONT	251	2347-R0130084	SCREW, BND T+ (3X8 mm) (X6)
138	1562-08402	FRAME, L	252	2347-R0140104	SCREW, BND T+ (4X10 mm) (X2)
139	1562-08502	FRAME, R	253	2347-R0130064	SCREW, BND T+ (3X6 mm) (X24)
147	1660-01602	PUSH BUTTON, POWER	255	2347-R0130124	SCREW, BND T+ (3X12 mm)
153	1714-02602	NAME PLATE, BADGE	256	2347-R0130164	SCREW, BND T+ (3X16 mm) (X6)
155	1732-06901	INDICATOR, POWER (X2)	257	2347-R0140064	SCREW, BND T+ (4X6 mm) (X8)
157	1742-09302	ORNAMENT, POWER	258	2347-R0130062	SCREW, BND T+ (3X6 mm) (X6)
159	1319-03901	LEG, POWER SWITCH BOTTOM	259	2347-R0130062	SCREW, BND T+ (3X6 mm)(X4)
160	1319-02301	LEG (X3)	260	2347-R0130082	SCREW, BND T+ (3X8 mm) (X2)
161	2114-71246	BUSHING, AC CORD	263	2557-300829	SCREW, B SPW+ (3X8 mm)
162	2211-7308	CHASSIS, FRONT	265	2557-300829	SCREW, B SPW+ (3X8 mm) (X4)
163	2218-7038	BRACKET, FIX, MAIN(R) PCB (X2)	266	2557-300829	SCREW, B SPW+ (3x8 mm) (X3)
164	2218-7038	BRACKET, FIX, MAIN(L) PCB (X2)	267	2557-300829	SCREW, B SPW+ (3X8 mm) (X3)
167	2219-8349	METAL FITTING, AUTO ON/OFF PCB	268	2557-301229	SCREW, B SPW+ (3X12 mm) (X9)
168	2219-8267	METAL FITTING, EQ BOTTOM	269	2557-301229	SCREW, B SPW+ (3X12 mm) (X9)
169	2219-8268	METAL FITTING, HEAT SINK (L)	270	2557-301629	SCREW, B SPW+ (3X16 mm)
170	2219-8269	METAL FITTING, HEAT SINK (R)	271	2557-301629	SCREW, B SPW+ (3X16 mm)
171	2219-8352	METAL FITTING, TRANS BOTTOM	273	2218-R0130	BRACKET, FIX, WIRING (X2)
172	2219-8271	METAL FITTING, EQ TOP	274	2651-2101733	SPRING, POWER BUTTON
173	2219-8283	METAL FITTING, TRANS BOTTOM FRONT SIDE (IB)(WB)	275	2412-3022	WASHER, SPRING, DRIVER GND
174	2219-8351	METAL FITTING, POWER SWITCH	276	2219-7945	METAL FITTG, DRIVER GND
175	2219-7093	METAL FITTING, TRANS (X4)	277	2401-0373	WASHER, METAL, DRIVER GND
176	2219-8349	METAL FITTING, POWER IN PCB	278	2401-0373	WASHER, METAL, MAIN PCB (R)
177	2219-8350	METAL FITTING, POWER IN PCB (X2)	279	2401-0373	WASHER, METAL, MAIN PCB (L)
180	2222-7266	HEAT SINK, L/R JOINT			
181	2222-7315	HEAT SINK, DRIVER (X4)			
182	2222-7269	HEAT SINK, D1, 2 (X2)			
183	2222-7325	HEAT SINK, MAIN PCB (L) (BK)			
183	2222-7326	HEAT SINK, MAIN PCB (L) (IB) (WB)			
184	2222-7325	HEAT SINK, MAIN PCB (R) (BK)			
184	2222-7327	HEAT SINK, MAIN PCB (R) (IB) (WB)			
185	2222-7217	HEAT SINK, AUTO ON/OFF			
186	2222-7310	HEAT SINK, MAIN PCB (R)			
187	2222-7310	HEAT SINK, MAIN PCB (L)			
188	2360-7064	BOSS, SPE, MAIN PCB (R) (X2)			
189	2360-7064	BOSS, SPE, MAIN PCB (L) (X2)			
190	2132-7136	SPACER, HEAT MATAL (X2), BOTTOM (X4)			
200	2240-7396	HOLDER, POWER LED			
203	2240-R0101	HOLDER, WIRING (X18) (BK)(WB)			
203	2240-R0101	HOLDER, WIRING (X14) (IB)			
204	2240-R0101	HOLDER, WIRING (X6)			
206	2360-7019	BOSS, SPE, BOTTOM (X2)			
207	2360-7020	BOSS, SPE, BOTTOM (X4)			
208	2362-961410	BOSS, THREAD, TRANS BOTTOM			
209	2363-501724	BOSS, PIPE, TRANS LEG			
211	2224-7142	INSULATOR, HEAT METAL (FRONT)			
215	2310-7015	SCREW, SPE, GND			
216	2410-7005	WASHER, SPE, GND			
217	2440-7011	NUT, SPE GND			
218	2440-7016	NUT, SPE, GND			
219	2224-7100	INSULATOR, DRIVER PCB			
220	2402-0374	WASHER, PLASTIC, DRIVER PCB (X2)			
222	2431-0151	FASTENER, NAME PLATE (X2)			
224	2401-0476	WASHER, METAL			
225	2401-0476	WASHER, METAL (X3)			

GENERAL UNIT  
EXPLODED VIEW







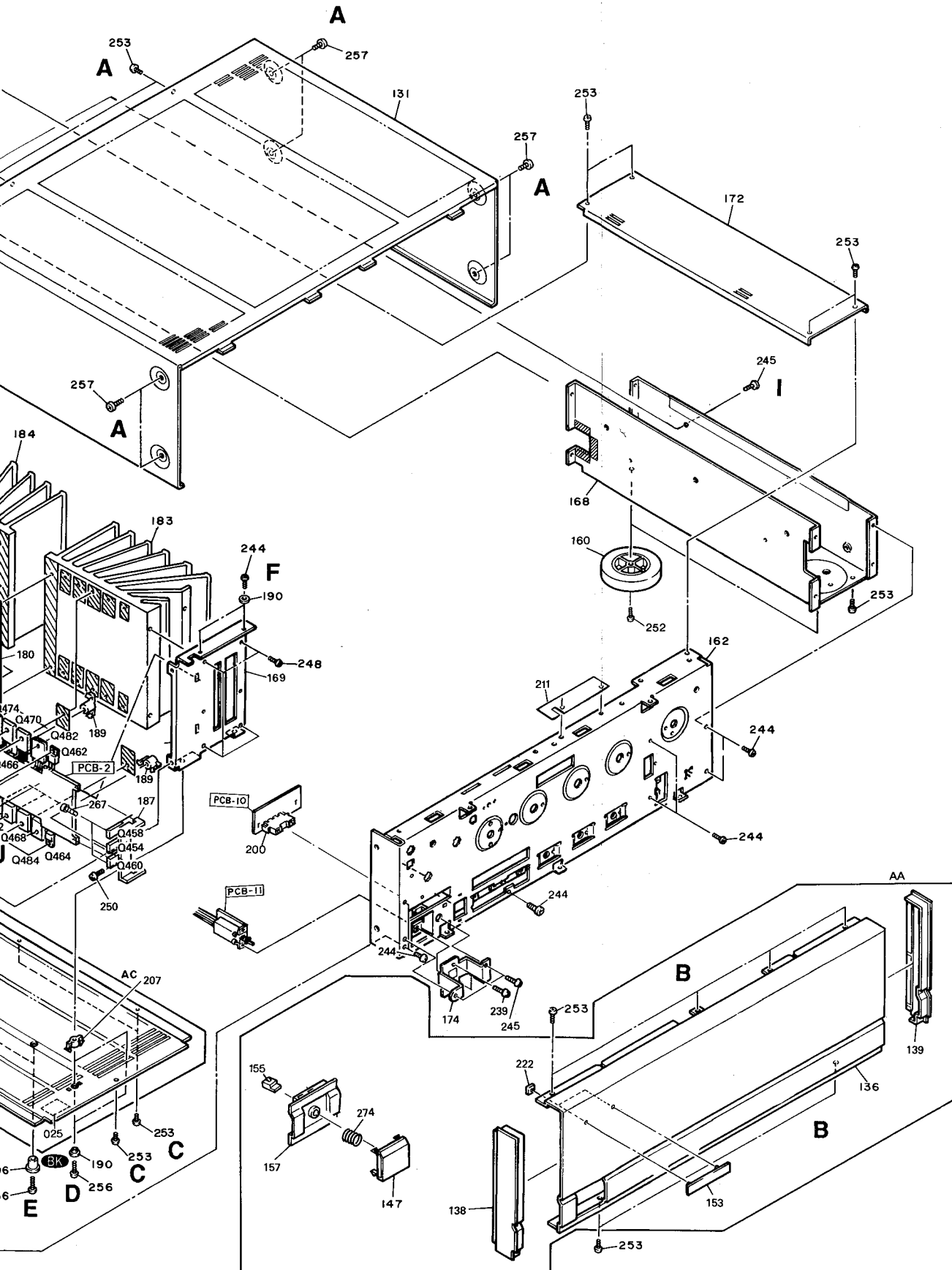
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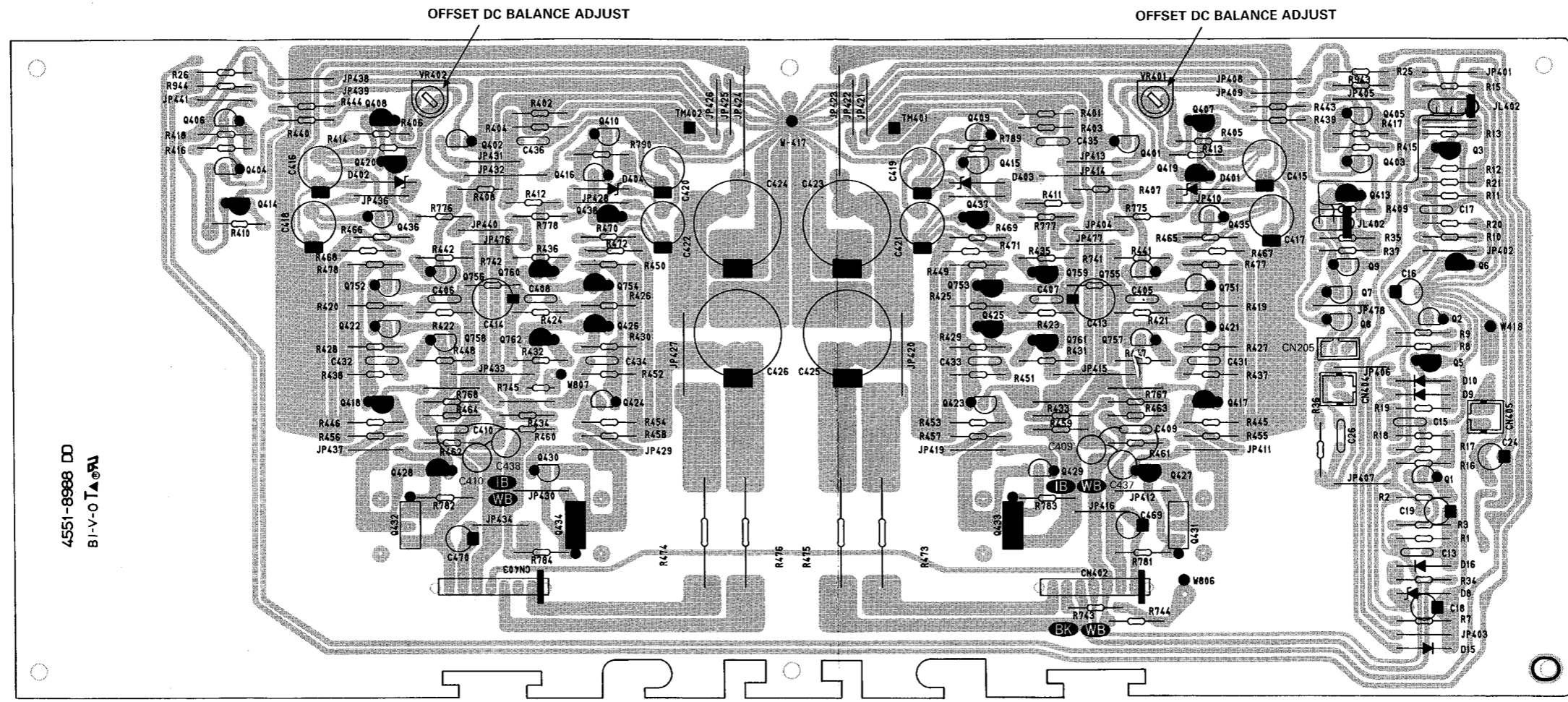
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P.C. BOARDS

PCB-1  
DRIVER P.C. BOARD



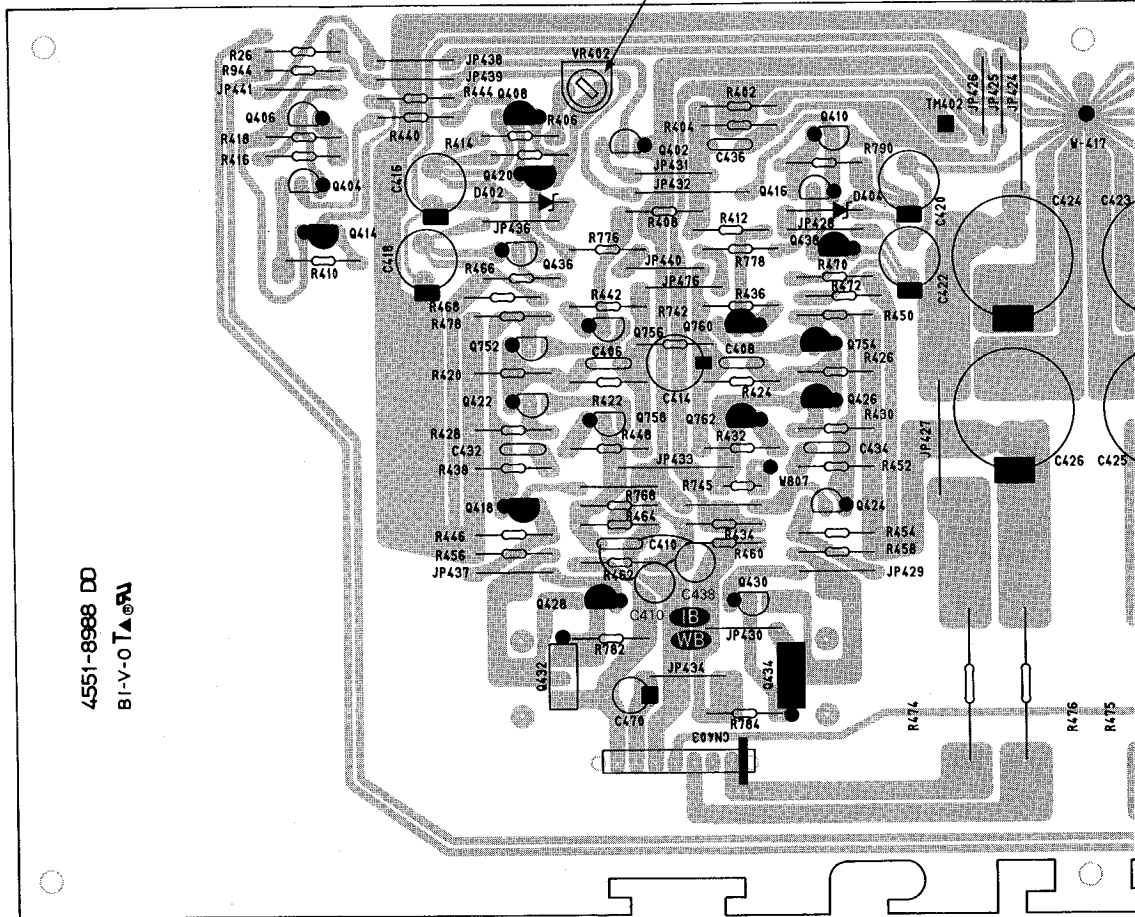
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P.C. BOARDS

PCB-1  
DRIVER P.C. BOARD

OFFSET DC BALANCE ADJUST

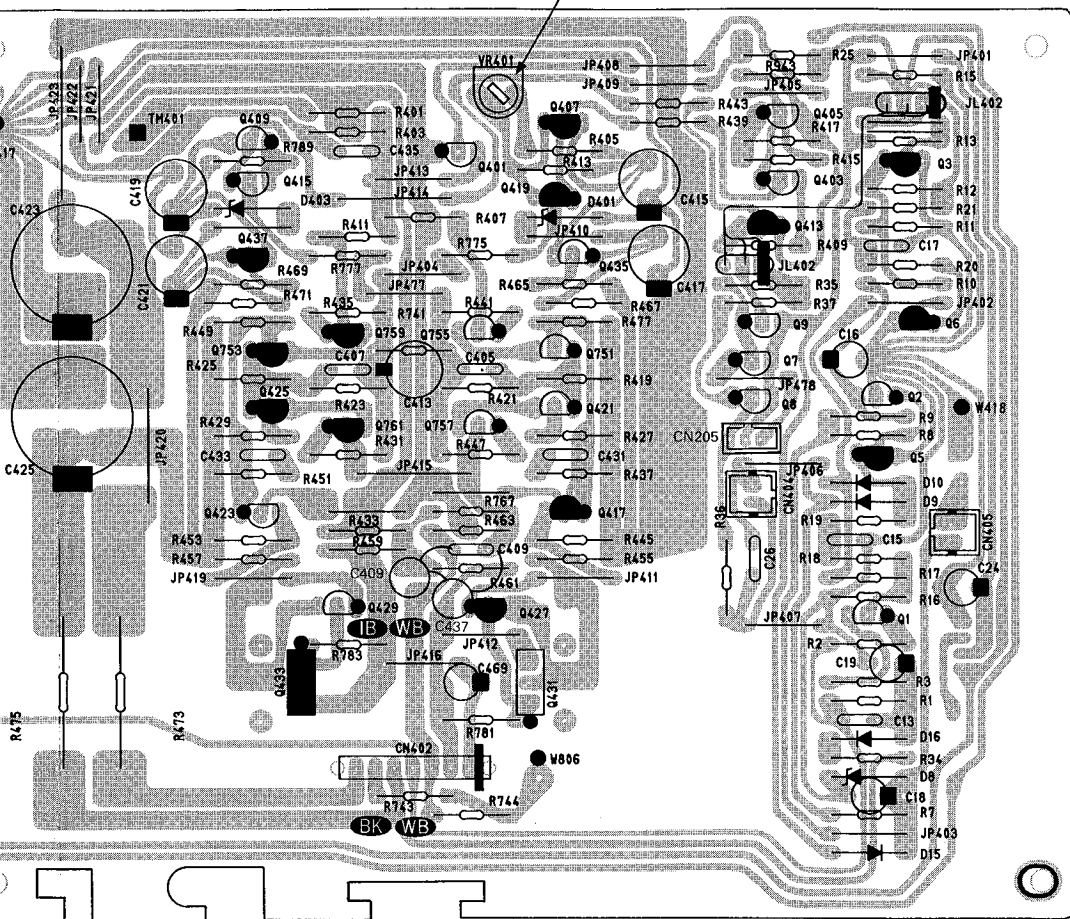


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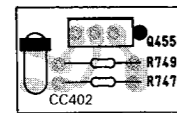
OFFSET DC BALANCE ADJUST



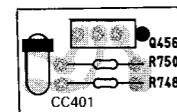
### P.C. BOARDS

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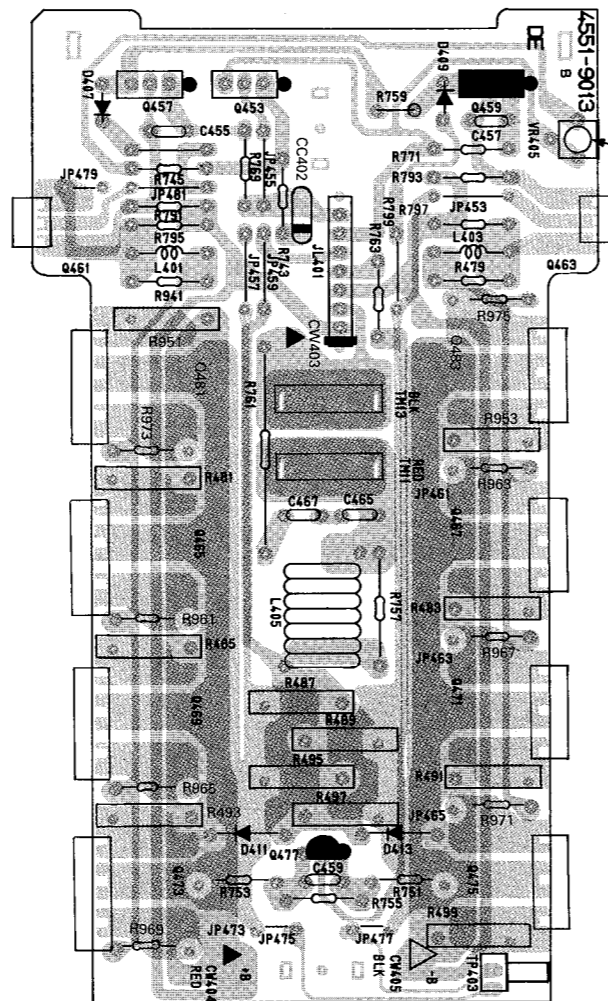
**PCB-4**  
BIAS (R) P.C. BOARD



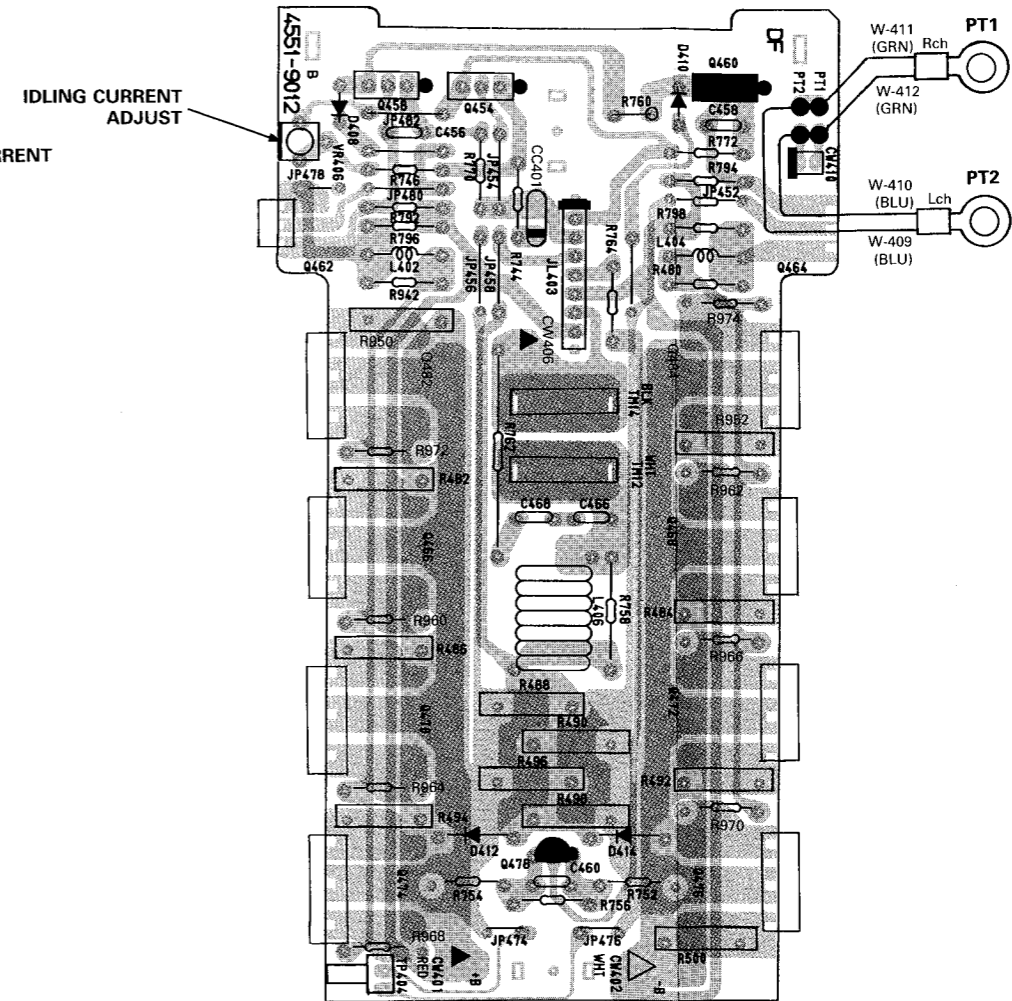
**PCB-5**  
BIAS (L) P.C. BOARD



**PCB-3**  
MAIN (R) P.C. BOARD

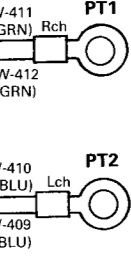


**PCB-2**  
MAIN (L) P.C. BOARD



IDLING CURRENT ADJUST

IDLING CURRENT ADJUST

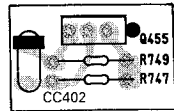


# P.C. BOARDS

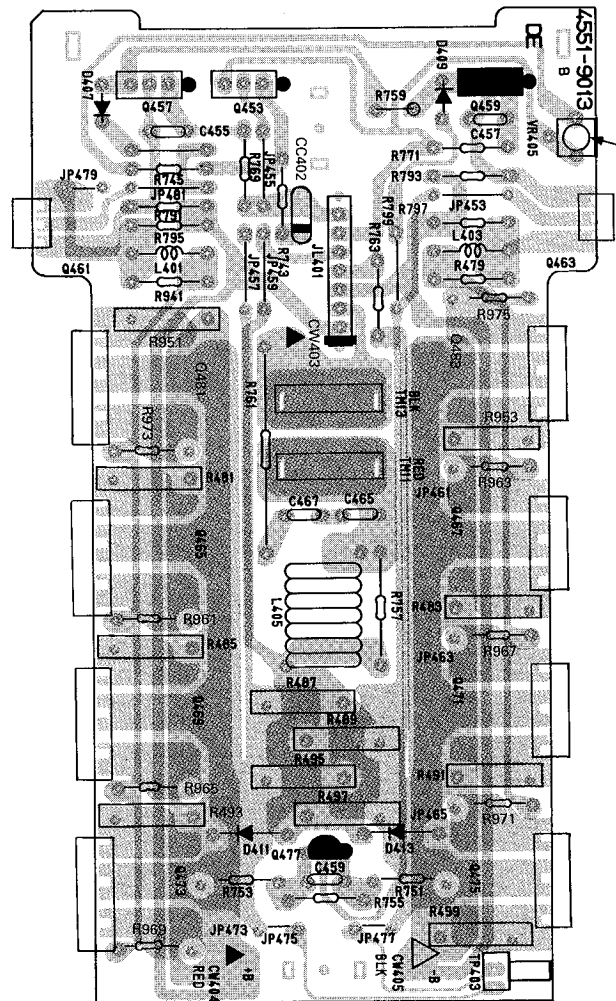
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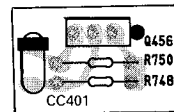
**PCB-4**  
BIAS (R) P.C. BOARD



**PCB-3**  
MAIN (R) P.C. BOARD



**PCB-5**  
BIAS (L) P.C. BOARD



F

G

H

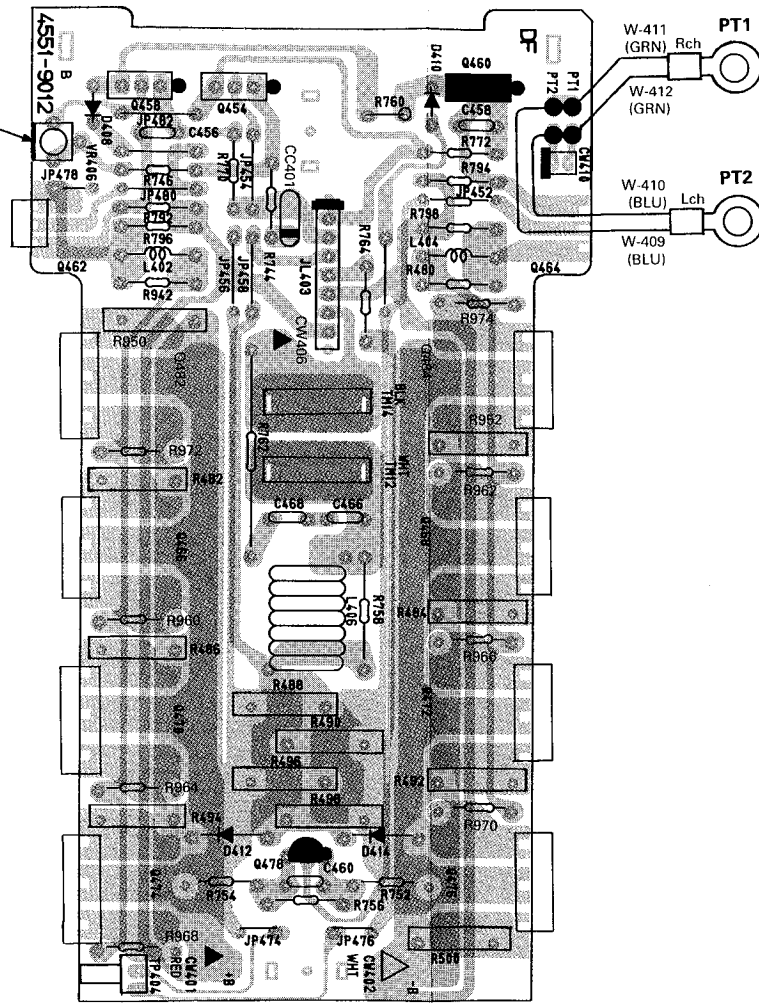
I

J

**PCB-2**  
**MAIN (L) P.C. BOARD**

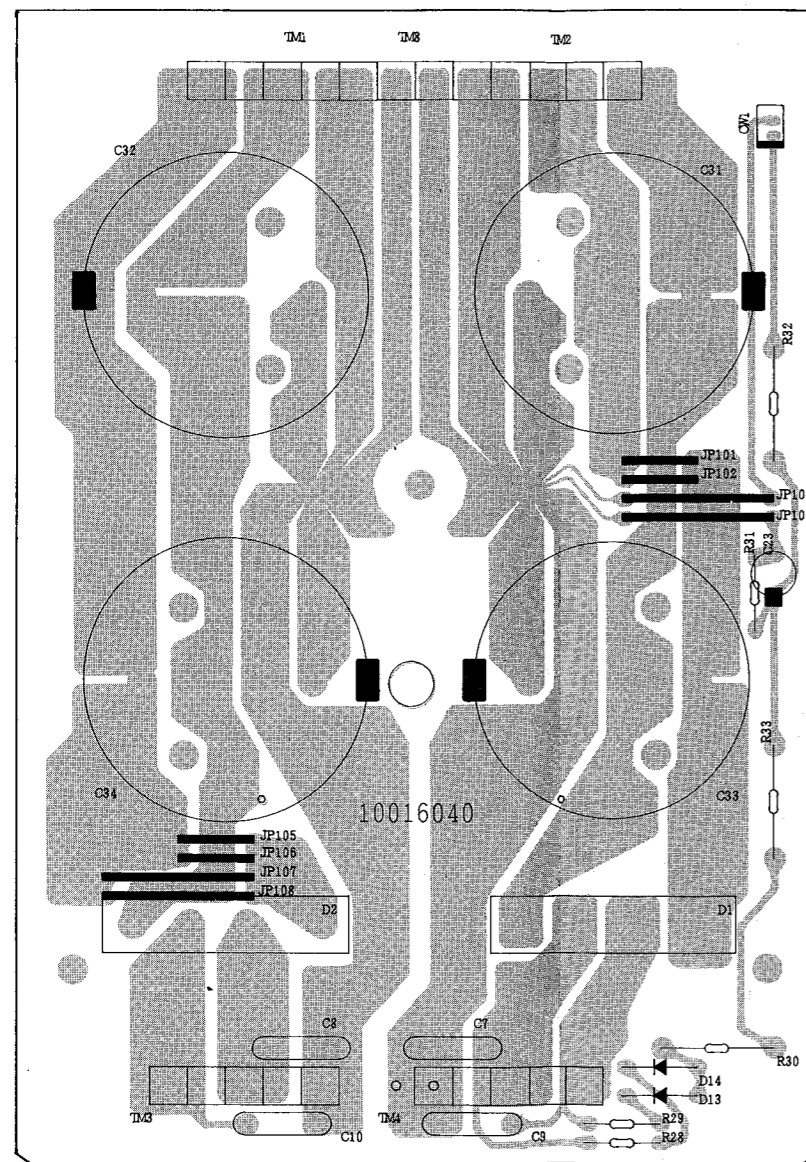
IDLING CURRENT  
ADJUST

IDLING CURRENT  
ADJUST

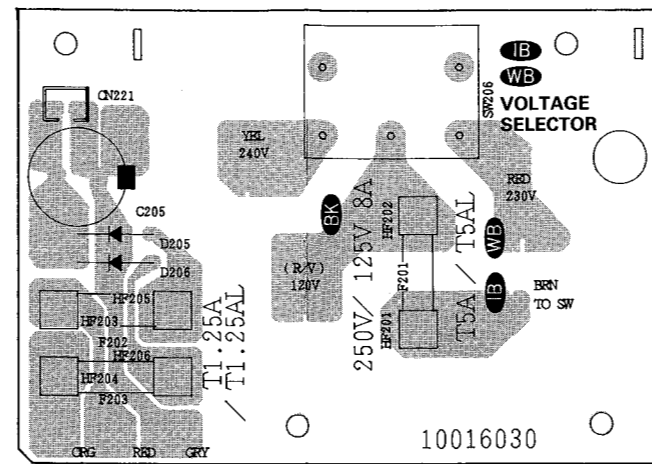


P.C. BOARDS

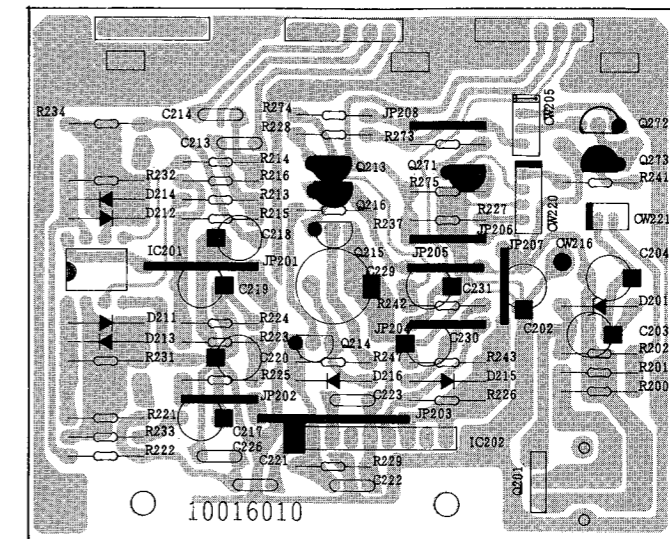
**PCB-9**  
POWER SUPPLY P.C. BOARD



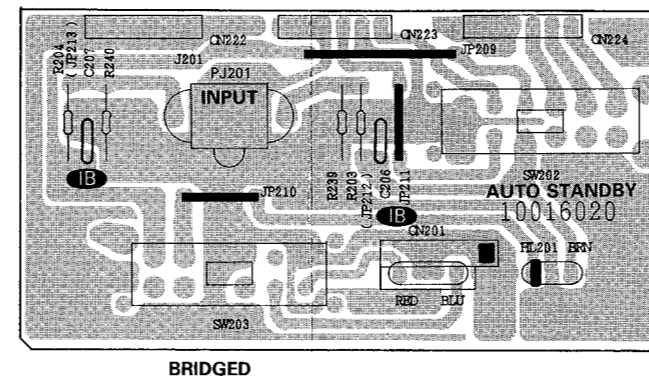
**PCB-8**  
SUPPLY P.C. BOARD



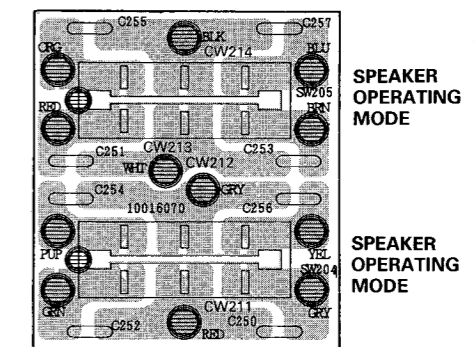
**PCB-6**  
AUTO ON/OFF P.C. BOARD



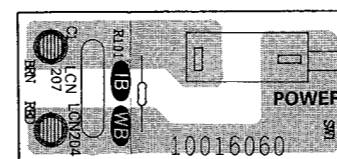
**PCB-7**  
INPUT P.C. BOARD



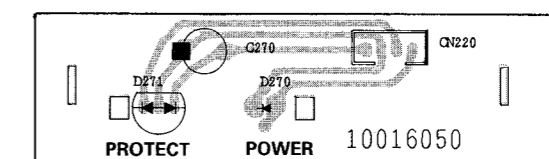
**PCB-12** BK WB  
4/8 SW P.C. BOARD



**PCB-11**  
POWER SW P.C. BOARD



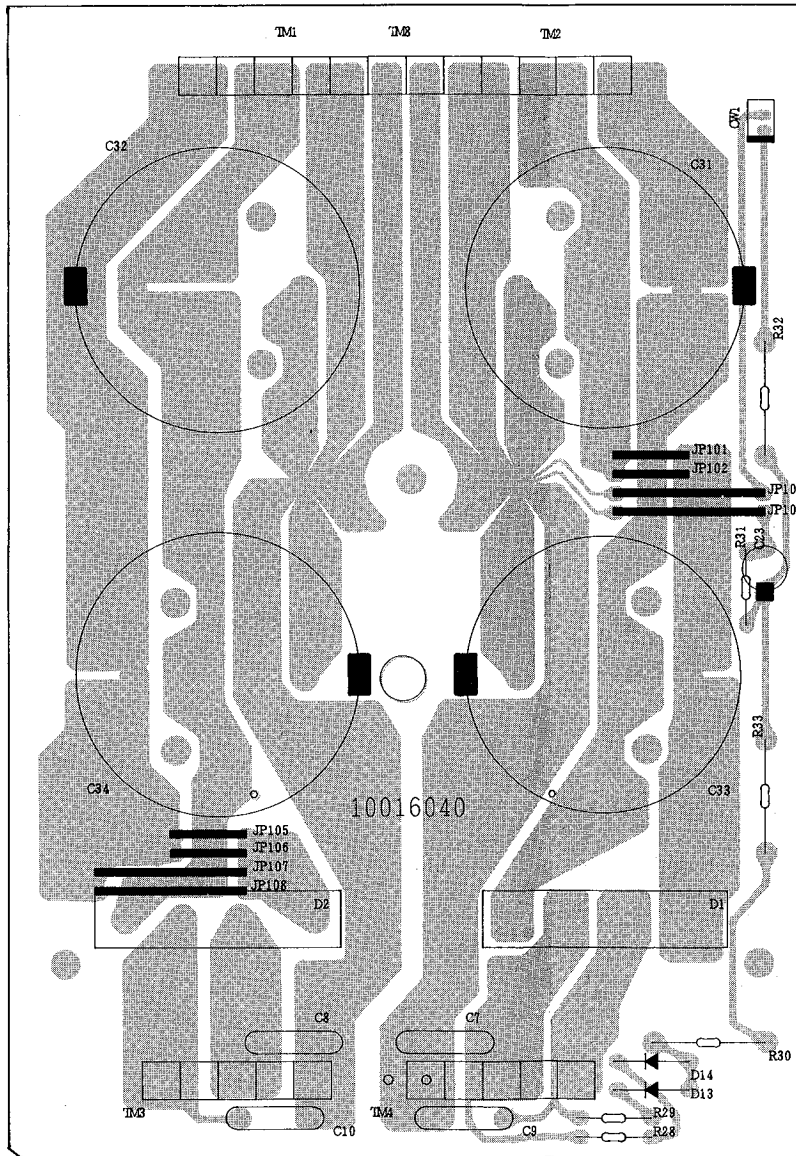
**PCB-10**  
LED P.C. BOARD



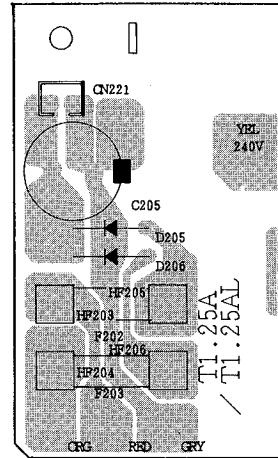


# P.C. BOARDS

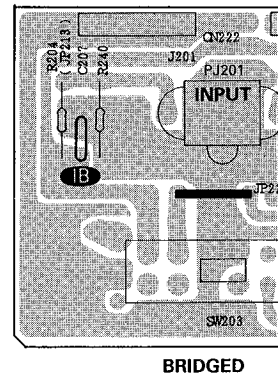
**PCB-9**  
POWER SUPPLY P.C. BOARD



**PCB-8**  
SUPPLY P.C. BOARD



**PCB-7**  
INPUT P.C. BOARD

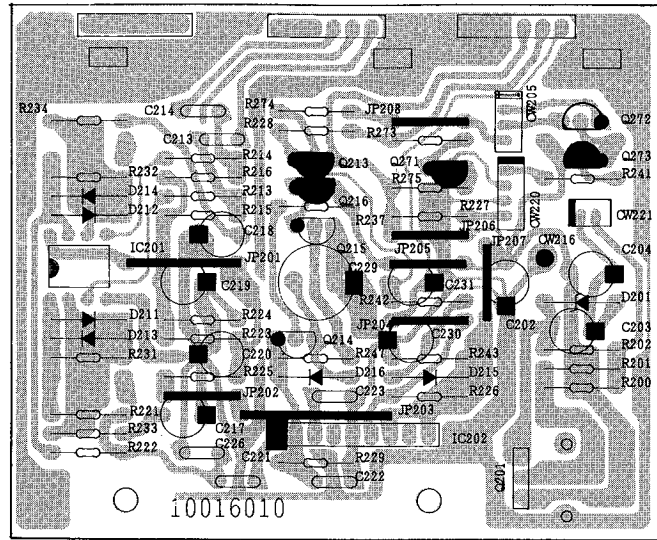
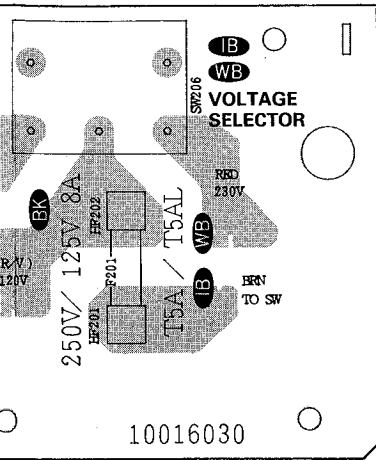


**PCB-11**  
POWER



**PCB-6**

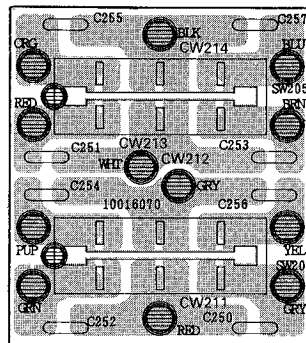
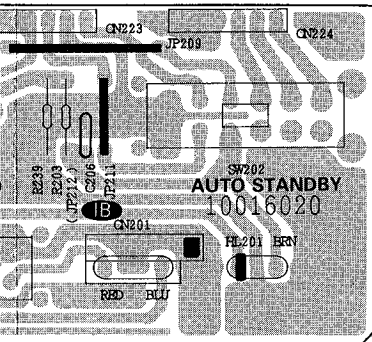
**AUTO ON/OFF P.C. BOARD**



**PCB-12**

**BK WB**

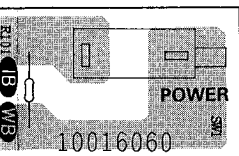
**4/8 SW P.C. BOARD**



**SPEAKER  
OPERATING  
MODE**

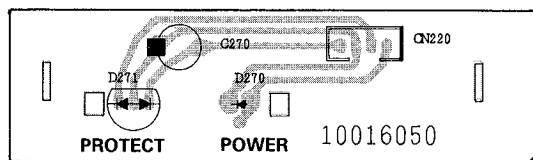
**SPEAKER  
OPERATING  
MODE**

**SW P.C. BOARD**



**PCB-10**

**LED P.C. BOARD**



## ELECTRICAL PARTS LIST

Ser. No.	Ref. No.	Part No.	Description	Ser. No.	Ref. No.	Part No.	Description
<b>PCB-1 DRIVER PC BOARD</b>							
<b>CAPACITORS</b>							
482	C13	5354-332J1HM	CAP, MYL 3300P	469	R406	5130-R030J151	RES, CBN 1/2P 150
480	C15	5354-334593	CAP, MYL .33μ	459	R407	5130-R030J330	RES, CBN 1/2P 33
483	C16	5345-S19CM336	CAP, MINI ELE 33μ/16V	459	R408	5130-R030J330	RES, CBN 1/2P 33
480	C17	5354-334593	CAP, MYL .33μ	462	R409	5130-R030J103	RES, CBN 1/2P 10K
484	C18	5345-S19FM105	CAP, MINI ELE 1μ/50V	462	R410	5130-R030J103	RES, CBN 1/2P 10K
485	C19	5345-105J0962	CAP, MINI ELE 1μ/100V	459	R411	5130-R030J330	RES, CBN 1/2P 33
476	C24	5345-226C041	CAP, MINI ELE 22μ/16V	459	R412	5130-R030J330	RES, CBN 1/2P 33
481	C26	5354-104593	CAP, MYL .1μ	456	R413	5130-R030J221	RES, CBN 1/2P 220
434	C405	5354-104593	CAP, MYL .1μ	456	R414	5130-R030J221	RES, CBN 1/2P 220
434	C406	5354-104593	CAP, MYL .1μ	454	R415	5130-R030J154	RES, CBN 1/2P 150K
434	C407	5354-104593	CAP, MYL .1μ	454	R416	5130-R030J154	RES, CBN 1/2P 150K
434	C408	5354-104593	CAP, MYL .1μ	452	R417	5130-R030J563	RES, CBN 1/2P 56K
437A	C409	5353-050534	CAP, MCA 5P <b>EK</b>	452	R418	5130-R030J563	RES, CBN 1/2P 56K
437	C409	5353-100534	CAP, MCA 10P <b>IB WB</b>	455	R419	5130-R030J105	RES, CBN 1/2P 1M
437A	C410	5353-050534	CAP, MCA 5P <b>EK</b>	455	R420	5130-R030J105	RES, CBN 1/2P 1M
437	C410	5353-100534	CAP, MCA 10P <b>IB WB</b>	454	R421	5130-R030J154	RES, CBN 1/2P 150K
430	C413	5345-S19FM225	CAP, MINI ELE 2.2μ/50V	454	R422	5130-R030J154	RES, CBN 1/2P 150K
430	C414	5345-S19FM225	CAP, MINI ELE 2.2μ/50V	454	R423	5130-R030J154	RES, CBN 1/2P 150K
429	C415	5345-227D041	CAP, MINI ELE 220μ/25V	454	R424	5130-R030J154	RES, CBN 1/2P 150K
429	C416	5345-227D041	CAP, MINI ELE 220μ/25V	455	R425	5130-R030J105	RES, CBN 1/2P 1M
428	C417	5345-227D041	CAP, MINI ELE 220μ/25V	455	R426	5130-R030J105	RES, CBN 1/2P 1M
428	C418	5345-227D041	CAP, MINI ELE 220μ/25V	460	R427	5130-R030J152	RES, CBN 1/2P 1.5K
429	C419	5345-227D041	CAP, MINI ELE 220μ/25V	460	R428	5130-R030J152	RES, CBN 1/2P 1.5K
429	C420	5345-227D041	CAP, MINI ELE 220μ/25V	460	R429	5130-R030J152	RES, CBN 1/2P 1.5K
428	C421	5345-227D041	CAP, MINI ELE 220μ/25V	460	R430	5130-R030J152	RES, CBN 1/2P 1.5K
428	C422	5345-227D041	CAP, MINI ELE 220μ/25V	463	R431	5130-R030J221	RES, CBN 1/2P 220
431	C423	5345-S29JM477	CAP, MINI ELE 470μ/100V	463	R432	5130-R030J221	RES, CBN 1/2P 220
431	C424	5345-S29JM477	CAP, MINI ELE 470μ/100V	448A	R433	5174-330381	RES, MTL 1/4P 33 <b>EK WB</b>
431	C425	5345-S29JM477	CAP, MINI ELE 470μ/100V	448	R433	5174-390381	RES, MTL 1/4P 39 <b>IB</b>
431	C426	5345-S29JM477	CAP, MINI ELE 470μ/100V	448A	R434	5174-330381	RES, MTL 1/4P 33 <b>EK WB</b>
438	C431	5353-390534	CAP, MCA 39P	448	R434	5174-390381	RES, MTL 1/4P 39 <b>IB</b>
438	C432	5353-390534	CAP, MCA 39P	463	R435	5130-R030J221	RES, CBN 1/2P 220
438	C433	5353-390534	CAP, MCA 39P	463	R436	5130-R030J221	RES, CBN 1/2P 220
438	C434	5353-390534	CAP, MCA 39P	465	R437	5130-R030J561	RES, CBN 1/2P 560
436	C435	5353-680534	CAP, MCA 68P	465	R438	5130-R030J561	RES, CBN 1/2P 560
436	C436	5353-680534	CAP, MCA 68P	453	R439	5130-R030J563	RES, CBN 1/2P 56K
437	C437	5353-100534	CAP, MCA 10P <b>IB WB</b>	453	R440	5130-R030J563	RES, CBN 1/2P 56K
437	C438	5353-100534	CAP, MCA 10P <b>IB WB</b>	463	R441	5130-R030J221	RES, CBN 1/2P 220
433	C469	5345-S19CM106	CAP, MINI ELE 10μ/16V	463	R442	5130-R030J221	RES, CBN 1/2P 220
433	C470	5345-S19CM106	CAP, MINI ELE 10μ/16V	453	R443	5130-R030J563	RES, CBN 1/2P 56K
<b>RESISTORS</b>							
495	R1	5130-R030J473	RES, CBN 1/2P 47K	453	R444	5130-R030J563	RES, CBN 1/2P 56K
488	R2	5130-R030J223	RES, CBN 1/2P 22K	445	△ R445	5102-8214713	RES, FUSE 820
497	R3	5130-R030J152	RES, CBN 1/2P 1.5K	445	△ R446	5102-8214713	RES, FUSE 820
500	R7	5130-R030J104	RES, CBN 1/2P 100K	463	R447	5130-R030J221	RES, CBN 1/2P 220
495	R8	5130-R030J473	RES, CBN 1/2P 47K	463	R448	5130-R030J221	RES, CBN 1/2P 220
496	R9	5130-R030J334	RES, CBN 1/2P 330K	460	R449	5130-R030J152	RES, CBN 1/2P 1.5K
494	R10	5130-R030J684	RES, CBN 1/2P 680K	460	R450	5130-R030J152	RES, CBN 1/2P 1.5K
493	R11	5130-R030J184	RES, CBN 1/2P 180K	465	R451	5130-R030J561	RES, CBN 1/2P 560
492	R12	5130-R030J225	RES, CBN 1/2P 2.2M	465	R452	5130-R030J561	RES, CBN 1/2P 560
490	R13	5130-R030J104	RES, CBN 1/2P 100K	445	△ R453	5102-8214713	RES, FUSE 820
491	R15	5130-R030J103	RES, CBN 1/2P 10K	445	△ R454	5102-8214713	RES, FUSE 820
491	R16	5130-R030J103	RES, CBN 1/2P 10K	444	△ R455	5102-1014713	RES, FUSE 100
495	R17	5130-R030J473	RES, CBN 1/2P 47K	444	△ R456	5102-1014713	RES, FUSE 100
488	R18	5130-R030J223	RES, CBN 1/2P 22K	444	△ R457	5102-1014713	RES, FUSE 100
488	R19	5130-R030J223	RES, CBN 1/2P 22K	444	△ R458	5102-1014713	RES, FUSE 100
495	R20	5130-R030J473	RES, CBN 1/2P 47K	466	R459	5130-R030J153	RES, CBN 1/2P 15K
490	R21	5130-R030J104	RES, CBN 1/2P 100K	466	R460	5130-R030J153	RES, CBN 1/2P 15K
487	R25	5130-R030J105	RES, CBN 1/2P 1M	466	R461	5130-R030J153	RES, CBN 1/2P 15K
487	R26	5130-R030J105	RES, CBN 1/2P 1M	466	R462	5130-R030J153	RES, CBN 1/2P 15K
486	△ R34	5102-1015116	RES, FUSE 100	449	R463	5174-273381	RES, MTL 1/4P 27K
490	R35	5130-R030J104	RES, CBN 1/2P 100K	449	R464	5174-273381	RES, MTL 1/4P 27K
491	R36	5130-R030J103	RES, CBN 1/2P 10K	446	△ R465	5102-2205116	RES, FUSE 22
490	R37	5130-R030J104	RES, CBN 1/2P 100K	446	△ R466	5102-2205116	RES, FUSE 22
461	R401	5130-R030J331	RES, CBN 1/2P 330	467	R467	5130-R030J562	RES, CBN 1/2P 5.6K
461	R402	5130-R030J331	RES, CBN 1/2P 330	467	R468	5130-R030J562	RES, CBN 1/2P 5.6K
451	R403	5130-R030J333	RES, CBN 1/2P 33K	446	△ R469	5102-2205116	RES, FUSE 22
451	R404	5130-R030J333	RES, CBN 1/2P 33K	446	△ R470	5102-2205116	RES, FUSE 22
469	R405	5130-R030J151	RES, CBN 1/2P 150	467	R471	5130-R030J562	RES, CBN 1/2P 5.6K
				467	R472	5130-R030J562	RES, CBN 1/2P 5.6K
				443	△ R473	5102-1005711	RES, FUSE 10
				443	△ R474	5102-1005711	RES, FUSE 10
				443	△ R475	5102-1005711	RES, FUSE 10
				443	△ R476	5102-1005711	RES, FUSE 10
				460	R477	5130-R030J152	RES, CBN 1/2P 1.5K
				460	R478	5130-R030J152	RES, CBN 1/2P 1.5K
				470	R741	5130-R030J474	RES, CBN 1/2P 470K
				470	R742	5130-R030J474	RES, CBN 1/2P 470K
				457A	R743	5130-R030J203	RES, CBN 1/2P 20K <b>EK WB</b>

Ser. No.	Ref. No.	Part No.	Description
457B	R744	5130-R030J203	RES, CBN 1/2P 20K <b>BK</b> <b>WB</b>
457	R744	5130-R030J103	RES, CBN 1/2P 10K <b>IB</b>
450A	R745	5130-R030J221	RES, CBN 1/2P 220 <b>BK</b> <b>WB</b>
450	R745	5130-R030J103	RES, CBN 1/2P 10K <b>IB</b>
447A	R767	5174-391381	RES, MTL 1/4P 390 <b>BK</b> <b>WB</b>
447	R767	5174-471381	RES, MTL 1/4P 470 <b>IB</b>
447A	R768	5174-391381	RES, MTL 1/4P 390 <b>BK</b> <b>WB</b>
447	R768	5174-471381	RES, MTL 1/4P 470 <b>IB</b>
458	R775	5130-R030J472	RES, CBN 1/2P 4.7K
458	R776	5130-R030J472	RES, CBN 1/2P 4.7K
458	R777	5130-R030J472	RES, CBN 1/2P 4.7K
458	R778	5130-R030J472	RES, CBN 1/2P 4.7K
464	R781	5130-R030J181	RES, CBN 1/2P 180
464	R782	5130-R030J181	RES, CBN 1/2P 180
464	R783	5130-R030J181	RES, CBN 1/2P 180
464	R784	5130-R030J181	RES, CBN 1/2P 180
469	R789	5130-R030J151	RES, CBN 1/2P 150
469	R790	5130-R030J151	RES, CBN 1/2P 150
468	R943	5130-R030J393	RES, CBN 1/2P 39K
468	R944	5130-R030J393	RES, CBN 1/2P 39K

**TRANSISTORS**

475	Q1	5613-2240(BL)	XISTOR, NPN R
473	Q2	5613-2320L(F)	XISTOR, NPN R
472	Q3	5611-999L(F)	XISTOR, PNP R
472	Q5	5611-999L(F)	XISTOR, PNP R
472	Q6	5611-999L(F)	XISTOR, PNP R
473	Q7	5613-2320L(F)	XISTOR, NPN R
473	Q8	5613-2320L(F)	XISTOR, NPN R
473	Q9	5613-2320L(F)	XISTOR, NPN R
471	Q401	5616-2SK364BL	FET, N-CH
471	Q402	5616-2SK364BL	FET, N-CH
417	Q403	5613-2240(BL)	XISTOR, NPN R
417	Q404	5613-2240(BL)	XISTOR, NPN R
414	Q405	5613-2320L(F)	XISTOR, NPN R
414	Q406	5613-2320L(F)	XISTOR, NPN R
418	Q407	5611-970(BL)	XISTOR, PNP R
418	Q408	5611-970(BL)	XISTOR, PNP R
417	Q409	5613-2240(BL)	XISTOR, NPN R
417	Q410	5613-2240(8L)	XISTOR, NPN R
418	Q413	5611-970(BL)	XISTOR, PNP R
418	Q414	5611-970(BL)	XISTOR, PNP R
416	Q415	5614-666A(C)	XISTOR, NPN A
416	Q416	5614-666A(C)	XISTOR, NPN A
415	Q417	5612-646A(C)	XISTOR, PNP A
415	Q418	5612-646A(C)	XISTOR, PNP A
415	Q419	5612-646A(C)	XISTOR, PNP A
415	Q420	5612-646A(C)	XISTOR, PNP A
417	Q421	5613-2240(BL)	XISTOR, NPN R
417	Q422	5613-2240(BL)	XISTOR, NPN R
416	Q923	5614-666A(C)	XISTOR, NPN A
416	Q924	5614-666A(C)	XISTOR, NPN A
418	Q425	5611-970(BL)	XISTOR, PNP R
418	Q426	5611-970(BL)	XISTOR, PNP R
413	Q427	5612-648A(C)	XISTOR, PNP A
413	Q428	5612-648A(C)	XISTOR, PNP A
421	Q429	5614-668A(C)	XISTOR, NPN A
421	Q430	5614-668A(C)	XISTOR, NPN A
420	Q431	5614-669A(C)	XISTOR, NPN A
420	Q432	5614-669A(C)	XISTOR, NPN A
419	Q433	5612-649A(C)	XISTOR, PNP A
419	Q934	5612 649A(C)	XISTOR, PNP A
417	Q935	5613-2240(BL)	XISTOR, NPN R
417	Q436	5613-2240(BL)	XISTOR, NPN R
418	Q437	5611-970(BL)	XISTOR, PNP R
418	Q438	5611-970(BL)	XISTOR, PNP R
417	Q751	5613-2240(BL)	XISTOR, NPN R
417	Q752	5613-2240(BL)	XISTOR, NPN R
418	Q753	5611-970(BL)	XISTOR, PNP R
418	Q754	5611-970(BL)	XISTOR, PNP R
412	Q755	5616-2SK170BL	FET, N-CH
412	Q756	5616-2SK170BL	FET, N-CH
412	Q757	5616-2SK170BL	FET, N-CH
412	Q758	5616-2SK170BL	FET, N-CH
411	Q759	5615-2SJ74(BL)	FET, P-CH
411	Q760	5615-2SJ74(BL)	FET, P-CH
411	Q761	5615-2SJ74(BL)	FET, P-CH

Ser. No.	Ref. No.	Part No.	Description
411	Q762	5615-2SJ74(BL)	FET, P-CH
<b>DIODES</b>			
477	D8	5635-HZ6A-2L	DIODE, ZENER
478	D9	5631-1S2473	DIODE, DET
478	D10	5631-1S2473	DIODE, DET
478	D15	5631-1S2473	DIODE, DET
479	D16	5632-S5566B	DIODE, RECT
426	D401	5635-HZ24-2L	DIODE, ZENER
426	D402	5635-HZ24-2L	DIODE, ZENER
426	D403	5635-HZ24-2L	DIODE, ZENER
426	D404	5635-HZ24-2L	DIODE, ZENER
<b>CONTROLS</b>			
441	VR401	5101-S0401102	RES, SEMI FIX 1K, OFFSET DC BALANCE ADJUSTMENT
441	VR402	5101-S0401102	RES, SEMI FIX 1K OFFSET DC BALANCE ADJUSTMENT
<b>MISCELLANEOUS</b>			
379	CN205	4443-0301140	CONNECTOR
727	CN402	4443-070185	CONNECTOR
727	CN403	4443-070185	CONNECTOR
725	CN404	4443-0201140	CONNECTOR
723	CN405	4443-0201140	CONNECTOR
744	JL402	4242-R0503500	JUMPER LEAD
729	TM401	4214-11012	TERMINAL
729	TM402	4214-11012	TERMINAL
380	TM403	4214-11021	TERMINAL

**PCB-2 MAIN (L) PC BOARD**

**CAPACITORS**

594	C456	5353-470534	CAP, MCA 47P
594	C458	5353-470534	CAP, MCA 47P
699	C460	5354-104593	CAP, MYL .1μ
601	C466	5354-104593	CAP, MYL .1μ
601	C468	5354-104593	CAP, MYL .1μ

**RESISTORS**

612	R480	5130-R030J6R8	RES, CBN 1/2P 6.8
578	R482	5272-S010JR22	RES, CEM 2P 0.22
578	R484	5272-S010JR22	RES, CEM 2P 0.22
578	R486	5272-S010JR22	RES, CEM 2P 0.22
577	R488	5272-S010KR10	RES, CEM 2P .1
577	R490	5272-S010KR10	RES, CEM 2P .1
578	R492	5272-S010JR22	RES, CEM 2P 0.22
578	R494	5272-S010JR22	RES, CEM 2P 0.22
577	R496	5272-S010KR10	RES, CEM 2P .1
577	R498	5272-S010KR10	RES, CEM 2P .1
578	R500	5272-S010JR22	RES, CEM 2P 0.22
588	R744	5130-R030J102	RES, CEM 1/2P 1K
585	R746	5130-R030J561	RES, CEM 1/2P 560
701	R752	5130-R030J392	RES, CBN 1/2P 3.9K
701	R754	5130-R030J392	RES, CBN 1/2P 3.9K
702	R756	5130-R030J182	RES, CBN 1/2P 1.8K
591	R758	5171-100593	RES, MTL 1P 10
586	R760	5130-R030J121	RES, CBN 1/2P 120
592	R762	5175-100583	RES, MTL 3P 10
703	R764	5130-R030J472	RES, CBN 1/2P 4.7K
589	R770	5130-R030J221	RES, CBN 1/2P 220
589	R772	5130-R030J221	RES, CBN 1/2P 220
580	△ R792	5102-1015116	RES, FUSE 100
580	△ R794	5102-1015116	RES, FUSE 100
581	△ R796	5102-1005116	RES, FUSE 10
581	△ R798	5102-1005116	RES, FUSE 10
612	R942	5130-R030J6R8	RES, CBN 1/2P 6.8
578	R950	5272-S010JR22	RES, CEM 2P 0.22
578	R952	5272-S010JR22	RES, CEM 2p 0.22
590	R962	5130-R030J2R2	RES, CBN 1/2P 2.2
590	R964	5130-R030J2R2	RES, CBN 1/2P 2.2
590	R966	5130-R030J2R2	RES, CBN 1/2P 2.2
590	R968	5130-R030J2R2	RES, CBN 1/2P 2.2
590	R970	5130-R030J2R2	RES, CBN 1/2P 2.2
590	R972	5130-R030J2R2	RES, CBN 1/2P 2.2
590	R974	5130-R030J2R2	RES, CBN 1/2P 2.2
590	R976	5130-R030J2R2	RES, CBN 1/2P 2.2

Ser. No.	Ref. No.	Part No.	Description
<b>TRANSISTORS</b>			
565	Q454	5613-3423(Y)	XISTOR, NPN R
563	Q458	5614-668A(C)	XISTOR, NPN A
562	Q460	5612-648A(C)	XISTOR, PNP A
566	Q462	5611-1837	XISTOR, PNP R
567	Q464	5613-4793	XISTOR, NPN R
568	Q466	5611-1302(0)	XISTOR, PNP R
570	Q468	5613-3281(0)	XISTOR, NPN R
568	Q470	5611-1302(0)	XISTOR, PNP R
570	Q472	5613-3281(0)	XISTOR, NPN R
568	Q474	5611-1302(0)	XISTOR, PNP R
570	Q476	5613 3281(0)	XISTOR, NPN R
698	Q478	5611-970(BL)	XISTOR, PNP R
568	Q482	5611-1302(0)	XISTOR, PNP R
570	Q434	5613-3281(0)	XISTOR, NPN R

Ser. No.	Ref. No.	Part No.	Description
<b>DIODES</b>			
573	D408	5631-1S2471	DIODE, DET
573	D410	5631-1S2471	DIODE, DET
574	D412	5632-10DF2	DIODE, RECT
574	D414	5632-10DF2	DIODE, RECT

Ser. No.	Ref. No.	Part No.	Description
<b>CONTROL</b>			
603	VR406	5101-S0401102	RES, SEMI FIX 1K, IDLING CURRENT ADJUSTMENT

Ser. No.	Ref. No.	Part No.	Description
<b>COIL</b>			
595	L406	5991-7125	SPRING COIL

Ser. No.	Ref. No.	Part No.	Description
<b>MISCELLANEOUS</b>			
739	CC401	4132-R0110121	CORD, 2C
736	CW401	4163-0135021	CONNECTOR W/W
737	CW402	4163-0135023	CONNECTOR W/W
738	CW406	4163-0140022	CONNECTOR W/W
735	CW410	4163-S0202201	CONNECTOR W/W
743	HL401	2240-Z072	HOLDER
745	JL403	4242-R0507171	JUMPER LEAD
613	L402	5597-45502	CORE, BEADS
613	L404	5597-45502	CORE, BEADS
606	PT1	5192-010BE222	POSISTOR
606	PT2	5192-010BE222	POSISTOR
741	TP404	4443-024116	CONNECTOR

**PCB-3 MAIN (R) PC BOARD**

Ser. No.	Ref. No.	Part No.	Description
<b>CAPACITORS</b>			
534	C455	5353-470534	CAP, MCA 47P
534	C457	5353-470534	CAP, MCA 47P
691	C459	5354-104593	CAP, MYL .1μ
541	C465	5354-104593	CAP, MYL .1μ
541	C467	5354-104593	CAP, MYL .1μ

Ser. No.	Ref. No.	Part No.	Description
<b>RESISTORS</b>			
549	R479	5130-R030J6R8	RES, CBN 1/2P 6.8
518	R431	5272-S010JR22	RES, CEM 1/2P 0.22
518	R483	5272-S010JR22	RES, CEM 1/2P 0.22
518	R485	5272-S010JR22	RES, CEM 1/2P 0.22
517	R487	5272-S010KR10	RES, CEM 1/2P .1
517	R489	5272-S010KR10	RES, CEM 1/2P .1
518	R491	5272-S010JR22	RES, CEM 1/2P 0.22
518	R493	5272-S010JR22	RES, CEM 1/2P 0.22
517	R495	5272-S010KR10	RES, CEM 1/2P .1
517	R497	5272-S010KR10	RES, CEM 1/2P .1
518	R499	5272-S010JR22	RES, CEM 1/2P 0.22
528	R743	5130-R030J102	RES, CBN 1/2P 1K
525	R745	5130-R030J561	RES, CBN 1/2P 560
693	R751	5130-R030J392	RES, CBN 1/2P 3.9K
693	R753	5130-R030J392	RES, CBN 1/2P 3.9K
694	R755	5130-R030J182	RES, CBN 1/2P 1.8K
531	R757	5171-100593	RES, MTL 1P 10
526	R759	5130-R030J121	RES, CBN 1/2P 120
532	R761	5175-100583	RES, MTL 3P 10
695	R763	5130-R030J472	RES, CBN 1/2P 4.7K
529	R769	5130-R030J221	RES, CBN 1/2P 220
529	R771	5130-R030J221	RES, CBN 1/2P 220
520	△ R791	5102-1015116	RES, FUSE 100
520	△ R793	5102-1015116	RES, FUSE 100
521	△ R795	5102-1005116	RES, FUSE 10

Ser. No.	Ref. No.	Part No.	Description
521	△ R795	5102-1005116	RES, FUSE 10
518	R951	5272-S010JR22	RES, CEM 1/2P 0.22
518	R953	5272-S010JR22	RES, CEM 1/2P 0.22
530	R961	5130-R030J2R2	RES, CBN 1/2P 2.2
530	R963	5130-R030J2R2	RES, CBN 1/2P 2.2
530	R965	5130-R030J2R2	RES, CBN 1/2P 2.2
530	R967	5130-R030J2R2	RES, CBN 1/2P 2.2
530	R969	5130-R030J2R2	RES, CBN 1/2P 2.2
530	R971	5130-R030J2R2	RES, CBN 1/2P 2.2
530	R973	5130-R030J2R2	RES, CBN 1/2P 2.2
530	R975	5130-R030J2R2	RES, CBN 1/2P 2.2

Ser. No.	Ref. No.	Part No.	Description
<b>TRANSISTORS</b>			
505	Q453	5613-3423(Y)	XISTOR, NPN R
503	Q457	5614-668A(C)	XISTOR, NPN A
502	Q459	5612-648A(C)	XISTOR, PNP A
506	Q461	5611-1837	XISTOR, PNP R
507	Q463	5613-4793	XISTOR, NPN R
508	Q465	5611-1302(0)	XISTOR, PNP R
510	Q467	5613-3281(0)	XISTOR, NPN R
508	Q469	5611-1302(0)	XISTOR, PNP R
510	Q471	5613-3281(0)	XISTOR, NPN R
508	Q473	5611-1302(0)	XISTOR, PNP R
510	Q475	5613-3281(0)	XISTOR, NPN R
690	Q477	5611-970(BL)	XISTOR, PNP R
508	Q481	5611-1302(0)	XISTOR, PNP R
510	Q483	5613-3281(0)	XISTOR, NPN R

Ser. No.	Ref. No.	Part No.	Description
<b>DIODES</b>			
513	D407	5631-1S2471	DIODE, DET
513	D409	5631-1S2471	DIODE, DET
514	D411	5632-10DF2	DIODE, RECT
514	D413	5632-10DF2	DIODE, RECT

Ser. No.	Ref. No.	Part No.	Description
<b>CONTROL</b>			
543	R405	5101-S0401102	RES, SEMI FIX 1K, IDLING CURRENT ADJUSTMENT

Ser. No.	Ref. No.	Part No.	Description
<b>COIL</b>			
535	L405	5991-7125	SPRING COIL

Ser. No.	Ref. No.	Part No.	Description
<b>MISCELLANEOUS</b>			
742	CC402	4132-R0110121	CORD, 2C
746	CW404	4163-0135021	CONNECTOR, W/W
747	CW405	4163-0135020	CONNECTOR, W/W
748	CW403	4163-0140022	CONNECTOR, W/W
750	HL403	2240-Z072	HOLDER
749	JL401	4242-R0507171	JUMPER LEAD
550	L401	5597-45502	CORE, BEADS
550	L403	5597-45502	CORE, BEADS
734	TP403	4443-024116	CONNECTOR

**PCB-4 BIAS (R) PC BOARD**

Ser. No.	Ref. No.	Part No.	Description
<b>RESISTORS</b>			
553	R747	5130-R030J561	RES, CBN 1/2P 560
554	R749	5130-R030J122	RES, CBN 1/2P 1.2K

Ser. No.	Ref. No.	Part No.	Description
<b>TRANSISTOR</b>			
557	Q455	5613-3423(Y)	XISTOR, NPN R

**PCB-5 BIAS (L) PC BOARD**

Ser. No.	Ref. No.	Part No.	Description
<b>RESISTORS</b>			
615	R748	5130-R030J561	RES, CBN 1/2P 560
616	R750	5130-R030J122	RES, CBN 1/2P 1.2K

Ser. No.	Ref. No.	Part No.	Description
<b>TRANSISTOR</b>			
618	Q456	5613-3423(Y)	XISTOR, NPN R

**PCB-6 BIAS L PC BOARD**

Ser. No.	Ref. No.	Part No.	Description
<b>CAPACITORS</b>			
323	C202	5345-107C041	CAP, MINI ELE 100μ/16V
326	C203	5345-476D041	CAP, MINI ELE 47μ/25V
325	C204	5345-476C041	CAP, MINI ELE 47μ/16V
321	C213	5359-S010J123	CAP, PPP .012μ

Ser. No.	Ref. No.	Part No.	Description
321	C214	5359-S010J123	CAP, PPP .012μ
327	C217	5345-475F041	CAP, MINI ELE 4.7μ/50V
327	C218	5345-475F041	CAP, MINI ELE 4.7μ/50V
324	C219	5345-226C041	CAP, MINI ELE 22μ/16V
325	C220	5345-476C041	CAP, MINI ELE 47μ/16V
298	C221	5359-S010J223	CAP, PPP .022μ
322	C222	5354-104593	CAP, MYL .1μ
328	C223	5354-394593	CAP, MYL .39μ
298	C226	5359-S010J223	CAP, PPP .022μ
297	C229	5345-337C041	CAP, MINI ELE 330μ/16V
325	C230	5345-476C041	CAP, MINI ELE 47μ/16V
316	C231	5345-105F041	CAP, MINI ELE 1μ/50V

**RESISTORS**

314	△ R200	5102-2204715	RES, FUSE 22
314	△ R201	5102-2204715	RES, FUSE 22
315	R202	5130-R030J682	RES, CBN 1/2P 6.8K
307	R213	5130-R030J105	RES, CBN 1/2P 1M
307	R214	5130-R030J105	RES, CBN 1/2P 1M
307	R215	5130-R030J105	RES, CBN 1/2P 1M
307	R216	5130-R030J105	RES, CBN 1/2P 1M
306	R221	5130-R030J102	RES, CBN 1/2P 1K
306	R222	5130-R030J102	RES, CBN 1/2P 1K
313	R223	5130-R030J104	RES, CBN 1/2P 100K
304	R224	5130-R030J104	RES, CBN 1/2P 100K
309	△ R225	5102-1015116	RES, FUSE 100
301	R226	5130-R030J473	RES, CBN 1/2P 47K
306	R227	5130-R030J102	RES, CBN 1/2P 1K
304	R228	5130-R030J104	RES, CBN 1/2P 100K
303	R229	5130-R030J224	RES, CBN 1/2P 220K
299	R231	5130-R030J683	RES, CBN 1/2P 68K
299	R232	5130-R030J683	RES, CBN 1/2P 68K
306	R233	5130-R030J102	RES, CBN 1/2P 1K
306	R234	5130-R030J102	RES, CBN 1/2P 1K
305	R237	5130-R030J101	RES, CBN 1/2P 100
300	R241	5130-R030J152	RES, CBN 1/2P 1.5K
303	R242	5130-R030J224	RES, CBN 1/2P 220K
303	R243	5130-R030J224	RES, CBN 1/2P 220K
310	R247	5130-R030J101	RES, CBN 1/2P 100
304	R273	5130-R030J104	RES, CBN 1/2P 100K
304	R274	5130-R030J104	RES, CBN 1/2P 100K
300	R275	5130-R030J152	RES, CBN 1/2P 1.5K

**INTEGRATED CIRCUITS**

291	IC201	5652-TA75072P	IC, MONO
292	IC202	5653-BA335	IC, LINEAR

**TRANSISTORS**

360	Q201	5614-1266(Q)	XISTOR, NPN A
295	Q213	5611-A124ES	XISTOR, PNP R
294	Q214	5613-1740S(S)	XISTOR, NPN R
293	Q215	5613-C144ES	XISTOR, NPN R
295	Q216	5611-A124ES	XISTOR, PNP R
295	Q271	5611-A124ES	XISTOR, PNP R
293	Q272	5613-C144ES	XISTOR, NPN R
295	Q273	5611-A124ES	XISTOR, PNP R

**DIODES**

317	D201	5635-HZ15-1L	DIODE, ZENER
296	D211	5631-1S2473	DIODE, DET
296	D212	5631-1S2473	DIODE, DET
296	D213	5631-1S2473	DIODE, DET
296	D214	5631-1S2473	DIODE, DET
296	D215	5631-1S2473	DIODE, DET
296	D216	5631-1S2473	DIODE, DET

**MISCELLANEOUS**

373	CW205	4163-S0203551	CONNECTOR W/W
367	CW216	4163-0142039	CONNECTOR W/W
374	CW220	4163-S0204801	CONNECTOR W/W
375	CW221	4163-S0102451	CONNECTOR W/W

Ser. No.	Ref. No.	Part No.	Description
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**PCB-7 INPUT PC BOARD****CAPACITORS**

330	C206	5353-680534	CAP, MCA 68P <b>IB</b>
330	C207	5353-680534	CAP, MCA 68P <b>IB</b>

**RESISTORS**

311	R203	5130-R030J821	RES, CBN 1/2P 820
311	R204	5130-R030J821	RES, CBN 1/2P 820
312	R239	5130-R030J474	RES, CBN 1/2P 470K
312	R240	5130-R030J474	RES, CBN 1/2P 470K

**MISCELLANEOUS**

320	CN201	4443-040185	CONNECTOR
378	CN222	4443-067175	CONNECTOR
378	CN223	4443-067175	CONNECTOR
378	CN224	4443-067175	CONNECTOR
319	HL201	2240-Z031	HOLDER
335	△ PJ201	4489-00103002	PIN JACK, MLT, INPUT
337	SW202	4421-02601042	SWITCH, SLIDE, AUTO STANDBY
338	SW203	4421-02601042	SWITCH, SLIDE, BRIDGED MONO

**PCB-8 LED PC BOARD****CAPACITOR**

363	△ C205	5345-S29FM227	CAP, MINI ELE 220μ/50V
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**DIODES**

361	△ D205	5632-S5566B	DIODE, RECT
361	△ D206	5632-S5566B	DIODE, RECT

**MISCELLANEOUS**

376	CN221	4443-0201140	CONNECTOR
383	△ HF201	4472-04901	HOLDER, FUSE, F201
383	△ HF202	4472-04901	HOLDER, FUSE, F201
383	△ HF203	4472-04901	HOLDER, FUSE, F202
383	△ HF204	4472-04901	HOLDER, FUSE, F203
383	△ HF205	4472-04901	HOLDER, FUSE, F202
383	△ HF206	4472-04901	HOLDER, FUSE, F203
339	△ SW206	4411-00501102	SWITCH, ROTARY, VOLTAGE SELECTOR <b>IB WB</b>

**PCB-9 POWER SUPPLY PC BOARD****CAPACITORS**

624	C7	5352-1041957	CAP, MTL .1μ
624	C8	5352-1041957	CAP, MTL .1μ
624	C9	5352-1041957	CAP, MTL .1μ
624	C10	5352-1041957	CAP, MTL .1μ
683	C23	5345-S25JM225	CAP, MINI ELE 2.2μ/100V
623A	△ C31	5341-S40JM109	CAP, ELE 10000μ/85V <b>IBK WB</b>
623	△ C31	5341-S40HM129	CAP, ELE 12000μ/71V <b>IB</b>
623A	△ C32	5341-S40JM109	CAP, ELE 10000μ/85V <b>IBK WB</b>
623	△ C32	5341-S40HM129	CAP, ELE 12000μ/71V <b>IB</b>
623A	△ C33	5341-S40JM109	CAP, ELE 10000μ/85V <b>IBK WB</b>
623	△ C33	5341-S40HM129	CAP, ELE 12000μ/71V <b>IB</b>
623A	△ C34	5341-S40JM109	CAP, ELE 10000μ/85V <b>IBK WB</b>
623	△ C34	5341-S40HM129	CAP, ELE 12000μ/71V <b>IB</b>

**RESISTORS**

685	△ R28	5102-8205116	RES, FUSE 82
685	△ R29	5102-8205116	RES, FUSE 82
688	R30	5171-331593	RES, MTL 1P 330
687	R31	5130-R030J103	RES, CBN 1/2P 10K
689	R32	5171-332593	RES, MTL 1P 3.3K
688	R33	5171-331593	RES, MTL 1P 330

**DIODES**

621	△ D1	5685-D5SB40	SILICON, BRIG
621	△ D2	5685-D5SB40	SILICON, BRIG
681	△ D13	5632-S5566B	DIODE, RECT

Ser. No.	Ref. No.	Part No.	Description
681	△ D14	5632-S5566B	DIODE, RECT

**MISCELLANEOUS**

754	CW1	4163-S0202201	CONNECTOR W/W
752	TM1	4214-11033	TERMINAL
752	TM2	4214-11033	TERMINAL
752	TM3	4214-11033	TERMINAL
752	TM4	4214-11033	TERMINAL
751	TM8	4214-11021	TERMINAL

**PCB-10 LED PC BOARD**

**CAPACITOR**

347	C270	5345-106C041	CAP, MINI ELE 10µ/16V
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**DIODES**

344	D270	5637-GL3ED8	LED, POWER
348	D271	5637-GL3PR47	LED, PROTECT

**MISCELLANEOUS**

377	CN220	4443-0401140	CONNECTOR
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**PCB-11 POWER SW PC BOARD**

**CAPACITORS**

389A	△ C1	5352-S010M472	CAP, MTL 4700P <b>EK</b>
389	△ C1	5352-4720958	CAP, MTL 4700P <b>IB</b> <b>WB</b>

**RESISTOR**

308	△ R101	5130-R030J335	RES, CBN 1/2P 3.3M <b>IB</b> <b>WB</b>
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**MISCELLANEOUS**

388	△ SW1	4433-01101	SWITCH, PU-PW, POWER
391	△ LCN204	4163-S5001300	CONNECTOR W/W
392	△ LCN207	4163-S5101350	CONNECTOR W/W

**PCB-12 4/8 SW PC BOARD**

**CAPACITORS**

055A	C250	5354-104593	CAP, MYL .1µ <b>EK</b> <b>WB</b>
055A	C251	5354-104593	CAP, MYL .1µ <b>EK</b> <b>WB</b>
055A	C252	5354-104593	CAP, MYL .1µ <b>EK</b> <b>WB</b>
055A	C253	5354-104593	CAP, MYL .1µ <b>EK</b> <b>WB</b>
055A	C254	5354-104593	CAP, MYL .1µ <b>EK</b> <b>WB</b>
055A	C255	5354-104593	CAP, MYL .1µ <b>EK</b> <b>WB</b>
055A	C256	5354-104593	CAP, MYL .1µ <b>EK</b> <b>WB</b>
055A	C257	5354-104593	CAP, MYL .1µ <b>EK</b> <b>WB</b>

**MISCELLANEOUS**

051A	CW211	4163-0135021	CONNECTOR W/W <b>EK</b> <b>WB</b>
052A	CW212	4163-0135022	CONNECTOR W/W <b>EK</b> <b>WB</b>
053A	CW213	4163-0139023	CONNECTOR W/W <b>EK</b> <b>WB</b>
054A	CW214	4163-0139020	CONNECTOR W/W <b>EK</b> <b>WB</b>
056A	△ SW204	4464-00102022	SWITCH, SEESW, SPEAKER OPERATING MODE <b>EK</b> <b>WB</b>

Ser. No.	Ref. No.	Part No.	Description
056A	△ SW205	4464-00102022	SWITCH, SEESW, SPEAKER OPERATING MODE <b>EK</b> <b>WB</b>

**CHASSIS MISCELLANEOUS**

**MISCELLANEOUS**

329	C208	5359-4715851	CAP, PPP 470P <b>IB</b>
329	C209	5359-4715851	CAP, PPP 470P <b>IB</b>
35B	△ C01	4443-712	CONNECTOR, AC CORD
358	△ C02	4443-712	CONNECTOR, AC CORD
393	△ CW201	4163-11101001	CONNECTOR W/W
394	△ CW202	4163-11102001	CONNECTOR W/W
395	△ CW203	4163-11103001	CONNECTOR W/W
395	△ CW204	4163-11103001	CONNECTOR W/W
670A	△ F201	5732-802031	FUSE, 8A 125V/250V <b>EK</b>
670	△ F201	5732-502030	FUSE, T5A/T5AL 250V <b>IB</b> <b>WB</b>
669A	△ F202	5732-122031	FUSE, 1.25A 125V/250V <b>EK</b>
669	△ F202	5732-01601122	FUSE, T1.25A/T1.25AL 250V <b>IB</b> <b>WB</b>
669A	△ F203	5732-122031	FUSE, 1.25A 125V/250V <b>EK</b>
669	△ F203	5732-01601122	FUSE, T1.25A/T1.25AL 250V <b>IB</b> <b>WB</b>
384	JUG	4211-4	
654A	△ P1	4161-04801252	CORD W/PLUG, AC CORD <b>EK</b>
654	△ P1	4161-71150	CORD W/PLUG, AC CORD <b>IB</b> <b>WB</b>
672A	SPT1	4214-241	TERMINAL <b>EK</b> <b>WB</b>
672	SPT1	4214-242	TERMINAL <b>IB</b>
674A	△ TRN1	5584-T1901	XFORMER, POWER <b>EK</b>
674	△ TRN1	5584-T1902	XFORMER, POWER <b>IB</b>
674B	△ TRN1	5584-T1903	XFORMER, POWER <b>WB</b>

**PACKAGE PARTS LIST**

021A	1113-02501	OWNER CARD, REPLY CARD <b>EK</b>
022A	1116-03801	GUARANT CARD, WARRANTY <b>EK</b>
023A	1119-04501	ATTACH SHEET, SERVICE GUIDE <b>EK</b>
024A	1119-01201	ATTACH SHEET, UL <b>EK</b>
109A	1111-1090J152	OWNER'S GUIDE, IB <b>EK</b> <b>WB</b>
109	1111-1100J152	OWNER'S GUIDE, IB <b>IB</b>
113	1241-R0123351	POLYETHY BAG, OG
115	1756-03108	LABEL, (I) CARTON (X2) <b>IB</b>
115B	1756-03101	LABEL, (W) CARTON (X2) <b>WB</b>
122	1241-R0165751	POLYETHY BAG, SET
123	1222-7392	CUSHION, CARTON REAR SPACER (X2)
125	1221-31506	CARTON BOX
126	1222-7357	CUSHION, L
127	1222-7358	CUSHION, R
128	1223-R0425055	SOFT SHEET, SET
129	1223-R0425035	SOFT SHEET, AC CORD

**ABBREVIATIONS IN PARTS LIST**

**CAPACITORS**

CAP, MINI ELE	: Electrolytic
CAP, CER	: Ceramic
CAP, PPP	: Polypropylene
CAP, MYL	: Mylar
CAP, MCA	: Mica
CAP, MINI BP	: Bipolar
CAP, ELE BP	: Electrolytic Bipolar
CAP, STY	: Polystyrene Film
CAP, SPE	: Special
CAP, TAN	: Tantalum
470µ	: 470µF
6800p	: 6800pF
.047µ	: 0.047µF

**RESISTORS**

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

**TRANSISTORS**

XISTOR	: Transistors
FET	: Field Effect Transistor

**CONTROLS**

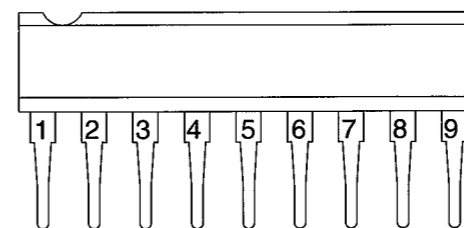
RES, V CBN	: Variable Carbon Resistor
RES, SEMI FIX	: Semi-fixed Resistor

**NOTE**

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

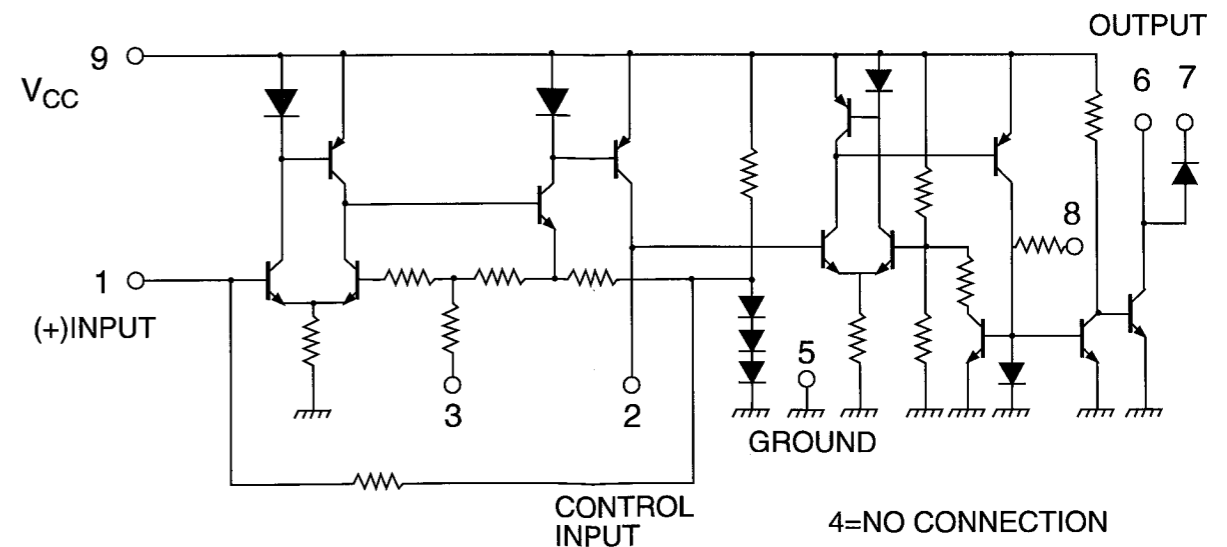
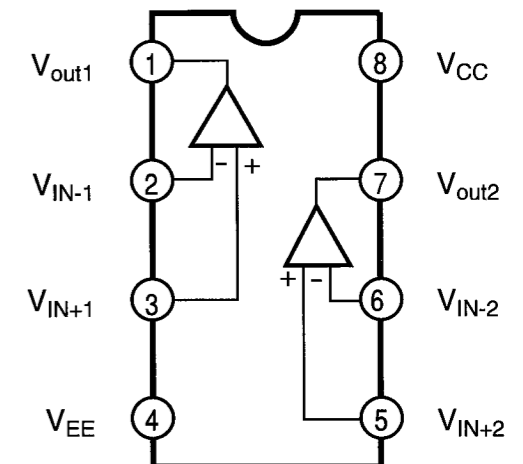
**IC202**

**BA335**



**IC201**

**TA75072P**



Ser. No.	Ref. No.	Part No.	Description
681	△ D14	5632-S5566B	DIODE, RECT

### MISCELLANEOUS

754	CW1	4163-S020201	CONNECTOR W/W
752	TM1	4214-11033	TERMINAL
752	TM2	4214-11033	TERMINAL
752	TM3	4214-11033	TERMINAL
752	TM4	4214-11033	TERMINAL
751	TM8	4214-11021	TERMINAL

### PCB-10 LED PC BOARD

#### CAPACITOR

347	C270	5345-106C041	CAP, MINI ELE 10μ/16V
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#### DIODES

344	D270	5637-GL3ED8	LED, POWER
348	D271	5637-GL3PR47	LED, PROTECT

#### MISCELLANEOUS

377	CN220	4443-0401140	CONNECTOR
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### PCB-11 POWER SW PC BOARD

#### CAPACITORS

389A	△ C1	5352-S010M472	CAP, MTL 4700P <b>EK</b>
389	△ C1	5352-4720958	CAP, MTL 4700P <b>IB</b> <b>WB</b>

#### RESISTOR

308	△ R101	5130-R030J335	RES, CBN 1/2P 3.3M <b>IB</b> <b>WB</b>
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#### MISCELLANEOUS

388	△ SW1	4433-01101	SWITCH, PU-PW, POWER
391	△ LCN204	4163-S5001300	CONNECTOR W/W
392	△ LCN207	4163-S5101350	CONNECTOR W/W

### PCB-12 4/8 SW PC BOARD

#### CAPACITORS

055A	C250	5354-104593	CAP, MYL .1μ <b>EK</b> <b>WB</b>
055A	C251	5354-104593	CAP, MYL .1μ <b>EK</b> <b>WB</b>
055A	C252	5354-104593	CAP, MYL .1μ <b>EK</b> <b>WB</b>
055A	C253	5354-104593	CAP, MYL .1μ <b>EK</b> <b>WB</b>
055A	C254	5354-104593	CAP, MYL .1μ <b>EK</b> <b>WB</b>
055A	C255	5354-104593	CAP, MYL .1μ <b>EK</b> <b>WB</b>
055A	C256	5354-104593	CAP, MYL .1μ <b>EK</b> <b>WB</b>
055A	C257	5354-104593	CAP, MYL .1μ <b>EK</b> <b>WB</b>

#### MISCELLANEOUS

051A	CW211	4163-0135021	CONNECTOR W/W <b>EK</b> <b>WB</b>
052A	CW212	4163-0135022	CONNECTOR W/W <b>EK</b> <b>WB</b>
053A	CW213	4163-0139023	CONNECTOR W/W <b>EK</b> <b>WB</b>
054A	CW214	4163-0139020	CONNECTOR W/W <b>EK</b> <b>WB</b>
056A	△ SW204	4464-00102022	SWITCH, SEESW, SPEAKER OPERATING MODE <b>EK</b> <b>WB</b>

Ser. No.	Ref. No.	Part No.	Description
056A	△ SW205	4464-00102022	SWITCH, SEESW, SPEAKER OPERATING MODE <b>EK</b> <b>WB</b>

### CHASSIS MISCELLANEOUS

#### MISCELLANEOUS

329	C208	5359-4715851	CAP, PPP 470P <b>IB</b>
329	C209	5359-4715851	CAP, PPP 470P <b>IB</b>
35B	△ C01	4443-712	CONNECTOR, AC CORD
358	△ C02	4443-712	CONNECTOR, AC CORD
393	△ CW201	4163-11101001	CONNECTOR W/W
394	△ CW202	4163-11102001	CONNECTOR W/W
395	△ CW203	4163-11103001	CONNECTOR W/W
395	△ CW204	4163-11103001	CONNECTOR W/W
670A	△ F201	5732-802031	FUSE, 8A 125V/250V <b>EK</b>
670	△ F201	5732-502030	FUSE, T5A/T5AL 250V <b>IB</b> <b>WB</b>
669A	△ F202	5732-122031	FUSE, 1.25A 125V/250V <b>EK</b>
669	△ F202	5732-01601122	FUSE, T1.25A/T1.25AL 250V <b>IB</b> <b>WB</b>
669A	△ F203	5732-122031	FUSE, 1.25A 125V/250V <b>EK</b>
669	△ F203	5732-01601122	FUSE, T1.25A/T1.25AL 250V <b>IB</b> <b>WB</b>
384	JUG	4211-4	LUG, W107 W108 (X2) <b>IB</b>
654A	△ P1	4161-04801252	CORD W/PLUG, AC CORD <b>EK</b>
654	△ P1	4161-71150	CORD W/PLUG, AC CORD <b>IB</b> <b>WB</b>
672A	SPT1	4214-241	TERMINAL <b>EK</b> <b>WB</b>
672	SPT1	4214-242	TERMINAL <b>IB</b>
674A	△ TRN1	5584-T1901	XFORMER, POWER <b>EK</b>
674	△ TRN1	5584-T1902	XFORMER, POWER <b>IB</b>
674B	△ TRN1	5584-T1903	XFORMER, POWER <b>WB</b>

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115B	1756-03101	LABEL, (W) CARTON (X2) <b>WB</b>
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CAP, MCA	: Mica
CAP, MINI BP	: Bipolar
CAP, ELE BP	: Electrolytic Bipolar
CAP, STY	: Polystyrene Film
CAP, SPE	: Special
CAP, TAN	: Tantalum
	: 470 $\mu$ F
	: 6800pF
	: .047 $\mu$

#### RESISTORS

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

#### TRANSISTORS

XISTOR	: Transistors
FET	: Field Effect Transistor

#### CONTROLS

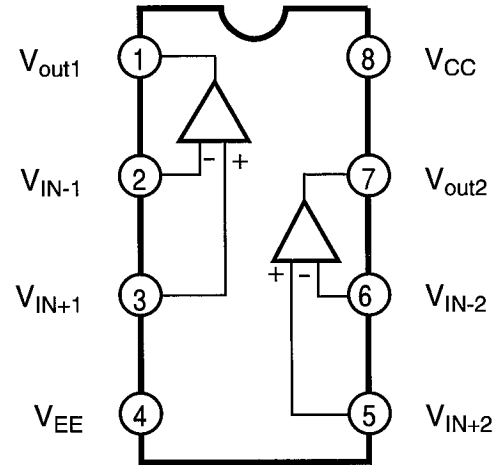
RES, V CBN	: Variable Carbon Resistor
RES, SEMI FIX	: Semi-fixed Resistor

#### NOTE

$\Delta$  SAFETY-RELATED COMPONENT. USE ONLY EXACT REPLACEMENT PART AS SPECIFIED.

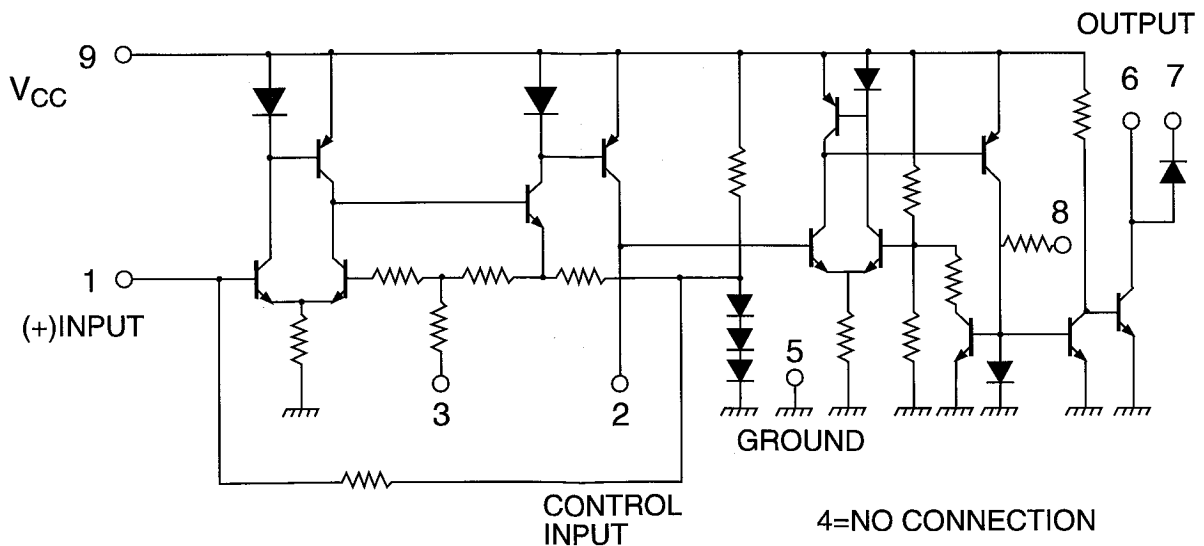
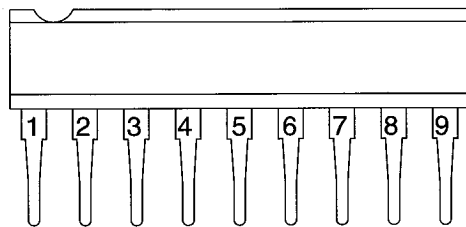
### IC201

### TA75072P

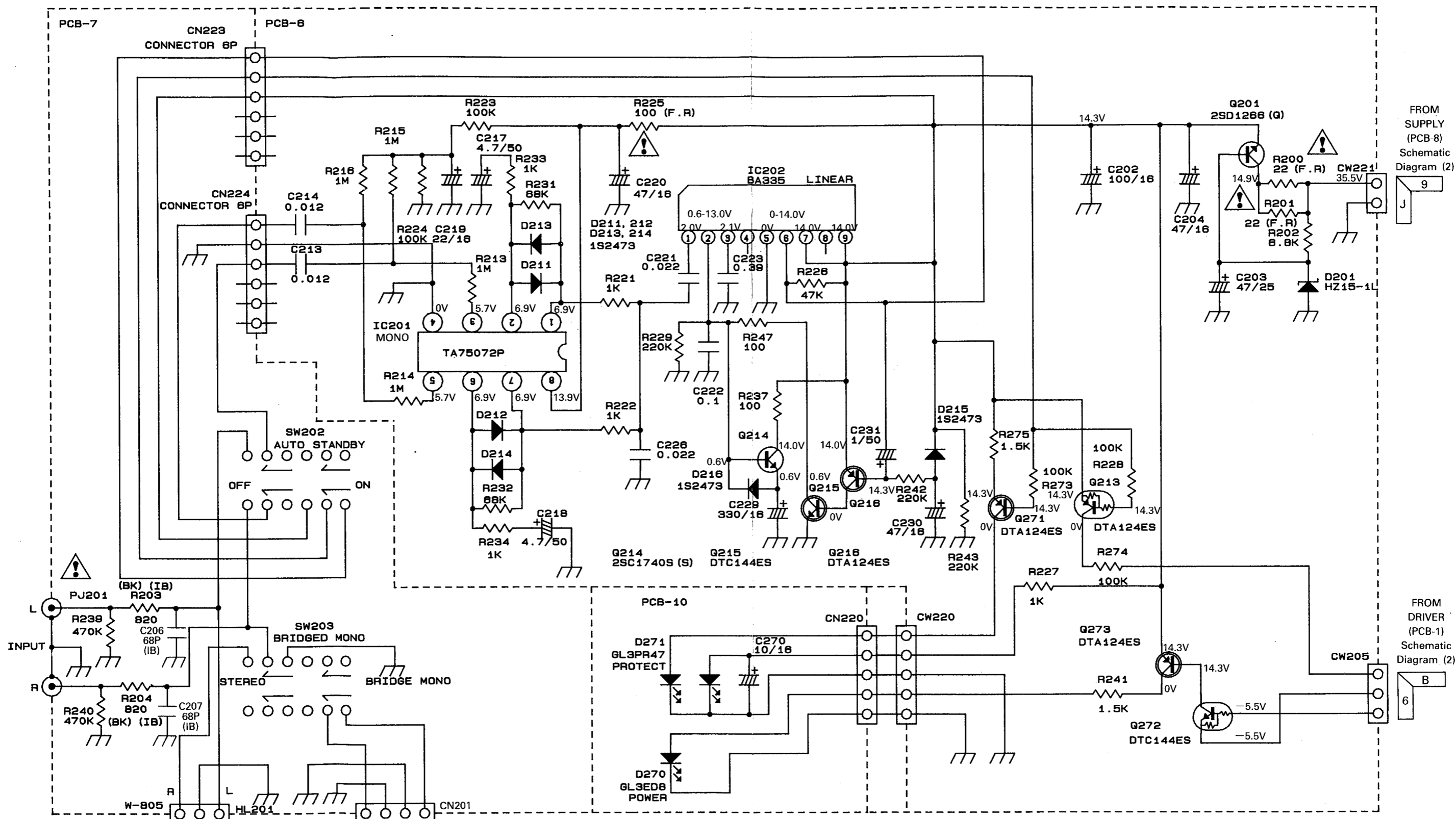


### IC202

### BA335



**SCHEMATIC DIAGRAM (1)**



TO DRIVER (PCB-1) Schematic Diagram (2) **B**

TO DRIVER (PCB-1) Schematic Diagram (2) **E**

FROM DRIVER (PCB-1) Schematic Diagram (2) **F**

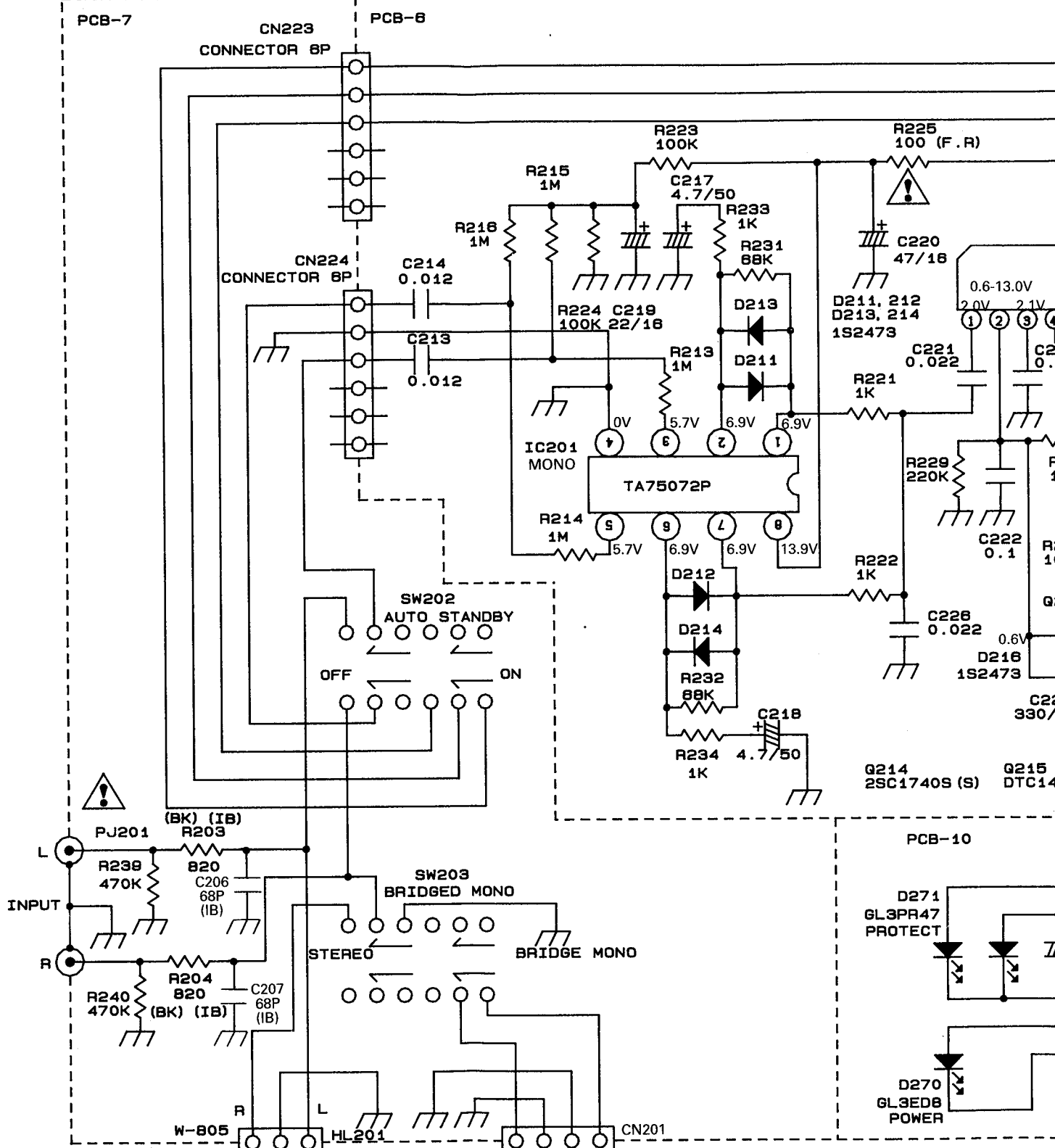
FROM SUPPLY (PCB-8) Schematic Diagram (2) **J**

FROM DRIVER (PCB-1) Schematic Diagram (2) **B**

**NOTE:**

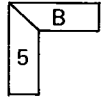
1. ALL RESISTANCES VALUES ARE IN  $\Omega$ .  
K $\Omega$ =1000 $\Omega$ , M $\Omega$ =1000K $\Omega$
2. THE WATTAGE OF RESISTORS IS 1/2W UNLESS OTHERWISE NOTED.
3. ALL CAPACITANCES VALUES ARE IN  $\mu$ F UNLESS OTHERWISE NOTED. P= $\mu$ M
4. ...V: DC VOLTAGE AT NO SIGNAL UNLESS OTHERWISE NOTED.
5. SAFETY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

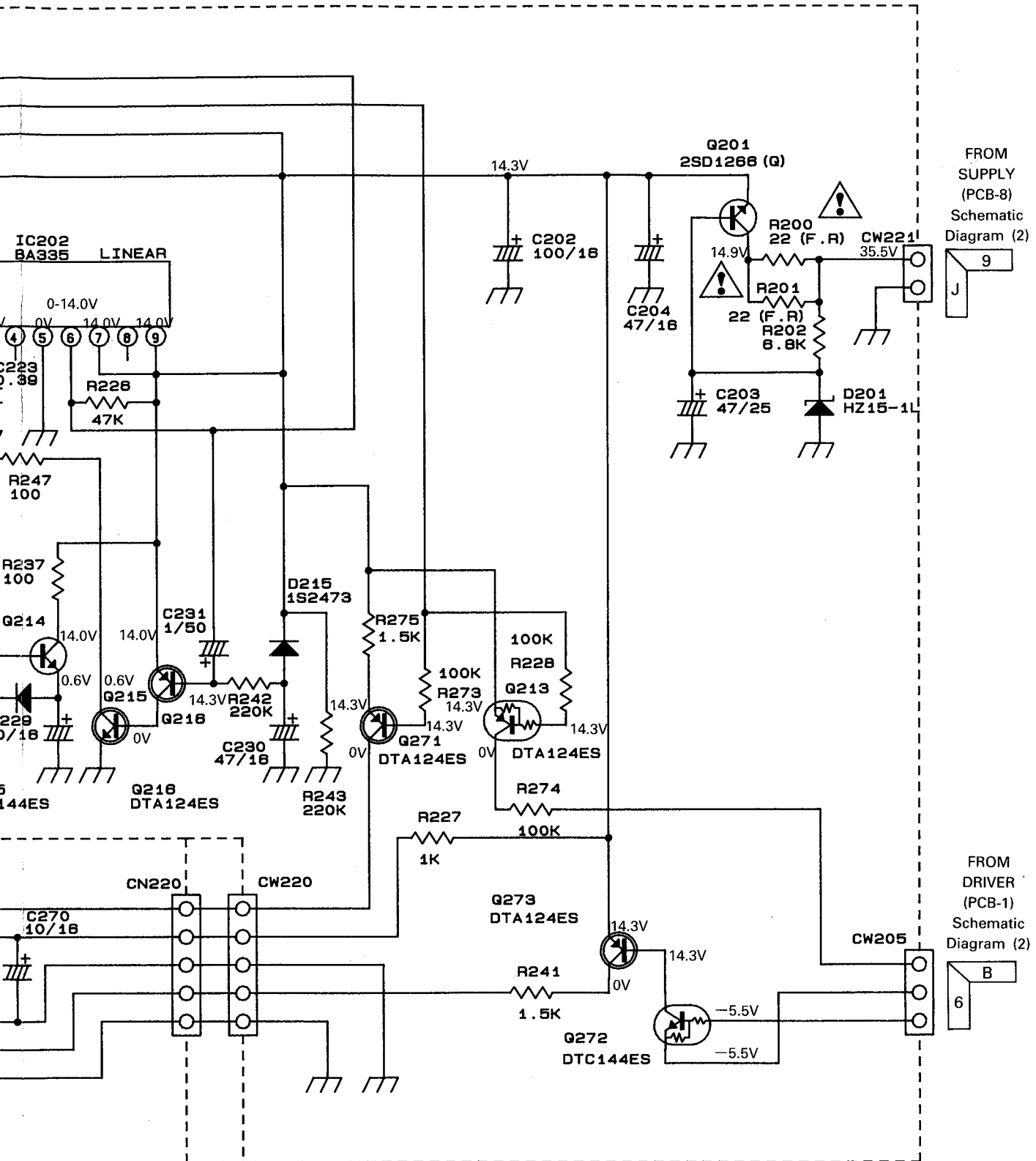
# SCHEMATIC DIAGRAM (1)



TO DRIVER (PCB-1)  
Schematic Diagram (2)

(B) TO DRIVER (PCB-1) Schematic Diagram (2)  
(A) FROM DRIVER (PCB-1) Schematic Diagram (2)



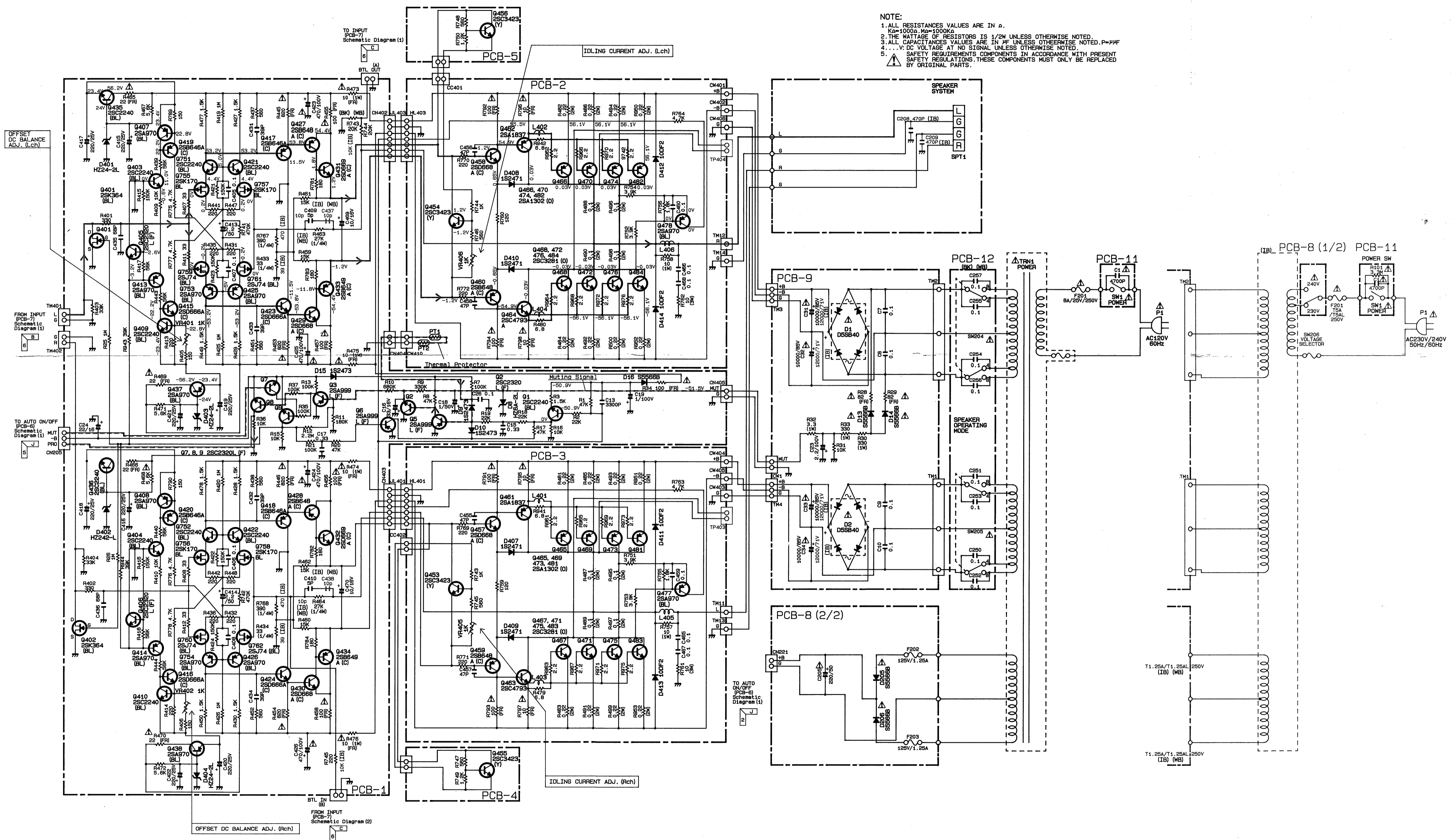


**NOTE:**

1. ALL RESISTANCES VALUES ARE IN  $\Omega$ .  
 $K\Omega=1000\Omega$ ,  $M\Omega=1000K\Omega$
2. THE WATTAGE OF RESISTORS IS 1/2W UNLESS OTHERWISE NOTED.
3. ALL CAPACITANCES VALUES ARE IN  $\mu F$  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.



SCHEMATIC DIAGRAM (2)



NOTE:  
 1. ALL RESISTANCE VALUES ARE IN Ω.  
 2. THE WATTAGE OF RESISTORS IS 1/2W UNLESS OTHERWISE NOTED.  
 3. ALL CAPACITANCE VALUES ARE IN pF UNLESS OTHERWISE NOTED. P=μF  
 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)

1  
2  
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7

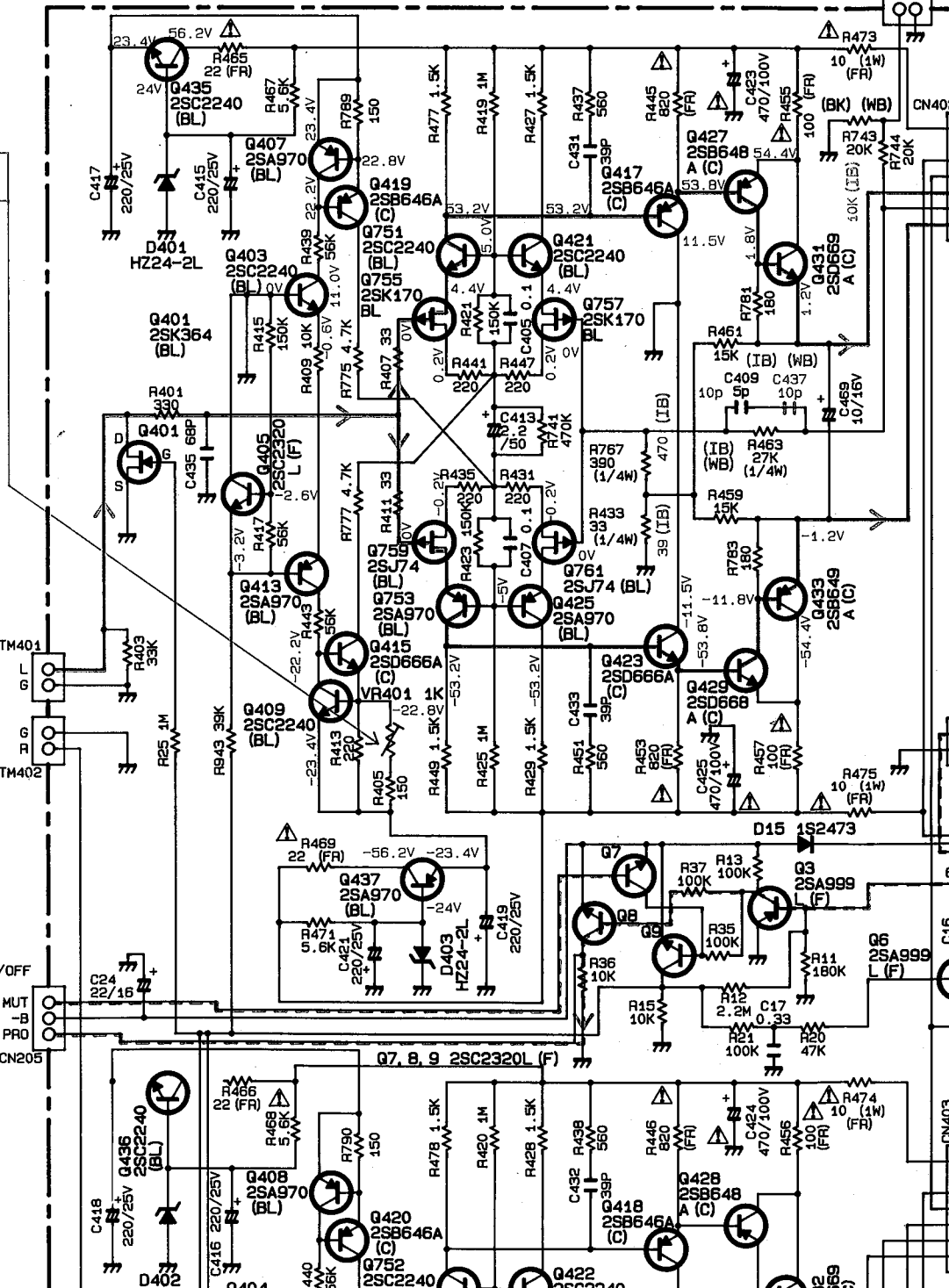
TO INPUT  
(PCB-7)  
Schematic Diagram

BTL OUT  
(A)  
CN402

OFFSET  
DC BALANCE  
ADJ. (Lch)

FROM INPUT  
(PCB-7)  
Schematic Diagram (1)

TO AUTO ON/OFF  
(PCB-6)  
Schematic Diagram (1)



F

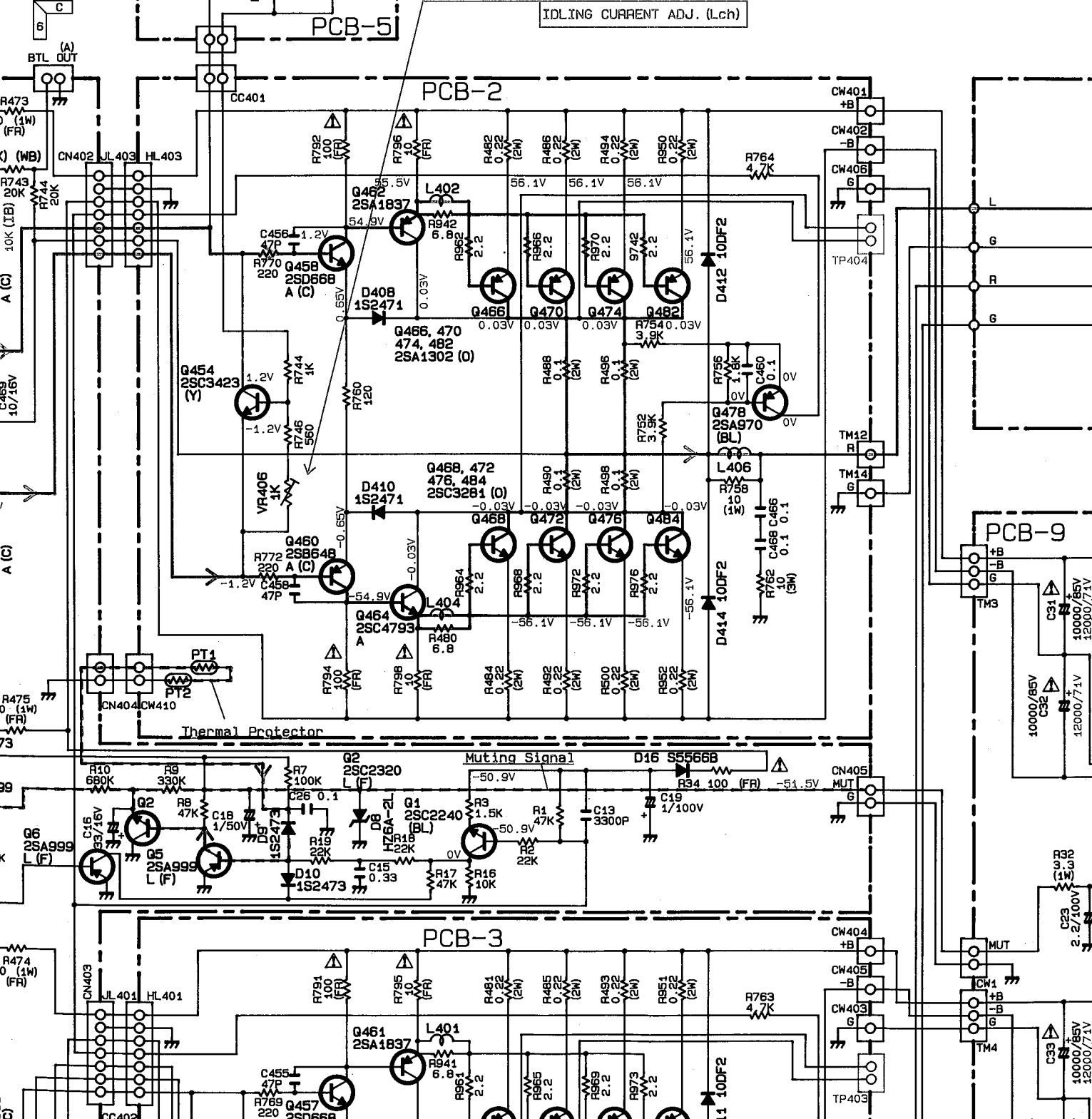
G

H

I

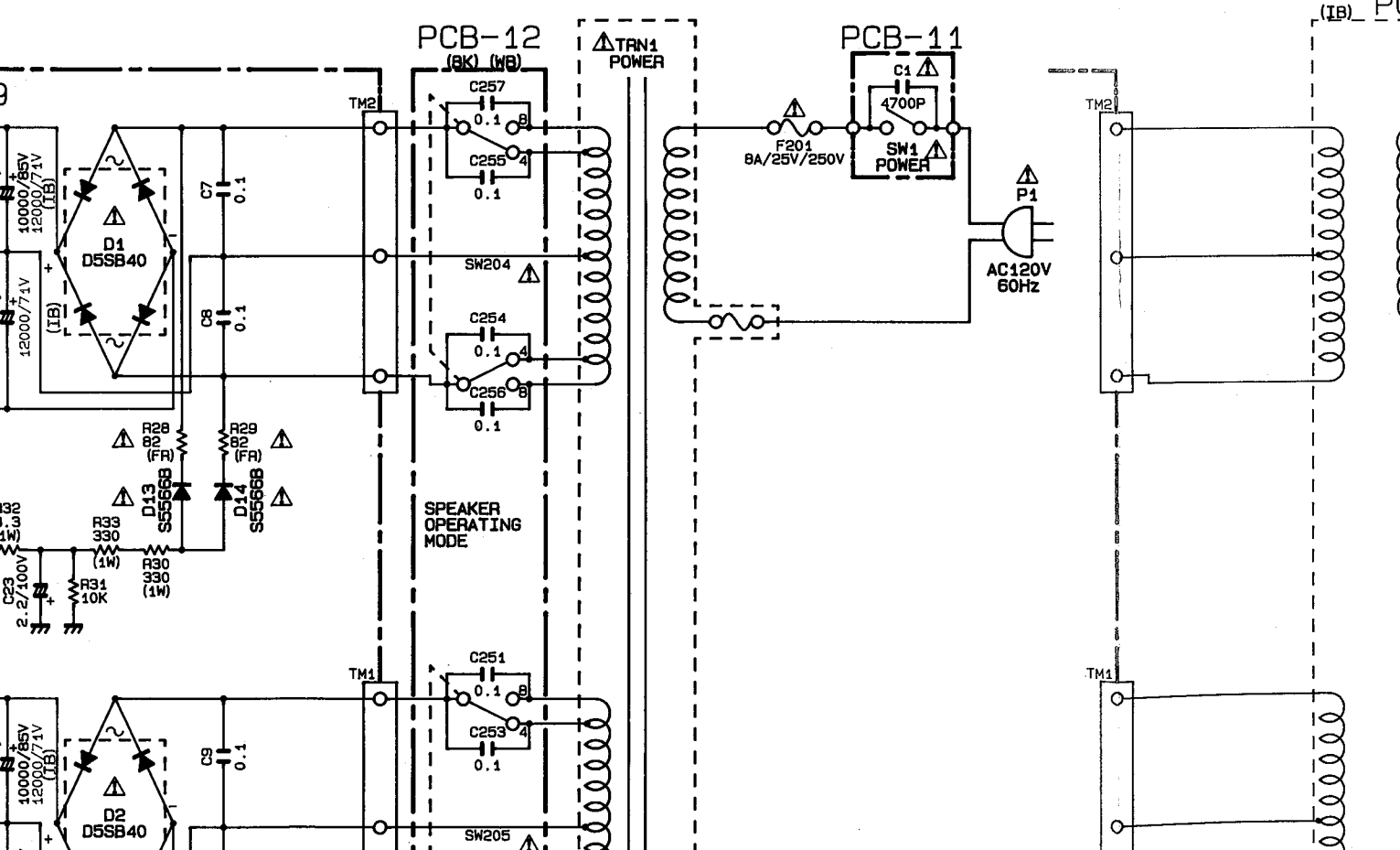
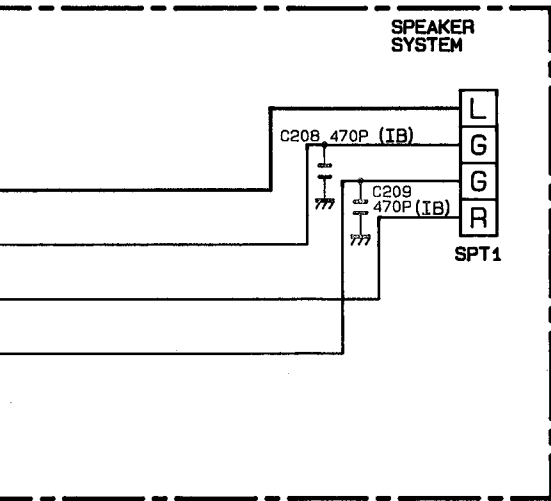
J

D INPUT  
PCB-7  
Schematic Diagram (1)



NOTE:

- 1. ALL RESISTANCES VALUES ARE IN  $\Omega$ .  
K $\Omega$ =1000 $\Omega$ , M $\Omega$ =1000K $\Omega$
- 2. THE WATTAGE OF RESISTORS IS 1/2W UNLESS OTHERWISE NOTED.
- 3. ALL CAPACITANCES VALUES ARE IN  $\mu$ F UNLESS OTHERWISE NOTED. P= $\mu$ 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.





M

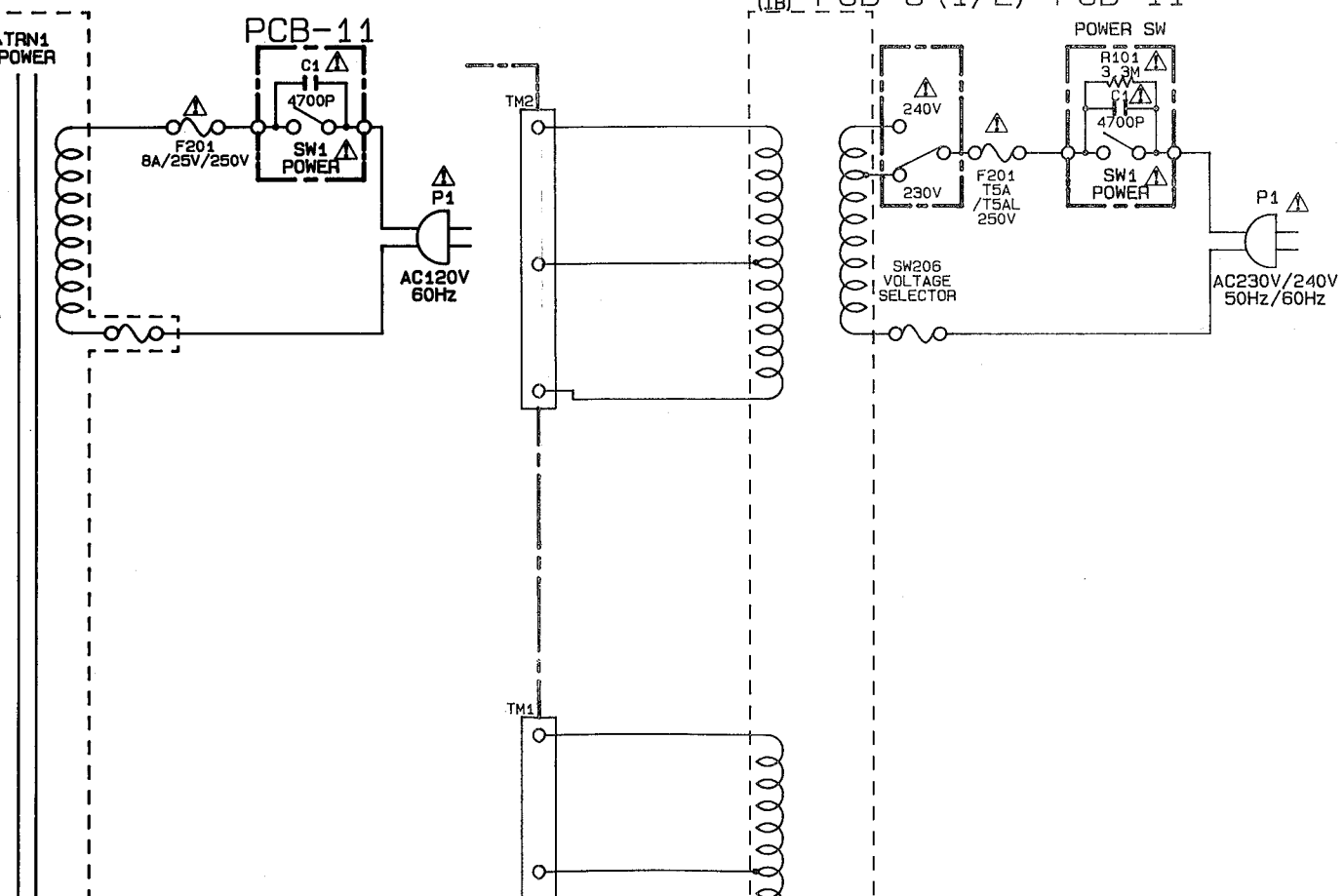
N

O

P

Q

LESS OTHERWISE NOTED.  
LESS OTHEERWISE NOTED. P=μF  
OTHERWISE NOTED.  
IN ACCORDANCE WITH PRESENT  
MENTS MUST ONLY BE REPLACED



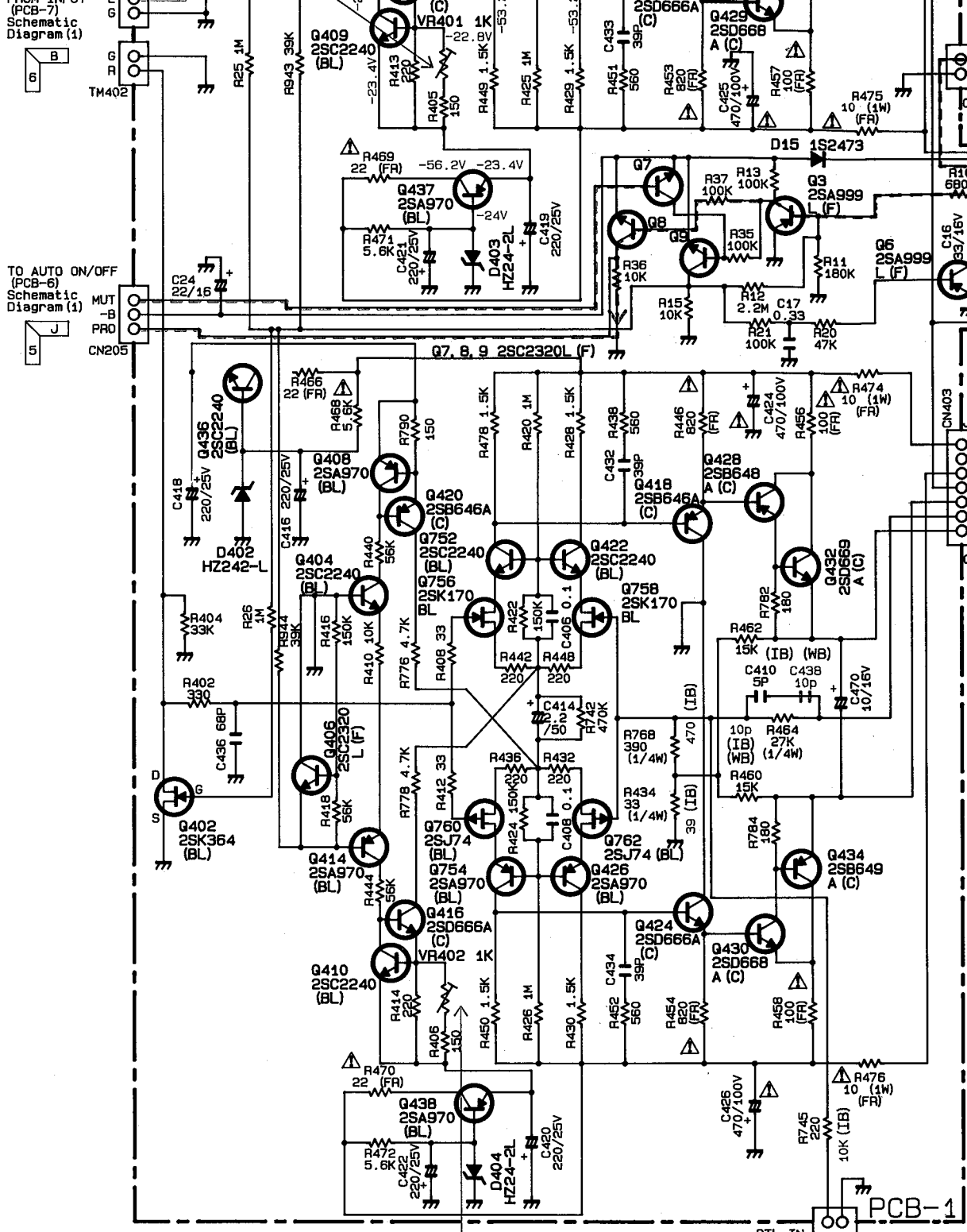
(PCB-7)  
Schematic  
Diagram (1)

TO AUTO ON/OFF  
(PCB-6)  
Schematic  
Diagram (1)

FROM INPUT  
(PCB-7)  
Schematic  
Diagram (2)

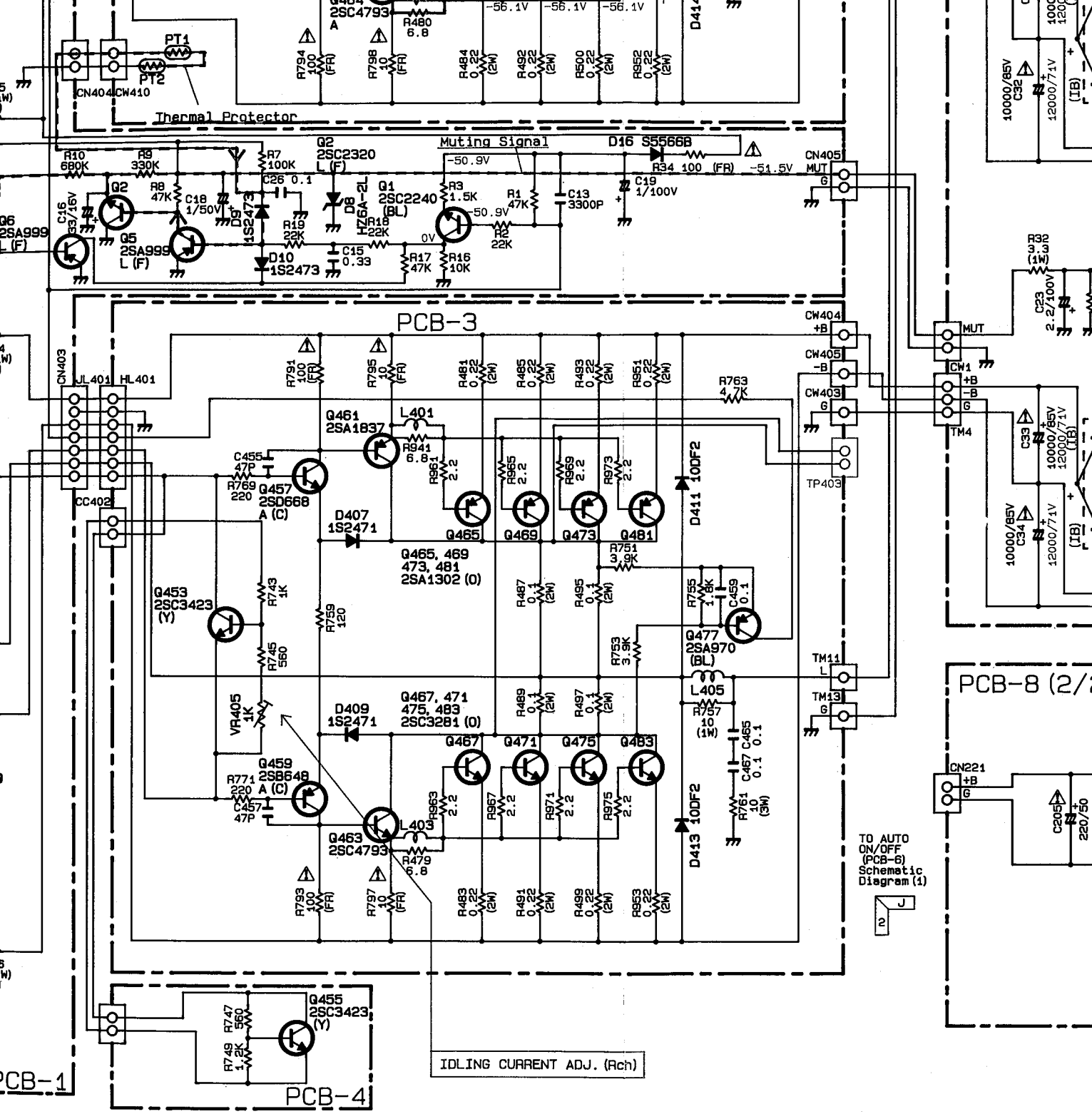
OFFSET DC BALANCE ADJ. (Rch)

6  
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12

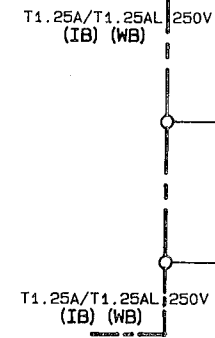
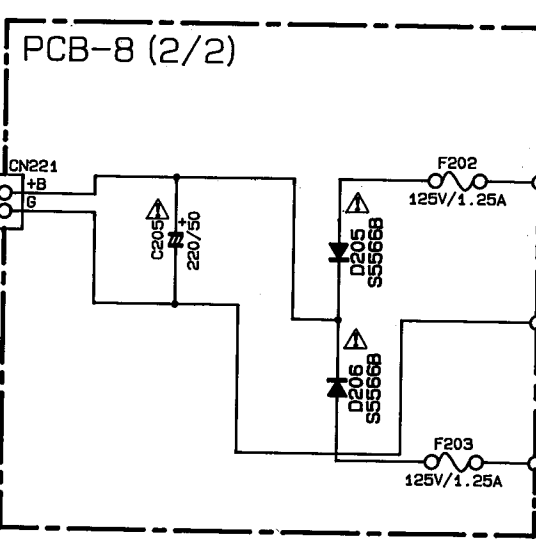
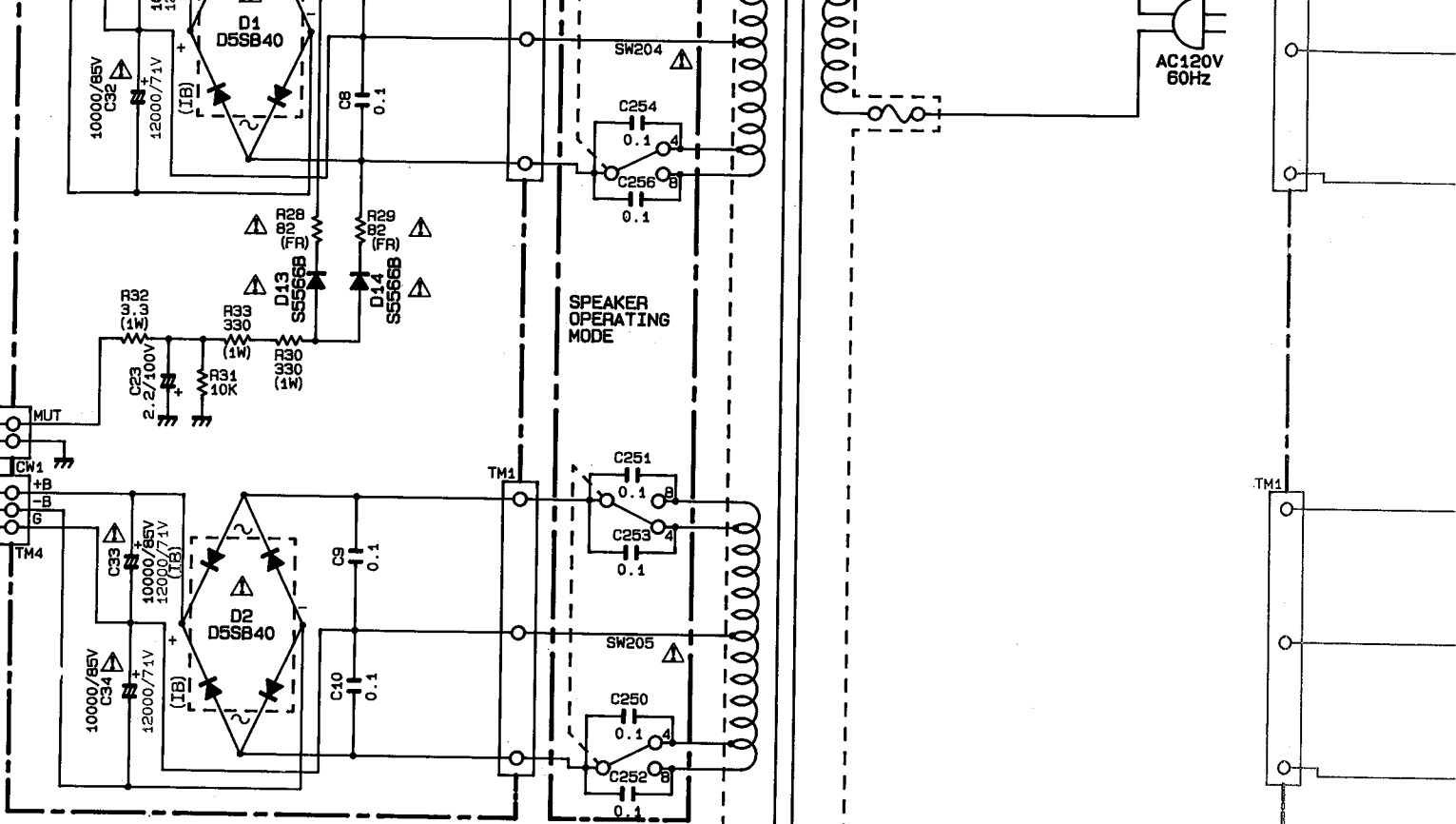


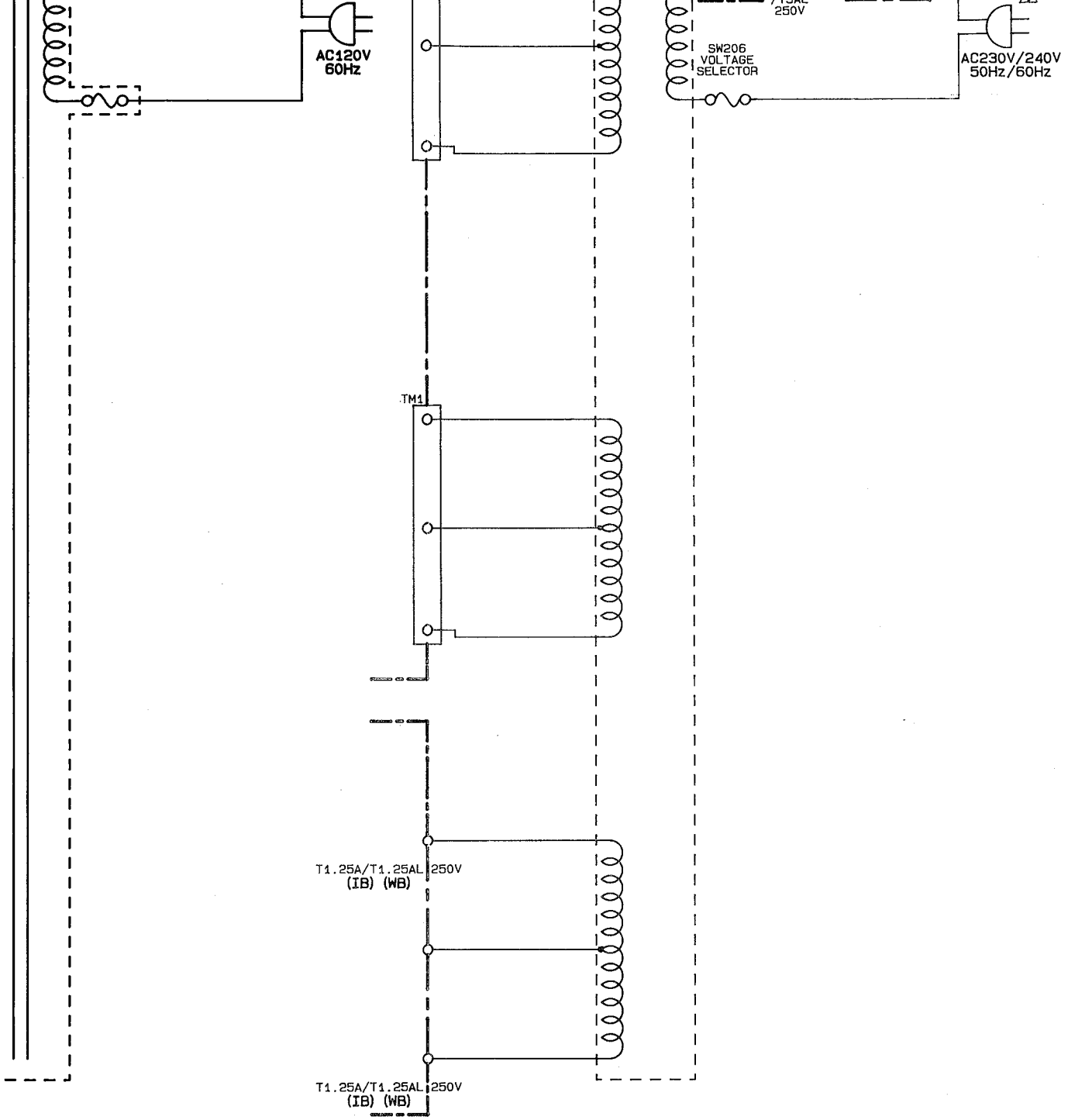
PCB-1

C

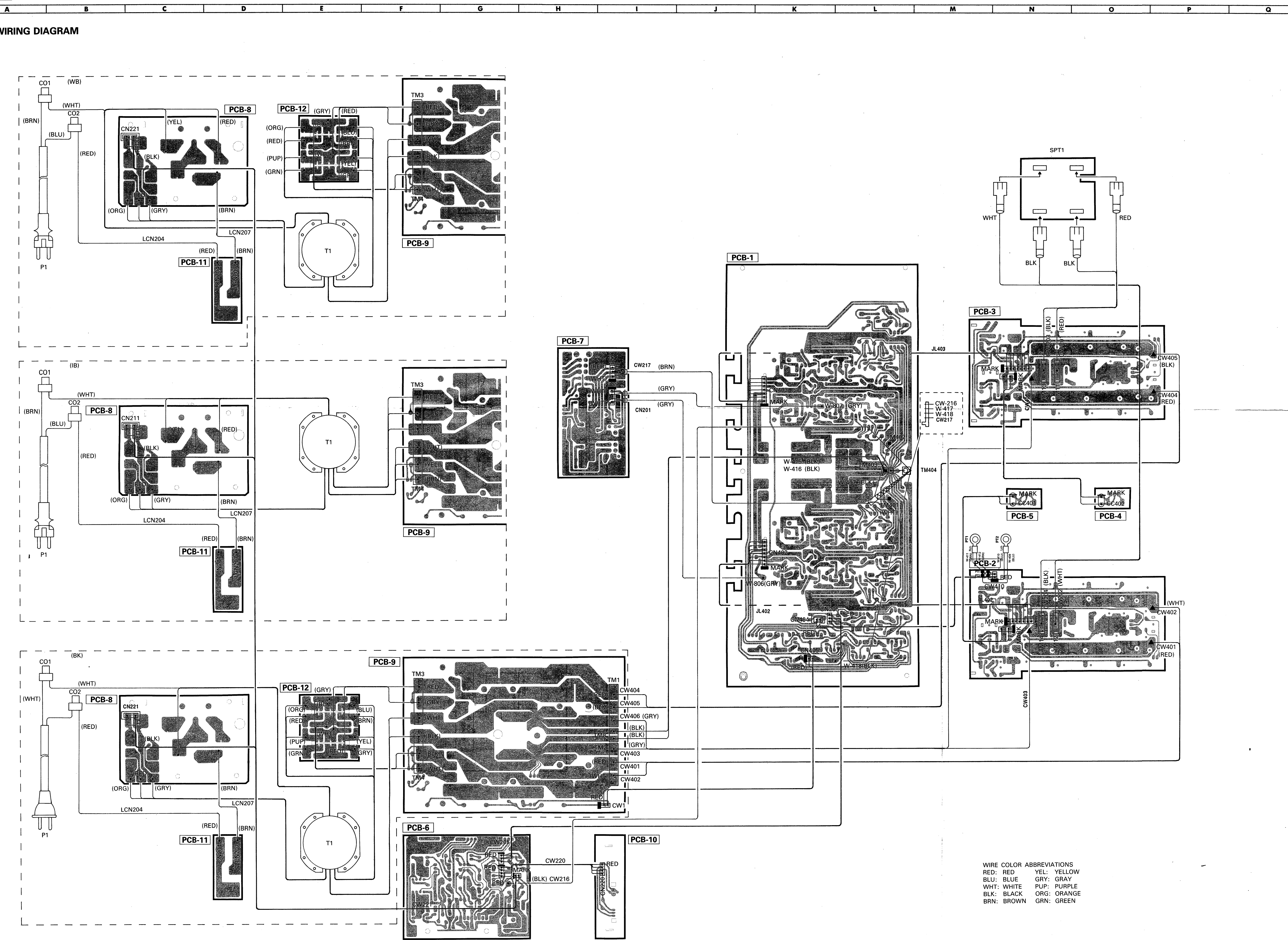


TO AUTO ON/OFF (PCB-6) Schematic Diagram (1)





WIRING DIAGRAM

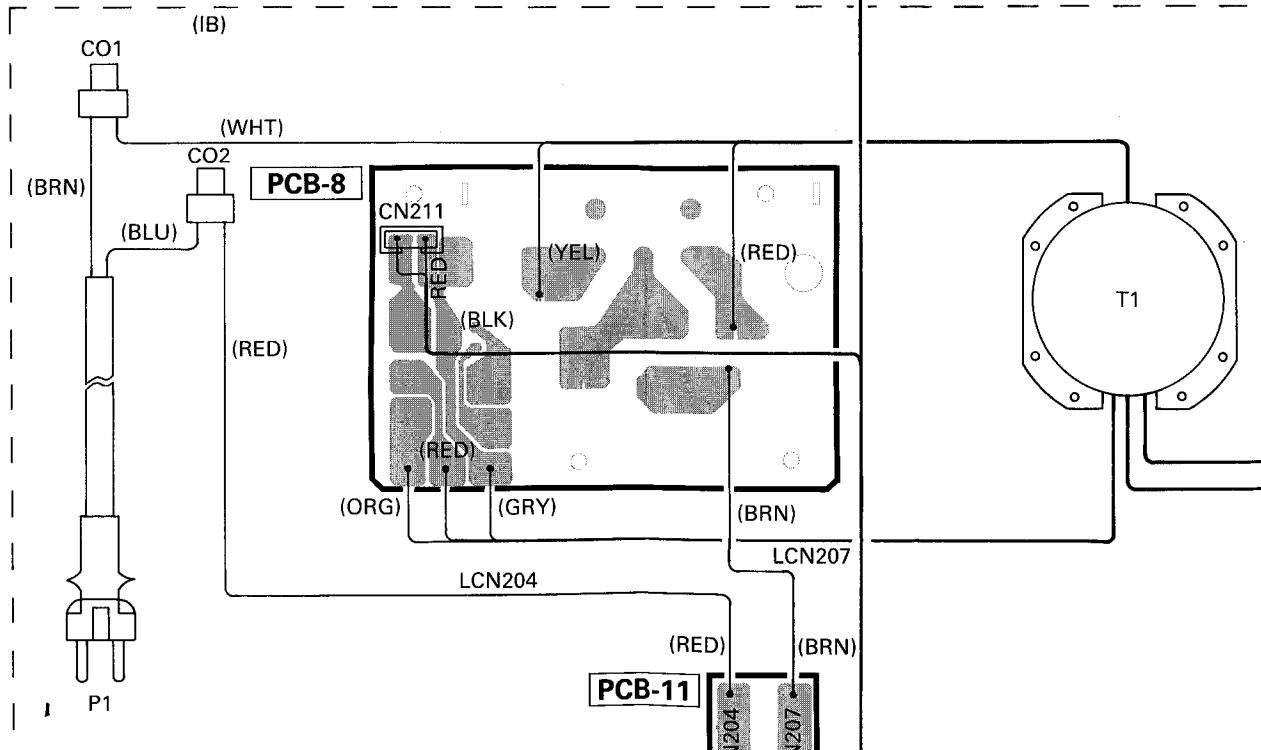
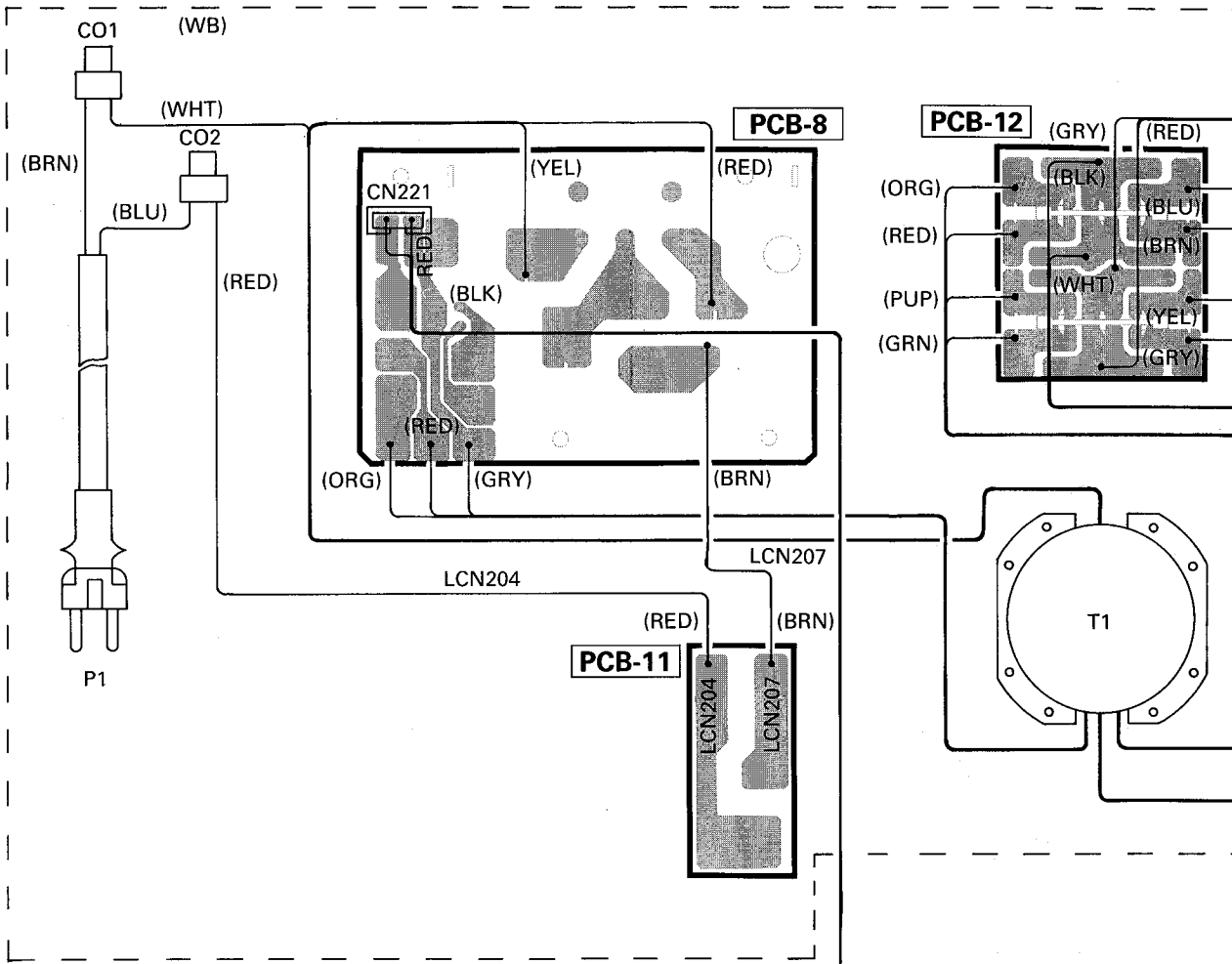


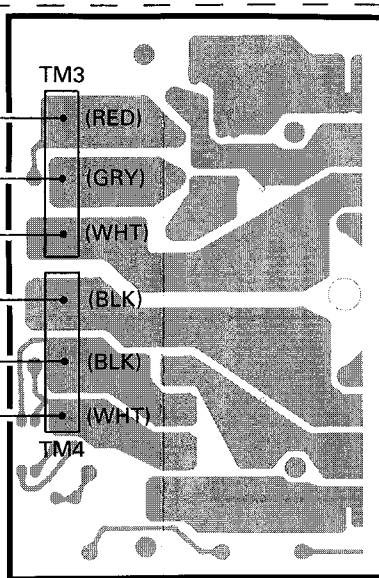
WIRE COLOR ABBREVIATIONS  
 RED: RED    YEL: YELLOW  
 BLU: BLUE   GRY: GRAY  
 WHT: WHITE   PUP: PURPLE  
 BLK: BLACK   ORG: ORANGE  
 BRN: BROWN   GRN: GREEN

# WIRING DIAGRAM

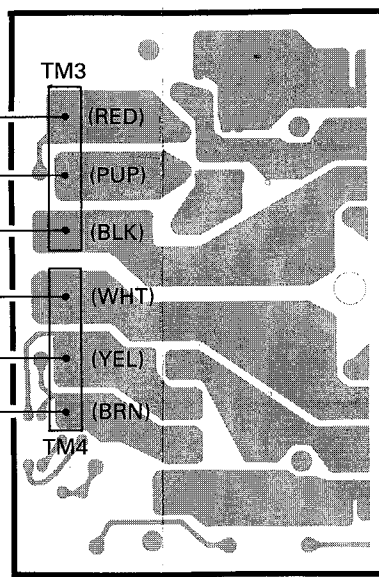
1  
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A B C D E



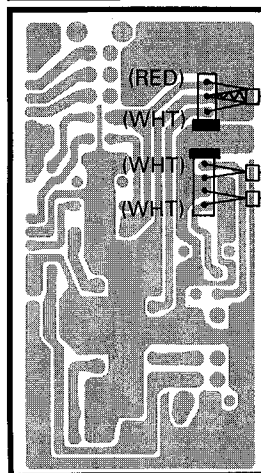


PCB-9

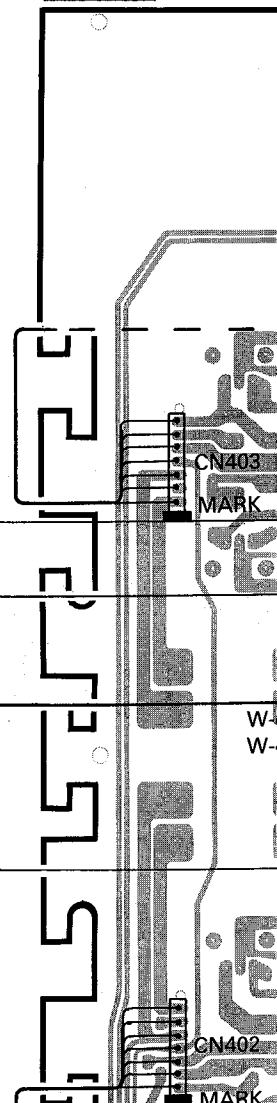


PCB-9

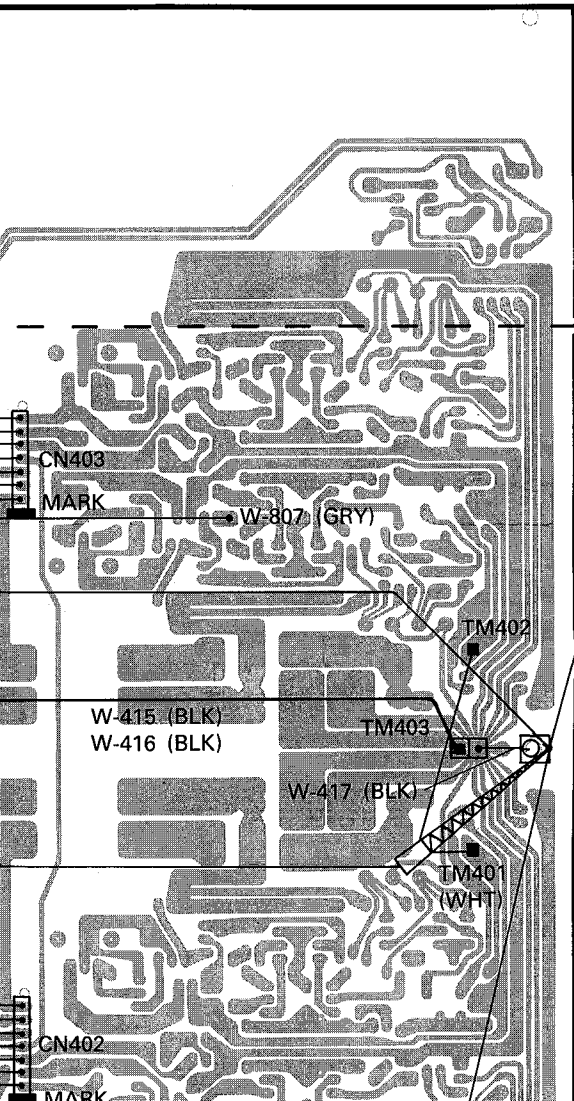
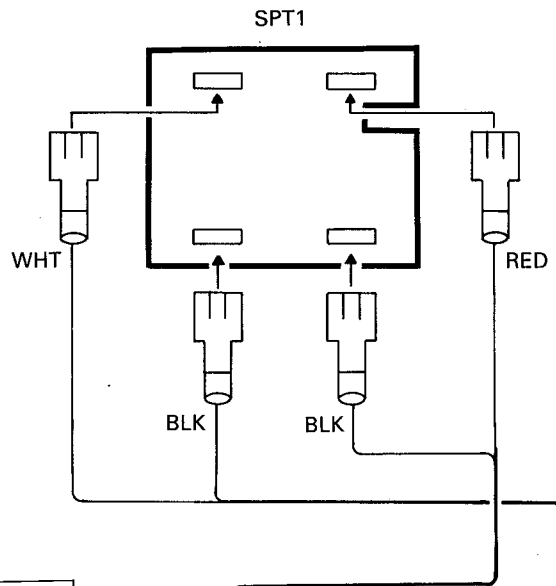
PCB-7



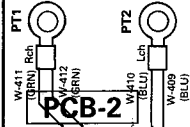
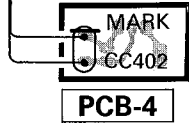
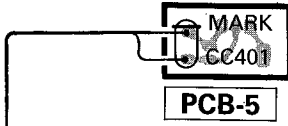
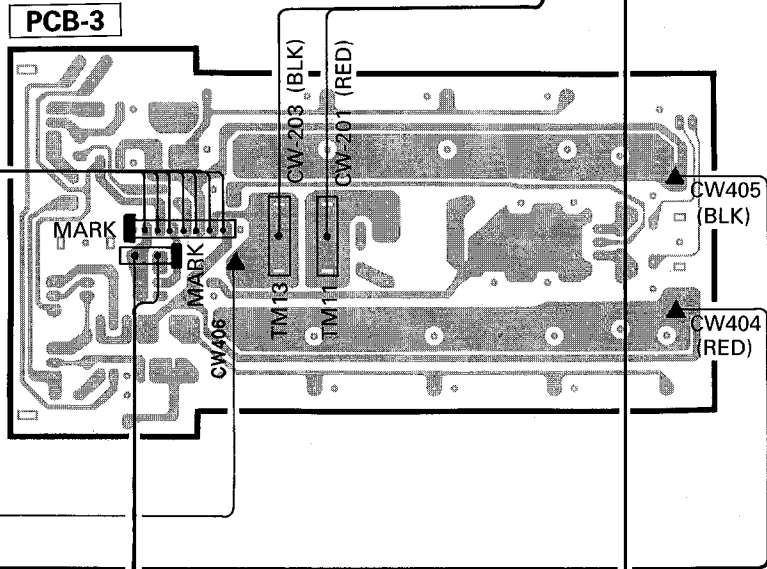
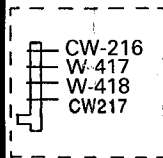
PCB-1



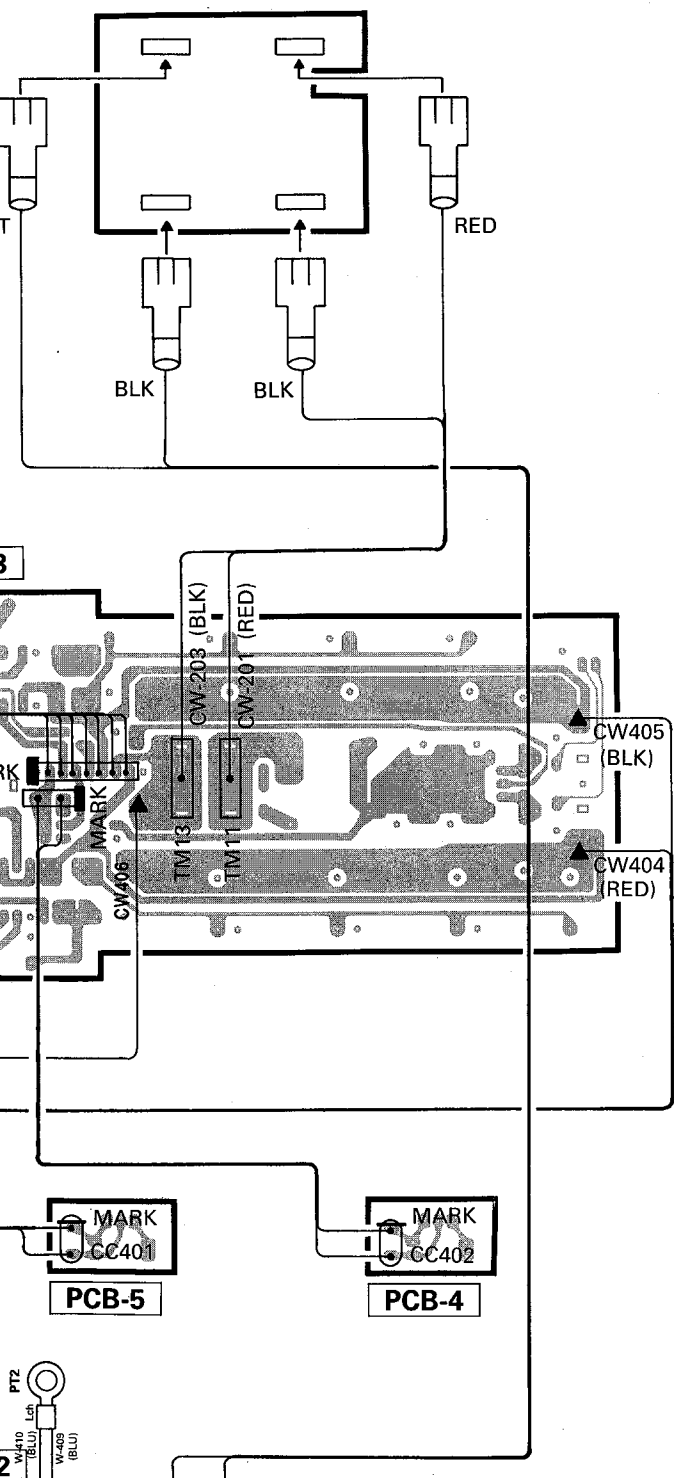




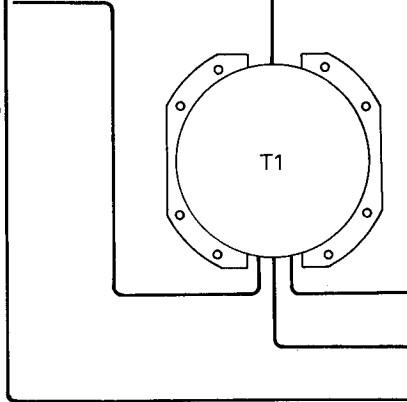
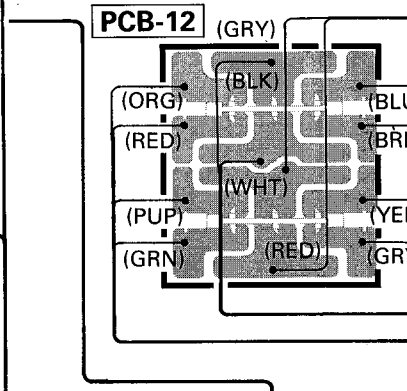
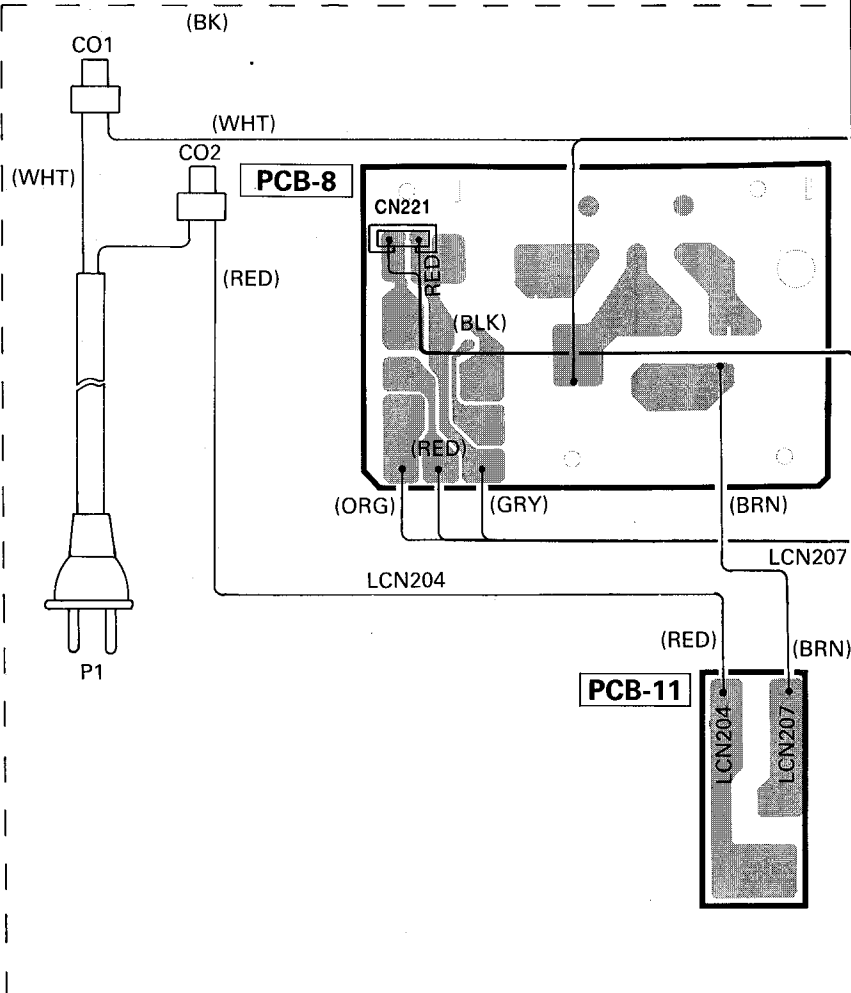
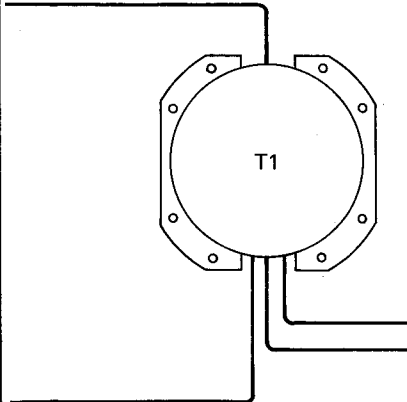
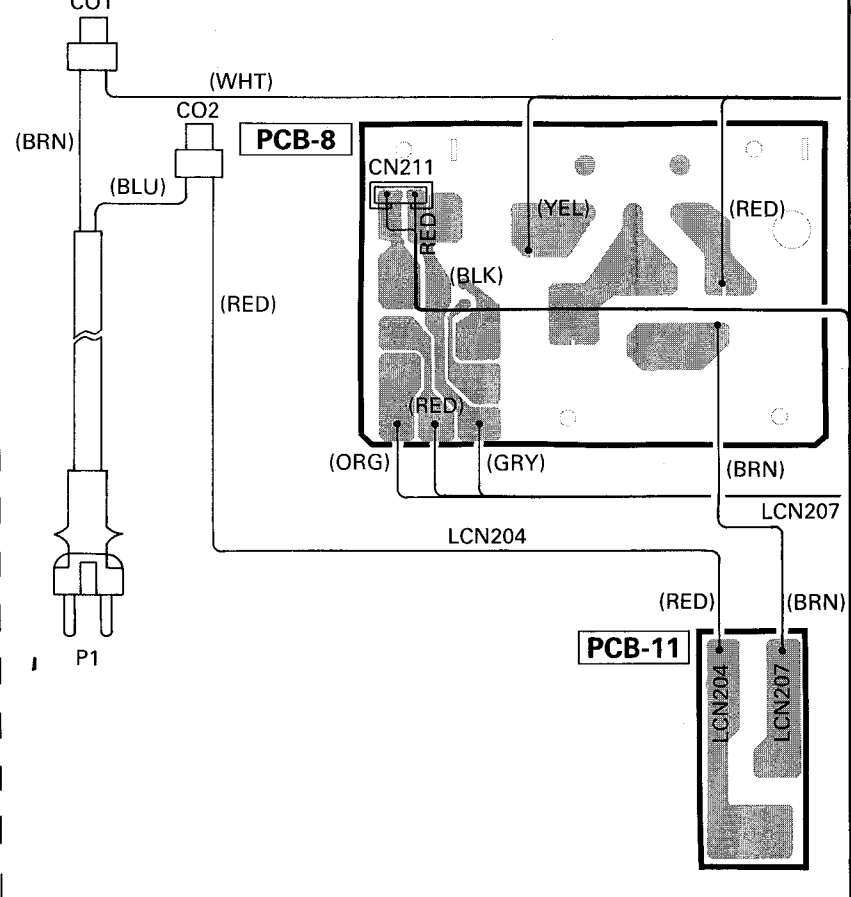
JL403

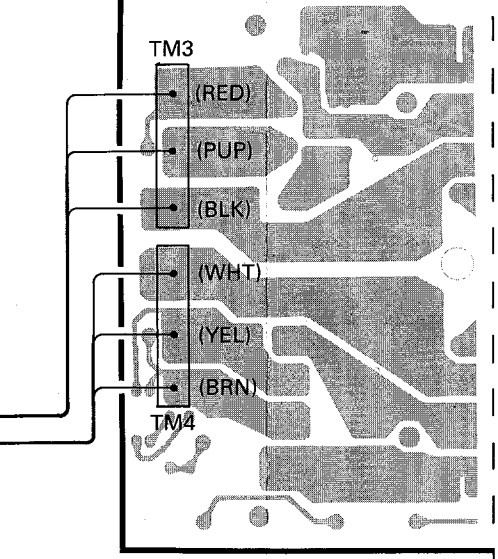


SPT1

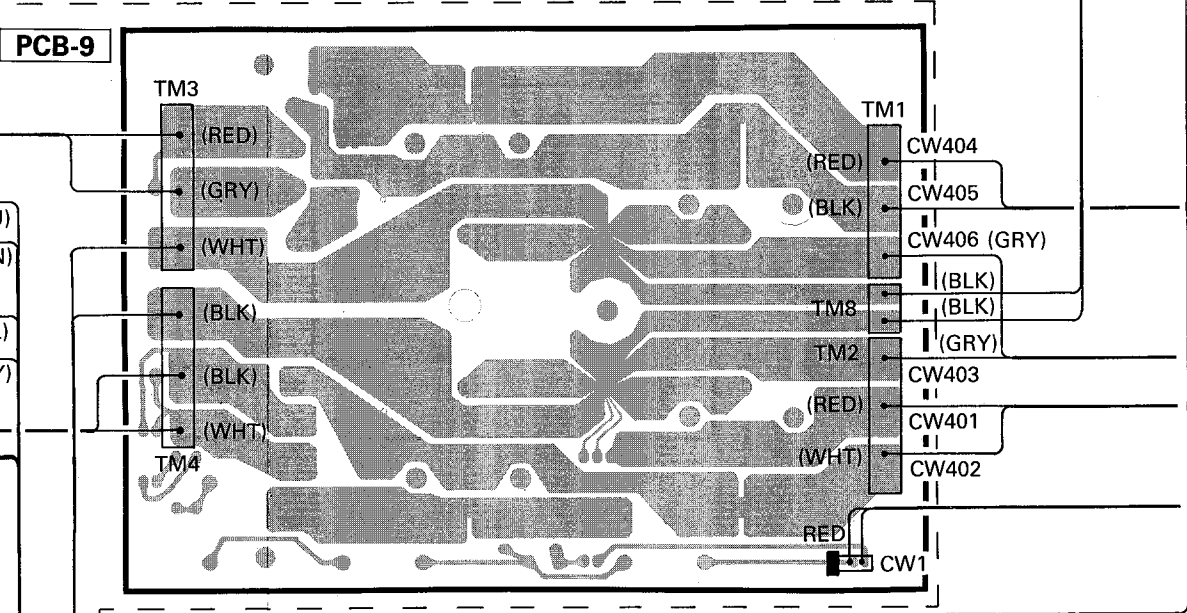
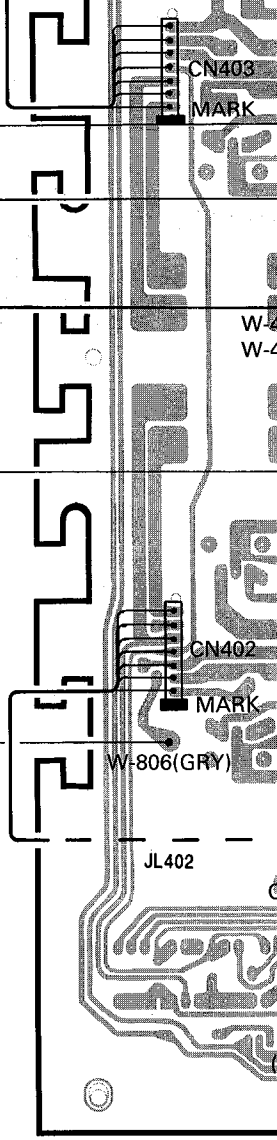
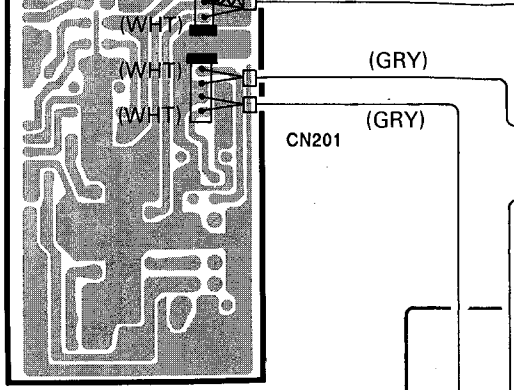


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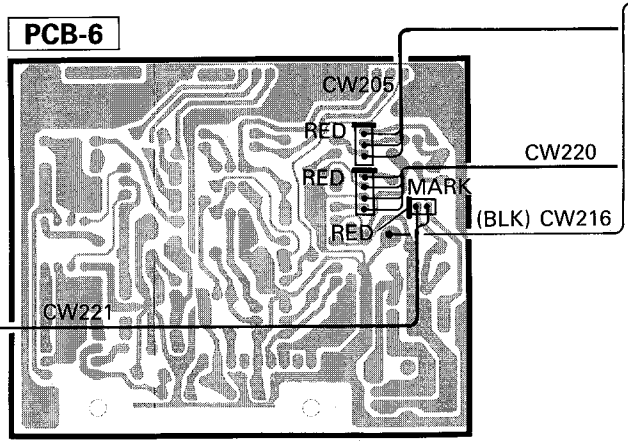




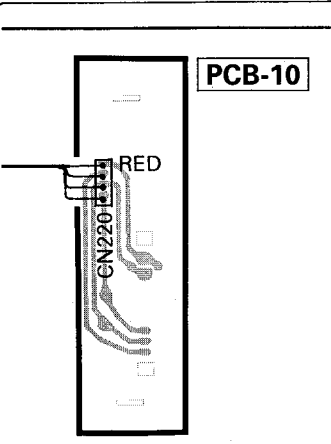
PCB-9



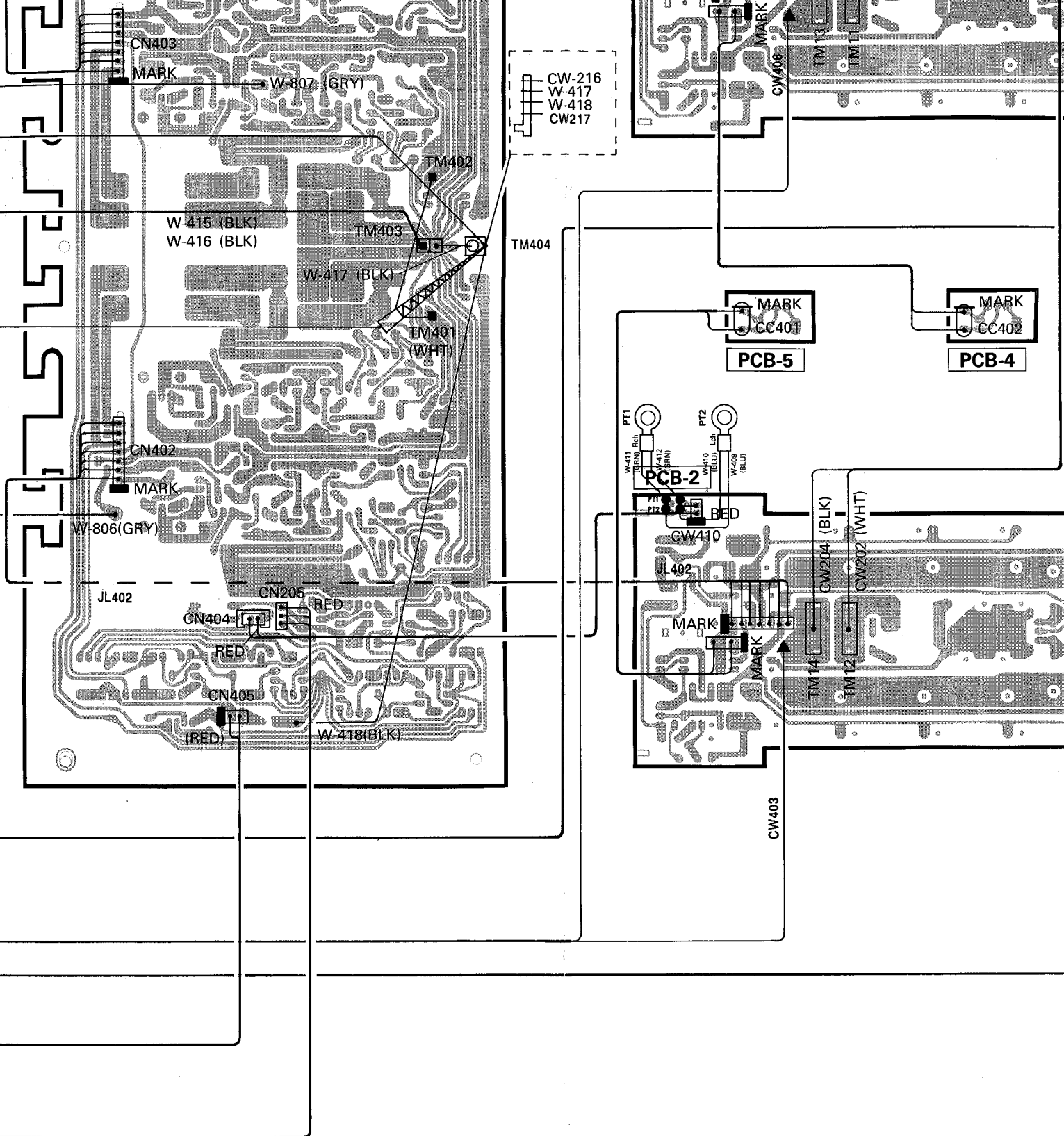
PCB-9



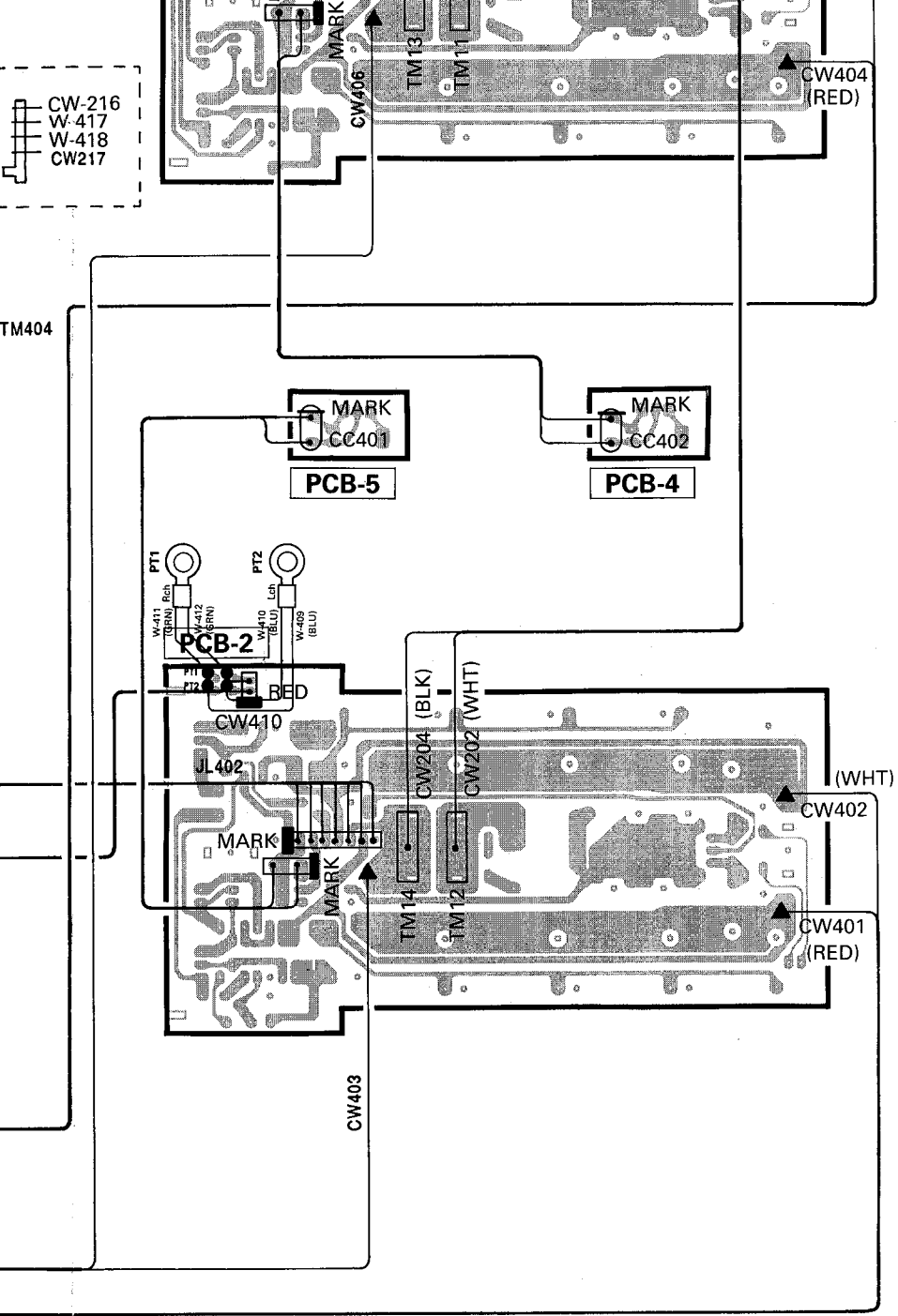
PCB-6



PCB-10



WIRE COLOR ABBREVIATIONS  
 RED: RED      YEL: YELLOW  
 BLU: BLUE     GRY: GRAY  
 WHT: WHITE    PUP: PURPLE  
 BLK: BLACK    ORG: ORANGE  
 BRN: BROWN   GRN: GREEN



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