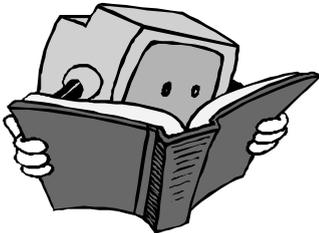


HITACHI

SM0095



SERVICE MANUAL MANUEL D'ENTRETIEN WARTUNGSHANDBUCH

AXM5E
AXM5EBS
AXM5UC
AXM5W
AXM5WUN

CAUTION:

Before servicing this chassis, it is important that the service technician read the "Safety Precautions" and "Product Safety Notices" in this service manual.

ATTENTION:

Avant d'effectuer l'entretien du châassis, le technicien doit lire les «Précautions de sécurité» et les «Notices de sécurité du produit» présentés dans le présent manuel.

VORSICHT:

Vor Öffnen des Gehäuses hat der Service-Ingenieur die „Sicherheitshinweise“ und „Hinweise zur Produktsicherheit“ in diesem Wartungshandbuch zu lesen.

Data contained within this Service manual is subject to alteration for improvement.

Les données fournies dans le présent manuel d'entretien peuvent faire l'objet de modifications en vue de perfectionner le produit.

Die in diesem Wartungshandbuch enthaltenen Spezifikationen können sich zwecks Verbesserungen ändern.



November 1999

SAFETY PRECAUTIONS

WARNING: The following precautions must be observed.

ALL PRODUCTS

1. Before any service is performed on the chassis an isolation transformer should be inserted between the power line and the product.
2. When replacing the chassis in the cabinet, ensure all the protective devices are put back in place.
3. When service is required, observe the original lead dressing. Extra precaution should be taken to ensure correct lead dressing in any high voltage circuitry area.
4. Many electrical and mechanical parts in HITACHI products have special safety related characteristics. These characteristics are often not evident from visual inspection, nor can the protection afforded by them necessarily be obtained by using replacement components rated for higher voltage, wattage, etc. Replacement parts which have these special safety characteristics are identified by marking with a  on the schematics and the replacement parts list.

The use of a substitute replacement component that does not have the same safety characteristics as the HITACHI recommended replacement one, shown in the parts list, may create electrical shock, fire, X-radiation, or other hazards.

5. Always replace original spacers and maintain lead lengths. Furthermore, where a short circuit has occurred, replace those components that indicate evidence of overheating.
6. Insulation resistance should not be less than 2M ohms at 500V DC between the main poles and any accessible metal parts.
7. No flashover or breakdown should occur during the dielectric strength test, applying 3kV AC or 4.25kV DC for two seconds between the main poles and accessible metal parts.
8. Before returning a serviced product to the customer, the service technician must thoroughly test the unit to be certain that it is completely safe to operate without danger of electrical shock. The service technician must make sure that no protective device built into the instrument by the manufacturer has become defective, or inadvertently damaged during servicing.

CE MARK

1. HITACHI products may contain the CE mark on the rating plate indicating that the product contains parts that have been specifically approved to provide electromagnetic compatibility to designated levels.
2. When replacing any part in this product, please use only the correct part itemised in the parts list to ensure this standard is maintained, and take care to replace lead dressing to its original state, as this can have a bearing on the electromagnetic radiation/immunity.

PICTURE TUBE

1. The line output stage can develop voltages in excess of 25kV; if the E.H.T. cap is required to be removed, discharge the anode to chassis via a high value resistor, prior to its removal from the picture tube.
2. High voltage should always be kept at the rated value of the chassis and no higher. Operating at higher voltages may cause a failure of the picture tube or high voltage supply, and also, under certain circumstances could produce X-radiation levels moderately in excess of design levels. The high voltage must not, under any circumstances, exceed 29kV on the chassis (except for projection Televisions).
3. The primary source of X-radiation in the product is the picture tube. The picture tube utilised for the above mentioned function in this chassis is specially constructed to limit X-radiation. For continued X-radiation protection, replace tube with the same type as the original HITACHI approved type
4. Keep the picture tube away from the body while handling. Do not install, remove, or handle the picture tube in any manner unless shatterproof goggles are worn. People not so equipped should be kept away while picture tubes are handled

LASERS

If the product contains a laser avoid direct exposure to the beam when the cover is open or when interlocks are defeated or have failed.

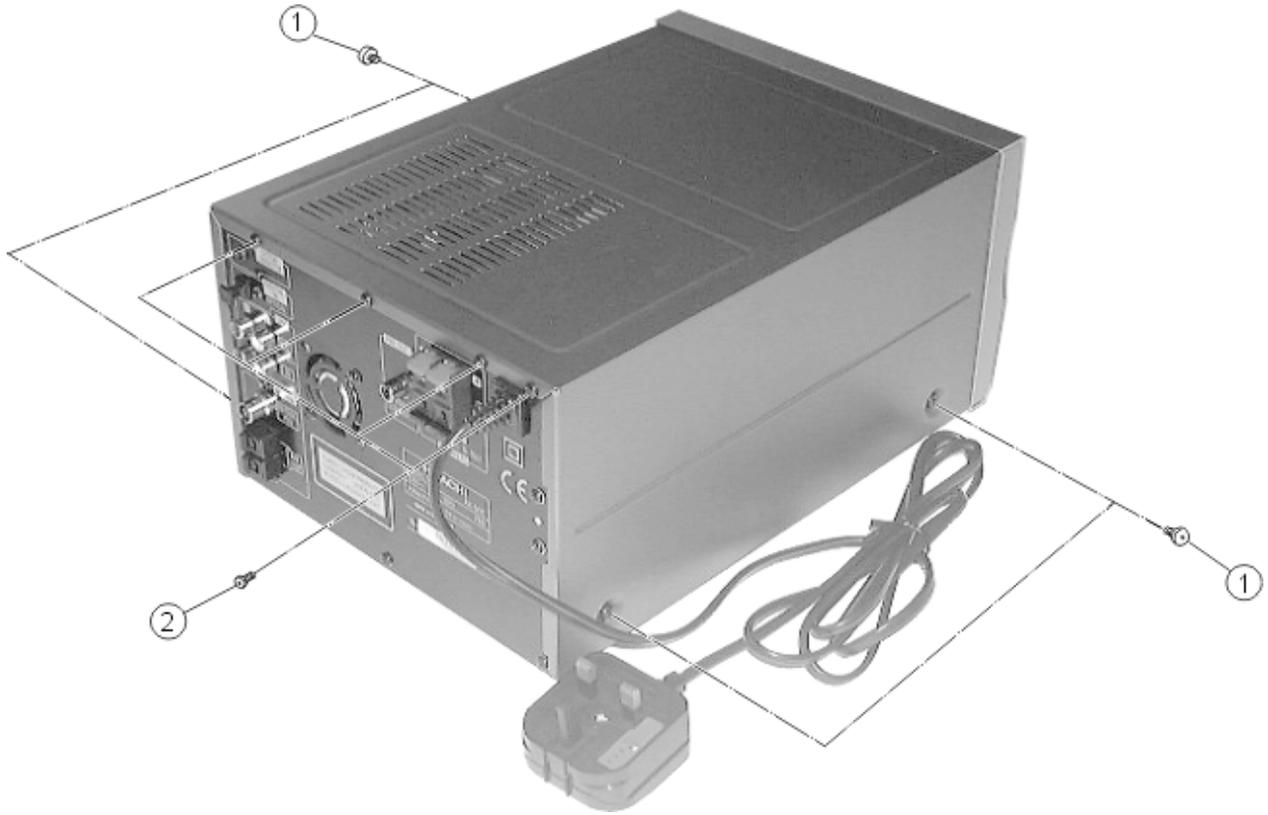
Specifications

RECEIVER SECTION	Circuit system:	FM/AM 2 bands [for E, E(BS), W, W(UN)]		
	Tuning range:	[for E, E(BS), W] FM: 87.5 - 108.0 MHz (50 kHz step) AM: 522 - 1,611 kHz (9 kHz step) [for W(UN)] FM: 76.0 - 108.0 MHz (50 kHz step) AM: 522 - 1,629 kHz (9 kHz step) [for W, W(UN)] AM: 520 - 1,710 MHz (10 kHz step)		
TAPE SECTION	Track system:	4 tracks, 2 channels, Stereo Auto Reverse Cassette Deck		
	Tape:	Normal/CrO2		
	Tape speed:	4.75 cm/s		
	Frequency response:	Normal:	40 - 15,000 Hz	
	CrO2:	40 - 16,000 Hz		
TIMER SECTION	System:	Digital quartz clock		
	Display format:	24-hour cycle [for E, E(BS), W] 12-hour cycle [for W(UN)]		
	Timer accuracy:	Within 60 seconds at monthly rate		
CD PLAYER SECTION	Number of channels:	2		
	Disc:	12 cm/ 8 cm		
	Laser Diode properties:	Wavelength:	785 nm ~ 815 nm	
GENERAL SPECIFICATION	Power supply:	AC 230 V, 50 Hz [for E, E(EBS)] AC 110 V - 127 V, 220 V - 240 V, 50/60 Hz [for W, W(UN)]		
	Power consumption:	74 W (Standby mode: 0.5W)		
	Dimensions:	210 (W) x 150 (H) x 327 (D) mm		
	Weight:	5.5 kg		
SPEAKER SECTION	System:	2-way Bass Reflex Speaker System		
	Speakers:	Woofer:	10cm x 1	
		Tweeter:	5cm x 1	
	Impedance:	6 ohms		
	Dimensions:	150 (W) x 270 (H) x 227 (D) mm		
Weight:	3.1 kg (1 speaker)			
ACCESSORIES	FM Antenna:	1		
	AM loop antenna:	1		
	Remote control (RB-AXM5):	1		
	Battery:	2		
	Edison Plug Adapter- for W(UN)			

* Specifications are subject to change without notice for performance improvement.

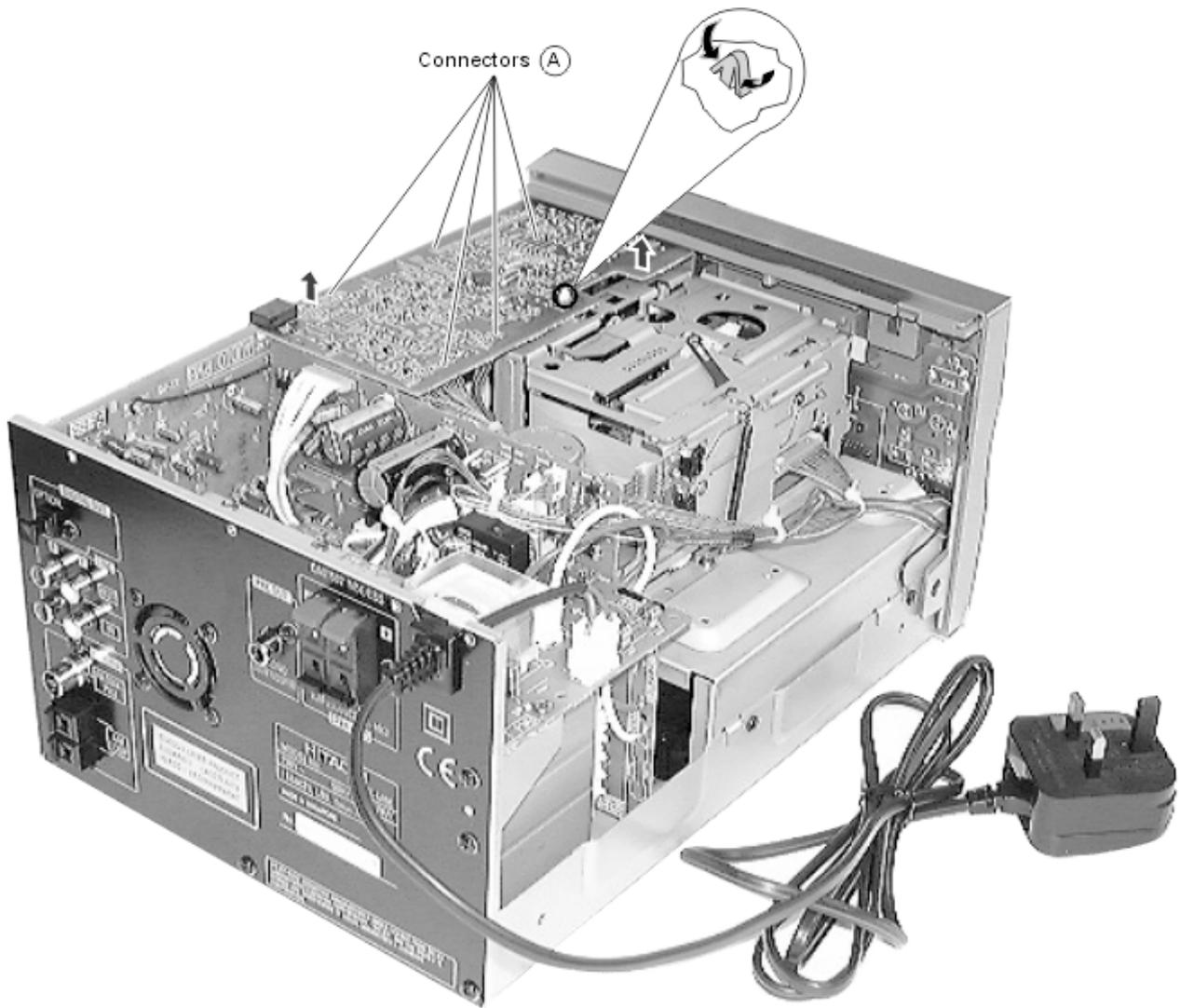
Removal of Top Cover

1. Remove 2 screws ① from each side.
2. Remove 4 screws ② from the rear plate.



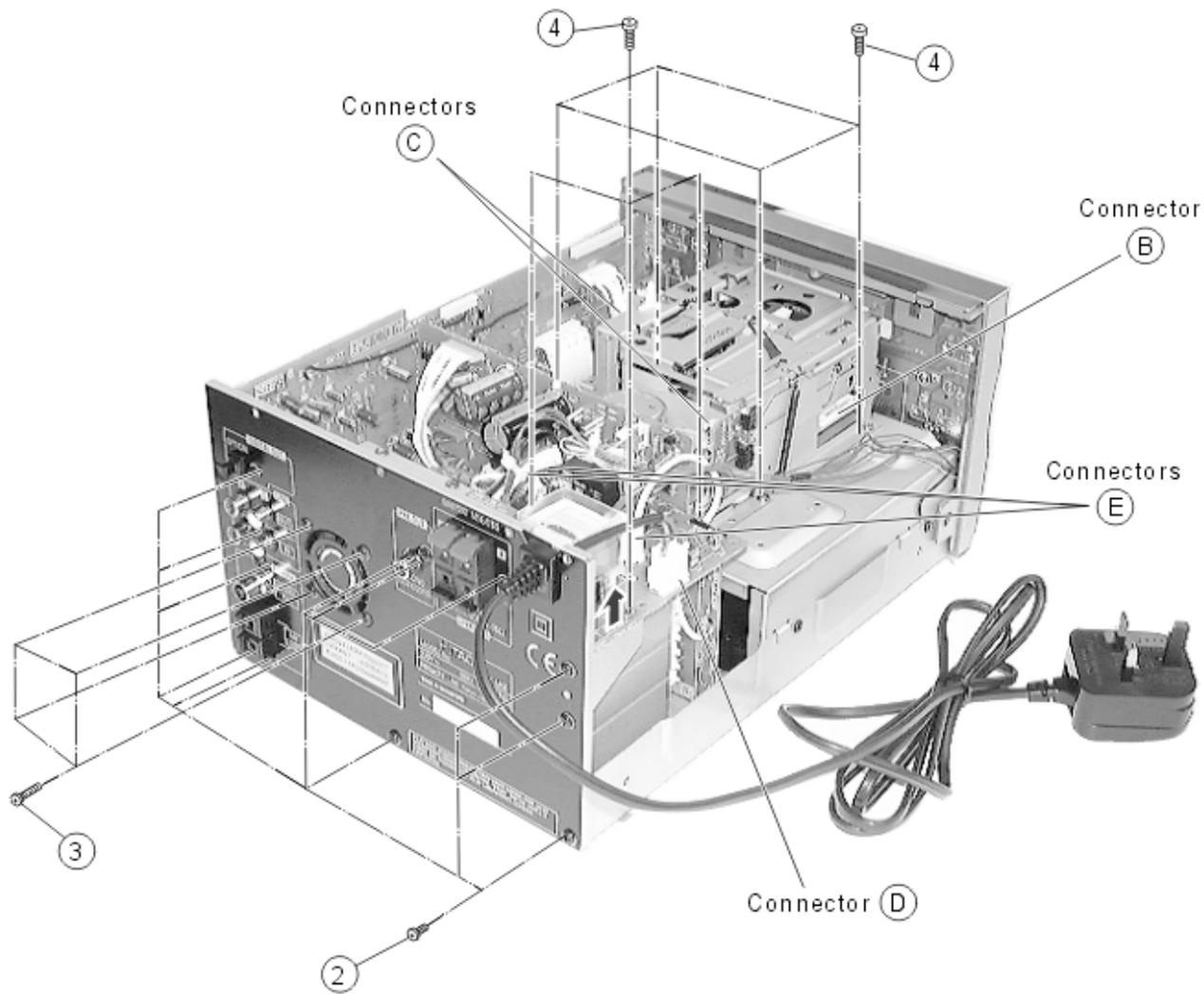
Removal of DECK P.W.B. Board

1. Press and push downwards the white connector.
2. Detach the 5 connectors ①.



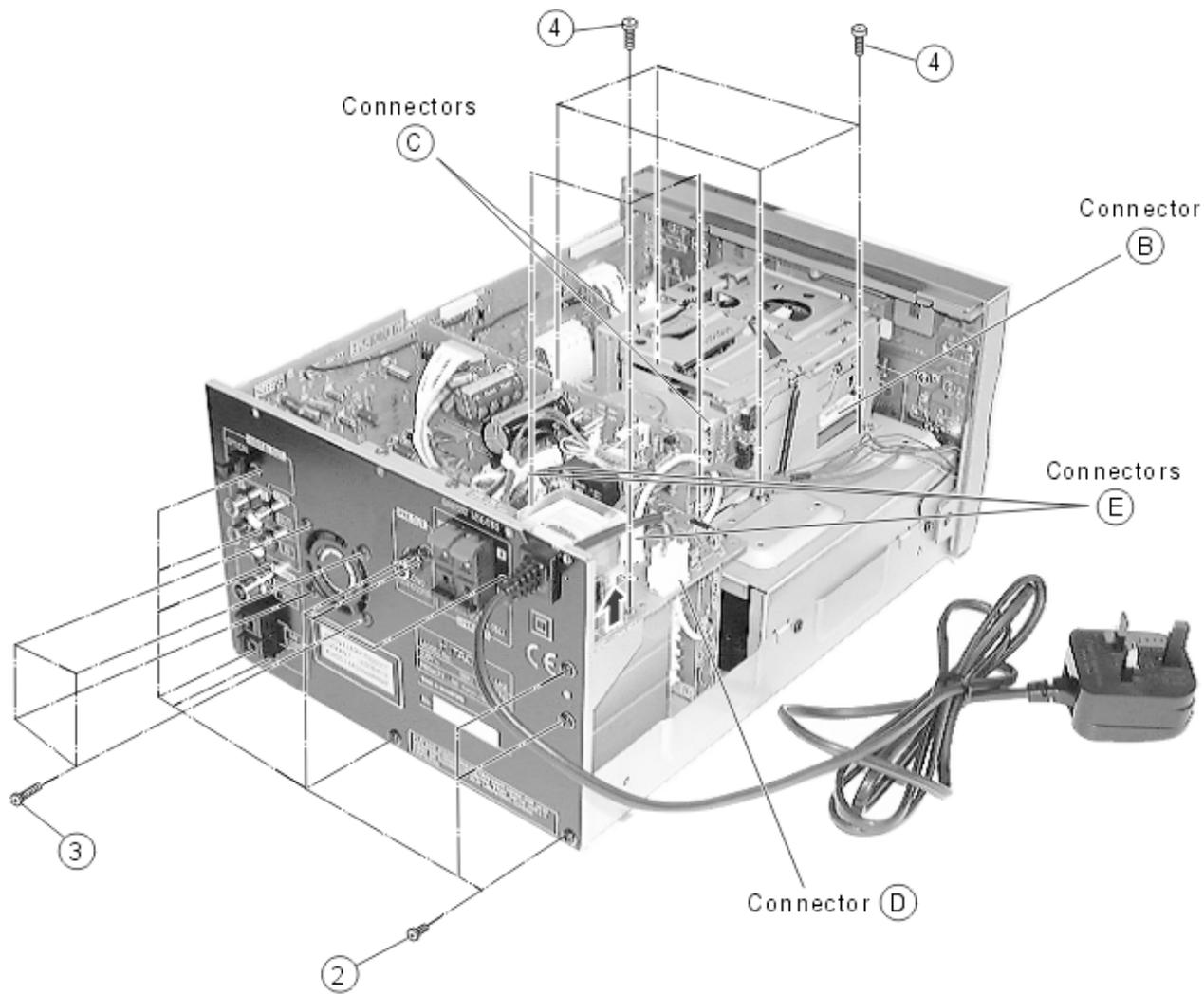
Removal of Rear Plate

1. Remove 12 screws ② and 4 screws ③ from the rear plate.



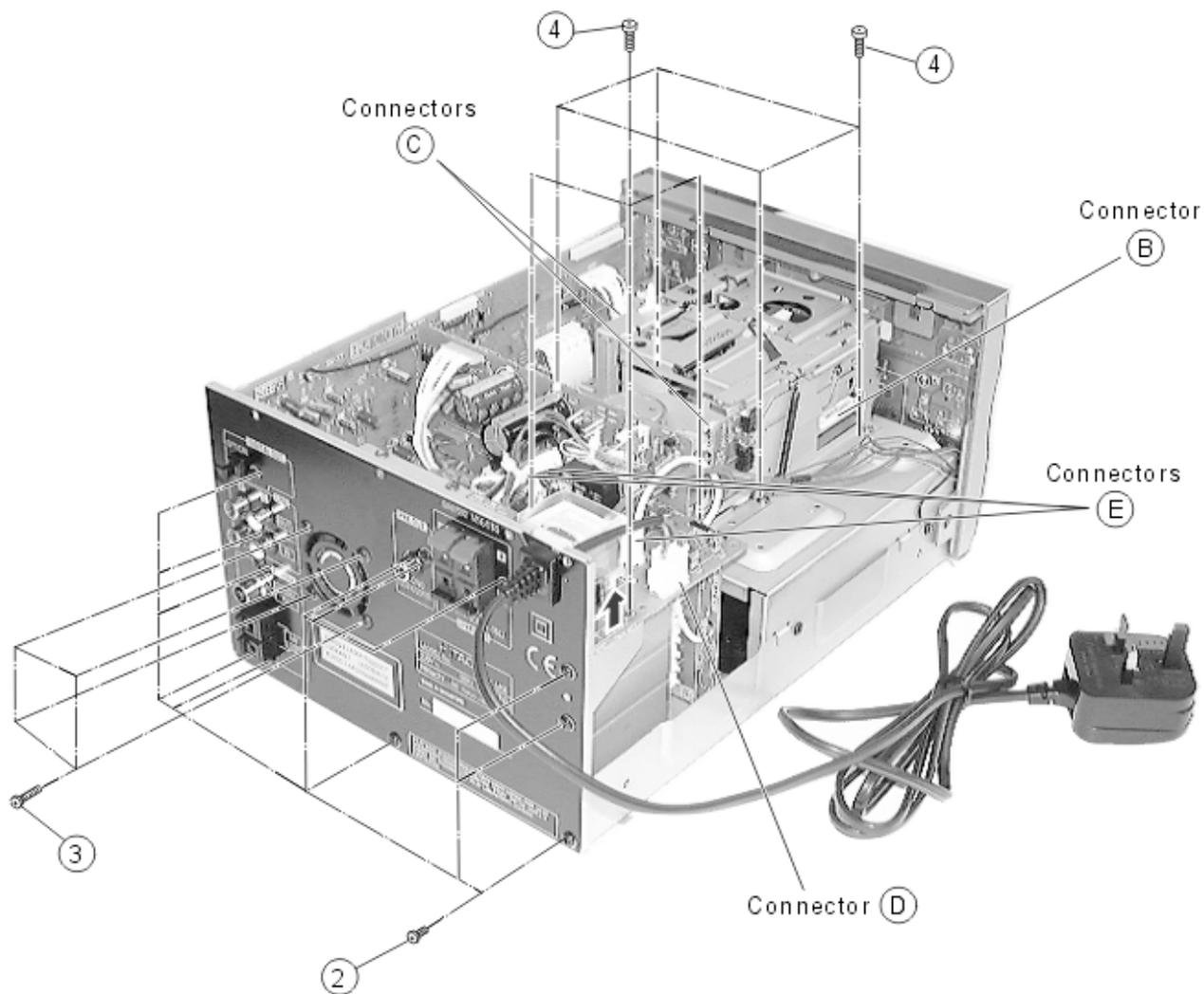
Removal of Power cord

1. Detach the power cord connector from connector ④.



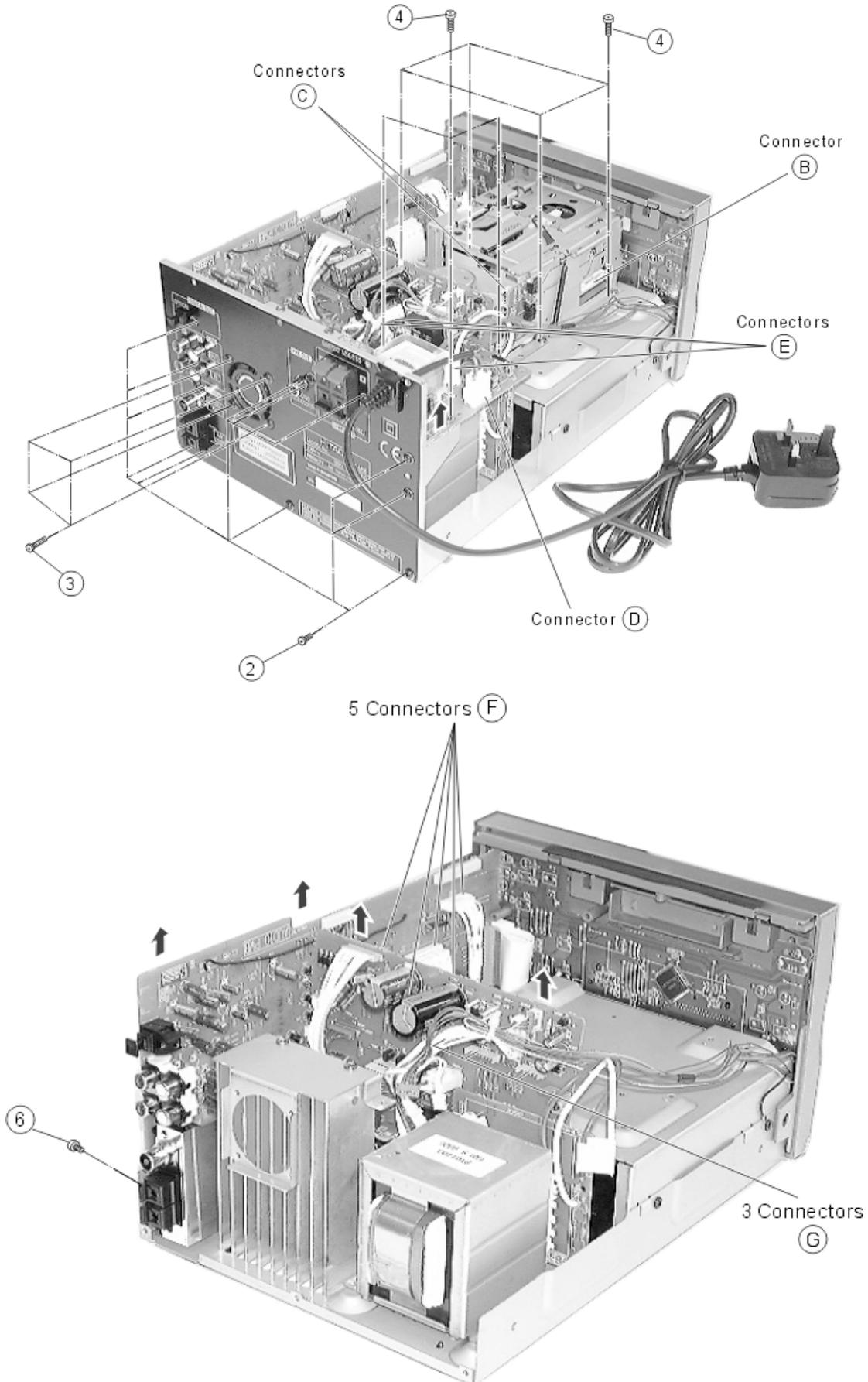
Removal of DECK Mechanism

1. Detach the DECK connector cables from 3 connectors **B** and **C**.
2. Remove 4 screws **4** and then remove the DECK mechanism.



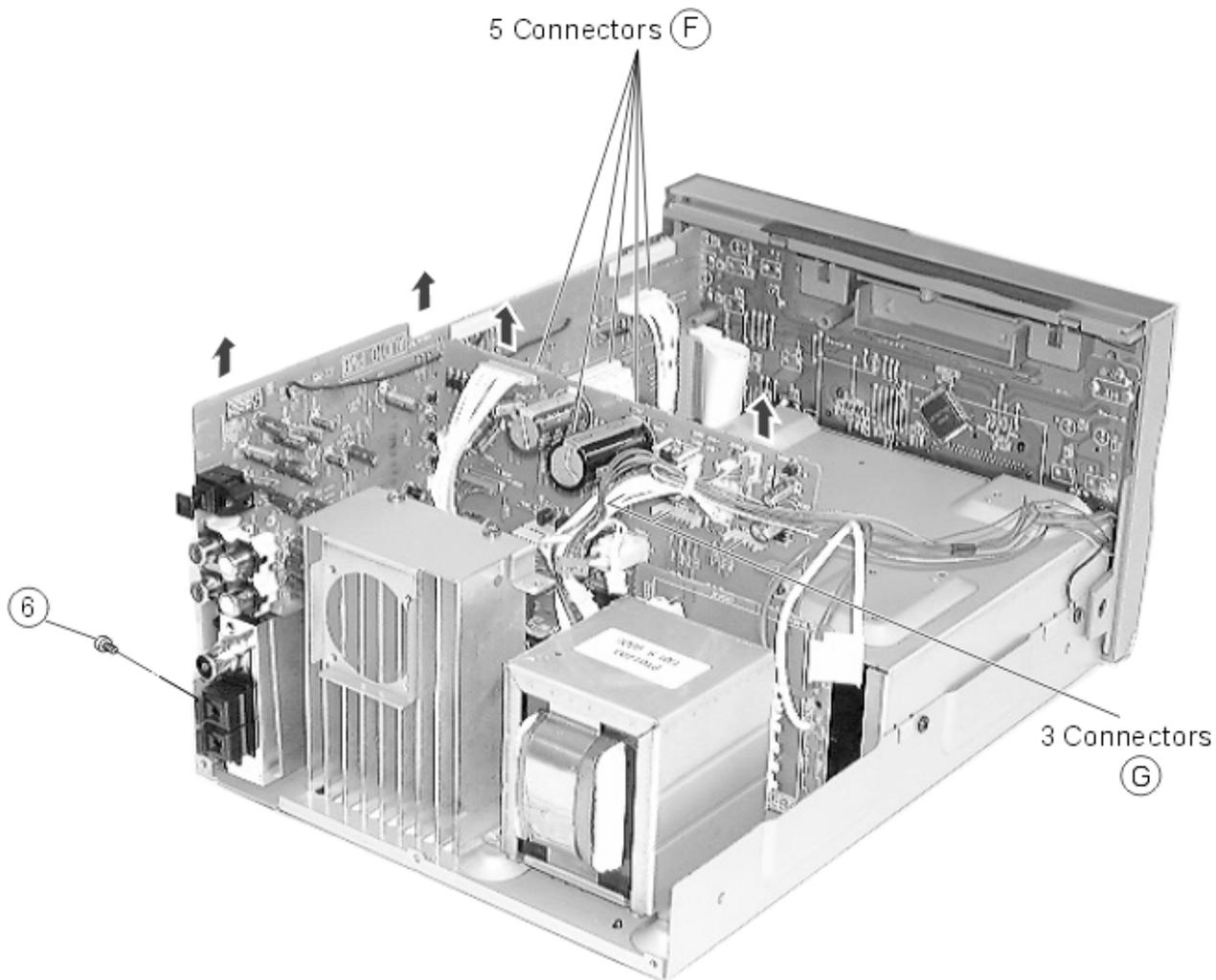
Removal of SUB T P.W.B. Board

1. Remove 3 screws ④ from the SUB T P.W.B. board.
2. Disconnect the 3 connectors ⑤ and gently pull the SUB T P.W.B. board away from the SUPPLY P.W.B. board to detach its 3 connectors ⑥.



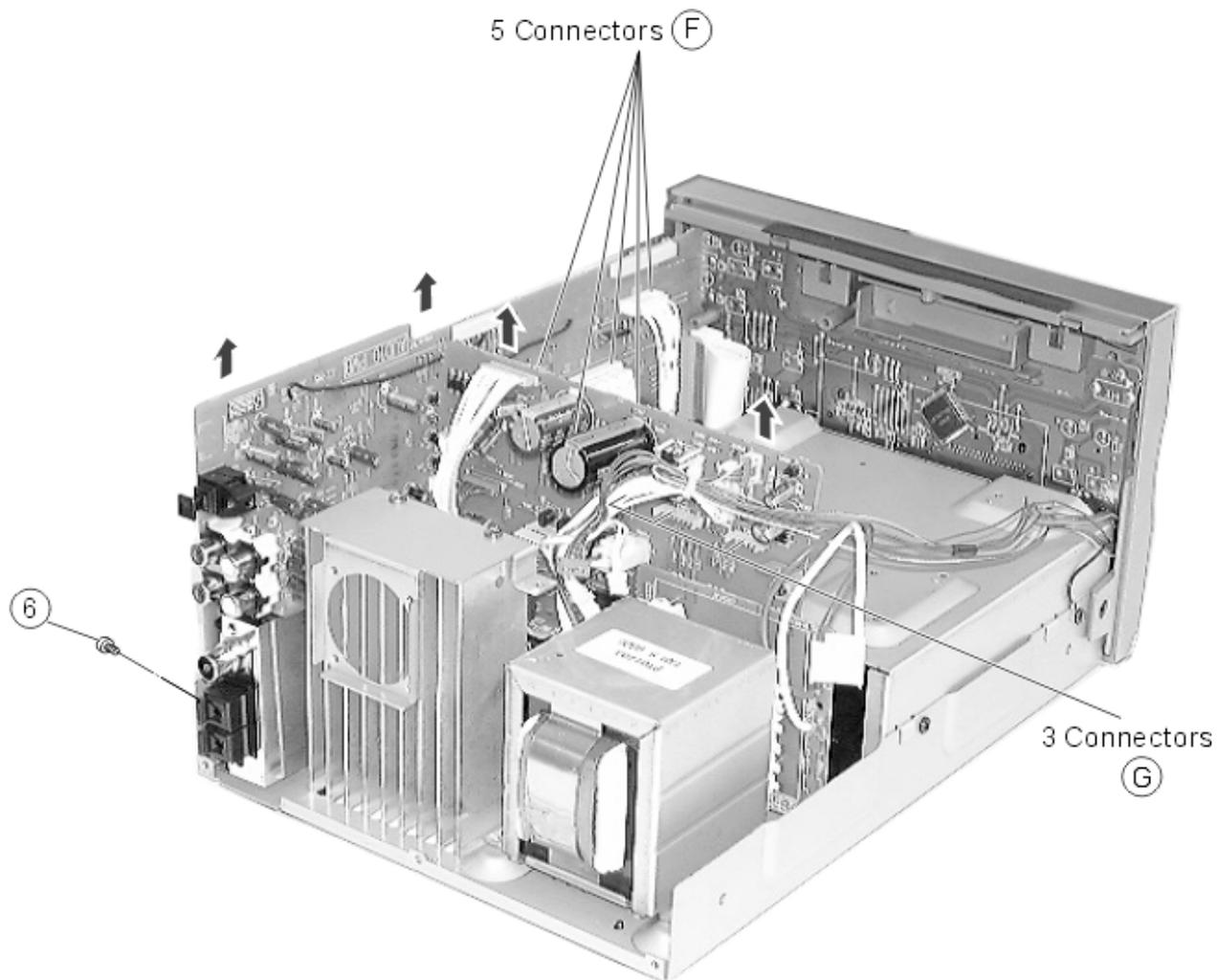
Removal of AUDIO P.W.B. Board

1. Remove 1 screw ⑥ on the side of the base plate and disconnect all the 5 connectors ⑤ from the Audio P.W.B. board. Detach each connector from the FL DISP P.W.B. and bottom of the CD mechanism
2. Gently pull the AUDIO P.W.B. board outwards.



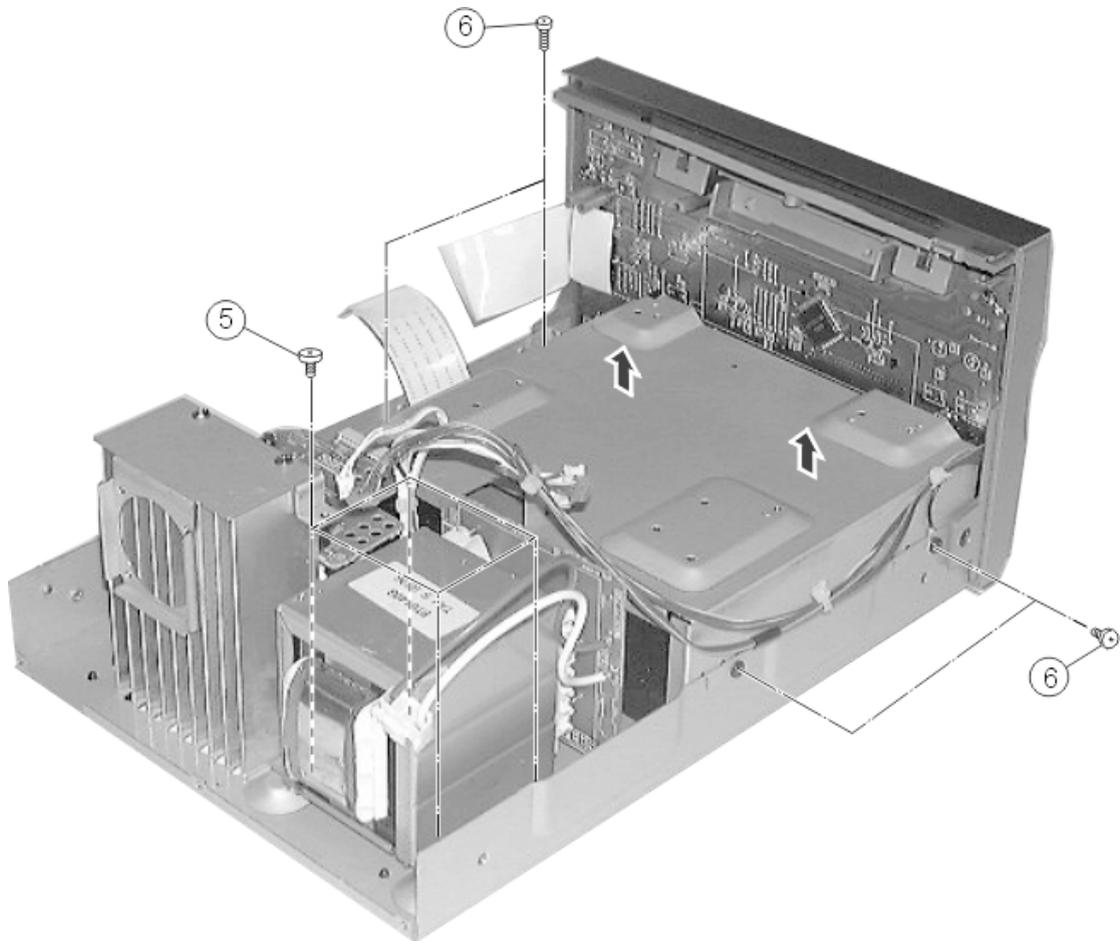
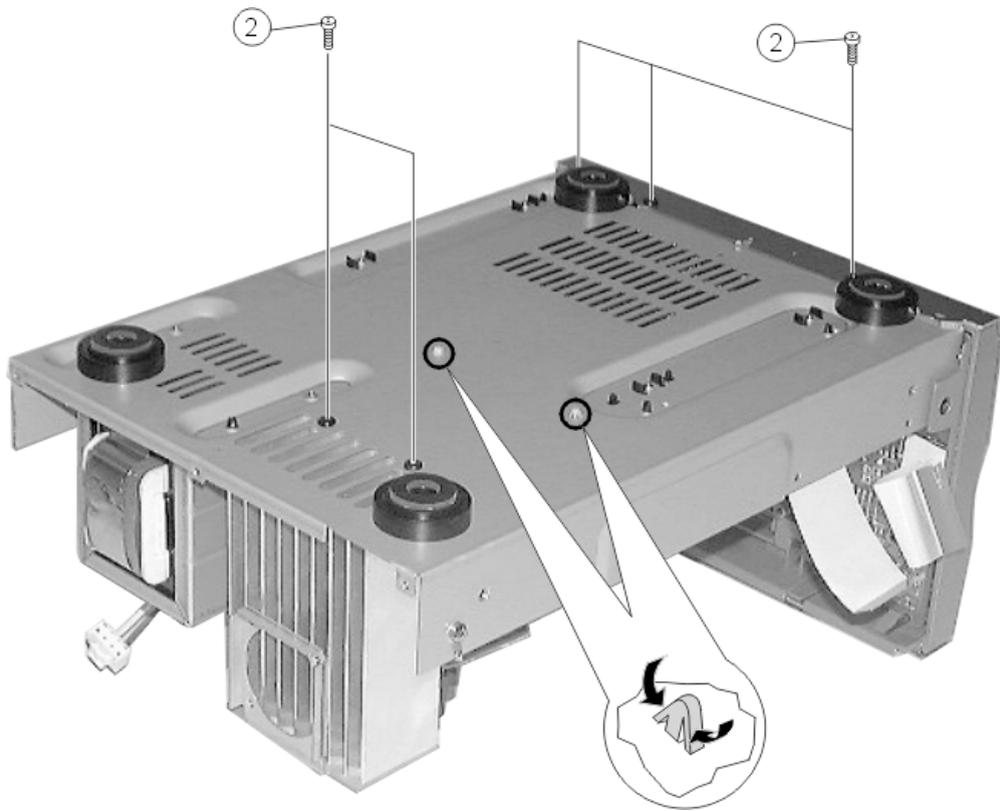
Removal of SUPPLY P.W.B. Board

1. Detach the 2 connectors from the Power P.W.B. board and 1 connector from the STAB P.W.B. board.
2. Gently pull the SUPPLY P.W.B. board upwards.



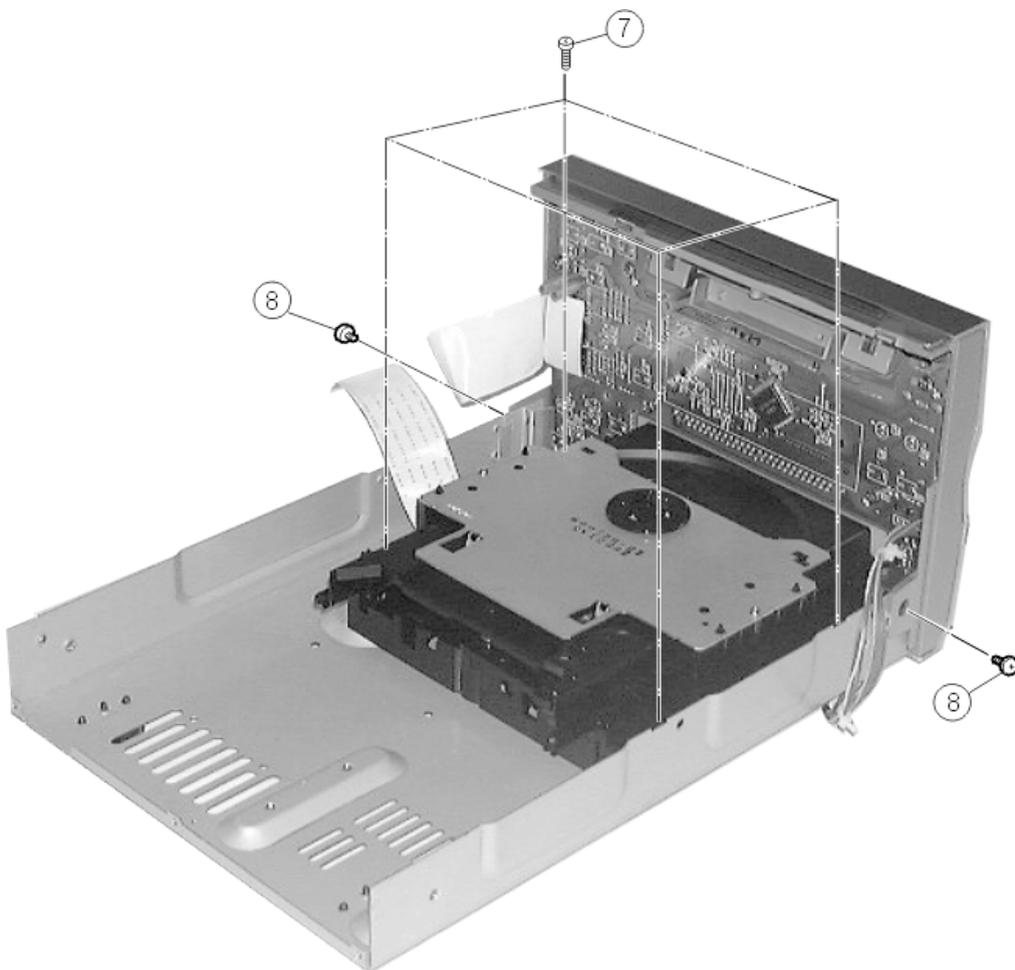
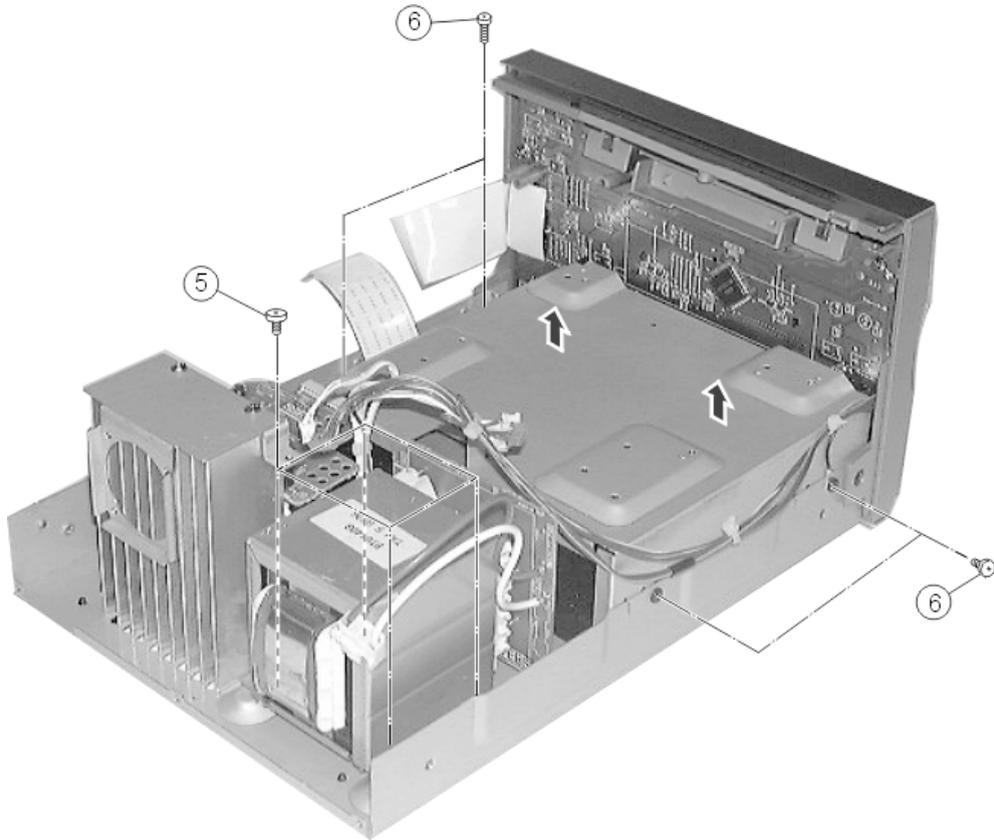
Removal of Heat Sink and Transformer

1. Invert the base plate and remove 2 screws ② connected to the heat sink. Press and push the 2 plastic catches out of the base plate.
2. Remove the 4 screws ⑤ and pull the transformer upwards together with the heat sink section.



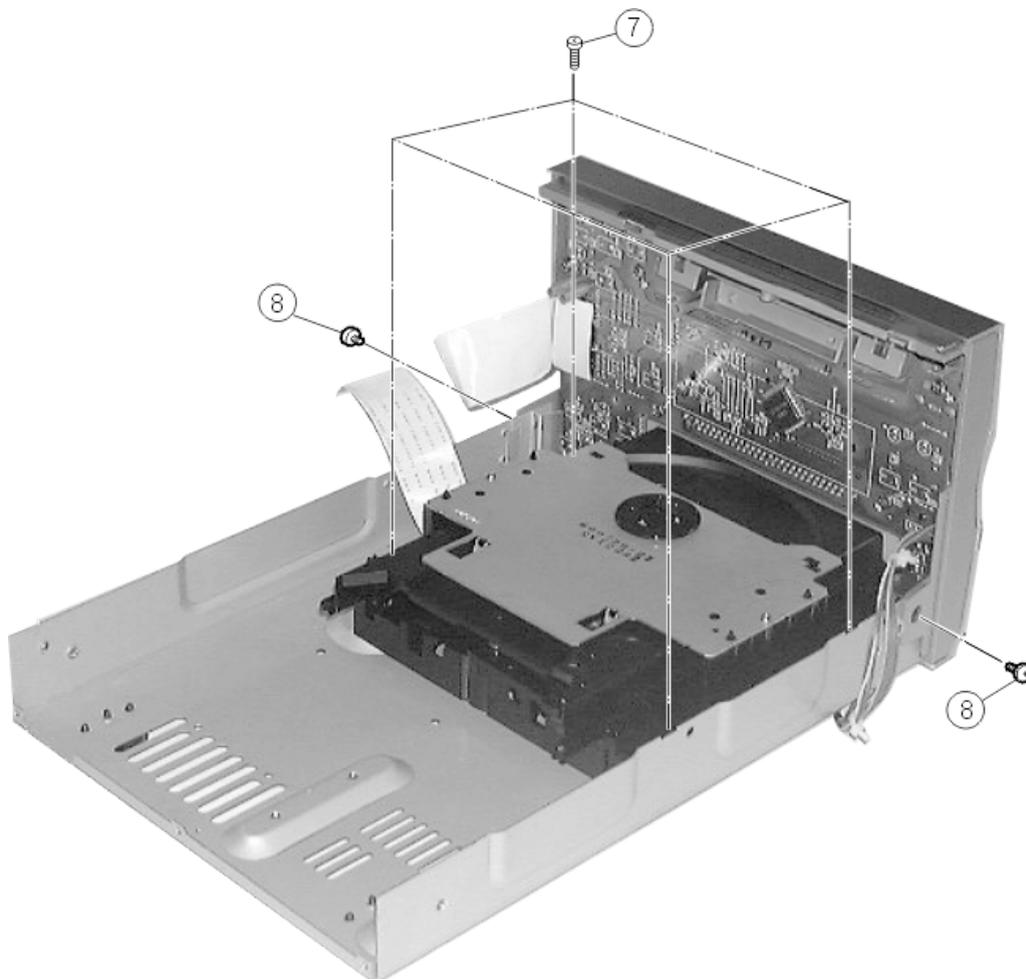
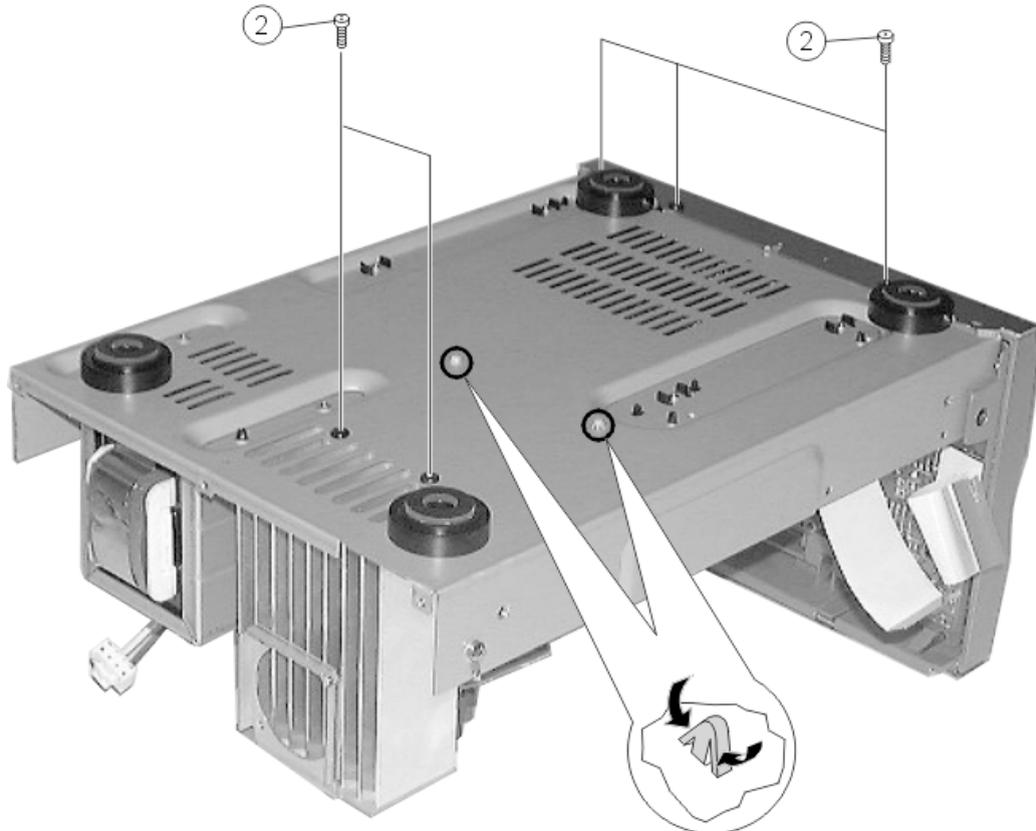
Removal of CD Mechanism

1. Remove 4 screws ⑥ and pull up the metal casing.
2. Remove 4 screws ⑦ and pull up the CD mechanism.



Removal of Front Panel

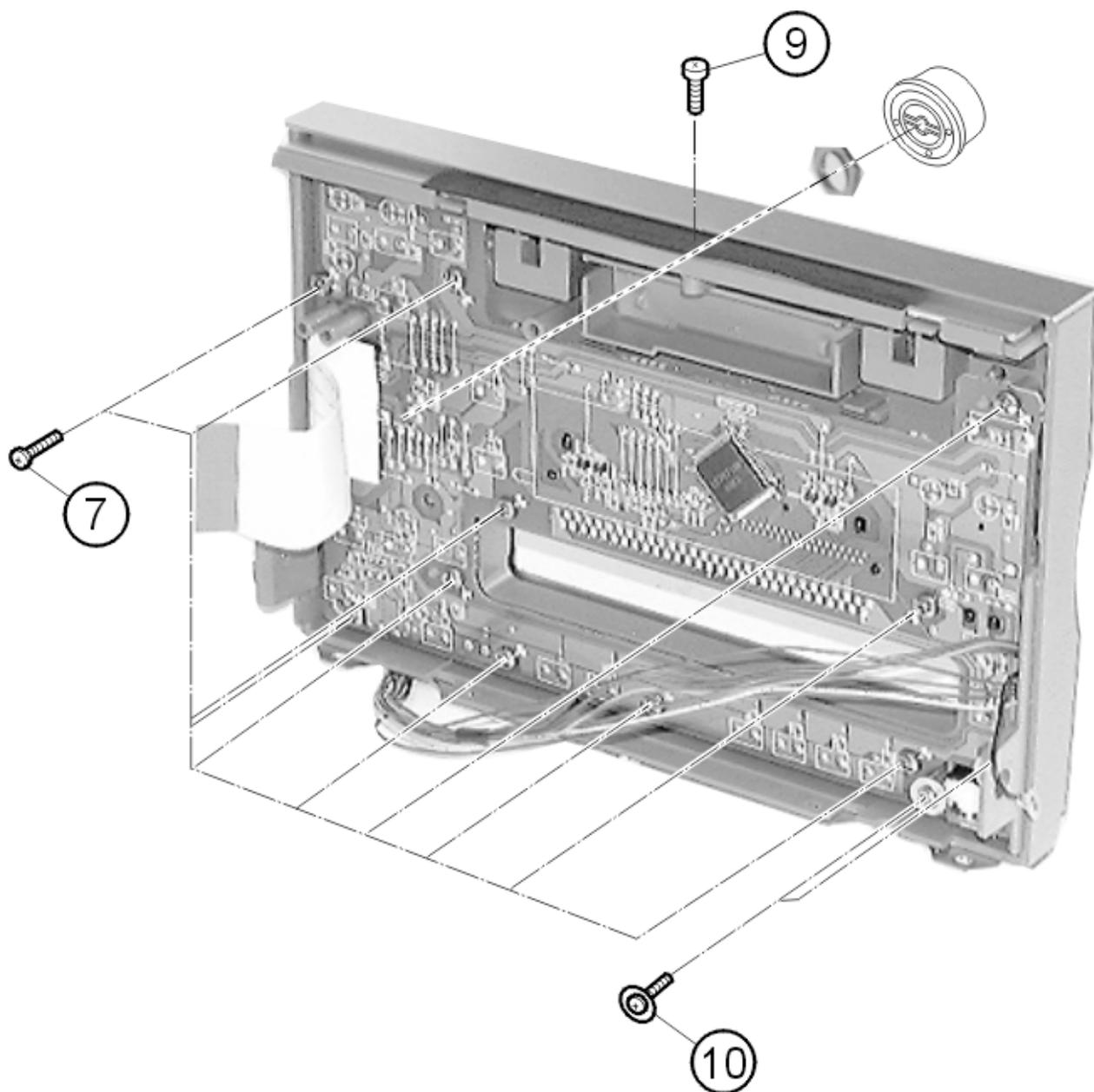
1. Remove 3 screws ② at the bottom of the base plate.
2. Remove 1 screw ⑧ on each side of the base plate, then pull the Front Panel away.



Removal of FL DISP P.W.B. Board

1. Remove 10 screws ⑦ and 2 screws ⑩.

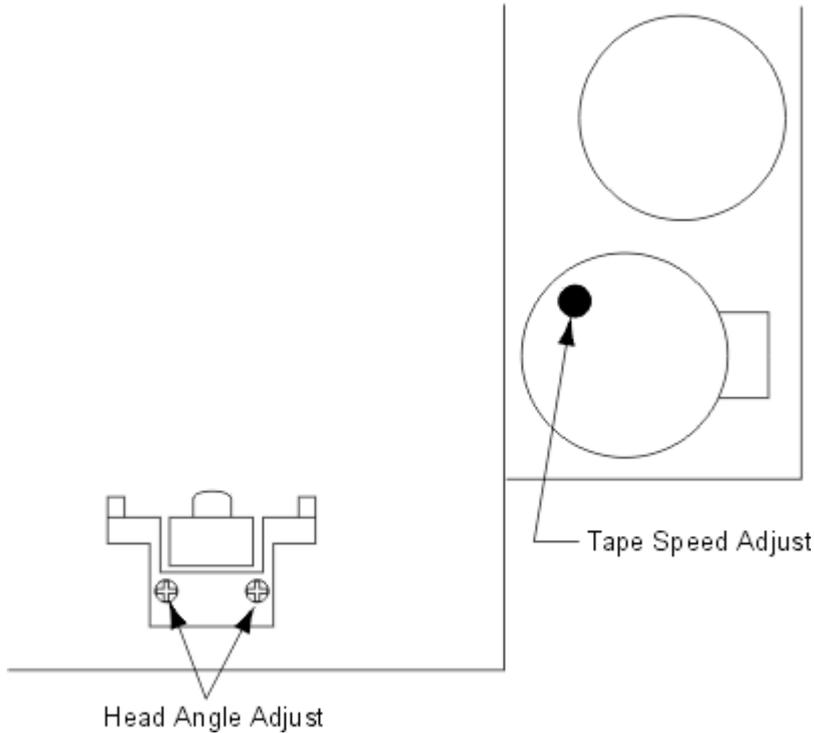
2. Gently pull the Volume knob away from the front panel, and release the nut. Detach the FL DISP P.W.B. board from the front panel cover.



Adjustments

Adjustment points

Caution: Clean head before start adjustment



Tape speed adjustment **Dolby**

Input	Adjustment value	Adjustment position
Tape Speed adjustment tape (MTT-111)	'3000 ± 10Hz	Hole on capstan motor

Note: Perform the speed adjustment in this order.

Perform the adjustment in the FWD mode as reference and confirm the speed in REV is within ±1.5% (2955 ~ 3045) with respect to FWD.

Adjustment Procedure

Connect the frequency counter to LINE OUT (play out).

Press the play key and apply heating for 20 minutes or more and apply cooling down less than 30 seconds.

Play the adjustment tape and adjust the tape speed at the center of the tape.

Play & Rec/Play head angle adjustment **Dolby**

Input	Adjustment value	Adjustment position
Angle correction tape (MTT-114N)	Max output	Head angle adjustment screw

Adjustment Procedure

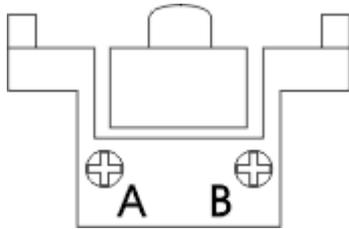
Connect the electronic voltmeter to LINE OUT (play out) and play the angle correction tape in FWD and REV mode and adjust.

Adjust screw B in FWD mode, and adjust screw A in REV mode.

If the maximum value of both channels are different and the difference is more than 2dB match the value of R channel to L channel by re-adjustment.

Adjust the phase in both channels so that the phase is within ±45° in both channels.

Note: Be sure to stop after turning the screw in tightening direction. (Backlash may occur with the screw)



Playback output adjustment Dolby

Input	Output	Adjustment value
Dolby standard tape (MTT-150)	'240mV ± 0.5dB	'RT701L:Lch 'RT701R:Rch

Adjustment Procedure

Connect the electronic voltmeter to LINE OUT JACK, and play the Dolby standard tape (MTT-150)

Adjust RT701L and RT701R so that the reading of the voltmeter is the above value. (Adjust only in FWD mode)

Take FWD mode reading as 0dB. Check REV mode, reading of voltmeter should be - 0.5dB ~ +1.5dB from FWD mode reading.

Recording level adjustment Dolby

Input	Output	Mode	Adjustment position
LINE IN JACK	LINE OUT JACK	REC PLAY	'RT702L:(Lch) 'RT702R:(Rch)

Adjustment Procedure

Input 400Hz signal to LINE IN JACK, adjust input level to 230mV-10dB.

Adjust RT702L and RT702R so that the output level at Line Out Jack is within 240mV -10dB±0.5dB when this signal is recorded and played back with Type 1 tape (UD-1).

Bias current procedure Dolby

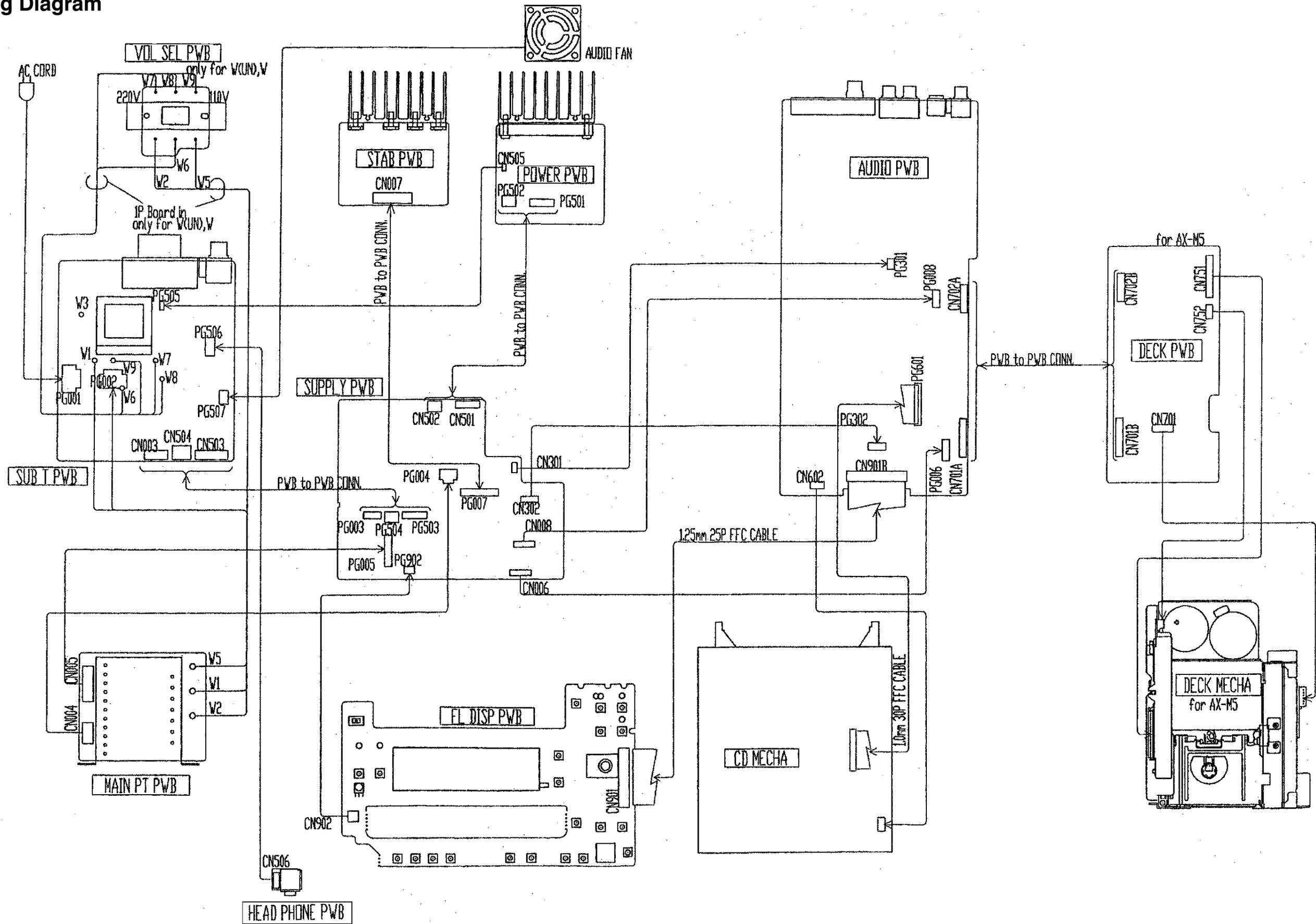
Input	Output	Mode	Adjustment position
`JK1 (Rec in)	JK1 (Play out)	REC PLAY	'RT703L:(Lch) 'RT703R:(Rch)

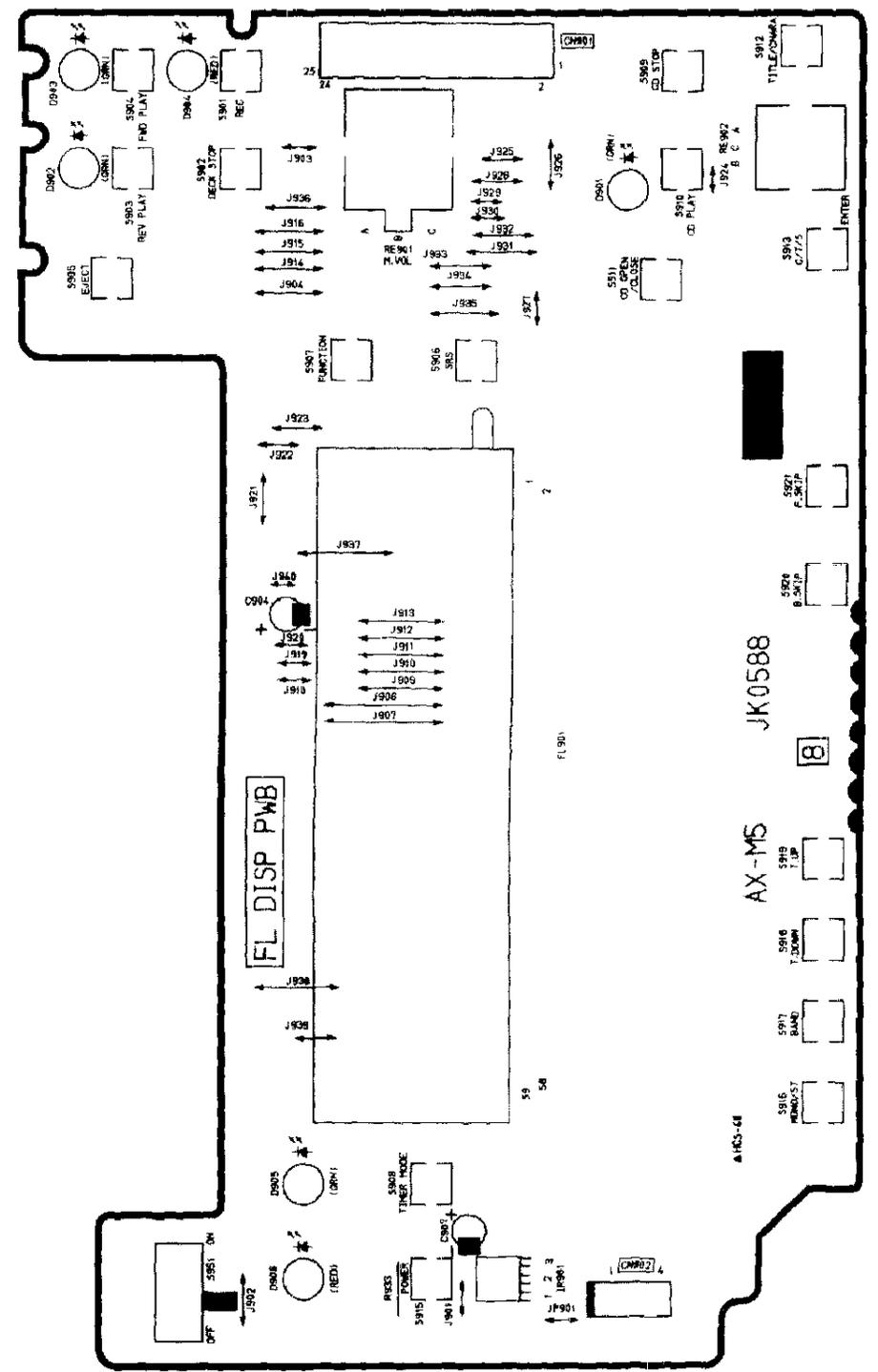
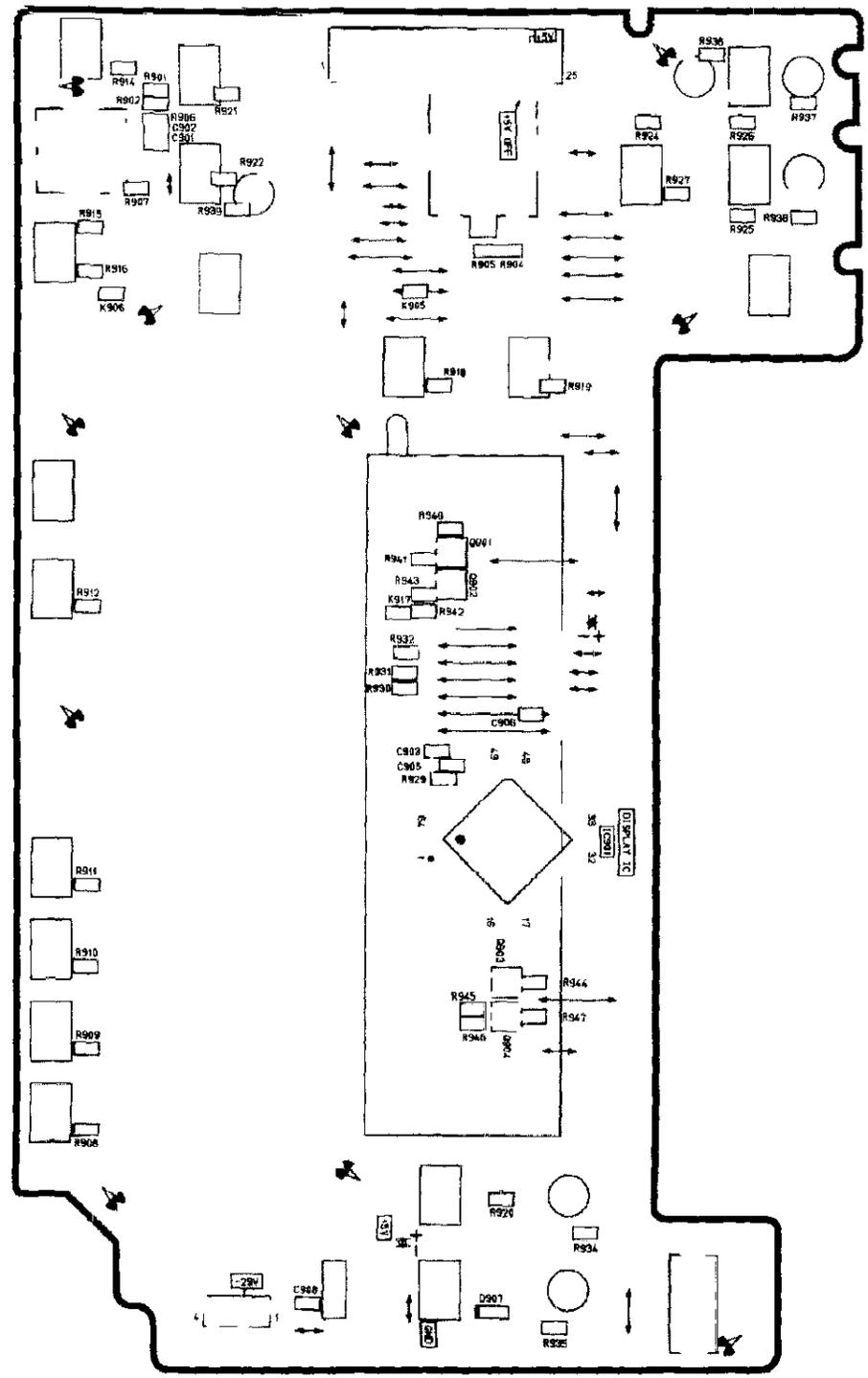
Adjustment Procedure

Input 1.25kHz/12.5kHz signal to LINE IN JACK, adjust input level to 230mV-23dB.

Adjust RT703L and RT703R so that the difference of play out level of 12.5kHz from that of 1.25kHz is within +2dB ~ -0.5dB when these signals are recorded and played back with Type 1 (UD-1). (Tape-- Black Colour)

Wiring Diagram

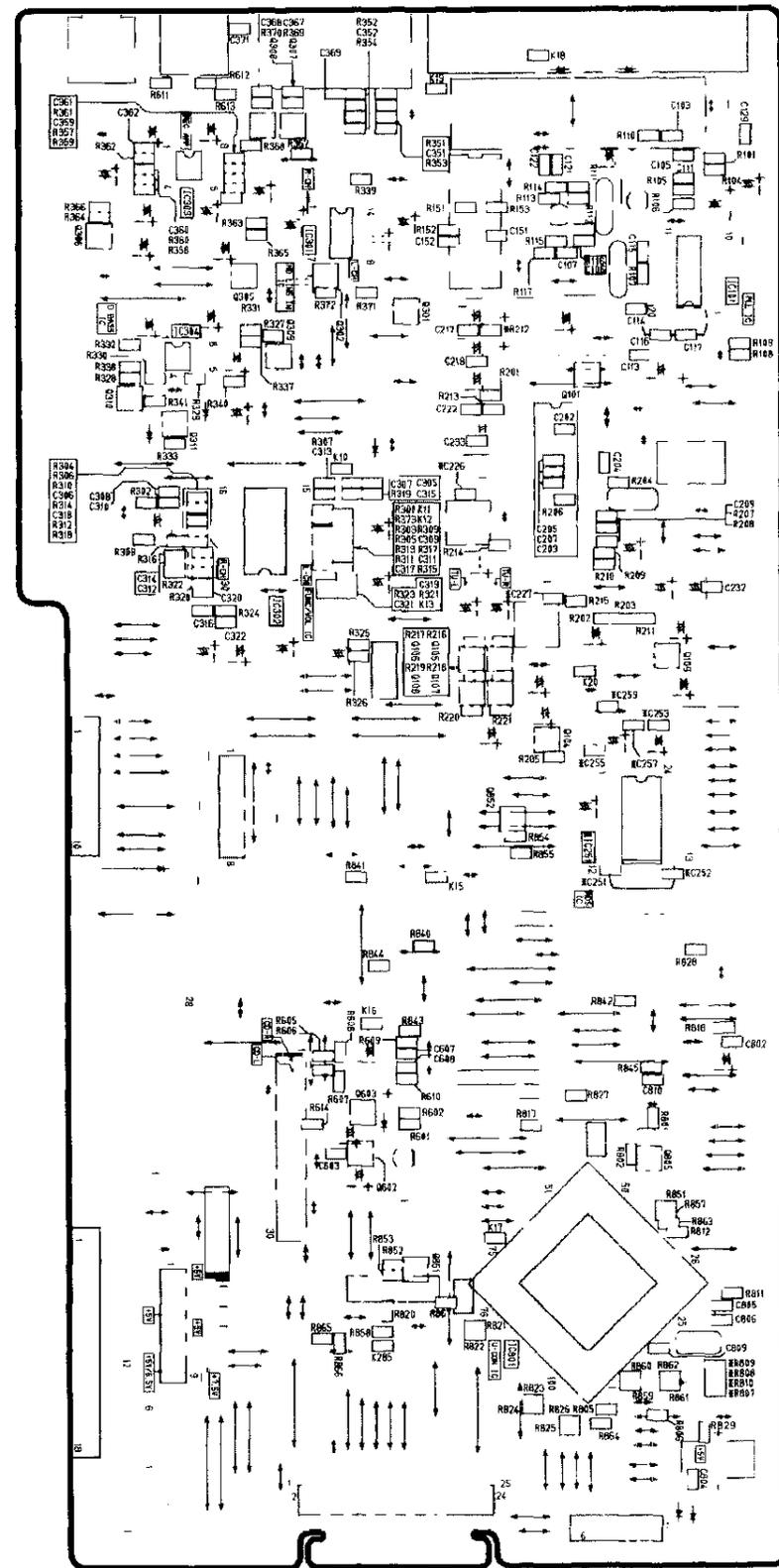
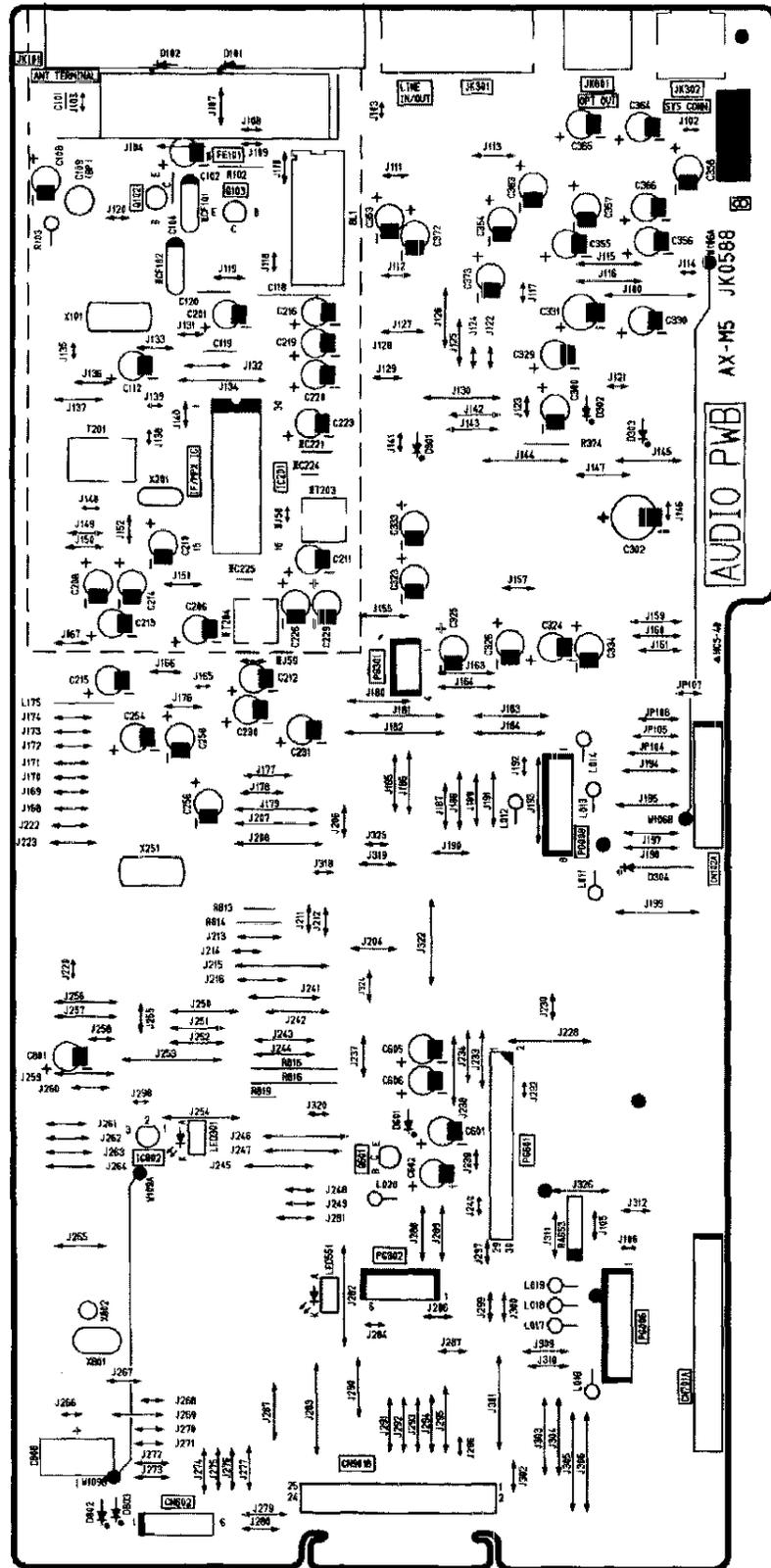




No 0095E

FL DISP PWB

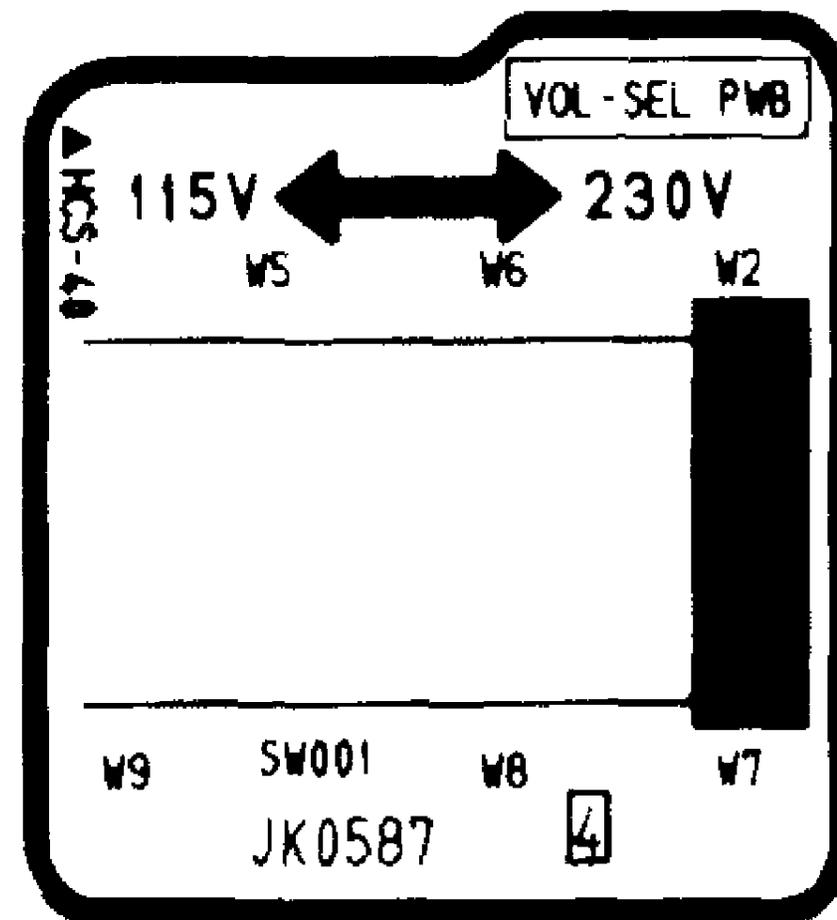
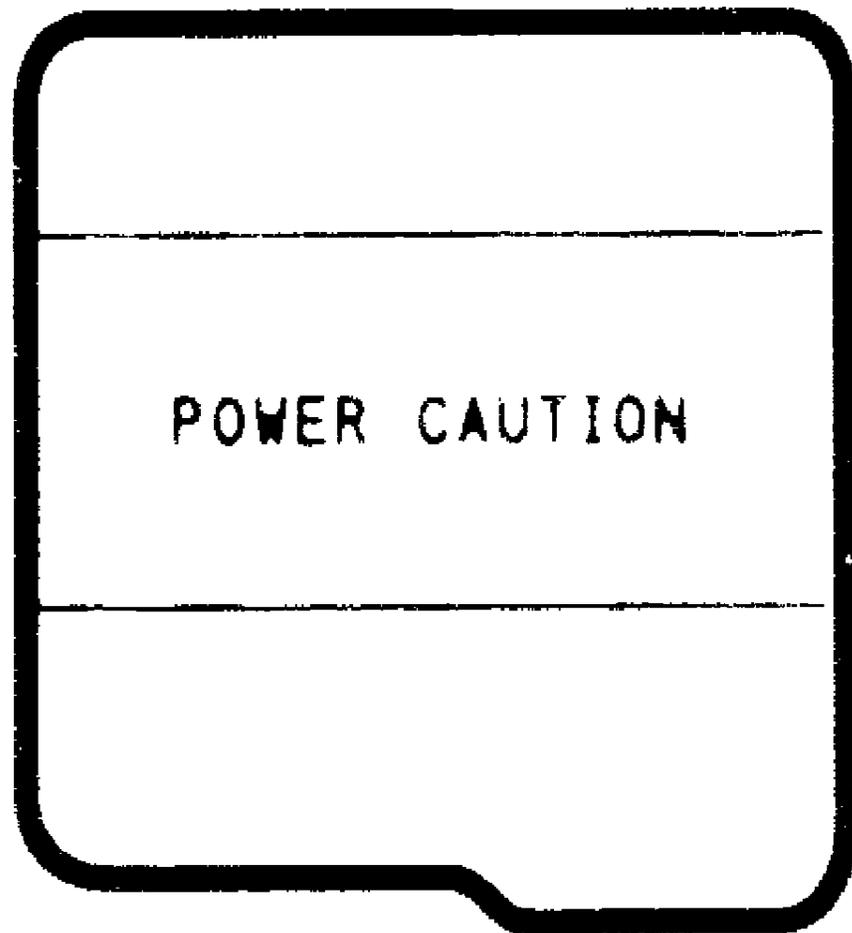
HITACHI

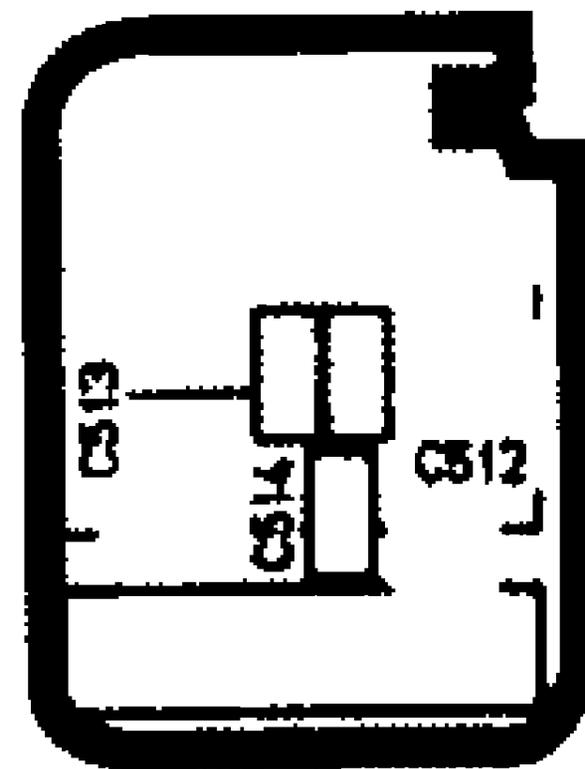
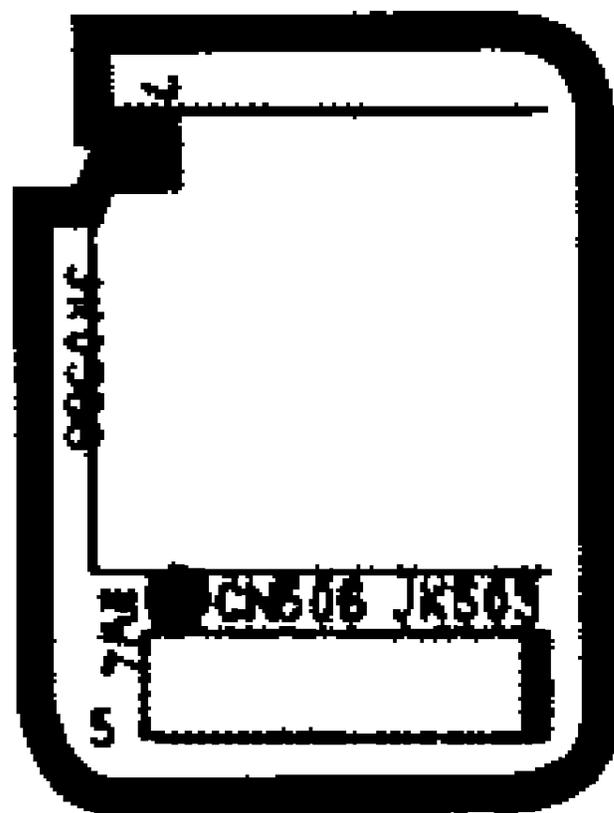


No 0095E

AUDIO PWB

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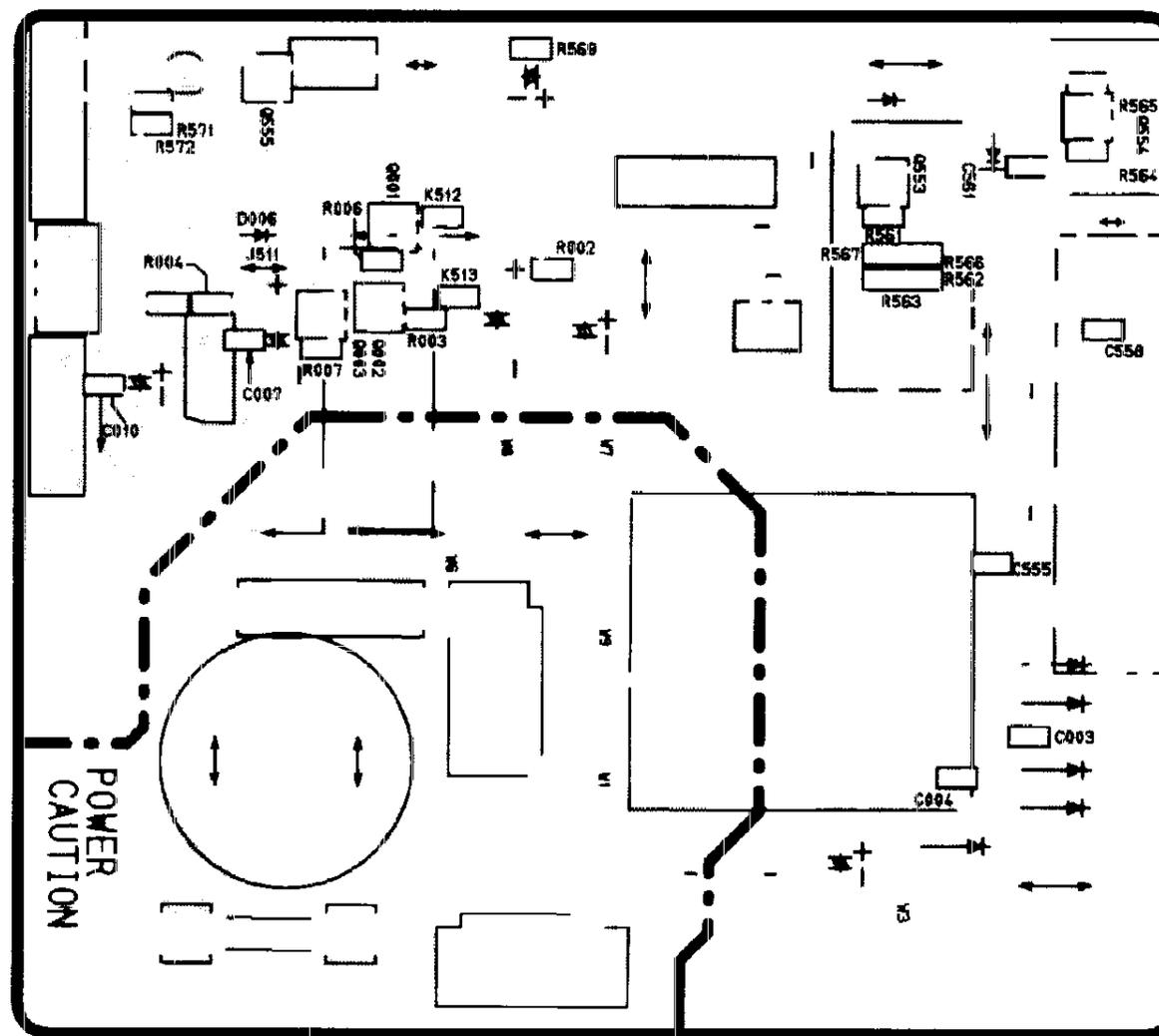
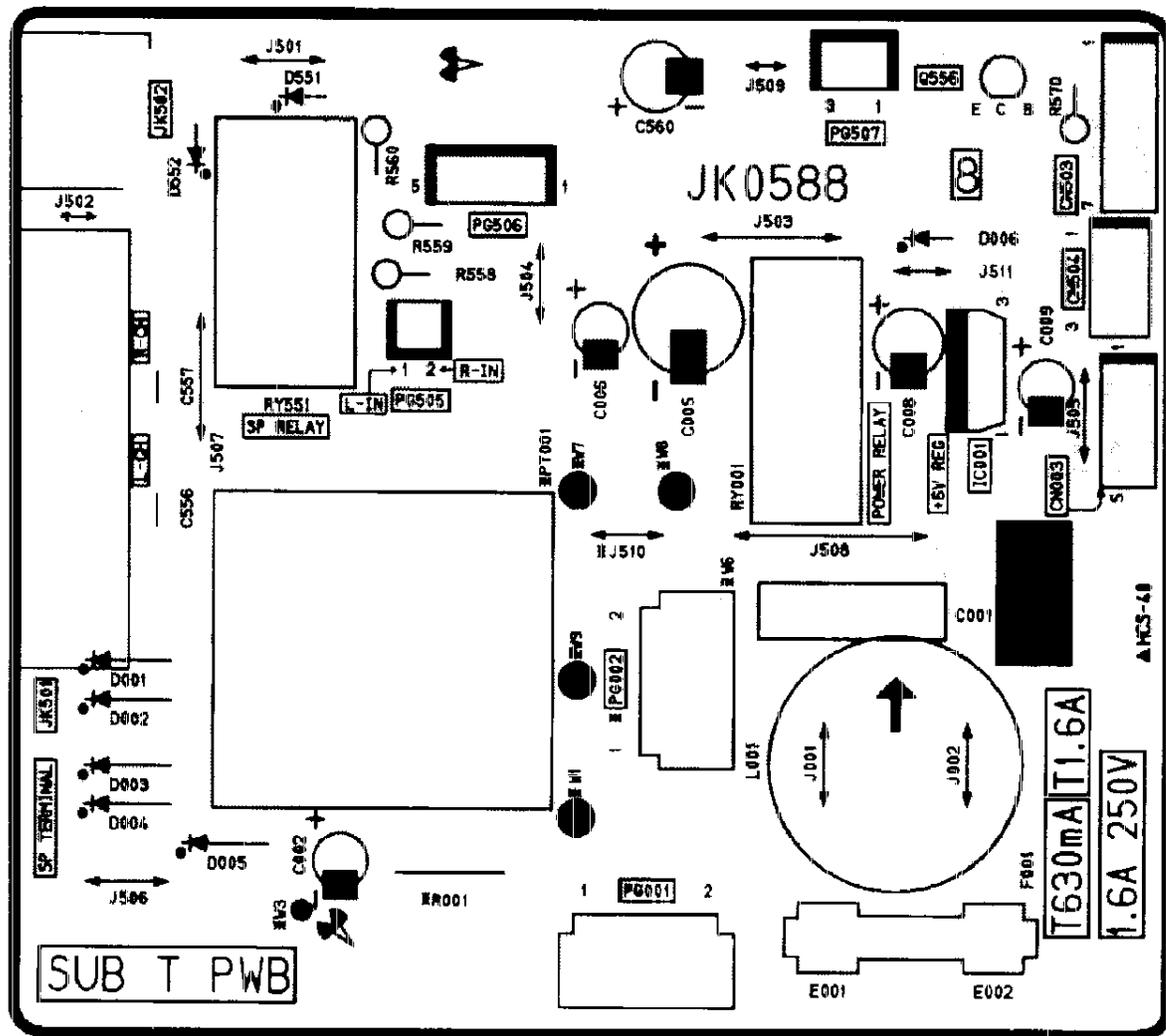




No 0095E

CN506 JK503

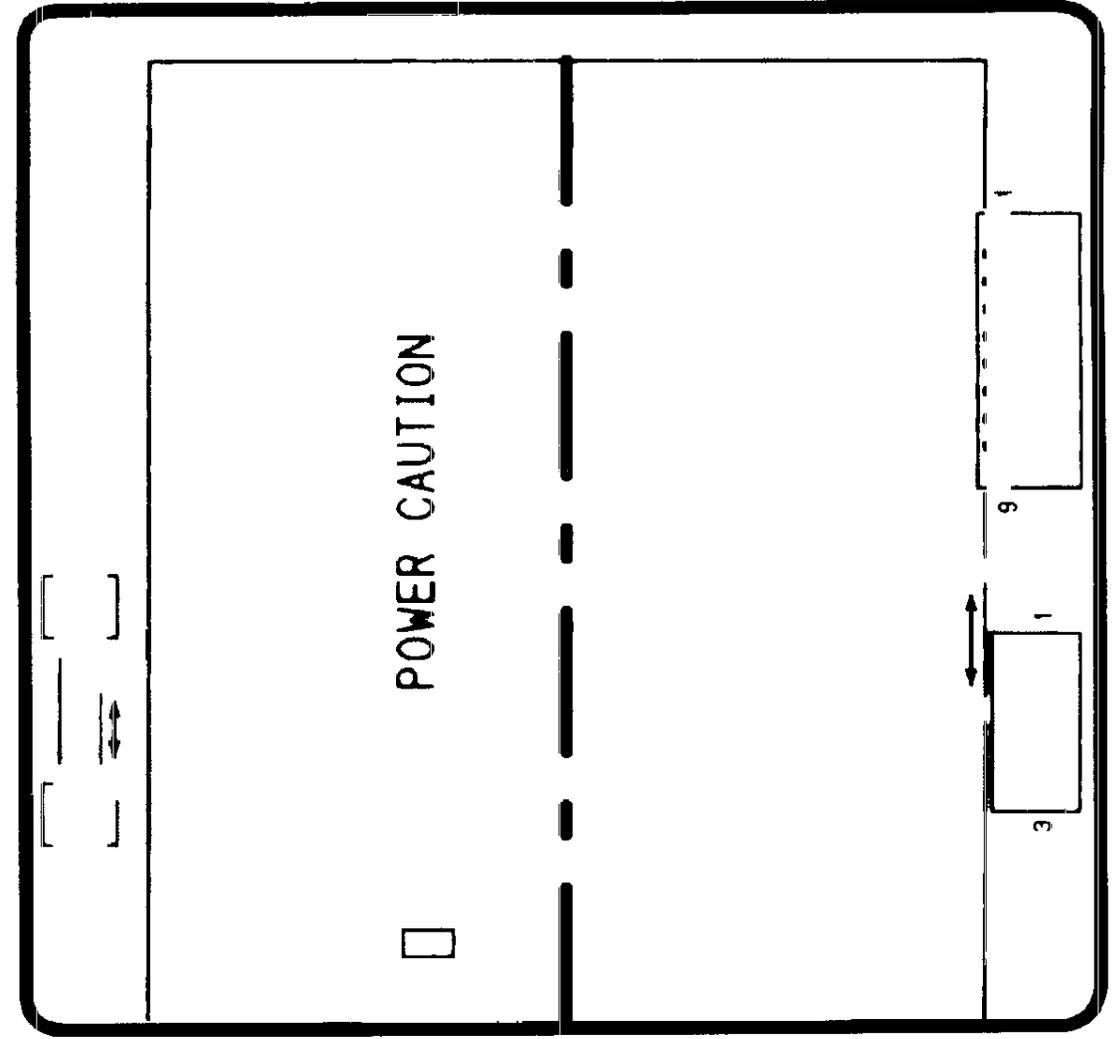
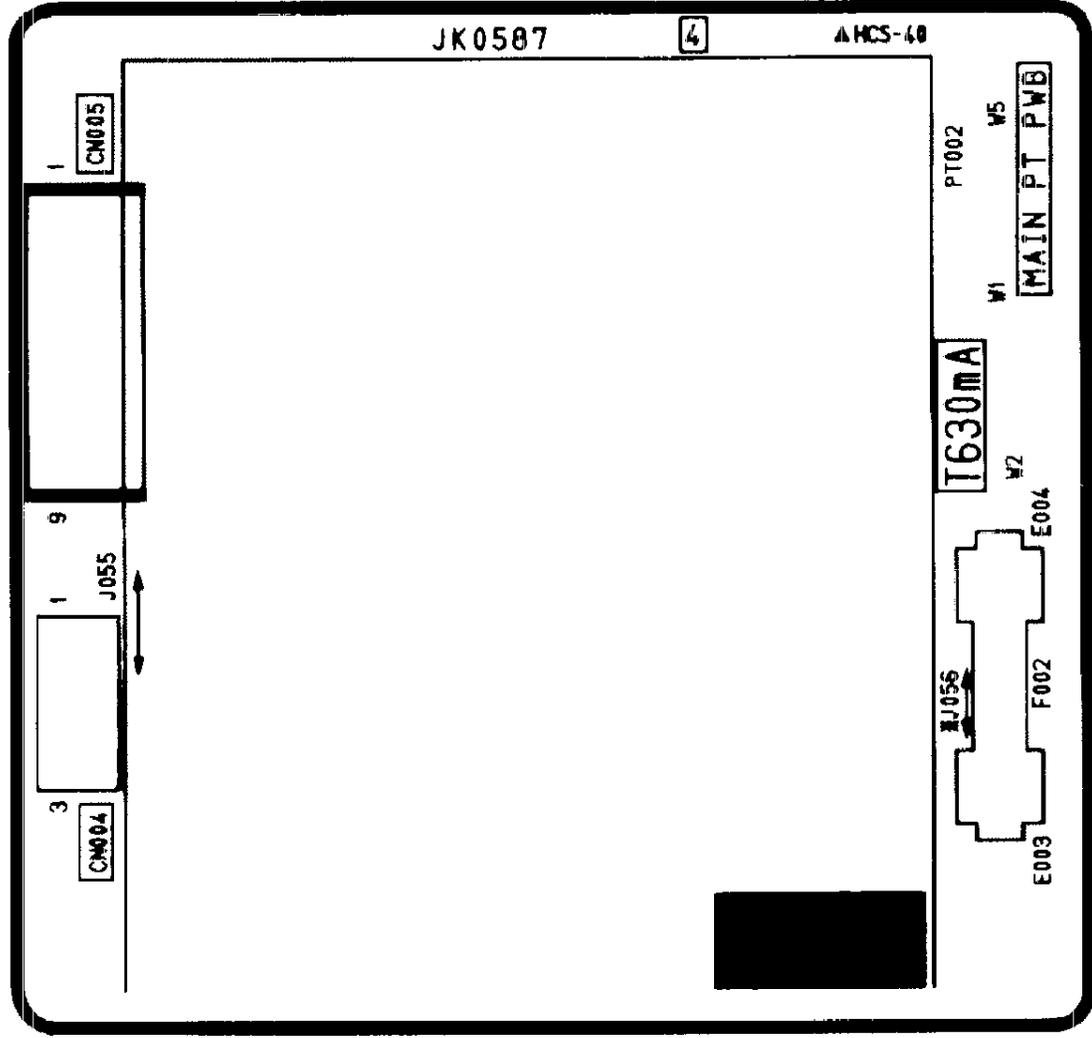
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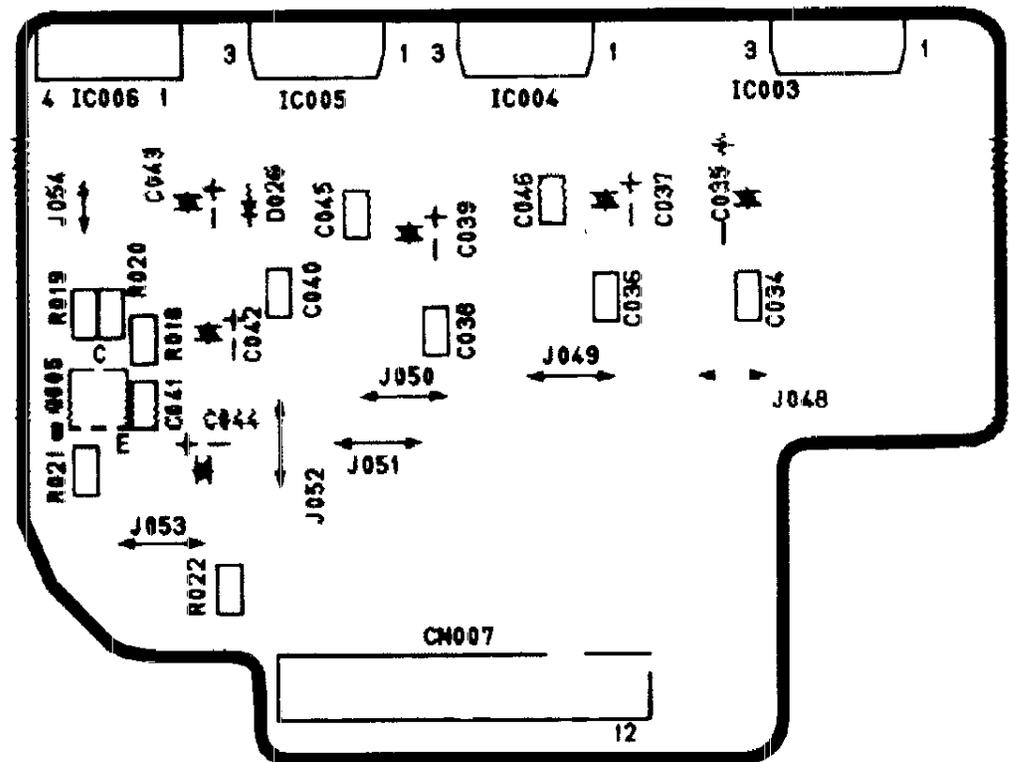
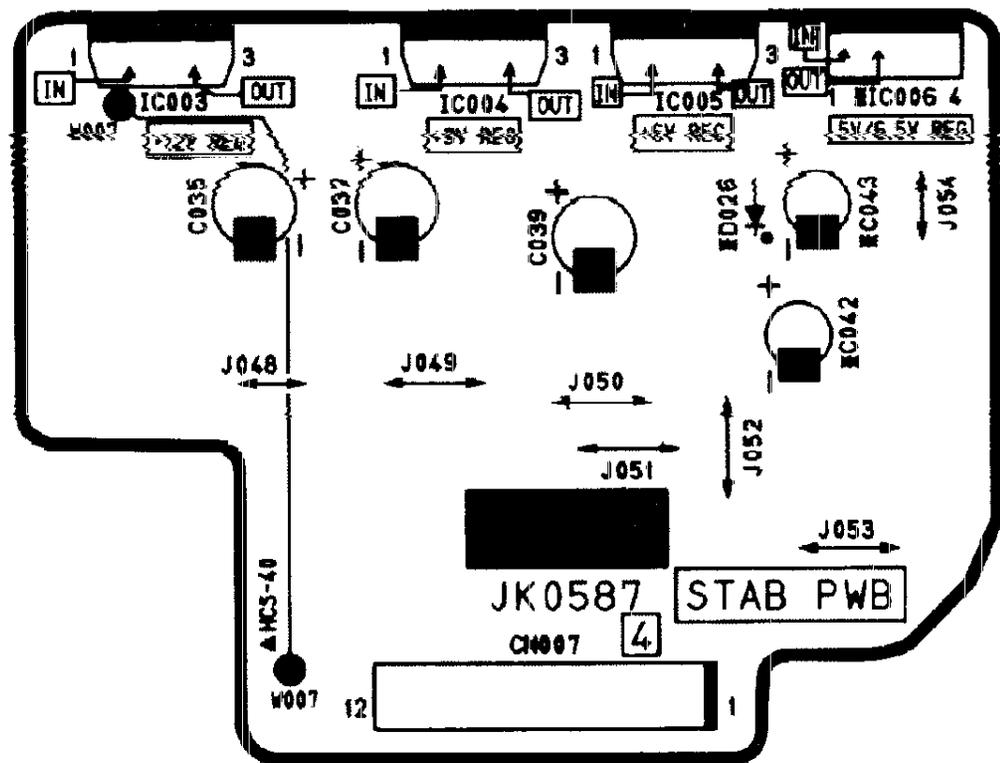


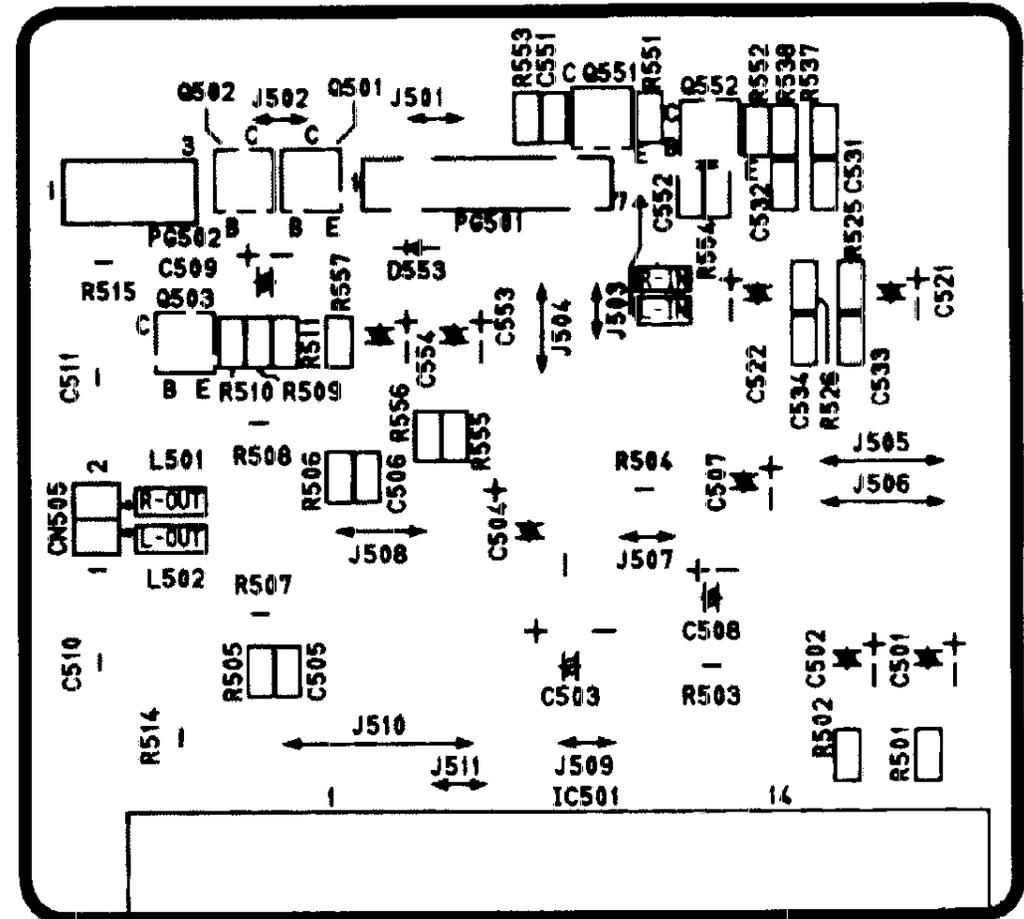
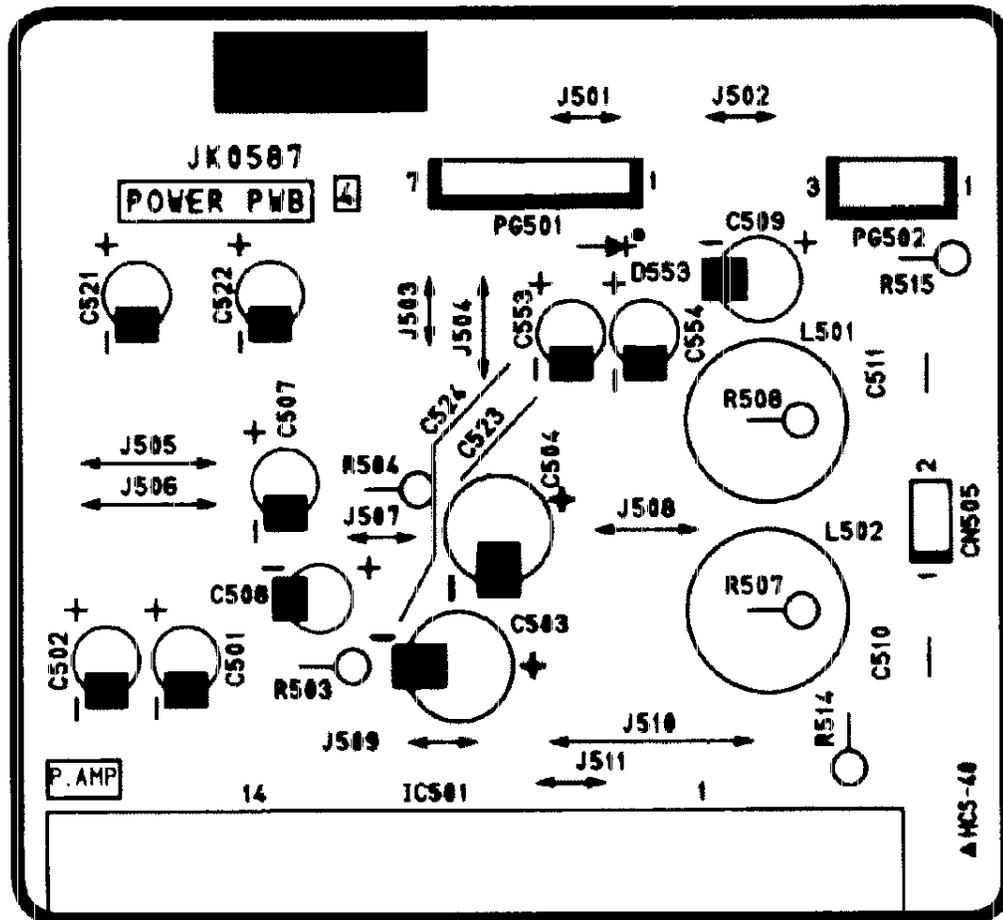
No 0095E

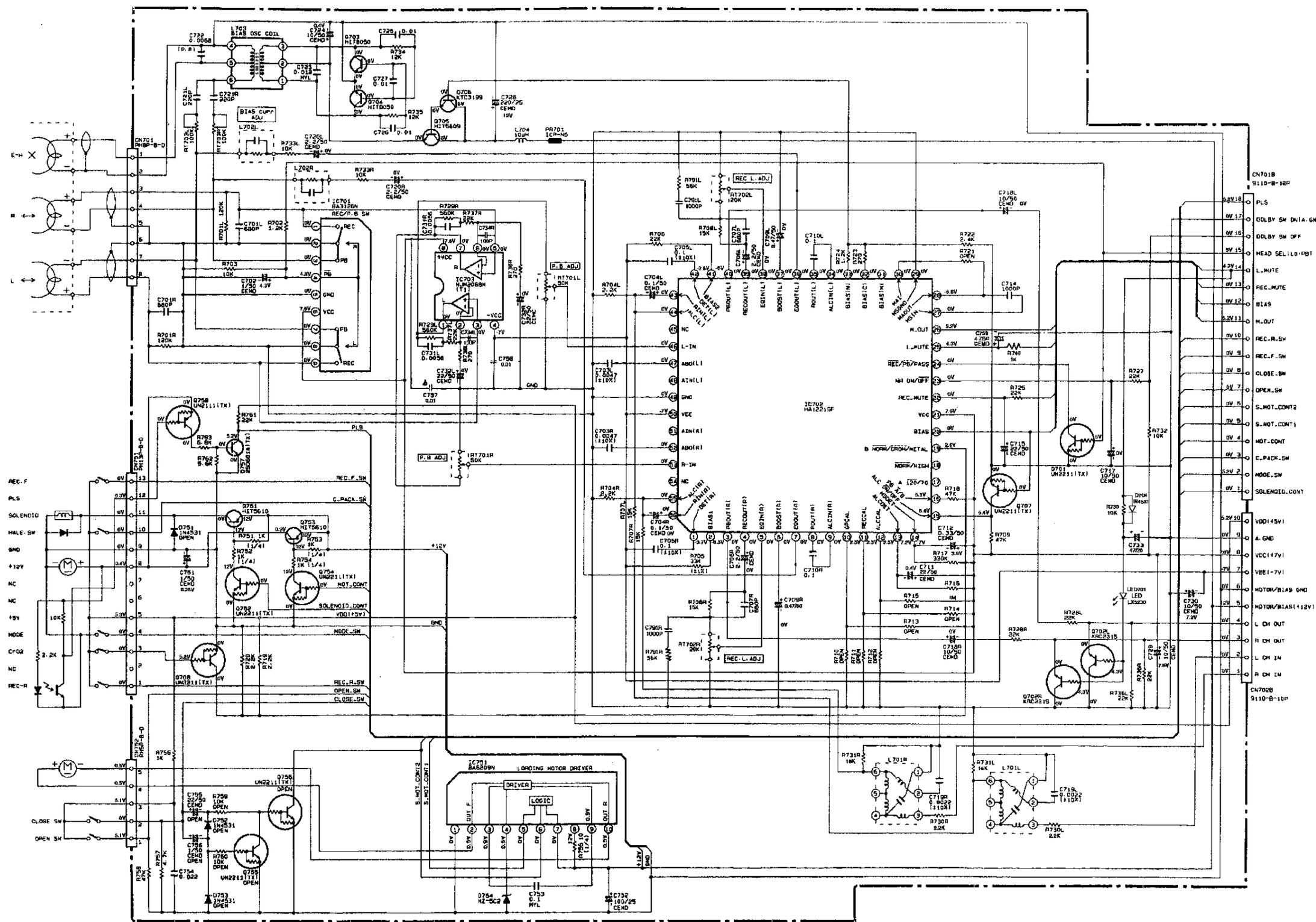
SUB T PWB

HITACHI





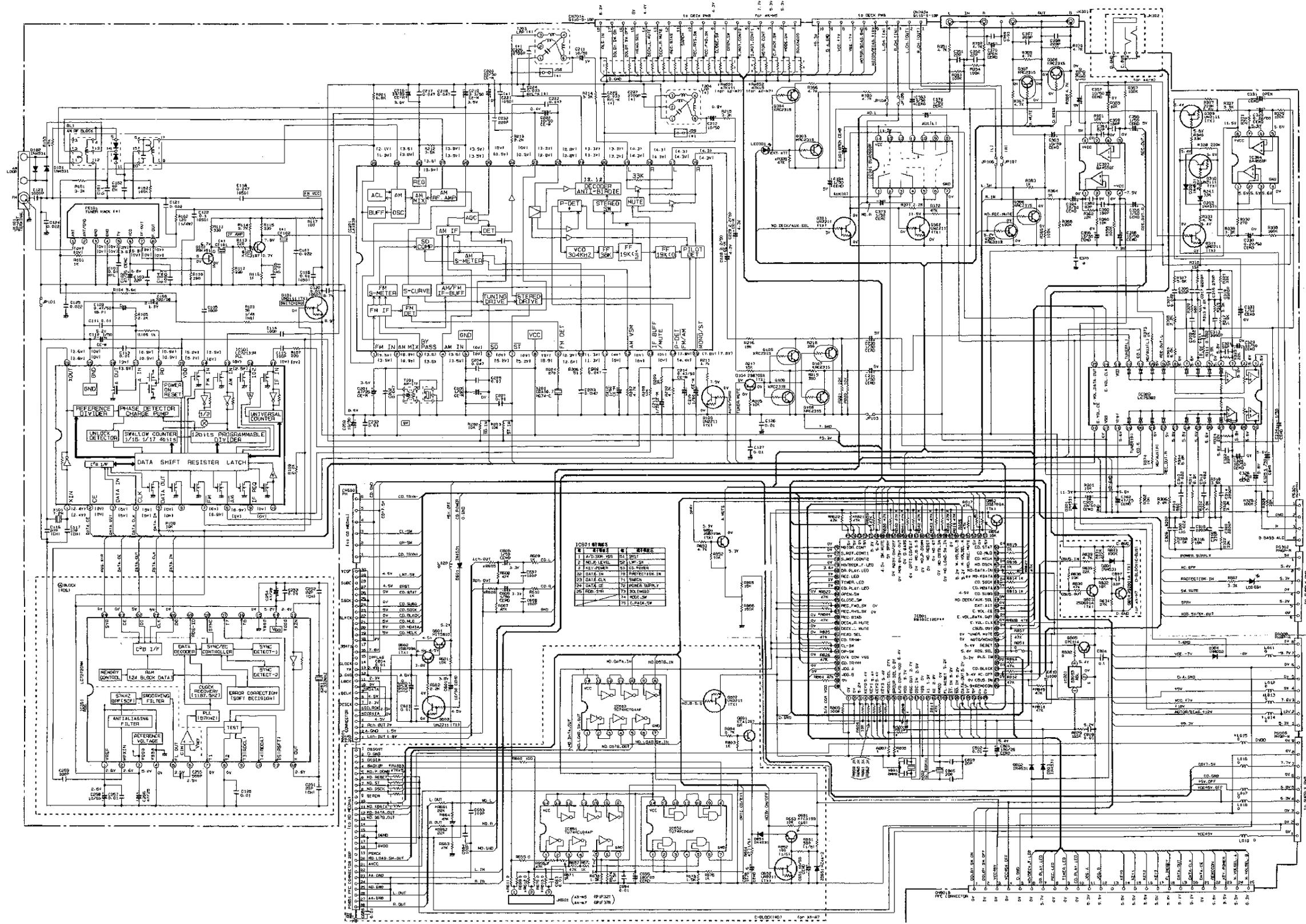




No 0095E

DECK CIRCUIT

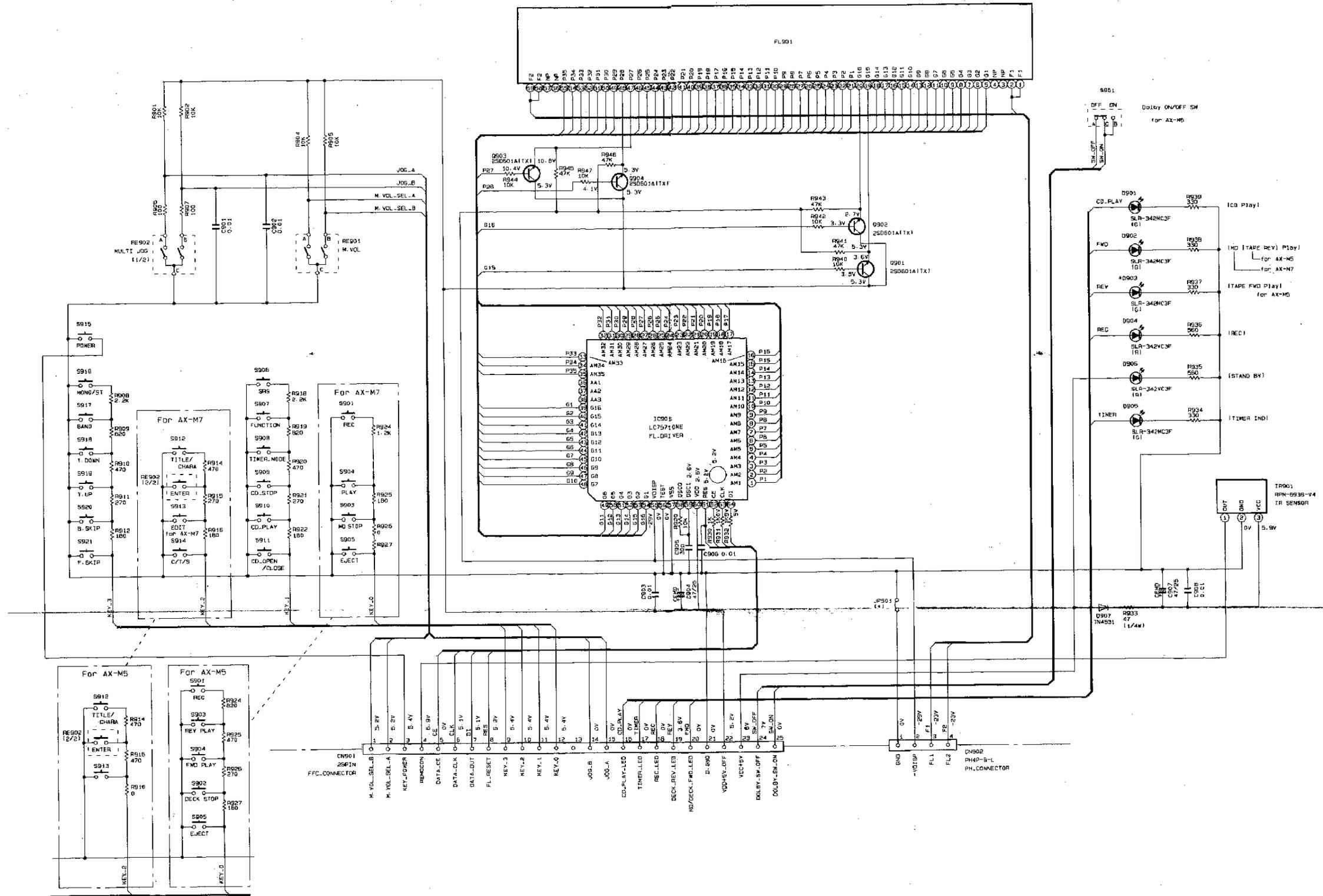
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No 0095E

AUDIO/TUNER CIRCUIT

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No 0095E

FL DISP. BLOCK CIRCUIT

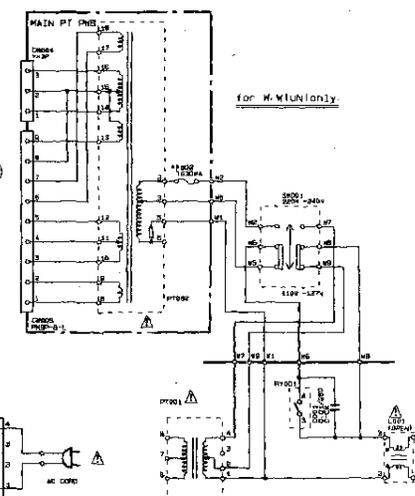
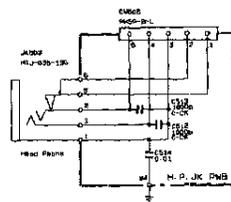
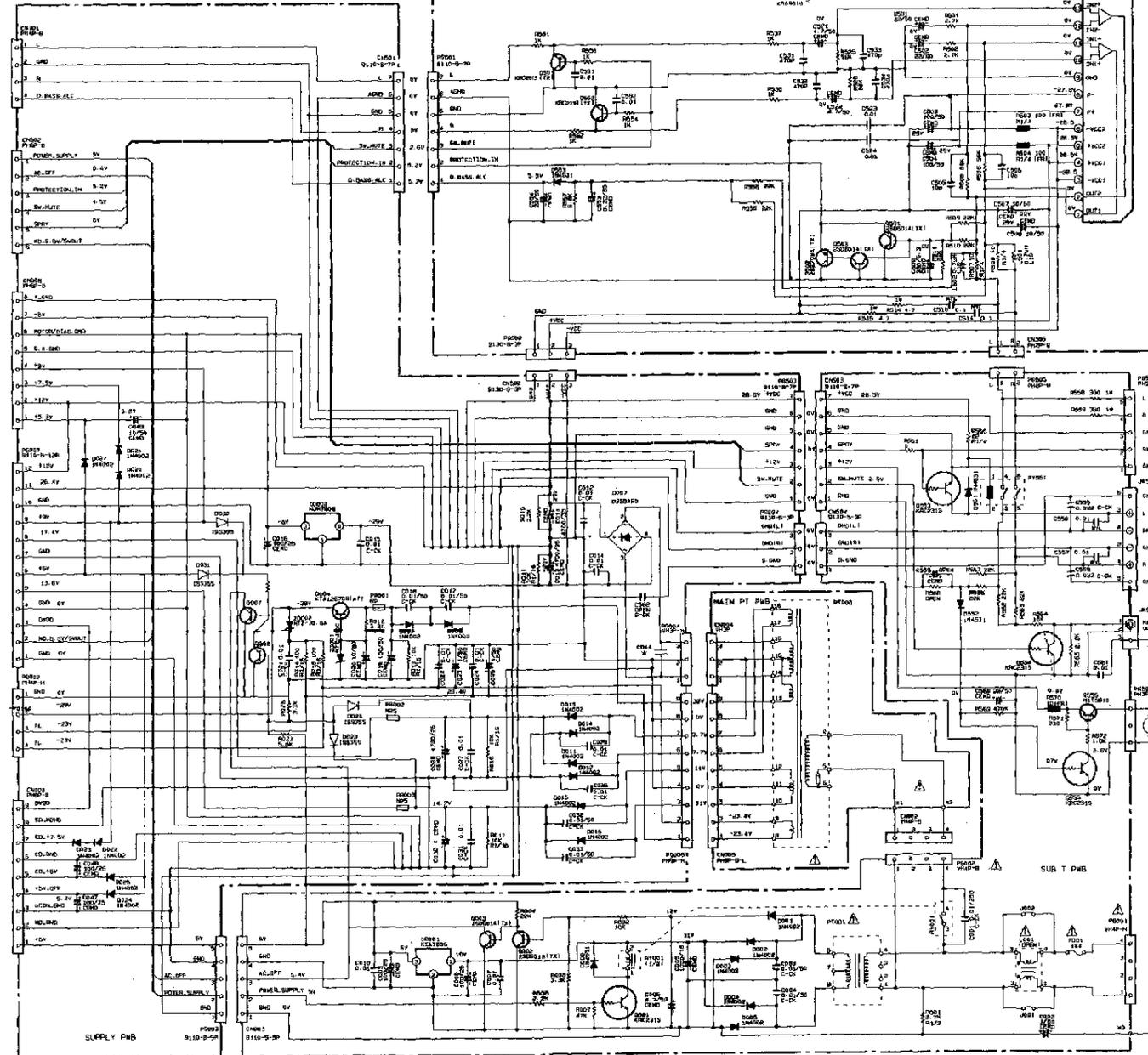
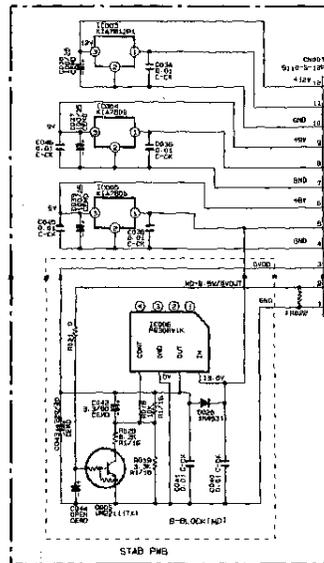
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MAIN PWB ASSY UNIT TABLE OF DIFFERENCE

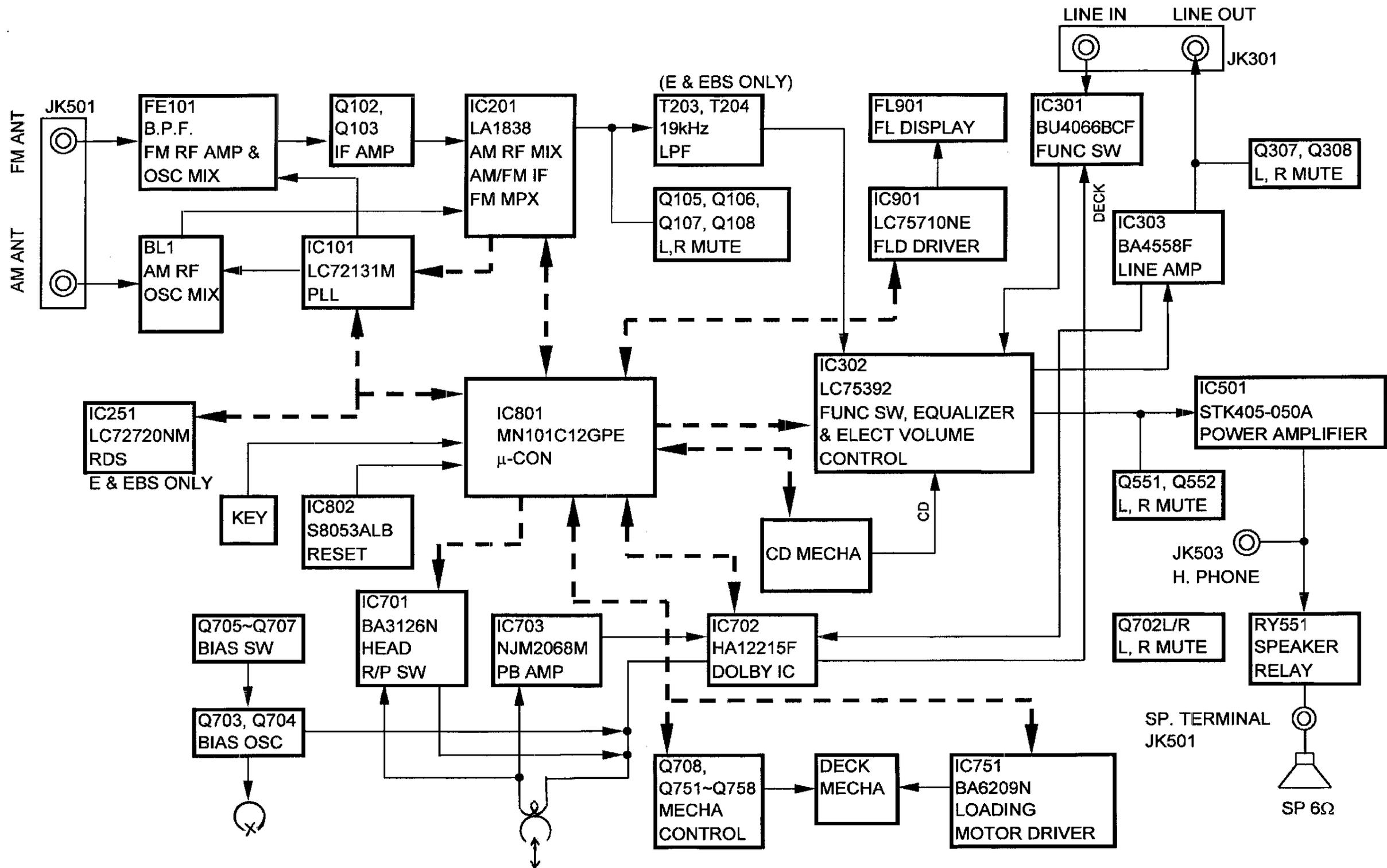
(1) 8K-MS/MP COMMON												
	DT121	CF102	FE101	TR04	J04/20	R20N	C20N	C20S	W-BLOCK	R009	R008	R001
UC	8FE10-7	8FE10-7	8FE10-7	8FE10-7	8FE10-7	8FE10-7	8FE10-7	8FE10-7	8FE10-7	8FE10-7	8FE10-7	8FE10-7
E.T. (MS)	8FE10-7	8FE10-7	8FE10-7	8FE10-7	8FE10-7	8FE10-7	8FE10-7	8FE10-7	8FE10-7	8FE10-7	8FE10-7	8FE10-7
M	8FE10-7	8FE10-7	8FE10-7	8FE10-7	8FE10-7	8FE10-7	8FE10-7	8FE10-7	8FE10-7	8FE10-7	8FE10-7	8FE10-7
M (M)	8FE10-7	8FE10-7	8FE10-7	8FE10-7	8FE10-7	8FE10-7	8FE10-7	8FE10-7	8FE10-7	8FE10-7	8FE10-7	8FE10-7
J	8FE10-7	8FE10-7	8FE10-7	8FE10-7	8FE10-7	8FE10-7	8FE10-7	8FE10-7	8FE10-7	8FE10-7	8FE10-7	8FE10-7
NOTE	8449-107H	1-FAN	2-SPKAL L.P.F.									

(2) MODEL

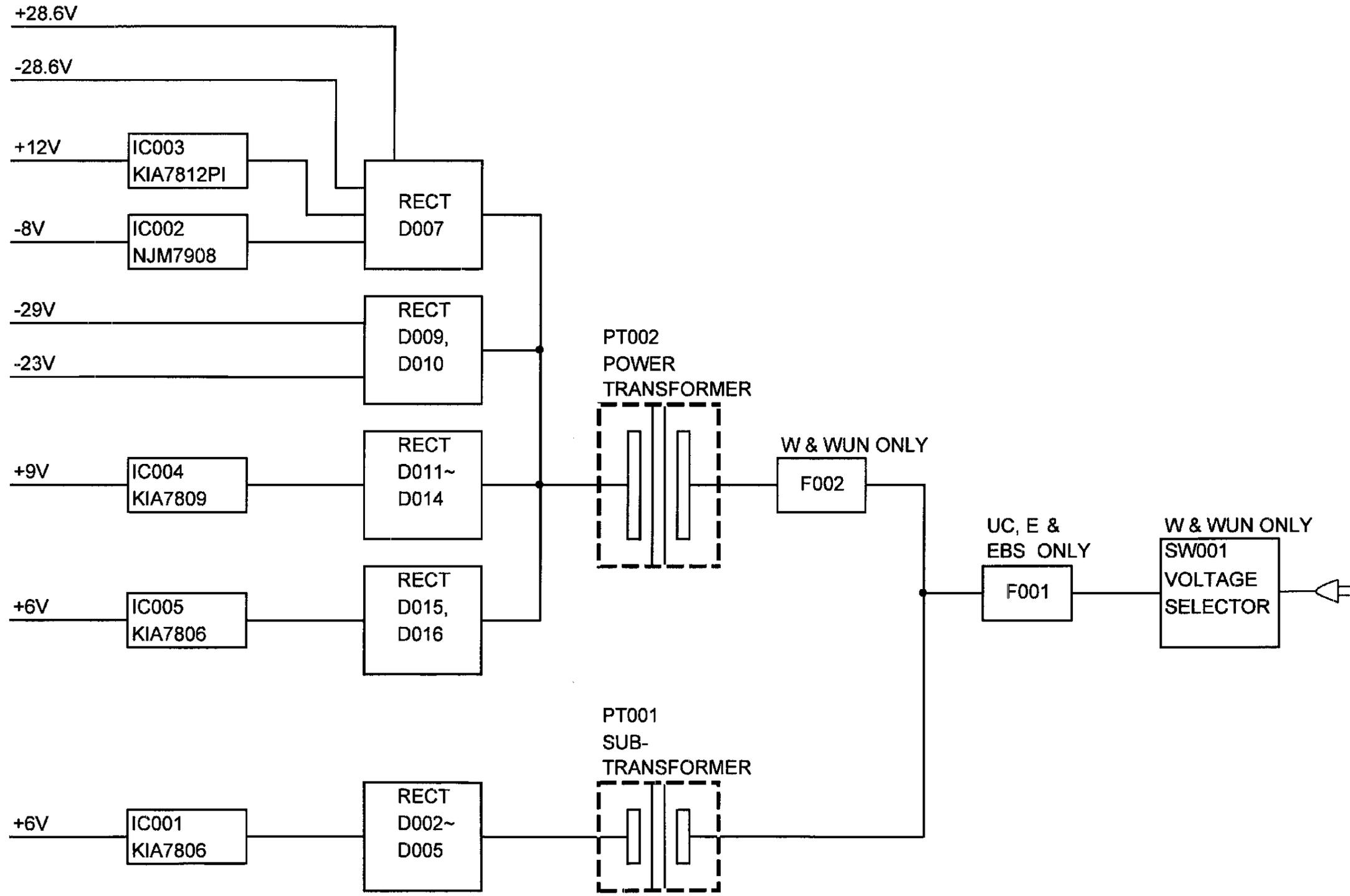
	DT121	CF102	FE101	TR04	J04/20	R20N	C20N	C20S	W-BLOCK	R009	R008	R001
8K-MS	X	X	X	X	X	X	X	X	X	X	X	X
8K-MP	X	X	X	X	X	X	X	X	X	X	X	X
8K-MS/MP	X	X	X	X	X	X	X	X	X	X	X	X
8K-M	X	X	X	X	X	X	X	X	X	X	X	X
8K-M (M)	X	X	X	X	X	X	X	X	X	X	X	X
8K-J	X	X	X	X	X	X	X	X	X	X	X	X



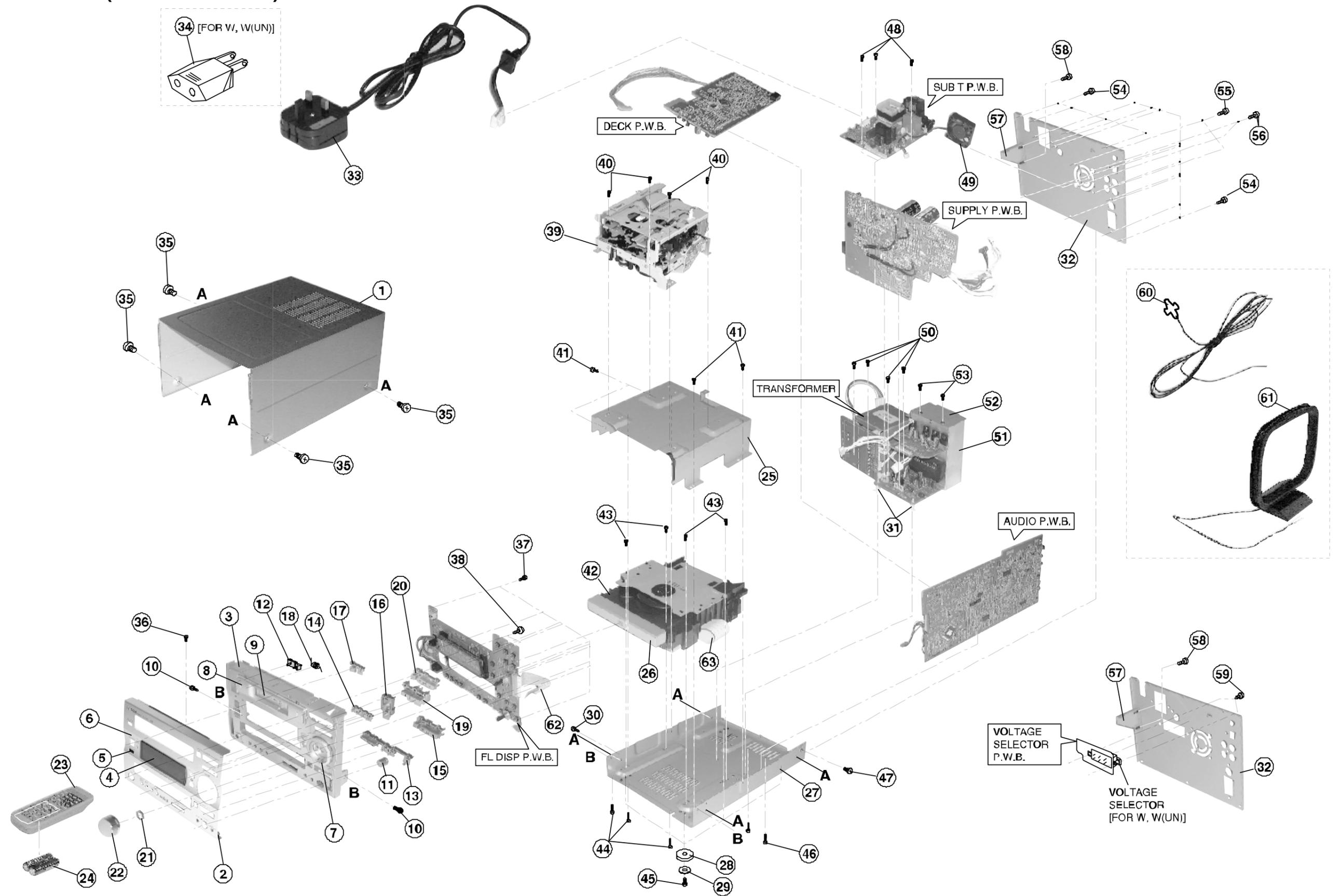
Block Diagram



Block Diagram (Power)

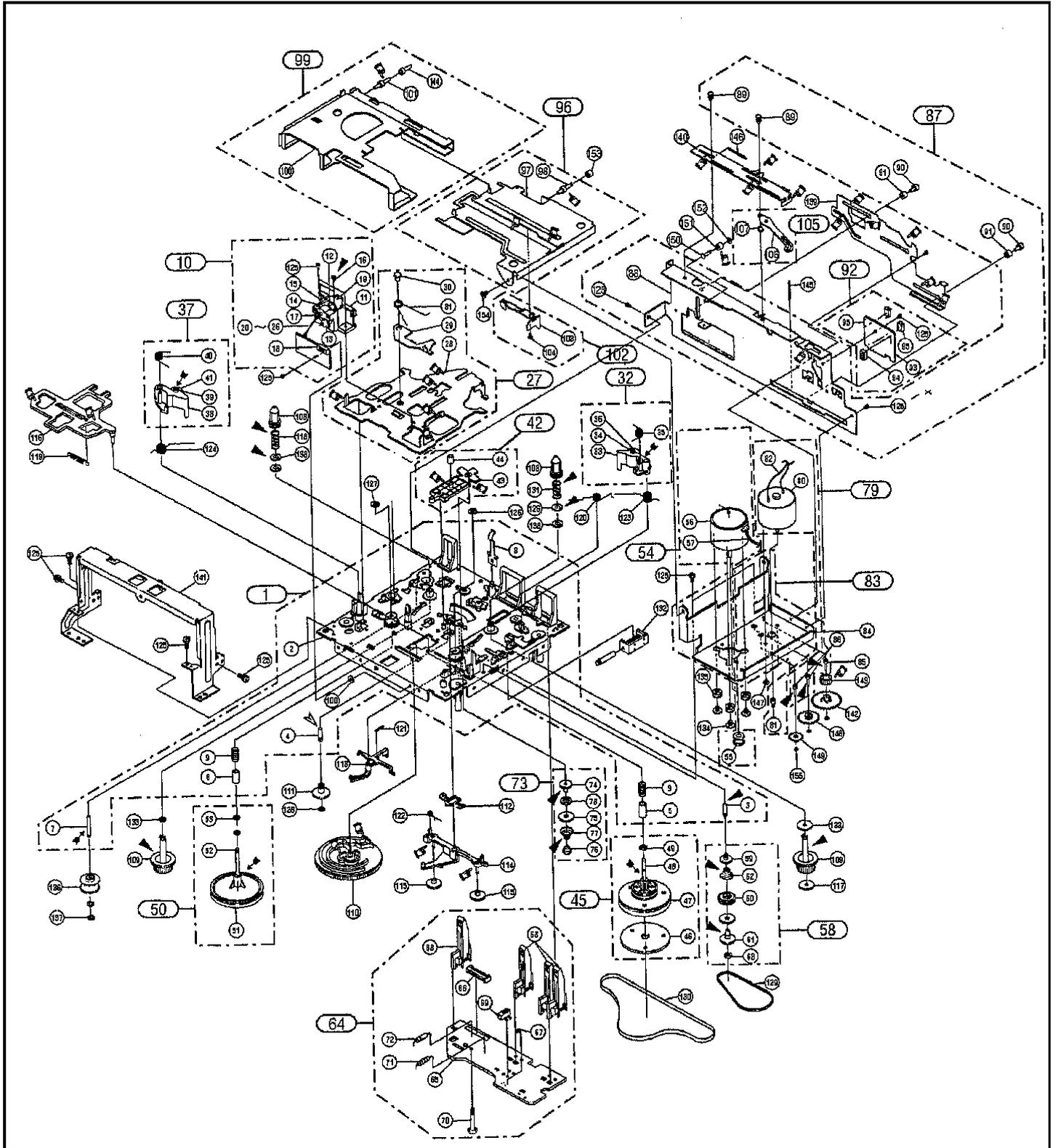


Exploded View (Cabinet Chassis)



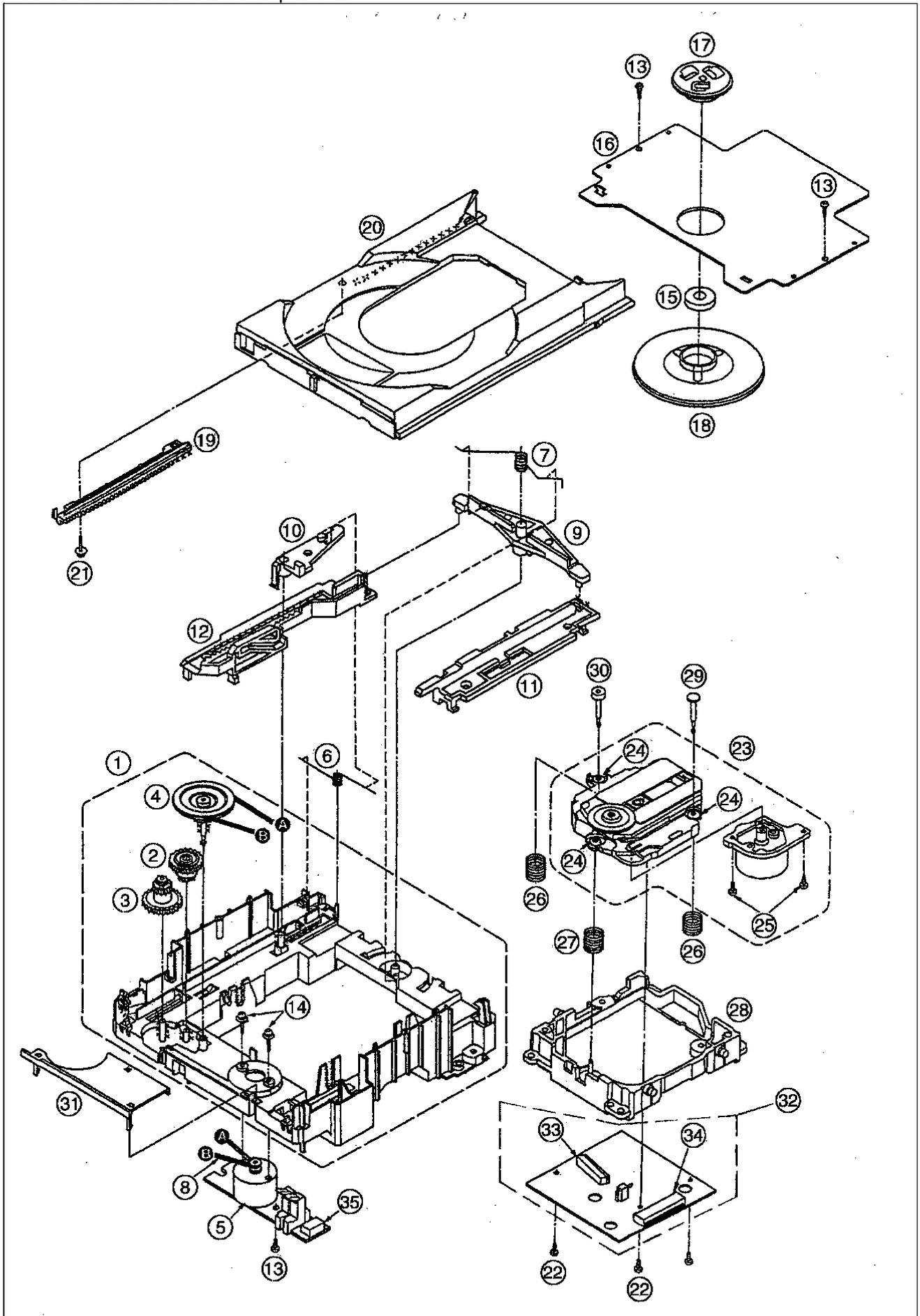
Exploded View (Cassette Chassis)

- Nos. are reference Nos. of parts list



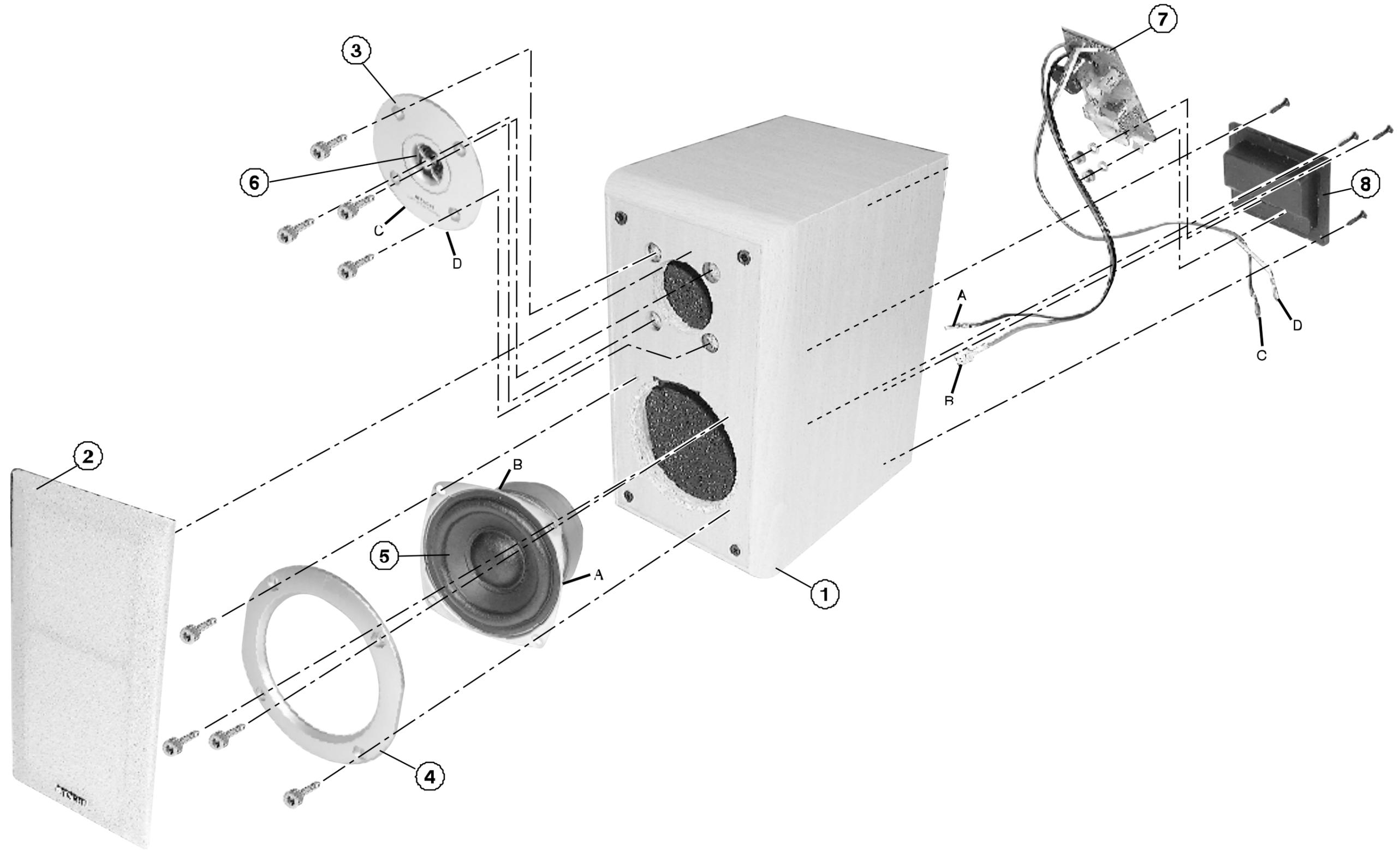
Exploded View (CD Mecha Chassis)

- Nos. are reference Nos. of parts list



Exploded View (Speaker System HS-M7)

- Nos. are reference Nos. of parts list



**THE UPDATED PARTS LIST
FOR THIS MODEL IS
AVAILABLE ON ESTA**

HITACHI

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