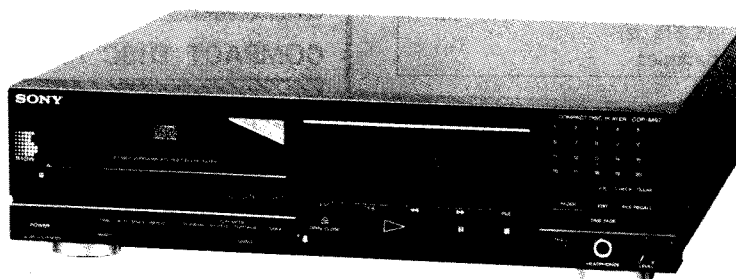


CDP-M97

SERVICE MANUAL

*AEP Model
UK Model
E Model*



Model Name Using Similar Mechanism	CDP-M95
CD Mechanism Name	CDM9-5
Base Unit Name	BU-5C

SPECIFICATIONS

Compact disc player

Frequency response	2 Hz
Signal to noise ratio	M
Dynamic range	M
Harmonic distortion	L
Channel separation	M

Outputs

LINE OUT (FIXED) (phono jacks)	Output level 2 V (20 kilohms) Load impedance over 1 kilohms
DIGITAL OUT (OPTICAL) (optical output connector)	Wave length 660 nm Output level 18 dBm
HEADPHONES (stereo phone jack)	Output level max. 15 mW Load impedance 32 ohms

General

Power requirements	AEP Model 220 V AC (or 240 V AC adjustable by Sony personnel), 50/60 Hz UK Model 240 V AC (or 220 V AC adjustable by Sony personnel), 50/60 Hz E Model 110 - 120V 220 - 240 V AC adjustable, 50/60 Hz
Power consumption	11 W
Dimensions (approx., including projections)	355 × 95 × 310 mm (14 × 3 7/8 × 12 1/8 in.)
Weight (approx.,)	3.7 kg (8 lb)

Supplied accessories

Audio cord	1 (2 phono plugs - 2 phono plugs)
Remote commander	1
Sony SUM-3 (NS) batteries	2

— Continued on next page —



COMPACT DISC PLAYER
SONY®

Remote commander (RM-D370)

Remote control system	Infrared control
Power requirements	3 V DC with two R6 (size AA) batteries
Dimensions	Approx. 67 × 20 × 175 mm (w/h/d) (2 ³ / ₄ × 1 ¹ / ₈ × 7 inches)
Weight	Approx. 135 g (5 oz) Including batteries

TABLE OF CONTENTS

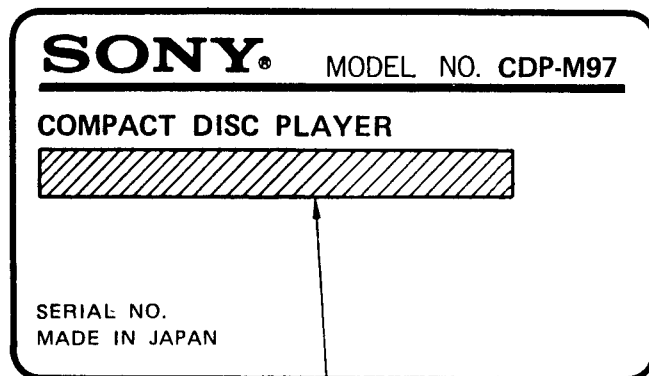
<u>Section</u>	<u>Title</u>	<u>Page</u>
	Specifications	1
	Model Identification	2
	Adjusting Operating Voltage	2
1.	SERVICING NOTES	3
2.	GENERAL	
	Location of Controls	5
	Connecting the CD Player	6
3.	ELECTRICAL ADJUSTMENTS	7
4.	DIAGRAMS	
4-1.	Circuit Boards Location	10
4-2.	Printed Wiring Boards	12
4-3.	Schematic Diagram	15
	IC Block Diagrams	21
	Semiconductor Lead Layouts	24
5.	EXPLODED VIEWS	20
6.	ELECTRICAL PARTS LIST	24
	Troubleshooting Guide	28

SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY MARK  OR DOTTED LINE WITH MARK  ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

MODEL IDENTIFICATION

— Specification Labels —



AEP model: AC: 220 V ~ 50/60 Hz 11 W

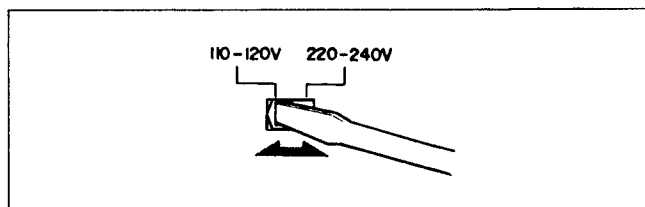
UK model: AC: 240 V ~ 50/60 Hz 11 W

E model: AC: 110–120, 220–240 V ~ 50/60 Hz 11 W

Adjusting Operating Voltage

For the customers of the model equipped with the voltage selector (E model)

Check that the voltage selector is set to the local power line voltage. If not, set the selector to the correct position before connecting the AC power cord to a wall outlet.



SECTION 1

SERVICING NOTES

PROTECTION OF EYES FROM LASER BEAM DURING SERVICING

This set employs a laser. Therefore, be sure to follow carefully the instructions below when servicing.

CAUTION

Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

1. Laser Diode Properties

- Material: GaAlAs
 - Wavelength: 780 nm
 - Emission Duration: continuous
 - Laser Output: max. 44.6 μ W*
- * This output is the value measured at a distance of about 200 mm from the objective lens surface on the Optical Pick-up Block.

2. During service, do not take the Optical Pick-up Block apart, and do not adjust the APC circuit. If there is a breakdown in the APC circuit (including laser diode), replace the entire Optical Pick-up Block (including APC board).

BESKYTTELSE AF ØJNE MOD LASERSTRÅLING UNDER SERVICE

I dette apparat anvendes laserlys. Derfor skal nedenstående instruktioner nøje følges under service.

Følg iøvrigt instruktionerne i servicemanualen.

ADVARSEL!!

Under service må øjnene ikke komme nær objektiv-linsen på den optiske pick-up enhed. I tilfælde af at det er nødvendigt at kontrollere udsendelsen af laserlys, skal det ske i en afstand af mere end 25 cm fra den optiske pick-up.

1. Laser-dioe data

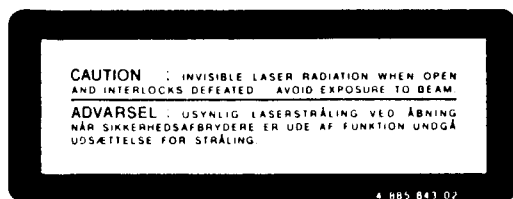
- Materiale: GaAlAs
 - Bølgelængde: 780 nm
 - Udstråling: Kontinuerlig
 - Laseroutput: Max. 0,4 mW*
- * Målt i 1,6 mm afstand fra overfladen af objektiv-linsen på den optiske pick-up enhed.
- Klassifikation: Klasse IIIb.

2. Adskil aldrig den optiske pick-up enhed under service, og juster ikke APC kredsløbet (Automatic Power Control). Hvis APC kredsløbet (incl. laser-dioden) bryder ned, skal hele den optiske pick-up enhed (incl. APC printkortet) udskiftes.

LASER ADVARSEL MÆRKNING

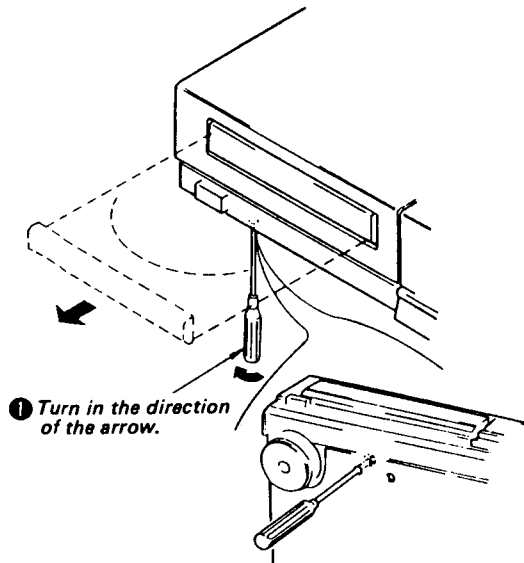
Følgende mærkning findes indvendig i apparatet:

1. Advarsel Mærkning



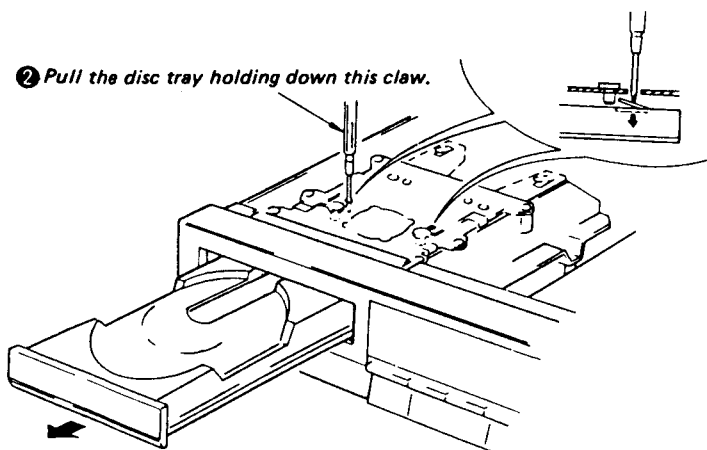
VAROITUS: Laite sisältää, laserdiodin, joka lähettää (näkyvätöntä) silmille vaarallista lasersäteilyä.

HOW TO OPEN THE DISC TRAY WHEN POWER SWITCH TURNS OFF



Caution: When you work, keep the set horizontal.

DISC TRAY REMOVAL



NOTES ON HANDLING THE OPTICAL PICK-UP BLOCK OR BASE UNIT

The laser diode in the optical pick-up block may suffer electrostatic breakdown because of the potential difference generated by the charged electrostatic load, etc. on clothing and the human body.

During repair, pay attention to electrostatic breakdown and also use the procedure in the printed matter which is included in the repair parts.

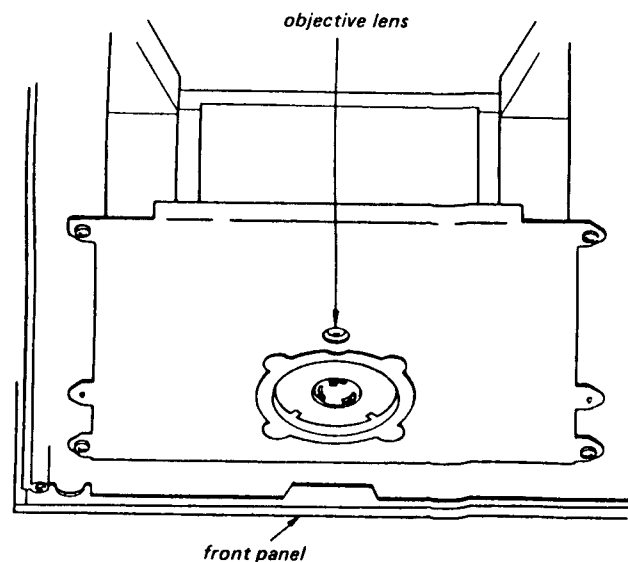
The flexible board is easily damaged and should be handled with care.

NOTES ON LASER DIODE EMISSION CHECK

The laser beam on this model is concentrated so as to be focused on the disc reflective surface by the objective lens in the optical pick-up block. Therefore, when checking the laser diode emission, observe from more than 30 cm away from the objective lens.

LASER DIODE AND FOCUS SERCH OPERATION CHECK

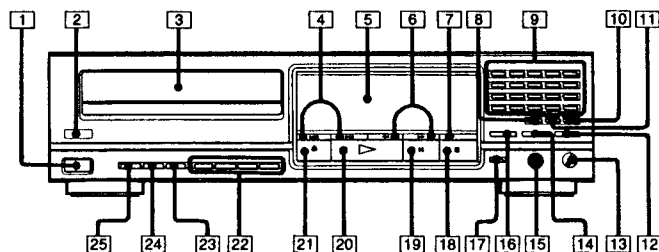
1. Make POWER switch on with no disc inserted and disc table closed.
2. Confirm that the following operation is performed while observing the objecting lens.



- ① Confirm that laser beam is spread.
- ② Up and down motion of the objective lens. (3 times)

Location of Controls

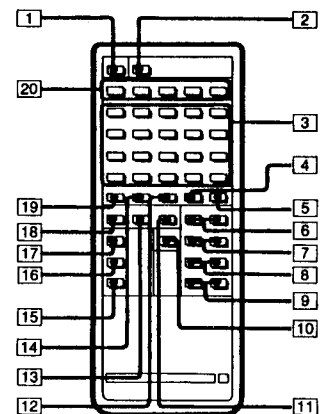
Front Panel



- 1 POWER switch
- 2 Remote sensor
- 3 Disc tray
- 4 <<<<>>>> (AMS*) buttons
- 5 Display window
- 6 <<<<>>>> (manual search) buttons
- 7 FILE (custom file) button
- 8 > 20 (over 20) button
- 9 Numeric buttons
- 10 CLEAR (program clear) button
- 11 CHECK (program check) button
- 12 FILE RECALL button
- 13 HEADPHONE LEVEL control
- 14 EDIT/TIME FADE button
- 15 HEADPHONES jack
- 16 FADER (FADE IN/FADE OUT) button
- 17 ERASE (memory erase) button
- 18 ■ (stop) button
- 19 || (pause) button
- 20 ► (play) button
- 21 ▲ (open/close) button
- 22 PLAY MODE buttons
 - PROGRAM button
 - SHUFFLE button
 - CONTINUE/SINGLE button
 - C.INDEX button
- 23 REPEAT button
- 24 AUTO SPACE (auto space) button
- 25 TIME/MEMO button

* AMS is an abbreviation of Automatic Music Sensor.

Remote Commander (RM-D370)



- 1 ▲ (open/close) button
- 2 FILE RECALL button
- 3 Numeric buttons
- 4 ERASE button
- 5 FILE (custom file) button
- 6 <<<<>>>> AMS buttons
- 7 ▲ → → INDEX buttons
- 8 <<<<>>>> (manual search) buttons
- 9 <<<<>>>> SLOW (low speed manual search) buttons
- 10 FADER (FADE IN/FADE OUT) button
- 11 TIME button
- 12 CLEAR (program clear) button
- 13 A ↔ B repeat button
- 14 CHECK button
- 15 ■ (stop) button
- 16 || (pause) button
- 17 ► (play) button
- 18 CLEAR/REPEAT (A ↔ B repeat clear/repeat) button
- 19 > 20 (over 20) button
- 20 PLAY MODE buttons
 - PGM (program) button
 - SHUFFLE button
 - CONTINUE button
 - SINGLE button
 - C.INDEX MODE (custom index mode) button

SECTION 2 GENERAL

Connecting the CD Player

You can connect the unit with analog or digital signal depending on your amplifier or D/A converter.

Notes on Connection

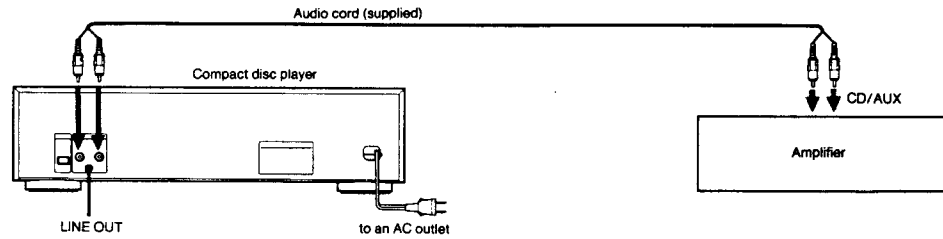
- Turn off the power of each unit before making connections.
- Connect the AC power cord last. For the model supplied with the plug adaptor, use it if the plug of the power cord does not match your wall outlet.
- Be sure to insert the plugs firmly into the jacks. Loose connection may cause hum and noise.
- Leave a little slack in the connecting cord to allow for inadvertent shock or vibration.
- Cord plugs and jacks are color coded. Red plugs and jacks are for the right channel (R) and white ones for the left channel (L).

Connecting to an Amplifier with an Analog Input

Raccordement à un amplificateur muni d'une entrée analogique

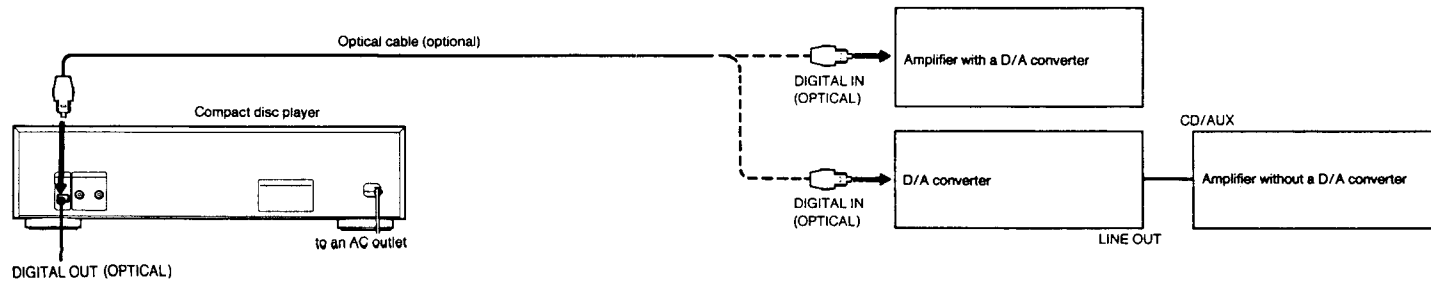
Conexión a un amplificador sin entrada digital

Ligação a um amplificador com entrada analógica



Connecting to a Unit with an Optical Digital Input

You can connect a D/A converter or an amplifier equipped with a D/A converter.

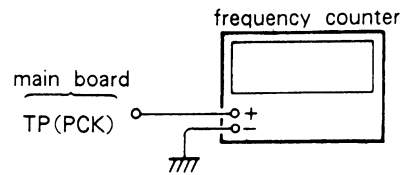


SECTION 3
ELECTRICAL ADJUSTMENTS

- 1. Perform adjustments in the order given.
- 2. Use YEDS-18 disc (3-702-101-01) unless otherwise indicated.
- 3. Use the oscilloscope with more than 10MΩ impedance.

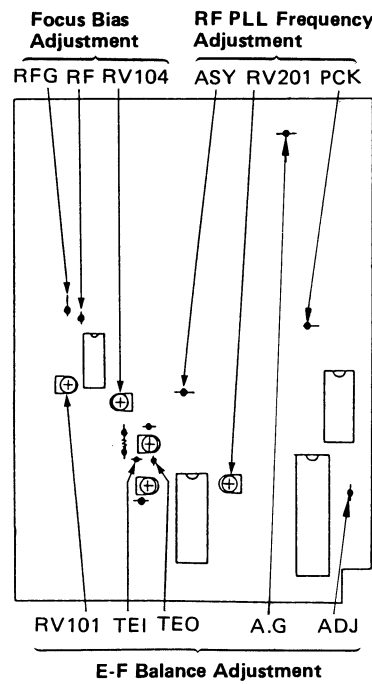
RF PLL Frequency Adjustment

Procedure :



- 1. Connect test point TP (ASY) to ground with jumper wire.
- 2. Turn POWER switch on.
- 3. Connect the frequency counter to test point TP (PCK).
- 4. Adjust RV201 so that the reading on frequency counter is 4.3218MHz±30kHz.
- 5. Remove lead wire connecting TP (ASY) and ground.
- 6. Put disc (YEDS-18) in and press ▷ button.
- 7. Confirm that the reading on frequency counter is 4.3218MHz.

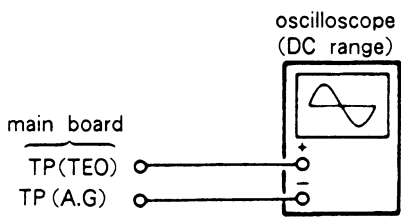
Adjustment Location : main board



E-F Balance Adjustment

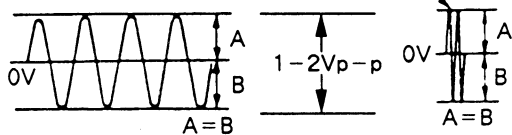
This adjustment should be made when replacing Optical Pick-up Block.

Procedure :



- 1. Connect test points TP (ADJ) and TP (TEI) to ground with jumper wires.
- 2. Connect oscilloscope to test points TP (TEO) and TP (A, G).
- 3. Turn POWER switch on.
- 4. Put disc (YEDS-18) in and playback the 6th selection.
- 5. Adjust RV101 so that the oscilloscope waveform is symmetrical on the top and bottom in relation to 0V.

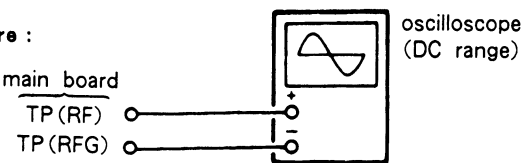
Note : Take sweep time as long as possible to obtain best waveform.



Focus Bias Adjustment

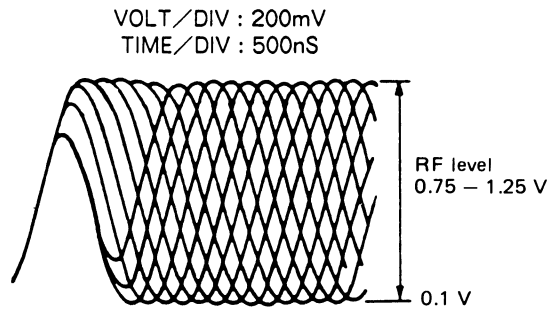
This adjustment should be made when replacing Optical Pick-up Block.

Procedure :



- 1. Connect oscilloscope to test points TP(RF) and TP (RF G).
- 2. Turn POWER switch on.
- 3. Put disc (YEDS-18) in and playback the 6th selection.
- 4. Adjust RV104 for an optimum waveform eye pattern or so that the peak is maximum. Optimum eye pattern means that shape "◇" can be clearly distinguished at the center of the waveform.

RF Signal Reference Waveform (eye pattern)



When observing the eye pattern, set the oscilloscope for AC range and raise vertical sensitivity.

REFERENCE

Focus/Tracking Gain Adjustment

A frequency response analyzer is necessary in order to perform this adjustment exactly.

However, this gain has a margin, so even if it is slightly off, there is no problem. Therefore, do not perform this adjustment.

Focus/tracking gain determines the pick - up follow - up (vertical and horizontal) relative to mechanical noise and mechanical shock when the 2-axis device operate.

However, as these reciprocate, the adjustment is at the point where both are satisfied.

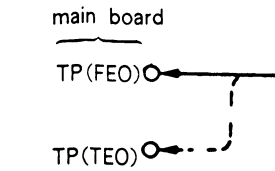
- When gain is raised, the noise when the 2-axis device operates increases.
- When gain is lowered, it is more susceptible to mechanical shock and skipping occurs more easily.
- When gain adjustment is off, the symptoms below appear.

Symptoms	Gain	Focus	Tracking
● The time until music starts becomes longer for STOP →▷PLAY or automatic selection (M M buttons pressed. (Normally takes about 2 seconds.)		low	low or high
● Music does not start and disc continues to rotate for STOP →▷PLAY or auto - matic selection (M M buttons pressed.)		-	low
● Disc table opens shortly after STOP →▷PLAY.		low or high	-
● Sound is interrupted during PLAY. Or time counter display stops progressing.		-	low
● More poise during 2-axis device operation.		high	high

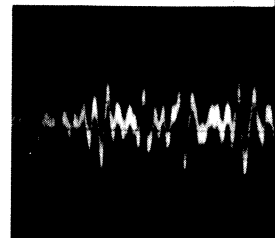
The following is a s
-Simple Adjustment-

Note : Since exact adj
remember the p
performing the ad
simple adjustment
the controls to t

Procedure :

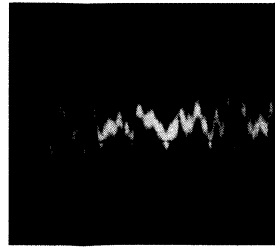


- 1. Keep the set horizon
(If the set is not hor
performed due to the
- 2. Insert disc (YEDS-1
- 3. Connect oscilloscope
- 4. Adjust RV102 so th
the figure below. (f

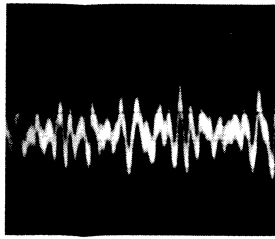


● Inccorrent Examples
adjusted waveform)

low focus ga

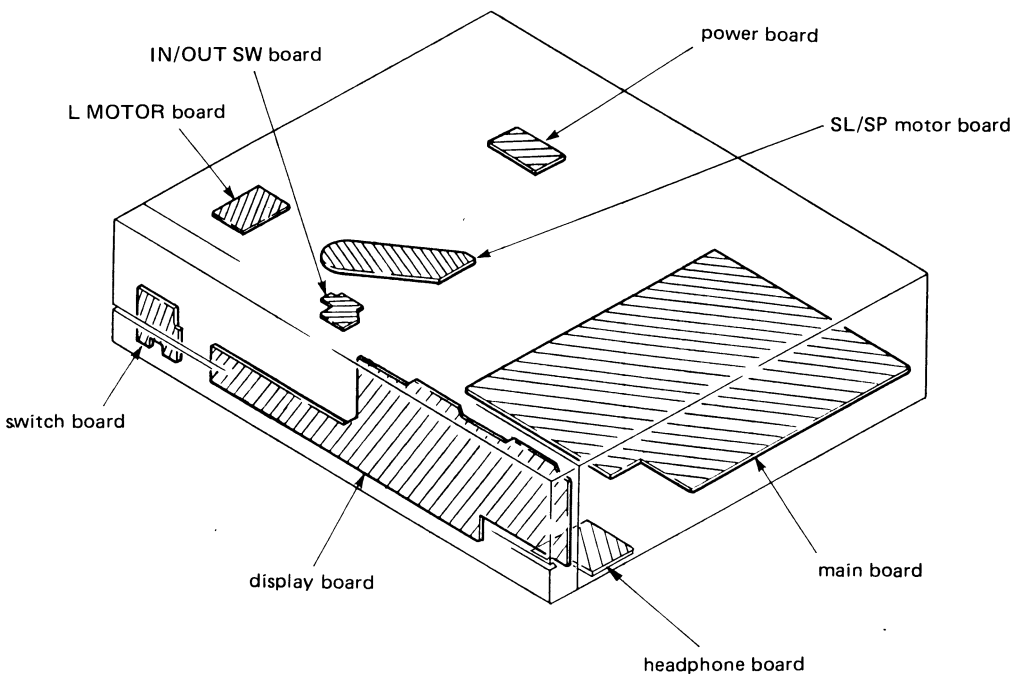


high focus

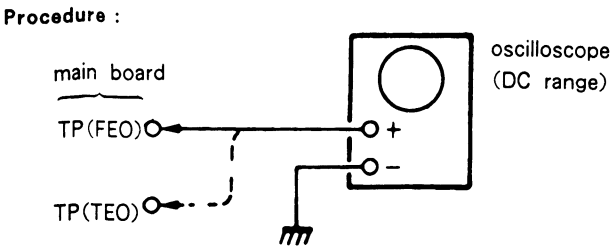


SECTION 4
DIAGRAMS

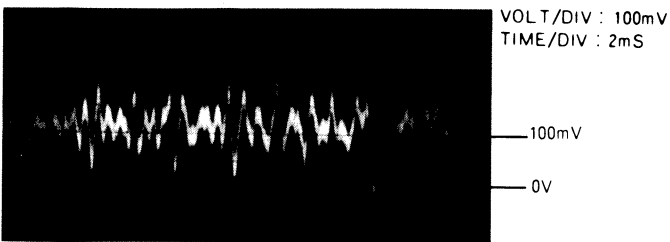
4-1. CIRCUIT BOARDS LOCATION



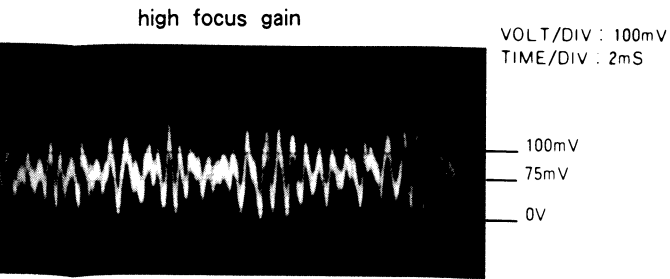
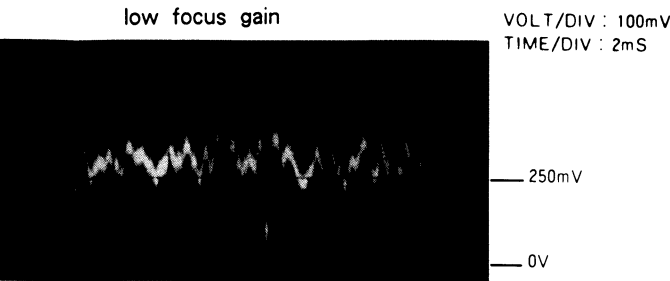
The following is a simple adjustment method.
-Simple Adjustment-
Note: Since exact adjustment cannot be performed, remember the positions of the controls before performing the adjustment. If the positions after the simple adjustment are only a little different, return the controls to the original position.



1. Keep the set horizontal.
(If the set is not horizontal, this adjustment cannot be performed due to the gravity against the 2 axis device.)
2. Insert disc (YEDS-18) playback the 6th selection.
3. Connect oscilloscope to main board TP(FEO).
4. Adjust RV102 so that the waveform is as shown in the figure below. (focus gain adjustment)



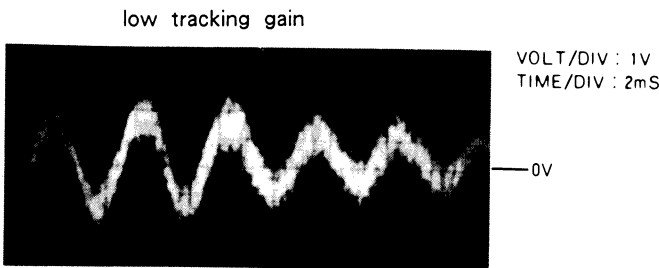
● Inccorrent Examples (DC level changes more than on adjusted waveform)



5. Connect oscilloscope to main board TP(TEO).
6. Adjust RV103 so that the waveform is as shown in the figure below. (tracking gain adjustment)



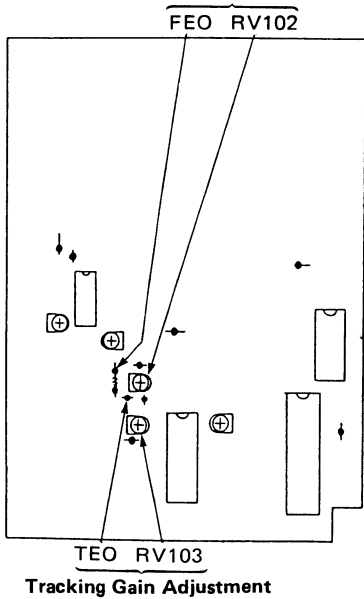
● Inccorrent Examples (fundamental wave appears)



high tracking gain
(higher fundamental wave than for low gain)



Adjustment Location: main board
Focus Gain Adjustment



Tracking Gain Adjustment

Note on Schematic Diagram:

- All capacitors are in μF unless otherwise noted. pF : μF 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω - and $\frac{1}{4}\text{W}$ or less unless otherwise specified.
- Resistors specified $\frac{1}{32}\text{W}$, $\frac{1}{64}\text{W}$ are printed resistors.
- $\triangle$: internal component.
- --- : fusible resistor.
- --- : B+ Line
- --- : B- Line
- --- : adjustment for repair.
- Voltage and waveforms are dc with respect to ground under no-signal conditions.
no mark: STOP
(): PLAY
- Voltages are taken with a VOM (50 $\text{k}\Omega/\text{V}$).
Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken with an oscilloscope.
Voltage variations may be noted due to normal production tolerances.
- Circled numbers refer to waveforms.
- Signal path.
 --- : CD
- Switch

Ref. No.	Switch	Position
S001	VOLTAGE SELECTOR (E Model)	I10-I20V
S101	LIMIT IN	OFF
S251	IN/OUT	IN
S801	1	OFF
S802	2	OFF
S803	3	OFF
S804	4	OFF
S805	5	OFF
S806	6	OFF
S807	7	OFF
S808	8	OFF
S809	9	OFF
S810	10	OFF
S811	11	OFF
S812	12	OFF
S813	13	OFF
S814	14	OFF
S815	15	OFF
S816	16	OFF
S817	17	OFF
S818	18	OFF
S819	19	OFF
S820	20	OFF
S821	>20	OFF
S822	CHECK	OFF
S823	CLEAR	OFF

Ref. No.	Switch	Position
S824	FILE RECALL	OFF
S825	EDIT/TIME FADE	OFF
S826	II	OFF
S827	▷	OFF
S828	▲ OPEN/CLOSE	OFF
S829	C. INEDX	OFF
S830	CONTINUE SINGLE	OFF
S831	FILE	OFF
S832	▶▶	OFF
S833	◀◀	OFF
S834	◀▶	OFF
S835	◀◀	OFF
S836	SHUFFLE	OFF
S837	PROGRAM	OFF
S838	REPEAT	OFF
S839	AUTO SPACE	OFF
S840	TIME	OFF
S841	■	OFF
S842	ERASE	OFF
S843	FADER	OFF
S851	POWER	OFF

4-2. PRINTED WIRING BOARDS

- See page 24 for Semiconductor Lead Layouts.

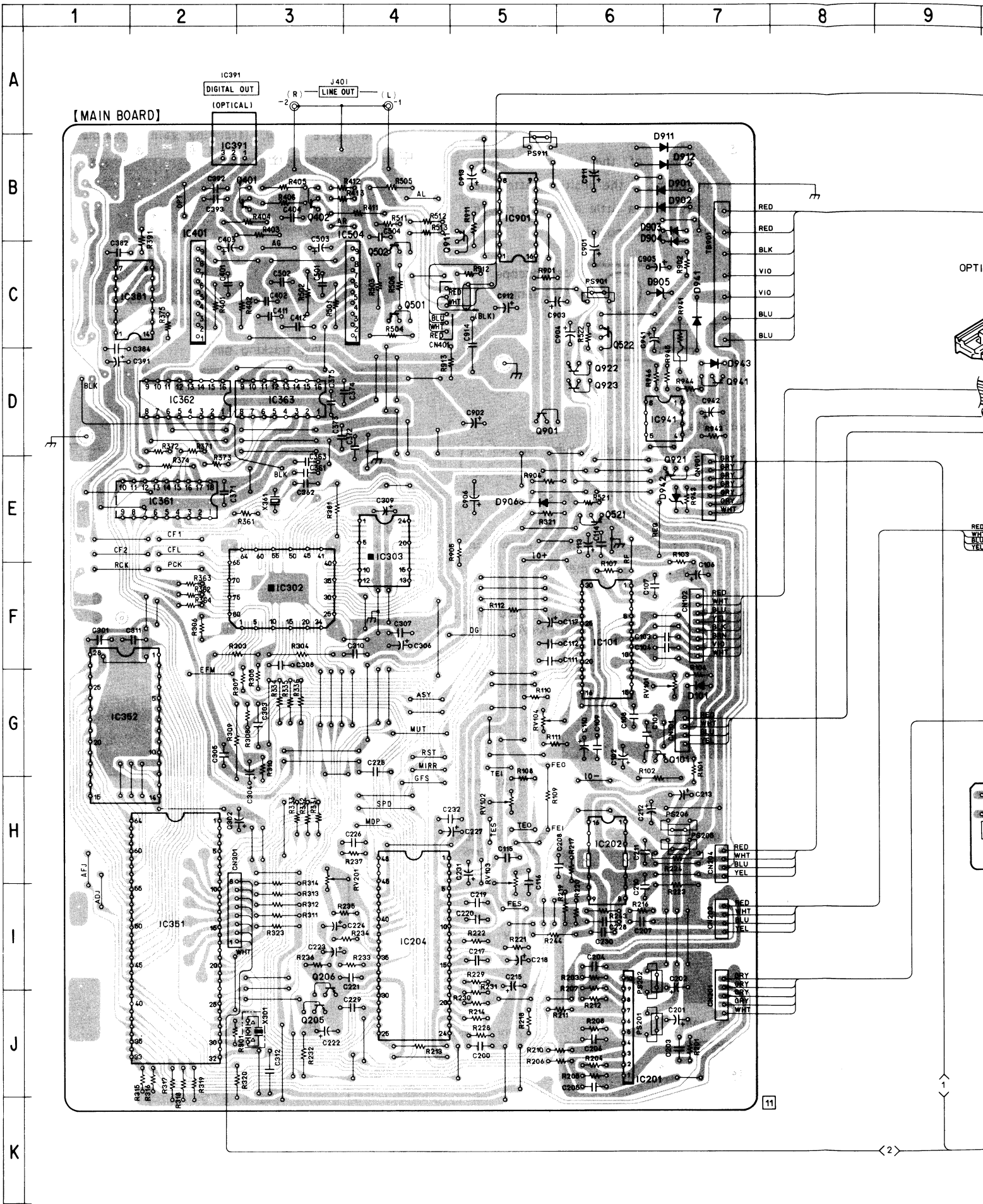
Note on Printed Wiring Board:

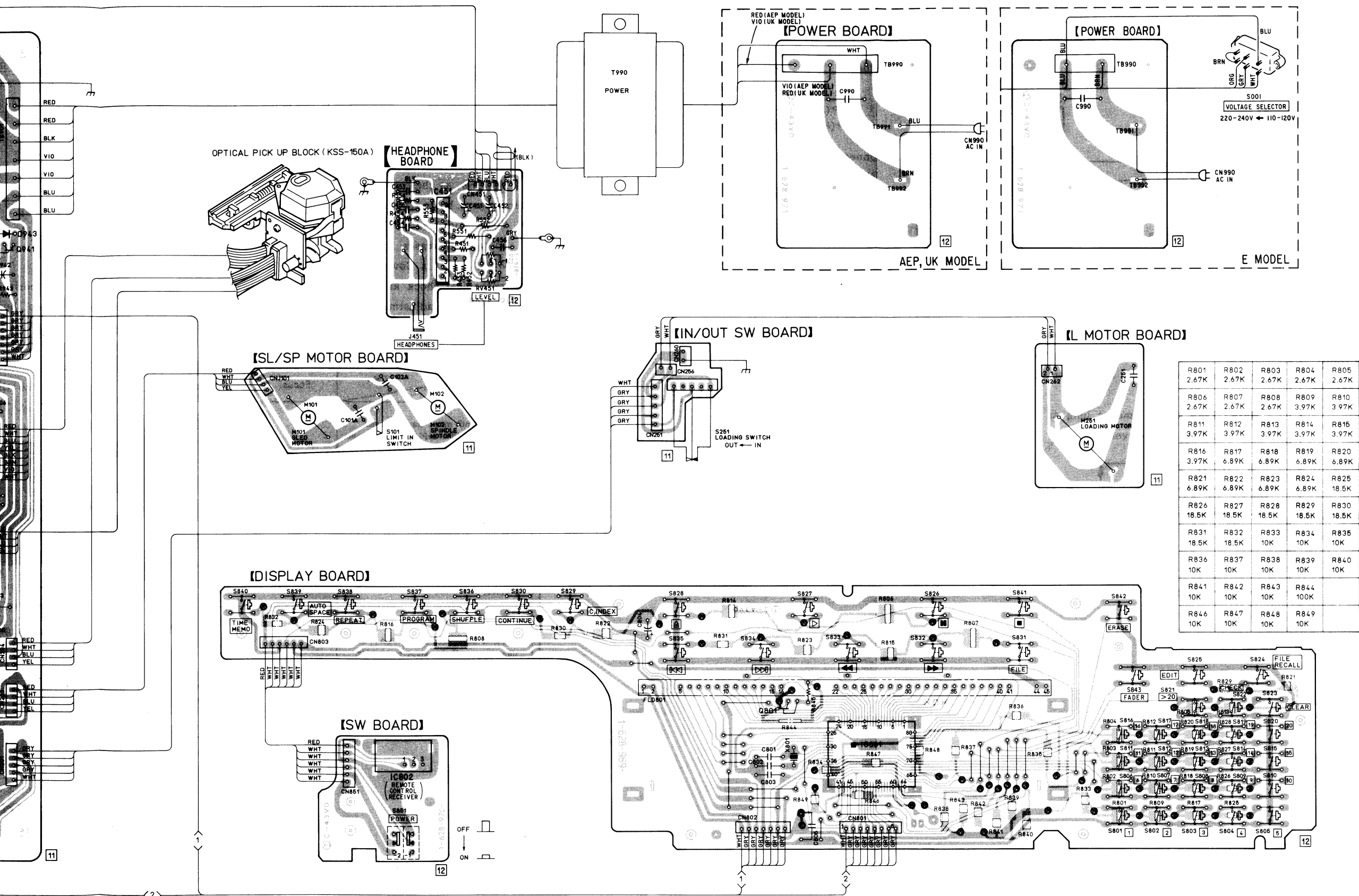
- --- : parts extracted from the component side.
- $\blacksquare$: parts mounted on the conductor side.
- --- : Jumper wire connected to the ground pattern on the component side.
- --- : Pattern on the side which is seen.
- --- : Pattern of the rear side.
- $\square$: Printed resistors extracted from the rear side.

Note: The components identified by mark $\triangle$ or dotted line with mark $\triangle$ are critical for safety.
Replace only with part number specified.

• Semiconductor Location

Ref. No.	Location
D101	G-7
D901	B-7
D902	B-7
D903	B-7
D904	B-7
D905	C-6
D906	E-5
D911	B-7
D912	B-7
D941	C-7
D942	E-7
D943	D-7
IC101	F-6
IC201	J-6
IC202	H-6
IC204	I-4
IC302	F-3
IC303	E-4
IC351	I-2
IC352	G-1
IC361	E-2
IC362	D-3
IC363	D-2
IC381	C-2
IC391	B-2
IC401	C-2
IC451	C-12
IC504	C-4
IC801	I-17
IC802	J-11
IC901	B-5
IC941	D-7
Q101	G-6
Q205	J-3
Q206	I-3
Q401	B-3
Q402	B-3
Q501	C-4
Q502	C-4
Q521	E-6
Q522	C-6
Q801	I-16
Q901	D-5
Q911	C-5
Q921	E-7
Q922	D-6
Q923	D-6
Q941	D-7

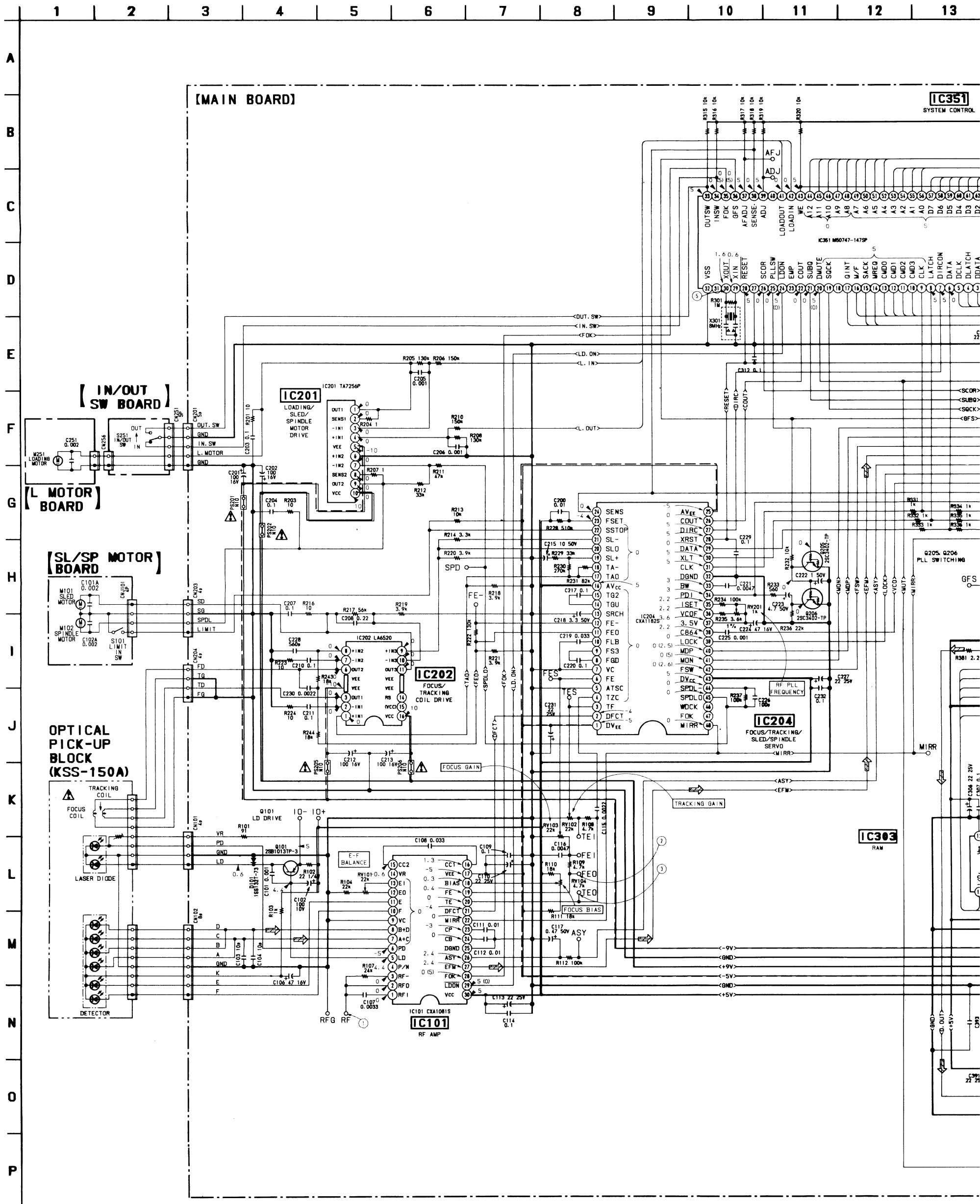
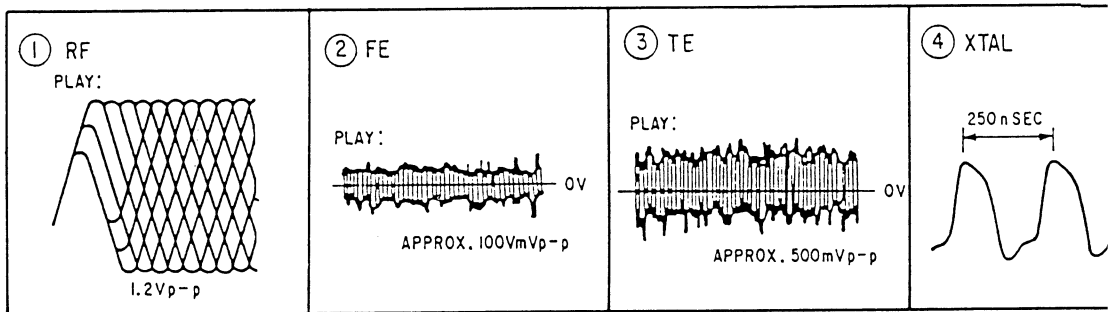


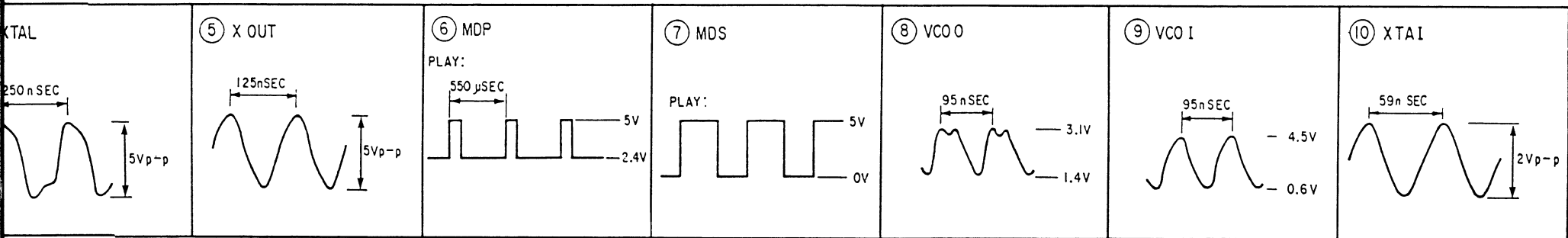


4-3. SCHEMATIC DIAGRAM

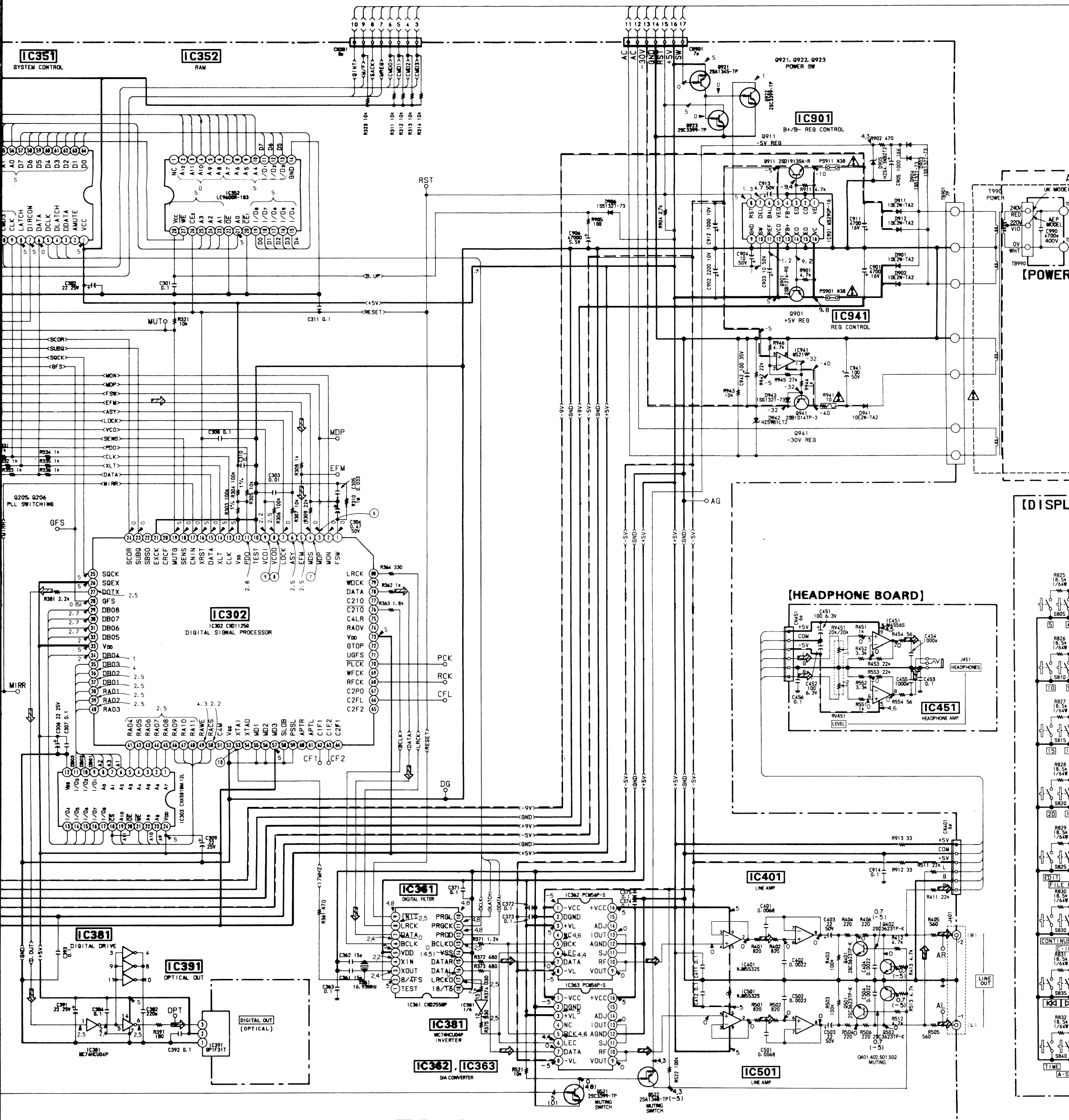
- See pages 21–24 for IC Block Diagrams.
- See page 11 for notes.

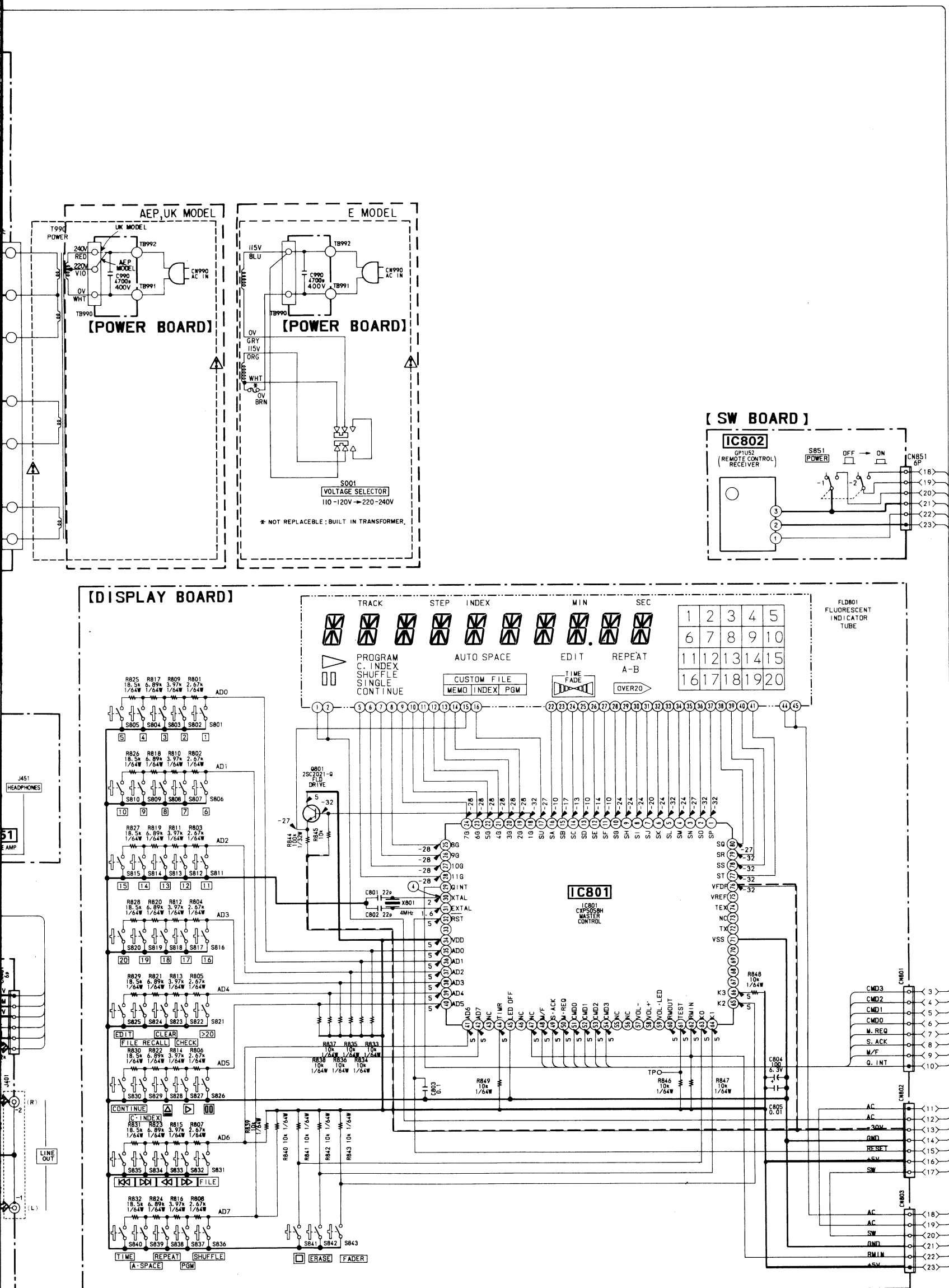
Waveforms





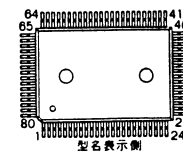
13 14 15 16 17 18 19 20 21 22 23 24 25 26 27



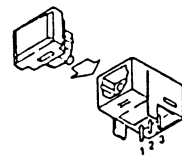


Semiconductor Lead Layouts

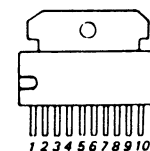
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CXP5058H-622Q



GP1F31T



TA7256P



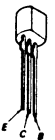
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DTC144ES
2SA1345
2SC3402



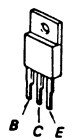
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2SC3623-L



2SB1014



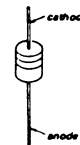
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2SD1913SA



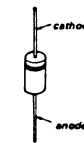
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HZS4.3NB2
HZS9B-2L
1SS202-1

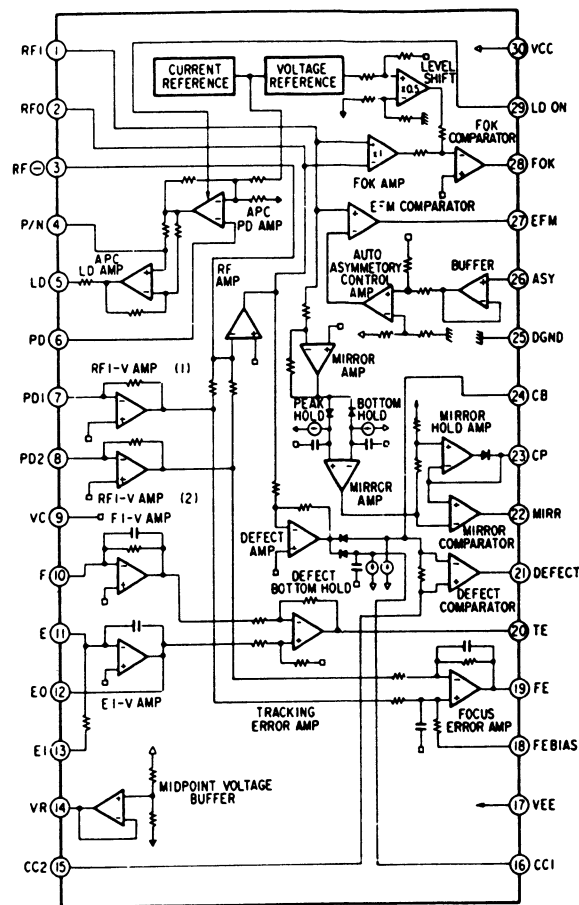


10E2N

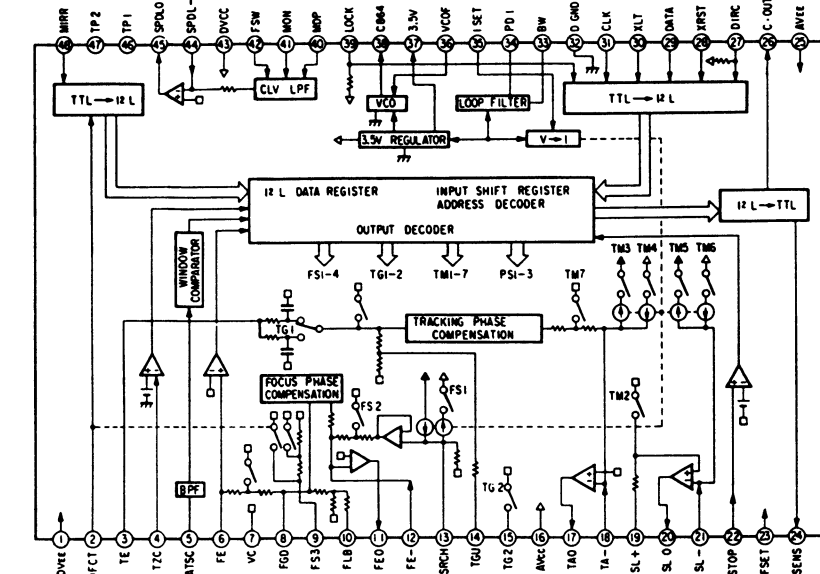


IC Block Diagrams

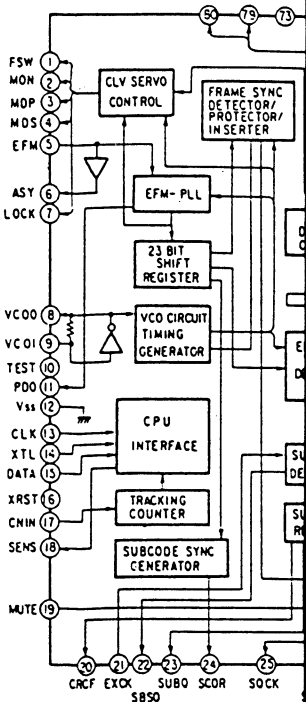
CXA1081S



IC Block Diagrams



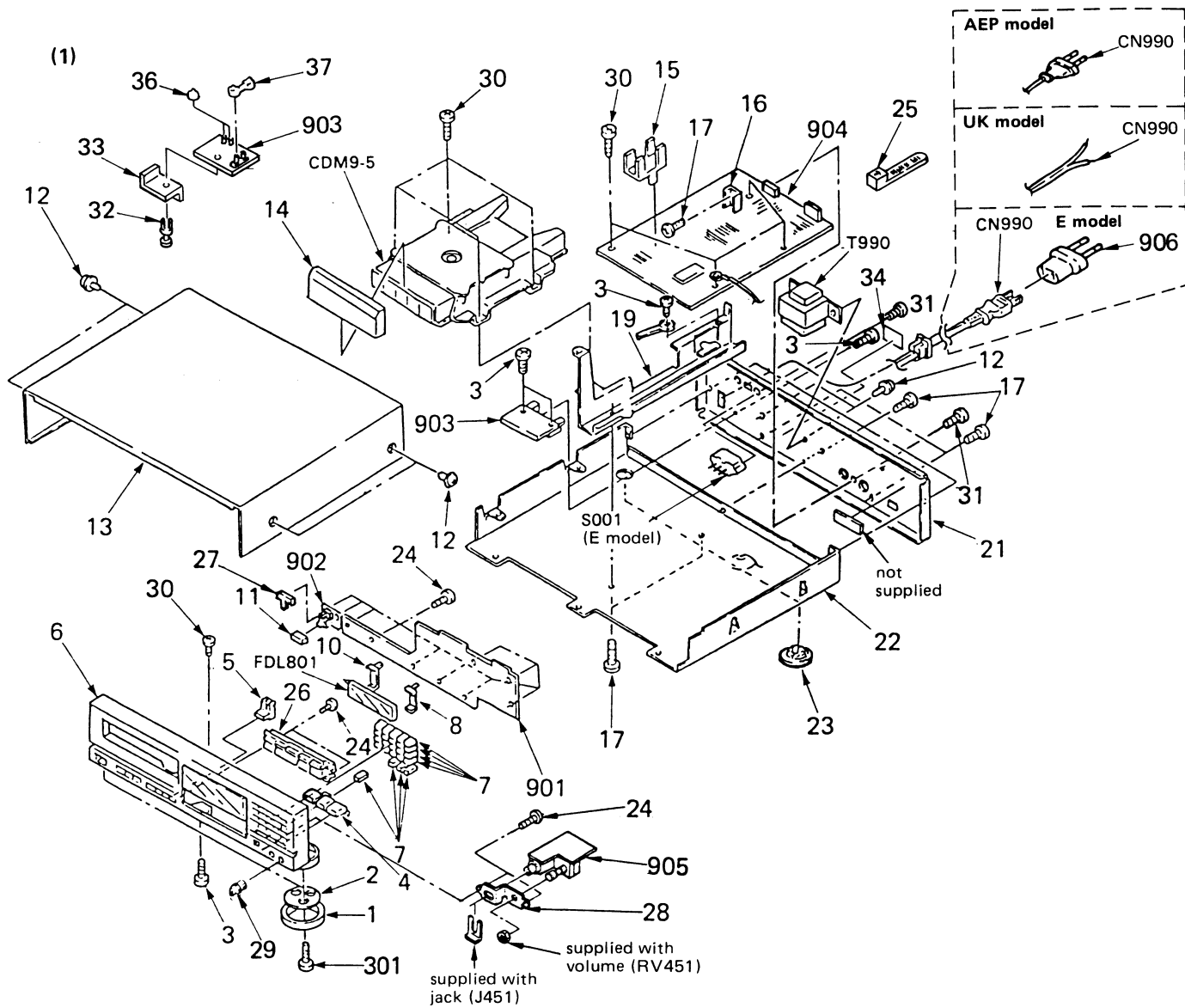
CXD1125Q



SECTION 5
EXPLODED VIEWS

- NOTE:
- The mechanical parts with no reference number in the exploded views are not supplied.
 - The construction parts of an assembled part are indicated with a collation number in the remark column.
 - Items marked "★" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
 - Due to standardization, parts with part number suffix -XX and -X may be different from the parts specified in the components used on the set.
 - Color Indication of Appearance Parts
Example:
(RED) ... KNOB, BALANCE (WHITE)
↑ Cabinet's Color ↑ Parts Color

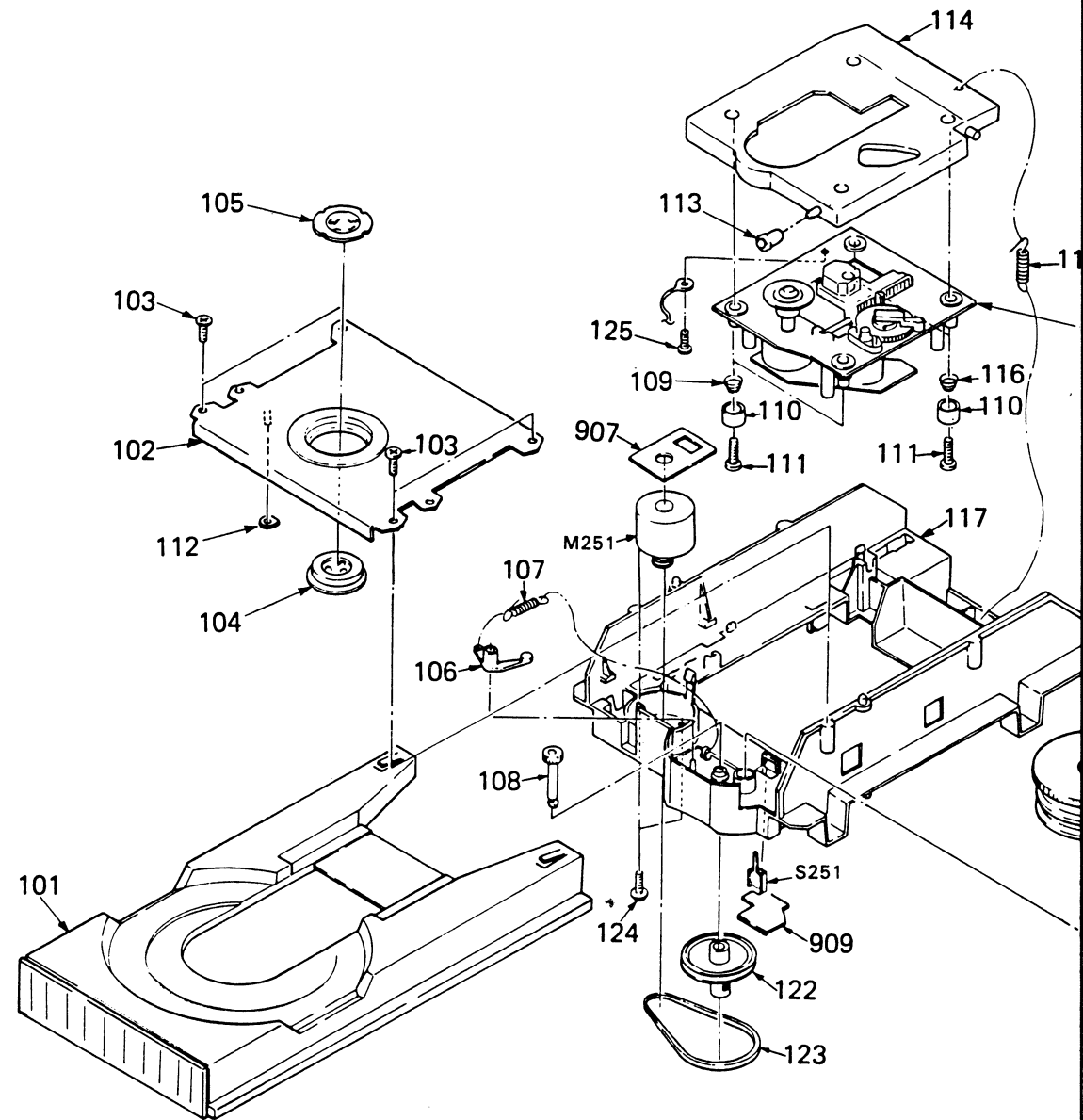
The components identified by mark  or dotted line with mark  are critical for safety. Replace only with part number specified.



No.	Part No.	Description	Remarks
1	4-921-918-11	PLATE, ORNAMENTAL	
2	4-921-906-01	FELT	
3	7-682-547-04	SCREW +BVTT 3X6 (S)	
4	4-922-991-11	BUTTON (FD)	
5	4-922-676-01	BUTTON (ID)	
6	X-4917-558-1	PANEL ASSY, FRONT	
7	4-922-678-11	BUTTON (MC)	
8	*4-922-523-01	HOLDER (RIGHT)	
9	*4-922-524-01	HOLDER (LEFT)	
11	4-922-903-01	BUTTON (PW)	
12	3-704-366-01	SCREW (CASE) (M8X8)	
13	4-919-376-02	CASE	
14	4-922-990-11	(AEP,UK)...PANEL (LOADING)	
	4-922-990-21	(E).....PANEL (LOADING)	
15	*4-922-525-01	HEAT SINK	
16	*4-854-790-00	HEAT SINK	
17	7-682-547-09	SCREW +B 3X6	
18	*3-703-244-00	(AEP,UK)...BUSHING (2104), CORD	
	*3-703-571-11	(E).....BUSHING(S) (4516), CORD	
19	*4-922-911-01	CHASSIS (R)	
21	*4-922-670-22	(UK)...PANEL, BACK	
	*4-922-670-32	(E).....PANEL, BACK	
	*4-922-670-42	(AEP)...PANEL, BACK	
22	*4-921-903-51	CHASSIS	
23	X-4922-001-1	FOOT ASSY	
24	7-685-134-19	SCREW +BTP 2.6X8 TYPE2 N-S	

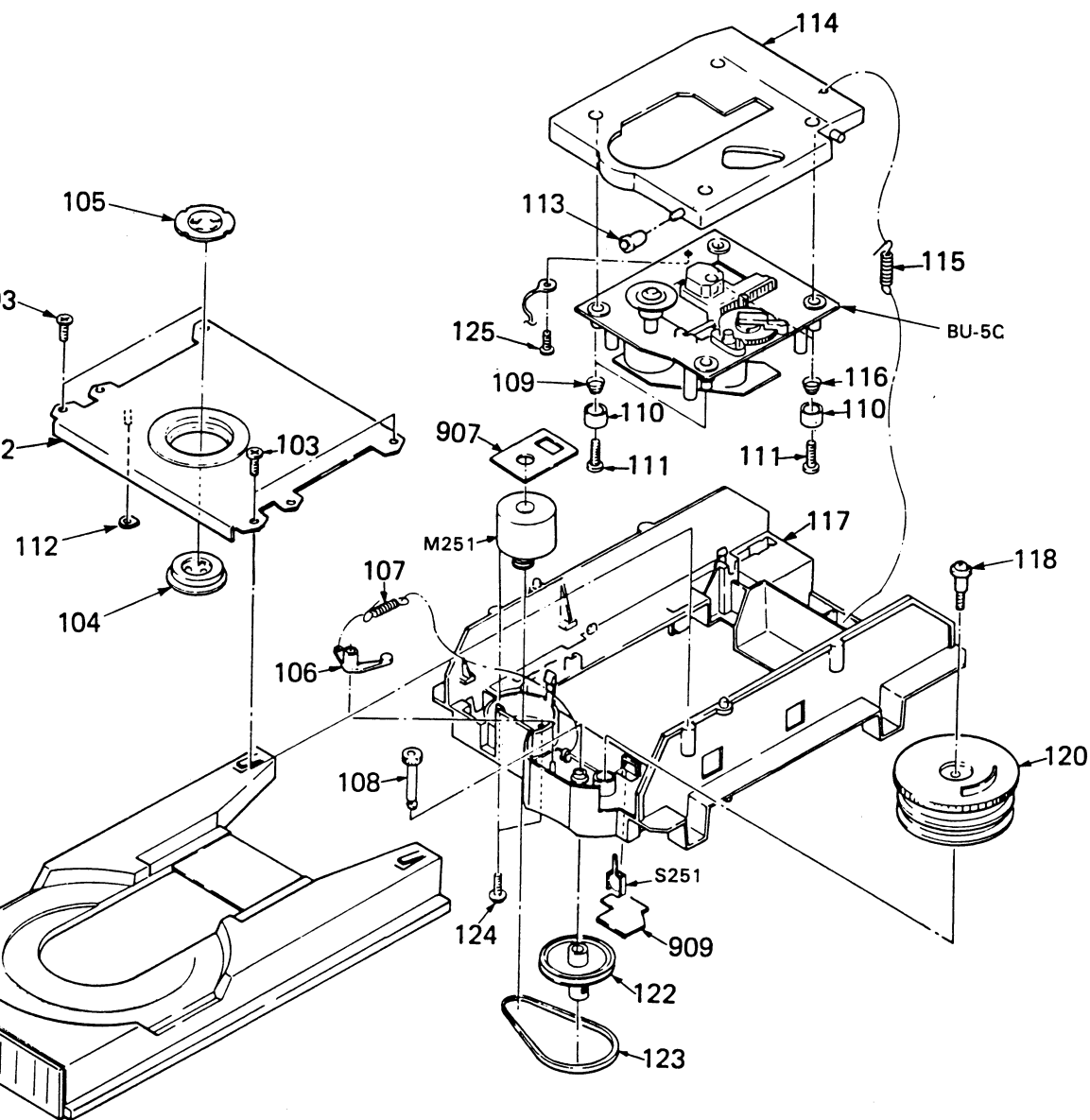
No.	Part No.	Description	Remarks
25	3-655-653-21	(UK)...BAND, BINDING	
26	X-4917-556-1	BUTTON (P) ASSY	
27	*4-927-311-01	COVER (REMOTE CONTROL)	
28	*4-922-987-01	BRACKET (HP)	
29	4-922-531-01	KNOB (A TYPE), LOV	
30	7-682-548-04	SCREW +BVTT 3X8 (S)	
31	7-685-648-79	SCREW +BVTP 3X12 TYPE2 N-S	
32	3-531-576-11	RIVET	
33	*4-922-632-01	SHEET, INSULATING	
34	*4-885-838-00	LABEL, CLASS 1	
36	*4-912-962-01	COVER (1P), TERMINAL (FOR TB991,992)	
37	*4-912-963-01	(AEP,UK)...COVER (2P), TERMINAL (FOR TB990)	
901	*1-628-969-11	PC BOARD, DISPLAY (PRC)	
902	*1-628-970-11	PC BOARD, SWITCH (PRC)	
903	*1-628-971-11	PC BOARD, POWER (PRC)	
904	*A-4651-239-A	MOUNTED PCB, MAIN	
905	*1-628-972-11	PC BOARD, HEADPHONE (PRC)	
906	*1-526-565-00	(E)...AC PLUG ADAPTOR	
	CN990A,1-551-188-XX	(E).....CORD, POWER	
	CN990A,1-555-795-00	(AEP)...CORD, POWER, EULO PLUG	
	CN990A,1-556-035-00	(UK)...CORD, POWER	
	T990 A,1-449-558-11	(AEP,UK)...TRANSFORMER, POWER	
	T990 A,1-449-559-11	(E).....TRANSFORMER, POWER	
	S001 A,1-571-069-31	(E)...SWITCH, VOLTAGE CHANGE	

(2) MD Section (CDM9-5)



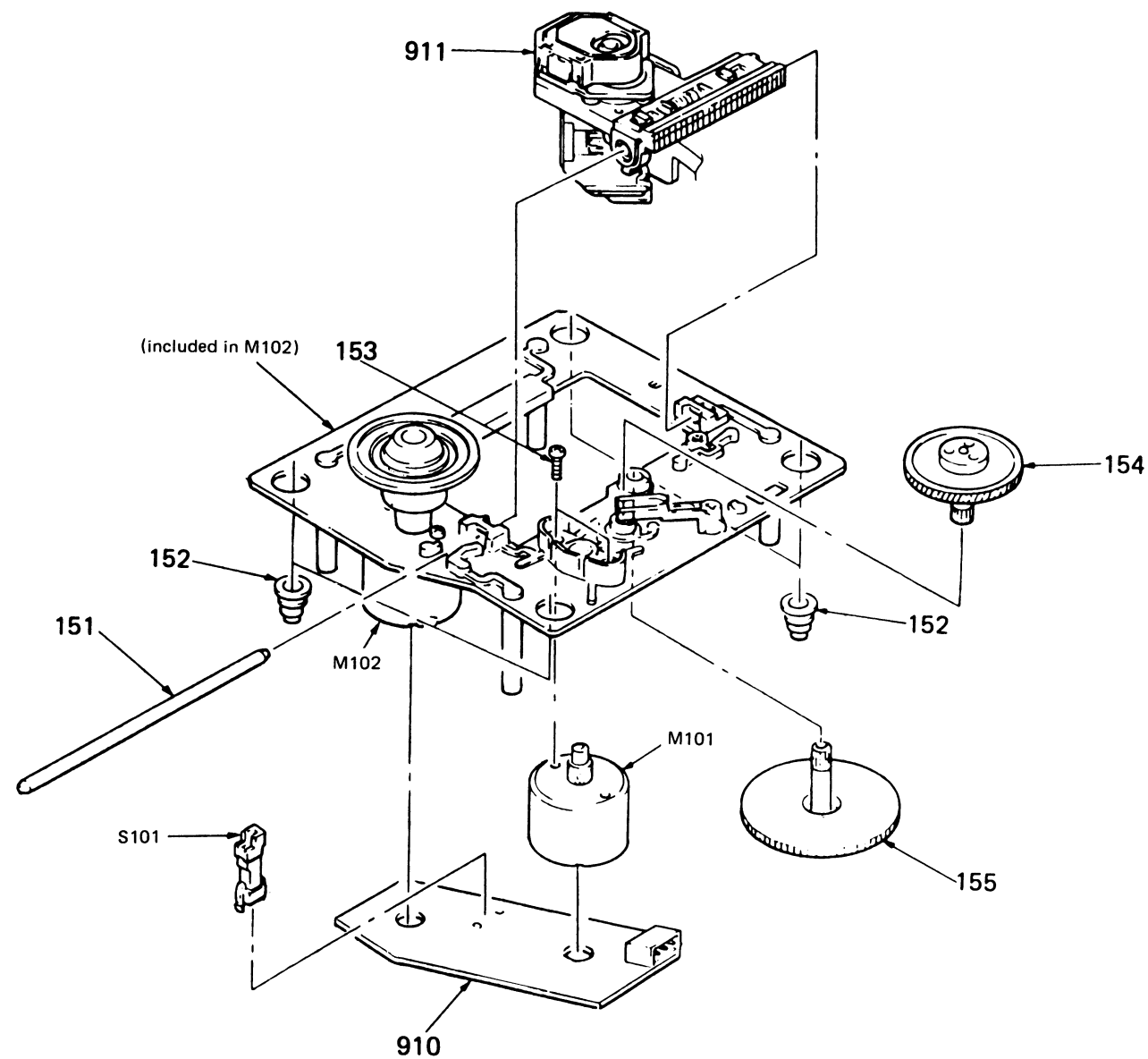
No.	Part No.	Description	Remarks
101	*4-922-515-01	TABLE, DISK	
102	*4-929-066-01	REINFORCEMENT (MG)	
103	7-685-546-11	SCREW +BTP 3X8 TYPE2 N-S	
104	A-4665-024-A	MAGNET ASSY	
105	*4-918-679-04	PULLEY, PRESS	
106	4-917-519-01	LEVER, SET	
107	4-917-514-01	SPRING, TENSION	
108	4-922-508-01	GEAR (DRIVING)	
109	4-917-541-01	SPRING (B)	
110	4-917-508-01	HOLDER, SP	
111	7-685-535-11	SCREW +BTP 2.6X10 TYPE2 N-S	
112	*4-922-529-01	DAMPER	
113	4-917-515-01	ROLLER	
114	*4-922-514-01	BRACKET (BU-5)	

No.	Part No.	Description	Remarks
115	4-917-526-01	SPRING, TENSION	
116	4-917-507-01	SPRING (H)	
117	*4-922-516-01	CHASSIS (MD)	
118	7-685-152-19	SCREW, STEP	
120	4-922-511-01	GEAR (LOADING)	
121	4-922-512-01	PULLEY	
123	4-917-522-02	BELT	
124	7-621-775-20	SCREW +B 2.6X5	
125	7-621-770-67	SCREW +BVTT 2.6X6 (S)	
907	*1-626-838-11	PC BOARD, L.MOTOR	
909	*1-626-837-11	PC BOARD, IN/OUT SW	
M251	A-4608-346-A	MOTOR ASSY, L	
S251	1-571-300-11	SWITCH, ROTARY	



Description	Remarks	No.	Part No.	Description	Remarks
5-01 TABLE, DISK		115	4-917-526-01	SPRING, TENSION	
6-01 REINFORCEMENT (MG)		116	4-917-507-01	SPRING (H)	
6-11 SCREW +BTP 3X8 TYPE2 N-S		117	*4-922-516-01	CHASSIS (MD)	
24-A MAGNET ASSY		118	7-685-152-19	SCREW, STEP	
9-04 PULLEY, PRESS		120	4-922-511-01	GEAR (LOADING)	
9-01 LEVER, SET		121	4-922-512-01	PULLEY	
4-01 SPRING, TENSION		123	4-917-522-02	BELT	
8-01 GEAR (DRIVING)		124	7-621-775-20	SCREW +B 2.6X5	
1-01 SPRING (B)		125	7-621-770-67	SCREW +BVTT 2.6X6 (S)	
8-01 HOLDER, SP					
5-11 SCREW +BTP 2.6X10 TYPE2 N-S		907	*1-626-838-11	PC BOARD, L.MOTOR	
9-01 DAMPER		909	*1-626-837-11	PC BOARD, IN/OUT SW	
5-01 ROLLER		M251	A-4608-346-A	MOTOR ASSY, L	
4-01 BRACKET (BU-5)		S251	1-571-300-11	SWITCH, ROTARY	

(3) OPTICAL PICK-UP BLOCK (BU-5C)



No.	Part No.	Description	Remarks	No.	Part No.	Description	Remarks
151	4-917-565-01	SHAFT, SLED		910	*1-626-304-11	PC BOARD, SL/SP MOTOR	
152	4-917-562-01	INSULATOR		911	A-8-848-062-01	DEVICE, OPTICS (KSS-150A)	
153	7-621-255-15	SCREW +P 2X3		M101	X-4917-504-1	ASSY, MOTOR (SLED)	
154	4-917-567-01	GEAR (M)		M102	X-4917-523-1	ASSY, MOTOR (SPINDLE)	
155	4-917-564-01	GEAR (P), FLATNESS		S101	1-571-274-11	SWITCH, LEAF (LIMIT IN)	

Note: The components identified by mark Δ or dotted line with mark Δ are critical for safety. Replace only with part number specified.

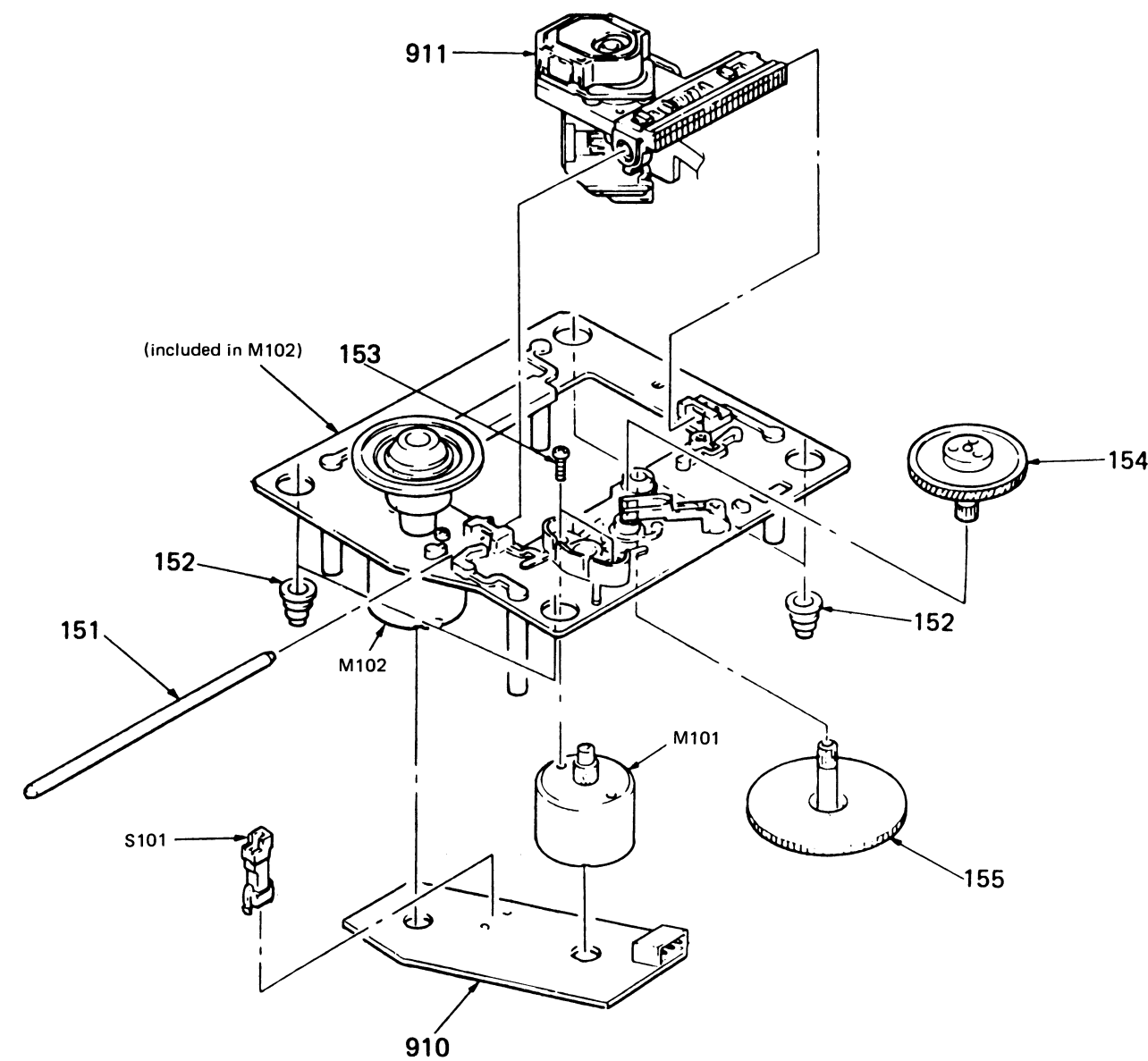
NOTE:

- Due to standardization, replacement list may be different from the parts list in the diagrams or the components used.
- Items marked "★" are not stocked and are seldom required for routine service. Delay should be anticipated when ordering these items.
- If there are two or more same circuit components, such as a stereophonic machine, circuit parts may be indicated and resistors in other same circuits may be indicated.

Ref.No.	Part No.	Description
901	*1-628-969-11	PC BOARD, D
902	*1-628-970-11	PC BOARD, S
903	*1-628-971-11	PC BOARD, P
904	*A-4651-239-A	MOUNTED PCB
905	*1-628-972-11	PC BOARD, H
906	A-1-526-565-00	(E)...AC PL
907	*1-626-838-11	PC BOARD, L
909	*1-626-837-11	PC BOARD, I
910	*1-626-304-11	SL/SP MOTOR
911	A-8-848-062-01	PICK-UP OPT
C101A	1-130-475-00	MYLAR
C101	1-162-294-31	CERAMIC
C102A	1-130-475-00	MYLAR
C102	1-124-443-00	ELECT
C103	1-162-199-31	CERAMIC
C104	1-162-199-31	CERAMIC
C106	1-124-477-11	ELECT
C107	1-130-477-00	MYLAR
C108	1-136-159-00	FILM
C109	1-164-159-11	CERAMIC
C110	1-126-233-11	ELECT
C111	1-136-153-00	FILM
C112	1-136-153-00	FILM
C113	1-126-233-11	ELECT
C114	1-164-159-11	CERAMIC
C115	1-161-375-00	CERAMIC
C116	1-161-377-00	CERAMIC
C117	1-124-902-00	ELECT
C200	1-161-379-00	CERAMIC
C201	1-126-101-11	ELECT
C202	1-126-101-11	ELECT
C203	1-164-159-11	CERAMIC
C204	1-164-159-11	CERAMIC
C205	1-162-294-31	CERAMIC
C206	1-162-294-31	CERAMIC
C207	1-164-159-11	CERAMIC
C208	1-136-169-00	FILM
C210	1-164-159-11	CERAMIC
C211	1-164-159-11	CERAMIC
C212	1-126-101-11	ELECT
C213	1-126-101-11	ELECT
C215	1-123-875-11	ELECT
C217	1-136-165-00	FILM
C218	1-123-382-00	ELECT

SECTION 6
ELECTRICAL PARTS LIST

(3) OPTICAL PICK-UP BLOCK (BU-5C)



Remarks

No.	Part No.	Description
151	4-917-565-01	SHAFT, SLED
152	4-917-562-01	INSULATOR
153	7-621-255-15	SCREW +P 2X3
154	4-917-567-01	GEAR (M)
155	4-917-564-01	GEAR (P), FLATNESS

Remarks	No.	Part No.	Description	Remarks
	910	*1-626-304-11	PC BOARD, SL/SP MOTOR	
	911	Δ.8-848-062-01	DEVICE, OPTICS (KSS-150A)	
	M101	X-4917-504-1	ASSY, MOTOR (SLED)	
	M102	X-4917-523-1	ASSY, MOTOR (SPINDLE)	
	S101	1-571-274-11	SWITCH, LEAF (LIMIT IN)	

Note: The components identified by mark Δ or dotted line with mark Δ are critical for safety. Replace only with part number specified.

NOTE:

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- Items marked "★" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- If there are two or more same circuits in a set such as a stereophonic machine, only typical circuit parts may be indicated and capacitors and resistors in other same circuits may be omitted.

CAPACITORS:
MF: μF, PF: μμF.

RESISTORS
• All resistors are in ohms.
• F: nonflammable

COILS
• MMH: mH, UH: μH

SEMICONDUCTORS
In each case, U: μ, for example:
UA...: μA..., UPA...: μPA...,
UPC...: μPC, UPD...: μPD...

The components identified by mark Δ or dotted line with mark Δ are critical for safety. Replace only with part number specified.

Ref.No.	Part No.	Description	Ref.No.	Part No.	Description
901	*1-628-969-11	PC BOARD, DISPLAY (PRC)	C219	1-136-159-00	FILM 0.033MF 5% 50V
902	*1-628-970-11	PC BOARD, SWITCH (PRC)	C220	1-136-165-00	FILM 0.1MF 5% 50V
903	*1-628-971-11	PC BOARD, POWER (PRC)	C221	1-130-479-00	MYLAR 0.0047MF 5% 50V
			C222	1-124-499-11	ELECT 1MF 20% 50V
904	*A-4651-239-A	MOUNTED PCB, MAIN	C223	1-124-927-11	ELECT 4.7MF 20% 50V
905	*1-628-972-11	PC BOARD, HEADPHONE (PRC)	C224	1-124-477-11	ELECT 47MF 20% 16V
906	Δ.1-526-565-00	(E)...AC PLUG ADAPTOR	C225	1-162-294-31	CERAMIC 0.001MF 10% 50V
907	*1-626-838-11	PC BOARD, L.MOTOR	C226	1-162-282-31	CERAMIC 100PF 10% 50V
909	*1-626-837-11	PC BOARD, IN/OUT SW	C227	1-126-233-11	ELECT 22MF 20% 25V
910	*1-626-304-11	SL/SP MOTOR BOARD	C228	1-162-291-31	CERAMIC 560PF 10% 50V
911	Δ.8-848-062-01	PICK-UP OPTICS KSS-150A			
C101A	1-130-475-00	MYLAR 0.0022MF 5% 50V	C229	1-164-159-11	CERAMIC 0.1MF 50V
C101	1-162-294-31	CERAMIC 0.001MF 10% 50V	C230	1-161-375-00	CERAMIC 0.0022MF 20% 16V
C102A	1-130-475-00	MYLAR 0.0022MF 5% 50V	C231	1-126-233-11	ELECT 22MF 20% 25V
C102	1-124-443-00	ELECT 100MF 20% 10V	C232	1-164-159-11	CERAMIC 0.1MF 50V
C103	1-162-199-31	CERAMIC 10PF 5% 50V	C251	1-136-157-00	FILM 0.022MF 5% 50V
C104	1-162-199-31	CERAMIC 10PF 5% 50V	C301	1-164-159-11	CERAMIC 0.1MF 50V
C106	1-124-477-11	ELECT 47MF 20% 16V	C302	1-126-233-11	ELECT 22MF 20% 25V
C107	1-130-477-00	MYLAR 0.0033MF 5% 50V	C303	1-161-379-00	CERAMIC 0.01MF 30% 16V
C108	1-136-159-00	FILM 0.033MF 5% 50V	C304	1-124-902-00	ELECT 0.47MF 20% 50V
C109	1-164-159-11	CERAMIC 0.1MF 50V	C305	1-136-159-00	FILM 0.033MF 5% 50V
C110	1-126-233-11	ELECT 22MF 20% 25V	C306	1-126-233-11	ELECT 22MF 20% 25V
C111	1-136-153-00	FILM 0.01MF 5% 50V	C307	1-164-159-11	CERAMIC 0.1MF 50V
C112	1-136-153-00	FILM 0.01MF 5% 50V	C308	1-164-159-11	CERAMIC 0.1MF 50V
C113	1-126-233-11	ELECT 22MF 20% 25V	C309	1-126-233-11	ELECT 22MF 20% 25V
C114	1-164-159-11	CERAMIC 0.1MF 50V	C310	1-164-159-11	CERAMIC 0.1MF 50V
C115	1-161-375-00	CERAMIC 0.0022MF 30% 16V	C311	1-164-159-11	CERAMIC 0.1MF 50V
C116	1-161-377-00	CERAMIC 0.0047MF 30% 16V	C312	1-164-159-11	CERAMIC 0.1MF 50V
C117	1-124-902-00	ELECT 0.47MF 20% 50V	C361	1-162-203-31	CERAMIC 15PF 5% 50V
C200	1-161-379-00	CERAMIC 0.01MF 30% 16V	C362	1-162-203-31	CERAMIC 15PF 5% 50V
C201	1-126-101-11	ELECT 100MF 20% 16V	C363	1-164-159-11	CERAMIC 0.1MF 50V
C202	1-126-101-11	ELECT 100MF 20% 16V	C371	1-164-159-11	CERAMIC 0.1MF 50V
C203	1-164-159-11	CERAMIC 0.1MF 50V	C372	1-164-159-11	CERAMIC 0.1MF 50V
C204	1-164-159-11	CERAMIC 0.1MF 50V	C373	1-164-159-11	CERAMIC 0.1MF 50V
C205	1-162-294-31	CERAMIC 0.001MF 10% 50V	C374	1-164-159-11	CERAMIC 0.1MF 50V
C206	1-162-294-31	CERAMIC 0.001MF 10% 50V	C375	1-164-159-11	CERAMIC 0.1MF 50V
C207	1-164-159-11	CERAMIC 0.1MF 50V	C382	1-162-286-31	CERAMIC 220PF 10% 50V
C208	1-136-169-00	FILM 0.22MF 5% 50V	C384	1-164-159-11	CERAMIC 0.1MF 50V
C210	1-164-159-11	CERAMIC 0.1MF 50V	C391	1-126-233-11	ELECT 22MF 20% 25V
C211	1-164-159-11	CERAMIC 0.1MF 50V	C392	1-164-159-11	CERAMIC 0.1MF 50V
C212	1-126-101-11	ELECT 100MF 20% 16V	C393	1-164-159-11	CERAMIC 0.1MF 50V
C213	1-126-101-11	ELECT 100MF 20% 16V	C401	1-130-481-00	MYLAR 0.0068MF 5% 50V
C215	1-123-875-11	ELECT 10MF 20% 50V	C402	1-130-475-00	MYLAR 0.0022MF 5% 50V
C217	1-136-165-00	FILM 0.1MF 5% 50V	C403	1-123-357-00	ELECT 22MF 20% 50V
C218	1-123-382-00	ELECT 3.3MF 20% 50V	C404	1-130-475-00	MYLAR 0.0022MF 5% 50V
			C411	1-164-159-11	CERAMIC 0.1MF 50V
			C412	1-164-159-11	CERAMIC 0.1MF 50V

Ref.No.	Part No.	Description			
C451	1-126-177-11	ELECT	100MF	20%	6.3V
C452	1-126-177-11	ELECT	100MF	20%	6.3V
C453	1-164-159-11	CERAMIC	0.1MF		50V
C454	1-162-294-31	CERAMIC	0.001MF	10%	50V
C455	1-162-294-31	CERAMIC	0.001MF	10%	50V
C456	1-164-159-11	CERAMIC	0.1MF		50V
C501	1-130-481-00	MYLAR	0.0068MF	5%	50V
C502	1-130-475-00	MYLAR	0.0022MF	5%	50V
C503	1-123-357-00	ELECT	22MF	20%	50V
C504	1-130-475-00	MYLAR	0.0022MF	5%	50V
C801	1-162-207-31	CERAMIC	22PF	5%	50V
C802	1-162-207-31	CERAMIC	22PF	5%	50V
C803	1-164-159-11	CERAMIC	0.1MF		50V
C804	1-126-177-11	ELECT	100MF	20%	6.3V
C805	1-161-379-00	CERAMIC	0.01MF	30%	16V
C901	1-124-898-11	ELECT	4700MF	20%	16V
C902	1-124-893-11	ELECT	2200MF	20%	10V
C903	1-123-875-11	ELECT	10MF	20%	50V
C904	1-123-875-11	ELECT	10MF	20%	50V
C905	1-124-360-00	ELECT	1000MF	20%	16V
C906	1-126-244-51	ELECT	47000MF		5.5V
C911	1-124-898-11	ELECT	4700MF	20%	16V
C912	1-124-473-11	ELECT	1000MF	20%	10V
C913	1-124-927-11	ELECT	4.7MF	20%	50V
C914	1-164-159-11	CERAMIC	0.1MF		50V
C941	1-124-122-11	ELECT	100MF	20%	50V
C942	1-124-122-11	ELECT	100MF	20%	35V
C990	1-162-599-12	CERAMIC	0.0047MF	20%	400V
CN101	*1-564-706-31	PIN, CONNECTOR (SMALL TYPE) 4P			
CN102	*1-564-710-11	PIN, CONNECTOR (SMALL TYPE) 8P			
CN201	*1-564-339-61	PIN, CONNECTOR 5P			
CN203	*1-564-706-11	PIN, CONNECTOR (SMALL TYPE) 4P			
CN204	*1-564-706-31	PIN, CONNECTOR (SMALL TYPE) 4P			
CN256	*1-564-495-11	PIN, CONNECTOR 2P			
CN260	*1-564-718-11	PIN, CONNECTOR (SMALL TYPE) 2P			
CN301	*1-564-342-11	PIN, CONNECTOR 8P			
CN401	*1-564-708-11	PIN, CONNECTOR (SMALL TYPE) 6P			
CN451	1-564-722-11	PIN, CONNECTOR (SMALL TYPE) 6P			
CN851	*1-564-499-11	PIN, CONNECTOR 6P			
CN901	*1-564-341-11	PIN, CONNECTOR 7P			
CN990	1-551-188-XX	(E)....CORD, POWER			
CN990	1-555-795-00	(AEP)....CORD, POWER, EULO PLUG			
CN990	1-556-035-00	(UK)....CORD, POWER			
D101	8-719-107-94	DIODE 1SS202-1			
D901	8-719-200-02	DIODE 10E2N			
D902	8-719-200-02	DIODE 10E2N			
D903	8-719-107-94	DIODE 1SS202-1			
D904	8-719-107-94	DIODE 1SS202-1			
D905	8-719-928-81	DIODE HZS4.3NB2			
D906	8-719-107-94	DIODE 1SS202-1			
D911	8-719-200-02	DIODE 10E2N			
D912	8-719-200-02	DIODE 10E2N			
D941	8-719-200-02	DIODE 10E2N			
D942	8-719-933-57	DIODE HZS982L			
D943	8-719-107-94	DIODE 1SS202-1			
FLD801	1-519-481-11	INDICATOR TUBE, FLUORESCENT			

Ref.No.	Part No.	Description			
IC101	8-752-034-00	IC CXA1081S			
IC201	8-759-202-01	IC TA7256P			
IC202	8-759-805-18	IC LA6520			
IC204	8-752-032-33	IC CXA1182S			
IC302	8-752-328-62	IC CXD1125Q			
IC303	8-752-323-64	IC CXK5816M-12L			
IC351	8-759-631-61	IC M50747-147SP			
IC352	8-759-820-64	IC LC9600R-183			
IC361	8-752-328-72	IC CXD2550P			
IC362	8-759-937-95	IC PCM56P-S			
IC363	8-759-937-95	IC PCM56P-S			
IC381	8-759-202-13	IC MC74HCU04N			
IC391	8-759-977-71	GP1F31T (OPTICAL DIGITAL OUT)			
IC401	8-759-710-32	IC NJM5532S			
IC451	8-759-700-74	IC NJM4556S			
IC501	8-759-710-32	IC NJM5532S			
IC801	8-752-806-28	IC CXP5058H-622Q			
IC802	8-749-920-03	IC GP1U52			
IC901	8-759-630-21	IC M5290P-16			
IC941	8-759-602-02	IC M5219P			
J401	1-566-921-11	JACK, PIN 2P (LINE OUT L/R)			
J451	1-507-796-71	JACK, LARGE TYPE (HEADPHONES)			
PS201	1-532-605-00	LINK, IC (0.4A)			
PS202	1-532-605-00	LINK, IC (0.4A)			
PS205	1-532-605-00	LINK, IC (0.4A)			
PS206	1-532-605-00	LINK, IC (0.4A)			
PS901	1-532-675-00	LINK, IC			
PS911	1-532-675-00	LINK, IC			
M101	X-4917-504-1	MOTOR ASSY (SLED)			
M102	X-4917-523-1	MOTOR ASSY (SPINDLE)			
M251	A-4608-346-A	MOTOR ASSY, L			
Q101	8-729-801-83	TRANSISTOR 2SB1013			
Q205	8-729-806-28	TRANSISTOR 2SC3402			
Q206	8-729-806-28	TRANSISTOR 2SC3402			
Q401	8-729-107-77	TRANSISTOR 2SC3623-L			
Q402	8-729-107-77	TRANSISTOR 2SC3623-L			
Q501	8-729-107-77	TRANSISTOR 2SC3623-L			
Q502	8-729-107-77	TRANSISTOR 2SC3623-L			
Q521	8-729-900-89	TRANSISTOR DTA114ES			
Q522	8-729-900-61	TRANSISTOR DTA114ES			
Q801	8-729-902-11	TRANSISTOR 2SC2021			
Q901	8-729-820-15	TRANSISTOR 2SB1274			
Q911	8-729-808-76	TRANSISTOR 2SD1913SA			
Q921	8-729-900-61	TRANSISTOR DTA114ES			
Q922	8-729-900-89	TRANSISTOR DTA114ES			
Q923	8-729-900-89	TRANSISTOR DTA114ES			
Q941	8-729-802-22	TRANSISTOR 2SB1014			
R101	1-247-806-11	CARBON	91	5%	1/4W
R102	1-214-092-00	METAL	22	1%	1/4W
R103	1-249-417-11	CARBON	1K	5%	1/4W
R104	1-249-433-11	CARBON	22K	5%	1/4W
R107	1-247-864-11	CARBON	24K	5%	1/4W
R108	1-249-425-11	CARBON	4.7K	5%	1/4W
R109	1-249-425-11	CARBON	4.7K	5%	1/4W
R110	1-249-432-11	CARBON	18K	5%	1/4W
R111	1-249-432-11	CARBON	18K	5%	1/4W

Note: The components identified by mark Δ or dotted line with mark Δ are critical for safety. Replace only with part number specified.

Ref.No.	Part No.	Description			
R112	1-249-441-11	CARBON	100K	5%	1/4W
R201	1-249-393-11	CARBON	10	5%	1/4W
R203	1-249-393-11	CARBON	10	5%	1/4W
R204	1-249-381-11	CARBON	1	5%	1/4W
R205	1-247-882-11	CARBON	130K	5%	1/4W
R206	1-247-883-00	CARBON	150K	5%	1/4W
R207	1-249-381-11	CARBON	1	5%	1/4W
R208	1-247-882-11	CARBON	130K	5%	1/4W
R210	1-247-883-00	CARBON	150K	5%	1/4W
R211	1-249-437-11	CARBON	47K	5%	1/4W
R212	1-249-435-11	CARBON	33K	5%	1/4W
R213	1-249-429-11	CARBON	10K	5%	1/4W
R214	1-249-423-11	CARBON	3.3K	5%	1/4W
R216	1-249-393-11	CARBON	10	5%	1/4W
R217	1-249-438-11	CARBON	56K	5%	1/4W
R218	1-249-424-11	CARBON	3.9K	5%	1/4W
R219	1-249-424-11	CARBON	3.9K	5%	1/4W
R220	1-249-424-11	CARBON	3.9K	5%	1/4W
R221	1-249-424-11	CARBON	3.9K	5%	1/4W
R222	1-247-882-11	CARBON	130K	5%	1/4W
R223	1-249-393-11	CARBON	10	5%	1/4W
R224	1-249-393-11	CARBON	10	5%	1/4W
R228	1-247-896-11	CARBON	510K	5%	1/4W
R229	1-249-435-11	CARBON	33K	5%	1/4W
R230	1-247-889-00	CARBON	270K	5%	1/4W
R231	1-249-440-11	CARBON	82K	5%	1/4W
R232	1-249-429-11	CARBON	10K	5%	1/4W
R233	1-249-414-11	CARBON	560	5%	1/4W
R234	1-249-441-11	CARBON	100K	5%	1/4W
R235	1-215-434-00	METAL	3.6K	1%	1/6W
R236	1-249-433-11	CARBON	22K	5%	1/4W
R237	1-249-441-11	CARBON	100K	5%	1/4W
R243	1-249-432-11	CARBON	18K	5%	1/4W
R244	1-249-432-11	CARBON	18K	5%	1/4W
R301	1-247-903-00	CARBON	1M	5%	1/4W
R303	1-215-469-00	METAL	100K	1%	1/6W
R304	1-215-469-00	METAL	100K	1%	1/6W
R305	1-249-429-11	CARBON	10K	5%	1/4W
R306	1-249-441-11	CARBON	100K	5%	1/4W
R307	1-249-429-11	CARBON	10K	5%	1/4W
R308	1-249-417-11	CARBON	1K	5%	1/4W
R309	1-249-433-11	CARBON	22K	5%	1/4W
R310	1-247-903-00	CARBON	1M	5%	1/4W
R311	1-249-429-11	CARBON	10K	5%	1/4W
R312	1-249-429-11	CARBON	10K	5%	1/4W
R313	1-249-429-11	CARBON	10K	5%	1/4W
R314	1-249-429-11	CARBON	10K	5%	1/4W
R315	1-249-429-11	CARBON	10K	5%	1/4W
R316	1-249-429-11	CARBON	10K	5%	1/4W
R317	1-249-429-11	CARBON	10K	5%	1/4W
R318	1-249-429-11	CARBON	10K	5%	1/4W
R319	1-249-429-11	CARBON	10K	5%	1/4W
R320	1-249-429-11	CARBON	10K	5%	1/4W
R321	1-249-429-11	CARBON	10K	5%	1/4W
R323	1-249-429-11	CARBON	10K	5%	1/4W
R331	1-249-417-11	CARBON	1K	5%	1/4W
R332	1-249-417-11	CARBON	1K	5%	1/4W

Ref.No.	Part No.	Description			
R333	1-249-417-11	CARBON	1K	5%	1/4W
R334	1-249-417-11	CARBON	1K	5%	1/4W
R335	1-249-417-11	CARBON	1K	5%	1/4W
R336	1-249-417-11	CARBON	1K	5%	1/4W
R361	1-249-413-11	CARBON	470	5%	1/4W
R362	1-249-417-11	CARBON	1K	5%	1/4W
R363	1-249-420-11	CARBON	1.8K	5%	1/4W
R364	1-249-411-11	CARBON	330	5%	1/4W
R371	1-249-418-11	CARBON	1.2K	5%	1/4W
R372	1-249-415-11	CARBON	680	5%	1/4W
R373	1-249-415-11	CARBON	680	5%	1/4W
R374	1-249-411-11	CARBON	330	5%	1/4W
R375	1-249-411-11	CARBON	330	5%	1/4W
R381	1-249-421-11	CARBON	2.2K	5%	1/4W
R391	1-249-408-11	CARBON	180	5%	1/4W
R401	1-247-712-11	CARBON	820	5%	1/4W
R402	1-247-712-11	CARBON	820	5%	1/4W
R403	1-249-469-11	CARBON	100K	5%	1/4W
R404	1-247-704-11	CARBON	220	5%	1/4W
R405	1-247-710-11	CARBON	560	5%	1/4W
R406	1-247-704-11	CARBON	220	5%	1/4W
R411	1-249-433-11	CARBON	22K	5%	1/4W
R412	1-249-425-11	CARBON	4.7K	5%	1/4W
R413	1-249-425-11	CARBON	4.7K	5%	1/4W
R451	1-249-417-11	CARBON	1K	5%	1/4W
R452	1-249-423-11	CARBON	3.3K	5%	1/4W
R453	1-249-433-11	CARBON	22K	5%	1/4W
R454	1-249-402-11	CARBON	56	5%	1/4W
R501	1-247-712-11	CARBON	820	5%	1/4W
R502	1-247-712-11	CARBON	820	5%	1/4W
R503	1-249-469-11	CARBON	100K	5%	1/4W
R504	1-247-704-11	CARBON	220	5%	1/4W
R505	1-247-710-11	CARBON	560	5%	1/4W
R506	1-247-704-11	CARBON	220	5%	1/4W
R511	1-249-433-11	CARBON	22K	5%	1/4W
R512	1-249-425-11	CARBON	4.7K	5%	1/4W
R513	1-249-425-11	CARBON	4.7K	5%	1/4W
R521	1-249-429-11	CARBON	10K	5%	1/4W
R522	1-249-441-11	CARBON	100K	5%	1/4W
R551	1-249-417-11	CARBON	1K	5%	1/4W
R552	1-249-423-11	CARBON	3.3K	5%	1/4W
R553	1-249-433-11	CARBON	22K	5%	1/4W
R554	1-249-402-11	CARBON	56	5%	1/4W
R845	1-249-429-11	CARBON	10K	5%	1/4W
R901	1-249-425-11	CARBON	4.7K	5%	1/4W
R902	1-249-413-11	CARBON	470	5%	1/4W
R904	1-249-422-11	CARBON	2.7K	5%	1/4W
R905	1-249-405-11	CARBON	100	5%	1/4W
R911	1-249-425-11	CARBON	4.7K	5%	1/4W
R912	1-249-399-11	CARBON	33	5%	1/4W
R913	1-249-399-11	CARBON	33	5%	1/4W
R941	1-212-857-00	FUSIBLE	10	5%	1/4W
R942	1-249-433-11	CARBON	22K	5%	1/4W
R943	1-249-429-11	CARBON	10K	5%	1/4W
R944	1-249-417-11	CARBON	1K	5%	1/4W
R945	1-249-434-11	CARBON	27K	5%	1/4W
R946	1-249-425-11	CARBON	4.7K	5%	1/4W

Ref.No.	Part No.	Description
RV101	1-228-995-00	RES, ADJ, CARBON 22K
RV102	1-228-995-00	RES, ADJ, CARBON 22K
RV103	1-228-995-00	RES, ADJ, CARBON 22K
RV104	1-228-993-00	RES, ADJ, CARBON 4.7K
RV201	1-228-990-00	RES, ADJ, METAL GLAZE 1K
RV201	1-238-394-11	RES, ADJ, METAL GLAZE 1K
RV451	1-238-403-11	RES, VAR, CARBON 20K/20K (LEVEL)
S001	△.1-571-069-31	(E)...SWITCH, VOLTAGE CHANGE (VOLTAGE SELECTOR)
S101	1-571-274-11	LEAF SWITCH (LIMITIN)
S251	1-571-300-11	SWITCH, ROTARY
S801	1-554-303-21	SWITCH, KEY BOARD (1)
S802	1-554-303-21	SWITCH, KEY BOARD (2)
S803	1-554-303-21	SWITCH, KEY BOARD (3)
S804	1-554-303-21	SWITCH, KEY BOARD (4)
S805	1-554-303-21	SWITCH, KEY BOARD (5)
S806	1-554-303-21	SWITCH, KEY BOARD (6)
S807	1-554-303-21	SWITCH, KEY BOARD (7)
S808	1-554-303-21	SWITCH, KEY BOARD (8)
S809	1-554-303-21	SWITCH, KEY BOARD (9)
S810	1-554-303-21	SWITCH, KEY BOARD (10)
S811	1-554-303-21	SWITCH, KEY BOARD (11)
S812	1-554-303-21	SWITCH, KEY BOARD (12)
S813	1-554-303-21	SWITCH, KEY BOARD (13)
S814	1-554-303-21	SWITCH, KEY BOARD (14)
S815	1-554-303-21	SWITCH, KEY BOARD (15)
S816	1-554-303-21	SWITCH, KEY BOARD (16)
S817	1-554-303-21	SWITCH, KEY BOARD (17)
S818	1-554-303-21	SWITCH, KEY BOARD (18)
S819	1-554-303-21	SWITCH, KEY BOARD (19)
S820	1-554-303-21	SWITCH, KEY BOARD (20)
S821	1-554-303-21	SWITCH, KEY BOARD (>20)
S822	1-554-303-21	SWITCH, KEY BOARD (CHECK)
S823	1-554-303-21	SWITCH, KEY BOARD (CLEAR)
S824	1-554-303-21	SWITCH, KEY BOARD (FILE RECALL)
S825	1-554-303-21	SWITCH, KEY BOARD (EDIT/TIME FADE)
S826	1-554-303-21	SWITCH, KEY BOARD (II)
S827	1-554-303-21	SWITCH, KEY BOARD (▷)
S828	1-554-303-21	SWITCH, KEY BOARD (△ OPEN/CLOSE)
S829	1-554-303-21	SWITCH, KEY BOARD (C. INDEX)
S830	1-554-303-21	SWITCH, KEY BOARD (CONTINUE/SINGLE)
S831	1-554-303-21	SWITCH, KEY BOARD (FILE)
S832	1-554-303-21	SWITCH, KEY BOARD (▶▶)
S833	1-554-303-21	SWITCH, KEY BOARD (◀◀)
S834	1-554-303-21	SWITCH, KEY BOARD (▷◁)
S835	1-554-303-21	SWITCH, KEY BOARD (◁◁)
S836	1-554-303-21	SWITCH, KEY BOARD (SHUFFLE)

Ref.No.	Part No.	Description
S837	1-554-303-21	SWITCH, KEY BOARD (PROGRAM)
S838	1-554-303-21	SWITCH, KEY BOARD (REPEAT)
S839	1-554-303-21	SWITCH, KEY BOARD (AUTO SPACE)
S840	1-554-303-21	SWITCH, KEY BOARD (TIME)
S841	1-554-303-21	SWITCH, KEY BOARD (■)
S842	1-554-303-21	SWITCH, KEY BOARD (ERASE)
S843	1-554-303-21	SWITCH, KEY BOARD (FADER)
S851	1-571-305-11	SWITCH, PUSH (1 KEY)(POWER)
T990	△.1-449-558-11	(AEP,UK)...TRANSFORMER, POWER
T990	△.1-449-559-11	(E).....TRANSFORMER, POWER
TB901	*1-535-120-00	TERMINAL
TB990	△.1-535-139-00	(E)....BASE POST 22MM (10MM PITCH) 2P
△TB990	*1-535-140-00	(AEP,UK) ...BASE POST 22MM (10MM PITCH) 3P
TB991	△.1-535-416-00	TERMINAL
TB992	△.1-535-416-00	TERMINAL
X301	1-577-157-11	VIBRATOR, CERAMIC (8MHz)
X361	1-567-926-11	VIBRATOR, CRYSTAL (16.93MHz)
X801	1-567-192-11	OSCILLATOR, CERAMIC (4MHz)

ACCESSORY & PACKING MATERIAL

1-465-067-11	REMOTE COMMANDER (RM-D370)
1-558-543-11	CORD, CONNECTION
3-750-056-11	MANUAL, INSTRUCTION (ENGLISH, FRENCH, SPANISH, PORTUGUESE)
3-750-056-41	(AEP)...MANUAL, INSTRUCTION (GERMAN, DUTCH, SWEDISH, ITALIAN)
*3-795-629-11	(AEP)...INSTRUCTION
*4-922-998-01	CUSHION
*4-927-316-01	INDIVIDUAL CARTON
4-928-079-01	COVER, BATTERY (FOR COMMANDER)
7-632-650-75	SHEET, PROTECTION (500MM)

Note: The components identified by mark △ or dotted line with mark △ are critical for safety. Replace only with part number specified.

Troubleshooting Guide

Before going through the check list below, first refer back to the connections and operating procedures.

Symptom	Cause	Remedy
The disc tray does not close.	The disc is not placed correctly.	Place the disc correctly on the disc tray.
Play does not start.	Dirty disc.	Clean the disc.
	The disc is inserted upside down.	Insert the disc with the printed side up.
	The player is in the pause mode.	Press ▶▶ (or II) on the remote commander) to release pause.
	Pause is engaged.	Press ▶▶ (or II) on the remote commander).
	Moisture condensation.	Leave the player turned on for approximately one hour.
Sound is not heard.	Loose connection.	Insert the plug firmly.
	Connection is incorrect.	Check the connection.
Play does not begin from the first selection.	The player is in the PROGRAM, or SHUFFLE mode.	Press CONTINUE.
"no disc" is displayed	There is no disc in the unit.	Insert a disc.
II is displayed.	▶▶ was continuously pressed at the end of the disc.	Press ◀◀ or ◀◀ to return to normal indication.
The remote commander does not operate the unit.	The batteries are run down.	Replace both batteries.
	The remote commander is not pointed at the remote sensor.	Point the remote commander at the sensor.
	There is an obstacle between the remote commander and the unit.	Remove the obstacle.
	The remote commander is too far from the unit.	Move closer.
Any operation is not possible.	The internal control program may not run.	Turn off the power and turn it on again.