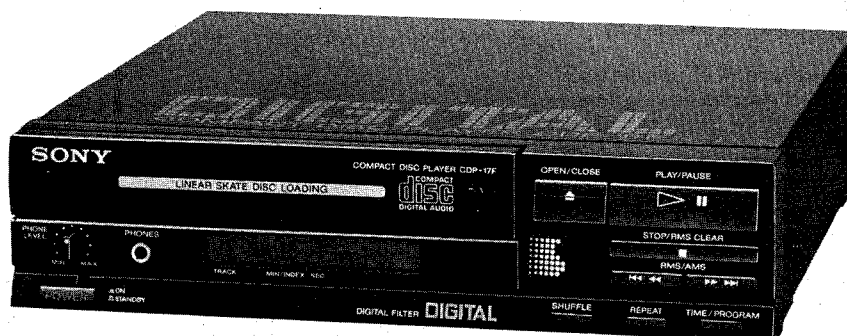


CDP-17F

SERVICE MANUAL

AEP Model
UK Model
E Model
G-AEP Model



SPECIFICATIONS

General

Power requirements

Model for the United Kingdom:
240 V AC
Model for the European countries:
220 V AC
Model for other countries:
110 - 120 and
220 - 240 V AC adjustable

Power consumption

12 W

Dimensions

Approx. 215 × 53 × 228 mm (w/h/d)
(8½ × 2½ × 9 inches)
including projecting parts and
controls

Weight

Approx. 2.0 kg (4 lbs 7 oz), net

Supplied accessory

Connecting cord (2 phono plugs ↔ 2 phono plugs) (1)

Design and specifications subject to change without
notice.

System

Compact disc digital audio
system

Laser

Semiconductor laser ($\lambda = 780 \text{ nm}$)

Laser output

Max. 0.4 mW*

* This output is the value measured at a
distance of about 1.6 mm from the
objective lens surface on the Optical
Pick-up Block.

Frequency response 5 Hz - 20 kHz ($\pm 0.5 \text{ dB}$)

Signal to noise ratio More than 95 dB

Dynamic range More than 90 dB

Harmonic distortion Less than 0.05% (at 1 kHz)

Channel separation More than 90 dB

Wow and flutter Below measurable limit ($\pm 0.001\%$
W PEAK)

	Type	Output level	Load impedance
LINE OUT	Phono jack	2 V (50 kilohms)	more than 10 kilohms
HEAD- PHONES	Stereo minijack	4.5 mW (32 ohms)	—

SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY SHADING AND 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.

COMPACT DISC PLAYER
SONY®



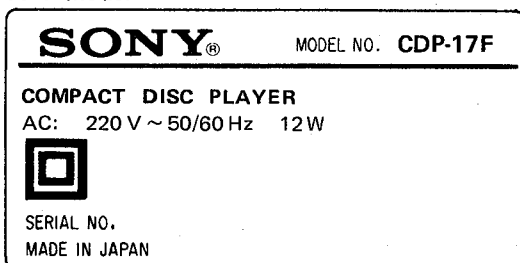
FEATURES

- Program play for playing the selections in a desired order
- Shuffle play for playing the selections in a random order
- Repeat function for a single selection, the whole disc, program play, or shuffle play
- Easy-to-read display window shows the track number being played, elapsed playing time, and the remaining time

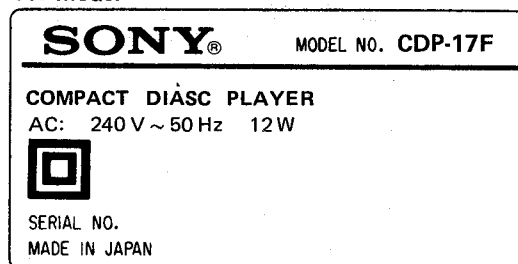
MODEL IDENTIFICATION

— Specification Label —

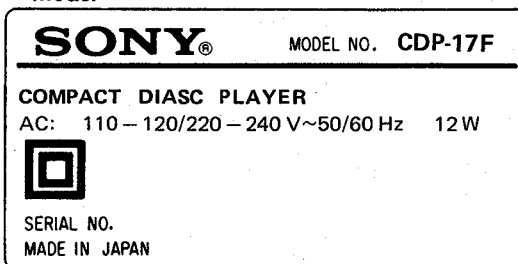
AEP model



UK model



E model



CONTENTS

<u>Section</u>	<u>Title</u>	<u>Page</u>
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FEATURES		2
NOTES ON HANDLING THE OPTICAL BLOCK (KSS-160C)		3
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1-1.	LOCATION AND FUNCTION OF CONTROLS	4
1-2.	WIRE ROPE HANGING	5
SECTION 2	ADJUSTMENTS	
ELECTRICAL ADJUSTMENTS		6-9
SECTION 3	DIAGRAMS	
3-1.	MOUNTING DIAGRAM	10-12
3-2.	SCHEMATIC DIAGRAM	13-14
SECTION 4	EXPLODED VIEW AND PARTS LIST	15-18
SECTION 5	ELECTRICAL PARTS LIST	19-22
TROUBLESHOOTING		22

SECTION 1 OUTLINE

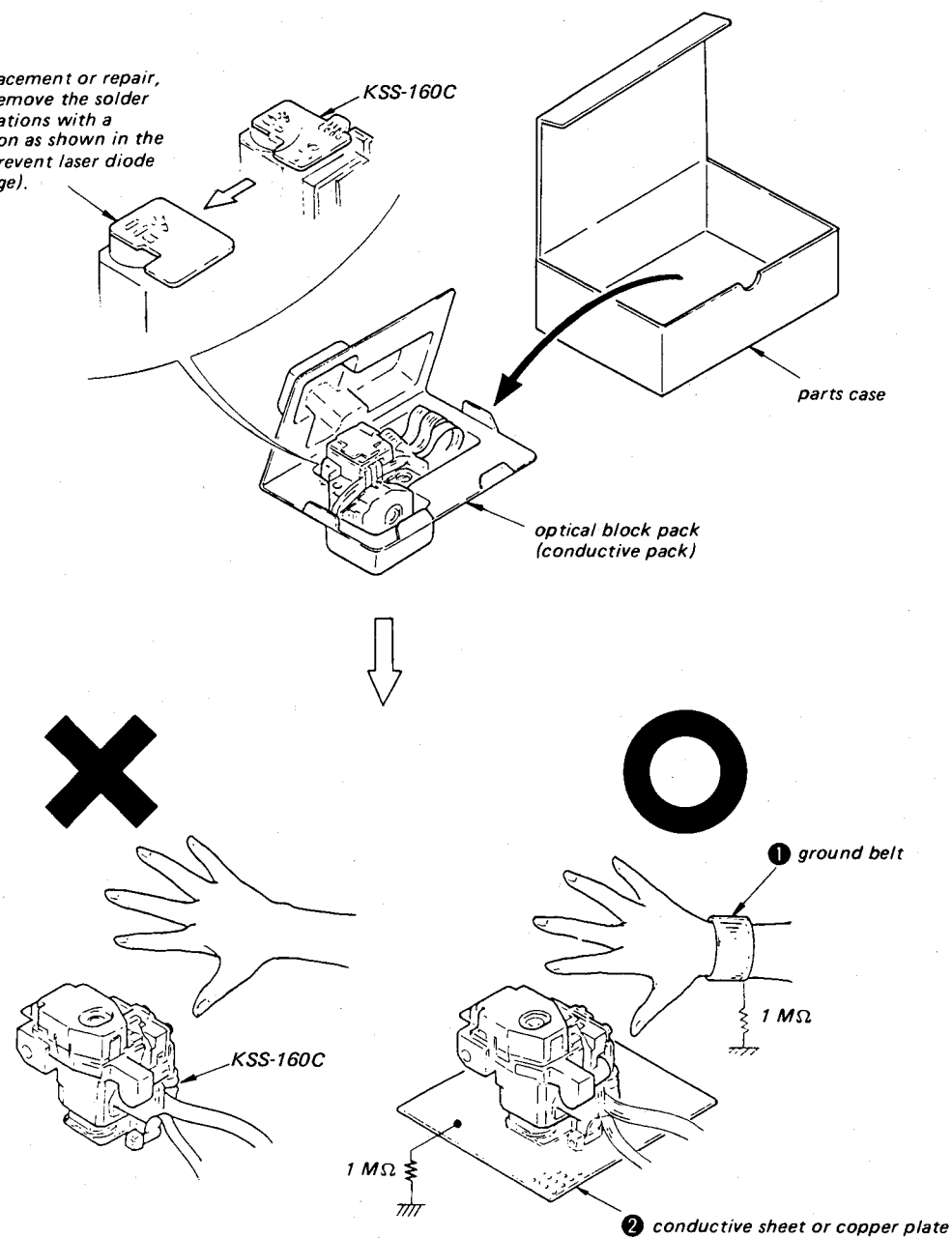
NOTES ON HANDLING THE OPTICAL BLOCK (KSS-160C)

The laser diode inside the optical block may be damaged by static electricity in clothes or the human body.

The following procedures are required when unpacking and repairing KSS-160C in order to avoid static electricity damage.

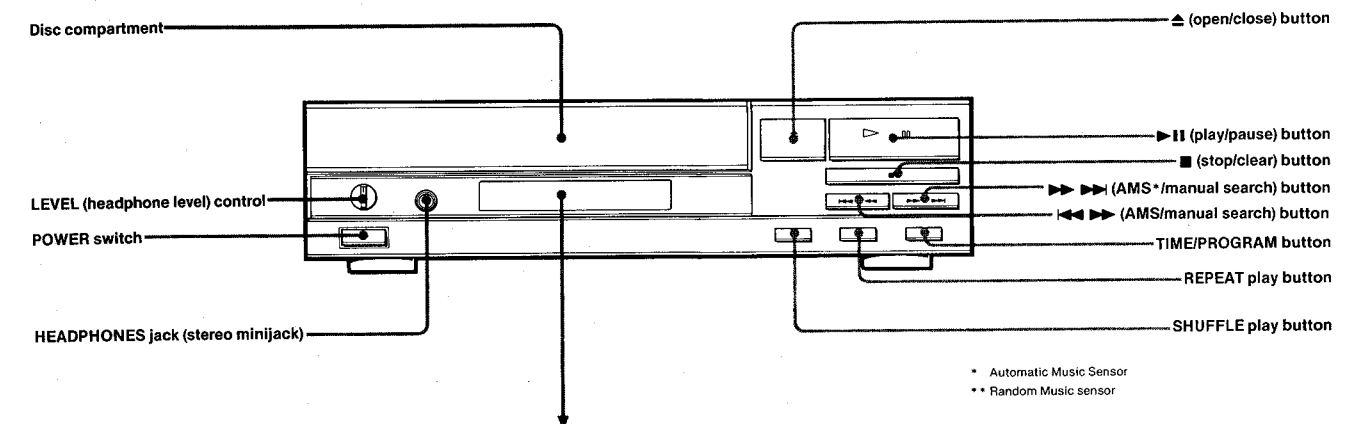
1. Body grounding
Be sure to wear a ground belt (less than $10^8 \Omega$) in order to release the static electricity stored in the body.
2. Workbench grounding
Place a conductive sheet (less than $10^9 \Omega$) or copper plate on the bench where KSS-160C is to be placed to ground it.
3. Static electricity in the clothing will not be released by the ground belt, so be careful not to let KSS-160C touch clothing.

During replacement or repair, be sure to remove the solder at these locations with a soldering iron as shown in the figure (to prevent laser diode static damage).



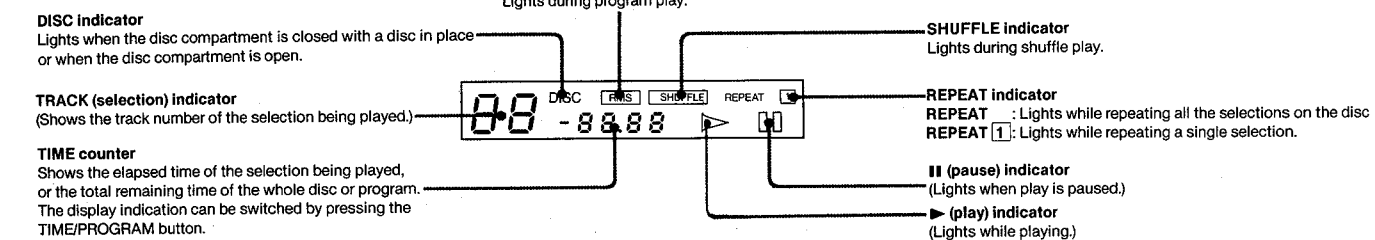
1-1. LOCATION AND FUNCTION OF CONTROLS

FRONT PANEL

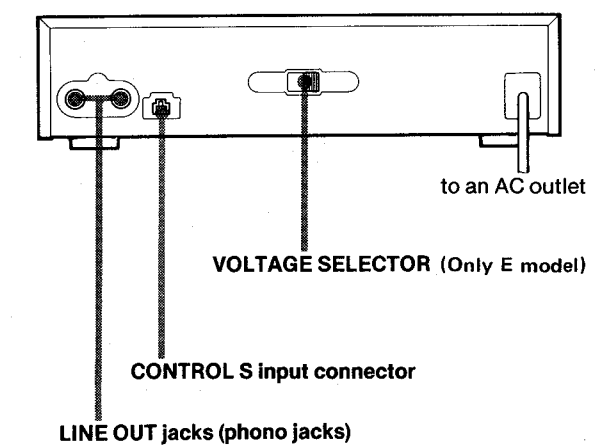


* Automatic Music Sensor
** Random Music sensor

DISPLAY WINDOW



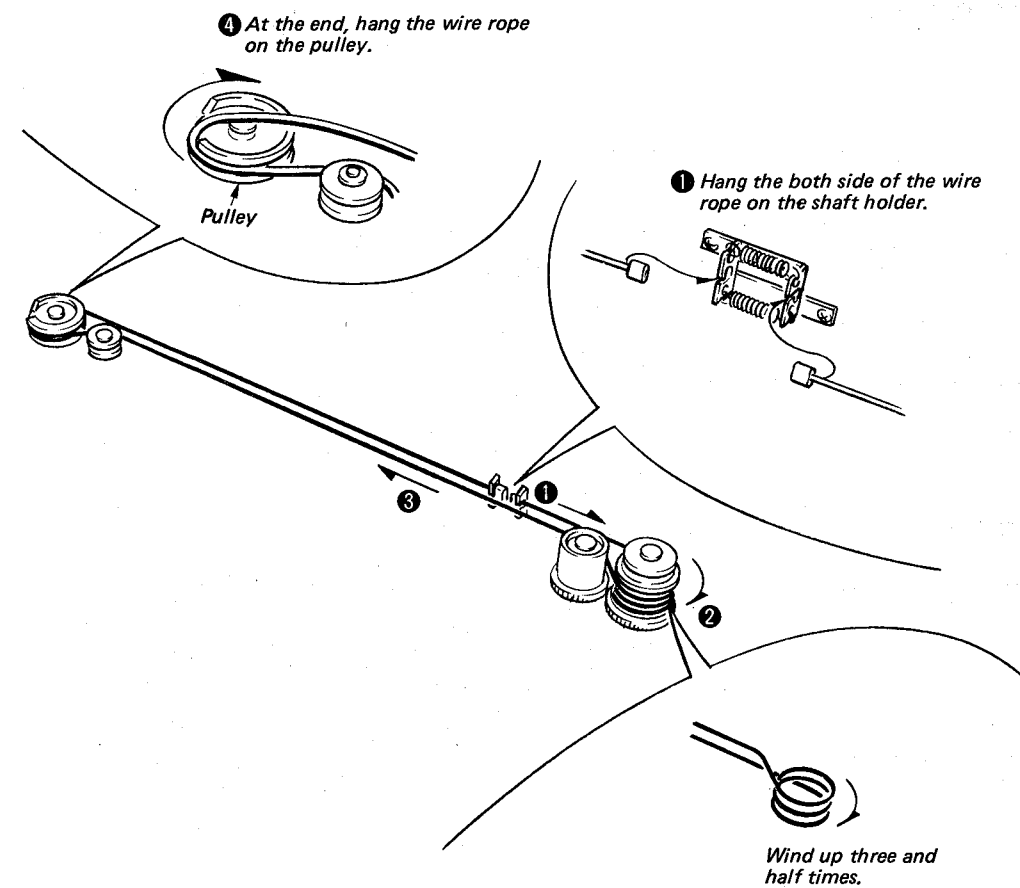
REAR PANEL



SECTION 2 ADJUSTMENTS

1-2. WIRE ROPE HANGING

Proceed from ① to ④.



ELECTRICAL ADJUSTMENTS

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

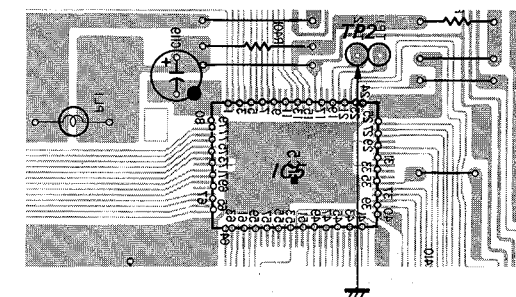
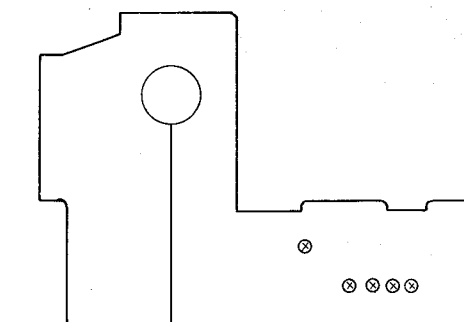
Adjustment Mode

1. Connect main amp board test point ADJ and GND.
This is to prevent the disc table from opening even though pits are not read, by making micro-computer IC5 pin ①9 low.
2. Turn POWER switch on.
(To reset microcomputer.)

After adjustment, remove the lead wire connecting test points ADJ and GND.

Adjustment Location: main board

[MAIN BOARD] — Component Side —



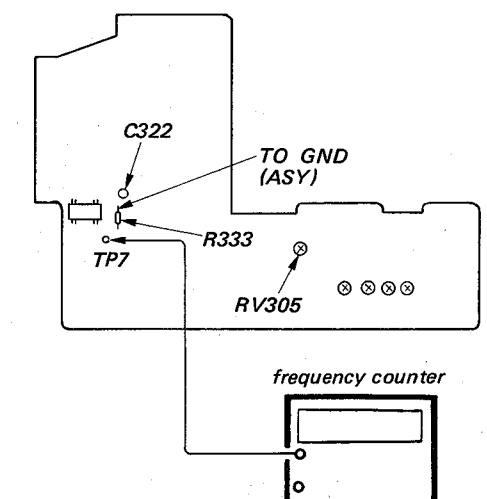
RF PLL Adjustment

Procedure:

1. Turn POWER switch ON (stop mode).
2. Connect main board test point ASY and GND.
3. Connect the frequency counter to main board test points TP PLCK and TP GND.
4. Adjust main board RV305 so that reading on frequency counter is 4.3218 MHz ±30 kHz.
5. Reconnect lead wires connected in adjustment mode.
6. Put disc (YEDS-1) in and press ▷ PLAY button.
7. Confirm that reading on frequency counter is 4.3218 MHz.

Adjustment Location: main board

[MAIN BOARD] — Component Side —

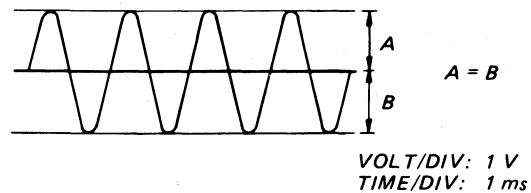


E-F Balance Adjustment

This adjustment should be made when replacing TOP (T-type Optical Pick-up).

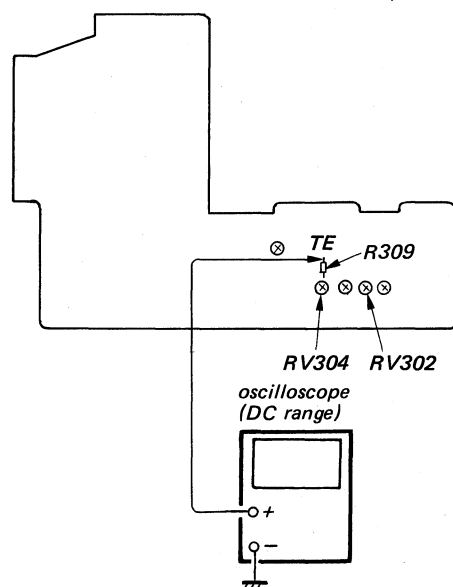
Procedure:

1. Connect oscilloscope to test point TE.
2. Put set into adjustment mode. (See page 6.)
3. Turn RV304 fully clockwise (minimum).
4. Turn POWER switch on.
5. Put disc (YEDS-1 or YEDS-18) in and press ► button.
6. Adjust RV302 so that the traverse waveform is symmetrical above and below.
7. Set RV304 to its original position.
8. After adjustment, cancel the adjustment mode. (See page 6.)



Adjustment Location: main board

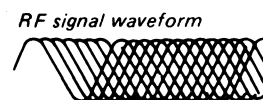
[MAIN BOARD] — Component Side —

**Focus Bias Adjustment**

This adjustment should be made when replacing TOP (T-type Optical Pick-up).

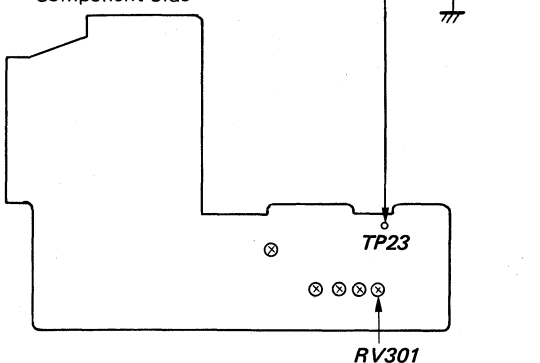
Procedure:

1. Connect oscilloscope to test points RF and GND.
2. Turn POWER switch on.
3. Put disc (YSDS-1) in and press ► button.
4. Adjust RV301 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.



Adjustment Location: main board

[MAIN BOARD] — Component Side —

**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.

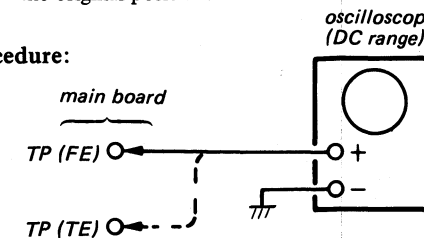
- When gain is raised, the noise when the 2-axis device operates increases.
- When gain is lowered, it is more susceptible to mechanical shock and skipping occurs more easily.
- When gain adjustment is off, the symptoms below appear.

Symptoms	Gain	Focus	Tracking
• The time until music starts becomes longer for STOP → ►PLAY or automatic selection (►) buttons pressed.		low	low or high
• Music does not start and disc continues to rotate for STOP → ►PLAY or automatic selection (►) 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

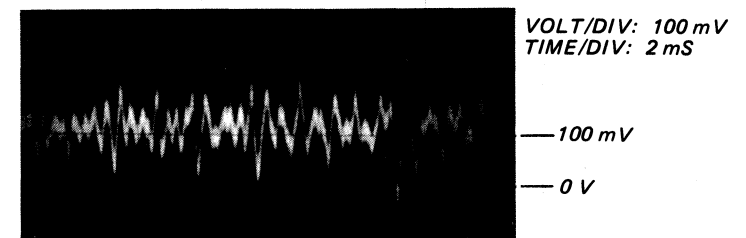
The following is a simple adjustment method.

— 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.

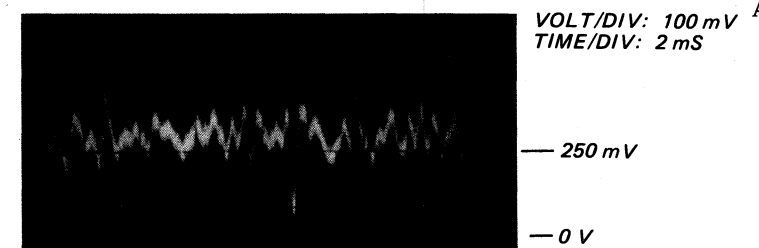
Procedure:

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. Put set in adjustment mode. (See page 6.)
3. Insert disc (YEDS-1) and press ► PLAY button.
4. Connect oscilloscope to main board TP FE.
5. Adjustment RV303 so that the waveform is as shown in the figure below. (focus gain adjustment)

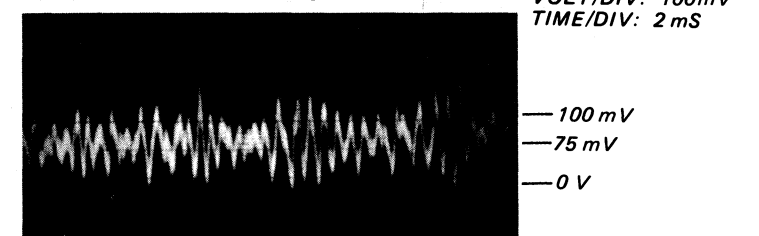


- Inccrnt Examples (DC level changes more than on adjusted waveform)

low focus gain

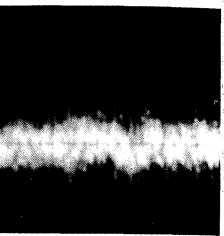


high focus gain

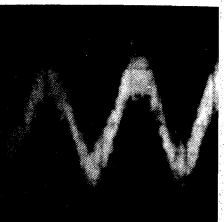


6. Connect oscilloscope

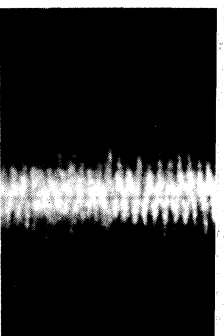
7. Adjust RV304 so the figure below.



low ti

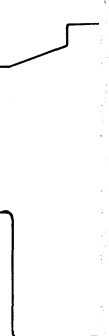


high tracking gain
(higher fundameta



Adjustment Location:

[MAIN BO]



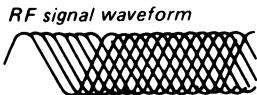
REFERENCE

Focus Bias Adjustment

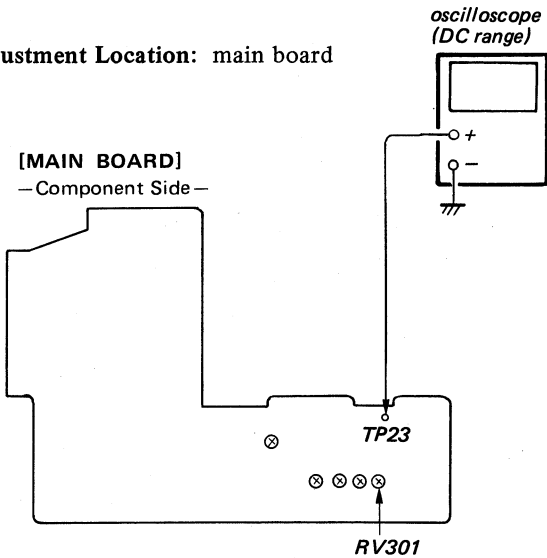
This adjustment should be made when replacing TOP (T-type Optical Pick-up).

Procedure:

1. Connect oscilloscope to test points RF and GND.
2. Turn POWER switch on.
3. Put disc (YSDS-1) in and press ► button.
4. Adjust RV301 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.



Adjustment Location: main board



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.

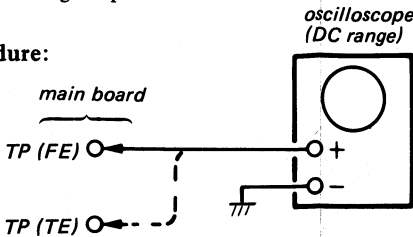
Symptoms	Gain	Focus	Tracking
• The time until music starts becomes longer for STOP →▶PLAY or automatic selection (▶) buttons pressed.		low	low or high
• Music does not start and disc continues to rotate for STOP →▶PLAY or automatic selection (▶) buttons pressed.)		—	low
• Disc table opens shortly after 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 simple adjustment method.

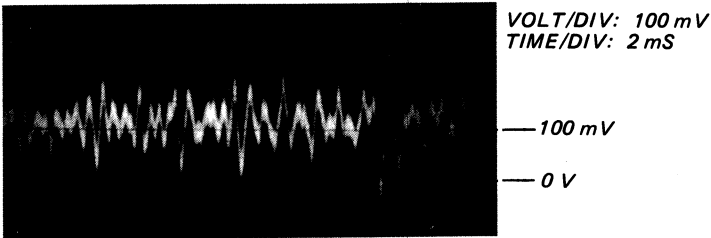
Simple Adjustment

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.

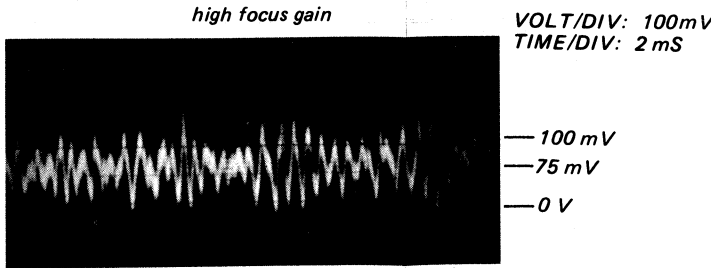
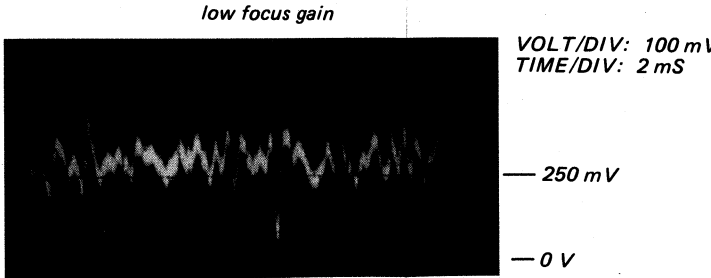
Procedure:



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. Put set in adjustment mode. (See page 6.)
3. Insert disc (YEDS-1) and press ► PLAY button.
4. Connect oscilloscope to main board TP FE.
5. Adjustment RV303 so that the waveform is as shown in the figure below. (focus gain adjustment)

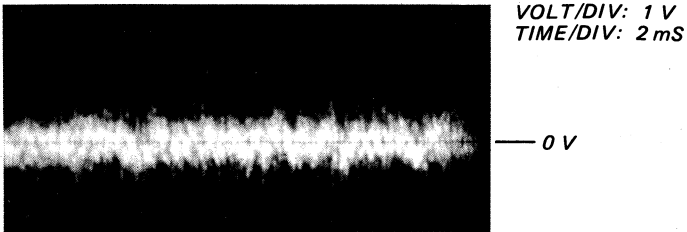


- Inccrnt Examples (DC level changes more than on adjusted waveform)

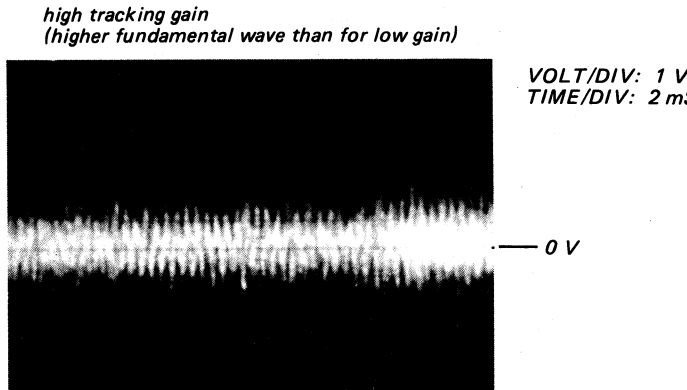
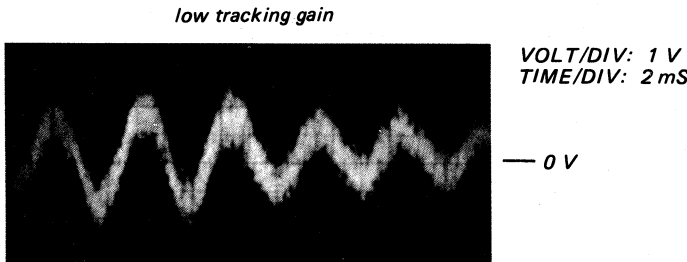


6. Connect oscilloscope to main board TP TE.

7. Adjust RV304 so that the waveform is as shown in the figure below. (tracking gain adjustment)

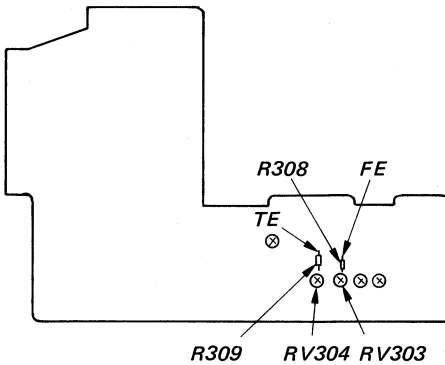


- Incorrect Examples (fundamental wave appears)



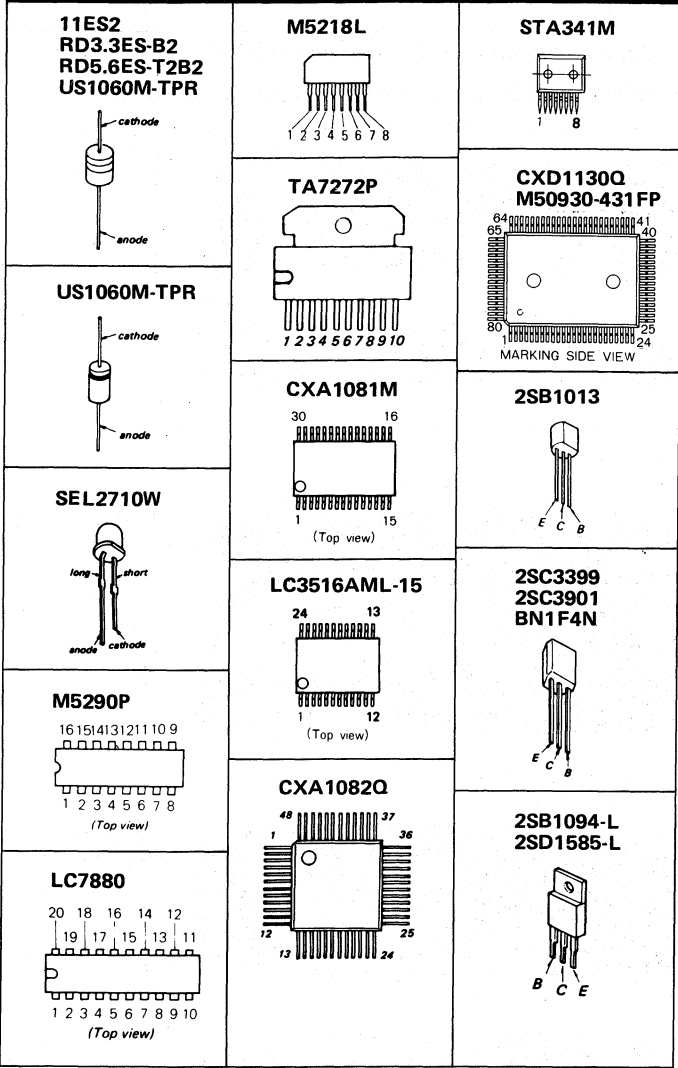
Adjustment Location: main board

[MAIN BOARD] —Component Side—



SECTION 3 DIAGRAMS

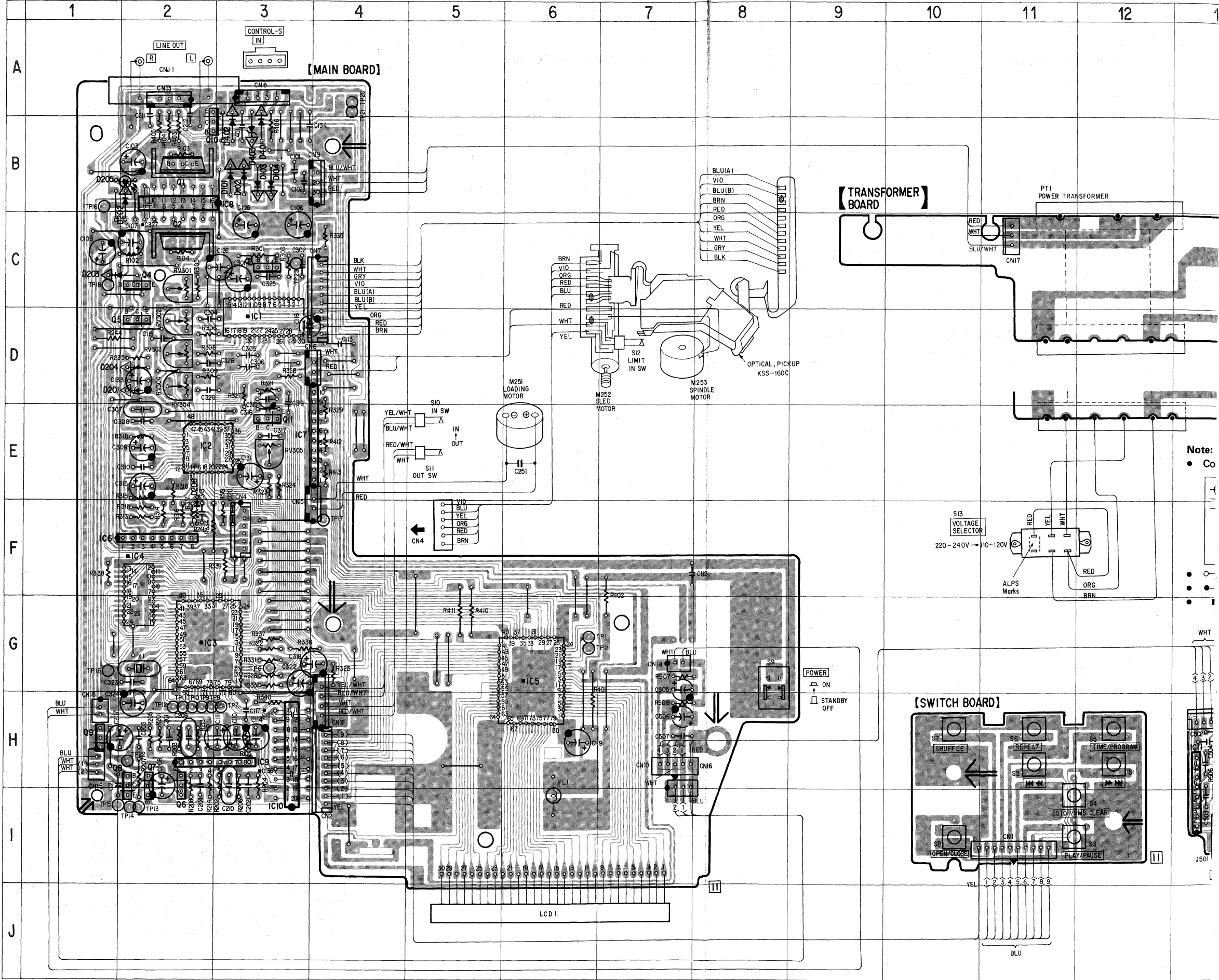
• SEMICONDUCTOR LEAD LAYOUTS



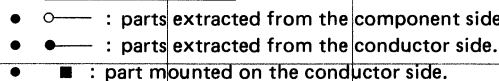
• SEMICONDUCTOR LOCATIONS

Ref. No.	Location	Ref. No.	Location
D101	B-3	IC6	F-1
D102	B-3	IC7	E-3
D103	B-3	IC8	B-2
D104	B-3	IC9	H-3
D201	D-1	IC10	I-3
D202	B-1	IC11	H-13
D203	C-1		
D204	D-1	Q1	B-2
D205	B-1	Q2	C-2
D206	E-2	Q3	C-3
D401	B-3	Q4	C-2
D402	B-3	Q5	D-1
D403	B-3	Q6	I-2
		Q7	H-2
IC1	D-3	Q8	H-1
IC2	E-2	Q9	H-1
IC3	G-2	Q10	B-2
IC4	F-2	Q11	E-3
IC5	G-6		

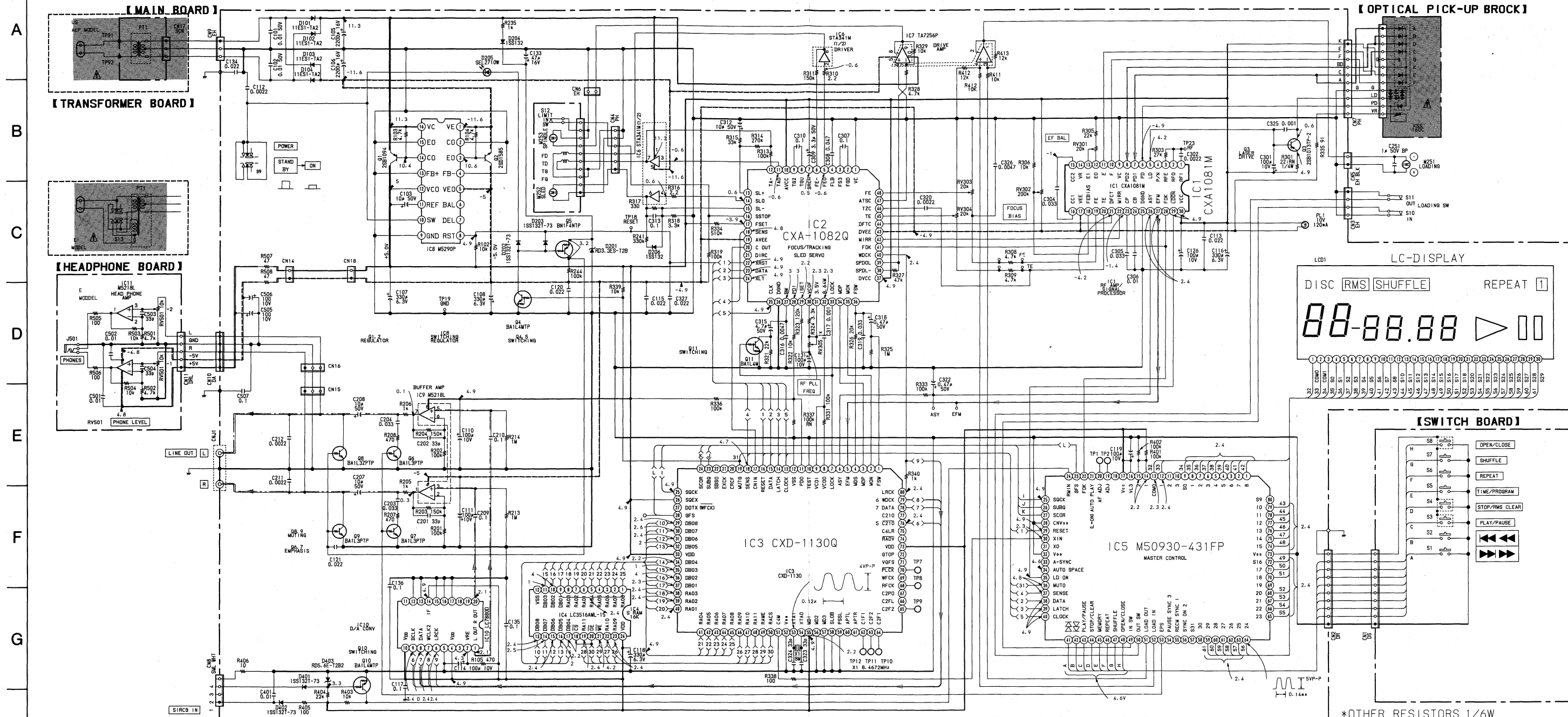
3-1. MOUNTING DIAGRAM



3-1. MOUNTING DIAGRAM



3-2. SCHEMATIC DIAGRAM



Note:

- 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 $1/4W$ or less unless otherwise specified.
- --- : L-CH Signal path.
- --- : R-CH Signal path.
- --- : B+ bus.
- --- : B- bus.
- --- : adjustment for repair.
- Voltages are dc with respect to ground unless otherwise noted.
- Readings are taken under no-signal (detuned) conditions with a VOM (50 k Ω/V).
- Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken to ground in PLAY mode by using oscilloscope.

Switches:

Ref. No.	Switch	Position
S1	▶▶▶▶	OFF
S2	◀◀◀◀	OFF
S3	PLAY/PAUSE	OFF
S4	STOP/RMS CLEAR	OFF
S5	TIME/PROGRAM	OFF
S6	REPEAT	OFF
S7	SHUFFLE	OFF
S8	OPEN/CLOSE	OFF
S9	POWER STAND BY	OFF
S10	LOADING IN	OFF
S11	LOADING OUT	OFF
S12	LIMIT IN	OFF

Note: The components identified by shading and mark Δ are critical for safety. Replace only with part number specified.

SECTION 4

EXPLODED VIEWS AND PARTS LIST

NOTE:

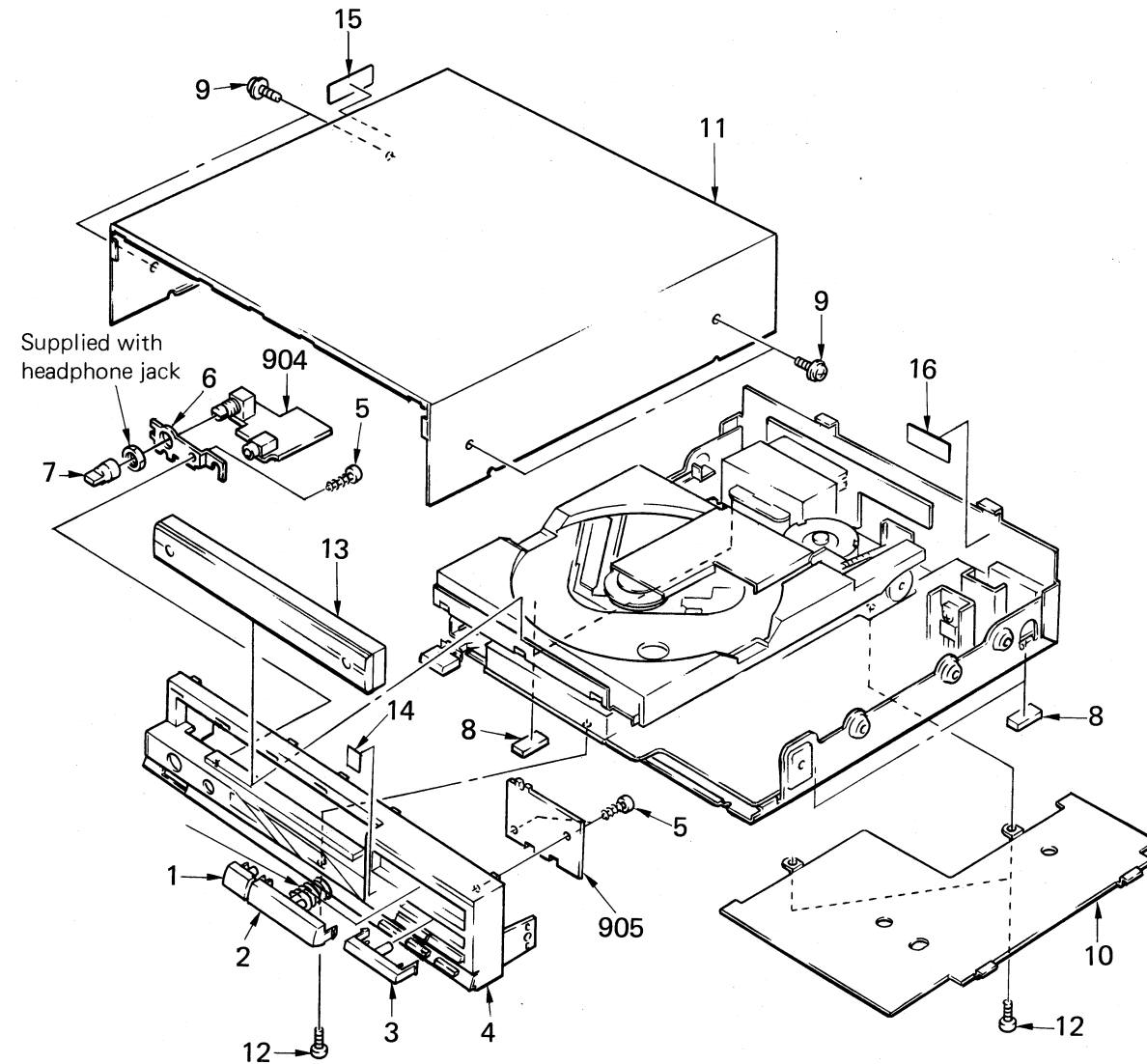
The mechanical parts with no reference number in the exploded views are not supplied.

Items marked " * " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

The construction parts of an assembled part are indicated with a collation number in the remark column.

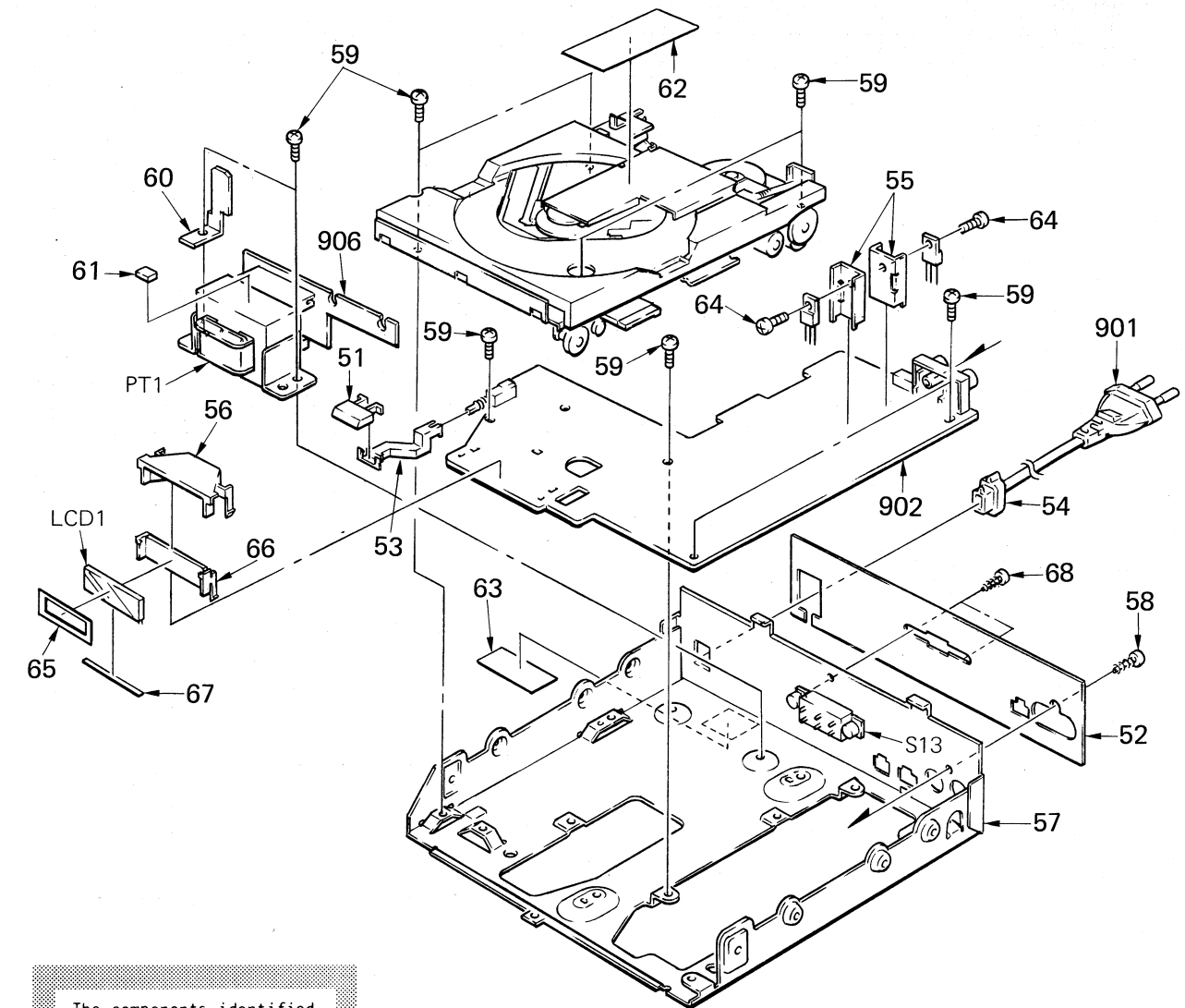
The components identified by shading and mark  are critical for safety. Replace only with part number specified.

(1).



No.	Part No.	Description	Remarks	No.	Part No.	Description	Remarks
1	4-920-106-31	BUTTON (GE PRESET)		9	4-886-821-01	SCREW, M3 CASE STOPPER	
2	4-919-838-01	BUTTON (PLAY)		10	*4-919-831-01	PLATE, BOTTOM	
3	4-919-839-01	BUTTON (STOP)		11	4-919-842-01	CASE	
4	X-4919-804-1	(AEP,G-AEP,UK).....PANEL (CD) ASSY		12	7-685-871-01	SCREW +BVTT 3X6 (S)	
	X-4919-805-1	(E,Saudi Arabia)...PANEL (CD) ASSY		13	X-4919-806-1	PANEL ASSY, LOADING	
5	7-685-646-79	SCREW +BVTP 3X8 TYPE2 N-S		14	3-703-713-41	STICKER, SONY SYMBOL (10)	
6	*4-919-827-01	BRACKET (V.H)		15	3-703-079-21	LABEL, CAUTION (BACK)	
7	4-911-628-11	KNOB, VOLUME		16	*3-701-030-00	LABEL, SERIAL NUMBER	
8	4-919-608-02	LEG		17	4-919-854-01	SPRING	
				904	*1-621-854-11	PC BOARD, HEADPHONE	
				905	*1-621-853-11	PC BOARD, SWITCH	

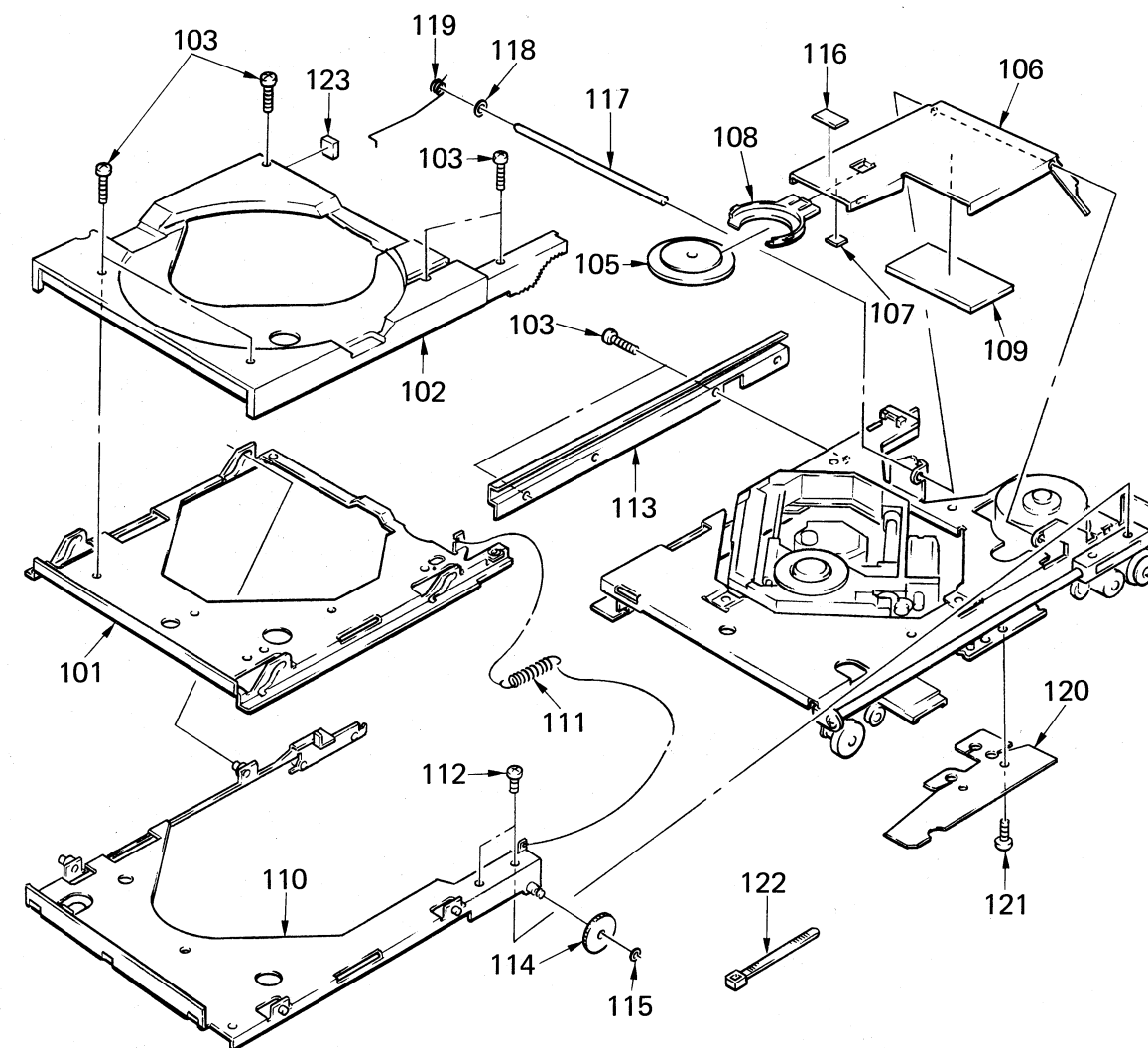
(2).



The components identified by shading and mark  are critical for safety. Replace only with part number specified.

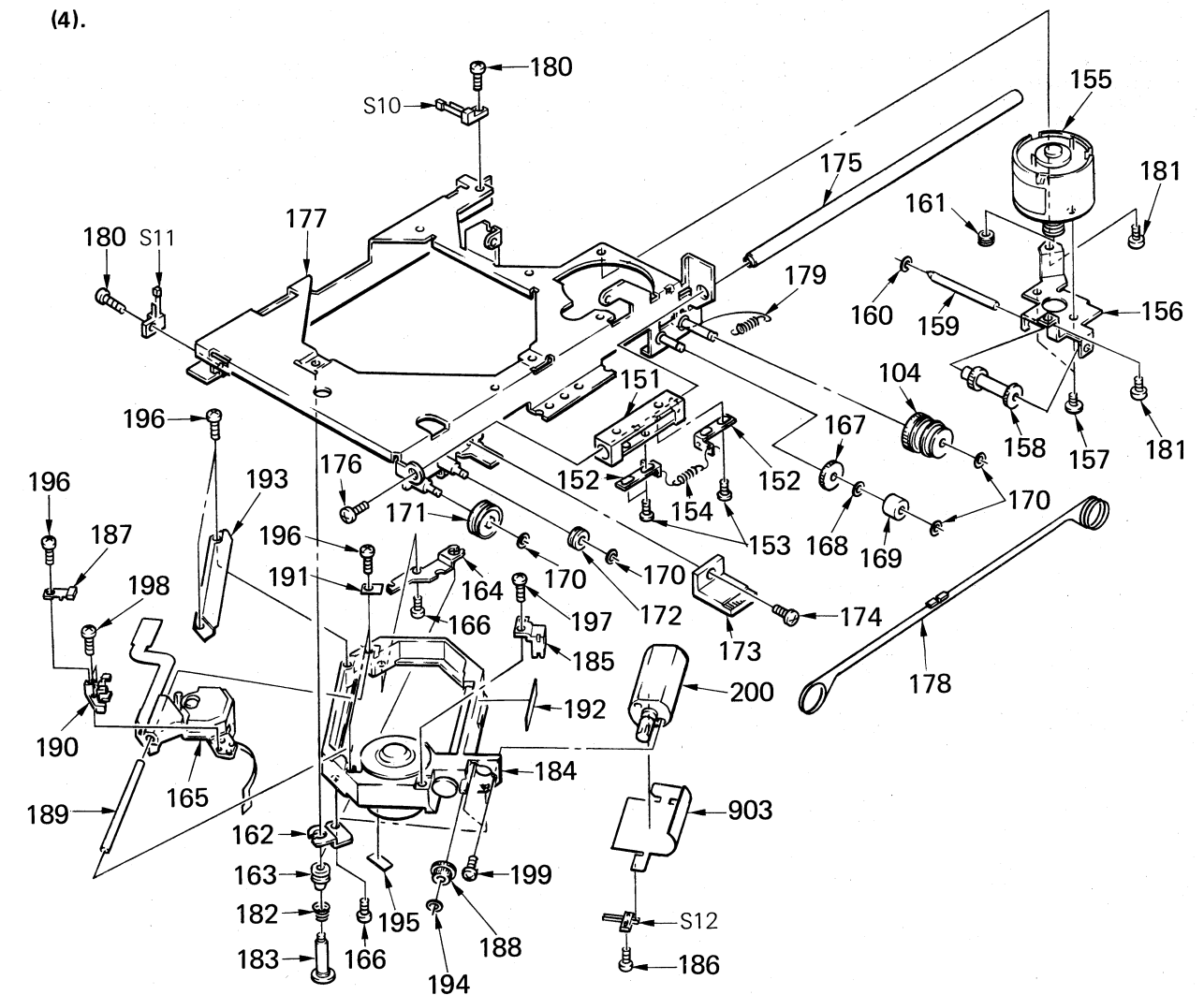
No.	Part No.	Description	Remarks	No.	Part No.	Description	Remarks
51	4-914-396-01	BUTTON (POWER)		60	4-919-852-01	PROTECTOR	
52	4-919-801-01	(E,Saudi Arabia)...COVER, REAR		61	9-911-840-XX	CUSHION	
	4-919-801-11	(AEP,G-AEP).....COVER, REAR		62	4-885-843-02	LABEL, CAUTION, LASER	
	4-919-801-21	(UK).....COVER, REAR		63	*4-885-838-00	LABEL, CLASS 1	
53	*4-919-834-01	JOINT		64	7-682-148-01	SCREW +BVTT 3X8 (S)	
54	*3-703-244-00	(AEP,G-AEP,UK,Saudi Arabia) ...BUSHING (2104), CORD		65	*4-919-844-01	PLATE (C), ORNAMENTAL	
	*3-703-571-00	(E).....BUSHING, CORD		66	*4-919-833-01	ILLUMINATOR	
55	*3-309-144-31	HEAT SINK		67	*4-919-843-01	SHEET (LCD)	
56	*4-919-832-01	HOUSE, LAMP		68	7-685-134-11	SCREW +PTP 2.6X8	
57	*4-919-841-01	CHASSIS (CD)					
58	7-685-646-79	SCREW +BVTP 3X8 TYPE2 N-S		901	.1-558-943-11	(E).....CORD, POWER	
59	7-685-871-01	SCREW +BVTT 3X6 (S)			.1-558-944-11	(AEP,G-AEP,Saudi Arabia) ...CORD, POWER	
					.1-558-946-11	(UK).....CORD, POWER	
				902	*A-4651-133-A	MOUNTED PCB, MAIN	
				906	*1-622-246-11	PC BOARD, TRANSFORMER	
				LCD1	1-807-821-11	DISPLAY PANEL, LIQUID CRYSTAL	
				PT1	.1-448-920-11	(G-AEP,UK).....TRANSFORMER, POWER	
				PT1	.1-448-919-11	(E,Saudi Arabia)...TRANSFORMER, POWER	
				S13	.1-570-046-21	(E,Saudi Arabia)...VOLTAGE SELECTOR	

(3).



No.	Part No.	Description	Remarks	No.	Part No.	Description	Remarks
101	*4-919-824-01	TABLE, DISC		113	*4-913-254-01	RAIL, GUIDE	
102	4-919-826-01	GUIDE, DISK		114	4-913-214-01	GEAR, S.D	
103	7-627-850-68	SCREW, PRECISION +P 1.4X4		115	3-312-434-00	WASHER, SLIT	
104	A-4675-204-A	LIMITER ASSY		116	9-911-844-XX	CUSHION	
105	A-4675-205-A	PLATE ASSY, CHUCK		118	3-318-236-01	WASHER, POLY, SLIT	
106	4-913-265-01	ARM, CHUCK					
107	3-327-119-01	SHEET, THRUST		117	4-913-222-01	SHAFT, CHUCK ARM	
108	4-913-248-01	GUIDE, CHUCK PLATE		119	4-913-279-01	SPRING	
109	9-911-844-XX	SHEET, VIBRATION PROOF		120	*4-919-853-01	STOPPER	
110	*X-4919-802-1	CHASSIS (MD) ASSY		121	7-685-860-01	SCREW +BVTT 2.6X4 (S)	
111	4-919-821-01	SPRING, TENSION		122	*3-337-402-01	BAND, BINDING	
112	3-317-552-61	SCREW (M1.7X2)		123	9-911-841-XX	CUSHION, RUBBER (R)	

(4).



No.	Part No.	Description	Remarks	No.	Part No.	Description	Remarks
151	X-4913-219-1	BEARING ASSY, SLIDE		178	4-913-276-01	ROPE, WIRE	
152	4-913-209-01	SLIDER, WT		179	3-570-556-00	SPRING, TENSION	
153	3-311-772-00	SHAFT (A), STOPPER		180	3-703-502-41	SCREW	
154	3-578-277-00	SPRING, TENSION		181	7-621-259-25	SCREW +BVTT 2.6X4 (S)	
155	X-4919-908-1	MOTOR ASSY (M251)		182	4-919-820-01	SPRING, COMPRESSION	
156	*4-919-803-01	BRACKET (MOTOR)		183	4-919-819-01	SCREW, STEP	
157	4-885-599-00	SCREW, FITTING, REINFORCEMENT		184	X-2640-620-1	SCREW BLOCK ASSY, MD SLED (M253)	
158	4-919-806-01	GEAR (DRIVING)		185	X-2640-611-1	RETAINER ASSY, THRUST	
159	*4-919-809-01	SHAFT (DRIVING)		186	2-640-620-03	SCREW (B) (1.4X3), TAPPING	
160	3-318-236-01	WASHER, POLY, SLIT		187	2-640-622-01	NUT, FEED	
161	2-622-801-01	RETAINER, THRUST		188	2-640-625-01	GEAR (B)	
162	*4-919-804-01	BRACKET (A)		189	2-640-632-01	SHAFT, GUIDE	
163	4-919-818-01	DAMPER		190	2-640-638-01	BEARING, FEED GUIDE	
164	*4-919-805-01	BRACKET (B)		191	2-640-645-01	RETAINER, GUIDE SHAFT	
165	8-848-065-11	PICKUP, OPTICAL KSS-160C		192	*2-640-646-12	LABEL	
166	7-685-102-19	SCREW +P 2X4 TYPE2 NON-SLIT		193	*2-640-647-01	COVER, MD	
167	4-913-212-01	GEAR (B), DRIVING		194	3-321-813-01	WASHER, COTTER POLYETHYLENE	
168	3-701-437-11	WASHER		195	3-831-441-11	CUSHION (B)	
169	4-913-213-01	PULLEY (C)		196	7-685-102-19	SCREW +P 2X4 TYPE2 NON-SLIT	
170	3-312-434-00	WASHER, SLIT		197	7-685-103-19	SCREW +P 2X5 TYPE2 NON-SLIT	
171	4-913-211-01	PULLEY (A)		198	7-627-852-17	+P 1.7X4	
172	3-304-108-00	PULLEY		199	7-627-553-37	PRECISION SCREW +P 2X3 TYPE 3	
173	4-919-822-01	RACK, SD		200	X-2640-619-1	GEAR ASSY, SLED MOTOR (M252)	
174	7-627-850-68	SCREW, PRECISION +P 1.4X4		903	1-621-936-12	PC BOARD, MOT-AU FLEXIBLE	
175	*4-913-210-01	SHAFT, SLIDE		S10	1-553-226-00	SWITCH, LEAF	
176	7-621-255-10	SCREW +B 2X3		S11	1-553-226-00	SWITCH, LEAF	
177	*X-4919-801-1	TABLE ASSY, SLIDE		S12	1-554-938-11	SWITCH, LEAF	

SECTION 5

ELECTRICAL PARTS LIST

NOTE:

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: μ F, PF: μ F.

RESISTORS

All resistors are in ohms.
F: nonflammable

COILS

MMH: mH, UH: μ H

SEMICONDUCTORS

In each case, U: μ , for example:UA...: μ A..., UPA...: μ PA..., UPC...: μ PC,UPD...: μ PD...

The components identified by shading and mark Δ are critical for safety. Replace only with part number specified.

ELECTRICAL PARTS

Ref.No.	Part No.	Description
901	Δ 1-558-946-11	(UK).....CORD, POWER
	Δ 1-558-943-11	(E).....CORD, POWER
	Δ 1-558-944-11	(AEP, G-AEP, Saudi Arabia)....CORD, POWER
902	*A-4651-133-A	MOUNTED PCB, MAIN
903	1-621-936-12	PC BOARD, MOT-AU FLEXIBLE
904	*1-621-854-11	PC BOARD, HEADPHONE
905	*1-621-853-11	PC BOARD, SWITCH
906	*1-622-246-11	PC BOARD, TRANSFORMER
C101	1-102-129-00	CERAMIC 0.01MF 10% 50V
C102	1-102-129-00	CERAMIC 0.01MF 10% 50V
C103	1-123-875-91	ELECT 10MF 20% 50V
C105	1-124-556-11	ELECT 2200MF 20% 16V
C106	1-124-556-11	ELECT 2200MF 20% 16V
C107	1-124-442-00	ELECT 330MF 20% 6.3V
C108	1-124-442-00	ELECT 330MF 20% 6.3V
C110	1-124-443-00	ELECT 100MF 20% 10V
C111	1-124-443-00	ELECT 100MF 20% 10V
C112	1-161-375-00	CERAMIC 0.0022MF 20% 16V
C113	1-161-494-00	CERAMIC 0.022MF 25V
C114	1-124-443-00	ELECT 100MF 20% 10V
C115	1-161-494-00	CERAMIC 0.022MF 25V
C116	1-124-442-00	ELECT 330MF 20% 6.3V
C117	1-136-165-00	FILM 0.1MF 5% 50V
C118	1-124-442-00	ELECT 330MF 20% 6.3V
C119	1-124-443-00	ELECT 100MF 20% 10V
C120	1-161-494-00	CERAMIC 0.022MF 25V
C121	1-161-494-00	CERAMIC 0.022MF 25V
C126	1-124-443-00	ELECT 100MF 20% 10V
C131	1-124-443-00	ELECT 100MF 20% 10V
C133	1-123-332-00	ELECT 47MF 20% 16V
C134	1-161-772-51	CERAMIC 0.1MF 30% 25V
C135	1-161-772-51	CERAMIC 0.1MF 30% 25V
C136	1-161-772-51	CERAMIC 0.1MF 30% 25V
C201	1-162-211-31	CERAMIC 33PF 5% 50V
C202	1-162-211-31	CERAMIC 33PF 5% 50V
C203	1-136-159-00	FILM 0.033MF 5% 50V
C204	1-136-159-00	FILM 0.033MF 5% 50V
C207	1-123-875-91	ELECT 10MF 20% 50V
C208	1-123-875-91	ELECT 10MF 20% 50V
C209	1-136-165-00	FILM 0.1MF 5% 50V
C210	1-136-165-00	FILM 0.1MF 5% 50V
C211	1-161-375-00	CERAMIC 0.0022MF 20% 16V
C212	1-161-375-00	CERAMIC 0.0022MF 20% 16V
C301	1-124-443-00	ELECT 100MF 20% 10V
C302	1-161-375-00	CERAMIC 0.0022MF 20% 16V
C304	1-136-159-00	FILM 0.033MF 5% 50V
C305	1-136-159-00	FILM 0.033MF 5% 50V
C306	1-136-153-00	FILM 0.01MF 5% 50V

ELECTRICAL PARTS

Ref.No.	Part No.	Description
C307	1-136-165-00	FILM 0.1MF 5% 50V
C308	1-136-161-00	FILM 0.047MF 5% 50V
C309	1-124-905-11	ELECT 3.3MF 20% 50V
C310	1-136-165-00	FILM 0.1MF 5% 50V
C312	1-123-875-91	ELECT 10MF 20% 50V
C313	1-136-165-00	FILM 0.1MF 5% 50V
C315	1-124-927-11	ELECT 4.7MF 20% 50V
C316	1-161-377-00	CERAMIC 0.0047MF 20% 16V
C317	1-162-294-31	CERAMIC 0.001MF 10% 50V
C318	1-124-465-00	ELECT 0.47MF 20% 50V
C319	1-136-159-00	FILM 0.033MF 5% 50V
C320	1-161-375-00	CERAMIC 0.0022MF 20% 16V
C322	1-124-465-00	ELECT 0.47MF 20% 50V
C323	1-162-211-31	CERAMIC 33PF 5% 50V
C324	1-162-211-31	CERAMIC 33PF 5% 50V
C325	1-162-294-31	CERAMIC 0.001MF 10% 50V
C326	1-161-377-00	CERAMIC 0.0047MF 20% 16V
C327	1-161-494-00	CERAMIC 0.022MF 25V
C401	1-161-379-00	CERAMIC 0.01MF 20% 16V
C501	1-161-379-00	CERAMIC 0.01MF 20% 16V
C502	1-161-379-00	CERAMIC 0.01MF 20% 16V
C503	1-162-211-31	CERAMIC 33PF 5% 50V
C504	1-162-211-31	CERAMIC 33PF 5% 50V
C505	1-124-442-00	ELECT 330MF 20% 6.3V
C506	1-124-442-00	ELECT 330MF 20% 6.3V
C507	1-136-165-00	FILM 0.1MF 5% 50V
CN2	*1-564-666-11	PIN, CONNECTOR 10P
CN3	*1-564-507-11	PLUG, CONNECTOR 4P
CN4	*1-564-708-11	PIN, CONNECTOR (SMALL TYPE) 6P
CN5	*1-564-505-11	PLUG, CONNECTOR 2P
CN6	*1-564-505-21	PLUG, CONNECTOR 2P
CN7	*1-564-712-11	PIN, CONNECTOR (SMALL TYPE) 10P
CN8	1-564-980-11	PIN, CONNECTOR 4P (SIRCS IN)
CN9	*1-564-506-11	PLUG, CONNECTOR 3P
CN11	*1-564-498-11	PIN, CONNECTOR 5P
CNJ1	*1-562-999-21	JACK, PIN 2P (LINE OUT)
D101	8-719-200-82	DIODE 11ES2
D102	8-719-200-82	DIODE 11ES2
D103	8-719-200-82	DIODE 11ES2
D104	8-719-200-82	DIODE 11ES2
D201	8-719-109-66	DIODE RD3.3ES-B2
D202	8-719-000-26	DIODE US1060M-TPR
D203	8-719-000-26	DIODE US1060M-TPR
D204	8-719-000-26	DIODE US1060M-TPR
D205	8-719-302-94	DIODE SEL2710W
D206	8-719-000-26	DIODE US1060M-TPR

ELECTRICAL PARTS

Ref.No.	Part No.	Description
D401	8-719-000-26	DIODE US1060M-TPR
D402	8-719-000-26	DIODE US1060M-TPR
D403	8-719-109-89	DIODE RD5.6ES-T2B2
IC1	8-752-030-93	IC CXA1081M
IC2	8-752-030-94	IC CXA1082Q
IC3	8-752-322-32	IC CXD1130Q
IC4	8-759-802-74	IC LC3516AML-15
IC5	8-759-604-62	IC M50930-431FP
IC6	8-759-303-90	IC STA341M
IC7	8-759-207-05	IC TA7272P
IC8	8-759-604-03	IC M5290P
IC9	8-759-600-02	IC M5218L
IC10	8-759-803-64	IC LC7880
IC11	8-759-600-02	IC M5218L
J501	1-562-917-11	JACK (PHONES)
LCD1	1-807-821-11	DISPLAY PANEL, LIQUID CRYSTAL
M251	X-4919-803-1	LOADING MOTOR
M252	X-2640-619-1	SLED MOTOR
M253	X-2640-620-1	SPINDLE MOTOR
PL1	1-518-623-11	LAMP, PILOT 10V 120mA
PT1	Δ 1-448-920-11	(G-AEP, UK).....TRANSFORMER, POWER
PT1	Δ 1-448-919-11	(E, Saudi Arabia)....TRANSFORMER, POWER
Q1	8-729-111-67	TRANSISTOR 2SB1094-L
Q2	8-729-107-25	TRANSISTOR 2SD1585-L
Q3	8-729-801-83	TRANSISTOR 2SB1013
Q4	8-729-806-38	TRANSISTOR 2SC3399
Q5	8-729-115-17	TRANSISTOR BN1F4N
Q6	8-729-806-26	TRANSISTOR 2SC3901
Q7	8-729-806-26	TRANSISTOR 2SC3901
Q8	8-729-806-26	TRANSISTOR 2SC3901
Q9	8-729-806-26	TRANSISTOR 2SC3901
Q10	8-729-806-38	TRANSISTOR 2SC3399
Q11	8-729-806-38	TRANSISTOR 2SC3399
R102	1-249-429-11	CARBON 10K 5% 1/6W
R103	1-249-425-11	CARBON 4.7K 5% 1/6W
R104	1-249-425-11	CARBON 4.7K 5% 1/6W
R105	1-249-413-11	CARBON 470 5% 1/6W
R201	1-249-441-11	CARBON 100K 5% 1/6W
R202	1-249-441-11	CARBON 100K 5% 1/6W
R203	1-215-473-00	CARBON 150K 5% 1/6W
R204	1-215-473-00	CARBON 150K 5% 1/6W
R205	1-249-417-11	CARBON 1K 5% 1/6W
R206	1-249-417-11	CARBON 1K 5% 1/6W
R207	1-249-413-11	CARBON 470 5% 1/6W
R208	1-249-413-11	CARBON 470 5% 1/6W
R213	1-215-493-00	CARBON 1M 5% 1/6W
R214	1-215-493-00	CARBON 1M 5% 1/6W
R235	1-249-417-11	CARBON 1K 5% 1/6W

ELECTRICAL PARTS

Ref.No.	Part No.	Description
R244	1-249-441-11	CARBON 100K 5% 1/6W
R301	1-214-689-41	METAL 22 1% 1/4W
R303	1-249-434-11	CARBON 27K 5% 1/6W
R305	1-249-433-11	CARBON 22K 5% 1/6W
R306	1-249-429-11	CARBON 10K 5% 1/6W
R308	1-249-425-11	CARBON 4.7K 5% 1/6W
R309	1-249-425-11	CARBON 4.7K 5% 1/6W
R310	1-249-385-11	CARBON 2.2 5% 1/6W
R311	1-215-473-00	CARBON 150K 5% 1/6W
R313	1-249-441-11	CARBON 100K 5% 1/6W
R314	1-215-479-00	CARBON 270K 5% 1/6W
R315	1-249-435-11	CARBON 33K 5% 1/6W
R316	1-249-385-11	CARBON 2.2 5% 1/6W
R317	1-215-473-00	CARBON 150K 5% 1/6W
R318	1-249-423-11	CARBON 3.3K 5% 1/6W
R319	1-249-441-11	CARBON 100K 5% 1/6W
R321	1-249-433-11	CARBON 22K 5% 1/6W
R322	1-249-429-11	CARBON 10K 5% 1/6W
R323	1-215-471-00	CARBON 120K 5% 1/6W
R324	1-249-423-11	CARBON 3.3K 5% 1/6W
R325	1-215-493-00	CARBON 1M 5% 1/6W
R326	1-215-452-00	CARBON 20K 5% 1/6W
R327	1-249-437-11	CARBON 47K 5% 1/6W
R328	1-249-425-11	CARBON 4.7K 5% 1/6W
R329	1-249-429-11	CARBON 10K 5% 1/6W
R331	1-249-441-11	CARBON 100K 5% 1/6W
R333	1-249-441-11	CARBON 100K 5% 1/6W
R334	1-215-486-00	CARBON 510K 5% 1/6W
R335	1-215-396-00	CARBON 91 5% 1/6W
R336	1-215-469-00	METAL 100K 1% 1/6W
R337	1-215-469-00	METAL 100K 1% 1/6W
R338	1-249-405-11	CARBON 100 5% 1/6W
R339	1-249-429-11	CARBON 10K 5% 1/6W
R340	1-247-831-00	CARBON 1k 5% 1/6W
R401	1-249-441-11	CARBON 100K 5% 1/6W
R402	1-249-441-11	CARBON 100K 5% 1/6W
R403	1-249-429-11	CARBON 10K 5% 1/6W
R404	1-249-433-11	CARBON 22K 5% 1/6W
R405	1-249-405-11	CARBON 100 5% 1/6W
R406	1-249-393-11	CARBON 10 5% 1/6W
R410	1-249-429-11	CARBON 10K 5% 1/6W
R411	1-249-429-11	CARBON 10K 5% 1/6W
R412	1-249-430-11	CARBON 12K 5% 1/6W
R413	1-249-430-11	CARBON 12K 5% 1/6W
R501	1-249-425-11	CARBON 4.7K 5% 1/6W
R502	1-249-425-11	CARBON 4.7K 5% 1/6W

The components identified by shading and mark Δ are critical for safety. Replace only with part number specified.

ELECTRICAL PARTS

Ref.No.	Part No.	Description
R503	1-249-429-11	CARBON 10K 5% 1/6W
R504	1-249-429-11	CARBON 10K 5% 1/6W
R505	1-249-405-11	CARBON 100 5% 1/6W
R506	1-249-405-11	CARBON 100 5% 1/6W
R507	1-249-401-11	CARBON 47 5% 1/6W
R508	1-249-401-11	CARBON 47 5% 1/6W
RV301	1-237-194-11	RES, ADJ, CARBON 20K
RV302	1-237-197-11	RES, ADJ, CARBON 200K
RV303	1-237-194-11	RES, ADJ, CARBON 20K
RV304	1-237-194-11	RES, ADJ, CARBON 20K
RV305	1-228-990-00	RES, ADJ, METAL GLAZE 1K
RV501	1-237-650-11	RES, VAR, CARBON 10K/10K (PHONE LEVEL)
S1	1-554-303-21	SWITCH, KEY BOARD (▶▶▶▶)
S2	1-554-303-21	SWITCH, KEY BOARD (◀◀◀◀)
S3	1-554-303-21	SWITCH, KEY BOARD (PLAY/PAUSE)
S4	1-554-303-21	SWITCH, KEY BOARD (STOP/RMS/CLEAR)
S5	1-554-303-21	SWITCH, KEY BOARD (TIME/PROGRAM)
S6	1-554-303-21	SWITCH, KEY BOARD (REPEAT)
S7	1-554-303-21	SWITCH, KEY BOARD (SHUFFLE)
S8	1-554-303-21	SWITCH, KEY BOARD (OPEN/CLOSE)
S9	1-554-261-00	SWITCH, PUSH (1 KEY)(POWER)
S10	1-553-226-00	SWITCH, LEAF (IN LOADING)
S11	1-553-226-00	SWITCH, LEAF (OUT LOADING)
S12	1-554-938-11	SWITCH, LEAF (LIMIT IN SWITCH)
S13	1-570-046-21	(E,Saudi Arabia)...VOLTAGE SELECTOR
X1	1-567-768-21	VIBRATOR, CRYSTAL (8.4672MHz)

ACCESSORY & PACKING MATERIAL

Part No.	Description
1-506-409-11	(Saudi Arabia)...ADAPTOR, CONVERSION
1-526-565-00	(E).....AC PLUG ADAPTOR
1-558-787-11	CORD, CONNECTION
3-701-630-00	BAG, POLYETHYLENE
3-703-079-21	LABEL, CAUTION (BACK)
3-765-977-11	(UK,E,Saudi Arabia)...MANUAL, INSTRUCTION
3-765-977-41	(G-AEP).MANUAL, INSTRUCTION
3-849-119-00	BAG, PROTECTION
*4-885-838-00	LABEL, CLASS 1
4-911-686-01	CUSHION (LEFT)
4-911-687-01	CUSHION (RIGHT)
4-911-696-01	PAPER
4-919-846-01	INDIVIDUAL CARTON

The components identified by shading and mark  are critical for safety. Replace only with part number specified.

TROUBLESHOOTING

The following checks will assist in the correction of most problems which you may encounter with your unit. Should any problem persist after you have made these checks, consult your nearest Sony service facility. Before going through the check list below, first refer back to the connection and operating procedures.

Symptom	Cause	Countermeasures
Play does not begin.	The disc is incorrectly inserted.	Insert the disc correctly.
	The disc is extremely dirty.	Clean the disc.
	The disc is inserted upside down.	Insert the disc with the label surface up.
	The ► button has been pressed.	Press the ► button again to release pause.
	Moisture condensation.	Leave the player turned on for about an hour.
No audio from one or both channels	Incorrect connections	Connect properly.