

CDP-X33ES

SERVICE MANUAL

US Model
Canadian Model
AEP Model
UK Model



Model Name Using Similar Mechanism	CDP-338ESD/608ESD
CD Mechanism Name	CDM11E-6C
Base Unit Name	BU-6C

SPECIFICATIONS

Compact disc player

Frequency response	2 Hz – 20 kHz ± 0.5 dB
Signal to noise ratio	More than 113 dB
Dynamic range	More than 100 dB
Harmonic distortion	Less than 0.0020%
Channel separation	More than 110 dB

Outputs

LINE OUT (FIXED) (phono jacks)	Output level 2 V (at 50 kilohms) Load impedance over 10 kilohms
LINE OUT (VARIABLE) (phono jacks)	Output level max. 2 V (at 50 kilohms) Load impedance over 50 kilohms
DIGITAL OUT (OPTICAL) (optical output connector)	Wave length 660 nm Output level – 18 dBm
HEADPHONES (Stereo phone jack)	Output level max. 28 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 US, Canadian Models 120 V 60 Hz
Power consumption	20 W
Dimensions (approx., including projections)	430 \times 125 \times 375 mm (w/h/d) (17 \times 5 \times 14 7/8 inches)
Weight (approx.)	10 kg (22 lbs 1 oz)

Remote commander (RM-D590)

Remote control system	Infrared control
Power requirements	3 V DC with two batteries size AA (IEC designation R6)
Dimensions	67 \times 18 \times 175 mm (w/h/d) (2 3/4 \times 2 3/32 \times 7 inches)
Weight	150 g (5.3 oz) Including batteries

Supplied accessories

Connecting cord	1 (2 phono plugs \leftrightarrow 2 phono plugs)
Remote commander	1
Size AA batteries	2

Optional accessory

Audio optical connecting cord POC-15

Design and specifications subject to change without notice.



COMPACT DISC PLAYER
SONY®




TABLE OF CONTENTS

<u>Section</u>	<u>Title</u>	<u>Page</u>
Specifications	1
Model Identification	3
1. GENERAL	5
2. ELECTRICAL ADJUSTMENTS	6
3. DIAGRAMS		
3-1. Semiconductor Lead Layouts	8
3-2. Circuit Boards Location	8
Waveforms	9
3-3. Printed Wiring Boards	10
3-4. Schematic Diagram	15
IC Block Diagram	19
4. EXPLODED VIEWS	20
5. ELECTRICAL PARTS LIST	25

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.

ATTENTION AU COMPOSANT AYANT RAPPORT À LA SÉCURITÉ!

LES COMPOSANTS IDENTIFIÉS PAR UNE MARQUE  SUR LES DIAGRAMMES SCHÉMATIQUES ET LA LISTE DES PIÈCES SONT CRITIQUES POUR LA SÉCURITÉ DE FONCTIONNEMENT. NE REMPLACER CES COMPOSANTS QUE PAR DES PIÈCES SONY DONT LES NUMÉROS SONT DONNÉS DANS CE MANUEL OU DANS LES SUPPLÉMENTS PUBLIÉS PAR SONY.

SAFETY CHECK-OUT

After correcting the original service problem, perform the following safety check before releasing the set to the customer:

Check the antenna terminals, metal trim, "metallized" knobs, screws, and all other exposed metal parts for AC leakage. Check leakage as described below.

LEAKAGE TEST

The AC leakage from any exposed metal part to earth ground and from all exposed metal parts to any exposed metal part having a return to chassis, must not exceed 0.5 mA (500 microamperes). Leakage current can be measured by any one of three methods.

1. A commercial leakage tester, such as the Simpson 229 or RCA WT-540A. Follow the manufacturers' instructions to use these instruments.
2. A battery-operated AC milliammeter. The Data Precision 245 digital multimeter is suitable for this job.
3. Measuring the voltage drop across a resistor by means of a VOM or battery-operated AC voltmeter. The "limit" indication is 0.75 V, so analog meters must have an accurate low-voltage scale. The Simpson 250 and Sanwa SH-63Trd are examples of a passive VOM that is suitable. Nearly all battery operated digital multimeters that have a 2V AC range are suitable. (See Fig. A)

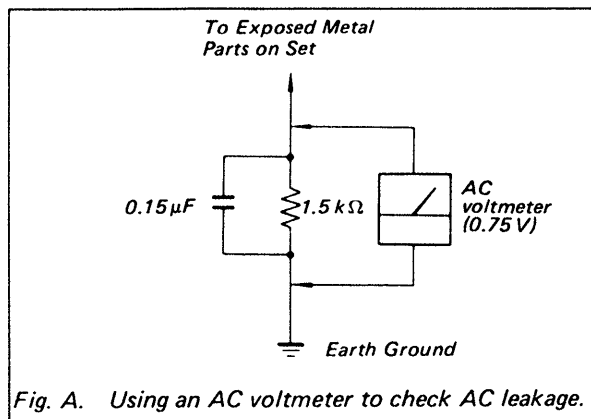
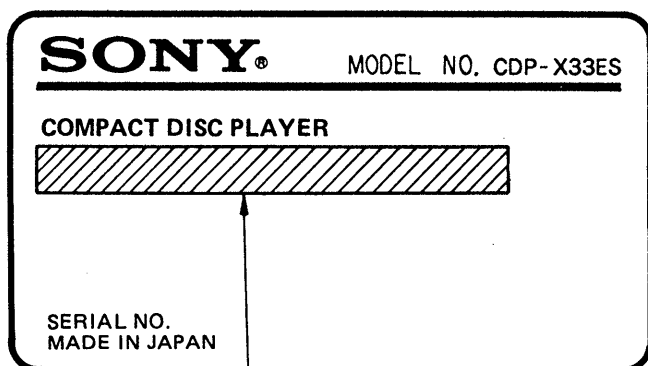


Fig. A. Using an AC voltmeter to check AC leakage.

MODEL IDENTIFICATION
— Specification Labels —



US, Canadian models: AC: 120V 60Hz 22W

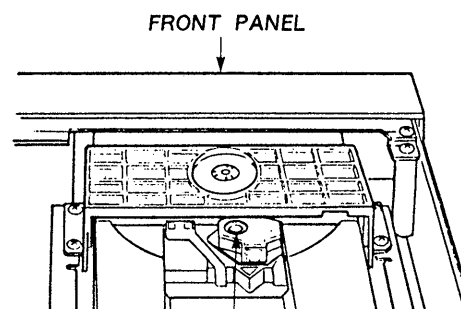
AEP model: AC: 220V \sim 50/60Hz

UK model: AC: 240V \sim 50/60Hz

— SERVICING NOTE —

LASER DIODE AND FOCUS SEARCH OPERATION CHECK

1. Turn POWER switch on with no disc inserted and disc table closed.
2. Confirm that the operation indicated in Fig. A is performed while observing the objective lens.



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

Fig. A

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 more than 25 cm away from the objective lens.

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 iverigt 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.

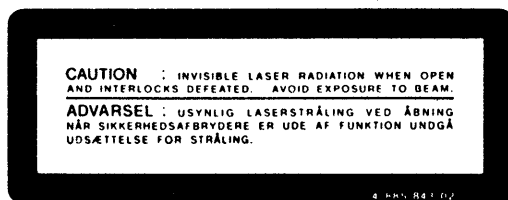
- Klassifikation: Klasse IIIb.

2. Adskil aldrig den optiske pick-up enhed under service, og juster ikke APC kredsløbet (Automatic Power Control). Hvis APC kredsløbet (incl. laserdioden) 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

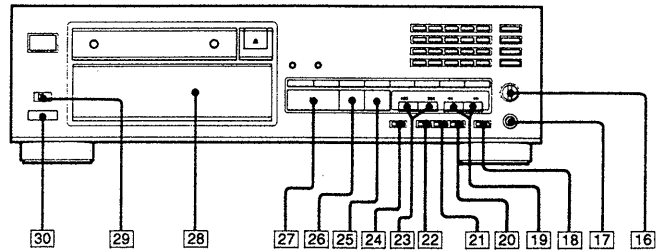
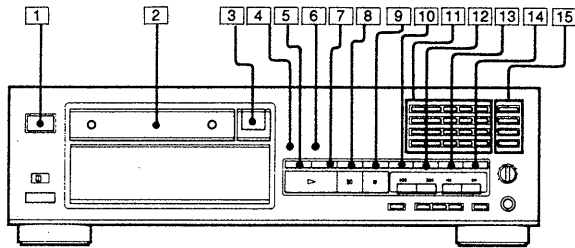


VAROITUS: Laite sisältää, laserdiodin, joka lähettää (näkyvätöntä) silmille vaarallista lasersäteilyä.

SECTION 1 GENERAL

Location of Controls

Front Panel

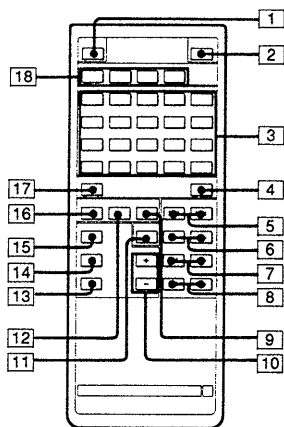


- 1 POWER switch
- 2 Disc tray
- 3 ▲ (open/close) button
- 4 DISPLAY MODE button
- 5 REPEAT button
- 6 TIME/MEMO button
- 7 FADER (fade in/fade out) button
- 8 CHECK (program check) button
- 9 CLEAR (program clear) button
- 10 FILE (custom file) button
- 11 Numeric buttons
- 12 ERASE (memory erase) button
- 13 >20 (over 20) button
- 14 MULTI PGM button
- 15 PLAY MODE buttons
CONTINUE button
SHUFFLE button,
PROGRAM button
C. (custom) INDEX button

- 16 LINE OUT/PHONE LEVEL control
- 17 HEADPHONES jack
- 18 LEVEL FILE button
- 19 ◀▶ (manual search) buttons
- 20 TIME SET button
- 21 EDIT/TIME FADE button
- 22 PEAK SEARCH button
- 23 ◀▶▶▶ (AMS*) buttons
- 24 FILE RECALL button
- 25 ■ (stop) button
- 26 || (pause) button
- 27 ▶ (play) button
- 28 Display window
- 29 TIMER switch
- 30 Remote sensor

* AMS is the abbreviation of Automatic Music Sensor.

Remote Commander (RM-D590)



- 1 ▲ (open/close) button
- 2 DISPLAY MODE button
- 3 Numeric buttons
- 4 FILE (custom file) button
- 5 ◀▶▶▶ AMS buttons
- 6 ◀▶▶▶ INDEX buttons
- 7 ◀▶▶▶ (manual search) buttons
- 8 ◀▶▶▶ SLOW (low speed manual search) buttons
- 9 AUTO SPACE button
- 10 LINEOUT VOLUME (line out/headphone volume) buttons
- 11 FADER (fade in/fade out) button
- 12 A ↔ B repeat button
- 13 ■ (stop) button
- 14 || (pause) button
- 15 ▶ (play) button
- 16 CLEAR/REPEAT button
(A ↔ B repeat clear/repeat) button
- 17 >20 (over 20) button
- 18 PLAY MOOE buttons
CONTINUE button
SHUFFLE button,
PGM (program) button.
C.INDEX button

SECTION 2

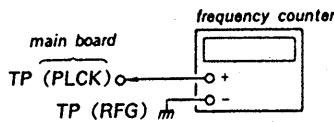
ELECTRICAL ADJUSTMENTS

ELECTRICAL ADJUSTMENTS

1. Perform adjustments in the order given.
2. Use YEDS-18 (Part No: 3-702-101-01) disc unless otherwise indicated.
3. Use the oscilloscope with more than 10 MΩ impedance.

RF PLL Lock Frequency Check

Procedure:

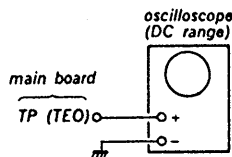


1. Ground TP (ADJ) for adjustment mode.
2. Ground TP (ASY).
3. Connect the frequency counter to TP (PLCK).
4. Turn the power on.
5. Set disc (YESD-18) and play 5th program.
6. Confirm that the reading on frequency counter is 4.3218MHz ± 30kHz.

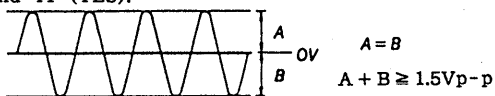
E-F Balance Check

This check should be made after replacing the optical pick-up block.

Procedure:



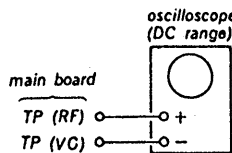
1. Ground TP (ADJ) for adjustment mode.
2. Ground TP (TES) with lead wire.
3. Connect oscilloscope to TP (TEO).
4. Set disc (YEDS-18) and press ▷PLAY button.
5. Confirm that the traverse waveform is symmetrical about 0V-axis.
6. Turn the power off and remove the lead wire connected to TP (ADJ) and TP (TES).



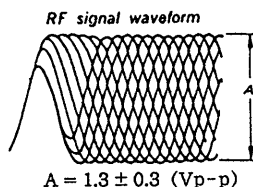
RF Level Check

This check should be made after replacing the optical pick-up block.

Procedure:



1. Ground TP (ADJ) for adjustment mode.
2. Connect the oscilloscope to TP (RF) and TP (GND).
3. Set disc (YEDS-18) and press PLAY button.
4. Confirm that waveform eye pattern is clear and RF level is optimum. The optimum eye pattern means that shape "◇" can be clearly distinguished at the center of the waveform.
5. Turn the power off.



REFERENCE

Focus/Tracking Gain Adjustments

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 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, mechanical shock and skipping occurs more easily.
- When gain adjustment is off, the symptoms below appear.

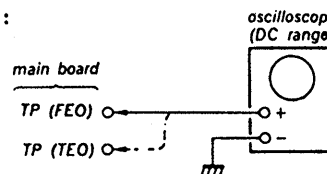
Symptoms	Gain	Focus	Tracking
• The time until music starts becomes longer for ■ STOP → ▷ PLAY or automatic selection. (◀◀, ▶▶ buttons pressed.) (Normally takes about 1 seconds.)		low	low or high
• Music does not start and disc continues to rotate for ■ STOP → ▷ PLAY or automatic selection. (◀◀, ▶▶ buttons pressed.)		—	low
• Sound is interrupted during PLAY or time counter display stops progressing.		—	low
• More noise during 2-axis device operation.		high	high

The following is a simple adjustment method.

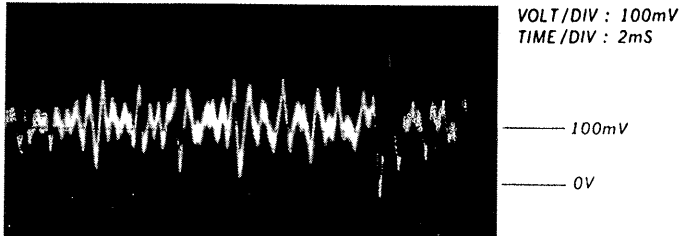
—Primary Adjustment—

Note: Since exact adjustment cannot be performed, remember the positions of the controls before performing the adjustment. If the position after the primary adjustment are only a little different, return the controls to the original position.

Procedure:

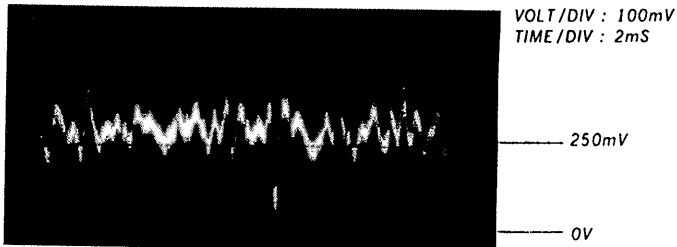


1. Keep the set horizontal.
(If the set is not horizontal, this adjustment cannot be performed due to the gravity against the 2-axis device.)
2. Put the set into test mode.
3. Set disc (YEDS-18) and turn POWER switch on.
4. Connect oscilloscope to main amp board TP (FEO).
5. Adjust RV201 so that the waveform is as shown in the figure below. (focus gain adjustment)

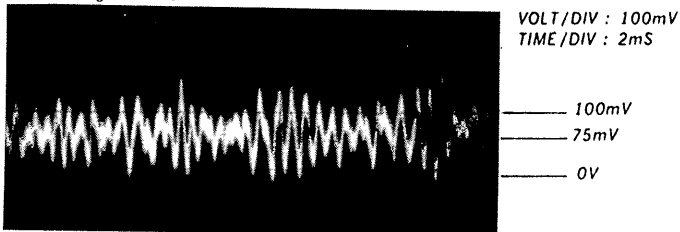


• Inccrnt Examples (DC level changes more than on adjust- ed waveform)

low focus gain



high focus gain

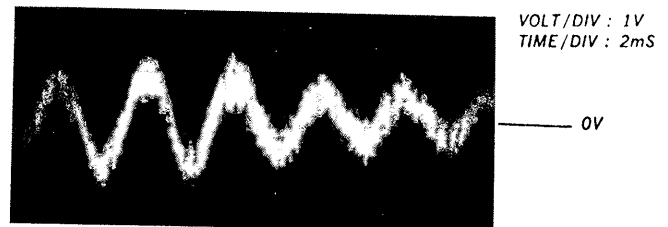


6. Connect oscilloscope to main board TP (TEO).
7. Adjust RV202 so that the waveform is as shown in the figure below. (tracking gain adjustment)
8. Turn POWER switch off.

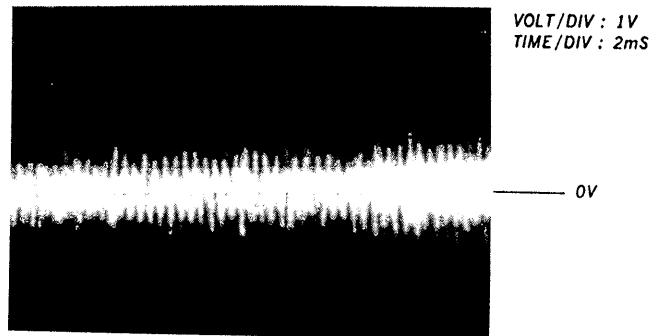


• Inccrnt Examples (fundamental wave appears)

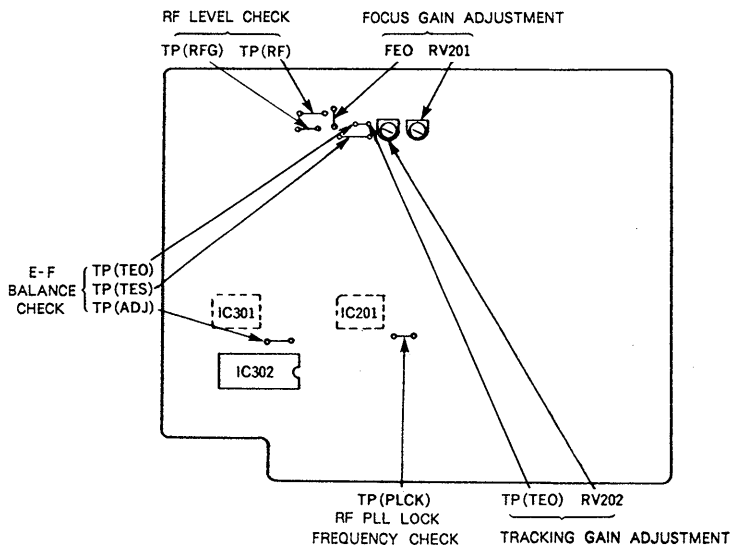
low tracking gain



*high tracking gain
higher fundamental wave than for low gain*

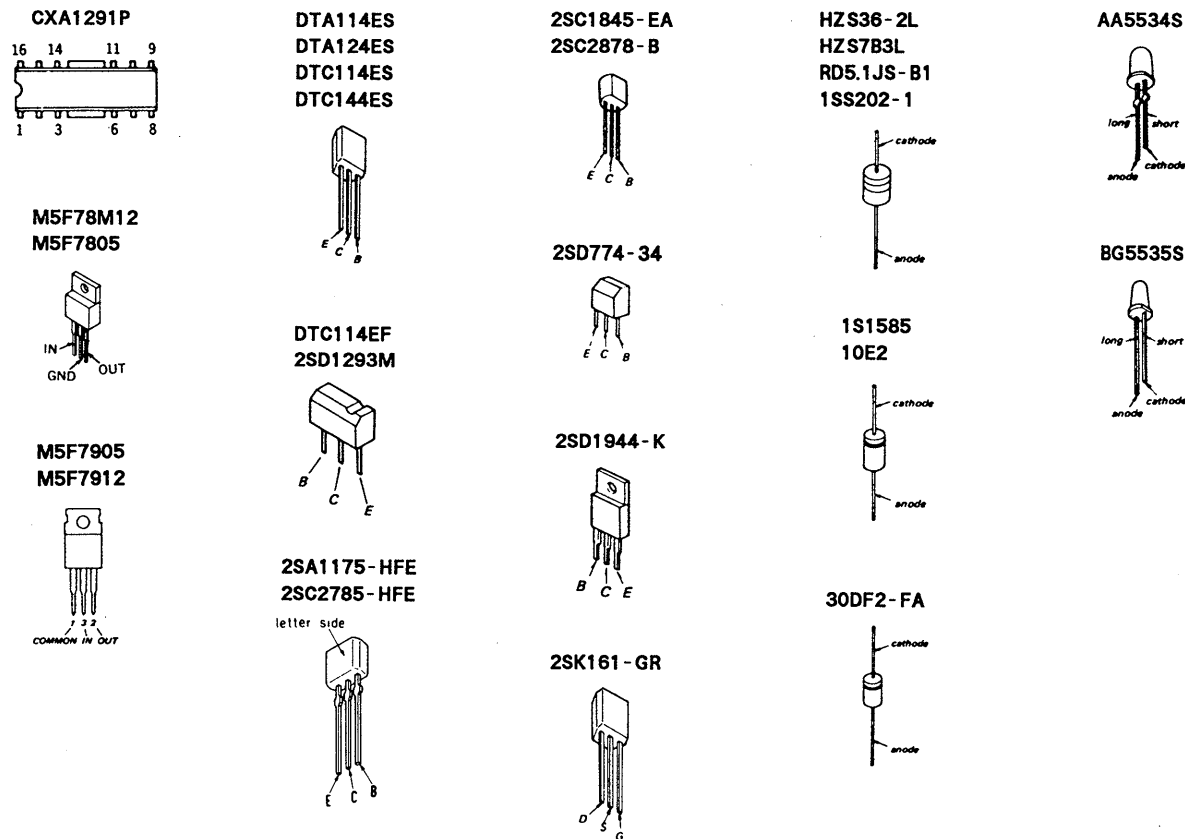


Adjustment Location : MAIN BOARD - Component side -

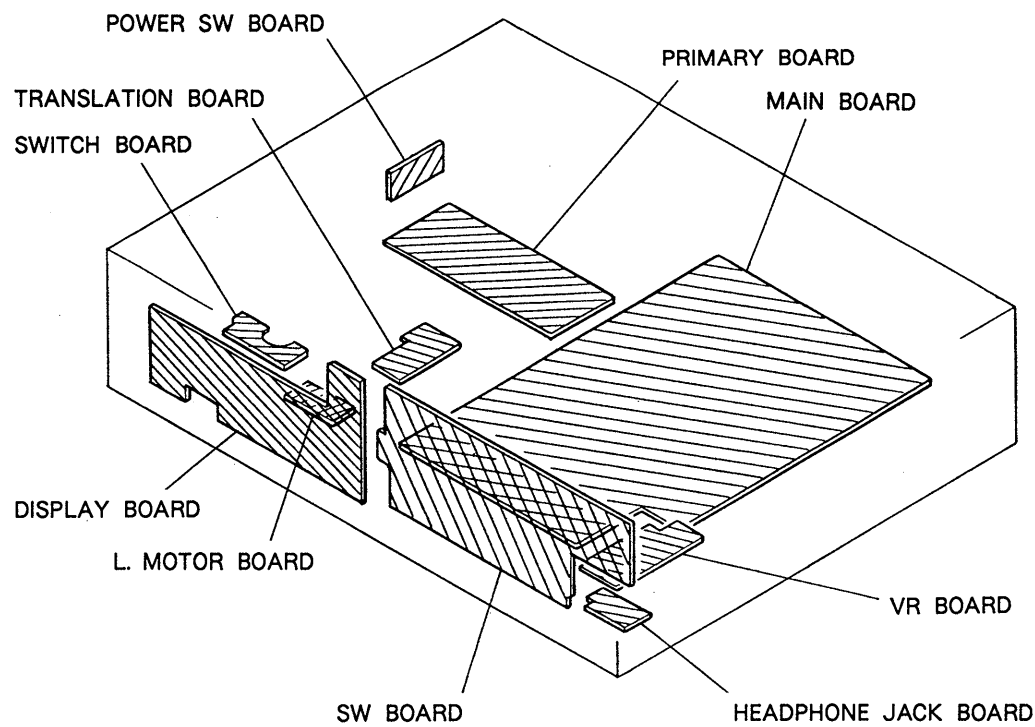


SECTION 3 DIAGRAMS

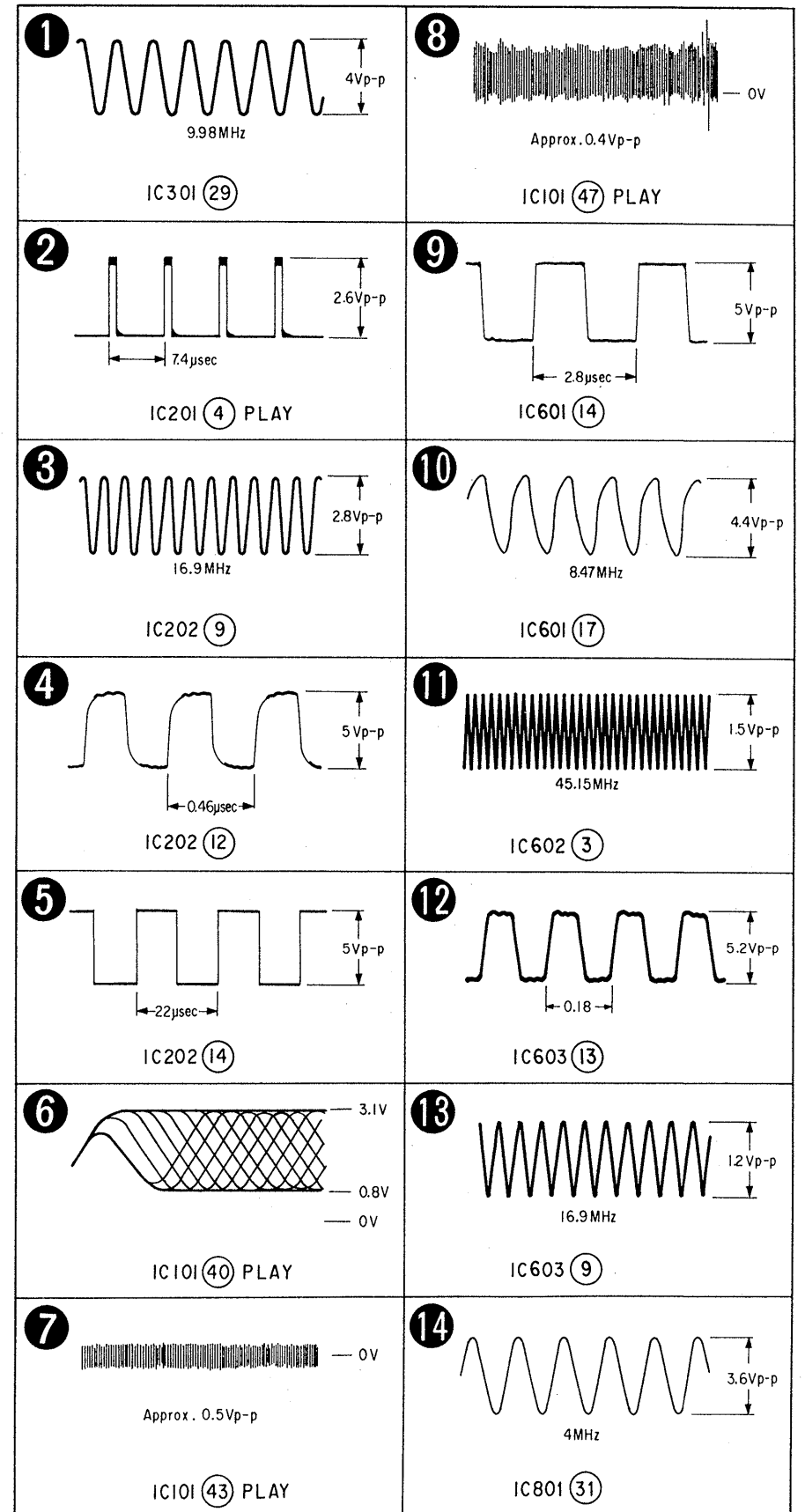
3-1. SEMICONDUCTOR LEAD LAYOUTS



3-2. CIRCUIT BOARDS LOCATION



• WAVEFORMS

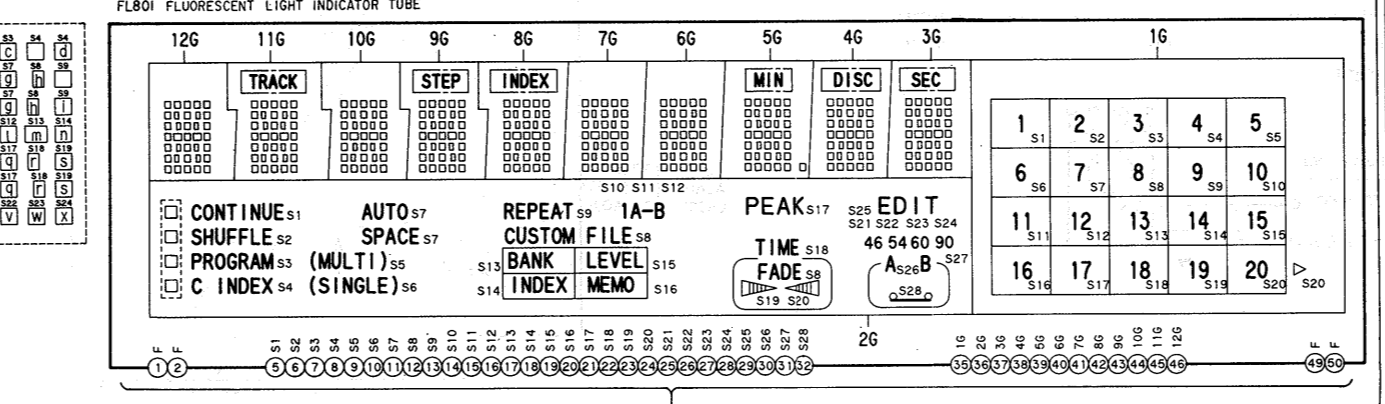
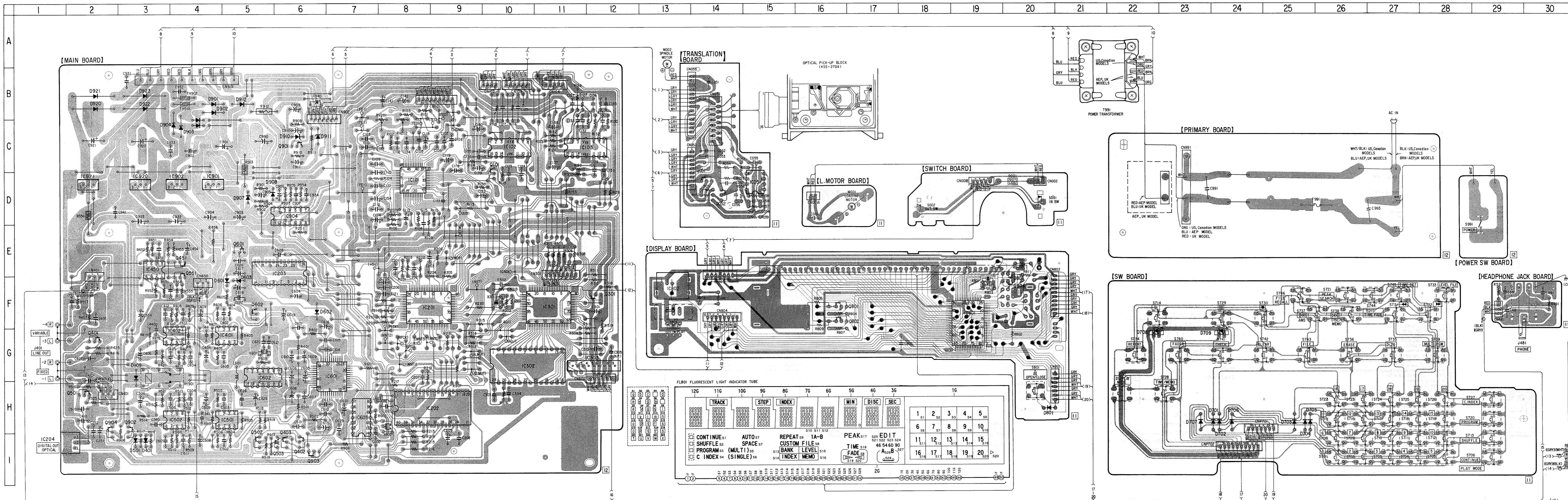


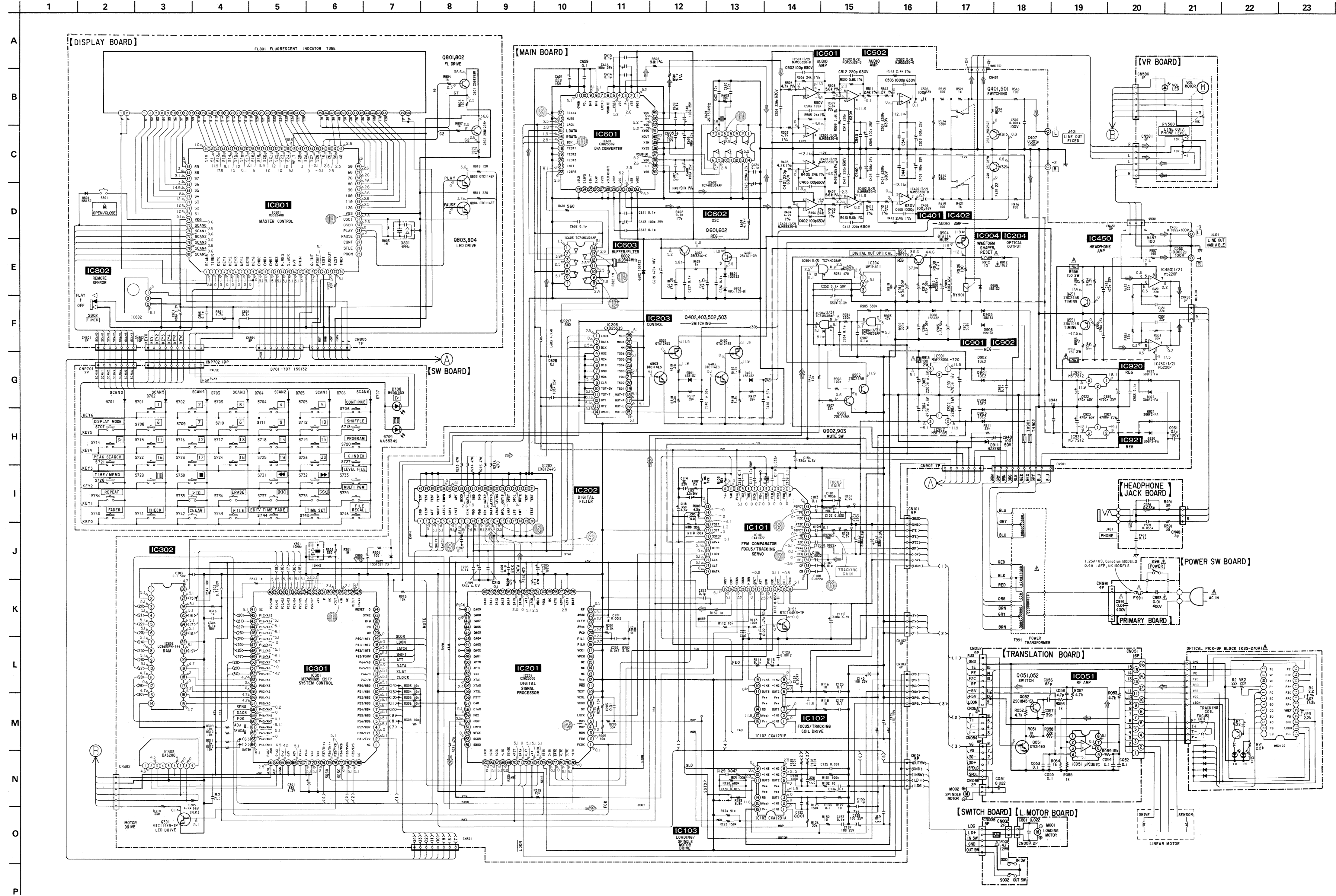
3-3. PRINTED WIRING BOARDS

Semiconductor Location

Ref. No.	Location	Ref. No.	Location
D401	I-3	IC901	D-4
D501	I-3	IC902	D-4
D601	F-5	IC904	D-6
D602	F-7	IC920	D-3
D603	F-5	IC921	D-2
D701	H-24		
D702	H-24	Q051	D-14
D703	H-25	Q052	D-14
D704	H-25	Q101	C-10
D705	H-25	Q301	F-12
D706	H-24	Q401	G-2
D707	H-23	Q402	I-6
D708	G-22	Q403	I-6
D709	G-24	Q451	E-4
D801	H-20	Q501	H-2
D901	B-5	Q502	I-5
D902	B-5	Q503	I-6
D903	B-4	Q551	E-4
D904	B-4	Q601	E-5
D905	C-4	Q602	F-5
D906	C-4	Q801	F-17
D907	D-5	Q802	F-17
D908	D-6	Q803	F-20
D909	G-3	Q804	F-20
D910	C-6	Q901	C-6
D911	C-7	Q902	H-3
D912	B-5	Q903	I-6
D920	B-2	Q904	H-3
D921	B-2		
D922	B-3		
D923	B-3		
IC051	D-15		
IC101	D-8		
IC102	C-10		
IC103	C-12		
IC201	F-9		
IC202	H-9		
IC203	E-6		
IC204	I-1		
IC301	F-11		
IC302	G-11		
IC303	G-12		
IC401	G-5		
IC402	G-4		
IC450	E-3		
IC501	H-5		
IC502	H-4		
IC601	G-7		
IC602	G-5		
IC603	H-7		
IC801	F-19		
IC802	F-13		

Note on Mounting Diagram:
 ○ : parts extracted from the component side.
 ● : Through hole.
 ○ (with dot) : Pattern on the side which is seen.
 ○ (with cross-hatch) : Pattern of the rear side.





- 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.
 - % : indicates tolerance.
 - Δ : internal component.
 - \square : nonflammable resistor.
 - \square : fusible resistor.

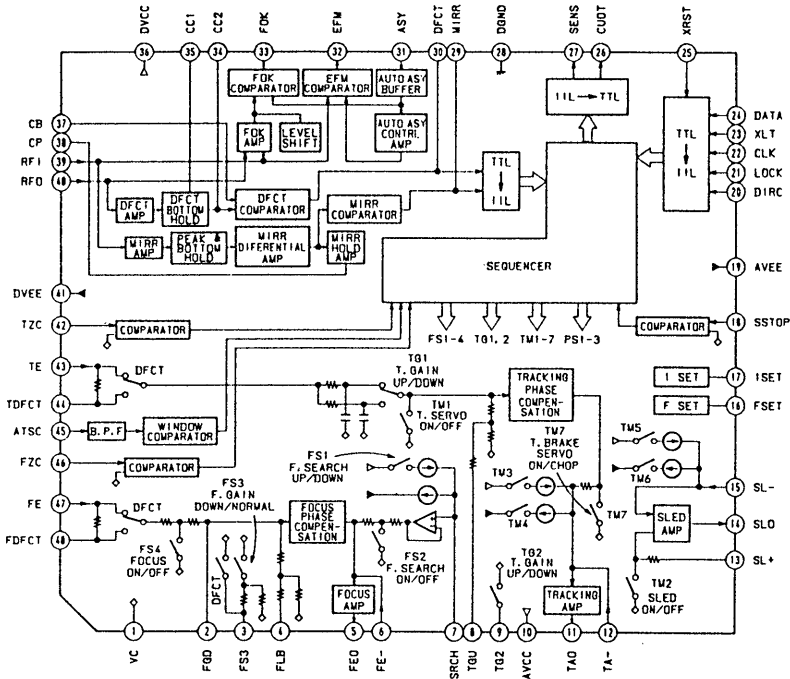
Note: The components identified by mark Δ or dotted line with mark Δ are critical for safety. Replace only with part number specified.

Note: Les composants identifiés par une marque Δ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

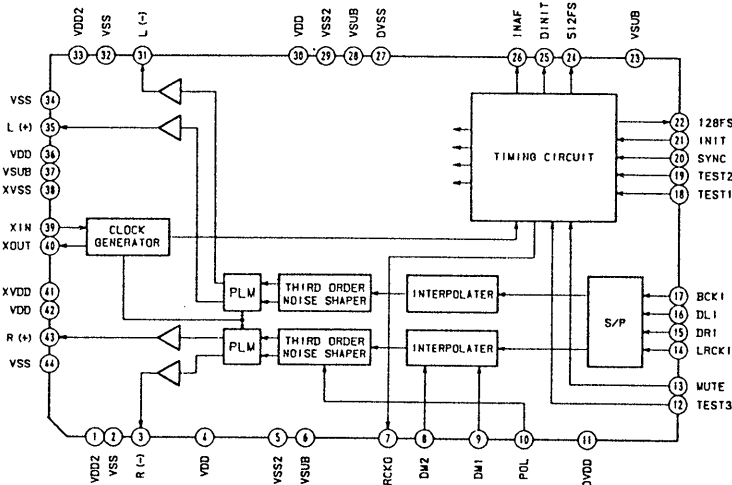
- : B+ Line
- : B- Line
- : adjustment for repair.
- : Voltage and waveforms are dc with respect to ground under no-signal conditions, no mark: PLAY
- : Voltages are taken with a VOM (input impedance 10M Ω)
- : Voltage variations may be noted due to normal production tolerances.
- : Waveforms are taken with an oscilloscope.
- : Voltage variations may be noted due to normal production tolerances.
- : Circled numbers refer to waveforms.
- : Signal path.
- : CD
- : digital out

IC BLOCK DIAGRAMS

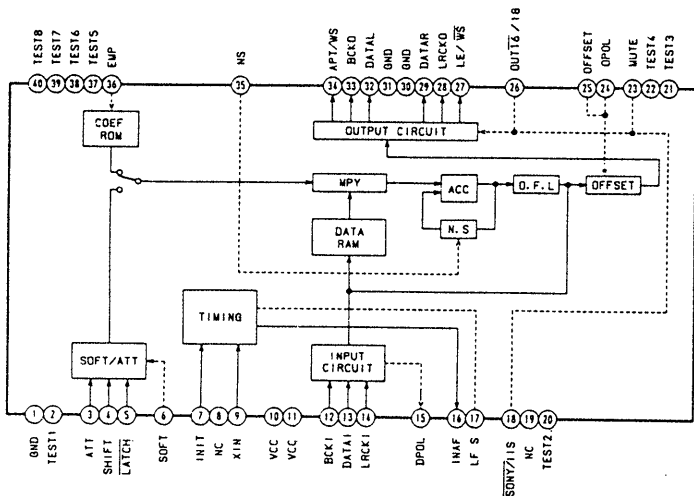
IC101 CXA1372Q



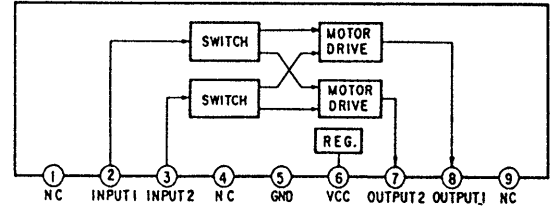
IC601 CXD2552Q-2



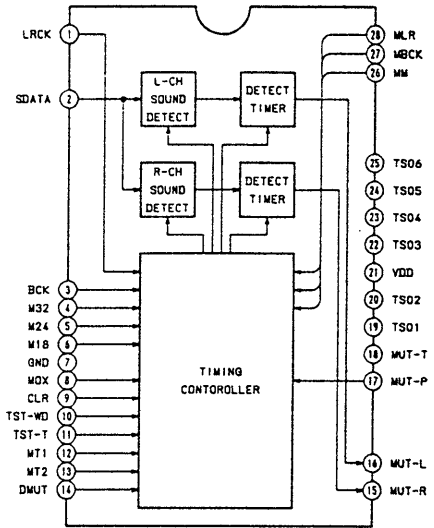
IC202 CXD1244S



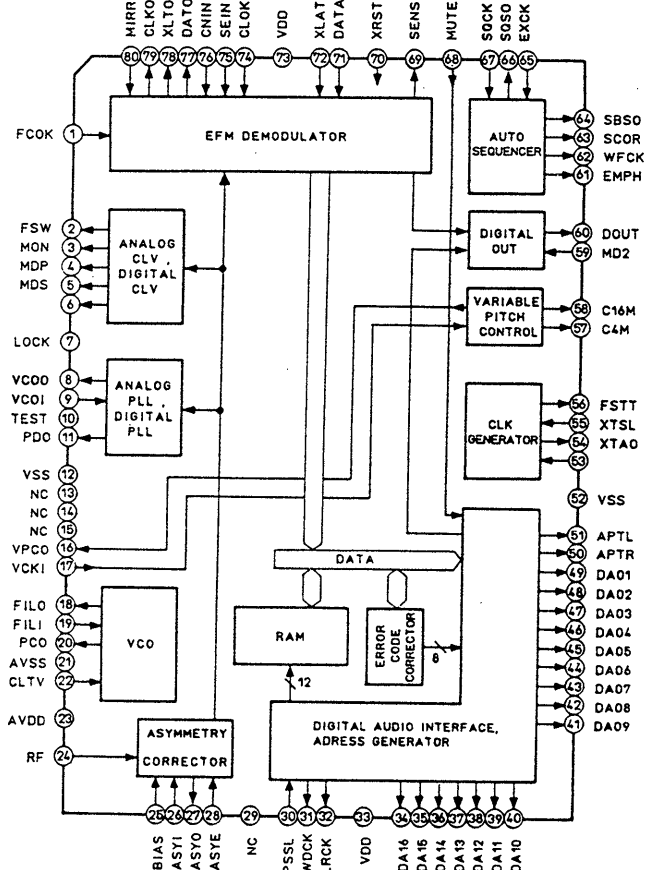
IC303 BA6208



IC203 CXD2553S

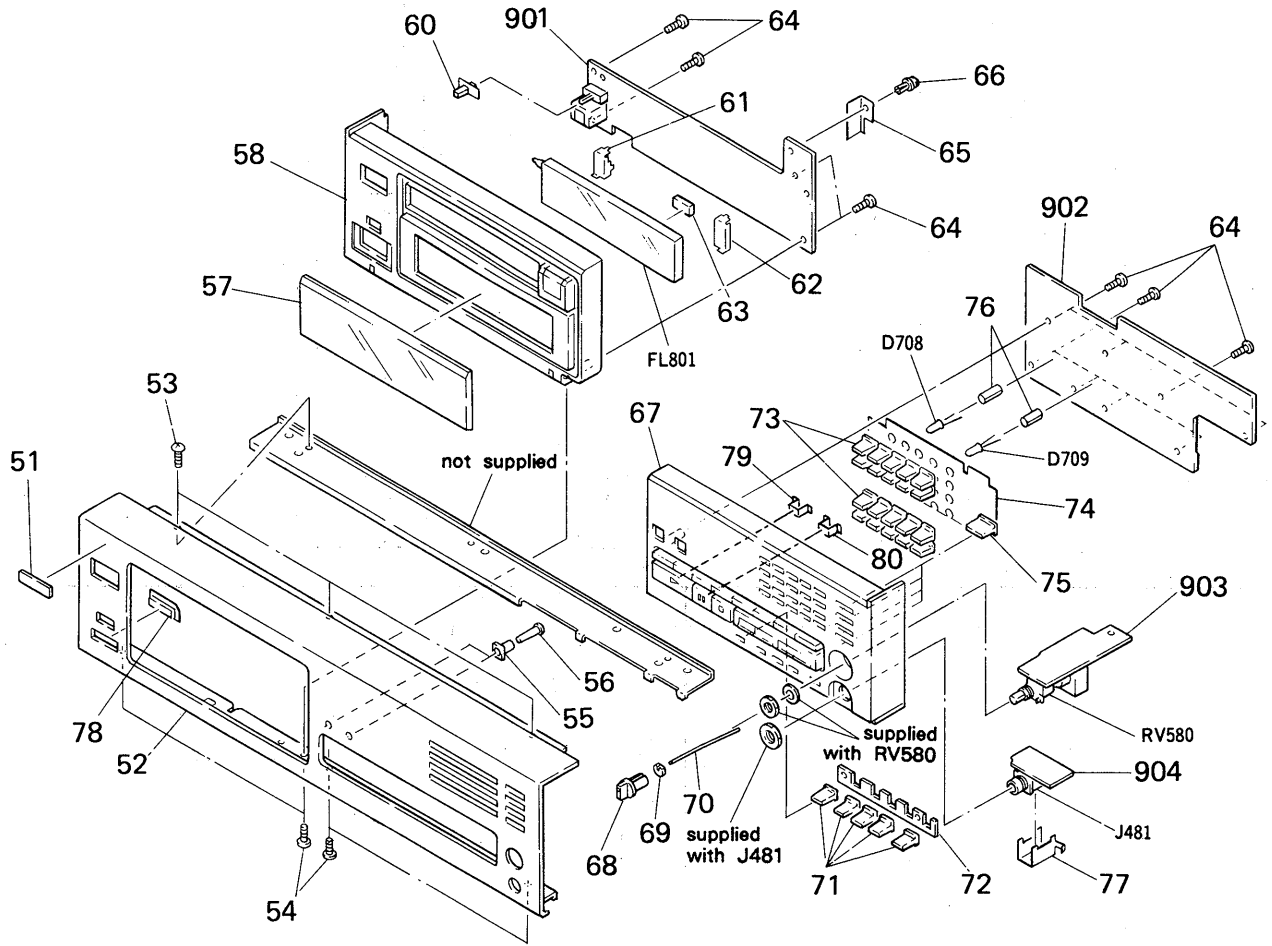


IC201 CXD2500Q



SEE ADDITIONAL
SEE INFORMATION

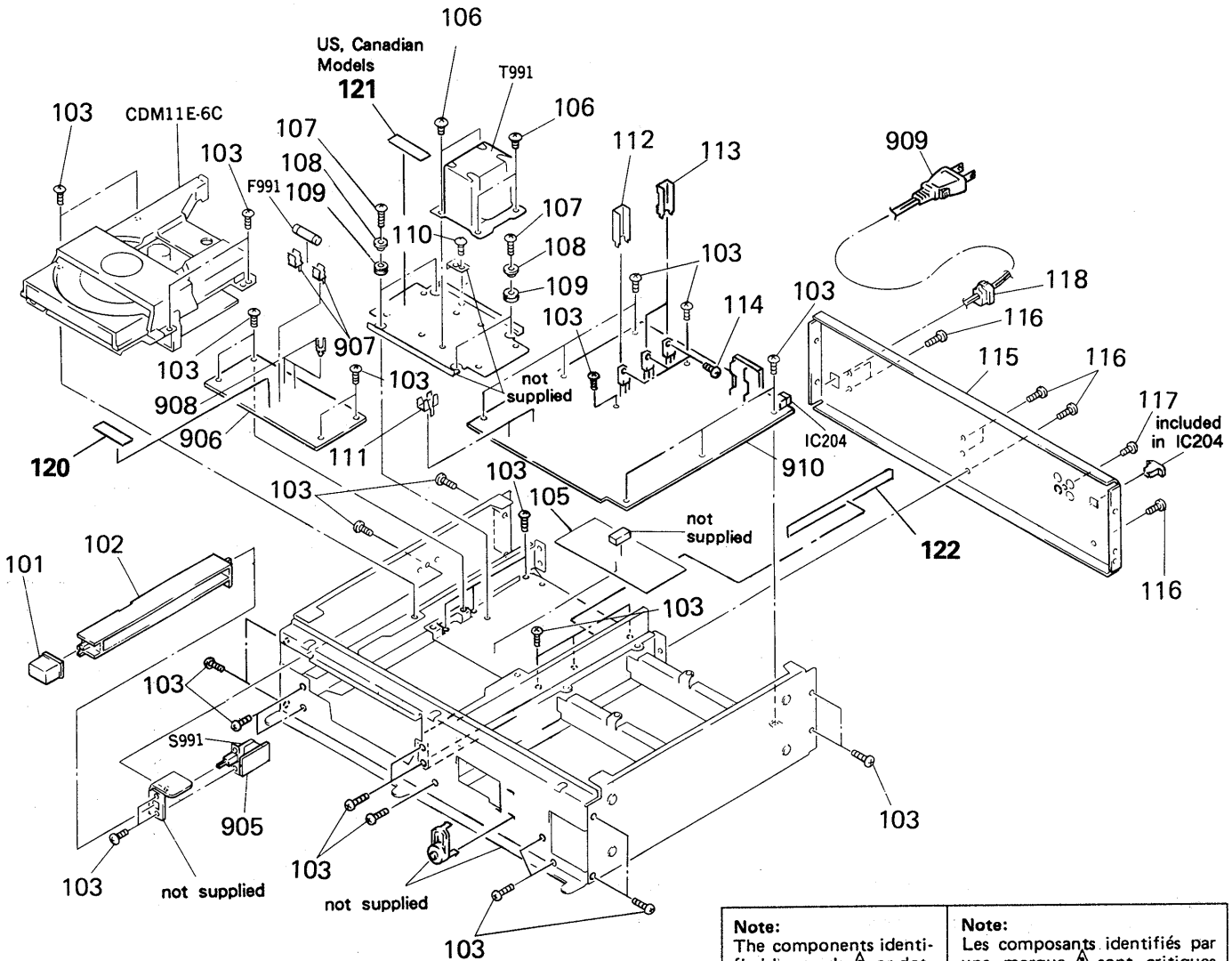
4-2. FRONT PANEL SECTION



No.	Part No.	Description	Remarks	No.	Part No.	Description	Remarks
51	4-908-848-01	EMBLEM, SONY		70	4-922-979-11	INDICATOR	
52	4-934-038-01	(AEP).....PANEL, FRONT		71	4-934-053-01	BUTTON (A)	
	4-934-038-11	(US,Canadian,UK)...PANEL, FRONT		72	*4-934-097-01	CUSHION (BUTTON A)	
53	7-685-870-01	SCREW +BVTT 3X5 (S)		73	4-934-026-01	BUTTON (M/C)	
54	7-685-646-79	SCREW +BTP 3X8 TYPE2 N-S		74	*4-934-096-01	CUSHION (MC)	
55	4-934-033-01	ESCUTCHEON (DISPLAY)		75	4-934-027-01	BUTTON (MODE)	
56	4-934-031-01	BUTTON (DISPLAY)		76	*4-923-532-21	SPACER, LED	
57	4-934-036-01	PLATE, INDICATION		77	*4-934-048-01	PLATE, GROUND	
58	X-4934-026-1	BASE (L) ASSY		78	4-934-037-01	WINDOW (LAY CATCHER)	
60	4-922-518-11	KNOB (LEFT)		79	4-934-049-01	INDICATOR (PLAY)	
61	*4-928-053-01	HOLDER (LEFT)		80	4-934-050-01	INDICATOR (PAUSE)	
62	*4-928-052-01	HOLDER (RIGHT)		901	*A-4617-219-A	MOUNTED PCB, DISPLAY	
63	9-911-841-XX	SPACER		902	*1-633-018-11	PC BOARD, SW	
64	7-685-134-19	SCREW +BTP 2.6X8 TYPE2 N-S		903	*1-633-019-11	PC BOARD, VR	
65	*4-934-051-01	COVER		904	*1-633-020-11	PC BOARD, HEADPHONE JACK	
66	3-531-576-01	RIVET		D708	8-719-907-81	DIODE B65535S	
67	X-4934-005-1	BASE (RIGHT) ASSY		D709	8-719-907-75	DIODE AA5534S	
68	4-922-977-01	KNOB (HP)		FL801	1-519-554-11	INDICATOR TUBE, FLUORESCENT	
69	4-922-978-01	HOLDER (FIBER)		J481	1-568-519-31	JACK, LARGE TYPE (PHONE)	
				RV580	1-238-776-11	RES, VAR, CARBON 10KX3 (LINE OUT/PHONE LEVEL)(including VOL MOTOR,LED)	

**SEE ADDITIONAL
SEE INFORMATION**

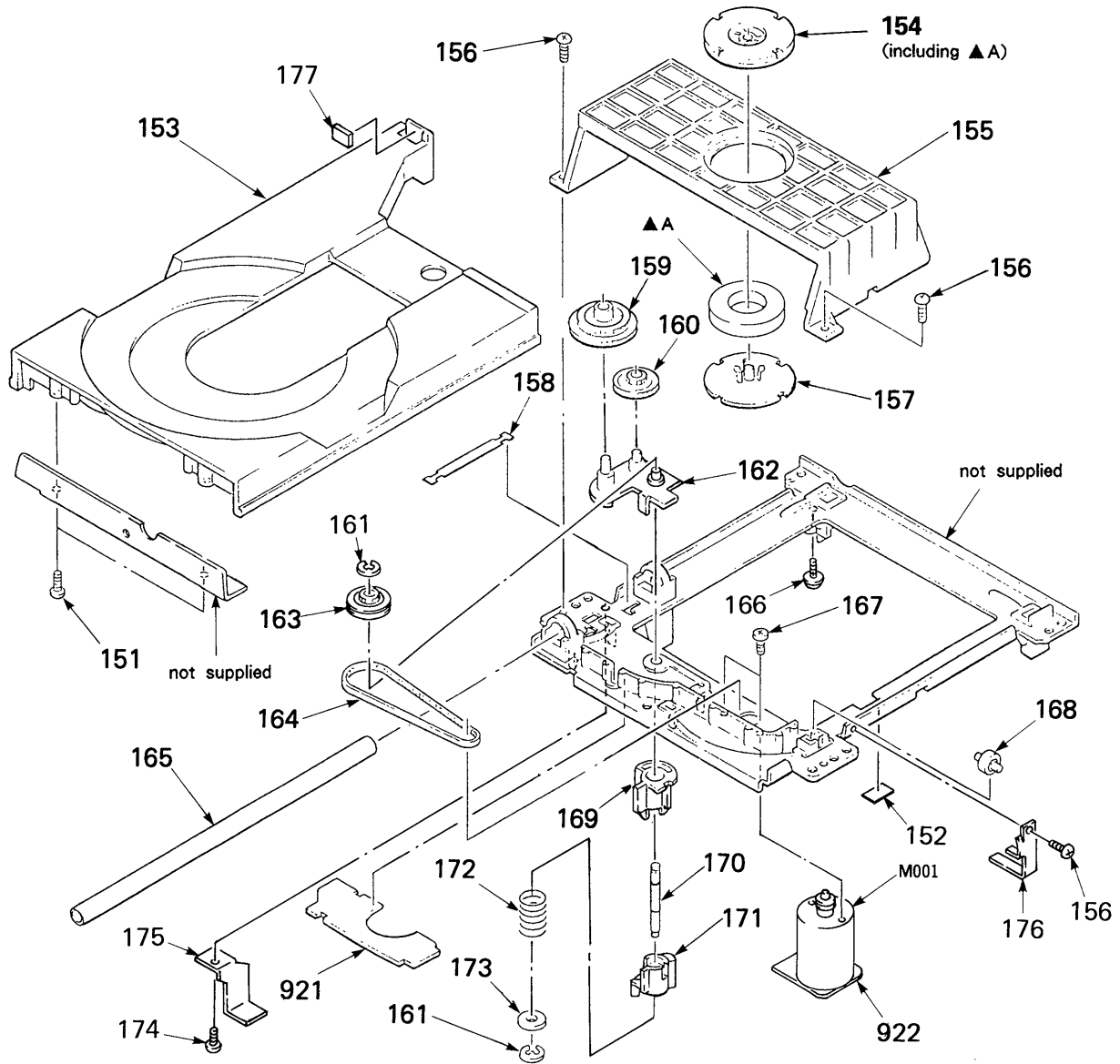
4-3. CHASSIS SECTION



<p>Note: The components identified by mark or dotted line with mark are critical for safety. Replace only with part number specified.</p>	<p>Note: Les composants identifiés par une marque sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.</p>
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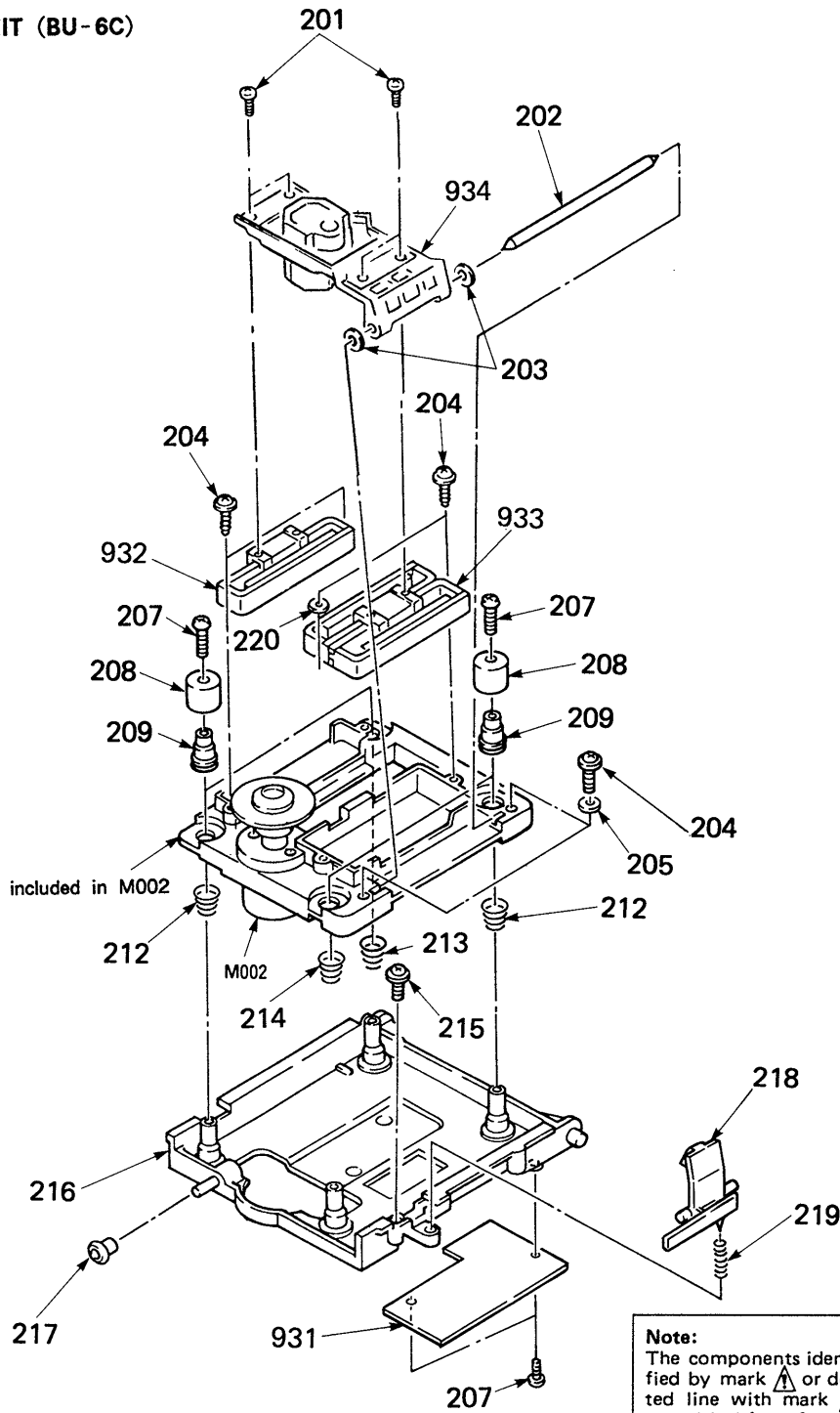
No.	Part No.	Description	Remarks	No.	Part No.	Description	Remarks
101	4-923-520-01	KNOB, POWER		120	*3-701-946-21	(US,Canadian)...LABEL (1.25A125V), FUSE	
102	*4-934-044-01	LEVER (POWER)			*3-701-948-10	(AEP,UK).....LABEL (T400MA), FUSE	
103	7-682-548-09	SCREW (3X8)		121	*3-703-044-26	(US,Canadian)...LABEL, CAUTION	
105	*4-935-908-01	SHEET		122	3-831-441-11	SPACER	
106	7-682-560-04	SCREW +BVTT 4X6 (S)		905	*1-633-017-11	PC BOARD, POWER SW	
107	7-685-873-09	SCREW +BVTT 3X10 (S)		906	*1-633-321-11	PC BOARD, PRIMARY	
108	4-928-032-01	COLLAR (A)		907	1-533-183-11	HOLDER, FUSE	
109	*4-888-798-00	BUSHING, RUBBER		908	*1-535-771-11	TERMINAL	
110	7-682-547-04	SCREW +BVTT 3X6 (S)		909	1-555-795-00	(AEP).....CORD, POWER	
111	*4-922-525-01	HEAT SINK			1-556-035-11	(UK).....CORD, POWER	
112	*4-886-555-00	HEAT SINK			1-557-577-11	(US,Canadian)...CORD, POWER	
113	4-902-345-01	HEAT SINK		910	*A-4617-220-A	MOUNTED PCB, MAIN	
114	7-682-147-15	SCREW, TR		F991	1-532-066-11	(AEP,UK).....FUSE, TIME LAG (0.4A)	
115	*4-934-003-12	(AEP).....PANEL, BACK		F991	1-532-741-11	(US,Canadian)...FUSE, GLASS TUBE (1.25A)	
	*4-934-003-22	(UK).....PANEL, BACK		IC204	8-759-977-71	IC GP-1F31T	
	*4-934-003-31	(US).....PANEL, BACK		S991	1-570-156-11	SWITCH, PUSH (AC POWER)(1 KEY)(POWER)	
	*4-934-003-42	(Canadian)...PANEL, BACK		T991	1-450-039-11	(US,Canadian)...TRANSFORMER, POWER	
116	4-929-074-01	SCREW (3X8)		T991	1-450-040-11	(AEP,UK).....TRANSFORMER, POWER	
117	7-685-646-79	SCREW +BTP 3X8 TYPE2 N-S					
118	2-231-019-00	CLAMPER, CORD					

4-4. MECHANISM SECTION (CDM11E-6C)



No.	Part No.	Description	Remarks	No.	Part No.	Description	Remarks
151	7-685-647-79	SCREW +P 3X10 TYPE2 SLIT		166	*4-917-583-21	BRACKET, YOKE	
152	3-831-441-11	CUSHION (A)		167	7-682-544-04	SCREW +P 3X3	
153	*4-927-642-01	TABLE (EXL), DISC		168	4-927-627-01	ROLLER (S,G)	
154	A-4665-024-A	MAGNET ASSY		169	4-927-624-01	CAM (L,A)	
155	*4-927-638-03	HOLDER (A,P)		170	4-927-665-01	SHAFT (S)	
156	7-621-770-67	SCREW +BVTT 2.6X6 (S)		171	4-927-635-01	CAM (L,B)	
157	*4-918-679-04	PULLEY, PRESS		172	3-659-338-00	SPRING, COMPRESSION	
158	*4-927-648-01	SLIDER (GROUND)		173	4-927-654-01	WASHER (LIMITER)	
159	4-927-620-01	GEAR (P)		174	7-621-773-86	SCREW +BVTT 2.6X4 (S)	
160	4-927-628-01	GEAR (C)		175	*4-927-659-01	LIMITER (BU-6)	
161	7-624-105-04	STOP RING 2.3, TYPE -E		176	*4-927-655-01	LIMITER	
162	X-4927-608-1	ARM ASSY, SWING		177	*4-927-670-01	CUSHION (MD)	
163	4-929-724-01	PULLEY (B)		921	*1-632-974-11	PC BOARD, SWITCH	
164	4-927-649-01	BELT		922	*1-632-975-11	PC BOARD, L.MOTOR	
165	4-927-617-01	BAR, GUIDE		M001	A-4604-347-A	MOTOR (L) ASSY (LOADING)	

4-5. BASE UNIT (BU-6C)



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

Note:
Les composants identifiés par une marque \triangle sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

No.	Part No.	Description	Remarks	No.	Part No.	Description	Remarks
201	3-318-203-61	SCREW (B1.7X4), TAPPING		215	7-685-132-19	+ PTPWH (2.6X5)	
202	*4-910-431-01	SHAFT, SLIDE		216	*4-927-637-01	HOLDER (BU-6)	
203	*4-917-582-01	CUSHION, SLIDE		217	4-927-631-01	ROLLER (L)	
204	7-685-646-79	SCREW, TAPPING +PTTWH M3X8		218	4-927-626-01	LEVER (L)	
205	4-927-318-01	WASHER		219	3-305-423-00	SPRING, COMPRESSION	
207	7-685-134-19	SCREW +BTP 2.6X8 TYPE2 N-S		220	4-927-669-01	WASHER (BU)	
208	4-927-634-01	HOLDER (SP)		931	*1-632-973-11	PC BOARD, TRANSLATION	
209	*4-917-584-11	INSULATOR		932	A-4638-084-A	SENSOR ASSY, SPEED	
212	4-917-572-01	SPRING (B)		933	A-4608-335-A	MOTOR ASSY, LINEAR	
213	4-917-571-01	SPRING (A)		934	\triangle 8-848-159-11	DEVICE, OPTICAL KSS-270A	
214	4-917-573-01	SPRING (E)		M002	X-4927-605-3	BASE ASSY, MECHANISM (SPINDLE MOTOR)	

SECTION 5

ELECTRICAL PARTS LIST

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: μ F, PF: μ MF.**RESISTORS**

- All resistors are in ohms.
- F: nonflammable

COILS

- MMH: mH, UH: μ H

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



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


Les composants identifiés par une marque Δ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

Ref.No.	Part No.	Description	Ref.No.	Part No.	Description
901	*A-4617-219-A	MOUNTED PCB, DISPLAY	C121	1-136-153-00	FILM 0.01MF 5% 50V
902	*1-633-018-11	PC BOARD, SW	C122	1-124-902-00	ELECT 0.47MF 20% 50V
903	*1-633-019-11	PC BOARD, VR	C123	1-130-472-00	MYLAR 0.0012MF 5% 50V
904	*1-633-020-11	PC BOARD, HEADPHONE JACK	C124	1-106-359-00	MYLAR 0.0047MF 5% 50V
905	*1-633-017-11	PC BOARD, POWER SW	C125	1-164-159-11	CERAMIC 0.1MF 50V
906	*1-633-321-11	PC BOARD, PRIMARY	C127	1-164-159-11	CERAMIC 0.1MF 50V
907	1-533-183-11	HOLDER, FUSE	C129	1-136-161-00	FILM 0.047MF 5% 50V
908	*1-535-771-11	TERMINAL	C130	1-136-155-00	FILM 0.015MF 5% 50V
909	Δ 1-555-795-00	(AEP).....CORD, POWER	C132	1-162-294-31	CERAMIC 0.001MF 10% 50V
	Δ 1-556-035-11	(UK).....CORD, POWER	C133	1-164-159-11	CERAMIC 0.1MF 50V
	Δ 1-557-577-11	(US,Canadian)...CORD, POWER	C134	1-162-294-31	CERAMIC 0.001MF 10% 50V
910	*A-4617-220-A	MOUNTED PCB, MAIN	C135	1-162-294-31	CERAMIC 0.001MF 10% 50V
921	*1-632-974-11	PC BOARD, SWITCH	C136	1-164-159-11	CERAMIC 0.1MF 50V
922	*1-632-975-11	PC BOARD, L.MOTOR	C137	1-126-023-11	ELECT 100MF 20% 25V
931	*1-632-973-11	PC BOARD, TRANSLATION	C138	1-126-023-11	ELECT 100MF 20% 25V
932	A-4638-084-A	SENSOR ASSY, SPEED	C139	1-126-023-11	ELECT 100MF 20% 25V
933	A-4608-335-A	MOTOR ASSY, LINEAR	C140	1-126-023-11	ELECT 100MF 20% 25V
934	Δ 8-848-159-11	DEVICE, OPTICAL KSS-270A	C141	1-124-983-11	ELECT 330MF 20% 6.3V
C001	1-136-157-00	FILM 0.022MF 5% 50V	C142	1-124-983-11	ELECT 330MF 20% 6.3V
C051	1-136-157-00	FILM 0.022MF 5% 50V	C153	1-164-159-11	CERAMIC 0.1MF 50V
C052	1-164-159-11	CERAMIC 0.1MF 50V	C154	1-124-983-11	ELECT 330MF 20% 6.3V
C053	1-164-159-11	CERAMIC 0.1MF 50V	C155	1-164-159-11	CERAMIC 0.1MF 50V
C054	1-164-159-11	CERAMIC 0.1MF 50V	C156	1-164-159-11	CERAMIC 0.1MF 50V
C055	1-164-159-11	CERAMIC 0.1MF 50V	C157	1-164-159-11	CERAMIC 0.1MF 50V
C056	1-162-280-31	CERAMIC 82PF 10% 50V	C201	1-106-347-00	MYLAR 0.0015MF 5% 50V
C057	1-162-213-31	CERAMIC 39PF 5% 50V	C202	1-136-161-00	FILM 0.047MF 5% 50V
C058	1-162-195-31	CERAMIC 4.7PF 10% 50V	C203	1-136-153-00	FILM 0.01MF 5% 50V
C101	1-130-480-00	MYLAR 0.0056MF 5% 50V	C205	1-124-983-11	ELECT 330MF 20% 6.3V
C102	1-136-159-00	FILM 0.033MF 5% 50V	C206	1-164-159-11	CERAMIC 0.1MF 50V
C103	1-136-165-00	FILM 0.1MF 5% 50V	C207	1-164-159-11	CERAMIC 0.1MF 50V
C104	1-136-165-00	FILM 0.1MF 5% 50V	C208	1-136-165-00	FILM 0.1MF 5% 50V
C105	1-161-375-00	CERAMIC 0.0022MF 30% 16V	C209	1-124-983-11	ELECT 330MF 20% 6.3V
C106	1-106-351-00	MYLAR 0.0022MF 5% 50V	C210	1-164-159-11	CERAMIC 0.1MF 50V
C107	1-136-153-00	FILM 0.01MF 5% 50V	C251	1-124-983-11	ELECT 330MF 20% 6.3V
C108	1-136-153-00	FILM 0.01MF 5% 50V	C252	1-164-159-11	CERAMIC 0.1MF 50V
C109	1-136-165-00	FILM 0.1MF 5% 50V	C301	1-124-983-11	ELECT 330MF 20% 6.3V
C110	1-136-159-00	FILM 0.033MF 5% 50V	C302	1-164-159-11	CERAMIC 0.1MF 50V
C111	1-123-875-11	ELECT 10MF 20% 50V	C303	1-136-165-00	FILM 0.1MF 5% 50V
C112	1-136-165-00	FILM 0.1MF 5% 50V	C304	1-164-159-11	CERAMIC (NONPOLAR) 0.1MF 50V
C113	1-123-382-00	ELECT 3.3MF 20% 50V	C305	1-126-151-11	ELECT 4.7MF 20% 16V
C114	1-126-233-11	ELECT 22MF 20% 25V	C310	1-136-165-00	FILM 0.1MF 5% 50V
C115	1-162-306-11	CERAMIC 0.01MF 20% 16V	C401	1-136-437-11	FILM 220PF 5% 630V
C116	1-136-159-00	FILM 0.033MF 5% 50V	C402	1-136-433-11	FILM 100PF 5% 630V
C118	1-124-983-11	ELECT 330MF 20% 6.3V	C403	1-136-433-11	FILM 100PF 5% 630V
C119	1-124-983-11	ELECT 330MF 20% 6.3V	C404	1-136-954-11	FILM 6200PF 5% 630V

Ref.No.	Part No.	Description			
C405	1-129-702-00	FILM	0.001MF	5%	630V
C406	1-124-130-00	ELECT	100MF	20%	63V
C407	1-136-250-11	FILM	0.001MF	3%	100V
C408	1-123-333-00	ELECT	100MF	20%	25V
C409	1-123-333-00	ELECT	100MF	20%	25V
C410	1-124-499-11	ELECT	1MF	20%	50V
C411	1-136-437-11	FILM	220PF	5%	630V
C412	1-136-437-11	FILM	220PF	5%	630V
C440	1-136-746-11	FILM	1MF	5%	50V
C441	1-136-746-11	FILM	1MF	5%	50V
C451	1-162-207-31	CERAMIC	22PF	5%	50V
C454	1-126-026-11	ELECT	470MF	20%	25V
C455	1-136-230-00	FILM	0.0022MF	3%	100V
C481	1-164-159-11	CERAMIC	0.1MF		50V
C491	1-136-159-00	FILM	0.033MF	5%	50V
C501	1-136-437-11	FILM	220PF	5%	630V
C502	1-136-433-11	FILM	100PF	5%	630V
C503	1-136-433-11	FILM	100PF	5%	630V
C504	1-136-954-11	FILM	6200PF	5%	630V
C505	1-129-702-00	FILM	0.001MF	5%	630V
C506	1-124-130-00	ELECT	100MF	20%	63V
C507	1-136-250-11	FILM	0.001MF	3%	100V
C508	1-123-333-00	ELECT	100MF	20%	25V
C509	1-123-333-00	ELECT	100MF	20%	25V
C510	1-124-499-11	ELECT	1MF	20%	50V
C511	1-136-437-11	FILM	220PF	5%	630V
C512	1-136-437-11	FILM	220PF	5%	630V
C540	1-136-746-11	FILM	1MF	5%	50V
C541	1-136-746-11	FILM	1MF	5%	50V
C551	1-162-207-31	CERAMIC	22PF	5%	50V
C554	1-126-026-11	ELECT	470MF	20%	25V
C555	1-136-230-00	FILM	0.0022MF	3%	100V
C591	1-136-159-00	FILM	0.033MF	5%	50V
C601	1-131-367-00	TANTALUM	22MF	20%	16V
C602	1-136-165-00	FILM	0.1MF	5%	50V
C604	1-123-333-00	ELECT	100MF	20%	25V
C605	1-131-367-00	TANTALUM	22MF	20%	16V
C606	1-123-333-00	ELECT	100MF	20%	25V
C607	1-136-165-00	FILM	0.1MF	5%	50V
C608	1-123-333-00	ELECT	100MF	20%	25V
C609	1-136-165-00	FILM	0.1MF	5%	50V
C610	1-123-333-00	ELECT	100MF	20%	25V
C611	1-136-165-00	FILM	0.1MF	5%	50V
C612	1-136-165-00	FILM	0.1MF	5%	50V
C613	1-123-333-00	ELECT	100MF	20%	25V
C614	1-136-165-00	FILM	0.1MF	5%	50V
C615	1-136-165-00	FILM	0.1MF	5%	50V
C616	1-123-333-00	ELECT	100MF	20%	25V
C617	1-123-332-00	ELECT	47MF	20%	25V
C618	1-123-332-00	ELECT	47MF	20%	25V
C619	1-126-103-11	ELECT	470MF	20%	10V
C620	1-102-947-00	CERAMIC	10PF	0.5PF	50V
C621	1-102-947-00	CERAMIC	10PF	0.5PF	50V
C624	1-130-495-00	MYLAR	0.1MF	5%	50V
C625	1-126-335-11	ELECT	220MF	20%	10V
C626	1-136-165-00	FILM	0.1MF	5%	50V
C627	1-136-165-00	FILM	0.1MF	5%	50V

Ref.No.	Part No.	Description			
C628	1-164-159-11	CERAMIC	0.1MF		50V
C629	1-136-165-00	FILM	0.1MF	5%	50V
C801	1-126-177-11	ELECT	100MF	20%	6.3V
C802	1-164-159-11	CERAMIC	0.1MF		50V
C803	1-164-159-11	CERAMIC	0.1MF		50V
C901	1-126-016-11	ELECT	4700MF	20%	16V
C902	1-124-556-11	ELECT	2200MF	20%	16V
C903	1-124-986-11	ELECT	2200MF	20%	6.3V
C904	1-124-997-11	ELECT	470MF	20%	6.3V
C905	1-126-045-11	ELECT	2.2MF	20%	50V
C906	1-126-045-11	ELECT	2.2MF	20%	50V
C907	1-164-159-11	CERAMIC	0.1MF		50V
C909	1-126-063-11	ELECT	100MF	20%	63V
C910	1-126-051-11	ELECT	47MF	20%	50V
C911	1-126-052-11	ELECT	100MF	20%	50V
C920	1-126-549-11	ELECT	4700MF	20%	25V
C921	1-126-549-11	ELECT	4700MF	20%	25V
C922	1-123-377-00	ELECT	470MF	20%	63V
C923	1-123-377-00	ELECT	470MF	20%	63V
C931	1-136-203-11	FILM	0.1MF	10%	100V
C932	1-164-159-11	CERAMIC	0.1MF		50V
C933	1-136-165-00	FILM	0.1MF	5%	50V
C934	1-136-165-00	FILM	0.1MF	5%	50V
C940	1-124-122-11	ELECT	100MF	20%	50V
C941	1-136-746-11	FILM	1MF	5%	50V
C990	1-126-534-11	ELECT	47000MF		5.5V
C991	△.1-161-744-00	CERAMIC	0.01MF		400V
C993	△.1-161-744-00	CERAMIC	0.01MF		400V
CN051	1-569-429-11	SOCKET, CONNECTOR	16P		
CN101	*1-506-503-11	PIN, CONNECTOR	9P		
CN102	*1-564-338-00	PIN, CONNECTOR	4P		
CN103	*1-564-340-00	PIN, CONNECTOR	6P		
CN104	*1-564-339-00	PIN, CONNECTOR	5P		
CN301	*1-564-342-11	PIN, CONNECTOR	8P		
CN302	*1-564-340-00	PIN, CONNECTOR	6P		
CN401	*1-564-506-11	PLUG, CONNECTOR	3P		
CN450	*1-564-506-11	PLUG, CONNECTOR	3P		
CN451	*1-564-506-11	PLUG, CONNECTOR	3P		
CN581	*1-564-708-11	PIN, CONNECTOR (SMALL TYPE)	6P		
CN801	*1-564-500-11	PIN, CONNECTOR	7P		
CN802	*1-564-502-11	PIN, CONNECTOR	10P		
CN901	*1-535-123-00	TERMINAL	10P		
CN902	*1-564-341-11	PIN, CONNECTOR	7P		
CN991	*1-535-141-00	BASE POST	22MM (10MM PITCH)	4P	
D401	8-719-107-94	DIODE	1SS202-1		
D501	8-719-107-94	DIODE	1SS202-1		
D601	8-719-107-94	DIODE	1SS202-1		
D602	8-719-107-94	DIODE	1SS202-1		
D603	8-719-114-29	DIODE	RD5.1JS-B1		
D701	8-719-107-94	DIODE	1SS202-1		
D702	8-719-107-94	DIODE	1SS202-1		
D703	8-719-107-94	DIODE	1SS202-1		
D704	8-719-107-94	DIODE	1SS202-1		
D705	8-719-107-94	DIODE	1SS202-1		
D706	8-719-107-94	DIODE	1SS202-1		
D707	8-719-107-94	DIODE	1SS202-1		
D708	8-719-907-81	DIODE	BG5535S		

Note:
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Note:
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Ref.No.	Part No.	Description	Ref.No.	Part No.	Description
D709	8-719-907-75	DIODE AA5534S	Q301	8-729-900-80	TRANSISTOR DTC114ES
D801	8-719-107-94	DIODE 1SS202-1	Q401	8-729-201-05	TRANSISTOR 2SC2878B
D901	8-719-200-02	DIODE 10E2	Q402	8-729-900-63	TRANSISTOR DTA124ES
D902	8-719-200-02	DIODE 10E2	Q403	8-729-900-80	TRANSISTOR DTC114ES
D903	8-719-200-02	DIODE 10E2	Q451	8-729-119-78	TRANSISTOR 2SC2785-HFE
D904	8-719-200-02	DIODE 10E2	Q501	8-729-201-05	TRANSISTOR 2SC2878B
D905	8-719-815-85	DIODE 1S1585	Q502	8-729-900-63	TRANSISTOR DTA124ES
D906	8-719-815-85	DIODE 1S1585	Q503	8-729-900-80	TRANSISTOR DTC114ES
D907	8-719-107-94	DIODE 1SS202-1	Q551	8-729-119-76	TRANSISTOR 2SA1175-HFE
D908	8-719-107-94	DIODE 1SS202-1	Q601	8-729-216-13	TRANSISTOR 2SK161-GR
D909	8-719-107-94	DIODE 1SS202-1	Q602	8-729-905-67	TRANSISTOR 2SD1944-K
D910	8-719-913-62	DIODE HZS36-2L	Q801	8-729-905-05	TRANSISTOR 2SD1293M
D911	8-719-933-48	DIODE HZS7B3L	Q802	8-729-905-05	TRANSISTOR 2SD1293M
D912	8-719-200-02	DIODE 10E2	Q803	8-729-900-45	TRANSISTOR DTC114EF
D920	8-719-200-97	DIODE 30DF2-FA	Q804	8-729-900-45	TRANSISTOR DTC114EF
D921	8-719-200-97	DIODE 30DF2-FA	Q901	8-729-140-96	TRANSISTOR 2SD774-34
D922	8-719-200-97	DIODE 30DF2-FA	Q902	8-729-119-78	TRANSISTOR 2SC2785-HFE
D923	8-719-200-97	DIODE 30DF2-FA	Q903	8-729-119-78	TRANSISTOR 2SC2785-HFE
F991	△.1-532-066-11	(AEP,UK)....FUSE, TIME LAG (0.4A)	Q904	8-729-900-61	TRANSISTOR DTA114ES
F991	△.1-532-741-11	(US,Canadian)...FUSE, GLASS TUBE (1.25A)	R001	△.1-216-377-11	METAL OXIDE 4.7 5% 2W F
FL801	1-519-554-11	INDICATOR TUBE, FLUORESCENT	R051	1-249-417-11	CARBON 1K 5% 1/4W
IC051	8-759-903-55	IC LF357N	R052	1-249-425-11	CARBON 4.7K 5% 1/4W
IC101	8-752-037-33	IC CXA1372Q	R053	1-249-425-11	CARBON 4.7K 5% 1/4W
IC102	8-752-035-28	IC CXA1291P	R054	1-249-417-11	CARBON 1K 5% 1/4W
IC103	8-752-035-28	IC CXA1291P	R055	1-249-417-11	CARBON 1K 5% 1/4W
IC201	8-752-333-31	IC CXD2500Q	R056	1-249-417-11	CARBON 1K 5% 1/4W
IC202	8-752-328-61	IC CXD1244S	R057	1-249-425-11	CARBON 4.7K 5% 1/4W
IC203	8-752-334-77	IC CXD2553S	R058	1-249-433-11	CARBON 22K 5% 1/4W
IC204	8-759-977-71	IC GP-1F31T	R059	1-249-431-11	CARBON 15K 5% 1/4W
IC301	8-759-634-57	IC M37450M8-139FP	R101	1-249-425-11	CARBON 4.7K 5% 1/4W
IC302	8-759-820-65	IC LC9600RM-183	R102	1-247-887-00	CARBON 220K 5% 1/4W
IC303	8-759-962-08	IC BA6208	R103	1-249-425-11	CARBON 4.7K 5% 1/4W
IC401	8-759-982-03	IC RD5532D	R104	1-247-882-11	CARBON 130K 5% 1/4W
IC402	8-759-982-03	IC RD5532D	R105	1-249-440-11	CARBON 82K 5% 1/4W
IC450	8-759-602-01	IC M5220P	R106	1-249-440-11	CARBON 82K 5% 1/4W
IC501	8-759-982-03	IC RD5532D	R107	1-249-431-11	CARBON 15K 5% 1/4W
IC502	8-759-982-03	IC RD5532D	R108	1-247-846-11	CARBON 4.3K 5% 1/4W
IC601	8-752-335-52	IC CXD2552Q-2	R109	1-247-896-11	CARBON 510K 5% 1/4W
IC602	8-759-233-63	IC TC74HCU04AP	R110	1-249-441-11	CARBON 100K 5% 1/4W
IC603	8-759-233-63	IC TC74HCU04AP	R112	1-249-429-11	CARBON 10K 5% 1/4W
IC801	8-759-998-54	IC MSC62408-005GS-K	R113	1-249-441-11	CARBON 100K 5% 1/4W
IC802	8-749-920-03	IC GP1U52	R114	1-247-854-11	CARBON 9.1K 5% 1/4W
IC901	8-759-634-55	IC M5F7805L-720	R115	1-247-854-11	CARBON 9.1K 5% 1/4W
IC902	8-759-604-47	IC M5F7905	R116	1-249-393-11	CARBON 10 5% 1/4W
IC904	8-759-803-70	IC LC74HC08	R118	1-249-393-11	CARBON 10 5% 1/4W
IC920	8-759-604-33	IC M5F7812	R120	1-247-899-11	CARBON 680K 5% 1/4W
IC921	8-759-604-51	IC M5F7912	R121	1-249-441-11	CARBON 100K 5% 1/4W
J401	1-568-760-11	JACK, PIN 4P (LINE OUT)	R123	1-247-883-00	CARBON 150K 5% 1/4W
J481	1-568-519-31	JACK, LARGE TYPE (PHONE)	R124	1-247-878-00	CARBON 91K 5% 1/4W
L601	1-410-548-21	INDUCTOR 4.7UH	R125	1-247-883-00	CARBON 150K 5% 1/4W
L603	1-410-548-21	INDUCTOR 4.7UH	R126	1-249-433-11	CARBON 22K 5% 1/4W
M001	A-4604-347-A	MOTOR (L) ASSY (LOADING)	R127	1-249-393-11	CARBON 10 5% 1/4W
M002	X-4927-605-3	BASE ASSY, MECHANISM (SPINDLE MOTOR)	R128	1-249-441-11	CARBON 100K 5% 1/4W
Q051	8-729-900-80	TRANSISTOR DTC114ES	R129	1-249-441-11	CARBON 100K 5% 1/4W
Q052	8-729-184-53	TRANSISTOR 2SC1845-EA	R130	1-249-441-11	CARBON 100K 5% 1/4W
Q101	8-729-900-89	TRANSISTOR DTC144ES	R131	1-249-441-11	CARBON 100K 5% 1/4W
			R132	1-249-393-11	CARBON 10 5% 1/4W
			R150	1-249-417-11	CARBON 1K 5% 1/4W

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Ref.No.	Part No.	Description			
R152	1-249-393-11	CARBON	10	5%	1/4W
R153	1-249-424-11	CARBON	3.9K	5%	1/4W
R201	1-249-423-11	CARBON	3.3K	5%	1/4W
R202	1-249-423-11	CARBON	3.3K	5%	1/4W
R203	1-249-429-11	CARBON	10K	5%	1/4W
R204	1-249-429-11	CARBON	10K	5%	1/4W
R205	1-249-429-11	CARBON	10K	5%	1/4W
R206	1-249-435-11	CARBON	33K	5%	1/4W
R209	1-249-413-11	CARBON	470	5%	1/4W
R210	1-249-413-11	CARBON	470	5%	1/4W
R211	1-249-413-11	CARBON	470	5%	1/4W
R212	1-249-417-11	CARBON	1K	5%	1/4W
R213	1-259-420-11	CARBON	470	5%	1/6W
R214	1-259-420-11	CARBON	470	5%	1/6W
R215	1-259-420-11	CARBON	470	5%	1/6W
R216	1-259-420-11	CARBON	470	5%	1/6W
R217	1-249-411-11	CARBON	330	5%	1/4W
R230	1-249-417-11	CARBON	1K	5%	1/4W
R231	1-249-413-11	CARBON	470	5%	1/4W
R251	1-249-413-11	CARBON	470	5%	1/4W
R301	1-247-903-00	CARBON	1M	5%	1/4W
R302	1-249-411-11	CARBON	330	5%	1/4W
R303	1-249-429-11	CARBON	10K	5%	1/4W
R304	1-249-429-11	CARBON	10K	5%	1/4W
R305	1-249-429-11	CARBON	10K	5%	1/4W
R306	1-249-429-11	CARBON	10K	5%	1/4W
R308	1-249-429-11	CARBON	10K	5%	1/4W
R309	1-249-429-11	CARBON	10K	5%	1/4W
R310	1-249-429-11	CARBON	10K	5%	1/4W
R311	1-249-429-11	CARBON	10K	5%	1/4W
R312	1-249-429-11	CARBON	10K	5%	1/4W
R313	1-249-417-11	CARBON	1K	5%	1/4W
R314	1-249-429-11	CARBON	10K	5%	1/4W
R315	1-249-429-11	CARBON	10K	5%	1/4W
R316	1-249-417-11	CARBON	1K	5%	1/4W
R317	1-249-429-11	CARBON	10K	5%	1/4W
R318	1-249-411-11	CARBON	330	5%	1/4W
R319	1-249-429-11	CARBON	10K	5%	1/4W
R401	1-215-444-00	METAL	9.1K	1%	1/6W
R402	1-215-444-00	METAL	9.1K	1%	1/6W
R403	1-215-437-00	METAL	4.7K	1%	1/6W
R404	1-215-437-00	METAL	4.7K	1%	1/6W
R405	1-215-454-00	METAL	24K	1%	1/6W
R406	1-215-454-00	METAL	24K	1%	1/6W
R407	1-215-439-00	METAL	5.6K	1%	1/6W
R408	1-215-439-00	METAL	5.6K	1%	1/6W
R409	1-215-439-00	METAL	5.6K	1%	1/6W
R410	1-215-439-00	METAL	5.6K	1%	1/6W
R411	1-215-430-00	METAL	2.4K	1%	1/6W
R412	1-215-423-00	METAL	1.2K	1%	1/6W
R413	1-215-430-00	METAL	2.4K	1%	1/6W
R414	1-259-488-11	CARBON	330K	5%	1/6W
R415	1-247-700-11	CARBON	100	5%	1/4W
R416	1-247-700-11	CARBON	100	5%	1/4W
R417	1-259-466-11	CARBON	39K	5%	1/6W
R418	1-259-440-11	CARBON	3.3K	5%	1/6W
R419	1-259-432-11	CARBON	1.5K	5%	1/6W

Ref.No.	Part No.	Description			
R421	1-259-428-11	CARBON	1K	5%	1/6W
R425	1-259-388-11	CARBON	22	5%	1/6W
R451	1-259-464-11	CARBON	33K	5%	1/6W
R452	1-259-460-11	CARBON	22K	5%	1/6W
R454	1-249-421-11	CARBON	2.2K	5%	1/4W
R455	1-249-401-11	CARBON	47	5%	1/4W
R456	△.1-215-887-00	METAL OXIDE	150	5%	2W F
R457	1-259-404-11	CARBON	100	5%	1/6W
R491	1-249-400-11	CARBON	39	5%	1/4W
R501	1-215-444-00	METAL	9.1K	1%	1/6W
R502	1-215-444-00	METAL	9.1K	1%	1/6W
R503	1-215-437-00	METAL	4.7K	1%	1/6W
R504	1-215-437-00	METAL	4.7K	1%	1/6W
R505	1-215-454-00	METAL	24K	1%	1/6W
R506	1-215-454-00	METAL	24K	1%	1/6W
R507	1-215-439-00	METAL	5.6K	1%	1/6W
R508	1-215-439-00	METAL	5.6K	1%	1/6W
R509	1-215-439-00	METAL	5.6K	1%	1/6W
R510	1-215-439-00	METAL	5.6K	1%	1/6W
R511	1-215-430-00	METAL	2.4K	1%	1/6W
R512	1-215-423-00	METAL	1.2K	1%	1/6W
R513	1-215-430-00	METAL	2.4K	1%	1/6W
R514	1-259-488-11	CARBON	330K	5%	1/6W
R515	1-247-700-11	CARBON	100	5%	1/4W
R516	1-247-700-11	CARBON	100	5%	1/4W
R517	1-259-466-11	CARBON	39K	5%	1/6W
R518	1-259-440-11	CARBON	3.3K	5%	1/6W
R519	1-259-432-11	CARBON	1.5K	5%	1/6W
R521	1-259-428-11	CARBON	1K	5%	1/6W
R525	1-259-388-11	CARBON	22	5%	1/6W
R551	1-259-464-11	CARBON	33K	5%	1/6W
R552	1-259-460-11	CARBON	22K	5%	1/6W
R554	1-249-421-11	CARBON	2.2K	5%	1/4W
R555	1-249-401-11	CARBON	47	5%	1/4W
R556	△.1-215-887-00	METAL OXIDE	150	5%	2W F
R557	1-259-404-11	CARBON	100	5%	1/6W
R591	1-249-400-11	CARBON	39	5%	1/4W
R601	1-259-422-11	CARBON	560	5%	1/6W
R602	1-259-500-11	CARBON	1M	5%	1/6W
R603	1-259-452-11	CARBON	10K	5%	1/6W
R605	1-259-428-11	CARBON	1K	5%	1/6W
R801	1-249-425-11	CARBON	4.7K	5%	1/4W
R802	1-249-429-11	CARBON	10K	5%	1/4W
R803	1-247-903-00	CARBON	1M	5%	1/4W
R804	1-249-417-11	CARBON	1K	5%	1/4W
R806	1-249-441-11	CARBON	100K	5%	1/4W
R807	1-249-417-11	CARBON	1K	5%	1/4W
R809	1-249-441-11	CARBON	100K	5%	1/4W
R810	1-249-406-11	CARBON	120	5%	1/4W
R811	1-249-409-11	CARBON	220	5%	1/4W
R901	1-249-426-11	CARBON	5.6K	5%	1/4W
R902	1-247-887-00	CARBON	220K	5%	1/4W
R903	1-249-437-11	CARBON	47K	5%	1/4W
R904	1-249-405-11	CARBON	100	5%	1/4W
R905	1-247-891-00	CARBON	330K	5%	1/4W
R906	1-249-441-11	CARBON	100K	5%	1/4W
R907	1-249-433-11	CARBON	22K	5%	1/4W

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Ref.No.	Part No.	Description
R908	1-249-405-11	CARBON 100 5% 1/4W
R909	1-249-425-11	CARBON 4.7K 5% 1/4W
R910	1-249-429-11	CARBON 10K 5% 1/4W
R911	1-249-433-11	CARBON 22K 5% 1/4W
R912	△ 1-212-857-00	FUSIBLE 10 5% 1/4W F
R913	△ 1-215-886-11	METAL OXIDE 100 5% 2W F
R934	1-247-887-00	CARBON 220K 5% 1/4W
RV201	1-228-995-00	RES, ADJ, CARBON 20K
RV202	1-228-995-00	RES, ADJ, CARBON 20K
RV580	1-238-776-11	RES, VAR, CARBON 10KX3 (LINE OUT/PHONE LEVEL)(including VOL MOTOR,LED)
RY901	1-515-710-11	RELAY
S001	1-571-736-11	SWITCH, LEAF (IN)
S002	1-571-736-11	SWITCH, LEAF (OUT)
S701	1-554-596-21	SWITCH, KEY BOARD (1)
S702	1-554-596-21	SWITCH, KEY BOARD (2)
S703	1-554-596-21	SWITCH, KEY BOARD (3)
S704	1-554-596-21	SWITCH, KEY BOARD (4)
S705	1-554-596-21	SWITCH, KEY BOARD (5)
S706	1-554-596-21	SWITCH, KEY BOARD (CONTINUE)
S707	1-554-596-21	SWITCH, KEY BOARD (DISPLAY MODE)
S708	1-554-596-21	SWITCH, KEY BOARD (6)
S709	1-554-596-21	SWITCH, KEY BOARD (7)
S710	1-554-596-21	SWITCH, KEY BOARD (8)
S711	1-554-596-21	SWITCH, KEY BOARD (9)
S712	1-554-596-21	SWITCH, KEY BOARD (0)
S713	1-554-596-21	SWITCH, KEY BOARD (SHUFFLE)
S714	1-554-596-21	SWITCH, KEY BOARD (▷)
S715	1-554-596-21	SWITCH, KEY BOARD (11)
S716	1-554-596-21	SWITCH, KEY BOARD (12)
S717	1-554-596-21	SWITCH, KEY BOARD (13)
S718	1-554-596-21	SWITCH, KEY BOARD (14)
S719	1-554-596-21	SWITCH, KEY BOARD (15)
S720	1-554-596-21	SWITCH, KEY BOARD (PROGRAM)
S721	1-554-596-21	SWITCH, KEY BOARD (PEAK SEARCH)
S722	1-554-596-21	SWITCH, KEY BOARD (16)
S723	1-554-596-21	SWITCH, KEY BOARD (17)
S724	1-554-596-21	SWITCH, KEY BOARD (18)
S725	1-554-596-21	SWITCH, KEY BOARD (19)
S726	1-554-596-21	SWITCH, KEY BOARD (20)
S727	1-554-596-21	SWITCH, KEY BOARD (C.INDEX)
S728	1-554-596-21	SWITCH, KEY BOARD (TIME/MEMO)
S729	1-554-596-21	SWITCH, KEY BOARD ()
S730	1-554-596-21	SWITCH, KEY BOARD (■)
S731	1-554-596-21	SWITCH, KEY BOARD (◀)

Ref.No.	Part No.	Description
S732	1-554-596-21	SWITCH, KEY BOARD (▶)
S733	1-554-596-21	SWITCH, KEY BOARD (LEVEL FILE)
S734	1-554-596-21	SWITCH, KEY BOARD (REPEAT)
S735	1-554-596-21	SWITCH, KEY BOARD (>20)
S736	1-554-596-21	SWITCH, KEY BOARD (ERASE)
S737	1-554-596-21	SWITCH, KEY BOARD (K)
S738	1-554-596-21	SWITCH, KEY BOARD (M)
S739	1-554-596-21	SWITCH, KEY BOARD (MULTI PGM)
S740	1-554-596-21	SWITCH, KEY BOARD (FADER)
S741	1-554-596-21	SWITCH, KEY BOARD (CHECK)
S742	1-554-596-21	SWITCH, KEY BOARD (CLEAR)
S743	1-554-596-21	SWITCH, KEY BOARD (FILE)
S744	1-554-596-21	SWITCH, KEY BOARD (EDIT/TIME FADE)
S745	1-554-596-21	SWITCH, KEY BOARD (TIME SET)
S746	1-554-596-21	SWITCH, KEY BOARD (FILE RECALL)
S801	1-554-596-21	SWITCH, KEY BOARD (OPEN/CLOSE)
S802	1-570-157-51	SWITCH, SLIDE (TIMER)
S991	△ 1-570-156-11	SWITCH, PUSH (AC POWER)(1 KEY)(POWER)
T991	△ 1-450-039-11	(US,Canadian)...TRANSFORMER, POWER
T991	△ 1-450-040-11	(AEP,UK).....TRANSFORMER, POWER
TH901	1-808-065-11	THERMISTOR, POSITIVE
TH902	1-808-065-11	THERMISTOR, POSITIVE
X301	1-577-377-11	VIBRATOR, CERAMIC (10MHz)
X601	1-577-686-11	VIBRATOR, CRYSTAL (45.158MHz)
X602	1-577-685-11	FILTER, CRYSTAL (16.9344MHz)
X801	1-577-082-11	VIBRATOR, CERAMIC (4MHz)

ACCESSORY & PACKING MATERIAL

1-465-277-11	REMOTE COMMANDER (RM-D590)
1-558-271-11	CORD, CONNECTION
3-750-932-11	(Canadian,AEP,UK)...MANUAL, INSTRUCTION
3-750-932-21	(US).....MANUAL, INSTRUCTION
3-750-932-41	(AEP).....MANUAL, INSTRUCTION
*3-759-629-11	(AEP)...INSTRUCTION
4-925-788-01	COVER, BATTERY (FOR REMOTE COMMANDER)
*4-934-098-01	STOPPER, DISC TABLE
*4-935-901-11	INDIVIDUAL CARTON
*4-923-548-01	CUSHION (UPPER)
*4-923-549-01	CUSHION (LOWER)

Note:
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Note:
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CDP-X33ES

SONY[®] SERVICE MANUAL

*US Model
Canadian Model
AEP Model
UK Model*

SUPPLEMENT-1

File this supplement with the service manual.

Gray type has been added to CDP-X33ES (AEP model).
This SUPPLEMENT is for the gray type.

- Refer to CDP-X33ES Service Manual previously issued for the information of this set.
- The following parts are used in gray type only.

Page	No.	Part No.	Description
20	1	4-934-043-31	CASE (GRY)
20	3	4-928-025-31	ESCUTCHEON (TOP PLATE) (GRY)
20	13	X-4934-031-1	PANEL ASSY, LOADING
21	52	4-934-038-21	PANEL, FRONT
21	55	4-934-033-11	ESCUTCHEON (GRY)
21	56	4-934-031-11	BUTTON (DISPLAY)
21	58	X-4934-028-1	BASE (L) ASSY
21	60	4-922-518-21	KNOB (TIMER)
21	67	X-4934-029-1	BASE (R) ASSY
21	68	4-922-977-11	KNOB (HP)
21	71	4-934-053-11	BUTTON (A)
21	73	4-934-026-11	BUTTON (M/C)
21	75	4-934-027-11	BUTTON (MODE) (GRY)
22	101	4-923-520-21	KNOB, POWER (GRY)

CDP-X33ES

SONY SERVICE MANUAL

*US Model
Canadian Model
AEP Model
UK Model*

CORRECTION-1

Correct your service manual as shown below.

 : indicates corrected portion.

Page	INCORRECT			CORRECT	
	<u>No.</u>	<u>Part No.</u>	<u>Description</u>	<u>Part No.</u>	<u>Description</u>
27	IC302	8-759-820-65	IC LC9600RM-183	8-759-822-50	IC LC3564PL-15