

D-34/36

SERVICE MANUAL

US Model

D-34/36

Canadian Model

E Model

D-34



MEGA BASS
Discman

Model Name Using Similar Mechanism	D-33
CD Mechanism Name	KSM-220ABN

SPECIFICATIONS

CD section
System
Laser diode properties

Compact disc digital audio system
Material: GaAlAs
Wavelength: $\lambda = 780$ nm
Emission duration: Continuous Laser output: Less than 44.6μW (This output is the value measured at a distance of 200 mm from the objective lens surface on the Optical Pick-up Block.)
Sony Super Strategy Cross Interleave Read Solomon Code D-A conversion 16-bit linear 8fs digital filter
20-20,000 Hz $\pm 1\frac{1}{2}$ dB
(measured by EIAJ CP-307)
Line output (stereo minijack)
Output level 1 V rms at 47 kilohms
Load impedance over 10 kilohms
Headphones (stereo minijack)
5mW + 5mW at 16Ω

Error correction

Frequency response

Output (at 9V input level)

General
Power requirements

Supplied:
• DC IN 9 V jack accepts the Sony AC power adaptor for use one:

120V AC, 60Hz (US, Canadian Model)
100-240V, 50/60Hz (E Model)

Optional:

- DC IN 9V accepts the Sony CPM-203P mount plate and CPM-200A plate arm for use on 12V car battery.
 - DC 6V, four LR6 (size AA) alkaline-batteries
- 1.2W DC
Approx. 137 × 35 × 155.3 mm (5½ × 1⅜ × 6⅓) (w/h/d)
incl. projecting parts and controls
Approx. 410 g (14.5 oz.) net
Approx. 505 g (18 oz.) incl. batteries
AC power adaptor (1)
Connecting cord
(phono plug × 2 → stereo miniplug × 1) (1)
Stereo headphones (1)

Design and specifications subject to change without notice.

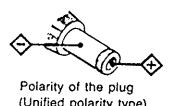
CAUTION

The use of optical instruments with this product will increase eye hazard.

Note on the AC power adaptor

Use only the AC power adaptor supplied or AC-E6M/AC-E90M AC power adaptor (not supplied). Do not use any other AC power adaptor.

The AC power adaptor supplied with other DISCMAN models with DC IN 9V or DC IN 6V jack and AC-D6M, etc. cannot be used with this unit.



Polarity of the plug
(Unified polarity type)

COMPACT DISC COMPACT PLAYER
SONY®



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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.

SECTION 1

SERVICING NOTES

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.

Flexible Circuit Board Repairing

- Keep the temperature of the soldering iron around 270°C during repairing.
- Do not touch the soldering iron on the same conductor of the circuit board (within 3 times).
- Be careful not to apply force on the conductor when soldering or unsoldering.

Notes on chip component replacement

- Never reuse a disconnected chip component.
- Notice that the minus side of a tantalum capacitor may be damaged by heat.

CAUTION

1. To prevent damages to the S801 (OPEN SW)

If the P plate is installed when the CD cover is closed, the S801 lever is positioned behind the open/close arm section of the cover. Thus, when the cover is opened, the S801 will be damaged.

To prevent damages to the S801 (OPEN SW), do not install the P plate when the CD cover is closed. Install the P plate when the CD cover is opened. In addition, check the position of the S801 lever when installing the P plate.

2. Special mode for normal operation check

The S801 (OPEN SW) of the D-34/36 is found near the contact joint of the cover. Since it is difficult to turn the power ON without the cover with the test tool, conduct the following step to enable normal operation without the cover.

Press the PLAY and STOP button simultaneously while turning the DC power supply ON.

Before Replacing the Optical Block

Please be sure to check thoroughly the parameters as for the "Optical Block Checking Procedures" (Part No. : 9-960-027-01) issued separately before replacing the optical block. Note and specifications required to check are given below.

- FOK output : IC501⑨pin
When checking FOK, remove the lead wire to disc motor and unsolder and open IC801⑩pin (FOK).
- S carve P-to-P value : 3Vp-p
When checking S carve P-to-P value, remove the lead wire to disk motor.
- Adjusted part for focus gain adjustment : RV504
- RF signal P-to-P value : 0.9 – 1.2Vp-p
- Traverse signal P-to-P value : 1.5Vp-p
- The repairing grating holder os impossible.
- Adjusted part for tracking gain adjustment : RV502

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 25cm away from the objective lens.

Laser Diode Check Procedure

The laser diode on this set will not emit unless the top panel is closed and S801 (lever SW type) is turned on. The laser diode will always emit even if focus search is not performed in service mode.

The laser diode is checked using the current value which flows to the laser diode inside the optical pick-up block.

Procedure 1 (service mode or normal operation)

Check the laser diode emission with the eye.

1. Open upper panel.
2. S801 on as Fig. 1.
Special mode for normal operation check (See Fig. 1.)
(In service mode, this operation is not necessary.)
3. Press the **■** key.
(In service mode, this operation is not necessary.)
4. Observe the objective lens and confirm that the laser diode is emitting light. At the time, the laser diode goes on about 10 seconds due to focus serach.
If it does not, APC circuit or optical pick-up block is defective.

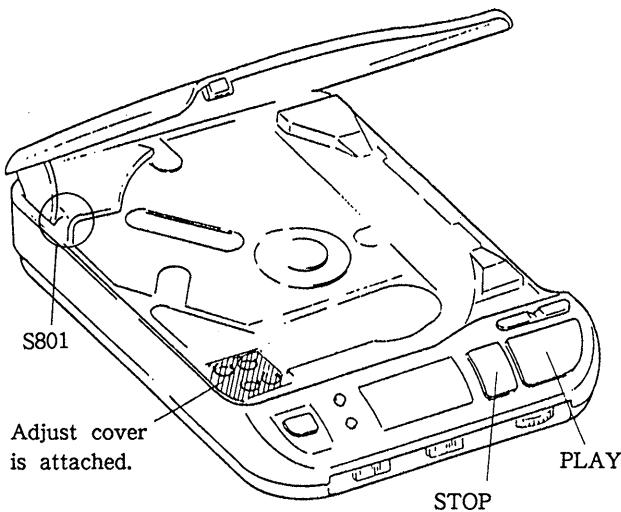


Fig. 1 Laser diode emission check

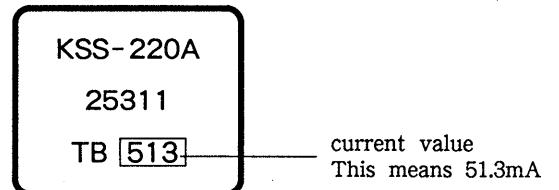
While pressing the PLAY and STOP button simultaneously, turn the DC power supply on.

(Check must be conducted in the special mode as
the position of the hole is covered.)

Procedure 2 (service mode or normal operation)

Check by the current with flows in the laser diode.

1. Close the top panel.
2. Remove the main board and read the current value on the label affixed to the optical pick-up block.
(Label on optical pick-up block)



The current value varies with the set.

3. Connect a VOM as shown in Fig. 2.
4. Press the **■** key.
5. Calculate the current by the VOM reading.
VOM reading (V) $\div 10$ = current (A)
ex. VOM reading = 0.56V
 $0.56 \div 10 = 0.056$ (A) = 56 (mA)
6. Confirm that the ammeter reading is within the range given below.
value on label $\pm 5\%$ mA (25°C)
variation relative to temperature : 0.4mA/°C
(Current increases when temperature rises and decreases when it drops.)

If the value is more than the range give, APC circuit has been defective or the laser diode has deteriorated.

If it is less, APC circuit or optical pick-up block is defective.

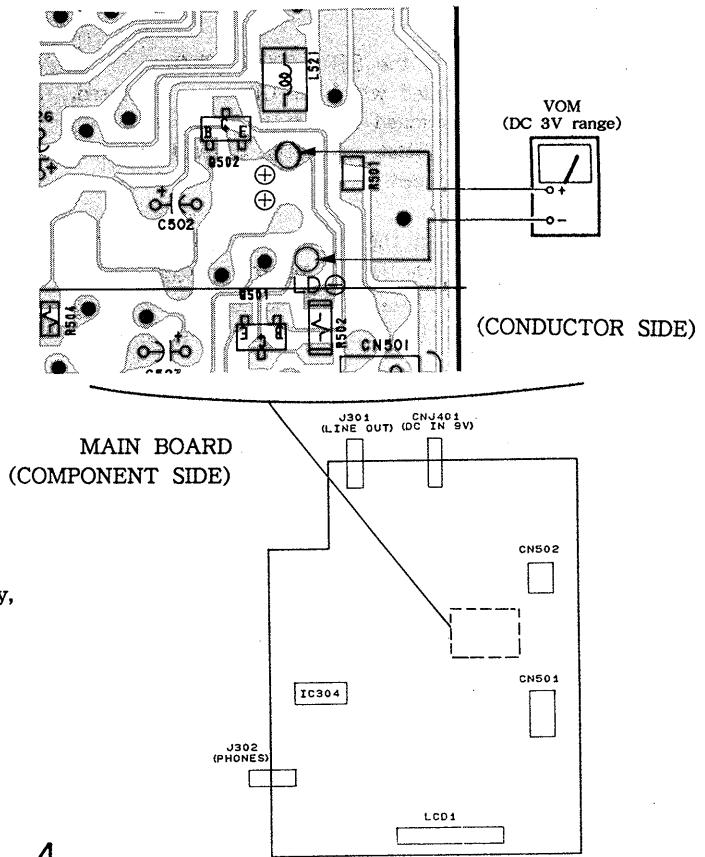


Fig.2 VOM Connection

SERVICE MODE (service program)

This set has built-in service program in the microcomputer as usual sets.

The operation method of service program is explained below.

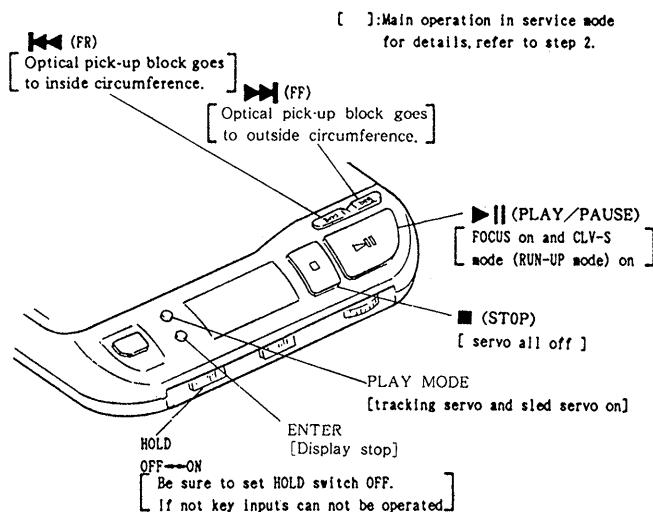
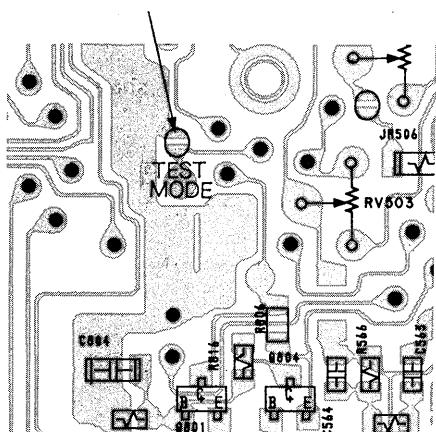


Fig.3 Key Positions

• Step 1 (Service Mode setting method)

1. Turn the HOLD switch OFF with the external power supply not plugged in (no power applied to set) and press the ▶|| key.
 2. Solder jumper TEST (MODE) terminal.
(IC801 pin ⑩ (TEST) is grounded.)
 3. Plug in external power supply.
- This puts the set into service mode.

TEST terminal
Solder Jumper for service mode.
(After checking or adjusting in service mode, be sure to remove this solder jumper.)



(CONDUCTOR SIDE)

Fig.4 TEST terminal position

• Step 2 (Service Mode operation)

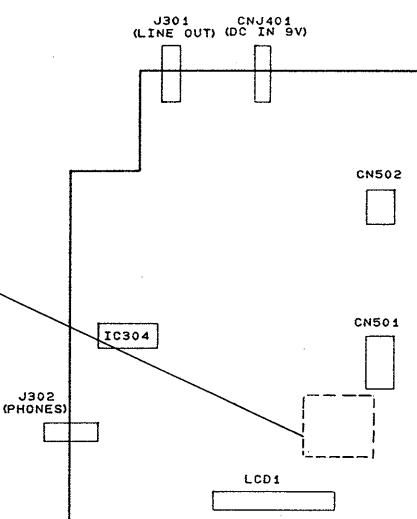
1. When service mode is set, the display will change 6 times, and those 6 changes will be repeated over and over.

With this the LCD display should be present in service mode. Even if LCD does not display, other operations will be performed.

2. When ▶ or ▷ key is pressed, the optical pick-up block moves to the inside or outside circumference. Tracking servo and sled servo go off when this is done, so press PLAY-MODE to turn on the tracking servo if necessary.
3. When ▶|| key is pressed, CLV-S (pull-in mode) starts while performing focus search. When there is no disc installed, focus search is repeated several times while disc motor is rotating.
4. When PLAY-MODE is pressed, tracking servo, sled servo and CLV-A (servo during PLAY) go ON.
5. When 3 and 4 are performed, the disc begins to play. At this time, the top panel should be closed and S801 is to be ON. A sound is not produced as muting is ON.
6. All servo (focus, tracking, sled and spindle) go off when ■ key is pressed.

• Step 3 (Service Mode release)

1. First be sure to unplug the external power supply, then remove the solder jumper TEST terminal.
2. The set will now operate normally.



PACK ASSY INSTALLING PROCEDURE

The positioning adjustment is required when installing the rack assy.

Perform the adjustment using with rack assy positioning jig.

Description	Part No.
Rack Assy Positioning Jig	4-931-565-01

[Adjustment Procedure]

- (1) Position the rack assy so that the distance A and B becomes equal by rotating the sled gear.

$$(A=B=6 \text{ mm})$$

Loosen the rack assy mounting screws.

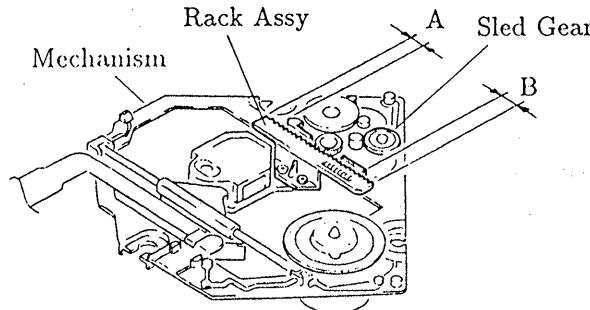


Fig-1

- (3) While pressing the rack assy to the direction of arrow in order to keep the contact the teeth of rack gear with the jig, tighten the screws.

Note : Tighten the each screw alternately and little by little.

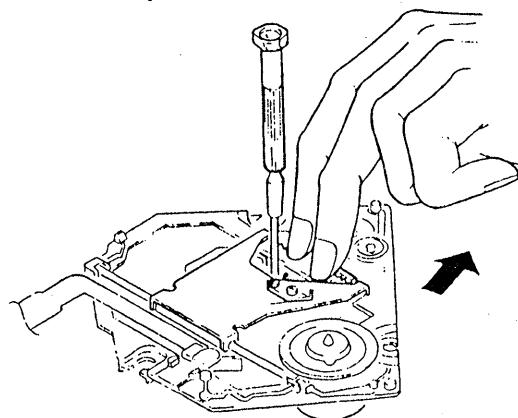


Fig-3

- (2) Place the positioning jig on the mechanism as shown in figure 2. The shaft comes in the "U" gutter of jig.

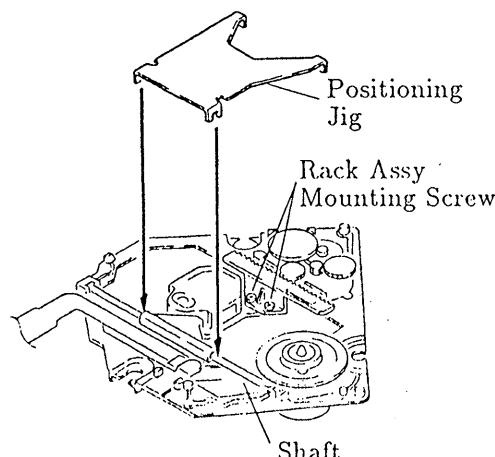


Fig-2

- (4) Confirn the clearance between the teeth of rack gear and the jig as shown in figre 4.

Remove the rack assy side of jig first when removing the jig.

(Be sure not to remove it from the shaft side first.)

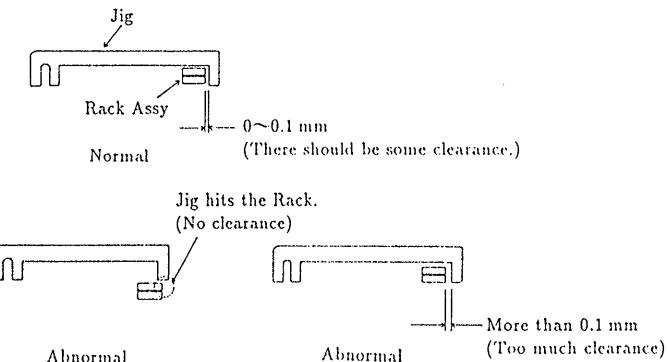
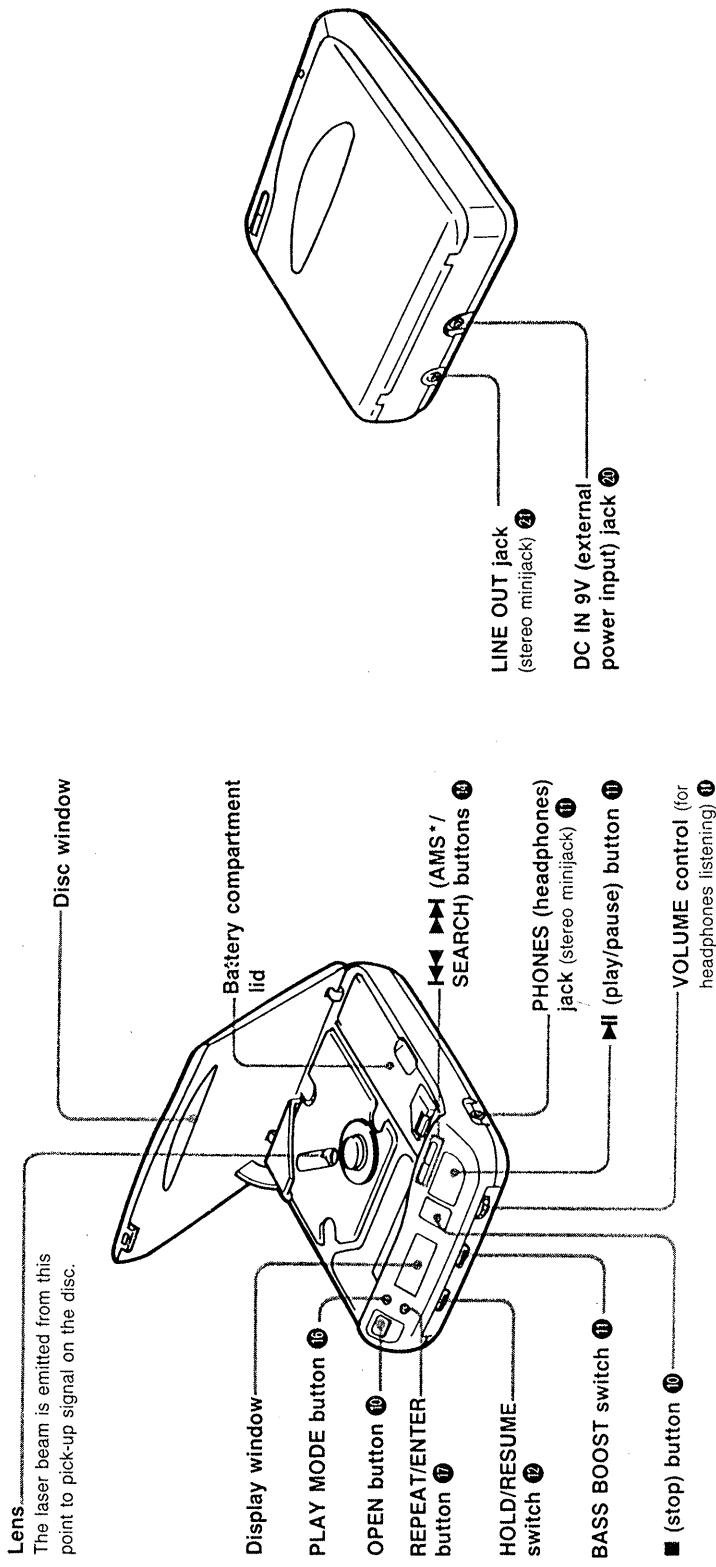


Fig-4

Location and Function of Controls

See the pages indicated in ● for more details.



This section is extracted from instruction manual.

Disc Playing

To resume the disc play from the point where you last stopped the play (Resume play mode)

You can resume the disc play from the point where you last pressed ■. To enter this mode, set the HOLD/RESUME switch to the center or the right position. The resume function can be performed in any operation mode. (Refer to the table shown below.)

The positions of the HOLD/RESUME switch

	1st. (left)	2nd. (center)	3rd. (right)	HOLD ON
Hold	OFF	—	OFF	RESUME OFF
Resume play mode	OFF	—	ON	HOLD/RESUME switch

You can hold the disc play locking the buttons to prevent them from being accidentally depressed. To enter this mode, set the HOLD/RESUME switch to the right position.

Note on the display window while the disc is playing

When the disc play starts

The display window changes as follows.

Resume play mode OFF	00	00:15	01:00:00
Stopped selection number	02	00:45	02:00:00
Resume play mode ON	02	00:45	03:00:00

Notes

- We recommend you to install the batteries for the resume play. The memory of the stopped point will be maintained by the batteries even if you remove the car battery cord or AC power adaptor, or set the ignition key to the off position.
- The memory of the stopped point is canceled if you open the lid after pressing ■. After the memory is canceled, play starts from the first selection of the disc.

On Display Window

On time counter

When you press ■

Total selection number of the disc and then the total playing time appear.

07 28:15

BATT Total selection number

Total playing time

During the play

The track number and the elapsed playing time of the current selection appear.

05 0:17

BATT

Elapsed playing time

During the pause

The track number and the elapsed playing time of the current selection appear.

05 0:17

BATT

Elapsed playing time

1 min. 17 sec. has elapsed

from the beginning of the fifth selection.

Between the selections

The time to the beginning of the next selection appears.

03-00:02

BATT

Elapsed time

2 sec. to the beginning of the 3rd selection

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SECTION 3

ELECTRICAL ADJUSTMENTS

Notes on Adjustment

1. Perform adjustments in service mode.
Be sure to release service mode after completing adjustments.
(Refer to "Service Mode (service program)" on page 5.)
2. Perform adjustments in the order given.
- 3 Use YEDS-18 disc (part No.: 3-702-101-01) unless otherwise indicated.
4. Power supply voltage: DC 6V
HOLD switch: OFF

PREPARATION

Put the set into service mode (See page 5.) and perform the following checks. Repair if there are any abnormalities.

• Sled Motor Check

1. Press the OPEN button and open the top panel.
2. Press the **►**, **◄** keys and make sure that the optical pick-up block moves smoothly, without catching, from the inmost → outmost → inmost circumference.
►: optical pick-up block moves outward
◄: optical pick-up block moves inward

• Focus Search Check

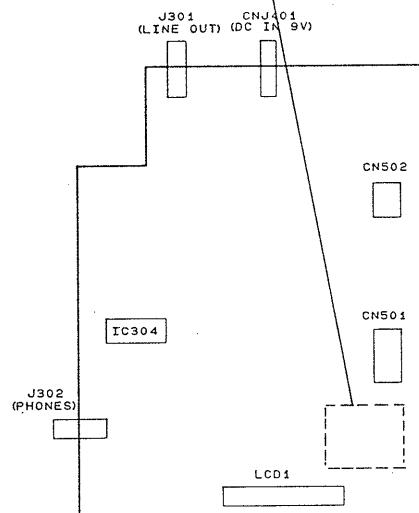
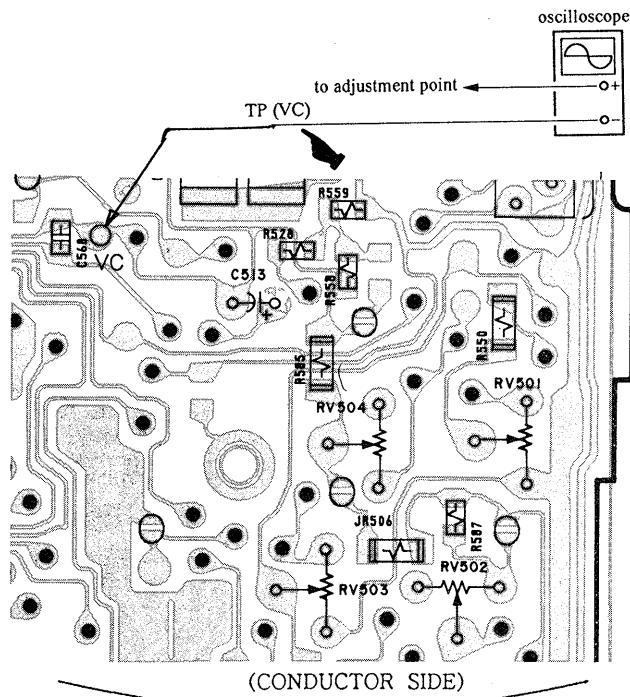
1. Press the OPEN button and open the top panel.
2. Press the **■** key. (Focus search is performed continuously.)
3. Observe the optical pick-up block objective lens and check that it moves smoothly up and down with no catching or noises.
4. Press the **■** key.
Check that focus search operation stops. If it does not, press the **■** key again.

VC (1/2 Vcc) Connecting Point

FOCUS BIAS ADJUSTMENT

TRACKING OFFSET VOLTAGE ADJUSTMENT

When the adjustments above are performed, connect the \ominus side of oscilloscope to the point below.



AVR1, AVR2 (3.5V) Adjustment**Adjustment Procedure :**

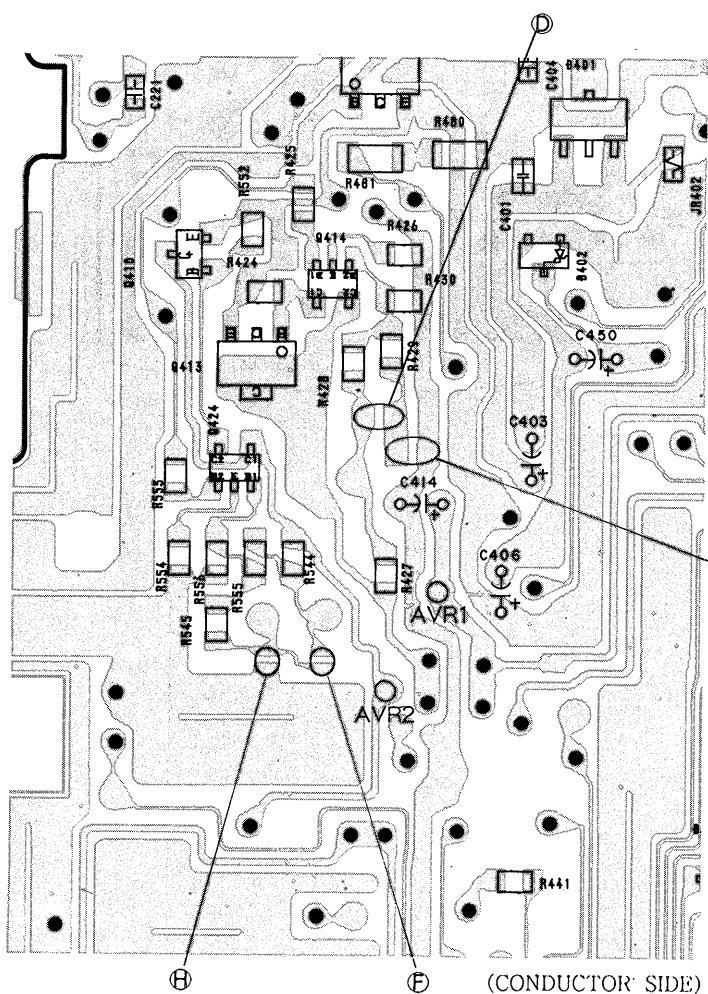
1. Put the set into service mode (see page 5).
2. Connect the VOM to main board test point TP (AVR1)
TP (AVR2).
3. Adjust the pattern connection (Ⓐ~Ⓓ) to obtain
3.41V to 3.6V reading on the VOM.

pattern connection		AVR1 VOM reading
D	E	
○	×	
×	×	
×	○	

○ : short × : open

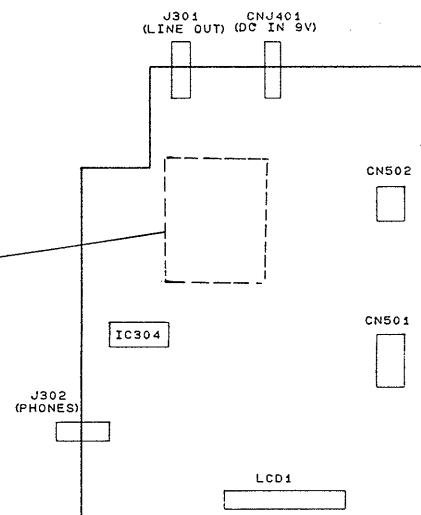
down
↑
up

Adjustment Location : main board

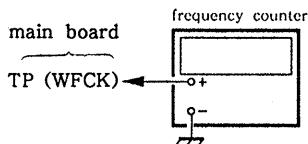


pattern connection		AVR2 VOM reading
F	H	
○	×	
×	×	
×	○	

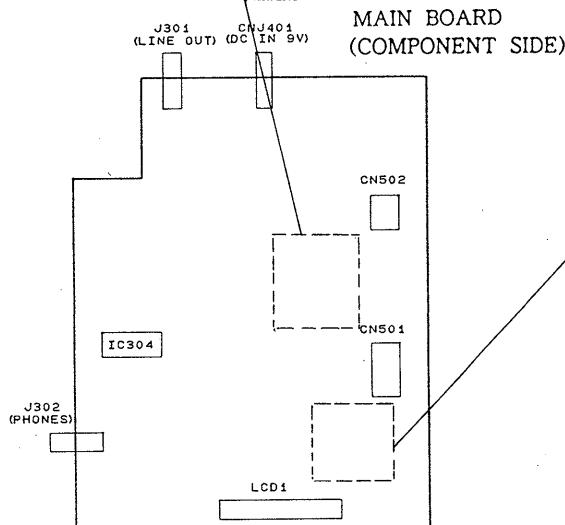
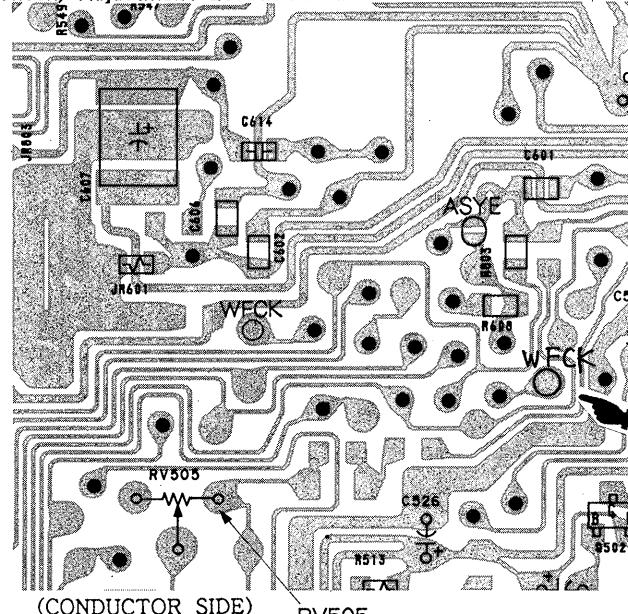
○ : short × : open

down
↑
up

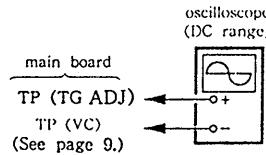
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PLL Free Run Frequency Check and Adjustment**Check/Adjustment Procedure :**

1. Connect by soldering the ASYE solder jumper terminal in the diagram below.
2. Connect a frequency counter to main board test point TP (WFCK) (IC601 27PIN).
3. Put the set into service mode (See page 5).
4. Check that the frequency counter reading is 7.45 ± 0.017 kHz. If not, adjust RV505 so that it is 7.45 ± 0.017 kHz.
5. After adjustment, release service mode (See page 5).
6. Open the jumper terminal by unsoldering.

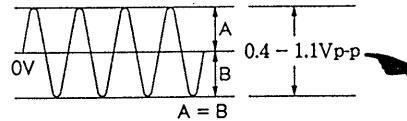
Check/Adjustment Location : main board**Tracking Offset Voltage Adjustment****Conditions :**

The set should be placed either horizontally.

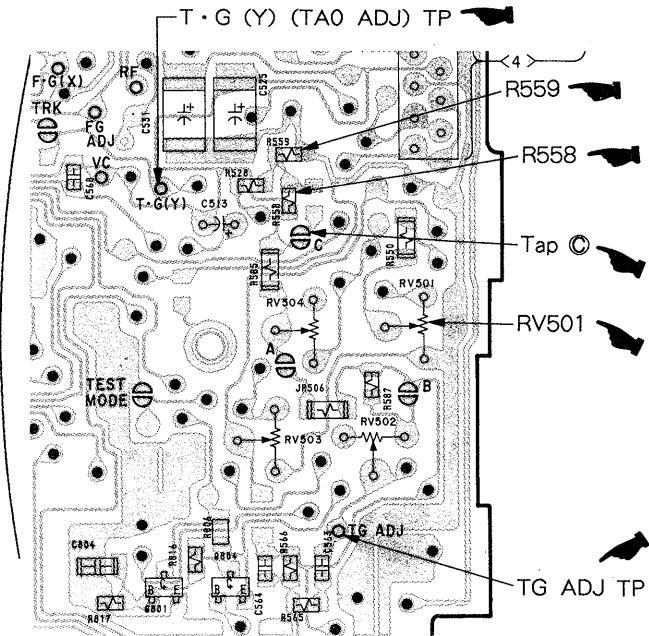
Adjustment Procedure :

1. Connect the oscilloscope to main board TP (TG ADJ).
2. Put the set into service mode (See page 5).
3. Press the **W** and **H** keys to move the optical pick-up block to the center.
4. Insert the disc (YEDS-18) and close the top panel.
5. Press the **■** key.
6. Adjust RV501 so that the tracking offset voltage is 0 ± 2 mV.
7. Press the **W** key.

(It will go from focus search to focus on, and CLV
pull-in mode state. Tracking and sled are OFF.)



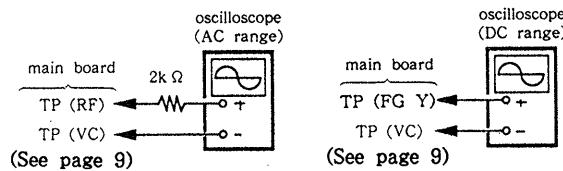
8. Adjust RV501 so that the osilloscope waveform is symmetrical on the top and bottom in relation to 0V.
9. Press the **■** key.
10. Connect the oscilloscope to the T · G (Y) (TA0 ADJ) TP terminal.
11. Check that the tracking offset voltage is $+20 \pm 30$ mV.
12. When the tracking offset voltage is $+50$ mV or more, make a solder bridge to tap C, and attach the $33k\Omega$ chip resistor (1-216-085-00) to the unconnected pattern next to R558.
13. When the tracking offset voltage is -10 mV or less, attach the chip resistor $220k\Omega$ (1-216-105-00) to R559 in parallel.
14. After adjustment, release service mode (see page 5).

Adjustment Location: main board (CONDUCTOR SIDE)

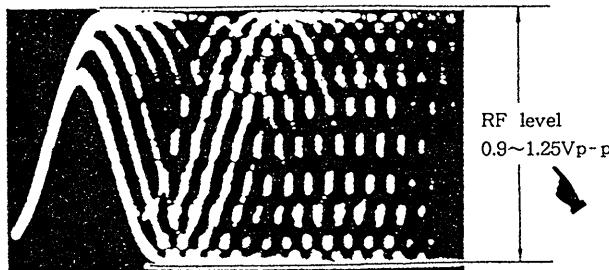
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Focus Bias Adjustment**Conditions :**

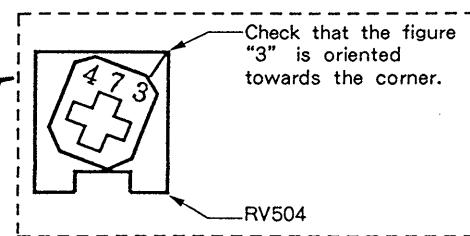
The set should be placed either horizontally.

Adjustment Procedure :

1. Put the set into service mode (See page 5).
2. Connect the oscilloscope to main board test point TP (RF).
3. Press the **▷** and **◁** key to move the optical pick-up block to the center. (Move the optical pick-up block to the music area on the disc to enable easy visibility of the eye pattern).
4. Insert the disc (YEDS-18) and close the top panel.
5. Press the **▷** key.
It will go from focus search to focus on, and CLV pull-in mode state. Tracking and sled are OFF.
6. Press the KEY-MODE button (Tracking and sled go ON.)
7. Adjust the RF level to the maximum using RV503 and check that the waveform is well-formed. A good eye pattern means that the diamond shape (\diamond) in the center of the waveform can be clearly distinguished.

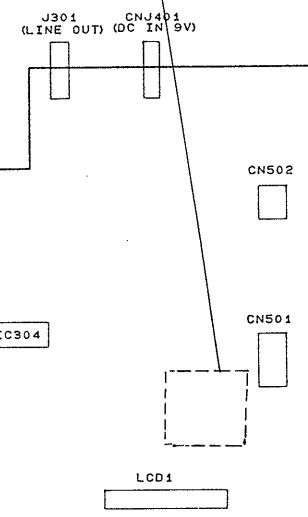
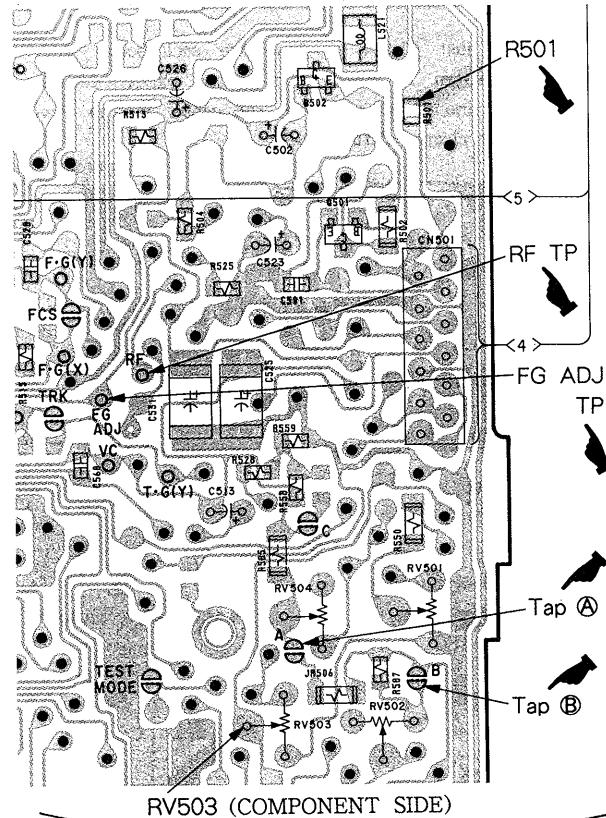


8. When the RF level exceeds 1.25 Vp-p, change $330\ \Omega$ R501 to $470\ \Omega$.
9. Press the **■** key.
10. Remove the disc and connect the oscilloscope to main board TP (FG ADJ).
11. Check that RV504 is set as illustrated in the figure.

12. Make a solder bridge to tap **A**.13. Adjust RV503 so that the focus offset voltage is $+45 \sim +50mV$.

14. Reconfirm the items 5 ~ 8 after adjusting item 13.

15. After adjustment, release service mode (see page 5).

Adjustment Location: main board (CONDUCTOR SIDE)

Note: To adjust focus gain (RV502) and tracking gain (RV504), the CD Jig is required. For details on adjustments refer to the CD Jig Manual(9-960-025-01).

Reference

Focus/Tracking Gain Adjustment

A frequency response analyzer or CD jig 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 followup (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 high, the noise when the 2-axis device operates increases.
- When gain is low, it is more susceptible to mechanical shock and skipping occurs more easily.

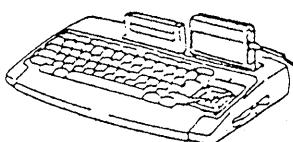
This adjustment is to be performed when replacing the following parts :

- RV504 (focus gain volume)
- RV502 (tracking gain volume)

On this set, it is very difficult to simplify this adjustment. For those sets on which symptoms such as "occasional skipping" are hard to discover, or it is hard to tell if the set has been repaired, use the CD jig and perform this adjustment. Refer to the diagram below for connection of the CD jig. The adjustment procedure is described in the separate CD Jig Instruction Manual.

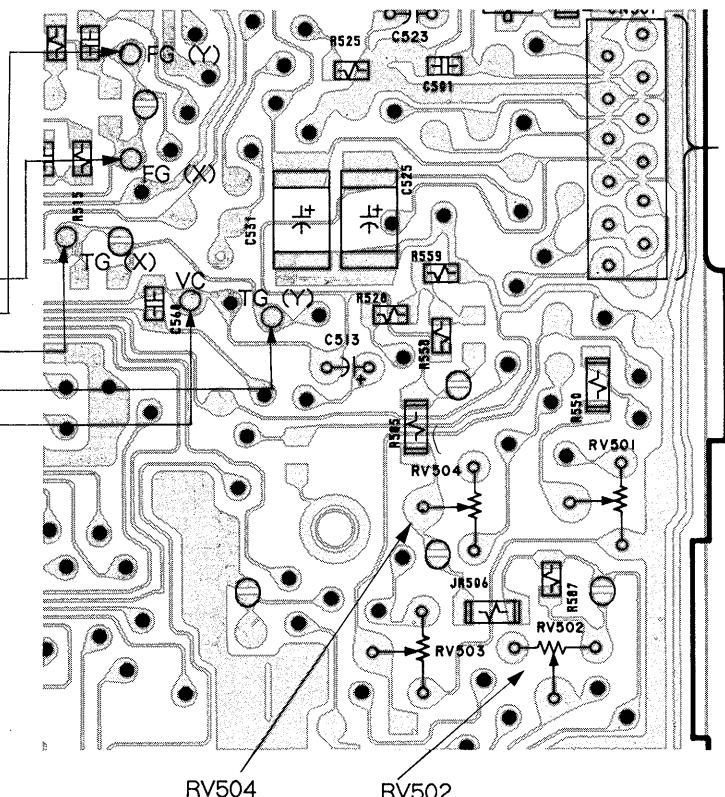
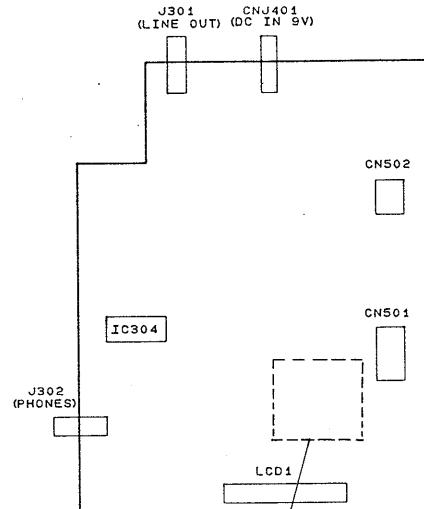
Please be careful not to move RV504 (focus gain volume), RV502 (tracking gain volume) ordinarily.

CD jig connection :



CD jig

1. Short solder jumpers Ⓐ and Ⓑ.
2. Remove the solder jumpers at the FCS and TRK locations and connect the CD jig.
3. Cut the solder jumper between Ⓒ and Ⓓ to open after the adjustment, and short solder jumpers FCS and TRK.

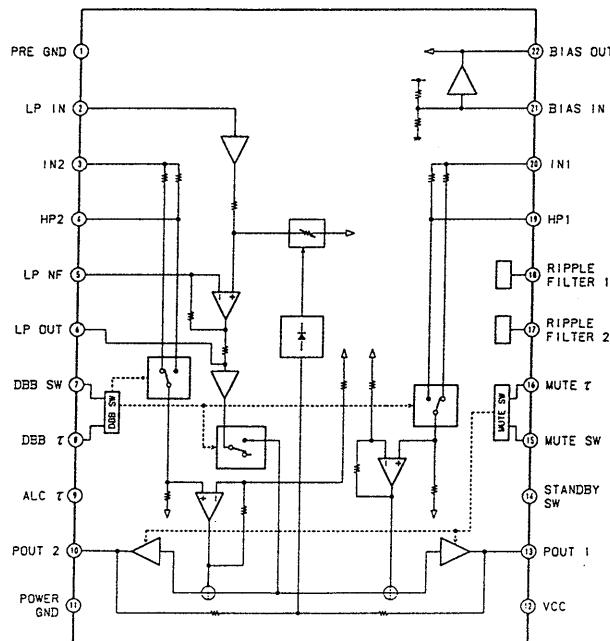


SEE ADDITIONAL INFORMATION

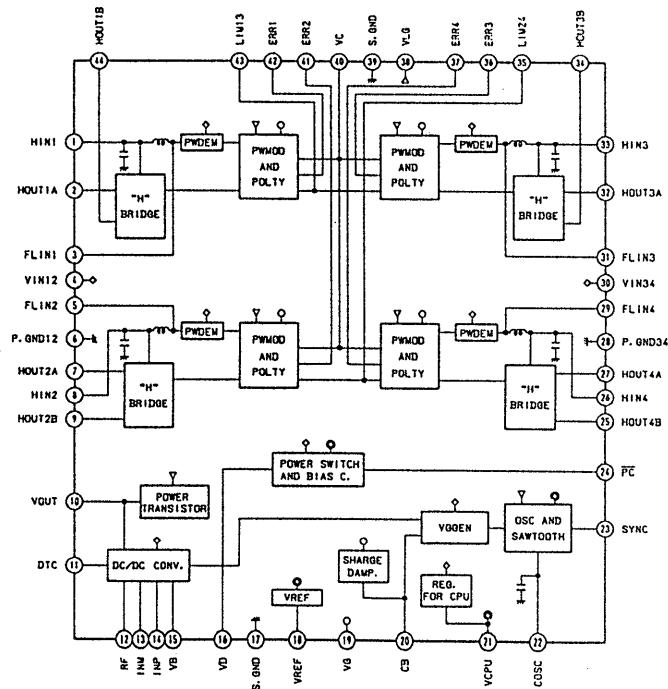
SECTION 4
DIAGRAMS

4-1. IC BLOCK DIAGRAMS

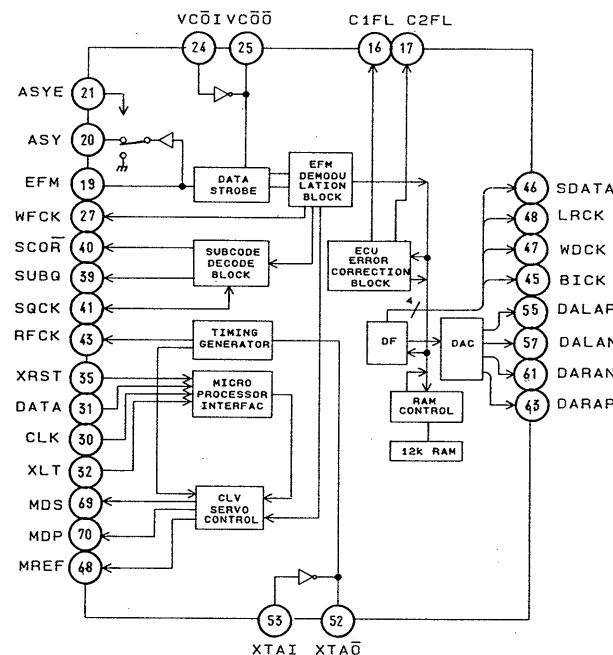
IC304 BA3570F



IC504 MPC1715FU

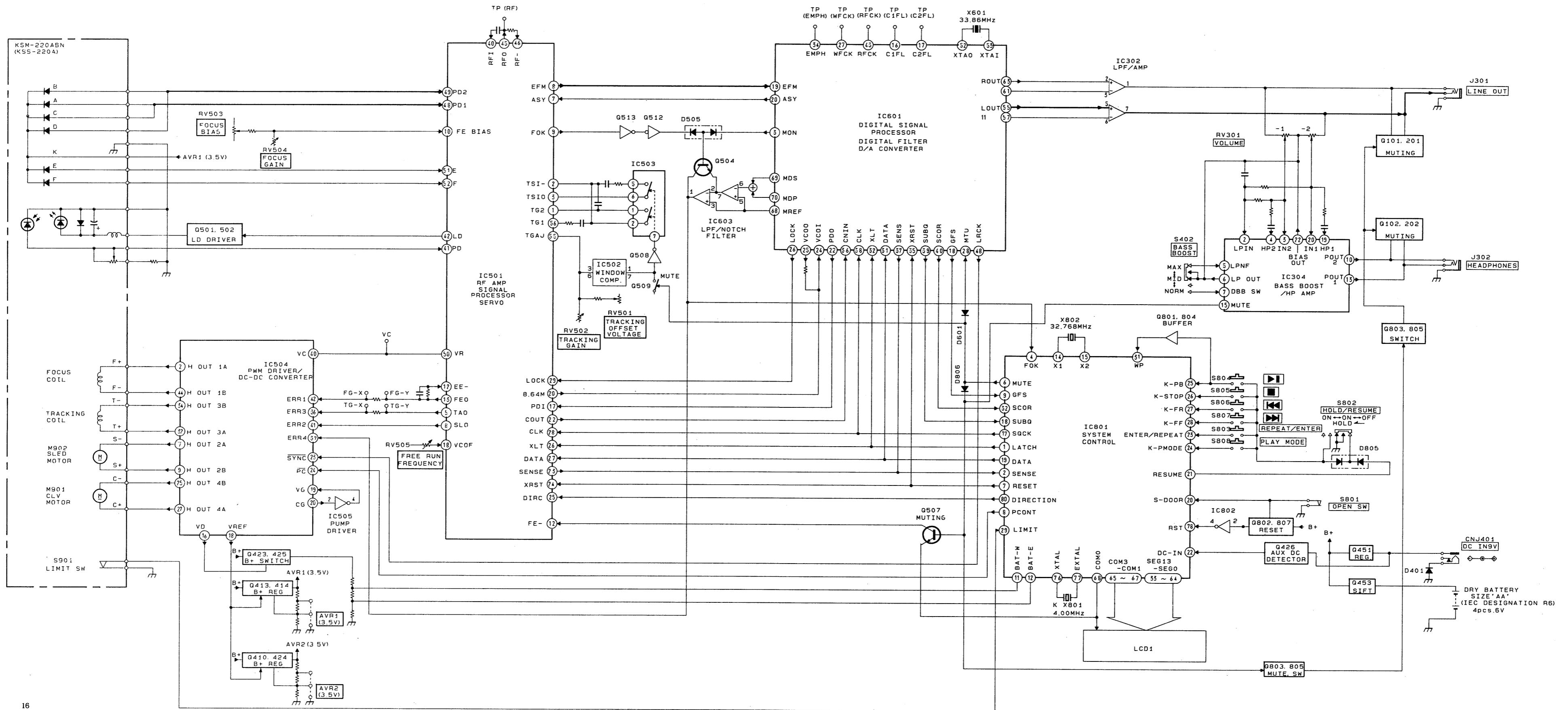


IC601 HD49220FS



SEE ADDITIONAL INFORMATION

4-2. BLOCK DIAGRAMS



SEE ADDITIONAL INFORMATION

4-3. PRINTED WIRING BOARD • See page 14 for Semiconductor Lead Layouts.

• Semiconductor

Ref. No.	Location
D401	B-5
D402	C-5
D405	D-14
D501	B-13
D502	B-12
D503	B-12
D504	B-12
D505	B-11
D511	H-11
D601	E-5
D804	H-14
D805	I-10
D806	G-14
IC302	E-14
IC304	F-2
IC501	F-11
IC502	I-10
IC503	G-10
IC504	B-12
IC505	B-13
IC601	D-11
IC603	C-10
IC801	H-12
IC802	G-13
Q101	F-4
Q102	F-5
Q201	G-4
Q202	G-4
Q410	C-3
Q413	C-4
Q414	C-4
Q423	E-13
Q424	C-4
Q425	D-14
Q426	D-14
Q451	D-14
Q453	B-4
Q501	F-8
Q502	E-8
Q504	B-10
Q505	G-13
Q507	G-14
Q508	H-10
Q509	H-10
Q510	H-10
Q511	G-11
Q512	G-12
Q513	D-10
Q801	I-7
Q802	H-13
Q803	G-14
Q804	I-7
Q805	G-14
Q807	G-5

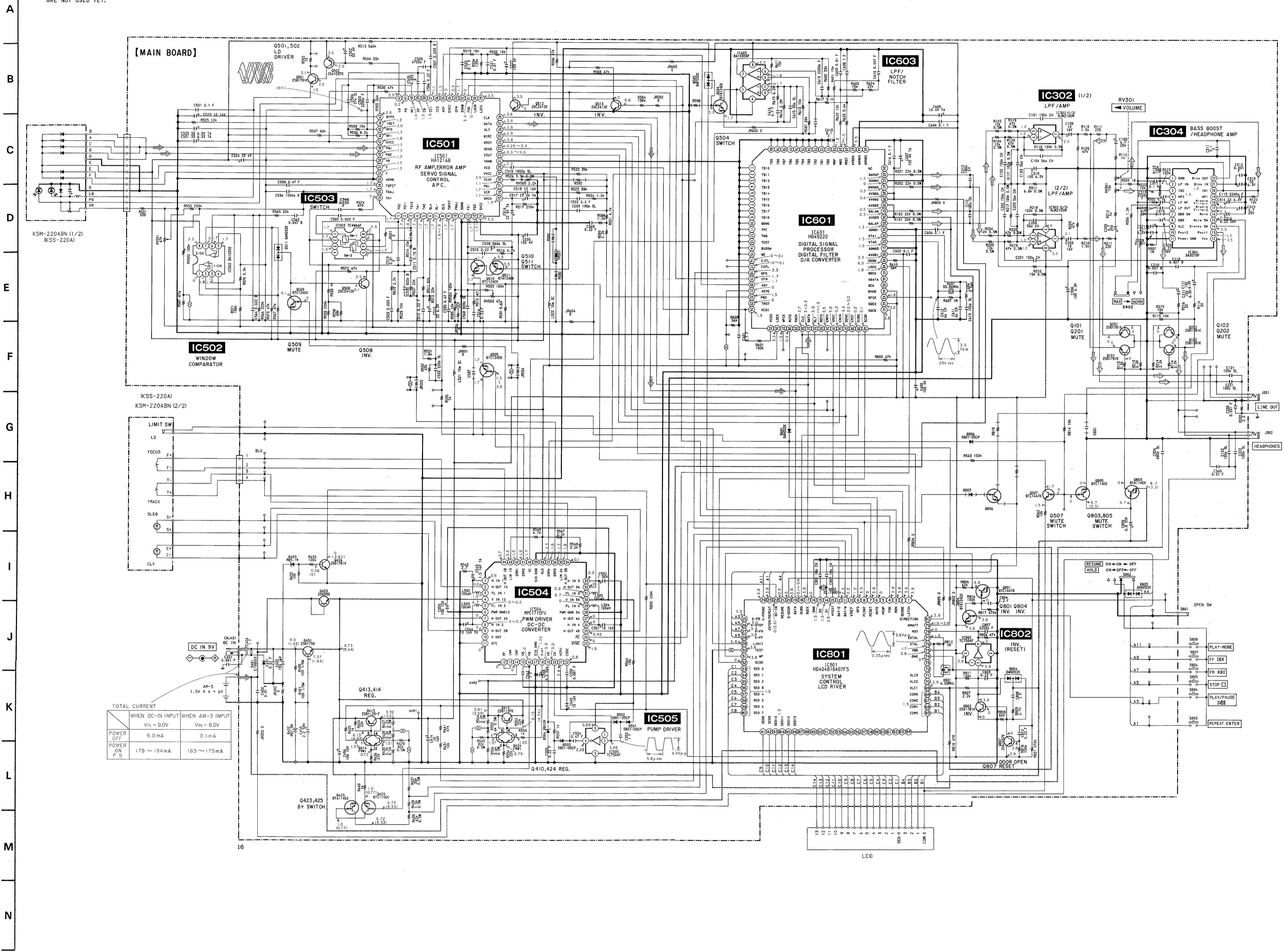
Note on Mounting Diagram :

- : Parts extracted from the component side.
- : Through hole.
- : Pattern on the side which is seen.
(other pattern is not shown.)

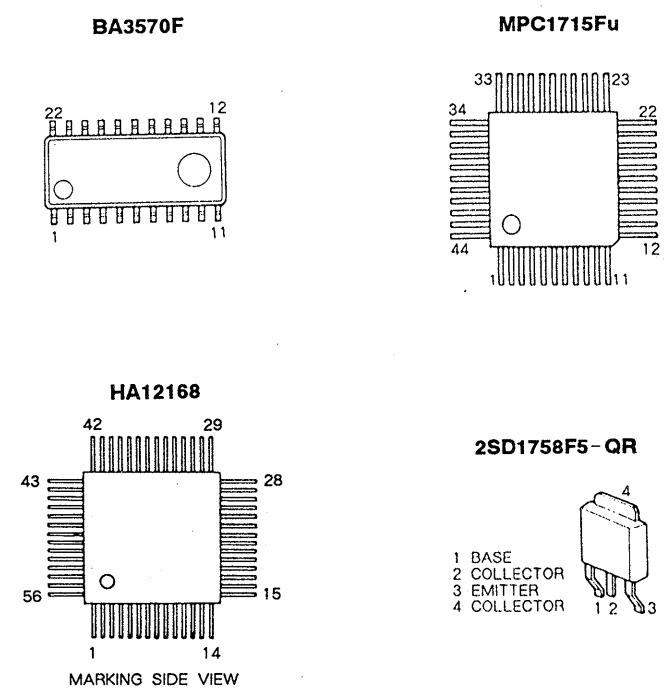


4-4. SCHEMATIC DIAGRAM

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19

* THE PARTS SHOWN IN ()
ARE NOT USED YET.

16



4-6. IC Description

• IC501 HA12168

Pin No.	Pin Name	I/O	Description
1	TG2	I	TG2 switch
2	TS1 -	I	TSA1e input
3	TS10	O	TSA1 output
4	TA -	I	TSA2e input
5	TA0	O	TSA2 output
6	SL +	I	TM2 input
7	SL -	I	SSAe input
8	SL0	O	SSA output
9	TDFFCT	O	track error hold signal output
10	FGAJ	I/O	focus error signal output, FS4 input
11	SGND	GND	servo block GND
12	FE -	I	FSAe input
13	FE0	O	FSA output
14	SVCC	Vcc	servo block Vcc
15	SRCH	O	focus up/down voltage output
16	VCR	I/O	VCO reference voltage
17	PDI	I	VCO control voltage input
18	VCOF	O	VCO free run frequency setting
19	VVCC	Vcc	VCO Vcc
20	VCO	O	VCO output
21	VGND	GND	VCO GND
22	COUT	O	track count signal output
23	SENS	O	FZC, TZC signal output
24	XRST	I	reset signal input
25	DIRC	I	direct control signal input
26	XLT	I	data transfer signal input
27	DATA	I	data signal input
28	CLK	I	data synchronous clock input
29	LOCK	I	limit switch input
30	LDON	I	laser switch input
31	FOK	O	FOK comparator output
32	EGND	GND	EFM comparator GND
33	EFM	O	EFM comparator output
34	EVCC	Vcc	EFM comparator Vcc
35	ASY	I	data slice level control input
36	CC2	I	defect comparator input
37	CC1	O	defect signal output
38	CB	O	defect hold signal output
39	CP	O	error hold signal output
40	RF1	I	EFM signal input
41	PD	I	APC amplifier input
42	LD	O	APC amplifier output
43	BYPS	O	ripple filter capacitance connecting pin
44	ISET	O	reference current set
45	RF0	O	RFS output

Pin No.	Pin Name	I/O	Description
46	RF -	I	RFSe input
47	AVCC	Vcc	pre-block Vcc
48	PD1	I	RF1 (I/V conversion block)
49	PD2	I	RF2 (I/V conversion block)
50	VR	O	reference voltage output
51	E	I	TR1 (I/V conversion amp) input
52	F	I	TR2 (I/V conversion amp) input
53	AGND	GND	preamplifier block GND
54	FDFFCT	O	focus error hold signal output
55	TGAJ	I/O	track error signal output, TMI input
56	TG1	I	TG1 switch

SECTION 5

EXPLODED VIEWS

NOTE:

- - XX, - X mean standardized parts, so they may have some differences from the original one.
- Color Indication of Appearance Parts Example : KNOB, BALANCE (WHITE)...(RED)

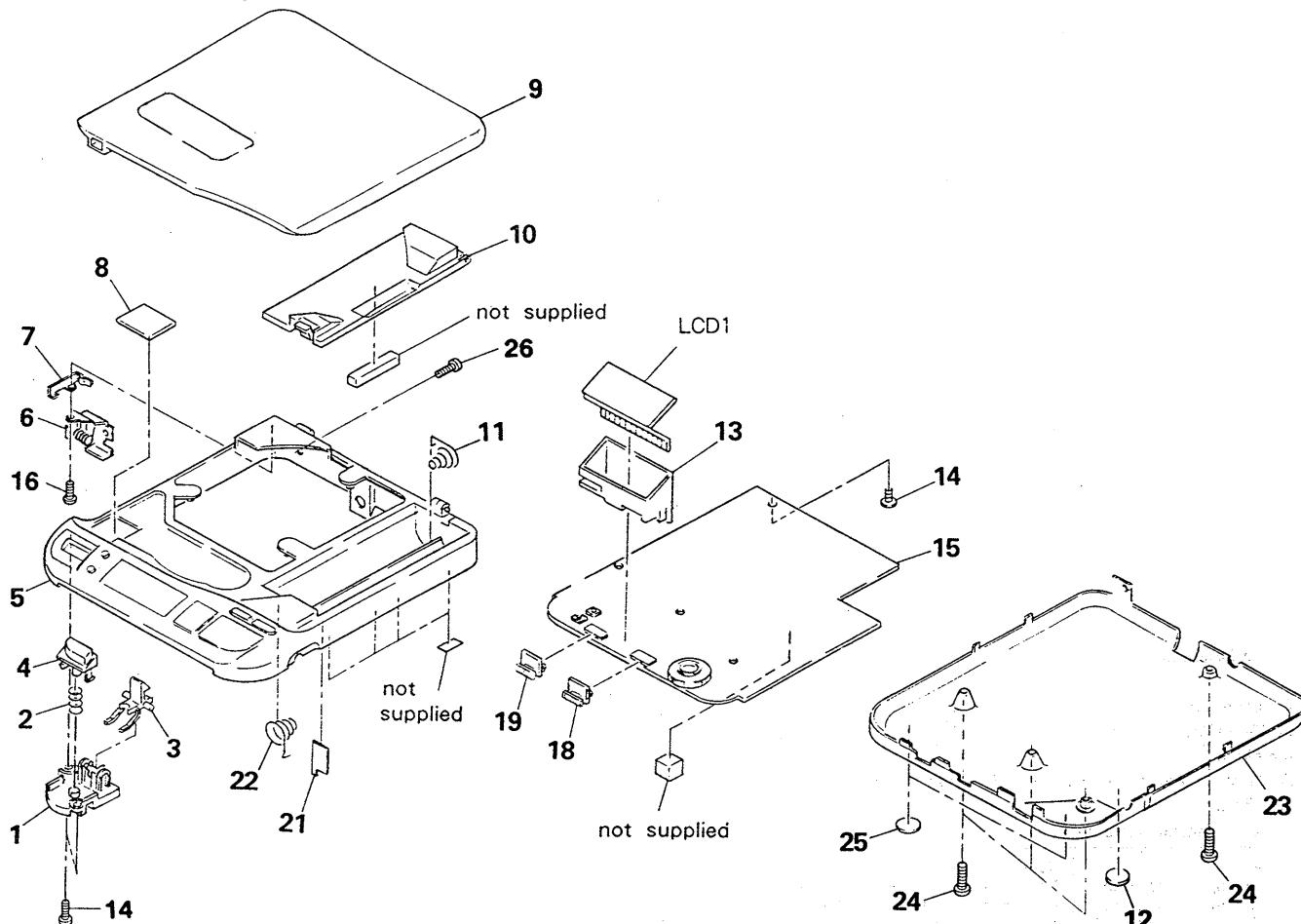
↑ ↑
Parts color Cabinet's color

- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- The mechanical parts with no reference number in the exploded views are not supplied.

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

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

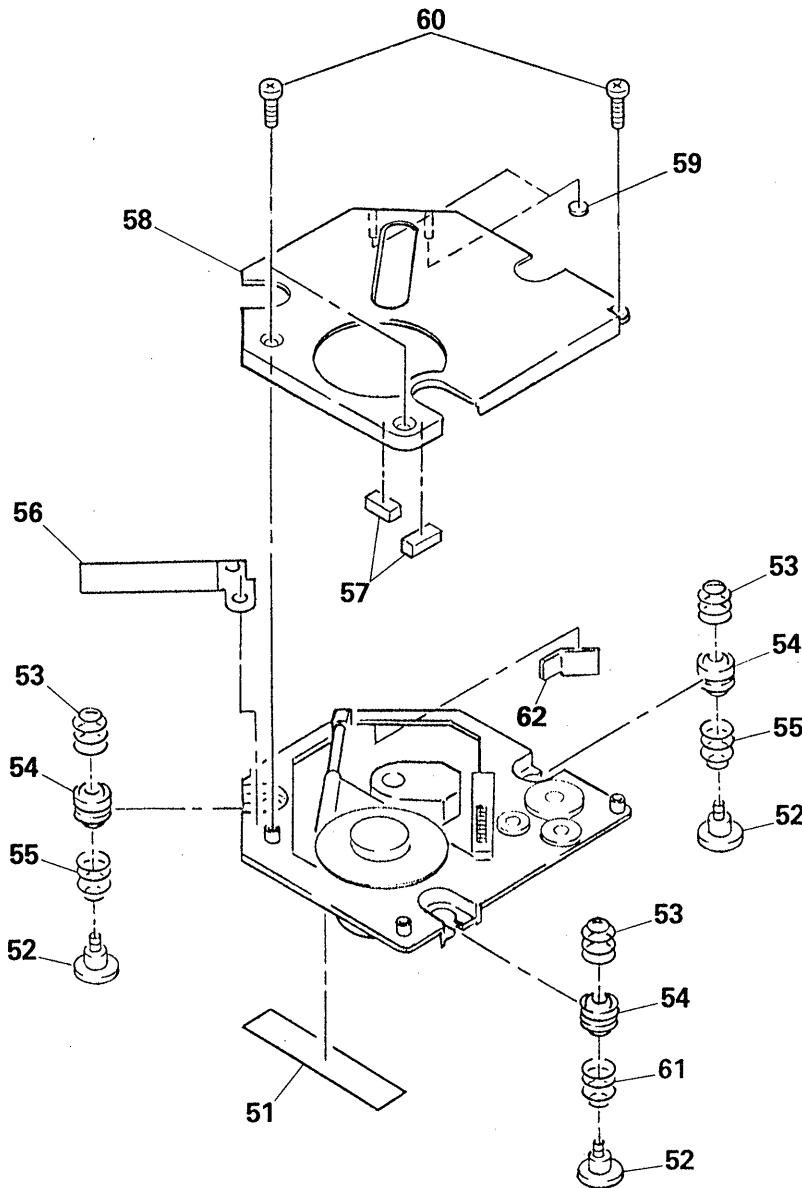
5-1. CABINET SECTION



Ref. No.	Part No.	Description
* 1	4-945-471-01	RETAINER
2	4-945-989-01	SPRING (OPEN) (4), COMPRESSION
3	4-945-474-01	CLAW, LOCK
4	4-945-455-01	BUTTON (OPEN) (D34:BLK)
4	4-945-455-21	BUTTON (OPEN) (D36:GRY)
5	X-4942-679-1	CABINET ASSY (D34:BLK)
5	X-4942-710-1	CABINET ASSY (D36:GRY)
6	X-4941-646-1	SPRING ASSY, OPEN
7	4-945-460-01	SPRING (C)
8	4-945-463-01	SHEET (A)
9	X-4942-678-1	PANEL ASSY, UPPER (D34:BLK)
9	X-4942-815-1	PANEL ASSY, UPPER (D36:GRY)
10	4-945-473-01	LID, BATTERY CASE (D34:BLK)
10	4-945-473-21	LID, BATTERY CASE (D36:GRY)
11	2-298-630-11	SPRING (R)
12	3-527-126-00	MARK, BATTERY CASE

Ref. No.	Part No.	Description
* 13	4-945-466-01	HOLDER (LCD)
14	4-947-203-01	SCREW (M2X6)
15	A-3275-450-A	MAIN BOARD, COMPLETE
16	4-947-204-01	SCREW (M2X4)
18	4-945-469-01	KNOB (BASS) (D34:BLK)
18	4-945-469-11	KNOB (BASS) (D36:GRY)
19	4-945-470-01	KNOB (HOLD) (D34:BLK)
19	4-945-470-21	KNOB (HOLD) (D36:GRY)
21	4-945-462-01	TERMINAL BOARD, BATTERY
22	4-945-456-01	SPRING (B), BATTERY COIL
23	X-4941-645-1	PANEL ASSY, BOTTOM (D34:BLK)
23	X-4942-680-1	PANEL ASSY, LOWER (D36:GRY)
24	3-336-395-01	SCREW (B2X10) (G), TAPPING
25	4-912-641-01	FOOT, RUBBER
26	7-627-552-78	SCREW, PRECISION +P 1.7X3.5
LCD1	1-809-406-11	DISPLAY PANEL, LIQUID CRYSTAL

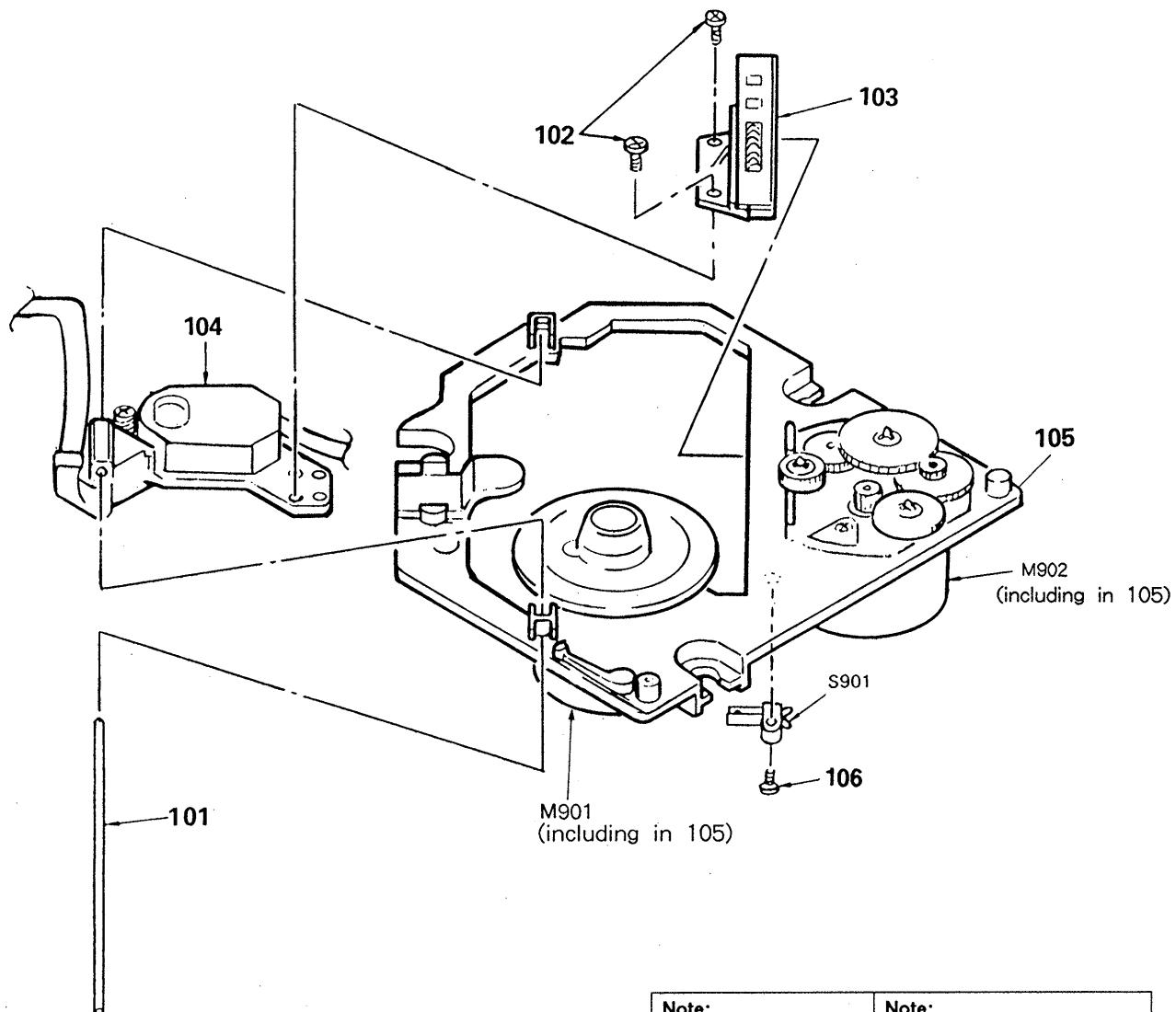
5-2. CHASSIS SECTION



<u>Ref. No.</u>	<u>Part No.</u>	<u>Description</u>
51	3-831-441-XX	SHEET, BLIND
52	4-924-718-11	SCREW, INSULATOR
53	4-947-040-01	SPRING, COMPRESSION
54	4-924-705-01	INSULATOR
55	4-947-040-21	SPRING, COMPRESSION
56	4-946-959-01	PAPER (B), SHIELD

<u>Remarks</u>	<u>Ref. No.</u>	<u>Part No.</u>	<u>Description</u>	<u>Remarks</u>
	* 57	3-329-460-01	SPACER	
	58	4-924-735-31	COVER, MD	
	59	4-917-784-01	SPACER (S)	
	60	3-893-942-01	SCREW (1.7X4), TAPPING (B)	
	61	4-947-040-11	SPRING, COMPRESSION	
	* 62	4-945-990-02	SHEET, FLEXIBLE RETAINER	

5 - 3. MECHANISM SECTION
(KSM-220ABN)



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.

Ref. No.	Part No.	Description	Remarks
* 101	2-641-534-01	SHAFT	
102	2-641-383-01	SCREW (M1.7X4) (NK), TOOTH	
103	X-2641-528-1	RACK ASSY	
Δ 104	8-848-217-11	DEVICE, OPTICAL KSM-220ABN(S)	
105	X-2625-248-1	CHASSIS ASSY (including M901, M902)	

Ref. No.	Part No.	Description	Remarks
106	7-627-552-78	SCREW, PRECISION +P 1.7X3.5	
S901	1-570-112-11	SWITCH, LEAF (LIMIT)	

SEE ADDITIONAL INFORMATION

SECTION 6

ELECTRICAL PARTS LIST

MAIN

NOTE:

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.

When indicating parts by reference number, please include the board name.

- 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.
- -XX, -X mean standardized parts, so they may have some difference from the original one.
- RESISTORS
All resistors are in ohms.
METAL: metal-film resistor
METAL OXIDE: Metal Oxide-film resistor
F: nonflammable
- SEMICONDUCTORS
In each case, u: μ , for example:
uA... : μ A..., μ PA..., μ PA...
 μ PB... , μ PB..., μ PC... , μ PC...
 μ PD... , μ PD...
- CAPACITORS:
uF: μ F
- COILS
uH: μ H

Ref. No.	Part No.	Description			Remarks		Ref. No.	Part No.	Description			Remarks	
	A-3275-450-A	MAIN BOARD, COMPLETE			*****		C315	1-126-163-11	ELECT	4.7uF	20%	50V	
*	4-945-466-01	HOLDER (LCD)	< CAPACITOR >				C316	1-124-464-11	ELECT	0.22uF	20%	50V	
	C101	1-163-121-00	CERAMIC CHIP	150PF	5%	50V	C317	1-163-038-00	CERAMIC CHIP	0.1uF		25V	
	C102	1-163-121-00	CERAMIC CHIP	150PF	5%	50V	C318	1-126-163-11	ELECT	4.7uF	20%	50V	
	C103	1-163-245-11	CERAMIC CHIP	56PF	5%	50V	C319	1-163-038-00	CERAMIC CHIP	0.1uF		25V	
	C104	1-163-245-11	CERAMIC CHIP	56PF	5%	50V	C320	1-124-464-11	ELECT	0.22uF	20%	50V	
	C108	1-126-157-11	ELECT	10uF	20%	16V	C321	1-124-638-11	ELECT	22uF	20%	10V	
	C109	1-126-163-11	ELECT	4.7uF	20%	50V	C324	1-163-137-00	CERAMIC CHIP	680PF	5%	50V	
	C110	1-163-986-00	CERAMIC CHIP	0.027uF	10%	25V	C328	1-163-025-11	CERAMIC CHIP	0.001uF		50V	
	C111	1-126-177-11	ELECT	100uF	20%	10V	C330	1-163-025-11	CERAMIC CHIP	0.001uF		50V	
	C112	1-163-257-11	CERAMIC CHIP	180PF	5%	50V	C340	1-163-031-11	CERAMIC CHIP	0.01uF		50V	
	C113	1-164-161-11	CERAMIC CHIP	0.0022uF	10%	100V	C401	1-163-031-11	CERAMIC CHIP	0.01uF		50V	
	C121	1-163-117-00	CERAMIC CHIP	100PF	5%	50V	C402	1-163-031-11	CERAMIC CHIP	0.01uF		50V	
	C122	1-163-117-00	CERAMIC CHIP	100PF	5%	50V	C403	1-126-357-11	ELECT	150uF	20%	16V	
	C201	1-163-121-00	CERAMIC CHIP	150PF	5%	50V	C404	1-164-346-11	CERAMIC CHIP	1uF		16V	
	C202	1-163-121-00	CERAMIC CHIP	150PF	5%	50V	C406	1-124-584-00	ELECT	100uF	20%	10V	
	C203	1-163-245-11	CERAMIC CHIP	56PF	5%	50V	C414	1-126-157-11	ELECT	10uF	20%	16V	
	C204	1-163-245-11	CERAMIC CHIP	56PF	5%	50V	C450	1-124-257-00	ELECT	2.2uF	20%	50V	
	C208	1-126-157-11	ELECT	10uF	20%	16V	C451	1-163-025-11	CERAMIC CHIP	0.001uF		50V	
	C209	1-126-163-11	ELECT	4.7uF	20%	50V	C501	1-163-038-00	CERAMIC CHIP	0.1uF		25V	
	C210	1-163-986-00	CERAMIC CHIP	0.027uF	10%	25V	C502	1-124-431-00	ELECT	33uF	20%	4V	
	C211	1-126-177-11	ELECT	100uF	20%	10V	C503	1-164-161-11	CERAMIC CHIP	0.0022uF	10%	100V	
	C212	1-163-257-11	CERAMIC CHIP	180PF	5%	50V	C504	1-162-946-11	CERAMIC CHIP	27PF	5%	50V	
	C213	1-164-161-11	CERAMIC CHIP	0.0022uF	10%	100V	C505	1-163-989-11	CERAMIC CHIP	0.033uF	10%	25V	
	C221	1-163-117-00	CERAMIC CHIP	100PF	5%	50V	C506	1-164-489-11	CERAMIC CHIP	0.22uF	10%	16V	
	C222	1-163-117-00	CERAMIC CHIP	100PF	5%	50V	C507	1-163-989-11	CERAMIC CHIP	0.033uF	10%	25V	
	C308	1-126-177-11	ELECT	100uF	20%	10V	C508	1-164-005-11	CERAMIC CHIP	0.47uF		25V	
	C310	1-126-177-11	ELECT	100uF	20%	10V	C509	1-163-029-11	CERAMIC CHIP	0.0047uF		50V	
	C311	1-163-038-00	CERAMIC CHIP	0.1uF		25V	C510	1-163-031-11	CERAMIC CHIP	0.01uF		50V	
	C312	1-163-025-11	CERAMIC CHIP	0.001uF		50V	C511	1-164-492-11	CERAMIC CHIP	0.15uF	10%	16V	
	C313	1-124-229-00	ELECT	33uF	20%	10V	C512	1-164-222-11	CERAMIC CHIP	0.22uF		25V	
	C314	1-124-638-11	ELECT	22uF	20%	10V	C513	1-124-638-11	ELECT	22uF	20%	10V	

SEE ADDITIONAL INFORMATION

MAIN

Ref. No.	Part No.	Description	Remarks		Ref. No.	Part No.	Description	Remarks	
C517	1-135-202-21	TANTAL. CHIP 22uF	20%	4V	C614	1-163-038-00	CERAMIC CHIP 0.1uF	25V	
C518	1-126-157-11	ELECT 10uF	20%	16V	C615	1-163-105-00	CERAMIC CHIP 33PF	5%	50V
C519	1-163-141-00	CERAMIC CHIP 0.001uF	5%	50V	C616	1-164-506-11	CERAMIC CHIP 4.7uF	16V	
C520	1-163-038-00	CERAMIC CHIP 0.1uF	25V		C618	1-163-038-00	CERAMIC CHIP 0.1uF	25V	
C521	1-163-031-11	CERAMIC CHIP 0.01uF	50V		C619	1-164-161-11	CERAMIC CHIP 0.0022uF	10%	100V
C522	1-135-149-21	TANTALUM CHIP 2.2uF	20%	10V	C650	1-124-433-00	ELECT 100uF	20%	4V
C523	1-126-157-11	ELECT 10uF	20%	16V	C801	1-163-099-00	CERAMIC CHIP 18PF	5%	50V
C524	1-126-207-11	ELECT CHIP 33uF	20%	4V	C802	1-163-099-00	CERAMIC CHIP 18PF	5%	50V
C525	1-135-162-21	TANTALUM CHIP 33uF	20%	6.3V	C803	1-164-222-11	CERAMIC CHIP 0.22uF	25V	
C526	1-124-433-00	ELECT 100uF	20%	4V	C804	1-164-337-11	CERAMIC CHIP 2.2uF	16V	
C527	1-124-433-00	ELECT 100uF	20%	4V	C807	1-164-161-11	CERAMIC CHIP 0.0022uF	10%	100V
C528	1-163-135-00	CERAMIC CHIP 560PF	5%	50V	C808	1-162-638-11	CERAMIC CHIP 1uF	16V	
C529	1-163-034-00	CERAMIC CHIP 0.033uF	50V		C809	1-124-239-00	ELECT 6.9uF	20%	10V
C530	1-163-139-00	CERAMIC CHIP 820PF	5%	50V	C812	1-163-081-00	CERAMIC CHIP 0.22uF	25V	
C531	1-135-162-21	TANTALUM CHIP 33uF	20%	6.3V	< CONNECTOR >				
C532	1-163-125-00	CERAMIC CHIP 220PF	5%	50V	CN501	1-566-976-11	SOCKET, CONNECTOR 12P		
C533	1-163-117-00	CERAMIC CHIP 100PF	5%	50V	CN502	1-565-309-21	CONNECTOR, FLEXIBLE 4P		
C535	1-164-005-11	CERAMIC CHIP 0.47uF	25V		CNJ401	1-580-428-11	JACK, DC (DC IN 9V)		
C536	1-163-011-11	CERAMIC CHIP 0.0015uF	10%	50V	< DIODE >				
C543	1-135-148-21	TANTAL. CHIP 1.5uF	20%	16V	D401	8-719-975-33	DIODE RB110C		
C544	1-135-159-21	TANTALUM CHIP 10uF	10%	20V	D402	8-719-106-22	DIODE RD7.5M-B1		
C548	1-126-162-11	ELECT 3.3uF	20%	50V	D405	8-719-105-82	DIODE RD5.1M-B2		
C549	1-126-157-11	ELECT 10uF	20%	16V	D501	8-719-938-72	DIODE SB01-05CP		
C550	1-163-025-11	CERAMIC CHIP 0.001uF	50V		D502	8-719-938-72	DIODE SB01-05CP		
C551	1-126-157-11	ELECT 10uF	20%	16V	D503	8-719-938-72	DIODE SB01-05CP		
C552	1-126-160-11	ELECT 1uF	20%	50V	D504	8-719-106-52	DIODE RD10M-B1		
C553	1-162-638-11	CERAMIC CHIP 1uF	16V		D505	8-719-104-34	DIODE 1S2836		
C554	1-162-637-11	CERAMIC CHIP 0.47uF	16V		D511	8-719-400-18	DIODE MA152WK		
C555	1-163-081-00	CERAMIC CHIP 0.22uF	25V		D601	8-719-400-18	DIODE MA152WK		
C559	1-124-584-00	ELECT 100uF	20%	10V	D804	8-719-400-18	DIODE MA152WK		
C560	1-164-492-11	CERAMIC CHIP 0.15uF	10%	16V	D805	8-719-400-18	DIODE MA152WK		
C562	1-162-638-11	CERAMIC CHIP 1uF	16V		D806	8-719-938-72	DIODE SB01-05CP		
C563	1-163-809-11	CERAMIC CHIP 0.047uF	10%	25V	< IC >				
C564	1-163-037-11	CERAMIC CHIP 0.022uF	10%	25V	IC302	8-759-710-55	IC NJW2100M		
C565	1-163-033-00	CERAMIC CHIP 0.022uF	50V		IC304	8-759-991-27	IC BA3570F		
C566	1-163-034-00	CERAMIC CHIP 0.033uF	50V		IC501	8-759-074-88	IC HA12168		
C568	1-163-139-00	CERAMIC CHIP 820PF	5%	50V	IC502	8-759-982-73	IC BA10393F		
C569	1-164-489-11	CERAMIC CHIP 0.22uF	10%	16V	IC503	8-759-242-67	IC TC4W66F		
C601	1-163-038-00	CERAMIC CHIP 0.1uF	25V		IC504	8-759-030-17	IC MPC1715FU		
C602	1-163-038-00	CERAMIC CHIP 0.1uF	25V		IC505	8-759-031-84	IC SC7S04F		
C604	1-163-077-00	CERAMIC CHIP 0.1uF	10%	25V	IC601	8-759-074-89	IC HD49220FS		
C605	1-135-201-11	TANTALUM CHIP 10uF	20%	4V	IC603	8-759-970-89	IC BA10358F		
C606	1-163-038-00	CERAMIC CHIP 0.1uF	25V		IC801	8-759-075-42	IC HD404818A07FS		
C607	1-135-168-21	TANTAL. CHIP 100uF	20%	4V	IC802	8-759-031-84	IC SC7S04F		
C608	1-164-346-11	CERAMIC CHIP 1uF	16V		< JACK >				
C609	1-163-031-11	CERAMIC CHIP 0.01uF	50V		J301	1-580-709-11	JACK (LINE OUT)		
C610	1-163-075-00	CERAMIC CHIP 0.047uF	50V		J302	1-580-709-21	JACK (HEADPHONES)		
C611	1-163-089-00	CERAMIC CHIP 6PF	50V						
C612	1-163-089-00	CERAMIC CHIP 6PF	50V						
C613	1-163-117-00	CERAMIC CHIP 100PF	5%	50V					

SEE ADDITIONAL INFORMATION

MAIN

<u>Ref. No.</u>	<u>Part No.</u>	<u>Description</u>	<u>Remarks</u>	<u>Ref. No.</u>	<u>Part No.</u>	<u>Description</u>	<u>Remarks</u>				
< JUMPER RESISTOR >											
JR302	1-216-295-00	METAL CHIP	0 5% 1/10W	Q508	8-729-120-28	TRANSISTOR	2SC1623-L5L6				
JR402	1-216-295-00	METAL CHIP	0 5% 1/10W	Q509	8-729-901-00	TRANSISTOR	DTC124EK				
JR501	1-216-295-00	METAL CHIP	0 5% 1/10W	Q510	8-729-901-00	TRANSISTOR	DTC124EK				
JR502	1-216-296-00	METAL CHIP	0 5% 1/8W	Q511	8-729-901-05	TRANSISTOR	DTA124EK				
JR506	1-216-296-00	METAL CHIP	0 5% 1/8W	Q512	8-729-120-28	TRANSISTOR	2SC1623-L5L6				
JR509	1-216-864-11	METAL CHIP	0 5% 1/16W	Q513	8-729-120-28	TRANSISTOR	2SC1623-L5L6				
JR579	1-216-295-00	METAL CHIP	0 5% 1/10W	Q801	8-729-903-30	TRANSISTOR	DTC144TK				
JR599	1-216-295-00	METAL CHIP	0 5% 1/10W	Q802	8-729-921-72	TRANSISTOR	2SD1781K-R				
JR601	1-216-295-00	METAL CHIP	0 5% 1/10W	Q803	8-729-901-04	TRANSISTOR	DTA114EK				
JR602	1-216-295-00	METAL CHIP	0 5% 1/10W	Q804	8-729-901-05	TRANSISTOR	DTA124EK				
JR603	1-216-864-11	METAL CHIP	0 5% 1/16W	Q805	8-729-900-53	TRANSISTOR	DTC114EK				
JR604	1-216-864-11	METAL CHIP	0 5% 1/16W	Q807	8-729-216-22	TRANSISTOR	2SA1162-G				
JR801	1-216-295-00	METAL CHIP	0 5% 1/10W	< RESISTOR >							
JR802	1-216-296-00	METAL CHIP	0 5% 1/8W	R101	1-218-724-11	METAL CHIP	22K 0.50% 1/16W				
JR803	1-216-296-00	METAL CHIP	0 5% 1/8W	R102	1-218-724-11	METAL CHIP	22K 0.50% 1/16W				
JR804	1-216-295-00	METAL CHIP	0 5% 1/10W	R103	1-216-677-11	METAL CHIP	12K 0.5% 1/10W				
JR805	1-216-295-00	METAL CHIP	0 5% 1/10W	R104	1-216-677-11	METAL CHIP	12K 0.5% 1/10W				
< COIL >											
L502	1-408-421-00	INDUCTOR	100uH	R109	1-216-089-00	METAL CHIP	47K 5% 1/10W				
L503	1-412-032-11	INDUCTOR CHIP	100uH	R110	1-216-053-00	METAL CHIP	1.5K 5% 1/10W				
L504	1-412-032-11	INDUCTOR CHIP	100uH	R111	1-216-033-00	METAL CHIP	220 5% 1/10W				
L505	1-408-421-00	INDUCTOR	100uH	R112	1-216-049-00	METAL CHIP	1K 5% 1/10W				
L521	1-412-029-11	INDUCTOR CHIP	10uH	R113	1-216-057-00	METAL CHIP	2.2K 5% 1/10W				
L522	1-412-029-11	INDUCTOR CHIP	10uH	R114	1-216-057-00	METAL CHIP	2.2K 5% 1/10W				
L604	1-410-999-11	INDUCTOR CHIP	3.3uH	R115	1-216-073-00	METAL CHIP	10K 5% 1/10W				
< LIQUID CRYSTAL DISPLAY >											
LCD1	1-809-406-11	DISPLAY PANEL, LIQUID CRYSTAL		R116	1-216-008-11	METAL GLAZE	20 5% 1/10W				
< TRANSISTOR >											
Q101	8-729-921-72	TRANSISTOR	2SD1781K-R	R117	1-216-699-11	METAL CHIP	100K 0.5% 1/10W				
Q102	8-729-921-72	TRANSISTOR	2SD1781K-R	R118	1-216-699-11	METAL CHIP	100K 0.5% 1/10W				
Q201	8-729-921-72	TRANSISTOR	2SD1781K-R	R119	1-216-691-11	METAL CHIP	47K 0.5% 1/10W				
Q202	8-729-921-72	TRANSISTOR	2SD1781K-R	R120	1-216-691-11	METAL CHIP	47K 0.5% 1/10W				
Q410	8-729-904-86	TRANSISTOR	2SB1197K-Q	R122	1-216-073-00	METAL CHIP	10K 5% 1/10W				
Q413	8-729-806-75	TRANSISTOR	2SB1120-F	R123	1-216-097-00	METAL CHIP	100K 5% 1/10W				
Q414	8-729-903-10	TRANSISTOR	FMW1	R201	1-218-724-11	METAL CHIP	22K 0.50% 1/16W				
Q423	8-729-901-04	TRANSISTOR	DTA114EK	R202	1-218-724-11	METAL CHIP	22K 0.50% 1/16W				
Q424	8-729-903-10	TRANSISTOR	FMW1	R203	1-216-677-11	METAL CHIP	12K 0.5% 1/10W				
Q425	8-729-900-53	TRANSISTOR	DTC114EK	R204	1-216-677-11	METAL CHIP	12K 0.5% 1/10W				
Q426	8-729-921-72	TRANSISTOR	2SD1781K-R	R209	1-216-089-00	METAL CHIP	47K 5% 1/10W				
Q451	8-729-922-34	TRANSISTOR	2SD1758F5-QR	R210	1-216-053-00	METAL CHIP	1.5K 5% 1/10W				
Q453	8-729-140-75	TRANSISTOR	2SD999-CLK	R211	1-216-033-00	METAL CHIP	220 5% 1/10W				
Q501	8-729-921-72	TRANSISTOR	2SD1781K-R	R212	1-216-049-00	METAL CHIP	1K 5% 1/10W				
Q502	8-729-216-22	TRANSISTOR	2SA1162-G	R213	1-216-057-00	METAL CHIP	2.2K 5% 1/10W				
Q504	8-729-903-29	TRANSISTOR	DTA144TK	R214	1-216-057-00	METAL CHIP	2.2K 5% 1/10W				
Q505	8-729-901-00	TRANSISTOR	DTC124EK	R215	1-216-073-00	METAL CHIP	10K 5% 1/10W				
Q507	8-729-903-30	TRANSISTOR	DTC144TK	R216	1-216-008-11	METAL GLAZE	20 5% 1/10W				
				R217	1-216-699-11	METAL CHIP	100K 0.5% 1/10W				
				R218	1-216-699-11	METAL CHIP	100K 0.5% 1/10W				
				R219	1-216-691-11	METAL CHIP	47K 0.5% 1/10W				
				R220	1-216-691-11	METAL CHIP	47K 0.5% 1/10W				
				R222	1-216-073-00	METAL CHIP	10K 5% 1/10W				
				R223	1-216-097-00	METAL CHIP	100K 5% 1/10W				
				R305	1-216-065-00	METAL CHIP	4.7K 5% 1/10W				

SEE ADDITIONAL INFORMATION

MAIN

Ref. No.	Part No.	Description			Remarks	Ref. No.	Part No.	Description			Remarks
R306	1-216-051-00	METAL CHIP	1.2K	5%	1/10W	R530	1-216-841-11	METAL CHIP	47K	5%	1/16W
R307	1-216-121-00	METAL CHIP	1M	5%	1/10W	R531	1-216-055-00	METAL CHIP	1.8K	5%	1/10W
R310	1-216-679-11	METAL CHIP	15K	0.5%	1/10W	R532	1-216-088-00	METAL CHIP	43K	5%	1/10W
R311	1-216-671-11	METAL CHIP	6.8K	0.5%	1/10W	R533	1-216-097-00	METAL CHIP	100K	5%	1/10W
R320	1-216-007-00	METAL CHIP	18	5%	1/10W	R535	1-216-049-00	METAL CHIP	1K	5%	1/10W
R330	1-216-298-00	METAL CHIP	2.2	5%	1/10W	R537	1-216-085-00	METAL CHIP	33K	5%	1/10W
R424	1-216-081-00	METAL CHIP	22K	5%	1/10W	R543	1-216-302-00	METAL CHIP	2.7	5%	1/10W
R425	1-216-049-00	METAL CHIP	1K	5%	1/10W	R544	1-216-659-11	METAL CHIP	2.2K	0.5%	1/10W
R426	1-216-033-00	METAL CHIP	220	5%	1/10W	R545	1-216-697-11	METAL CHIP	82K	0.5%	1/10W
R427	1-216-659-11	METAL CHIP	2.2K	0.5%	1/10W	R547	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R428	1-216-663-11	METAL CHIP	3.3K	0.5%	1/10W	R548	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R429	1-216-697-11	METAL CHIP	82K	0.5%	1/10W	R549	1-216-065-00	METAL CHIP	4.7K	5%	1/10W
R430	1-216-663-11	METAL CHIP	3.3K	0.5%	1/10W	R550	1-216-254-00	METAL GLAZE	220K	5%	1/8W
R431	1-216-073-00	METAL CHIP	10K	5%	1/10W	R552	1-216-081-00	METAL CHIP	22K	5%	1/10W
R432	1-216-073-00	METAL CHIP	10K	5%	1/10W	R553	1-216-049-00	METAL CHIP	1K	5%	1/10W
R433	1-216-097-00	METAL CHIP	100K	5%	1/10W	R554	1-216-033-00	METAL CHIP	220	5%	1/10W
R437	1-216-686-11	METAL CHIP	30K	0.5%	1/10W	R555	1-216-664-11	METAL CHIP	3.6K	0.5%	1/10W
R438	1-216-655-11	METAL CHIP	1.5K	0.5%	1/10W	R556	1-216-664-11	METAL CHIP	3.6K	0.5%	1/10W
R439	1-216-694-11	METAL CHIP	62K	0.5%	1/10W	R557	1-216-049-00	METAL CHIP	1K	5%	1/10W
R440	1-216-049-00	METAL CHIP	1K	5%	1/10W	R558	1-216-093-00	METAL CHIP	68K	5%	1/10W
R441	1-216-089-00	METAL CHIP	47K	5%	1/10W	R559	1-216-105-00	METAL CHIP	220K	5%	1/10W
R480	1-216-174-00	METAL GLAZE	100	5%	1/8W	R562	1-216-073-00	METAL CHIP	10K	5%	1/10W
R481	1-216-174-00	METAL GLAZE	100	5%	1/8W	R563	1-216-097-00	METAL CHIP	100K	5%	1/10W
R501	1-216-037-00	METAL CHIP	330	5%	1/10W	R564	1-216-025-00	METAL CHIP	100	5%	1/10W
R502	1-216-150-00	METAL GLAZE	10	5%	1/8W	R565	1-216-081-00	METAL CHIP	22K	5%	1/10W
R504	1-216-085-00	METAL CHIP	33K	5%	1/10W	R566	1-216-105-00	METAL CHIP	220K	5%	1/10W
R506	1-216-832-11	METAL CHIP	8.2K	5%	1/16W	R567	1-216-841-11	METAL CHIP	47K	5%	1/16W
R507	1-216-843-11	METAL CHIP	68K	5%	1/16W	R571	1-216-097-00	METAL CHIP	100K	5%	1/10W
R508	1-218-720-11	METAL CHIP	15K	0.50%	1/16W	R572	1-216-089-00	METAL CHIP	47K	5%	1/10W
R510	1-216-059-00	METAL CHIP	2.7K	5%	1/10W	R573	1-216-841-11	METAL CHIP	47K	5%	1/16W
R511	1-216-095-00	METAL CHIP	82K	5%	1/10W	R574	1-216-817-11	METAL CHIP	470	5%	1/16W
R512	1-216-081-00	METAL CHIP	22K	5%	1/10W	R578	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R513	1-216-115-00	METAL CHIP	560K	5%	1/10W	R583	1-216-841-11	METAL CHIP	47K	5%	1/16W
R514	1-216-077-00	METAL CHIP	15K	5%	1/10W	R584	1-216-845-11	METAL CHIP	100K	5%	1/16W
R515	1-216-017-00	METAL CHIP	47	5%	1/10W	R585	1-216-238-00	METAL GLAZE	47K	5%	1/8W
R516	1-216-065-00	METAL CHIP	4.7K	5%	1/10W	R587	1-216-089-00	METAL CHIP	47K	5%	1/10W
R517	1-216-107-00	METAL CHIP	270K	5%	1/10W	R588	1-216-822-11	METAL CHIP	1.2K	5%	1/16W
R519	1-216-073-00	METAL CHIP	10K	5%	1/10W	R589	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R520	1-216-833-11	METAL CHIP	10K	5%	1/16W	R591	1-216-067-00	METAL CHIP	5.6K	5%	1/10W
R521	1-216-829-11	METAL CHIP	4.7K	5%	1/16W	R593	1-216-842-11	METAL CHIP	56K	5%	1/16W
R522	1-216-748-11	METAL CHIP	39K	1%	1/10W	R594	1-216-846-11	METAL CHIP	120K	5%	1/16W
R522	1-216-804-11	METAL CHIP	39	5%	1/16W	R596	1-216-841-11	METAL CHIP	47K	5%	1/16W
R523	1-216-748-11	METAL CHIP	39K	1%	1/10W	R601	1-216-097-00	METAL CHIP	100K	5%	1/10W
R523	1-216-804-11	METAL CHIP	39	5%	1/16W	R602	1-216-085-00	METAL CHIP	33K	5%	1/10W
R524	1-216-051-00	METAL CHIP	1.2K	5%	1/10W	R603	1-216-077-00	METAL CHIP	15K	5%	1/10W
R525	1-216-075-00	METAL CHIP	12K	5%	1/10W	R604	1-216-081-00	METAL CHIP	22K	5%	1/10W
R526	1-216-663-11	METAL CHIP	3.3K	0.5%	1/10W	R607	1-216-121-00	METAL CHIP	1M	5%	1/10W
R527	1-216-081-00	METAL CHIP	22K	5%	1/10W	R608	1-216-091-00	METAL CHIP	56K	5%	1/10W
R528	1-216-121-00	METAL CHIP	1M	5%	1/10W	R610	1-216-091-00	METAL CHIP	56K	5%	1/10W
R529	1-216-077-00	METAL CHIP	15K	5%	1/10W	R611	1-216-077-00	METAL CHIP	15K	5%	1/10W

SEE ADDITIONAL INFORMATION

MAIN

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

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

9-957-209-11

[Including 9-957-209-91]

9-957-209-92

Sony Corporation
General Audio Group

-34-

English
92F1640-1
Printed in Japan
©1992.6
Published by Customer Relations and Service Group

SONY® SERVICE MANUAL

US Model

D-34/36

Canadian Model

E Model

D-34

SUPPLEMENT-1

File this supplement with the service manual.

CHANGE OF MAIN MOUNT CIRCUIT.

Use this supplement with the service manual published previously.

- The MAIN BOARD has been modified. Therefore, the sections "SERVICING MODE", "ELECTRICAL ADJUSTMENTS", "BLOCK DIAGRAM", "PRINTED WIRING BOARD", "SCHEMATIC DIAGRAM", "ELECTRICAL PARTS LIST" have been modified accordingly.
- This supplement refers to the MAIN BOARD which carries Part No. 1-644-930-1□. (See the figure below.)

【MAIN BOARD】(CONDUCTOR SIDE)

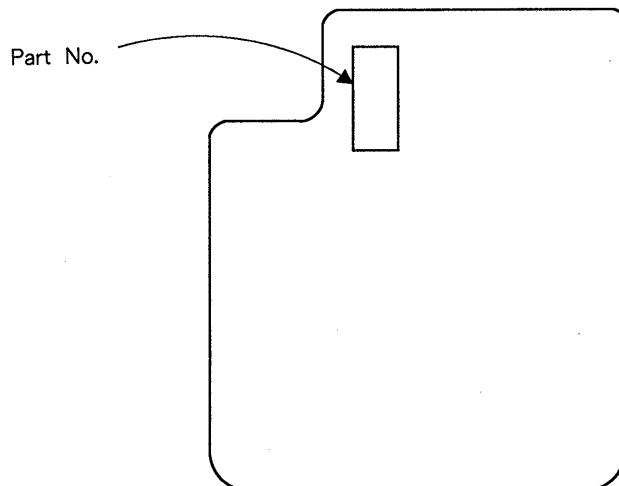


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SECTION 1

SERVICING NOTES

(Page 4)

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 25cm away from the objective lens.

Laser Diode Check Procedure

The laser diode on this set will not emit unless the top panel is closed and S801 (leaf SW type) is turned on. The laser diode will always emit even if focus search is not performed in service mode.

The laser diode is checked using the current value which flows to the laser diode inside the optical pick-up block.

Procedure 1 (service mode or normal operation)

Check the laser diode emission with the eye.

1. Open upper panel.
2. S801 on as Fig. 1.
(In service mode, this operation is not necessary.)
3. Press the $\blacktriangleright\parallel$ key.
(In service mode, this operation is not necessary.)
4. Observe the objective lens and confirm that the laser diode is emitting light. At this time, the laser diode goes on about 10 seconds due to focus search. If it does not, APC circuit or optical pick-up block is defective.

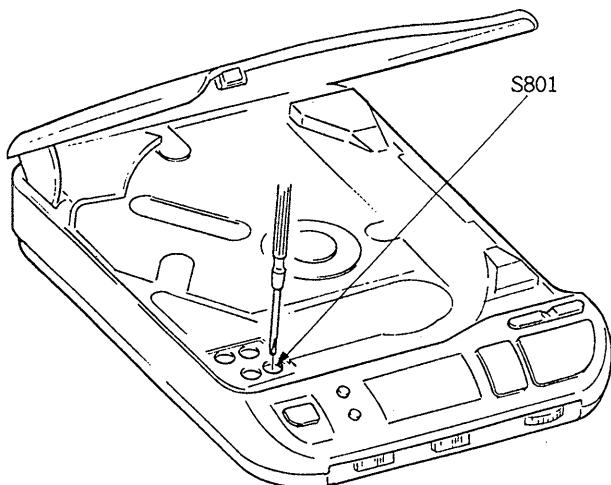
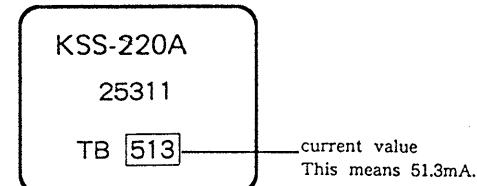


Fig.1 Turning S801 on

Procedure 2 (service mode or normal operation)

Check by the current with flows in the laser diode.

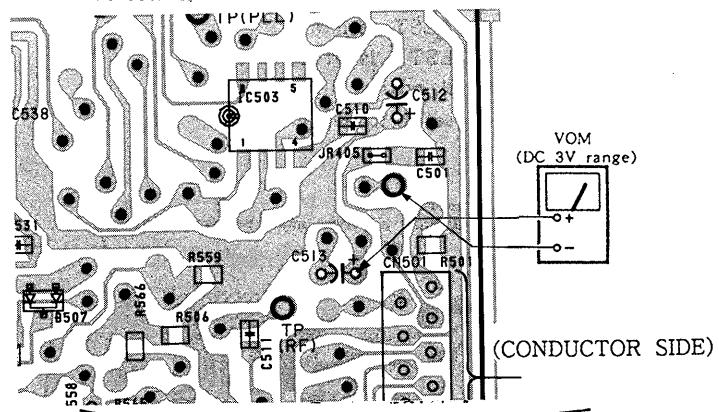
1. Close the top panel.
2. Remove the main board and read the current value on the label affixed to the optical pick-up block.
(Label on optical pick-up block)



The current value varies with the set.

3. Connect a VOM as shown in Fig. 2.
4. Press the $\blacktriangleright\parallel$ key.
5. Calculate the current by the VOM reading.
VOM reading (V) $\div 10$ = current (A)
ex. VOM reading = 0.56V
 $0.56 \div 10 = 0.056$ (A) = 56 (mA)
6. Confirm that the ammeter reading is within the range given below.
value on label: mA (25°C)
variation relative to temperature: $0.4\text{mA}/^\circ\text{C}$
(Current increases when temperature rises and decreases when it drops.)

If the value is more than the range given, APC circuit has been defective or the laser diode has deteriorated. If it is less, APC circuit or optical pick-up block is defective.



MAIN BOARD
(COMPONENT SIDE)

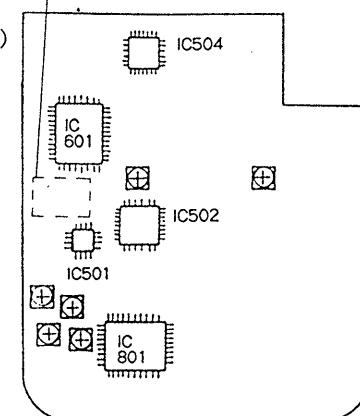


Fig.2 VOM Connection

(Page 5)

SERVICE MODE (service program)

This set has built-in service program in the microcomputer as usual sets.

The operation method of service program is explained below.

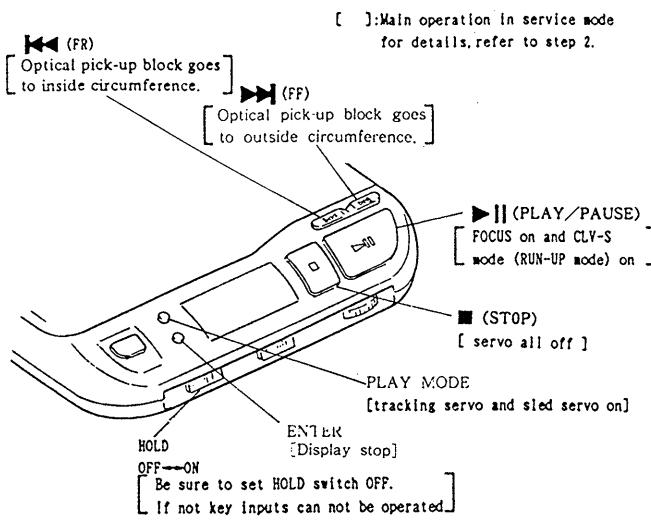


Fig.3 Key Positions

• Step 1 (Service Mode setting method)

1. Turn the HOLD switch OFF with the external power supply not plugged in (no power applied to set) and press the >|| key.
2. Solder jumper TEST terminal. (IC801 pin ④(TEST) is grounded.)
3. Plug in external power supply.

This puts the set into service mode.

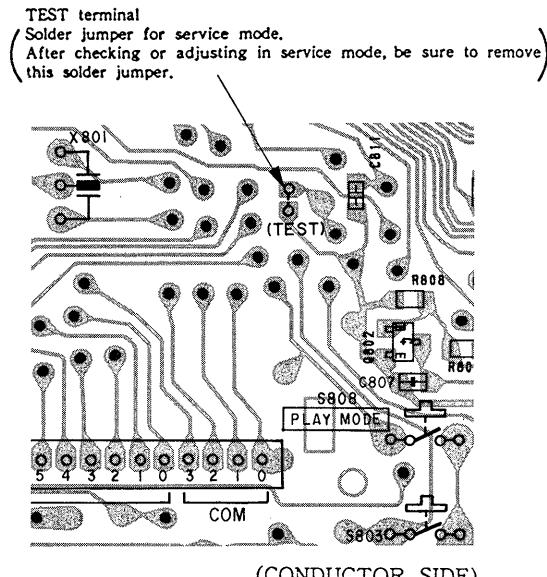


Fig.4 TEST terminal position

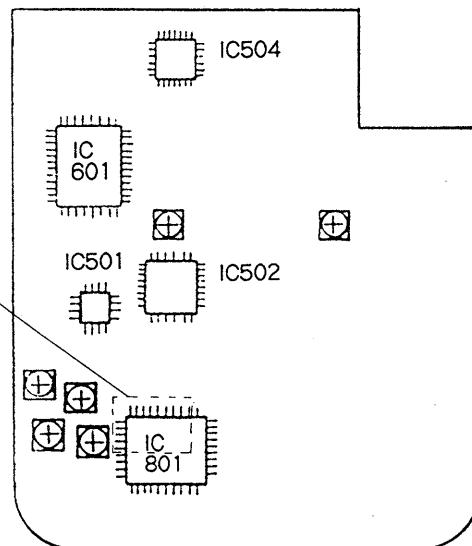
• Step 2 (Service Mode operation)

1. When service mode is set, the display will change 6 times, and those 6 changes will be repeated over and over. With this the LCD display should be present in service mode. Even if LCD does not display, other operations will be performed.
2. When > or < key is pressed, the optical pick-up block moves to the inside or outside circumference. Tracking servo and sled servo go off when this is done, so press PLAY-MODE to turn on the tracking servo if necessary.
3. When >|| key is pressed, CLV-S (pull-in mode) starts while performing focus search. When there is no disc installed, focus search is repeated several times while disc motor is rotating.
4. When PLAY-MODE is pressed, tracking servo, sled servo and CLV-A (servo during PLAY) go ON.
5. When 3 and 4 are performed, the disc begins to play. At this time, the top panel should be closed and S801 is to be ON. A sound is not produced as muting is ON.
6. All servo (focus, tracking, sled and spindle) go off when ■ key is pressed.

• Step 3 (Service Mode release)

1. First be sure to unplug the external power supply, then remove the solder jumper TEST terminal.
2. The set will now operate normally.

MAIN BOARD (COMPONENT SIDE)



SECTION 3

ELECTRICAL ADJUSTMENTS

Notes on Adjustment

1. Perform adjustments in service mode.
Be sure to release service mode after completing adjustments.
(Refer to "Service Mode (service program)" on page 4.)
2. Perform adjustments in the order given.
3. Use YEDS-18 disc (part No.: 3-702-101-01) unless otherwise indicated.
4. Power supply voltage : DC 6V
HOLD switch : OFF

PREPARATION

Put the set into Service Mode (See page 4.) and perform the following checks. Repair if there are any abnormalities.

• Sled Motor Check

1. Press the OPEN button and open the top panel.
2. Press the $\blacktriangleright\!\!\!$, $\blacktriangleleft\!\!\!$ keys and make sure that the optical pick-up block moves smoothly, without catching, from the inmost \rightarrow outmost \rightarrow inmost circumference.
 $\blacktriangleright\!\!\!$: optical pick-up block moves outward
 $\blacktriangleleft\!\!\!$: optical pick-up block moves inward

• Focus Search Check

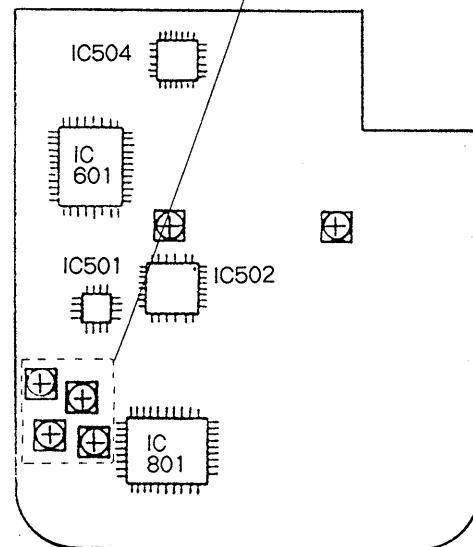
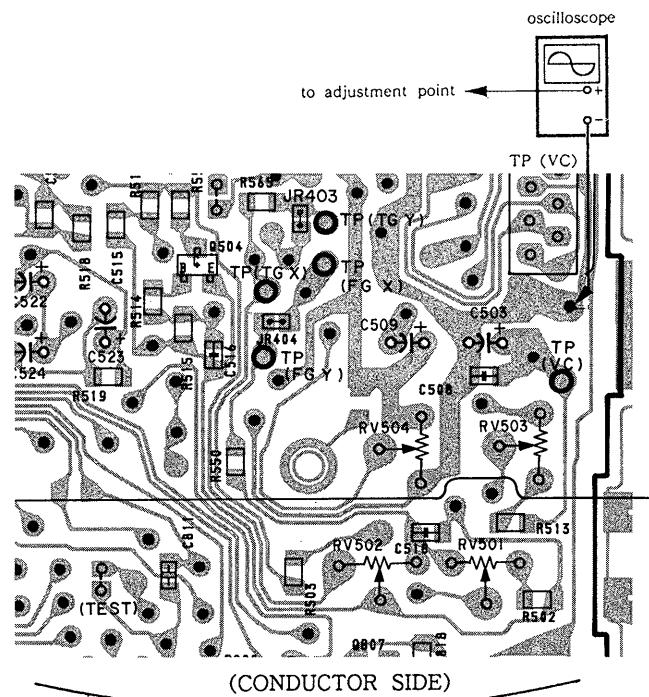
1. Press the OPEN button and open the top panel.
2. Press the $\blacktriangleright\!\!\!$ key. (Focus search is performed continuously.)
3. Observe the optical pick-up block objective lens and check that it moves smoothly up and down with no catching or noises.
4. Press the ■ key.
Check that focus search operation stops. If it does not, press the ■ key again.

VC (1/2 Vcc) Connecting Point

FOCUS BIAS ADJUSTMENT

TRACKING BALANCE ADJUSTMENT

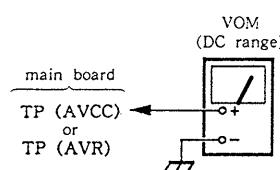
When the adjustments above are performed, connect the \ominus side of oscilloscope to the point below.



AVCC (4.5V) Adjustment

Adjustment Procedure :

1. Put the set into service mode (see page 4).
2. Connect the VOM to main board test point TP (AVCC).
3. Adjust RV401 for 4.3V – 4.5V reading on the VOM.
4. After adjustment, release service mode (see page 4).



AVR (3.5V) Adjustment

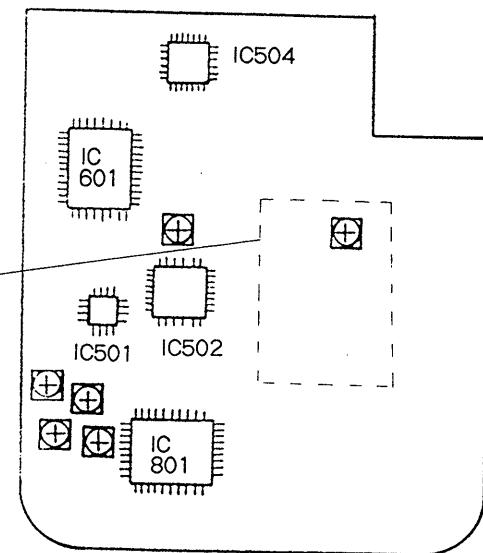
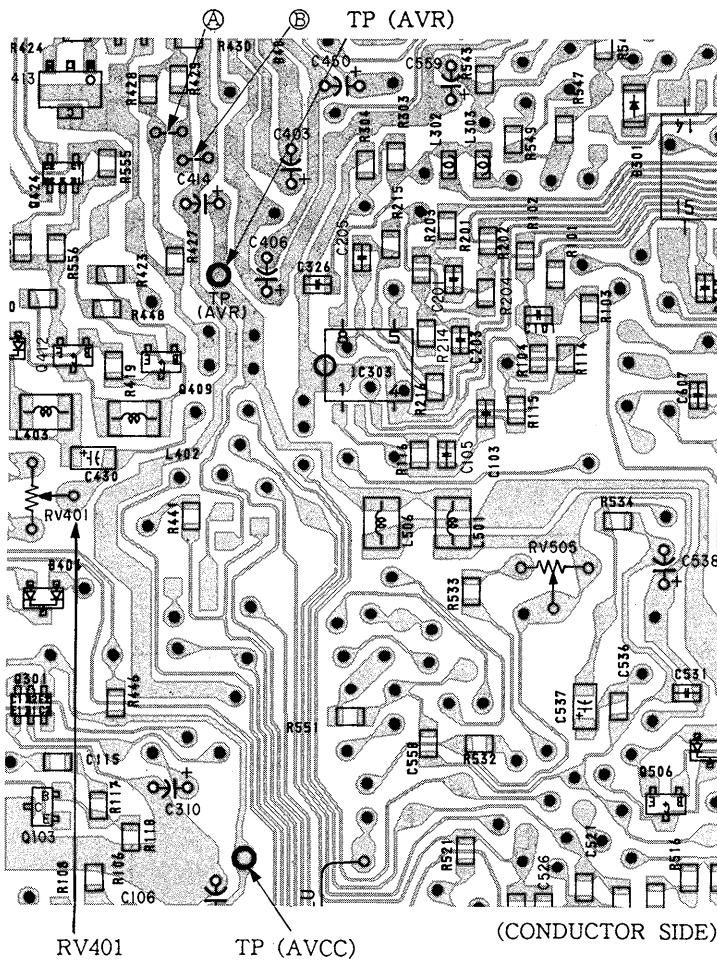
Adjustment Procedure :

1. Put the set into service mode (see page 4).
2. Connect the VOM to main board test point TP (AVR).
3. Adjust the pattern connection (Ⓐ or Ⓑ) to obtain 3.41V to 3.6V reading on the VOM.

pattern connection		VOM reading
A	B	
○	×	down ↑ up
×	×	
×	○	

○ : short × : open

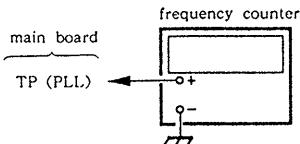
Adjustment Location : main board



MAIN BOARD (COMPONENT SIDE)

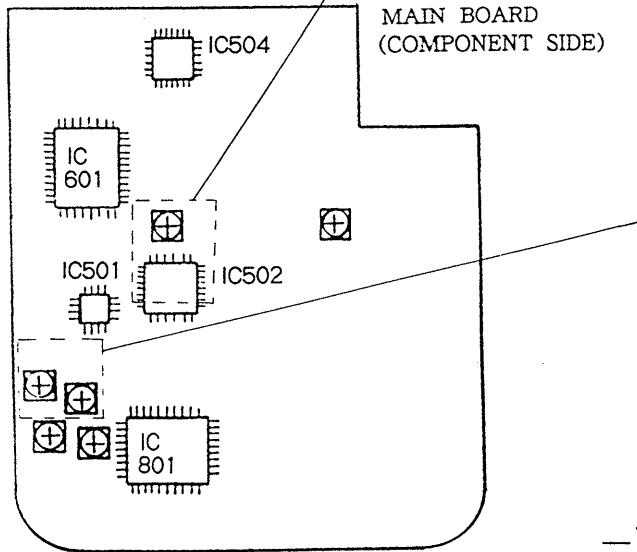
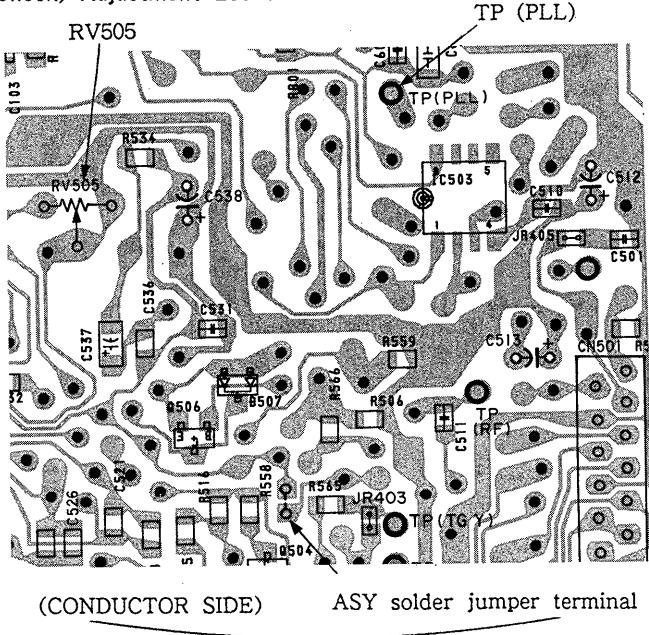
PLL Free Run Frequency Check and Adjustment

Check/Adjustment Procedure :



1. Disconnect ASY solder jumper terminal in the diagram below.
 2. Connect a frequency counter to main board test point TP (PLL).
 3. Put the set into service mode (see page 4).
 4. Check that the frequency counter reading is 4.32 ± 0.01 MHz. If not, adjust RV505 so that it is 4.32 ± 0.01 MHz.
 5. After adjustment, release service mode (see page 4).
 6. Short the jumper terminal disconnected in step 1.

Check/Adjustment Location : main board

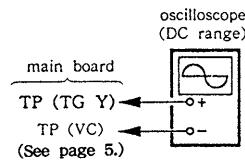


Tracking Balance Adjustment

Conditions :

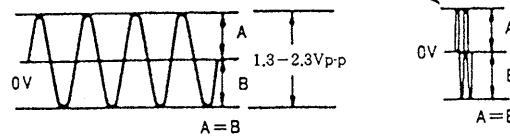
The set should be placed either horizontally.

Adjustment Procedure:



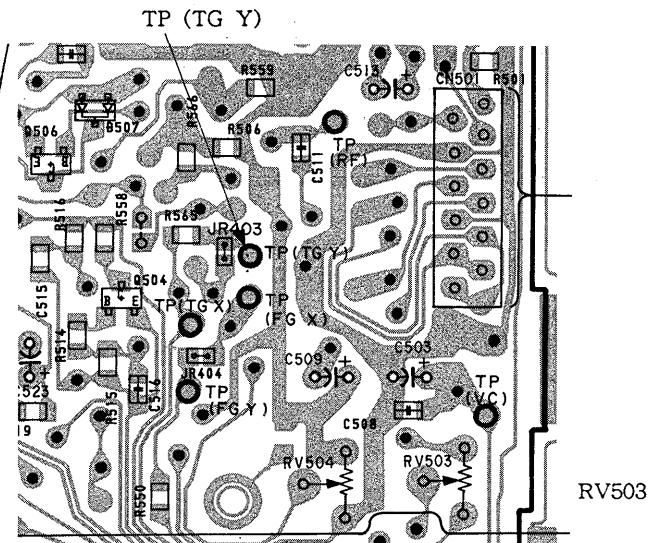
1. Connect the oscilloscope to main board TP (TG Y).
 2. Put the set into service mode (see page 4).
 3. Press the \blacktriangleright and \blacktriangleleft keys to move the optical pick-up block to the center.
 4. Insert the disc (YEDS-18) and close the top panel.
 5. Press the \blacktriangleright key.
(It will go from focus search to focus on, and CLV pull-in mode state. Tracking and sled are OFF.)
 6. Adjust RV503 so that the oscilloscope waveform is symmetrical on the top and bottom in relation to OV.

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



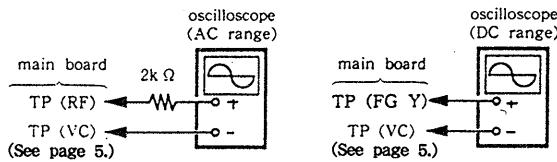
7. Press the ■ key.
 8. After adjustment, release service mode (see page 4).

Adjustment Location : main board



Focus Bias/Offset Adjustment**Conditions :**

The set should be placed either horizontally.

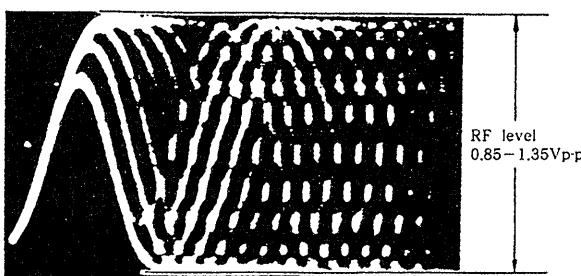
Adjustment Procedure :

1. Put the set into service mode (see page 4).
2. Connect the oscilloscope to main board test point TP (RF).
3. Press the **►** and **◀** key to move the optical pick-up block to the center. (Move the optical pick-up block to the music area on the disc to enable easy visibility of the eye pattern).
4. Insert the disc (YEDS-18) and close the top panel.
5. Press the **►||** key.
It will go from focus search to focus on, and CLV pull-in mode state. Tracking and sled are OFF.
6. Press the KEY-MODE button (Tracking and sled go ON.)
7. Adjust RV504 so that the oscilloscope waveform eye pattern is good. A good eye pattern means that the diamond shape (\diamond) in the center of the waveform can be clearly distinguished.

• RF Signal Reference Waveform (eye pattern)

VOLT/DIV : 200mV

TIME/DIV : 500nS

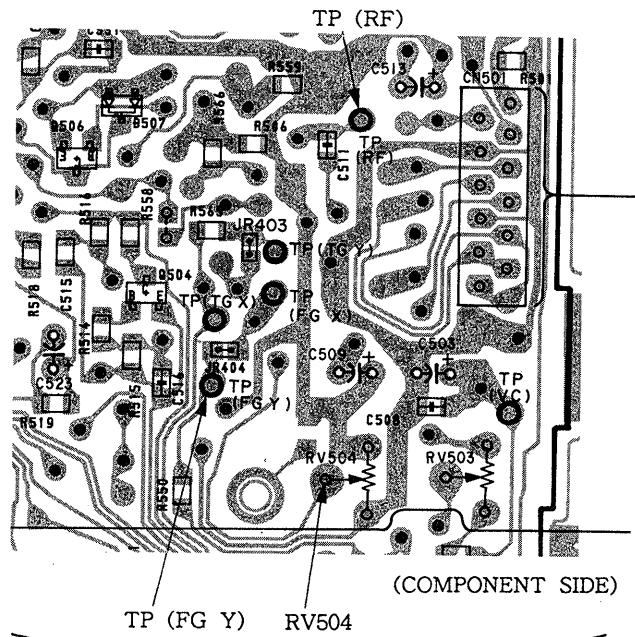


When observing the eye pattern, set the oscilloscope for AC range and raise vertical sensitivity.

8. Press the **■** key.
9. Remove the disc and connect the oscilloscope to main board TP (FG Y).
10. Adjust RV504 again referring to the table followed.

voltage of TP(FG Y)	Do not adjust again.
+80 to 200mV	Adjust RV504 again for +200mV reading on oscilloscope.
-20 to +80mV	Adjust RV504 again for -20mV reading on oscilloscope.

11. Reconfirm the items 5, 6 and 7 after adjusting item 10.
12. After adjustment, release service mode (see page 4).

Adjustment Location : main board

Reference

Focus/Tracking Gain Adjustment

A frequency response analyzer or CD jig 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 followup (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 high, the noise when the 2-axis device operates increases.
 - When gain is low, it is more susceptible to mechanical shock and skipping occurs more easily.

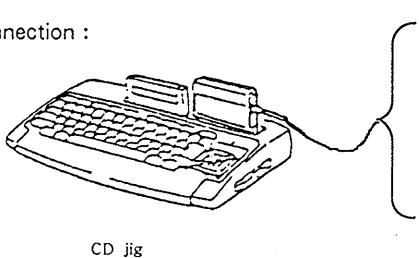
This adjustment is to be performed when replacing the following parts:

- UPF (optical pick-up block)
 - RV501 (focus gain volume)
 - RV502 (tracking gain volume)

On this set, it is very difficult to simplify this adjustment. For those sets on which symptoms such as "occasional skipping" are hard to discover, or it is hard to tell if the set has been repaired, use the CD jig and perform this adjustment. Refer to the diagram below for connection of the CD jig. The adjustment procedure is described in the separate CD jig Instruction Manual.

Please be careful no to move RV501 (focus gain volume), RV502 (tracking gain volume) ordinarily.

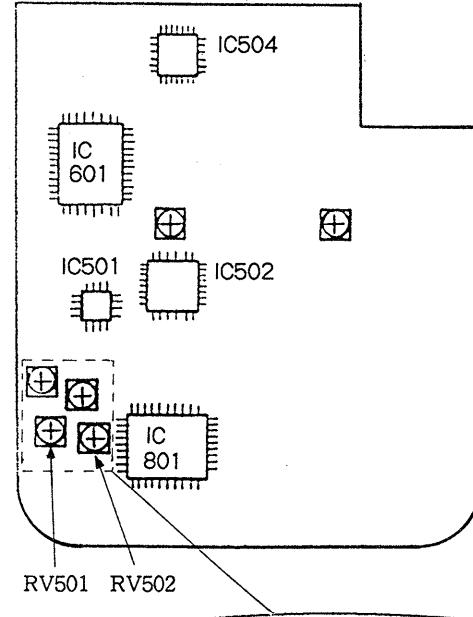
CD jig connection :



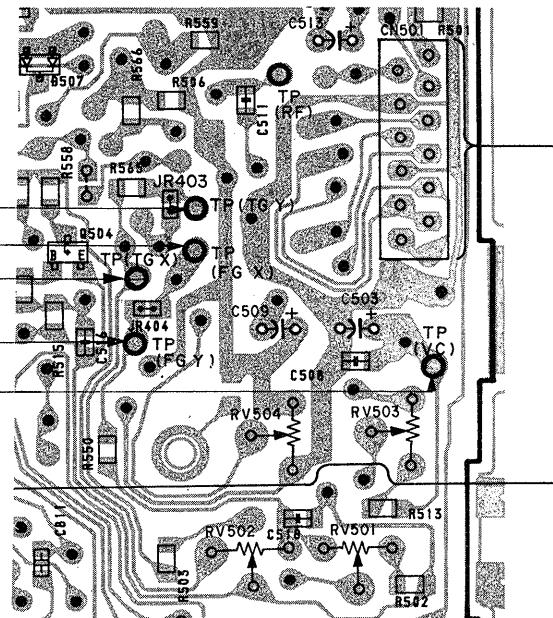
ORG
YEL
BRN
RED
WHT

Remove the solder jumpers (JR403, 404) at the TG and FG locations and connect the CD jig.

MAIN BOARD (COMPONENT SIDE)



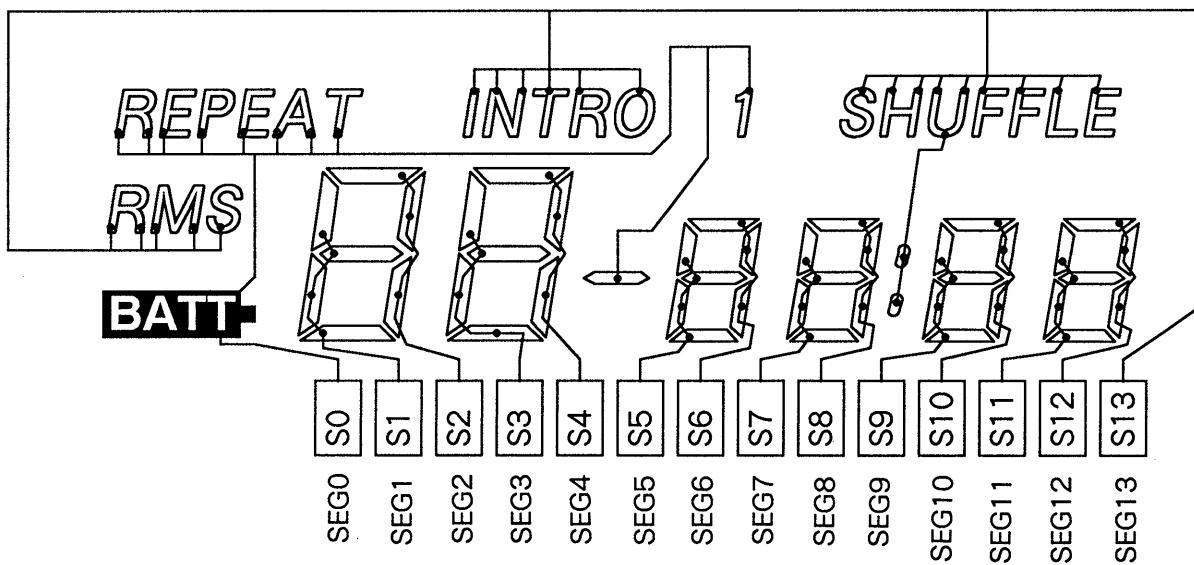
(CONDUCTOR SIDE)



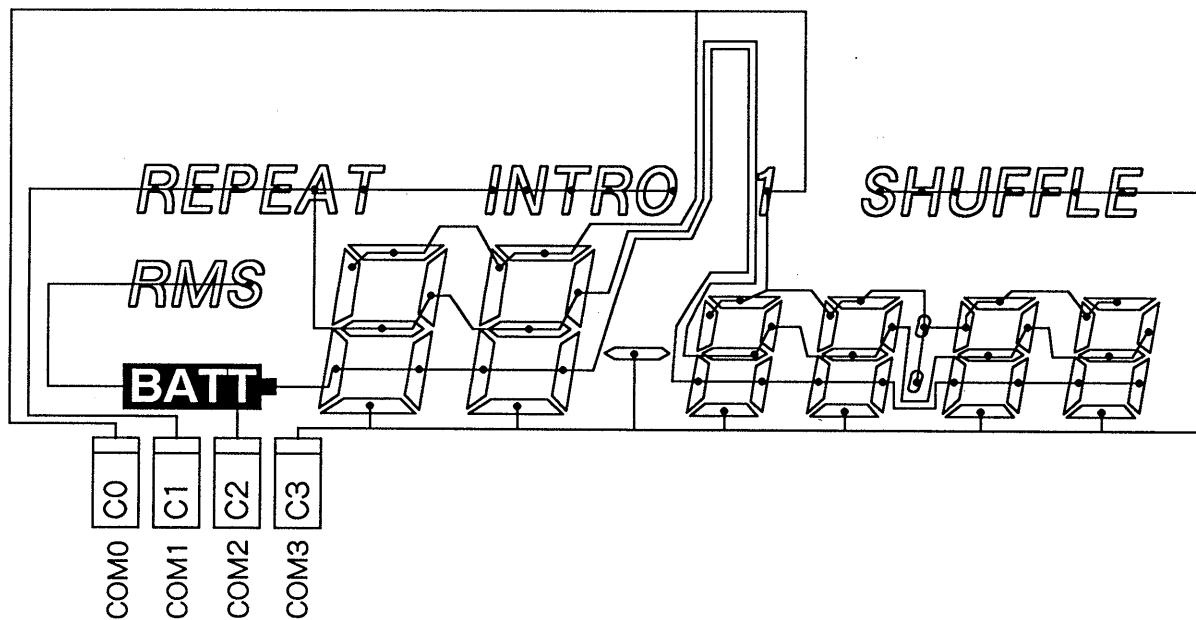
SECTION 4 DIAGRAMS

- LCD1 (LCD UNIT)

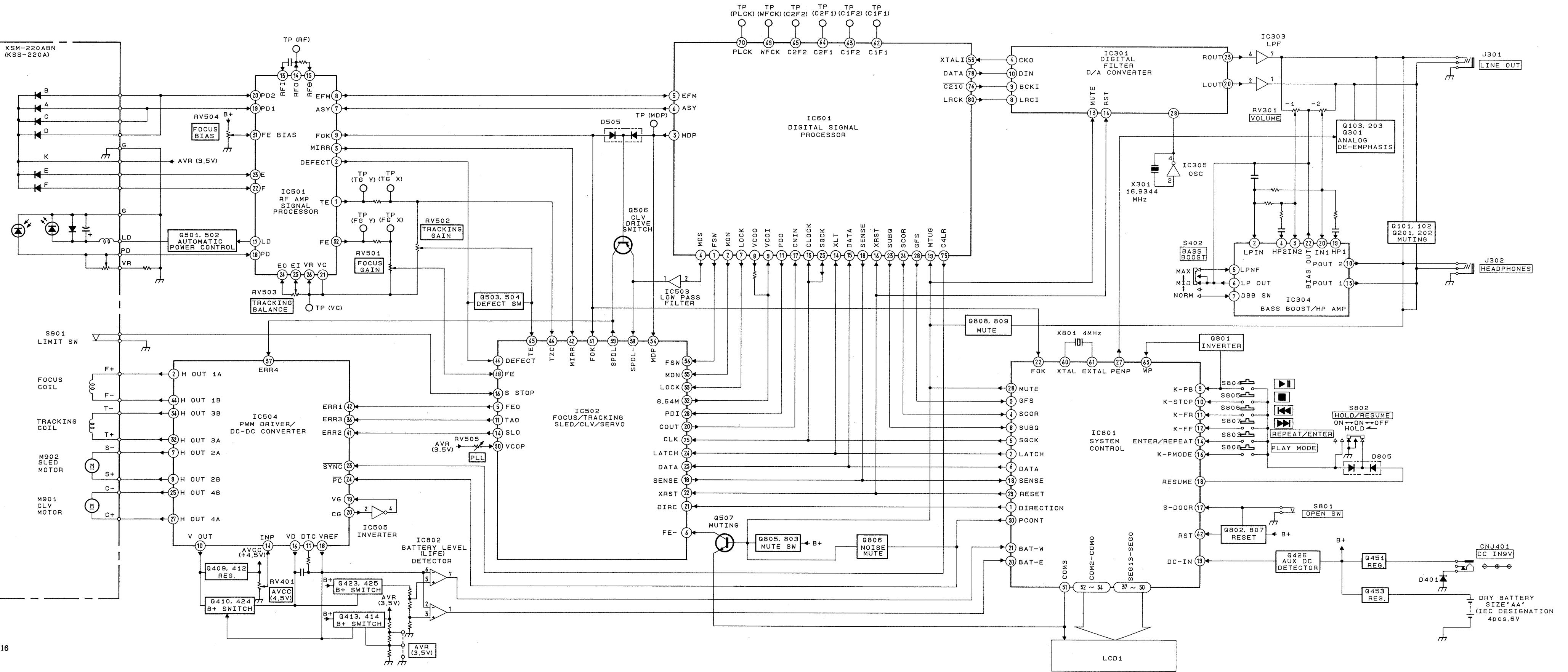
- SEGMENT



- COMMON



4-2. BLOCK DIAGRAMS



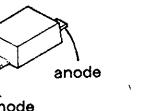
4-3. PRINTED WIRING BOARD

• Semiconductor

Ref. No.	Location
D301	C-6
D401	B-5
D402	B-4
D404	E-4
D405	D-13
D409	D-3
D501	D-13
D502	D-12
D503	A-11
D504	B-11
D505	E-11
D507	E-6
D601	E-12
D801	F-12
D804	H-7
D805	H-10
D806	H-12
IC301	C-6
IC303	D-5
IC304	E-2
IC305	C-10
IC501	F-10
IC502	E-11
IC503	D-7
IC504	B-11
IC505	A-12
IC601	D-10
IC801	G-11
IC802	G-10
Q101	F-4
Q102	F-4
Q103	E-4
Q201	F-3
Q202	G-4
Q203	C-3
Q301	E-4
Q409	D-4
Q410	B-3
Q412	D-4
Q413	C-4
Q414	B-4
Q423	D-13
Q424	C-4
Q425	D-13
Q426	D-13
Q451	C-13
Q453	D-4
Q501	E-10
Q502	E-10
Q503	F-11
Q504	F-6
Q506	E-6
Q507	F-12
Q801	G-12
Q802	G-6
Q803	G-13
Q805	F-13
Q806	F-12
Q807	G-7
Q808	F-13
Q809	F-13

• Semiconductor Lead Layouts

MA110



A

B

6

D

E

E

6

H

1

1

16

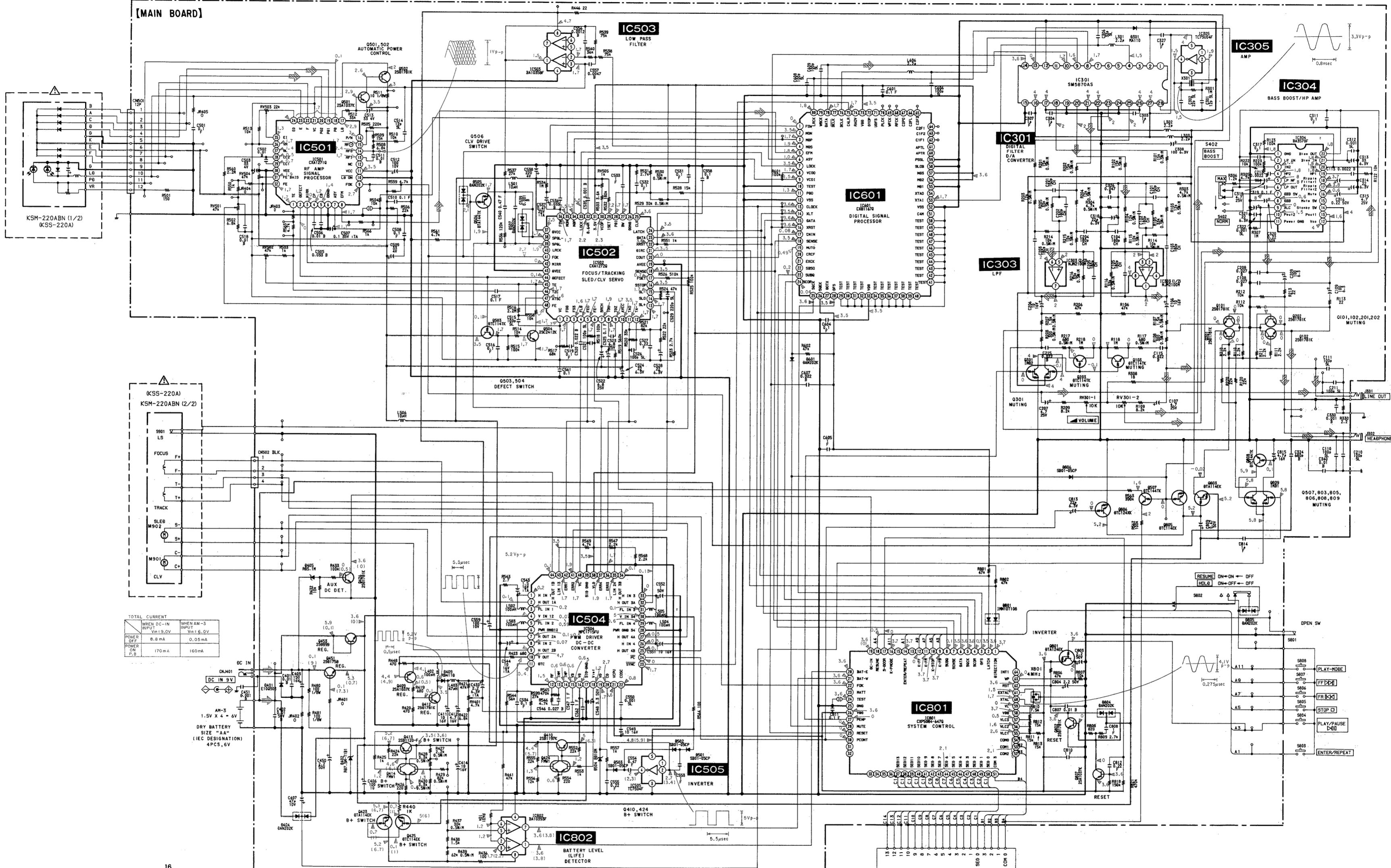
1

三

84

8

[MAIN BOARD]



MAIN

SECTION 6

ELECTRICAL PARTS LIST

NOTE:

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

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

When indicating parts by reference number, please include the board name.

- 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.
- - XX, - X mean standardized parts, so they may have some difference from the original one.
- RESISTORS
All resistors are in ohms.
METAL : metal-film resistor
METAL OXIDE : Metal Oxide-film resistor
F : nonflammable
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- SEMICONDUCTORS
In each case, u : μ , for example :
uA... : μ A..., uPA... , μ PA... ,
uPB... , μ PB... , uPC... , μ PC... ,
uPD... , μ PD...
- CAPACITORS :
uF : μ F
- COILS
uH : μ H

Ref. No.	Part No.	Description	Remarks		Ref. No.	Part No.	Description	Remarks			
	A-3275-573-A	MAIN BOARD, COMPLETE	*****		C215	1-163-037-11	CERAMIC CHIP	0.022uF	10%	25V	
*	4-945-466-01	HOLDER (LCD)			C301	1-163-095-00	CERAMIC CHIP	12PF	5%	50V	
		< CAPACITOR >			C302	1-163-101-00	CERAMIC CHIP	22PF	5%	50V	
C101	1-163-121-00	CERAMIC CHIP	150PF	5%	50V	C303	1-164-346-11	CERAMIC CHIP	1uF	16V	
C102	1-163-257-11	CERAMIC CHIP	180PF	5%	50V	C304	1-164-346-11	CERAMIC CHIP	1uF	16V	
C103	1-163-257-11	CERAMIC CHIP	180PF	5%	50V	C306	1-163-105-00	CERAMIC CHIP	33PF	5%	50V
C104	1-163-257-11	CERAMIC CHIP	180PF	5%	50V	C307	1-164-346-11	CERAMIC CHIP	1uF	16V	
C105	1-163-257-11	CERAMIC CHIP	180PF	5%	50V	C308	1-126-177-11	ELECT	100uF	20%	10V
C106	1-126-157-11	ELECT	10uF	20%	16V	C310	1-124-638-11	ELECT	22uF	20%	10V
C107	1-126-163-11	ELECT	4.7uF	20%	50V	C311	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C108	1-163-986-00	CERAMIC CHIP	0.027uF	10%	25V	C312	1-163-141-00	CERAMIC CHIP	0.001uF	5%	50V
C109	1-126-177-11	ELECT	100uF	20%	10V	C313	1-124-229-00	ELECT	33uF	20%	10V
C110	1-163-117-00	CERAMIC CHIP	100PF	5%	50V	C314	1-124-638-11	ELECT	22uF	20%	10V
C111	1-163-117-00	CERAMIC CHIP	100PF	5%	50V	C315	1-126-163-11	ELECT	4.7uF	20%	50V
C113	1-164-161-11	CERAMIC CHIP	0.0022uF	10%	100V	C316	1-124-464-11	ELECT	0.22uF	20%	50V
C115	1-163-037-11	CERAMIC CHIP	0.022uF	10%	25V	C317	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C201	1-163-121-00	CERAMIC CHIP	150PF	5%	50V	C318	1-126-163-11	ELECT	4.7uF	20%	50V
C202	1-163-257-11	CERAMIC CHIP	180PF	5%	50V	C319	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C203	1-163-257-11	CERAMIC CHIP	180PF	5%	50V	C320	1-124-464-11	ELECT	0.22uF	20%	50V
C204	1-163-257-11	CERAMIC CHIP	180PF	5%	50V	C321	1-124-638-11	ELECT	22uF	20%	10V
C205	1-163-257-11	CERAMIC CHIP	180PF	5%	50V	C322	1-163-141-00	CERAMIC CHIP	0.001uF	5%	50V
C206	1-126-157-11	ELECT	10uF	20%	16V	C324	1-163-007-11	CERAMIC CHIP	680PF	10%	50V
C207	1-126-163-11	ELECT	4.7uF	20%	50V	C326	1-163-809-11	CERAMIC CHIP	0.047uF	10%	25V
C208	1-163-986-00	CERAMIC CHIP	0.027uF	10%	25V	C327	1-164-346-11	CERAMIC CHIP	1uF	16V	
C209	1-126-177-11	ELECT	100uF	20%	10V	C330	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C210	1-163-117-00	CERAMIC CHIP	100PF	5%	50V	C340	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C211	1-163-117-00	CERAMIC CHIP	100PF	5%	50V	C401	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C213	1-164-161-11	CERAMIC CHIP	0.0022uF	10%	100V	C402	1-164-232-11	CERAMIC CHIP	0.01uF		50V
					C403	1-126-357-11	ELECT	150uF	20%	16V	
					C406	1-124-584-00	ELECT	100uF	20%	10V	

MAIN

<u>Ref. No.</u>	<u>Part No.</u>	<u>Description</u>		<u>Remarks</u>		<u>Ref. No.</u>	<u>Part No.</u>	<u>Description</u>		<u>Remarks</u>		
C407	1-124-589-11	ELECT	47uF	20%	16V	C549	1-126-157-11	ELECT	10uF	20%	16V	
C411	1-126-157-11	ELECT	10uF	20%	16V	C550	1-163-141-00	CERAMIC CHIP	0.001uF	5%	50V	
C412	1-126-163-11	ELECT	4.7uF	20%	50V	C551	1-126-157-11	ELECT	10uF	20%	16V	
C414	1-126-157-11	ELECT	10uF	20%	16V	C552	1-126-160-11	ELECT	1uF	20%	50V	
C430	1-135-149-21	TANTALUM CHIP	2.2uF	20%	10V	C553	1-162-638-11	CERAMIC CHIP	1uF		16V	
C450	1-124-257-00	ELECT	2.2uF	20%	50V	C554	1-162-637-11	CERAMIC CHIP	0.47uF		16V	
C451	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V	C555	1-163-081-00	CERAMIC CHIP	0.22uF		25V	
C501	1-163-038-00	CERAMIC CHIP	0.1uF		25V	C556	1-163-010-11	CERAMIC CHIP	0.0012uF	10%	50V	
C502	1-164-232-11	CERAMIC CHIP	0.01uF		50V	C557	1-163-017-00	CERAMIC CHIP	0.0047uF	5%	50V	
C503	1-124-431-00	ELECT	33uF	20%	4V	C558	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V	
C505	1-163-078-11	CERAMIC CHIP	0.033uF	10%	25V	C559	1-124-584-00	ELECT	100uF	20%	10V	
C506	1-164-232-11	CERAMIC CHIP	0.01uF		50V	C561	1-163-038-00	CERAMIC CHIP	0.1uF		25V	
C507	1-135-070-00	TANTALUM CHIP	0.1uF	10%	35V	C562	1-162-638-11	CERAMIC CHIP	1uF		16V	
C508	1-163-038-00	CERAMIC CHIP	0.1uF		25V	C601	1-163-038-00	CERAMIC CHIP	0.1uF		25V	
C509	1-124-431-00	ELECT	33uF	20%	4V	C604	1-163-038-00	CERAMIC CHIP	0.1uF		25V	
C510	1-163-038-00	CERAMIC CHIP	0.1uF		25V	C605	1-162-638-11	CERAMIC CHIP	1uF		16V	
C511	1-164-232-11	CERAMIC CHIP	0.01uF		50V	C606	1-163-117-00	CERAMIC CHIP	100PF	5%	50V	
C512	1-124-584-00	ELECT	100uF	20%	10V	C607	1-163-037-11	CERAMIC CHIP	0.022uF	10%	25V	
C513	1-124-431-00	ELECT	33uF	20%	4V	C608	1-163-117-00	CERAMIC CHIP	100PF	5%	50V	
C514	1-163-095-00	CERAMIC CHIP	12PF	5%	50V	C609	1-163-117-00	CERAMIC CHIP	100PF	5%	50V	
C515	1-163-117-00	CERAMIC CHIP	100PF	5%	50V	C803	1-124-257-00	ELECT	2.2uF	20%	50V	
C516	1-163-038-00	CERAMIC CHIP	0.1uF		25V	C804	1-124-257-00	ELECT	2.2uF	20%	50V	
C517	1-163-038-00	CERAMIC CHIP	0.1uF		25V	C807	1-164-232-11	CERAMIC CHIP	0.01uF		50V	
C518	1-164-232-11	CERAMIC CHIP	0.01uF		50V	C808	1-162-638-11	CERAMIC CHIP	1uF		16V	
C519	1-163-038-00	CERAMIC CHIP	0.1uF		25V	C809	1-124-465-00	ELECT	0.47uF	20%	50V	
C520	1-163-037-11	CERAMIC CHIP	0.022uF	10%	25V	C810	1-162-638-11	CERAMIC CHIP	1uF		16V	
C521	1-163-117-00	CERAMIC CHIP	100PF	5%	50V	C811	1-163-038-00	CERAMIC CHIP	0.1uF		25V	
C522	1-124-239-00	ELECT	6.9uF	20%	10V	C812	1-164-222-11	CERAMIC CHIP	0.22uF		25V	
C523	1-124-239-00	ELECT	6.9uF	20%	10V	C813	1-126-153-11	ELECT	22uF	20%	6.3V	
C524	1-124-638-11	ELECT	22uF	20%	10V	C814	1-164-346-11	CERAMIC CHIP	1uF		16V	
C525	1-163-038-00	CERAMIC CHIP	0.1uF		25V	C815	1-126-163-11	ELECT	4.7uF	20%	50V	
C526	1-163-117-00	CERAMIC CHIP	100PF	5%	50V	< CONNECTOR >						
C527	1-164-222-11	CERAMIC CHIP	0.22uF		25V	CN501	1-566-976-11	SOCKET, CONNECTOR 12P				
C528	1-124-638-11	ELECT	22uF	20%	10V	CN502	1-565-309-21	CONNECTOR, FLEXIBLE 4P				
C529	1-163-125-00	CERAMIC CHIP	220PF	5%	50V	CNJ401	1-580-428-11	JACK, DC (DC IN 9V)				
C531	1-163-038-00	CERAMIC CHIP	0.1uF		25V	< DIODE >						
C532	1-163-038-00	CERAMIC CHIP	0.1uF		25V	D301	8-719-404-46	DIODE	MA110			
C533	1-162-638-11	CERAMIC CHIP	1uF		16V	D401	8-719-975-33	DIODE	RB110C			
C534	1-163-038-00	CERAMIC CHIP	0.1uF		25V	D402	8-719-106-22	DIODE	RD7.5M-B1			
C535	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V	D404	8-719-400-18	DIODE	MA152WK			
C536	1-163-989-11	CERAMIC CHIP	0.033uF	10%	25V	D405	8-719-105-82	DIODE	RD5.1M-B2			
C537	1-135-145-11	TANTALUM CHIP	0.47uF	10%	35V	D409	8-719-975-40	DIODE	RB411D			
C538	1-124-434-00	ELECT	220uF	20%	4V	D501	8-719-938-72	DIODE	SB01-05CP			
C539	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V	D502	8-719-938-72	DIODE	SB01-05CP			
C540	1-162-637-11	CERAMIC CHIP	0.47uF		16V	D503	8-719-938-72	DIODE	SB01-05CP			
C543	1-135-148-21	TANTAL. CHIP	1.5uF	10%	16V	D504	8-719-106-52	DIODE	RD10M-B1			
C544	1-135-159-21	TANTALUM CHIP	10uF	10%	20V							
C546	1-163-986-00	CERAMIC CHIP	0.027uF	10%	25V							
C547	1-162-638-11	CERAMIC CHIP	1uF		16V							
C548	1-126-162-11	ELECT	3.3uF	20%	50V							

MAIN

<u>Ref. No.</u>	<u>Part No.</u>	<u>Description</u>	<u>Remarks</u>	<u>Ref. No.</u>	<u>Part No.</u>	<u>Description</u>	<u>Remarks</u>				
< DIODE >											
D505	8-719-400-18	DIODE	MA152WK	Q101	8-729-921-72	TRANSISTOR	2SD1781K-R				
D507	8-719-400-18	DIODE	MA152WK	Q102	8-729-921-72	TRANSISTOR	2SD1781K-R				
D601	8-719-400-18	DIODE	MA152WK	Q103	8-729-902-XX	TRANSISTOR	DTC114TK-T146				
D801	8-719-951-22	DIODE	IMN10	Q201	8-729-921-72	TRANSISTOR	2SD1781K-R				
D804	8-719-400-18	DIODE	MA152WK	Q202	8-729-921-72	TRANSISTOR	2SD1781K-R				
D805	8-719-400-18	DIODE	MA152WK	Q203	8-729-902-XX	TRANSISTOR	DTC114TK-T146				
D806	8-719-938-72	DIODE	SB01-05CP	Q301	8-729-907-39	TRANSISTOR	IMD2				
< IC >											
IC301	8-759-054-11	IC	SM5870AS	Q409	8-729-216-22	TRANSISTOR	2SA1162				
IC303	8-759-710-55	IC	NJM2100M	Q410	8-729-904-87	TRANSISTOR	2SB1197K-R				
IC304	8-759-991-27	IC	BA3570F	Q412	8-729-921-72	TRANSISTOR	2SD1781K-R				
IC305	8-759-031-84	IC	SC7S04F	Q413	8-729-806-75	TRANSISTOR	2SB1120				
IC501	8-752-033-55	IC	CXA1271Q	Q414	8-729-903-10	TRANSISTOR	FNW1				
IC502	8-752-055-25	IC	CXA1272Q-Z	Q423	8-729-901-04	TRANSISTOR	DTA114EK				
IC503	8-759-970-89	IC	BA10358F	Q424	8-729-903-10	TRANSISTOR	FNW1				
IC504	8-759-030-17	IC	MPC1715	Q425	8-729-900-53	TRANSISTOR	DTC114EK				
IC505	8-759-031-84	IC	SC7S04F	Q426	8-729-921-72	TRANSISTOR	2SD1781K-R				
IC601	8-752-341-93	IC	CXD1167Q	Q451	8-729-922-34	TRANSISTOR	2SD1758F5-QR				
IC801	8-752-836-95	IC	CXP5084-647Q	Q453	8-729-140-75	TRANSISTOR	2SD999-CLK				
IC802	8-759-982-73	IC	BA10393F	Q501	8-729-216-22	TRANSISTOR	2SA1162				
< JACK >											
J301	1-580-709-11	JACK (LINE OUT)		Q502	8-729-921-72	TRANSISTOR	2SD1781K-R				
J302	1-580-709-21	JACK (HEADPHONES)		Q503	8-729-902-XX	TRANSISTOR	DTC114TK-T146				
< JUMPER RESISTOR >											
JR401	1-216-295-00	METAL CHIP	0	5%	1/10W	Q504	8-729-120-28	TRANSISTOR	2SC1623-L5L6		
JR402	1-216-295-00	METAL CHIP	0	5%	1/10W	Q506	8-729-903-29	TRANSISTOR	DTA144TK		
JR403	1-216-295-00	METAL CHIP	0	5%	1/10W	Q507	8-729-903-30	TRANSISTOR	DTC144TK		
JR404	1-216-295-00	METAL CHIP	0	5%	1/10W	Q801	8-729-901-05	TRANSISTOR	DTA124EK		
JR405	1-216-295-00	METAL CHIP	0	5%	1/10W	Q802	8-729-921-72	TRANSISTOR	2SD1781K-R		
< COIL >											
L301	1-410-997-31	INDUCTOR CHIP	2.2uH	Q803	8-729-901-04	TRANSISTOR	DTA114EK				
L302	1-410-997-31	INDUCTOR CHIP	2.2uH	Q805	8-729-900-53	TRANSISTOR	DTC114EK				
L303	1-410-997-31	INDUCTOR CHIP	2.2uH	Q806	8-729-901-02	TRANSISTOR	DTC124XK				
L402	1-412-032-11	INDUCTOR CHIP	100uH	Q807	8-729-216-22	TRANSISTOR	2SA1162				
L403	1-412-031-11	INDUCTOR CHIP	47uH	Q808	8-729-903-30	TRANSISTOR	DTC144TK				
L501	1-412-029-11	INDUCTOR CHIP	10uH	Q809	8-729-921-11	TRANSISTOR	IMB1				
L502	1-408-421-00	INDUCTOR	100uH	< RESISTOR >							
L503	1-412-032-11	INDUCTOR CHIP	100uH	R101	1-216-679-11	METAL CHIP	15K	0.5%	1/10W		
L504	1-412-032-11	INDUCTOR CHIP	100uH	R102	1-216-679-11	METAL CHIP	15K	0.5%	1/10W		
L505	1-408-421-00	INDUCTOR	100uH	R103	1-216-677-11	METAL CHIP	12K	0.5%	1/10W		
L506	1-412-029-11	INDUCTOR CHIP	10uH	R104	1-216-677-11	METAL CHIP	12K	0.5%	1/10W		
L606	1-410-997-31	INDUCTOR CHIP	2.2uH	R105	1-216-687-11	METAL CHIP	33K	0.5%	1/10W		
< LIQUID CRYSTAL DISPLAY >											
LCD1	1-809-406-11	DISPLAY PANEL, LIQUID CRYSTAL		R106	1-216-089-00	METAL CHIP	47K	5%	1/10W		
				R107	1-216-655-11	METAL CHIP	1.5K	0.5%	1/10W		
				R108	1-216-638-11	METAL CHIP	300	0.5%	1/10W		
				R109	1-216-071-00	METAL CHIP	8.2K	5%	1/10W		
				R110	1-216-057-00	METAL CHIP	2.2K	5%	1/10W		
				R111	1-216-057-00	METAL CHIP	2.2K	5%	1/10W		
				R112	1-216-073-00	METAL CHIP	10K	5%	1/10W		
				R113	1-216-009-00	METAL CHIP	22	5%	1/10W		
				R114	1-216-675-11	METAL CHIP	10K	0.5%	1/10W		
				R115	1-216-675-11	METAL CHIP	10K	0.5%	1/10W		

MAIN

<u>Ref. No.</u>	<u>Part No.</u>	<u>Description</u>			<u>Remarks</u>	<u>Ref. No.</u>	<u>Part No.</u>	<u>Description</u>			<u>Remarks</u>
R116	1-216-687-11 METAL CHIP	33K	0.5%	1/10W		R436	1-216-025-00 METAL CHIP	100	5%	1/10W	
R117	1-216-647-11 METAL CHIP	680	0.5%	1/10W		R437	1-216-686-11 METAL CHIP	30K	0.5%	1/10W	
R118	1-216-121-00 METAL CHIP	1M	5%	1/10W		R438	1-216-053-00 METAL CHIP	1.5K	5%	1/10W	
R120	1-216-081-00 METAL CHIP	22K	5%	1/10W		R439	1-216-694-11 METAL CHIP	62K	0.5%	1/10W	
R122	1-216-073-00 METAL CHIP	10K	5%	1/10W		R440	1-216-049-00 METAL CHIP	1K	5%	1/10W	
R123	1-216-097-00 METAL CHIP	100K	5%	1/10W		R441	1-216-089-00 METAL CHIP	47K	5%	1/10W	
R201	1-216-679-11 METAL CHIP	15K	0.5%	1/10W		R446	1-216-009-00 METAL CHIP	22	5%	1/10W	
R202	1-216-679-11 METAL CHIP	15K	0.5%	1/10W		R448	1-216-041-00 METAL CHIP	470	5%	1/10W	
R203	1-216-677-11 METAL CHIP	12K	0.5%	1/10W		R480	1-216-174-00 METAL GLAZE	100	5%	1/8W	
R204	1-216-677-11 METAL CHIP	12K	0.5%	1/10W		R481	1-216-174-00 METAL GLAZE	100	5%	1/8W	
R205	1-216-687-11 METAL CHIP	33K	0.5%	1/10W		R501	1-216-029-00 METAL CHIP	150	5%	1/10W	
R206	1-216-089-00 METAL CHIP	47K	5%	1/10W		R502	1-216-069-00 METAL CHIP	6.8K	5%	1/10W	
R207	1-216-655-11 METAL CHIP	1.5K	0.5%	1/10W		R503	1-216-049-00 METAL CHIP	1K	5%	1/10W	
R208	1-216-638-11 METAL CHIP	300	0.5%	1/10W		R504	1-216-073-00 METAL CHIP	10K	5%	1/10W	
R209	1-216-071-00 METAL CHIP	8.2K	5%	1/10W		R505	1-216-105-00 METAL CHIP	220K	5%	1/10W	
R210	1-216-057-00 METAL CHIP	2.2K	5%	1/10W		R506	1-216-081-00 METAL CHIP	22K	5%	1/10W	
R211	1-216-057-00 METAL CHIP	2.2K	5%	1/10W		R508	1-216-069-00 METAL CHIP	6.8K	5%	1/10W	
R212	1-216-073-00 METAL CHIP	10K	5%	1/10W		R509	1-216-077-00 METAL CHIP	15K	5%	1/10W	
R213	1-216-009-00 METAL CHIP	22	5%	1/10W		R510	1-216-073-00 METAL CHIP	10K	5%	1/10W	
R214	1-216-675-11 METAL CHIP	10K	0.5%	1/10W		R511	1-216-150-00 METAL GLAZE	10	5%	1/8W	
R215	1-216-675-11 METAL CHIP	10K	0.5%	1/10W		R512	1-216-085-00 METAL CHIP	33K	5%	1/10W	
R216	1-216-687-11 METAL CHIP	33K	0.5%	1/10W		R513	1-216-073-00 METAL CHIP	10K	5%	1/10W	
R217	1-216-647-11 METAL CHIP	680	0.5%	1/10W		R514	1-216-073-00 METAL CHIP	10K	5%	1/10W	
R218	1-216-121-00 METAL CHIP	1M	5%	1/10W		R515	1-216-097-00 METAL CHIP	100K	5%	1/10W	
R220	1-216-081-00 METAL CHIP	22K	5%	1/10W		R516	1-216-129-00 METAL CHIP	2.2M	5%	1/10W	
R222	1-216-073-00 METAL CHIP	10K	5%	1/10W		R517	1-216-093-00 METAL CHIP	68K	5%	1/10W	
R223	1-216-097-00 METAL CHIP	100K	5%	1/10W		R518	1-216-097-00 METAL CHIP	100K	5%	1/10W	
R301	1-216-121-00 METAL CHIP	1M	5%	1/10W		R519	1-216-115-00 METAL CHIP	560K	5%	1/10W	
R303	1-216-667-11 METAL CHIP	4.7K	0.5%	1/10W		R520	1-216-085-00 METAL CHIP	33K	5%	1/10W	
R304	1-216-667-11 METAL CHIP	4.7K	0.5%	1/10W		R521	1-216-095-00 METAL CHIP	82K	5%	1/10W	
R305	1-216-065-00 METAL CHIP	4.7K	5%	1/10W		R522	1-216-081-00 METAL CHIP	22K	5%	1/10W	
R306	1-216-051-00 METAL CHIP	1.2K	5%	1/10W		R523	1-216-059-00 METAL CHIP	2.7K	5%	1/10W	
R307	1-216-121-00 METAL CHIP	1M	5%	1/10W		R524	1-216-089-00 METAL CHIP	47K	5%	1/10W	
R308	1-216-007-00 METAL CHIP	18	5%	1/10W		R525	1-216-097-00 METAL CHIP	100K	5%	1/10W	
R330	1-216-298-00 METAL CHIP	2.2	5%	1/10W		R526	1-216-114-00 METAL GLAZE	510K	5%	1/10W	
R419	1-216-045-00 METAL CHIP	680	5%	1/10W		R528	1-216-077-00 METAL CHIP	15K	5%	1/10W	
R420	1-216-041-00 METAL CHIP	470	5%	1/10W		R529	1-216-686-11 METAL CHIP	30K	0.5%	1/10W	
R421	1-216-089-00 METAL CHIP	47K	5%	1/10W		R530	1-216-686-11 METAL CHIP	30K	0.5%	1/10W	
R422	1-216-069-00 METAL CHIP	6.8K	5%	1/10W		R531	1-216-059-00 METAL CHIP	2.7K	5%	1/10W	
R423	1-216-045-00 METAL CHIP	680	5%	1/10W		R532	1-216-103-00 METAL CHIP	180K	5%	1/10W	
R424	1-216-081-00 METAL CHIP	22K	5%	1/10W		R533	1-216-062-00 METAL CHIP	3.6K	5%	1/10W	
R425	1-216-049-00 METAL CHIP	1K	5%	1/10W		R534	1-216-121-00 METAL CHIP	1M	5%	1/10W	
R426	1-216-033-00 METAL CHIP	220	5%	1/10W		R536	1-216-099-00 METAL CHIP	120K	5%	1/10W	
R427	1-216-659-11 METAL CHIP	2.2K	0.5%	1/10W		R537	1-216-083-00 METAL CHIP	27K	5%	1/10W	
R428	1-216-663-11 METAL CHIP	3.3K	0.5%	1/10W		R538	1-216-094-00 METAL GLAZE	75K	5%	1/10W	
R429	1-216-697-11 METAL CHIP	82K	0.5%	1/10W		R539	1-216-094-00 METAL GLAZE	75K	5%	1/10W	
R430	1-216-663-11 METAL CHIP	3.3K	0.5%	1/10W		R540	1-216-086-00 METAL GLAZE	36K	5%	1/10W	
R431	1-216-073-00 METAL CHIP	10K	5%	1/10W		R543	1-216-302-00 METAL CHIP	2.7	5%	1/10W	
R432	1-216-073-00 METAL CHIP	10K	5%	1/10W		R544	1-216-240-00 METAL GLAZE	56K	5%	1/8W	
R433	1-216-097-00 METAL CHIP	100K	5%	1/10W		R545	1-216-113-00 METAL CHIP	470K	5%	1/10W	

MAIN

Ref. No.	Part No.	Description			Remarks	Ref. No.	Part No.	Description			Remarks	
R546	1-216-065-00	METAL CHIP	4. 7K	5%	1/10W	S805	1-572-198-11	SWITCH, KEYBOARD (STOP)				
R547	1-216-057-00	METAL CHIP	2. 2K	5%	1/10W	S806	1-572-198-11	SWITCH, KEYBOARD (◀)				
R548	1-216-057-00	METAL CHIP	2. 2K	5%	1/10W	S807	1-572-198-11	SWITCH, KEYBOARD (▶)				
R549	1-216-065-00	METAL CHIP	4. 7K	5%	1/10W	S808	1-572-198-11	SWITCH, KEYBOARD (REPEAT/ENTER)				
R550	1-216-049-00	METAL CHIP	1K	5%	1/10W	< VIBRATOR >						
R551	1-216-049-00	METAL CHIP	1K	5%	1/10W	X301	1-567-908-11	VIBRATOR, CRYSTAL				
R552	1-216-081-00	METAL CHIP	22K	5%	1/10W	X801	1-578-773-11	VIBRATOR, CERAMIC 4MHz				
R553	1-216-049-00	METAL CHIP	1K	5%	1/10W	*****						
R554	1-216-033-00	METAL CHIP	220	5%	1/10W	MISCELLANEOUS						
R555	1-216-081-00	METAL CHIP	22K	5%	1/10W	*****						
R556	1-216-075-00	METAL CHIP	12K	5%	1/10W	*****						
R557	1-216-049-00	METAL CHIP	1K	5%	1/10W	△104	8-848-217-11	DEVICE, OPTICAL KSM-220ABN(S)				
R558	1-216-073-00	METAL CHIP	10K	5%	1/10W	S901	1-570-112-11	SWITCH, LEAF (LIMIT)				
R559	1-216-065-00	METAL CHIP	4. 7K	5%	1/10W	*****						
R560	1-216-129-00	METAL CHIP	2. 2M	5%	1/10W	ACCESSORIES & PACKING MATERIALS						
R561	1-216-065-00	METAL CHIP	4. 7K	5%	1/10W	*****						
R562	1-216-097-00	METAL CHIP	100K	5%	1/10W	R563	1-216-111-00	METAL CHIP	390K	5%	1/10W	
R563	1-216-111-00	METAL CHIP	390K	5%	1/10W	R564	1-216-025-00	METAL CHIP	100	5%	1/10W	
R564	1-216-025-00	METAL CHIP	100	5%	1/10W	R565	1-216-065-00	METAL CHIP	4. 7K	5%	1/10W	
R565	1-216-065-00	METAL CHIP	4. 7K	5%	1/10W	R566	1-216-049-00	METAL CHIP	1K	5%	1/10W	
R599	1-216-083-00	METAL CHIP	27K	5%	1/10W	R601	1-216-097-00	METAL CHIP	100K	5%	1/10W	
R601	1-216-097-00	METAL CHIP	100K	5%	1/10W	R602	1-216-089-00	METAL CHIP	47K	5%	1/10W	
R602	1-216-089-00	METAL CHIP	47K	5%	1/10W	R801	1-216-089-00	METAL CHIP	47K	5%	1/10W	
R801	1-216-089-00	METAL CHIP	47K	5%	1/10W	R802	1-216-238-00	METAL GLAZE	47K	5%	1/8W	
R802	1-216-238-00	METAL GLAZE	47K	5%	1/8W	R806	1-216-089-00	METAL CHIP	47K	5%	1/10W	
R806	1-216-089-00	METAL CHIP	47K	5%	1/10W	R807	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R807	1-216-073-00	METAL CHIP	10K	5%	1/10W	R808	1-216-047-00	METAL CHIP	820	5%	1/10W	
R808	1-216-047-00	METAL CHIP	820	5%	1/10W	R809	1-216-059-00	METAL CHIP	2. 7K	5%	1/10W	
R809	1-216-059-00	METAL CHIP	2. 7K	5%	1/10W	R810	1-216-070-00	METAL CHIP	7. 5K	5%	1/10W	
R810	1-216-070-00	METAL CHIP	7. 5K	5%	1/10W	R811	1-216-077-00	METAL CHIP	15K	5%	1/10W	
R811	1-216-077-00	METAL CHIP	15K	5%	1/10W	R812	1-216-077-00	METAL CHIP	15K	5%	1/10W	
R812	1-216-077-00	METAL CHIP	15K	5%	1/10W	R813	1-216-077-00	METAL CHIP	15K	5%	1/10W	
R813	1-216-077-00	METAL CHIP	15K	5%	1/10W	R818	1-216-101-00	METAL CHIP	150K	5%	1/10W	
R818	1-216-101-00	METAL CHIP	150K	5%	1/10W	R821	1-216-113-00	METAL CHIP	470K	5%	1/10W	
R821	1-216-113-00	METAL CHIP	470K	5%	1/10W	< VARIABLE RESISTOR >						
RV301	1-238-072-31	RES, VAR, CABON 10K/10K (VOLUME)				*	3-752-086-01	INSTRUCTION				
RV401	1-238-599-11	RES, ADJ, CARBON 4.7K				*	3-755-305-11	MANUAL, INSTRUCTION (ENGLISH, FRENCH, SPANISH) (D34:Canadian, E)				
RV501	1-238-602-11	RES, ADJ, CARBON 47K				*	3-755-305-21	MANUAL, INSTRUCTION (ENGLISH) (D34:US, D36)				
RV502	1-238-602-11	RES, ADJ, CARBON 47K				*	4-945-326-01	CUSHION (LOWER) (D34:Canadian, E)				
RV503	1-238-601-11	RES, ADJ, CARBON 22K				*	4-947-286-01	WASHER (A)				
RV504	1-238-602-11	RES, ADJ, CARBON 47K				*	4-948-745-01	CUSHION (UPPER)				
RV505	1-238-597-11	RES, ADJ, CARBON 1K				*	4-952-358-01	CUSHION (LOWER) (D34:US, D36)				
< SWITCH >												
S402	1-571-506-41	SWITCH, SLIDE (BASS BOOST)					4-952-359-01	INDIVIDUAL CARTON (D34:Canadian, E)				
S801	1-571-276-21	SWITCH, LEAF (OPEN SW)					4-952-522-01	INDIVIDUAL CARTON (D36)				
S802	1-571-506-41	SWITCH, SLIDE (HOLD/RESUME)					4-953-559-01	INDIVIDUAL CARTON (D34:US)				
S803	1-572-198-11	SWITCH, KEYBOARD (PLAY MODE)					8-953-485-90	HEADPHONE MDR-E551//K SET (D34:E)				
S804	1-572-198-11	SWITCH, KEYBOARD (▶)					8-953-487-90	HEADPHONE MDR-14B SET (D34:US)				
< VARIABLE RESISTOR >												
8-953-521-90 HEADPHONE MDR-34D SET (D36)												
8-953-525-90 HEADPHONE MDR-E562 SET (D34:Canadian)												
Note: The components identified by mark △ or dotted line with mark △ are critical for safety. Replace only with part number specified.							Note: Les composants identifiés par une marque △ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.					

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

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

English

92H1641-1

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SONY. SERVICE MANUAL

US Model
D-34/36

Canadian Model
E Model
D-34

SUPPLEMENT-2

File this supplement with the service manual.

Subject : Australian and Saudi Arabia models added (D-34)

- Australian and Saudi Arabia models are similar to the earlier E model (D-34).
- Refer to D-34/36 SERVICE MANUAL for information not contained in this SERVICE MANUAL.

Page	Ref.No.	Part No.	Description
33	_____	1-465-665-11	ADAPTOR, AC (AC-96N (AU))(D-34 : Australian)
	_____	1-465-887-21	ADAPTOR, AC (AC-96N)(D-34 : Saudi Arabia)
	_____	1-569-007-11	ADAPTOR, CONVERSION2P (D-34 : E)
	_____	1-569-008-11	ADAPTOR, CONVERSION2P(D-34 : Saudi Arabia)
	_____	3-755-305-11	MANUAL, INSTRUCTION (ENGLISH, FRENCH, SPANISH) (D-34 : Saudi Arabia)
	_____	3-755-305-21	MANUAL, INSTRUCTION (ENGLISH) (D-34 : Australian)
	_____	*4-945-327-01	CUSHION (LOWER)
	_____	*4-955-702-01	INDIVIDUAL CARTON