

HCD-GS100

SERVICE MANUAL

US Model

Ver 1.2 2003. 10



HCD-GS100 is the Amplifier, CD player, Tape Deck and Tuner section in MHC-GS100.

CD Section	Model Name Using Similar Mechanism	NEW
	CD Mechanism Type	CDM64B-K1BD44B
	Base Unit Name	BU-K1BD44B
	Optical Pick-up Name	KSM-213BFN
TAPE Section	Model Name Using Similar Mechanism	NEW
	Tape Transport Mechanism Type	CMAL5Z2

SPECIFICATIONS

Amplifier section

U.S.A. model:

AUDIO POWER SPECIFICATIONS

POWER OUTPUT AND TOTAL HARMONIC DISTORTION:

with 6 ohms loads both channels driven, from 120 – 10,000 Hz; rated 50 watts per channel minimum RMS power, with no more than 10% total harmonic distortion from 250 milliwatts to rated output.

Continuous RMS power output

50 + 50 watts
(6 ohms at 1 kHz,
10% THD)

Total harmonic distortion

less than 0.09%
(6 ohms at 1 kHz,
30 watts)

Inputs

VIDEO (MD) (phono jacks):
voltage 250 mV/450 mV,
impedance 47 kilohms

Outputs

PHONES (stereo phone jack):
accepts headphones of
8 ohms or more

SPEAKER:

accepts impedance of 6 to
16 ohms

CD player section

System

Compact disc and digital
audio system

Laser

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

Emission duration:
continuous

Frequency response

2 Hz – 20 kHz ($\pm 0.5 \text{ dB}$)

Wavelength

780 – 790 nm

Signal-to-noise ratio

More than 90 dB

Dynamic range

More than 90 dB

Tape player section

Recording system

4-track 2-channel stereo

Frequency response

40 – 13,000 Hz ($\pm 3 \text{ dB}$),
using Sony TYPE I
cassette

Tuner section

FM stereo, FM/AM superheterodyne tuner

FM tuner section

Tuning range

87.5 – 108.0 MHz

Antenna

FM lead antenna

Antenna terminals

75 ohms unbalanced

Intermediate frequency

10.7 MHz

AM tuner section

Tuning range

530 – 1,710 kHz
(with the interval set at
10 kHz)

531 – 1,710 kHz
(with the interval set at
9 kHz)

Antenna

AM loop antenna

Antenna terminals

External antenna terminal

Intermediate frequency

450 kHz

Speaker

Speaker system

3-way, bass-reflex type

Speaker units

Woofer:

13 cm, cone type

Tweeter:

5 cm, cone type

Super Tweeter:

2 cm, dome type

Nominal impedance

6 ohms

Dimensions (w/h/d)

Approx. 210 × 325 ×
241 mm

Mass

Approx. 2.8 kg net per
speaker

— Continued on next page —

COMPACT DISC DECK RECEIVER

9-873-554-03

2003J16-1

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Sony Corporation

Home Audio Company

Published by Sony Engineering Corporation

SONY®

General

Power requirements: 120 V AC, 60 Hz

Power consumption: 100 watts

Dimensions (w/h/d) incl. projecting parts and controls:

Approx. 280 × 325 × 465 mm

Mass : Approx. 8.8 kg

Supplied accessories: Remote commander (1)
Batteries (2)
AM loop antenna (1)
FM lead antenna (1)

Design and specifications are subject to change without notice.

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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.

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.

SAFETY CHECK-OUT

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

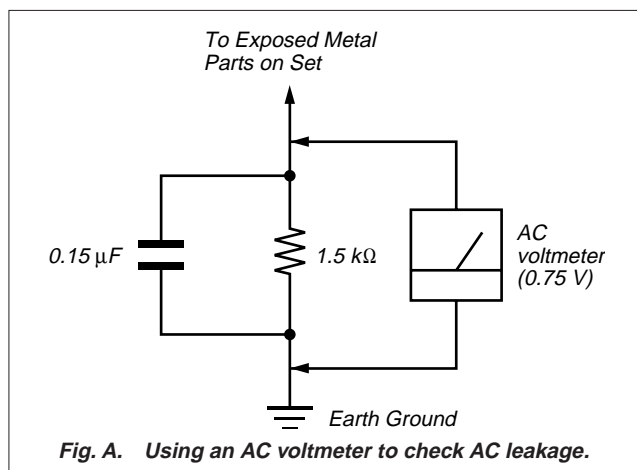
Check the antenna terminals, metal trim, “metallized” knobs, screws, and all other exposed metal parts for AC leakage.

Check leakage as described below.

LEAKAGE TEST

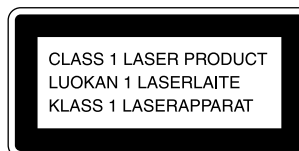
The AC leakage from any exposed metal part to earth ground and from all exposed metal parts to any exposed metal part having a return to chassis, must not exceed 0.5 mA (500 microamperes.). Leakage current can be measured by any one of three methods.

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

**CAUTION**

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

This appliance is classified as a CLASS 1 LASER product. The CLASS 1 LASER PRODUCT MARKING is located on the rear exterior.



Laser component in this product is capable of emitting radiation exceeding the limit for Class 1.

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

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

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

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

NOTES ON LASER DIODE EMISSION CHECK

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

LASER DIODE AND FOCUS SEARCH OPERATION CHECK

Carry out the “S curve check” in “CD section adjustment” and check that the S curve waveforms is output three times.

SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY MARK \triangle OR DOTTED LINE WITH MARK \triangle 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.

SECTION 1

SERVICING NOTES






CD-TEXT TEST DISC

This unit is able to display the test data (character information) written in the CD on its fluorescent indicator tube.

The CD-TEXT TEST DISC (TGCS-313: J-2501-126-A) is used for checking the display.

To check, perform the following procedure.

Checking Method:

1. Press the  button to turn the power on, set the disc to the disc table with the “test disc” label facing right, and chuck the disc.
2. Press the  button to set CD function, and press the  button to playback the disc.
3. The following will be displayed on the liquid crystal display.
Display : 1KHZ/0dB/L R
4. Pressing the  or  button, select the track. The text data of each track will be displayed.
For details of the displayed contents for each track, refer to “Table 1: CD-TEXT TEST DISC TEXT Data Contents”.

Restrictions in CD-TEXT Display

In this unit, some special characters will not be displayed properly. These will be displayed as a space or a character resembling it.

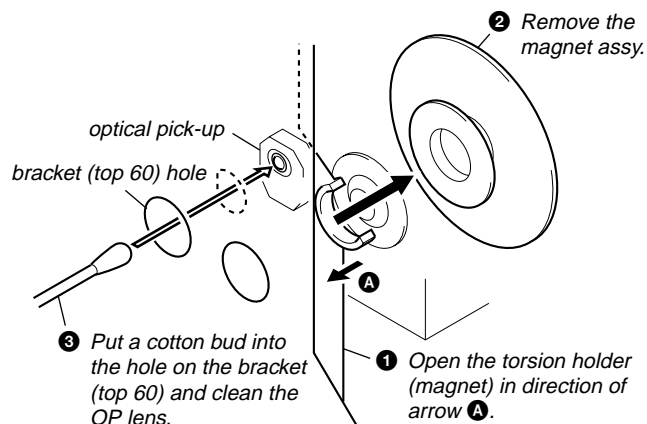
Table 1: CD-TEXT TEST DISC TEXT Data Contents (TRACKS No. 1 to 20: Normal Characters)

TRACK No.	Displayed Contents
1	1kHz/0dB/L&R
2	20Hz/0dB/L&R
3	40Hz/0dB/L&R
4	100Hz/0dB/L&R
5	200Hz/0dB/L&R
6	500Hz/0dB/L&R
7	1kHz/0dB/L&R
8	5kHz/0dB/L&R
9	7kHz/0dB/L&R
10	10kHz/0dB/L&R
11	16kHz/0dB/L&R
12	18kHz/0dB/L&R
13	20kHz/0dB/L&R
14	1kHz/0dB/L&R
15	1kHz/−1dB/L&R
16	1kHz/−3dB/L&R
17	1kHz/−6dB/L&R
18	1kHz/−10dB/L&R
19	1kHz/−20dB/L&R
20	1kHz/−60dB/L&R

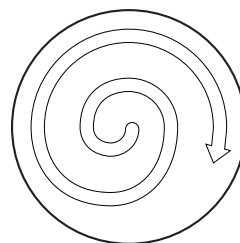
Note: Track No. 21 to 99 are not displayed.

CLEANING OBJECTIVE LENS OF OPTICAL PICK-UP

- In cleaning the objective lens of optical pick-up, be sure the following below.



- Note 1.** In cleaning the lens, do not apply an excessive force. As the optical pick-up is vulnerable, application of excessive force could damage the lens holder.
- Note 2.** In cleaning, do not use a cleaner other than exclusive cleaning liquid (KK-91 or isopropyl alcohol).
- Note 3.** Wipe the objective lens spirally from center toward outside. (See Figure A)



(Figure A)

SECTION 2 GENERAL

This section is extracted
from instruction manual.

List of Button Locations and Reference Pages

Main unit

ALPHABETICAL ORDER

A - Q

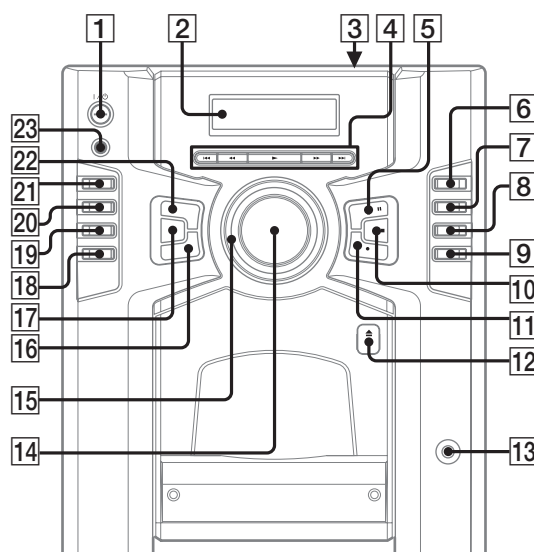
CD [21]
CLEAR [16]
DISC SELECT [15]
DISPLAY [23]
Display window [2]
ENTER [17]
MENU [22]
PAUSE [5]
PHONES jack [13]
PLAY MODE [8]
PRESET +/- [4]

R - Z

REC ● PAUSE/START [11]
REPEAT/FM MODE [9]
STOP [10]
TAPE [19]
Tape deck [3]
TIMER SELECT [7]
TIMER SET [6]
TUNER/BAND [20]
TUNING +/- [4]
VIDEO (MD) [18]
VOLUME [14]

BUTTON DESCRIPTIONS

I/⏻ (power) [1]
◀◀ (rewind) [4]
▶▶ (play) [4]
▶▶▶ (fast forward) [4]
◀◀◀ (go back) [4]
▶▶▶▶ (go forward) [4]
▲ PUSH (front cover) [12]
▲ PUSH (tape deck) [3]



Remote Control

ALPHABETICAL ORDER

A - Q

- ALBM +/-ALBM -* 13 20
- CD 25
- CD SYNC 24
- DISC +/-DISC - 14 19
- DISPLAY 26
- ENTER 5
- GAME* 6
- GROOVE 16
- PLAY MODE 2
- PRESET +/-PRESET - 12 21
- PRESET EQ 15

R - Z

- REC 23
- REPEAT 3
- SLEEP 1
- SURROUND 18
- TAPE 7
- TUNER/BAND 8
- TUNING +/-TUNING - 11 22
- VIDEO (MD) 9
- VOL +/- 17

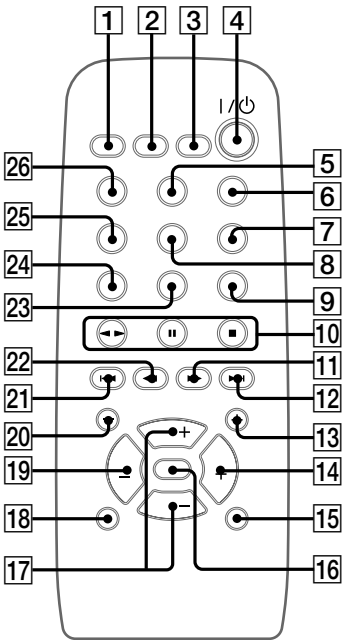
BUTTON DESCRIPTIONS

- I/⏻ (power) 4
- ◀▶ (play)** 10
- ⏸ (pause) 10
- (stop) 10
- ◀◀ (go back) 21
- ◀◀ (rewind) 22
- ▶▶ (fast forward) 11
- ▶▶ (go forward) 12

Notes for the supplied remote

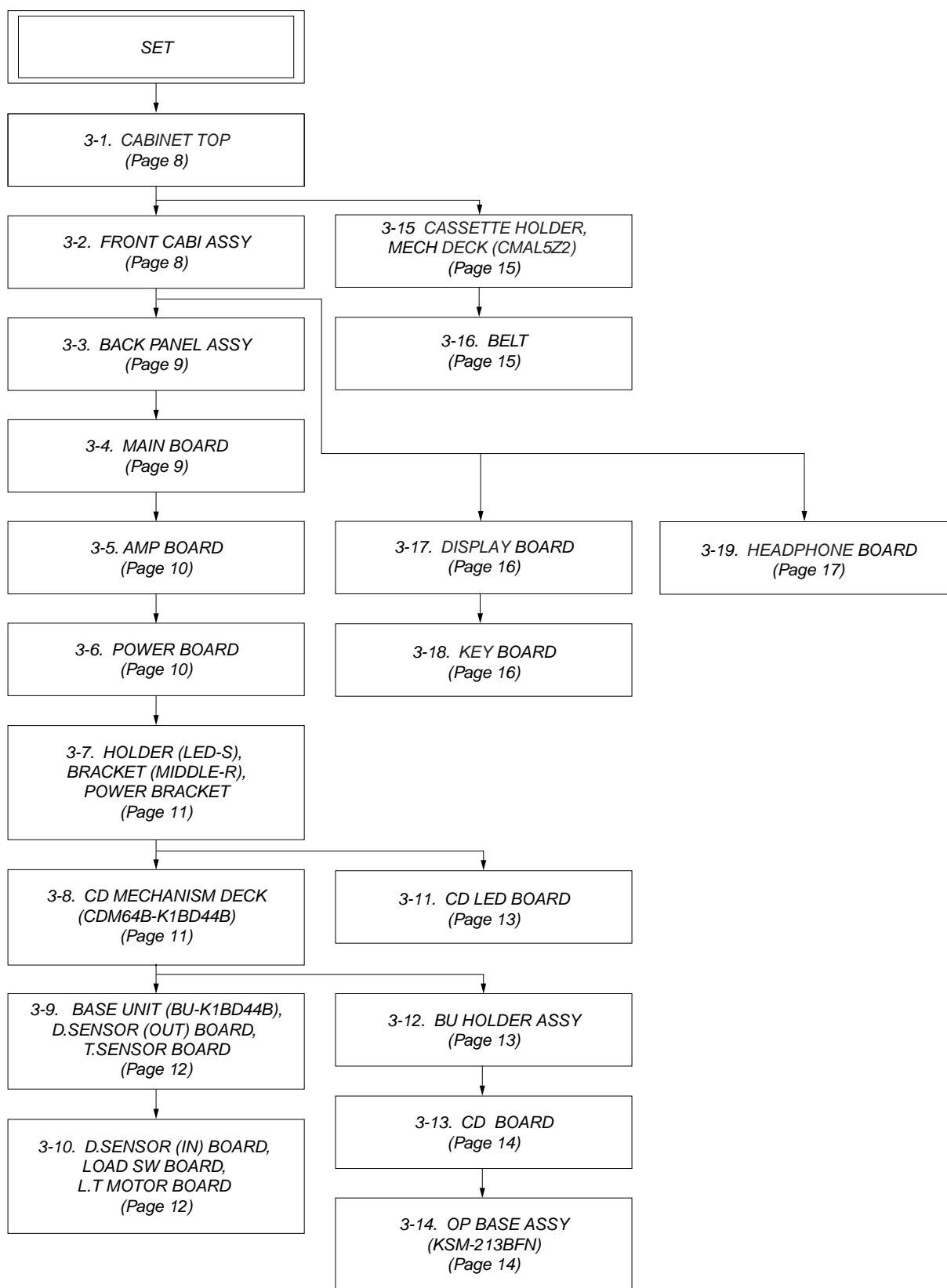
* The GAME button and the ALBM -/ALBM + buttons are not available.

**The tape deck does not play the reverse side.



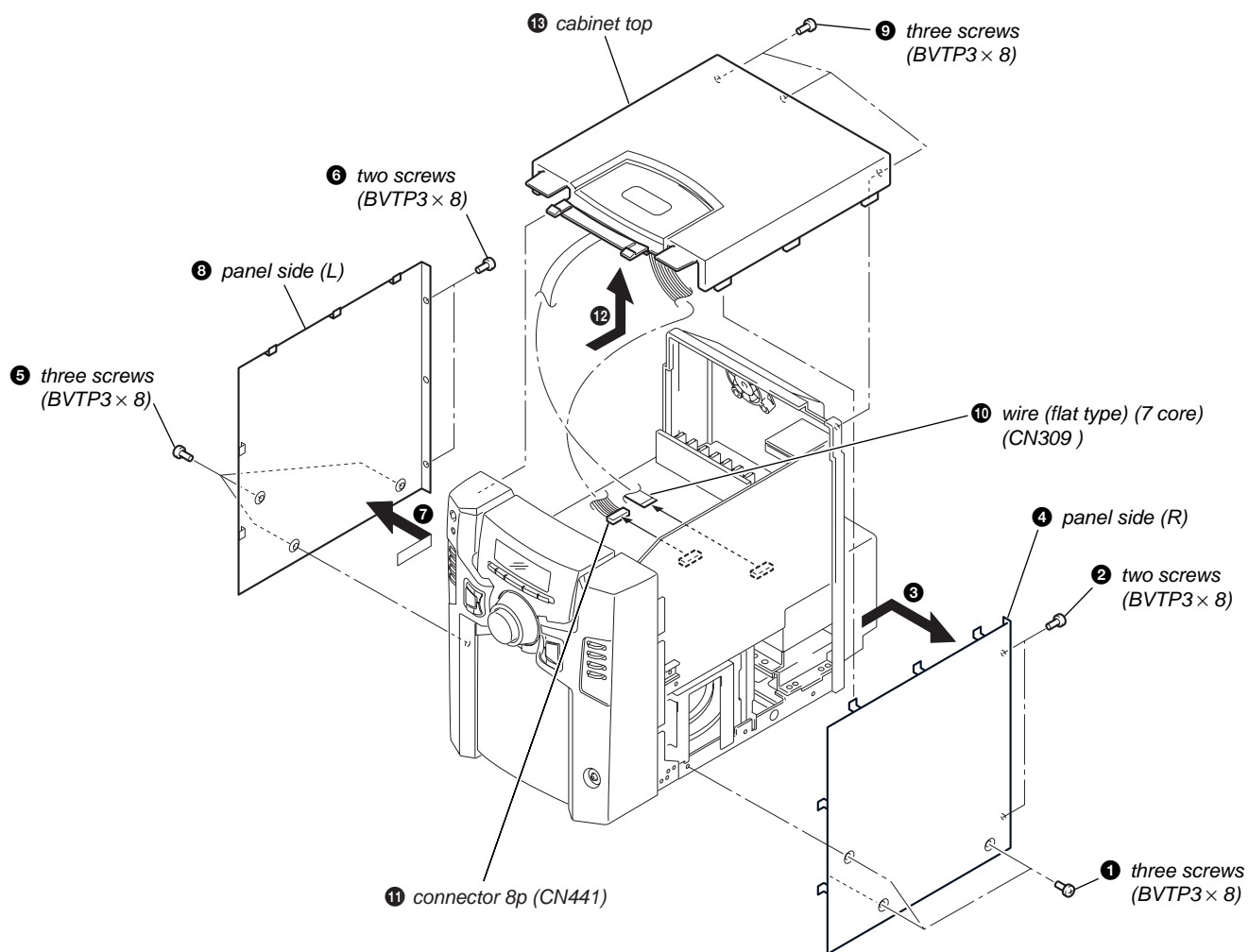
SECTION 3 DISASSEMBLY

- This set can be disassembled in the order shown below.

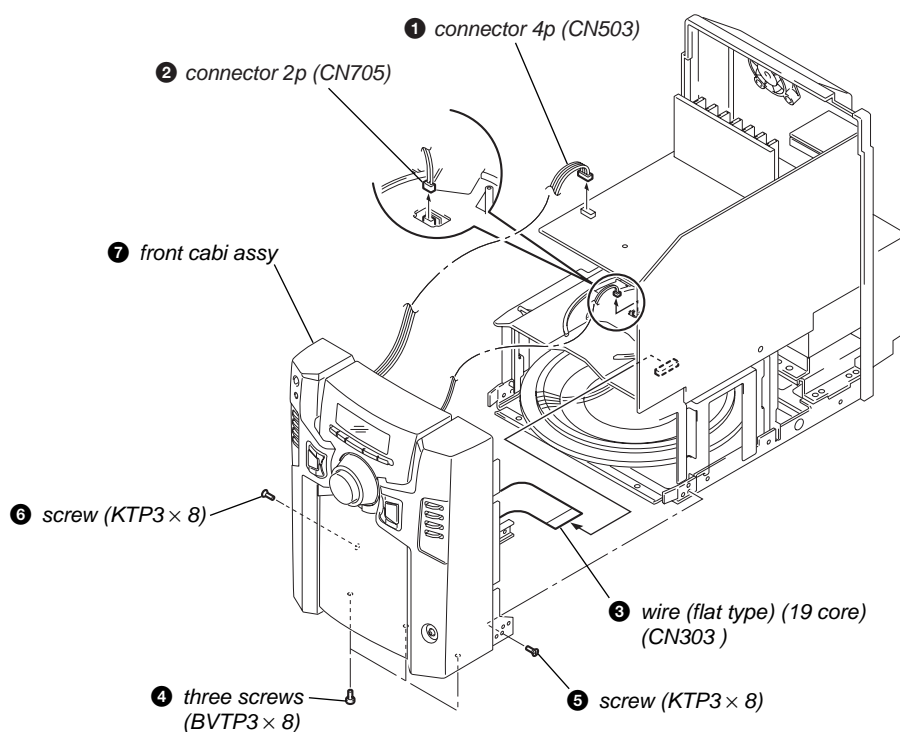


Note: Follow the disassembly procedure in the numerical order given.

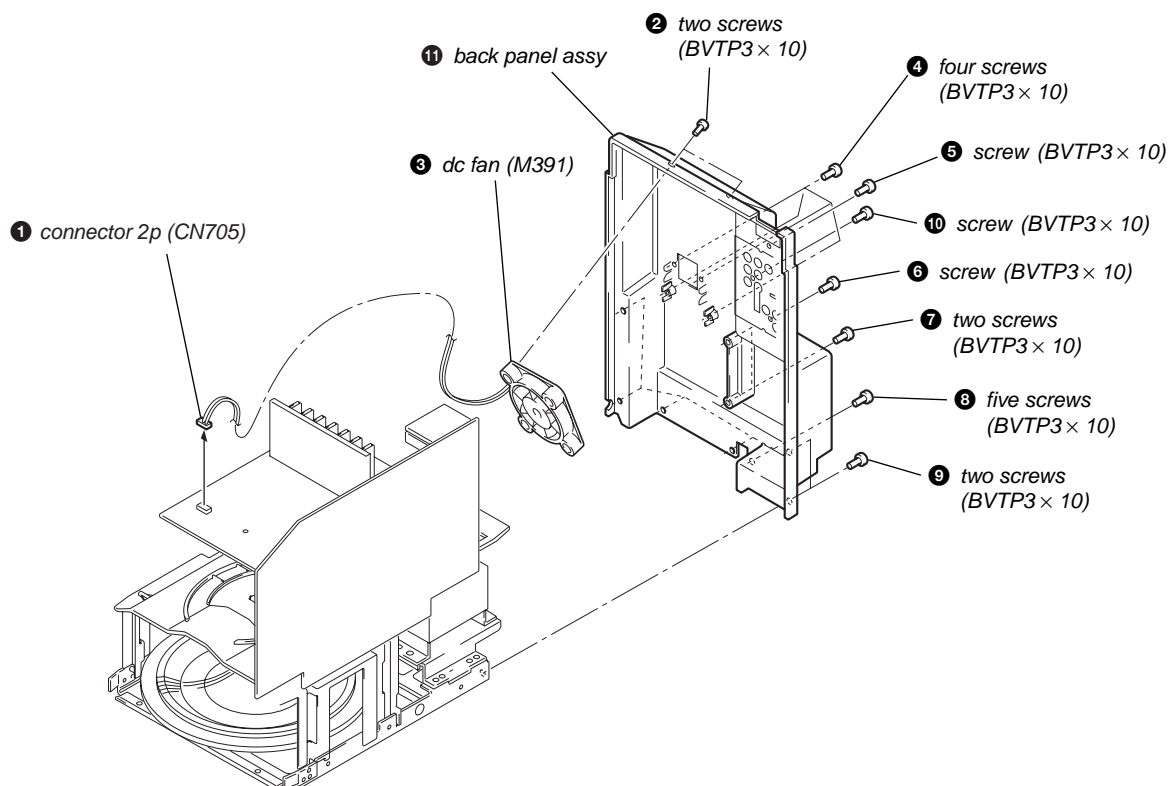
3-1. Cabinet Top



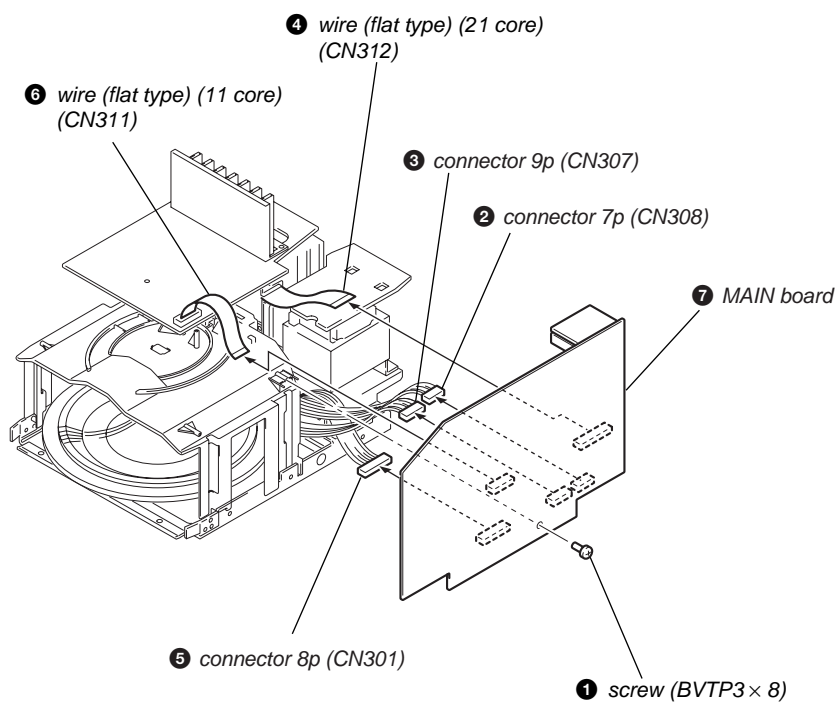
3-2. Front Cabi Assy



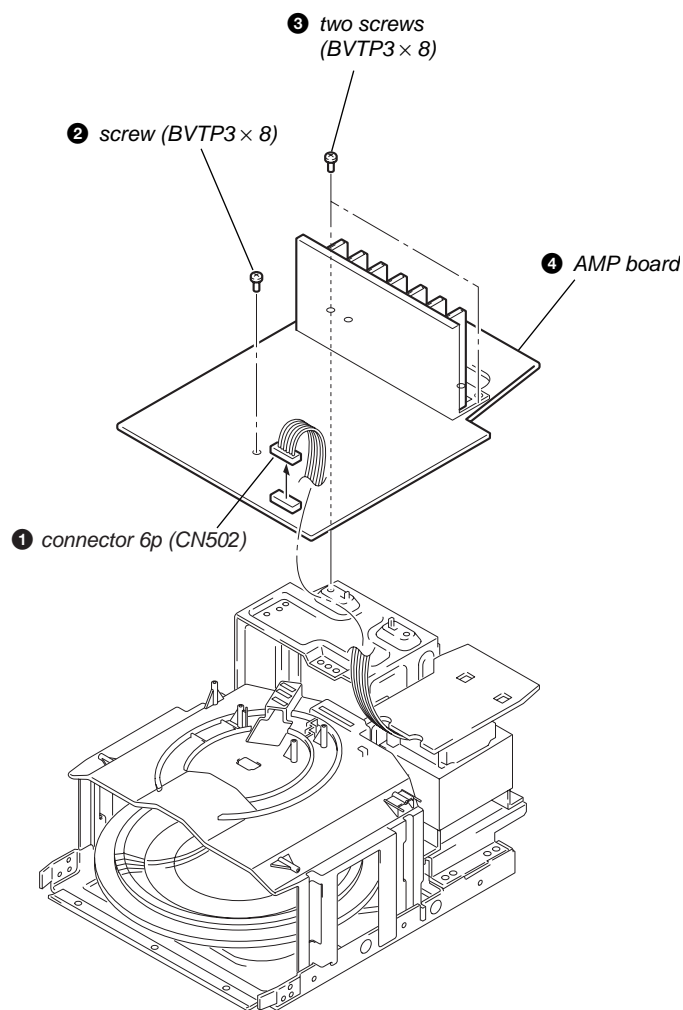
3-3. Back Panel Assy



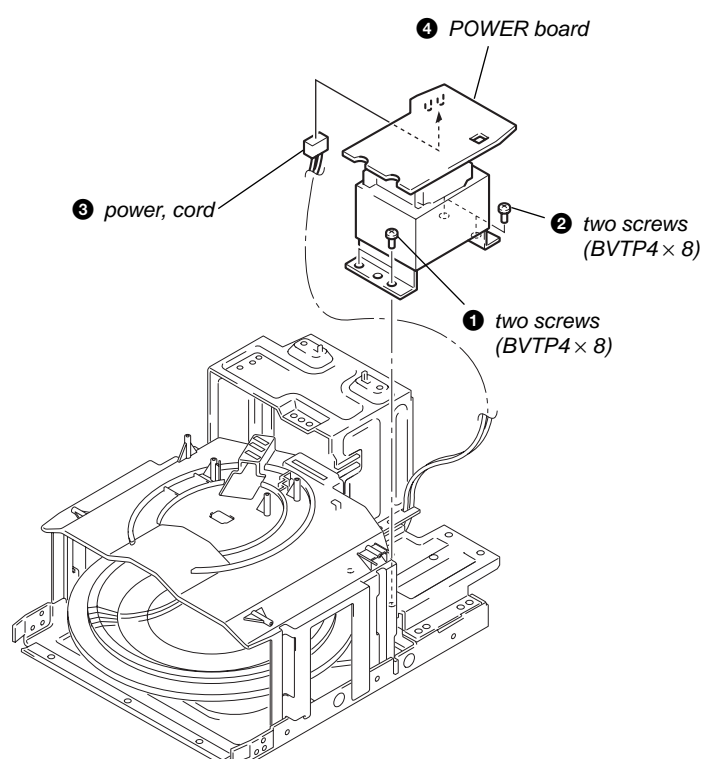
3-4. MAIN Board



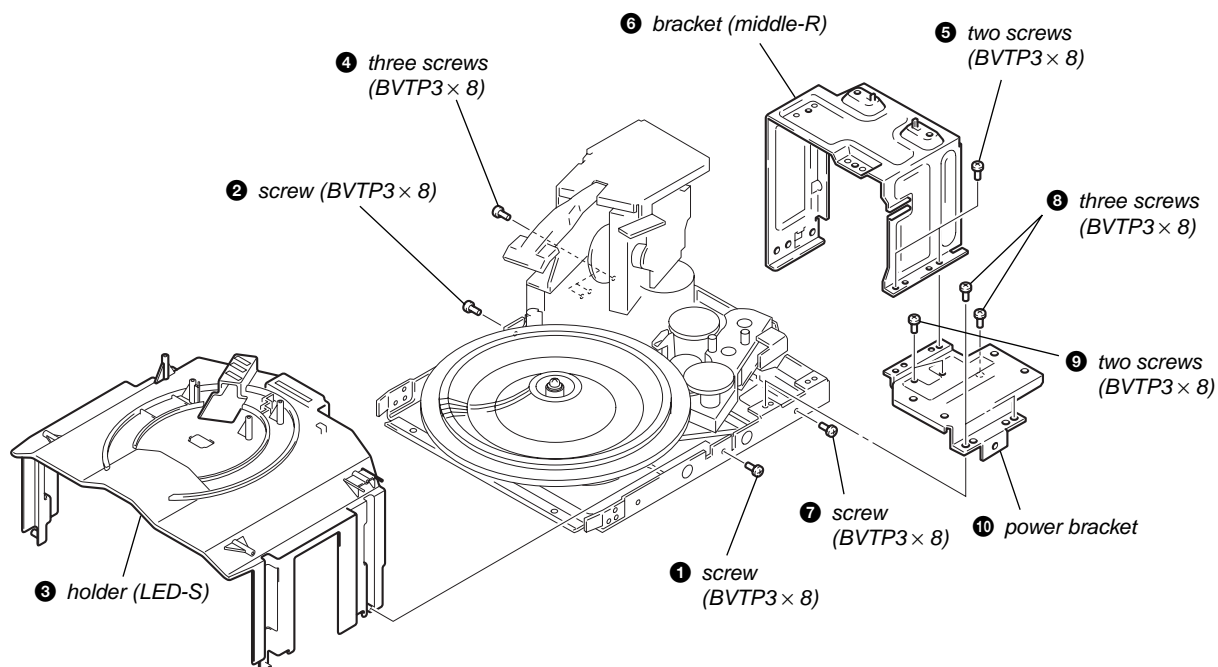
3-5. AMP Board



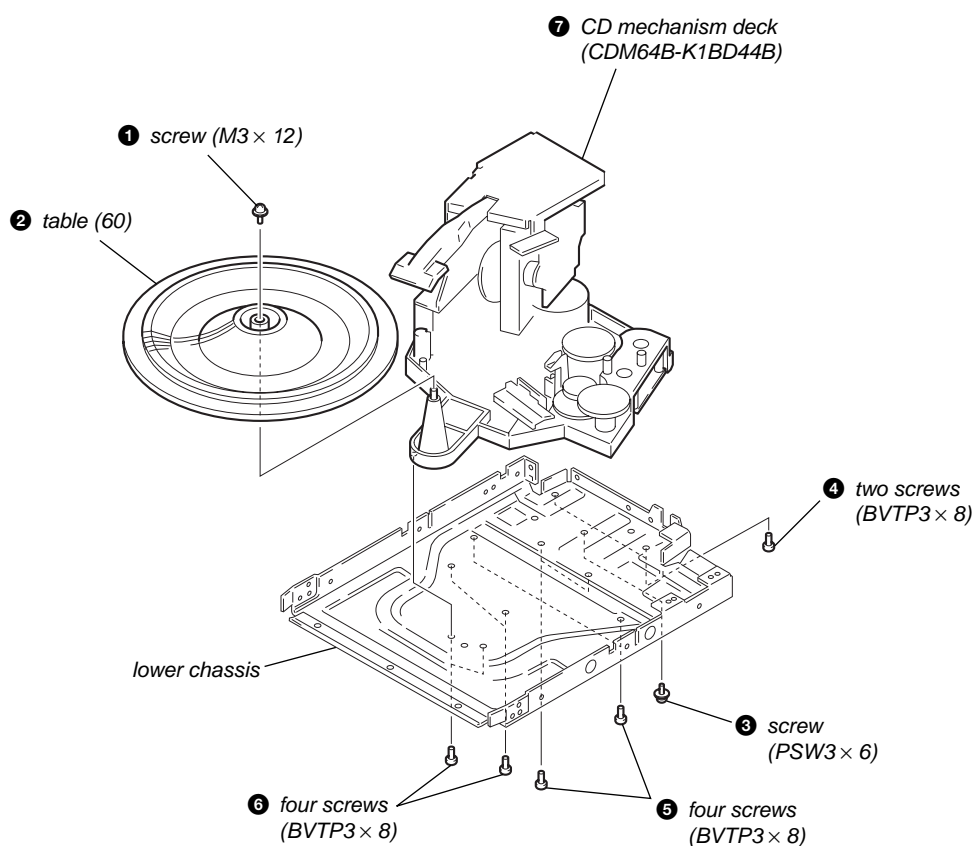
3-6. POWER Board



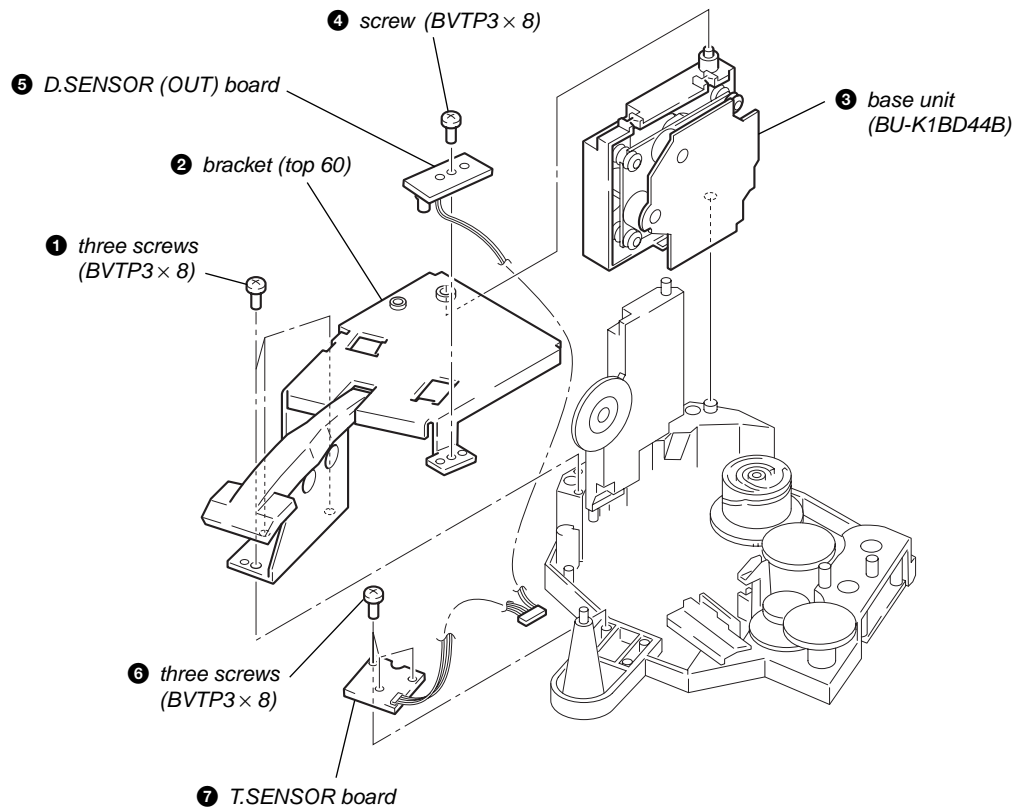
3-7. Holder (LED-S), Bracket (Middle-R), Power Bracket



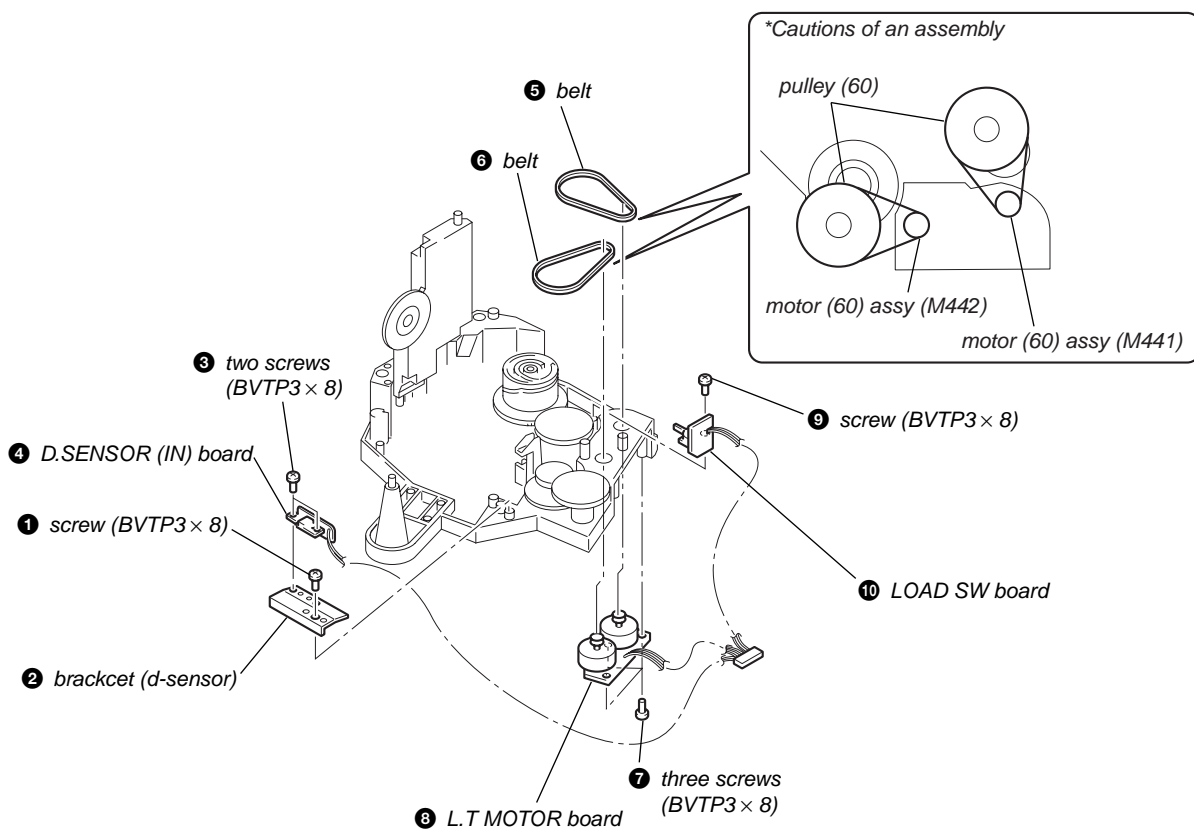
3-8. CD Mechanism Deck (CDM64B-K1BD44B)



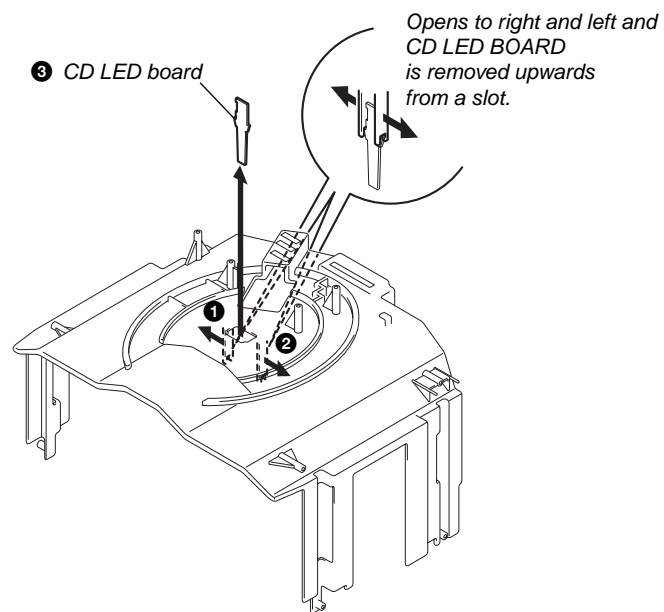
3-9. Base Unit (BU-K1BD44B), D.SENSOR (OUT) Board, T.SENSOR Board



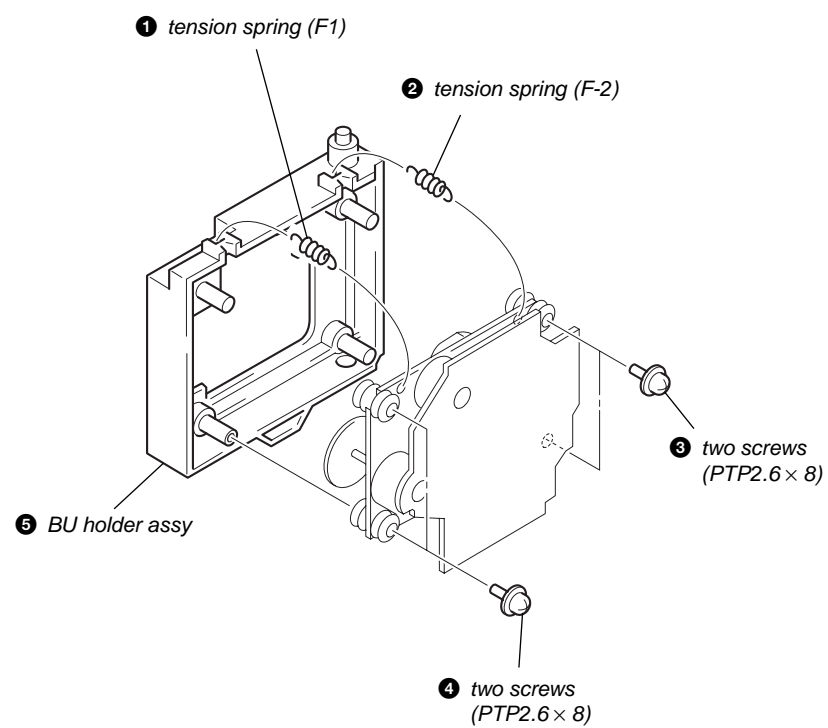
3-10. D.SENSOR (IN) Board, LOAD SW Board, L.T MOTOR Board



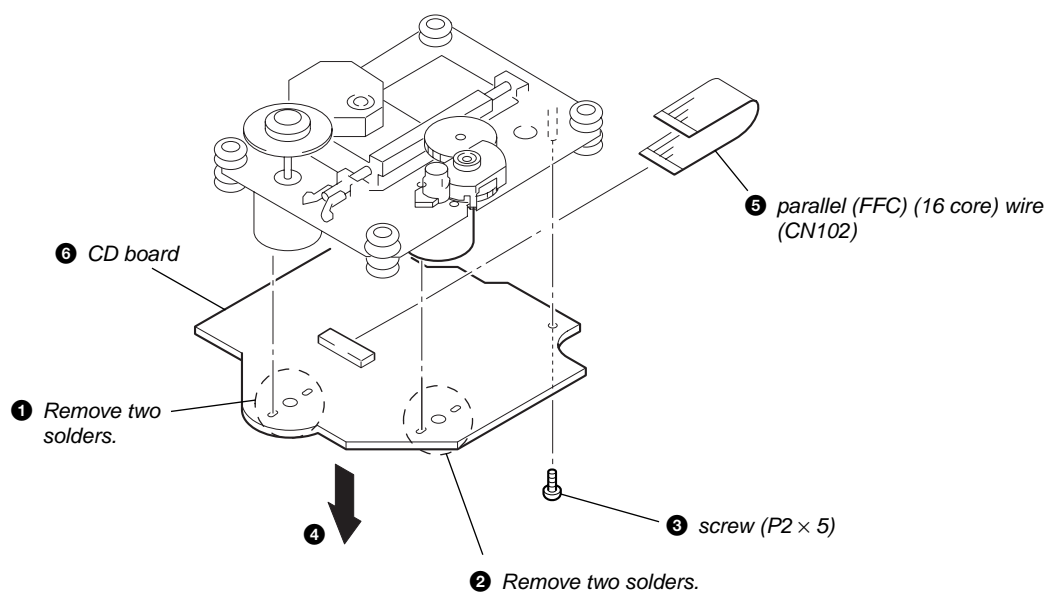
3-11. CD LED Board



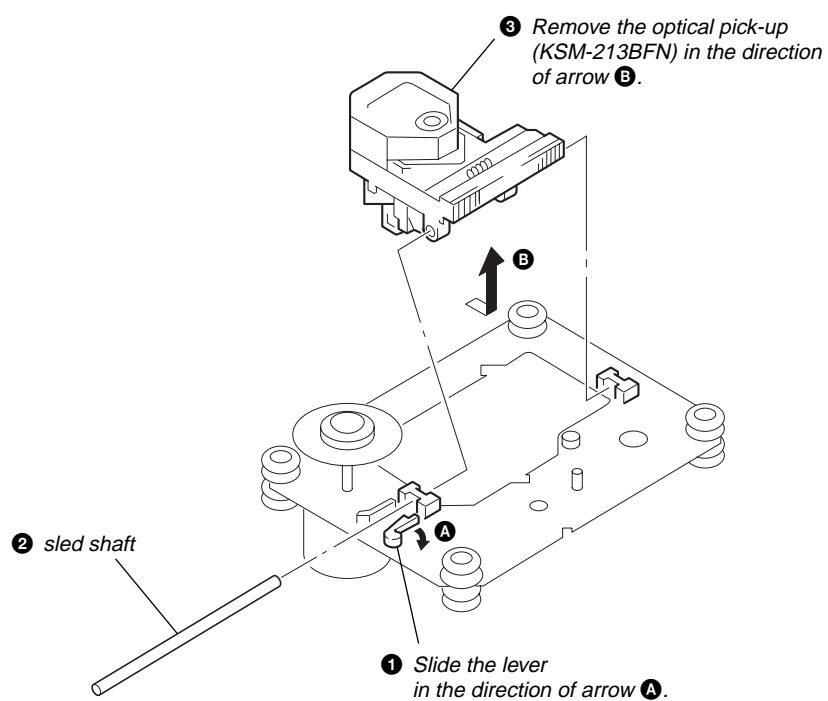
3-12. BU Holder Assy



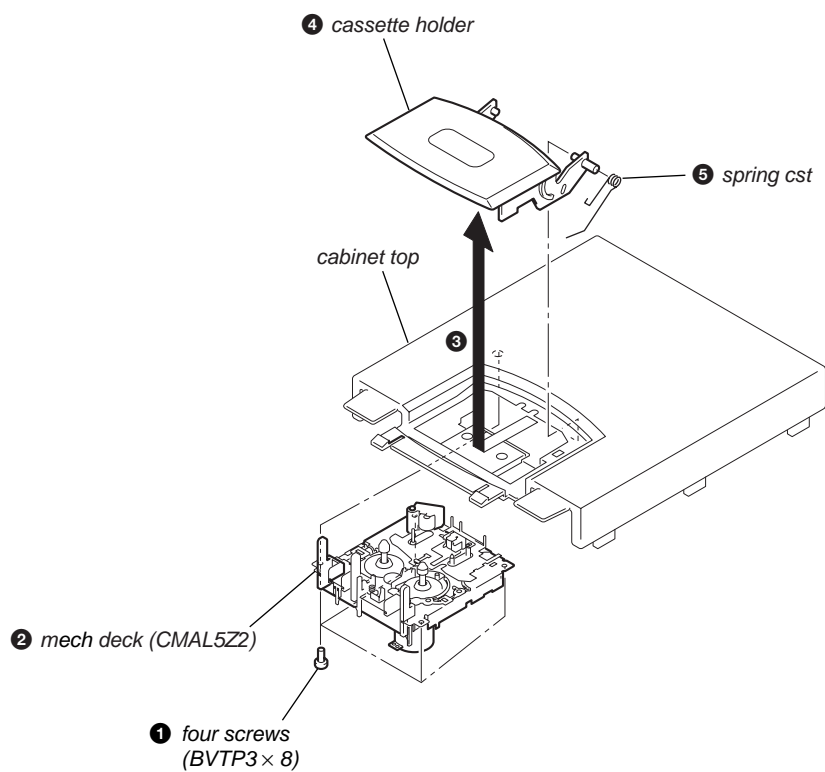
3-13. CD Board



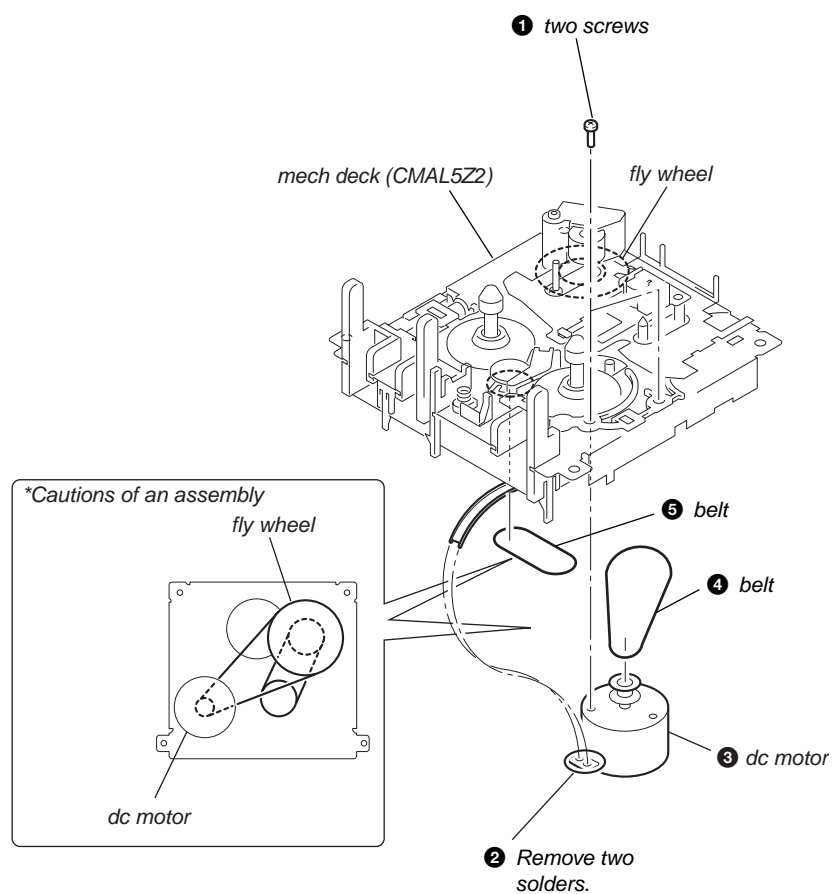
3-14. OP Base Assy (KSM-213BFN)



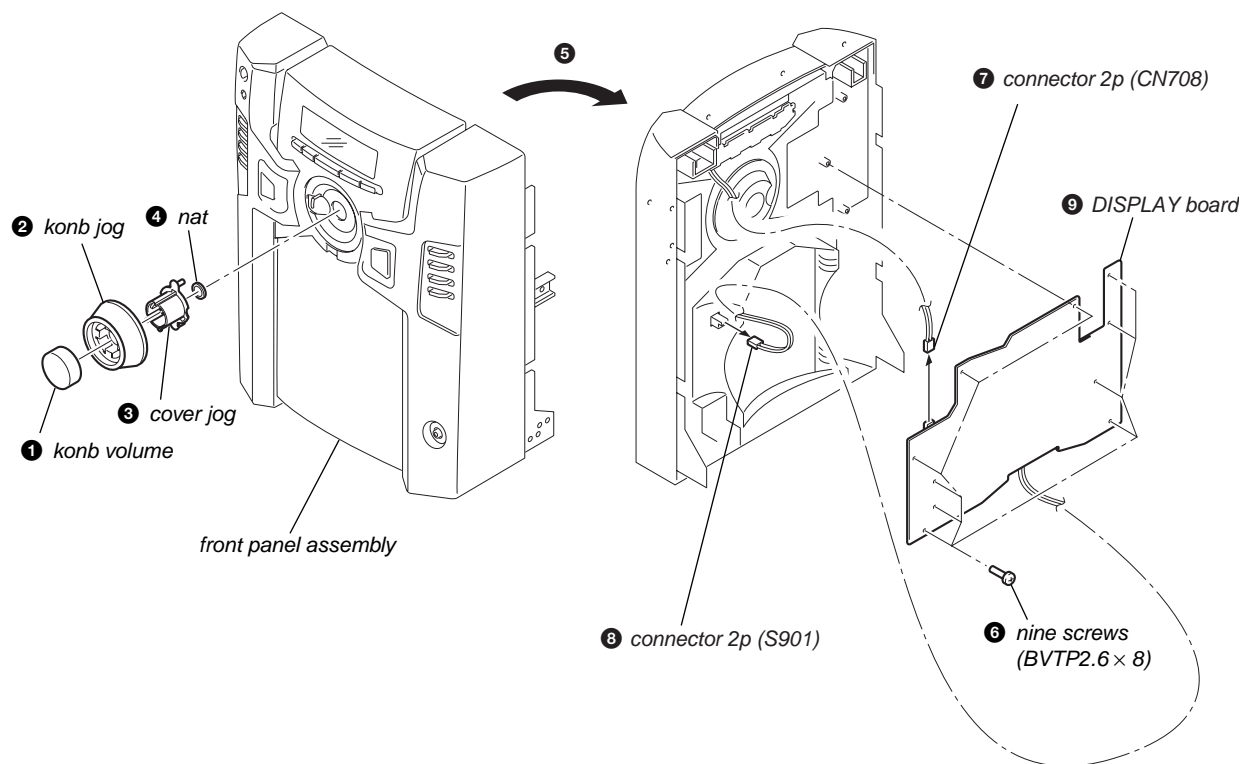
3-15. Cassette Holder, Mech Deck (CMAL5Z2)



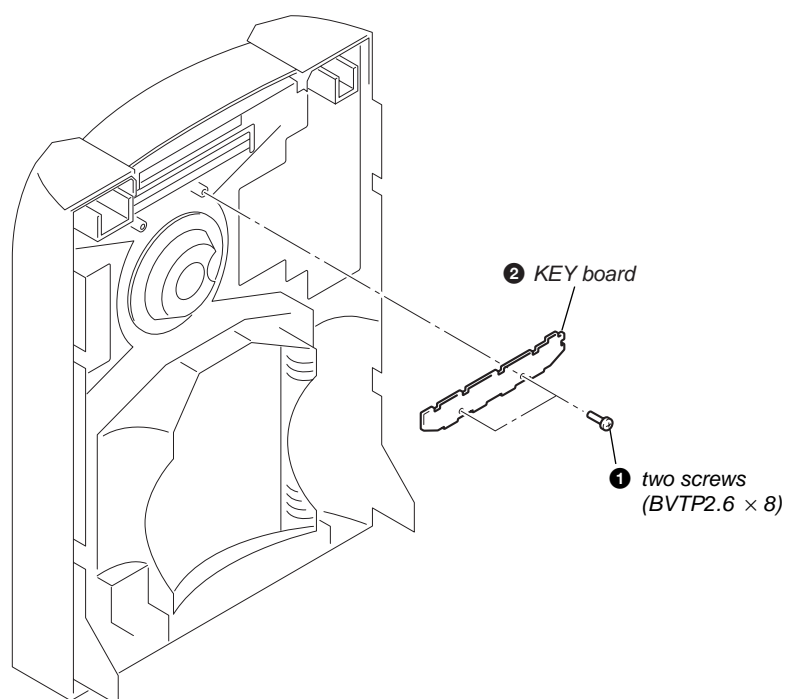
3-16. Belt



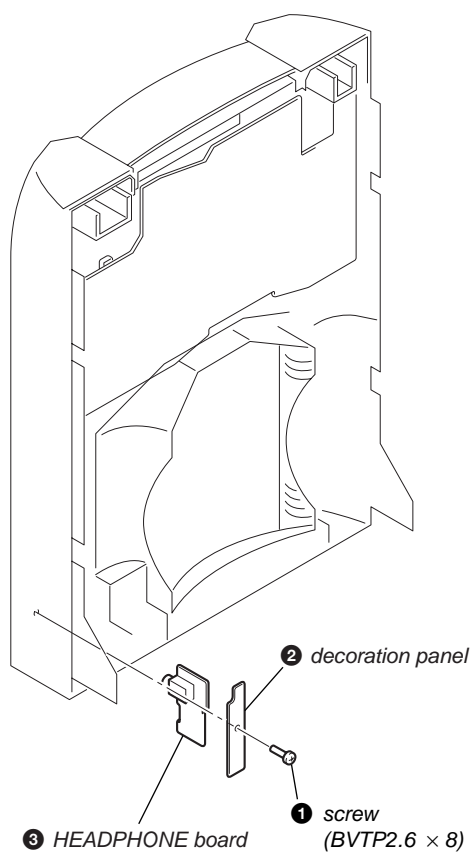
3-17. DISPLAY Board



3-18. KEY Board



3-19. HEADPHONE Board





SECTION 4

TEST MODE

[Panel Test Mode]


Procedure:

1. Press three buttons of , **[MENU]**, and **[DISPLAY]** simultaneously.
2. LEDs and fluorescent indicator tube are all turned on.
3. Press the **[MENU]** button and go to the version display mode. Press the  button and go to the key and jog test mode.
4. To release from these mode, press three buttons in the same manner as step 1, or disconnect the power cord.

– Version display mode –

Press the  button to display the date of the software.

– Key and jog test mode –

In the key check mode, the fluorescent indicator tube displays “K 0 J0 V0”. Each time a button is pressed, “K” value increases without  and **[DISPLAY]** buttons. However, once a button is pressed, it is no longer taken into account.


“J” value increases like 1, 2, 3 ... if turn the **[DISC SELECT]** dial clockwise, or it decreases like 0, 9, 8 ... if turn the **[DISC SELECT]** dial counterclockwise.

“V” value increases like 1, 2, 3 ... if turn the **[VOLUME]** knob clockwise, or it decreases like 0, 9, 8 ... if turn the **[VOLUME]** knob counterclockwise.

[Cold Reset]

- The cold reset clears all data including preset data stored in the RAM to initial conditions. Execute this mode when returning the set to the customer.



Procedure:

1. Turn the power ON or set to the DEMO mode.
2. Press three buttons of , **[CLEAR]**, and **[DISPLAY]** simultaneously.
3. The set is reset, and becomes DEMO mode.

[CD Ship Mode and RAM Initialize]

- This mode moves the optical pick-up to the position durable to vibration, and initializes the RAM. Use this mode when returning the set to the customer after repair.




Procedure:

1. Press the  button to turn the power ON and select the function CD.
2. Press three buttons of **[ENTER]**, **[REPEAT]**, and  simultaneously.
3. The set is turn the power off and initializes the RAM automatically. A message “LOCK” is displayed on the fluorescent indicator tube, and the CD delivery mode is set.

[AM Channel Step 9 kHz/10 kHz Selection Mode]

- The AM tuning interval can be changed over 9 kHz or 10 kHz.






Procedure:

1. Press the  button to turn the power on.
2. Select the function “TUNER”, and press the **[TUNER/BAND]** button to select the BAND “AM”.
3. Press the  button to turn the power off.
4. Press the **[ENTER]** and  buttons simultaneously.
5. Either the message “AM 9k STEP” or “AM 10k STEP” appears, and thus the channel step is changed over.

[CD Service Mode]

- This mode can run the CD sled motor optionally. Use this mode, for instance, when cleaning the optical pick-up.

Procedure:



1. Press the  button to turn the power ON.
2. Select the function “CD”.
3. Press three buttons of **[ENTER]**, , and **[REPEAT]** simultaneously.
4. Set to the Sled Servo mode.
5. With the CD in stop status, press the  button to move the optical pick-up to outside track and display “SLED OUT”, or press the  button to move the optical pick-up to inside track and display “SLED IN”.
6. To exit from this mode, perform as follows.
 - 1) Move the optical pick-up to the most inside track.
 - 2) Press three buttons of , **[CLEAR]**, and **[DISPLAY]** simultaneously. (cold reset)

- Notes:**
- Always move the optical pick-up to most inside track when exiting from this mode. Otherwise, a disc will not be unloaded.
 - Do not run the sled motor excessively, otherwise the gear can be chipped.

[VACS Test Mode]

- This mode is used to switch on and off the VACS (Variable Attenuation Control System).



Procedure:

1. Press the  button to turn the set on.
2. To enter the test mode, press the two buttons **[ENTER]** and **[TIMER SET]** simultaneously.
3. The message “VACS OFF” or “VACS ON” appears.
4. To exit from this mode, press the  button to turn the set off.

[Function Selection Mode]

- This mode is used to select the input VIDEO or input MD.

Procedure:

1. Turn off the set.
2. Press the two buttons  and **[VIDEO (MD)]** simultaneously.
3. The message “VIDEO” or “MD” appears.
4. To exit from this mode, press the  button to turn the set off.

SECTION 5 MECHANICAL ADJUSTMENTS

• TAPE MECHANISM DECK SECTION

Precaution

- Clean the following parts with a denatured alcohol-moistened swab:

record/playback heads	pinch rollers
erase head	rubber belts
capstan	idlers
- Demagnetize the record/playback head with a head demagnetizer.
- Do not use a magnetized screwdriver for the adjustments.
- After the adjustments, apply suitable locking compound to the parts adjusted.
- The adjustments should be performed with the rated power supply voltage unless otherwise noted.

Torque Measurement

Mode	Torque meter	Meter reading
FWD	CQ-102C	2.94 mN • m to 7.84 mN • m 31 to 71 g • cm (0.43 – 0.98 oz • inch)
FWD back tension	CQ-102C	0.14 mN • m to 0.59 mN • m 2 to 6 g • cm (0.02 – 0.08 oz • inch)
FF/REW	CQ-201B	6.86 mN • m to 17.64 mN • m 71 to 143 g • cm (0.98 – 1.99 oz • inch)
FWD tension	CQ-403A	more than 0.98 N • m 100 g or more (3.53 oz or more)

SECTION 6 ELECTRICAL ADJUSTMENTS

DECK SECTION

0 dB = 0.775 V

Precaution

- Demagnetize the record/playback head with a head demagnetizer.
- Do not use a magnetized screwdriver for the adjustments.
- After the adjustments, apply suitable locking compound to the parts adjust.
- The adjustments should be performed with the rated power supply voltage unless otherwise noted.
- The adjustments should be performed in the order given in this service manual. (As a general rule, playback circuit adjustment should be completed before performing recording circuit adjustment.)
- The adjustments should be performed for both L-CH and R-CH.
- Switches and controls should be set as follows unless otherwise specified.

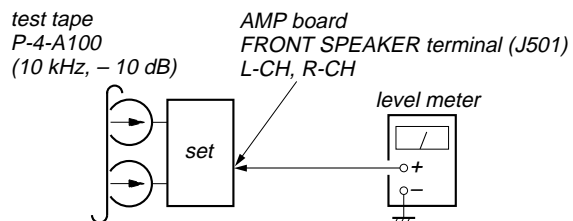
• Test Tape

Tape	Signal	Used for
P-4-A100	10 kHz, – 10 dB	Azimuth Adjustment
WS-48B	3 kHz, 0 dB	Tape Speed Check

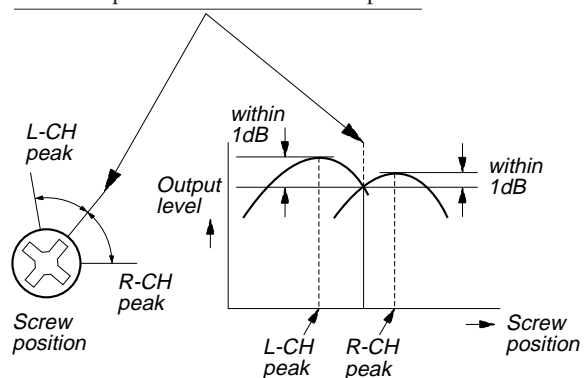
Record/Playback Head Azimuth Adjustment

Procedure:

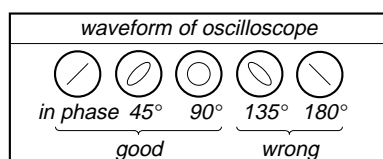
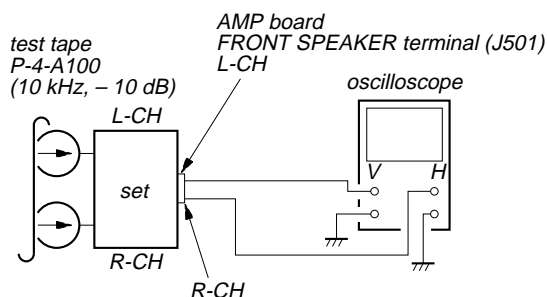
1. Mode: Playback



2. Turn the adjustment screw and check output peaks. If the peaks do not match for L-CH and R-CH, turn the adjustment screw so that outputs match within 1dB of peak.

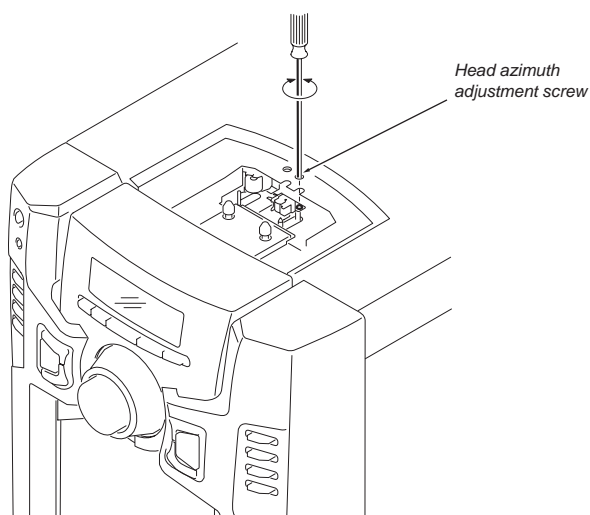


3. Mode: Playback



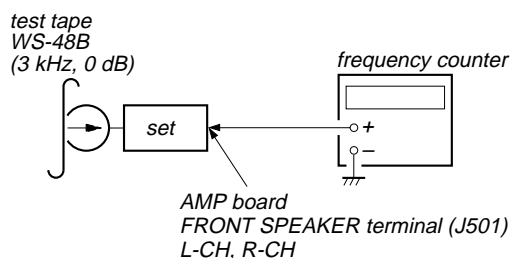
4. After the adjustments, apply suitable locking compound to the parts adjusted.

Adjustment Location: Record/Playback/Erase Head



Tape Speed Check

Mode: Playback



1. Insert the WS-48B into the deck.
2. Press the button on the deck.
3. Confirm that the frequency counter reads $3,000 \pm 90$ Hz.

Sample value of Wow and Flutter: 0.3% or less W.RMS (JIS) (WS-48B)

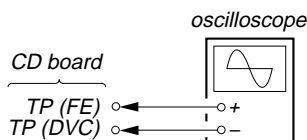
CD SECTION

Note:

1. CD Block is basically designed to operate without adjustment. Therefore, check each item in order given.
2. Use YEDS-18 disc (3-702-101-01) unless otherwise indicated.
3. Use an oscilloscope with more than 10M Ω impedance.
4. Clean the object lens by an applicator with neutral detergent when the signal level is low than specified value with the following checks.

S-curve Check

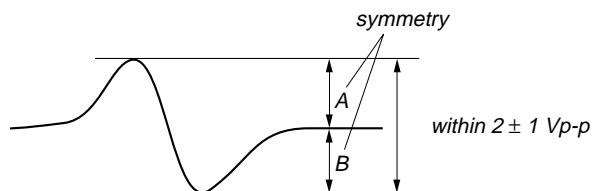
Connection:



Procedure:

1. Connect an oscilloscope to test point TP (FE) and TP (DVC) on the CD board.
2. Turn the power on.
3. Put the disc (YEDS-18) in and turned power switch on again and actuate the focus search. (actuate the focus search when disc table is moving in and out)
4. Check the oscilloscope waveform (S-curve) is symmetrical between A and B. And confirm peak to peak level within 2 ± 1 Vp-p.

S-curve waveform

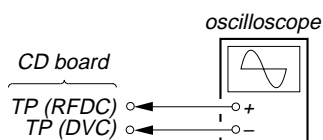


- Note:**
- Try to measure several times to make sure than the ratio of A : B or B : A is more than 10 : 7.
 - Take sweep time as long as possible and light up the brightness to obtain best waveform.

Checking Location: CD board (Conductor side)

RFDC Level Check

Connection:

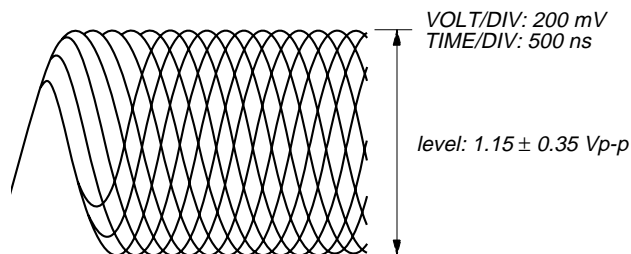


Procedure:

1. Connect an oscilloscope to test point TP (RFDC) and TP (DVC) on the CD board.
2. Turn the power on.
3. Put the disc (YEDS-18) in to playback the number five track.
4. Confirm that oscilloscope waveform is clear and check RFDC signal level is correct or not.

Note: A clear RFDC signal waveform means that the shape “ \diamond ” can be clearly distinguished at the center of the waveform.

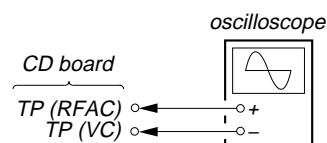
RFDC signal waveform



Checking Location: CD board (Conductor side)

RFAC Level Check

Connection:

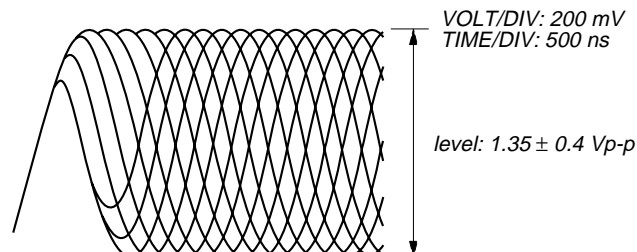


Procedure:

1. Connect an oscilloscope to test point TP (RFAC) and TP (VC) on the CD board.
2. Turn the power on.
3. Put the disc (YEDS-18) in to playback the number five track.
4. Confirm that oscilloscope waveform is clear and check RFAC signal level is correct or not.

Note: A clear RFAC signal waveform means that the shape “ \diamond ” can be clearly distinguished at the center of the waveform.

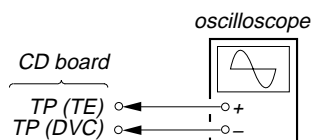
RFAC signal waveform



Checking Location: CD board (Conductor side)

E-F Balance Check

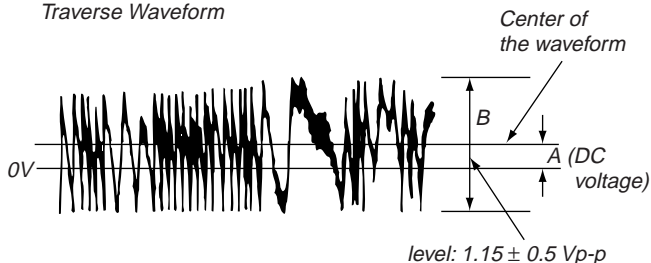
Connection:



Procedure:

1. Connect an oscilloscope to test point TP (TE) and TP (DVC) on the CD board.
2. Turn the power on.
3. Select the function "CD".
4. Press three buttons of **[ENTER]**, **[▶▶]**, and **[REPEAT]** simultaneously to set the CD service mode.
5. Put the disc (YEDS-18) in to playback the number five track.
6. Press the **[◀◀]** button. (The tracking servo and the sledding servo are turned OFF)
7. Check the level B of the oscilloscope's waveform and the A (DC voltage) of the center of the Traverse waveform.
Confirm the following :
 $A/B \times 100 = \text{less than } \pm 22\%$

Traverse Waveform

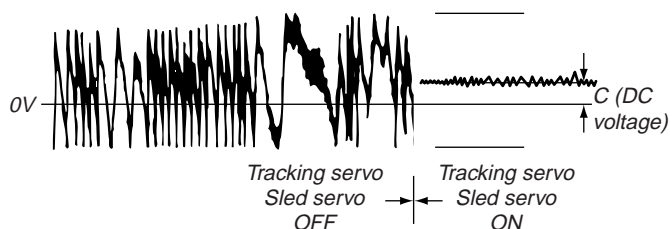


8. Press the **[◀◀]** button. (The tracking servo and sledding servo are turned ON)
Confirm the C (DC voltage) is almost equal to the A (DC voltage) is step 5.
9. To exit from this mode, perform as follows.
 - 1) Move the optical pick-up to the most inside track.
 - 2) Press three buttons of **[■]**, **[CLEAR]**, and **[DISPLAY]** simultaneously. (cold reset)

Notes:

- Always move the optical pick-up to most inside track when exiting from this mode. Otherwise, a disc will not be unloaded.
- Do not run the sled motor excessively, otherwise the gear can be chipped.

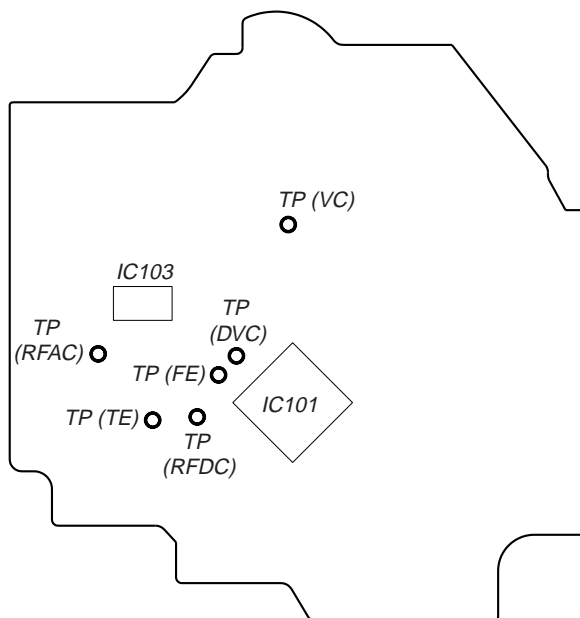
Traverse Waveform



Checking Location: CD board (Conductor side)

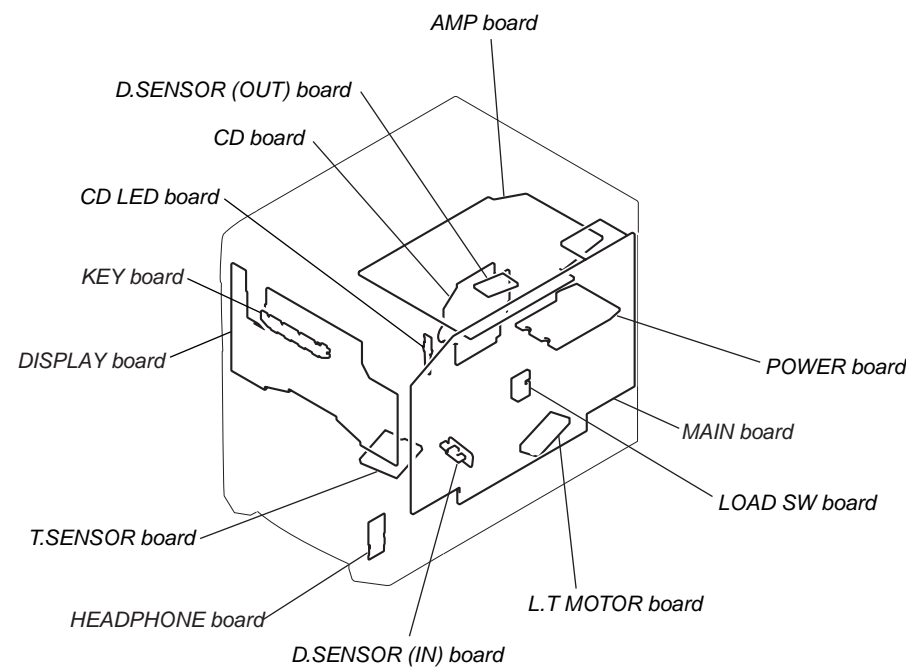
Checking Location:

– CD BOARD (Conductor Side) –



SECTION 7
DIAGRAMS

7-1. Circuit Boards Location



THIS NOTE IS COMMON FOR PRINTED WIRING
BOARDS AND SCHEMATIC DIAGRAMS.
(In addition to this, the necessary note is printed
in each block.)

For schematic diagrams.

- Note:**
- All capacitors are in μF unless otherwise noted. pF : $\mu\mu\text{F}$
 - 50 WV or less are not indicated except for electrolytics and tantalums.
 - All resistors are in Ω and $1/4\text{W}$ or less unless otherwise specified.
 - Δ : internal component.
 - : nonflammable resistor.
 - : fusible resistor.
 - : panel designation.

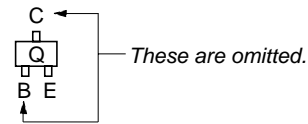
Note: The components identified by mark Δ or dotted line with mark Δ are critical for safety. Replace only with part number specified.

- : B+ Line.
- : B- Line.
- Voltages are taken with a VOM (Input impedance $10\text{M}\Omega$). Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken with an oscilloscope. Voltage variations may be noted due to normal production tolerances.
- Circled numbers refer to waveforms.
- Signal path.
 - : TUNER
 - : CD PLAY
 - : CD PLAY (DIGITAL OUT)
 - : TAPE PLAY
 - : REC
 - : VIDEO IN (AUDIO)

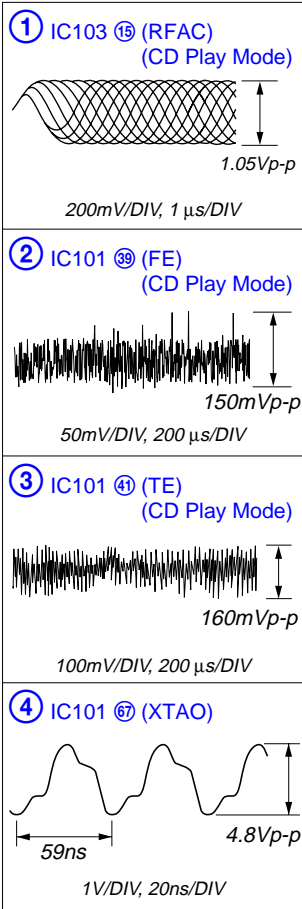
For printed wiring boards.

- Note:**
- : parts extracted from the component side.
 - : parts extracted from the conductor side.
 - Δ : internal component.
 - : Pattern from the side which enables seeing.

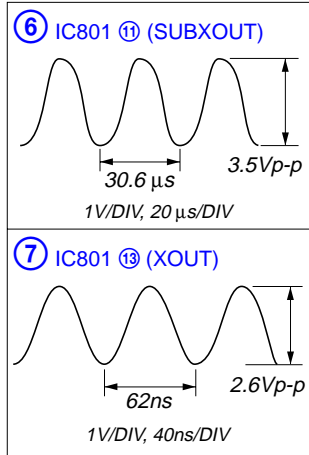
• Indication of transistor



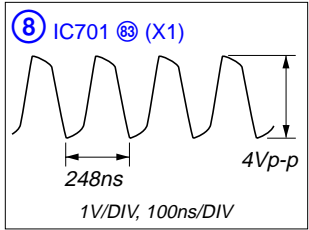
• Waveforms
– CD Board –



– MAIN Board –

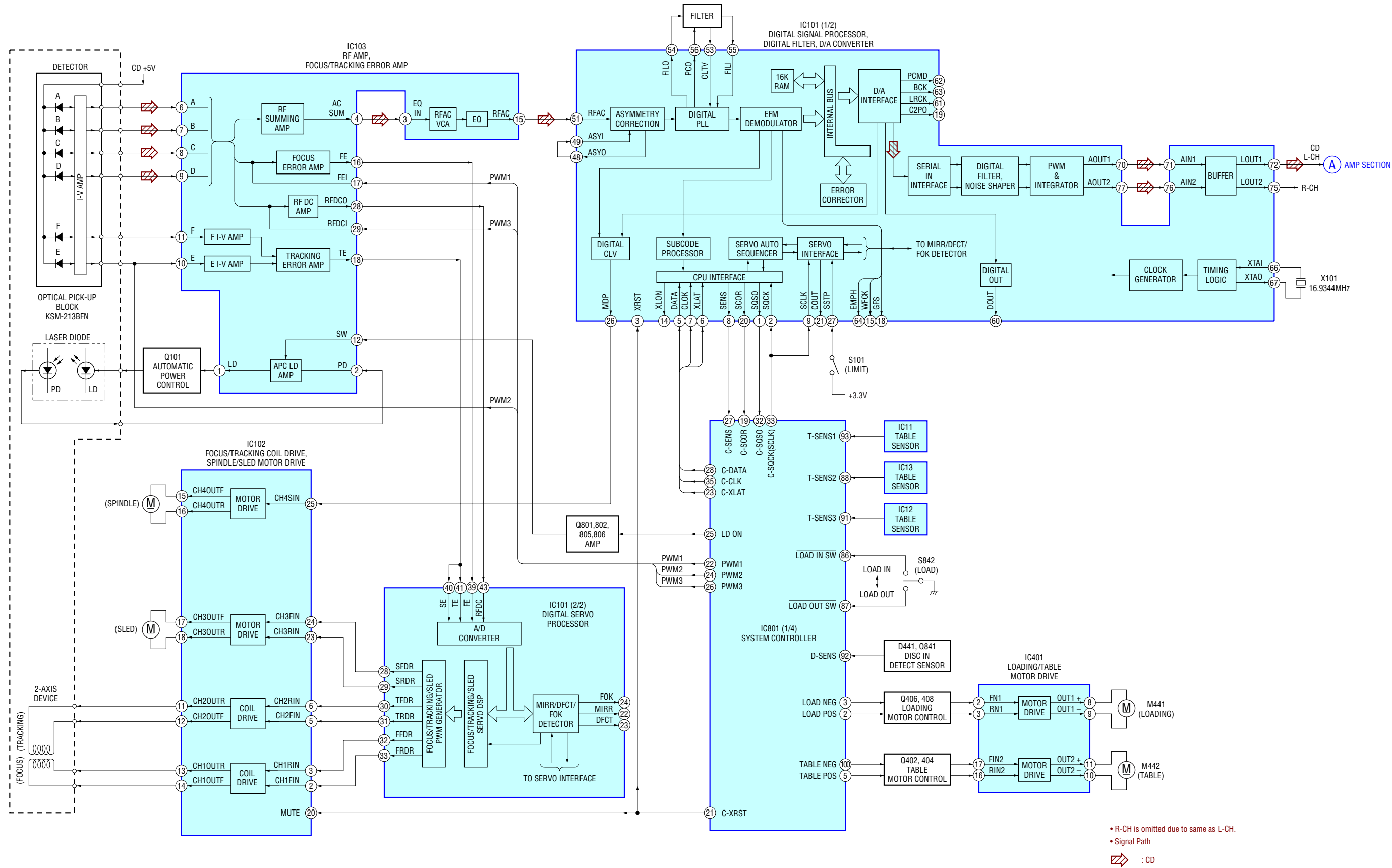


– DISPLAY Board –

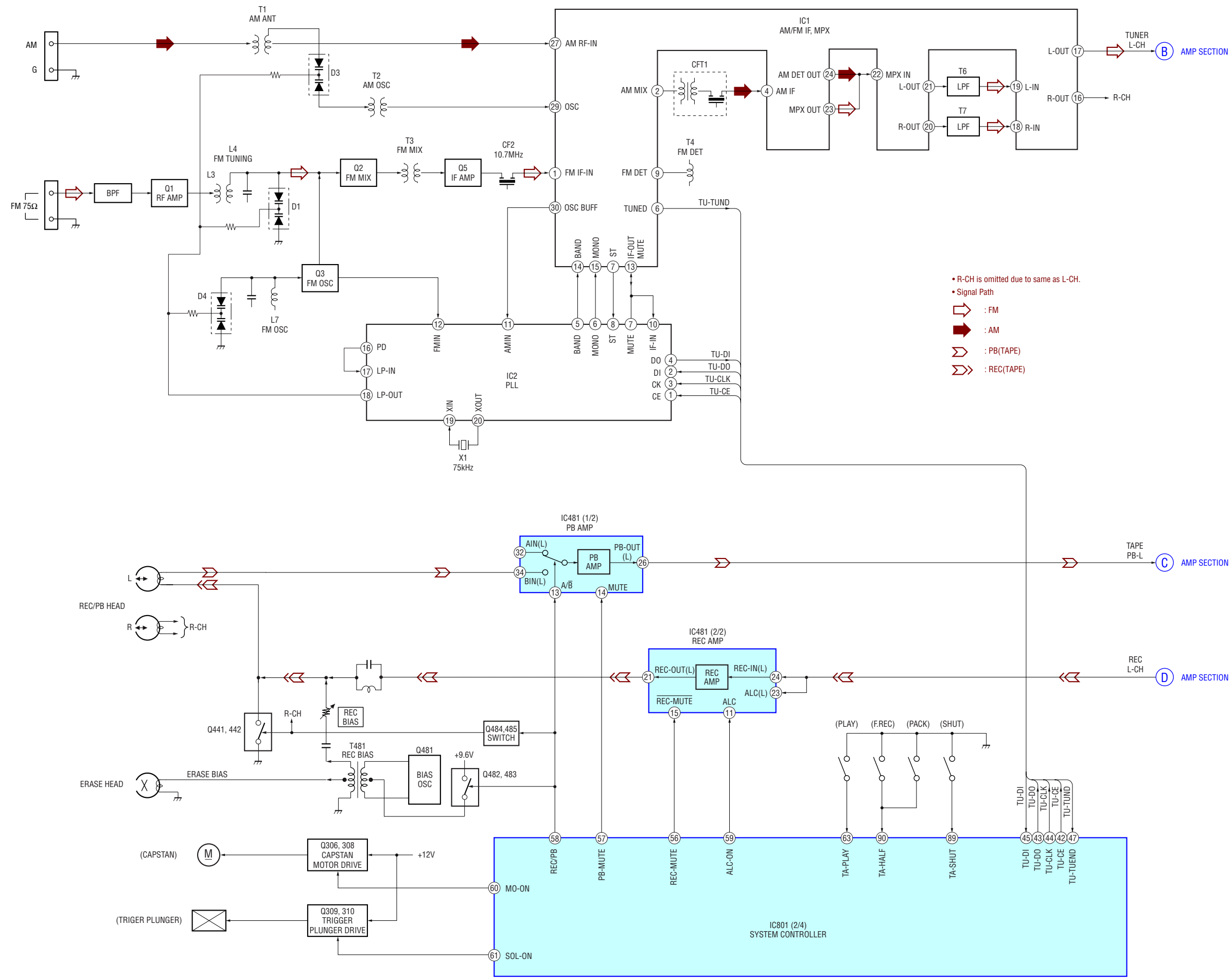


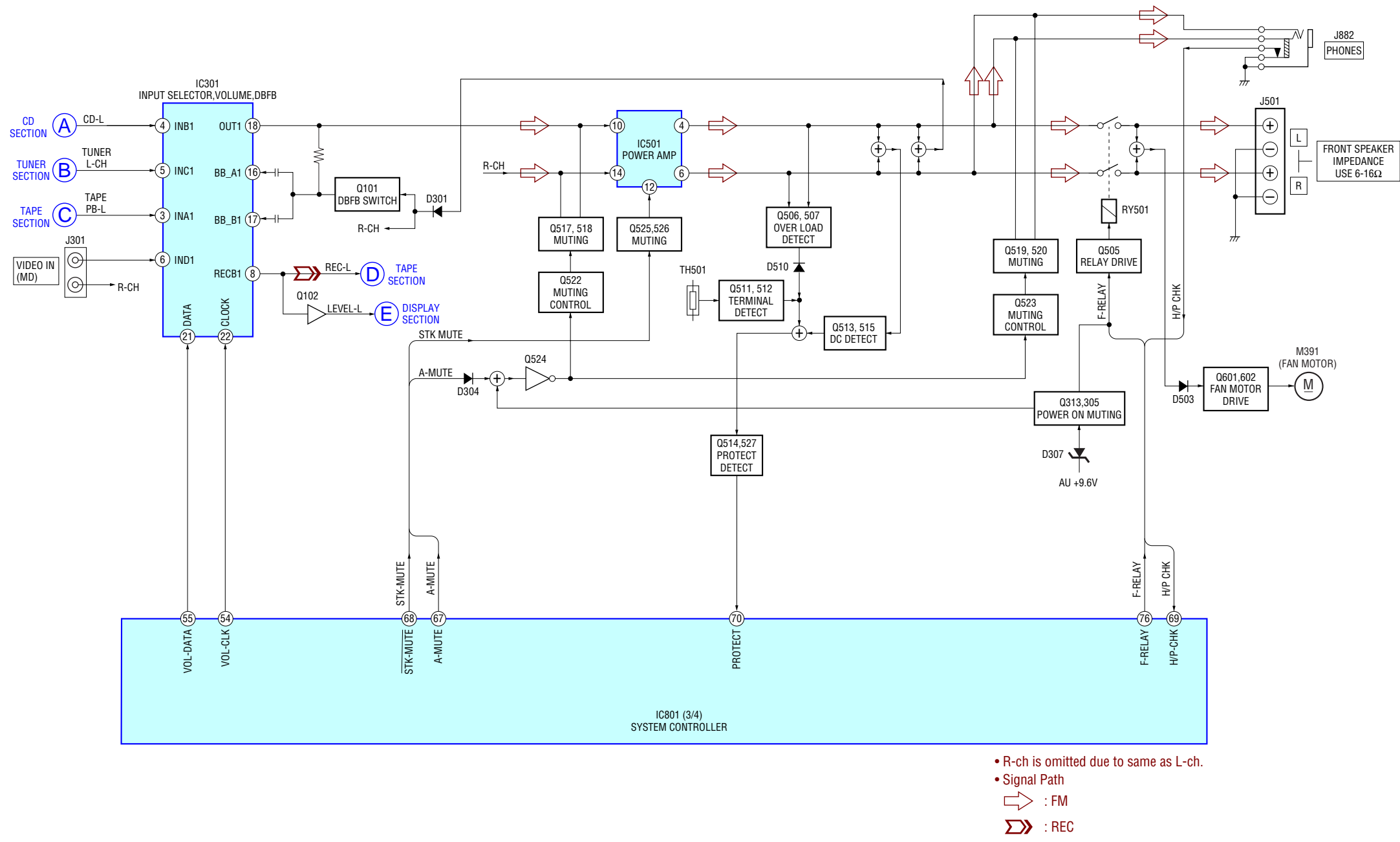
HCD-GS100

7-2. Block Diagrams
- CD Section -

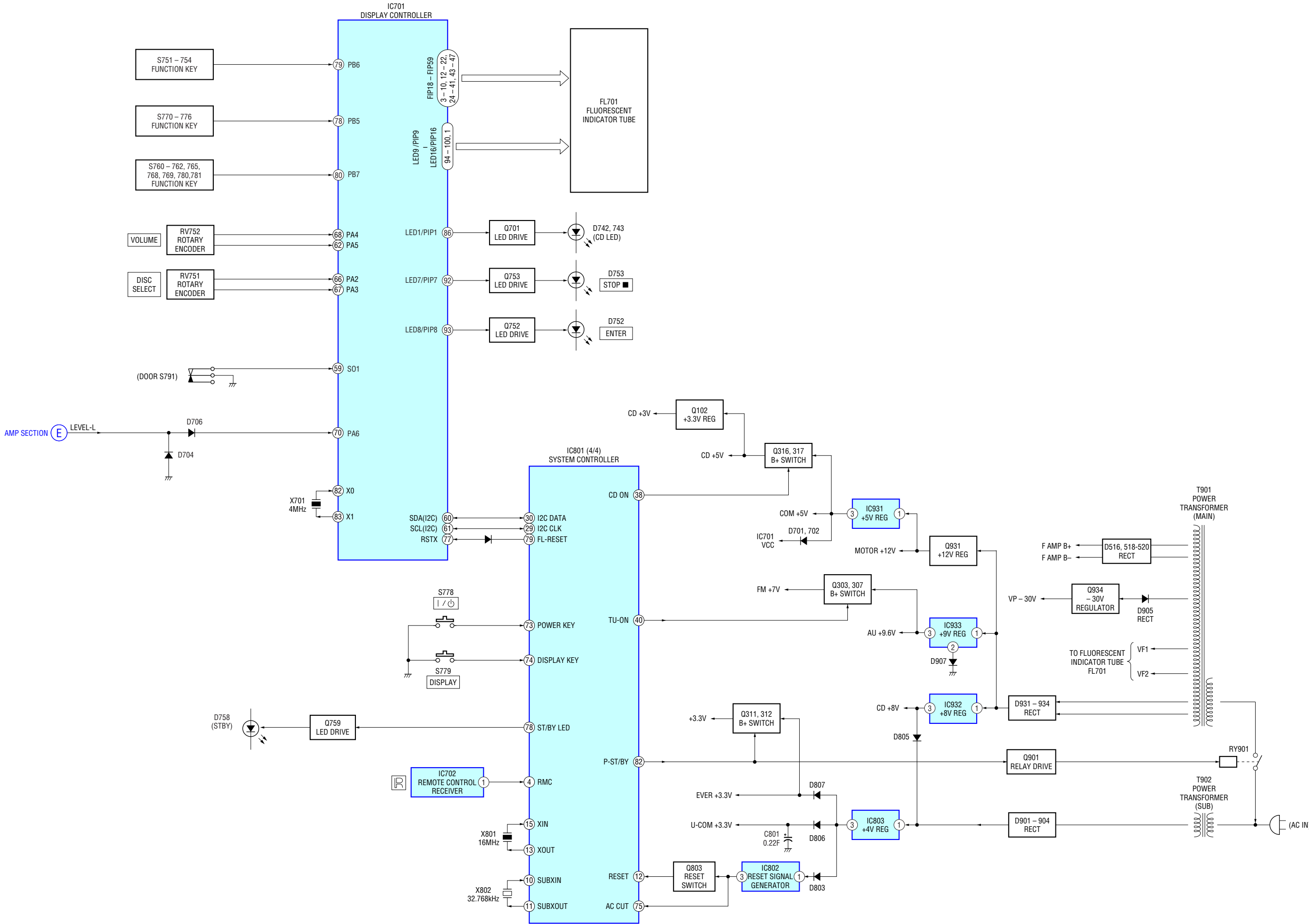


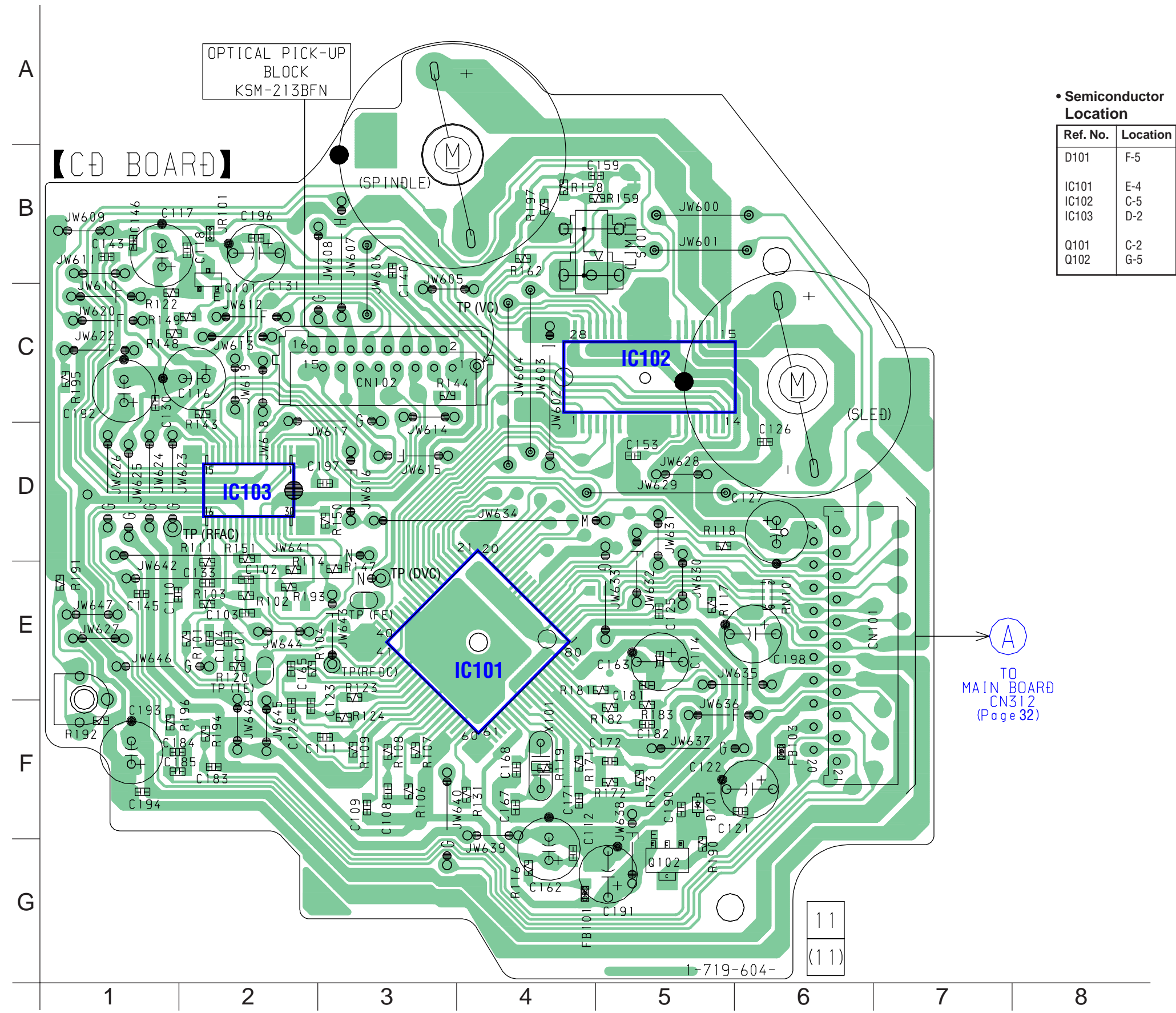
- TUNER/TAPE DECK Section -





– DISPLAY/POWER Supply Section –

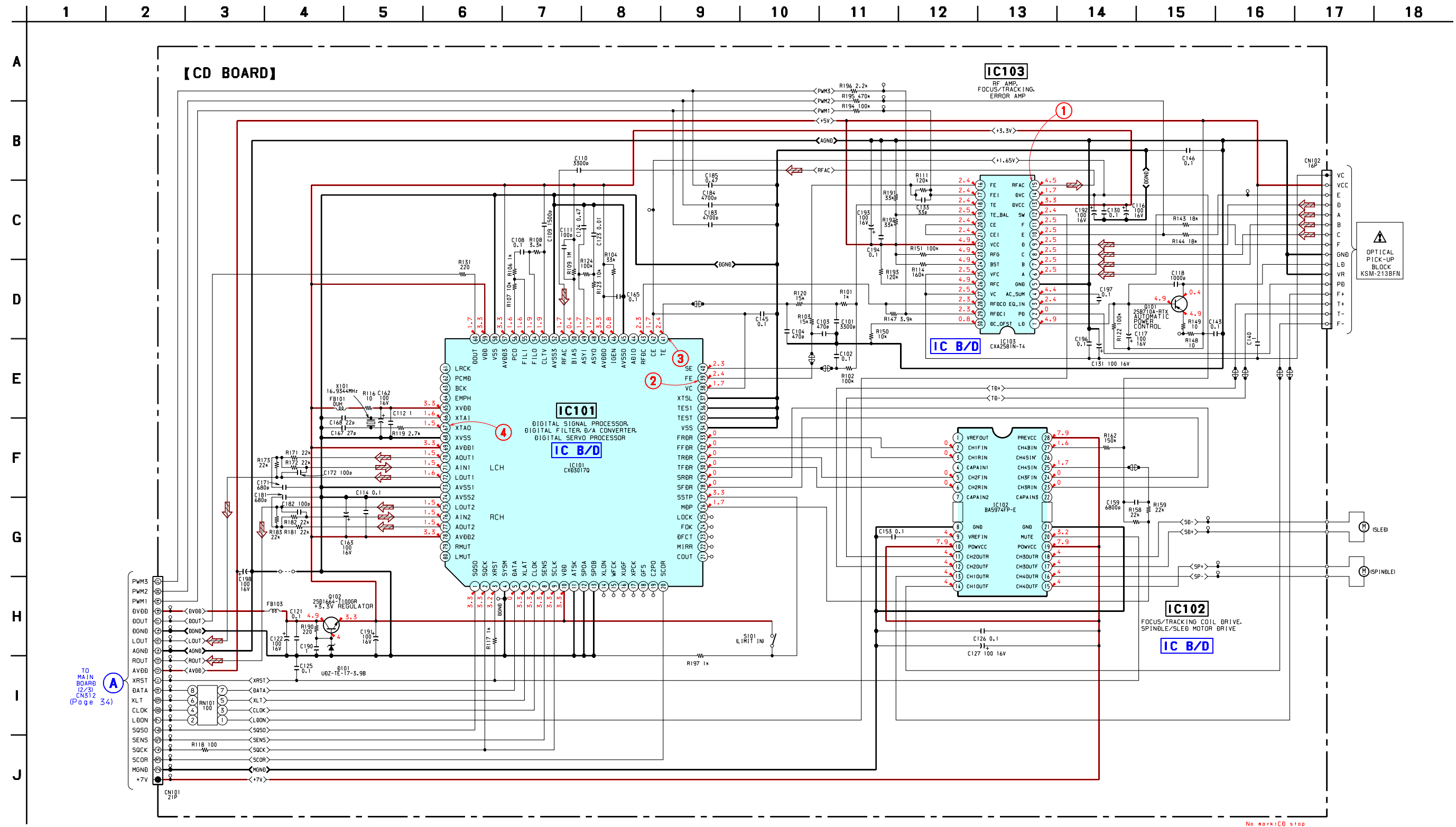


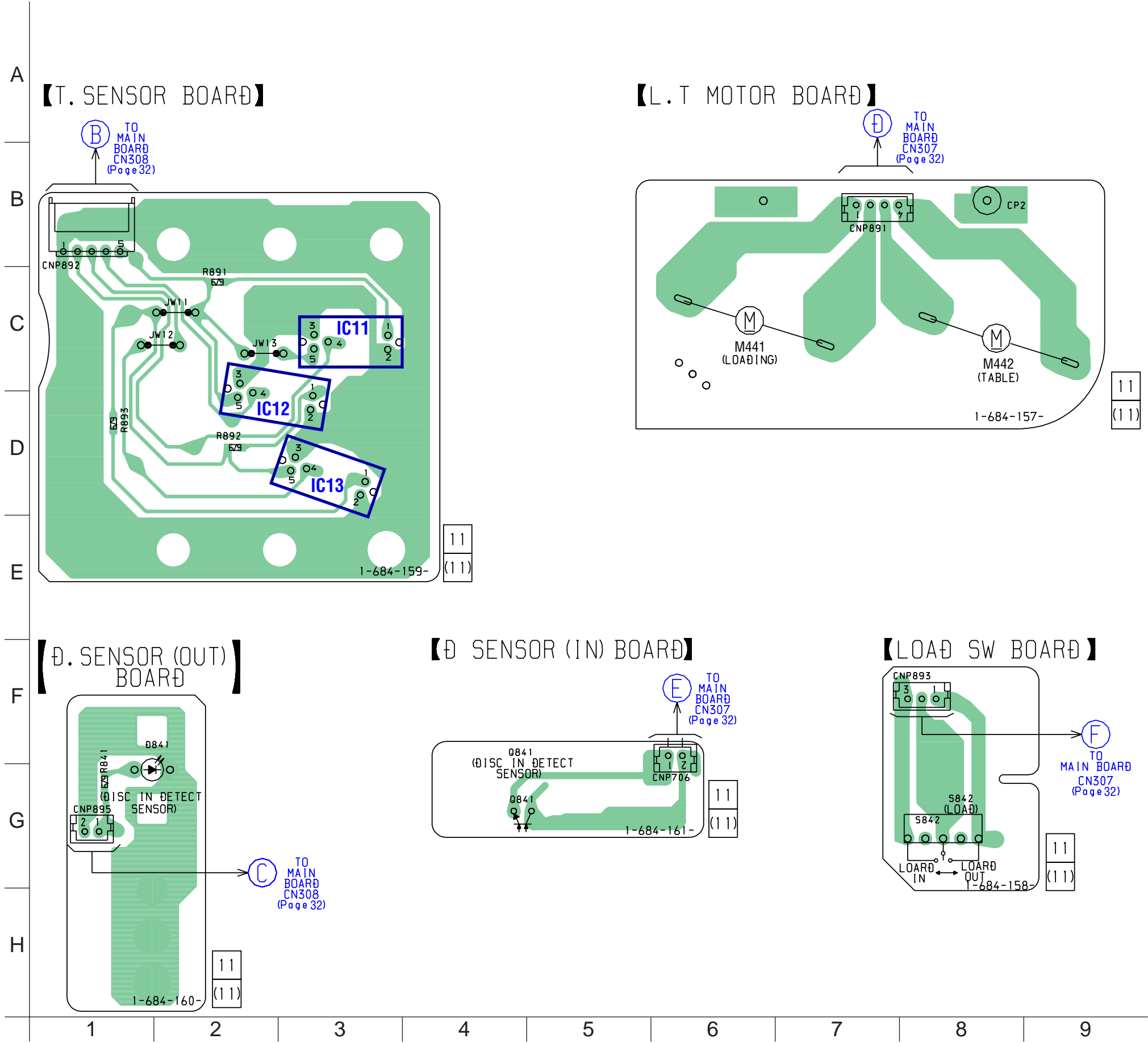


• Semiconductor Location

Ref. No.	Location
D101	F-5
IC101	E-4
IC102	C-5
IC103	D-2
Q101	C-2
Q102	G-5

7-4. Schematic Diagram – CD Section – • See page 42 for IC Block Diagrams. • See page 43 for IC Pin Function Description. • See page 23 for Waveforms.

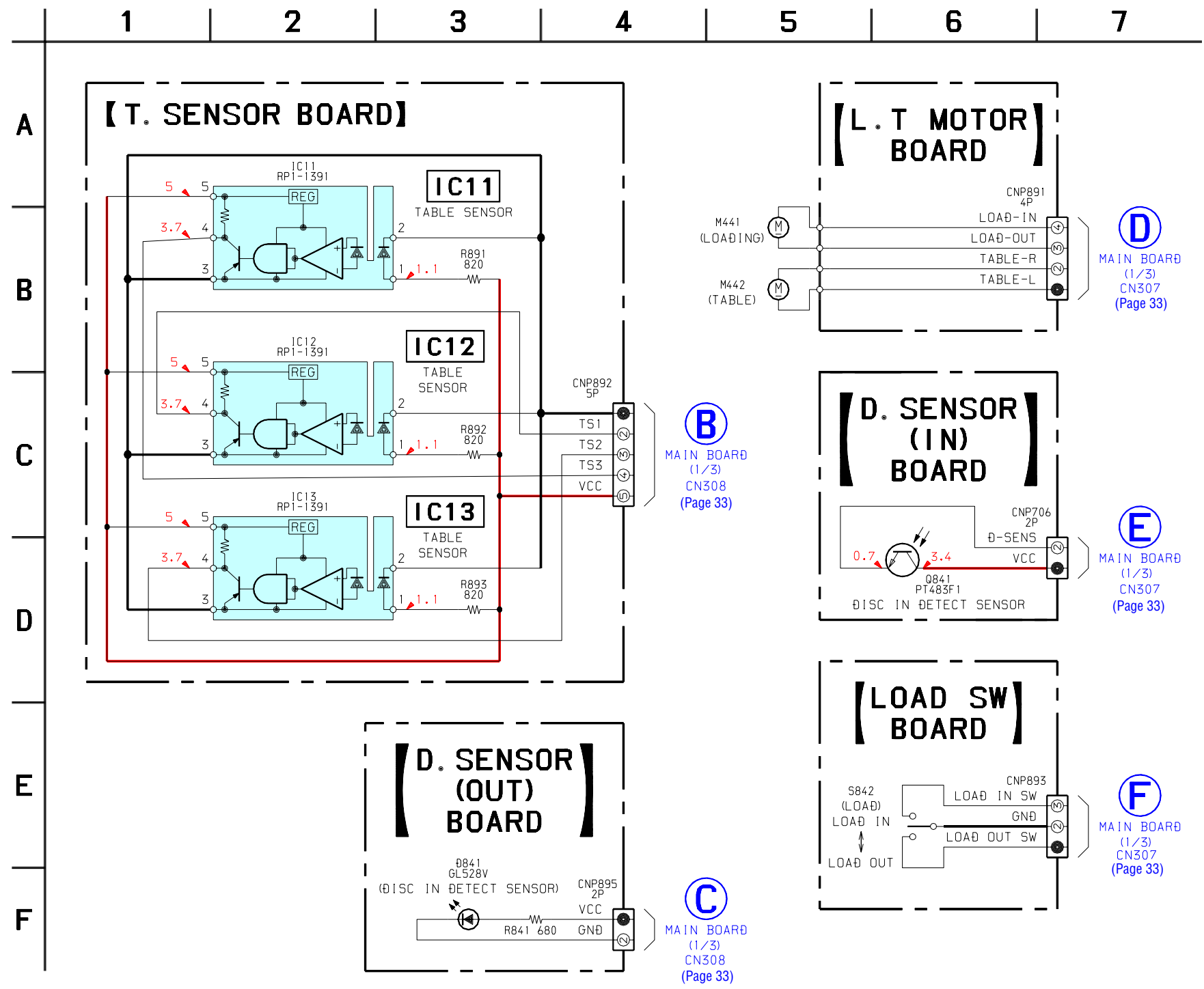




• Semiconductor Location

Ref. No.	Location
D841	F-2
IC11	C-3
IC12	D-3
IC13	D-3
Q841	G-4

7-6. Schematic Diagram – CD MOTOR/SENSOR Section –

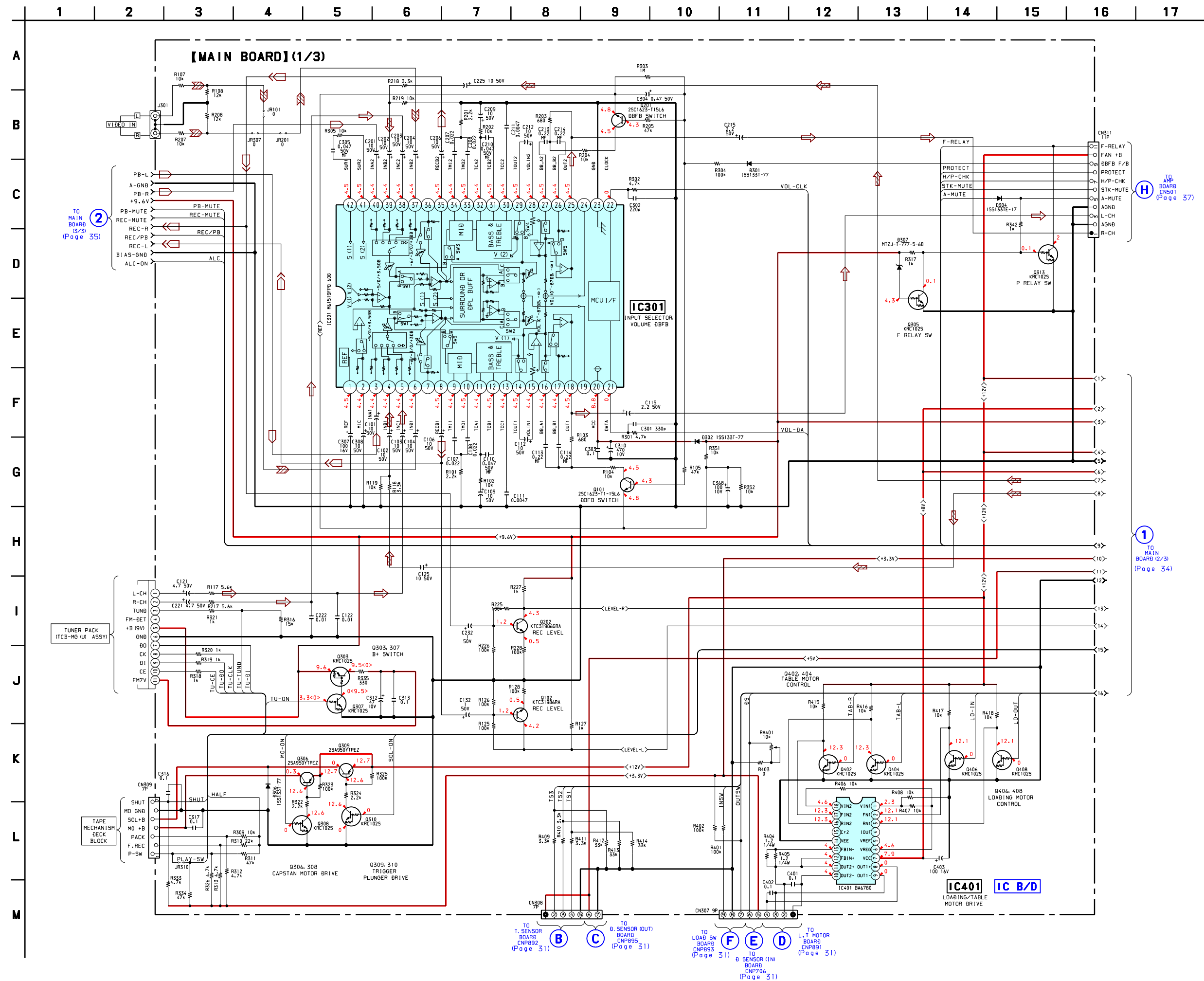


7-7. Printed Wiring Board – MAIN Section – • See page 23 for Circuit Boards Location.



Ref. No.	Location	Ref. No.	Location	Ref. No.	Location	Ref. No.	Location	Ref. No.	Location	Ref. No.	Location	Ref. No.	Location
D302	B-7	D806	F-7	IC301	B-8	Q101	A-7	Q310	D-6	Q441	C-4	Q802	D-11
D304	D-7	D807	F-7	IC401	G-10	Q102	A-6	Q311	G-5	Q442	C-3	Q803	E-10
D306	E-6	D907	E-5	IC481	B-4	Q201	C-8	Q312	G-5	Q461	B-3	Q805	D-12
D307	C-11	D931	F-5	IC801	D-10	Q202	B-6	Q313	D-10	Q462	B-3	Q806	D-12
D308	D-12	D932	F-5	IC802	E-8	Q303	A-10	Q316	D-13	Q481	A-2	Q931	D-4
D801	E-8	D933	F-6	IC803	F-6	Q305	C-11	Q317	G-13	Q482	B-2	Q934	G-3
D802	E-8	D934	F-6	IC931	D-4	Q306	E-6	Q402	G-9	Q483	B-3		
D803	E-8	D939	E-4	IC932	D-5	Q307	A-10	Q404	G-9	Q484	C-3		
D804	F-10	D941	F-3	IC933	D-5	Q308	E-6	Q406	G-9	Q485	C-2		
D805	F-7	D942	G-3			Q309	D-6	Q408	G-9	Q801	D-11		

7-8. Schematic Diagram – MAIN Section (1/3) – • See page 42 for IC Block Diagrams.

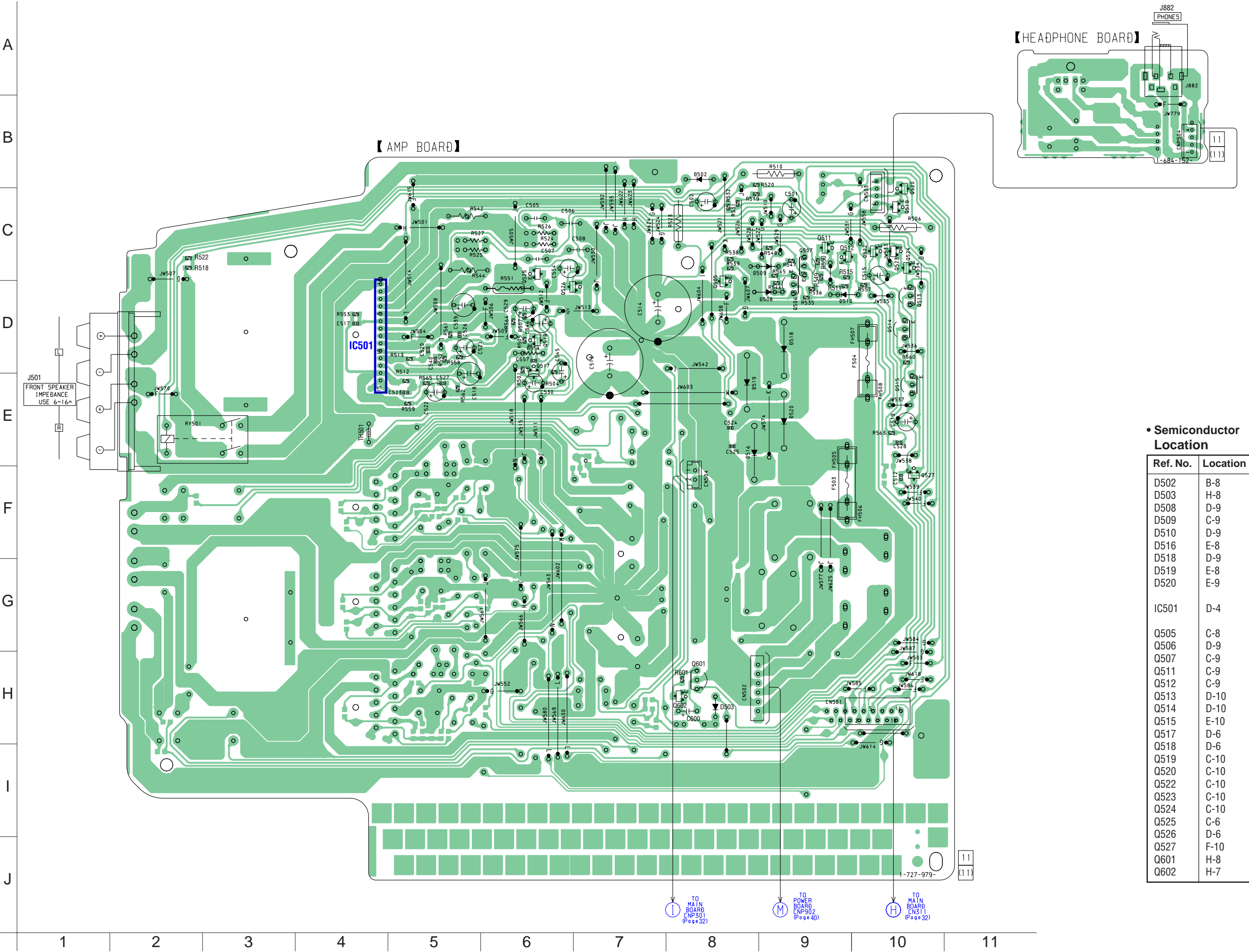


7-9. Schematic Diagram – MAIN Section (2/3) – • See page 45 for IC Pin Function Description. • See page 23 for Waveforms.





7-11. Printed Wiring Board – AMP Section – • See page 23 for Circuit Boards Location.



• Semiconductor Location

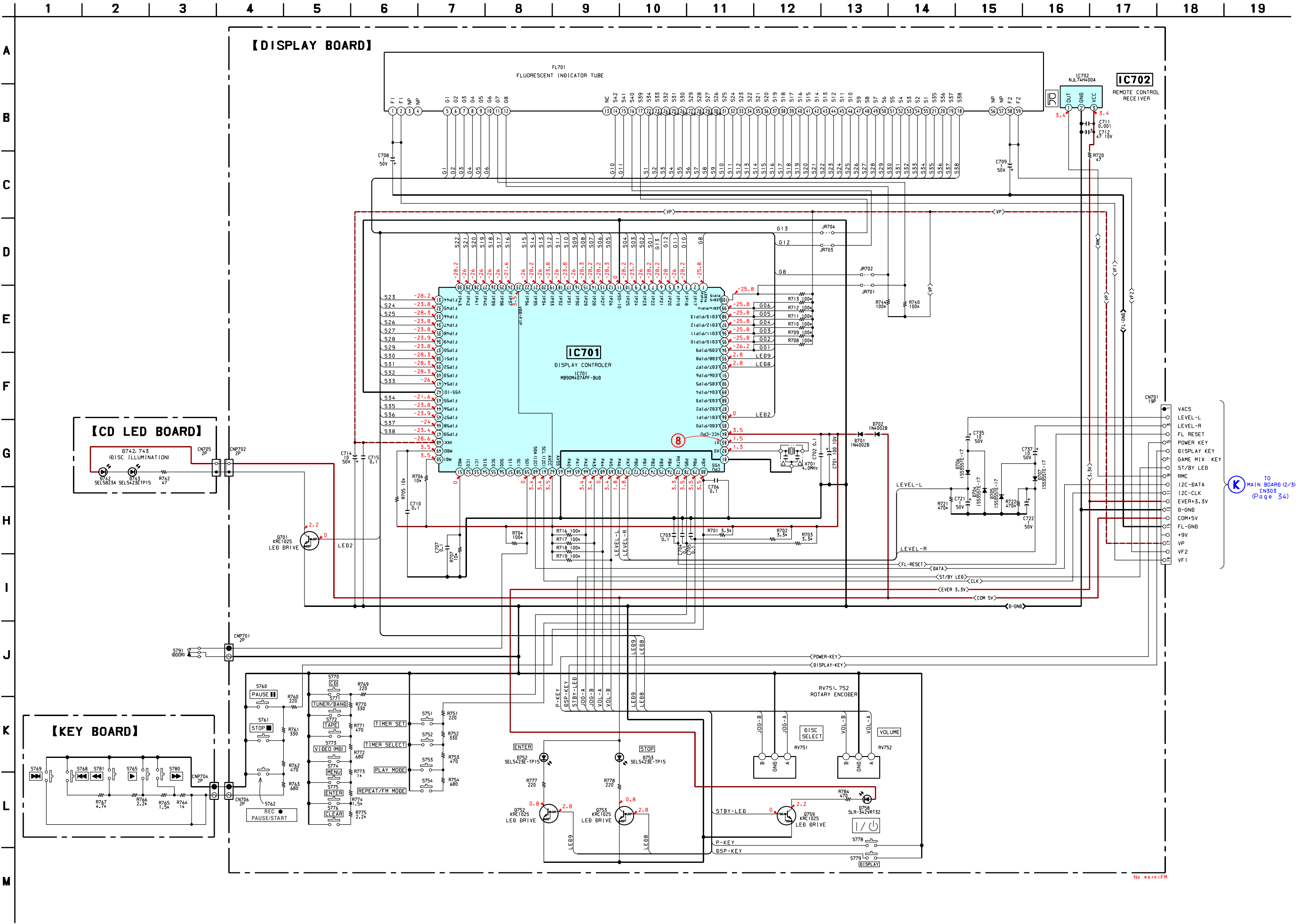
Ref. No.	Location
D502	B-8
D503	H-8
D508	D-9
D509	C-9
D510	D-9
D516	E-8
D518	D-9
D519	E-8
D520	E-9
IC501	D-4
Q505	C-8
Q506	D-9
Q507	C-9
Q511	C-9
Q512	C-9
Q513	D-10
Q514	D-10
Q515	E-10
Q517	D-6
Q518	D-6
Q519	C-10
Q520	C-10
Q522	C-10
Q523	C-10
Q524	C-10
Q525	C-6
Q526	D-6
Q527	F-10
Q601	H-8
Q602	H-7



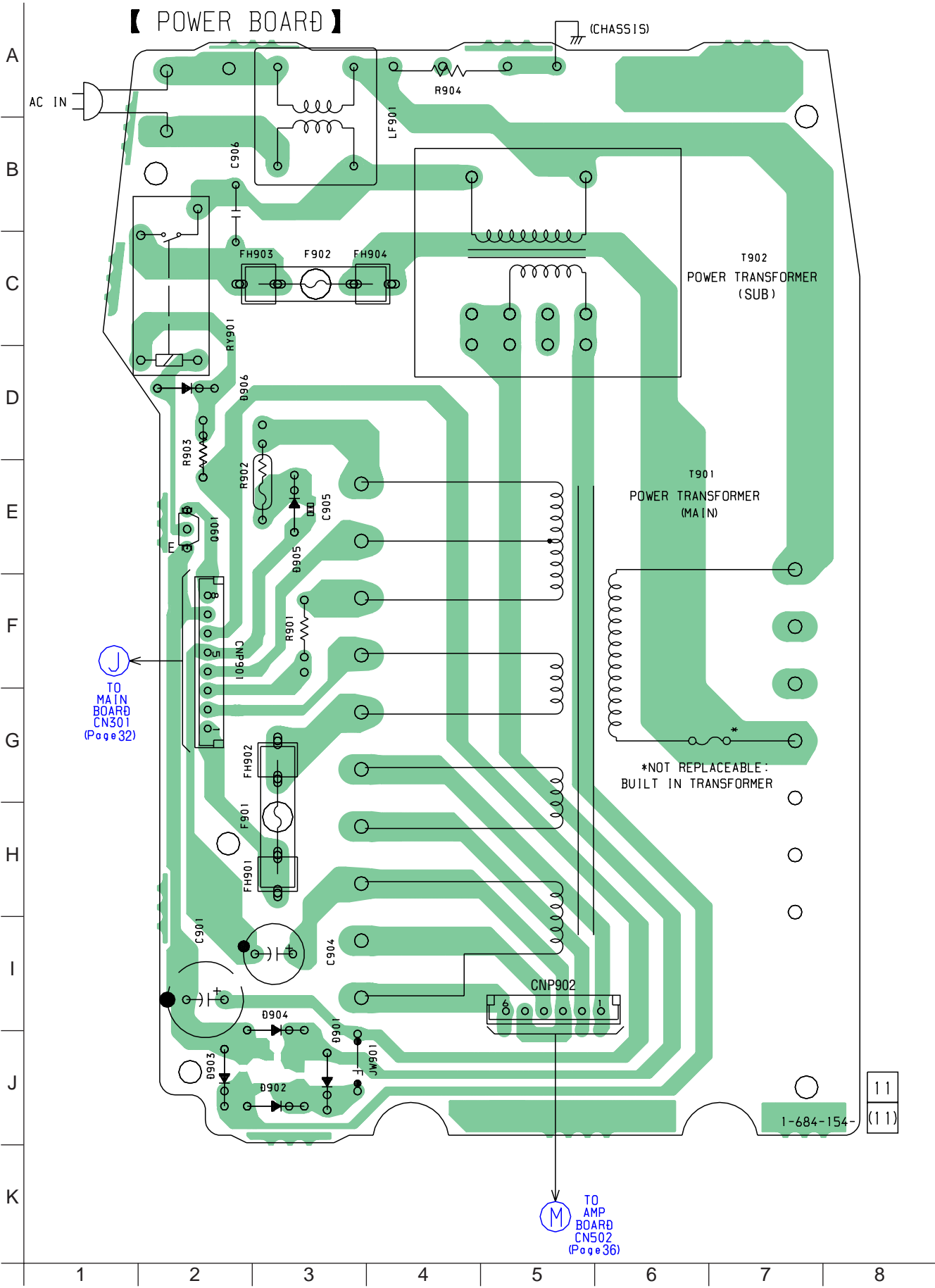
7-13. Printed Wiring Board – DISPLAY Section – • See page 23 for Circuit Boards Location.



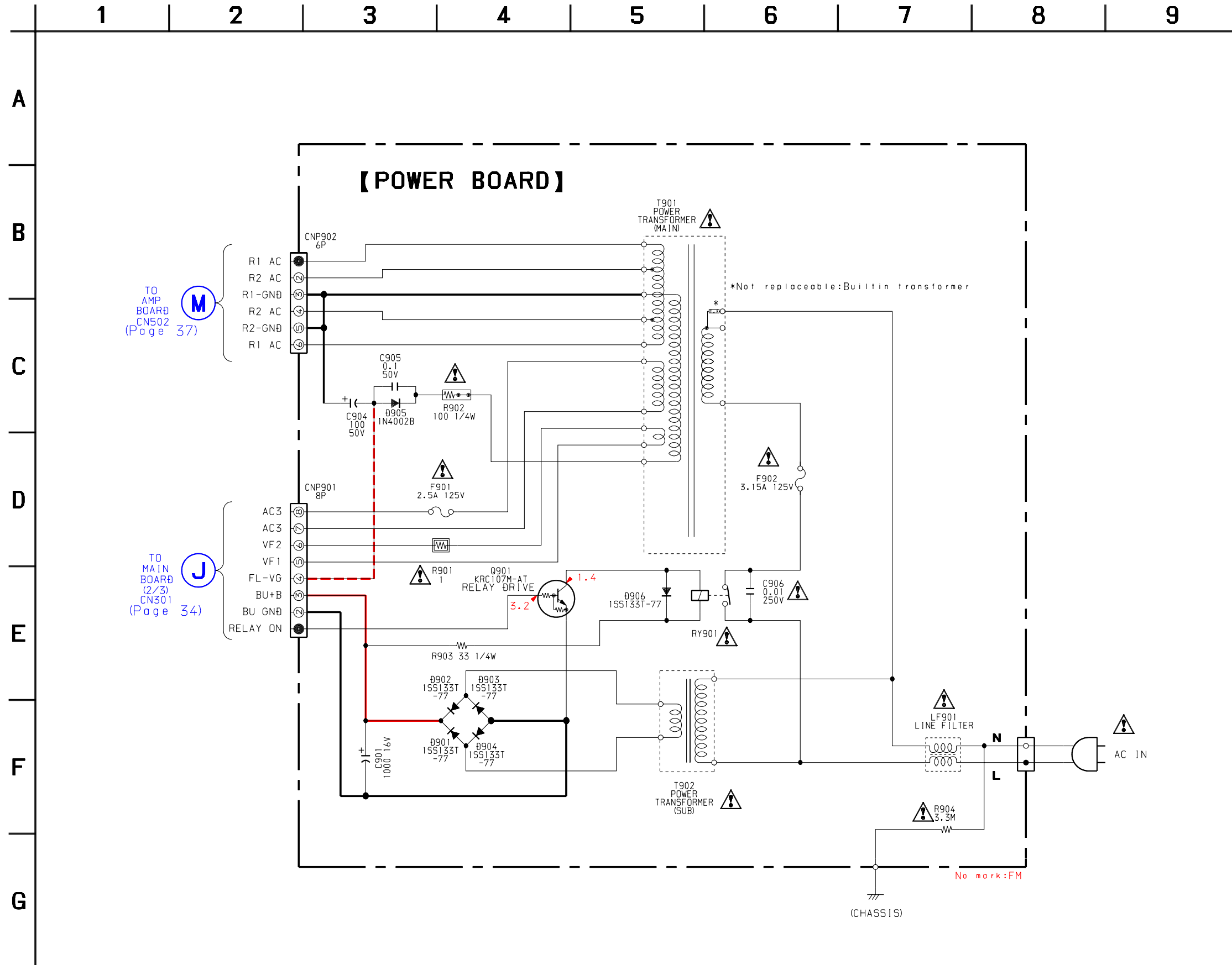
7-14. Schematic Diagram – DISPLAY Section – • See page 47 for IC Pin Function Description. • See page 23 for Waveform.



7-15. Printed Wiring Board – POWER Section – • See page 23 for Circuit Boards Location.



7-16. Schematic Diagram – POWER Section –



– CD Board –

The diagram illustrates the internal architecture of the TMS320C49 DSP, showing the flow of data and control signals between various functional blocks and the external pins. The pins are numbered 1 through 80, with some pins having multiple functions (e.g., 1: SDO, 2: SDOCK, 3: XRST, 4: XSYSM).

Internal Blocks and Connections:

- Digital Interface:** Connected to pins 61-63 (DOUT, DOUT, DOUT) and 64-71 (DOUT, DOUT, DOUT, DOUT, DOUT, DOUT, DOUT). It interfaces with the **D/A INTERFACE** and **TIMING LOGIC**.
- D/A INTERFACE:** Connected to pins 61-63 (DOUT, DOUT, DOUT) and 64-71 (DOUT, DOUT, DOUT, DOUT, DOUT, DOUT, DOUT). It interfaces with the **DIGITAL OUT** and **TIMING LOGIC**.
- DIGITAL OUT:** Connected to pins 61-63 (DOUT, DOUT, DOUT) and 64-71 (DOUT, DOUT, DOUT, DOUT, DOUT, DOUT, DOUT).
- TIMING LOGIC:** Connected to pins 64-71 (DOUT, DOUT, DOUT, DOUT, DOUT, DOUT, DOUT).
- DIGITAL PLL:** Connected to pins 56-59 (PCO, FIL, FIL, FIL, FIL, FIL, FIL, FIL) and 60-63 (DOUT, DOUT, DOUT, DOUT). It interfaces with the **DIGITAL OUT** and **TIMING LOGIC**.
- ASSEMBLY CORRECTOR:** Connected to pins 50-53 (ASY, ASY, ASY, ASY) and 54-57 (FIL, FIL, FIL, FIL).
- OPERATIONAL AMPLIFIER ANALOG SWITCH A/D CONVERTER:** Connected to pins 41-44 (RFDC, CE, TE, TE) and 45-48 (AVSSO, AVSSO, AVSSO, AVSSO). It interfaces with the **DIGITAL PLL** and **TIMING LOGIC**.
- SUBCODE PROCESSOR:** Connected to pins 21-24 (COUT, MIRR, DFCT, FOK) and 25-28 (LOCK, MDP, SSTEP, SFRDR).
- SERVO INTERFACE:** Connected to pins 29-32 (SRDR, SFRDR, TRDR, TRDR) and 33-36 (FOCUS, FOCUS, TRACKING, TRACKING).
- SERVO AUTO SEQUENCER:** Connected to pins 37-40 (XTSL, TES1, TEST, VSS) and 41-44 (RFDC, CE, TE, TE).
- CPU INTERFACE:** Connected to pins 45-48 (AVSSO, AVSSO, AVSSO, AVSSO) and 49-52 (XCLK, XCLK, XCLK, XCLK).
- DIGITAL CLV:** Connected to pins 53-56 (ASY, ASY, ASY, ASY) and 57-60 (FIL, FIL, FIL, FIL).
- MIRR, DFCT, FOK DETECTOR:** Connected to pins 61-63 (DOUT, DOUT, DOUT) and 64-71 (DOUT, DOUT, DOUT, DOUT, DOUT, DOUT, DOUT).

[illegible]

The diagram illustrates the pin configuration and internal functional blocks of the AD5345. The pins are numbered 1 through 24. The top row (pins 1-12) includes VIN1, FIN1, RIN1, IOUT, VREF, VREG, VCC, OUT1+, and OUT1-. The bottom row (pins 13-24) includes FBIN-, FBIN+, OUT2-, and OUT2-. Internal blocks include a REVERSIBLE DRIVER FWD/REV CONTROLLER, a REVERSE DRIVER FWD/REV CONTROLLER, a LOW VOLTAGE OUTPUT, a COVERTER LOAD CURRENT DETECTION AMPLIFIER, and a COVERTER DRIVER FWD/REV CONTROLLER. Connections include a feedback loop from OUT2- to FBIN- and a current sense loop from IOUT to FBIN+.

7-18. IC Pin Function Description

• CD Board IC101 CXD3017Q

(Digital Signal Processor, Digital Servo Processor, Digital Filter, D/A Converter)

Pin No.	Pin Name	I/O	Description
1	SQSO	O	Subcode Q data output to the system controller (IC801)
2	SQCK	I	Subcode Q data reading clock signal input from the system controller (IC801)
3	XRST	I	System reset signal input from the system controller (IC801) “L”: reset
4	SYSM	I	Analog line muting on/off control signal input terminal “H”: line muting on Not used (fixed at “L”)
5	DATA	I	Command serial data input from the system controller (IC801)
6	XLAT	I	Command latch pulse input from the system controller (IC801)
7	CLOK	I	Command serial data transfer clock signal input from the system controller (IC801)
8	SENS	O	Internal status monitor output to the system controller (IC801)
9	SCLK	I	SENSE serial data reading clock input from the system controller (IC801)
10	VDD	—	Power supply terminal (+5V) (digital system)
11	ATSK	I/O	Input pin for anti-shock Not used (fixed at “L”)
12	SPOA	I	Microcomputer escape interface input A terminal Not used (fixed at “L”)
13	SPOB	I	Microcomputer escape interface input B terminal Not used (fixed at “L”)
14	XLON	O	Microcomputer escape interface output terminal Not used (open)
15	WFCK	O	WFCK output terminal Not used (open)
16	XUGF	O	Not used (open)
17	XPCK	O	Not used (open)
18	GFS	O	Not used (open)
19	C2PO	O	Not used (open)
20	SCOR	O	Subcode sync (S0+S1) detection signal output to the system controller (IC801)
21	COUT	I/O	Numbers of track counted signal input/output terminal Not used (open)
22	MIRR	I/O	Mirror signal input/output terminal Not used (open)
23	DFCT	I/O	Defect signal input/output terminal Not used (open)
24	FOK	I/O	Focus OK input/output terminal Not used (open)
25	LOCK	I/O	GFS is sampled by 460 Hz “H” when GFS is “H” Not used (open)
26	MDP	O	Spindle motor servo drive signal output to the BA5974FP (IC102)
27	SSTP	I	Limit in detect switch (S101) input terminal
28	SFDR	O	Sled servo drive PWM signal (+) output to the BA5974FP (IC102)
29	SRDR	O	Sled servo drive PWM signal (–) output to the BA5974FP (IC102)
30	TFDR	O	Tracking servo drive PWM signal (+) output to the BA5974FP (IC102)
31	TRDR	O	Tracking servo drive PWM signal (–) output to the BA5974FP (IC102)
32	FFDR	O	Focus servo drive PWM signal (+) output to the BA5974FP (IC102)
33	FRDR	O	Focus servo drive PWM signal (–) output to the BA5974FP (IC102)
34	VSS	—	Ground terminal (digital system)
35	TEST	I	Input terminal for the test (fixed at “L”)
36	TES1	I	Input terminal for the test (fixed at “L”)
37	XTSL	I	Input terminal for the system clock frequency setting “L”: 45.1584 MHz, “H”: 22.5792 MHz (fixed at “L” in this set)
38	VC	I	Middle point voltage (+2.5V) input from the CXA2581N (IC103)
39	FE	I	Focus error signal input from the CXA2581N (IC103)
40	SE	I	Sled error signal input from the CXA2581N (IC103)
41	TE	I	Tracking error signal input from the CXA2581N (IC103)
42	CE	I	Command chip enable signal input from the CXA2581N (IC103)

Pin No.	Pin Name	I/O	Description
43	RFDC	I	RF signal input from the CXA2581N (IC103)
44	ADIO	O	Monitor output of the A/D converter input signal Not used (open)
45	AVSS0	—	Ground terminal (digital system)
46	IGEN	I	Stabilized current input for operational amplifiers
47	AVDD0	—	Power supply terminal (+5V) (digital system)
48	ASYO	O	Playback EFM full-swing output terminal
49	ASYI	I	Playback EFM asymmetry comparator voltage input terminal
50	BIAS	I	Playback EFM asymmetry circuit constant current input terminal
51	RFAC	I	EFM signal input from the CXA2581N (IC103)
52	AVSS3	—	Ground terminal (digital system)
53	CLTV	I	Internal VCO control voltage input of the playback master PLL
54	FILO	O	Filter output for master clock of the playback master PLL
55	FILI	I	Filter input for master clock of the playback master PLL
56	PCO	O	Phase comparison output for master clock of the playback EFM master PLL
57	AVDD3	—	Power supply terminal (+5V) (digital system)
58	VSS	—	Ground terminal (digital system)
59	VDD	—	Power supply terminal (+5V) (digital system)
60	DOUT	O	Digital audio signal output to the DIGITAL OUT (CD)
61	LRCK	O	L/R sampling clock signal (44.1 kHz) output terminal Not used (open)
62	PCMD	O	D/A interface serial data output terminal Not used (open)
63	BCK	O	Bit clock signal (2.8224 MHz) output terminal Not used (open)
64	EMPH	O	De-emphasis control signal output terminal Not used (open)
65	XVDD	—	Power supply terminal (+5V) (crystal oscillator system)
66	XTAI	I	System clock input terminal (16.9344 MHz)
67	XTAO	O	System clock output terminal (16.9344 MHz)
68	XVSS	—	Ground terminal (crystal oscillator system)
69	AVDD1	—	Power supply terminal (+5V) (analog system)
70	AOUT1	O	L-ch analog audio signal output terminal
71	AIN1	I	L-ch operational amplifiers input terminal
72	LOUT1	O	L-ch line output terminal
73	AVSS1	—	Ground terminal (analog system)
74	AVSS2	—	Ground terminal (analog system)
75	LOUT2	O	R-ch line output terminal
76	AIN2	I	R-ch operational amplifiers input terminal
77	AOUT2	O	R-ch analog audio signal output terminal
78	AVDD2	—	Power supply terminal (+5V) (analog system)
79	RMUT	O	R-ch line muting on/off control signal output terminal Not used (open)
80	LMUT	O	L-ch line muting on/off control signal output terminal Not used (open)

• MAIN Board IC801 M30622MGN-A02FP (System Controller)

Pin No.	Pin Name	I/O	Description
1	TABLE POS	O	Table motor control signal output to the motor driver (IC401)
2	LOAD POS	O	Loading motor control signal output to the motor driver (IC401)
3	LOAD NEG	O	Loading motor control signal output to the motor driver (IC401)
4	RMC	I	Remote control signal input from the remote control receiver (IC702)
5	MP3-DO	O	MP3 serial data output Not used (open)
6	MP3-DI	I	MP3 serial data input Not used (open)
7	MP3-SCL	O	MP3 serial clock output Not used (open)
8	(BYTE)	–	Not used (fixed at “L”)
9	(CNVSS)	–	Not used
10	SUBXIN	I	Sub system clock input (32.768kHz)
11	SUBXOUT	O	Sub system clock output (32.768kHz)
12	RESET	I	System reset signal input from the reset signal generator (IC802)
13	XOUT	O	Sysem clock output (16MHz)
14	VSS	–	Ground
15	XIN	I	System clock input (16MHz)
16	VCC	–	Power supply
17	NC(NMI)	I	Not used (fixed at “H”)
18	MP3-REQ	O	MP3 request signal output Not used (open)
19	C-SCOR	I	Sub-code sync detection signal input from the CXD3017Q (IC101)
20	KB-SCL	I	Serial data transfer clock signal input from the KEYBOARD (J881) Not used (open)
21	C-XRST	O	Reset signal output to the CXD3017Q (IC101)
22	PWM1	O	Focus servo drive PWM signal output to the CXA2581N (IC103)
23	C-XLAT	O	Latch signal output to the CXD3017Q (IC101)
24	PWM2	O	PWM signal output to the CXA2581N (IC103)
25	LD ON	O	Laser diode on/off control signal output to the CXA2581N (IC103)
26	PWM3	O	RFDC PWM signal output to the CXA2581N (IC103)
27	C-SENSE	I	Internal status monitor input from the CXD3017Q (IC101)
28	C-DATA	O	Serial data output to the CXD3017Q (IC101)
29	I2C CLK	I/O	Communication data clock input or output with the display controller (IC701)
30	I2C DATA	I/O	Communication data bus with the display controller (IC701)
31	NC(TXD1)	I	Not used (open)
32	C-SQSO(RXD1)	I	Subcode Q data input from the CXD3017Q (IC101)
33	C-SQCK(SCLK)	O	Subcode Q reading clock output to the CXD3017Q (IC101)
34	MP3-LATCH	O	MP3 latch signal output Not used (open)
35	C-CLK	O	Serial data transfer clock output to the CXD3017Q (IC101)
36	KB-SDA	I	Keyboard data input from the KEYBOARD (J881) Not used (open)
37	KB-CTRL	O	Keyboard control signal output to the KEYBOARD (J881) Not used (open)
38	CD ON	O	CD power on/off control signal output “H” : CD on
39	TEST-CLK	O	Not used (open)
40	TU-ON	O	FM on/off control signal output “H” : FM on
41	NC(XHOLD)	I	Not used
42	TU-CE	O	Chip enable signal output to the PLL (IC2)
43	TU-DO	O	Serial data output to the PLL (IC2)
44	TU-CLK	O	Serial data transfer clock output to the PLL (IC2)
45	TU-DI	I	Serial data input from the PLL (IC2)
46	NC(XWR)	I	Not used
47	TU-TUNED	I	Tuning detection signal input from the AM/FM IF and MPX (IC1) “L” : tuned, “H” : detuned
48	SURCE SEL-A	O	Input selector control signal output Not used
49	SURCE SEL-B	O	Input selector control signal output Not used
50	SW-MUTE	O	Muting on/off control signal output Not used

Pin No.	Pin Name	I/O	Description
51	PL-DATA	O	Serial data output to the PROLOGIC IC Not used
52	PL-CLK	O	Serial clock output to the PROLOGIC IC Not used
53	PL-RQ	O	Request signal output to the PROLOGIC IC Not used
54	VOL-CLK	O	Clock output to the VOLUME IC (IC301)
55	VOL-DATA	O	Data output to the VOLUME IC (IC301)
56	REC-MUTE	O	Tape recording muting control signal output "L" : muting on
57	PB-MUTE	O	Tape line muting control signal output
58	REC/PB	O	REC/PB selection control signal output "H" : REC, "L" : PB
59	ALC-ON	O	ALC control signal output
60	MO-ON	O	Capstan motor on/off control signal output
61	SOL-ON	O	Deck trigger solenoid control signal output
62	VCC	–	Power supply
63	TA-PLAY	I	Detection signal input from the deck play detect switch
64	VSS	–	Ground
65	MULTI ROOM-A	O	Front/rear/surround selection signal output Not used
66	MULTI ROOM-B	O	Front/rear/surround selection signal output Not used
67	A-MUTE	O	Audio muting control signal output "H" : muting on
68	STK-MUTE	O	Power amplifier muting control signal output "L" : power amplifier muting on
69	H/P CHK	I	Headphone detection signal input "H" : headphone on
70	PROTECT	I	Speaker protection signal input
71	R-MUTE	O	Rear speaker muting control signal output Not used
72	C-MUTE	O	Center speaker muting control signal output Not used
73	POWER KEY	I	Key signal input from the POWER key (S778)
74	DISPLAY KEY	I	Key signal input from the DISPLAY key (S779)
75	AC-CUT	I	AC off detection signal from the reset signal generator (IC802)
76	F-RELAY	O	Front speaker relay on/off control signal output
77	R-ST/BY	O	Rear speaker relay control signal output Not used (open)
78	ST/BY LED	O	Standby LED control signal output
79	FL-RESET	O	Reset signal output to the display controller (IC701)
80	GAME LED	O	GAME LED control signal output Not used
81	MP3 ACK	I	MP3 acknowledge signal input Not used (open)
82	P-ST/BY	O	Standby relay control signal output
83	DVD ON	O	Not used
84	MP3-RESET	O	MP3 reset signal output Not used (open)
85	MP3-ST/BY	O	MP3 standby signal output Not used
86	LOAD IN SW	I	Load in detection signal input from the LOAD switch (S842)
87	LOAD OUT SW	I	Load out detection signal input from the LOAD switch (S842)
88	T-SENSE2	I	Detection signal input from the table position sensor (IC13)
89	TA-SHUT	I	Shut off detection signal input from the reel pulse detector in the tape mechanism deck section
90	TA-HALF	I	Detection signal input from the cassette detect switch in the tape mechanism deck section
91	T-SENS3	I	Detection signal input from the table position sensor (IC12)
92	D-SENSE	I	Detection signal input from the disc detect sensor (Q841) "H" : disc in
93	T-SENS1	I	Detection signal input from the table position sensor (IC11)
94	SPEC	I	Model specification setting terminal
95	MODEL	I	Model destination setting terminal
96	AVSS	–	Ground (analog)
97	MP3-CS	O	MP3 chip select signal output Not used (open)
98	VREF	–	Reference voltage input terminal (for A/D converter)
99	AVCC	–	Power supply (analog)
100	TABLE-NEG	O	Table motor control signal output to the motor driver (IC401)

• **DISPLAY Board IC701 MB90M407APF-G-116-BND (Display Controller)**

Pin No.	Pin Name	I/O	Description
1	LED16/PIP16	O	Grid drive signal output to the fluorescent indicator tube (FL701)
2	FIP17	O	Not used
3 to 10	FIP18 to 25	O	Segment drive signal output to the fluorescent indicator tube (FL701)
11	VSS-IO	–	Ground
12 to 22	FIP26 to 36	O	Segment drive signal output to the fluorescent indicator tube (FL701)
23	VDD-FIP	–	Power supply
24 to 41	FIP37 to 54	O	Segment drive signal output to the fluorescent indicator tube (FL701)
42	VSS-IO	–	Ground
43 to 47	FIP55 to 59	O	Segment drive signal output to the fluorescent indicator tube (FL701)
48	VKK	–	Power supply (-30V) (for fluorescent indicator tube drive)
49 to 51	MD0 to 2	I	Operation mode setting input
52,53	IC0, 1	–	Not used (open)
54	SI0	–	Not used (open)
55	SC0	–	Not used (open)
56	SO0	–	Not used (open)
57	SI1	–	Not used (open)
58	SC1	–	Not used (open)
59	SO1	I	CD lid open/close detect switch signal input
60	SDA(I2C)	I/O	Communication bus with the system controller (IC801)
61	SCL(I2C)	I/O	Data communication clock input or output with the system controller (IC801)
62	AVCC	–	Power supply (analog)
63	AVSS	–	Ground (analog)
64, 65	PA0, 1	–	Not used (open)
66	PA2	I	Jog dial A signal input from the rotary encoder (RV751)
67	PA3	I	Jog dial B signal input from the rotary encoder (RV751)
68	PA4	I	Volume A signal input from the rotary encoder (RV752)
69	PA5	I	Volume B signal input from the rotary encoder (RV752)
70	PA6	I	L-ch level signal input
71	PA7	I	R-ch level signal input
72 to 76	PB0 to 4	I	Not used (open)
77	RSTX	I	Reset signal input from the system controller (IC801)
78	PB5	I	Key signal input from the function key (S770 - 776)
79	PB6	I	Key signal input from the function key (S751 - 754)
80	PB7	I	Key signal input from the function key (S760 - 762, 765, 768, 769, 780, 781)
81	VSS-CPU	–	Ground
82	X0	I	System clock input (4MHz)
83	X1	O	System clock output (4MHz)
84	VCC-CPU	–	Power supply
85	LED0/PIP0	O	Not used (open)
86	LED1/PIP1	O	LED drive signal output
87 to 91	LED2 to 6/PIP2 to 6	O	Not used (open)
92	LED7/PIP7	O	LED drive signal output
93	LED8/PIP8	O	LED drive signal output
94 to 100	LED9 to 15/PIP9 to 15	O	Grid drive signal output to the fluorescent indicator tube (FL701)

SECTION 8
EXPLODED VIEWS

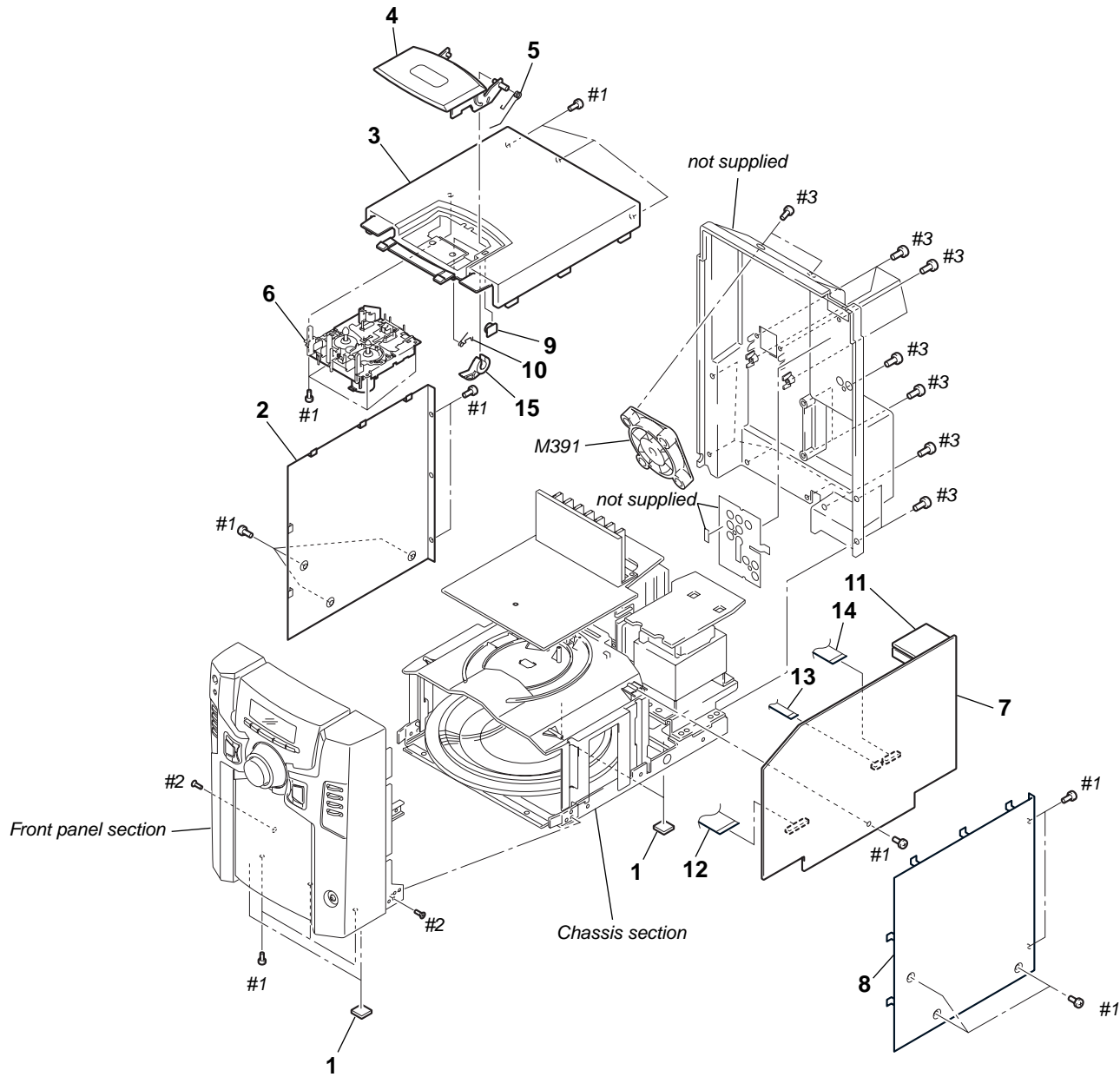
NOTE:

- XX, -X mean standardized parts, so they may have some differences from the original one.
- 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.
- Hardware (# mark) list and accessories and packing materials are given in the last of this parts list.

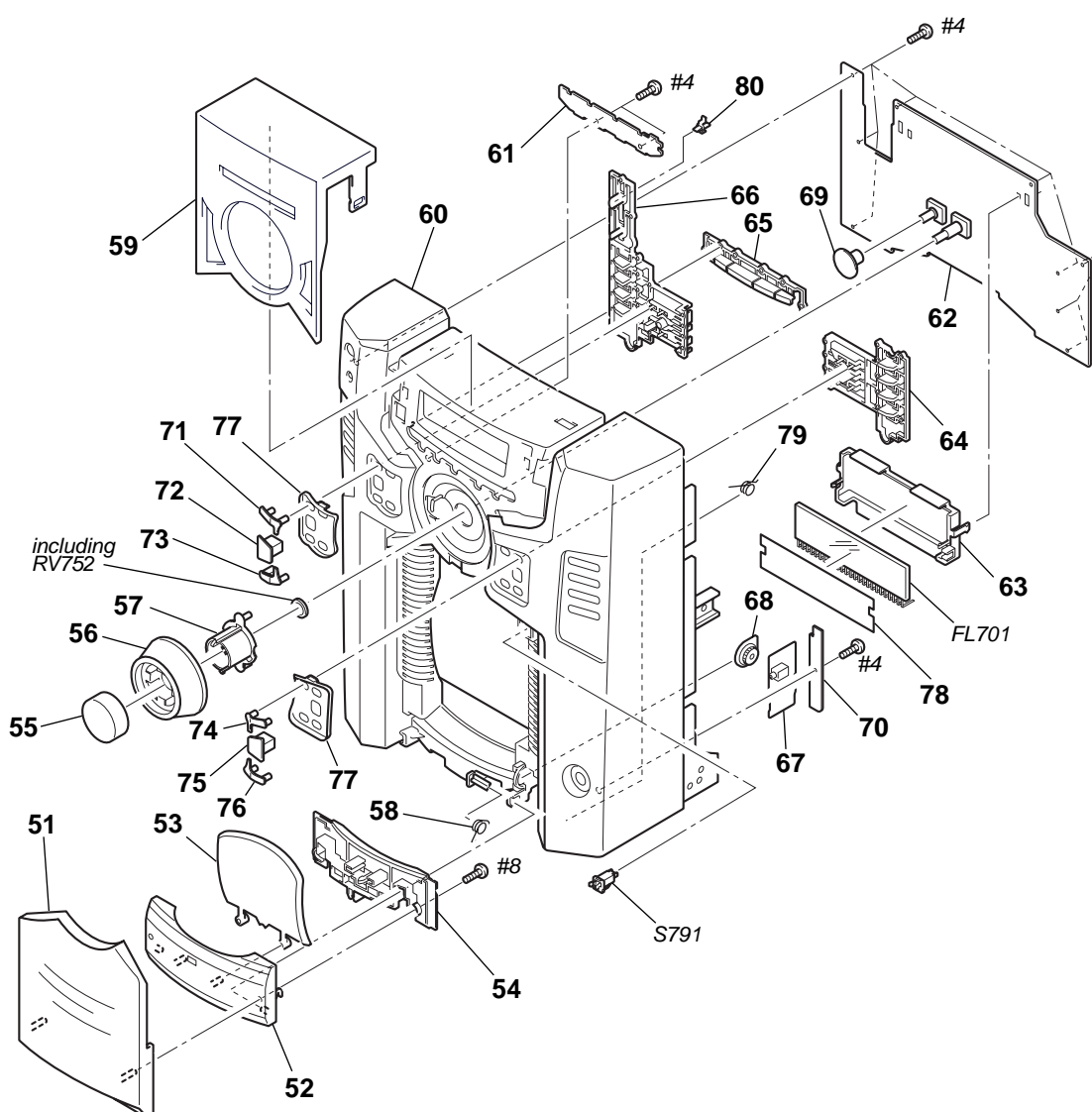
The components identified by mark Δ or dotted line with mark Δ are critical for safety. Replace only with part number specified.

8-1. General Section



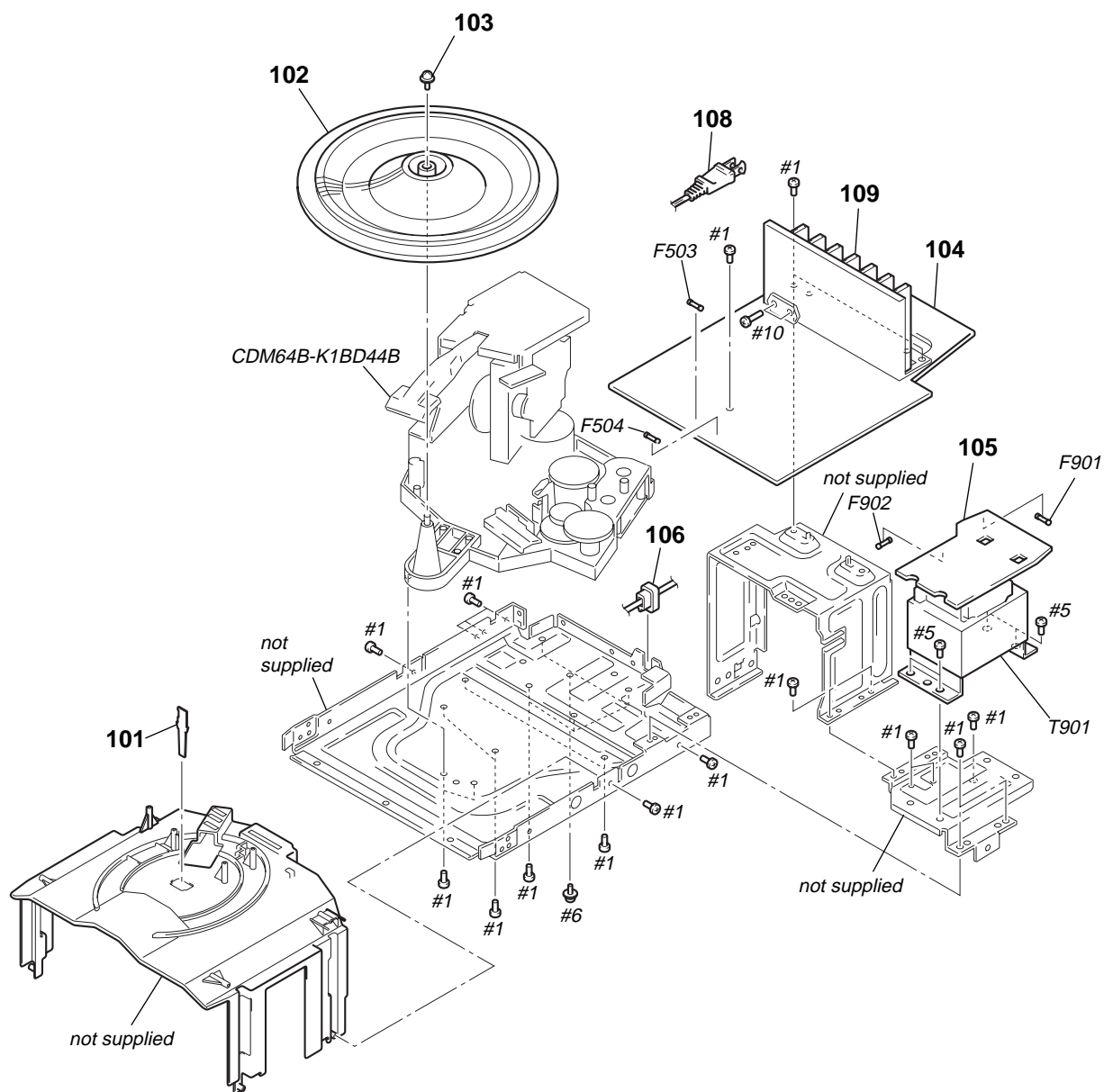
Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
1	4-232-797-02	FOOT, RUBBER		11	A-2004-904-A	TCB-MG (U) ASSY (TUNER PACK)	
2	4-238-222-01	PANEL SIDE (L)		12	1-773-110-11	WIRE (FLAT TYPE) (19 CORE)	
3	4-238-215-01	CABINET TOP		13	1-824-102-11	WIRE (FLAT TYPE) (7 CORE)	
4	4-238-216-01	HOLDER, CASSETTE		14	1-769-944-11	WIRE (FLAT TYPE) (11 CORE)	
5	4-238-227-01	SPRING CST		15	4-231-824-01	CAM (A), HEART	
6	1-796-352-11	MECH DECK (CMAL5Z2)		M391	1-763-697-21	DC FAN	
7	A-4728-352-A	MAIN BOARD, COMPLETE		#1	7-685-646-79	SCREW +BVTP 3X8 TYPE2 N-S	
8	4-238-223-01	PANEL SIDE (R)		#2	7-685-246-19	SCREW +KTP 3X8 TYPE2 SLIT	
9	4-224-104-41	DAMPER		#3	7-685-647-79	SCREW +BVTP 3X10 TYPE2 N-S	
10	4-231-836-01	SPRING (HEART CAM-A)					

8-2. Front Panel Section



Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
51	4-238-200-01	WINDOW, CD		68	4-224-104-41	DAMPER	
52	4-238-198-01	HOLDER CD (A)		69	4-238-204-01	GEAR JOG	
53	4-238-197-01	LID, CD		70	4-238-196-01	DECORATION PANEL	
54	4-238-199-01	HOLDER CD (B)		71	4-238-210-01	BUTTON, MR	
55	4-238-201-01	KNOB, VOLUME		72	4-238-211-01	BUTTON, ES	
56	4-238-202-01	KNOB, JOG		73	4-238-212-01	BUTTON, CP	
57	4-238-218-01	COVER JOG		74	4-238-212-11	BUTTON, CP	
58	4-238-225-01	SPRING CD (A)		75	4-238-211-11	BUTTON, ES	
59	4-238-203-01	HOLDER JOG		76	4-238-210-11	BUTTON, MR	
60	4-238-195-01	CABINET FRONT		77	4-238-205-01	LIGHT PLATE	
61	1-684-149-11	KEY BOARD		78	4-238-226-01	SPRING CD (B)	
62	A-4728-342-A	DISPLAY BOARD, COMPLETE		79	4-238-845-01	SHEET FL (GS0)	
63	4-238-217-01	HOLDER FL		FL701	1-518-799-11	INDICATOR TUBE, FLUORESCENT	
64	4-238-208-01	BUTTON PLAY		S791	1-692-960-21	SWITCH, PUSH (1 KEY) (DOOR)	
65	4-238-206-01	BUTTON, FUNCTION		#4	4-951-620-01	SCREW (2.6X8), +BVTP	
66	4-238-207-01	BUTTON, MULTI		#8	4-951-620-31	SCREW (2.6), +BVTP	
67	1-684-152-11	HEADPHONE BOARD					

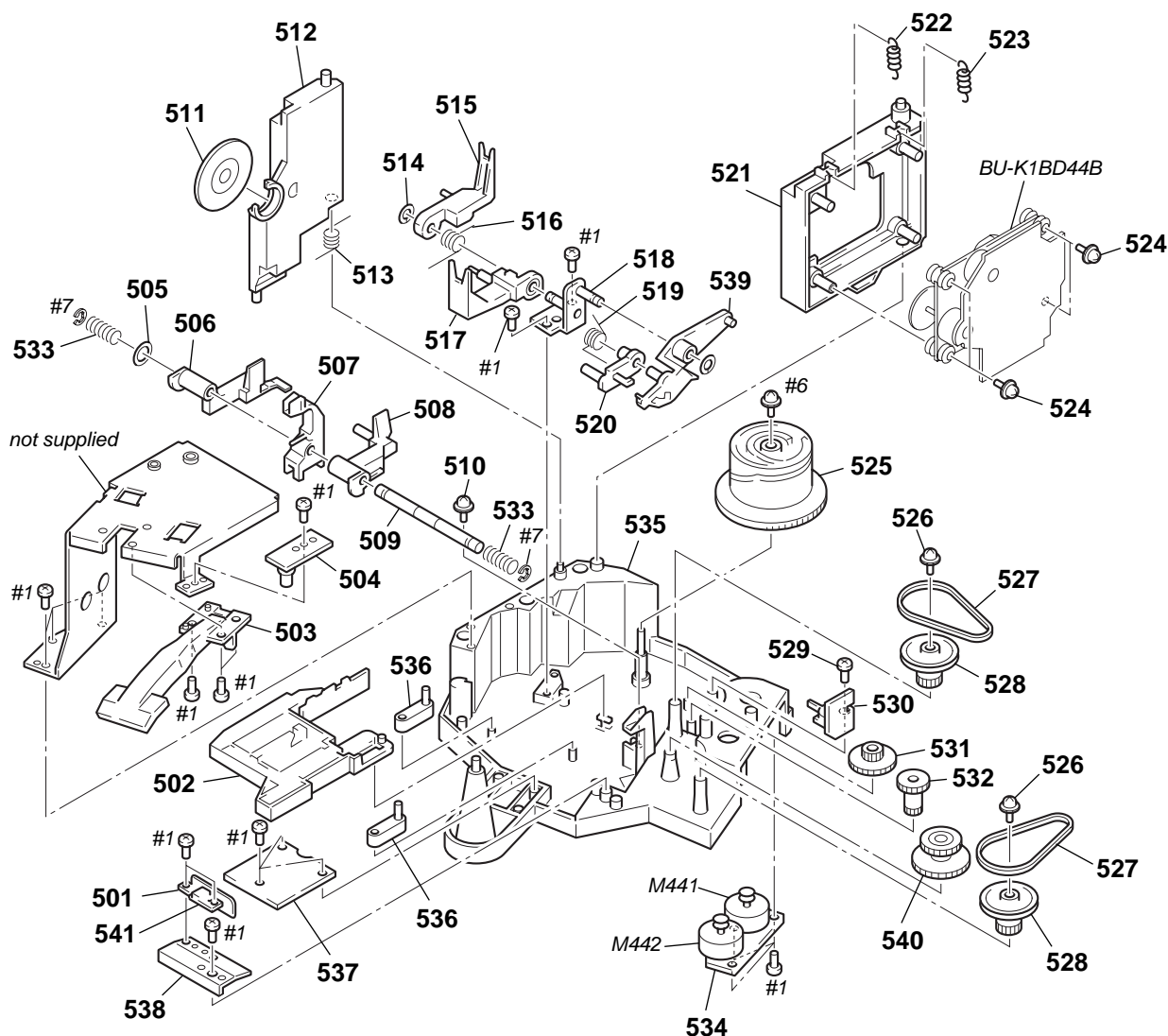
8-3. Chassis Section



Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
101	1-684-156-11	CD LED BOARD		△ F504	1-533-454-11	FUSE, GLASS TUBE (DIA. 5) (3.15A/125V)	
102	4-231-311-01	TABLE (60)		△ F901	1-533-450-11	FUSE, GLASS TUBE (DIA. 5) (6.3A/125V)	
103	3-703-136-21	SCREW (M3X12)		△ F902	1-533-451-11	FUSE, GLASS TUBE (DIA. 5) (6.3A/125V)	
104	A-4728-345-A	AMP BOARD, COMPLETE		△ T901	1-437-722-11	TRANSFORMER, POWER	
105	1-684-154-11	POWER BOARD		#1	7-685-646-79	SCREW +BVTP 3X8 TYPE2 N-S	
* 106	3-703-244-00	BUSHING (2104), CORD		#5	7-685-659-71	SCREW +BVTP 4X8 TYPE2 IT-3	
△ 108	1-757-933-11	CORD, POWER		#6	7-682-947-01	SCREW +PSW 3X6	
109	4-238-220-01	HEAT SINK (A)		#10	7-685-650-79	SCREW +BVTP 3X16 TYPE2 IT-3	
△ F503	1-533-454-11	FUSE, GLASS TUBE (DIA. 5) (2.5A/125V)					

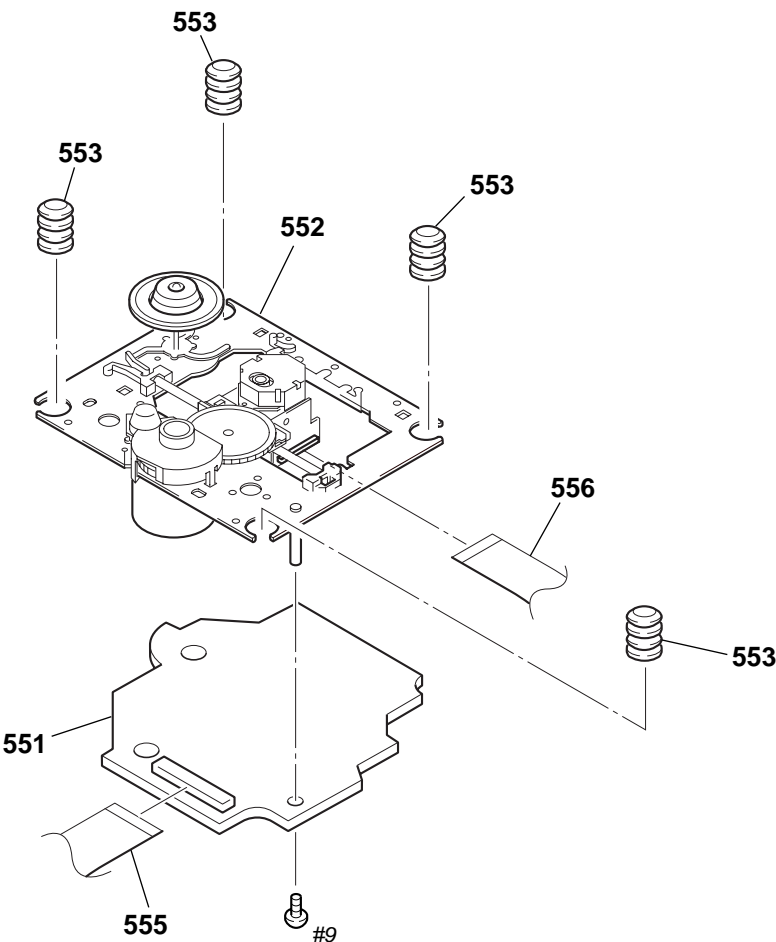
The components identified by mark △ or dotted line with mark △ are critical for safety.
Replace only with part number specified.

8-4. Mechanism Deck Section (CDM64B-K1BD44B)



Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
501	1-684-161-11	D.SENSOR(IN) BOARD		523	4-216-086-01	SPRING (F-2), TENSION	
502	4-231-310-01	SLIDER (60)		524	4-957-577-21	SCREW PTP WH (2.6X8) (DIA. 10)	
503	4-216-088-02	GUIDE (DISC)		525	A-4672-676-B	CAM ASSY	
504	1-684-160-11	D.SENSOR(OUT) BOARD		526	4-933-134-21	SCREW (+PTPWH M2.6X10)	
505	3-701-441-21	WASHER		527	4-231-326-01	BELT (60)	
506	X-4954-587-1	HOLDER ASSY (DISC-L)		528	4-231-316-01	PULLEY (60)	
507	4-231-313-01	LEVER (LOCK 60)		529	4-951-620-01	SCREW (2.6X8), +BVTP	
508	X-4954-586-1	HOLDER ASSY (DISC-R)		530	1-684-158-11	LOAD SW BOARD	
509	4-216-066-02	SHAFT (CLAMP)		531	4-216-057-01	GEAR (CENTER 2)	
510	4-998-716-01	SCREW, BU FITTING		532	4-231-315-01	GEAR (CENTER 60)	
511	A-4672-768-A	MAGNET ASSY		533	4-216-067-01	SPRING (CLAMP), COMPRESSION	
512	4-216-082-01	HOLDER (MAGNET), TORSION		534	1-684-157-11	L.T. MOTOR BOARD	
513	4-216-081-01	SPRING (MG), TORSION		535	4-231-312-01	BASE (CDM 60)	
514	3-325-697-01	WASHER		536	4-216-062-01	LEVER (FULCRUM)	
515	4-216-076-01	HOLDER (R)		537	1-684-159-11	T.SENSOR BOARD	
516	4-216-077-01	SPRING (HOLDER FR), TORSION		539	4-216-078-01	LEVER (LOADING)	
517	4-225-871-01	HOLDER (F400)		540	4-231-314-01	GEAR (TABLE 60)	
518	X-4950-900-1	BRACKET (LEVER) ASSY		541	4-976-474-01	HOLDER (P-T)	
519	4-216-080-01	SPRING (LIMITER), TORSION		M441	A-4735-051-A	MOTOR (60) ASSY (LOADING)	
520	4-216-079-02	LIMITTER (LEVER)		M442	A-4735-051-A	MOTOR (60) ASSY (TABLE)	
521	X-4950-901-5	HOLDER ASSY, BU		#1	7-685-646-79	SCREW +BVTP 3X8 TYPE2 N-S	
522	4-216-085-01	SPRING (F-1), TENSION		#6	7-682-947-01	SCREW +PSW 3X6	
				#7	7-624-106-04	STOP RING 3.0, TYPE -E	

8-5. Base Unit Section (BU-K1BD44B)



Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
551	A-4728-536-A	CD BOARD, COMPLETE		555	1-823-005-11	CABLE, FLEXIBLE FLAT (21 CORE)	
△ 552	A-3328-818-A	OPTICAL PICK-UP KSM-213BFN/C2NP		556	1-757-055-11	WIRE, PARALLEL (FFC) (16 CORE)	
553	4-992-054-11	RUBBER, VIBRATION PROOF		#9	7-621-255-32	SCREW +P 2X5	

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

SECTION 9 ELECTRICAL PARTS LIST

AMP

NOTE:

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- -XX, -X mean standardized parts, so they may have some difference from the original one.
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

- CAPACITORS:
uF: μ F
- RESISTORS
All resistors are in ohms.
METAL: metal-film resistor
METAL OXIDE: Metal Oxide-film resistor
F: nonflammable
- COILS
uH: μ H

- SEMICONDUCTORS
In each case, u: μ , for example:
uA..., μ A..., uPA..., μ PA...,
uPB..., μ PB..., uPC..., μ PC...,
uPD..., μ PD...

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

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

Ref. No.	Part No.	Description	Remarks	Ref. No.	Part No.	Description	Remarks
	A-4728-345-A	AMP BOARD, COMPLETE *****				< DIODE >	
	1-533-233-31	HOLDER, FUSE		D502	8-719-063-79	DIODE 1N4002B	
		< CAPACITOR >		D503	8-719-991-33	DIODE 1SS133T-77	
C501	1-104-665-11	ELECT	100uF 20.00% 10V	D508	8-719-991-33	DIODE 1SS133T-77	
C502	1-104-665-11	ELECT	100uF 20.00% 10V	D509	8-719-991-33	DIODE 1SS133T-77	
C505	1-130-491-00	MYLAR	0.047uF 5% 50V	D510	8-719-991-33	DIODE 1SS133T-77	
C506	1-130-491-00	MYLAR	0.047uF 5% 50V				
C507	1-130-491-00	MYLAR	0.047uF 5% 50V	D516	8-719-902-17	DIODE 1N5401	
				D518	8-719-902-17	DIODE 1N5401	
C508	1-130-491-00	MYLAR	0.047uF 5% 50V	D519	8-719-902-17	DIODE 1N5401	
C512	1-165-319-11	CERAMIC CHIP	0.1uF 50V	D520	8-719-902-17	DIODE 1N5401	
C513	1-128-550-11	ELECT	2200uF 20.00% 50V			< FUSE >	
C514	1-128-550-11	ELECT	2200uF 20.00% 50V	\triangle F503	1-533-454-11	FUSE, GLASS TUBE (DIA. 5) (6.3A/125V)	
C515	1-126-960-11	ELECT	1uF 20.00% 50V	\triangle F504	1-533-454-11	FUSE, GLASS TUBE (DIA. 5) (6.3A/125V)	
						< IC >	
C517	1-162-908-11	CERAMIC CHIP	3PF 8.33% 50V	IC501	6-600-089-01	IC STK403-070	
C518	1-126-968-11	ELECT	100uF 20.00% 50V			< TERMINAL BOARD >	
C519	1-104-665-11	ELECT	100uF 20.00% 10V	J501	1-694-785-11	TERMINAL BOARD (FRONT SPEAKER)	
C520	1-162-960-11	CERAMIC CHIP	220PF 10% 50V			< COIL >	
C521	1-126-967-11	ELECT	47uF 20.00% 50V	L501	1-422-009-13	COIL, AIR-CORE	
				L502	1-422-009-13	COIL, AIR-CORE	
C522	1-126-967-11	ELECT	47uF 20.00% 50V			< TRANSISTOR >	
C523	1-162-960-11	CERAMIC CHIP	220PF 10% 50V	Q505	8-729-120-28	TRANSISTOR 2SC1623-T1-L5L6	
C524	1-165-319-11	CERAMIC CHIP	0.1uF 50V	Q506	8-729-049-31	TRANSISTOR 2SB710A-RTX	
C525	1-165-319-11	CERAMIC CHIP	0.1uF 50V	Q507	8-729-049-31	TRANSISTOR 2SB710A-RTX	
C526	1-162-962-11	CERAMIC CHIP	470PF 10% 50V	Q511	8-729-120-28	TRANSISTOR 2SC1623-T1-L5L6	
				Q512	8-729-120-28	TRANSISTOR 2SC1623-T1-L5L6	
C527	1-162-962-11	CERAMIC CHIP	470PF 10% 50V				
C528	1-126-961-11	ELECT	2.2uF 20.00% 50V	Q513	8-729-036-89	TRANSISTOR KTC3198GR-A	
C529	1-126-961-11	ELECT	2.2uF 20.00% 50V	Q514	8-729-037-02	TRANSISTOR KTA1266Y-AT	
C530	1-126-961-11	ELECT	2.2uF 20.00% 50V	Q515	8-729-036-89	TRANSISTOR KTC3198GR-A	
C539	1-126-968-11	ELECT	100uF 20.00% 50V	Q517	8-729-920-31	TRANSISTOR DTC343TK-T-146	
				Q518	8-729-920-31	TRANSISTOR DTC343TK-T-146	
C540	1-162-908-11	CERAMIC CHIP	3PF 8.33% 50V				
C545	1-126-961-11	ELECT	2.2uF 20.00% 50V	Q519	8-729-920-31	TRANSISTOR DTC343TK-T-146	
C546	1-126-961-11	ELECT	2.2uF 20.00% 50V	Q520	8-729-920-31	TRANSISTOR DTC343TK-T-146	
C554	1-126-960-11	ELECT	1uF 20.00% 50V	Q522	8-759-068-54	TRANSISTOR KRA102S	
C557	1-162-964-11	CERAMIC CHIP	0.001uF 10% 50V	Q523	8-759-068-54	TRANSISTOR KRA102S	
				Q524	8-729-038-67	TRANSISTOR KRC102S	
C600	1-126-963-11	ELECT	4.7uF 20.00% 50V				
		< CONNECTOR >		Q525	8-759-068-54	TRANSISTOR KRA102S	
CN501	1-568-830-11	CONNECTOR, FFC 11P		Q526	8-729-038-67	TRANSISTOR KRC102S	
CN502	1-564-509-11	PLUG, CONNECTOR 6P		Q527	8-729-038-67	TRANSISTOR KRC102S	
* CN503	1-564-706-11	PIN, CONNECTOR (SMALL TYPE) 4P		Q601	8-729-232-28	TRANSISTOR 2SA950-Y-TPE2	
CN504	1-564-505-11	PLUG, CONNECTOR 2P		Q602	8-729-038-67	TRANSISTOR KRC102S	
CN601	1-564-506-11	PLUG, CONNECTOR 3P					

HCD-GS100

AMP	CD LED	CD
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Ref. No.	Part No.	Description	Remarks
< RESISTOR >			
R501	1-216-841-11	METAL CHIP 47K 5%	1/16W
R504	1-216-821-11	METAL CHIP 1K 5%	1/16W
R505	1-216-841-11	METAL CHIP 47K 5%	1/16W
R506	1-215-891-11	METAL OXIDE 680 5%	2W
R507	1-216-821-11	METAL CHIP 1K 5%	1/16W
R508	1-216-821-11	METAL CHIP 1K 5%	1/16W
R509	1-216-821-11	METAL CHIP 1K 5%	1/16W
R510	1-215-891-11	METAL OXIDE 680 5%	2W
R511	1-216-833-11	METAL CHIP 10K 5%	1/16W
R512	1-216-827-11	METAL CHIP 3.3K 5%	1/16W
R513	1-216-827-11	METAL CHIP 3.3K 5%	1/16W
R515	1-216-845-11	METAL CHIP 100K 5%	1/16W
R518	1-216-387-11	METAL CHIP 22K 5%	1/16W
R519	1-216-843-11	METAL CHIP 68K 5%	1/16W
R520	1-216-841-11	METAL CHIP 47K 5%	1/16W
R522	1-216-837-11	METAL CHIP 22K 5%	1/16W
R523	1-215-892-11	METAL OXIDE 1K 5%	2W
R524	1-249-401-11	CARBON 47 5%	1/4W F
R525	1-249-401-11	CARBON 47 5%	1/4W F
R526	1-249-401-11	CARBON 47 5%	1/4W F
R527	1-249-401-11	CARBON 47 5%	1/4W F
R531	1-216-837-11	METAL CHIP 22K 5%	1/16W
R532	1-216-837-11	METAL CHIP 22K 5%	1/16W
R535	1-216-845-11	METAL CHIP 100K 5%	1/16W
R536	1-216-845-11	METAL CHIP 100K 5%	1/16W
R538	1-216-833-11	METAL CHIP 10K 5%	1/16W
R539	1-216-821-11	METAL CHIP 1K 5%	1/16W
R542	1-217-151-00	METAL 0.22 10%	2W
R544	1-217-151-00	METAL 0.22 10%	2W
R545	1-216-821-11	METAL CHIP 1K 5%	1/16W
R546	1-216-835-11	METAL CHIP 15K 5%	1/16W
R547	1-216-835-11	METAL CHIP 15K 5%	1/16W
R548	1-216-821-11	METAL CHIP 1K 5%	1/16W
R549	1-216-836-11	METAL CHIP 18K 5%	1/16W
R550	1-216-845-11	METAL CHIP 100K 5%	1/16W
△ R551	1-212-881-11	FUSIBLE 100 5%	1/4W
R552	1-216-841-11	METAL CHIP 47K 5%	1/16W
R553	1-216-841-11	METAL CHIP 47K 5%	1/16W
R554	1-249-431-11	CARBON 15K 5%	1/4W
R557	1-216-841-11	METAL CHIP 47K 5%	1/16W
R558	1-216-821-11	METAL CHIP 1K 5%	1/16W
R559	1-216-821-11	METAL CHIP 1K 5%	1/16W
R560	1-216-833-11	METAL CHIP 10K 5%	1/16W
R561	1-216-845-11	METAL CHIP 100K 5%	1/16W
R562	1-216-845-11	METAL CHIP 100K 5%	1/16W
R563	1-216-841-11	METAL CHIP 47K 5%	1/16W
R564	1-216-821-11	METAL CHIP 1K 5%	1/16W
R565	1-216-821-11	METAL CHIP 1K 5%	1/16W
R593	1-247-791-91	CARBON 22 5%	1/4W
R598	1-247-791-91	CARBON 22 5%	1/4W
R599	1-247-791-91	CARBON 22 5%	1/4W
R600	1-247-791-91	CARBON 22 5%	1/4W
R601	1-216-825-11	METAL CHIP 2.2K 5%	1/16W
< RELAY >			
RY501	1-755-309-11	RELAY	

Ref. No.	Part No.	Description	Remarks
< THERMISTOR >			
TH501	1-807-796-11	THERMISTOR	*****
1-684-156-11	CD LED BOARD	*****	
< CONNECTOR >			
CN705	1-564-718-11	PIN, CONNECTOR (SMALL TYPE) 2P	
< DIODE >			
D742	8-719-058-64	DIODE SEL5823A-TP15 (DISC ILLUMINATION)	
D743	8-719-058-03	DIODE SEL5423E-TP15 (DISC ILLUMINATION)	
< RESISTOR >			
R742	1-216-805-11	METAL CHIP 47 5%	1/16W

A-4728-536-A	CD BOARD, COMPLETE	*****	
< CAPACITOR >			
C101	1-162-967-11	CERAMIC CHIP 0.0033uF 10%	50V
C102	1-107-826-11	CERAMIC CHIP 0.1uF 10.00%	16V
C103	1-162-962-11	CERAMIC CHIP 470PF 10%	50V
C104	1-162-962-11	CERAMIC CHIP 470PF 10%	50V
C108	1-107-826-11	CERAMIC CHIP 0.1uF 10.00%	16V
C109	1-162-965-11	CERAMIC CHIP 0.0015uF 10%	50V
C110	1-162-967-11	CERAMIC CHIP 0.0033uF 10%	50V
C111	1-162-927-11	CERAMIC CHIP 100PF 5%	50V
C112	1-115-156-11	CERAMIC CHIP 1uF 10V	
C114	1-164-360-11	CERAMIC CHIP 0.1uF 16V	
C116	1-126-382-11	ELECT 100uF 20.00%	16V
C117	1-126-382-11	ELECT 100uF 20.00%	16V
C118	1-162-964-11	CERAMIC CHIP 0.001uF 10%	50V
C121	1-164-360-11	CERAMIC CHIP 0.1uF 16V	
C122	1-126-933-11	ELECT 100uF 20.00%	16V
C123	1-162-970-11	CERAMIC CHIP 0.01uF 10%	25V
C124	1-125-891-11	CERAMIC CHIP 0.47uF 10.00%	10V
C125	1-164-360-11	CERAMIC CHIP 0.1uF 16V	
C126	1-164-360-11	CERAMIC CHIP 0.1uF 16V	
C127	1-126-382-11	ELECT 100uF 20.00%	16V
C130	1-164-360-11	CERAMIC CHIP 0.1uF 16V	
C131	1-126-933-11	ELECT 100uF 20.00%	16V
C133	1-162-921-11	CERAMIC CHIP 33PF 5%	50V
C140	1-115-156-11	CERAMIC CHIP 1uF 10V	
C143	1-164-360-11	CERAMIC CHIP 0.1uF 16V	
C145	1-164-360-11	CERAMIC CHIP 0.1uF 16V	
C146	1-107-826-11	CERAMIC CHIP 0.1uF 10.00%	16V
C150	1-107-826-11	CERAMIC CHIP 0.1uF 10.00%	16V
C153	1-164-360-11	CERAMIC CHIP 0.1uF 16V	
C159	1-162-969-11	CERAMIC CHIP 0.0068uF 10%	25V
C162	1-126-382-11	ELECT 100uF 20.00%	16V
C163	1-126-933-11	ELECT 100uF 20.00%	16V
C165	1-164-360-11	CERAMIC CHIP 0.1uF 16V	
C167	1-162-920-11	CERAMIC CHIP 27PF 5%	50V
C168	1-162-919-11	CERAMIC CHIP 22PF 5%	50V

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

CD

DISPLAY

Ref. No.	Part No.	Description	Remarks	Ref. No.	Part No.	Description	Remarks
C171	1-115-412-11	CERAMIC CHIP 680PF 5.00% 25V		R122	1-216-845-11	METAL CHIP 100K 5% 1/16W	
C172	1-162-927-11	CERAMIC CHIP 100PF 5% 50V		R123	1-216-833-11	METAL CHIP 10K 5% 1/16W	
C181	1-115-412-11	CERAMIC CHIP 680PF 5.00% 25V		R124	1-216-845-11	METAL CHIP 100K 5% 1/16W	
C182	1-162-927-11	CERAMIC CHIP 100PF 5% 50V		R131	1-216-813-11	METAL CHIP 220 5% 1/16W	
C183	1-162-968-11	CERAMIC CHIP 0.0047uF 10% 50V		R143	1-216-836-11	METAL CHIP 18K 5% 1/16W	
C184	1-162-968-11	CERAMIC CHIP 0.0047uF 10% 50V		R144	1-216-836-11	METAL CHIP 18K 5% 1/16W	
C185	1-125-891-11	CERAMIC CHIP 0.47uF 10.00% 10V		R147	1-216-828-11	METAL CHIP 3.9K 5% 1/16W	
C190	1-115-156-11	CERAMIC CHIP 1uF 10V		R148	1-216-797-11	METAL CHIP 10 5% 1/16W	
C191	1-126-933-11	ELECT 100uF 20.00% 16V		R149	1-216-797-11	METAL CHIP 10 5% 1/16W	
C192	1-126-382-11	ELECT 100uF 20.00% 16V		R150	1-216-833-11	METAL CHIP 10K 5% 1/16W	
C193	1-126-382-11	ELECT 100uF 20.00% 16V		R151	1-216-845-11	METAL CHIP 100K 5% 1/16W	
C194	1-164-360-11	CERAMIC CHIP 0.1uF 16V		R158	1-216-837-11	METAL CHIP 22K 5% 1/16W	
C196	1-164-360-11	CERAMIC CHIP 0.1uF 16V		R159	1-216-837-11	METAL CHIP 22K 5% 1/16W	
C197	1-107-826-11	CERAMIC CHIP 0.1uF 10.00% 16V		R162	1-216-847-11	METAL CHIP 150K 5% 1/16W	
C198	1-126-933-11	ELECT 100uF 20.00% 16V		R171	1-216-837-11	METAL CHIP 22K 5% 1/16W	
C199	1-162-962-11	CERAMIC CHIP 470PF 10% 50V		R172	1-216-837-11	METAL CHIP 22K 5% 1/16W	
		< CONNECTOR >		R173	1-216-837-11	METAL CHIP 22K 5% 1/16W	
CN101	1-770-528-31	CONNECTOR, FFC/FPC 21P		R181	1-216-837-11	METAL CHIP 22K 5% 1/16W	
CN102	1-779-466-11	CONNECTOR, FFC(LIF(NON-ZIF))16P		R182	1-216-837-11	METAL CHIP 22K 5% 1/16W	
		< DIODE >		R183	1-216-837-11	METAL CHIP 22K 5% 1/16W	
D101	8-719-056-77	DIODE UDZ-TE-17-3.9B		R190	1-216-813-11	METAL CHIP 220 5% 1/16W	
		< FERRITE BEAD >		R191	1-216-839-11	METAL CHIP 33K 5% 1/16W	
FB101	1-469-144-21	FERRITE 0UH		R192	1-216-839-11	METAL CHIP 33K 5% 1/16W	
FB103	1-469-144-21	FERRITE 0UH		R193	1-216-846-11	METAL CHIP 120K 5% 1/16W	
		< IC >		R194	1-216-845-11	METAL CHIP 100K 5% 1/16W	
IC101	8-752-402-31	IC CXD3017Q		R195	1-216-853-11	METAL CHIP 470K 5% 1/16W	
IC102	8-759-549-28	IC BA5974FP-E2		R196	1-216-825-11	METAL CHIP 2.2K 5% 1/16W	
IC103	8-752-089-74	IC CXA2581N-T4		R197	1-216-821-11	METAL CHIP 1K 5% 1/16W	
		< CONDUCTOR >				< RESISTOR NETWORK >	
JR101	1-216-864-11	METAL CHIP 0 5% 1/16W		RN101	1-233-576-11	RES, CHIP NETWORK 100	
		< TRANSISTOR >				< SWITCH >	
Q101	8-729-049-31	TRANSISTOR 2SB710A-RTX		S101	1-771-853-11	SWITCH, DETECTION (LIMIT SW)	
Q102	8-729-920-85	TRANSISTOR 2SD1664-T100-QR				< VIBRATOR >	
		< RESISTOR >		X101	1-767-226-11	VIBRATOR, CRYSTAL (16.9344MHZ)	
R101	1-216-821-11	METAL CHIP 1K 5% 1/16W				*****	
R102	1-216-845-11	METAL CHIP 100K 5% 1/16W					
R103	1-216-835-11	METAL CHIP 15K 5% 1/16W		A-4728-342-A	DISPLAY BOARD, COMPLETE		
R104	1-216-839-11	METAL CHIP 33K 5% 1/16W			*****		
R106	1-216-821-11	METAL CHIP 1K 5% 1/16W			< CAPACITOR >		
R107	1-216-833-11	METAL CHIP 10K 5% 1/16W		C701	1-104-665-11	ELECT 100uF 20.00% 10V	
R108	1-216-827-11	METAL CHIP 3.3K 5% 1/16W		C702	1-107-826-11	CERAMIC CHIP 0.1uF 10.00% 16V	
R109	1-216-857-11	METAL CHIP 1M 5% 1/16W		C703	1-107-826-11	CERAMIC CHIP 0.1uF 10.00% 16V	
R111	1-216-846-11	METAL CHIP 120K 5% 1/16W		C704	1-107-826-11	CERAMIC CHIP 0.1uF 10.00% 16V	
R114	1-218-745-11	RES-CHIP 160K 5% 1/10W		C705	1-107-826-11	CERAMIC CHIP 0.1uF 10.00% 16V	
R116	1-216-797-11	METAL CHIP 10 5% 1/16W		C706	1-107-826-11	CERAMIC CHIP 0.1uF 10.00% 16V	
R117	1-216-821-11	METAL CHIP 1K 5% 1/16W		C707	1-107-826-11	CERAMIC CHIP 0.1uF 10.00% 16V	
R118	1-216-809-11	METAL CHIP 100 5% 1/16W		C708	1-126-960-11	ELECT 1uF 20.00% 50V	
R119	1-216-826-11	METAL CHIP 2.7K 5% 1/16W		C709	1-126-960-11	ELECT 1uF 20.00% 50V	
R120	1-216-835-11	METAL CHIP 15K 5% 1/16W		C710	1-107-826-11	CERAMIC CHIP 0.1uF 10.00% 16V	
				C711	1-162-964-11	CERAMIC CHIP 0.001uF 10% 50V	
				C712	1-126-947-11	ELECT 47uF 20.00% 10V	
				C714	1-126-964-11	ELECT 10uF 20.00% 50V	
				C715	1-107-826-11	CERAMIC CHIP 0.1uF 10.00% 16V	
				C721	1-126-960-11	ELECT 1uF 20.00% 50V	

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DISPLAY

Ref. No.	Part No.	Description	Remarks			Ref. No.	Part No.	Description	Remarks		
C722	1-126-960-11	ELECT	1uF	20.00%	50V	R711	1-216-845-11	METAL CHIP	100K	5%	1/16W
C735	1-126-964-11	ELECT	10uF	20.00%	50V	R712	1-216-845-11	METAL CHIP	100K	5%	1/16W
C737	1-126-964-11	ELECT	10uF	20.00%	50V	R713	1-216-845-11	METAL CHIP	100K	5%	1/16W
< CONNECTOR >						R716	1-216-845-11	METAL CHIP	100K	5%	1/16W
CN701	1-784-741-11	CONNECTOR, FFC 19P				R717	1-216-845-11	METAL CHIP	100K	5%	1/16W
CN706	1-564-718-11	PIN, CONNECTOR (SMALL TYPE) 2P				R718	1-216-845-11	METAL CHIP	100K	5%	1/16W
< DIODE >						R719	1-216-845-11	METAL CHIP	100K	5%	1/16W
D701	8-719-063-79	DIODE	1N4002B			R720	1-216-805-11	METAL CHIP	47	5%	1/16W
D702	8-719-063-79	DIODE	1N4002B			R721	1-216-853-11	METAL CHIP	470K	5%	1/16W
D704	8-719-988-61	DIODE	1SS355TE-17			R722	1-216-853-11	METAL CHIP	470K	5%	1/16W
D705	8-719-988-61	DIODE	1SS355TE-17			R740	1-216-845-11	METAL CHIP	100K	5%	1/16W
D706	8-719-988-61	DIODE	1SS355TE-17			R744	1-216-845-11	METAL CHIP	100K	5%	1/16W
D707	8-719-988-61	DIODE	1SS355TE-17			R751	1-216-813-11	METAL CHIP	220	5%	1/16W
D752	8-719-058-03	DIODE	SEL5423E-TP15 (ENTER)			R752	1-216-815-11	METAL CHIP	330	5%	1/16W
D753	8-719-058-03	DIODE	SEL5423E-TP15 (STOP)			R753	1-216-817-11	METAL CHIP	470	5%	1/16W
D758	8-719-060-44	DIODE	SLR-342VRT32 (I/⌚)			R754	1-216-819-11	METAL CHIP	680	5%	1/16W
< FLUORESCENT INDICATOR >						R760	1-216-813-11	METAL CHIP	220	5%	1/16W
FL701	1-518-799-11	INDICATOR TUBE, FLUORESCENT				R761	1-216-815-11	METAL CHIP	330	5%	1/16W
< IC >						R762	1-216-817-11	METAL CHIP	470	5%	1/16W
IC701	6-801-333-01	IC MB90M407APF-G-116-BND				R763	1-216-819-11	METAL CHIP	680	5%	1/16W
IC702	8-759-826-34	IC NJL74H400A				R773	1-216-821-11	METAL CHIP	1K	5%	1/16W
< JUMPER RESISTOR >						R774	1-216-823-11	METAL CHIP	1.5K	5%	1/16W
JR701	1-216-864-11	METAL CHIP	0	5%	1/16W	R775	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
JR702	1-216-864-11	METAL CHIP	0	5%	1/16W	R777	1-216-813-11	METAL CHIP	220	5%	1/16W
JR703	1-216-864-11	METAL CHIP	0	5%	1/16W	R778	1-216-813-11	METAL CHIP	220	5%	1/16W
JR704	1-216-864-11	METAL CHIP	0	5%	1/16W	R784	1-216-817-11	METAL CHIP	470	5%	1/16W
JR705	1-216-864-11	METAL CHIP	0	5%	1/16W	< VARIABLE RESISTOR >					
JR707	1-216-864-11	METAL CHIP	0	5%	1/16W	RV751	1-477-160-11	ENCODER, ROTARY (DISC ACCESS)			
JR709	1-216-864-11	METAL CHIP	0	5%	1/16W	RV752	1-418-725-31	ENCODER, ROTARY (12 TYPE) (VOLUME)			
JR710	1-216-864-11	METAL CHIP	0	5%	1/16W	< SWITCH >					
JR711	1-216-864-11	METAL CHIP	0	5%	1/16W	S751	1-762-196-21	SWITCH, TACT (TIMER SET)			
JR712	1-216-864-11	METAL CHIP	0	5%	1/16W	S752	1-762-196-21	SWITCH, TACT (TIMER SELECT)			
JR713	1-216-864-11	METAL CHIP	0	5%	1/16W	S753	1-762-196-21	SWITCH, TACT (PLAY MODE)			
JR714	1-216-864-11	METAL CHIP	0	5%	1/16W	S754	1-762-196-21	SWITCH, TACT (REPEAT/FM MODE)			
JR715	1-216-864-11	METAL CHIP	0	5%	1/16W	S760	1-762-196-21	SWITCH, TACT (PAUSE ■■)			
JR716	1-216-864-11	METAL CHIP	0	5%	1/16W	S761	1-762-196-21	SWITCH, TACT (STOP ■)			
JR717	1-216-864-11	METAL CHIP	0	5%	1/16W	S762	1-762-196-21	SWITCH, TACT (REC ●, PAUSE/START)			
< TRANSISTOR >						S770	1-762-196-21	SWITCH, TACT (CD)			
Q701	8-729-038-67	TRANSISTOR	KRC102S			S771	1-762-196-21	SWITCH, TACT (TUNER/BAND)			
Q752	8-729-038-67	TRANSISTOR	KRC102S			S772	1-762-196-21	SWITCH, TACT (TAPE)			
Q753	8-729-038-67	TRANSISTOR	KRC102S			S773	1-762-196-21	SWITCH, TACT (VIDEO (MD))			
Q759	8-729-038-67	TRANSISTOR	KRC102S			S774	1-762-196-21	SWITCH, TACT (MENU)			
< RESISTOR >						S775	1-762-196-21	SWITCH, TACT (ENTER)			
R701	1-216-827-11	METAL CHIP	3.3K	5%	1/16W	S776	1-762-196-21	SWITCH, TACT (CLEAR)			
R702	1-216-827-11	METAL CHIP	3.3K	5%	1/16W	S778	1-762-196-21	SWITCH, TACT (I/⌚)			
R703	1-216-827-11	METAL CHIP	3.3K	5%	1/16W	S779	1-762-196-21	SWITCH, TACT (DISPLAY)			
R704	1-216-845-11	METAL CHIP	100K	5%	1/16W	< VIBRATOR >					
R705	1-216-833-11	METAL CHIP	10K	5%	1/16W	X701	1-781-282-11	VIBRATOR, CERAMIC (4.0MHz)			
R706	1-216-833-11	METAL CHIP	10K	5%	1/16W	*****					
R707	1-216-833-11	METAL CHIP	10K	5%	1/16W						
R708	1-216-845-11	METAL CHIP	100K	5%	1/16W						
R709	1-216-845-11	METAL CHIP	100K	5%	1/16W						
R710	1-216-845-11	METAL CHIP	100K	5%	1/16W						

D.SENSOR (IN)

D.SENSOR (OUT)

HEADPHONE

KEY

L.T MOTOR

LOAD SW

MAIN

Ref. No.	Part No.	Description	Remarks	Ref. No.	Part No.	Description	Remarks
	1-684-161-11	D.SENSOR(IN) BOARD *****			A-4728-352-A	MAIN BOARD, COMPLETE *****	
		< TRANSISTOR >				< CAPACITOR >	
Q841	8-729-921-53	PHOTO TRANSISTOR PT483F1 *****		C101	1-126-964-11	ELECT 10uF 20.00% 50V	
				C102	1-126-964-11	ELECT 10uF 20.00% 50V	
				C103	1-126-964-11	ELECT 10uF 20.00% 50V	
	1-684-160-11	D.SENSOR(OUT) BOARD *****		C104	1-126-964-11	ELECT 10uF 20.00% 50V	
		< DIODE >		C106	1-126-964-11	ELECT 10uF 20.00% 50V	
D841	8-719-055-84	DIODE GL528VS1 (DISC IN DETECT SENSOR)		C107	1-164-227-11	CERAMIC CHIP 0.022uF 10% 25V	
		< RESISTOR >		C108	1-164-227-11	CERAMIC CHIP 0.022uF 10% 25V	
R841	1-216-819-11	METAL CHIP 680 5% 1/16W *****		C109	1-126-964-11	ELECT 10uF 20.00% 50V	
				C110	1-136-161-00	FILM 0.047uF 5.00% 50V	
	1-684-152-11	HEADPHONE BOARD *****		C111	1-130-479-00	MYLAR 0.0047uF 5% 50V	
		< JACK >		C112	1-126-964-11	ELECT 10uF 20.00% 50V	
J882	1-815-629-11	JACK (PHONES) *****		C113	1-136-169-00	FILM 0.22uF 5.00% 50V	
	1-684-149-11	KEY BOARD *****		C114	1-136-169-00	FILM 0.22uF 5.00% 50V	
		< CONDUCTOR >		C115	1-126-961-11	ELECT 2.2uF 20.00% 50V	
JR761	1-216-864-11	METAL CHIP 0 5% 1/16W		C121	1-126-963-11	ELECT 4.7uF 20.00% 50V	
JR762	1-216-864-11	METAL CHIP 0 5% 1/16W		C122	1-162-970-11	CERAMIC CHIP 0.01uF 10% 25V	
JR763	1-216-864-11	METAL CHIP 0 5% 1/16W		C125	1-126-964-11	ELECT 10uF 20.00% 50V	
		< RESISTOR >		C132	1-126-960-11	ELECT 1uF 20.00% 50V	
R764	1-216-821-11	METAL CHIP 1K 5% 1/16W		C201	1-126-964-11	ELECT 10uF 20.00% 50V	
R765	1-216-823-11	METAL CHIP 1.5K 5% 1/16W		C202	1-126-964-11	ELECT 10uF 20.00% 50V	
R766	1-216-825-11	METAL CHIP 2.2K 5% 1/16W		C203	1-126-964-11	ELECT 10uF 20.00% 50V	
R767	1-216-829-11	METAL CHIP 4.7K 5% 1/16W		C204	1-126-964-11	ELECT 10uF 20.00% 50V	
		< SWITCH >		C206	1-126-964-11	ELECT 10uF 20.00% 50V	
S765	1-762-196-21	SWITCH, TACT (▶)		C207	1-164-227-11	CERAMIC CHIP 0.022uF 10% 25V	
S768	1-762-196-21	SWITCH, TACT (◀◀)		C208	1-164-227-11	CERAMIC CHIP 0.022uF 10% 25V	
S769	1-762-196-21	SWITCH, TACT (▶▶)		C209	1-126-964-11	ELECT 10uF 20.00% 50V	
S780	1-762-196-21	SWITCH, TACT (▶▶)		C210	1-136-161-00	FILM 0.047uF 5.00% 50V	
S781	1-762-196-21	SWITCH, TACT (◀◀)		C211	1-130-479-00	MYLAR 0.0047uF 5% 50V	
		*****		C212	1-126-964-11	ELECT 10uF 20.00% 50V	
	1-684-157-11	L.T MOTOR BOARD *****		C213	1-136-169-00	FILM 0.22uF 5.00% 50V	
		*****		C214	1-136-169-00	FILM 0.22uF 5.00% 50V	
	1-684-158-11	LOAD SW BOARD *****		C215	1-126-961-11	ELECT 2.2uF 20.00% 50V	
		< SWITCH >		C221	1-126-963-11	ELECT 4.7uF 20.00% 50V	
S842	1-571-300-21	SWITCH, LEVER SLIDE (LOAD) *****		C222	1-162-970-11	CERAMIC CHIP 0.01uF 10% 25V	
				C225	1-126-964-11	ELECT 10uF 20.00% 50V	
				C232	1-126-960-11	ELECT 1uF 20.00% 50V	
				C301	1-162-961-11	CERAMIC CHIP 330PF 10% 50V	
				C302	1-162-960-11	CERAMIC CHIP 220PF 10% 50V	
				C303	1-107-826-11	CERAMIC CHIP 0.1uF 10.00% 16V	
				C304	1-126-959-11	ELECT 0.47uF 20.00% 50V	
				C305	1-136-161-00	FILM 0.047uF 5.00% 50V	
				C307	1-126-933-11	ELECT 100uF 20.00% 16V	
				C308	1-126-964-11	ELECT 10uF 20.00% 50V	
				C309	1-165-319-11	CERAMIC CHIP 0.1uF 50V	
				C310	1-126-935-11	ELECT 470uF 20.00% 10V	
				C311	1-165-319-11	CERAMIC CHIP 0.1uF 50V	
				C312	1-126-947-11	ELECT 47uF 20.00% 10V	
				C313	1-107-826-11	CERAMIC CHIP 0.1uF 10.00% 16V	
				C316	1-107-826-11	CERAMIC CHIP 0.1uF 10.00% 16V	
				C317	1-107-826-11	CERAMIC CHIP 0.1uF 10.00% 16V	
				C368	1-104-665-11	ELECT 100uF 20.00% 10V	
				C370	1-126-934-11	ELECT 220uF 20.00% 10V	
				C371	1-162-970-11	CERAMIC CHIP 0.01uF 10% 25V	
				C372	1-162-968-11	CERAMIC CHIP 0.0047uF 10% 50V	
				C373	1-125-891-11	CERAMIC CHIP 0.47uF 10.00% 10V	

HCD-GS100

MAIN

Ref. No.	Part No.	Description	Remarks		
C401	1-107-826-11	CERAMIC CHIP	0.1uF	10.00%	16V
C402	1-107-826-11	CERAMIC CHIP	0.1uF	10.00%	16V
C403	1-126-933-11	ELECT	100uF	20.00%	16V
C441	1-164-315-11	CERAMIC CHIP	470PF	5.00%	50V
C442	1-104-665-11	ELECT	100uF	20.00%	10V
C443	1-130-483-00	MYLAR	0.01uF	5%	50V
C444	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C445	1-126-960-11	ELECT	1uF	20.00%	50V
C446	1-126-964-11	ELECT	10uF	20.00%	50V
C447	1-126-960-11	ELECT	1uF	20.00%	50V
C448	1-126-964-11	ELECT	10uF	20.00%	50V
C449	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C450	1-162-961-11	CERAMIC CHIP	330PF	10%	50V
C461	1-164-315-11	CERAMIC CHIP	470PF	5.00%	50V
C462	1-104-665-11	ELECT	100uF	20.00%	10V
C463	1-130-483-00	MYLAR	0.01uF	5%	50V
C464	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C465	1-126-960-11	ELECT	1uF	20.00%	50V
C466	1-126-964-11	ELECT	10uF	20.00%	50V
C467	1-126-960-11	ELECT	1uF	20.00%	50V
C468	1-126-964-11	ELECT	10uF	20.00%	50V
C469	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C470	1-162-961-11	CERAMIC CHIP	330PF	10%	50V
C481	1-126-964-11	ELECT	10uF	20.00%	50V
C482	1-126-933-11	ELECT	100uF	20.00%	16V
C483	1-126-964-11	ELECT	10uF	20.00%	50V
C484	1-126-964-11	ELECT	10uF	20.00%	50V
C485	1-126-960-11	ELECT	1uF	20.00%	50V
C486	1-136-967-11	MYLAR	0.012uF	5.00%	50V
C487	1-162-968-11	CERAMIC CHIP	0.0047uF	10%	50V
C488	1-126-947-11	ELECT	47uF	20.00%	10V
C489	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C490	1-162-969-11	CERAMIC CHIP	0.0068uF	10%	25V
C801	1-104-656-11	ELECT	2200uF	20.00%	6.3V
C802	1-107-826-11	CERAMIC CHIP	0.1uF	10.00%	16V
C803	1-162-918-11	CERAMIC CHIP	18PF	5.00%	50V
C804	1-162-917-11	CERAMIC CHIP	15PF	5%	50V
C805	1-126-961-11	ELECT	2.2uF	20.00%	50V
C806	1-107-826-11	CERAMIC CHIP	0.1uF	10.00%	16V
C807	1-107-826-11	CERAMIC CHIP	0.1uF	10.00%	16V
C808	1-165-319-11	CERAMIC CHIP	0.1uF		50V
C809	1-126-926-11	ELECT	1000uF	20.00%	10V
C810	1-165-319-11	CERAMIC CHIP	0.1uF		50V
C811	1-107-826-11	CERAMIC CHIP	0.1uF	10.00%	16V
C812	1-104-665-11	ELECT	100uF	20.00%	10V
C813	1-107-826-11	CERAMIC CHIP	0.1uF	10.00%	16V
C814	1-107-826-11	CERAMIC CHIP	0.1uF	10.00%	16V
C815	1-104-665-11	ELECT	100uF	20.00%	10V
C931	1-126-943-11	ELECT	2200uF	20.00%	25V
C932	1-165-319-11	CERAMIC CHIP	0.1uF		50V
C933	1-165-319-11	CERAMIC CHIP	0.1uF		50V
C934	1-126-926-11	ELECT	1000uF	20.00%	10V
C935	1-126-935-11	ELECT	470uF	20.00%	10V
C936	1-126-934-11	ELECT	220uF	20.00%	16V
C937	1-165-319-11	CERAMIC CHIP	0.1uF		50V
C938	1-126-935-11	ELECT	470uF	20.00%	16V
C939	1-165-319-11	CERAMIC CHIP	0.1uF		50V
C940	1-165-319-11	CERAMIC CHIP	0.1uF		50V
C941	1-165-319-11	CERAMIC CHIP	0.1uF		50V
C942	1-165-319-11	CERAMIC CHIP	0.1uF		50V

Ref. No.	Part No.	Description	Remarks		
C953	1-126-964-11	ELECT	10uF	20.00%	50V
C954	1-126-967-11	ELECT	47uF	20.00%	50V
C955	1-165-319-11	CERAMIC CHIP	0.1uF		50V
C956	1-165-319-11	CERAMIC CHIP	0.1uF		50V
< CONNECTOR >					
* CN301	1-564-511-11	PLUG, CONNECTOR 8P			
CN303	1-784-780-11	CONNECTOR, FFC 19P			
* CN307	1-564-711-11	PIN, CONNECTOR (SMALL TYPE) 9P			
* CN308	1-564-709-11	PIN, CONNECTOR (SMALL TYPE) 7P			
CN309	1-568-826-11	HOUSING, CONNECTOR 7P			
CN311	1-568-830-11	CONNECTOR, FFC 11P			
CN312	1-568-838-11	CONNECTOR, FFC 21P			
* CN441	1-564-710-11	PIN, CONNECTOR (SMALL TYPE) 8P			
< DIODE >					
D302	8-719-991-33	DIODE 1SS133T-77			
D304	8-719-988-61	DIODE 1SS355TE-17			
D306	8-719-991-33	DIODE 1SS133T-77			
D307	8-719-109-89	DIODE MTZJ-T-77-5.6B			
D308	8-719-991-33	DIODE 1SS133T-77			
D801	8-719-991-33	DIODE 1SS133T-77			
D802	8-719-991-33	DIODE 1SS133T-77			
D803	8-719-991-33	DIODE 1SS133T-77			
D804	8-719-991-33	DIODE 1SS133T-77			
D806	8-719-063-79	DIODE 1N4002B			
D807	8-719-063-79	DIODE 1N4002B			
D907	8-719-063-79	DIODE 1N4002B			
D931	8-719-063-79	DIODE 1N4002B			
D932	8-719-063-79	DIODE 1N4002B			
D933	8-719-063-79	DIODE 1N4002B			
D934	8-719-063-79	DIODE 1N4002B			
D939	8-719-921-88	DIODE MTZJ-T-77-13B			
D941	8-719-982-19	DIODE MTZJ-T-77-30A			
D942	8-719-109-89	DIODE MTZJ-T-77-5.6B			
< IC >					
IC301	6-701-686-01	IC M61519FPD60G			
IC401	8-759-356-03	IC BA6780			
IC481	6-701-655-01	IC HA12236F			
IC801	6-801-318-01	IC M30622MGN-A02FP			
IC802	8-759-533-04	IC M62703ML-E1			
IC803	6-701-760-01	IC uPC3504AHF			
IC931	8-759-646-52	IC KIA7805API			
IC932	8-759-646-54	IC KIA7808API			
IC933	8-759-347-18	IC KIA7809PI			
< JACK >					
J301	1-815-577-11	JACK, PIN 2P (VIDEO IN (MD))			
< CONDUCTOR >					
JR101	1-216-864-11	METAL CHIP	0	5%	1/16W
JR201	1-216-864-11	METAL CHIP	0	5%	1/16W
JR303	1-216-864-11	METAL CHIP	0	5%	1/16W
JR304	1-216-864-11	METAL CHIP	0	5%	1/16W
JR305	1-216-864-11	METAL CHIP	0	5%	1/16W
JR306	1-216-864-11	METAL CHIP	0	5%	1/16W
JR307	1-216-864-11	METAL CHIP	0	5%	1/16W
JR308	1-216-864-11	METAL CHIP	0	5%	1/16W
JR309	1-216-864-11	METAL CHIP	0	5%	1/16W
JR310	1-216-864-11	METAL CHIP	0	5%	1/16W

Ref. No.	Part No.	Description				Remarks	Ref. No.	Part No.	Description				Remarks
< TRANSISTOR >							R217	1-216-830-11	METAL CHIP	5.6K	5%	1/16W	
							R218	1-216-827-11	METAL CHIP	3.3K	5%	1/16W	
Q101	8-729-120-28	TRANSISTOR	2SC1623-T1-L5L6				R219	1-216-833-11	METAL CHIP	10K	5%	1/16W	
Q102	8-729-036-89	TRANSISTOR	KTC3198GR-A				R225	1-216-845-11	METAL CHIP	100K	5%	1/16W	
Q201	8-729-120-28	TRANSISTOR	2SC1623-T1-L5L6				R226	1-216-845-11	METAL CHIP	100K	5%	1/16W	
Q202	8-729-036-89	TRANSISTOR	KTC3198GR-A										
Q303	8-759-068-54	TRANSISTOR	KRA102S				R227	1-216-821-11	METAL CHIP	1K	5%	1/16W	
							R228	1-216-809-11	METAL CHIP	100	5%	1/16W	
Q305	8-729-038-67	TRANSISTOR	KRC102S				R301	1-216-829-11	METAL CHIP	4.7K	5%	1/16W	
Q306	8-729-202-56	TRANSISTOR	2SA950-Y-TPE2				R302	1-216-829-11	METAL CHIP	4.7K	5%	1/16W	
Q307	8-729-038-67	TRANSISTOR	KRC102S				R303	1-216-857-11	METAL CHIP	1M	5%	1/16W	
Q308	8-729-038-67	TRANSISTOR	KRC102S										
Q309	8-729-202-56	TRANSISTOR	2SA950-Y-TPE2				R304	1-216-845-11	METAL CHIP	100K	5%	1/16W	
							R305	1-216-833-11	METAL CHIP	10K	5%	1/16W	
Q310	8-729-038-67	TRANSISTOR	KRC102S				R309	1-216-833-11	METAL CHIP	10K	5%	1/16W	
Q311	8-759-068-54	TRANSISTOR	KRA102S				R310	1-216-837-11	METAL CHIP	22K	5%	1/16W	
Q312	8-729-038-67	TRANSISTOR	KRC102S				R311	1-216-841-11	METAL CHIP	47K	5%	1/16W	
Q313	8-729-038-67	TRANSISTOR	KRC102S										
Q316	8-729-038-67	TRANSISTOR	KRC102S				R312	1-216-829-11	METAL CHIP	4.7K	5%	1/16W	
							R313	1-216-829-11	METAL CHIP	4.7K	5%	1/16W	
Q317	8-729-801-84	TRANSISTOR	2SB1013-TP-34				R316	1-216-835-11	METAL CHIP	15K	5%	1/16W	
Q402	8-729-038-67	TRANSISTOR	KRC102S				R317	1-216-821-11	METAL CHIP	1K	5%	1/16W	
Q404	8-729-038-67	TRANSISTOR	KRC102S				R318	1-216-821-11	METAL CHIP	1K	5%	1/16W	
Q406	8-729-038-67	TRANSISTOR	KRC102S										
Q408	8-729-038-67	TRANSISTOR	KRC102S				R319	1-216-821-11	METAL CHIP	1K	5%	1/16W	
							R320	1-216-821-11	METAL CHIP	1K	5%	1/16W	
Q441	8-729-212-02	TRANSISTOR	KTC3203Y-AT				R321	1-216-821-11	METAL CHIP	1K	5%	1/16W	
Q442	8-729-212-02	TRANSISTOR	KTC3203Y-AT				R322	1-216-825-11	METAL CHIP	2.2K	5%	1/16W	
Q461	8-729-212-02	TRANSISTOR	KTC3203Y-AT				R323	1-216-845-11	METAL CHIP	100K	5%	1/16W	
Q462	8-729-212-02	TRANSISTOR	KTC3203Y-AT										
Q481	8-729-212-02	TRANSISTOR	KTC3203Y-AT				R324	1-216-825-11	METAL CHIP	2.2K	5%	1/16W	
							R325	1-216-845-11	METAL CHIP	100K	5%	1/16W	
Q482	8-729-037-02	TRANSISTOR	KTA1266Y-AT				R326	1-216-829-11	METAL CHIP	4.7K	5%	1/16W	
Q483	8-729-038-67	TRANSISTOR	KRC102S				R332	1-216-845-11	METAL CHIP	100K	5%	1/16W	
Q484	8-759-068-54	TRANSISTOR	KRA102S				R333	1-216-829-11	METAL CHIP	4.7K	5%	1/16W	
Q485	8-729-038-67	TRANSISTOR	KRC102S										
Q801	8-729-120-28	TRANSISTOR	2SC1623-T1-L5L6				R334	1-216-829-11	METAL CHIP	4.7K	5%	1/16W	
							R335	1-216-815-11	METAL CHIP	330	5%	1/16W	
Q802	8-729-049-31	TRANSISTOR	2SB710A-RTX				R342	1-216-821-11	METAL CHIP	1K	5%	1/16W	
Q803	8-729-120-28	TRANSISTOR	2SC1623-T1-L5L6				R351	1-216-833-11	METAL CHIP	10K	5%	1/16W	
Q805	8-729-120-28	TRANSISTOR	2SC1623-T1-L5L6				R352	1-216-833-11	METAL CHIP	10K	5%	1/16W	
Q806	8-729-049-31	TRANSISTOR	2SB710A-RTX										
Q931	8-729-019-00	TRANSISTOR	KTC2026				R356	1-216-821-11	METAL CHIP	1K	5%	1/16W	
							R401	1-216-845-11	METAL CHIP	100K	5%	1/16W	
Q934	8-729-037-13	TRANSISTOR	KTA1271Y-AT				R402	1-216-845-11	METAL CHIP	100K	5%	1/16W	
							R403	1-216-864-11	METAL CHIP	0	5%	1/16W	
< RESISTOR >							R404	1-249-382-11	CARBON	1.2	5%	1/6W F	
R102	1-216-833-11	METAL CHIP	10K	5%	1/16W		R405	1-249-382-11	CARBON	1.2	5%	1/6W F	
R103	1-216-819-11	METAL CHIP	680	5%	1/16W		R406	1-216-833-11	METAL CHIP	10K	5%	1/16W	
R104	1-216-833-11	METAL CHIP	10K	5%	1/16W		R407	1-216-833-11	METAL CHIP	10K	5%	1/16W	
R105	1-216-841-11	METAL CHIP	47K	5%	1/16W		R408	1-216-833-11	METAL CHIP	10K	5%	1/16W	
R107	1-216-833-11	METAL CHIP	10K	5%	1/16W		R409	1-216-827-11	METAL CHIP	3.3K	5%	1/16W	
R108	1-216-834-11	METAL CHIP	12K	5%	1/16W		R410	1-216-827-11	METAL CHIP	3.3K	5%	1/16W	
R117	1-216-830-11	METAL CHIP	5.6K	5%	1/16W		R411	1-216-827-11	METAL CHIP	3.3K	5%	1/16W	
R118	1-216-827-11	METAL CHIP	3.3K	5%	1/16W		R412	1-216-839-11	METAL CHIP	33K	5%	1/16W	
R119	1-216-833-11	METAL CHIP	10K	5%	1/16W		R413	1-216-839-11	METAL CHIP	33K	5%	1/16W	
R125	1-216-845-11	METAL CHIP	100K	5%	1/16W		R414	1-216-839-11	METAL CHIP	33K	5%	1/16W	
R126	1-216-845-11	METAL CHIP	100K	5%	1/16W		R415	1-216-833-11	METAL CHIP	10K	5%	1/16W	
R127	1-216-821-11	METAL CHIP	1K	5%	1/16W		R416	1-216-833-11	METAL CHIP	10K	5%	1/16W	
R128	1-216-809-11	METAL CHIP	100	5%	1/16W		R417	1-216-833-11	METAL CHIP	10K	5%	1/16W	
R201	1-216-825-11	METAL CHIP	2.2K	5%	1/16W		R418	1-216-833-11	METAL CHIP	10K	5%	1/16W	
R202	1-216-833-11	METAL CHIP	10K	5%	1/16W		R441	1-216-839-11	METAL CHIP	33K	5%	1/16W	
R203	1-216-819-11	METAL CHIP	680	5%	1/16W		R442	1-216-834-11	METAL CHIP	12K	5%	1/16W	
R204	1-216-833-11	METAL CHIP	10K	5%	1/16W		R443	1-216-833-11	METAL CHIP	10K	5%	1/16W	
R205	1-216-841-11	METAL CHIP	47K	5%	1/16W		R444	1-216-823-11	METAL CHIP	1.5K	5%	1/16W	
R207	1-216-833-11	METAL CHIP	10K	5%	1/16W		R445	1-216-841-11	METAL CHIP	47K	5%	1/16W	
R208	1-216-834-11	METAL CHIP	12K	5%	1/16W		R446	1-216-833-11	METAL CHIP	10K	5%	1/16W	

HCD-GS100

MAIN

POWER

Ref. No.	Part No.	Description			Remarks
R447	1-216-833-11	METAL CHIP	10K	5%	1/16W
R448	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R451	1-216-833-11	METAL CHIP	10K	5%	1/16W
R452	1-216-833-11	METAL CHIP	10K	5%	1/16W
R453	1-218-867-11	RES-CHIP	6.8K	5%	1/10W
R454	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R461	1-216-839-11	METAL CHIP	33K	5%	1/16W
R462	1-216-834-11	METAL CHIP	12K	5%	1/16W
R463	1-216-833-11	METAL CHIP	10K	5%	1/16W
R464	1-216-823-11	METAL CHIP	1.5K	5%	1/16W
R465	1-216-841-11	METAL CHIP	47K	5%	1/16W
R466	1-216-833-11	METAL CHIP	10K	5%	1/16W
R467	1-216-833-11	METAL CHIP	10K	5%	1/16W
R468	1-216-833-11	METAL CHIP	10K	5%	1/16W
R469	1-218-867-11	RES-CHIP	6.8K	5%	1/10W
R470	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R471	1-216-833-11	METAL CHIP	10K	5%	1/16W
R472	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R481	1-218-725-11	RES-CHIP	24K	5%	1/10W
R482	1-216-857-11	METAL CHIP	1M	5%	1/16W
R483	1-216-841-11	METAL CHIP	47K	5%	1/16W
R484	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R485	1-216-833-11	METAL CHIP	10K	5%	1/16W
R486	1-216-841-11	METAL CHIP	47K	5%	1/16W
R487	1-216-821-11	METAL CHIP	1K	5%	1/16W
R488	1-216-803-11	METAL CHIP	33	5%	1/16W
R489	1-216-821-11	METAL CHIP	1K	5%	1/16W
R490	1-216-827-11	METAL CHIP	3.3K	5%	1/16W
R491	1-216-805-11	METAL CHIP	47	5%	1/16W
R492	1-216-803-11	METAL CHIP	33	5%	1/16W
R493	1-216-833-11	METAL CHIP	10K	5%	1/16W
R494	1-216-797-11	METAL CHIP	10	5%	1/16W
R495	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R496	1-216-841-11	METAL CHIP	47K	5%	1/16W
R497	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R498	1-218-446-11	METAL CHIP	1	5%	1/10W
R801	1-216-833-11	METAL CHIP	10K	5%	1/16W
R802	1-216-833-11	METAL CHIP	10K	5%	1/16W
R804	1-216-809-11	METAL CHIP	100	5%	1/16W
R805	1-216-809-11	METAL CHIP	100	5%	1/16W
R806	1-216-809-11	METAL CHIP	100	5%	1/16W
R808	1-216-809-11	METAL CHIP	100	5%	1/16W
R809	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R810	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R811	1-216-809-11	METAL CHIP	100	5%	1/16W
R812	1-216-821-11	METAL CHIP	1K	5%	1/16W
R813	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R814	1-216-849-11	METAL CHIP	220K	5%	1/16W
R815	1-216-809-11	METAL CHIP	100	5%	1/16W
R816	1-216-845-11	METAL CHIP	100K	5%	1/16W
R817	1-216-821-11	METAL CHIP	1K	5%	1/16W
R818	1-216-833-11	METAL CHIP	10K	5%	1/16W
R819	1-216-833-11	METAL CHIP	10K	5%	1/16W
R823	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R824	1-216-864-11	METAL CHIP	0	5%	1/16W
R825	1-216-821-11	METAL CHIP	1K	5%	1/16W
R826	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R827	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R828	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R829	1-216-809-11	METAL CHIP	100	5%	1/16W

Ref. No.	Part No.	Description			Remarks
R830	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R831	1-216-841-11	METAL CHIP	47K	5%	1/16W
R832	1-216-841-11	METAL CHIP	47K	5%	1/16W
R833	1-216-833-11	METAL CHIP	10K	5%	1/16W
R834	1-216-833-11	METAL CHIP	10K	5%	1/16W
R835	1-216-833-11	METAL CHIP	10K	5%	1/16W
R836	1-216-833-11	METAL CHIP	10K	5%	1/16W
R837	1-216-833-11	METAL CHIP	10K	5%	1/16W
R838	1-216-821-11	METAL CHIP	1K	5%	1/16W
R839	1-216-833-11	METAL CHIP	10K	5%	1/16W
R840	1-216-833-11	METAL CHIP	10K	5%	1/16W
R842	1-216-833-11	METAL CHIP	10K	5%	1/16W
R843	1-216-833-11	METAL CHIP	10K	5%	1/16W
R844	1-216-821-11	METAL CHIP	1K	5%	1/16W
R845	1-216-821-11	METAL CHIP	1K	5%	1/16W
R846	1-216-809-11	METAL CHIP	100	5%	1/16W
R848	1-216-821-11	METAL CHIP	1K	5%	1/16W
R852	1-216-821-11	METAL CHIP	1K	5%	1/16W
R854	1-216-841-11	METAL CHIP	47K	5%	1/16W
R931	1-249-414-11	CARBON	560	5%	1/4W F
R933	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R934	1-216-845-11	METAL CHIP	100K	5%	1/16W
R935	1-216-833-11	METAL CHIP	10K	5%	1/16W
R936	1-216-813-11	METAL CHIP	220	5%	1/16W
R937	1-216-813-11	METAL CHIP	220	5%	1/16W
		< VARIABLE RESISTOR >			
RV401	1-238-600-11	RES, ADJ, CARBON 10K			
		< TRANSFORMER >			
T441	1-419-080-21	COIL			
T461	1-419-080-21	COIL			
T481	1-433-372-31	TRANSFORMER, BIAS OSCILLATION			
		< VIBRATOR >			
X801	1-795-482-11	VIBRATOR, CERAMIC (16MHz)			
X802	1-567-098-41	VIBRATOR, CRYSTAL (32.768KHz)			

	1-684-154-11	POWER BOARD			

	1-533-233-31	HOLDER, FUSE			
		< CAPACITOR >			
C901	1-126-767-11	ELECT	1000uF	20.00%	16V
C904	1-126-968-11	ELECT	100uF	20.00%	50V
C905	1-115-339-11	CERAMIC CHIP	0.1uF	10.00%	50V
C906	1-113-925-11	CERAMIC	0.01uF	20.00%	250V
		< DIODE >			
D901	8-719-991-33	DIODE 1SS133T-77			
D902	8-719-991-33	DIODE 1SS133T-77			
D903	8-719-991-33	DIODE 1SS133T-77			
D904	8-719-991-33	DIODE 1SS133T-77			
D905	8-719-063-79	DIODE 1N4002B			
D906	8-719-991-33	DIODE 1SS133T-77			

POWER

T.SENSOR

Ref. No.	Part No.	Description	Remarks	Ref. No.	Part No.	Description	Remarks
		< TRANSFORMER >				MISCELLANEOUS	

△ T902	1-437-726-11	TRANSFORMER, POWER		6	1-796-352-11	MECH DECK (W)	
		< FUSE >		11	A-2004-904-A	TCB-MG (U) ASSY (TUNER PACK)	
△ F901	1-533-450-11	FUSE, GLASS TUBE (DIA. 5) (2.5A/125V)		12	1-773-110-11	WIRE (FLAT TYPE) (19 CORE)	
△ F902	1-533-451-11	FUSE, GLASS TUBE (DIA. 5) (3.15A/125V)		13	1-824-102-11	WIRE (FLAT TYPE) (7 CORE)	
		< LINE FILTER >		14	1-769-944-11	WIRE (FLAT TYPE) (11 CORE)	
△ LF901	1-402-663-11	TRANSFORMER, LINE FILTER (LFT)		△ 108	1-757-933-11	CORD, POWER	
		< TRANSISTOR >		△ 552	A-3328-818-A	OPTICAL PICK-UP KSM-213BFN/C2NP	
				555	1-823-005-11	CABLE, FLEXIBLE FLAT (21 CORE)	
				556	1-757-055-11	WIRE, PARALLEL (FFC) (16 CORE)	
Q901	8-729-036-77	TRANSISTOR KRC107M-AT		△ F503	1-533-454-11	FUSE, GLASS TUBE (DIA. 5) (2.5A/125V)	
		< RESISTOR >		△ F504	1-533-454-11	FUSE, GLASS TUBE (DIA. 5) (3.15A/125V)	
R901	1-249-381-11	CARBON 1 5% 1/4W F		△ F901	1-533-450-11	FUSE, GLASS TUBE (DIA. 5) (6.3A/125V)	
△ R902	1-212-881-11	FUSIBLE 100 5% 1/4W		△ F902	1-533-451-11	FUSE, GLASS TUBE (DIA. 5) (6.3A/125V)	
R903	1-249-399-11	CARBON 33 5% 1/4W F		FL701	1-518-799-11	INDICATOR TUBE, FLUORESCENT	
△ R904	1-219-237-11	SOLID 3.3M 20% 1/2W		M391	1-763-697-21	DC FAN	
		< RELAY >		M441	A-4735-051-A	MOTOR (60) ASSY (LOADING)	
				M442	A-4735-051-A	MOTOR (60) ASSY (TABLE)	
				S791	1-692-960-21	SWITCH, PUSH (1 KEY) (DOOR)	
△ RY901	1-755-214-11	RELAY, AC POWER		△ T901	1-437-722-11	TRANSFORMER, POWER	

	1-684-159-11	T.SENSOR BOARD		<div> The components identified by mark △ or dotted line with mark △ are critical for safety. Replace only with part number specified. </div>			

*	4-976-473-01	HOLDER (LED-S)					
*	4-976-474-01	HOLDER (P-T)					
		< PHOTO INTERRUPTER >					
IC11	8-749-924-18	PHOTO INTERRUPTER RPI-1391					
IC12	8-749-924-18	PHOTO INTERRUPTER RPI-1391					
IC13	8-749-924-18	PHOTO INTERRUPTER RPI-1391					
		< RESISTOR >					
R891	1-216-820-11	METAL CHIP 820 5% 1/16W					
R892	1-216-820-11	METAL CHIP 820 5% 1/16W					
R893	1-216-820-11	METAL CHIP 820 5% 1/16W					

REVISION HISTORY

Clicking the version allows you to jump to the revised page.

Also, clicking the version at the upper right on the revised page allows you to jump to the next revised page.

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