

HCD-VX880AV

SERVICE MANUAL

Chinese Model



HCD-VX880AV is the Amplifier, Video CD player, Tape Deck and Tuner section in MHC-VX880AV.

This stereo system is equipped with the Dolby B-type noise reduction system*.

* Manufactured under license from Dolby

Laboratories Licensing Corporation.

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CD SECTION	Model Name Using Similar Mechanism	NEW
	Mechanism Type	CDM38LH-26BD36L
	Base Unit Type	BU-26BD36L
	Optical Pick-up Type	KSS-213D/Q-NP
TAPE DECK SECTION	Model Name Using Similar Mechanism	HTC-5550
	Tape Transport Mechanism Type	TCM-230AWR2

SPECIFICATIONS

Amplifier section

The following measured at AC 120/220/240 V, 50/60 Hz

Front Speaker:

DIN power output (rated) 95 + 95 watts
(8 ohms at 1 kHz, DIN)
Continuous RMS power output (reference)
120 + 120 watts
(8 ohms at 1 kHz,
10% THD)

Center Speaker:

DIN power output (rated) 30 watts
(8 ohms at 1 kHz, DIN)
Continuous RMS power output (reference)
35 watts
(8 ohms at 1 kHz,
10% THD)

Rear Speaker:

DIN power output (rated) 30 + 30 watts
(8 ohms at 1 kHz, DIN)
Continuous RMS power output (reference)
35 + 35 watts
(8 ohms at 1 kHz,
10% THD)

Inputs

MD IN:
(phono jacks) voltage 450 mV,
impedance 47 kilohms
VIDEO (AUDIO) IN:
(phono jacks) voltage 250 mV,
impedance 47 kilohms
DVD INPUT:
FRONT IN:
(phono jacks) voltage 450 mV,
impedance 47 kilohms
REAR IN:
(phono jacks) voltage 450 mV,
impedance 47 kilohms
CENTER IN:
(phono jacks) voltage 450 mV,
impedance 47 kilohms
WOOFER IN:
(phono jacks) voltage 450 mV,
impedance 47 kilohms
MIC 1/2 (phone jack): sensitivity 1 mV,
impedance 10 kilohms

Outputs
MD OUT (phono jacks): voltage 250 mV
impedance 1 kilohms
VIDEO OUT (phono jack): max. output level
1Vp-p, unbalanced, Sync
negative, load impedance
75 ohms
S-VIDEO OUT (4-pin/mini-DIN jack):
Y: 1Vp-p, unbalanced,
Sync negative,
C: 0.286Vp-p,
load impedance 75 ohms
PHONES (stereo phone jack):
accepts headphones of 8
ohms or more
FRONT SPEAKER: accepts impedance of 8 to
16 ohms
REAR SURROUND SPEAKER: accepts impedance of 8 to
16 ohms
CENTER SURROUND SPEAKER: accepts impedance of 8 to
16 ohms
SUPER WOOFER: Voltage 1 V, impedance 1
kilohms

SUPER VIDEO CD/VIDEO CD/CD player section

System
Laser
Laser output
Compact disc and digital
audio and video system
Semiconductor laser
($\lambda=780\text{nm}$)
Emission duration:
continuous
Max. 44.6 μW^*
*This output is the value
measured at a distance of
200 mm from the
objective lens surface on
the Optical Pick-up Block
with 7 mm aperture.
780 – 790 nm
2 Hz – 20 kHz (± 0.5 dB)
More than 90 dB
More than 90 dB
Video color system format
NTSC, PAL

CD OPTICAL DIGITAL OUT
(Square optical connector jack, rear panel)
Wavelength
Output Level

660 nm
-18 dBm

— Continued on next page —

MINI Hi-Fi COMPONENT SYSTEM

SONY®



MICROFILM

Tape player section	3 Band type: MW: SW:	531 – 1,602 kHz (with the interval set at 9 kHz) 530 – 1,710 kHz (with the interval set at 10 kHz) 5.95 – 17.90 MHz (with the interval set at 5 kHz)	General
Recording system	4-track 2-channel stereo	531 – 1,602 kHz	Power requirements
Frequency response (DOLBY NR OFF)	40 – 13,000 Hz (± 3 dB), using Sony TYPE I cassette	(with the interval set at 9 kHz)	Thai and Chinese models: 220 V AC, 50/60 Hz Other models: 120 V, 220 V or 230 – 240 V AC, 50/60 Hz Adjustable with voltage selector
	40 – 14,000 Hz (± 3 dB), using Sony TYPE II cassette	530 – 1,710 kHz	
Tuner section		5.95 – 17.90 MHz	
FM stereo, FM/AM superheterodyne tuner	Antenna	(with the interval set at 5 kHz)	Power consumption: 240 watts
FM tuner section	Antenna terminals	450 kHz	Dimensions (w/h/d) Approx. 280 x 340 x 395 mm
	Intermediate frequency		Mass: Approx. 12.4 kg
AM tuner section			Design and specifications are subject to change without notice.
Tuning range	87.5 – 108.0 MHz		
Antenna	FM lead antenna		
Antenna terminals	75 ohm unbalanced		
Intermediate frequency	10.7 MHz		

CAUTION

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

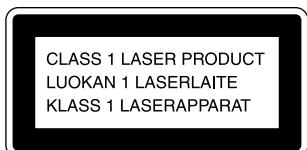
Notes on chip component replacement

- 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 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.

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



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



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.

与安全有关的零部件须知

在原理图上用阴影及 \triangle 标记来识别的零部件在安全操作上是具有关键性的。这些零部件要用本手册中所示的部件号对应的索尼零部件进行更换。

在安全操作上具有关键性的电路调整与索尼公司出版的维修手册完全一致。在更换关键零部件时或怀疑动作失常时, 请进行这些调整操作。

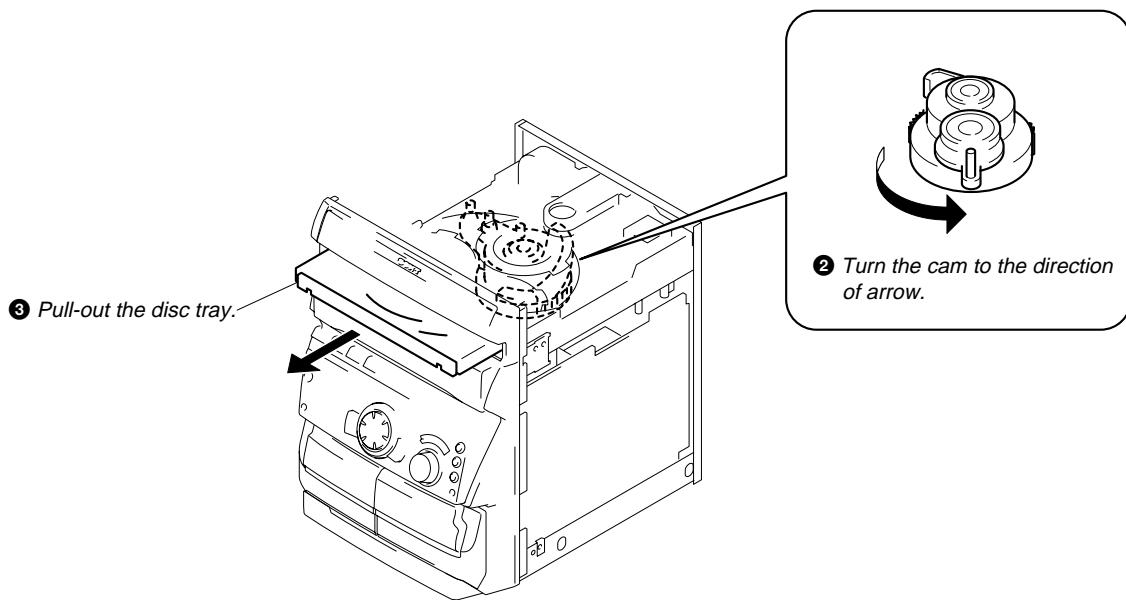
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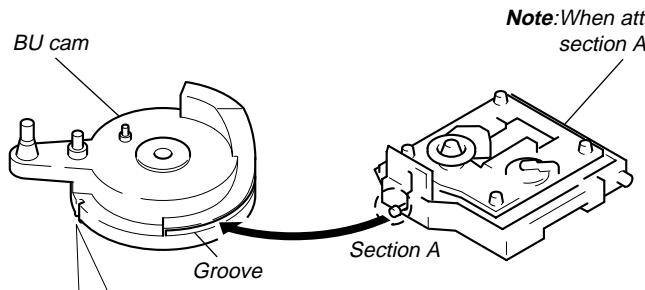
SECTION 1 SERVICING NOTES

HOW TO OPEN THE DISC TRAY WHEN POWER SWITCH TURNS OFF

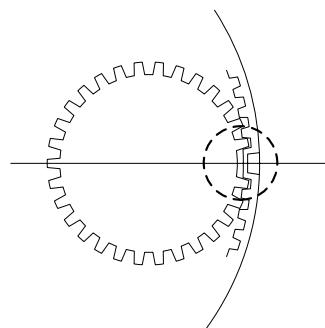
- ① Remove the Case.



Note for Installation (ROTARY ENCODER)



Note: When attaching the Base unit, Insert the section A into the groove of BU cam.



Note: When attaching the BU cam, engage the Rotary encoder switch as shown in the figure.

CD-TEXT

This unit is provided with a simple CD-TEXT display function.

The CD-TEXT contents of 20 tracks are displayed on the fluorescent display tube.

Since the function is simple, some special characters may not be displayed, or may be displayed as other characters.

SELF-DIAGNOSIS

This unit is equipped with a self-diagnosis function.

The function is used for diagnosing the conditions of the circuits of the VIDEO board.

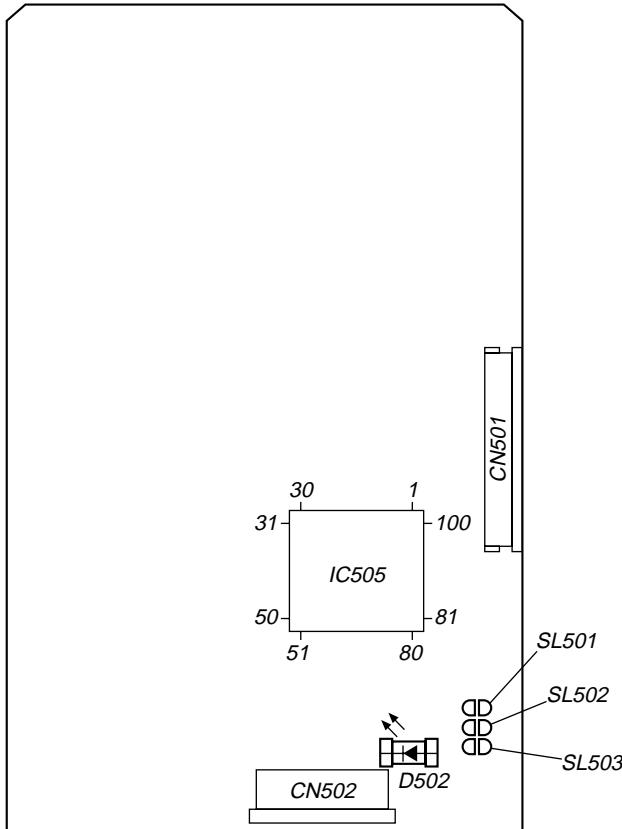
The circuits can be determined if normal or abnormal by the lighting of D502 of the VIDEO board.

Lighting of D502

When lit : Operates normally

Blinks repeatedly : The circuit may be faulty.

[VIDEO BOARD] (SIDE B)



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.

MC 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. Press three buttons **[■]**, **[ENTER/NEXT]**, and **[I/O]** simultaneously.
2. “COLD RESET” is displayed on the fluorescent display tube and reset is executed.

CD Delivery Mode

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

Procedure:

1. Press **[I/O]** button to turn the set ON.
2. Press **[CD LOOP]** button and **[I/O]** button simultaneously.
3. A message “LOCK” is displayed on the fluorescent indicator tube, and the CD delivery mode is set.

MC Hot Reset

- This mode resets the set with the preset data kept stored in the memory. The hot reset mode functions same as if the power cord is plugged in and out.

Procedure:

1. Press three buttons **[■]**, **[ENTER/NEXT]**, and **[DISC 1]** simultaneously.
2. The fluorescent indicator tube becomes blank instantaneously, and the set is reset.

Sled Servo Mode

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

Procedure:

1. Press **[I/O]** button to turn the set ON.
2. Press three buttons **[■]**, **[ENTER/NEXT]**, and **[DISC 1]** simultaneously.
3. The Sled Servo mode is selected, if “CD” is blanking on the fluorescent indicator tube.
4. With the CD in stop status, When the **[▶+]** button is pressed, the optical pick-up moves outside. When **[◀-]** button is pressed, it moves inside.
5. To exit from this mode, perform as follows:
 - 1) Move the optical pick-up to the most inside track.
 - 2) Execute MC cold reset. (Press the three buttons **[■]**, **[ENTER/NEXT]**, and **[I/O]** button simultaneously.)

Note:

- 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.

Change-over of AM Tuner Step between 9kHz and 10kHz

- A step of AM channels can be changed over between 9kHz and 10kHz.

Procedure:

1. Press **[I/O]** button to turn the set ON.
2. Select the function “TUNER”, and press **[TUNER/BAND]** button to select the BAND “AM”.
3. Press **[I/O]** button to turn the set OFF.
4. Press **[ENTER/NEXT]** and **[I/O]** buttons simultaneously, and the display of fluorescent indicator tube changes to “AM 9k STEP” or “AM 10k STEP”, and thus the channel step is changed over.

LED and Fluorescent Indicator Tube All Lit, Key Check Mode

Procedure:

1. Press three buttons **[■]**, **[ENTER/NEXT]**, and **[DISC 2]** simultaneously.
2. LEDs and fluorescent indicator tube are all turned on.
Press **[DISC 2]** button, and the key check mode is activated.
3. In the key check mode, the fluorescent indicator tube displays “K 0 V0 J0”. Each time a button is pressed, “K” value increases. However, once a button is pressed, it is no longer taken into account.
“J” Value increases like 1, 2, 3 ... if rotating **[◀AMS▶]** knob in “+” direction, or it decreases like 0, 9, 8 ... if rotating in “-” direction.
“V” Value increases like 1, 2, 3 ... if rotating **[VOLUME]** knob in “+” direction, or it decreases like 0, 9, 8 ... if rotating in “-” direction.
4. To exit from this mode, press three buttons in the same manner as step 1, or disconnect the power cord.

AMS Test Mode

- This mode is used for checking the AMS operations of the tape deck.

JIG

7-819-039-12 Alignment tape, AMS-110A

Procedure:

- Press the **I/O** button to turn the unit ON.
- Set the tape (AMS-110A).
- Press the three buttons **[■]**, **[ENTER/NEXT]**, and **[DISC 3]** button simultaneously.
- “TEST MODE” is displayed on the fluorescent display tube.
- Press the **FUNCTION** button and switch the function to the deck with the tape (AMS-110A).
- Press the **CD SYNC** button. “AMS CHECK” is displayed on the fluorescent display tube and the tape is rewound.
- AMS starts in the normal direction. If the AMS count is 2 at shut down, proceed to step 8.
“NG” is displayed at other times, and the deck stops.
- AMS starts in the opposite direction. If the AMS count is 2 at shut down again, “OK” is displayed.
“NG” is displayed at other times.

Note: The **[■]** button of CD section will become effective and the aging of CD section will stop sometime, if the buttons described in step 3 are not pressed simultaneously. In that case, press **[▶II]** button and operate the CD section.

SELF-DIAGNOSIS

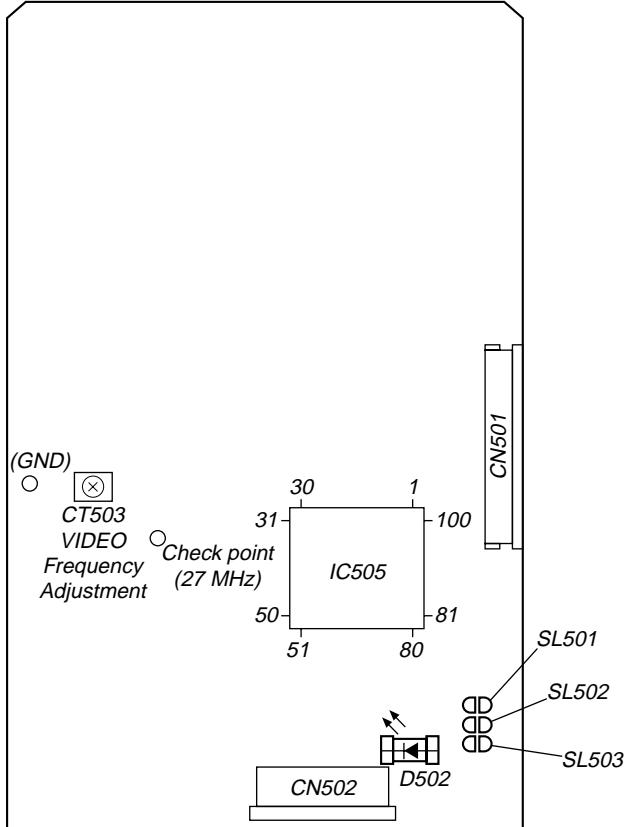
This model has the self-diagnosis function for the VIDEO and AUDIO decoder sections.

Immediately after the power on, the self-diagnosis function searches each operation of IC's around the mechanism control microcomputer (IC701).

The results can be checked by D502 of the VIDEO board.

Oscilloscope (Waveform)	Symptom
	No error
	MPEG decoder (IC506) error
	MPEG decoder (IC506) or DRAM (IC507) error

[VIDEO BOARD] (SIDE B)



Aging Mode

This mode can be used for operation check of tape deck section.

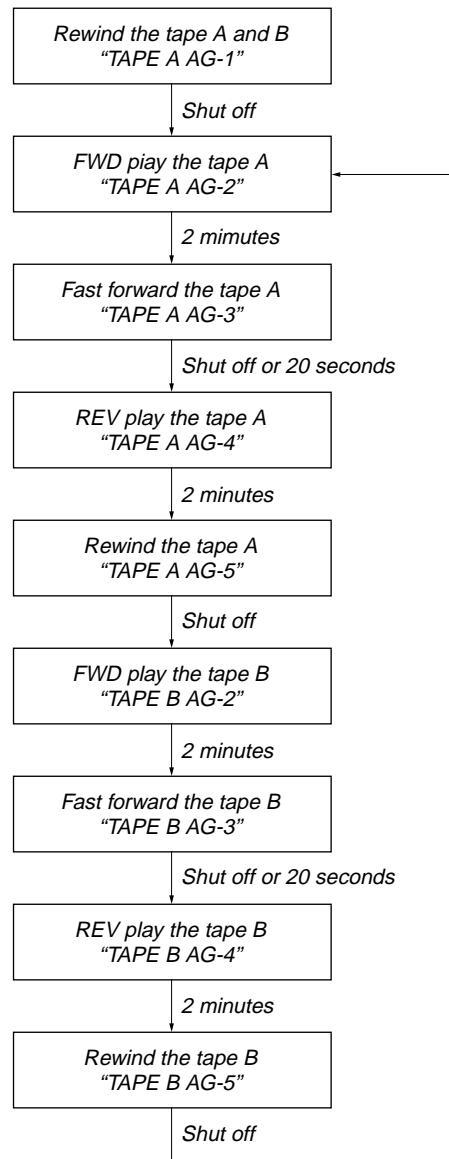
- If an error occurred:
The aging operation stops and display then status.
- If no error occurs:
The aging operation continues repeatedly.

Procedure:

1. Load the tapes into the decks A and B respectively.
2. Press the **FUNCTION** button to select the function “CD”.
3. Press the **PLAY MODE** button to set the “ALL DISCS” mode, and press the **REPEAT** button to “REPEAT” off.
4. Press three buttons of **[■]**, **[ENTER/NEXT]**, and **[DISC SKIP/EX-CHANGE]** simultaneously.
5. The aging mode is activated, if the indicator of disc tray number on the fluorescent indicator tube is blinking.
6. To exit from the aging mode, press the **[VOL]** button to turn the power OFF and operate the cold reset. (Refer to the “MC Cold Reset”)

- The sequence during the aging mode is following as below.
- If an error occurred, stop display that step.

Aging mode sequence:



Note: “TAPE * AG_*” is display of each step.

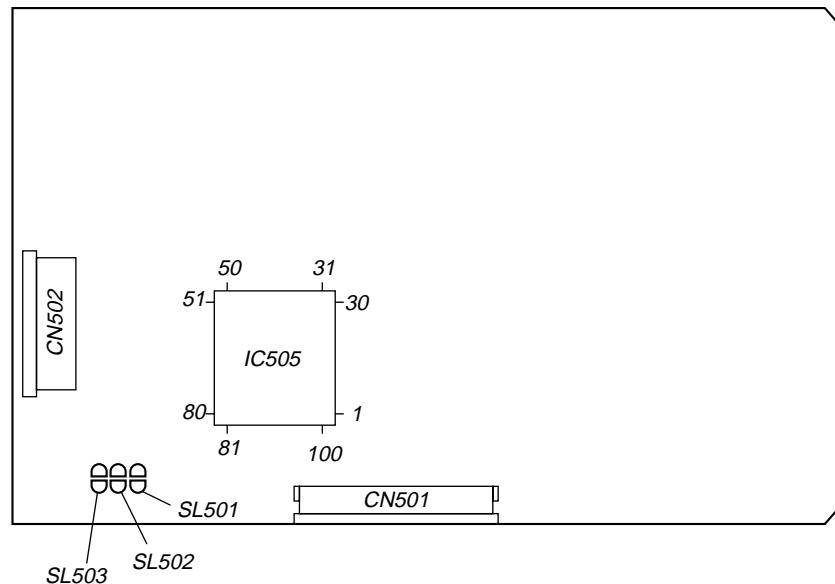
VIDEO CD COLOR-BARS MODE

On this mode, the data of the color-bars signal as a picture signal and the 1kHz sine wave signal as a sound signal are output by the mechanism control microcomputer (IC505) for video CD signal check. When measurement of the voltage and waveform on the VIDEO board, perform it in this mode.

For reference, the color-bars signal can be observed at J502 (VIDEO OUT) and the sound signal can be observed at J101 (VIDEO/MD (AUDIO) OUT) using an oscilloscope.

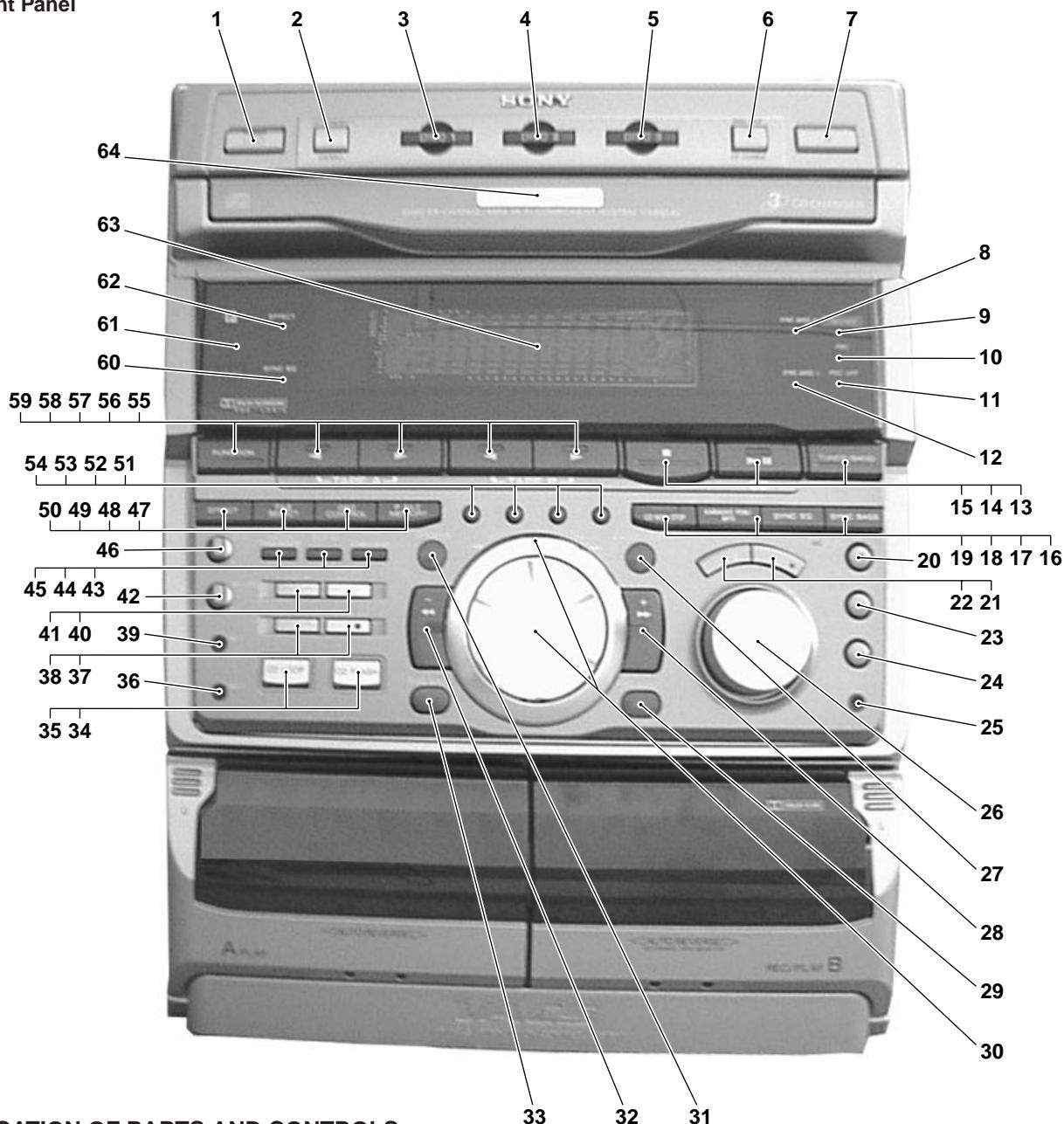
1. Connect the lead wire to both ends of the land of SL503 of the VIDEO board.
2. Turn the power on. Press **FUNCTION** button to select CD.
3. After 2 or 3 seconds later, connect the lead wire.
4. After measuring, remove the lead wire connected.

[VIDEO BOARD] (SIDE B)



SECTION 2 GENERAL

Front Panel



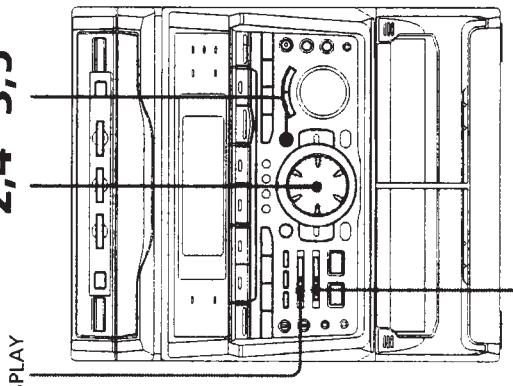
LOCATION OF PARTS AND CONTROLS

- | | | |
|--|--|--|
| <p>1 I/⊕ button and indicator</p> <p>2 DEMO (STANDBY) button</p> <p>3 DISC 1 button and indicator</p> <p>4 DISC 2 button and indicator</p> <p>5 DISC 3 button and indicator</p> <p>6 DISC SKIP/EX-CHANGE button</p> <p>7 ▲ (Eject) button</p> <p>8 SYNC BASS H indicator</p> <p>9 SVIDEO/VCD indicator</p> <p>10 PBC indicator</p> <p>11 PBC OFF indicator</p> <p>12 SYNC BASS L indicator</p> <p>13 TUNER/BAND button</p> <p>14 ►/II (CD) button and indicator</p> <p>15 ■ button</p> <p>16 SYNC BASS button</p> <p>17 SYNC EQ button</p> <p>18 KARAOKE PON/MPX button</p> <p>19 CD NON-STOP button and indicator</p> <p>20 REC PAUSE/START button and indicator</p> <p>21 DSP button and indicator</p> | <p>22 DBFB button</p> <p>23 HI-DUB button</p> <p>24 CD SYNC button</p> <p>25 PHONES jack</p> <p>26 VOLUME knob</p> <p>27 ENTER/NEXT button and indicator</p> <p>28 ►► + button and indicator</p> <p>29 PRO LOGIC button and indicator</p> <p>30 JOG/◀◀◀▶▶ dial and indicator</p> <p>31 GROOVE button and indicator</p> <p>32 ◀◀ – button and indicator</p> <p>33 DVD 5.1 CH button</p> <p>34 CD FLASH button</p> <p>35 CD LOOP button</p> <p>36 MIC 2 jack</p> <p>37 TIMER SELECT button and indicator</p> <p>38 CLOCK/TIME SET button</p> <p>39 MIC 1 jack</p> <p>40 SPECTRUM ANALYZER button</p> <p>41 DISPLAY button</p> <p>42 MIC LEVEL knob</p> <p>43 REPEAT/STEREO/MONO button</p> | <p>44 PLAY MODE/DOLBY NR button</p> <p>45 EDIT DIRECTION TUNER MEMORY button</p> <p>46 ECHO LEVEL knob</p> <p>47 P FILE MEMORY button</p> <p>48 GEQ CONTROL button</p> <p>49 FILE SELECT button</p> <p>50 EFFECT button</p> <p>51 NEXT button</p> <p>52 PREV button</p> <p>53 RETURN button</p> <p>54 SELECT button</p> <p>55 ► (TAPE B) button and indicator</p> <p>56 ◀ (TAPE B) button and indicator</p> <p>57 ► (TAPE A) button and indicator</p> <p>58 ◀ (TAPE A) button and indicator</p> <p>59 FUNCTION button</p> <p>60 SYNC EQ indicator</p> <p>61 Remote sensor</p> <p>62 EFFECT indicator</p> <p>63 Display Window</p> <p>64 Disc tray</p> |
|--|--|--|

Step 3: Setting the time

You must set the time before using the timer functions.

2,4 3,5



DISPLAY

- 3** Press ENTER/NEXT.
The minute indication flashes.



- 4** Turn the jog dial to set the minute.

- 5** Press ENTER/NEXT.
The clock starts working.

Tip

If you've made a mistake, start over from step 1.

To change the time

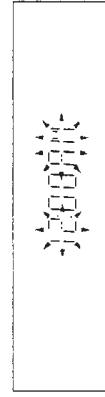
The previous explanation shows you how to set the time while the power is off. To change the time while the power is on, do the following:

- 1 Press CLOCK/TIMER SET.
- 2 Turn the jog dial to select SET CLOCK.
- 3 Press ENTER/NEXT.
- 4 Perform steps 2 through 5 above.

Note

The clock settings are cancelled when you disconnect the power cord or if a power failure occurs.

- 1** Press CLOCK/TIMER SET.
The hour indication flashes.



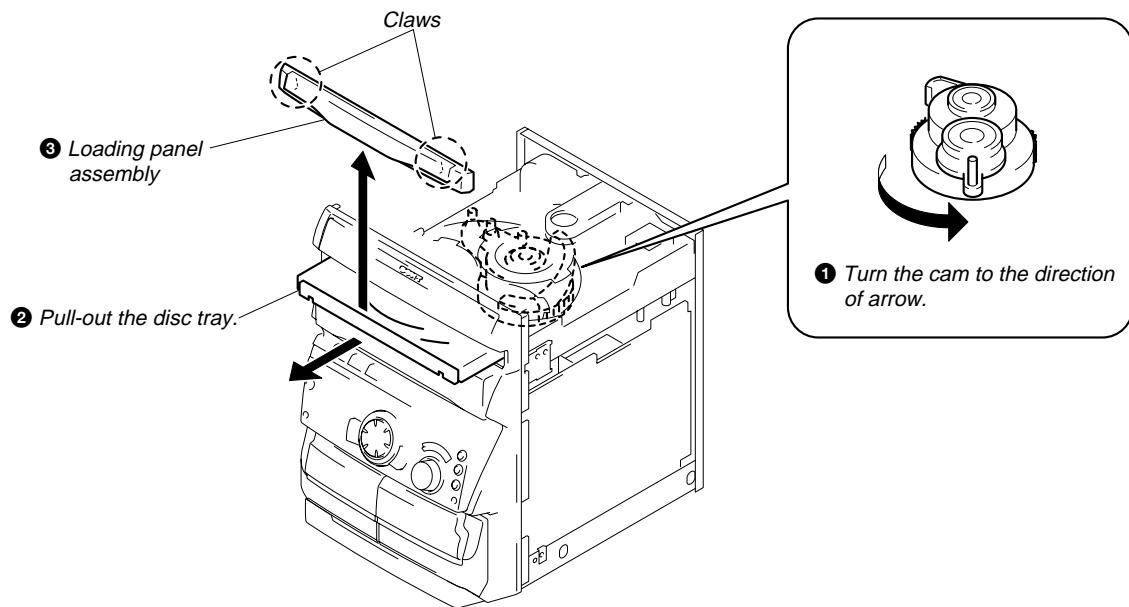
- 2** Turn the jog dial to set the hour.

This section is extracted from instruction manual.

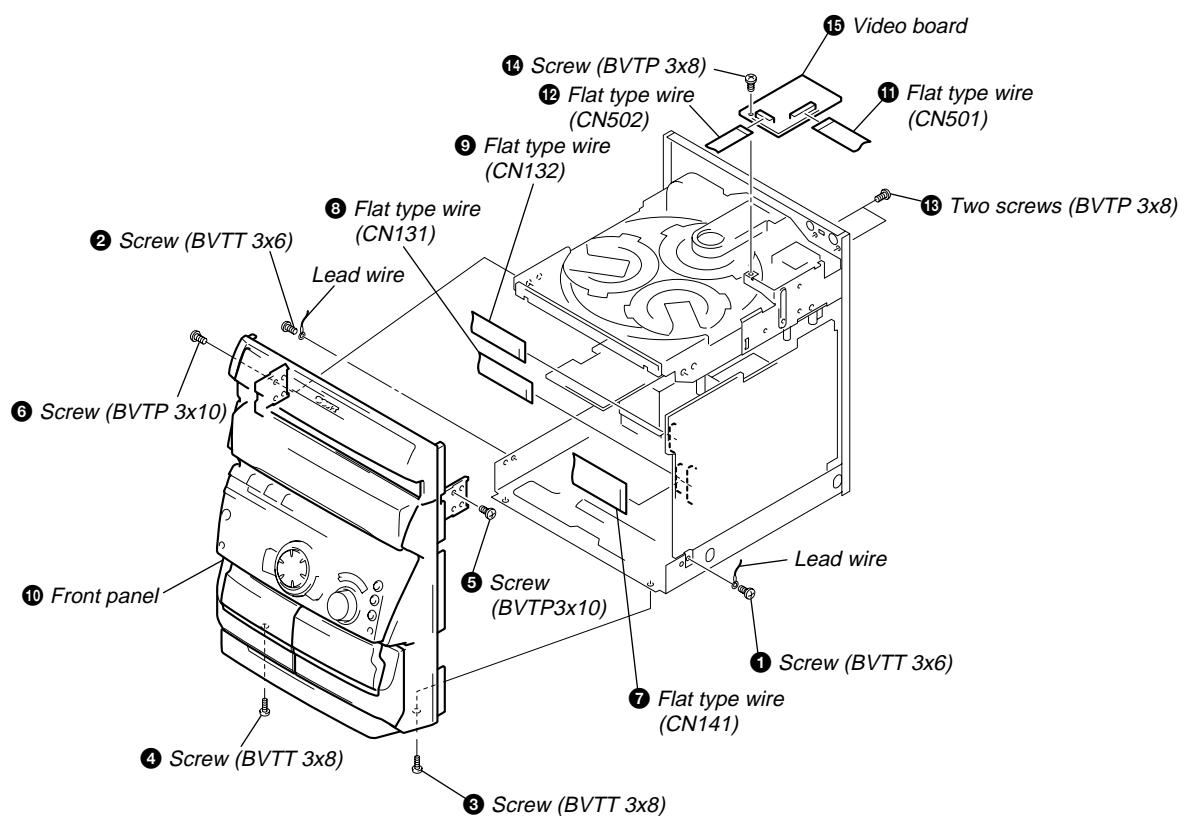
SECTION 3 DISASSEMBLY

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

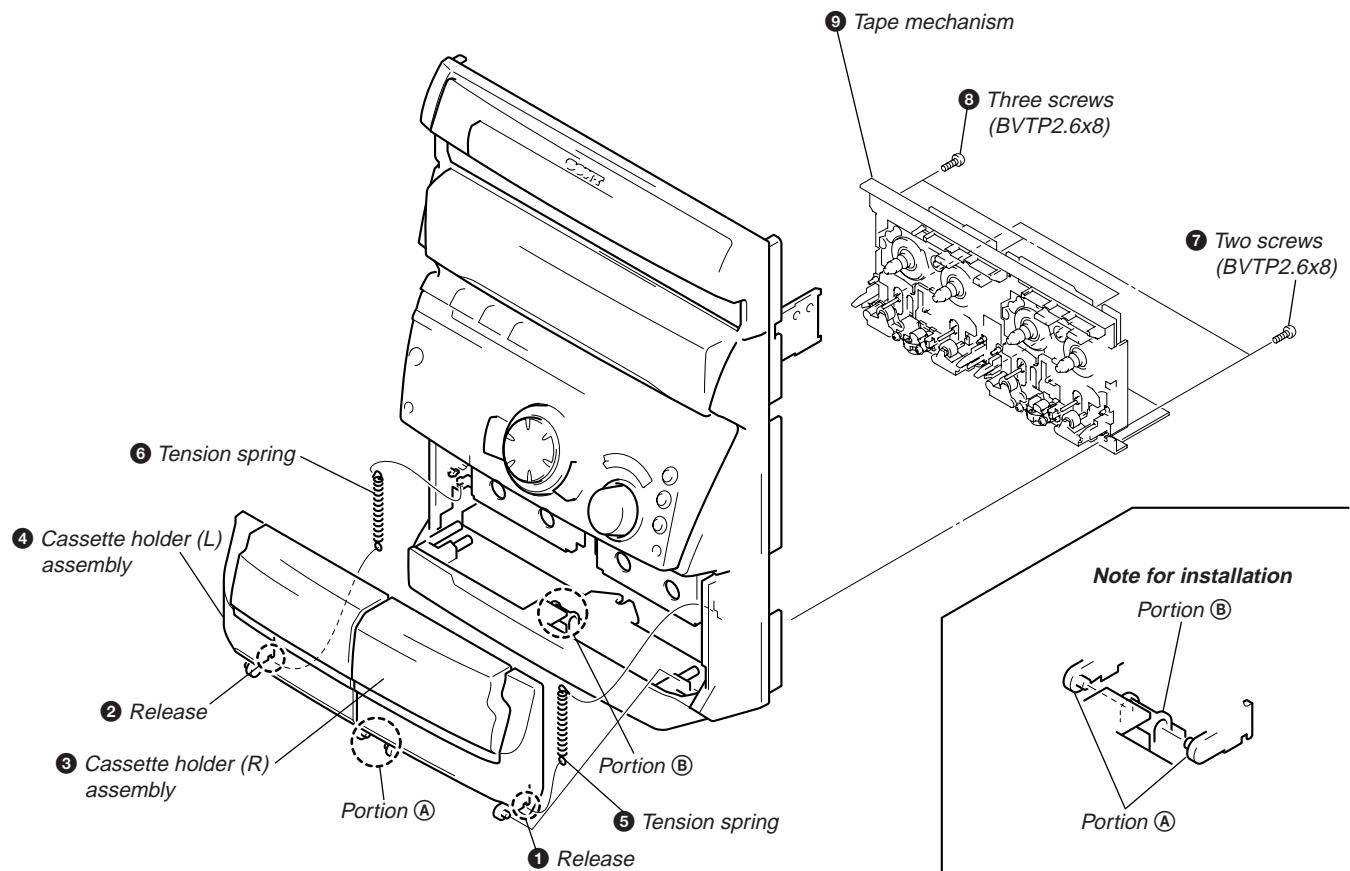
3-1. LOADING PANEL



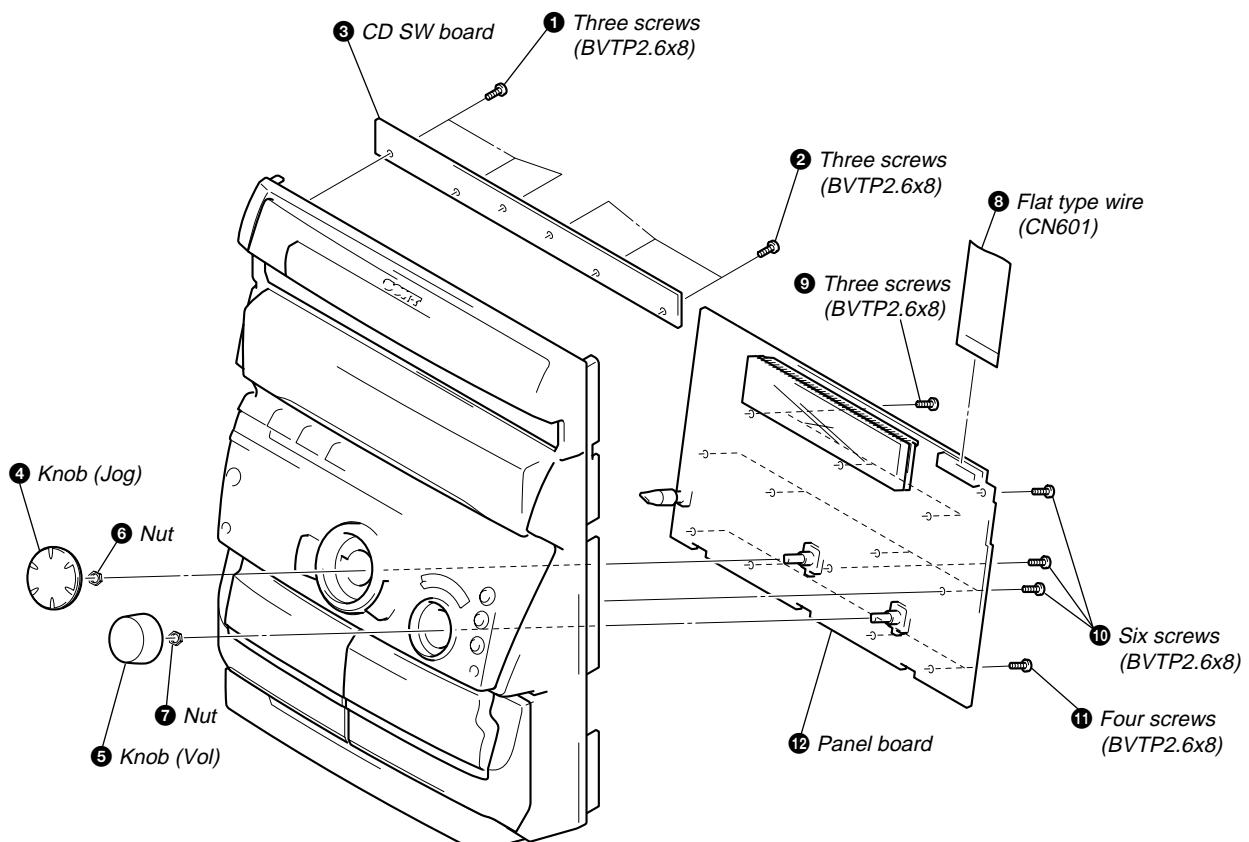
3-2. FRONT PANEL



3-3. CASSETTE LID AND TAPE MECHANISM



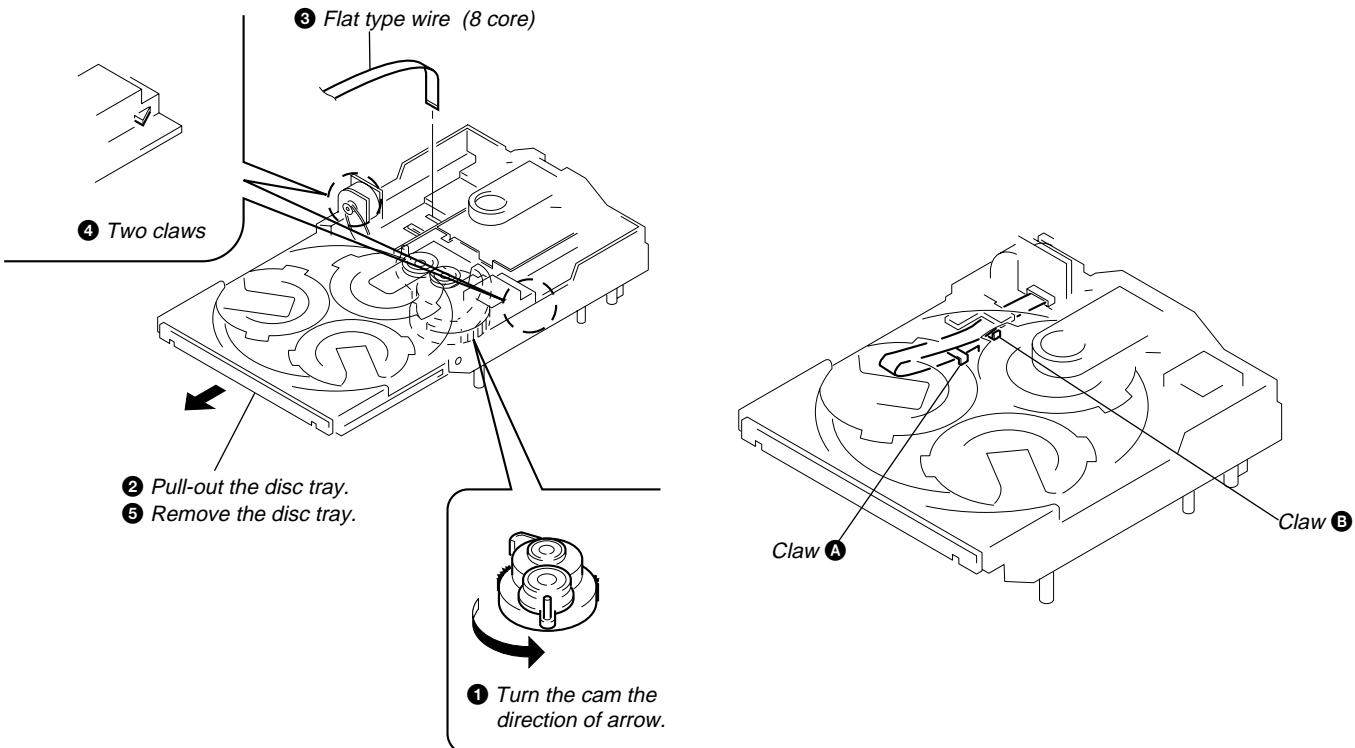
3-4. CD SW BOARD AND PANEL BOARD



3-5. DISC TRAY

(Perform after removing the front panel.)

Note: When installing the Disc tray, pull around the flat type wire to pass through the claw **A** and claw **B**, as shown in the figure.



SECTION 4 MECHANICAL ADJUSTMENTS

Precaution

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

record/playback heads	pinch rollers
erase head	rubber belts
capstan	idle
- 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	31 to 71 g • cm (0.43 – 0.98 oz • inch)
FWD back tension	CQ-102C	2 to 6 g • cm (0.02 – 0.08 oz • inch)
REV	CQ-102RC	31 to 71 g • cm (0.43 – 0.98 oz • inch)
REV back tension	CQ-102RC	2 to 6 g • cm (0.02 – 0.08 oz • inch)
FF/REW	CQ-201B	71 to 143 g • cm (0.98 – 1.99 oz • inch)
FWD tension	CQ-403A	100 g or more (3.53 oz or more)
REV tension	CQ-403R	100 g or more (3.53 oz or more)

SECTION 5 ELECTRICAL ADJUSTMENTS

DECK SECTION

0 dB=0.775V

- 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.
- 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.

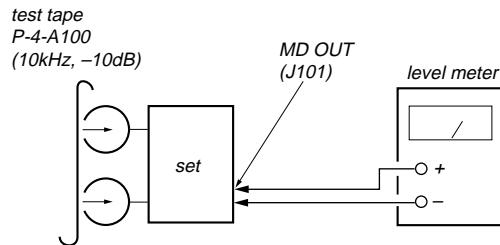
Tape	Signal	Used for
P-4-A100	10 kHz, -10 dB	Azimuth Adjustment
WS-48B	3 kHz, 0 dB	Tape Speed Adjustment
P-4-L300	315 Hz, 0 dB	Level Adjustment

Record/Playback Head Azimuth Adjustment (Deck A, Deck B)

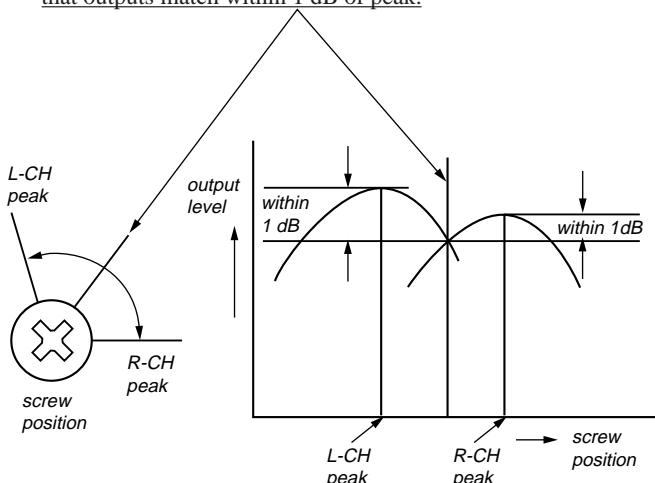
Note: Perform this adjustments for both decks.

Procedure:

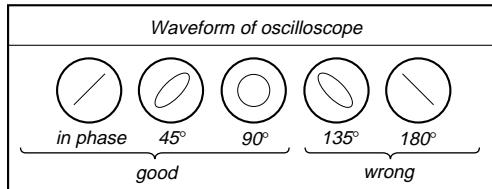
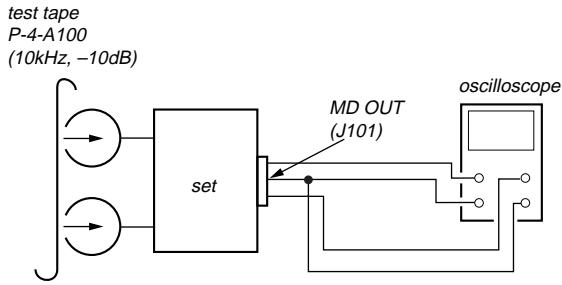
- Mode : Playback



- 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 1 dB of peak.

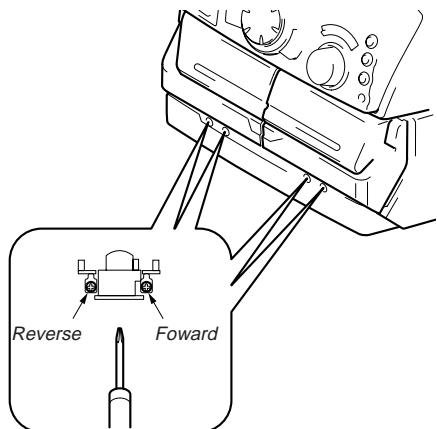


3. Mode: Playback



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

Adjustment Location: Playback Head (Deck A)
Record/Playback/Erase Head (Deck B)



Tape Speed Adjustment (Deck B)

Note: Set the test mode using the following method and begin tape speed adjustment.

In the test mode, the speed will switch to double speed or normal speed each time the [HI DUB] button is pressed.

Procedure:

With the power turned ON, press the [] button, [ENTER/NEXT] button, and [DISC 3] button simultaneously.
(The "CD TYPE INDICATOR" on the fluorescent display tube will blink while in the test mode.)

To exit the test mode, press the [I/O] button.

1. Insert the WS-48B into deck B.
2. Press the [▶] button of deck B.
3. Press the [HI DUB] button and play the tape at double speed.
4. Adjust RV1001 of the LEAF SW board so that the reading of the frequency counter becomes 6000 ± 180 Hz.
5. Press the [HI DUB] button and play the tape at normal speed.
6. Adjust RV1002 of the LEAF SW board so that the reading of the frequency counter becomes 3000 ± 90 Hz.

Adjustment Location: LEAF SW board

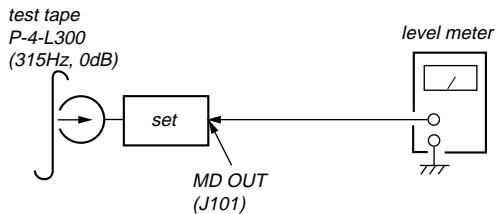
Sample Value of Wow and flutter

W.RMS (JIS) less than 0.3%
(test tape: WS-48B)

Playback Level Adjustment (Deck A, Deck B)

Procedure:

Mode: Playback



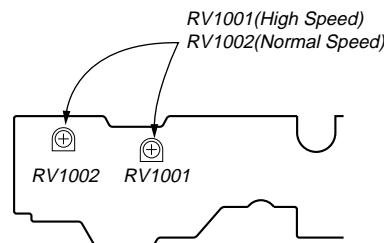
Deck A is RV311 (L-CH) and RV411 (R-CH), deck B is RV301 (L-CH) and RV401 (R-CH)
so that adjustment within the following adjustment level.

Adjustment level:

J101 playback level: 301.5 to 338.3 mV (-8.2 to -7.2 dB)
level difference between the channels: within ± 0.5 dB

Adjustment Location: AUDIO board

Adjustment Location [LEAF SW BOARD]



Record Bias Adjustment (Deck B)

Procedure:

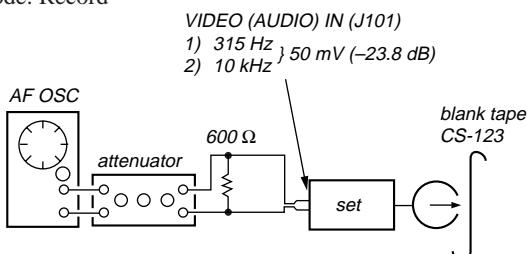
INTRODUCTION

When set to the test mode performed in **Tape Speed Adjustment**, when the tape is rewound after recording, the "REC memory mode" which rewinds only the recorded portion and playback is set.

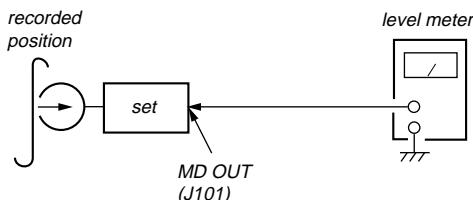
This "REC memory mode" is convenient for performing this adjustment. During recording, the input signal FUNCTION will automatically switch to VIDEO.

(After recording, press the $\leftarrow \blacktriangleleft$ button without stopping will return to the position where recording was started.)

1. Press **FUNCTION** button to select VIDEO. (This step is not necessary if the above test mode has already been set.)
2. Insert a tape into deck B, press the **REC** button, and then press the **▶ II** button to start recording.
3. Mode: Record



4. Mode: Playback



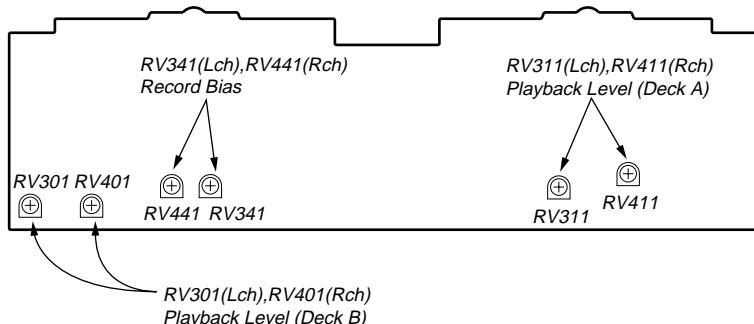
5. Confirm playback the signal recorded in step 2 become adjustment level as follows.
If these levels do not adjustment level, adjust the RV341 (L-CH) and RV441 (R-CH) on the AUDIO board to repeat steps 3 and 4.

Adjustment level: The playback output of 10 kHz level difference against 315 Hz reference should be ± 1.0 dB.

Adjustment Location: AUDIO board

Adjustment Location:

[AUDIO BOARD] (Conductor Side)



Record Level Adjustment (Deck B)

Procedure:

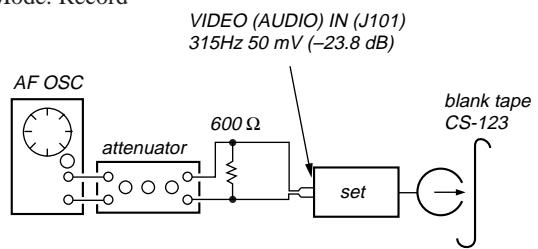
INTRODUCTION

When set to the test mode performed in **Tape Speed Adjustment**, when the tape is rewound after recording, the "REC memory mode" which rewinds only the recorded portion and playback is set.

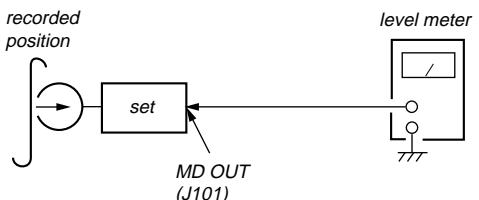
This "REC memory mode" is convenient for performing this adjustment. During recording, the input signal FUNCTION will automatically switch to VIDEO.

(After recording, press the $\leftarrow \blacktriangleleft$ button without stopping will return to the position where recording was started.)

1. Press **FUNCTION** button to select VIDEO 1. (This step is not necessary if the above test mode has already been set.)
2. Insert a tape into deck B, press the **REC** button, and then press the **▶ II** button to start recording.
3. Mode: Record



4. Mode: Playback



5. Confirm playback the signal recorded in step 2 become adjustment level as follows.
If these levels do not adjustment level, adjust the RV301 (L-CH) and RV351 (R-CH) on the MAIN board to repeat steps 3 and 4.

Adjustment level:

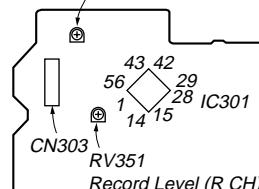
J301 playback level: 47.2 to 53.0 mV (-24.3 to -23.3 dB)

Adjustment Location: MAIN board

[MAIN BOARD] (Conductor Side)

Record Level (L CH) RV301

Record Level (R CH) RV351

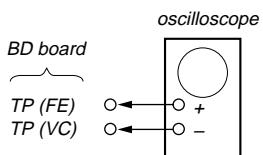


CD SECTION

Note:

1. CD Block is basically constructed 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 $10M\Omega$ 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

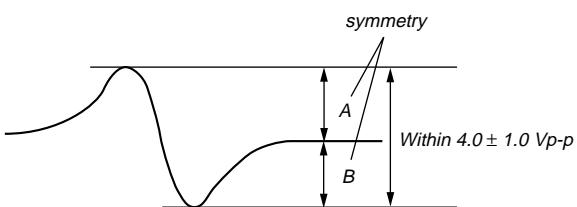


Adjustment Location: BD board

Procedure :

1. Connect the oscilloscope to test points TP (FE) and TP (VC).
2. Connect TP (FE1) and TP (VC), and TP (AGCCON) and GND of the BD board with lead wires.
3. Press the **[I/O]** button to turn the set ON.
4. With the disc (YEDS-18) loaded, press the **[▶II]** button and perform focus search. (Focus search will be performed in the same way even while the disc table is pushed in and out.)
5. Check the symmetry and peak to peak level of the oscilloscope waveform (S curve) at this time.

S-curve waveform

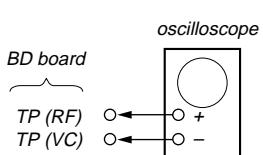


6. After check, remove the lead wire connected in step 2.

- 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.

Adjustment Location: BD board

RF Level Check

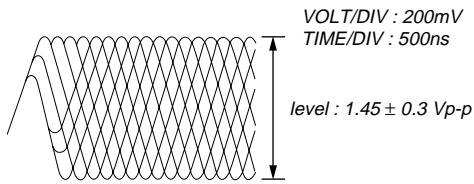


Procedure :

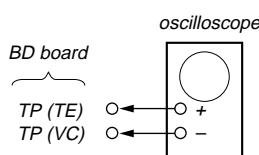
1. Connect oscilloscope to test point TP (RF) and TP (VC) on BD board.
2. Connect TP (AGCCON) and GND of the BD board with lead wires.
3. Press the **[I/O]** button to turn the set ON.
4. Put disc (YEDS-18) in and playback 5track.
5. Confirm that oscilloscope waveform is clear and check RF signal level is correct or not.
6. After check, remove the lead wire connected in step 2.

Note: Clear RF signal waveform means that the shape “◊” can be clearly distinguished at the center of the waveform.

RF signal waveform



E-F Balance (Traverse) Check



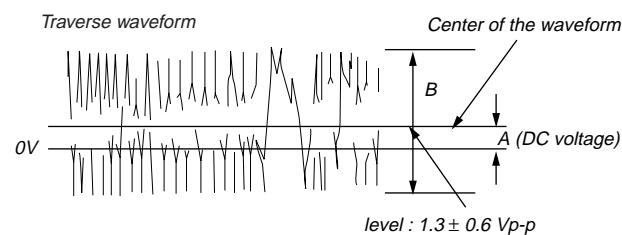
Adjustment Location: BD board

Procedure :

1. Connect oscilloscope to test point TP (TE) and TP (VC) on BD board.
2. Short-circuit SL502 of the video board to GND.
3. Turned Power switch on. Press **[FUNCTION]** button to select CD.
4. Put disc (YEDS-18) in to play the number five track.
5. Press the **[PLAY MODE/DOLBY NR]** button. (The tracking servo and the sledding servo are turned OFF.)
6. Check the level B of the oscilloscope's waveform and the A (DC voltage) of the center of the Traverse waveform.

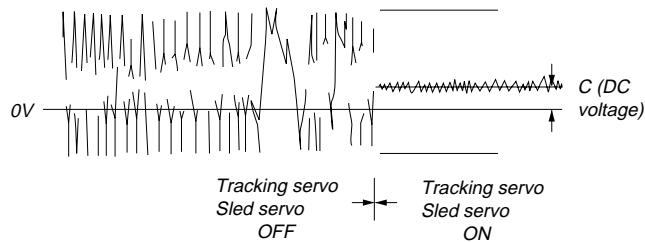
Confirm the following :

$$A/B \times 100 = \text{less than } \pm 22\%$$



7. Press the **[PLAY MODE/DOLBY NR]** 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 7.

Traverse waveform

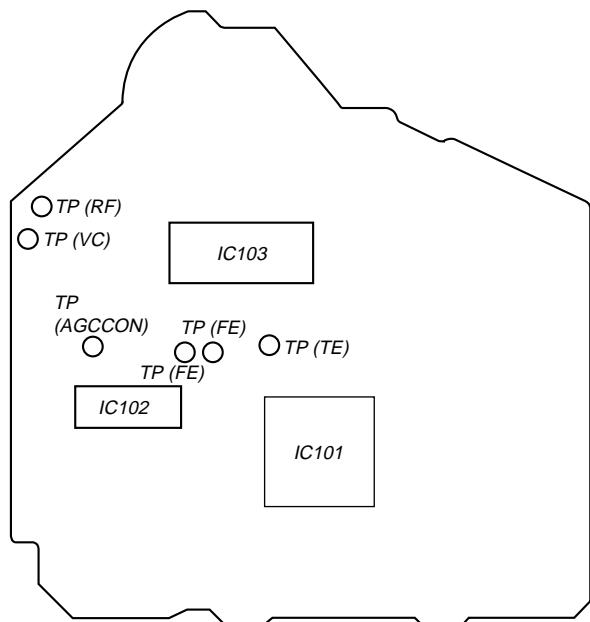


8. Desolder the short-land (SL502) short-circuited at step 2.

Adjustment Location: BD board

Adjustment Location :

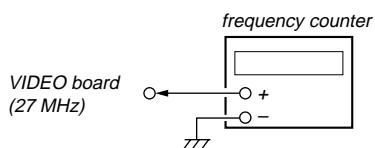
[BD BOARD] (SIDE B)



VIDEO SECTION

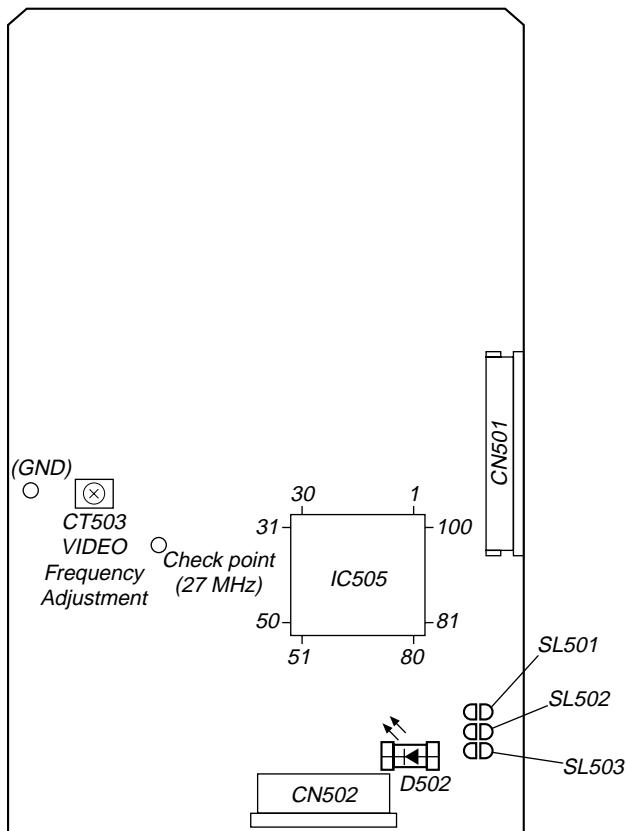
Frequency adjustment

1. Connect the frequency counter to check point (27MHz) of the VIDEO board.
2. Adjust CT503 of the VIDEO board so that the frequency counter read $27\text{MHz} \pm 80\text{Hz}$ at STOP condition.



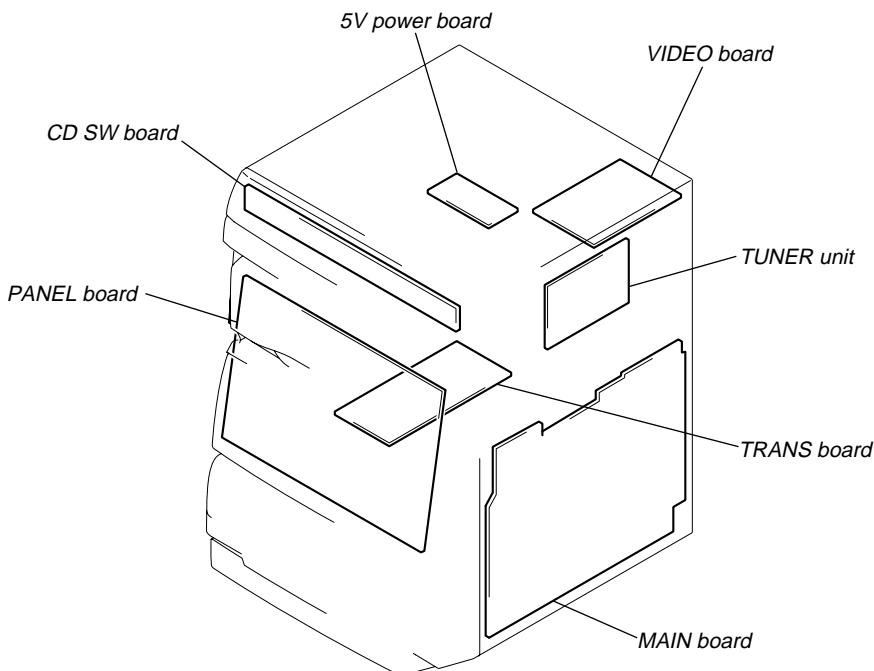
Adjustment Location :

[VIDEO BOARD] (SIDE B)

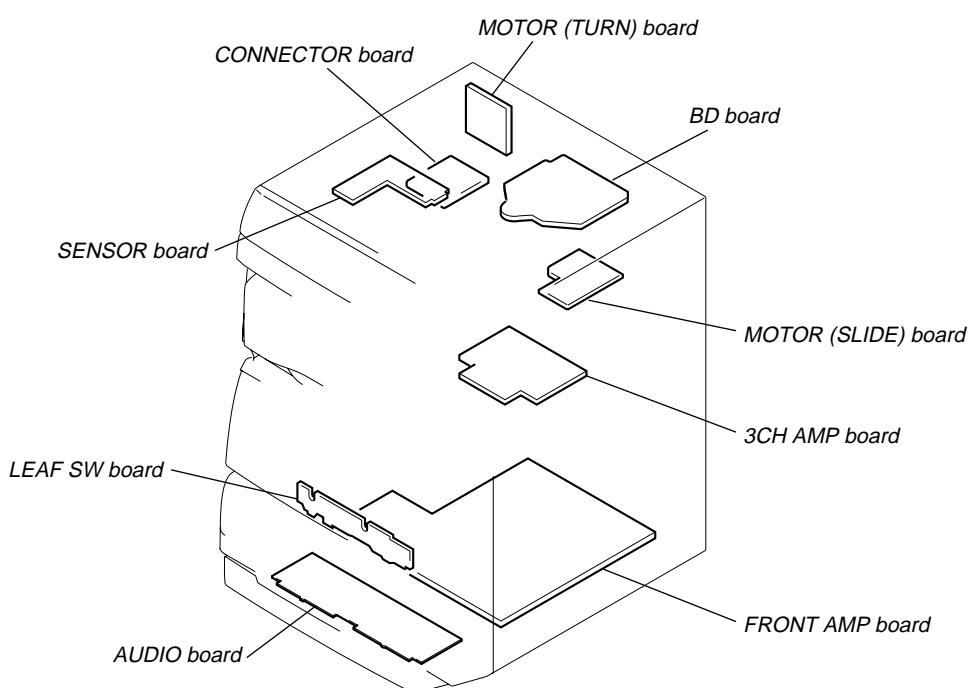


SECTION 6 DIAGRAMS

6-1. CIRCUIT BOARDS LOCATION

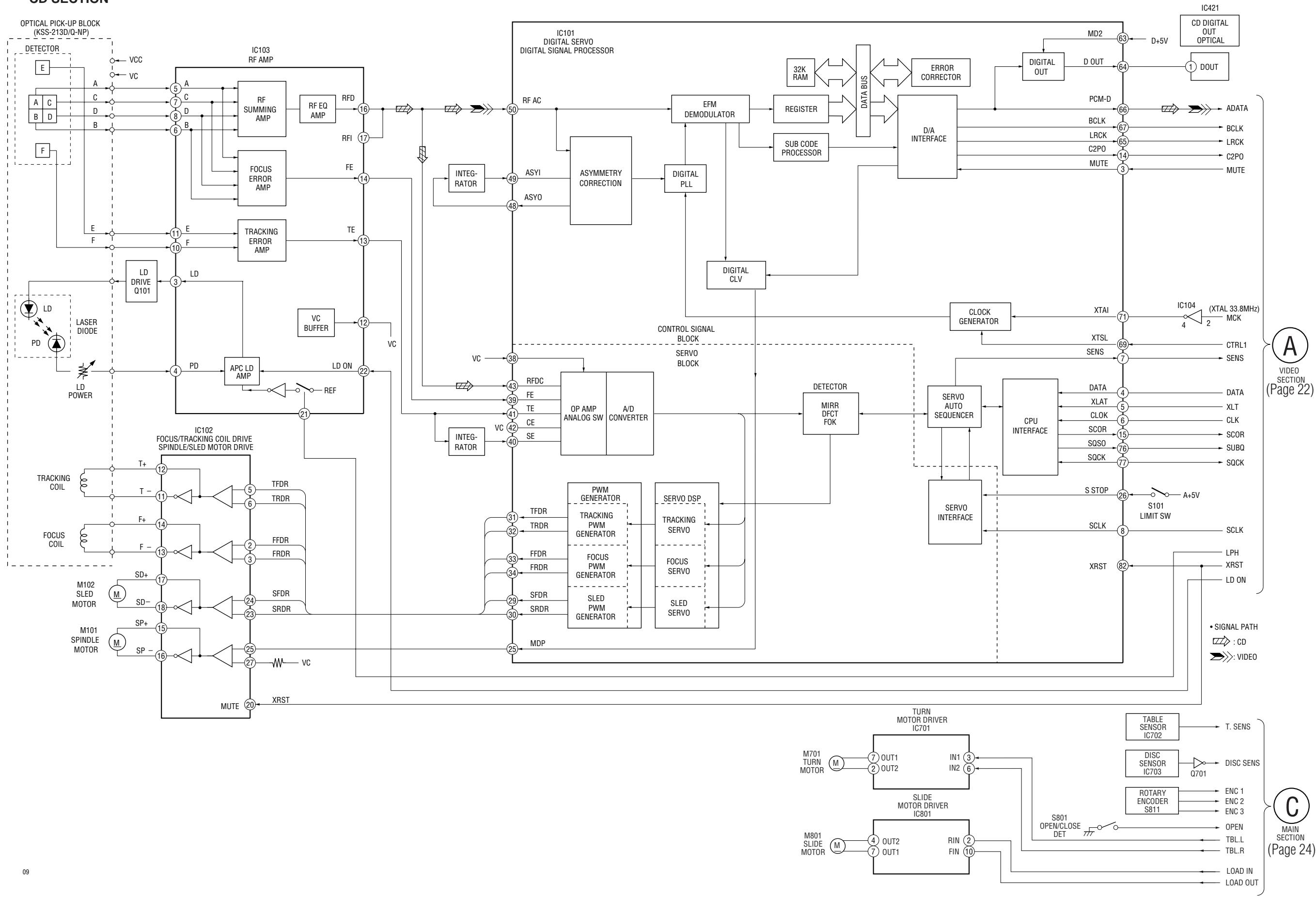


TUNER unit is supplied as
the assembled block.

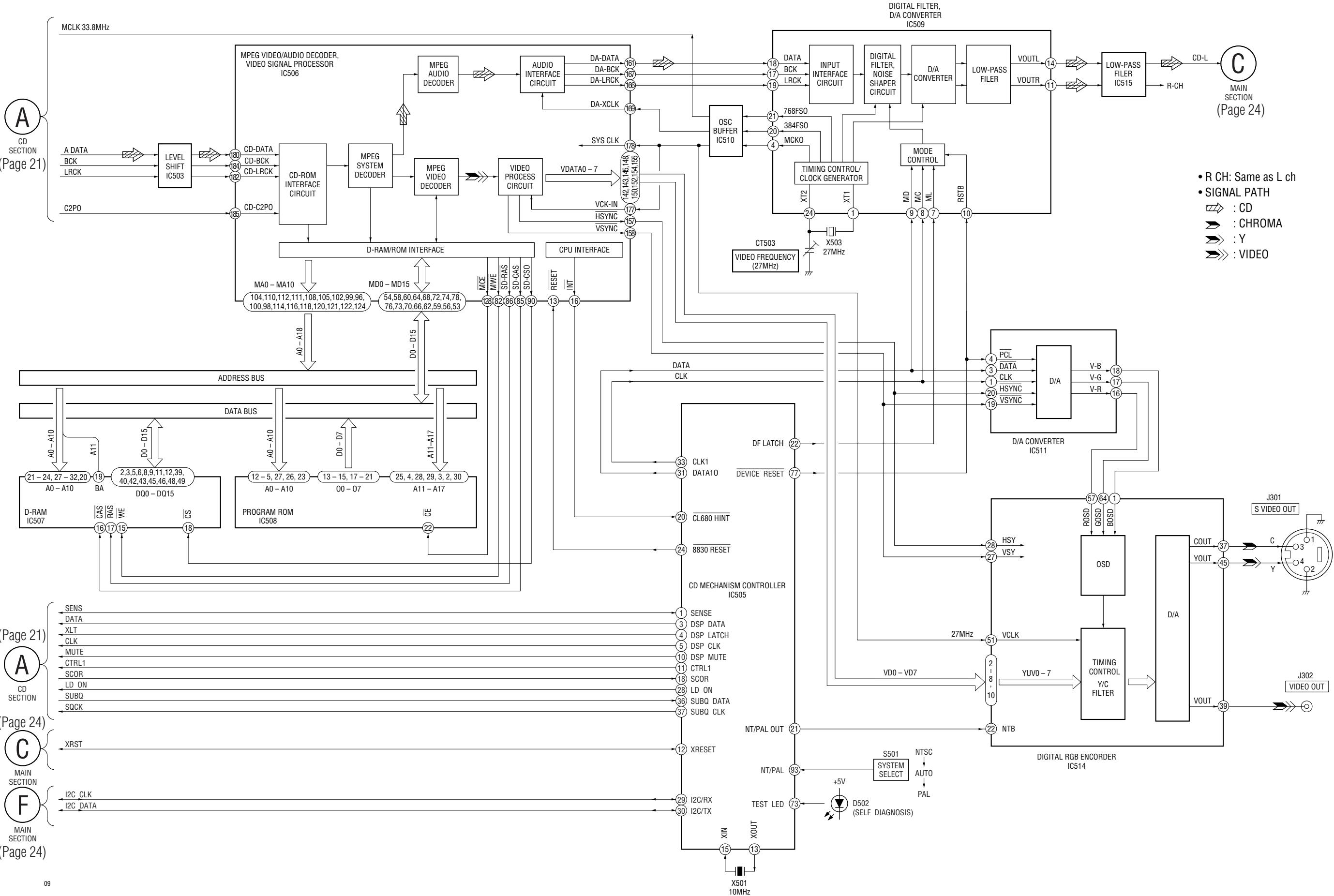


6-2. BLOCK DIAGRAMS

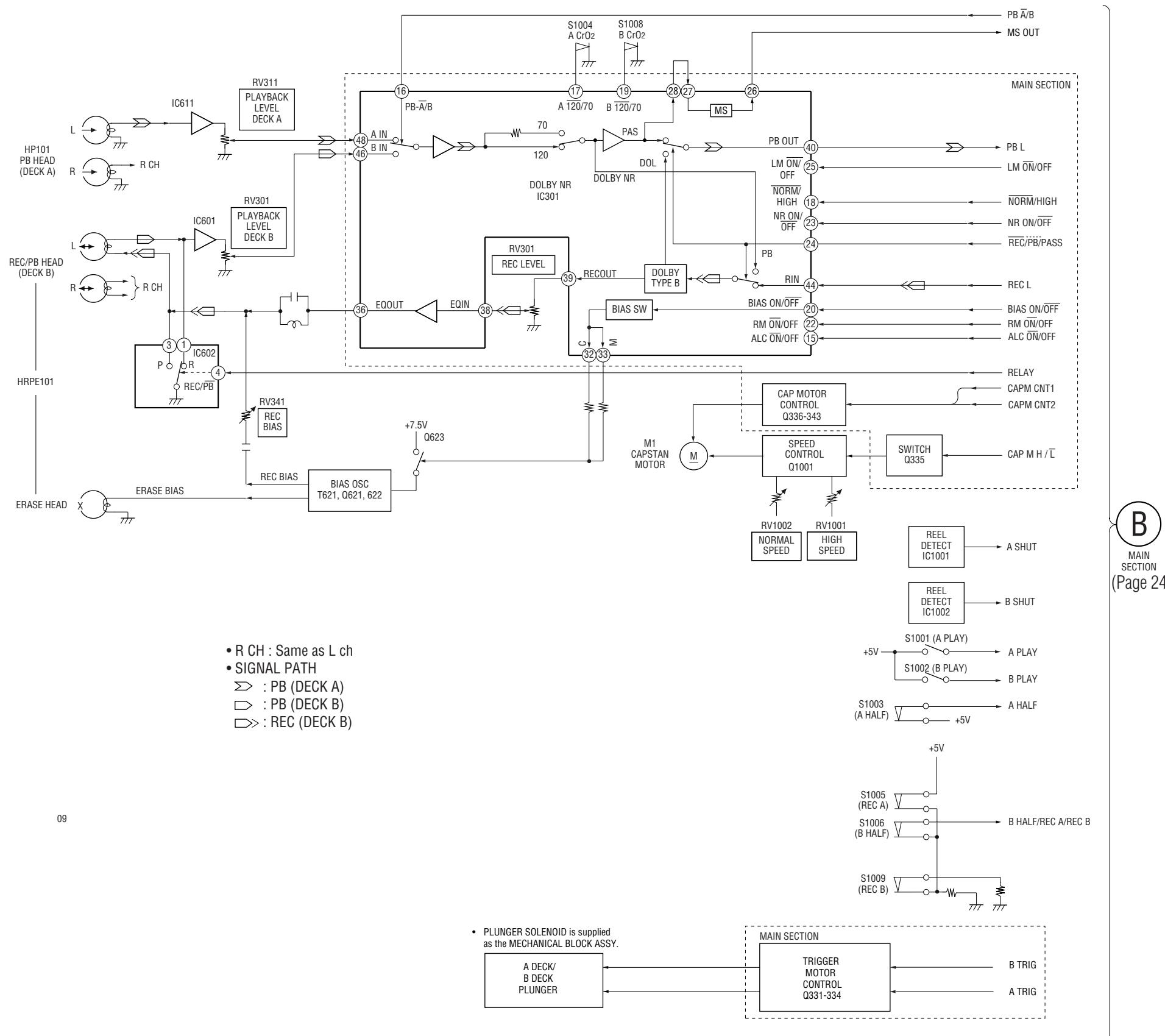
- CD SECTION -



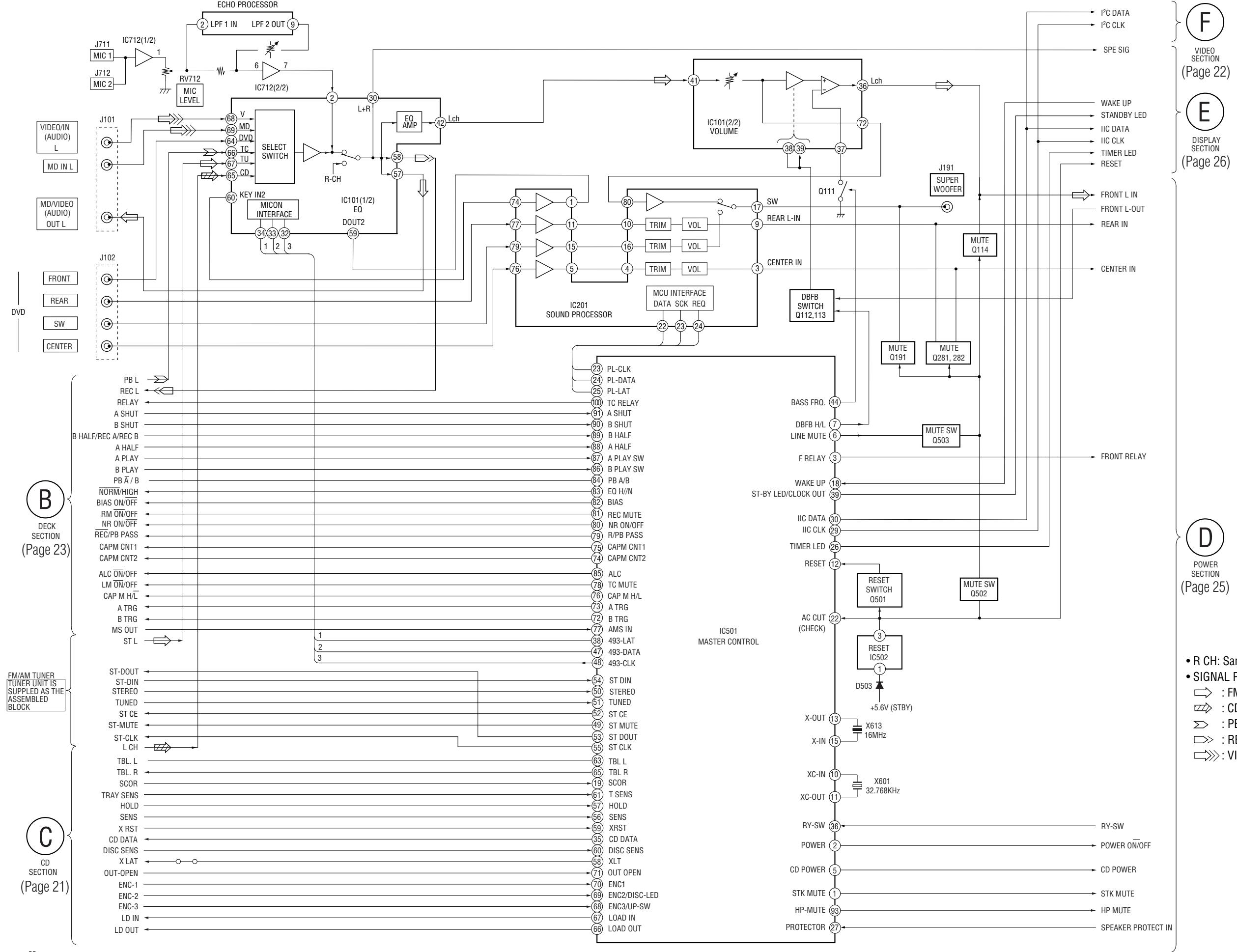
- VIDEO SECTION -



- DECK SECTION -

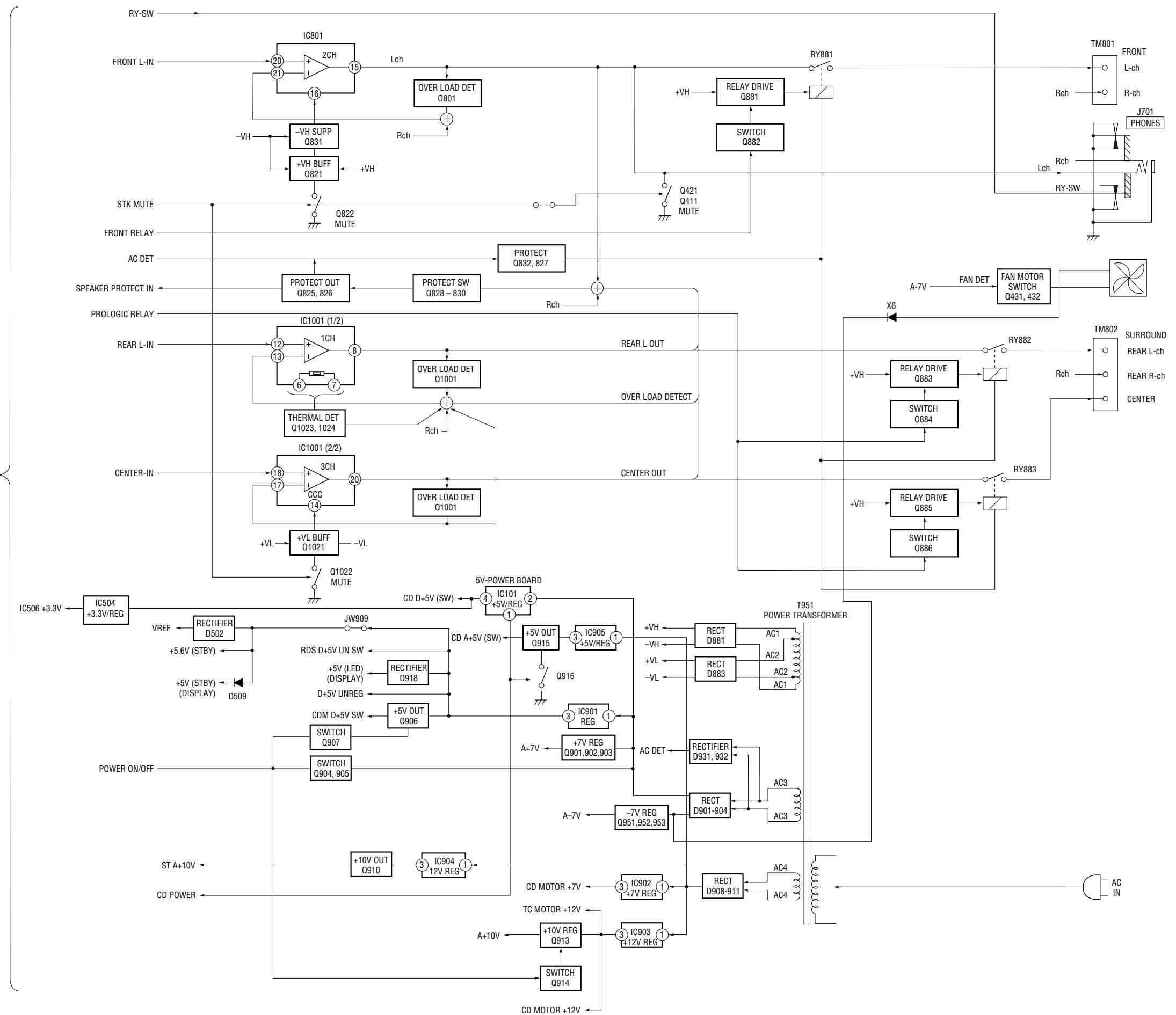


- MAIN SECTION -

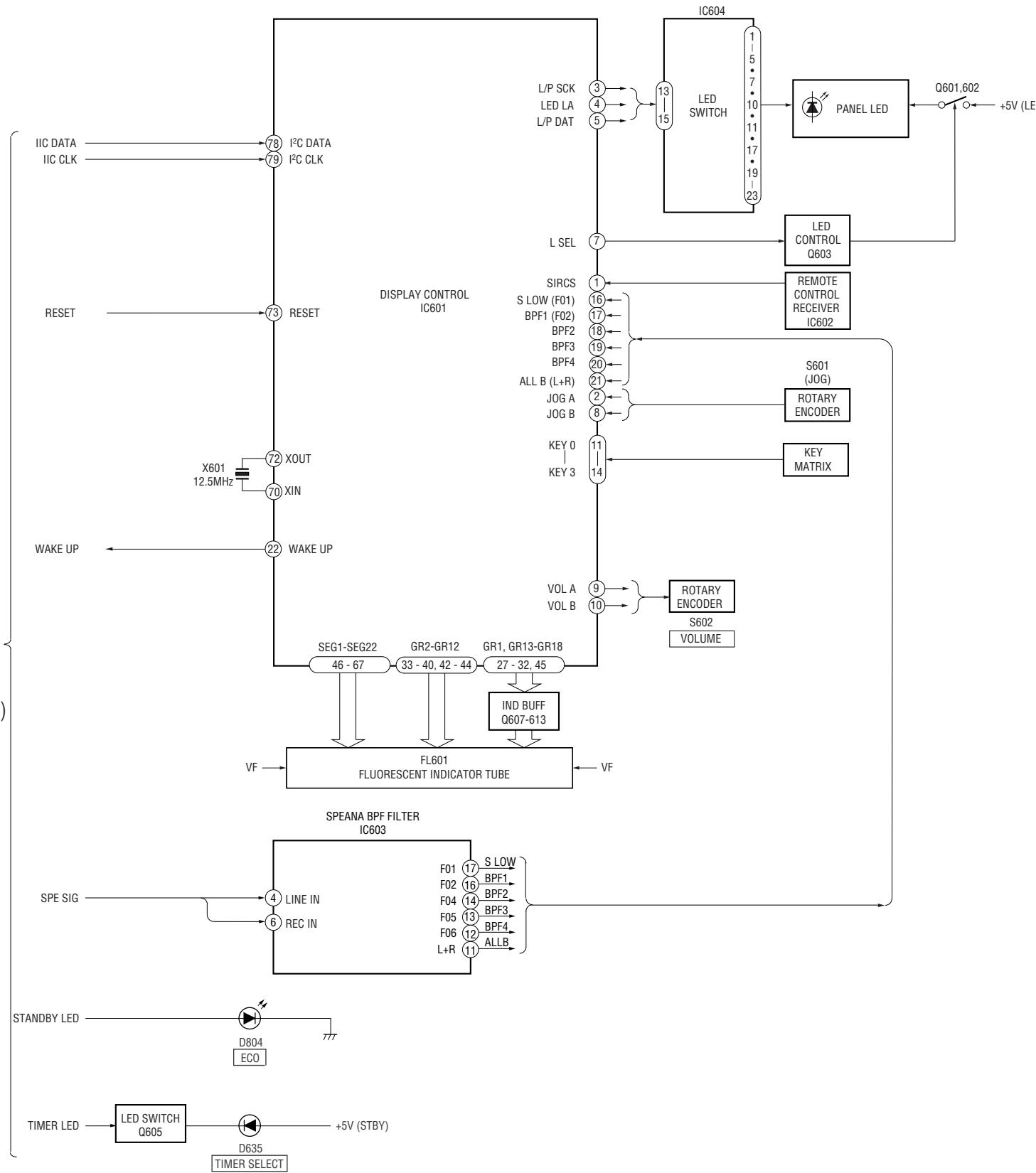


- POWER SECTION -

D

MAIN
SECTION
(Page 24)

- DISPLAY SECTION -



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. μF : $\mu\mu\text{F}$ 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.
- \triangle : internal component.
-  : nonflammable resistor.
-  : fusible resistor.
-  : panel designation.

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

Note:
以阴影和 \triangle 标志来识别的零部件，在安全方面具有关键性，因此只能以规定号码的零部件来更换。

-  : B+ Line.
-  : B- Line.
-  : adjustment for repair.
- Voltages and waveforms are dc with respect to ground under no-signal (detuned) conditions.
- 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 a oscilloscope. Voltage variations may be noted due to normal production tolerances.
- Circle numbers refer to waveforms.
- Signal path.
 - \Rightarrow : FM
 - $\Rightarrow \Rightarrow$: VIDEO/MD
 - $\Rightarrow \square$: PB (DECK A)
 - $\square \Rightarrow$: PB (DECK B)
 - $\square \Rightarrow$: REC (DECK B)
 - $\Rightarrow \square$: CHROMA
 - $\Rightarrow \square$: Y
 - $\Rightarrow \square$: VIDEO
 - $\Rightarrow \square$: CD
 - $\Rightarrow \square$: digital out

For printed wiring boards.

Note:

-  : parts extracted from the component side.
-  : parts extracted from the conductor side.
-  : Through hole.
-  : Pattern from the side which enables seeing.
(The other layers' patterns are not indicated.)

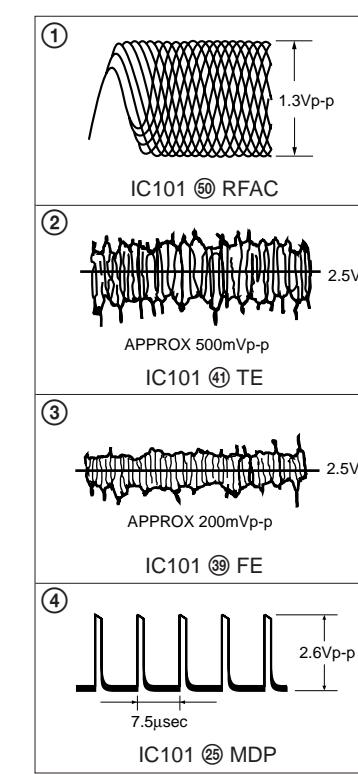
Caution:

Pattern face side: Parts on the pattern face side seen from the (Side B) pattern face are indicated.
Parts face side: Parts on the parts face side seen from the (Side A) parts face are indicated.

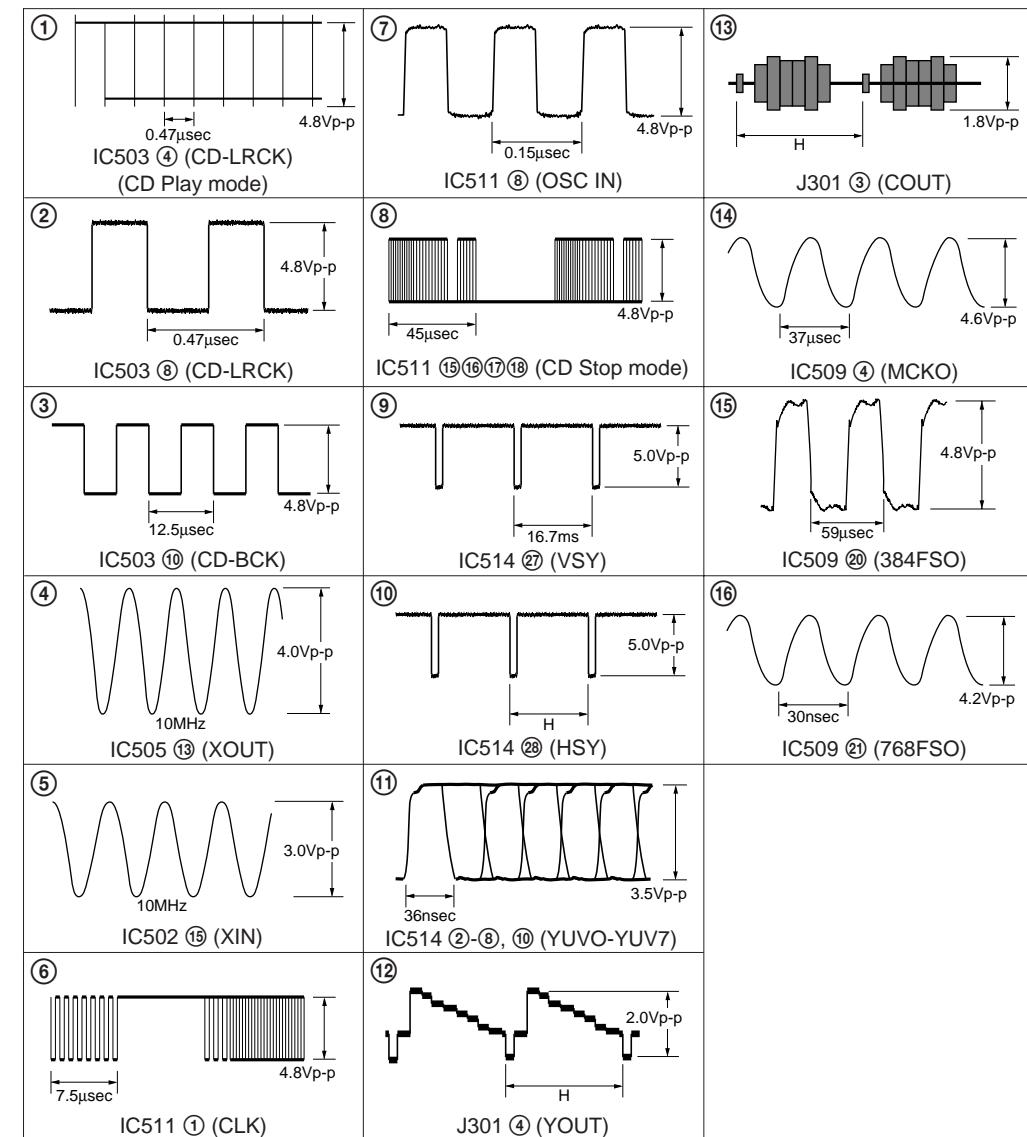
Indication of transistor



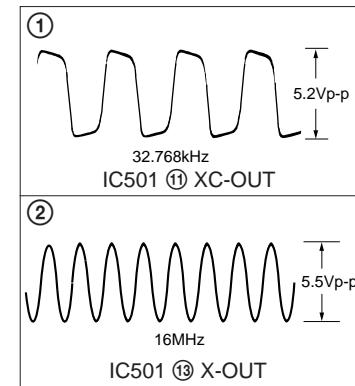
WAVEFORMS - CD SECTION -



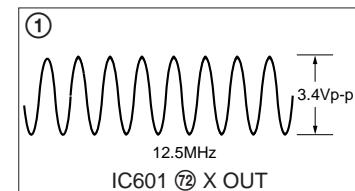
- VIDEO SECTION -



- MAIN (3/4) SECTION -

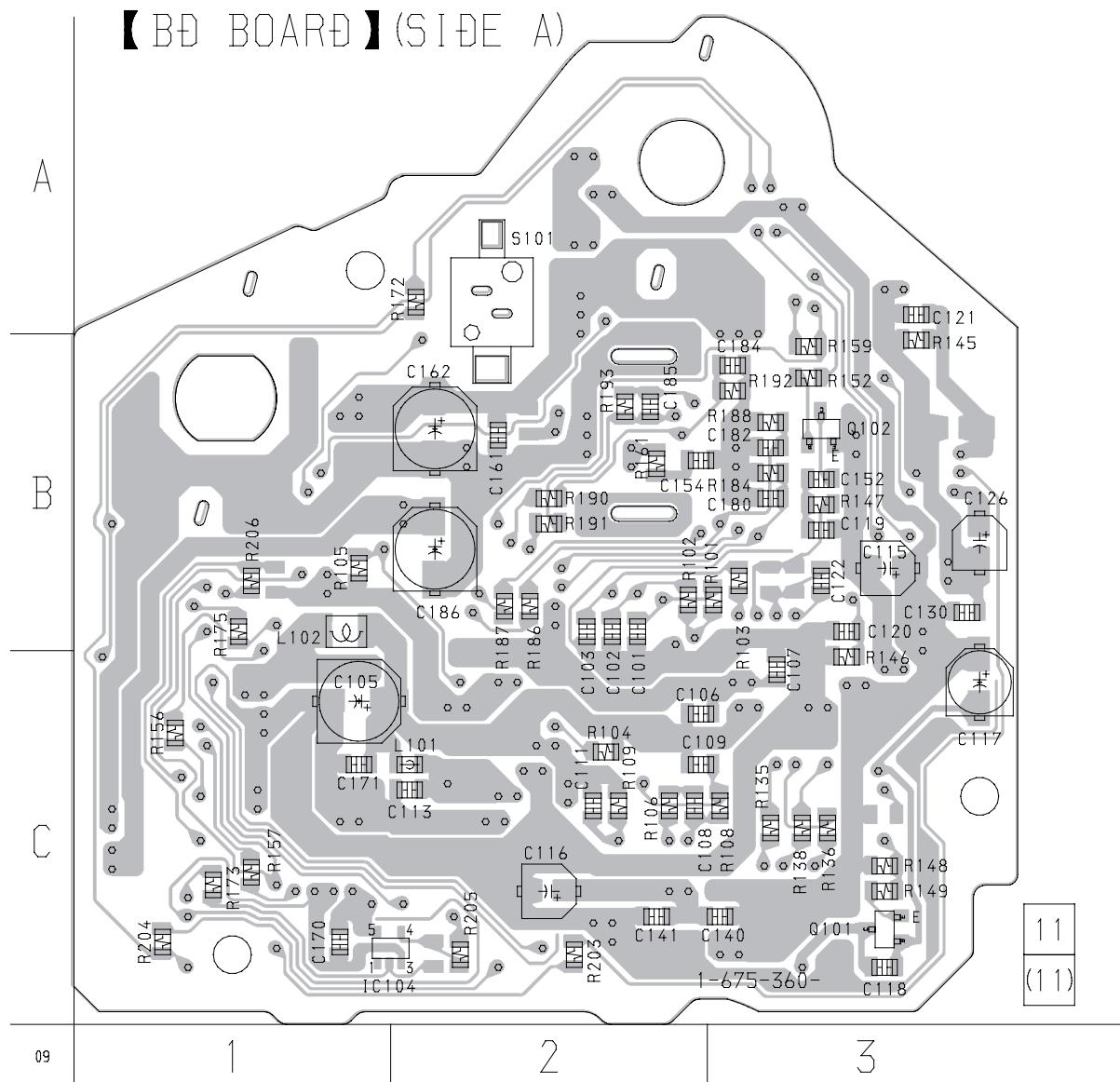


- PANEL (1/2) SECTION -



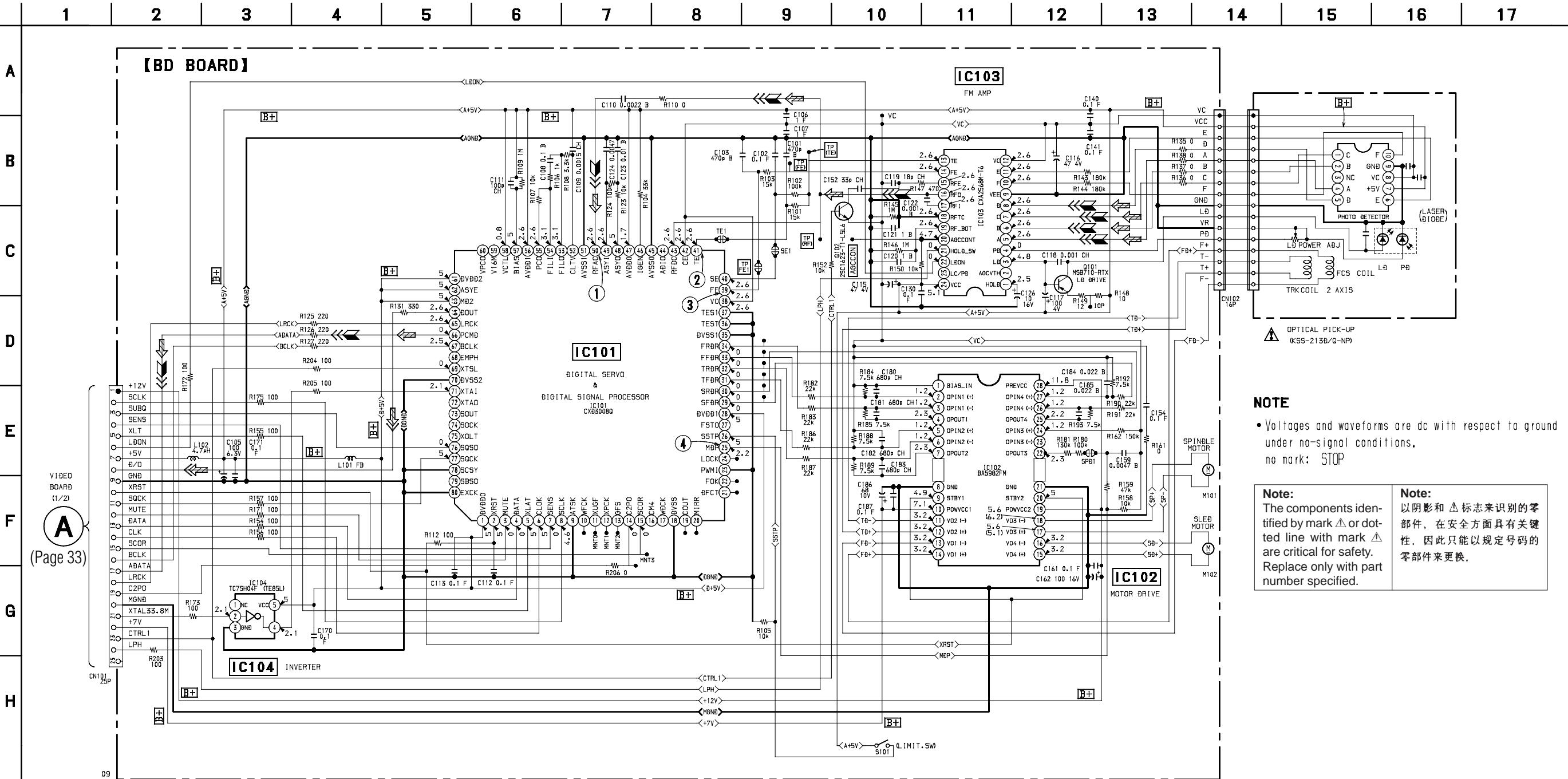
6-3. PRINTED WIRING BOARD – BD SECTION –

- See page 20 for Circuit Boards Location.

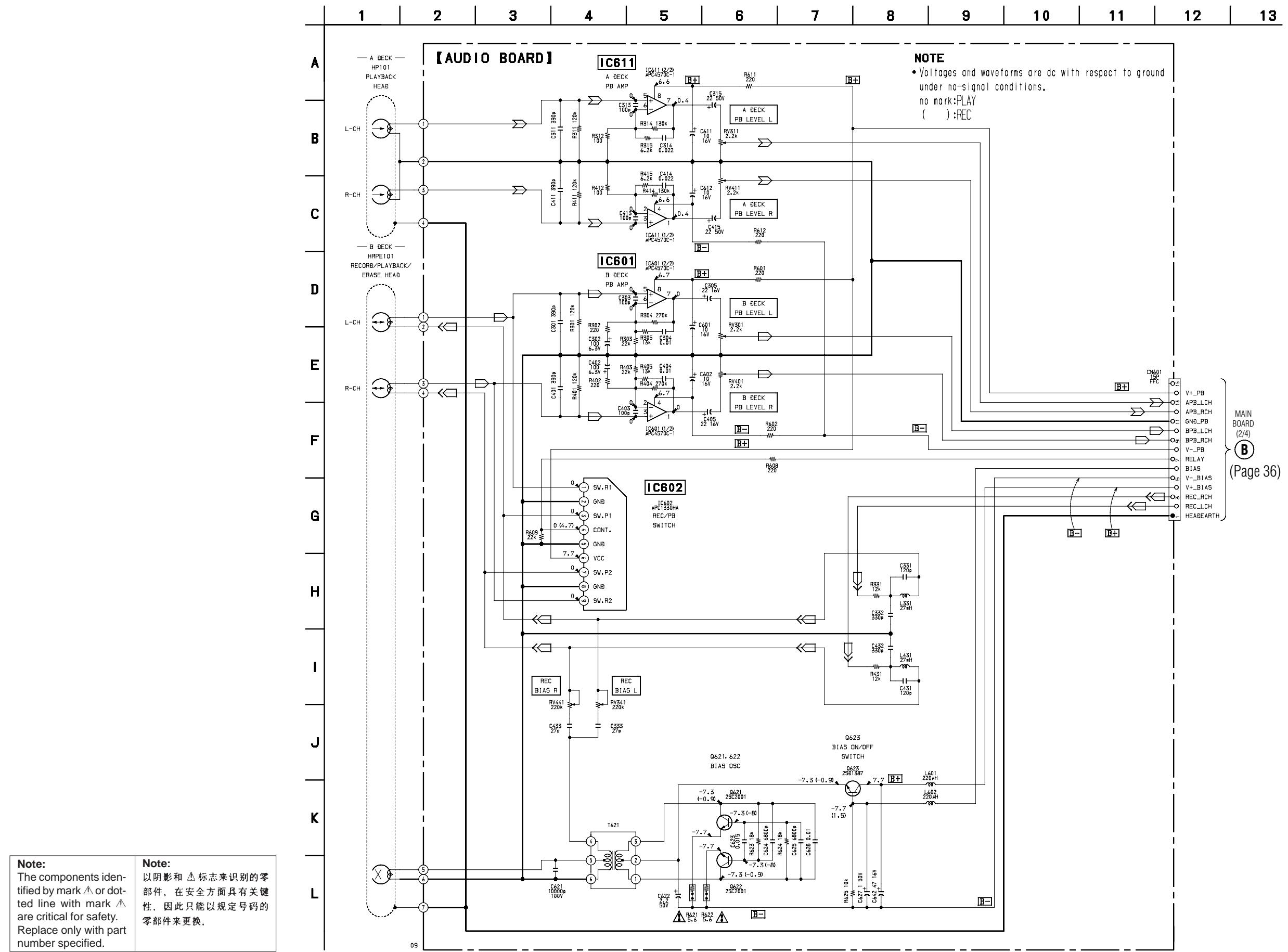


6-4. SCHEMATIC DIAGRAM – BD SECTION –

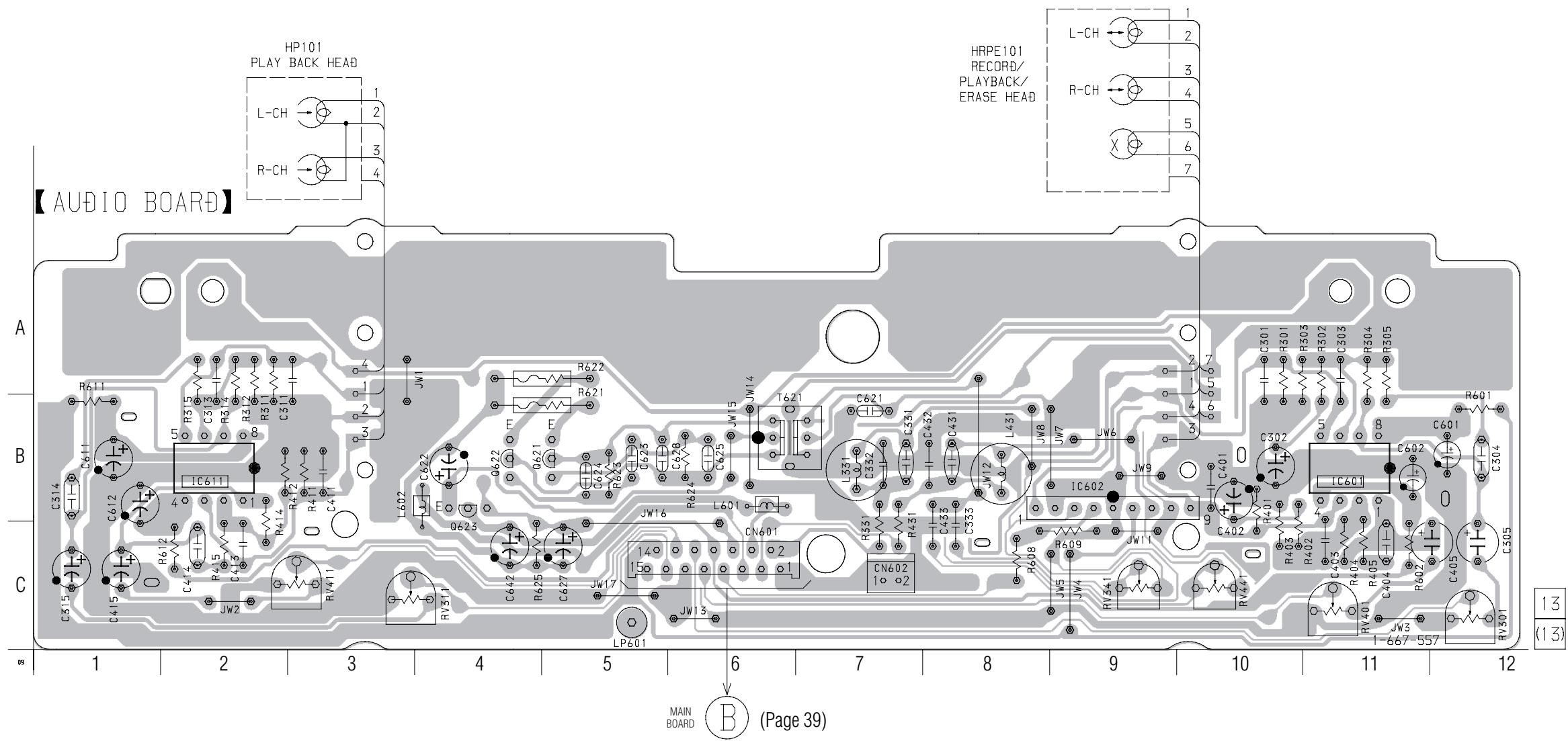
- See page 27 for Waveforms.
- See page 50 for IC Block Diagrams.
- See page 52 for IC Pin Functions.



6-5. SCHEMATIC DIAGRAM – DECK SECTION –
 • See page 50 for IC Block Diagrams.



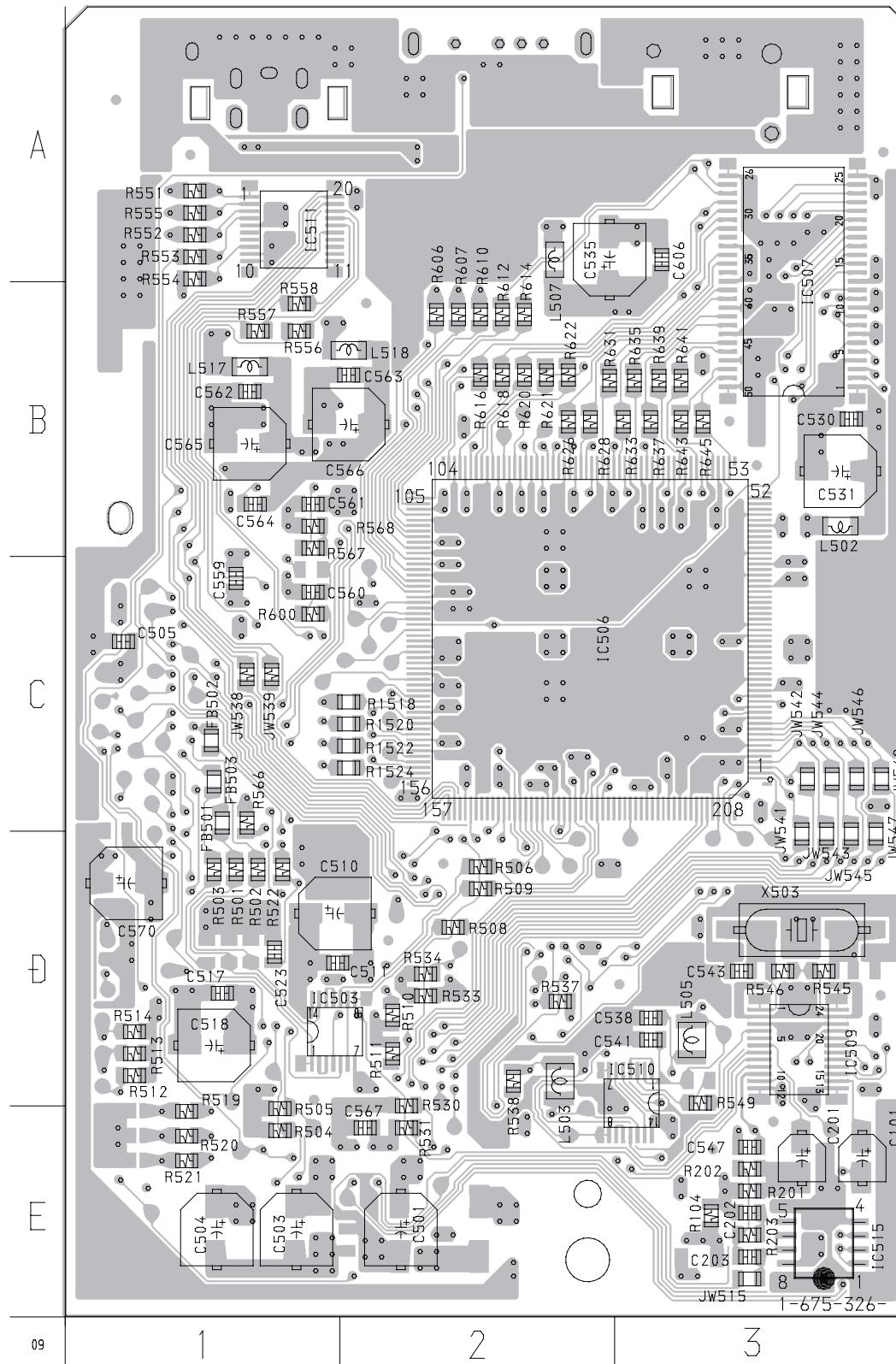
6-6. PRINTED WIRING BOARD – DECK SECTION –
 • See page 20 for Circuit Boards Location.



6-7. PRINTED WIRING BOARD – VIDEO SECTION –

- See page 20 for Circuit Boards Location.

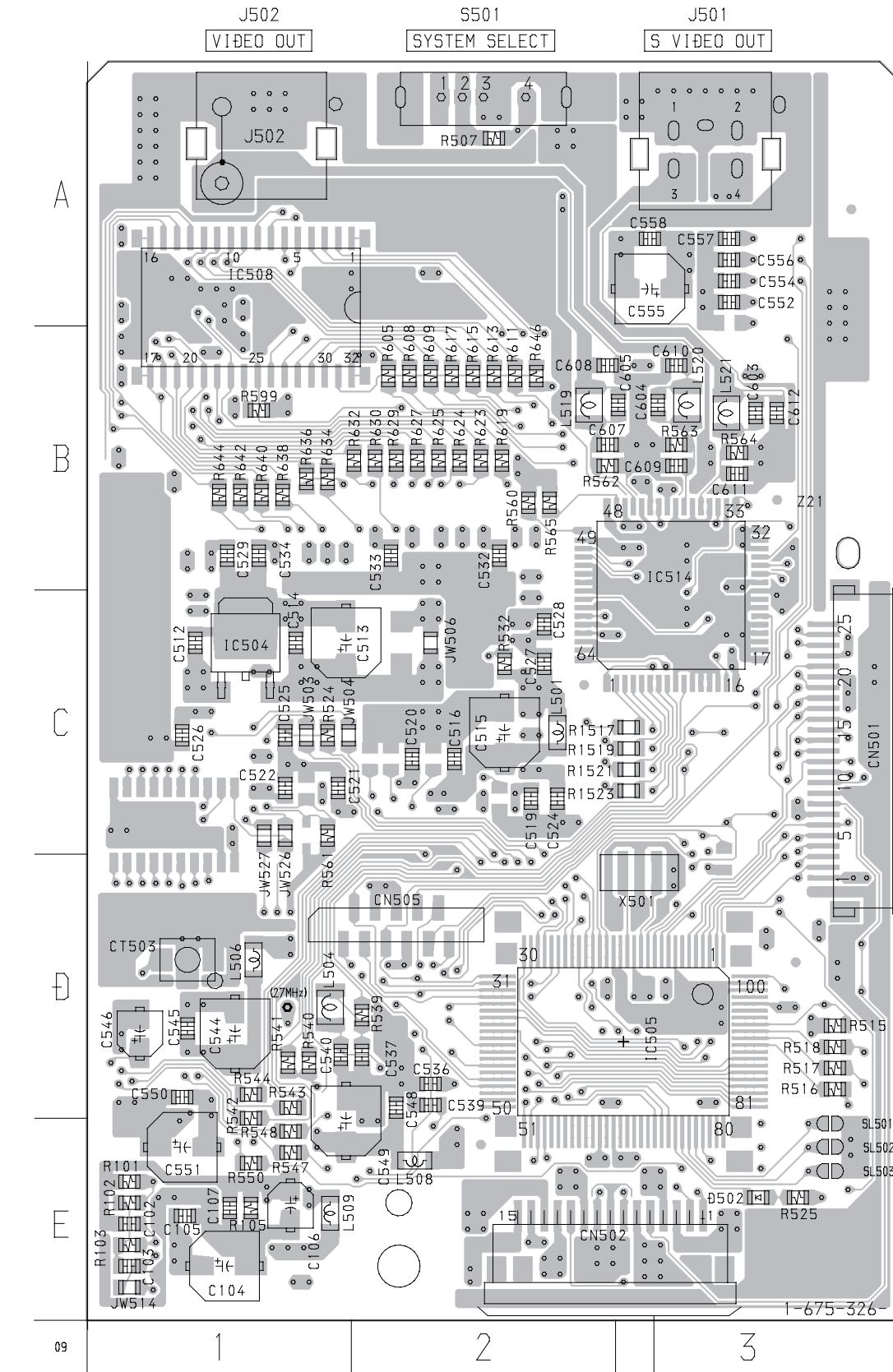
【 VIDEO BOARD 】 (SIDE A)



- Semiconductor Location

Ref. No.	Location
IC503	D-1
IC506	C-2
IC507	B-3
IC509	D-3
IC510	E-3
IC511	A-1
IC515	E-3

【 VIDEO BOARD 】 (SIDE B)

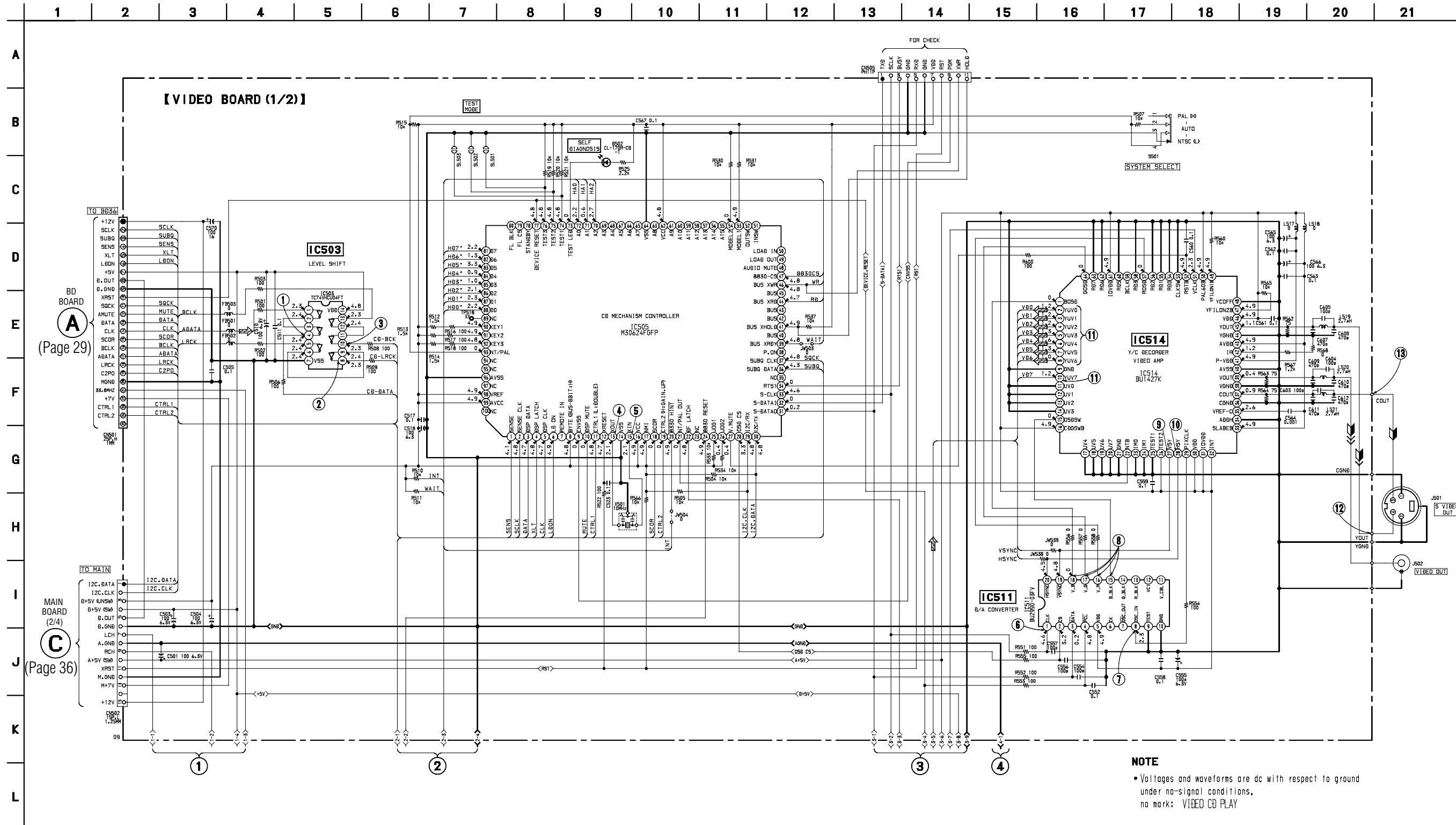


- Semiconductor Location

Ref. No.	Location
D502	E-3
IC504	C-1
IC505	D-3
IC508	A-1
IC514	C-3

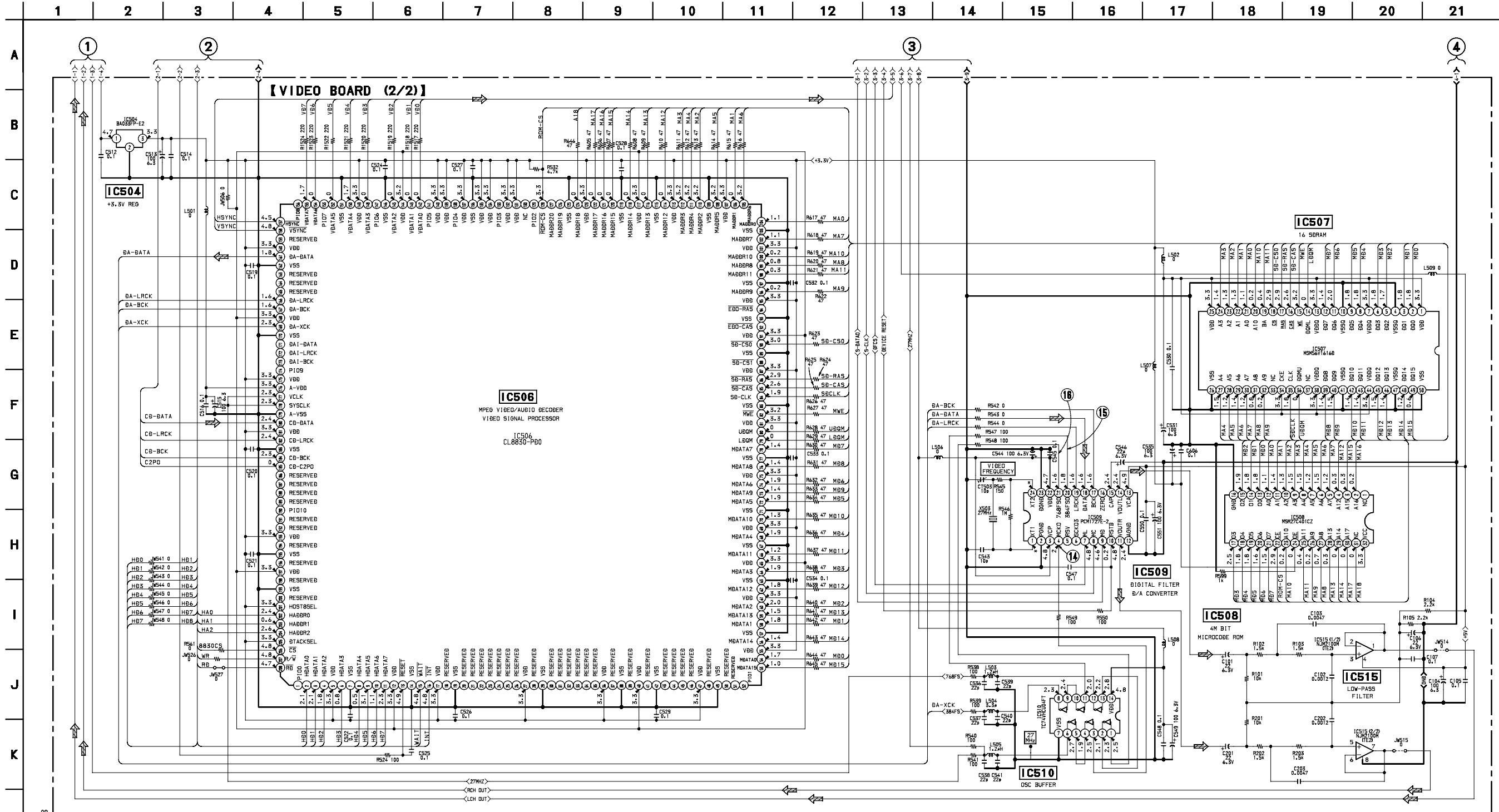
6-8. SCHEMATIC DIAGRAM – VIDEO (1/2) SECTION –

- See page 27 for Waveforms.
- See page 54 for IC Pin Functions.



6-9. SCHEMATIC DIAGRAM – VIDEO (2/2) SECTION –

- See page 27 for Waveforms.
- See page 32 for Printed Wiring Board.
- See page 50 for IC Block Diagrams.
- See page 56 for IC Pin Functions.

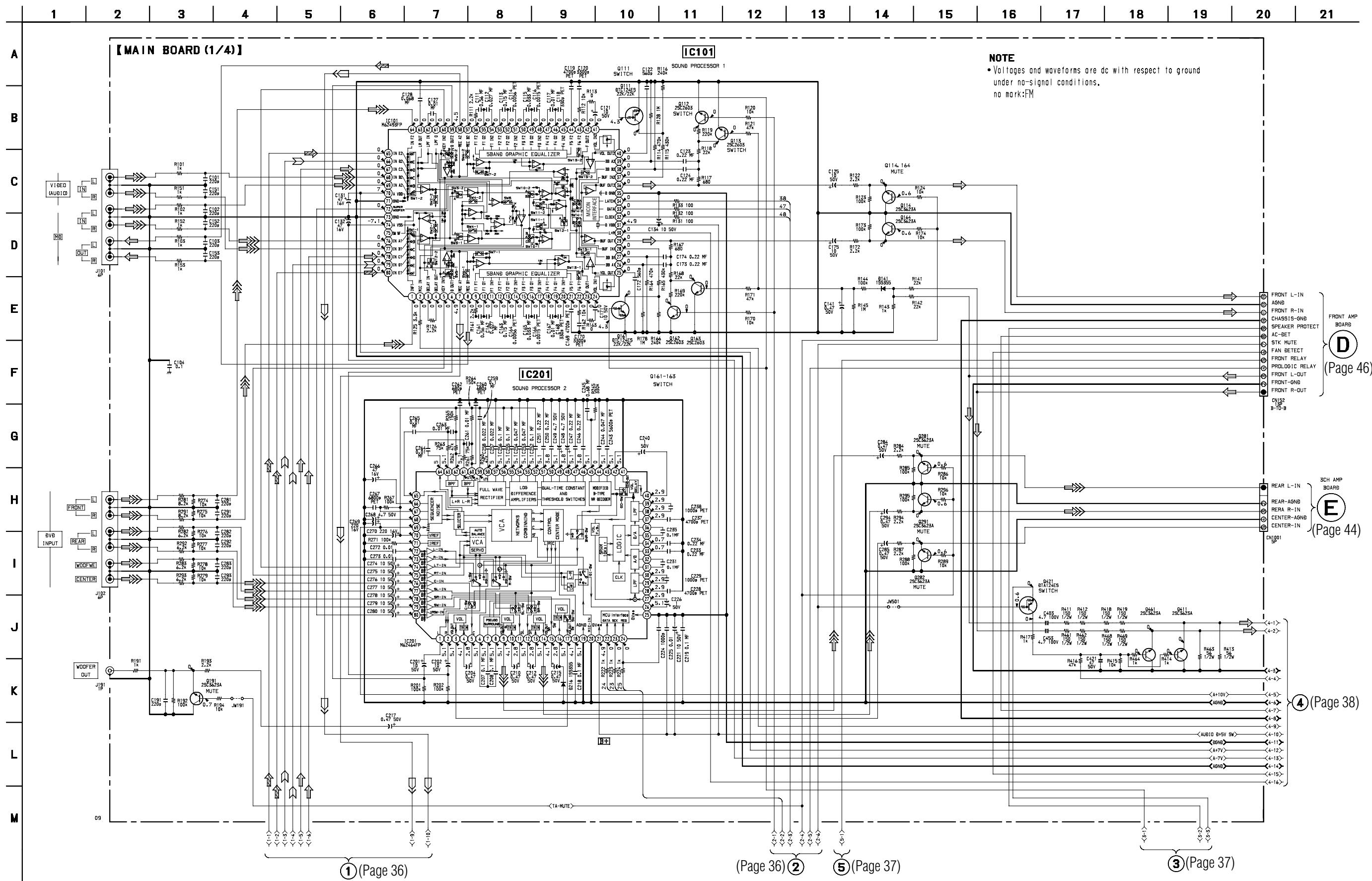


NOTE

- Voltages and waveforms are dc with respect to ground under no-signal conditions.
- no mark: VIDEO CB PLAY

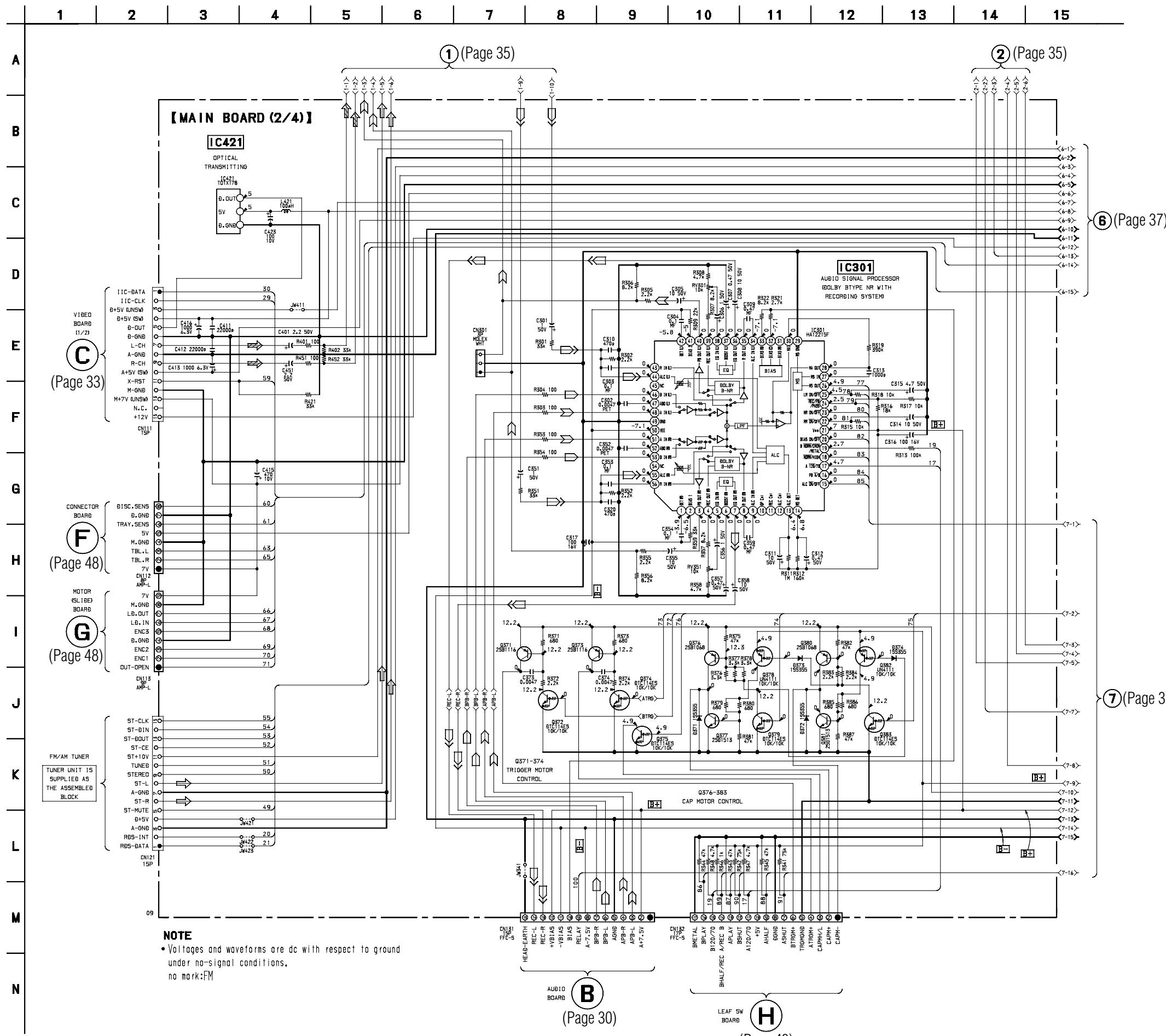
* : impossible to measure

6-10. SCHEMATIC DIAGRAM – MAIN (1/4) SECTION –
 • See page 20 for Printed Wiring Board.



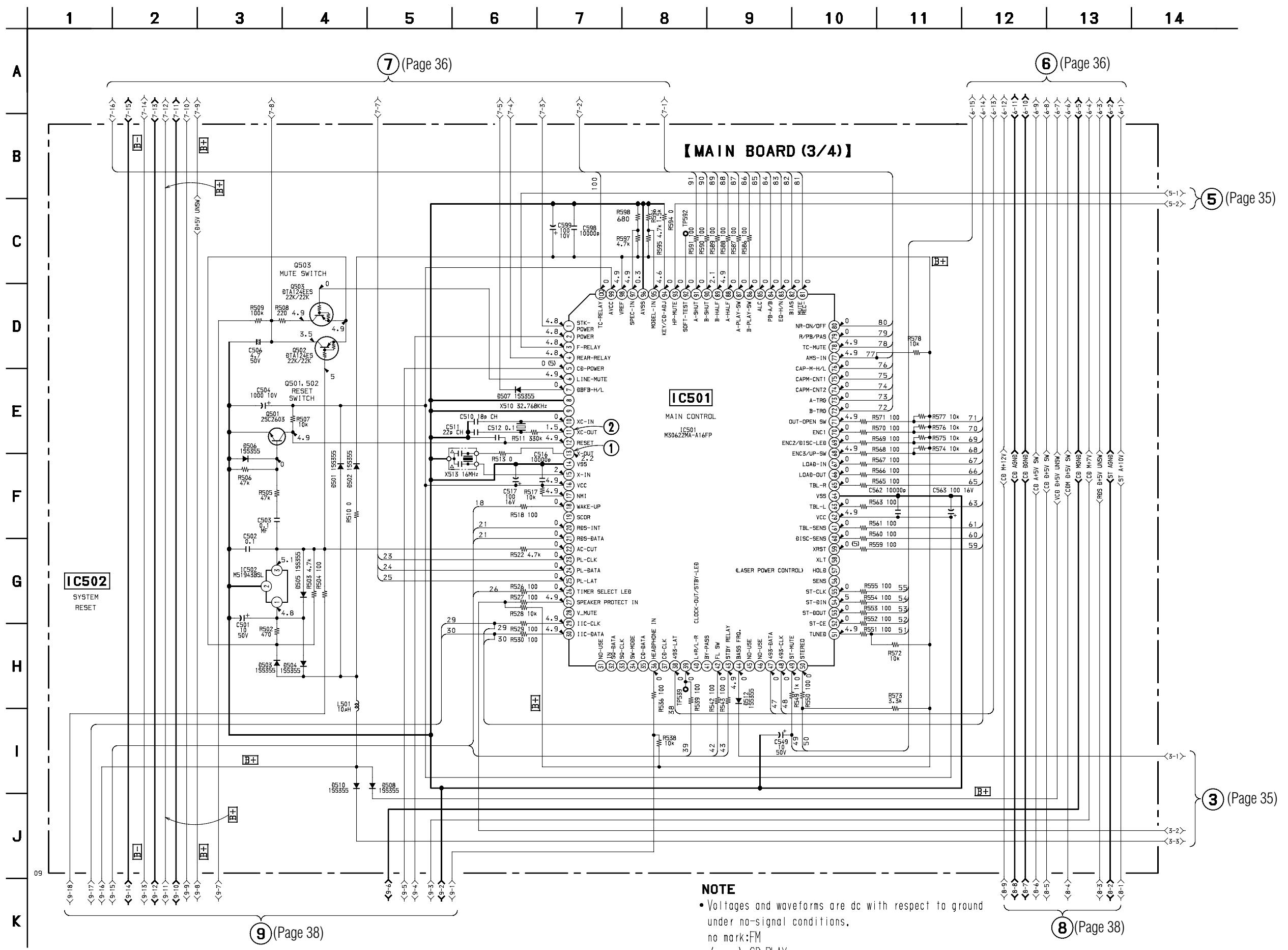
6-11. SCHEMATIC DIAGRAM – MAIN (2/4) SECTION –

• See page 39 for Printed Wiring Board.

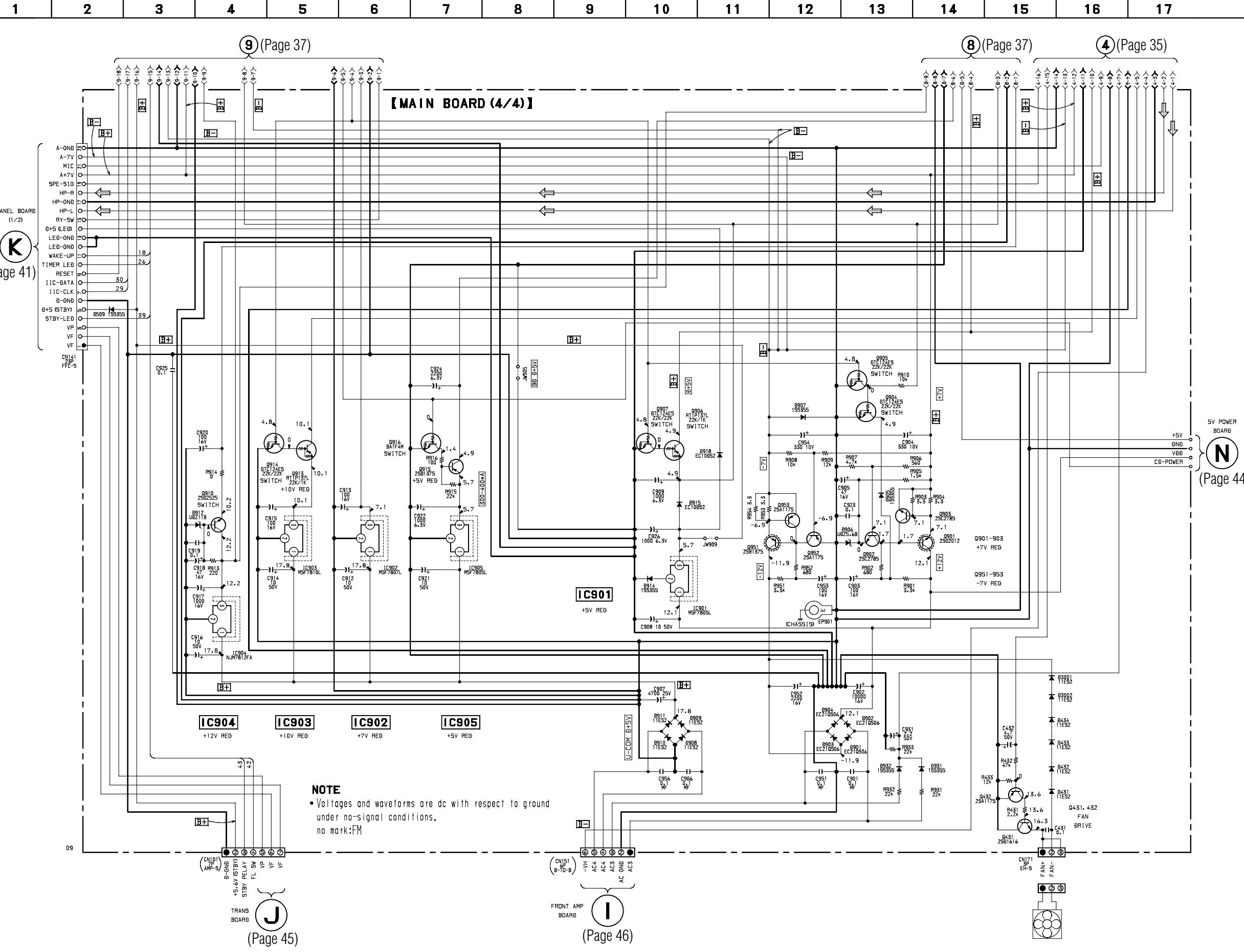


6-12. SCHEMATIC DIAGRAM – MAIN (3/4) SECTION –

- See page 27 for Waveforms.
- See page 39 for Printed Wiring Board.
- See page 60 for IC Pin Functions.



6-13. SCHEMATIC DIAGRAM – MAIN (4/4) SECTION –

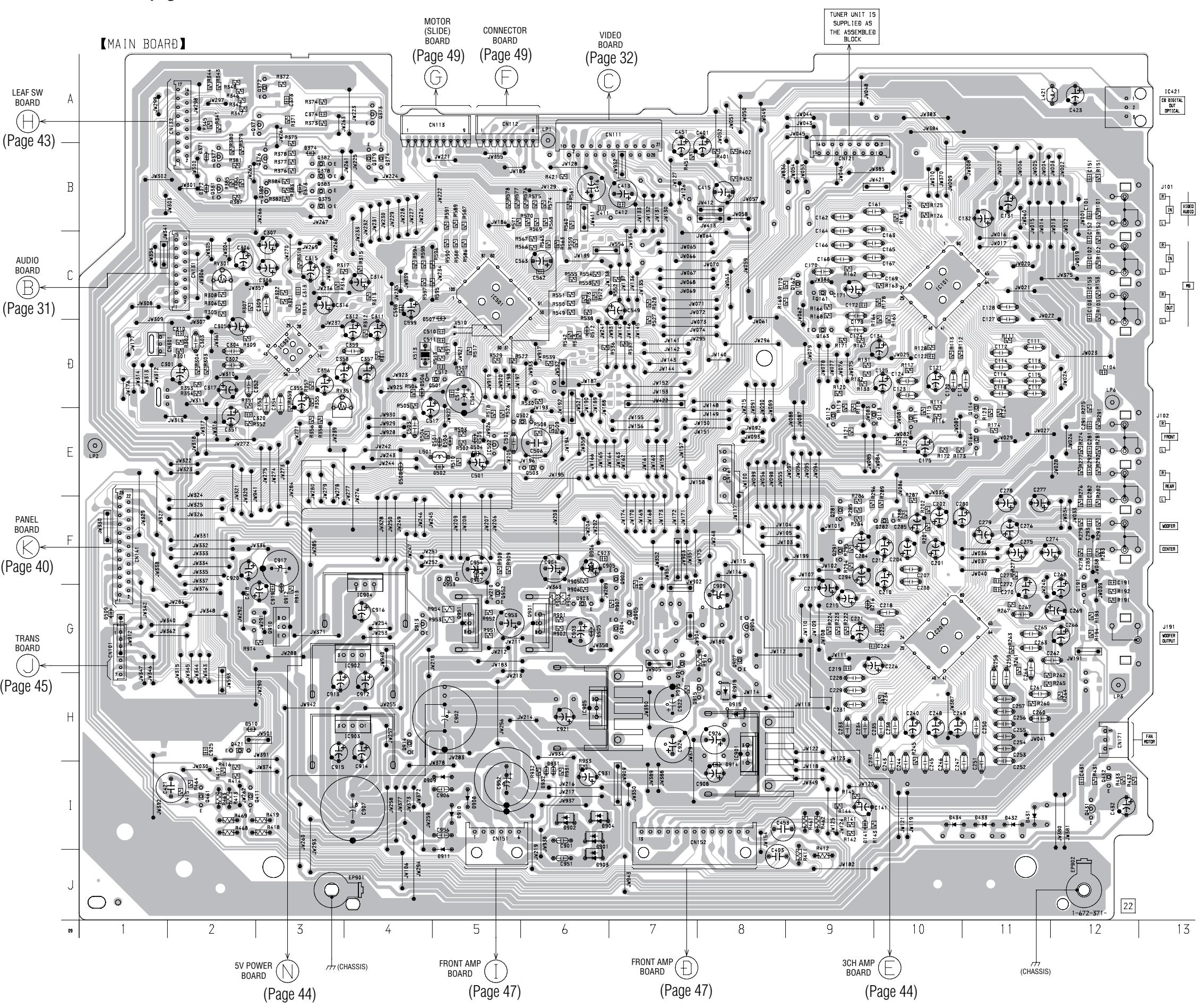


6-14. PRINTED WIRING BOARD – MAIN SECTION –

• See page 20 for Circuit Boards Location.

• Semiconductor Location

Ref. No.	Location	Ref. No.	Location
D141	I-9	IC905	H-6
D371	B-2	Q111	E-10
D372	B-2	Q112	E-9
D373	B-3	Q113	E-10
D374	B-3	Q114	E-11
D431	I-11	Q161	C-9
D432	I-11	Q162	C-9
D433	I-11	Q163	D-9
D434	I-10	Q164	E-11
D501	E-5	Q191	G-11
D502	E-5	Q281	F-9
D503	E-5	Q282	F-10
D504	E-5	Q291	F-9
D505	E-5	Q371	A-3
D506	D-4	Q372	A-3
D507	C-5	Q373	A-4
D508	E-4	Q374	B-4
D509	G-1	Q375	B-3
D510	H-2	Q376	B-3
D512	D-6	Q377	B-2
D901	I-6	Q378	B-3
D902	I-6	Q379	B-4
D903	J-6	Q380	B-3
D904	I-6	Q381	B-2
D905	G-6	Q382	B-3
D906	F-6	Q383	B-3
D907	F-5	Q411	I-2
D908	I-5	Q421	H-2
D909	I-5	Q431	I-12
D910	I-5	Q432	I-12
D911	J-5	Q461	I-2
D912	G-3	Q501	D-5
D914	I-8	Q502	E-6
D915	H-8	Q503	E-6
D918	H-8	Q901	G-6
D931	I-6	Q902	F-7
D932	I-6	Q903	G-6
D3001		Q904	G-7
IC101	C-10	Q905	G-7
IC201	G-10	Q906	G-8
IC301	D-3	Q907	G-8
IC421	A-13	Q910	G-3
IC501	C-5	Q913	G-4
IC502	E-5	Q914	H-4
IC901	H-8	Q915	H-8
IC902	G-4	Q916	G-7
IC903	H-4	Q951	G-5
IC904	F-4	Q952	G-5
		Q953	F-5

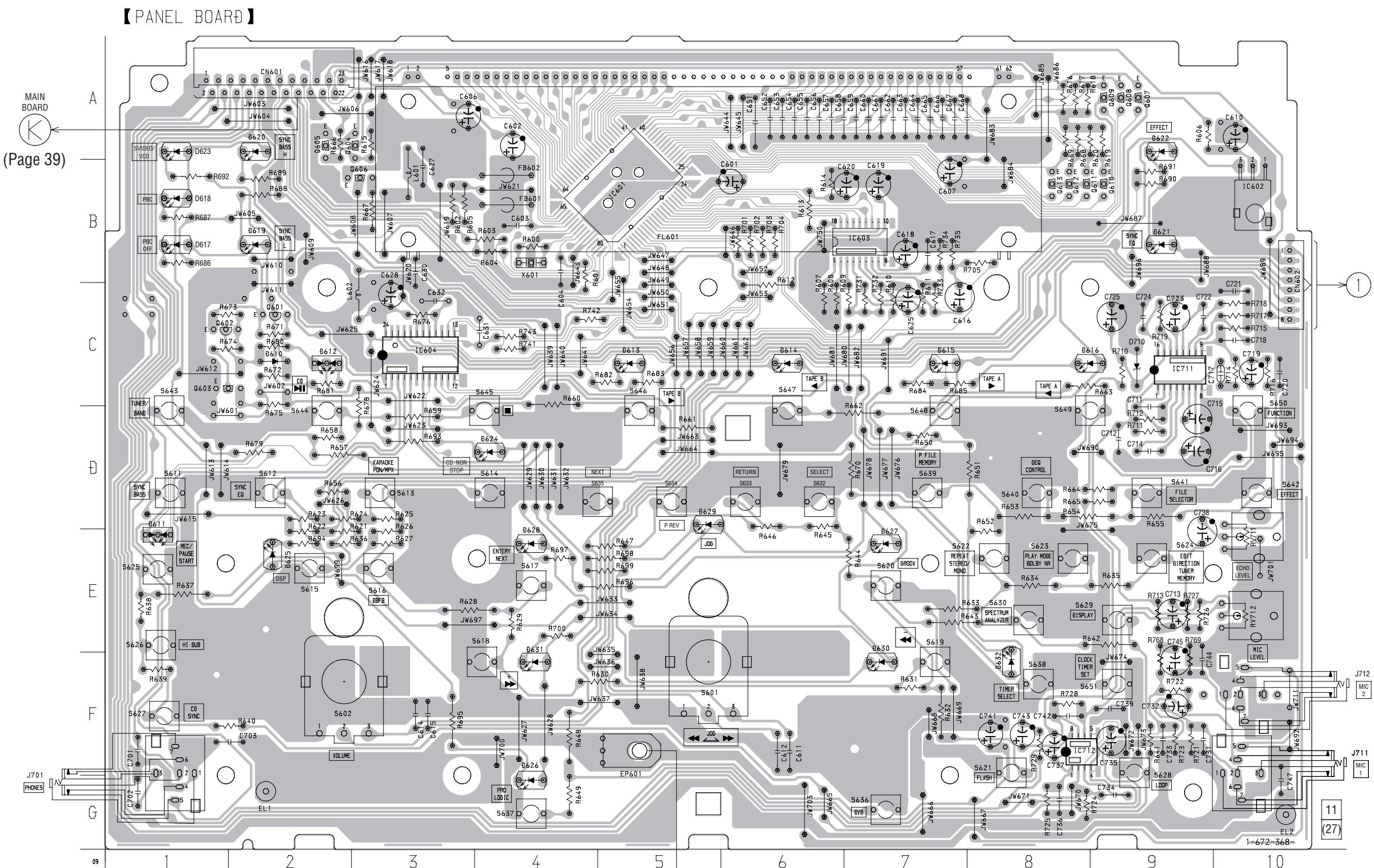


6-15. PRINTED WIRING BOARD – PANEL SECTION –

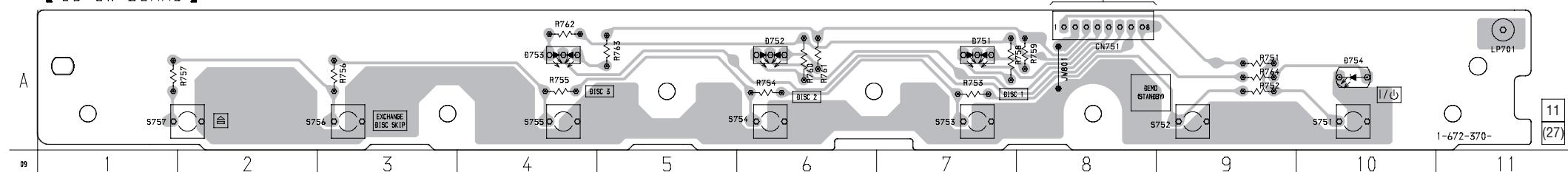
• See page 20 for Circuit Boards Location.

• Semiconductor Location

Ref. No.	Location
D610	C-2
D611	D-1
D612	C-2
D613	C-5
D614	C-6
D615	C-7
D616	C-9
D617	B-1
D618	B-1
D619	B-2
D620	A-2
D621	B-9
D622	A-9
D623	A-1
D624	D-4
D625	E-2
D626	F-4
D627	E-7
D628	E-4
D629	D-5
D630	E-7
D631	E-4
D632	F-8
D710	C-9
IC601	B-5
IC602	B-10
IC603	B-7
IC604	C-3
IC711	C-9
IC712	F-8
Q601	C-2
Q602	C-1
Q603	C-1
Q604	A-2
Q605	A-2
Q606	B-3
Q607	A-9
Q608	A-9
Q609	A-9
Q610	B-9
Q611	B-9
Q612	B-8
Q613	B-8

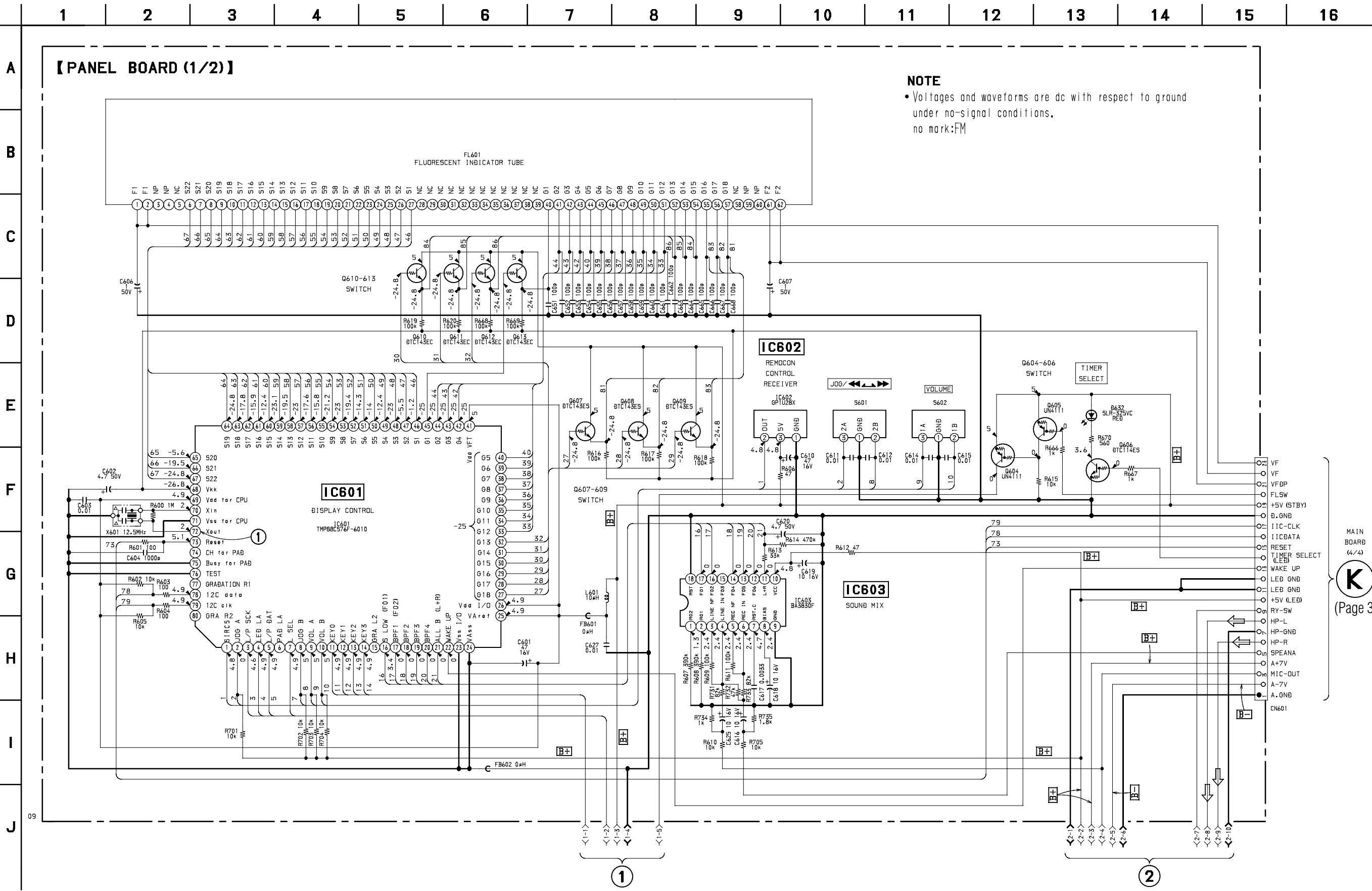


[CD-SW BOARD]



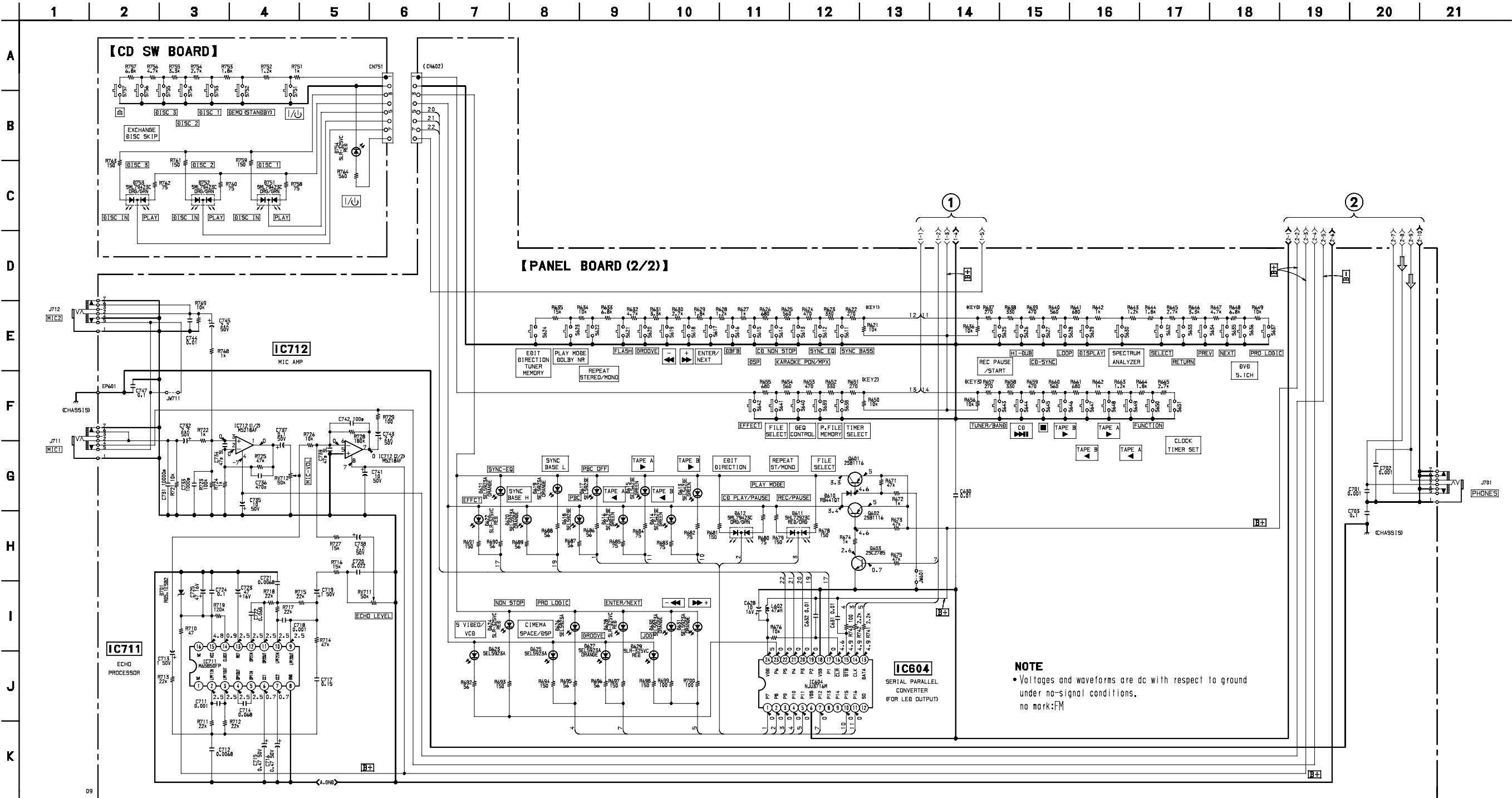
6-16. SCHEMATIC DIAGRAM – PANEL (1/2) SECTION –

- See page 27 for Waveforms.
- See page 50 for IC Block Diagrams.
- See page 62 for IC Pin Functions.



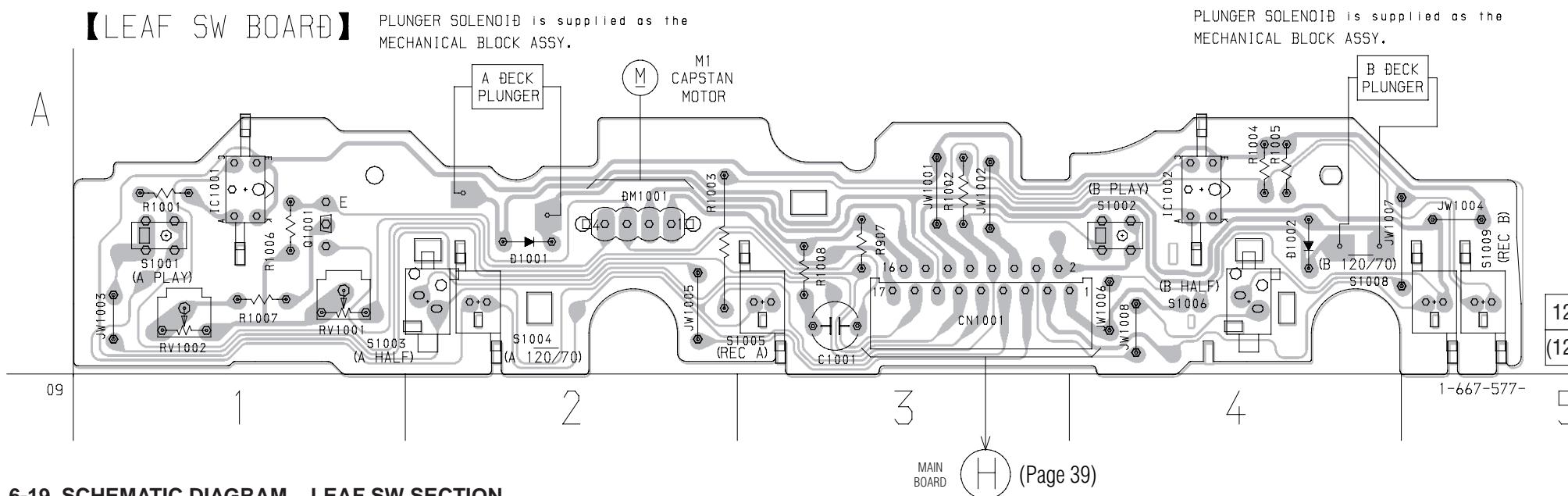
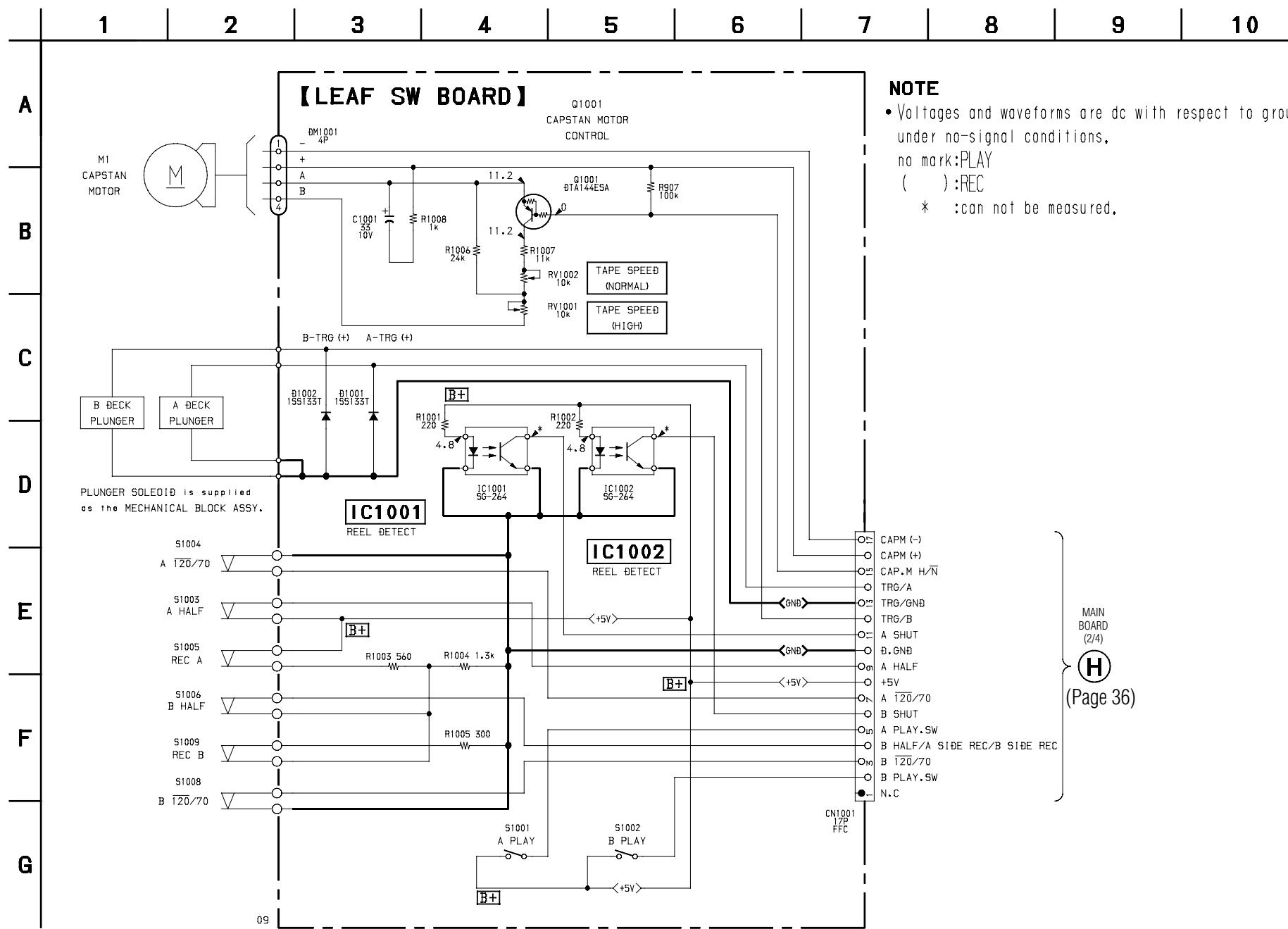
6-17. SCHEMATIC DIAGRAM – PANEL (2/2) SECTION –

- See page 40 for Printed Wiring Board.
- See page 51 for IC Block Diagrams.

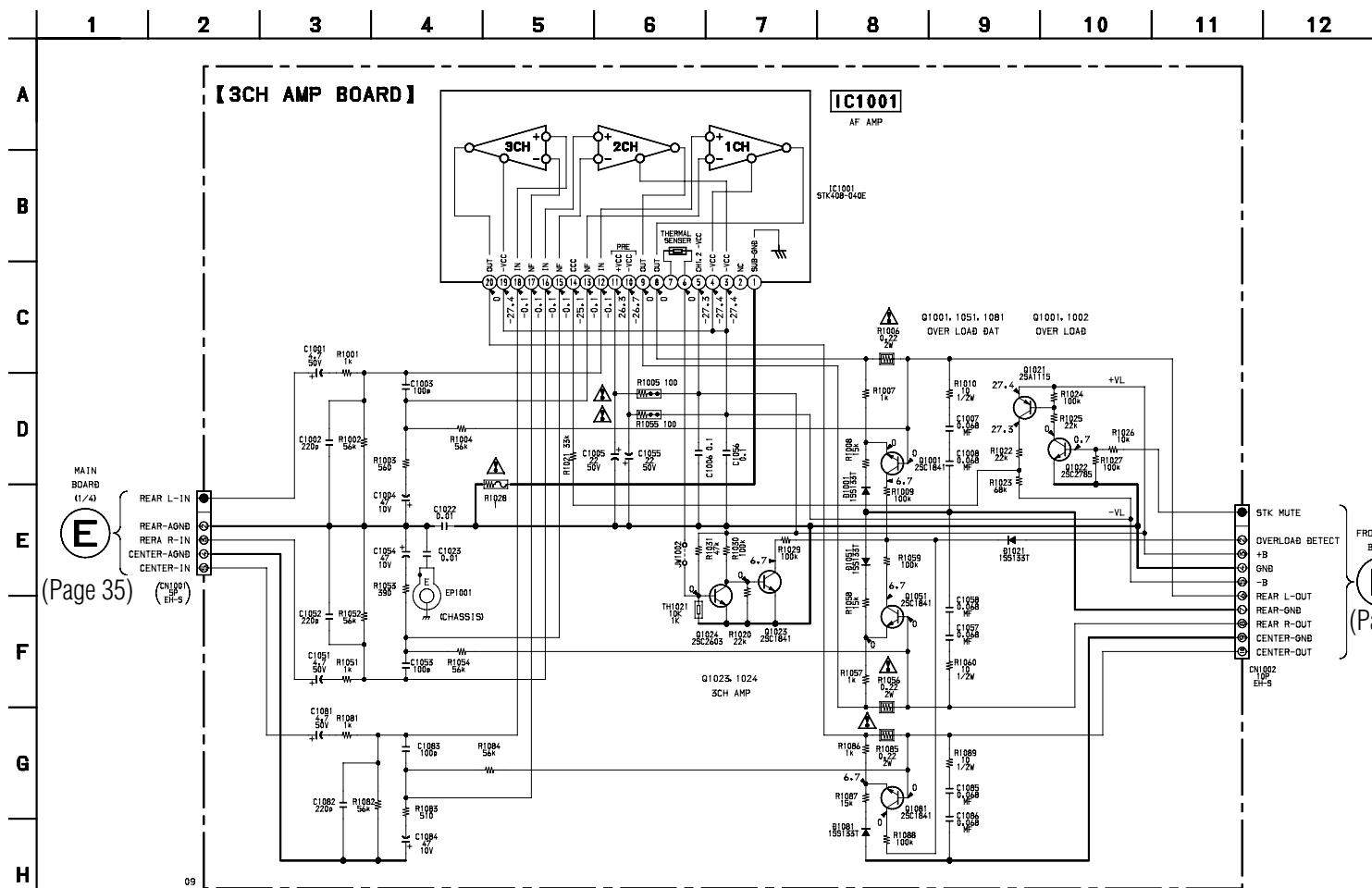


6-18. PRINTED WIRING BOARD – LEAF SW SECTION –

• See page 20 for Circuit Boards Location.

**6-19. SCHEMATIC DIAGRAM – LEAF SW SECTION –**

6-20. SCHEMATIC DIAGRAM – SURROUND SECTION –

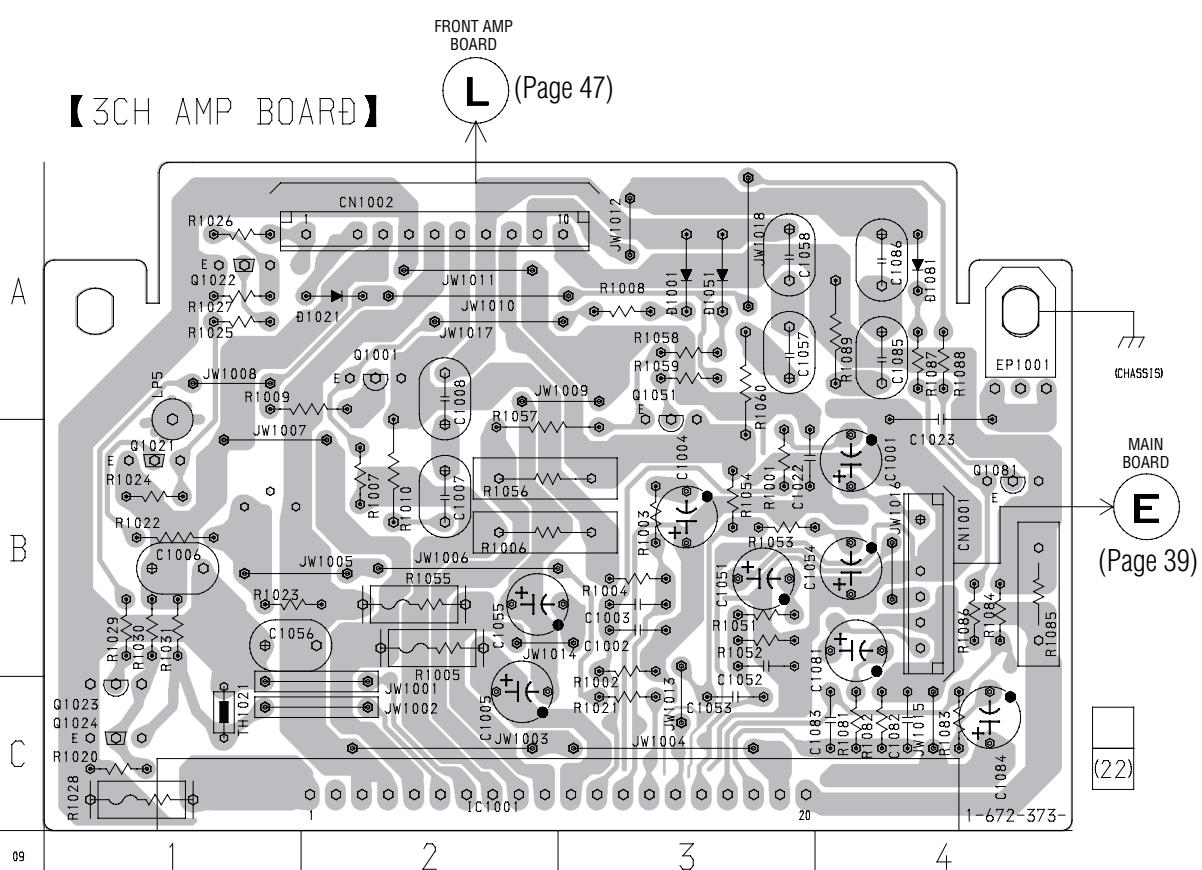


Note:
The components identified by mark ▲ or dotted line with mark ▲ are critical for safety. Replace only with part number specified.

Note:
以阴影和▲标志来识别的零部件，在安全方面具有关键性。因此只能以规定号码的零部件来更换。

6-21. PRINTED WIRING BOARD – SURROUND SECTION –

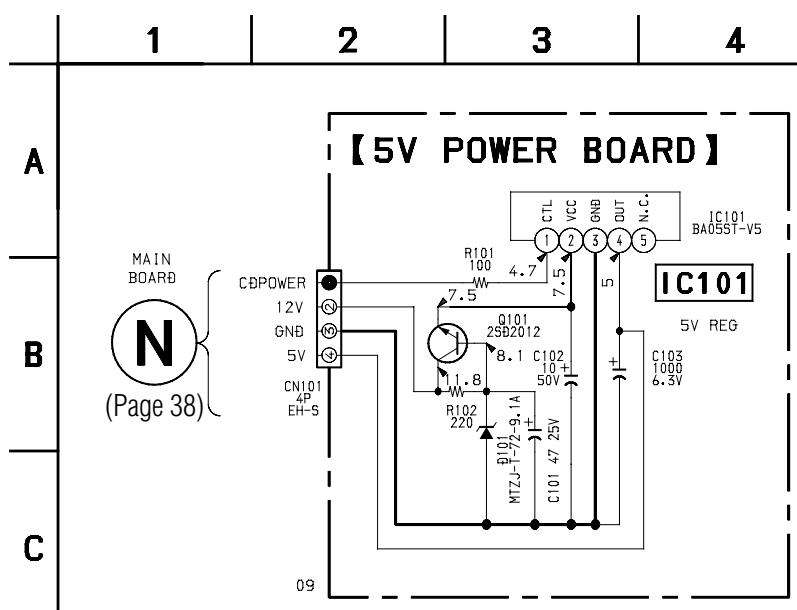
- See page 20 for Circuit Boards Location.



• Semiconductor Location

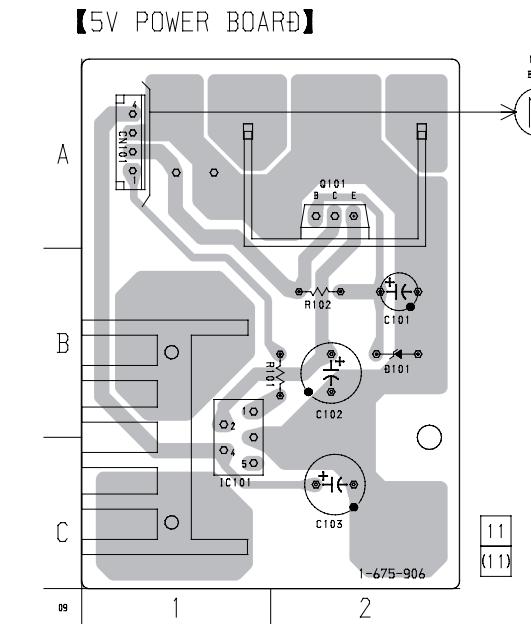
Ref. No.	Location
D1001	A-3
D1021	A-2
D1051	A-3
D1081	A-4
IC1001	C-2
Q1001	A-2
Q1021	B-1
Q1022	A-1
Q1023	C-1
Q1024	C-1
Q1051	B-3
Q1081	B-4

6-22. SCHEMATIC DIAGRAM – POWER SECTION –

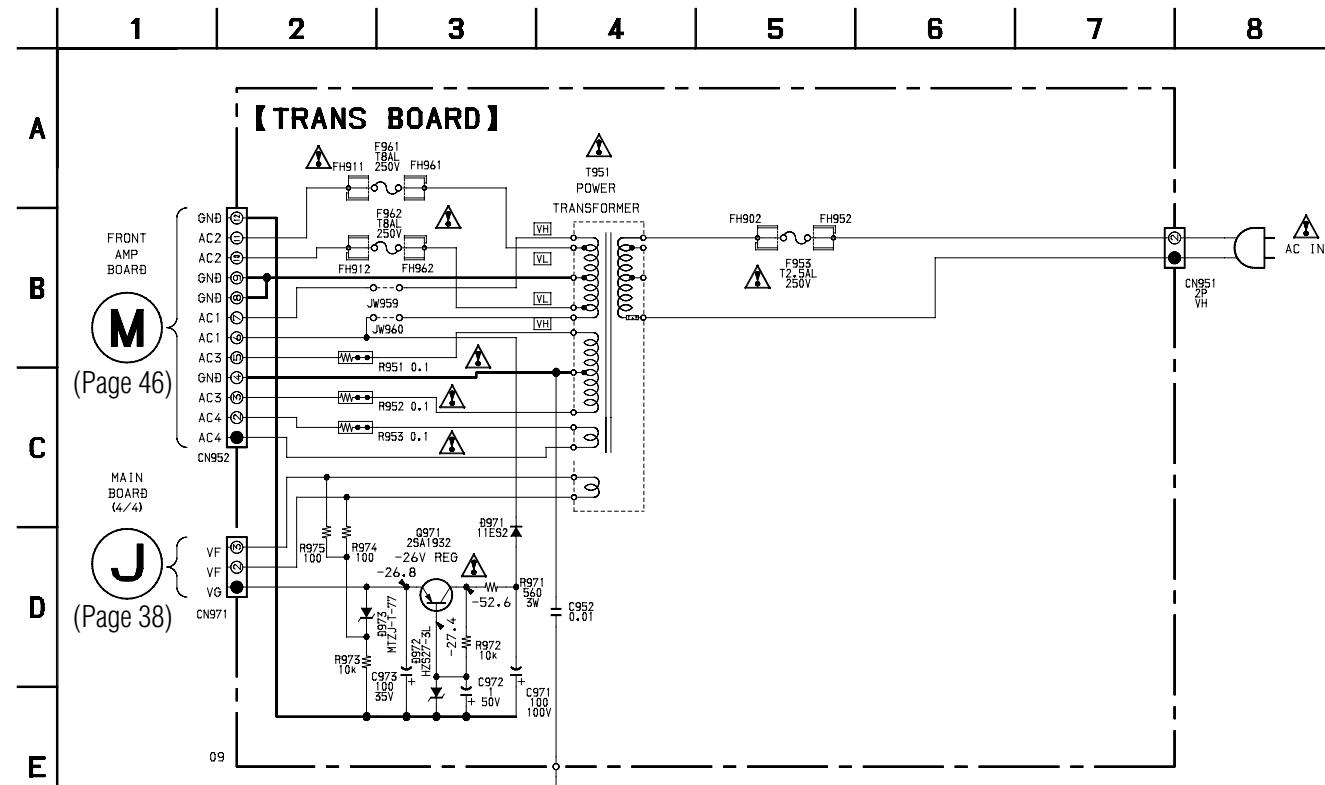


6-23. PRINTED WIRING BOARD – POWER SECTION –

- See page 20 for Circuit Boards Location.

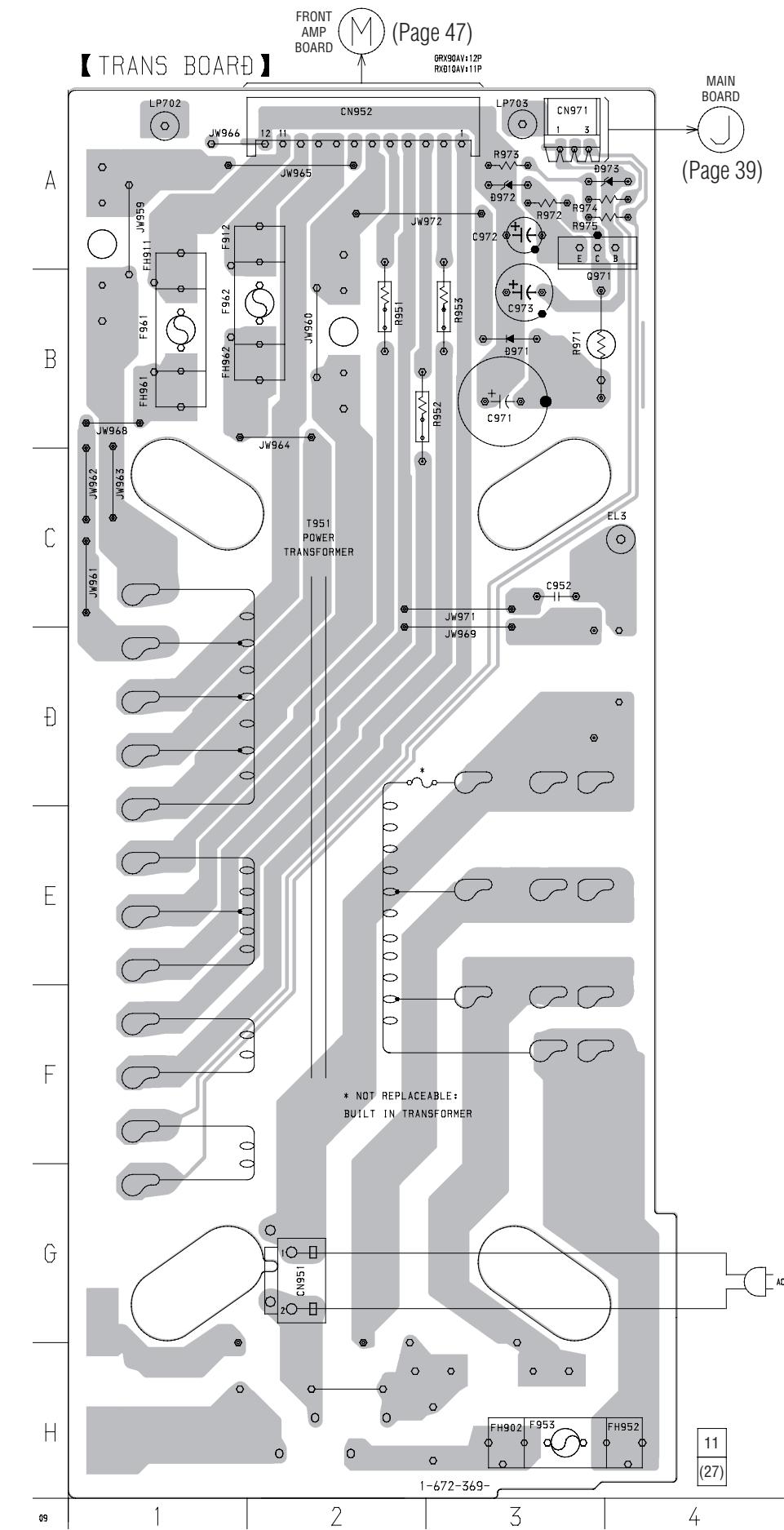


6-24. SCHEMATIC DIAGRAM – TRANS SECTION –



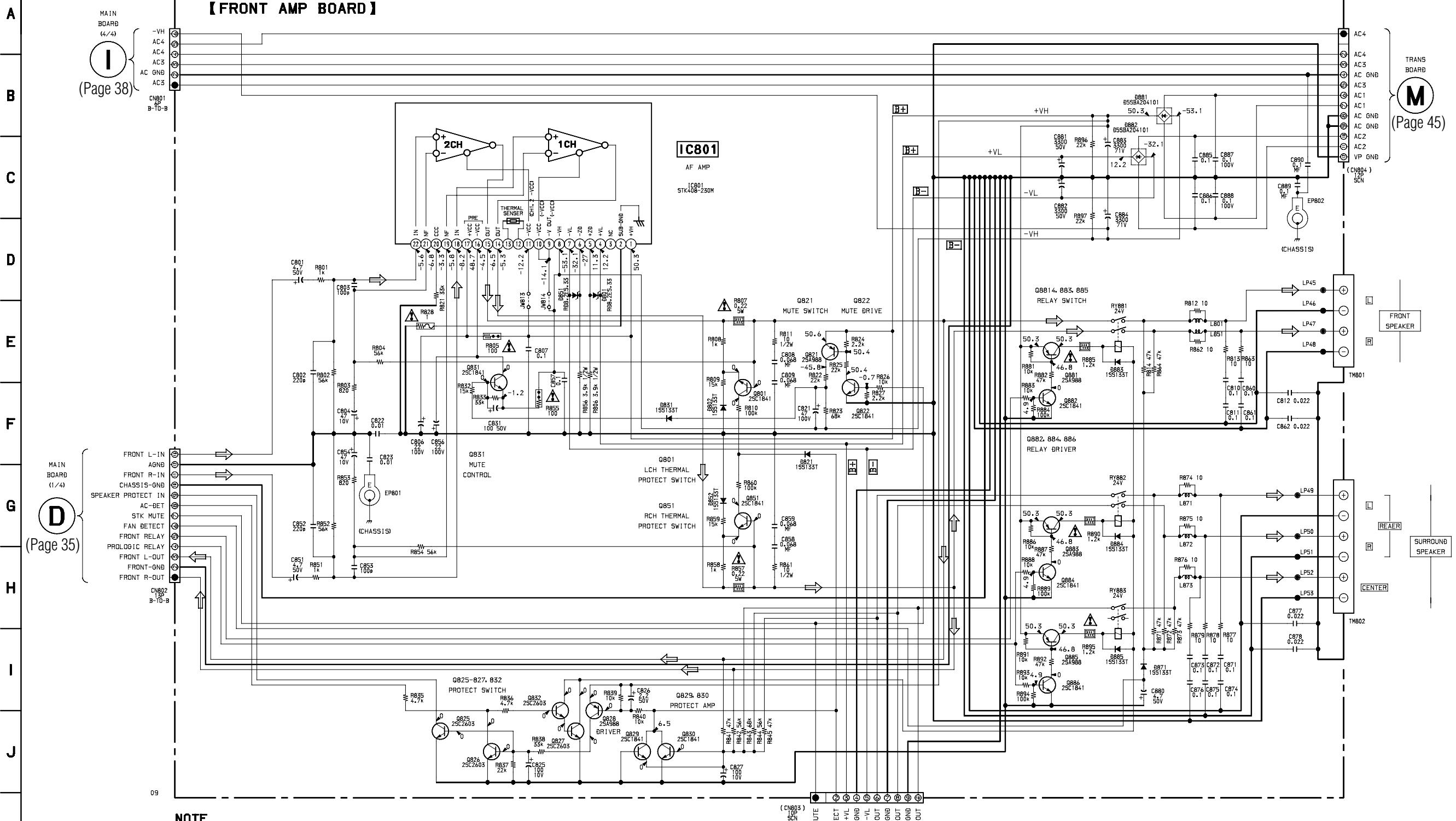
Note:
The components identified by mark \triangle or dotted line with mark \triangle are critical for safety. Replace only with part number specified.

Note:
以阴影和 \triangle 标志来识别的零部件，在安全方面具有关键性，因此只能以规定号码的零部件来更换。

6-25. PRINTED WIRING BOARD – TRANS SECTION –
• See page 20 for Circuit Boards Location.

6-26. SCHEMATIC DIAGRAM – FRONT AMP SECTION –

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

**NOTE**

- Voltages and waveforms are dc with respect to ground under no-signal conditions.
- no mark:FM

Note:

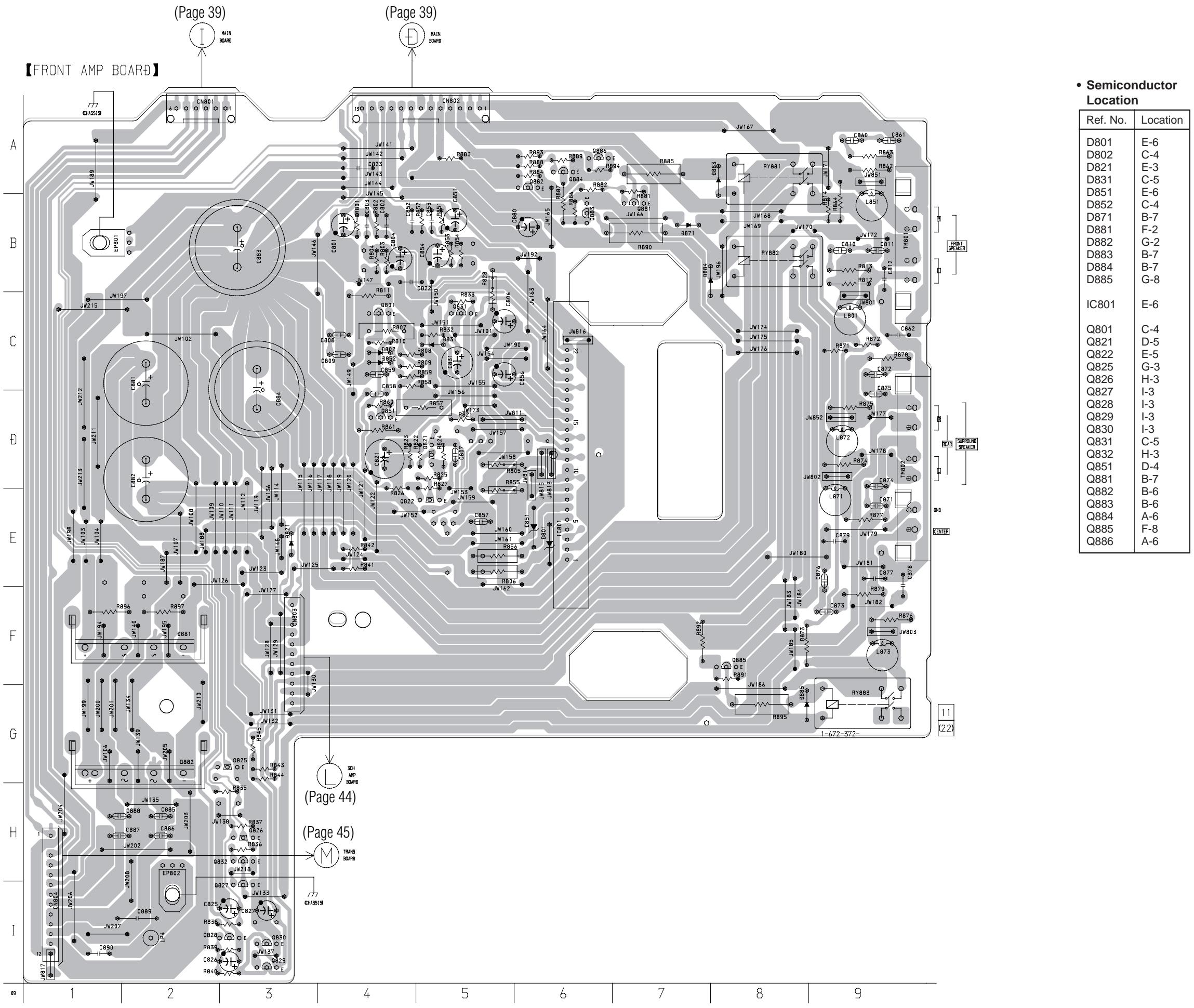
The components identified by mark \triangle or dotted line with mark \triangle are critical for safety. Replace only with part number specified.

Note:

以阴影和 \triangle 标志来识别的零
部件，在安全方面具有关键
性，因此只能以规定号码的
零部件来更换。

6-27. PRINTED WIRING BOARD – FRONT AMP SECTION –

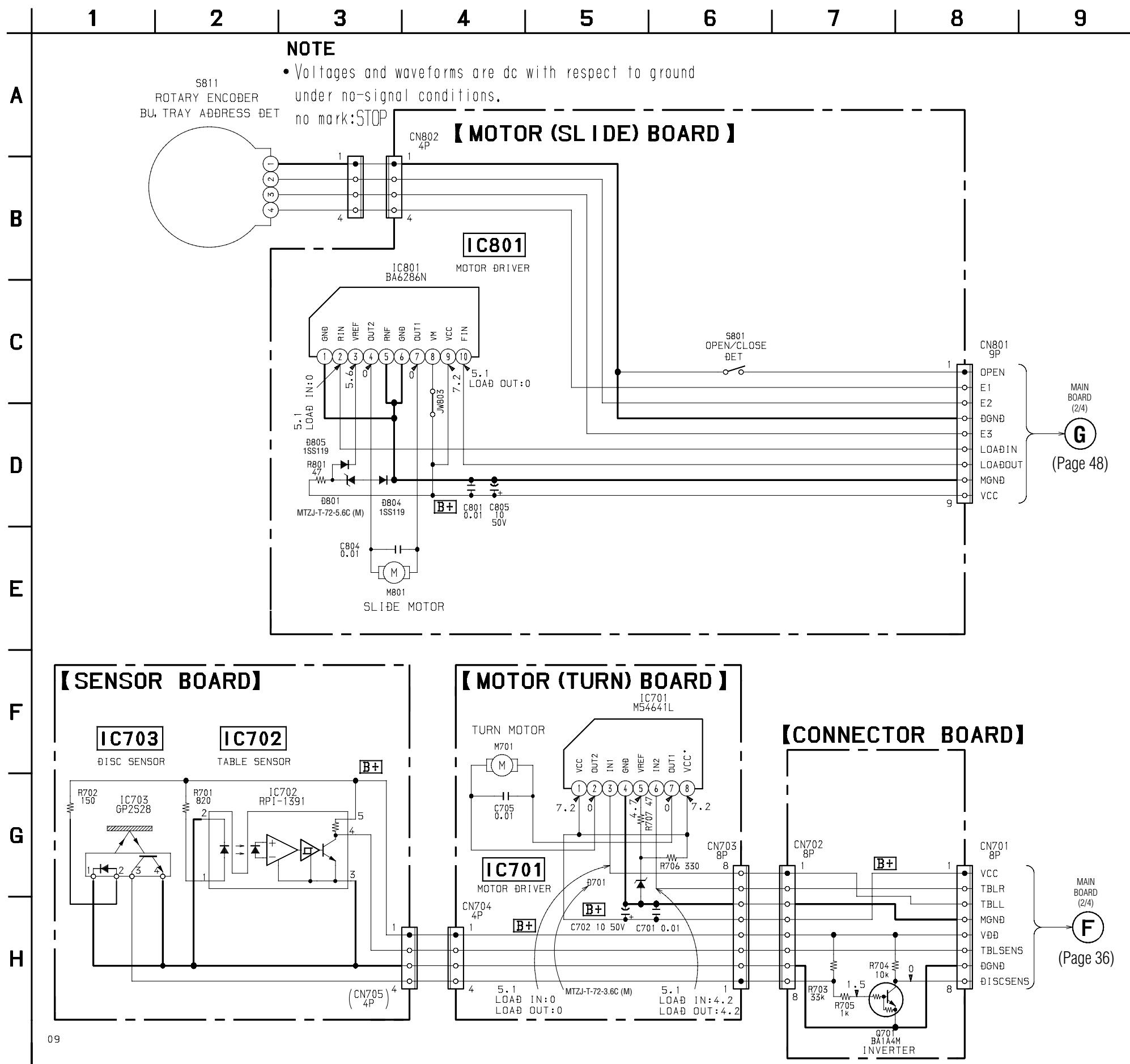
• See page 20 for Circuit Boards Location.



• Semiconductor Location

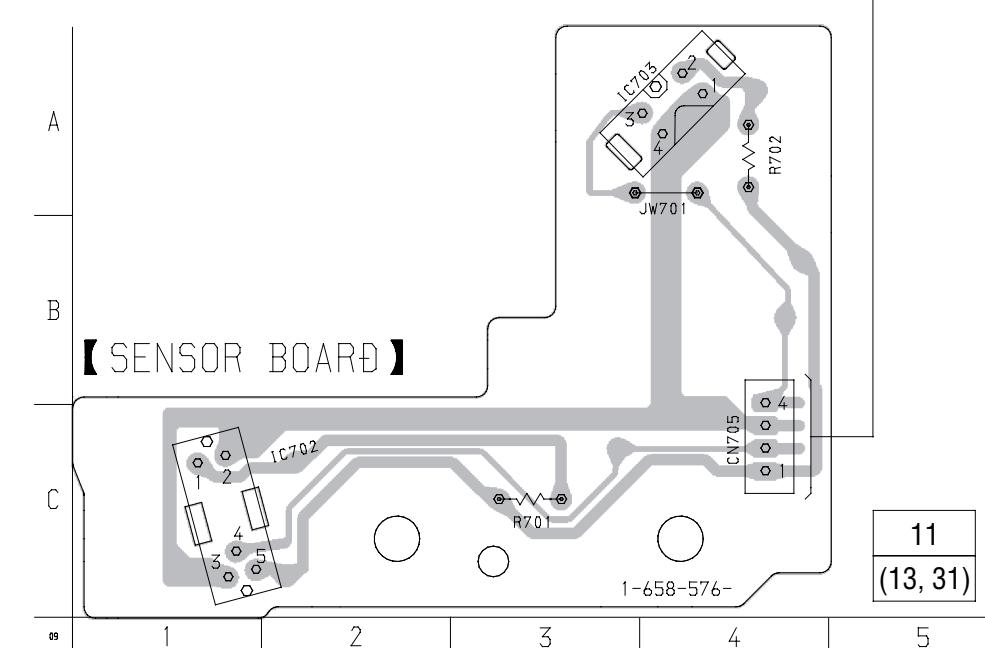
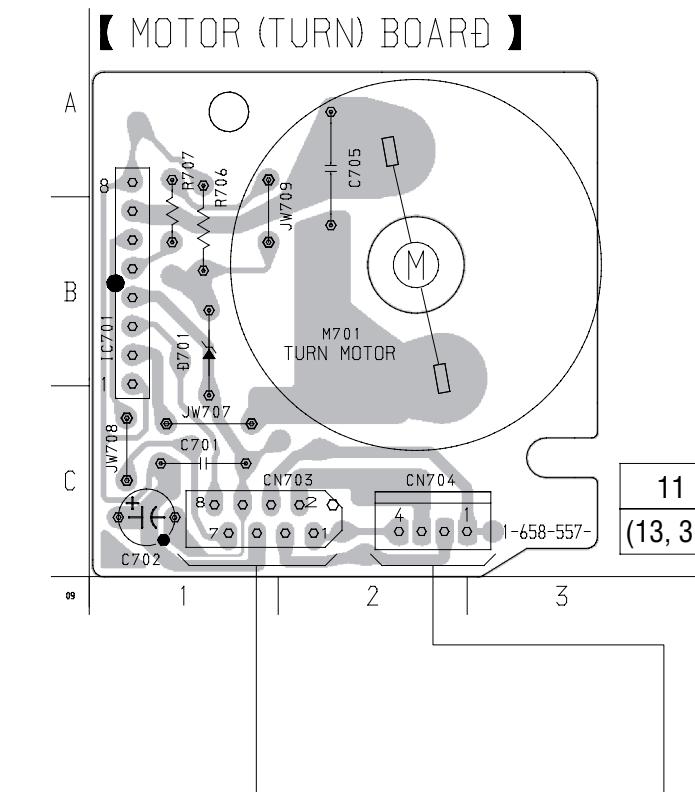
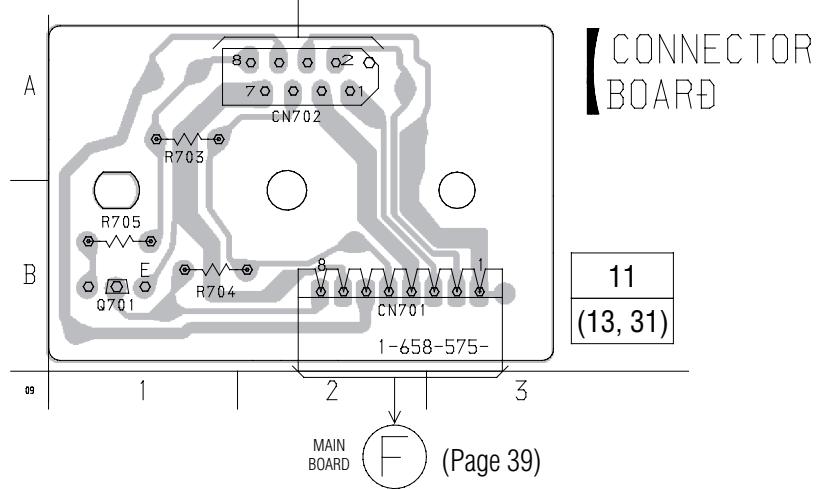
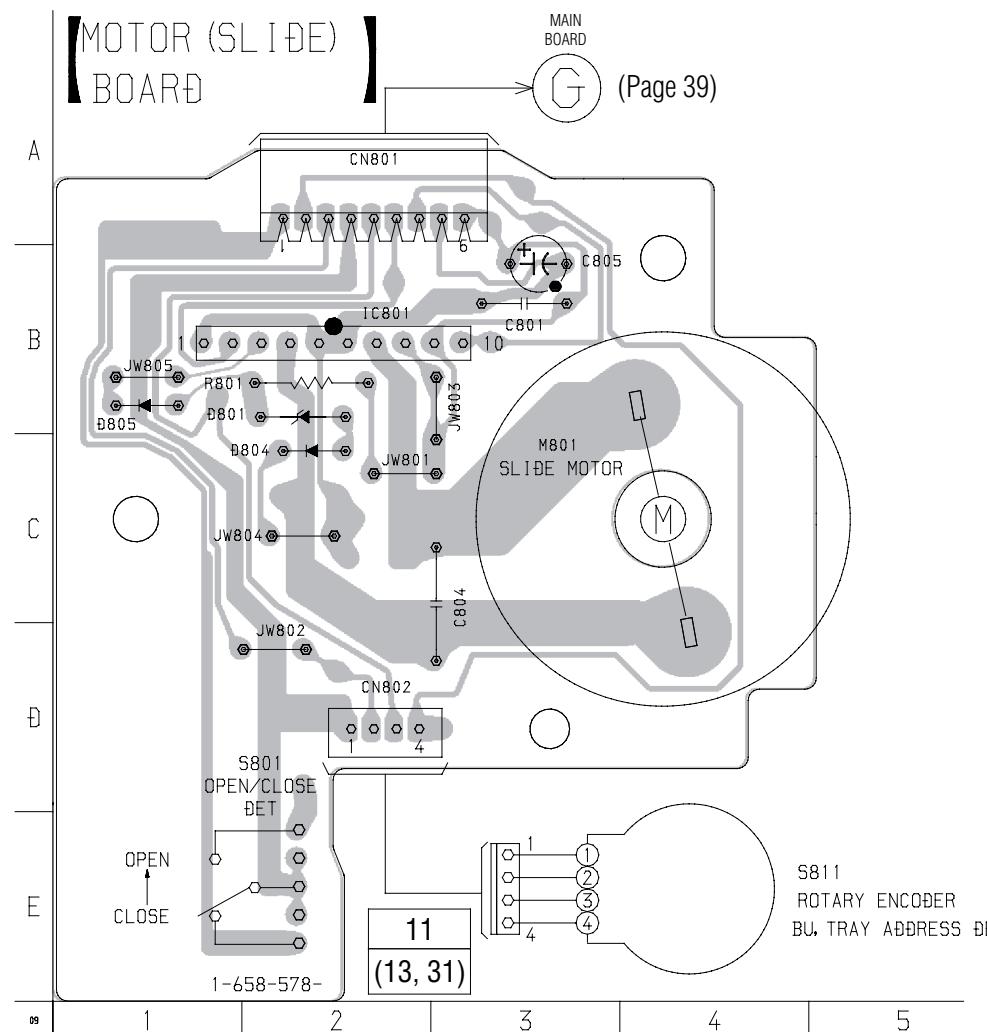
6-28. SCHEMATIC DIAGRAM – CD MOTOR SECTION –

• See page 51 for IC Block Diagrams.



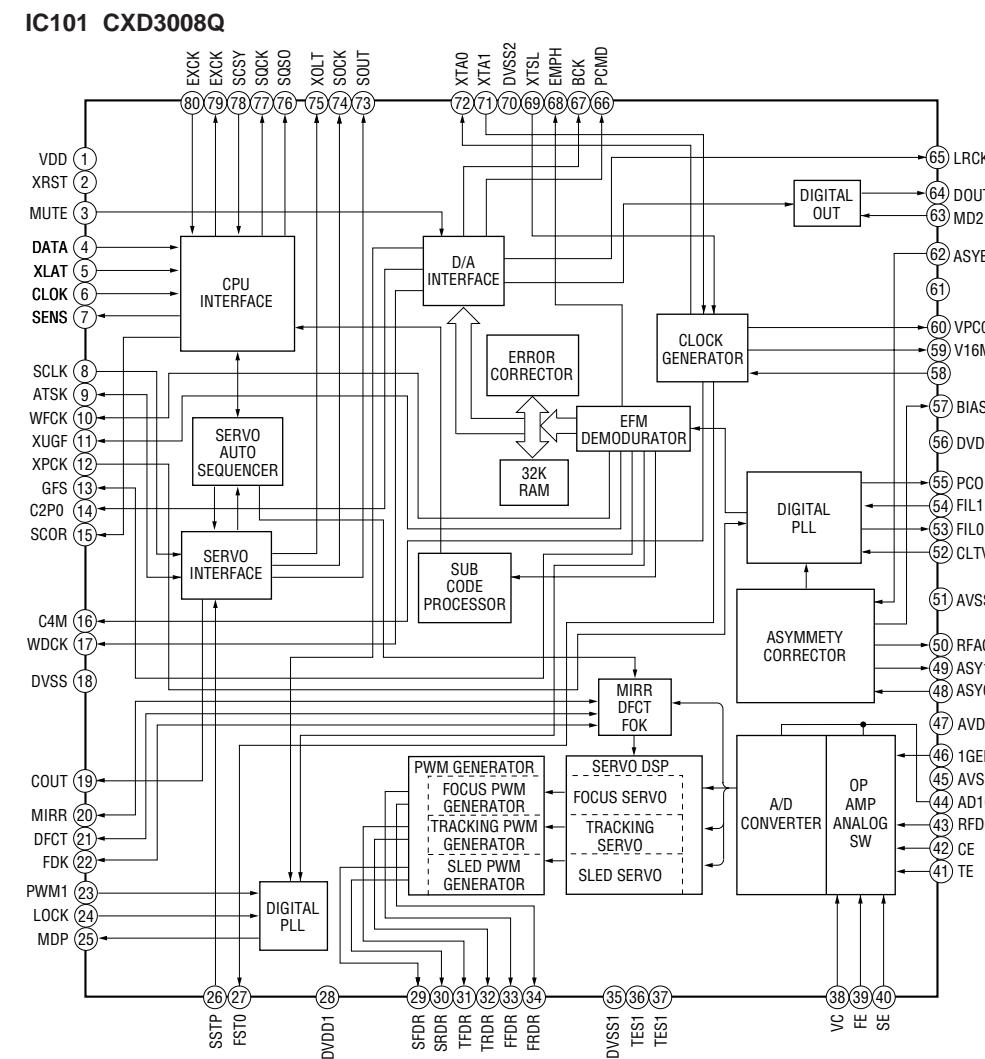
6-29. PRINTED WIRING BOARD – CD MOTOR SECTION –

• See page 20 for Circuit Boards Location.



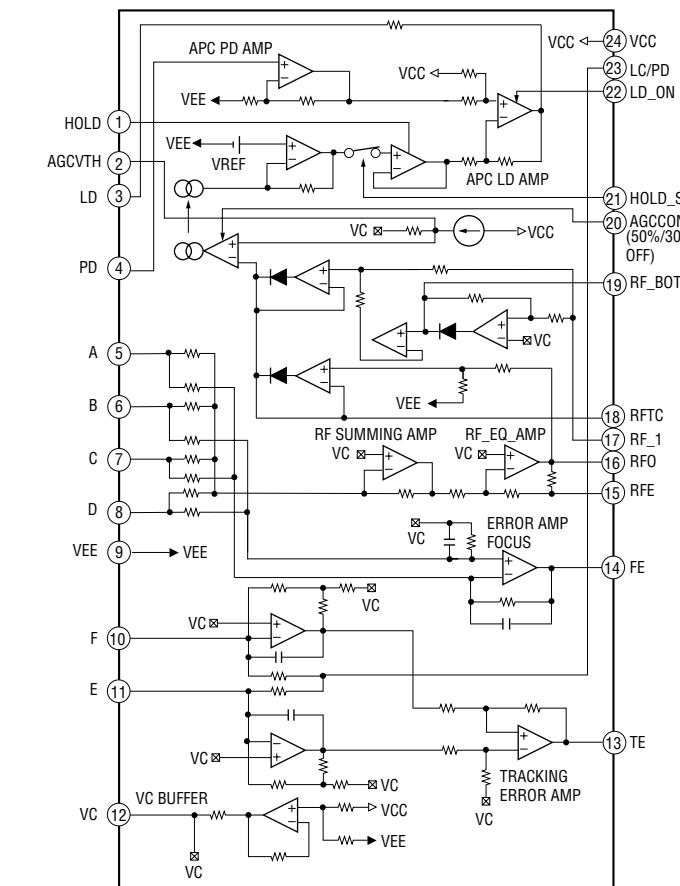
6-30. IC BLOCK DIAGRAMS

• BD Board



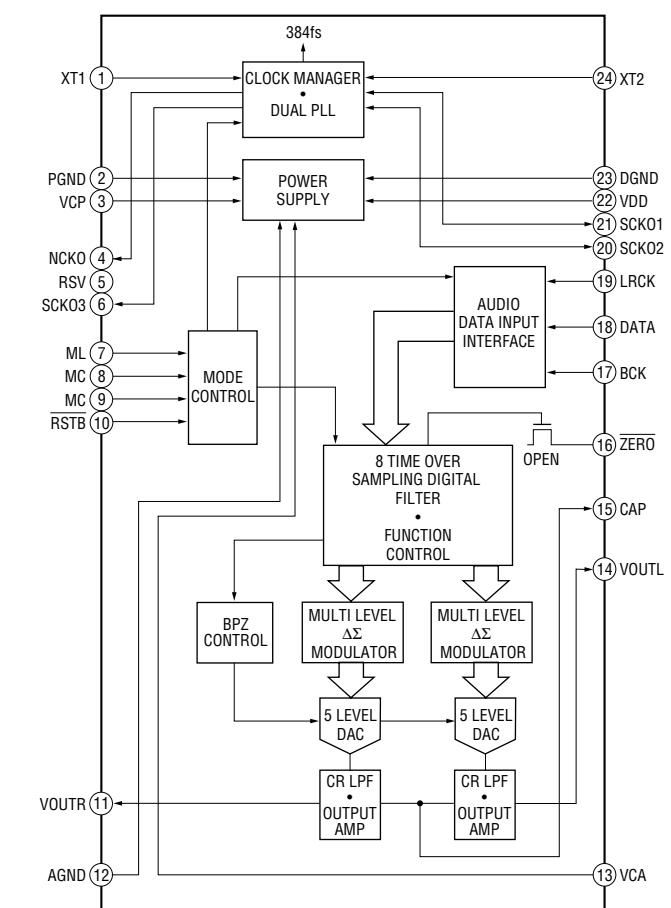
• BD Board

IC103 CXA2568M-T6



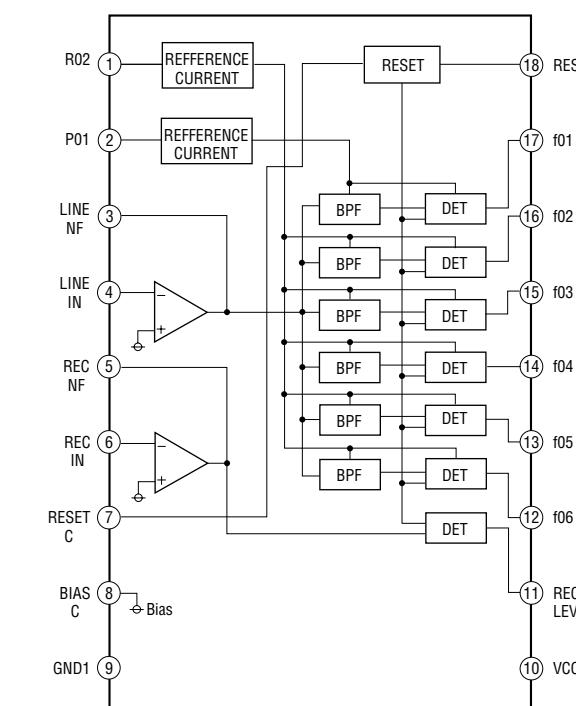
• VIDEO Board (2/2)

IC509 PCM1727E-2/T2



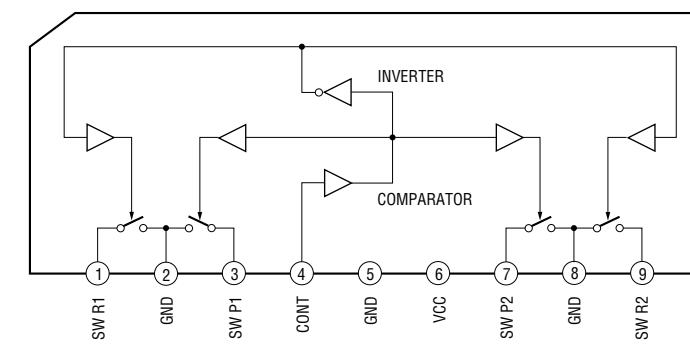
• PANEL Board (1/2)

IC603 BA3830F



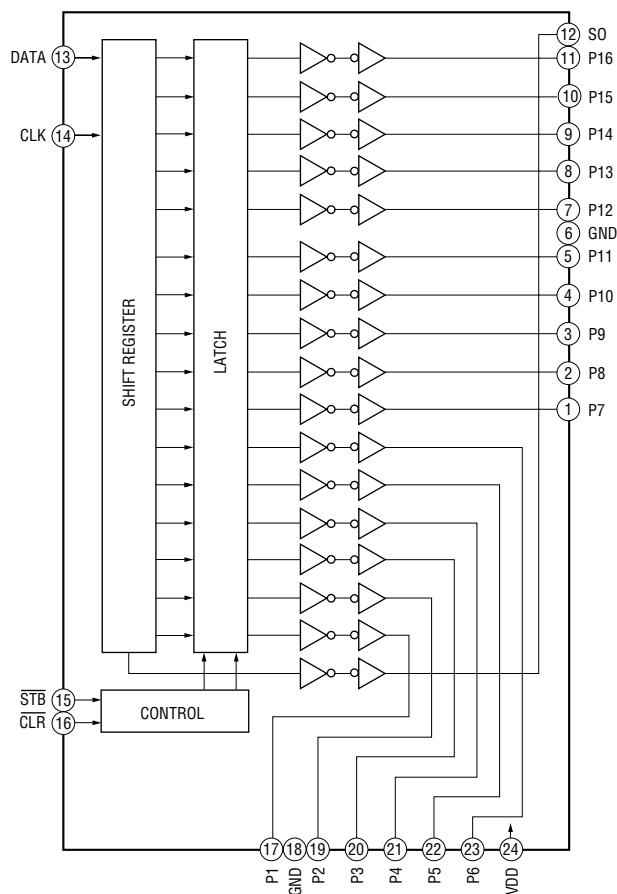
• AUDIO Board

IC602 UPC1330HA



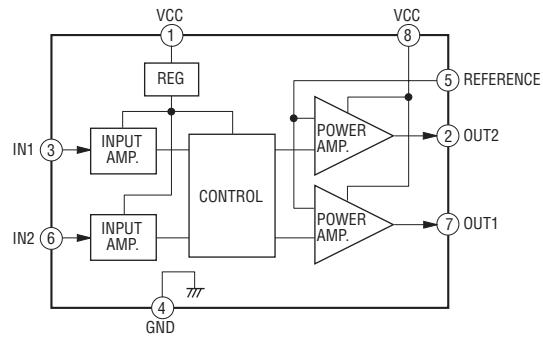
• PANEL Board (2/2)

IC604 NJU3716M-T2



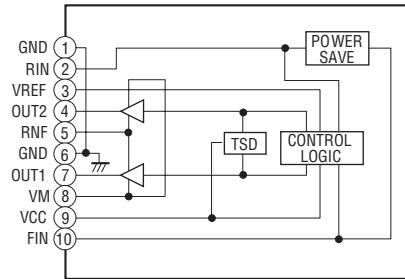
• MOTOR (TURN) Board

IC701 M54641L

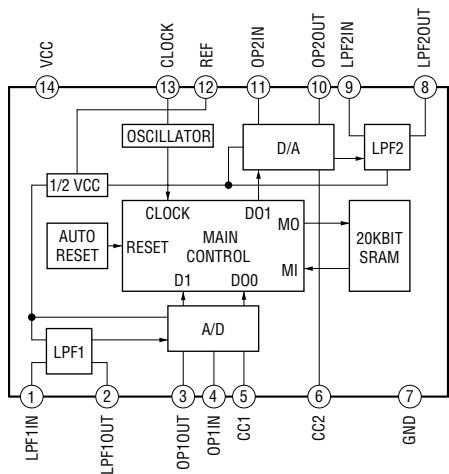


• MOTOR (SLIDE) Board

IC801 BA6286N



IC711 M65850FP



6-31. IC PIN FUNCTIONS

• IC101 DIGITAL SIGNAL PROCESSOR (CXD3008Q) (BD Board)

Pin No.	Pin Name	I/O	Function
1	DVDD0	—	Digital power supply
2	XRST	I	System reset
3	MUTE	I	Muting selection pin
4	DATA	I	Serial data input, supplied from CPU
5	XLAT	I	Latch input, supplied from CPU
6	CLOK	I	Serial data transfer clock input, supplied from CPU
7	SENS	O	SENS output
8	SCLK	I	SENS serial data read-out clock
9	ATSK	I/O	Input pin for anti-shock (Ground)
10	WFCK	O	WFCK (Write Frame Clock) output (Not used)
11	XUGF	O	XUGF output (Not used)
12	XPCK	O	XPCK output (Not used)
13	GFS	O	GFS output (Not used)
14	C2P0	O	C2PO output
15	SCOR	O	Sub-code sync output
16	CM4	O	4.2336MHz output (Not used)
17	WDCK	O	48-bit slot D/A interface word clock (Not used)
18	DVSS	—	Digital ground
19	COUT	O	Numbers of track counted signal output (Not used)
20	MIRR	O	Mirror signal output (Not used)
21	DFCT	O	Defect signal output (Not used)
22	FOK	O	Focus OK output (Not used)
23	PWM1	I	(Not used)
24	LOCK	I/O	GFS in sampled by 460Hz (Not used)
25	MDP	O	Output to control spindle motor servo
26	SSTP	I	Input signal to detect disc inner most trak
27	FST0	O	2/3 divider output (Not used)
28	DVDD1	—	Digital power supply
29	SFDR	O	Sled drive output
30	SRDR	O	
31	TFDR	O	Tracking drive output
32	TRDR	O	
33	FFDR	O	Focus drive output
34	FRDR	O	
35	DVSS1	—	Digital ground
36	TEST	I	TEST pin connected normally ground
37	TES1	I	
38	VC	I	Center voltage input
39	FE	I	FOCUS error signal input
40	SE	I	Sled error signal input

Pin No.	Pin Name	I/O	Function
41	TE	I	Tracking error signal input
42	CE	I	Center servo analog input
43	RFDC	I	RF signal input
44	ADI0	O	Test pin (Not used)
45	AVSS0	—	Analog ground
46	IGEN	I	Power supply pin operational amplifiers
47	AVDD	—	Analog power supply
48	ASYO	O	EFM full swing output
49	ASYI	I	Asymmetry compare voltage input
50	RFAC	I	EFM signal input
51	AVSS1	—	Analog ground
52	CLTV	I	Control voltage input for master VCO
53	FILO	O	Filter output for master PLL
54	FILI	I	Filter input for master PLL
55	PCO	O	Charge-pump output for master PLL
56	AVDD1	—	Analog power supply
57	BIAS	I	Asymmetry circuit constant current input
58	VCTL	I	Control voltage input for variable pitch PLL
59	V16M	I/O	16.9344MHz output (Not used)
60	VPCO	O	Charge-pump output for variable pitch PLL (Not used)
61	DVDD2	—	Digital power supply
62	ASYE	I	Asymmetry circuit ON/OFF
63	MD2	I	Digital-out ON/OFF control
64	DOUT	O	Digital-out output
65	LRCK	O	48-bit slot D/A interface, LR clock output
66	PCMD	O	48-bit slot D/A interface, Serial data output
67	BCLK	O	48-bit slot D/A interface, bit clock output
68	EMPH	O	Playback disc output in emphasis mode (Not used)
69	XTSL	I	X'tal selection input pin
70	DVSS2	—	Digital ground
71	XTAI	I	X'tal oscillator circuit input
72	XTAO	O	X'tal oscillator circuit output (Not used)
73	SOUT	O	(Not used)
74	SOCK	O	
75	XOCT	O	
76	SQSO	O	Sub-Q serial output
77	SQCK	I	Clock input for SQSO read-out
78	SCSY	I	Sub-code input
79	SBSO	O	Sub-P through Sub-W serial output (Not used)
80	EXCR	I	Clock input for SBSO read-out

• IC505 CD MECHANISM CONTROLLER (M30624FGFP) (VIDEO BOARD (1/2))

Pin No.	Pin Name	I/O	Function
1	SENSE	I	Internal status (SENSE) signal input from the CXD3008Q (IC101)
2	SENSE CLK	O	Sense serial data reading clock signal output to the CXD3008Q (IC101)
3	DSP DATA	O	Serial data output to the CXD3008Q (IC101)
4	DSP LATCH	O	Serial data latch pulse output to the CXD3008Q (IC101)
5	DSP CLK	O	Serial data transfer clock signal output to the CXD3008Q (IC101)
6	LD ON	O	Laser power selection signal output to the CXA2568M (IC103) “H”: laser on
7	REMOTE IN	I	Remote control signal input terminal Not used (open)
8	BYTE	I	“External data bus line byte selection signal input “L”: 16 bit, “H”: 8 bit (fixed at “L”)
9	CN VSS	—	Ground terminal
10	DSP MUTE	O	Muting on/off control signal output to the CXD3008Q (IC101) “H”: mutin on
11	CTRL1	O	Clock selection signal output to the CXD3008Q (IC101) “L”: 16.9344 MHz (double speed), “H”: 33.8688 MHz
12	XRESET	I	Reset signal input from the system controller (IC501) “L”: reset For several hundreds msec. after the power supply rises, “L”: is input, then it changes to “H”
13	XOUT	O	Main system clock output terminal (10 MHz)
14	VSS	—	Ground terminal
15	XIN	I	Main system clock input terminal (10 MHz)
16	VCC	—	Power supply terminal (+5 V)
17	NMI	I	Non-maskable interrupt input terminal (fixed at “H” in this set)
18	SCOR	I	Subcode sync (S0+S1) detection signal input from the CXD3008Q (IC101)
19	CTRL2	O	AGC HOLD signal output.
20	8830 HINT	I	Interrupt request signal input from the MPEG video/audio decoder (IC506)
21	NT/PAL OUT	O	NTSC/PAL select signal output.
22	DF LATCH	O	Serial data latch pulse output to the D/A converter (IC509) “L”: activ
23	NC	—	Not used.
24	8830 RESET	O	Reset signal output to the MPEG video/audio decoder (IC506) “L”: reset
25	JOG1	I	Rotary encoder jog dial pulse input terminal Not used (fixed at “H”)
26	JOG2	I	Rotary encoder jog dial pulse input terminal Not used (fixed at “H”)
27	VMUTE	O	Video muting on/off control signal output terminal “L”: muting on
28	OSD CS	O	Chip select signal of D/A converter (IC511).
29	I2C/RX	I/O	I ² C and serial data input from CD mechanism control (IC501).
30	I2C/TX	I/O	I ² C and serial data output from CD mechanism control (IC501).
31	S-DATA O	O	Serial data output to the MPEG video/audio decoder (IC505) and D/A convertor (IC509)
32	S-DATA I	I	Serial data input from the MPEG video/audio decoder (IC505)
33	S-CLK	O	Serial data transfer clock signal output to the MPEG video/audio decoder (IC505) and D/A converter (IC509)
34	RTS1	O	RTS signal to serial port (check connector).
35	NC	O	Not used (open)
36	SUBQ DATA	I	Sub-code Q data input from the CXD3008Q (IC101)
37	SUBQ CLK	O	Sub-code Q data reading clock signal output to the CXD3008Q (IC101)
38	P. ON	O	Power on/off control signal output terminal Not used (open)
39	BUS XRDY	I	Ready signal input terminal Not used (fixed at “H”)
40	BUS	O	Not used (open)
41	BUS XHOLD	I	Hold signal input terminal Not used (fixed at ‘H’)

Pin No.	Pin Name	I/O	Function
42, 43	BUS	O	Not used (open)
44	BUS XRD	O	Bus read signal output.
45	BUS	O	Not used.
46	BUS XWR	O	Bus write signal output.
47	8830-CS	O	Chip select signal output. (IC505)
48	AUDIO MUTE	O	Audio muting on/off control signal output terminal “L”: muting on Not used (open)
49	LOAD OUT	O	Loading motor drive signal output terminal Not used (open)
50	LOAD IN	O	Loading motor drive signal output terminal Not used (open)
51	INSW	I	Disc detection (load in) switch input terminal Not used (fixed at “H”)
52	OUTSW	I	Disc detection (load out) switch input terminal Not used (fixed at “H”)
53	MODEL1	I	Destination setting terminal (fixed at “L”)
54	MODEL2	I	Destination setting terminal (fixed at “L”)
55 to 61	A15 to A9	O	Address signal output for the external device. Not used
62	VCC	—	Power supply terminal (+5 V)
63	A8	O	Address signal output for the external device. Not used (open)
64	VSS	—	Ground terminal
65 to 72	A7 to A0	O	Address signal output for the external device.
73	TEST LED	O	LED drive signal output for the self diagnosis indicator (D502) Normally: “L” (LED on)
74	TEST1	I	Setting terminal for the test mode 1 (for VCD check) Normally: fixed at “H” (“L”: test mode)
75	TEST2	I	Setting terminal for the test mode 2 (for SERVO check) Normally: fixed at “H” (“L”: test mode)
76	TEST3	I	Setting terminal for the test mode 3 Normally: fixed at “H” (“L”: test mode) Not used (fixed at “H”)
77	DEVICE RESET	O	System reset signal output to the CXD3008Q (IC101), BA5974FP (IC102) and D/A converter (IC509) “L”: reset
78	STANDBY	O	Standby on/off control signal output terminal Not used (open)
79	FL CS	O	Chip select signal output terminal Not used (open)
80	FLBLK	O	Blank control signal output terminal Not used (open)
81 to 88	D7 to D0	I/O	Two-way data bus with the external device Not used (open)
89	NC	—	Not used.
90 to 92	KEY1 to KEY3	I	Key input terminal Not used (fixed at “H”)
93	NT/PAL	I	Video system select switch (S501) input terminal “L”: PAL, “H”: NTSC, Center voltage: AUTO
94, 95	NC	—	Not used.
96	AVSS	—	Ground terminal (for A/D conversion)
97	NC	—	Not used.
98	VREF	I	Reference voltage (+5 V) input terminal (for A/D conversion)
99	AVCC	—	Power supply terminal (+5 V) (for A/D conversion)
100	NC	—	Not used.

• IC506 MPEG VIDEO/AUDIO DECODER, VIDEO SIGNAL PROCESSOR (CL8830-PD0) (VIDEO BOARD (2/2))

Pin No.	Pin Name	I/O	Function
1	PIO [10:0]	I/O	Programmable I/O pins.
2 to 4	HDATA [7:0]	I/O	8 bit bi-directional host data bus. Host writes data to the decoder Code FIFO via HDATA [7:0]. MSB of the 32-bit word is written first. The host also reads and writes the decoder internal registers and local SDRAM/ROM via HDATA [7:0].
5	VDD	—	3.3-V supply voltage for core logic and I/O signals.
6	HDATA [7:0]	I/O	8 bit bi-directional host data bus. Host writes data to the decoder Code FIFO via HDATA [7:0]. MSB of the 32-bit word is written first. The host also reads and writes the decoder internal registers and local SDRAM/ROM via HDATA [7:0].
7	VSS	—	Ground for core logic and I/O signals.
8 to 11	HDATA [7:0]	I/O	8 bit bi-directional host data bus. Host writes data to the decoder Code FIFO via HDATA [7:0]. MSB of the 32-bit word is written first. The host also reads and writes the decoder internal registers and local SDRAM/ROM via HDATA [7:0].
12	VDD	—	3.3-V supply voltage for core logic and I/O signals.
13	RESET	I	Hardware reset. An external device asserts RESET (active LOW) to execute a decoder hardware reset. To ensure proper initialization after power is stable, assert RESET for at least 20 Ms.
14	VSS	—	Ground for core logic and I/O signals.
15	WAIT	O	Active LOW to indicate host initiated transfer is not complete. WAIT is asserted after the falling edge of CS and reasserted when decoder is ready to complete transfer cycle. Open drain signal, must be pulled-up to 3.3 volts. Driven high for 10 ns before tristate.
16	INT	O	Host interrupt. Open drain signal, must be pulled-up to 3.3 volts. Driven high for 10 ns before tristate.
17	VDD	—	3.3-V supply voltage for core logic and I/O signals.
19	VSS	—	Ground for core logic and I/O signals.
27	VDD	—	3.3-V supply voltage for core logic and I/O signals.
29	VSS	—	Ground for core logic and I/O signals.
36	VDD	—	3.3-V supply voltage for core logic and I/O signals.
38	VSS	—	Ground for core logic and I/O signals.
40	VDD	—	3.3-V supply voltage for core logic and I/O signals.
42	VSS	—	Ground for core logic and I/O signals.
47	VDD	—	3.3-V supply voltage for core logic and I/O signals.
49	VSS	—	Ground for core logic and I/O signals.
52	PIO [10:0]	I/O	Programmable I/O pins.
53, 54	MDATA [15:0]	I/O	Memory address.
55	VDD	—	3.3-V supply voltage for core logic and I/O signals.
56	MDATA [15:0]	I/O	Memory address.
57	VSS	—	Ground for core logic and I/O signals.
58 to 60	MDATA [15:0]	I/O	Memory address.
61	VDD	—	3.3-V supply voltage for core logic and I/O signals.
62	MDATA [15:0]	I/O	Memory address.
63	VSS	—	Ground for core logic and I/O signals.
64	MDATA [15:0]	I/O	Memory address.
65	VDD	—	3.3-V supply voltage for core logic and I/O signals.
66	MDATA [15:0]	I/O	Memory address.
67	VSS	—	Ground for core logic and I/O signals.
68	MDATA [15:0]	I/O	Memory address.
69	VDD	—	3.3-V supply voltage for core logic and I/O signals.
70	MDATA [15:0]	I/O	Memory address.
71	VSS	—	Ground for core logic and I/O signals.
72 to 74	MDATA [15:0]	I/O	Memory address.
75	VDD	—	3.3-V supply voltage for core logic and I/O signals.

Pin No.	Pin Name	I/O	Function
76	MDATA [15:0]	I/O	Memory address.
77	VSS	—	Ground for core logic and I/O signals.
78	MDATA [15:0]	I/O	Memory address.
79	LDQM	O	SDRAM LDQM.
80	UDQM	O	SDRAM UDQM.
81	VDD	—	3.3-V supply voltage for core logic and I/O signals.
82	<u>MWE</u>	O	SDRAM/EDO write enable. Decoder asserts active LOW to request a write operation to the SDRAM array.
83	VSS	—	Ground for core logic and I/O signals.
84	SD-CLK	O	SDRAM system clock.
85	<u>SD-CAS</u>	O	Active LOW SDRAM column address.
86	<u>SD-RAS</u>	O	Active LOW SDRAM row address.
87	VDD	—	3.3-V supply voltage for core logic and I/O signals.
88	<u>SD-CS [1:0]</u>	O	Active LOW SDRAM bank select.
89	VSS	—	Ground for core logic and I/O signals.
90	<u>SD-CS [1:0]</u>	O	Active LOW SDRAM bank select.
91	VDD	—	3.3-V supply voltage for core logic and I/O signals.
92	<u>EDO-CAS</u>	O	Active LOW EDO DRAM column address strobe.
93	VSS	—	Ground for core logic and I/O signals.
94	<u>EDO-RAS</u>	O	Active LOW EDO DRAM row address strobe.
95	VDD	—	3.3-V supply voltage for core logic and I/O signals.
96	MADDR [20:0]	O	Memory address.
97	VSS	—	Ground for core logic and I/O signals.
98 to 100	MADDR [20:0]	O	Memory address.
101	VDD	—	3.3-V supply voltage for core logic and I/O signals.
102	MADDR [20:0]	O	Memory address.
103	VSS	—	Ground for core logic and I/O signals.
104 to 106	MADDR [20:0]	O	Memory address.
107	VDD	—	3.3-V supply voltage for core logic and I/O signals.
108	MADDR [20:0]	O	Memory address.
109	VSS	—	Ground for core logic and I/O signals.
110 to 112	MADDR [20:0]	O	Memory address.
113	VDD	—	3.3-V supply voltage for core logic and I/O signals.
114	MADDR [20:0]	O	Memory address.
115	VSS	—	Ground for core logic and I/O signals.
116	MADDR [20:0]	O	Memory address.
117	VDD	—	3.3-V supply voltage for core logic and I/O signals.
118	MADDR [20:0]	O	Memory address.
119	VSS	—	Ground for core logic and I/O signals.
120 to 122	MADDR [20:0]	O	Memory address.
123	VDD	—	3.3-V supply voltage for core logic and I/O signals.
124	MADDR [20:0]	O	Memory address.
125	VSS	—	Ground for core logic and I/O signals.
126, 127	MADDR [20:0]	O	Memory address.
128	<u>ROM-CS</u>	O	ROM chip select. Open drain signal, must be pulled-up to 3.3 volts.
129	PIO [10:0]	I/O	Programmable I/O pins.
133	PIO [10:0]	I/O	Programmable I/O pins.
134	VDD	—	3.3-V supply voltage for core logic and I/O signals.
136	VSS	—	Ground for core logic and I/O signals.
138	PIO [10:0]	I/O	Programmable I/O pins.

Pin No.	Pin Name	I/O	Function
141	PIO [10:0]	I/O	Programmable I/O pins.
142, 143	VDATA [7:0]	O	Video data bus. Byte serial CdYCrY data synchronous with VCLK. At power-up, the decoder does not drive VDATA. During boot-up, the decoder uses configuration parameters to drive or 3-state VDATA.
144	VDD	—	3.3-V supply voltage for core logic and I/O signals.
145	VDATA [7:0]	O	Video data bus. Byte serial CdYCrY data synchronous with VCLK. At power-up, the decoder does not drive VDATA. During boot-up, the decoder uses configuration parameters to drive or 3-state VDATA.
146	VSS	—	Ground for core logic and I/O signals.
147	PIO [10:0]	I/O	Programmable I/O pins.
148	VDATA [7:0]	O	Video data bus. Byte serial CdYCrY data synchronous with VCLK. At power-up, the decoder does not drive VDATA. During boot-up, the decoder uses configuration parameters to drive or 3-state VDATA.
149	VDD	—	3.3-V supply voltage for core logic and I/O signals.
150	VDATA [7:0]	O	Video data bus. Byte serial CdYCrY data synchronous with VCLK. At power-up, the decoder does not drive VDATA. During boot-up, the decoder uses configuration parameters to drive or 3-state VDATA.
151	VSS	—	Ground for core logic and I/O signals.
152	VDATA [7:0]	O	Video data bus. Byte serial CdYCrY data synchronous with VCLK. At power-up, the decoder does not drive VDATA. During boot-up, the decoder uses configuration parameters to drive or 3-state VDATA.
153	PIO [10:0]	I/O	Programmable I/O pins.
154, 155	VDATA [7:0]	O	Video data bus. Byte serial CdYCrY data synchronous with VCLK. At power-up, the decoder does not drive VDATA. During boot-up, the decoder uses configuration parameters to drive or 3-state VDATA.
157	<u>H</u> SYNC	I/O	Horizontal sync. The decoder begins outputting pixel data for a new horizontal line after the falling (active) edge of HSYNC.
158	<u>V</u> SYNC	I/O	Vertical sync. Bi-directional, the decoder outputs the top border of a new field on the first <u>H</u> SYNC after the falling edge of <u>V</u> SYNC. <u>V</u> SYNC can accept vertical synchronization or top/bottom field notification from an external source. (VSYNC HIGH=Bottom field. VSYNC LOW=Top field)
160	VDD	—	3.3-V supply voltage for core logic and I/O signals.
161	DA-DATA	O	Serial audio samples relative to DA-BCK clock.
162	VSS	—	Ground for core logic and I/O signals.
166	DA-LRCK	O	PCM left-right clock. Identifies the channel for each audio sample. The polarity is programmable.
167	DA-BCK	O	PCM bit clock. Divided by 8 from DA-XCX, DA-BCK can be either 48 or 32 times the sampling clock.
168	VDD	—	3.3-V supply voltage for core logic and I/O signals.
169	DA-XCX	I/O	Audio external frequency clock. Used to generate DA-BCK and DA-LRCK. DA-XCK can be either 384 or 256 times the sampling frequency.
170	VSS	—	Ground for core logic and I/O signals.
171	DAI-DATA	I	PCM input data, two channels. Serial audio samples relative to DA-BCK clock, resulting in downmixed audio output.
172	DAI-LRCK	I	PCM input left-right clock.
173	DAI-BCK	I	PCM input bit clock.
174	PIO [10:0]	I/O	Programmable I/O pins.
175	VDD	—	3.3-V supply voltage for core logic and I/O signals.
176	A-VDD	—	3.3-V analog supply voltage.
177	VCLK	I	Video clock. Clocks out data on input. VDATA [7:0]. Clock is typically 27 MHz.
178	SYSCLK	I	System clock. Decoder requires an external 27 MHz TTL oscillator. Drive with the same 27-MHz as VCK.
179	A-VSS	—	Analog ground for PLL.
180	CD-DATA	I	Serial CD data.
181	VDD	—	3.3-V supply voltage for core logic and I/O signals.

Pin No.	Pin Name	I/O	Function
182	CD-LRCK	I	Programmable polarity 16-bit word synchronization to the decoder (right channel HIGH).
183	VSS	—	Ground for core logic and I/O signals.
184	CD-BCK	I	CD bit clock. Decoder accept multiple BCK rates.
185	CD-C2PO	I	Asserted HIGH indicates a corrupted byte. Decoder keeps the previous valid picture on-screen until the next valid picture is decoded.
190	PIO [10:0]	I/O	Programmable I/O pins.
193	VDD	—	3.3-V supply voltage for core logic and I/O signals.
195	VSS	—	Ground for core logic and I/O signals.
197	VDD	—	3.3-V supply voltage for core logic and I/O signals.
199	VSS	—	Ground for core logic and I/O signals.
202 to 204	HADDR [2:0]	I	Host address bus. 3-bit address bus selects one of eight host interface registers.
206	\bar{CS}	I	Host chip select. Host asserts CS to select the decoder for a read or write operation. The falling edge of this signal triggers the read or write operation.
207	R/W	I	Read/write strobe in M mode. Write strobe in I mode. Host asserts R/W LOW to select write and LOW to select Read.
208	RD	I	Read strobe in I mode. Must be held HIGH in M mode.

• IC501 MASTER CONTROL (M30622MA-A16FP) (MAIN Board (3/4))

Pin No.	Pin Name	I/O	Function
1	STK-MUTE	O	Power amp ON/OFF signal output
2	POWER	O	Power ON/OFF signal output
3	F-RELAY	O	Front speaker relay control output
4	REAR-RELAY	O	Rear speaker relay control output (Not used)
5	CD-POWER	O	CD power on signal output
6	LINE-MUTE	O	Line mute ON/OFF selection output
7	DBFB-H/L	O	DBFB H/L select signal output
8, 9	–	–	Not used
10	XC-IN	I	X'tal (32.768MHz)
11	XC-OUT	O	
12	RESET	I	Reset signal input
13	X-OUT	O	X'tal (16MHz)
14	VSS	–	Ground
15	X-IN	I	X'tal (16MHz)
16	VCC	–	Power supply (+5V)
17	NMI	I	Not used (PULL UP EVER+5V)
18	WAKE UP	I	WAKE UP (Fixed at fixed at “L”)
19	SCOR	I	Subcode data request signal output (Not used)
20	RDS-INT	I	RDS data interrupt input
21	RDS-DATA	I	
22	AC-CUT	I	Back up signal input
23	PL-CLK	O	Clock signal to pro-logic (Not used)
24	PL-DATA	O	Data signal to pro-logic (Not used)
25	PL-LAT	O	Latch signal to pro-logic (Not used)
26	TIMER LED	I	Timer LED ON/OF
27	PROTECTOR	I	Speaker protect ON/OF
28	–	–	Not used
29	IIC-CLK	O	Clock output for IC601
30	IIC-DATA	O	Data output for IC601
31	–	–	Not used
32	SQ-DATA	I	Subcode Q data clock input
33	SQ-CLK	I	Not used
34	SW-MODE	O	Not used
35	CD-DATA	O	CD data output (Not used)
36	RY-SW	I	Head phone swich detect
37	CD-CLK	O	CD clock output (Not used)
38	493-LAT	O	Latch signal output for M62493FP (IC101)
39	ST-BY LED/ CLOCK-OUT	O	Clock ond stand by LED signal output
40	L+R/L-R	I	Not used
41	BY-PASS	I	
42	FL-SW	I	FL switch ON/OFF
43	STBY RELAY	I	Stand by relay ON/OFF
44	BASS FREQ	O	FREQ high/low signal for SYNC bass
45, 46	–	–	Not used
47	493-DATA	O	Data output for M62493FP (IC101)
48	493-CLK	O	Clock output for M62493FP (IC101)
49	ST-MUTE	O	Tuned mute signal output

Pin No.	Pin Name	I/O	Function
50	STEREO	I	Stereo detection for tuner
51	TUNED	I	Tuned detection for tuner
52	ST-CE	O	Tuner chip enable output
53	ST-DOUT	O	Tuner data output
54	ST-DIN	I	Tuner data input
55	ST-CLK	O	Tuned clock output
56	SENS	I	BD Condition signal input (Not used)
57	HDLD	O	Mode hold signal output (Not used)
58	XLT	O	CD latch signal output (Not used)
59	XRST	O	CD reset signal output
60	DISC-SENS	I	Slit sensor of disc table input
61	T-SENS	I	CD table detection signal input
62	VCC	-	Power supply (+5V)
63	TBL-L	O	Table motor control output
64	VSS	-	Ground
65	TBL-R	O	Table motor control output
66	LOAD-OUT	O	Loading motor control signal output
67	LOAD-IN	O	
68	ENC 3/UP-SW	I	Disc tray address detect encoder input
69	ENC 2/DISC-LED	I	
70	ENC 1	I	
71	OUT-OPEN	O	Loading out detection signal output
72	B-TRG	O	Trigger motor control output
73	A-TRG	O	
74	CAP-M-COT2	O	Capstan motor control 1(-) signal output
75	CAP-M-COT1	O	Capstan motor control 2(-) signal output
76	CAP-M-H/L	O	Capstan motor H/L speed select signal output
77	AMS-IN	I	Connected to ground
78	TC-MUTE	O	TC mute ON/OFF selection output
79	R/PB/PAS	O	REC/PB/PASS selection output
80	NR-ON/OFF	O	NR ON/OFF signal output
81	REC-MUTE	O	REC mute ON/OFF selection output
82	BIAS	O	Bias ON/OFF selection output
83	EQ-H/N	O	Equalizer H/N select output
84	PB-A/B	O	PB Deck A/Deck B select output
85	ALC	O	ALC ON/OFF output
86	B-PLAY-SW	I	Deck B play detect
87	A-PLAY-SW	I	Deck A play detect
88	A-HALF	I	Deck A cassette detect
89	B-HALF	I	Deck B cassette detect
90	B-SHUT	I	B Deck reel pulse detector
91	A-SHUT	I	A Deck reel pulse detector
92	SOFT-TEST	O	Software test port
93, 94	KEY/CD-ADJ	I	CD adjust point port
95	MODEL IN	I	Version select signal input
96	AVSS	-	Ground
97	SPEC-IN	I	Version select signal input
98	VREF	I	Analog reference voltage input
99	AVCC	-	Analog power supply
100	TC-RELAY	O	REC/PB head selection output for IC602

• IC601 DISPLAY CONTROL (TMP88CS76F-6010) (PANEL Board (1/2))

Pin No.	Pin Name	I/O	Function
1	SIRCS	I	Remote commander signal input
2	JOG A	I	Rotary encoder (S601) pulse input
3	L/P SCK	O	LED/PAD clock output
4	LED LA	O	LED latch output
5	L/P DAT	O	LED/PAD data output
6	PAD LA	O	PAD latch output
7	L SEL	O	LED select signal
8	JOG B	I	Rotary encoder (S601) pulse input
9	VOLA	I	Rotary encoder (S602) pulse input
10	VOL B	I	
11 to 14	KEY 0 to KEY 3	I	Key input
15	GRADATION L	O	LED gradation signal (left)
16	S LOW (F01)	O	Spectrum analyzer input (Super low frequency) (40Hz)
17	BPF 1 (F02)	O	Spectrum analyzer input (100Hz)
18	BPF 2	O	Spectrum analyzer input (400Hz)
19	BPF 3	O	Spectrum analyzer input (2KHz)
20	BPF 4	O	Spectrum analyzer input (6KHz)
21	ALL B (L+R)	I	Spectrum analyzer input (all band)
22	GLADATION R/WAKE UP	O	LED gradation signal (right)/WAKE UP signal
23	VSS I/O	—	Ground
24	VASS	—	Ground
25	VAref	I	Analog reference voltage input
26	VDD I/O	—	Power supply (+5V)
27 to 40	G 18 to G 5	O	FL gride signal output
41	VDD VFT	—	Power supply (+5V)
42 to 45	G 4 to G 1	O	FL gride signal output
46 to 67	S 1 to S 22	O	FL segment signal output
68	VKK	—	Power supply (-30V)
69	VDD for CPU	—	Power supply (+5V)
70	X IN	I	X'tal (12.5MHz)
71	VSS for CPU	—	Ground
72	X OUT	O	X'tal (12.5MHz)
73	RESET	I	Reset signal input from main controller
74	CH for PAD	O	Channel signal output for PAD
75	BUSY for PAD	O	Busy signal output for PAD
76	TEST	I	Connected ground
77	—	—	Not used (to ground)
78	IIC DATA	O	Data output for IC501
79	IIC CLK	O	Clock output for IC501
80	—	—	Not used (to ground)

SECTION 7 EXPLODED VIEWS

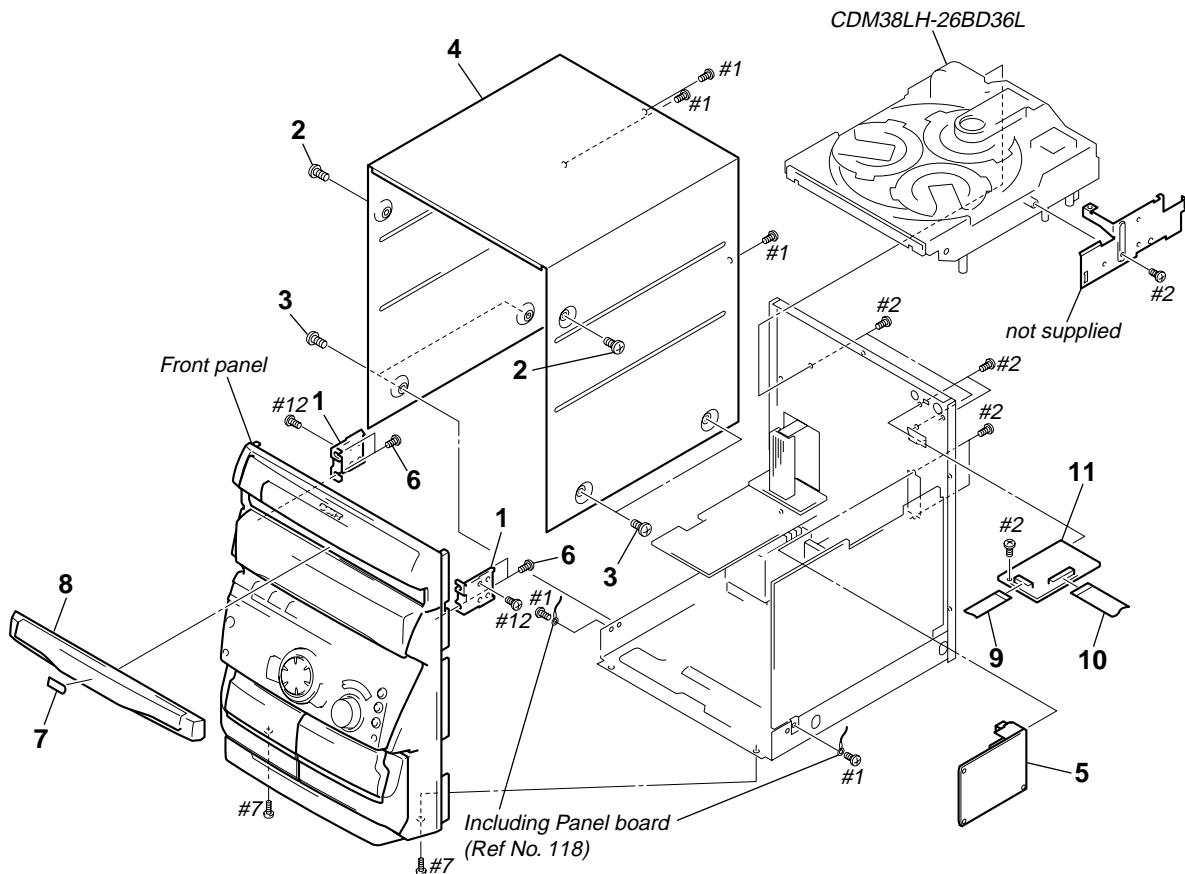
NOTE:

- 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 \triangle or dotted line with mark \triangle are critical for safety. Replace only with part number specified.

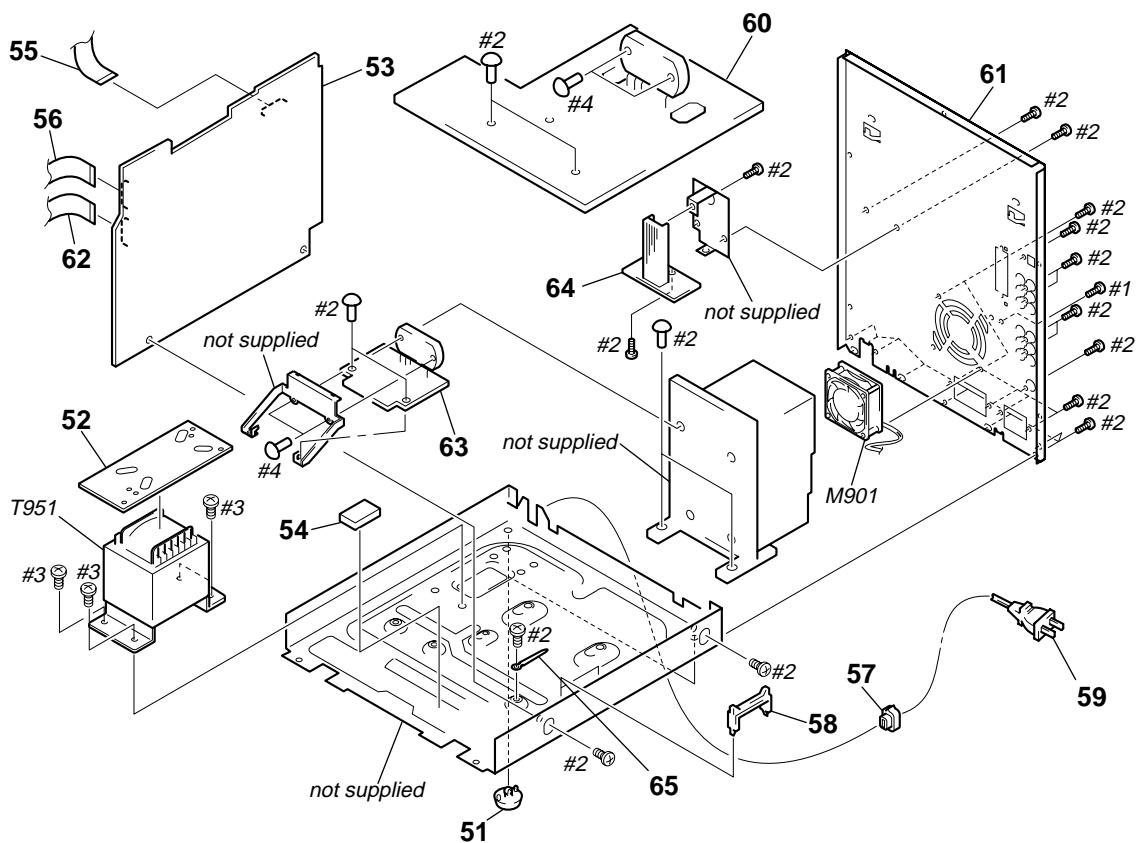
以阴影和 \triangle 标志来识别的零部件，在安全方面具有关键性，因此只能以规定号码的零部件来更换。

7-1. CASE SECTION



Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
* 1	4-996-716-01	HOLDER (CDM)		6	4-951-620-01	SCREW (2.6X8), +BVTP	
2	3-363-099-71	SCREW (CASE 3 TP2)		7	4-223-216-01	EMBLEM (S-VCD)	
3	3-363-099-11	SCREW (CASE 3 TP2)		8	X-4952-097-1	PANEL ASSY, LOADING	
4	4-215-179-01	CASE		9	1-791-517-11	WIRE (FLAT TYPE) (15 CORE)	
5	1-693-381-11	TUNER UNIT (FM/AM)		10	1-775-229-11	WIRE (FLAT TYPE) (25 CORE)	
				11	A-4724-927-A	VIDEO BOARD, COMPLETE	

7-2. CHASSIS SECTION

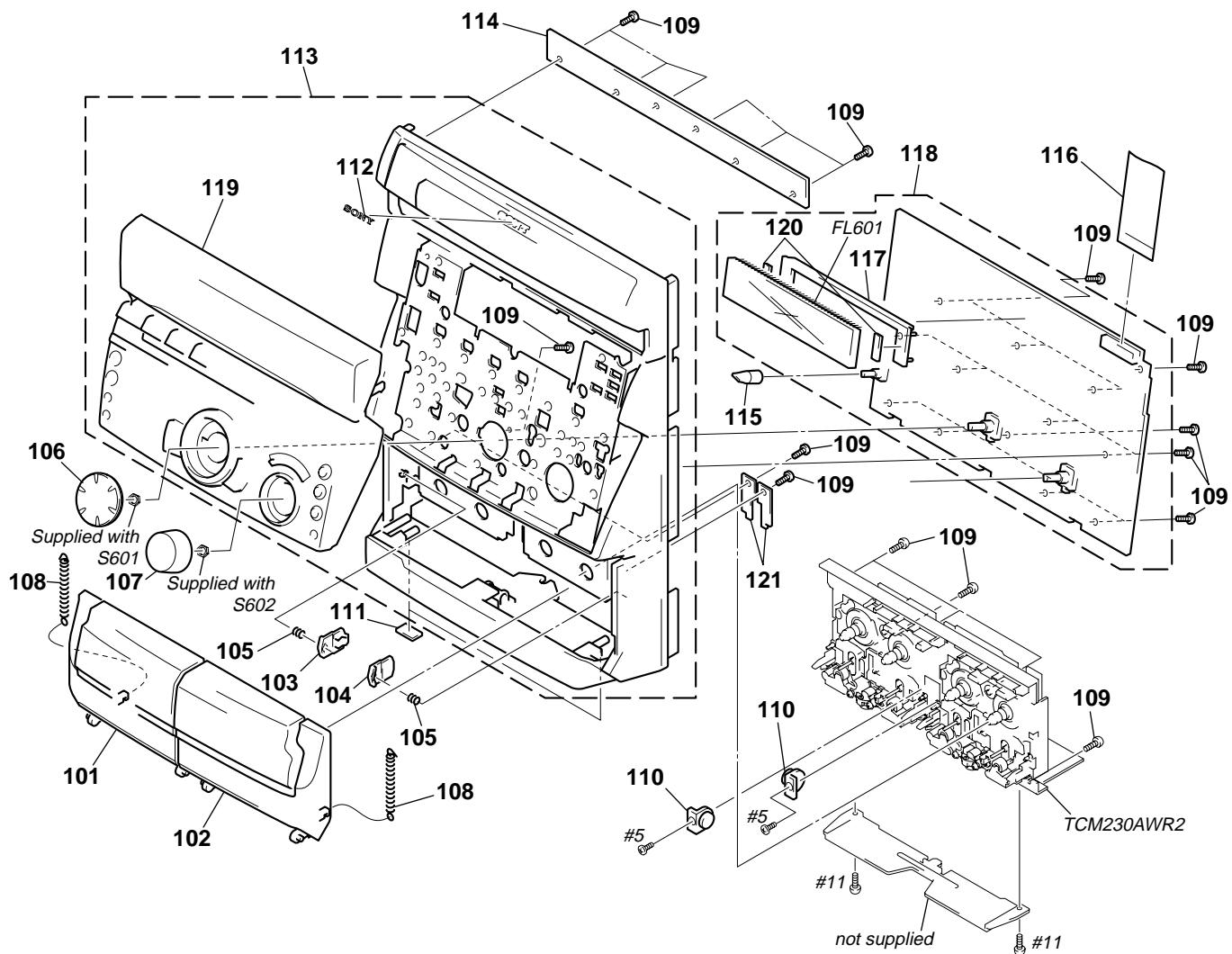


The components identified by mark \triangle or dotted line with mark \triangle are critical for safety.
Replace only with part number specified.

以阴影和 \triangle 标志来识别的零
部件，在安全方面具有关键性。
因此只能以规定号码的
零部件来更换。

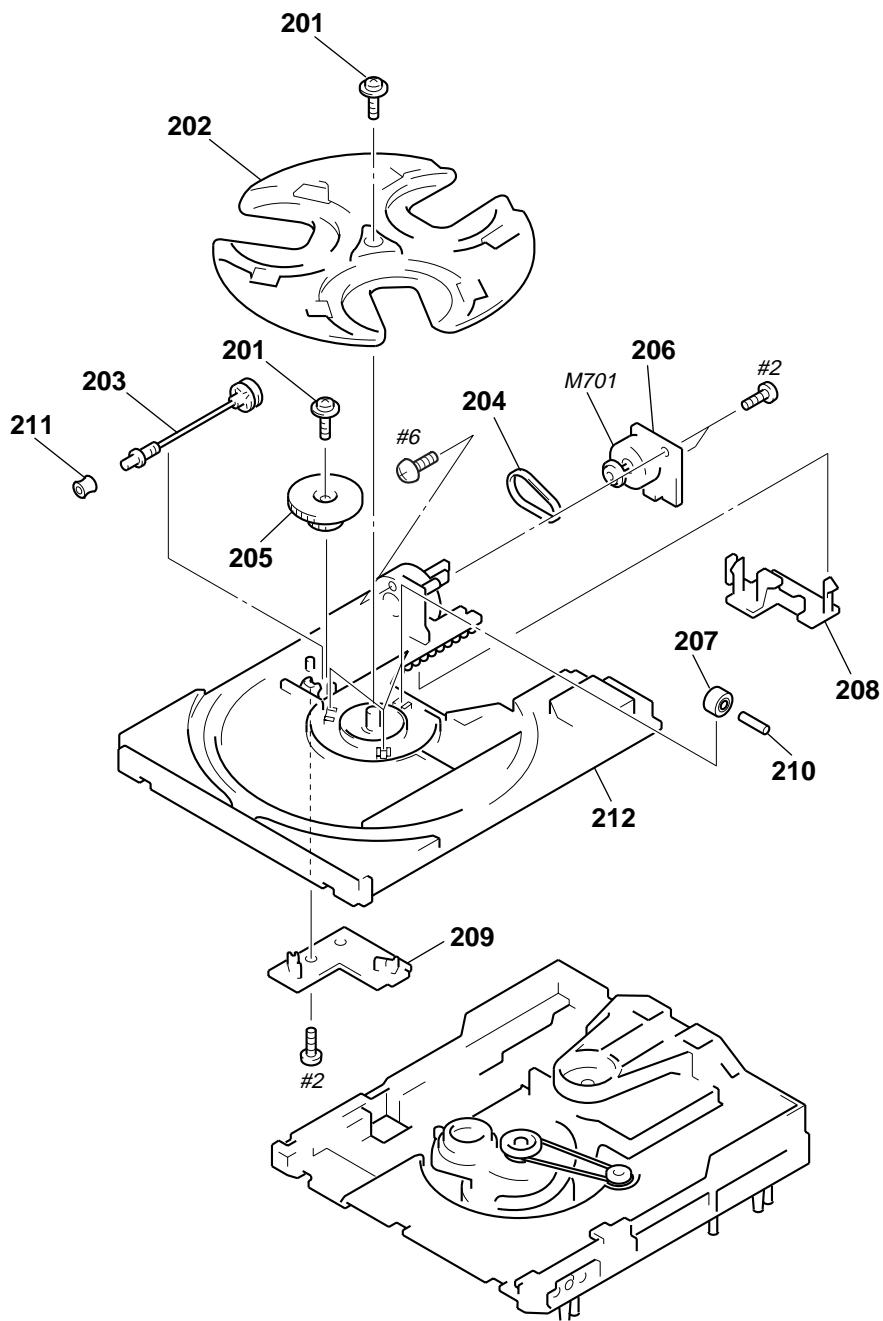
Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
51	4-965-822-01	FOOT		61	4-215-642-71	PANEL, BACK	
* 52	1-672-369-11	TRANS BOARD		62	1-773-023-11	WIRE (FLAT TYPE) (15 CORE) (310 mm)	
53	A-4426-786-A	MAIN BOARD, COMPLETE		63	A-4426-779-A	3CH AMP BOARD, COMPLETE	
54	4-985-642-01	CUSHION		64	1-675-906-11	5V POWER BOARD	
55	1-773-008-11	WIRE (FLAT TYPE) (15 CORE) (140 mm)		65	3-701-822-01	HOLDER, WIRE	
56	1-773-049-11	WIRE (FLAT TYPE) (17 CORE)		M901	1-763-072-11	FAN, D.C.	
* 57	3-703-244-00	BUSHING (2104), CORD		\triangle T951	1-433-555-21	TRANSFORMER, POWER	
* 58	4-988-533-01	HOLDER, PWB					
\triangle 59	1-782-464-21	CORD, POWER					
60	A-4426-776-A	FRONT AMP BOARD, COMPLETE					

7-3. FRONT PANEL SECTION



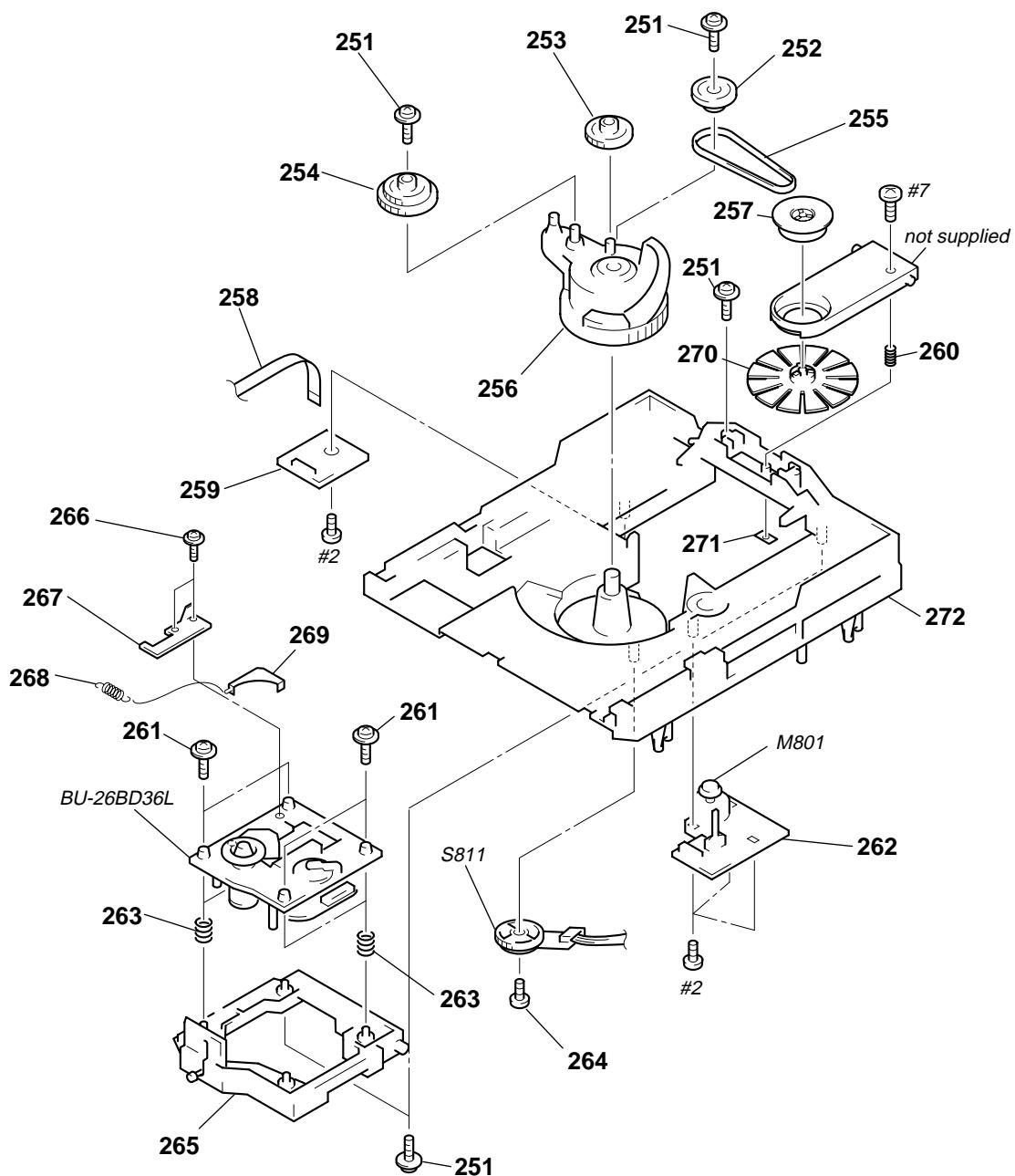
Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
101	X-4950-697-1	HOLDER (L) ASSY, CASSETTE		112	4-962-708-81	EMBLEM (4-A), SONY	
102	X-4951-068-2	HOLDER (R) ASSY, CASSETTE		113	X-4952-128-1	PANEL ASSY, FRONT	
103	4-214-760-11	CATCHER (A), PUSH		114	A-4426-760-A	CD SW BOARD, COMPLETE	
104	4-214-761-11	CATCHER (B), PUSH		115	4-214-385-11	KNOB (MIC)	
105	4-214-775-13	SPRING, PUSH CATCHER RETURN		116	1-773-189-11	WIRE (FLAT TYPE) (23 CORE)	
106	4-214-383-11	KNOB (JOG)		* 117	4-214-439-11	HOLDER, FL TUBE	
107	4-214-384-11	KNOB (VOL)		118	A-4426-782-A	PANEL BOARD, COMPLETE	
108	4-219-087-01	SPRING, TENSION		119	X-4952-129-1	PANEL ASSY, SUB	
109	4-951-620-01	SCREW (2.6X8), +BVTP		120	4-949-935-41	CUSHION (FL)	
110	4-215-062-01	DAMPER		121	1-674-232-11	PUSH CATCH STOP BOARD	
111	4-988-663-01	FOOT (FELT)		FL601	1-517-831-31	INDICATOR TUBE, FLUORESCENT	

7-4. CD MECHANISM DECK SECTION-1 (CDM38LH-26BD36L)



Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
201	4-981-789-01	BRACKET (2), YOKE		207	4-988-162-01	ROLLER	
202	4-977-945-63	TRAY (TURN)		208	4-977-941-01	BEARING (WORM)	
203	X-4946-665-1	SHAFT ASSY, WORM		* 209	1-658-576-11	SENSOR BOARD	
204	4-977-943-01	BELT (TURN) (1.2)		210	4-934-376-01	SHAFT (ROLLER)	
205	4-977-956-01	WHEEL, WORM					
* 206	1-658-577-11	MOTOR (TURN) BOARD		211	4-981-187-01	COLLAR (WORM)	
				212	4-977-944-01	TRAY (SLIDE)	
				M701	A-4672-004-A	MOTOR ASSY (TURN)	

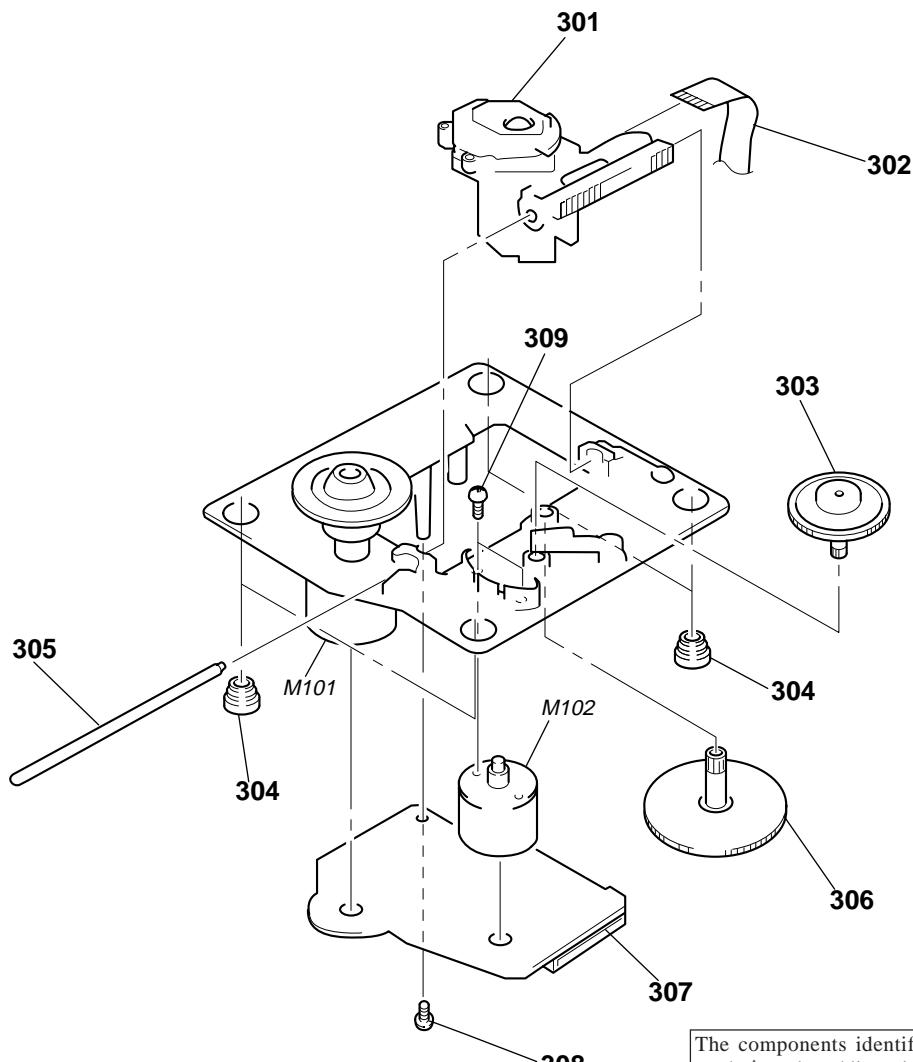
7-5. CD MECHANISM DECK SECTION-2 (CDM38LH-26BD36L)



Ref. No.	Part No.	Description	Remark
251	4-981-789-11	BRACKET (2), YOKE	
252	4-977-954-01	PULLEY (SL)	
253	4-977-953-01	GEAR (SL-A)	
254	4-977-955-01	GEAR (SL-B)	
255	4-977-942-01	BELT (SL) (1.4)	
256	X-4946-491-1	CAM ASSY, BU	
257	1-452-925-21	MAGNET ASSY	
258	1-776-042-11	WIRE (FLAT TYPE) (8 CORE)	
* 259	1-658-575-11	CONNECTOR BOARD	
260	4-900-743-01	SPRING, COMPRESSION	
261	4-985-672-01	SCREW (+PTPWHM2.6), FLOATING	
* 262	1-658-578-11	MOTOR (SLIDE) BOARD	

Ref. No.	Part No.	Description	Remark
263	4-982-447-01	SPRING (BU), COMPRESSION	
264	4-951-620-41	SCREW (2.6), +BVTP	
265	X-4949-570-1	HOLDER (BU) ASSY	
266	4-989-494-01	SCREW (SLIDER), STEP	
267	4-989-492-11	SLIDER (38)	
268	4-989-819-02	SPRING, TENSION	
269	4-989-491-01	COVER, LENS	
270	4-993-142-03	PULLEY (L), PRESS	
271	4-900-718-01	BRACKET (ADJUSTMENT)	
* 272	X-4947-846-1	CHASSIS (CDM) ASSY	
M801	A-4672-004-A	MOTOR ASSY (SLIDE)	
S811	1-473-335-11	ENCODER, ROTARY	

7-6. BASE UNIT SECTION (BU-26BD36L)

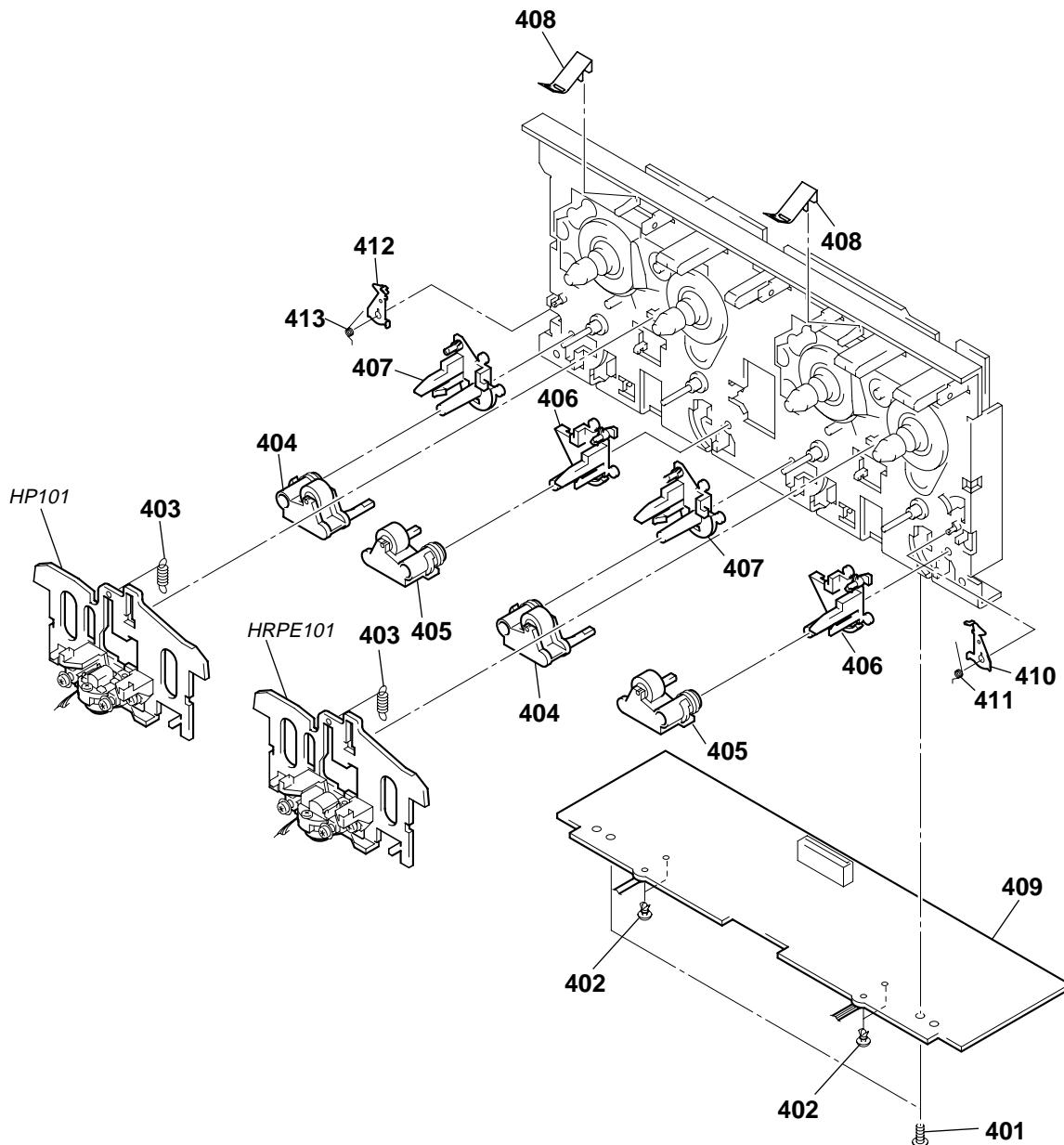


The components identified by mark △ or dotted line with mark △ are critical for safety.
Replace only with part number specified.

以阴影和△标志来识别的零部件，在安全方面具有关键性，因此只能以规定号码的零部件来更换。

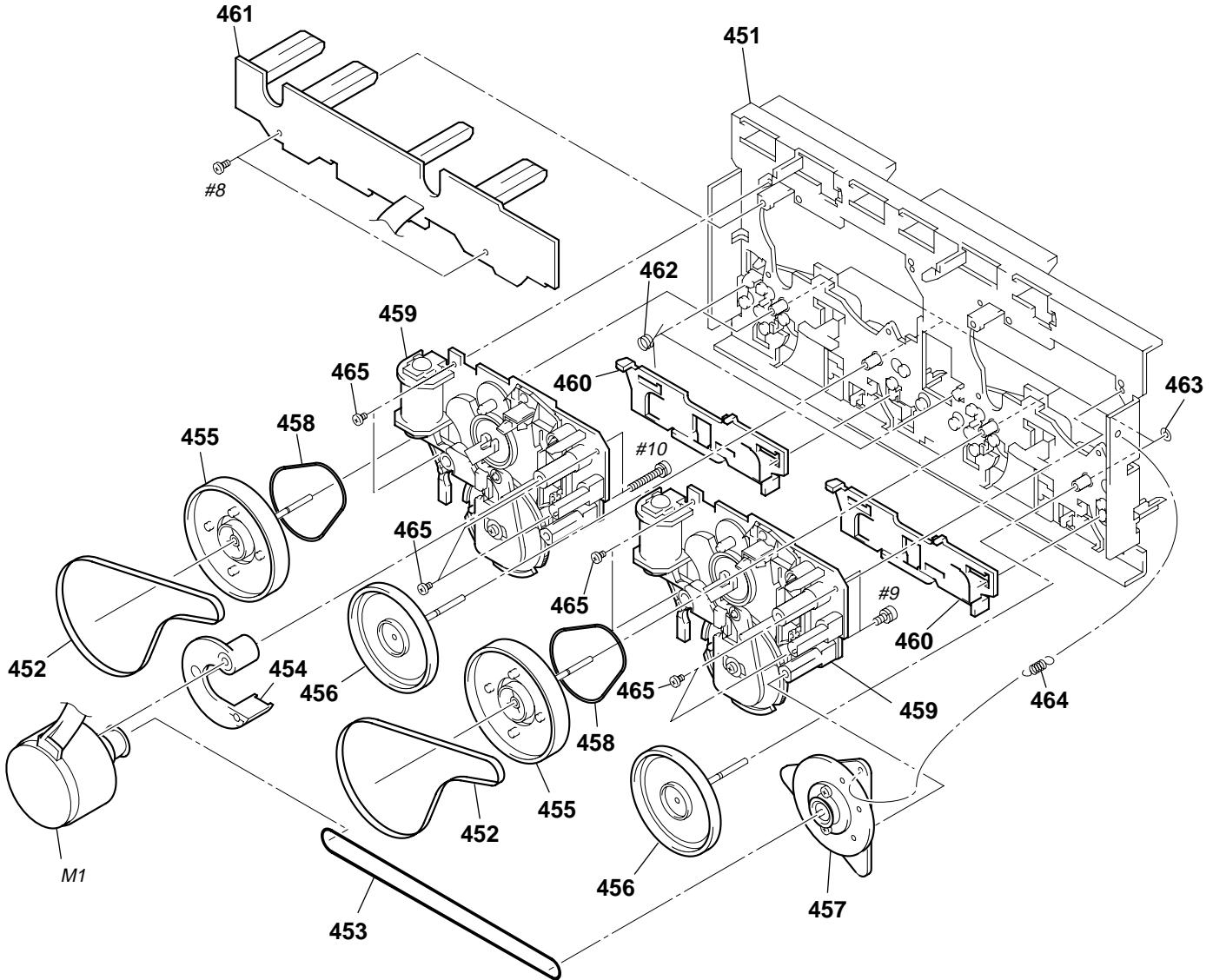
Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
△301	8-820-020-02	OPTICAL PICK-UP KSS-213D/Q-NP		306	4-917-564-01	GEAR (P), FLATNESS	
302	1-769-069-11	WIRE (FLAT TYPE) (16 CORE)		307	A-4724-925-A	BD BOARD, COMPLETE	
303	4-917-567-21	GEAR (M)		308	4-951-620-01	SCREW (2.6X8), +BVTP	
304	4-951-940-41	INSULATOR (BU)		309	3-713-786-51	SCREW +P 2X3	
305	4-917-565-01	SHAFT, SLED		M101	X-4917-523-3	MOTOR ASSY (SPINDLE)	
				M102	X-4917-504-1	MOTOR ASSY (SLED)	

7-7. TC MECHANISM SECTION-1 (TCM230AWR2/230PWR2)



Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
401	3-376-464-11	SCREW(+PTT 2.6X6), GROUND POINT		411	3-032-810-02	SPRING (R), TORSION	
402	3-911-116-42	RIVET, PUSH		412	3-016-572-01	LEVER (EJECT PREVENTION L)	
403	3-016-574-11	SPRING (HEAD), TENSION		413	3-032-809-02	SPRING (L), TORSION	
404	X-3374-156-4	PINCH LEVER (REV) ASSY		HP101	A-2056-681-B	DECK (A) ASSY, HEAD	
405	X-3374-155-4	PINCH LEVER (FWD) ASSY		HRPE101	A-2056-682-B	DECK (B) ASSY, HEAD	
406	3-016-564-01	BASE (PINCH LEVER FWD)					
407	3-016-565-01	BASE (PINCH LEVER REV)					
408	3-026-892-01	SPRING (CASSETTE), LEAF					
409	A-2007-731-A	AUDIO BOARD, COMPLETE					
410	3-016-573-03	LEVER (EJECT PREVENTION R)					

7-8. TC MECHANISM SECTION-2 (TCM230AWR2)



Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
* 451	X-3374-214-4	CHASSIS ASSY, MAIN		461	A-2007-732-A	LEAF SW BOARD, COMPLETE	
452	3-016-570-01	BELT (CAPSTAN)		462	3-016-575-11	SPRING, TORSION	
453	3-016-569-01	BELT (TENSION)		463	3-019-208-01	WASHER, STOPPER	
454	3-017-360-01	BRACKET (MOTOR)		464	3-027-453-01	SPRING (GROUND), TENSION	
455	X-3376-497-3	FLYWHEEL (FWD) ASSY		465	3-030-823-01	SCREW (+BVTT) (2X3.5)	
456	X-3374-235-1	FLYWHEEL (REV) ASSY		M1	A-2004-628-A	MOTOR ASSY, CAPSTAN	
457	X-3374-238-1	PULLEY ASSY, TENSION					
458	3-024-405-01	BELT (FR2)					
459	A-2004-629-A	MECHANICAL BLOCK ASSY					
460	3-016-566-01	SLIDER, REVERSE					

3CH AMP

AUDIO

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark				
R1089	1-260-076-11	CARBON	10 5%	1/2W	L331	1-410-780-11	INDUCTOR	27mH			
		< THERMISTOR >		L431	1-410-780-11	INDUCTOR	27mH				
TH1021	1-807-796-11	THERMISTOR		L601	1-414-193-41	INDUCTOR	220uH				
				L602	1-414-193-41	INDUCTOR	220uH				

A-2007-731-A AUDIO BOARD, COMPLETE *****											
< CAPACITOR >											
C301	1-162-289-31	CERAMIC	390PF	10%	50V	R301	1-247-881-00	CARBON	120K	5%	1/4W
C302	1-126-968-11	ELECT	100uF	20%	6.3V	R302	1-249-409-11	CARBON	220	5%	1/4W F
C303	1-162-282-31	CERAMIC	100PF	10%	50V	R303	1-249-433-11	CARBON	22K	5%	1/4W
C304	1-130-483-00	MYLAR	0.01uF	5%	50V	R304	1-247-889-00	CARBON	270K	5%	1/4W
C305	1-107-715-11	ELECT	22uF	20%	16V	R305	1-247-858-11	CARBON	13K	5%	1/4W
C311	1-162-289-31	CERAMIC	390PF	10%	50V	R311	1-247-881-00	CARBON	120K	5%	1/4W
C313	1-162-282-31	CERAMIC	100PF	10%	50V	R312	1-247-807-31	CARBON	100	5%	1/4W
C314	1-130-487-00	MYLAR	0.022uF	5%	50V	R314	1-247-882-11	CARBON	130K	5%	1/4W
C315	1-126-233-11	ELECT	22uF	20%	50V	R315	1-247-850-11	CARBON	6.2K	5%	1/4W
C331	1-137-427-11	MYLAR	120PF	5%	50V	R331	1-249-430-11	CARBON	12K	5%	1/4W
C332	1-162-288-31	CERAMIC	330PF	10%	50V	R401	1-247-881-00	CARBON	120K	5%	1/4W
C333	1-162-209-31	CERAMIC	27PF	5%	50V	R402	1-249-409-11	CARBON	220	5%	1/4W F
C401	1-162-289-31	CERAMIC	390PF	10%	50V	R403	1-249-433-11	CARBON	22K	5%	1/4W
C402	1-126-968-11	ELECT	100uF	20%	6.3V	R404	1-247-889-00	CARBON	270K	5%	1/4W
C403	1-162-282-31	CERAMIC	100PF	10%	50V	R405	1-247-858-11	CARBON	13K	5%	1/4W
C404	1-130-483-00	MYLAR	0.01uF	5%	50V	R411	1-247-881-00	CARBON	120K	5%	1/4W
C405	1-107-715-11	ELECT	22uF	20%	16V	R412	1-247-807-31	CARBON	100	5%	1/4W
C411	1-162-289-31	CERAMIC	390PF	10%	50V	R414	1-247-882-11	CARBON	130K	5%	1/4W
C413	1-162-282-31	CERAMIC	100PF	10%	50V	R415	1-247-850-11	CARBON	6.2K	5%	1/4W
C414	1-130-487-00	MYLAR	0.022uF	5%	50V	R431	1-249-430-11	CARBON	12K	5%	1/4W
C415	1-126-233-11	ELECT	22uF	20%	50V	R601	1-249-409-11	CARBON	220	5%	1/4W F
C431	1-137-427-11	MYLAR	120PF	5%	50V	R602	1-249-409-11	CARBON	220	5%	1/4W F
C432	1-162-288-31	CERAMIC	330PF	10%	50V	R608	1-249-409-11	CARBON	220	5%	1/4W F
C433	1-162-209-31	CERAMIC	27PF	5%	50V	R609	1-249-433-11	CARBON	22K	5%	1/4W
C601	1-104-396-11	ELECT	10uF	20%	16V	R611	1-249-409-11	CARBON	220	5%	1/4W F
C602	1-104-396-11	ELECT	10uF	20%	16V	R612	1-249-409-11	CARBON	220	5%	1/4W F
C611	1-104-396-11	ELECT	10uF	20%	16V	△R621	1-212-851-00	FUSIBLE	5.6	5%	1/4W F
C612	1-104-396-11	ELECT	10uF	20%	16V	△R622	1-212-851-00	FUSIBLE	5.6	5%	1/4W F
C621	1-137-150-11	FILM	0.01uF	5%	100V	R623	1-249-432-11	CARBON	18K	5%	1/4W
C622	1-126-961-11	ELECT	2.2uF	20%	50V	R624	1-249-432-11	CARBON	18K	5%	1/4W
C623	1-136-155-00	FILM	0.015uF	5%	50V	R625	1-249-429-11	CARBON	10K	5%	1/4W
C624	1-130-481-00	MYLAR	0.0068uF	5%	50V						
C625	1-130-481-00	MYLAR	0.0068uF	5%	50V						
C627	1-124-903-11	ELECT	1uF	20%	50V						
C628	1-136-153-00	FILM	0.01uF	5%	50V	RV301	1-238-598-11	RES, ADJ, CARBON 2.2K (B DECK PB LEVEL L)			
C642	1-104-664-11	ELECT	47uF	20%	16V	RV311	1-238-598-11	RES, ADJ, CARBON 2.2K (A DECK PB LEVEL L)			
		< CONNECTOR >			RV341	1-241-768-11	RES, ADJ, CARBON 220K (REC BIAS L)				
CN601	1-695-338-11	PIN, CONNECTOR (PC BOARD) 15P			RV401	1-238-598-11	RES, ADJ, CARBON 2.2K (B DECK PB LEVEL R)				
		< IC >			RV411	1-238-598-11	RES, ADJ, CARBON 2.2K (A DECK PB LEVEL R)				
IC601	8-759-111-44	IC uPC4570C-1									
IC602	8-759-143-54	IC uPC1330HA									
IC611	8-759-111-44	IC uPC4570C-1									

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LEAF SW**MAIN**

<u>Ref. No.</u>	<u>Part No.</u>	<u>Description</u>	<u>Remark</u>		<u>Ref. No.</u>	<u>Part No.</u>	<u>Description</u>	<u>Remark</u>							
R877	1-260-076-11	CARBON	10		5%		1/2W		< RESISTOR >						
R878	1-260-076-11	CARBON	10		5%		1/2W								
R879	1-260-076-11	CARBON	10		5%		1/2W								
R881	1-249-429-11	CARBON	10K		5%		1/4W								
R882	1-249-437-11	CARBON	47K		5%		1/4W								
R883	1-249-429-11	CARBON	10K		5%		1/4W								
R884	1-249-441-11	CARBON	100K		5%		1/4W								
<u>△ R885</u>	1-216-457-00	METAL OXIDE	1.2K		5%		2W F								
	1-249-429-11	CARBON	10K		5%		1/4W								
	1-249-437-11	CARBON	47K		5%		1/4W								
R888	1-249-429-11	CARBON	10K		5%		1/4W								
R889	1-249-441-11	CARBON	100K		5%		1/4W								
<u>△ R890</u>	1-216-457-00	METAL OXIDE	1.2K		5%		2W F								
	1-249-429-11	CARBON	10K		5%		1/4W								
	1-249-437-11	CARBON	47K		5%		1/4W								
R893	1-249-429-11	CARBON	10K		5%		1/4W								
R894	1-249-441-11	CARBON	100K		5%		1/4W								
<u>△ R895</u>	1-216-457-00	METAL OXIDE	1.2K		5%		2W F								
	1-249-433-11	CARBON	22K		5%		1/4W								
	1-249-433-11	CARBON	22K		5%		1/4W								
< RELAY >															
RY881	1-755-168-11	RELAY													
RY882	1-515-920-11	RELAY (24V)													
RY883	1-515-920-11	RELAY (24V)													
< TERMINAL >															
TM801	1-537-842-11	TERMINAL BOARD (FRONT SPEAKER)													
TM802	1-537-510-31	TERMINAL BOARD (SPEAKER) (6P) (SURROUND SPEAKER)													

A-2007-732-A LEAF SW BOARD, COMPLETE															

< CAPACITOR >															
<p>C1001 1-107-716-11 ELECT 33uF 20% 10V</p> <p>< CONNECTOR ></p> <p>CN1001 1-784-459-11 CONNECTOR, FFC/FPC 17P</p> <p>< DIODE ></p> <p>D1001 8-719-911-19 DIODE 1SS133T-72</p> <p>D1002 8-719-911-19 DIODE 1SS133T-72</p> <p>< CABLE HOLDER ></p> <p>* DM1001 1-784-581-11 HOLDER, CABLE (2.5MM PITCH) 4P</p> <p>< IC ></p> <p>IC1001 8-749-014-38 PHOTO INTERRUPTER SG-264</p> <p>IC1002 8-749-014-38 PHOTO INTERRUPTER SG-264</p> <p>< TRANSISTOR ></p> <p>Q1001 8-729-029-56 TRANSISTOR DTA144ESA</p>															
< CAPACITOR >															
<p>C101 1-163-001-11 CERAMIC CHIP 220PF 10% 50V</p> <p>C102 1-163-001-11 CERAMIC CHIP 220PF 10% 50V</p> <p>C103 1-163-001-11 CERAMIC CHIP 220PF 10% 50V</p> <p>C104 1-163-038-91 CERAMIC CHIP 0.1uF 25V</p> <p>C111 1-137-195-11 MYLAR 0.56uF 5% 50V</p> <p>C112 1-136-158-00 MYLAR 0.027uF 5% 50V</p> <p>C113 1-136-167-00 MYLAR 0.15uF 5% 50V</p> <p>C114 1-130-480-00 MYLAR 0.0056uF 5% 50V</p> <p>C115 1-136-159-00 MYLAR 0.033uF 5% 50V</p> <p>C116 1-130-473-00 MYLAR 0.0015uF 5% 50V</p> <p>C117 1-136-153-00 FILM 0.01uF 5% 50V</p> <p>C118 1-110-341-11 MYLAR 330PF 5% 50V</p> <p>C119 1-130-479-00 MYLAR 0.0047uF 5% 50V</p> <p>C120 1-130-477-00 MYLAR 0.0033uF 5% 50V</p> <p>C121 1-126-964-11 ELECT 10uF 20% 50V</p> <p>C122 1-163-006-11 CERAMIC CHIP 560PF 10% 50V</p> <p>C123 1-136-169-00 MYLAR 0.22uF 5% 50V</p> <p>C124 1-136-169-00 MYLAR 0.22uF 5% 50V</p> <p>C125 1-126-964-11 ELECT 10uF 20% 50V</p> <p>C127 1-136-153-00 FILM 0.01uF 5% 50V</p> <p>C128 1-136-495-11 MYLAR 0.068uF 5% 50V</p> <p>C131 1-104-664-11 ELECT 47uF 20% 16V</p> <p>C132 1-104-664-11 ELECT 47uF 20% 16V</p> <p>C134 1-126-964-11 ELECT 10uF 20% 50V</p> <p>C141 1-126-959-11 ELECT 0.47uF 20% 50V</p>															

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以阴影和 ▲ 标志来识别的零部件，在安全方面具有关键性。因此只能以规定号码的零部件来更换。

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
D932	8-719-988-61	DIODE 1SS355TE-17		Q502	8-729-029-40	TRANSISTOR	DTA124ESA-TP
D3001	8-719-200-82	DIODE 11ES2-TB5		Q503	8-729-029-40	TRANSISTOR	DTA124ESA-TP
		< IC >		Q901	8-729-209-15	TRANSISTOR	2SD2012
IC101	8-759-571-54	IC M62493FP		Q902	8-729-119-78	TRANSISTOR	2SC2785TP-HFE
IC201	8-759-571-51	IC M62464FP		Q903	8-729-119-78	TRANSISTOR	2SC2785TP-HFE
IC301	8-759-495-26	IC HA12215F		Q904	8-729-029-86	TRANSISTOR	DTC124ESA-TP
IC421	8-749-923-04	IC TOTX178A		Q905	8-729-029-86	TRANSISTOR	DTC124ESA-TP
IC501	8-759-639-96	IC M30622MA-A16FP		Q906	8-729-040-20	TRANSISTOR	RT1P137L-TP
IC502	8-759-635-63	IC M51943BSL-TP		Q906	8-729-049-79	TRANSISTOR	RTIP137S-TP
IC901	8-759-231-53	IC M5F7805L		Q907	8-729-029-86	TRANSISTOR	DTC124ESA-TP
IC902	8-759-604-86	IC M5F7807L		Q910	8-729-026-68	TRANSISTOR	2SD2525(TP)
IC903	8-759-604-32	IC M5F7810L		Q913	8-729-040-20	TRANSISTOR	RT1P137L-TP
IC904	8-759-701-79	IC NJM7812FA		Q914	8-729-029-86	TRANSISTOR	DTC124ESA-TP
IC905	8-759-231-53	IC M5F7805L		Q915	8-729-141-83	TRANSISTOR	2SB1375
		< JACK >		Q916	8-729-900-36	TRANSISTOR	BA1F4M-TP
J101	1-774-411-11	JACK, PIN 6P (VIDEO (AUDIO)/MD IN, OUT)		Q951	8-729-141-83	TRANSISTOR	2SB1375
J102	1-779-599-11	JACK, PIN 6P (DVD INPUT)		Q952	8-729-119-76	TRANSISTOR	2SA1175TP-HFE
J191	1-774-785-11	JACK, PIN 1P (WOOFER OUT)		Q953	8-729-119-76	TRANSISTOR	2SA1175TP-HFE
		< COIL >					< RESISTOR >
L421	1-410-482-31	INDUCTOR	100uH	R101	1-216-049-91	RES,CHIP	1K 5% 1/10W
L501	1-410-470-11	INDUCTOR	10uH	R102	1-216-049-91	RES,CHIP	1K 5% 1/10W
		< TRANSISTOR >		R103	1-216-049-91	RES,CHIP	1K 5% 1/10W
Q111	8-729-029-86	TRANSISTOR	DTC124ESA-TP	R111	1-216-057-00	METAL CHIP	2.2K 5% 1/10W
Q112	8-729-620-05	TRANSISTOR	2SC2603TP-EF	R112	1-216-073-00	METAL CHIP	10K 5% 1/10W
Q113	8-729-620-05	TRANSISTOR	2SC2603TP-EF				
Q114	8-729-141-30	TRANSISTOR	2SC3623ATP-LK	R113	1-216-295-91	SHORT	0
Q161	8-729-029-86	TRANSISTOR	DTC124ESA-TP	R114	1-216-113-00	METAL CHIP	470K 5% 1/10W
Q162	8-729-620-05	TRANSISTOR	2SC2603TP-EF	R115	1-216-112-00	RES,CHIP	430K 5% 1/10W
Q163	8-729-620-05	TRANSISTOR	2SC2603TP-EF	R116	1-216-106-00	METAL CHIP	240K 5% 1/10W
Q164	8-729-141-30	TRANSISTOR	2SC3623ATP-LK	R117	1-216-045-00	METAL CHIP	680 5% 1/10W
Q191	8-729-141-30	TRANSISTOR	2SC3623ATP-LK				
Q281	8-729-141-30	TRANSISTOR	2SC3623ATP-LK	R118	1-216-081-00	METAL CHIP	22K 5% 1/10W
Q282	8-729-141-30	TRANSISTOR	2SC3623ATP-LK	R119	1-216-105-91	RES,CHIP	220K 5% 1/10W
Q291	8-729-141-30	TRANSISTOR	2SC3623ATP-LK	R120	1-216-073-00	METAL CHIP	10K 5% 1/10W
Q371	8-729-118-00	TRANSISTOR	2SB1116-TP-LK	R121	1-216-089-91	RES,CHIP	47K 5% 1/10W
Q372	8-729-029-66	TRANSISTOR	DTC114ESA-TP	R122	1-216-057-00	METAL CHIP	2.2K 5% 1/10W
Q373	8-729-118-00	TRANSISTOR	2SB1116-TP-LK				
Q374	8-729-029-66	TRANSISTOR	DTC114ESA-TP	R123	1-216-097-91	RES,CHIP	100K 5% 1/10W
Q375	8-729-029-66	TRANSISTOR	DTC114ESA-TP	R124	1-216-073-00	METAL CHIP	10K 5% 1/10W
Q376	8-729-116-59	TRANSISTOR	2SB1068TP	R125	1-216-061-00	METAL CHIP	3.3K 5% 1/10W
Q377	8-729-045-21	TRANSISTOR	2SD1513TP-LK	R126	1-216-057-00	METAL CHIP	2.2K 5% 1/10W
Q378	8-729-029-21	TRANSISTOR	DTA114ESA-TP	R128	1-216-121-91	RES,CHIP	1M 5% 1/10W
Q379	8-729-029-66	TRANSISTOR	DTC114ESA-TP	R131	1-216-025-91	RES,CHIP	100 5% 1/10W
Q380	8-729-116-59	TRANSISTOR	2SB1068TP	R132	1-216-025-91	RES,CHIP	100 5% 1/10W
Q381	8-729-045-21	TRANSISTOR	2SD1513TP-LK	R133	1-216-025-91	RES,CHIP	100 5% 1/10W
Q382	8-729-029-21	TRANSISTOR	DTA114ESA-TP	R141	1-216-081-00	METAL CHIP	22K 5% 1/10W
Q383	8-729-029-66	TRANSISTOR	DTC114ESA-TP	R142	1-216-081-00	METAL CHIP	22K 5% 1/10W
Q411	8-729-141-30	TRANSISTOR	2SC3623ATP-LK				
Q421	8-729-029-40	TRANSISTOR	DTA124ESA-TP	R143	1-216-049-91	RES,CHIP	1K 5% 1/10W
Q431	8-729-111-29	TRANSISTOR	2SD1616-TP-LK	R144	1-216-097-91	RES,CHIP	100K 5% 1/10W
Q432	8-729-119-76	TRANSISTOR	2SA1175TP-HFE	R145	1-216-121-91	RES,CHIP	1M 5% 1/10W
Q461	8-729-141-30	TRANSISTOR	2SC3623ATP-LK	R151	1-216-049-91	RES,CHIP	1K 5% 1/10W
Q501	8-729-620-05	TRANSISTOR	2SC2603TP-EF	R152	1-216-049-91	RES,CHIP	1K 5% 1/10W
				R153	1-216-049-91	RES,CHIP	1K 5% 1/10W
				R161	1-216-057-00	METAL CHIP	2.2K 5% 1/10W
				R162	1-216-073-00	METAL CHIP	10K 5% 1/10W
				R163	1-216-295-91	SHORT	0
				R164	1-216-113-00	METAL CHIP	470K 5% 1/10W
				R165	1-216-112-00	RES,CHIP	430K 5% 1/10W
				R166	1-216-106-00	METAL CHIP	240K 5% 1/10W
				R167	1-216-045-00	METAL CHIP	680 5% 1/10W

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
C713	1-126-160-11	ELECT	1uF 20% 50V			< GROUND PLATE >	
C714	1-136-495-11	MYLAR	0.068uF 5% 50V				
C715	1-124-465-00	ELECT	0.47uF 20% 50V		*	EP601 1-537-738-21	TERMINAL, EARTH
C716	1-124-465-00	ELECT	0.47uF 20% 50V			< FERRITE BEAD >	
C717	1-136-167-00	MYLAR	0.15uF 5% 50V				
C718	1-162-294-31	CERAMIC	0.001uF 10% 50V		FB601	1-412-473-21	INDUCTOR Ouh
C719	1-126-160-11	ELECT	1uF 20% 50V		FB602	1-412-473-21	INDUCTOR Ouh
C720	1-161-494-00	CERAMIC	0.022uF 25V				< FLUORESCENT TUBE >
C721	1-162-305-11	CERAMIC	0.0068uF 30% 16V				
C722	1-136-495-11	MYLAR	0.068uF 5% 50V		FL601	1-517-831-31	INDICATOR TUBE, FLUORESCENT
C723	1-124-589-11	ELECT	47uF 20% 16V				< IC >
C724	1-136-165-00	MYLAR	0.1uF 5% 50V				
C725	1-124-589-11	ELECT	47uF 20% 16V		IC601	8-759-589-14	IC TMP88CS76F-6010
C726	1-162-306-11	CERAMIC	0.01uF 30% 16V		IC602	8-749-011-05	IC GP1U28X (REMOCON CONTROL RECEIVER)
C727	1-124-257-00	ELECT	2.2uF 20% 50V		IC603	8-759-570-21	IC BA3830F
C728	1-162-294-31	CERAMIC	0.001uF 10% 50V		IC604	8-759-587-81	IC NJU3716M-T2
C729	1-162-215-31	CERAMIC	47PF 5% 50V		IC711	8-759-496-40	IC M65850FP
C730	1-124-261-00	ELECT	10uF 20% 50V				
C731	1-162-290-31	CERAMIC	470PF 10% 50V		IC712	8-759-636-55	IC M5218Afp
C732	1-124-463-00	ELECT	0.1uF 20% 50V				< JACK >
C733	1-124-257-00	ELECT	2.2uF 20% 50V		J701	1-785-569-11	JACK (SMALL TYPE) (PHONES)
C734	1-162-215-31	CERAMIC	47PF 5% 50V		J711	1-785-569-11	JACK (SMALL TYPE) (MIC2)
C735	1-124-261-00	ELECT	10uF 20% 50V		J712	1-785-569-11	JACK (SMALL TYPE) (MIC1)
C736	1-162-282-31	CERAMIC	100PF 10% 50V				< COIL >
C737	1-124-257-00	ELECT	2.2uF 20% 50V		L601	1-410-509-11	INDUCTOR 10uH
C738	1-162-306-11	CERAMIC	0.01uF 30% 16V		L602	1-410-517-11	INDUCTOR 47uH
C739	1-124-257-00	ELECT	2.2uF 20% 50V				
C740	1-164-159-11	CERAMIC	0.1uF 50V				
< CONNECTOR >							
CN601	1-784-745-11	CONNECTOR, FFC 23P					
< DIODE >							
D610	8-719-050-84	DIODE RB441Q-40T-72			Q601	8-729-118-00	TRANSISTOR 2SB1116-L
D611	8-719-073-47	DIODE SML72923C-TP15 (REC/PAUSE START)			Q602	8-729-118-00	TRANSISTOR 2SB1116-L
D612	8-719-056-13	DIODE SML79423C-TP15 (►II CD)			Q603	8-729-119-78	TRANSISTOR 2SC403SP-51
D613	8-719-058-03	DIODE SEL5423E-TP15 (TAPE B ►)			Q604	8-729-422-57	TRANSISTOR UN4111
D614	8-719-058-03	DIODE SEL5423E-TP15 (TAPE B ◀)			Q605	8-729-422-57	TRANSISTOR UN4111
D615	8-719-058-03	DIODE SEL5423E-TP15 (TAPE A ►)			Q606	8-729-900-80	TRANSISTOR DTC114ES
D616	8-719-058-03	DIODE SEL5423E-TP15 (TAPE A ◀)			Q607	8-729-900-74	TRANSISTOR DTC143TS
D617	8-719-057-97	DIODE SEL5923A-TP15 (PBC OFF)			Q608	8-729-900-74	TRANSISTOR DTC143TS
D618	8-719-057-97	DIODE SEL5923A-TP15 (PBC)			Q609	8-729-900-74	TRANSISTOR DTC143TS
D619	8-719-057-97	DIODE SEL5923A-TP15 (SYNC BASE L)			Q610	8-729-900-74	TRANSISTOR DTC143TS
D620	8-719-057-97	DIODE SEL5923A-TP15 (SYNC BASE H)					
D621	8-719-057-97	DIODE SEL5923A-TP15 (SYNC EQ)			Q611	8-729-900-74	TRANSISTOR DTC143TS
D622	8-719-063-93	DIODE SLR325VC-N-T32 (EFFECT)			Q612	8-729-900-74	TRANSISTOR DTC143TS
D623	8-719-057-97	DIODE SEL5923A-TP15 (S VIDEO /VCD)			Q613	8-729-900-74	TRANSISTOR DTC143TS
D624	8-719-063-93	DIODE SLR325VC-N-T32 (NON STOP)					
D625	8-719-057-97	DIODE SEL5923A-TP15 (CIMEMA SPACE/DSP)					
D626	8-719-057-97	DIODE SEL5923A-TP15 (PRO LOGIC)					
D627	8-719-057-97	DIODE SEL5923A-TP15 (GROOVE)			R605	1-249-429-11	CARBON 10K 5% 1/4W
D628	8-719-063-93	DIODE SLR325VC-N-T32 (ENTERY NEXT)			R606	1-249-401-11	CARBON 47 5% 1/4W F
D629	8-719-063-93	DIODE SLR325VC-N-T32 (JOG ◀◀◀▶▶▶)			R607	1-247-893-11	CARBON 390K 5% 1/4W
D630	8-719-057-97	DIODE SEL5923A-TP15 (-◀◀)			R608	1-247-893-11	CARBON 390K 5% 1/4W
D631	8-719-057-97	DIODE SEL5923A-TP15 (+▶▶)			R609	1-249-441-11	CARBON 100K 5% 1/4W
D632	8-719-063-93	DIODE SLR325VC-N-T32 (TIMER SELECT)			R610	1-249-429-11	CARBON 10K 5% 1/4W
D701	8-719-109-85	DIODE MTZJ-T-72-5.1B			R611	1-249-441-11	CARBON 100K 5% 1/4W
					R612	1-249-401-11	CARBON 47 5% 1/4W F

PANEL	SENSOR	TRANS
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Ref. No.	Part No.	Description			Remark	Ref. No.	Part No.	Description		Remark
R735	1-249-420-11	CARBON	1.8K	5%	1/4W F	*	1-658-576-11	SENSOR BOARD	*****	
R741	1-249-421-11	CARBON	2.2K	5%	1/4W F					
R742	1-249-421-11	CARBON	2.2K	5%	1/4W F			< IC >		
R743	1-247-807-31	CARBON	100	5%	1/4W					
R768	1-249-417-11	CARBON	1K	5%	1/4W F	IC702	8-749-924-18	PHOTO INTERRUPTER RPI-1391		
R769	1-249-429-11	CARBON	10K	5%	1/4W	IC703	8-749-924-30	PHOTO REFLECTOR GP2S28		
					< VARIABLE RESISTOR >					
RV711	1-225-739-11	RES, VAR			CARBON 50K (ECHO LEVEL)	R701	1-249-416-11	CARBON	820	5% 1/4W F
RV712	1-225-739-11	RES, VAR			CARBON 50K (MIC LEVEL)	R702	1-249-407-11	CARBON	150	5% 1/4W F
					< SWITCH >					
S601	1-473-534-11	ENCODER, ROTARY (JOG 				*	1-672-369-11	TRANS BOARD	*****	
S602	1-473-392-11	ENCODER, ROTARY (VOLUME)								
S611	1-762-875-21	SWITCH, KEYBOARD (SYNC BASS)						1-533-217-31	HOLDER, FUSE	
S612	1-762-875-21	SWITCH, KEYBOARD (SYNC EQ)								
S613	1-762-875-21	SWITCH, KEYBOARD (KERAOK PON/MPX)								
S614	1-762-875-21	SWITCH, KEYBOARD (NON STOP)								
S615	1-762-875-21	SWITCH, KEYBOARD (CIMEMA SPACE/DSP)								
S616	1-762-875-21	SWITCH, KEYBOARD (DBFB)								
S617	1-762-875-21	SWITCH, KEYBOARD (ENTERY/NEXT)								
S618	1-762-875-21	SWITCH, KEYBOARD (+ ►►)								
S619	1-762-875-21	SWITCH, KEYBOARD (- ◀◀)								
S620	1-762-875-21	SWITCH, KEYBOARD (GROOVE)								
S621	1-762-875-21	SWITCH, KEYBOARD (FLASH)								
S622	1-762-875-21	SWITCH, KEYBOARD (REPEAT STEREO/MONO)								
S623	1-762-875-21	SWITCH, KEYBOARD (PLAY MODE DOLBY NR)								
S624	1-762-875-21	SWITCH, KEYBOARD (EDIT DIRECTION TUNER MEMORY)								
S625	1-762-875-21	SWITCH, KEYBOARD (REC PAUSE/START)								
S626	1-762-875-21	SWITCH, KEYBOARD (HI DUB)								
S627	1-762-875-21	SWITCH, KEYBOARD (CD SYNC)								
S628	1-762-875-21	SWITCH, KEYBOARD (LOOP)								
S629	1-762-875-21	SWITCH, KEYBOARD (DISPLAY)								
S630	1-762-875-21	SWITCH, KEYBOARD (SPECTRUM ANALYZER)								
S632	1-762-875-21	SWITCH, KEYBOARD (SELECT)								
S633	1-762-875-21	SWITCH, KEYBOARD (RETURN)								
S634	1-762-875-21	SWITCH, KEYBOARD (PREV)								
S635	1-762-875-21	SWITCH, KEYBOARD (NEXT)								
S636	1-762-875-21	SWITCH, KEYBOARD (DVD 5.1CH)								
S637	1-762-875-21	SWITCH, KEYBOARD (PRO LOGIC)								
S638	1-762-875-21	SWITCH, KEYBOARD (TIMER SELECT)								
S639	1-762-875-21	SWITCH, KEYBOARD (FILE MEMORY)								
S640	1-762-875-21	SWITCH, KEYBOARD (GEQ CONTROL)								
S641	1-762-875-21	SWITCH, KEYBOARD (FILE SELECT)								
S642	1-762-875-21	SWITCH, KEYBOARD (EFFECT)								
S643	1-762-875-21	SWITCH, KEYBOARD (TUNER/BAND)								
S644	1-762-875-21	SWITCH, KEYBOARD (CD ►►)								
S645	1-762-875-21	SWITCH, KEYBOARD (■)								
S646	1-762-875-21	SWITCH, KEYBOARD (TAPE B ◀◀)								
S647	1-762-875-21	SWITCH, KEYBOARD (TAPE B ►►)								
S648	1-762-875-21	SWITCH, KEYBOARD (TAPE A ◀◀)								
S649	1-762-875-21	SWITCH, KEYBOARD (TAPE A ►►)								
S650	1-762-875-21	SWITCH, KEYBOARD (FUNCTION)								
S651	1-762-875-21	SWITCH, KEYBOARD (CLOCK TIMER SET)								
					< VIBRATOR >					
X601	1-781-312-11	VIBRATOR,	CERAMIC (12.5MHz)							

The components identified by mark ▲ or dotted line with mark ▲ are critical for safety.
以阴影和▲标志来识别的零部件，在安全方面具有关键性，因此只能以规定号码的零部件来更换。

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
R609	1-216-017-91	RES,CHIP	47 5% 1/10W			MISCELLANEOUS	*****
R610	1-216-017-91	RES,CHIP	47 5% 1/10W				
R611	1-216-017-91	RES,CHIP	47 5% 1/10W				
R612	1-216-017-91	RES,CHIP	47 5% 1/10W	5	1-693-381-11	TUNER UNIT (FM/AM)	
R613	1-216-017-91	RES,CHIP	47 5% 1/10W	9	1-791-517-11	WIRE (FLAT TYPE) (15 CORE)	
				10	1-775-229-11	WIRE (FLAT TYPE) (25 CORE)	
R614	1-216-017-91	RES,CHIP	47 5% 1/10W	55	1-773-008-11	WIRE (FLAT TYPE) (15 CORE) (140 mm)	
R615	1-216-017-91	RES,CHIP	47 5% 1/10W	56	1-773-049-11	WIRE (FLAT TYPE) (17 CORE)	
R616	1-216-017-91	RES,CHIP	47 5% 1/10W	△ 59	1-782-464-21	CORD, POWER	
R617	1-216-017-91	RES,CHIP	47 5% 1/10W	62	1-773-023-11	WIRE (FLAT TYPE) (15 CORE) (310 mm)	
R618	1-216-017-91	RES,CHIP	47 5% 1/10W	116	1-773-189-11	WIRE (FLAT TYPE) (23 CORE)	
R619	1-216-017-91	RES,CHIP	47 5% 1/10W	121	1-674-232-11	PUSH CATCH STOP BOARD	
R620	1-216-017-91	RES,CHIP	47 5% 1/10W	257	1-452-925-21	MAGNET ASSY	
R621	1-216-017-91	RES,CHIP	47 5% 1/10W				
R622	1-216-017-91	RES,CHIP	47 5% 1/10W	258	1-776-042-11	WIRE (FLAT TYPE) (8 CORE)	
R623	1-216-017-91	RES,CHIP	47 5% 1/10W	△ 301	8-820-020-02	OPTICAL PICK-UP KSS-213D/Q-NP	
				302	1-769-069-11	WIRE (FLAT TYPE) (16 CORE)	
R624	1-216-017-91	RES,CHIP	47 5% 1/10W	FL601	1-517-831-31	INDICATOR TUBE, FLUORESCENT	
R625	1-216-017-91	RES,CHIP	47 5% 1/10W	HP101	A-2056-681-B	DECK (A) ASSY, HEAD	
R626	1-216-017-91	RES,CHIP	47 5% 1/10W				
R627	1-216-017-91	RES,CHIP	47 5% 1/10W	HRPE101A-2056-682-B	DECK (B) ASSY, HEAD		
R628	1-216-017-91	RES,CHIP	47 5% 1/10W	M1	A-2004-628-A	MOTOR ASSY, CAPSTAN	
R629	1-216-017-91	RES,CHIP	47 5% 1/10W	M101	X-4917-523-3	MOTOR ASSY (SPINDLE)	
R630	1-216-017-91	RES,CHIP	47 5% 1/10W	M102	X-4917-504-1	MOTOR ASSY (SLED)	
R631	1-216-017-91	RES,CHIP	47 5% 1/10W	M701	A-4672-004-A	MOTOR ASSY (TURN)	
R632	1-216-017-91	RES,CHIP	47 5% 1/10W	M801	A-4672-004-A	MOTOR ASSY (SLIDE)	
R633	1-216-017-91	RES,CHIP	47 5% 1/10W	M901	1-763-072-11	FAN, D.C.	
R634	1-216-017-91	RES,CHIP	47 5% 1/10W	S811	1-473-335-11	ENCODER, ROTARY	
R635	1-216-017-91	RES,CHIP	47 5% 1/10W	△ T951	1-433-555-21	TRANSFORMER, POWER	
R636	1-216-017-91	RES,CHIP	47 5% 1/10W				
R637	1-216-017-91	RES,CHIP	47 5% 1/10W				
R638	1-216-017-91	RES,CHIP	47 5% 1/10W				
R639	1-216-017-91	RES,CHIP	47 5% 1/10W			HARDWARE LIST	*****
R640	1-216-017-91	RES,CHIP	47 5% 1/10W	#1	7-685-871-01	SCREW +BVTT 3X6 (S)	
R641	1-216-017-91	RES,CHIP	47 5% 1/10W	#2	7-685-646-79	SCREW +BVTP 3X8 TYPE2 N-S	
R642	1-216-017-91	RES,CHIP	47 5% 1/10W	#3	7-685-881-09	SCREW +BVTT 4X8 (S)	
R643	1-216-017-91	RES,CHIP	47 5% 1/10W	#4	7-685-650-79	SCREW +BVTP 3X16 TYPE2 IT-3	
R644	1-216-017-91	RES,CHIP	47 5% 1/10W	#5	7-685-852-04	SCREW +BVTT 2X5 (S)	
R645	1-216-017-91	RES,CHIP	47 5% 1/10W	#6	7-621-775-10	SCREW +B 2.6X4	
R646	1-216-017-91	RES,CHIP	47 5% 1/10W	#7	7-685-872-09	SCREW +BVTT 3X8 (S)	
R1517	1-216-033-00	METAL CHIP	220 5% 1/10W	#8	7-685-851-04	SCREW +BVTT 2X4 (S)	
R1518	1-216-033-00	METAL CHIP	220 5% 1/10W	#9	7-628-254-15	SCREW +PS 2.6X6	
R1519	1-216-033-00	METAL CHIP	220 5% 1/10W	#10	7-628-254-50	SCREW +PS 2.6X16	
R1520	1-216-033-00	METAL CHIP	220 5% 1/10W	#11	7-685-861-01	SCREW +BVTT 2.6X5 (S)	
R1521	1-216-033-00	METAL CHIP	220 5% 1/10W	#12	7-685-647-79	SCREW +BVTP 3X10 TYPE2 N-S	
R1522	1-216-033-00	METAL CHIP	220 5% 1/10W				
R1523	1-216-033-00	METAL CHIP	220 5% 1/10W				
R1524	1-216-033-00	METAL CHIP	220 5% 1/10W				
< SWITCH >							
S501	1-571-395-11	SWITCH, SLIDE (SYSTEM SELECT)					
< VIBRATOR >							
X501	1-767-510-11	VIBRATOR, CERAMIC (10MHz)					
X503	1-767-519-11	VIBRATOR, CRYSTAL (27MHz)					

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

以阴影和 △ 标志来识别的零部件，在安全方面具有关键性，因此只能以规定号码的零部件来更换。