

HCD-VX90AV

SERVICE MANUAL


E Model



HCD-VX90AV is the tuner, deck, CD and amplifier section in MHC-VX90AV.

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	HCD-GRX80/RXD8/RXD8S
	CD Mechanism Type	CDM38L-5BD34L
	Base Unit Type	BU-5BD34L
	Optical Pick-up Type	KSS-213D/Q-NP
TAPE DECK SECTION	Model Name Using Similar Mechanism	HCD-GRX80/RXD8/RXD8S
	Tape Transport Mechanism Type	TCM-230AWR2/230PWR2

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: voltage 450 mV,
impedance 47 kilohms
VIDEO (AUDIO) IN:
(phono jacks) voltage 250 mV,
impedance 47 kilohms

DVD INPUT:
FRONT IN: voltage 450 mV,
(phono jacks) impedance 47 kilohms
REAR IN: voltage 450 mV,
(phono jacks) impedance 47 kilohms
CENTER IN: voltage 450 mV,
(phono jacks) impedance 47 kilohms
WOOFER IN: voltage 450 mV,
(phono jacks) 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

VIDEO CD/CD player section

System Compact disc and digital
audio and video system

Laser Semiconductor laser
($\lambda=780\text{nm}$)
Emission duration:
continuous

Laser output 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

Wavelength 780 - 790 nm

Frequency response 2 Hz - 20 kHz ($\pm 0.5\text{dB}$)

Signal-to noise ratio More than 90 dB

Dynamic range More than 90 dB

Video color system format

NTSC, PAL
CD OPTICAL DIGITAL OUT
(Square optical connector jack, rear panel)
Wavelength 660 nm
Output Level -18 dBm

— Continued on next page —

COMPACT DISC DECK RECEIVER

SONY®



Tape player section

Recording system 4-track 2-channel stereo
 Frequency response 40 – 13,000 Hz (± 3 dB),
 (DOLBY NR OFF) using Sony TYPE I
 cassette
 40 – 14,000 Hz (± 3 dB),
 using Sony TYPE II
 cassette

Tuner section

FM stereo, FM/AM superheterodyne tuner

FM tuner section

Tuning range 87.5 – 108.0 MHz
 Antenna FM lead antenna
 Antenna terminals 75 ohm unbalanced
 Intermediate frequency 10.7 MHz

AM tuner section

Tuning range 531 – 1,602 kHz
 2 Band type: (with the interval set at 9
 kHz)
 530 – 1,710 kHz
 (with the interval set at 10
 kHz)

3 Band type:
 Middle Eastern models:
 MW:

531 – 1,602 kHz
 (with the interval set at 9
 kHz)
 5.95 – 17.90 MHz
 (with the interval set at 5
 kHz)

SW:
 Other models:
 MW:

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)

Antenna
 Antenna terminals
 Intermediate frequency

AM loop antenna
 External antenna terminal
 450 kHz

General

Power requirements
 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

Power consumption: 240 watts

Dimensions (w/h/d) Approx. 280 x 340 x 395 mm
 (13¹/₈ x 13¹/₂ x 15⁵/₈ in.)

Mass: Approx. 12.4 kg

Supplied accessories: AM loop antenna (1)
 Remote commander (1)
 Batteries (2)
 FM lead antenna (1)
 Speaker cords (5)
 Video cable (1)
 Front speaker pads (8)
 Center speaker pads (4)

Design and specifications are subject to change
 without notice.

CAUTION

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

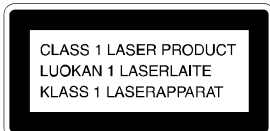
Notes on chip component replacement

- 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.

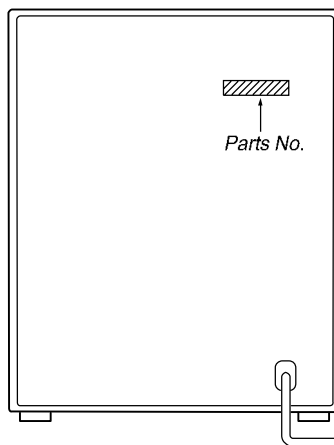


This appliance is classified as
 a CLASS 1 LASER product.
 The CLASS 1 LASER PROD-
 UCT MARKING is located on
 the rear exterior.

SAFETY-RELATED COMPONENT WARNING !!

COMPONENTS IDENTIFIED BY MARK Δ OR DOTTED LINE
 WITH MARK Δ 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.

MODEL IDENTIFICATION — BACK PANEL —



PARTS No.	MODEL
4-215-642-1□	EA, MY, SP model
4-215-642-3□	IA model
4-215-642-4□	E model
4-215-642-5□	TH model

• Abbreviation

- SP : Singapore model
- MY : Malaysia model
- IA : Indonesia model
- TH : Thai model
- EA : Saudi arabia model

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

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

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

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

NOTES ON LASER DIODE EMISSION CHECK

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

LASER DIODE AND FOCUS SEARCH OPERATION CHECK

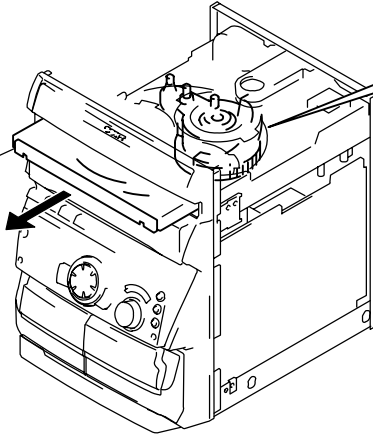
Carry out the “S curve check” in “CD section adjustment” and check that the S curve waveform is output four times.

SECTION 1 SERVICING NOTE

HOW TO OPEN THE DISC TRAY WHEN POWER SWITCH TURNS OFF

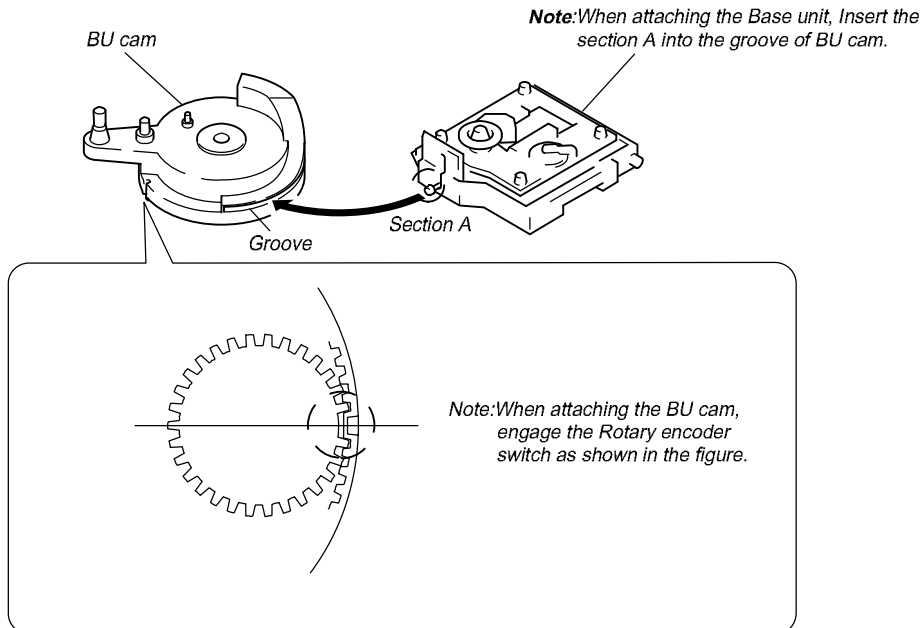
① Remove the Case.

③ Pull-out the disc tray.



② Turn the cam to the direction
of arrow.

Note for Installation (ROTARY ENCODER)



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.

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 **[△]** 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:

1. Press the  button to turn the unit ON.
2. Set the tape (AMS-110A).
3. Press the three buttons , **ENTER/NEXT**, and **DISC 3** button simultaneously.
4. "TEST MODE" is displayed on the fluorescent display tube.
5. Press the **FUNCTION** button and switch the function to the deck with the tape (AMS-110A).
6. Press the **CD SYNC** button. "AMS CHECK" is displayed on the fluorescent display tube and the tape is rewound.
7. 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.
8. 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.

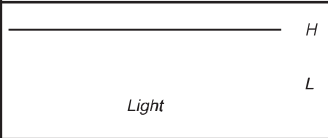
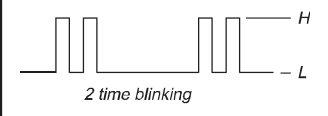
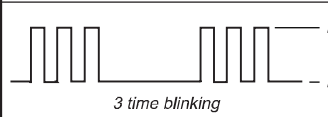
Note: The  button of CD section will become effective and the aging of CD section will stop sometime, if the buttons described in step 3 are not pressed simultaneously. In that case, press  button and operate the CD section.

SELF-DIAGNOSIS

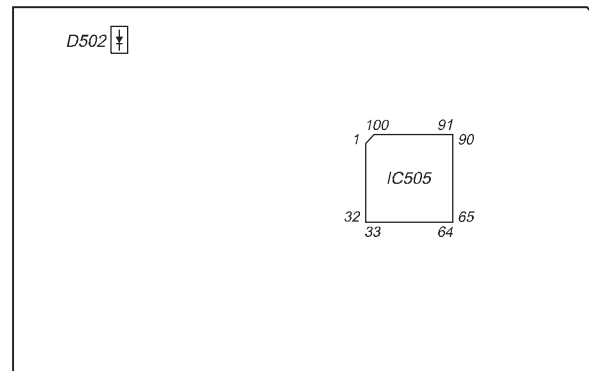
This model has the self-diagnosis function for the VIDEO and AUDIO decoder sections.

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

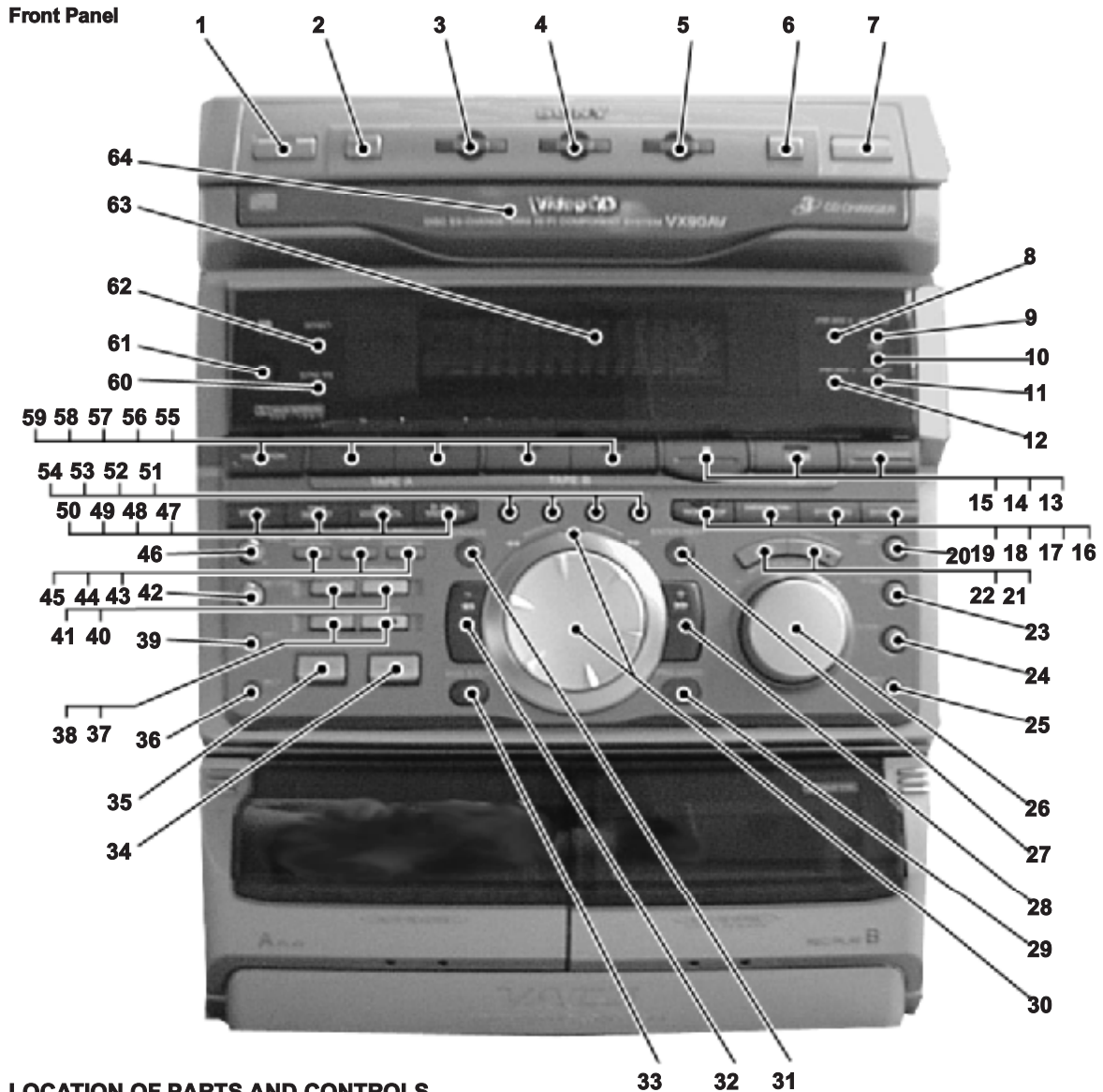
The results can be checked by D502 of the VIDEO board.

Oscilloscope (Waveform)	Symptom
	No error
	MPEG decoder (IC505) error
	MPEG decoder (IC505) or DRAM (IC507) error

[VIDEO BOARD] (SIDE A)



SECTION 2 GENERAL

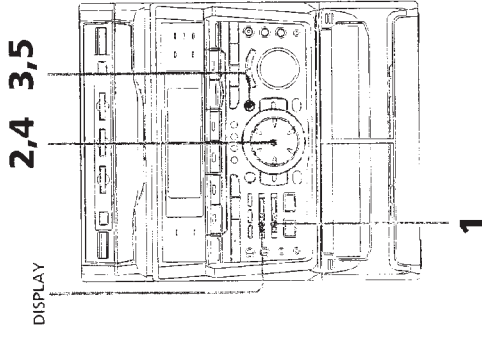


LOCATION OF PARTS AND CONTROLS

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

Step 3: Setting the time

You must set the time before using the timer functions.



- 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

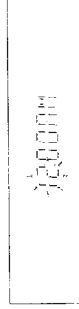
The previous explanation shows you how to set the time while the power is off. To change the time while the power is on, do the following:

- 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.



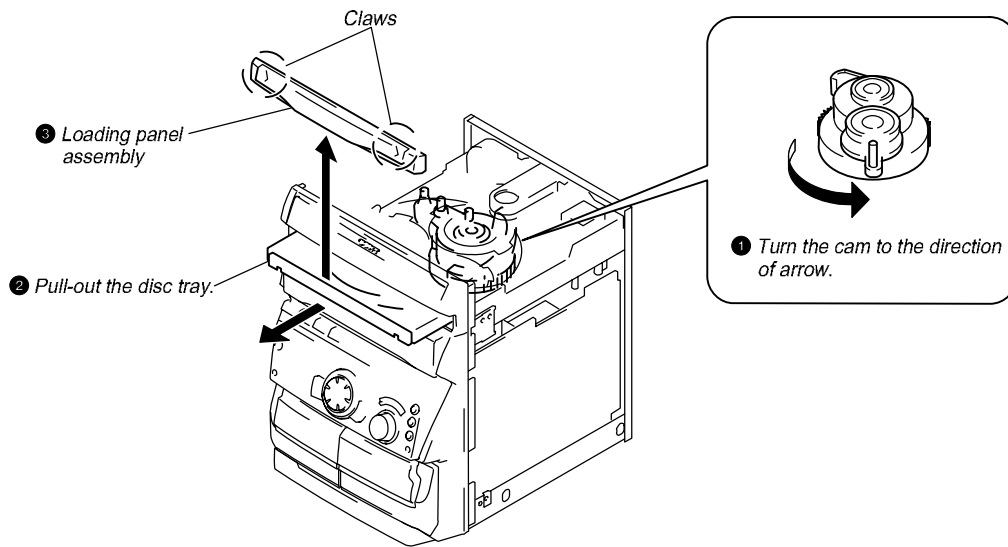
- 2 Turn the jog dial to set the hour.

This section is extracted from instruction manual.

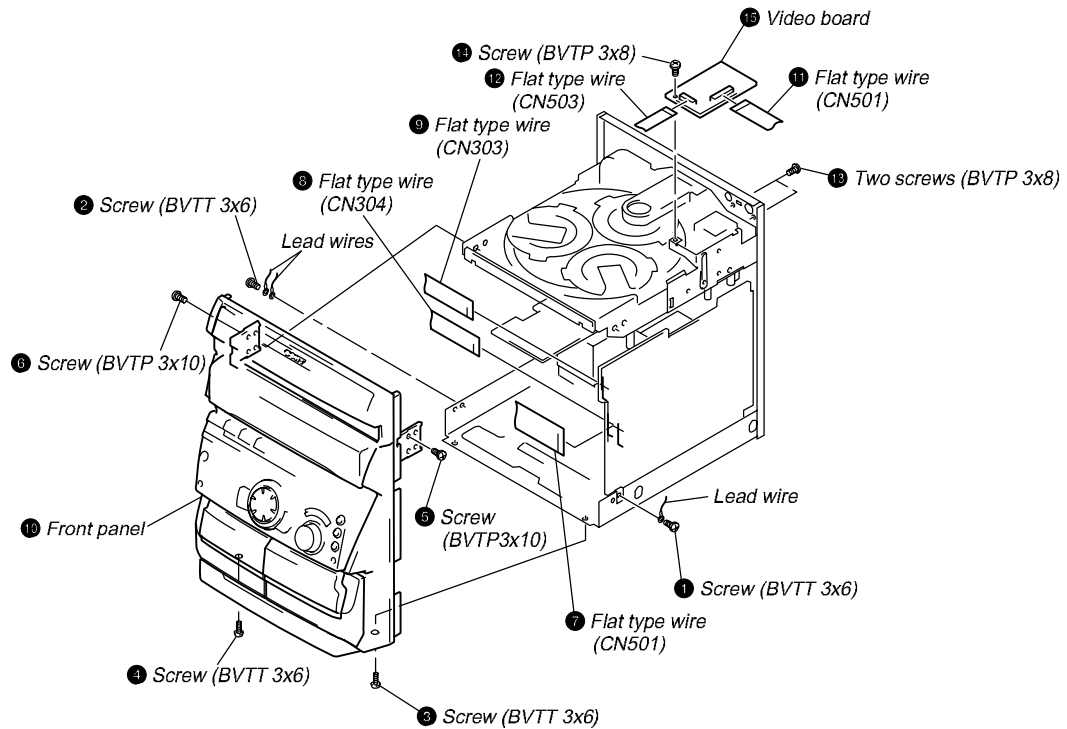
SECTION 3 DISASSEMBLY

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

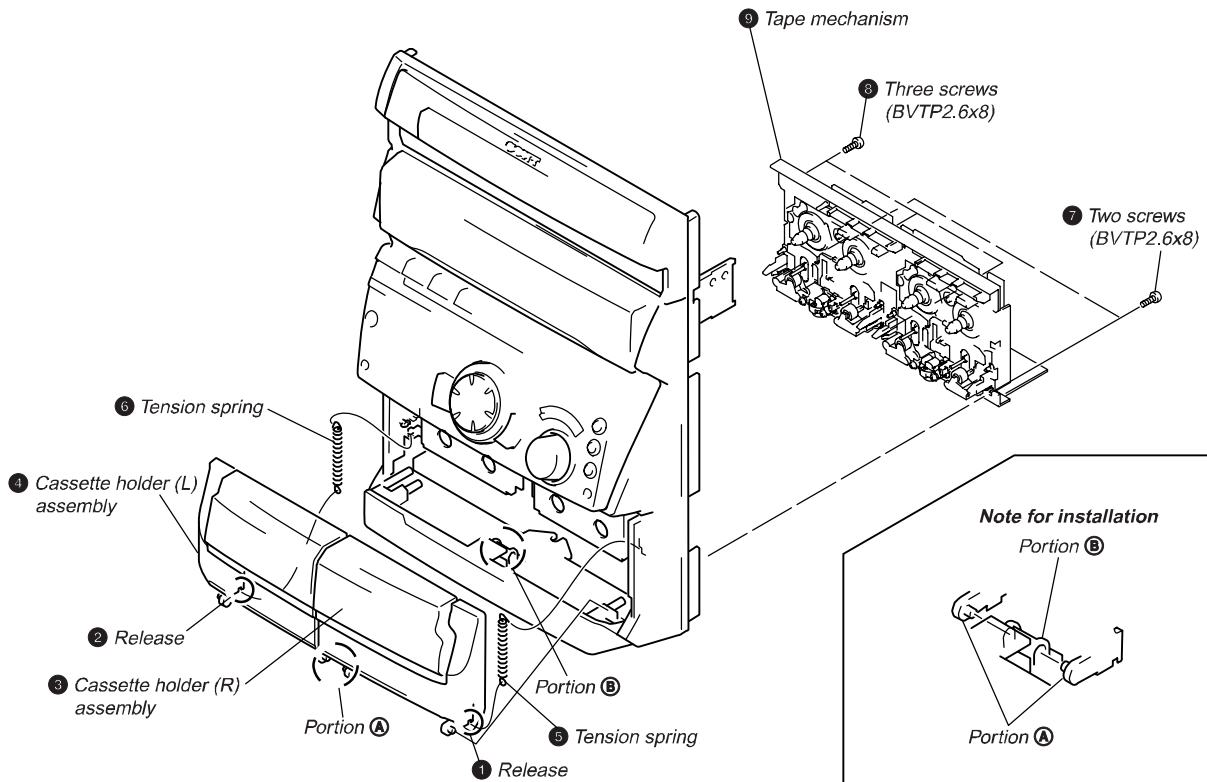
3-1. LOADING PANEL



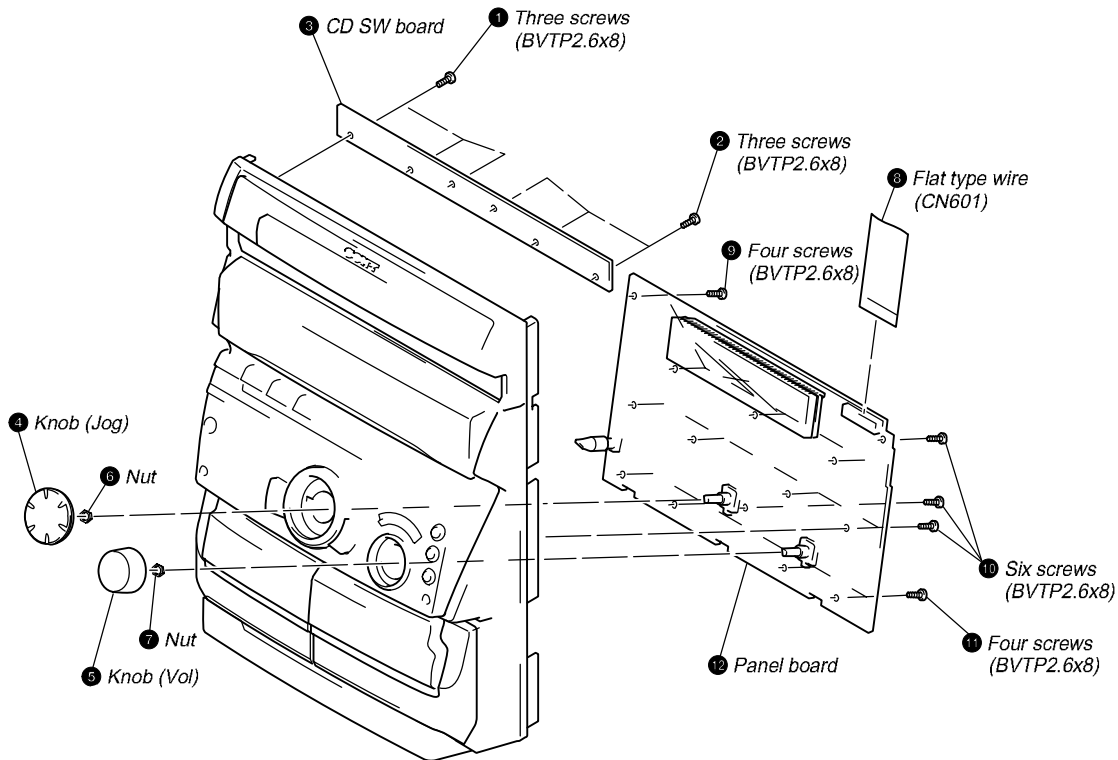
3-2. FRONT PANEL



3-3. CASSETTE LID AND TAPE MECHANISM



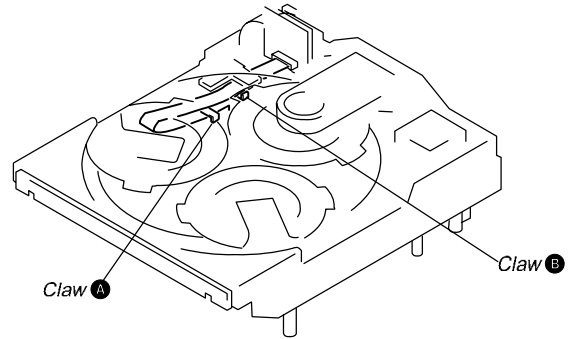
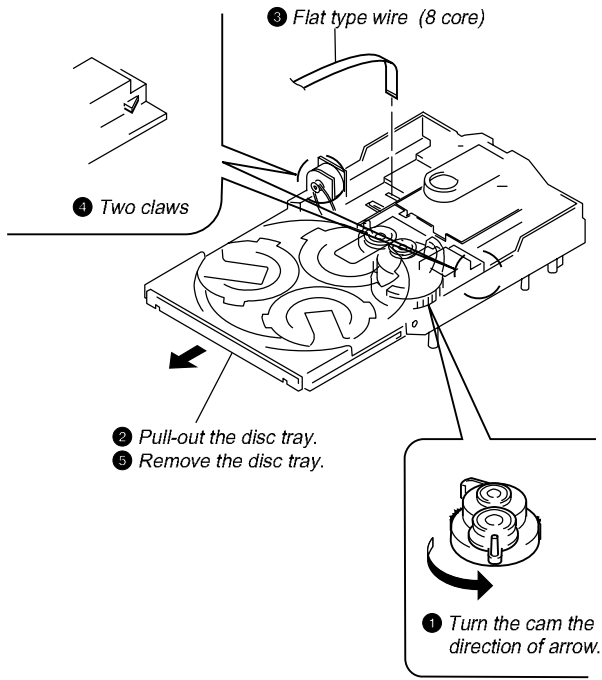
3-4. CD SW BOARD AND PANEL BOARD



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 TEST MODE

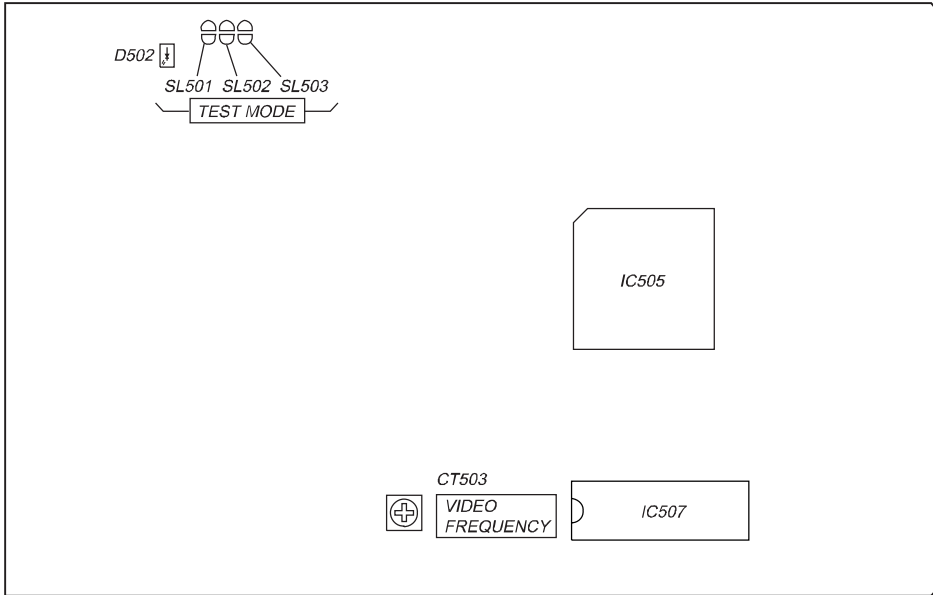
VIDEO CD COLOR-BARS MODE

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 (IC502) for video CD signal check. When measurement of the voltage and waveform on the VIDEO board, perform it in this mode.

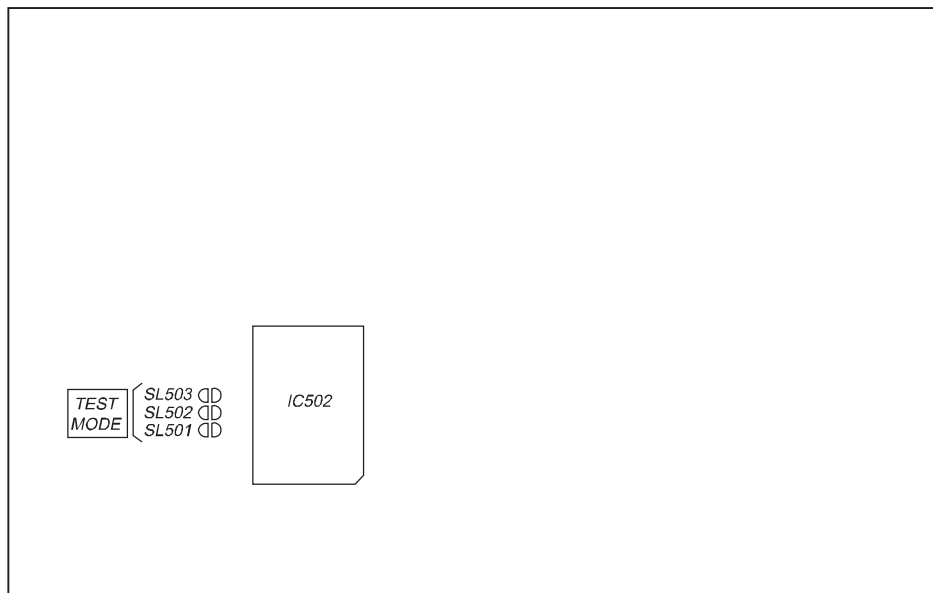
For reference, the color-bars signal can be observed at J302 (VIDEO OUT) and the sound signal can be observed at J101 (VIDEO/MD (AUDIO) OUT) using an oscilloscope.

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 A)



[VIDEO BOARD] (SIDE B)



SECTION 5 MECHANICAL ADJUSTMENTS

Precaution

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

record/playback heads	pinch rollers
erase head	rubber belts
capstan	idlers
2. Demagnetize the record/playback head with a head demagnetizer.
3. Do not use a magnetized screwdriver for the adjustments.
4. After the adjustments, apply suitable locking compound to the parts adjusted.
5. 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 6 ELECTRICAL ADJUSTMENTS

DECK SECTION

0 dB=0.775V

1. Demagnetize the record/playback head with a head demagnetizer.
2. Do not use a magnetized screwdriver for the adjustments.
3. After the adjustments, apply suitable locking compound to the parts adjusted.
4. The adjustments should be performed with the rated power supply voltage unless otherwise noted.
5. 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.)
6. The adjustments should be performed for both L-CH and R-CH.
7. Switches and controls should be set as follows unless otherwise specified.

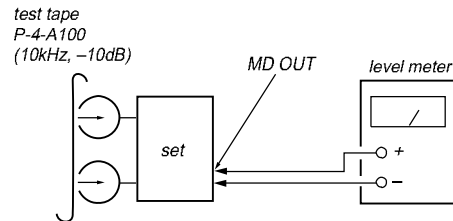
Tape	Signal	Used for
P-4-A100	10 kHz, -10 dB	Azimuth Adjustment
WS-48B	3 kHz, 0 dB	Tape Speed Adjustment
P-4-L300	315 Hz, 0 dB	Level Adjustment

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

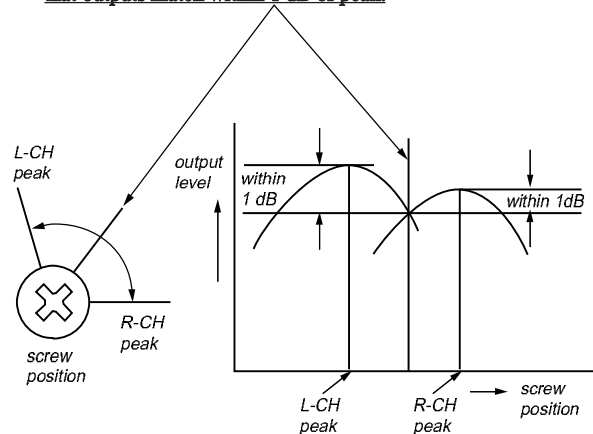
Note: Perform this adjustments for both decks.

Procedure:

1. Mode : Playback

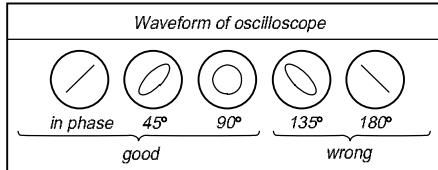
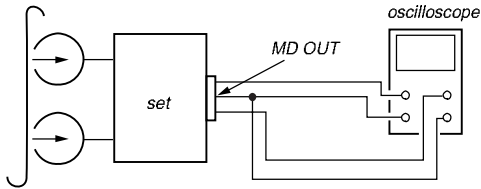


2. Turn the adjustment screw and check output peaks. If the peaks do not match for L-CH and R-CH, turn the adjustment screw so that outputs match within 1 dB of peak.



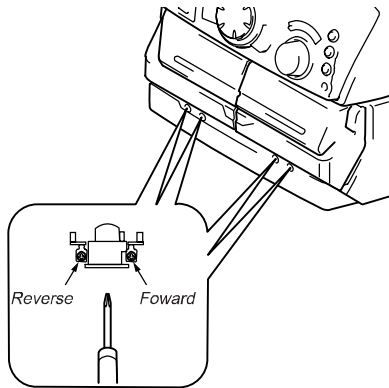
3. Mode: Playback

test tape
P-4-A100
(10kHz, -10dB)



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 **[STOP]** 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

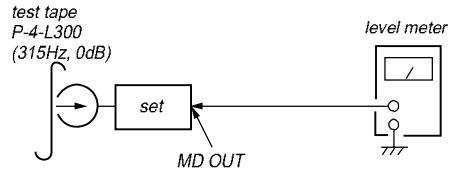
Sample Value of Wow and flutter

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

Playback Level Adjustment (Deck A, Deck B)

Procedure:

Mode: Playback



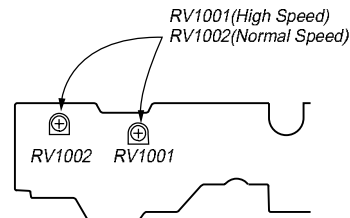
Deck A is RV311 (L-CH) and RV411 (R-CH), deck B is RV301 (L-CH) and RV401 (R-CH) so that adjustment within the following adjustment level.

Adjustment level:

CN301 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:

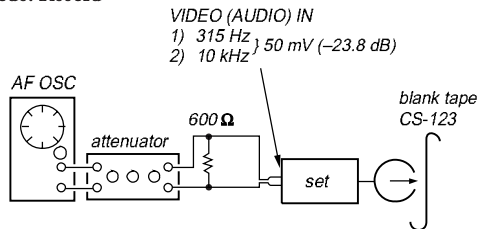
INTRODUCTION

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.

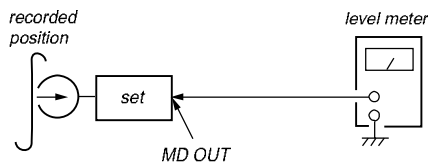
This "REC memory mode" is convenient for performing this adjustment. During recording, the input signal FUNCTION will automatically switch to VIDEO.

(After recording, press the 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 button to start recording.
3. Mode: Record



4. Mode: Playback



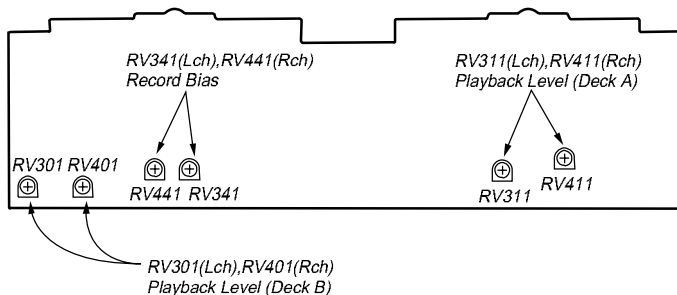
5. Confirm playback the signal recorded in step 2 become adjustment level as follows.

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:

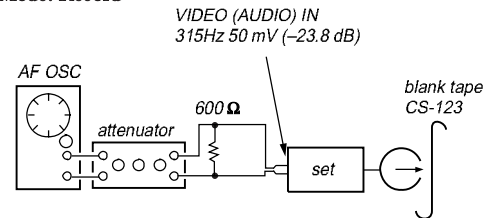
INTRODUCTION

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.

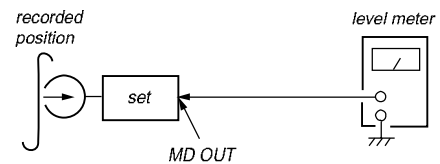
This "REC memory mode" is convenient for performing this adjustment. During recording, the input signal FUNCTION will automatically switch to VIDEO.

(After recording, press the 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 button to start recording.
3. Mode: Record



4. Mode: Playback



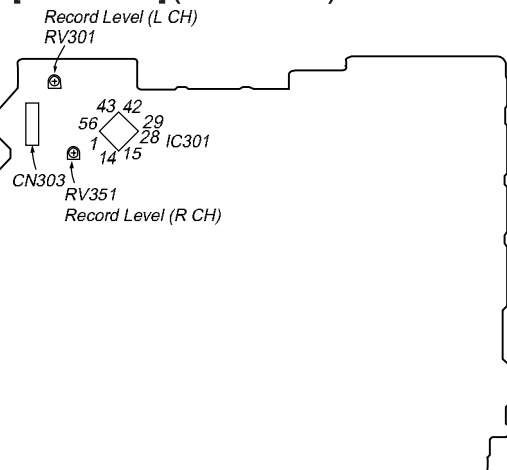
5. Confirm playback the signal recorded in step 2 become adjustment level as follows.

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:
CN403 playback level: 47.2 to 53.0 mV (-24.3 to -23.3 dB)

Adjustment Location: MAIN board

[MAIN BOARD] (Conductor Side)

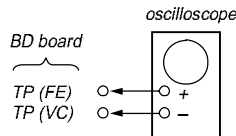


CD SECTION

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

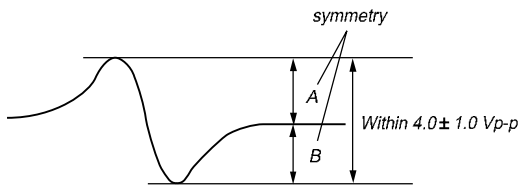


Adjustment Location: BD board

Procedure :

1. Connect the oscilloscope to test points TP (FE) and TP (VC).
2. Connect TP (FE) and GND, and TP (AGCCON) and GND of the BD board with lead wires.
3. Press the I/II button to turn the set ON.
4. With the disc (YEDS-18) loaded, press the ▶|| 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.

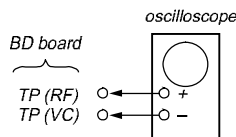
S-curve waveform



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

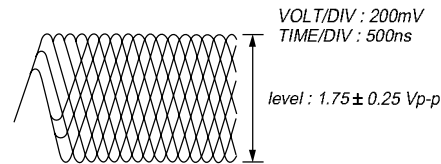


Procedure :

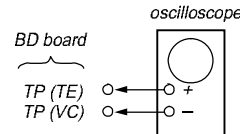
1. Connect oscilloscope to test point TP (RF) and TP (VC) on BD board.
2. Connect TP (AGCCON) and GND of the BD board with lead wires.
3. Press the I/II button to turn the set ON.
4. Put disc (YEDS-18) in and playback 5track.
5. Confirm that oscilloscope waveform is clear and check RF signal level is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

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

RF signal waveform



E-F Balance (Traverse) Check



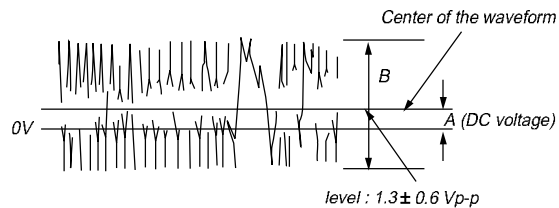
Adjustment Location: BD board

Procedure :

1. Connect oscilloscope to test point TP (TE) 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 $\text{PLAY MODE/DOLBY NR}$ 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.

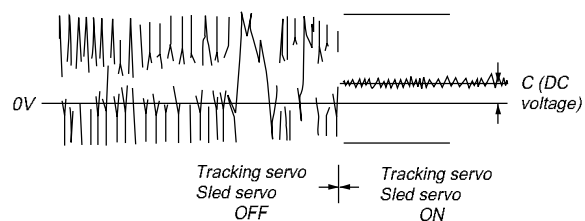
Confirm the following :
 $A/B \times 100 = \text{less than } \pm 22\%$

Traverse waveform



7. Press the $\text{PLAY MODE/DOLBY NR}$ 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

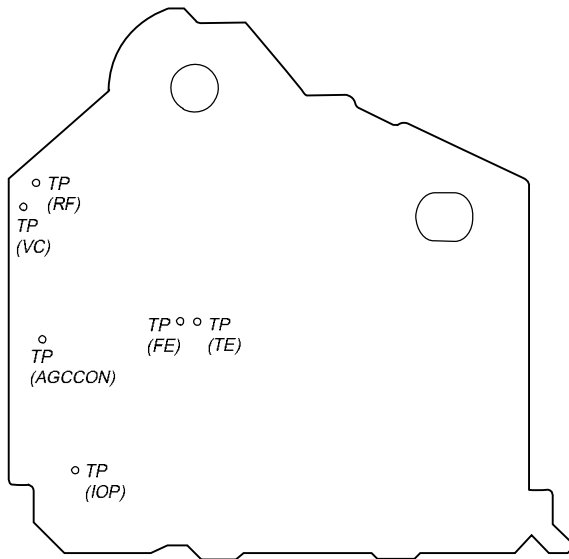


8. Desolder the short-land (SL502) short-circuited at step 2.

Adjustment Location: BD board

Adjustment Location :

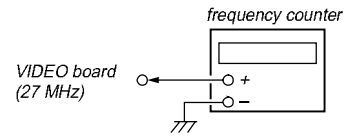
[BD BOARD] — SIDE B —



VIDEO SECTION

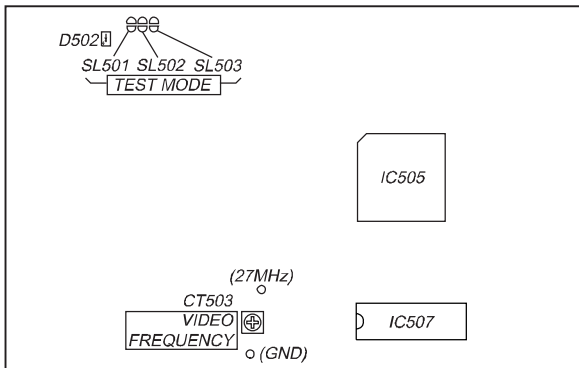
Frequency adjustment

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

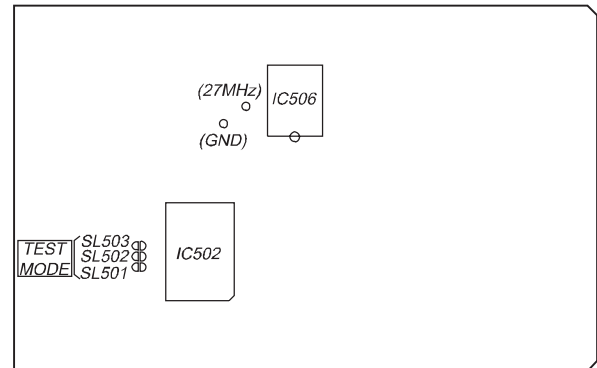


Adjustment Location :

[VIDEO BOARD] — SIDE A —

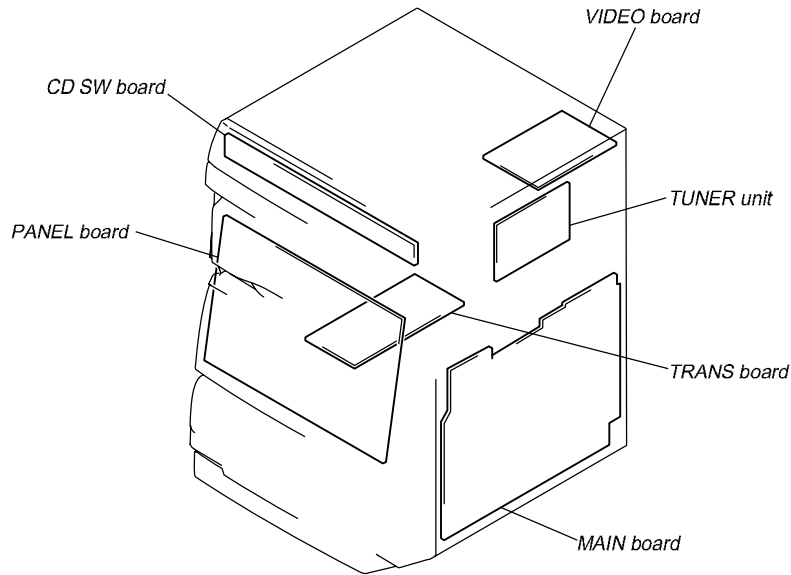


[VIDEO BOARD] — SIDE B —

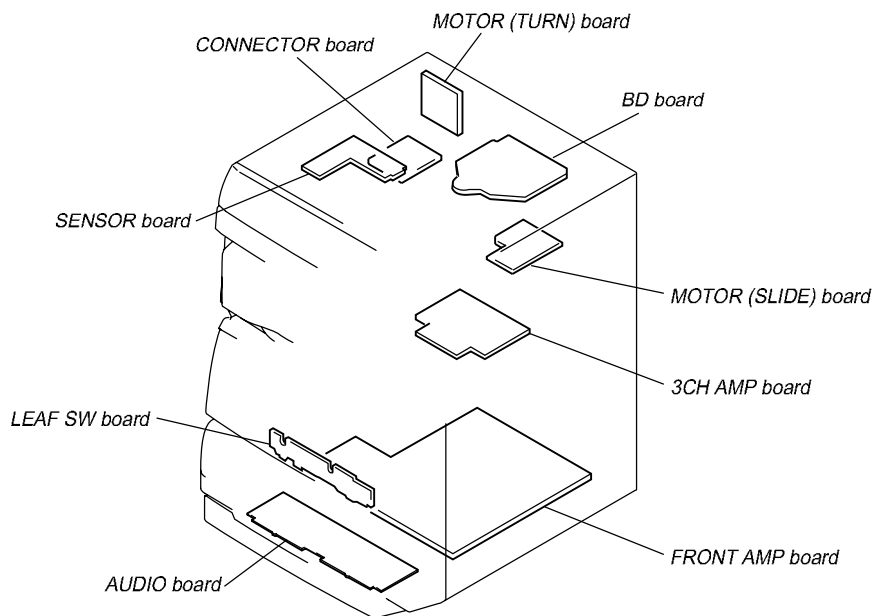


SECTION 7 DIAGRAMS

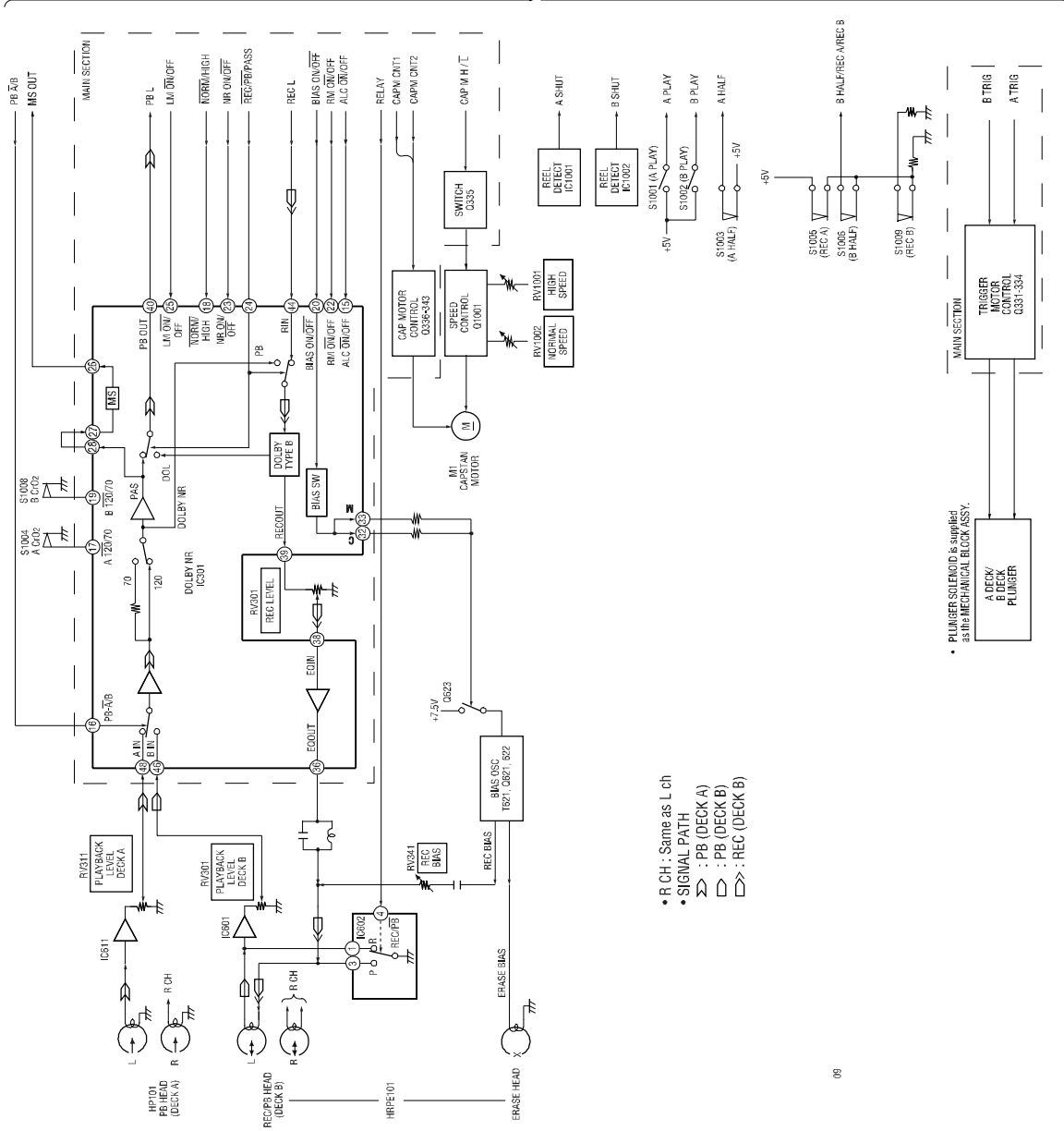
7-1. CIRCUIT BOARDS LOCATION



TUNER unit is supplied as the assembled block.



- DECK SECTION -

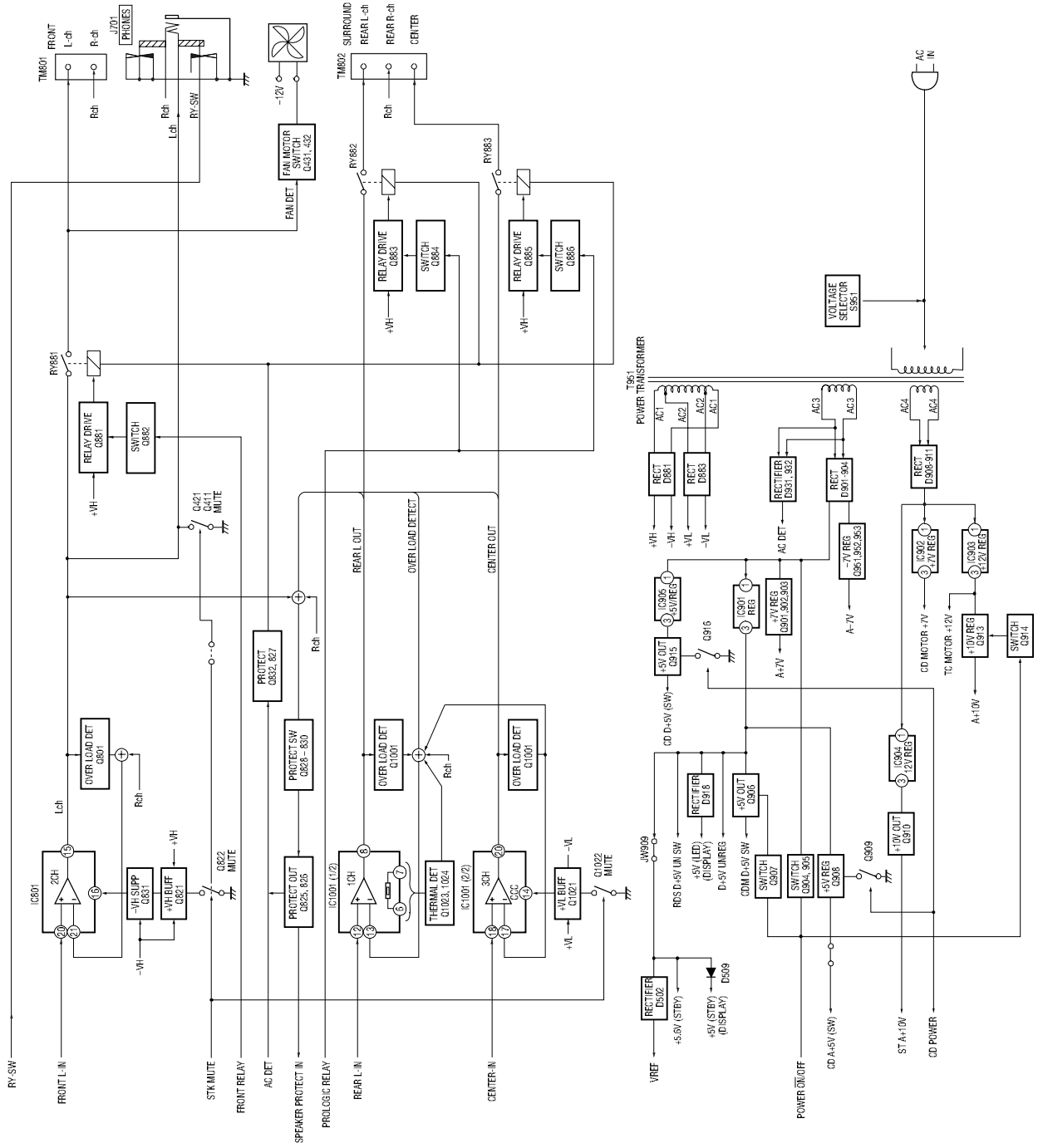


B MAIN SECTION (Page 25)

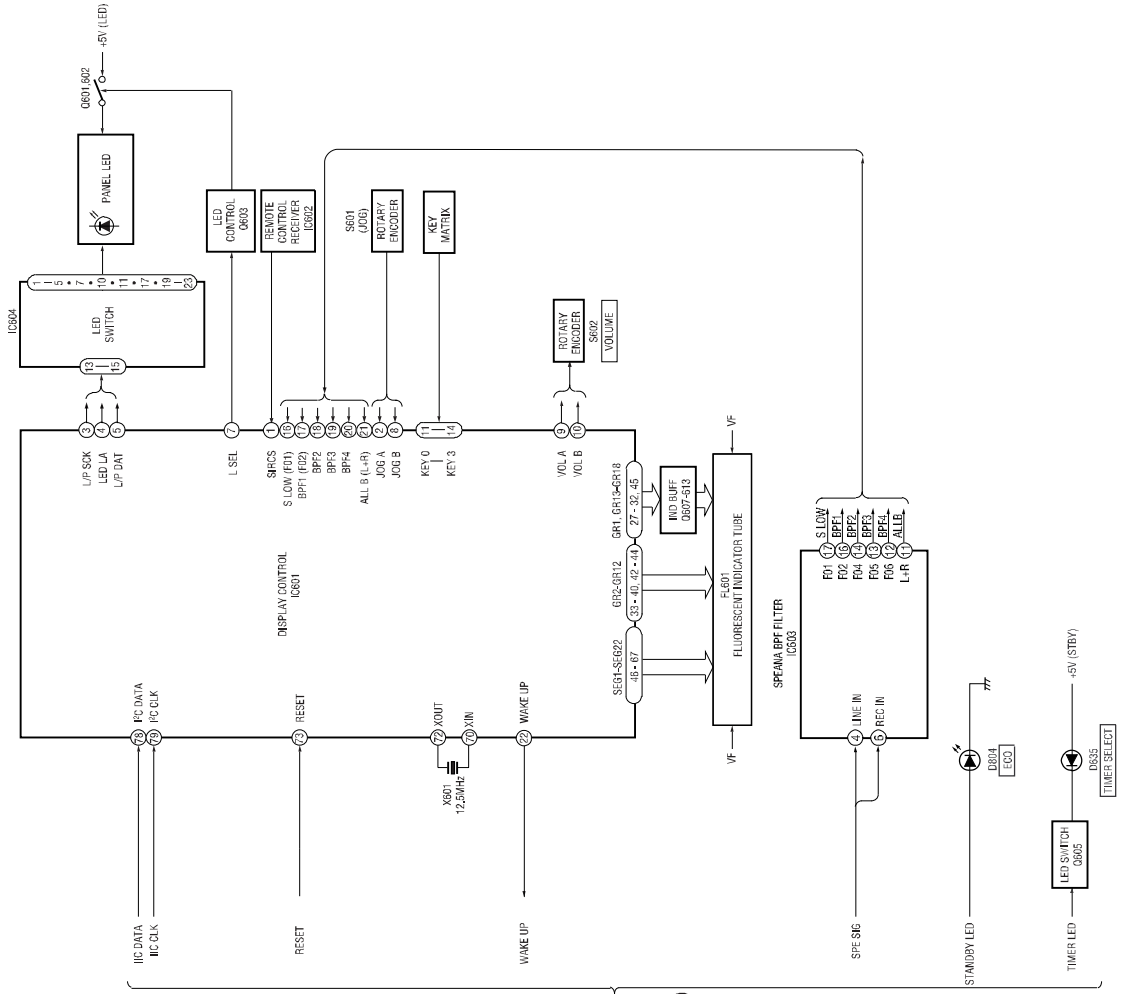
- R CH : Same as L ch
- SIGNAL PATH
- ▷ : PB (DECK A)
- ◁ : PB (DECK B)
- ◁▷ : REC (DECK B)

• PLUNGER SELECTOR is supplied as the MECHANICAL BLOCK ASSY.

— POWER SECTION —



D
MAIN SECTION
(Page 26)



E
MAIN SECTION
(Page 26)

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.

- All capacitors are in μF unless otherwise noted. μF : μF and tantalum.
- All resistors are in Ω and $\frac{1}{4}\text{W}$ or less unless otherwise specified.
- Δ : Internal component.
- \square : nonflammable resistor.
- \square : fusible resistor.
- \square : panel designation.

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

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

- \uparrow : FM
- \uparrow : VIDEO
- \uparrow : PB (DECK A)
- \uparrow : PB (DECK B)
- \uparrow : REC (DECK B)
- \uparrow : CHROMA
- \uparrow : Y
- \uparrow : VIDEO
- \uparrow : CD
- \uparrow : digital out
- Abbreviation
- EA : Saudi Arabia model.
- SP : Singapore model.
- MY : Malaysia model.
- HK : Hong Kong model.
- TW : Taiwan model.
- IA : Indonesian model.
- TH : Thai model.

For printed wiring boards.

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

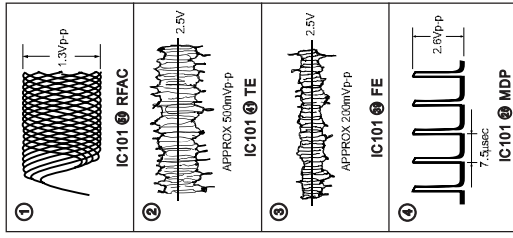
Caution:
Pattern face side: Parts on the pattern face side seen from the (Side B) pattern face are indicated.
Parts face side: Parts on the parts face side seen from the (Side A) parts face are indicated.

Indication of transistor

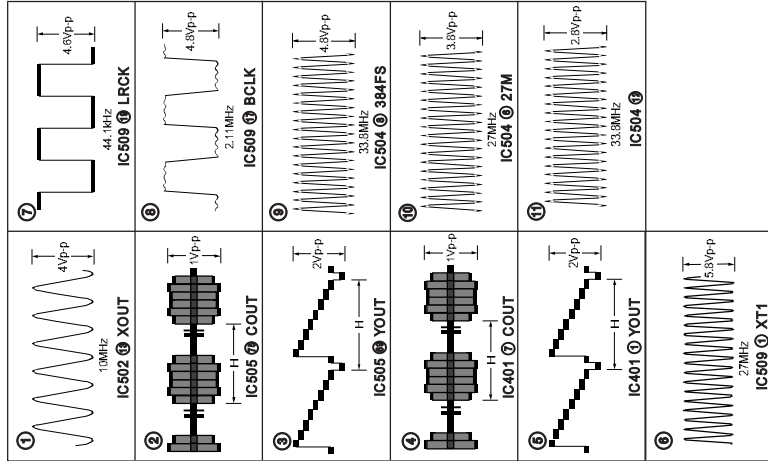


These are omitted
These are indicated

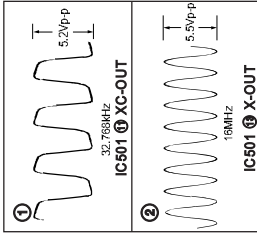
WAVEFORMS – CD SECTION –



– VIDEO SECTION –



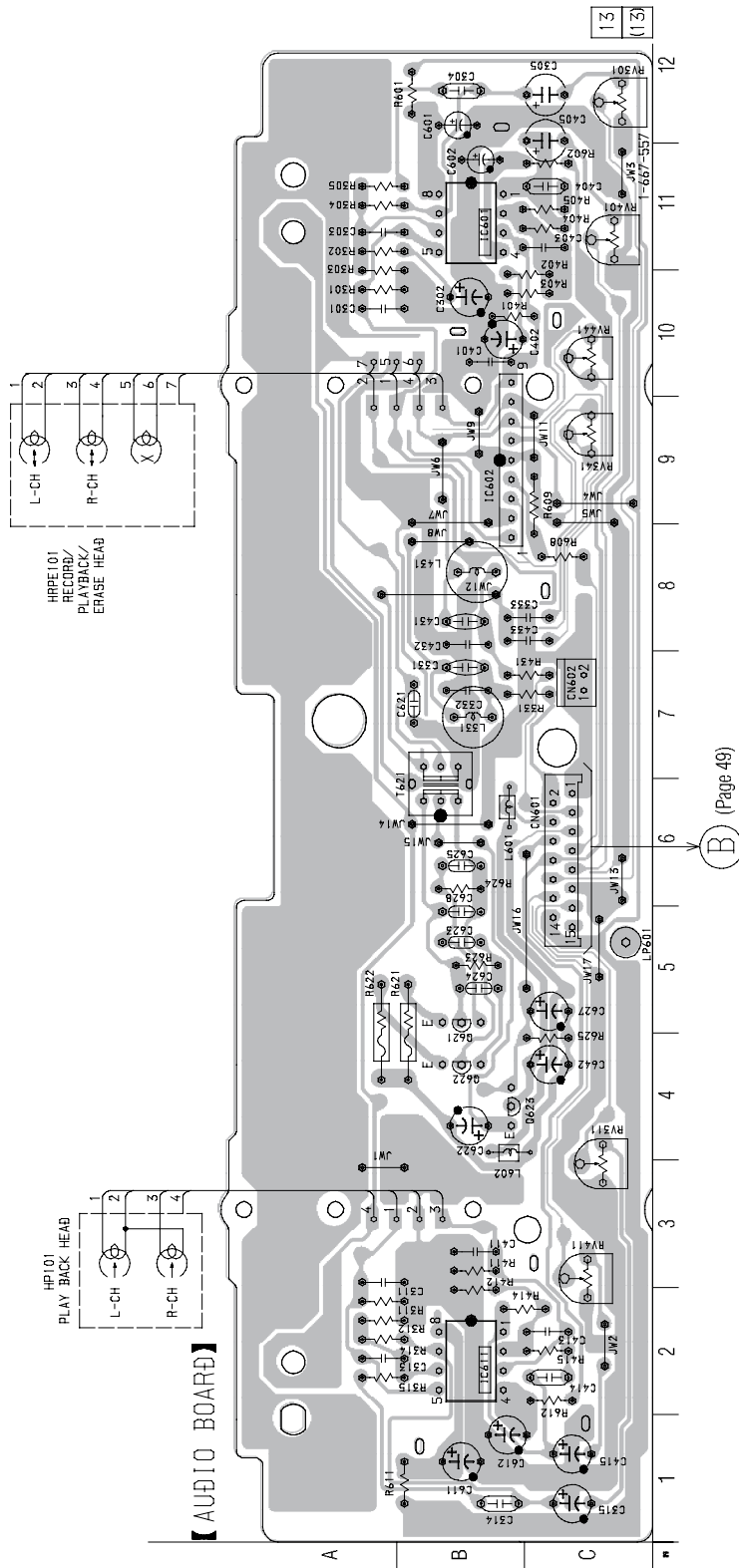
– MAIN (3/4) SECTION –



– PANEL (2/3) SECTION –

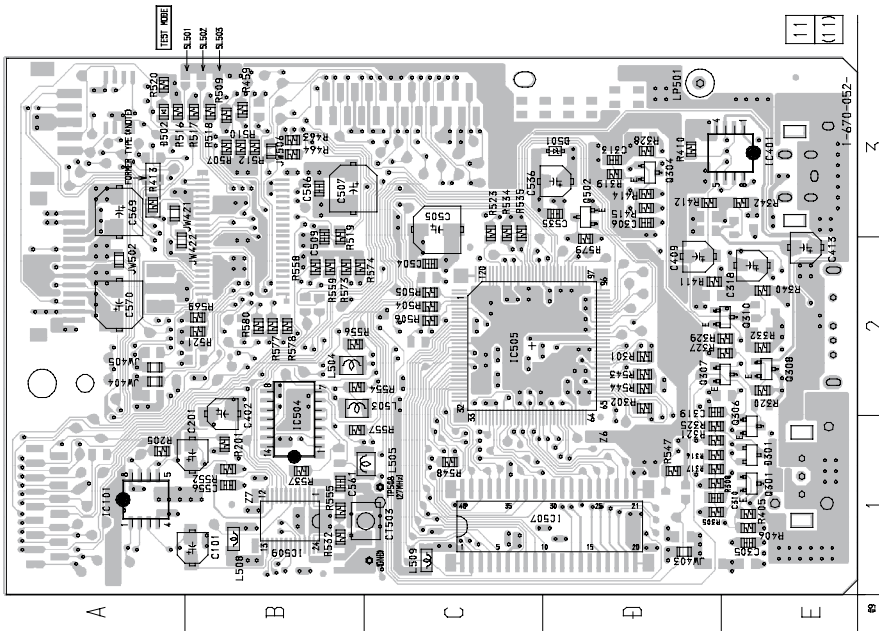


7-6. PRINTED WIRING BOARD – DECK SECTION –
 • See page 18 for Circuit Boards Location.



7-7. PRINTED WIRING BOARD – VIDEO SECTION –
 • See page 18 for Circuit Boards Location.

【 VIDEO BOARD】 (SIDE A)

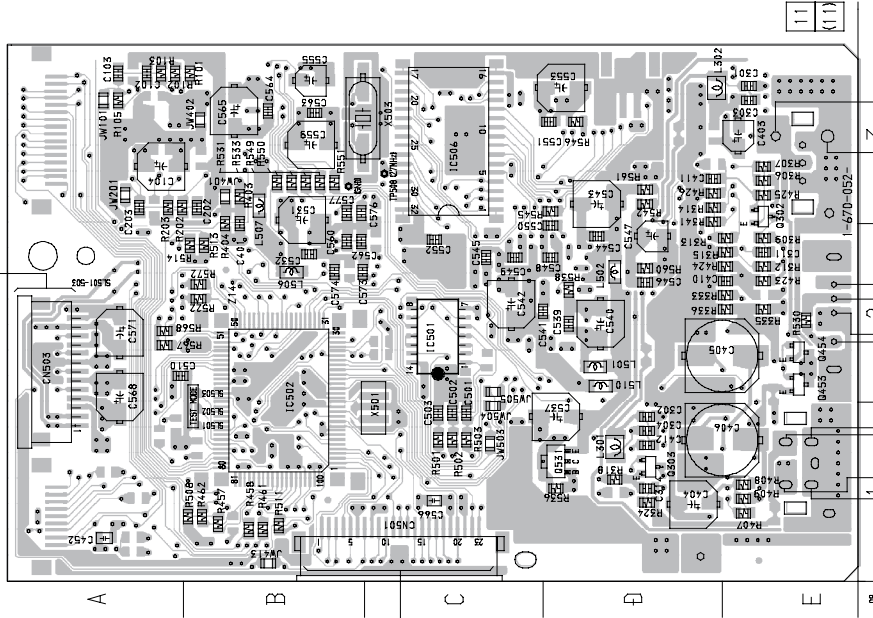


• Semiconductor Location

Ref. No.	Location
D301	E-1
D501	D-3
D502	A-3
IC101	A-1
IC401	E-3
IC504	A-1
IC505	C-2
IC507	C-1
IC509	B-1
Q301	E-1
Q304	D-3
Q306	E-1
Q307	E-2
Q308	E-2
Q310	E-2
Q502	D-3

(Page 50)

【 VIDEO BOARD】 (SIDE B)

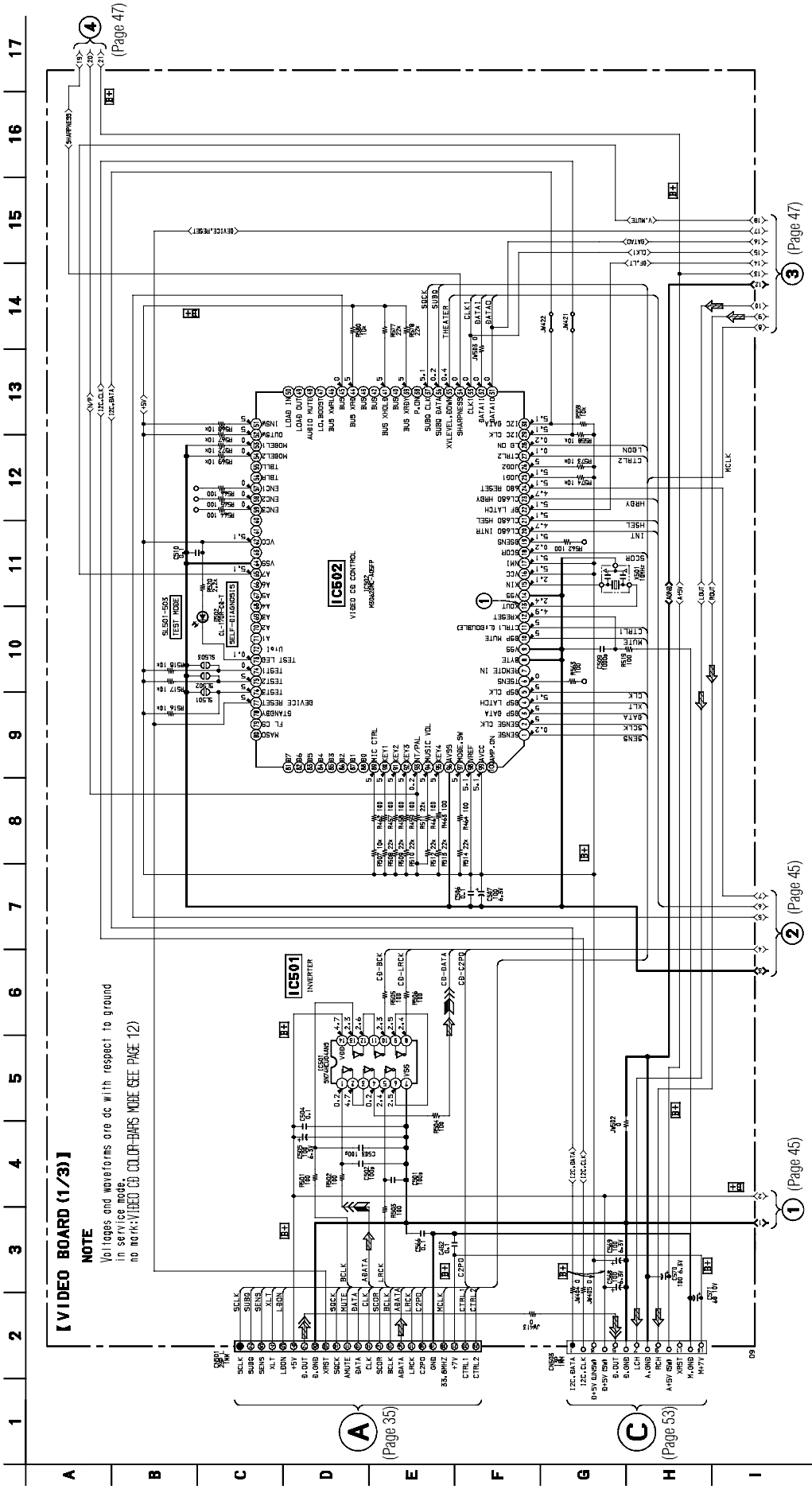


(Page 34)

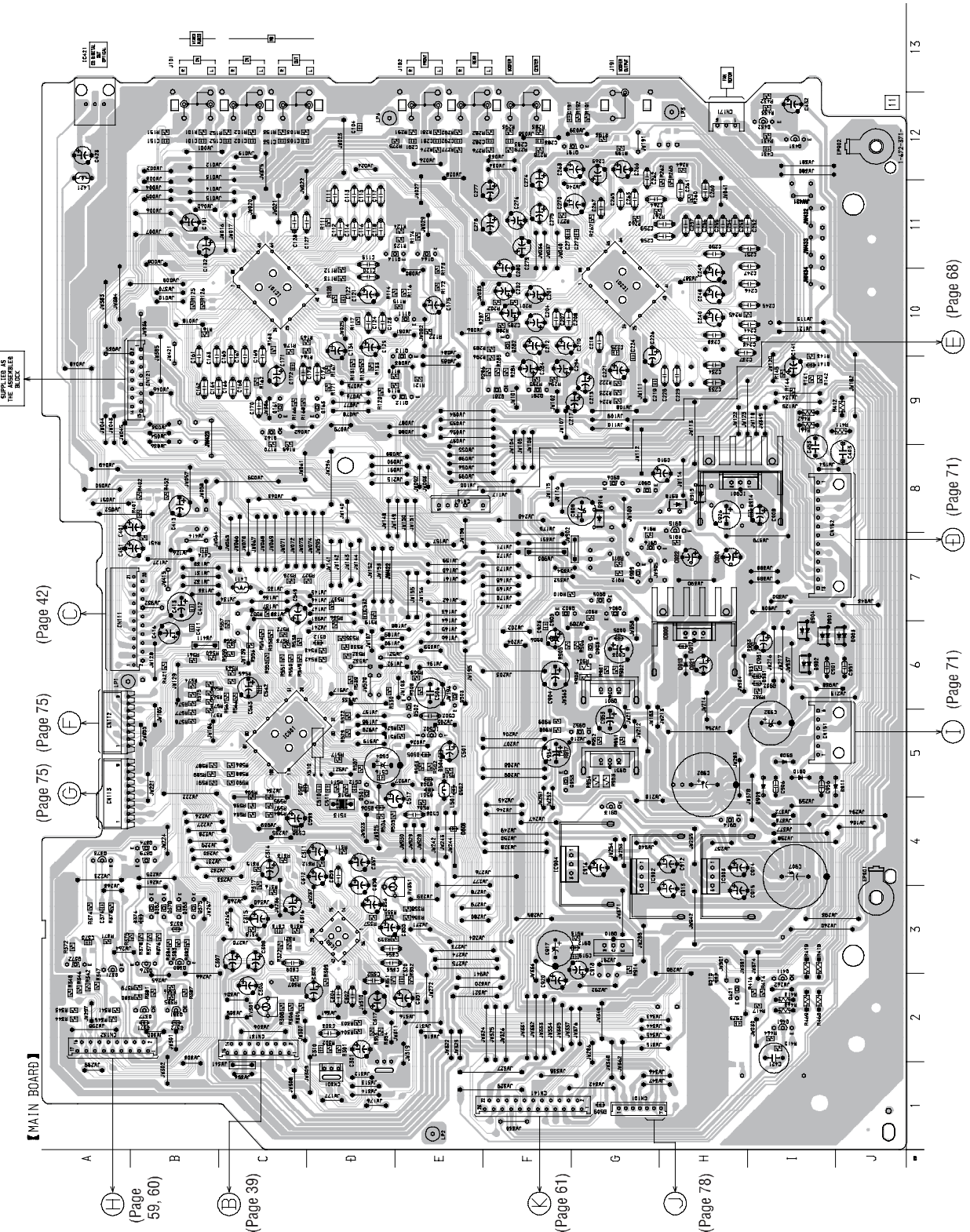
• Semiconductor Location

Ref. No.	Location
IC501	C-2
IC502	B-1
IC506	C-3
Q302	E-3
Q303	D-1
Q453	E-2
Q454	E-2
Q531	D-1

7-8. SCHEMATIC DIAGRAM – VIDEO (1/3) SECTION –
 • See page 32 for Waveforms.
 • See page 84 for IC Pin Functions.

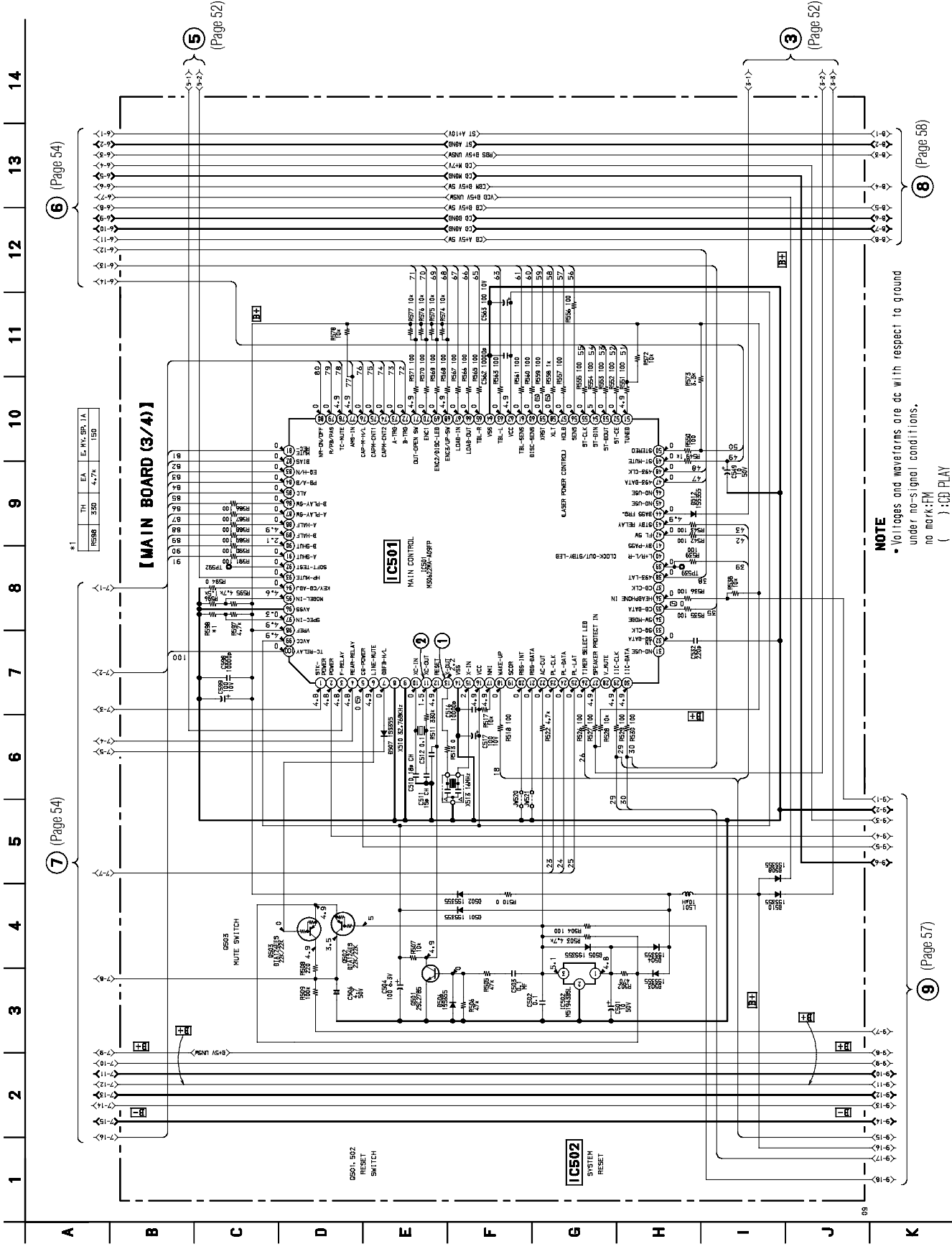


7-11. PRINTED WIRING BOARD – MAIN SECTION
 • See page 18 for Circuit Boards Location.



• Semiconductor Location		• Semiconductor Location	
Ref. No.	Location	Ref. No.	Location
D141	I-9	Q113	E-10
D371	B-2	Q114	D-11
D372	C-8	Q161	C-8
D373	C-8	Q162	C-8
D374	B-3	Q163	D-9
D501	E-5	Q164	E-11
D502	E-5	Q191	F-2
D503	E-5	Q281	F-9
D504	E-5	Q282	F-9
D505	E-5	Q291	F-9
D506	D-4	Q371	A-3
D507	C-5	Q372	A-3
D508	E-4	Q373	A-4
D510	G-1	Q374	B-4
D512	H-2	Q375	B-3
D610	D-6	Q376	B-3
D901	H-8	Q377	B-2
D902	H-8	Q378	B-3
D903	J-6	Q379	B-4
D904	H-8	Q380	B-3
D905	G-6	Q381	B-2
D906	F-8	Q382	B-3
D908	L-5	Q383	B-3
D909	L-5	Q411	L-2
D910	L-5	Q421	H-2
D911	L-5	Q431	L-2
D912	G-3	Q432	L-2
D914	H-8	Q461	L-2
D915	H-8	Q501	D-5
D916	G-8	Q502	E-5
D918	H-8	Q503	E-6
D931	L-8	Q801	G-6
D932	L-8	Q802	F-7
		Q803	G-6
		Q804	G-7
IC101	C-10	Q805	G-7
IC201	G-10	Q806	G-8
IC301	D-3	Q807	G-8
IC421	A-13	Q808	G-8
IC501	C-5	Q809	G-7
IC502	E-5	Q810	G-3
IC901	H-8	Q813	G-4
IC902	G-4	Q814	H-4
IC903	H-4	Q815	H-8
IC904	F-4	Q816	G-7
		Q851	G-5
Q111	E-10	Q852	G-5
Q112	E-9	Q853	F-5

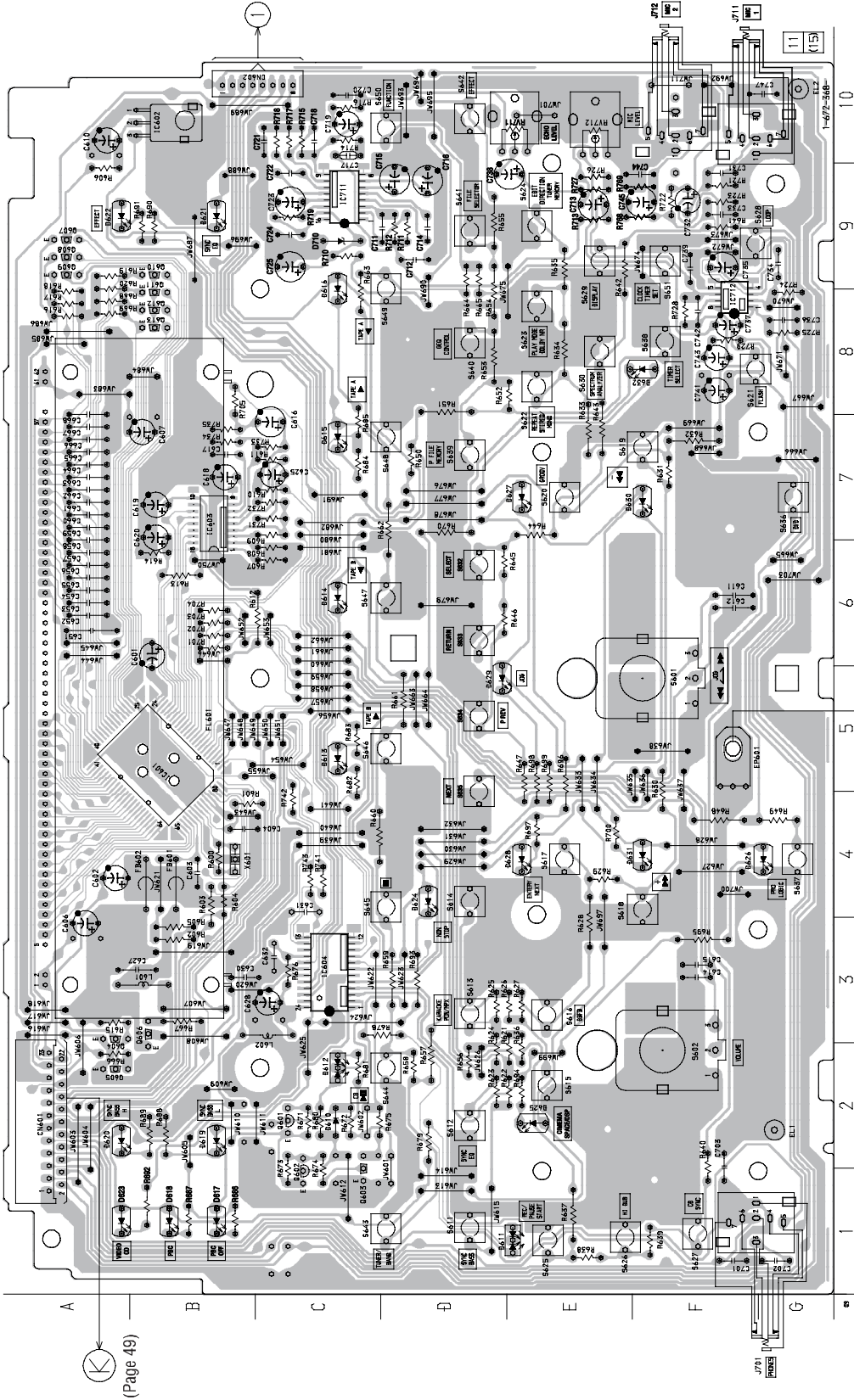
7-14. SCHEMATIC DIAGRAM - MAIN (3/4) SECTION - See page 32 for Waveforms. • See page 49 for Printed Wiring Board. • See page 89 for IC Pin Functions.



NOTE
 • Voltages and waveforms are dc with respect to ground under no-signal conditions.
 () : CD PLAY

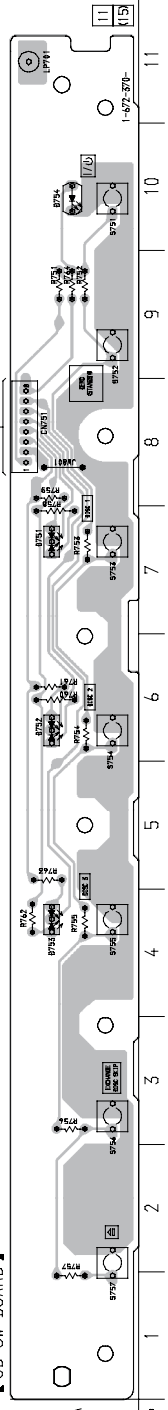
7-18. PRINTED WIRING BOARD – PANEL SECTION –
 • See page 18 for Circuit Boards Location.

【 PANEL BOARD 】

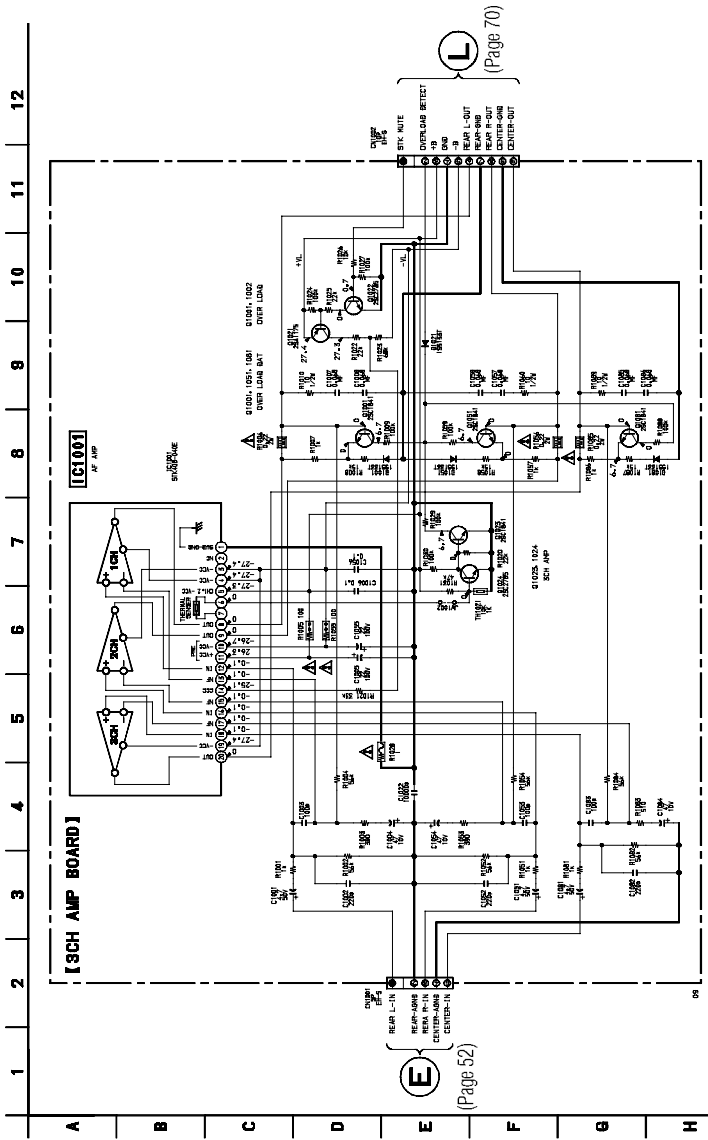


Ref. No.	Location
D610	C-2
D611	D-1
D612	C-2
D613	C-5
D614	C-6
D615	C-7
D616	C-9
D617	B-1
D618	B-2
D620	A-2
D621	B-9
D622	A-9
D623	A-1
D624	D-4
D625	F-4
D626	E-2
D627	E-7
D628	E-4
D629	D-5
D630	E-7
D631	E-4
D632	F-8
D710	C-8
IC601	B-6
IC602	B-10
IC603	B-7
IC604	C-3
IC711	C-9
IC712	F-8
Q601	C-2
Q602	C-1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

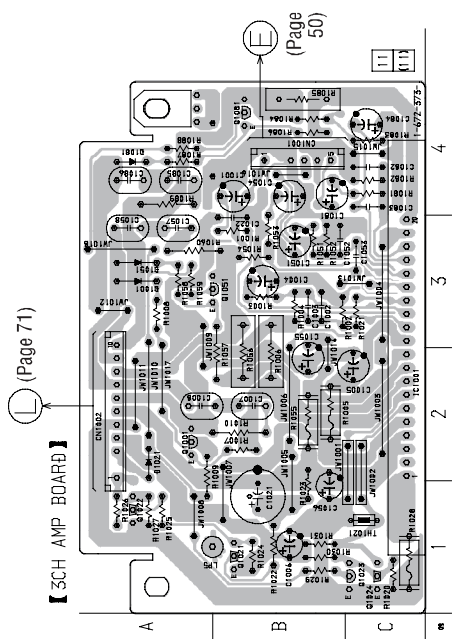
【 CD-SW BOARD 】



7-21. SCHEMATIC DIAGRAM – SURROUND SECTION –



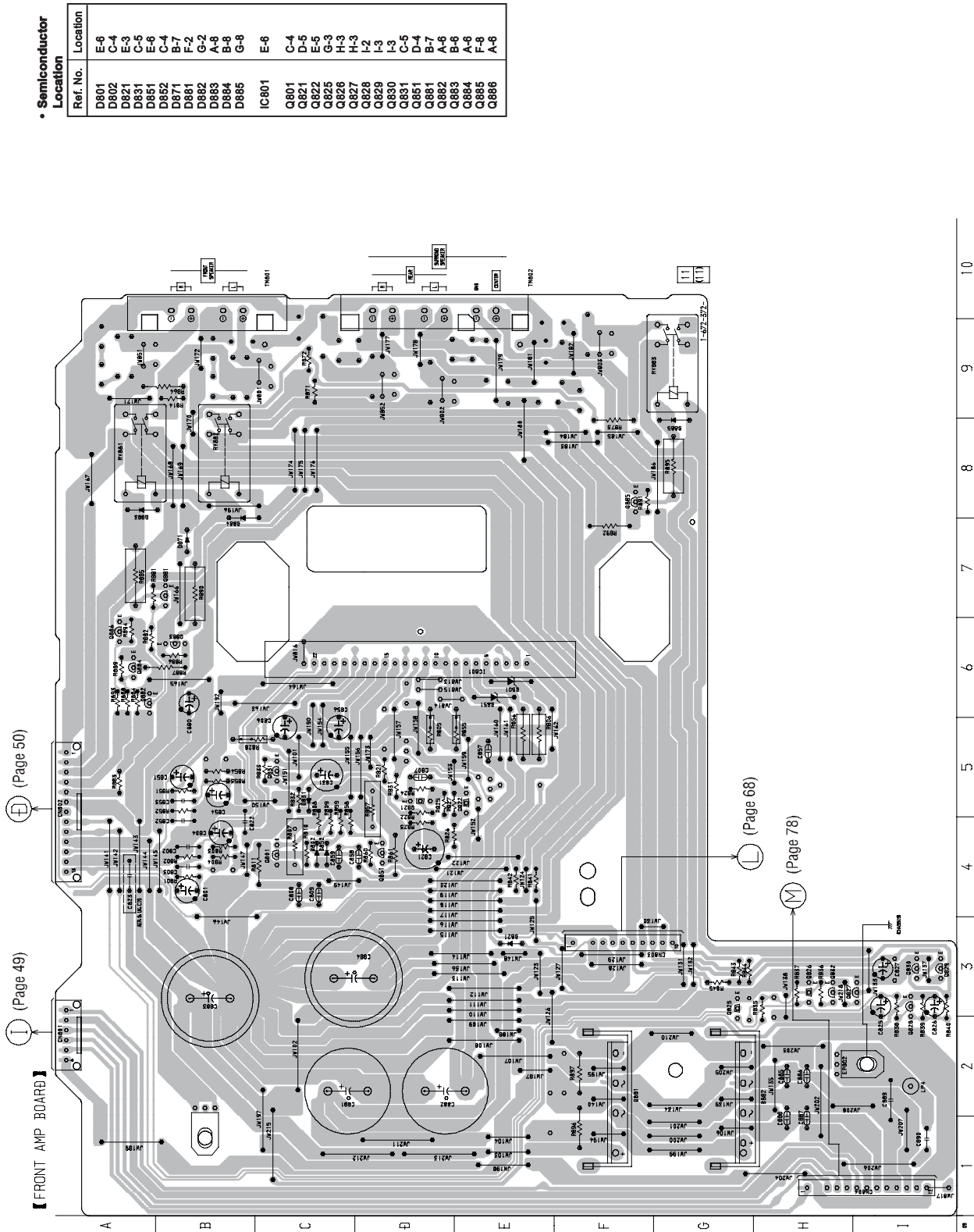
7-22. PRINTED WIRING BOARD – SURROUND SECTION –
• See page 18 for Circuit Boards Location.



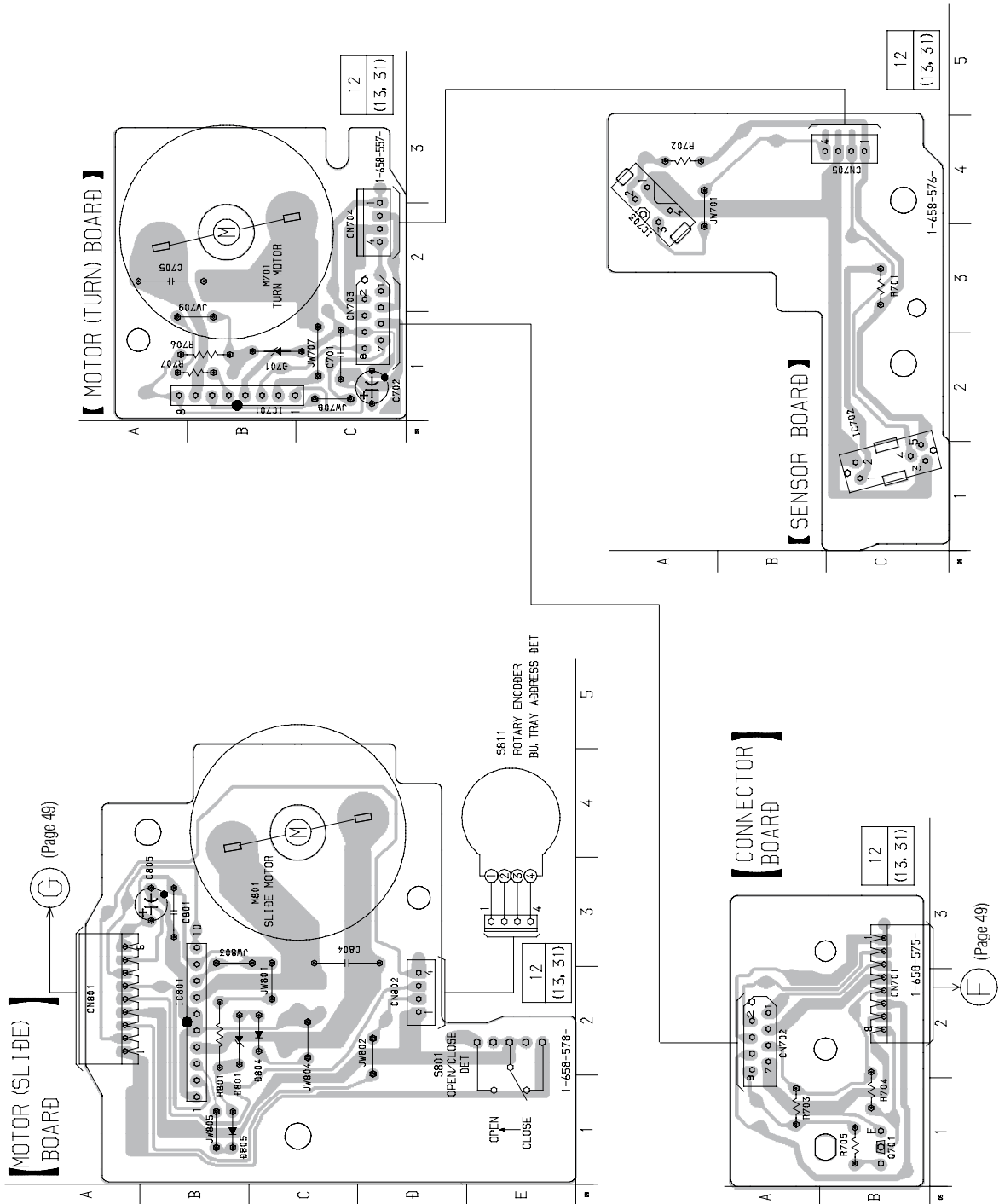
• Semiconductor Location

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

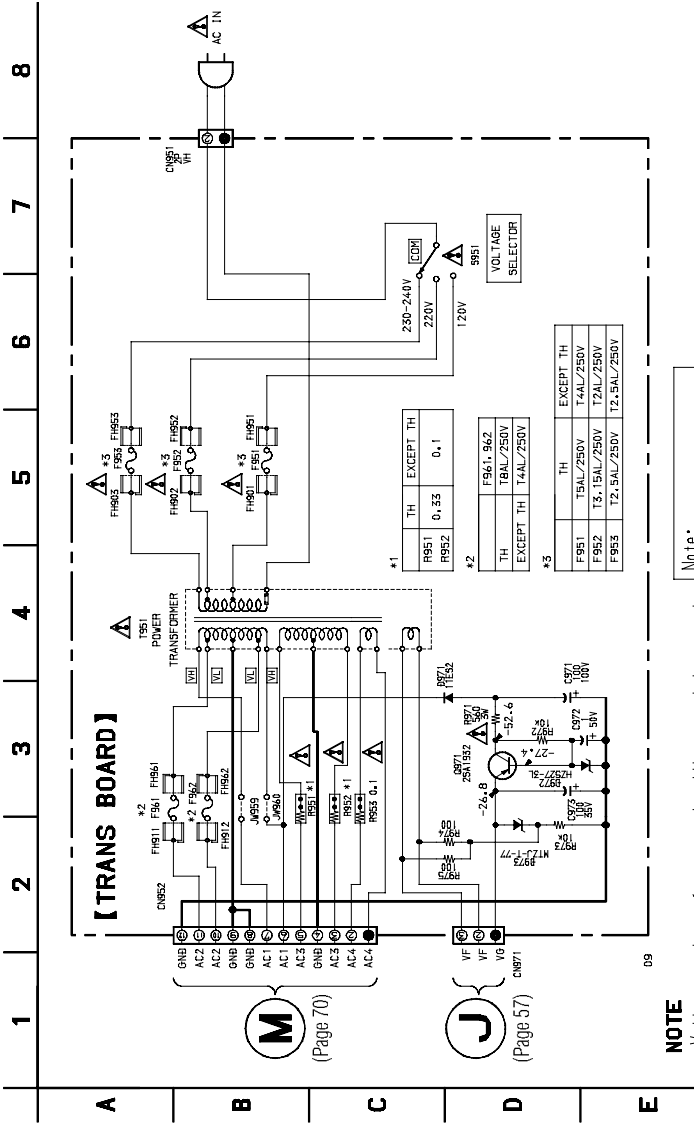
7-24. PRINTED WIRING BOARD – FRONT AMP SECTION –
 • See page 18 for Circuit Boards Location.



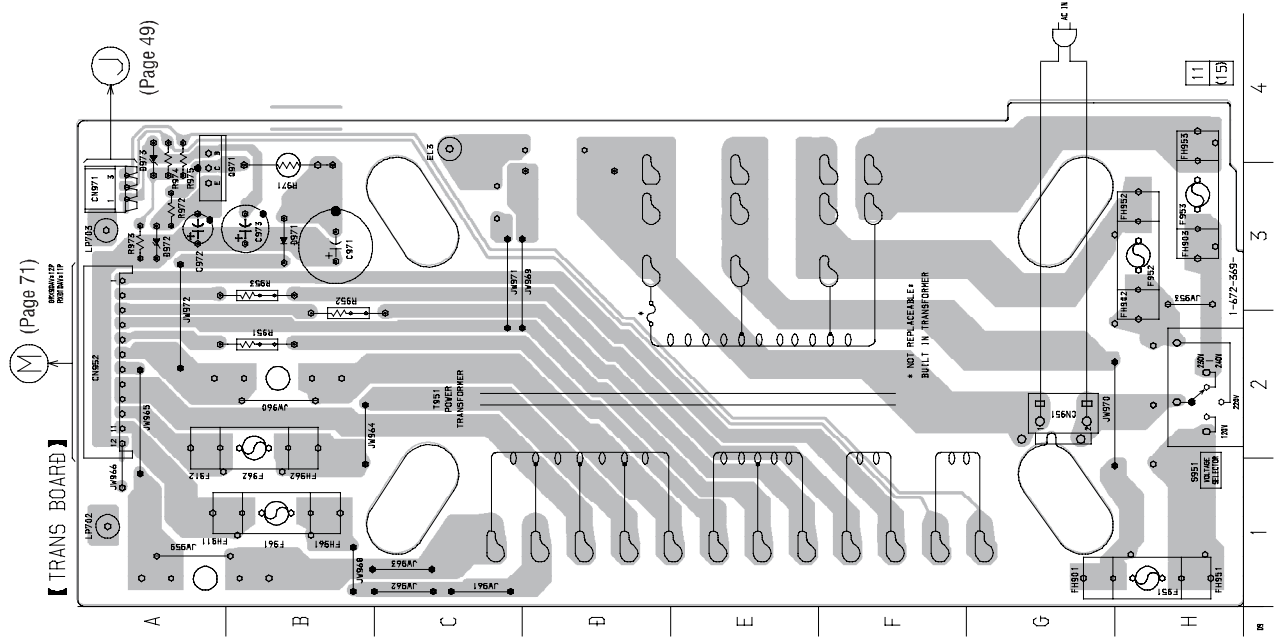
7-26. PRINTED WIRING BOARD – CD MOTOR SECTION –
 • See page XX for Circuit Boards Location.



7-27. SCHEMATIC DIAGRAM – TRANS SECTION –



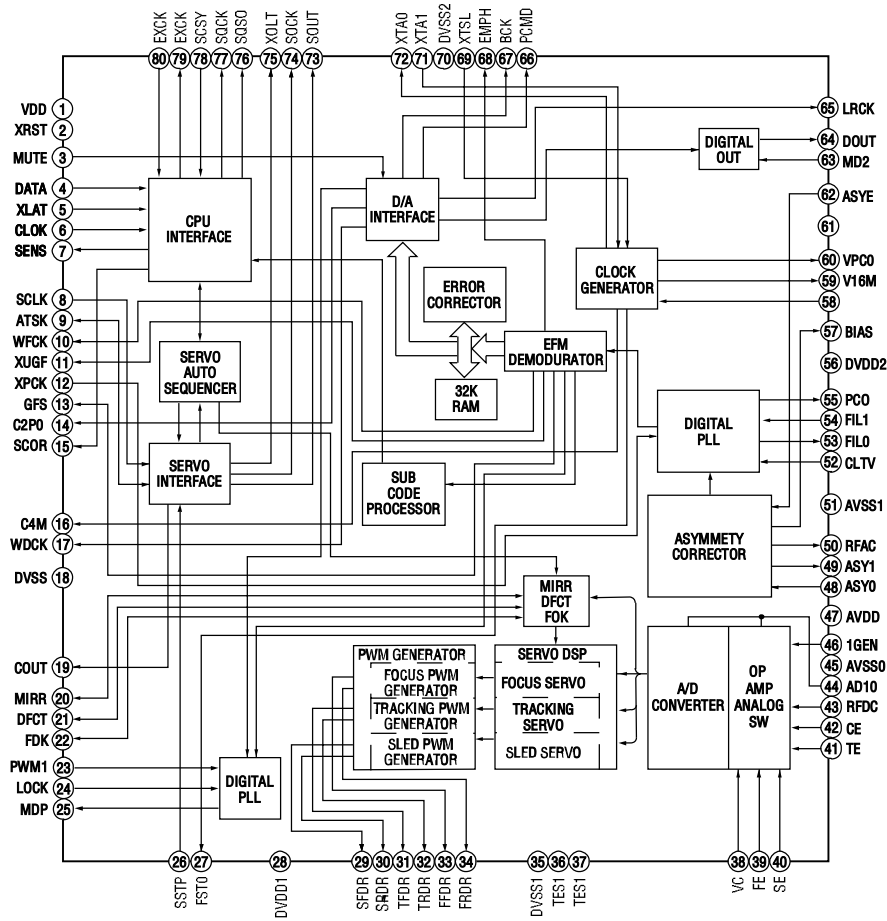
7-28. PRINTED WIRING BOARD – TRANS SECTION –
• See page 18 for Circuit Boards Location.



7-29. IC BLOCK DIAGRAMS

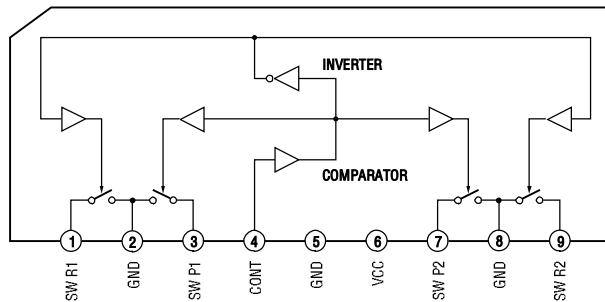
• BD Board

IC101 CXD3008Q



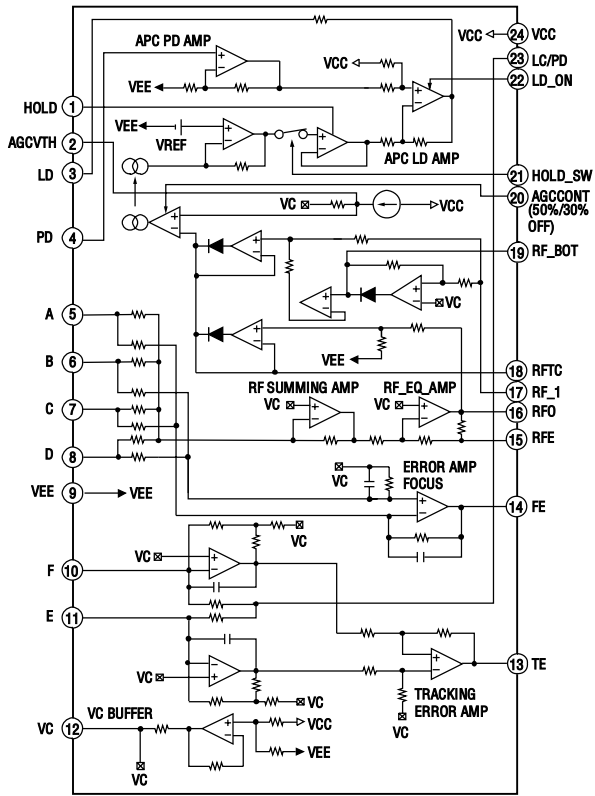
• AUDIO Board

IC602 UPC1330HA



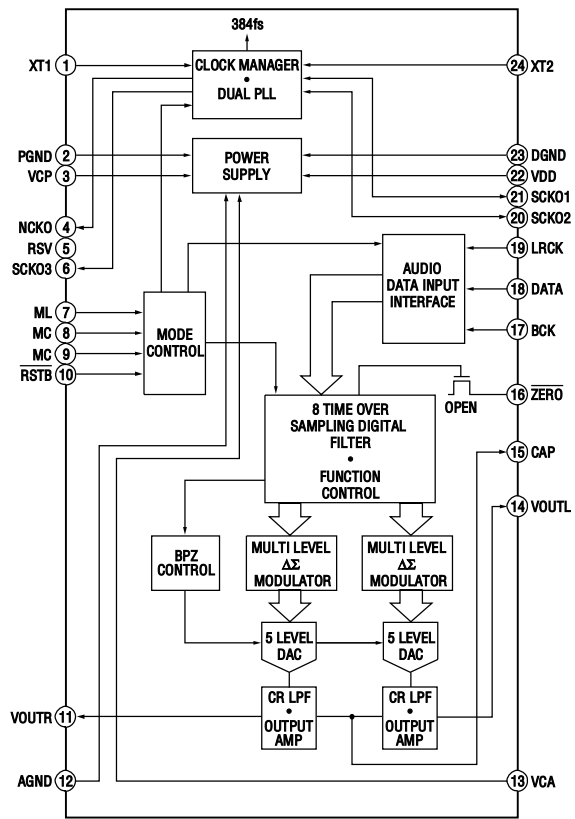
• BD Board

IC103 CXA2568M-T6



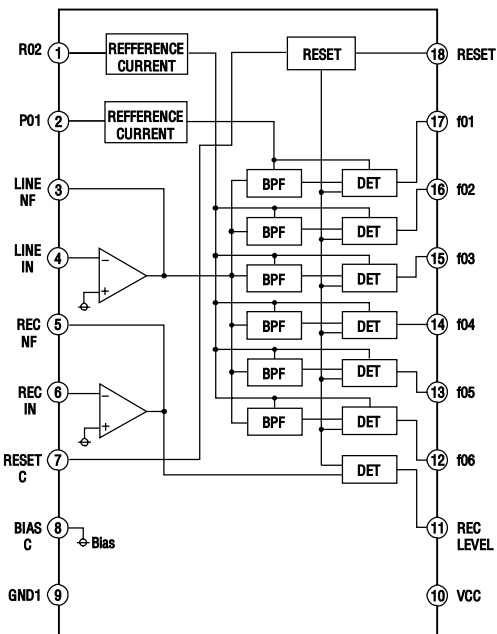
• VIDEO Board (3/3)

IC509 PCM1727E-2/T2



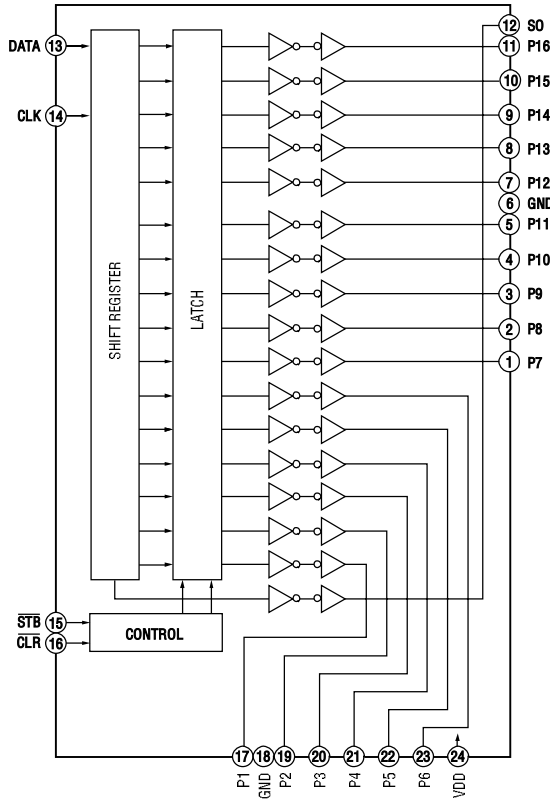
• PANEL Board (2/2)

IC603 BA3830F



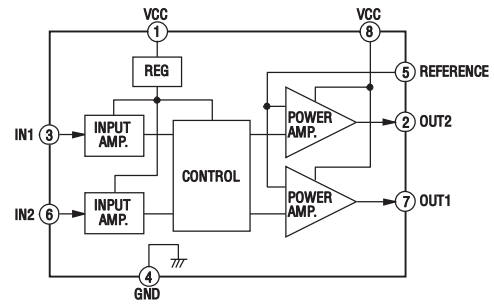
• PANEL Board (1/2)

IC604 NJU3716M-T2



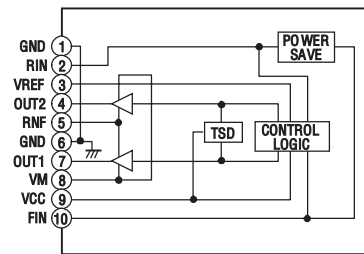
• MOTOR (TURN) Board

IC701 M54641L

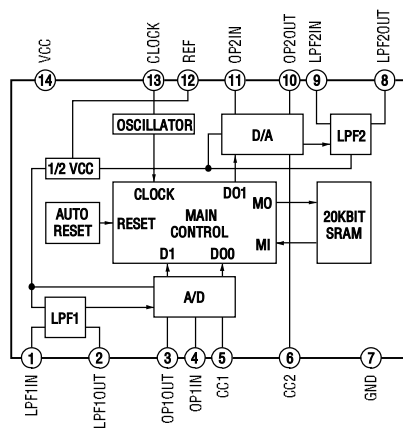


• MOTOR (SLIDE) Board

IC801 BA6286N



IC711 M65850FP



7-30. 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	C2PO	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	FIL0	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

• IC502 MPEG DECODER, MECHANISM CONTROL (M30620MC-A05FP) (VIDEO Board (1/3))

Pin No.	Pin Name	I/O	Function
1	SENSE	I	Internal state (SENSE) monitor input (IC101)
2	SENSE CLK	O	Serial data reading clock output (IC101)
3	DSP DATA	O	Serial data output (IC101)
4	DSP LATCH	O	Latch output (IC101)
5	DSP CLK	O	Serial data clock output (IC101)
6	TSENS	I	Not used
7	REMOTE IN	I	Not used
8	BYTE	I	External bus width change input (Connected to ground)
9	VSS	–	Ground
10	DSP MUTE	O	Mute output (IC101) “H” : mute
11	CTRL1 (L : DOUBLE)	O	Double change output (IC101) “L” : double
12	XRESET	I	System reset input “L” : reset
13	XOUT	O	Main clock output (10MHz)
14	VSS	–	Ground
15	XIN	I	Main clock input (10MHz)
16	VCC	–	+5V power supply
17	NMI	I	Requests mask disable interruption input (Connected to +5V)
18	SCOR	I	Subcode sync input (IC101)
19	D SENS	I	Not used
20	CL680 INT	I	Video CD interruption input (IC505)
21	CL680 HSEL	O	Video CD select data of the host MPU (IC505)
22	DF LATCH	O	Digital filter latch output (IC509)
23	CL680 HRDY	I	Ready signal input for communication to the host MPU (IC505)
24	680 RESET	O	Video CD reset output (IC505) “L” : reset
25	JOG1	I	Not used
26	JOG2	I	Not used
27	CTRL2	O	Double control output (IC101) “H” : double
28	LD ON	O	Laser diode ON/OFF output
29	IIC1	I/O	IIC clock input from master control
30	IIC0	I/O	IIC data input from master control
31	DATA1O	O	Serial 1 data output (IC505, 509)
32	DATA1I	I	Serial 1 data input (IC505, 509)
33	CLK1	O	Serial 1 clock output
34	SHARPNESS	O	Sharpness output L : normal, H : sharpness
35	XVLEVEL. DOWN	O	Fix the video signal output level output
36	SUBQ DATA	I	Serial 2 data input for subcode sync reading
37	SUBQ CLK	I	Serial 2 clock input for subcode sync reading
38	P. ON	I	Not used
39	BUS XRDY	I	Not used
40	BUS	I	Not used
41	BUS XHOLD	I	Not used
42, 43	BUS	I	Not used
44	BUS XRD	I	Model selection input “L” : chinese model, “H” : except chinese model
45	BUS	I	V sync signal input

Pin No.	Pin Name	I/O	Function
46	BUS XWRL	I	Not used
47	LO. BOOST	I	Not used
48	AUDIO MUTE	O	Audio mute output "L" : mute
49	LOAD OUT	I	Not used
50	LOAD IN	I	Not used
51	INSW	I	Not used
52	OUTSW	I	Not used
53	MODEL 1	I	L : System input (Fixed at "L")
54	MODEL 2	I	L : System input (Fixed at "L")
55	TBLL	I	Not used
56	TBLR	I	Not used
57	ENC 1	I	Not used
58	ENC 2	I	Not used
59	ENC 3	I	Not used
60	—	I	Not used
61	—	I	Not used
62	VCC	—	+5V power supply
63	—	I	Not used
64	VSS	—	Ground
65	A7	O	Video mute output "L"
66 to 71	A6 to A1	I	Not used
72	U to I	I	IIC conversion microcomputer transmission input
73	TEST LED	O	TEST LED for MPEG decoder
74	TEST 1	I	Test mode for Video CD check
75	TEST 2	I	Test mode for servo check
76	TEST 3	I	Not used
77	DEVICE RESET	O	Device system rest output "L" : reset
78	STANDBY	I	Not used
79	FL CS	I	Not used
80	FL	I	Not used
81 to 88	D7 to D0	I	Not used
89	MIC CTRL	I	Not used
90	KEY 1	I	Not used
91	KEY 2	I	Not used
92	KEY 3	I	Not used
93	NY/PAL	I	NTSC/PAL select switch input
94	MUSIC VOL	I	Not used
95	KEY 4	I	Not used
96	AVSS	—	A/D converter ground
97	MODE. SW	I	Not used
98	VREF	I	A/D converter reference voltage input (Connected to +5V)
99	AVCC	—	A/D converter +5V power supply
100	AMP. ON	I	Not used

• IC505 CD DECODER, SYSTEM CONTROL (CL680T-D1) (VIDEO Board (2/3))

Pin No.	Pin Name	I/O	Function
1	NC	–	Not used
2	VSS	–	Ground
3	CD-BCK	I	CD Decode bit clock
4	CD-DATA	I	CD Decode data
5	CD-LRCK	I	CD Decode Left or Right channel selection clock
6	CD-C2PO	I	CD Decode C2 error data
7	NC	–	Not used
8	NC	–	Not used
9	NC	–	Not used
10	MD0	I/O	Data bus between Microcode ROM/DRAM and CL680
11	MD1	I/O	Data bus between Microcode ROM/DRAM and CL680
12	MD2	I/O	Data bus between Microcode ROM/DRAM and CL680
13	MD3	I/O	Data bus between Microcode ROM/DRAM and CL680
14	MD4	I/O	Data bus between Microcode ROM/DRAM and CL680
15	MD5	I/O	Data bus between Microcode ROM/DRAM and CL680
16	VSS	–	Ground
17	MD6	I/O	Data bus between Microcode ROM/DRAM and CL680
18	VDD3	–	+3.3V Power supply
19	MD7	I/O	Data bus between Microcode ROM/DRAM and CL680
20	VSS	–	Ground
21	MD8	I/O	Data bus between Microcode ROM/DRAM and CL680
22	VDD3	–	+3.3V Power supply
23	MD9	I/O	Data bus between Microcode ROM/DRAM and CL680
24	MD10	I/O	Data bus between Microcode ROM/DRAM and CL680
25	MD11	I/O	Data bus between Microcode ROM/DRAM and CL680
26	MD12	I/O	Data bus between Microcode ROM/DRAM and CL680
27	MD13	I/O	Data bus between Microcode ROM/DRAM and CL680
28	MD14	I/O	Data bus between Microcode ROM/DRAM and CL680
29	MD15	I/O	Data bus between Microcode ROM/DRAM and CL680
30	NC	–	Not used
31	NC	–	Not used
32	NC	–	Not used
33	NC	–	Not used
34	NC	–	Not used
35	NC	–	Not used
36	NC	–	Not used
37	$\overline{\text{MCE}}$	O	Chip enable signal to Microcode ROM
38	$\overline{\text{MWE}}$	O	Write enable signal to DRAM
39	VSS	–	Ground
40	CAS	O	Column address strobe : Latch the column address to DRAM
41	VDD3	–	+3.3V power supply
42	$\overline{\text{RAS0}}$	O	Row address strobe : Latch row address to DRAM
43	$\overline{\text{RAS1}}$	–	Not used
44	MA10	O	Address data from CL680 to Microcode ROM
45	MA9	O	Address data from CL680 to Microcode ROM

Pin No.	Pin Name	I/O	Function
46	MA8	O	Address data from CL680 to Microcode ROM/DRAM
47	VSS	–	Ground
48	MA7	O	Address data from CL680 to Microcode ROM/DRAM
49	VDD3	–	+3.3V Power supply
50	MA6	O	Address data from CL680 to Microcode ROM/DRAM
51	MA5	O	Address data from CL680 to Microcode ROM/DRAM
52	MA4	O	Address data from CL680 to Microcode ROM/DRAM
53	VSS	–	Ground
54	MA3	O	Address data from CL680 to Microcode ROM/DRAM
55	VDD3	–	+3.3V Power supply
56	MA2	O	Address data from CL680 to Microcode ROM/DRAM
57	MA1	O	Address data from CL680 to Microcode ROM/DRAM
58	MA0	O	Address data from CL680 to Microcode ROM/DRAM
59	PGIO7	I/O	Not used
60	RESET	I	Reset signal input from the host MPU
61	VDDMAX-IN	I	Fix the maximum input voltage each input pin and I/O pin
62	NC	–	Not used
63	NC	–	Not used
64	NC	–	Not used
65	AGND DAC	–	Ground
66	AVDD DAC	–	+3.3V Power supply
67	COMPOS OUT	O	Not used
68	AGND DAC	–	Ground
69	Y-OUT	O	Luminance signal out
70	AVDD DAC	–	+3.3V Power supply
71	AGND DAC	–	Ground
72	RREF	I	Fix the video signal output level
73	(1.235V) VREF	O	Reference voltage (+1.235V)
74	AVDD DAC	–	+3.3V Power supply
75	C-OUT	O	Chrominance signal out
76	AGND DAC	–	Ground
77	(GCK INT) CLK SEL	I	GCK selection “H”; Internal, “L”; External
78	CLK SEL	I	DA-XCK selection (1)
79	CLK SEL	I	DA-XCK selection (2)
80	VSS	–	Ground
81	RESERVED	I	Selection the operation clock 42.336MHz
82	VDD3	–	+3.3V Power supply
83	DA-EMP	–	Not used
84	RESERVED	–	Not used
85	AGND PLL	–	Ground
86	DA-XCLK	I	Main reference clock input (16.9344MHz=384fs)
87	AVDD PLL	–	+3.3V
88	PGIO4	I/O	Not used
89	PGIO5	I/O	Not used
90	PGIO6	I/O	Not used

Pin No.	Pin Name	I/O	Function
91	PGIO0	I/O	Not used
92	PGIO8	I/O	Not used
93	PGIO2/VSYNC/CSYNC	O	Vertical synchronized signal of video signal
94	AVDD PLL	–	+3.3V Power supply
95	NC	–	Not used
96	NC	–	Not used
97	NC	–	Not used
98	AGND PLL	–	Ground
99	VSS	–	Ground
100	NC	–	Not used
101	PGIO3/HSYNC	I/O	Not used
102	VDD3	–	+3.3V Power supply
103	PGIO1/VCK-OUT	I/O	Not used
104	VSS	–	Ground
105	GCK	I	Not used
106	VCK-IN	I	Main clock for video signal processor
107	GCKOUT/DA-EMP	O	Not used
108	DA-LRCK	O	Digital Audio Left or Right channel selection clock
109	VDDMAX-OUT	O	Fix the maximum output voltage certain output pins (Connected to +5V)
110	DA-DATA	O	Digital Audio data
111	DA-BCK	O	Digital Audio bit clock
112	HD-OUT	O	Serial Data output from CL680 to the host MPU
113	HRDY	O	Ready signal CL680 is ready for communication to the host MPU
114	HINT	O	Request signal for interrupting the host MPU
115	CDG-SCK	I/O	Not used
116	VSS	–	Ground
117	HCK	I	Host clock : reference signal for the host bus interface
118	VDD3	–	+3.3V Power supply
119	HD-IN	I	Serial Data output from the host MPU to CL680
120	VDD3	–	+3.3V Power supply
121	HSEL	I	Select data or address of the host MPU
122	CDG-SDATA	I	Ground (Not used)
123	CDG-VFSY	I	Ground (Not used)
124	CDG-SOS1	I	Ground (Not used)
125	NC	–	Not used
126	NC	–	Not used
127	NC	–	Not used
128	NC	–	Not used

• IC501 MASTER CONTROL (M30622MA-A09FP) (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	HDL D	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	
69	ENC 2/DISC-LED	I	Disc tray address detect encoder input
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-6005) (PANEL Board (2/2))

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	VOL A	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	VArefer	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 8 EXPLODED VIEWS

NOTE:

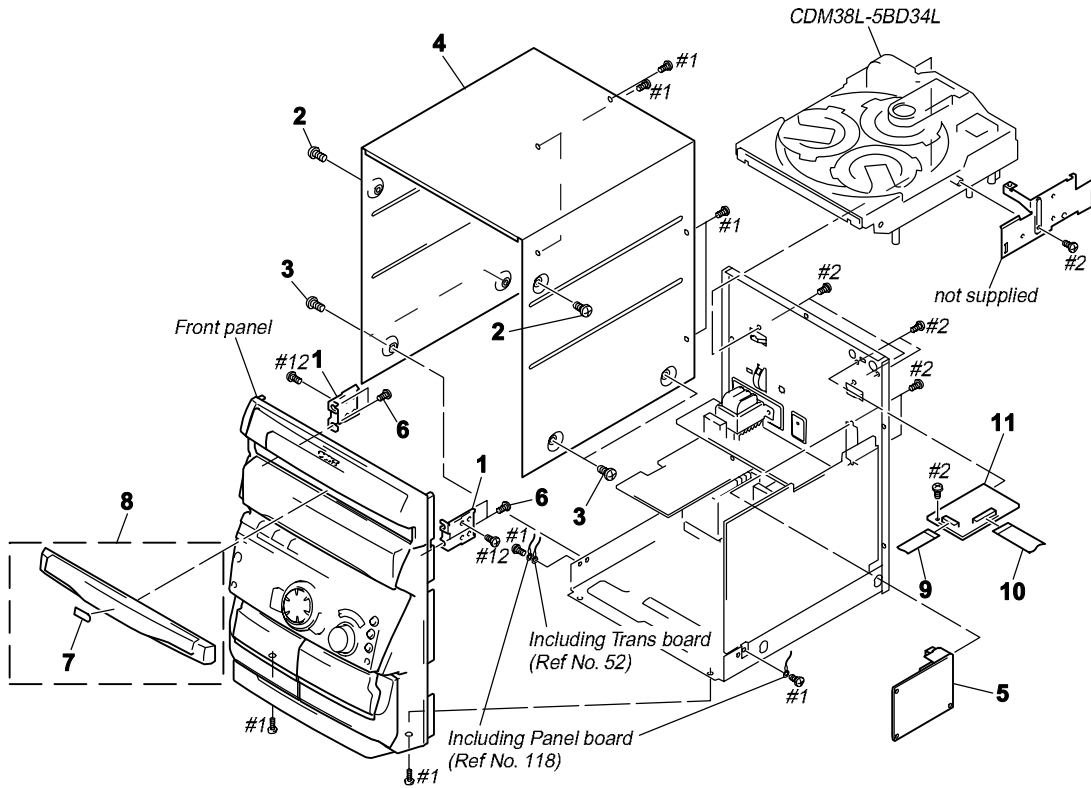
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- The mechanical parts with no reference number in the exploded views are not supplied.
- Hardware (# mark) list and accessories and packing materials are given in the last of this parts list.
- Color Indication of Appearance Parts Example:
KNOB, BALANCE (WHITE)

↑
Cabinets color

- Abbreviation
EA : Saudi Arabia model
SP : Singapore model
MY : Malaysia model
IA : Indonesia model
TH : Thai model

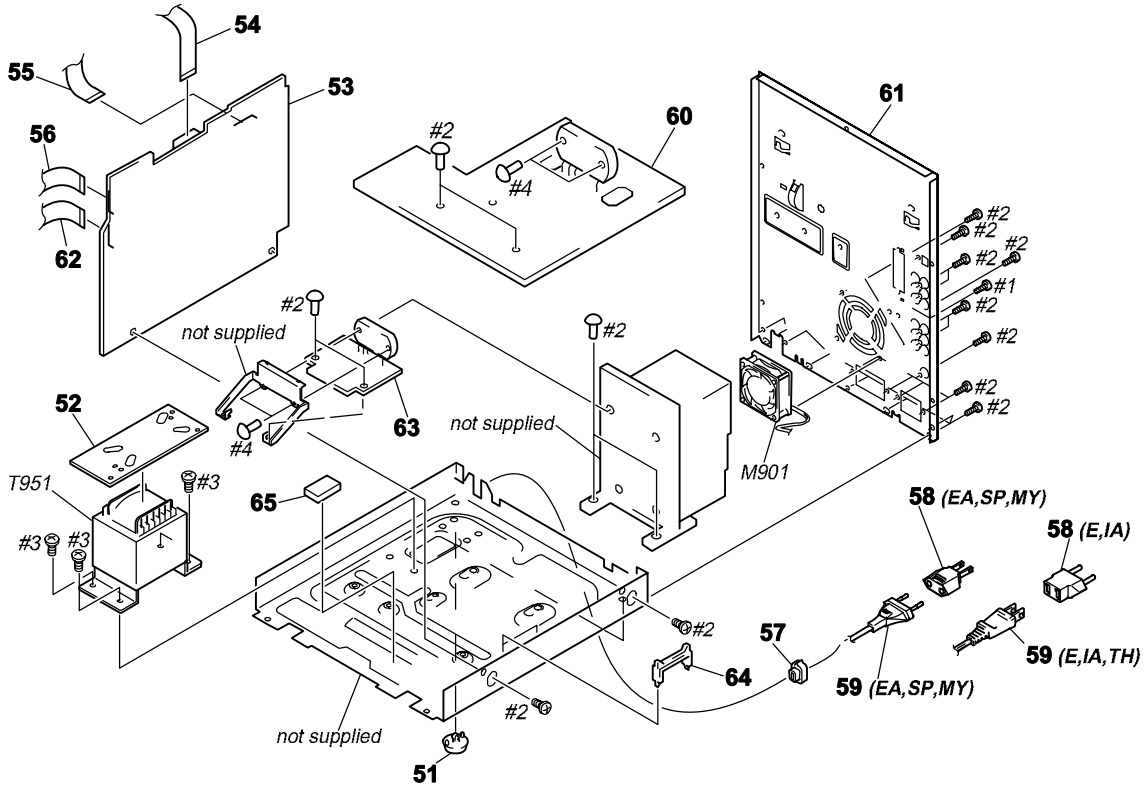
The components identified by mark Δ or dotted line with mark Δ are critical for safety. Replace only with part number specified.

8-1. 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	3-363-099-41	SCREW (CASE 3 TP2) (GRAY)		7	4-991-781-01	EMBLEM (VCD)	
2	3-363-099-71	SCREW (CASE 3 TP2) (SILVER)		8	X-4950-967-1	PANEL ASSY, LOADING (GRAY)	
3	3-363-099-01	SCREW (CASE 3 TP2) (GRAY)		8	X-4951-012-1	PANEL ASSY, LOADING (SILVER)	
3	3-363-099-11	SCREW (CASE 3 TP2) (SILVER)		9	1-783-949-11	WIRE (FLAT TYPE) (13 CORE)	
4	4-215-179-21	CASE (SILVER)		10	1-775-212-11	WIRE (FLAT TYPE) (23 CORE)	
4	4-221-148-41	CASE (GRAY)		11	A-4724-729-A	VIDEO BOARD, COMPLETE	
5	1-233-545-11	TUNER UNIT (FM/AM) (TH)					
5	1-233-546-11	TUNER UNIT (FM/MW/SW) (EXCEPT TH)					

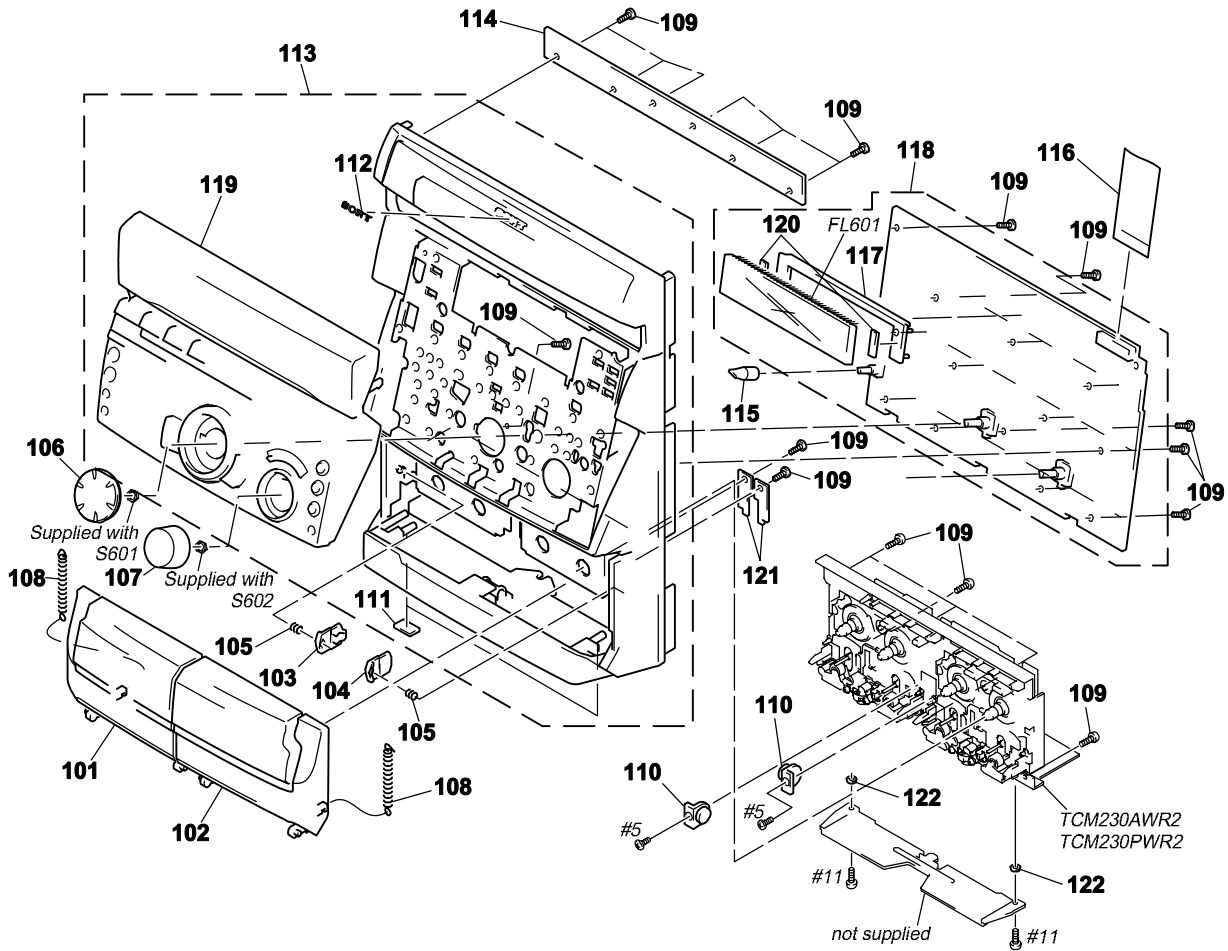
8-2. CHASSIS SECTION



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

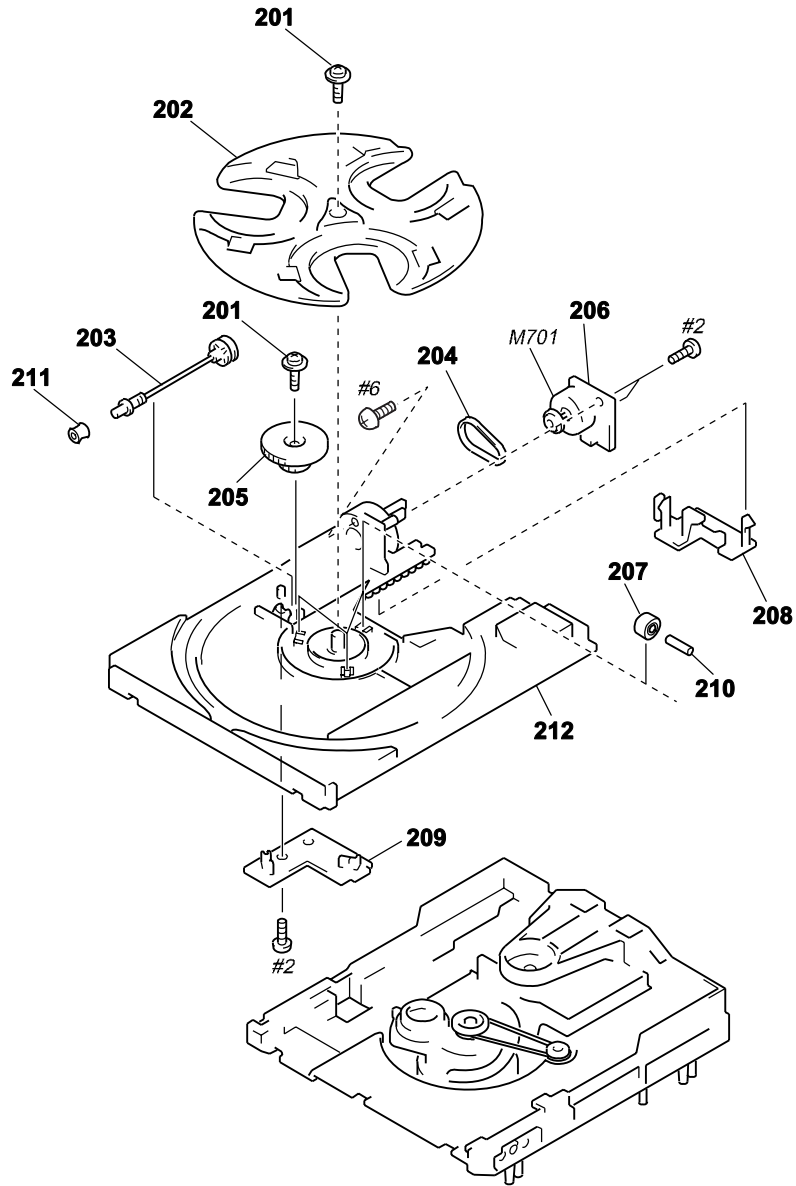
Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
51	4-965-822-01	FOOT		Δ 59	1-575-651-11	CORD, POWER (EA,SP,MY)	
* 52	1-672-369-11	TRANS BOARD		Δ 59	1-575-653-11	CORD, POWER (E,IA,TH)	
53	A-4417-910-A	MAIN BOARD, COMPLETE (TH)		60	A-4426-201-A	FRONT AMP BOARD, COMPLETE	
53	A-4417-918-A	MAIN BOARD, COMPLETE (EA)		61	4-215-642-11	PANEL, BACK (EA,SP,MY)	
53	A-4417-955-A	MAIN BOARD, COMPLETE (E,SP,MY,IA)		61	4-215-642-31	PANEL, BACK (IA)	
54	1-783-570-11	WIRE (FLAT TYPE) (19 CORE)		61	4-215-642-41	PANEL, BACK (E)	
55	1-769-976-11	WIRE (FLAT TYPE) (13 CORE) (TH)		61	4-215-642-51	PANEL, BACK (TH)	
55	1-773-008-11	WIRE (FLAT TYPE) (15 CORE) (140 mm)	(EXCEPT TH)	62	1-773-023-11	WIRE (FLAT TYPE) (15 CORE) (310 mm)	
56	1-773-049-11	WIRE (FLAT TYPE) (17 CORE)		63	A-4417-794-A	3CH AMP BOARD, COMPLETE	
57	3-703-244-00	BUSHING (FBS001), CORD (SP,MY)		* 64	4-988-533-01	PCB HOLDER	
57	3-703-571-11	BUSHING (S)(4516), CORD (TH)		65	4-985-642-01	CUSHION	
57	4-966-266-01	BUSHING (S)(FBS002), CORD (E,EA,IA)		M901	1-763-072-11	FAN, DC	
58	1-569-007-11	ADAPTOR, CONVERSION 2P (E,IA)		Δ T951	1-433-555-11	TRANSFORMER, POWER	
58	1-569-008-21	ADAPTOR, CONVERSION 2P (EA,SP,MY)					

8-3. FRONT PANEL SECTION



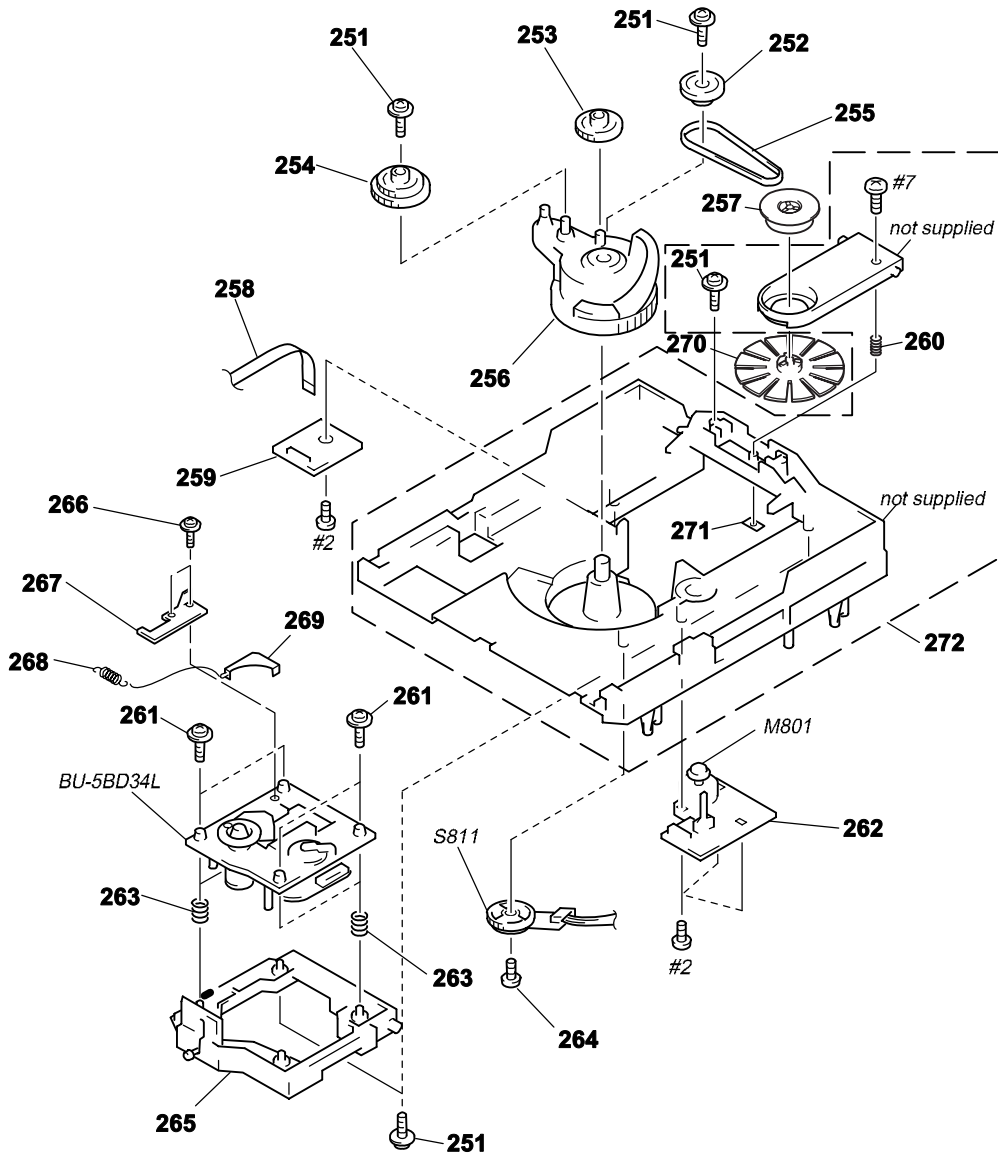
Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
101	X-4951-067-1	HOLDER (L) ASSY, CASSETTE (SILVER)		112	4-962-708-81	EMBLEM (4-A), SONY	
101	X-4951-069-1	HOLDER (L) ASSY, CASSETTE (GRAY)		113	X-4950-866-1	PANEL ASSY, FRONT (SILVER)	
102	X-4951-068-1	HOLDER (R) ASSY, CASSETTE (SILVER)		113	X-4950-867-1	PANEL ASSY, FRONT (GRAY)	
102	X-4951-070-1	HOLDER (R) ASSY, CASSETTE(E,EA)(GRAY)		114	A-4417-826-A	CD SW BOARD, COMPLETE	
103	4-214-760-11	CATCHER (A), PUSH		115	4-214-385-11	KNOB (MIC) (SILVER)	
104	4-214-761-11	CATCHER (B), PUSH		115	4-214-385-41	KNOB (MIC) (GRAY)	
105	4-214-775-01	SPRING, PUSH CATCHER RETURN		116	1-773-189-11	WIRE (FLAT TYPE) (23 CORE)	
106	4-214-383-11	KNOB (JOG) (SILVER)		117	4-214-439-01	HOLDER, FL TUBE	
106	4-214-383-41	KNOB (JOG) (GRAY)		118	A-4417-959-A	PANEL BOARD, COMPLETE	
107	4-214-384-11	KNOB (VOL) (SILVER)		119	X-4951-444-1	PANEL ASSY, SUB (SILVER)	
107	4-214-384-41	KNOB (VOL) (GRAY)		119	X-4951-445-1	PANEL ASSY, SUB (GRAY)	
108	4-219-087-01	SPRING, TENSION		*	120	4-949-935-81	CUSHION (FL)
109	4-951-620-01	SCREW (2.6X8), +BVTP		121	1-674-232-11	PUSH CATCH STOP BOARD	
110	4-215-062-01	DAMPER		122	4-949-302-91	WASHER	
111	4-930-336-61	FOOT (FELT) (TH)		FL601	1-517-831-31	INDICATOR TUBE, FLUORESCENT	
111	4-988-663-01	FOOT (FELT) (EXCEPT TH)					

8-4. CD MECHANISM DECK SECTION-1 (CDM38L-5BD34L)



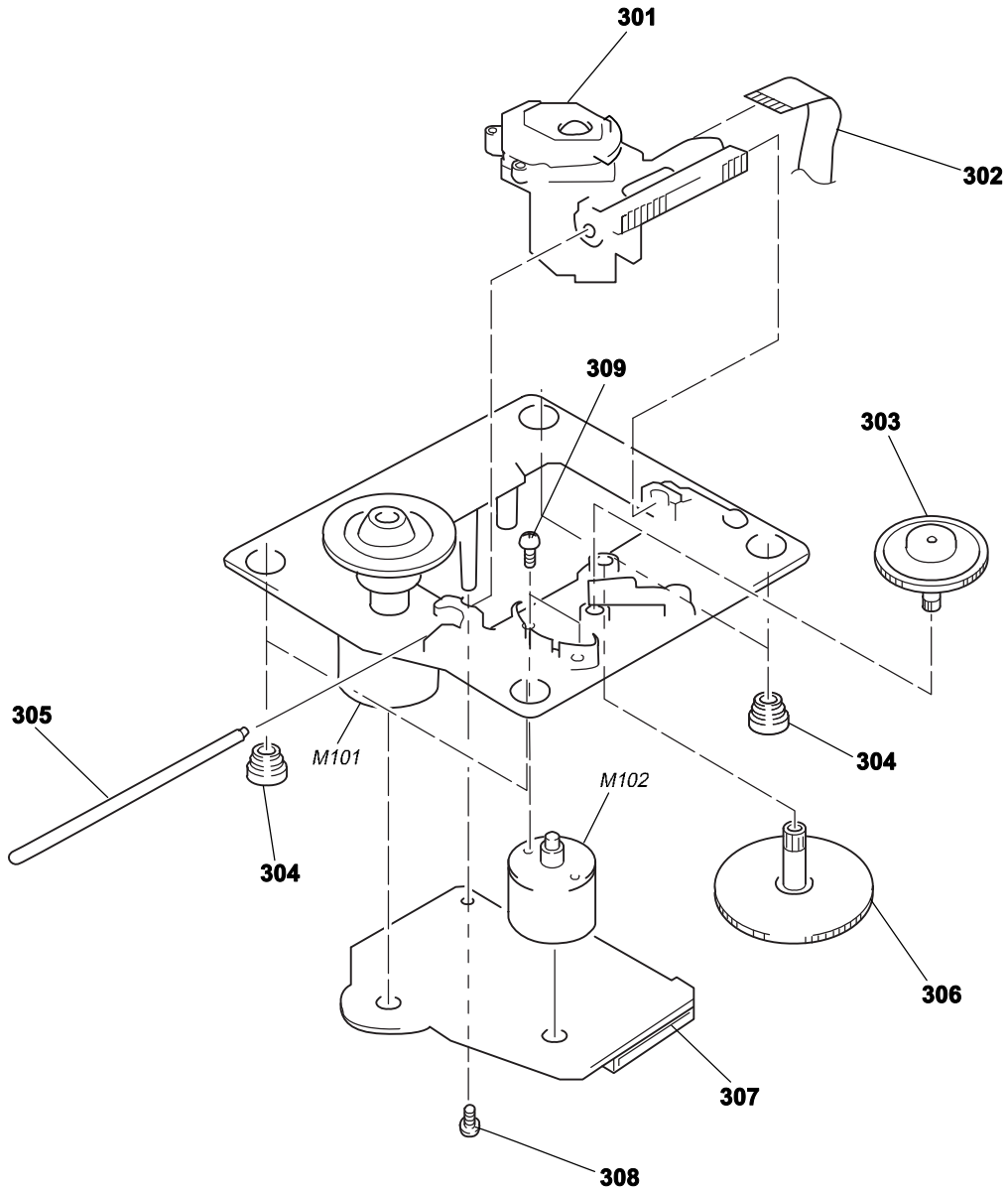
Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
201	4-981-789-01	BRACKET (2), YOKE		207	4-988-162-01	ROLLER	
202	4-977-945-01	TRAY (TURN)		208	4-977-941-01	BEARING (WORM)	
203	X-4946-665-1	SHAFT ASSY, WORM		* 209	1-658-576-11	SENSOR BOARD	
204	4-977-943-01	BELT (TURN) (1.2)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

8-5. CD MECHANISM DECK SECTION-2 (CDM38L-5BD34L)



Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
251	4-917-583-71	BRACKET, YOKE		263	4-982-447-01	SPRING (BU), COMPRESSION	
252	4-977-954-01	PULLEY (SL)		264	4-951-620-41	SCREW (2.6), +BVTP	
253	4-977-953-01	GEAR (SL-A)		* 265	X-4946-666-1	HOLDER (BU) ASSY	
254	4-977-955-01	GEAR (SL-B)		266	4-989-494-01	SCREW (SLIDER), STEP	
255	4-977-942-01	BELT (SL) (1.4)		267	4-989-492-11	SLIDER (38)	
256	X-4946-667-1	CAM ASSY, BU		268	4-989-819-02	SPRING, TENSION	
257	1-452-925-21	MAGNET ASSY		269	4-989-491-01	COVER, LENS	
258	1-776-042-11	WIRE (FLAT TYPE) (8 CORE)		270	4-993-142-03	PULLEY (L), PRESS	
* 259	1-658-575-11	CONNECTOR BOARD		271	4-900-718-01	BRACKET (ADJUSTMENT)	
260	4-900-743-01	SPRING, COMPRESSION		272	X-4950-020-1	CHASSIS (CDM) ASSY	
261	4-985-672-01	SCREW (+PTPWHM2.6), FLOATING		S811	1-473-335-11	ENCODER, ROTARY	
* 262	1-658-578-11	MOTOR (SLIDE) BOARD		M801	A-4672-004-A	MOTOR ASSY (SLIDE)	

8-6. BASE UNIT SECTION (BU-5BD34L)

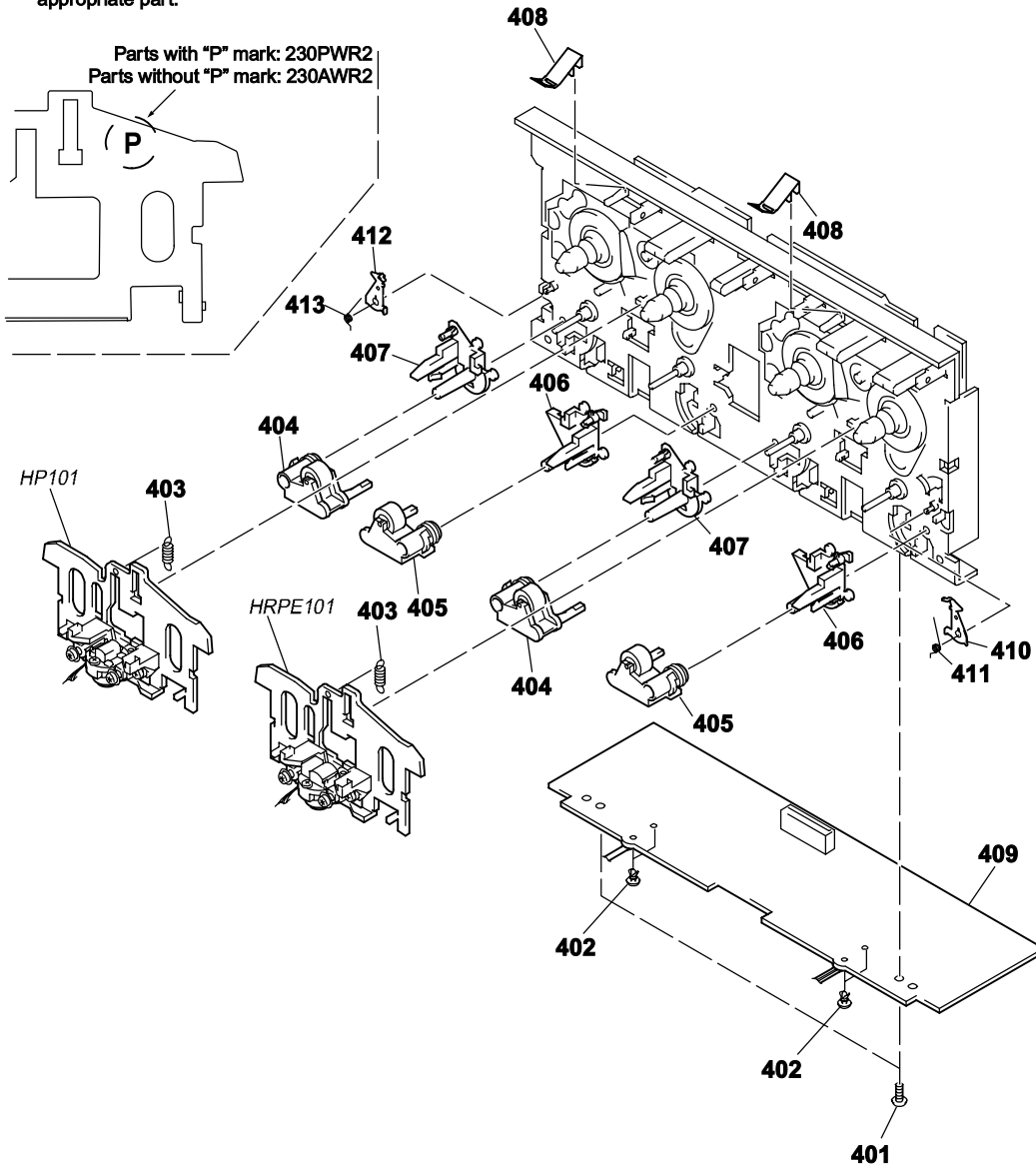


The components identified by mark Δ or dotted line with mark Δ are critical for safety. Replace only with part number specified.

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
Δ 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-4724-653-A	BD BOARD, COMPLETE	
303	4-917-567-21	GEAR (M)		308	4-951-620-01	SCREW (2.6X8), +BVTP	
304	4-951-940-01	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)	

8-7. TC MECHANISM SECTION-1 (TCM230AWR2/230PWR2)

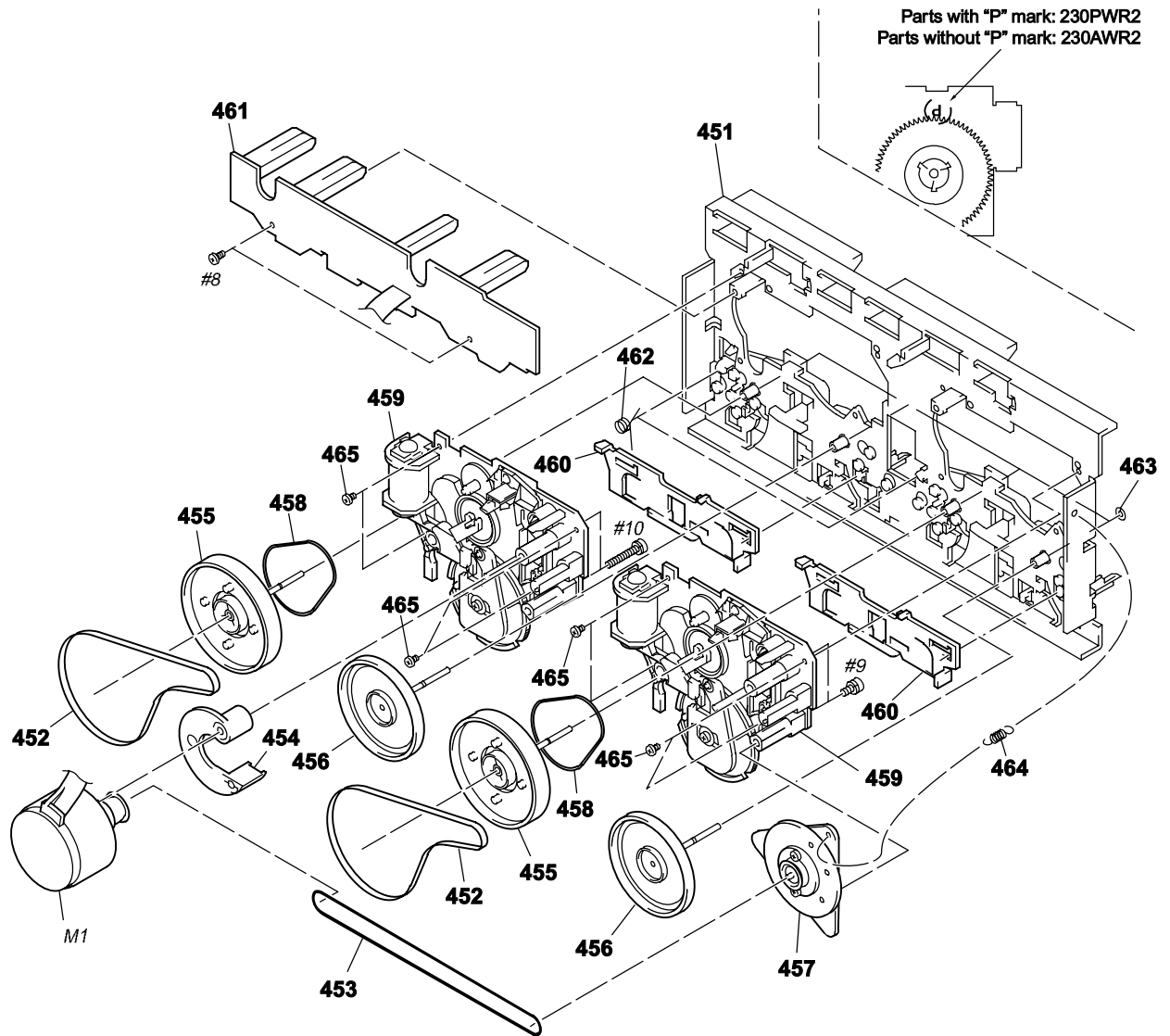
*NOTE: Two types of parts which are not interchangeable are available for the Head deck (A) ASSY and Head deck (B) ASSY. When replacing the parts, refer to the following figure, and use the appropriate part.



Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
401	3-376-464-11	SCREW(+PTT 2.6X6),GROUND POINT		410	3-016-573-01	LEVER (EJECT PREVENTION R)	
402	3-911-116-42	RIVET, PUSH		411	3-032-810-02	SPRING (R), TORSION	
403	3-016-574-01	SPRING (HEAD), TENSION		412	3-016-572-01	LEVER (EJECT PREVENTION L)	
404	X-3374-156-4	PINCH LEVER (REV) ASSY		413	3-032-809-02	SPRING (L), TORSION	
405	X-3374-155-4	PINCH LEVER (FWD) ASSY		HP101	A-2056-681-B	DECK (A) ASSY, HEAD (230AWR2)(*NOTE)	
406	3-017-365-01	BASE (PINCH LEVER FWD)		HP101	A-2056-683-B	DECK (A) ASSY, HEAD (230PWR2)(*NOTE)	
407	3-017-366-01	BASE (PINCH LEVER REV)		HRPE101	A-2056-682-B	DECK (B) ASSY, HEAD (230AWR2)(*NOTE)	
408	3-026-892-01	SPRING (CASSETTE), LEAF		HRPE101	A-2056-684-B	DECK (B) ASSY, HEAD (230PWR2)(*NOTE)	
409	A-2007-799-A	AUDIO BOARD, COMPLETE					

8-8. TC MECHANISM SECTION-2 (TCM230AWR2/230PWR2)

*NOTE: Two types of parts which are not interchangeable are available for the mechanical block assembly. When replacing the parts, refer to the following figure, and use the appropriate part.



Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
451	X-3374-214-1	CHASSIS ASSY, MAIN		459	A-2004-630-A	MECHANICAL BLOCK ASSY (230PWR2)(*NOTE)	
452	3-016-570-01	BELT (CAPSTAN)		460	3-016-566-01	SLIDER, REVERSE	
453	3-016-569-01	BELT (TENSION)		461	A-2007-800-A	LEAF SW BOARD, COMPLETE	
* 454	3-016-568-01	BRACKET (MOTOR)		462	3-016-575-01	SPRING, TORSION	
455	X-3374-075-5	FLYWHEEL (FWD) ASSY		463	3-019-208-01	WASHER, STOPPER	
456	X-3374-076-1	FLYWHEEL (REV) ASSY		464	3-027-453-01	SPRING (GROUND), TENSION	
457	X-3374-157-1	PULLEY ASSY, TENSION		465	3-030-823-01	SCREW (+BVTT) (2X3.5)	
458	3-024-405-01	BELT (FR2)		M1	A-2004-628-A	MOTOR ASSY, CAPSTAN	
459	A-2004-629-A	MECHANICAL BLOCK ASSY (230AWR2)(*NOTE)					

3CH AMP

SECTION 9 ELECTRICAL PARTS LIST

Note:

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

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

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- -XX, -X mean standardized parts, so they may have some difference from the original one.
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- RESISTORS
All resistors are in ohms
METAL: Metal-film resistor
METAL OXIDE: Metal Oxide-film resistor
F : nonflammable
- SEMICONDUCTORS
In each case, u, μ , for example:
uA...: μ A..., uPA...: μ PA..., uPB...: μ PB...,
uPC...: μ PC..., uPD...: μ PD...
- CAPACITORS
uF : μ F
- COILS
uH : μ H
- Abbreviation
EA : Saudi Arabia model
SP : Singapore model
MY : Malaysia model
IA : Indonesia model
TH : Thai model

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
	A-4417-794-A	3CH AMP BOARD, COMPLETE *****		Q1051	8-729-140-84	TRANSISTOR 2SC1841-PAFAEA	
		< CAPACITOR >		Q1081	8-729-140-84	TRANSISTOR 2SC1841-PAFAEA	
C1001	1-126-963-11	ELECT 4.7uF 20% 50V				< RESISTOR >	
C1002	1-162-286-21	CERAMIC 220PF 10% 50V		R1001	1-249-417-11	CARBON 1K 5% 1/4W F	
C1003	1-162-282-31	CERAMIC 100PF 10% 50V		R1002	1-249-438-11	CARBON 56K 5% 1/4W	
C1004	1-104-664-11	ELECT 47uF 20% 10V		R1003	1-249-412-11	CARBON 390 5% 1/4W F	
C1005	1-128-560-11	ELECT 22uF 20% 100V		R1004	1-249-438-11	CARBON 56K 5% 1/4W	
				Δ R1005	1-212-881-11	FUSIBLE 100 5% 1/4W F	
C1006	1-136-165-00	FILM 0.1uF 5% 50V		Δ R1006	1-217-151-00	METAL 0.22 10% 2W	
C1007	1-136-495-11	FILM 0.068uF 5% 50V		R1007	1-249-417-11	CARBON 1K 5% 1/4W F	
C1008	1-136-495-11	FILM 0.068uF 5% 50V		R1008	1-249-431-11	CARBON 15K 5% 1/4W	
C1022	1-162-306-11	CERAMIC 0.01uF 20% 16V		R1009	1-249-441-11	CARBON 100K 5% 1/4W	
C1051	1-126-963-11	ELECT 4.7uF 20% 50V		R1010	1-260-076-11	CARBON 10 5% 1/2W	
				R1020	1-247-863-91	CARBON 22K 5% 1/4W	
C1052	1-162-286-21	CERAMIC 220PF 10% 50V		R1021	1-249-435-11	CARBON 33K 5% 1/4W	
C1053	1-162-282-31	CERAMIC 100PF 10% 50V		R1022	1-247-863-91	CARBON 22K 5% 1/4W	
C1054	1-104-664-11	ELECT 47uF 20% 10V		R1023	1-249-439-11	CARBON 68K 5% 1/4W	
C1055	1-128-560-11	ELECT 22uF 20% 100V		R1024	1-249-441-11	CARBON 100K 5% 1/4W F	
C1056	1-136-165-00	FILM 0.1uF 5% 50V					
C1057	1-136-495-11	FILM 0.068uF 5% 50V		R1025	1-247-863-91	CARBON 22K 5% 1/4W	
C1058	1-136-495-11	FILM 0.068uF 5% 50V		R1026	1-249-429-11	CARBON 10K 5% 1/4W	
C1081	1-126-963-11	ELECT 4.7uF 20% 50V		R1027	1-249-441-11	CARBON 100K 5% 1/4W F	
C1082	1-162-286-21	CERAMIC 220PF 10% 50V		Δ R1028	1-202-972-61	FUSIBLE 1 5% 1/4W F	
C1083	1-162-282-31	CERAMIC 100PF 10% 50V		R1029	1-249-441-11	CARBON 100K 5% 1/4W	
				R1030	1-249-441-11	CARBON 100K 5% 1/4W	
C1084	1-104-664-11	ELECT 47uF 20% 10V		R1031	1-249-437-11	CARBON 47K 5% 1/4W	
C1085	1-136-495-11	FILM 0.068uF 5% 50V		R1051	1-249-417-11	CARBON 1K 5% 1/4W F	
C1086	1-136-495-11	FILM 0.068uF 5% 50V		R1052	1-249-438-11	CARBON 56K 5% 1/4W	
		< CONNECTOR >		R1053	1-249-412-11	CARBON 390 5% 1/4W F	
CN1001	1-691-767-11	PLUG (MICRO CONNECTOR) 5P		R1054	1-249-438-11	CARBON 56K 5% 1/4W	
CN1002	1-691-772-11	PLUG (MICRO CONNECTOR) 10P		Δ R1055	1-212-881-11	FUSIBLE 100 5% 1/4W F	
		< DIODE >		Δ R1056	1-217-151-00	METAL 0.22 10% 2W	
D1001	8-719-991-33	DIODE 1SS133T-77		R1057	1-249-417-11	CARBON 1K 5% 1/4W F	
D1021	8-719-991-33	DIODE 1SS133T-77		R1058	1-249-431-11	CARBON 15K 5% 1/4W	
D1051	8-719-991-33	DIODE 1SS133T-77					
D1081	8-719-991-33	DIODE 1SS133T-77		R1059	1-249-441-11	CARBON 100K 5% 1/4W	
		< IC >		R1060	1-260-076-11	CARBON 10 5% 1/2W	
IC1001	8-749-015-54	IC STK408-040E		R1081	1-249-417-11	CARBON 1K 5% 1/4W F	
		< TRANSISTOR >		R1082	1-249-438-11	CARBON 56K 5% 1/4W	
Q1001	8-729-140-84	TRANSISTOR 2SC1841-PAFAEA		R1083	1-249-442-11	CARBON 510 5% 1/4W	
Q1021	8-729-119-76	TRANSISTOR 2SA1175-HFE					
Q1022	8-729-119-78	TRANSISTOR 2SC2785-HFE		R1084	1-249-438-11	CARBON 56K 5% 1/4W	
Q1023	8-729-140-84	TRANSISTOR 2SC1841-PAFAEA		R1085	1-217-151-00	METAL 0.22 10% 2W	
Q1024	8-729-119-78	TRANSISTOR 2SC403SP-51		R1086	1-249-417-11	CARBON 1K 5% 1/4W F	
				R1087	1-249-431-11	CARBON 15K 5% 1/4W	
				R1088	1-249-441-11	CARBON 100K 5% 1/4W	
				R1089	1-260-076-11	CARBON 10 5% 1/2W	

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
		< THERMISTOR >					
TH1021	1-807-796-11	THERMISTOR		L431	1-410-780-11	INDUCTOR 27mH	
				L601	1-414-193-41	INDUCTOR 220uH	
				L602	1-414-193-41	INDUCTOR 220uH	
*****						< TRANSISTOR >	
	A-2007-799-A	AUDIO BOARD, COMPLETE		Q621	8-729-142-46	TRANSISTOR 2SC2001-LK	
		*****		Q622	8-729-142-46	TRANSISTOR 2SC2001-LK	
		< CAPACITOR >		Q623	8-729-801-93	TRANSISTOR 2SD1387	
						< RESISTOR >	
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	1-247-815-91	CARBON 220 5% 1/4W	
C303	1-162-282-31	CERAMIC	100PF 10% 50V	R303	1-247-863-91	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	FILM	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	1-247-815-91	CARBON 220 5% 1/4W	
C401	1-162-289-31	CERAMIC	390PF 10% 50V	R403	1-247-863-91	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	1-247-815-91	CARBON 220 5% 1/4W	
C431	1-137-427-11	FILM	120PF 5% 50V	R602	1-247-815-91	CARBON 220 5% 1/4W	
C432	1-162-288-31	CERAMIC	330PF 10% 50V	R608	1-247-815-91	CARBON 220 5% 1/4W	
C433	1-162-209-31	CERAMIC	27PF 5% 50V	R609	1-247-863-91	CARBON 22K 5% 1/4W	
C601	1-104-396-11	ELECT	10uF 20% 16V	R611	1-247-815-91	CARBON 220 5% 1/4W	
C602	1-104-396-11	ELECT	10uF 20% 16V	R612	1-247-815-91	CARBON 220 5% 1/4W	
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			< VARIABLE RESISTOR >	
C625	1-130-481-00	MYLAR	0.0068uF 5% 50V	RV301	1-238-598-11	RES, ADJ, CARBON 2.2K	
C627	1-124-903-11	ELECT	1uF 20% 50V	RV311	1-238-598-11	RES, ADJ, CARBON 2.2K	
C628	1-136-153-00	FILM	0.01uF 5% 50V	RV341	1-241-768-11	RES, ADJ, CARBON 220K	
C642	1-104-664-11	ELECT	47uF 20% 16V	RV401	1-238-598-11	RES, ADJ, CARBON 2.2K	
		< CONNECTOR >		RV411	1-238-598-11	RES, ADJ, CARBON 2.2K	
CN601	1-695-338-11	PIN, CONNECTOR (PC BOARD) 15P				< TRANSFORMER >	
		< IC >		T621	1-423-980-11	TRANSFORMER, BIAS OSCILLATION	
IC601	8-759-111-44	IC UPC4570C-1		*****			
IC602	8-759-143-54	IC UPC1330HA					
IC611	8-759-111-44	IC UPC4570C-1					
		< COIL >					
L331	1-410-780-11	INDUCTOR	27mH				

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

BD

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
	A-4724-653-A	BD BOARD, COMPLETE *****				< TRANSISTOR >	
		< CAPACITOR >		Q101	8-729-010-08	TRANSISTOR MSB710-R	
						< RESISTOR >	
C101	1-163-005-11	CERAMIC CHIP 470PF	10% 50V	R101	1-216-077-00	METAL CHIP 15K	5% 1/10W
C102	1-163-038-91	CERAMIC CHIP 0.1uF	25V	R102	1-216-097-91	RES,CHIP 100K	5% 1/10W
C103	1-163-005-11	CERAMIC CHIP 470PF	10% 50V	R103	1-216-077-00	METAL CHIP 15K	5% 1/10W
C105	1-126-206-11	ELECT CHIP 100uF	20% 6.3V	R104	1-216-085-00	METAL CHIP 33K	5% 1/10W
C106	1-164-346-11	CERAMIC CHIP 1uF	16V	R105	1-216-073-00	METAL CHIP 10K	5% 1/10W
C107	1-164-346-11	CERAMIC CHIP 1uF	16V	R106	1-216-049-91	RES,CHIP 1K	5% 1/10W
C108	1-164-004-11	CERAMIC CHIP 0.1uF	10% 25V	R107	1-216-073-00	METAL CHIP 10K	5% 1/10W
C109	1-163-145-00	CERAMIC CHIP 0.0015uF	5% 50V	R108	1-216-061-00	METAL CHIP 3.3K	5% 1/10W
C110	1-164-161-11	CERAMIC CHIP 0.0022uF	10% 100V	R109	1-216-121-91	RES,CHIP 1M	5% 1/10W
C111	1-163-251-11	CERAMIC CHIP 100PF	5% 50V	R110	1-216-295-91	SHORT 0	
C112	1-163-038-91	CERAMIC CHIP 0.1uF	25V	R112	1-216-049-91	RES,CHIP 1K	5% 1/10W
C113	1-163-038-91	CERAMIC CHIP 0.1uF	25V	R123	1-216-073-00	METAL CHIP 10K	5% 1/10W
C115	1-126-607-11	ELECT CHIP 47uF	20% 4V	R124	1-216-097-91	RES,CHIP 100K	5% 1/10W
C116	1-126-607-11	ELECT CHIP 47uF	20% 4V	R125	1-216-037-00	METAL CHIP 330	5% 1/10W
C117	1-126-209-11	ELECT CHIP 100uF	20% 4V	R126	1-216-037-00	METAL CHIP 330	5% 1/10W
C118	1-163-275-11	CERAMIC CHIP 0.001uF	5% 50V	R127	1-216-037-00	METAL CHIP 330	5% 1/10W
C119	1-163-110-00	CERAMIC CHIP 51PF	5% 50V	R131	1-216-037-00	METAL CHIP 330	5% 1/10W
C120	1-109-982-11	CERAMIC CHIP 1uF	10% 10V	R135	1-216-295-91	SHORT 0	
C121	1-109-982-11	CERAMIC CHIP 1uF	10% 10V	R136	1-216-295-91	SHORT 0	
C122	1-163-009-11	CERAMIC CHIP 0.001uF	10% 50V	R137	1-216-295-91	SHORT 0	
C123	1-163-021-91	CERAMIC CHIP 0.01uF	10% 50V	R138	1-216-295-91	SHORT 0	
C124	1-164-005-11	CERAMIC CHIP 0.47uF	25V	R143	1-216-103-00	METAL CHIP 180K	5% 1/10W
C126	1-124-779-00	ELECT CHIP 10uF	20% 16V	R144	1-216-103-00	METAL CHIP 180K	5% 1/10W
C130	1-163-038-91	CERAMIC CHIP 0.1uF	25V	R145	1-216-121-91	RES,CHIP 1M	5% 1/10W
C140	1-163-038-91	CERAMIC CHIP 0.1uF	25V	R146	1-216-121-91	RES,CHIP 1M	5% 1/10W
C141	1-163-038-91	CERAMIC CHIP 0.1uF	25V	R147	1-216-041-00	METAL CHIP 470	5% 1/10W
C151	1-163-235-11	CERAMIC CHIP 22PF	5% 50V	R148	1-216-001-00	METAL CHIP 10	5% 1/10W
C153	1-163-038-91	CERAMIC CHIP 0.1uF	25V	R149	1-216-003-11	RES,CHIP 12	5% 1/10W
C154	1-110-501-11	CERAMIC CHIP 0.33uF	10% 16V	R150	1-216-073-00	METAL CHIP 10K	5% 1/10W
C156	1-163-235-11	CERAMIC CHIP 22PF	5% 50V	R154	1-216-025-91	RES,CHIP 100	5% 1/10W
C157	1-163-009-11	CERAMIC CHIP 0.001uF	10% 50V	R155	1-216-025-91	RES,CHIP 100	5% 1/10W
C159	1-163-017-00	CERAMIC CHIP 0.0047uF	5% 50V	R156	1-216-025-91	RES,CHIP 100	5% 1/10W
C161	1-163-038-91	CERAMIC CHIP 0.1uF	25V	R157	1-216-025-91	RES,CHIP 100	5% 1/10W
C162	1-128-065-11	ELECT CHIP 68uF	20% 10V	R158	1-216-111-00	METAL CHIP 390K	5% 1/10W
C170	1-163-038-91	CERAMIC CHIP 0.1uF	25V	R159	1-216-089-91	RES,CHIP 47K	5% 1/10W
C171	1-163-038-91	CERAMIC CHIP 0.1uF	25V	R161	1-216-308-00	METAL CHIP 4.7	5% 1/10W
		< CONNECTOR >		R162	1-216-101-00	METAL CHIP 150K	5% 1/10W
CN101	1-770-706-11	CONNECTOR, FFC/FPC 23P		R171	1-216-025-91	RES,CHIP 100	5% 1/10W
CN102	1-777-937-11	CONNECTOR, FFC/FPC 16P		R172	1-216-025-91	RES,CHIP 100	5% 1/10W
		< IC >		R173	1-216-025-91	RES,CHIP 100	5% 1/10W
IC101	8-752-397-42	IC CXD3008Q		R175	1-216-025-91	RES,CHIP 100	5% 1/10W
IC102	8-759-549-28	IC BA5974FP-E2		R203	1-216-025-91	RES,CHIP 100	5% 1/10W
IC103	8-752-085-51	IC CXA2568M-T6		R204	1-216-025-91	RES,CHIP 100	5% 1/10W
IC104	8-759-398-25	IC TC7SH04F(TE85L)		R205	1-216-025-91	RES,CHIP 100	5% 1/10W
		< COIL >		R206	1-216-295-91	SHORT 0	
L101	1-414-234-22	INDUCTOR CHIP 0uH				< SWITCH >	
L102	1-410-377-31	INDUCTOR CHIP 4.7uH		S101	1-572-085-11	SWITCH, LEAF (LIMIT SW)	

CD SW

CONNECTOR

FRONT AMP

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
	A-4417-826-A	CD-SW BOARD, COMPLETE *****		C802	1-162-286-21	CERAMIC 220PF 10% 50V	
		< DIODE >		C803	1-162-282-31	CERAMIC 100PF 10% 50V	
D751	8-719-056-13	DIODE SML79423C-TP15 (DISC 1)		C804	1-104-664-11	ELECT 47uF 20% 10V	
D752	8-719-056-13	DIODE SML79423C-TP15 (DISC 2)		C806	1-128-560-11	ELECT 22uF 20% 100V	
D753	8-719-056-13	DIODE SML79423C-TP15 (DISC 3)		C807	1-130-777-00	FILM 0.1uF 10% 100V	
D754	8-719-063-93	DIODE SLR325VC-N-T32 (I/C)		C808	1-136-495-11	FILM 0.068uF 5% 50V	
		< RESISTOR >		C809	1-136-495-11	FILM 0.068uF 5% 50V	
R751	1-249-417-11	CARBON 1K 5% 1/4W F		C821	1-126-960-11	ELECT 1uF 20% 50V	
R752	1-249-418-11	CARBON 1.2K 5% 1/4W F		C822	1-162-306-11	CERAMIC 0.01uF 20% 16V	
R753	1-249-420-11	CARBON 1.8K 5% 1/4W F		C825	1-104-665-11	ELECT 100uF 20% 10V	
R754	1-249-422-11	CARBON 2.7K 5% 1/4W F		C826	1-126-961-11	ELECT 2.2uF 20% 50V	
R755	1-247-843-11	CARBON 3.3K 5% 1/4W		C827	1-104-665-11	ELECT 100uF 20% 10V	
R756	1-249-425-11	CARBON 4.7K 5% 1/4W F		C831	1-126-563-11	ELECT 100uF 20% 100V	
R757	1-249-427-11	CARBON 6.8K 5% 1/4W F		C851	1-126-963-11	ELECT 4.7uF 20% 50V	
R758	1-247-804-11	CARBON 75 5% 1/4W		C852	1-162-286-21	CERAMIC 220PF 10% 50V	
R759	1-249-407-11	CARBON 150 5% 1/4W F		C853	1-162-282-31	CERAMIC 100PF 10% 50V	
R760	1-247-804-11	CARBON 75 5% 1/4W		C854	1-104-664-11	ELECT 47uF 20% 10V	
R761	1-249-407-11	CARBON 150 5% 1/4W F		C856	1-128-560-11	ELECT 22uF 20% 100V	
R762	1-247-804-11	CARBON 75 5% 1/4W		C857	1-130-777-00	FILM 0.1uF 10% 100V	
R763	1-249-407-11	CARBON 150 5% 1/4W F		C858	1-136-495-11	FILM 0.068uF 5% 50V	
R764	1-249-414-11	CARBON 560 5% 1/4W F		C859	1-136-495-11	FILM 0.068uF 5% 50V	
		< SWITCH >		C880	1-126-963-11	ELECT 4.7uF 20% 50V	
S751	1-762-875-21	SWITCH, KEYBOARD (I/C)		C881	1-127-751-11	ELECT 3300uF 20% 50V	
S752	1-762-875-21	SWITCH, KEYBOARD (DEMO (STANDBY))		C882	1-127-751-11	ELECT 3300uF 20% 50V	
S753	1-762-875-21	SWITCH, KEYBOARD (DISC 1)		C883	1-127-753-11	ELECT 3300uF 20% 71V	
S754	1-762-875-21	SWITCH, KEYBOARD (DISC 2)		C884	1-127-753-11	ELECT 3300uF 20% 71V	
S755	1-762-875-21	SWITCH, KEYBOARD (DISC 3)		C885	1-136-165-00	FILM 0.1uF 5% 50V	
S756	1-762-875-21	SWITCH, KEYBOARD (EXCHANGE DISC SKIP)		C886	1-136-165-00	FILM 0.1uF 5% 50V	
S757	1-762-875-21	SWITCH, KEYBOARD (△)		C887	1-130-777-00	FILM 0.1uF 10% 100V	
		*****		C888	1-130-777-00	FILM 0.1uF 10% 100V	
* 1-658-575-11	CONNECTOR BOARD *****			C889	1-164-159-21	CERAMIC 0.1uF 50V	
		< CONNECTOR >		C890	1-164-159-21	CERAMIC 0.1uF 50V	
* CN701	1-568-946-11	PIN, CONNECTOR 8P				< CONNECTOR >	
CN702	1-750-413-11	CONNECTOR, FFC/FPC 8P		CN801	1-770-722-11	CONNECTOR, BOARD TO BOARD 6P	
		< TRANSISTOR >		CN802	1-778-981-11	CONNECTOR, BOARD TO BOARD 13P	
Q701	8-729-900-80	TRANSISTOR DTC114ES				< DIODE >	
		< RESISTOR >		D801	8-719-110-09	DIODE RD8.2ES-B3	
R703	1-249-435-11	CARBON 33K 5% 1/4W		D802	8-719-991-33	DIODE 1SS133T-77	
R704	1-249-429-11	CARBON 10K 5% 1/4W		D821	8-719-991-33	DIODE 1SS133T-77	
R705	1-249-417-11	CARBON 1K 5% 1/4W F		D831	8-719-991-33	DIODE 1SS133T-77	
		*****		D851	8-719-110-09	DIODE RD8.2ES-B3	
A-4426-201-A	FRONT AMP BOARD, COMPLETE *****			D852	8-719-991-33	DIODE 1SS133T-77	
		< CAPACITOR >		D871	8-719-991-33	DIODE 1SS133T-77	
C801	1-126-963-11	ELECT 4.7uF 20% 50V		D881	8-719-510-68	DIODE D5SBA20F01	
				D882	8-719-510-68	DIODE D5SBA20F01	
				D883	8-719-991-33	DIODE 1SS133T-77	
				D884	8-719-991-33	DIODE 1SS133T-77	
				D885	8-719-991-33	DIODE 1SS133T-77	
						< GROUND PLATE >	
				* EP802	1-537-738-21	TERMINAL, EARTH	
						< IC >	
				IC801	8-749-016-11	IC STK411-230M	

FRONT AMP

LEAF SW

Ref. No.	Part No.	Description	Remark
< TRANSISTOR >			
Q801	8-729-140-84	TRANSISTOR 2SC1841-PAFAEA	
Q821	8-729-140-82	TRANSISTOR 2SA988-PAFAEA	
Q822	8-729-140-84	TRANSISTOR 2SC1841-PAFAEA	
Q825	8-729-119-78	TRANSISTOR 2SC403SP-51	
Q826	8-729-119-78	TRANSISTOR 2SC403SP-51	
Q827	8-729-119-78	TRANSISTOR 2SC403SP-51	
Q828	8-729-140-82	TRANSISTOR 2SA988-PAFAEA	
Q829	8-729-140-84	TRANSISTOR 2SC1841-PAFAEA	
Q830	8-729-140-84	TRANSISTOR 2SC1841-PAFAEA	
Q831	8-729-140-84	TRANSISTOR 2SC1841-PAFAEA	
Q832	8-729-119-78	TRANSISTOR 2SC403SP-51	
Q851	8-729-140-84	TRANSISTOR 2SC1841-PAFAEA	
Q881	8-729-140-82	TRANSISTOR 2SA988-PAFAEA	
Q882	8-729-140-84	TRANSISTOR 2SC1841-PAFAEA	
Q883	8-729-140-82	TRANSISTOR 2SA988-PAFAEA	
Q884	8-729-140-84	TRANSISTOR 2SC1841-PAFAEA	
Q885	8-729-140-82	TRANSISTOR 2SA988-PAFAEA	
Q886	8-729-140-84	TRANSISTOR 2SC1841-PAFAEA	
< RESISTOR >			
R801	1-249-417-11	CARBON 1K 5%	1/4W F
R802	1-249-438-11	CARBON 56K 5%	1/4W
R803	1-249-416-11	CARBON 820 5%	1/4W F
R804	1-249-438-11	CARBON 56K 5%	1/4W
△ R805	1-212-881-11	FUSIBLE 100 5%	1/4W F
R806	1-260-335-11	CARBON 3.9K 5%	1/2W
△ R807	1-217-156-00	METAL 0.22 10%	5W
R808	1-249-417-11	CARBON 1K 5%	1/4W F
R809	1-249-431-11	CARBON 15K 5%	1/4W
R810	1-249-441-11	CARBON 100K 5%	1/4W
R811	1-260-076-11	CARBON 10 5%	1/2W
R814	1-249-437-11	CARBON 47K 5%	1/4W
R821	1-249-435-11	CARBON 33K 5%	1/4W
R822	1-247-863-91	CARBON 22K 5%	1/4W
R823	1-249-439-11	CARBON 68K 5%	1/4W
R824	1-249-421-11	CARBON 2.2K 5%	1/4W F
R825	1-247-863-91	CARBON 22K 5%	1/4W
R826	1-249-429-11	CARBON 10K 5%	1/4W
R827	1-249-421-11	CARBON 2.2K 5%	1/4W F
△ R828	1-202-972-61	FUSIBLE 1 5%	1/4W F
R832	1-249-431-11	CARBON 15K 5%	1/4W
R833	1-249-435-11	CARBON 33K 5%	1/4W
R835	1-249-425-11	CARBON 4.7K 5%	1/4W F
R836	1-249-425-11	CARBON 4.7K 5%	1/4W F
R837	1-247-863-91	CARBON 22K 5%	1/4W
R838	1-249-435-11	CARBON 33K 5%	1/4W
R839	1-249-429-11	CARBON 10K 5%	1/4W
R840	1-249-429-11	CARBON 10K 5%	1/4W
R841	1-249-437-11	CARBON 47K 5%	1/4W
R842	1-249-438-11	CARBON 56K 5%	1/4W
R843	1-249-439-11	CARBON 68K 5%	1/4W
R844	1-249-438-11	CARBON 56K 5%	1/4W
R845	1-249-437-11	CARBON 47K 5%	1/4W
R851	1-249-417-11	CARBON 1K 5%	1/4W F
R852	1-249-438-11	CARBON 56K 5%	1/4W

Ref. No.	Part No.	Description	Remark
R853	1-249-416-11	CARBON 820 5%	1/4W F
R854	1-249-438-11	CARBON 56K 5%	1/4W
△ R855	1-212-881-11	FUSIBLE 100 5%	1/4W F
R856	1-260-335-11	CARBON 3.9K 5%	1/2W
△ R857	1-217-156-00	METAL 0.22 10%	5W
R858	1-249-417-11	CARBON 1K 5%	1/4W F
R859	1-249-431-11	CARBON 15K 5%	1/4W
R860	1-249-441-11	CARBON 100K 5%	1/4W
R861	1-260-076-11	CARBON 10 5%	1/2W
R864	1-249-437-11	CARBON 47K 5%	1/4W
R871	1-249-437-11	CARBON 47K 5%	1/4W
R872	1-249-437-11	CARBON 47K 5%	1/4W
R873	1-249-437-11	CARBON 47K 5%	1/4W
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
△ R885	1-215-893-11	METAL OXIDE 1.5K 5%	2W F (TH)
△ R885	1-216-457-00	METAL OXIDE 1.2K 5%	2W F
R886	1-249-429-11	CARBON 10K 5%	1/4W
R887	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
△ R890	1-215-893-11	METAL OXIDE 1.5K 5%	2W F (TH)
△ R890	1-216-457-00	METAL OXIDE 1.2K 5%	2W F (E,EA,MY,SP,IA)
R891	1-249-429-11	CARBON 10K 5%	1/4W
R892	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
△ R895	1-215-893-11	METAL OXIDE 1.5K 5%	2W F (TH)
△ R895	1-216-457-00	METAL OXIDE 1.2K 5%	2W F (E,EA,MY,SP,IA)
R896	1-247-863-91	CARBON 22K 5%	1/4W
R897	1-247-863-91	CARBON 22K 5%	1/4W
< RELAY >			
RY881	1-515-920-11	RELAY (TH)	
RY881	1-755-168-11	RELAY	
RY882	1-515-920-11	RELAY (24V)	
RY883	1-515-920-11	RELAY (24V)	
< TERMINAL >			
TM801	1-537-240-11	TERMINAL BOARD (CHECKER PIN)	(FRONT SPEAKER)
TM802	1-537-510-11	TERMINAL BOARD (SPEAKER)(6P)	(SURROUND SPEAKER)

A-2007-800-A		LEAF SW BOARD, COMPLETE	

< CAPACITOR >			
C1001	1-107-716-11	ELECT 33uF 20%	10V

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

Ref. No.	Part No.	Description	Remark
		< CONNECTOR >	
CN1001	1-784-459-11	CONNECTOR, FFC/FPC 17P	
		< DIODE >	
D1001	8-719-991-33	DIODE 1SS133T-77	
D1002	8-719-991-33	DIODE 1SS133T-77	
		< CABLE HOLDER >	
* DM1001	1-784-581-11	HOLDER, CABLE (2.5MM PITCH) 4P	
		< IC >	
IC1001	8-749-014-38	IC PHOTO INTERRUPTER SG-264	
IC1002	8-749-014-38	IC PHOTO INTERRUPTER SG-264	
		< TRANSISTOR >	
Q1001	8-729-029-56	TRANSISTOR DTA144ESA	
		< RESISTOR >	
R907	1-249-441-11	CARBON 100K 5% 1/4W	
R1001	1-247-815-91	CARBON 220 5% 1/4W	
R1002	1-247-815-91	CARBON 220 5% 1/4W	
R1003	1-249-414-11	CARBON 560 5% 1/4W	F
R1004	1-247-834-11	CARBON 1.3K 5% 1/4W	
R1005	1-247-818-91	CARBON 300 5% 1/4W	
R1006	1-247-864-11	CARBON 24K 5% 1/4W	
R1007	1-247-856-00	CARBON 11K 5% 1/4W	
R1008	1-249-417-11	CARBON 1K 5% 1/4W	F
		< VARIABLE RESISTOR >	
RV1001	1-241-785-11	RES, ADJ, CARBON 10K (TAPE SPEED (NORMAL))	
RV1002	1-241-785-11	RES, ADJ, CARBON 10K (TAPE SPEED (HIGH))	
		< SWITCH >	
S1001	1-570-953-11	SWITCH, PUSH (1 KEY)(A PLAY)	
S1002	1-570-953-11	SWITCH, PUSH (1 KEY)(B PLAY)	
S1003	1-771-333-11	SWITCH, LEAF (A PLAY)	
S1004	1-771-205-11	SWITCH, LEAF (B PLAY)	
S1005	1-771-205-11	SWITCH, LEAF (A T20/70)	
S1006	1-771-333-11	SWITCH, LEAF (REC A)	
S1008	1-771-205-11	SWITCH, LEAF (REC B)	
S1009	1-771-205-11	SWITCH, LEAF (B T20/70)	

A-4417-910-A	MAIN BOARD, COMPLETE (TH) *****		
A-4417-918-A	MAIN BOARD, COMPLETE (EA) *****		
A-4417-955-A	MAIN BOARD, COMPLETE (E,MY,SP,IA) *****		
7-685-646-79	SCREW +BVTP 3X8 TYPE2 N-S		

Ref. No.	Part No.	Description	Remark
		< CAPACITOR >	
C101	1-163-001-11	CERAMIC CHIP 220PF 10% 50V	
C102	1-163-001-11	CERAMIC CHIP 220PF 10% 50V	
C103	1-163-001-11	CERAMIC CHIP 220PF 10% 50V	
C104	1-163-038-91	CERAMIC CHIP 0.1uF 25V	
C111	1-137-195-11	FILM 0.56uF 5% 50V	
C112	1-136-158-00	FILM 0.027uF 5% 50V	
C113	1-136-167-00	FILM 0.15uF 5% 50V	
C114	1-130-480-00	MYLAR 0.0056uF 5% 50V	
C115	1-136-159-00	FILM 0.033uF 5% 50V	
C116	1-130-473-00	MYLAR 0.0015uF 5% 50V	
C117	1-136-153-00	FILM 0.01uF 5% 50V	
C118	1-110-341-11	MYLAR 330PF 5% 50V	
C119	1-130-479-00	MYLAR 0.0047uF 5% 50V	
C120	1-130-477-00	MYLAR 0.0033uF 5% 50V	
C121	1-126-964-11	ELECT 10uF 20% 50V	
C122	1-163-006-11	CERAMIC CHIP 560PF 10% 50V	
C123	1-136-169-00	FILM 0.22uF 5% 50V	
C124	1-136-169-00	FILM 0.22uF 5% 50V	
C125	1-126-964-11	ELECT 10uF 20% 50V	
C127	1-136-153-00	FILM 0.01uF 5% 50V	
C128	1-136-495-11	FILM 0.068uF 5% 50V	
C131	1-104-664-11	ELECT 47uF 20% 16V	
C132	1-104-664-11	ELECT 47uF 20% 16V	
C134	1-126-964-11	ELECT 10uF 20% 50V	
C141	1-126-959-11	ELECT 0.47uF 20% 50V	
C151	1-163-001-11	CERAMIC CHIP 220PF 10% 50V	
C152	1-163-001-11	CERAMIC CHIP 220PF 10% 50V	
C153	1-163-001-11	CERAMIC CHIP 220PF 10% 50V	
C161	1-137-195-11	FILM 0.56uF 5% 50V	
C162	1-136-158-00	FILM 0.027uF 5% 50V	
C163	1-136-167-00	FILM 0.15uF 5% 50V	
C164	1-130-480-00	MYLAR 0.0056uF 5% 50V	
C165	1-136-159-00	FILM 0.033uF 5% 50V	
C166	1-130-473-00	MYLAR 0.0015uF 5% 50V	
C167	1-136-153-00	FILM 0.01uF 5% 50V	
C168	1-110-341-11	MYLAR 330PF 5% 50V	
C169	1-130-479-00	MYLAR 0.0047uF 5% 50V	
C170	1-130-477-00	MYLAR 0.0033uF 5% 50V	
C171	1-126-964-11	ELECT 10uF 20% 50V	
C172	1-163-006-11	CERAMIC CHIP 560PF 10% 50V	
C173	1-136-169-00	FILM 0.22uF 5% 50V	
C174	1-136-169-00	FILM 0.22uF 5% 50V	
C175	1-126-964-11	ELECT 10uF 20% 50V	
C191	1-163-001-11	CERAMIC CHIP 220PF 10% 50V	
C201	1-126-964-11	ELECT 10uF 20% 50V	
C202	1-126-964-11	ELECT 10uF 20% 50V	
C204	1-126-959-11	ELECT 0.47uF 20% 50V	
C207	1-136-165-00	FILM 0.1uF 5% 50V	
C208	1-136-165-00	FILM 0.1uF 5% 50V	
C210	1-126-959-11	ELECT 0.47uF 20% 50V	
C212	1-126-959-11	ELECT 0.47uF 20% 50V	
C215	1-126-959-11	ELECT 0.47uF 20% 50V	
C217	1-126-959-11	ELECT 0.47uF 20% 50V	
C218	1-136-165-00	FILM 0.1uF 5% 50V	
C219	1-163-038-91	CERAMIC CHIP 0.1uF 25V	

MAIN

Ref. No.	Part No.	Description			Remark	Ref. No.	Part No.	Description			Remark
C221	1-126-964-11	ELECT	10uF	20%	50V	C301	1-126-960-11	ELECT	1uF	20%	50V
C224	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V	C302	1-130-479-00	MYLAR	0.0047uF	5%	50V
C225	1-163-021-91	CERAMIC CHIP	0.01uF	10%	50V	C303	1-136-165-00	FILM	0.1uF	5%	50V
C226	1-126-960-11	ELECT	1uF	20%	50V						
C228	1-130-479-00	MYLAR	0.0047uF	5%	50V	C304	1-136-165-00	FILM	0.1uF	5%	50V
						C305	1-126-964-11	ELECT	10uF	20%	50V
C229	1-130-471-00	MYLAR	0.001uF	5%	50V	C306	1-126-960-11	ELECT	1uF	20%	50V
C233	1-136-169-00	FILM	0.22uF	5%	50V	C307	1-126-959-11	ELECT	0.47uF	20%	50V
C234	1-136-169-00	FILM	0.22uF	5%	50V	C308	1-126-964-11	ELECT	10uF	20%	50V
C237	1-130-479-00	MYLAR	0.0047uF	5%	50V						
C238	1-130-471-00	MYLAR	0.001uF	5%	50V	C309	1-137-194-81	FILM	0.47uF	5%	50V
						C310	1-163-005-11	CERAMIC CHIP	470PF	10%	50V
C240	1-126-960-11	ELECT	1uF	20%	50V	C311	1-126-964-11	ELECT	10uF	20%	50V
C243	1-130-480-00	MYLAR	0.0056uF	5%	50V	C312	1-126-959-11	ELECT	0.47uF	20%	50V
C244	1-136-161-00	FILM	0.047uF	5%	50V	C313	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C245	1-136-175-00	FILM	0.68uF	5%	50V						
C246	1-136-169-00	FILM	0.22uF	5%	50V	C314	1-126-964-11	ELECT	10uF	20%	50V
						C315	1-126-963-11	ELECT	4.7uF	20%	50V
C247	1-136-169-00	FILM	0.22uF	5%	50V	C316	1-104-665-11	ELECT	100uF	20%	10V
C248	1-126-963-11	ELECT	4.7uF	20%	50V	C317	1-104-665-11	ELECT	100uF	20%	10V
C249	1-126-963-11	ELECT	4.7uF	20%	50V	C320	1-163-005-11	CERAMIC CHIP	470PF	10%	50V
C250	1-136-169-00	FILM	0.22uF	5%	50V						
C251	1-136-169-00	FILM	0.22uF	5%	50V	C351	1-126-960-11	ELECT	1uF	20%	50V
						C352	1-130-479-00	MYLAR	0.0047uF	5%	50V
C252	1-136-165-00	FILM	0.1uF	5%	50V	C353	1-136-165-00	FILM	0.1uF	5%	50V
C253	1-136-161-00	FILM	0.047uF	5%	50V	C354	1-136-165-00	FILM	0.1uF	5%	50V
C254	1-136-161-00	FILM	0.047uF	5%	50V	C355	1-126-964-11	ELECT	10uF	20%	50V
C255	1-136-165-00	FILM	0.1uF	5%	50V						
C256	1-136-165-00	FILM	0.1uF	5%	50V	C356	1-126-960-11	ELECT	1uF	20%	50V
						C357	1-126-959-11	ELECT	0.47uF	20%	50V
C257	1-136-157-00	FILM	0.022uF	5%	50V	C358	1-126-964-11	ELECT	10uF	20%	50V
C258	1-136-157-00	FILM	0.022uF	5%	50V	C359	1-137-194-81	FILM	0.47uF	5%	50V
C259	1-136-165-00	FILM	0.1uF	5%	50V	C373	1-163-017-00	CERAMIC CHIP	0.0047uF	5%	50V
C260	1-130-469-00	MYLAR	680PF	5%	50V						
C261	1-136-153-00	FILM	0.01uF	5%	50V	C374	1-163-017-00	CERAMIC CHIP	0.0047uF	5%	50V
						C401	1-126-961-11	ELECT	2.2uF	20%	50V
C262	1-130-469-00	MYLAR	680PF	5%	50V	C403	1-107-721-11	ELECT	4.7uF	20%	100V
C263	1-136-153-00	FILM	0.01uF	5%	50V	C411	1-163-037-11	CERAMIC CHIP	0.022uF	10%	25V
C264	1-136-153-00	FILM	0.01uF	5%	50V	C412	1-163-037-11	CERAMIC CHIP	0.022uF	10%	25V
C265	1-136-153-00	FILM	0.01uF	5%	50V						
C266	1-104-664-11	ELECT	47uF	20%	16V	C413	1-126-916-11	ELECT	1000uF	20%	6.3V
						C415	1-126-925-11	ELECT	470uF	20%	10V
C267	1-130-481-00	MYLAR	0.0068uF	5%	50V	C416	1-126-916-11	ELECT	1000uF	20%	6.3V
C268	1-126-963-11	ELECT	4.7uF	20%	50V	C421	1-107-717-11	ELECT	47uF	20%	50V
C269	1-126-934-11	ELECT	220uF	20%	16V	C423	1-104-665-11	ELECT	100uF	20%	10V
C270	1-126-934-11	ELECT	220uF	20%	16V						
C272	1-163-021-91	CERAMIC CHIP	0.01uF	10%	50V	C431	1-163-038-91	CERAMIC CHIP	0.1uF		25V
						C432	1-126-963-11	ELECT	4.7uF	20%	50V
C273	1-163-021-91	CERAMIC CHIP	0.01uF	10%	50V	C451	1-126-961-11	ELECT	2.2uF	20%	50V
C274	1-126-964-11	ELECT	10uF	20%	50V	C453	1-107-721-11	ELECT	4.7uF	20%	100V
C275	1-126-964-11	ELECT	10uF	20%	50V	C501	1-126-964-11	ELECT	10uF	20%	50V
C276	1-126-964-11	ELECT	10uF	20%	50V						
C277	1-126-964-11	ELECT	10uF	20%	50V	C502	1-136-165-00	FILM	0.1uF	5%	50V
						C503	1-136-165-00	FILM	0.1uF	5%	50V
C278	1-126-964-11	ELECT	10uF	20%	50V	C504	1-126-926-11	ELECT	1000uF	20%	10V
C279	1-126-964-11	ELECT	10uF	20%	50V	C506	1-107-713-11	ELECT	4.7uF	20%	50V
C280	1-126-964-11	ELECT	10uF	20%	50V	C510	1-163-233-11	CERAMIC CHIP	18PF	5%	50V
C281	1-163-001-11	CERAMIC CHIP	220PF	10%	50V						
C282	1-163-001-11	CERAMIC CHIP	220PF	10%	50V	C511	1-163-235-11	CERAMIC CHIP	22PF	5%	50V
						C512	1-163-038-91	CERAMIC CHIP	0.1uF		25V
C283	1-163-001-11	CERAMIC CHIP	220PF	10%	50V	C516	1-163-021-91	CERAMIC CHIP	0.01uF	10%	50V
C284	1-126-959-11	ELECT	0.47uF	20%	50V	C517	1-104-665-11	ELECT	100uF	20%	10V
C285	1-126-959-11	ELECT	0.47uF	20%	50V	C532	1-163-001-11	CERAMIC CHIP	220PF	10%	50V
C291	1-163-001-11	CERAMIC CHIP	220PF	10%	50V						
C292	1-163-001-11	CERAMIC CHIP	220PF	10%	50V	C549	1-126-964-11	ELECT	10uF	20%	50V
						C562	1-163-021-91	CERAMIC CHIP	0.01uF	10%	50V
C293	1-163-001-11	CERAMIC CHIP	220PF	10%	50V	C563	1-104-665-11	ELECT	100uF	20%	10V
C294	1-126-959-11	ELECT	0.47uF	20%	50V	C598	1-163-021-91	CERAMIC CHIP	0.01uF	10%	50V

Ref. No.	Part No.	Description	Remark			Ref. No.	Part No.	Description	Remark		
C599	1-104-665-11	ELECT	100uF	20%	10V	D504	8-719-988-61	DIODE	1SS355TE-17		
C901	1-136-165-00	FILM	0.1uF	5%	50V	D505	8-719-988-61	DIODE	1SS355TE-17		
C902	1-126-939-11	ELECT	10000uF	20%	16V	D506	8-719-988-61	DIODE	1SS355TE-17		
C903	1-126-934-11	ELECT	220uF	20%	16V	D507	8-719-988-61	DIODE	1SS355TE-17		
C904	1-126-924-11	ELECT	330uF	20%	10V	D508	8-719-988-61	DIODE	1SS355TE-17		
C905	1-104-664-11	ELECT	47uF	20%	16V	D509	8-719-988-61	DIODE	1SS355TE-17		
C906	1-136-165-00	FILM	0.1uF	5%	50V	D510	8-719-988-61	DIODE	1SS355TE-17		
C907	1-128-548-11	ELECT	4700uF	20%	25V	D512	8-719-988-61	DIODE	1SS355TE-17		
C908	1-126-964-11	ELECT	10uF	20%	50V	D901	8-719-073-81	DIODE	EC21QS06-TE12L		
C909	1-126-916-11	ELECT	1000uF	20%	6.3V	D902	8-719-073-81	DIODE	EC21QS06-TE12L		
C912	1-126-964-11	ELECT	10uF	20%	50V	D903	8-719-073-81	DIODE	EC21QS06-TE12L		
C913	1-104-665-11	ELECT	100uF	20%	10V	D904	8-719-073-81	DIODE	EC21QS06-TE12L		
C914	1-126-964-11	ELECT	10uF	20%	50V	D905	8-719-988-61	DIODE	1SS355TE-17		
C915	1-126-933-11	ELECT	100uF	20%	16V	D906	8-719-158-15	DIODE	RD5.6S-B		
C916	1-126-964-11	ELECT	10uF	20%	50V	D907	8-719-988-61	DIODE	1SS355TE-17		
C917	1-126-767-11	ELECT	1000uF	20%	16V	D908	8-719-200-82	DIODE	11ES2		
C918	1-104-664-11	ELECT	47uF	20%	16V	D909	8-719-200-82	DIODE	11ES2		
C919	1-163-038-91	CERAMIC CHIP	0.1uF		25V	D910	8-719-200-82	DIODE	11ES2		
C920	1-126-933-11	ELECT	100uF	20%	16V	D911	8-719-200-82	DIODE	11ES2		
C921	1-126-964-11	ELECT	10uF	20%	50V	D912	8-719-056-88	DIODE	UDZ-TE-17-11B		
C922	1-126-916-11	ELECT	1000uF	20%	6.3V	D913	8-719-200-82	DIODE	11ES2		
C923	1-163-038-91	CERAMIC CHIP	0.1uF		25V	D914	8-719-988-61	DIODE	1SS355TE-17		
C924	1-104-656-11	ELECT	2200uF	20%	6.3V	D915	8-719-210-33	DIODE	EC10DS2		
C925	1-163-038-91	CERAMIC CHIP	0.1uF		25V	D916	8-719-210-33	DIODE	EC10DS2		
C926	1-126-916-11	ELECT	1000uF	20%	6.3V	D918	8-719-210-33	DIODE	EC10DS2		
C931	1-126-961-11	ELECT	2.2uF	20%	50V	D931	8-719-988-61	DIODE	1SS355TE-17		
C951	1-136-165-00	FILM	0.1uF	5%	50V	D932	8-719-988-61	DIODE	1SS355TE-17		
C952	1-126-768-11	ELECT	2200uF	20%	16V			< IC >			
C953	1-126-934-11	ELECT	220uF	20%	16V	IC101	8-759-571-54	IC	M62493FP		
C954	1-126-924-11	ELECT	330uF	20%	10V	IC201	8-759-571-51	IC	M62464FP		
C956	1-136-165-00	FILM	0.1uF	5%	50V	IC301	8-759-495-26	IC	HA12215		
		< CONNECTOR >				IC421	8-749-923-04	IC	TOTX178		
CN101	1-785-329-11	PIN, CONNECTOR (LIGHT ANGLE) 3P				IC501	8-759-588-91	IC	M30622MA-A09FP		
CN111	1-784-601-11	SOCKET, CONNECTOR (NON ZIF) 13P (E,EA,MY,SP,IA)				IC502	8-759-635-63	IC	M51943BSL		
CN112	1-785-334-11	PIN, CONNECTOR (LIGHT ANGLE) 8P				IC901	8-759-231-53	IC	TA7805S		
CN113	1-785-335-11	PIN, CONNECTOR (LIGHT ANGLE) 9P				IC902	8-759-604-86	IC	M5F7807L		
* CN121	1-568-832-11	SOCKET, CONNECTOR 13P (TH)				IC903	8-759-604-32	IC	M5F7810		
CN121	1-568-834-11	SOCKET, CONNECTOR 15P (E,EA,MY,SP,IA)				IC904	8-759-701-79	IC	NJM7812FA		
CN131	1-568-834-11	SOCKET, CONNECTOR 15P				IC905	8-759-231-53	IC	TA7805S		
* CN132	1-568-836-11	SOCKET, CONNECTOR 17P						< JACK >			
* CN141	1-568-839-11	SOCKET, CONNECTOR 23P				J101	1-774-411-11	JACK, PIN 6P (VIDEO (AUDIO)/MD IN, OUT)			
CN151	1-770-726-11	CONNECTOR, BOARD TO BOARD 6P				J102	1-779-599-11	JACK, PIN 6P (DVD INPUT)			
CN152	1-778-982-11	CONNECTOR, BOARD TO BOARD 13P				J191	1-774-785-11	JACK, PIN 1P (WOOFER OUT)			
* CN171	1-564-518-11	PLUG, CONNECTOR 3P						< COIL >			
* CN301	1-568-449-11	HOUSING, CONNECTOR(PC BOARD)3P				L411	1-408-619-31	INDUCTOR	220uH		
		< DIODE >				L421	1-410-482-31	INDUCTOR	100uH		
D141	8-719-988-61	DIODE	1SS355TE-17			L501	1-410-470-11	INDUCTOR	10uH		
D371	8-719-988-61	DIODE	1SS355TE-17					< TRANSISTOR >			
D372	8-719-988-61	DIODE	1SS355TE-17			Q111	8-729-900-36	TRANSISTOR	DTC124ES		
D373	8-719-988-61	DIODE	1SS355TE-17			Q112	8-729-119-78	TRANSISTOR	2SC403SP-51		
D374	8-719-988-61	DIODE	1SS355TE-17			Q113	8-729-119-78	TRANSISTOR	2SC403SP-51		
D501	8-719-988-61	DIODE	1SS355TE-17			Q114	8-729-141-30	TRANSISTOR	2SC3623A-LK		
D502	8-719-988-61	DIODE	1SS355TE-17			Q161	8-729-900-36	TRANSISTOR	DTC124ES		
D503	8-719-988-61	DIODE	1SS355TE-17								

MAIN

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
Q162	8-729-119-78	TRANSISTOR 2SC403SP-51		R118	1-216-081-00	METAL CHIP 22K	5% 1/10W
Q163	8-729-119-78	TRANSISTOR 2SC403SP-51		R119	1-216-105-91	RES,CHIP 220K	5% 1/10W
Q164	8-729-141-30	TRANSISTOR 2SC3623A-LK		R120	1-216-073-00	METAL CHIP 10K	5% 1/10W
Q191	8-729-141-30	TRANSISTOR 2SC3623A-LK		R121	1-216-089-91	RES,CHIP 47K	5% 1/10W
Q281	8-729-141-30	TRANSISTOR 2SC3623A-LK		R122	1-216-057-00	METAL CHIP 2.2K	5% 1/10W
Q282	8-729-141-30	TRANSISTOR 2SC3623A-LK		R123	1-216-097-91	RES,CHIP 100K	5% 1/10W
Q291	8-729-141-30	TRANSISTOR 2SC3623A-LK		R124	1-216-073-00	METAL CHIP 10K	5% 1/10W
Q371	8-729-118-00	TRANSISTOR 2SB1116-L		R125	1-216-061-00	METAL CHIP 3.3K	5% 1/10W
Q372	8-729-900-80	TRANSISTOR DTC114ES		R126	1-216-057-00	METAL CHIP 2.2K	5% 1/10W
Q373	8-729-118-00	TRANSISTOR 2SB1116-L		R128	1-216-121-91	RES,CHIP 1M	5% 1/10W
Q374	8-729-900-80	TRANSISTOR DTC114ES		R131	1-216-025-91	RES,CHIP 100	5% 1/10W
Q375	8-729-900-80	TRANSISTOR DTC114ES		R132	1-216-025-91	RES,CHIP 100	5% 1/10W
Q376	8-729-116-59	TRANSISTOR 2SB1068TP		R133	1-216-025-91	RES,CHIP 100	5% 1/10W
Q377	8-729-045-21	TRANSISTOR 2SD1513TP-LK		R141	1-216-081-00	METAL CHIP 22K	5% 1/10W
Q378	8-729-422-57	TRANSISTOR UN4111		R142	1-216-081-00	METAL CHIP 22K	5% 1/10W
Q379	8-729-900-80	TRANSISTOR DTC114ES		R143	1-216-049-91	RES,CHIP 1K	5% 1/10W
Q380	8-729-116-59	TRANSISTOR 2SB1068TP		R144	1-216-097-91	RES,CHIP 100K	5% 1/10W
Q381	8-729-045-21	TRANSISTOR 2SD1513TP-LK		R145	1-216-121-91	RES,CHIP 1M	5% 1/10W
Q382	8-729-422-57	TRANSISTOR UN4111		R151	1-216-049-91	RES,CHIP 1K	5% 1/10W
Q383	8-729-900-80	TRANSISTOR DTC114ES		R152	1-216-049-91	RES,CHIP 1K	5% 1/10W
Q411	8-729-141-30	TRANSISTOR 2SC3623A-LK		R153	1-216-049-91	RES,CHIP 1K	5% 1/10W
Q421	8-729-900-63	TRANSISTOR DTA124ES		R161	1-216-057-00	METAL CHIP 2.2K	5% 1/10W
Q431	8-729-111-29	TRANSISTOR 2SD1616A-K		R162	1-216-073-00	METAL CHIP 10K	5% 1/10W
Q432	8-729-119-76	TRANSISTOR 2SA1175-HFE		R163	1-216-295-91	SHORT 0	
Q461	8-729-141-30	TRANSISTOR 2SC3623A-LK		R164	1-216-113-00	METAL CHIP 470K	5% 1/10W
Q501	8-729-119-78	TRANSISTOR 2SC403SP-51		R165	1-216-112-00	RES,CHIP 430K	5% 1/10W
Q502	8-729-900-63	TRANSISTOR DTA124ES		R166	1-216-106-00	METAL CHIP 240K	5% 1/10W
Q503	8-729-900-63	TRANSISTOR DTA124ES		R167	1-216-045-00	METAL CHIP 680	5% 1/10W
Q901	8-729-209-15	TRANSISTOR 2SD2012		R168	1-216-081-00	METAL CHIP 22K	5% 1/10W
Q902	8-729-119-78	TRANSISTOR 2SC403SP-51		R169	1-216-105-91	RES,CHIP 220K	5% 1/10W
Q903	8-729-119-78	TRANSISTOR 2SC403SP-51		R170	1-216-073-00	METAL CHIP 10K	5% 1/10W
Q904	8-729-900-36	TRANSISTOR DTC124ES		R171	1-216-089-91	RES,CHIP 47K	5% 1/10W
Q905	8-729-900-36	TRANSISTOR DTC124ES		R172	1-216-057-00	METAL CHIP 2.2K	5% 1/10W
Q906	8-729-040-20	TRANSISTOR RT1P137L-TP		R173	1-216-097-91	RES,CHIP 100K	5% 1/10W
Q907	8-729-900-36	TRANSISTOR DTC124ES		R174	1-216-073-00	METAL CHIP 10K	5% 1/10W
Q908	8-729-141-83	TRANSISTOR 2SB1094-LK		R178	1-216-121-91	RES,CHIP 1M	5% 1/10W
Q909	8-729-900-36	TRANSISTOR DTC124ES		R191	1-216-049-91	RES,CHIP 1K	5% 1/10W
Q910	8-729-026-68	TRANSISTOR 2SD2525(TP)		R192	1-216-097-91	RES,CHIP 100K	5% 1/10W
Q913	8-729-040-20	TRANSISTOR RT1P137L-TP		R193	1-216-057-91	RES,CHIP 2.2K	5% 1/10W
Q914	8-729-900-36	TRANSISTOR DTC124ES		R194	1-216-073-00	METAL CHIP 10K	5% 1/10W
Q915	8-729-141-83	TRANSISTOR 2SB1094-LK		R201	1-216-097-91	RES,CHIP 100K	5% 1/10W
Q916	8-729-900-36	TRANSISTOR DTC124ES		R202	1-216-097-91	RES,CHIP 100K	5% 1/10W
Q951	8-729-141-83	TRANSISTOR 2SB1094-LK		R222	1-216-049-91	RES,CHIP 1K	5% 1/10W
Q952	8-729-119-76	TRANSISTOR 2SA1175-HFE		R223	1-216-049-91	RES,CHIP 1K	5% 1/10W
Q953	8-729-119-76	TRANSISTOR 2SA1175-HFE		R224	1-216-049-91	RES,CHIP 1K	5% 1/10W
< RESISTOR >				R245	1-216-109-00	METAL CHIP 330K	5% 1/10W
R101	1-216-049-91	RES,CHIP 1K	5% 1/10W	R260	1-216-089-91	RES,CHIP 47K	5% 1/10W
R102	1-216-049-91	RES,CHIP 1K	5% 1/10W	R261	1-216-094-00	RES,CHIP 75K	5% 1/10W
R103	1-216-049-91	RES,CHIP 1K	5% 1/10W	R262	1-216-089-91	RES,CHIP 47K	5% 1/10W
R111	1-216-057-00	METAL CHIP 2.2K	5% 1/10W	R263	1-216-094-00	RES,CHIP 75K	5% 1/10W
R112	1-216-073-00	METAL CHIP 10K	5% 1/10W	R264	1-216-101-00	METAL CHIP 150K	5% 1/10W
R113	1-216-295-91	SHORT 0		R265	1-216-101-00	METAL CHIP 150K	5% 1/10W
R114	1-216-113-00	METAL CHIP 470K	5% 1/10W	R267	1-216-097-91	RES,CHIP 100K	5% 1/10W
R115	1-216-112-00	RES,CHIP 430K	5% 1/10W	R271	1-216-097-91	RES,CHIP 100K	5% 1/10W
R116	1-216-106-00	METAL CHIP 240K	5% 1/10W	R274	1-216-073-00	METAL CHIP 10K	5% 1/10W
R117	1-216-045-00	METAL CHIP 680	5% 1/10W	R275	1-216-073-00	METAL CHIP 10K	5% 1/10W
				R276	1-216-073-00	METAL CHIP 10K	5% 1/10W

Ref. No.	Part No.	Description			Remark	Ref. No.	Part No.	Description			Remark
R277	1-216-073-00	METAL CHIP	10K	5%	1/10W	R374	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R278	1-216-073-00	METAL CHIP	10K	5%	1/10W						
R279	1-216-073-00	METAL CHIP	10K	5%	1/10W	R375	1-216-089-91	RES,CHIP	47K	5%	1/10W
R281	1-216-071-00	METAL CHIP	8.2K	5%	1/10W	R376	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R282	1-216-068-00	METAL CHIP	6.2K	5%	1/10W	R377	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R283	1-216-068-00	METAL CHIP	6.2K	5%	1/10W	R378	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R284	1-216-057-00	METAL CHIP	2.2K	5%	1/10W	R379	1-216-045-00	METAL CHIP	680	5%	1/10W
R285	1-216-097-91	RES,CHIP	100K	5%	1/10W						
R286	1-216-073-00	METAL CHIP	10K	5%	1/10W	R380	1-216-045-00	METAL CHIP	680	5%	1/10W
R287	1-216-057-00	METAL CHIP	2.2K	5%	1/10W	R381	1-216-089-91	RES,CHIP	47K	5%	1/10W
R288	1-216-097-91	RES,CHIP	100K	5%	1/10W	R382	1-216-089-91	RES,CHIP	47K	5%	1/10W
R289	1-216-073-00	METAL CHIP	10K	5%	1/10W	R383	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R291	1-216-071-00	METAL CHIP	8.2K	5%	1/10W	R384	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R292	1-216-068-00	METAL CHIP	6.2K	5%	1/10W	R385	1-216-045-00	METAL CHIP	680	5%	1/10W
R293	1-216-068-00	METAL CHIP	6.2K	5%	1/10W	R386	1-216-045-00	METAL CHIP	680	5%	1/10W
R294	1-216-057-00	METAL CHIP	2.2K	5%	1/10W	R387	1-216-089-91	RES,CHIP	47K	5%	1/10W
R295	1-216-097-91	RES,CHIP	100K	5%	1/10W	R401	1-216-025-91	RES,CHIP	100	5%	1/10W
R296	1-216-073-00	METAL CHIP	10K	5%	1/10W	R402	1-216-085-00	METAL CHIP	33K	5%	1/10W
R301	1-216-085-00	METAL CHIP	33K	5%	1/10W	R411	1-240-578-31	CARBON	150	5%	1/2W
R302	1-216-057-00	METAL CHIP	2.2K	5%	1/10W	R412	1-240-578-31	CARBON	150	5%	1/2W
R303	1-216-025-91	RES,CHIP	100	5%	1/10W	R413	1-240-577-31	CARBON	56	5%	1/2W
R304	1-216-025-91	RES,CHIP	100	5%	1/10W	R414	1-216-049-91	RES,CHIP	1K	5%	1/10W
R305	1-216-057-00	METAL CHIP	2.2K	5%	1/10W	R415	1-216-073-00	METAL CHIP	10K	5%	1/10W
R306	1-216-071-00	METAL CHIP	8.2K	5%	1/10W	R416	1-216-089-91	RES,CHIP	47K	5%	1/10W
R307	1-216-071-00	METAL CHIP	8.2K	5%	1/10W	R417	1-216-049-91	RES,CHIP	1K	5%	1/10W
R308	1-216-065-91	RES,CHIP	4.7K	5%	1/10W	R418	1-216-089-91	RES,CHIP	47K	5%	1/10W
R309	1-216-081-00	METAL CHIP	22K	5%	1/10W	R419	1-216-089-91	RES,CHIP	47K	5%	1/10W
R311	1-216-121-91	RES,CHIP	1M	5%	1/10W	R421	1-216-085-00	METAL CHIP	33K	5%	1/10W
R312	1-216-102-00	RES,CHIP	160K	5%	1/10W	R431	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R313	1-216-097-91	RES,CHIP	100K	5%	1/10W	R432	1-216-065-91	RES,CHIP	4.7K	5%	1/10W
R315	1-216-073-00	METAL CHIP	10K	5%	1/10W	R433	1-216-097-91	RES,CHIP	100K	5%	1/10W
R316	1-216-079-00	METAL CHIP	18K	5%	1/10W	R451	1-216-025-91	RES,CHIP	100	5%	1/10W
R317	1-216-073-00	METAL CHIP	10K	5%	1/10W	R452	1-216-085-00	METAL CHIP	33K	5%	1/10W
R318	1-216-073-00	METAL CHIP	10K	5%	1/10W	R461	1-240-578-31	CARBON	150	5%	1/2W
R319	1-216-111-00	METAL CHIP	390K	5%	1/10W	R462	1-240-578-31	CARBON	150	5%	1/2W
R321	1-216-059-00	METAL CHIP	2.7K	5%	1/10W	R463	1-240-577-31	CARBON	56	5%	1/2W
R322	1-216-071-00	METAL CHIP	8.2K	5%	1/10W	R464	1-216-049-91	RES,CHIP	1K	5%	1/10W
R341	1-216-094-00	RES,CHIP	75K	5%	1/10W	R468	1-216-089-91	RES,CHIP	47K	5%	1/10W
R342	1-216-094-00	RES,CHIP	75K	5%	1/10W	R469	1-216-089-91	RES,CHIP	47K	5%	1/10W
R343	1-216-089-91	RES,CHIP	47K	5%	1/10W	R502	1-216-041-00	METAL CHIP	470	5%	1/10W
R344	1-216-089-91	RES,CHIP	47K	5%	1/10W	R503	1-216-065-91	RES,CHIP	4.7K	5%	1/10W
R345	1-216-089-91	RES,CHIP	47K	5%	1/10W	R504	1-216-025-91	RES,CHIP	100	5%	1/10W
R346	1-216-049-91	RES,CHIP	1K	5%	1/10W	R505	1-216-089-91	RES,CHIP	47K	5%	1/10W
R347	1-216-065-91	RES,CHIP	4.7K	5%	1/10W	R506	1-216-089-91	RES,CHIP	47K	5%	1/10W
R348	1-216-065-91	RES,CHIP	4.7K	5%	1/10W	R507	1-216-073-00	METAL CHIP	10K	5%	1/10W
R351	1-216-085-00	METAL CHIP	33K	5%	1/10W	R508	1-216-033-00	METAL CHIP	220	5%	1/10W
R352	1-216-057-00	METAL CHIP	2.2K	5%	1/10W	R509	1-216-097-91	RES,CHIP	100K	5%	1/10W
R353	1-216-025-91	RES,CHIP	100	5%	1/10W	R510	1-216-295-91	SHORT	0		
R354	1-216-025-91	RES,CHIP	100	5%	1/10W	R511	1-216-109-00	METAL CHIP	330K	5%	1/10W
R355	1-216-057-00	METAL CHIP	2.2K	5%	1/10W	R513	1-216-295-91	SHORT	0		
R356	1-216-071-00	METAL CHIP	8.2K	5%	1/10W	R517	1-216-073-00	METAL CHIP	10K	5%	1/10W
R357	1-216-071-00	METAL CHIP	8.2K	5%	1/10W	R518	1-216-025-91	RES,CHIP	100	5%	1/10W
R358	1-216-065-91	RES,CHIP	4.7K	5%	1/10W	R522	1-216-065-91	RES,CHIP	4.7K	5%	1/10W
R359	1-216-085-00	METAL CHIP	33K	5%	1/10W	R526	1-216-025-91	RES,CHIP	100	5%	1/10W
R371	1-216-045-00	METAL CHIP	680	5%	1/10W	R527	1-216-025-91	RES,CHIP	100	5%	1/10W
R372	1-216-057-00	METAL CHIP	2.2K	5%	1/10W	R528	1-216-073-00	METAL CHIP	10K	5%	1/10W
R373	1-216-045-00	METAL CHIP	680	5%	1/10W	R529	1-216-025-91	RES,CHIP	100	5%	1/10W
						R530	1-216-025-91	RES,CHIP	100	5%	1/10W

MAIN

MOTOR (SLIDE)

MOTOR (TURN)

Ref. No.	Part No.	Description			Remark
R536	1-216-025-91	RES,CHIP	100	5%	1/10W
R538	1-216-073-00	METAL CHIP	10K	5%	1/10W
R539	1-216-025-91	RES,CHIP	100	5%	1/10W
R542	1-216-025-91	RES,CHIP	100	5%	1/10W
R543	1-216-025-91	RES,CHIP	100	5%	1/10W
R549	1-216-049-91	RES,CHIP	1K	5%	1/10W
R550	1-216-025-91	RES,CHIP	100	5%	1/10W
R551	1-216-025-91	RES,CHIP	100	5%	1/10W
R552	1-216-025-91	RES,CHIP	100	5%	1/10W
R553	1-216-025-91	RES,CHIP	100	5%	1/10W
R554	1-216-025-91	RES,CHIP	100	5%	1/10W
R555	1-216-025-91	RES,CHIP	100	5%	1/10W
R559	1-216-025-91	RES,CHIP	100	5%	1/10W
R560	1-216-025-91	RES,CHIP	100	5%	1/10W
R561	1-216-025-91	RES,CHIP	100	5%	1/10W
R563	1-216-025-91	RES,CHIP	100	5%	1/10W
R565	1-216-025-91	RES,CHIP	100	5%	1/10W
R566	1-216-025-91	RES,CHIP	100	5%	1/10W
R567	1-216-025-91	RES,CHIP	100	5%	1/10W
R568	1-216-025-91	RES,CHIP	100	5%	1/10W
R569	1-216-025-91	RES,CHIP	100	5%	1/10W
R570	1-216-025-91	RES,CHIP	100	5%	1/10W
R571	1-216-025-91	RES,CHIP	100	5%	1/10W
R572	1-216-073-00	METAL CHIP	10K	5%	1/10W
R573	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R574	1-216-073-00	METAL CHIP	10K	5%	1/10W
R575	1-216-073-00	METAL CHIP	10K	5%	1/10W
R576	1-216-073-00	METAL CHIP	10K	5%	1/10W
R577	1-216-073-00	METAL CHIP	10K	5%	1/10W
R578	1-216-073-00	METAL CHIP	10K	5%	1/10W
R586	1-216-025-91	RES,CHIP	100	5%	1/10W
R587	1-216-025-91	RES,CHIP	100	5%	1/10W
R588	1-216-025-91	RES,CHIP	100	5%	1/10W
R589	1-216-025-91	RES,CHIP	100	5%	1/10W
R590	1-216-025-91	RES,CHIP	100	5%	1/10W
R591	1-216-025-91	RES,CHIP	100	5%	1/10W
R594	1-216-295-91	SHORT	0		
R595	1-216-065-91	RES,CHIP	4.7K	5%	1/10W
R596	1-216-053-00	METAL CHIP	1.5K	5%	1/10W
R597	1-216-065-91	RES,CHIP	47K	5%	1/10W
R598	1-216-029-00	METAL CHIP	150	5%	1/10W (E,MY,SP,IA)
R598	1-216-037-00	METAL CHIP	330	5%	1/10W (TH)
R598	1-216-065-91	RES,CHIP	4.7K	5%	1/10W (EA)
R901	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R902	1-216-045-00	METAL CHIP	680	5%	1/10W
R903	1-216-138-00	METAL CHIP	3.3	5%	1/8W
R904	1-216-138-00	METAL CHIP	3.3	5%	1/8W
R905	1-216-053-00	METAL CHIP	1.5K	5%	1/10W
R906	1-216-043-91	RES,CHIP	560	5%	1/10W
R907	1-216-065-91	RES,CHIP	4.7K	5%	1/10W
R908	1-216-073-00	METAL CHIP	10K	5%	1/10W
R909	1-216-075-00	METAL CHIP	12K	5%	1/10W
R910	1-216-073-00	METAL CHIP	10K	5%	1/10W
R911	1-216-081-00	METAL CHIP	22K	5%	1/10W
R912	1-216-049-91	RES,CHIP	1K	5%	1/10W

Ref. No.	Part No.	Description			Remark
R913	1-216-033-00	METAL CHIP	220	5%	1/10W
R914	1-216-295-91	SHORT	0		
R915	1-216-081-00	METAL CHIP	22K	5%	1/10W
R916	1-216-049-91	RES,CHIP	1K	5%	1/10W
R917	1-216-295-91	RES,CHIP	0		(2012)
R931	1-216-081-00	METAL CHIP	22K	5%	1/10W
R932	1-216-081-00	METAL CHIP	22K	5%	1/10W
R933	1-216-081-00	METAL CHIP	22K	5%	1/10W
R951	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R952	1-216-045-00	METAL CHIP	680	5%	1/10W
R953	1-216-138-00	METAL CHIP	3.3	5%	1/8W
R954	1-216-138-00	METAL CHIP	3.3	5%	1/8W
< VARIABLE RESISTOR >					
RV301	1-238-600-11	RES, ADJ, CARBON 10K			
RV351	1-238-600-11	RES, ADJ, CARBON 10K			
< VIBRATOR >					
X510	1-567-098-41	VIBRATOR, CRYSTAL (32.768MHZ)			
X513	1-781-107-21	VIBRATOR, SERAMIC (16MHZ)			

*	1-658-578-11	MOTOR (SLIDE) BOARD			*****
< CAPACITOR >					
C801	1-162-306-11	CERAMIC	0.01uF	20%	16V
C804	1-162-306-11	CERAMIC	0.01uF	20%	16V
C805	1-126-964-11	ELECT	10uF	20%	50V
< CONNECTOR >					
* CN801	1-568-947-11	PIN, CONNECTOR 9P			
< DIODE >					
D801	8-719-109-89	DIODE RD5.6ESB2			
D804	8-719-911-19	DIODE 1SS119			
D805	8-719-911-19	DIODE 1SS119			
< IC >					
IC801	8-759-274-09	IC BA6286N			
< RESISTOR >					
R801	1-249-401-11	CARBON	47	5%	1/4W F
< SWITCH >					
S801	1-762-527-11	SWITCH, ROTARY (OPEN/CLOSE)			

*	1-658-577-11	MOTOR (TURN) BOARD			*****
< CAPACITOR >					
C701	1-162-306-11	CERAMIC	0.01uF	20%	16V
C702	1-126-964-11	ELECT	10uF	20%	50V
C705	1-162-306-11	CERAMIC	0.01uF	20%	16V

MOTOR (TURN)

PANEL

Ref. No.	Part No.	Description	Remark		
		< CONNECTOR >			
CN703	1-750-413-11	CONNECTOR, FFC/FPC 8P			
CN704	1-506-469-11	PIN, CONNECTOR 4P			
		< DIODE >			
D701	8-719-109-69	DIODE RD3.6ES-B2			
		< IC >			
IC701	8-759-633-65	IC M54641L			
		< RESISTOR >			
R706	1-249-411-11	CARBON 330	5%	1/4W	
R707	1-249-401-11	CARBON 47	5%	1/4W	F

	A-4417-959-A	PANEL BOARD, COMPLETE			

	4-214-439-01	HOLDER, FL TUBE			
*	4-949-935-81	CUSHION (FL)			
		< CAPACITOR >			
C601	1-124-589-11	ELECT	47uF	20%	16V
C602	1-126-163-11	ELECT	4.7uF	20%	50V
C603	1-162-306-11	CERAMIC	0.01uF	20%	16V
C604	1-162-294-31	CERAMIC	0.001uF	10%	50V
C606	1-126-160-11	ELECT	1uF	20%	50V
C607	1-126-160-11	ELECT	1uF	20%	50V
C610	1-124-589-11	ELECT	47uF	20%	16V
C611	1-162-306-11	CERAMIC	0.01uF	20%	16V
C612	1-162-306-11	CERAMIC	0.01uF	20%	16V
C614	1-162-306-11	CERAMIC	0.01uF	20%	16V
C615	1-162-306-11	CERAMIC	0.01uF	20%	16V
C616	1-126-157-11	ELECT	10uF	20%	16V
C617	1-162-303-11	CERAMIC	0.0033uF	30%	16V
C618	1-126-157-11	ELECT	10uF	20%	16V
C619	1-126-157-11	ELECT	10uF	20%	16V
C620	1-126-163-11	ELECT	4.7uF	20%	50V
C625	1-126-157-11	ELECT	10uF	20%	16V
C627	1-162-306-11	CERAMIC	0.01uF	20%	16V
C628	1-126-157-11	ELECT	10uF	20%	16V
C630	1-162-306-11	CERAMIC	0.01uF	20%	16V
C631	1-162-306-11	CERAMIC	0.01uF	20%	16V
C632	1-162-306-11	CERAMIC	0.01uF	20%	16V
C651	1-162-282-31	CERAMIC	100PF	10%	50V
C652	1-162-282-31	CERAMIC	100PF	10%	50V
C653	1-162-282-31	CERAMIC	100PF	10%	50V
C654	1-162-282-31	CERAMIC	100PF	10%	50V
C655	1-162-282-31	CERAMIC	100PF	10%	50V
C656	1-162-282-31	CERAMIC	100PF	10%	50V
C657	1-162-282-31	CERAMIC	100PF	10%	50V
C658	1-162-282-31	CERAMIC	100PF	10%	50V
C659	1-162-282-31	CERAMIC	100PF	10%	50V
C660	1-162-282-31	CERAMIC	100PF	10%	50V
C661	1-162-282-31	CERAMIC	100PF	10%	50V
C662	1-162-282-31	CERAMIC	100PF	10%	50V

Ref. No.	Part No.	Description	Remark		
C663	1-162-282-31	CERAMIC	100PF	10%	50V
C664	1-162-282-31	CERAMIC	100PF	10%	50V
C665	1-162-282-31	CERAMIC	100PF	10%	50V
C666	1-162-282-31	CERAMIC	100PF	10%	50V
C667	1-162-282-31	CERAMIC	100PF	10%	50V
C668	1-162-282-31	CERAMIC	100PF	10%	50V
C701	1-162-294-31	CERAMIC	0.001uF	10%	50V
C702	1-162-294-31	CERAMIC	0.001uF	10%	50V
C703	1-164-159-21	CERAMIC	0.1uF		50V
C711	1-162-294-31	CERAMIC	0.001uF	10%	50V
C712	1-162-305-11	CERAMIC	0.0068uF	30%	16V
C713	1-126-160-11	ELECT	1uF	20%	50V
C714	1-136-495-11	FILM	0.068uF	5%	50V
C715	1-124-465-00	ELECT	0.47uF	20%	50V
C716	1-124-465-00	ELECT	0.47uF	20%	50V
C717	1-136-167-00	FILM	0.15uF	5%	50V
C718	1-162-294-31	CERAMIC	0.001uF	10%	50V
C719	1-126-160-11	ELECT	1uF	20%	50V
C720	1-161-494-00	CERAMIC	0.022uF		25V
C721	1-162-305-11	CERAMIC	0.0068uF	30%	16V
C722	1-136-495-11	FILM	0.068uF	5%	50V
C723	1-124-589-11	ELECT	47uF	20%	16V
C724	1-136-165-00	FILM	0.1uF	5%	50V
C725	1-124-589-11	ELECT	47uF	20%	16V
C731	1-162-306-11	CERAMIC	0.01uF	20%	16V
C732	1-124-257-00	ELECT	2.2uF	20%	50V
C733	1-162-294-31	CERAMIC	0.001uF	10%	50V
C734	1-162-215-31	CERAMIC	47PF	5%	50V
C735	1-124-261-00	ELECT	10uF	20%	50V
C736	1-162-290-31	CERAMIC	470PF	10%	50V
C737	1-124-463-00	ELECT	0.1uF	20%	50V
C738	1-124-257-00	ELECT	2.2uF	20%	50V
C739	1-162-215-31	CERAMIC	47PF	5%	50V
C741	1-124-261-00	ELECT	10uF	20%	50V
C742	1-162-282-31	CERAMIC	100PF	10%	50V
C743	1-124-257-00	ELECT	2.2uF	20%	50V
C744	1-162-306-11	CERAMIC	0.01uF	20%	16V
C745	1-124-257-00	ELECT	2.2uF	20%	50V
C747	1-164-159-21	CERAMIC	0.1uF		50V
		< CONNECTOR >			
CN601	1-784-745-11	CONNECTOR, FFC 23P			
		< DIODE >			
D610	8-719-050-84	DIODE RB441Q-40T-77			
D611	8-719-073-47	DIODE SML72923C-TP15 (REG/PAUSE START)			
D612	8-719-056-13	DIODE SML79423C-TP15 (▶▶ CD)			
D613	8-719-058-03	DIODE SEL5423E-TP15 (TAPE B ▶▶)			
D614	8-719-058-03	DIODE SEL5423E-TP15 (TAPE B ◀◀)			
D615	8-719-058-03	DIODE SEL5423E-TP15 (TAPE A ▶▶)			
D616	8-719-058-03	DIODE SEL5423E-TP15 (TAPE A ◀◀)			
D617	8-719-057-97	DIODE SEL5923A-TP15 (PBC OFF)			
D618	8-719-057-97	DIODE SEL5923A-TP15 (PBC)			
D619	8-719-057-97	DIODE SEL5923A-TP15 (SYNC BASE L)			
D620	8-719-057-97	DIODE SEL5923A-TP15 (SYNC BASE H)			
D621	8-719-057-97	DIODE SEL5923A-TP15 (SYNC EQ)			

PANEL

SENSOR

TRANS

VIDEO

Ref. No.	Part No.	Description	Remark
S638	1-762-875-21	SWITCH, KEYBOARD (TIMER SELECT)	
S639	1-762-875-21	SWITCH, KEYBOARD (P. 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)	

*	1-658-576-11	SENSOR BOARD *****	
		< IC >	
IC702	8-749-924-18	IC PHOTO INTERRUPTER RPI-1391	
IC703	8-749-924-30	IC PHOTO REFLECTOR GP2S28	
		< RESISTOR >	
R701	1-249-416-11	CARBON 820 5% 1/4W F	
R702	1-249-407-11	CARBON 150 5% 1/4W F	

*	1-672-369-11	TRANS BOARD *****	
		< CAPACITOR >	
C971	1-128-563-11	ELECT 100uF 20% 100V	
C972	1-126-960-11	ELECT 1uF 20% 50V	
C973	1-126-948-11	ELECT 100uF 20% 35V	
		< CONNECTOR >	
CN951	1-564-321-00	PIN, CONNECTOR 2P	
* CN952	1-564-527-11	PLUG, CONNECTOR 12P	
CN971	1-785-329-11	PIN, CONNECTOR (LIGHT ANGLE)3P	
		< DIODE >	
D971	8-719-200-82	DIODE 11ES2	
D972	8-719-936-43	DIODE HZS27-3LTD	
D973	8-719-109-63	DIODE RD3.0ESB2	
		< FUSE >	
△ F951	1-532-504-31	FUSE (T4AL/250V)(E,EA,MY,SP,IA)	
△ F951	1-532-505-31	FUSE (T5AL/250V)(TH)	
△ F952	1-532-388-31	FUSE (T2AL/250V)(E,EA,MY,SP,IA)	
△ F952	1-532-465-31	FUSE (T3.15AL/250V)(TH)	
△ F953	1-532-464-31	FUSE (T2.5AL/250V)	

Ref. No.	Part No.	Description	Remark
△ F961	1-532-504-31	FUSE (T4AL/250V)(E,EA,MY,SP,IA)	
△ F961	1-533-949-31	FUSE, CYLINDRICAL (TIME LUG)(T8AL/250V) (TH)	
△ F962	1-532-504-31	FUSE (T4AL/250V)(E,EA,MY,SP,IA)	
△ F962	1-533-949-31	FUSE, CYLINDRICAL (TIME LUG)(T8AL/250V) (TH)	
		< FUSE HOLDER >	
FH901	1-533-217-31	HOLDER, FUSE	
FH902	1-533-217-31	HOLDER, FUSE	
FH903	1-533-217-31	HOLDER, FUSE	
FH911	1-533-217-31	HOLDER, FUSE	
FH912	1-533-217-31	HOLDER, FUSE	
FH951	1-533-217-31	HOLDER, FUSE	
FH952	1-533-217-31	HOLDER, FUSE	
FH953	1-533-217-31	HOLDER, FUSE	
FH961	1-533-217-31	HOLDER, FUSE	
FH962	1-533-217-31	HOLDER, FUSE	
		< TRANSISTOR >	
Q971	8-729-048-52	TRANSISTOR 2SA1932(TP)	
		< RESISTOR >	
△ R951	1-219-119-81	FUSIBLE 0.1 5% 1/4W F (E,EA,MY,SP,IA)	
△ R951	1-219-122-91	FUSIBLE 0.33 5% 1/4W F (TH)	
△ R952	1-219-119-81	FUSIBLE 0.1 5% 1/4W F (E,EA,MY,SP,IA)	
△ R952	1-219-122-91	FUSIBLE 0.33 5% 1/4W F (TH)	
△ R953	1-219-119-81	FUSIBLE 0.1 5% 1/4W F	
R971	1-216-479-11	METAL OXIDE 560 5% 3W F	
R972	1-249-429-11	CARBON 10K 5% 1/4W	
R973	1-249-429-11	CARBON 10K 5% 1/4W	
R974	1-247-807-31	CARBON 100 5% 1/4W	
R975	1-247-807-31	CARBON 100 5% 1/4W	
		< SWITCH >	
△ S951	1-771-291-11	SWITCH, POWER (VOLTAGE SELECTOR)	

A-4724-729-A		VIDEO BOARD, COMPLETE *****	
		< CAPACITOR >	
C101	1-124-778-00	ELECT CHIP 22uF 20% 6.3V	
C102	1-163-143-00	CERAMIC CHIP 0.0012uF 5% 50V	
C103	1-163-017-00	CERAMIC CHIP 0.0047uF 5% 50V	
C104	1-126-206-11	ELECT CHIP 100uF 20% 6.3V	
C201	1-124-778-00	ELECT CHIP 22uF 20% 6.3V	
C202	1-163-143-00	CERAMIC CHIP 0.0012uF 5% 50V	
C203	1-163-017-00	CERAMIC CHIP 0.0047uF 5% 50V	
C301	1-163-127-00	CERAMIC CHIP 270PF 5% 50V	
C302	1-163-127-00	CERAMIC CHIP 270PF 5% 50V	
C303	1-163-235-11	CERAMIC CHIP 22PF 5% 50V	
C304	1-163-235-11	CERAMIC CHIP 22PF 5% 50V	
C305	1-163-263-11	CERAMIC CHIP 330PF 5% 50V	

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

VIDEO

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
C306	1-163-263-11	CERAMIC CHIP	330PF 5%	50V	C566	1-165-319-11	CERAMIC CHIP 0.1uF 50V
C310	1-163-137-00	CERAMIC CHIP	680PF 5%	50V	C568	1-126-206-11	ELECT CHIP 100uF 20% 6.3V
C311	1-216-295-91	SHORT	0		C569	1-126-206-11	ELECT CHIP 100uF 20% 6.3V
C313	1-165-319-11	CERAMIC CHIP	0.1uF	50V	C570	1-126-206-11	ELECT CHIP 100uF 20% 6.3V
C314	1-165-319-11	CERAMIC CHIP	0.1uF	50V	C571	1-128-065-11	ELECT CHIP 68MF 20% 10V
C318	1-124-778-00	ELECT CHIP	22uF	20% 6.3V	C573	1-163-235-11	CERAMIC CHIP 22PF 5% 50V
C319	1-165-319-11	CERAMIC CHIP	0.1uF	50V	C574	1-163-235-11	CERAMIC CHIP 22PF 5% 50V
C401	1-165-319-11	CERAMIC CHIP	0.1uF	50V	C576	1-163-235-11	CERAMIC CHIP 22PF 5% 50V
C402	1-124-778-00	ELECT CHIP	22uF	20% 6.3V	C577	1-163-235-11	CERAMIC CHIP 22PF 5% 50V
C403	1-124-778-00	ELECT CHIP	22uF	20% 6.3V	< CONNECTOR >		
C404	1-126-206-11	ELECT CHIP	100uF	20% 6.3V	CN501	1-770-706-11	CONNECTOR, FFC/FPC 23P
C405	1-110-530-11	ELECT CHIP	1000uF	20% 6.3V	CN503	1-779-416-11	CONNECTOR, FFC(LIF(NON-ZIF))13P
C406	1-110-530-11	ELECT CHIP	1000uF	20% 6.3V	< TRIMMER >		
C409	1-124-778-00	ELECT CHIP	22uF	20% 6.3V	CT503	1-141-539-11	CAP, ADJ 10PF (VIDEO FREQUENCY)
C410	1-165-319-11	CERAMIC CHIP	0.1uF	50V	< DIODE >		
C411	1-165-319-11	CERAMIC CHIP	0.1uF	50V	D301	8-719-054-23	DIODE RB706D-40-T146
C412	1-165-319-11	CERAMIC CHIP	0.1uF	50V	D501	8-719-422-12	DIODE MA8039
C413	1-124-778-00	ELECT CHIP	22uF	20% 6.3V	D502	8-719-018-51	DIODE CL-170R-CD (SELF-DIAGNOSIS)
C452	1-165-319-11	CERAMIC CHIP	0.1uF	50V	< IC >		
C501	1-163-251-11	CERAMIC CHIP	100PF 5%	50V	IC101	8-759-701-39	IC NJM3404AM
C502	1-163-251-11	CERAMIC CHIP	100PF 5%	50V	IC401	8-759-262-00	IC MC14576CF
C503	1-163-251-11	CERAMIC CHIP	100PF 5%	50V	IC501	8-759-269-92	IC SN74HCU04ANS-E20
C504	1-165-319-11	CERAMIC CHIP	0.1uF	50V	IC502	8-759-587-67	IC M30620MC-A05FP
C505	1-126-206-11	ELECT CHIP	100uF	20% 6.3V	IC504	8-759-269-92	IC SN74HCU04ANS-E20
C506	1-165-319-11	CERAMIC CHIP	0.1uF	50V	IC505	8-759-535-48	IC CL680T-D1
C507	1-126-206-11	ELECT CHIP	100uF	20% 6.3V	IC506	8-759-573-23	IC LC372100PM-J48-TLA
C509	1-163-275-11	CERAMIC CHIP	0.001uF	5%	IC507	8-759-342-01	IC MB814260-70PJER
C510	1-165-319-11	CERAMIC CHIP	0.1uF	50V	IC509	8-759-535-62	IC PCM1727E-2/T2
C531	1-126-206-11	ELECT CHIP	100uF	20% 6.3V	< JACK >		
C532	1-165-319-11	CERAMIC CHIP	0.1uF	50V	J301	1-537-943-11	TERMINAL, S (S VIDEO OUT)
C535	1-165-319-11	CERAMIC CHIP	0.1uF	50V	J302	1-774-227-11	JACK, PIN 1P (VIDEO OUT)
C536	1-126-193-11	ELECT	1uF	20% 50V	< JUMPER RESISTOR >		
C537	1-126-206-11	ELECT CHIP	100uF	20% 6.3V	JW101	1-216-295-91	SHORT 0
C539	1-165-319-11	CERAMIC CHIP	0.1uF	50V	JW201	1-216-295-91	SHORT 0
C540	1-126-206-11	ELECT CHIP	100uF	20% 6.3V	JW401	1-216-295-91	SHORT 0
C541	1-165-319-11	CERAMIC CHIP	0.1uF	50V	JW402	1-216-295-91	SHORT 0
C542	1-126-206-11	ELECT CHIP	100uF	20% 6.3V	JW403	1-216-295-91	SHORT 0
C543	1-126-206-11	ELECT CHIP	100uF	20% 6.3V	JW404	1-216-295-91	SHORT 0
C544	1-165-319-11	CERAMIC CHIP	0.1uF	50V	JW405	1-216-295-91	SHORT 0
C545	1-165-319-11	CERAMIC CHIP	0.1uF	50V	JW413	1-216-295-91	SHORT 0
C546	1-165-319-11	CERAMIC CHIP	0.1uF	50V	JW421	1-216-295-91	SHORT 0
C547	1-126-193-11	ELECT	1uF	20% 50V	JW422	1-216-295-91	SHORT 0
C548	1-165-319-11	CERAMIC CHIP	0.1uF	50V	JW502	1-216-295-91	SHORT 0
C549	1-165-319-11	CERAMIC CHIP	0.1uF	50V	JW503	1-216-295-91	SHORT 0
C550	1-163-275-11	CERAMIC CHIP	0.001uF	5%	JW504	1-216-295-91	SHORT 0
C551	1-165-319-11	CERAMIC CHIP	0.1uF	50V	JW505	1-216-295-91	SHORT 0
C552	1-165-319-11	CERAMIC CHIP	0.1uF	50V	< COIL >		
C553	1-126-206-11	ELECT CHIP	100uF	20% 6.3V	L301	1-410-372-21	INDUCTOR CHIP 1.8uH
C555	1-124-779-00	ELECT CHIP	10uF	20% 16V	L302	1-410-372-21	INDUCTOR CHIP 1.8uH
C556	1-165-319-11	CERAMIC CHIP	0.1uF	50V			
C559	1-126-206-11	ELECT CHIP	100uF	20% 6.3V			
C560	1-163-235-11	CERAMIC CHIP	22PF	5% 50V			
C561	1-163-233-11	CERAMIC CHIP	18PF	5% 50V			
C562	1-163-235-11	CERAMIC CHIP	22PF	5% 50V			
C563	1-165-319-11	CERAMIC CHIP	0.1uF	50V			
C564	1-165-319-11	CERAMIC CHIP	0.1uF	50V			
C565	1-126-206-11	ELECT CHIP	100uF	20% 6.3V			

VIDEO

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
L501	1-216-296-91	SHORT	0	R332	1-216-651-11	METAL CHIP	1K 0.5% 1/10W
L502	1-216-296-91	SHORT	0	R333	1-216-046-00	METAL CHIP	750 5% 1/10W
L503	1-216-296-91	SHORT	0	R335	1-216-073-00	METAL CHIP	10K 5% 1/10W
L504	1-410-375-11	INDUCTOR CHIP	3.3uH	R336	1-216-073-00	METAL CHIP	10K 5% 1/10W
L505	1-216-296-91	SHORT	0	R340	1-216-022-00	METAL CHIP	75 5% 1/10W
L506	1-216-296-91	SHORT	0	R341	1-216-121-91	RES,CHIP	1M 5% 1/10W
L507	1-216-296-91	SHORT	0	R342	1-216-022-00	METAL CHIP	75 5% 1/10W
L508	1-216-296-91	SHORT	0	R403	1-216-057-00	METAL CHIP	2.2K 5% 1/10W
L509	1-216-296-91	SHORT	0	R404	1-216-057-00	METAL CHIP	2.2K 5% 1/10W
L510	1-216-296-91	SHORT	0	R405	1-216-065-91	RES,CHIP	4.7K 5% 1/10W
< TRANSISTOR >				R406	1-216-081-00	METAL CHIP	22K 5% 1/10W
Q301	8-729-024-91	TRANSISTOR	2SC2712-GL-TE85L	R407	1-216-073-00	METAL CHIP	10K 5% 1/10W
Q302	8-729-024-91	TRANSISTOR	2SC2712-GL-TE85L	R408	1-216-073-00	METAL CHIP	10K 5% 1/10W
Q303	8-729-024-91	TRANSISTOR	2SC2712-GL-TE85L	R409	1-216-049-91	RES,CHIP	1K 5% 1/10W
Q304	8-729-024-91	TRANSISTOR	2SC2712-GL-TE85L	R410	1-216-049-91	RES,CHIP	1K 5% 1/10W
Q306	8-729-027-44	TRANSISTOR	DTC114TKA-T146	R411	1-216-073-00	METAL CHIP	10K 5% 1/10W
Q307	8-729-024-91	TRANSISTOR	2SC2712-GL-TE85L	R412	1-216-073-00	METAL CHIP	10K 5% 1/10W
Q308	8-729-024-91	TRANSISTOR	2SC2712-GL-TE85L	R414	1-216-081-00	METAL CHIP	22K 5% 1/10W
Q310	8-729-024-91	TRANSISTOR	2SC2712-GL-TE85L	R415	1-216-081-00	METAL CHIP	22K 5% 1/10W
Q453	8-729-920-72	TRANSISTOR	2SA1037K-T-146-QR	R423	1-216-073-00	METAL CHIP	10K 5% 1/10W
Q454	8-729-920-72	TRANSISTOR	2SA1037K-T-146-QR	R424	1-216-073-00	METAL CHIP	10K 5% 1/10W
Q502	8-729-024-91	TRANSISTOR	2SC2712-GL-TE85L	R425	1-216-073-00	METAL CHIP	10K 5% 1/10W
Q531	8-729-140-75	TRANSISTOR	2SD999-CLCK	R426	1-216-073-00	METAL CHIP	10K 5% 1/10W
< RESISTOR >				R457	1-216-025-91	RES,CHIP	100 5% 1/10W
R101	1-216-073-00	METAL CHIP	10K 5% 1/10W	R458	1-216-025-91	RES,CHIP	100 5% 1/10W
R102	1-208-441-61	RES,CHIP	1.5K 2% 1/10W	R459	1-216-025-91	RES,CHIP	100 5% 1/10W
R103	1-208-441-61	RES,CHIP	1.5K 2% 1/10W	R461	1-216-025-91	RES,CHIP	100 5% 1/10W
R105	1-216-295-91	SHORT	0	R462	1-216-025-91	RES,CHIP	100 5% 1/10W
R201	1-216-073-00	METAL CHIP	10K 5% 1/10W	R463	1-216-025-91	RES,CHIP	100 5% 1/10W
R202	1-208-441-61	RES,CHIP	1.5K 2% 1/10W	R464	1-216-025-91	RES,CHIP	100 5% 1/10W
R203	1-208-441-61	RES,CHIP	1.5K 2% 1/10W	R501	1-216-025-91	RES,CHIP	100 5% 1/10W
R205	1-216-295-91	SHORT	0	R502	1-216-025-91	RES,CHIP	100 5% 1/10W
R301	1-216-624-11	METAL CHIP	75 0.5% 1/10W	R503	1-216-025-91	RES,CHIP	100 5% 1/10W
R302	1-216-624-11	METAL CHIP	75 0.5% 1/10W	R504	1-216-025-91	RES,CHIP	100 5% 1/10W
R305	1-216-049-91	RES,CHIP	1K 5% 1/10W	R505	1-216-025-91	RES,CHIP	100 5% 1/10W
R306	1-216-073-00	METAL CHIP	10K 5% 1/10W	R506	1-216-025-91	RES,CHIP	100 5% 1/10W
R307	1-216-049-91	RES,CHIP	1K 5% 1/10W	R507	1-216-073-00	METAL CHIP	10K 5% 1/10W
R308	1-216-049-91	RES,CHIP	1K 5% 1/10W	R508	1-216-081-00	METAL CHIP	22K 5% 1/10W
R309	1-216-057-00	METAL CHIP	2.2K 5% 1/10W	R509	1-216-081-00	METAL CHIP	22K 5% 1/10W
R312	1-216-073-00	METAL CHIP	10K 5% 1/10W	R510	1-216-081-00	METAL CHIP	22K 5% 1/10W
R313	1-216-049-91	RES,CHIP	1K 5% 1/10W	R511	1-216-081-00	METAL CHIP	22K 5% 1/10W
R314	1-216-049-91	RES,CHIP	1K 5% 1/10W	R512	1-216-081-00	METAL CHIP	22K 5% 1/10W
R315	1-216-047-91	RES,CHIP	820 5% 1/10W	R513	1-216-081-00	METAL CHIP	22K 5% 1/10W
R316	1-216-657-11	METAL CHIP	1.8K 0.5% 1/10W	R514	1-216-081-00	METAL CHIP	22K 5% 1/10W
R317	1-216-683-11	METAL CHIP	22K 0.5% 1/10W	R516	1-216-073-00	METAL CHIP	10K 5% 1/10W
R318	1-216-033-00	METAL CHIP	220 5% 1/10W	R517	1-216-073-00	METAL CHIP	10K 5% 1/10W
R319	1-216-049-91	RES,CHIP	1K 5% 1/10W	R518	1-216-073-00	METAL CHIP	10K 5% 1/10W
R320	1-216-651-11	METAL CHIP	1K 0.5% 1/10W	R519	1-216-025-91	RES,CHIP	100 5% 1/10W
R321	1-216-049-91	RES,CHIP	1K 5% 1/10W	R520	1-216-057-00	METAL CHIP	2.2K 5% 1/10W
R324	1-216-022-00	METAL CHIP	75 5% 1/10W	R523	1-216-013-00	METAL CHIP	33 5% 1/10W
R325	1-216-295-91	SHORT	0	R530	1-216-081-00	METAL CHIP	22K 5% 1/10W
R327	1-216-049-91	RES,CHIP	1K 5% 1/10W	R531	1-216-025-91	RES,CHIP	100 5% 1/10W
R328	1-216-655-11	METAL CHIP	1.5K 0.5% 1/10W	R532	1-216-025-91	RES,CHIP	100 5% 1/10W
R329	1-216-649-11	METAL CHIP	820 0.5% 1/10W	R533	1-216-025-91	RES,CHIP	100 5% 1/10W
				R534	1-216-073-00	METAL CHIP	10K 5% 1/10W
				R535	1-216-073-00	METAL CHIP	10K 5% 1/10W
				R536	1-216-033-00	METAL CHIP	220 5% 1/10W

Ref. No.	Part No.	Description			Remark
R537	1-216-025-91	RES,CHIP	100	5%	1/10W
R538	1-216-073-00	METAL CHIP	10K	5%	1/10W
R542	1-216-049-91	RES,CHIP	1K	5%	1/10W
R543	1-216-685-11	METAL CHIP	27K	0.5%	1/10W
R544	1-216-659-11	METAL CHIP	2.2K	0.5%	1/10W
R545	1-216-025-91	RES,CHIP	100	5%	1/10W
R546	1-216-049-91	RES,CHIP	1K	5%	1/10W
R547	1-216-295-91	SHORT	0		
R548	1-216-049-91	RES,CHIP	1K	5%	1/10W
R549	1-216-025-91	RES,CHIP	100	5%	1/10W
R550	1-216-025-91	RES,CHIP	100	5%	1/10W
R551	1-216-025-91	RES,CHIP	100	5%	1/10W
R552	1-216-025-91	RES,CHIP	100	5%	1/10W
R554	1-216-025-91	RES,CHIP	100	5%	1/10W
R555	1-216-121-91	RES,CHIP	1M	5%	1/10W
R556	1-216-025-91	RES,CHIP	100	5%	1/10W
R557	1-216-025-91	RES,CHIP	100	5%	1/10W
R558	1-216-073-00	METAL CHIP	10K	5%	1/10W
R559	1-216-073-00	METAL CHIP	10K	5%	1/10W
R560	1-216-051-00	METAL CHIP	1.2K	5%	1/10W
R561	1-216-049-91	RES,CHIP	1K	5%	1/10W
R562	1-216-025-91	RES,CHIP	100	5%	1/10W
R563	1-216-025-91	RES,CHIP	100	5%	1/10W
R564	1-216-025-91	RES,CHIP	100	5%	1/10W
R565	1-216-025-91	RES,CHIP	100	5%	1/10W
R566	1-216-025-91	RES,CHIP	100	5%	1/10W
R567	1-216-073-00	METAL CHIP	10K	5%	1/10W
R568	1-216-073-00	METAL CHIP	10K	5%	1/10W
R569	1-216-073-00	METAL CHIP	10K	5%	1/10W
R572	1-216-073-00	METAL CHIP	10K	5%	1/10W
R573	1-216-073-00	METAL CHIP	10K	5%	1/10W
R574	1-216-073-00	METAL CHIP	10K	5%	1/10W
R577	1-216-081-00	METAL CHIP	22K	5%	1/10W
R578	1-216-081-00	METAL CHIP	22K	5%	1/10W
R579	1-216-073-00	METAL CHIP	10K	5%	1/10W
R580	1-216-073-00	METAL CHIP	10K	5%	1/10W
< SWITCH >					
S501	1-571-395-11	SWITCH, SLIDE (SYSTEM SELECT NTSC→AUTO→PAL)			
< VIBRATOR >					
X501	1-767-510-11	VIBRATOR, CERAMIC (10MHz)			
X503	1-767-519-11	VIBRATOR, CRYSTAL (27MHz)			

Ref. No.	Part No.	Description	Remark
MISCELLANEOUS *****			
5	1-233-545-11	TUNER UNIT (FM/AM) (TH)	
5	1-233-546-11	TUNER UNIT (FM/MW/SW) (EXCEPT TH)	
9	1-783-949-11	WIRE (FLAT TYPE) (13 CORE)	
10	1-775-212-11	WIRE (FLAT TYPE) (23 CORE)	
54	1-783-570-11	WIRE (FLAT TYPE) (19 CORE)	
55	1-769-976-11	WIRE (FLAT TYPE) (13 CORE) (TH)	
55	1-773-008-11	WIRE (FLAT TYPE) (15 CORE) (140 mm) (EXCEPT TH)	
56	1-773-049-11	WIRE (FLAT TYPE) (17 CORE)	
58	1-569-007-11	ADAPTOR, CONVERSION 2P (E,IA)	
58	1-569-008-21	ADAPTOR, CONVERSION 2P (EA,SP,MY)	
△ 59	1-575-651-11	CORD, POWER (EA,SP,MY)	
△ 59	1-575-653-11	CORD, POWER (E,IA,TH)	
62	1-773-023-11	WIRE (FLAT TYPE) (15 CORE) (310 mm)	
116	1-773-189-11	WIRE (FLAT TYPE) (23 CORE)	
121	1-674-232-11	PUSH CATCH STOP BOARD	
257	1-452-925-21	MAGNET ASSY	
258	1-776-042-11	WIRE (FLAT TYPE) (8 CORE)	
△ 301	8-820-020-02	OPTICAL PICK-UP KSS-213D/Q-NP	
302	1-769-069-11	WIRE (FLAT TYPE) (16 CORE)	
FL601	1-517-831-31	INDICATOR TUBE, FLUORESCENT	
HP101	A-2056-681-B	DECK (A) ASSY, HEAD (230AWR2)	
HP101	A-2056-683-B	DECK (A) ASSY, HEAD (230PWR2)	
HRPE101	A-2056-682-B	DECK (B) ASSY, HEAD (230AWR2)	
HRPE101	A-2056-684-B	DECK (B) ASSY, HEAD (230PWR2)	
M1	A-2004-628-A	MOTOR ASSY, CAPSTAN	
M101	X-4917-523-3	MOTOR ASSY (SPINDLE)	
M102	X-4917-504-1	MOTOR ASSY (SLED)	
M701	A-4672-004-A	MOTOR ASSY (TURN)	
M801	A-4672-004-A	MOTOR ASSY (SLIDE)	
M901	1-763-072-11	FAN, DC	
S811	1-473-335-11	ENCODER, ROTARY	
△ T951	1-433-555-11	TRANSFORMER, POWER	

***** HARDWARE LIST *****			
#1	7-685-871-01	SCREW +BVTT 3X6 (S)	
#2	7-685-646-79	SCREW +BVTP 3X8 TYPE2 N-S	
#3	7-685-880-09	SCREW +BVTT 4X6 (S)	
#4	7-685-650-79	SCREW +BVTP 3X16 TYPE2 IT-3	
#5	7-685-852-04	SCREW +BVTT 2X5 (S)	
#6	7-621-775-10	SCREW +B 2.6X4	
#7	7-682-553-04	SCREW +P 3X20	
#8	7-685-851-04	SCREW +BVTT 2X4 (S)	
#9	7-628-254-15	SCREW +PS 2.6X6	
#10	7-628-254-50	SCREW +PS 2.6X16	
#11	7-685-861-01	SCREW +BVTT 2.6X5 (S)	
#12	7-685-647-79	SCREW +BVTP 3X10 TYPE2 N-S	

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

