HCD-GRX50/R770/RXD7

SERVICE MANUAL

Photo: HCD-GRX50

Canadian Model
HCD-RXD7
AEP Model
HCD-R770/RXD7
UK Model
HCD-R770
E Model
Australian Model
HCD-GRX50

HCD-GRX50/R770/RXD7 are the Amplifier, CD player, Tape Deck and Tuner section in HMC-GRX50/R770/RXD7.

CD Section	Model Name Using Similar Mechanism	NEW
	CD Mechanism Type	CDM38LH-5BD32L
	Base Unit Name	BU-5BD32L
	Optical Pick-up Name	KSS-213D/Q-NP
Tape deck Section	Model Name Using Similar Mechanism	NEW
	Tape Transport Mechanism Type	TCM-230AWR2

SPECIFICATIONS

Amplifier section

Canadian model:
Continuous RMS power output (reference)
70 + 70 watts
(6 ohms at 1 kHz, 10% THD)
Total harmonic distortion less than 0.07%
(6 ohms at 1 kHz, 45 W)

European and Russian models:
DIN power output (rated) 80 + 80 watts
(8 ohms at 1 kHz, DIN)
Continuous RMS power output (reference)
100 + 100 watts
(8 ohms at 1 kHz, 10% THD)
Music power output (reference)
170 + 170 watts
(6 ohms at 1 kHz, 10% THD)

Other models:
The following measured at AC 120, 220, 240 V 50/60 Hz
DIN power output (rated) 110 + 110 watts
(8 ohms at 1 kHz, DIN)
Continuous RMS power output (reference)
140 + 140 watts
(8 ohms at 1 kHz, 10% THD)

– Continued on next page –

MINI Hi-Fi COMPONENT SYSTEM

MICROFILM

SONY

Specifications (continued)

Inputs
MD/VIDEO (AUDIO) IN: (phono jacks) voltage 450 mV/250mV, impedance 47 kilohms
MIX MIC: (phone jack) sensitivity 1 mV, impedance 10 kilohms

Outputs
MD OUT: (phono jacks) voltage 250 mV, impedance 1 kilohms
PHONES: (stereo phone jack) accepts headphones of 8 ohms or more
SPEAKER:
Canadian model: accepts impedance of 6 to 16 ohms
Other models: accepts impedance of 8 to 16 ohms
SUPER WOOFER (GRX50/RXD7: Canadian models): Voltage 1 V, impedance 1 kilohm

CD player section

System: Compact disc and digital audio system
Laser: Semiconductor laser (λ=780nm)
Emission duration: continuous
Laser output: Max. 44.6 µW*
*This output is the value measured at distance of 200 mm from the objective lens surface on the Optical Pick-up Block with 7 mm aperture.
Frequency response: 2 Hz - 20 kHz (±0.5 dB)
Wavelength: 780 -790 nm
Signal-to-noise ratio: More than 90 dB
Dynamic range: More than 90 dB
CD OPTICAL DIGITAL OUT (Square optical connector jack, rear panel)
Wavelength: 600 nm
Output Level: -18 dBm

Tape player section

Recording system: 4-track 2-channel stereo
Frequency response (DOLBY NR OFF): 40 - 13,000 Hz (±3 dB), 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

UKV tuner section (3 band (FM-AM-UKV) models only)

Tuning range: 65.0 - 74.0 MHz
Stereo Plus

AM tuner section

Tuning range
2 Band type:
Canadian model: 530 - 1,710 kHz (with the interval set at 10 kHz)
531 - 1,710 kHz (with the interval set at 9 kHz)
European and Russian models: 531 - 1,602 kHz (with the interval set at 9 kHz)
Other models: 531 - 1,602 kHz (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)
SW: 5.95 - 17.90 MHz (with the interval set at 5 kHz)
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)
SW: 5.95 - 17.90 MHz (with the interval set at 5 kHz)
Antenna: AM loop antenna
Antenna terminals: External antenna terminal
Intermediate frequency: 450 kHz

General

Power requirements
Canadian model: 120 V AC, 60 Hz
European and Russian models: 230 V AC, 50/60 Hz
Mexican model: 120 V AC, 50/60 Hz
Australian model: 230 - 240 V AC, 50/60 Hz
Israel and Thai 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
Canadian model: 130 watts
European and Russian models: 165 watts
Other models: 160 watts

Dimensions (w/h/d): Approx. 280 × 340 × 395 mm ($11^{1}/_{8} \times 13^{1}/_{2} \times 15^{5}/_{8}$ in.)

Mass
Canadian model: Approx. 9.2 kg
European and Russian models: Approx. 10.1 kg
Other models: Approx. 10 kg
Supplied accessories: AM loop antenna (1)
Remote Commander (1)
Batteries (2)
FM lead antenna (1)
Speaker cords (2)
Front speaker pads (8)

Design and specifications are subject to change without notice.

SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY MARK ⚠ OR DOTTED LINE WITH MARK ⚠ ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

ATTENTION AU COMPOSANT AYANT RAPPORT À LA SÉCURITÉ!

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

TABLE OF CONTENTS

SECTION 1
SERVICING NOTES

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

The laser diode in the optical pick-up block may suffer electrostatic 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.

Notes on chip component replacement

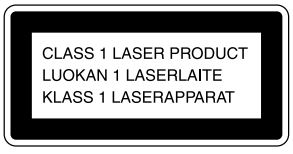
- Never reuse a disconnected chip component.
- Notice that the minus side of a tantalum capacitor may be damaged by heat.

Flexible Circuit Board Repairing

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

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

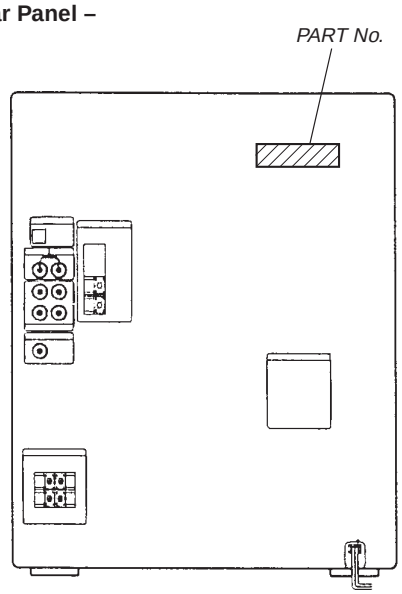
This appliance is classified as a CLASS 1 LASER product. The CLASS 1 LASER PRODUCT MARKING is located on the rear exterior.



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

The following caution label is located inside the unit.

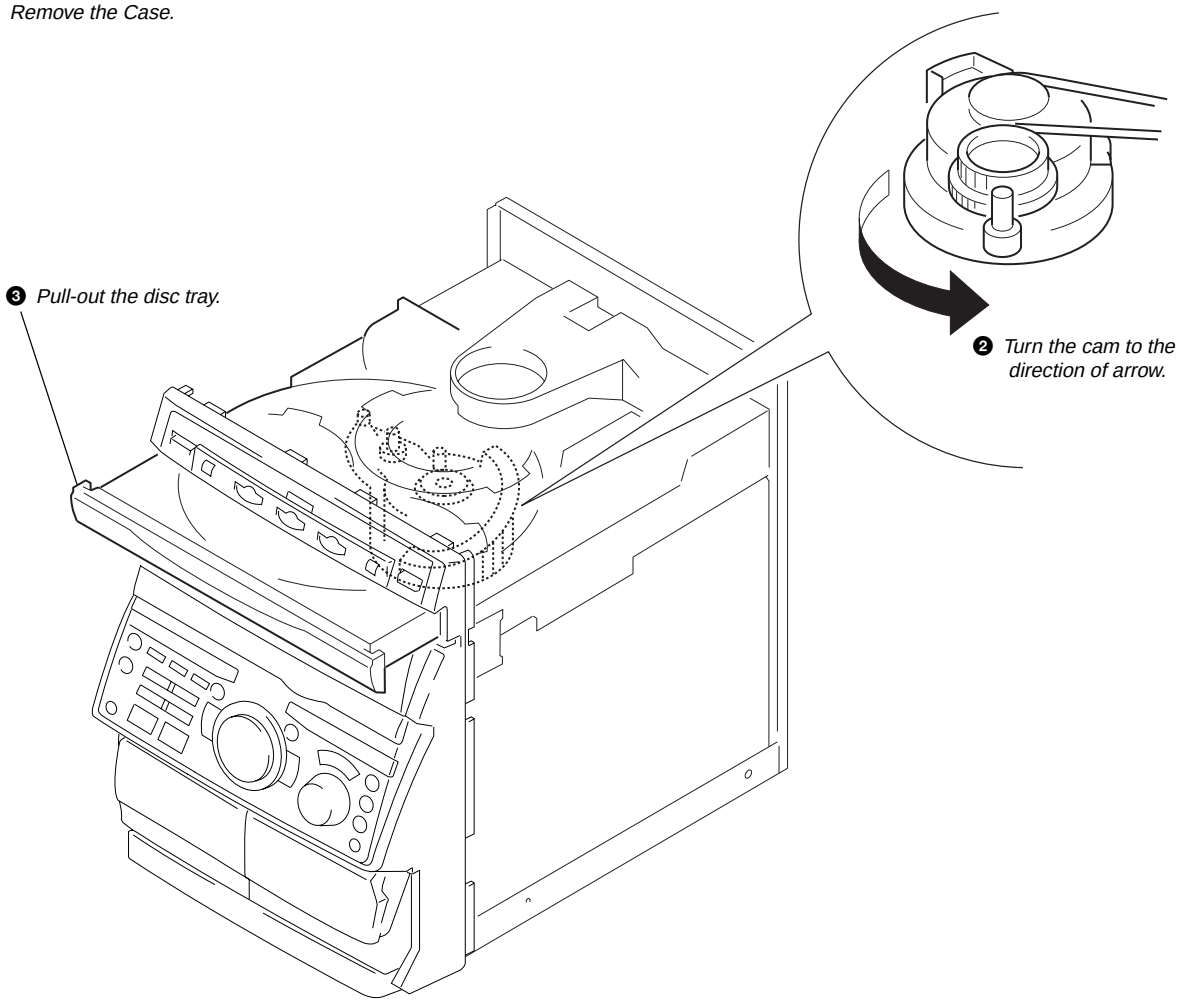
MODEL IDENTIFICATION
– Rear Panel –



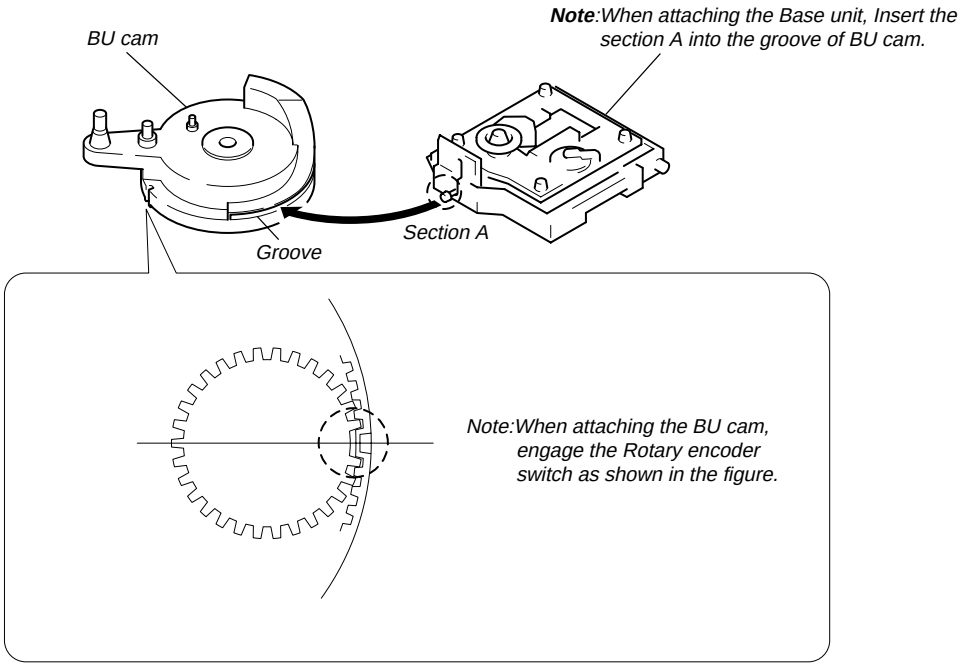
MODEL	PART No.
Argentine model	4-214-442-0☐
Israel and Thai models	4-214-442-6☐
120 V AC Area in E model	4-215-168-0☐
Canadian model	4-215-168-1☐
R770: AEP, UK, German and North European models	4-215-168-2☐
RXD7: CIS model	4-215-168-3☐
R770: CIS model	4-215-168-4☐
RXD7: AEP, German and North European models	4-215-168-5☐
240 V AC Area in E model	4-215-168-6☐
Saudi Arabia model	4-215-168-7☐
Singapore model	4-215-168-8☐
Mexican model	4-215-168-9☐
Australian model	4-220-083-0☐
Taiwan model	4-220-083-1☐
Korean model	4-220-083-2☐

HOW TO OPEN THE DISC TRAY WHEN POWER SWITCH TURNS OFF.

❶ *Remove the Case.*



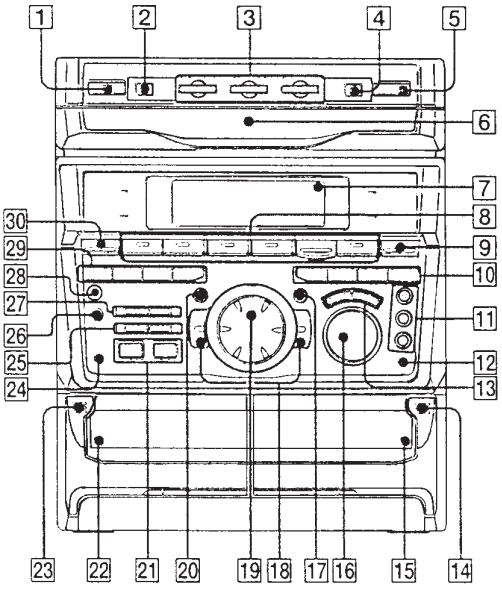
NOTE FOR INSTALLATION (ROTARY ENCODER)



SECTION 2
GENERAL

This section is extracted from instruction manual.

LOCATION OF CONTOROLS
– Front Panel –



1 I / ⏻ (power) button
2 POWER SAVE/DEMO button
3 DISC 1~3 buttons
4 DISC SKIP/EXCHANGE button
5 CD ⏏ button
6 Disc tray
7 Display
8 CD/tape operating buttons:
CD ►II (play/pause)
TAPE A ► (play)
TAPE A ◄ (play)
TAPE B ► (play)
TAPE B ◄ (play)
■ (stop)
9 TUNER/BAND button
10 NON-STOP button
KARAOKE PON/MPX button
SYNC EQ button
SYNC BASS button

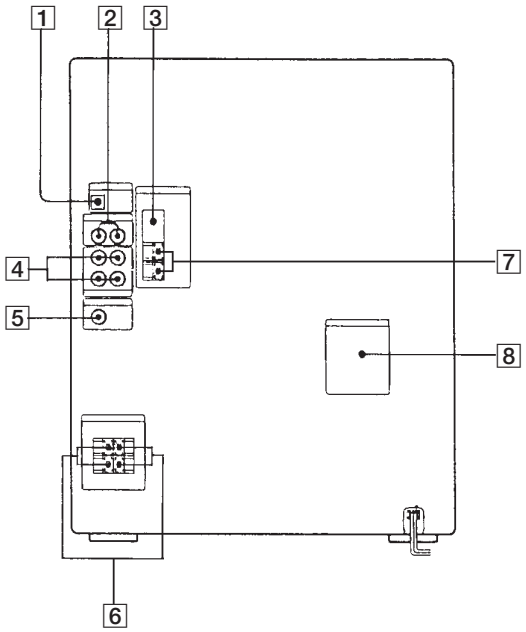
22 Deck A
23 Deck A ⏏ button
24 MIX MIC jack
25 Clock/timer operating buttons:
CLOCK/TIMER set button
TIMER SELECT button
26 MIC LEVEL control
27 DISPLAY button
SPECTRUM ANALYZER button
28 ECHO LEVEL control
(Saudi Arabia model)

11 Operationg buttons for recording:
REC PAUSE/START button
HI-DUB button
CD SYNC button
12 PHONES jack
13 DBFB button
SURROUND button
14 Deck B ⏏ button
15 Deck B
16 VOLUME control
17 ENTER/NEXT button
18 ◄◄/►►, +/– buttons
19 Jog dial
20 GROOVE button
21 Operating buttons for DJ Effects:
LOOP button
FLASH button

29 EDIT, DIRECTION, TUNER MEMORY button
PLAY MODE, DOLBY NR(, PTY*) button
REPEAT, STEREO/MONO button
FILE SELECT button
30 FUNCTION button

* For European models only.

– Rear Panel –



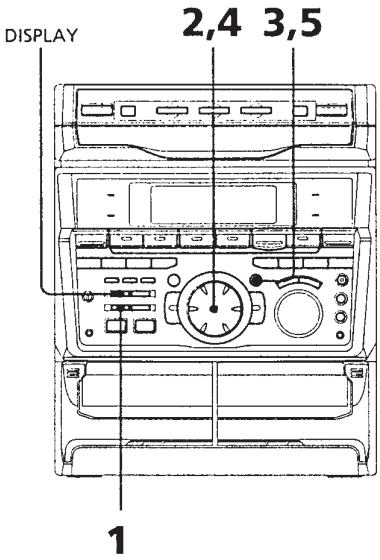
1 CD DIGITAL OUT terminal
2 VIDEO (AUDIO) IN jack
3 FM COAXIAL ANTENNA terminal
(R770/RXD7: AEP models)
FM ANTENNA terminal
(GRX50/RXD7: Canadian models)
4 MD IN/OUT jack
5 SUPER WOOFER jack
(GRX50/RXD7: Canadian models)
6 SPEAKER terminal
7 AM ANTENNA terminal
8 VOLTAGE SELECTOR switch
(GRX50: 120 V AC Area in E, 240 V AC Area in E, Saudi Arabia, Singapore, Taiwan, Argentine models)

Step 2: Setting the time

You must set the time before using the timer functions.

The clock is on a 24-hour system for the European model, and a 12-hour system for other models.

The 24-hour system model is used for illustration purposes.



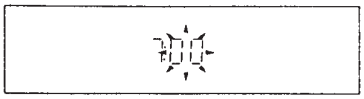
1 Press CLOCK/TIMER SET.
The hour indication flashes.

2 Turn the jog dial to set the hour.

continued

Step 2: Setting the time (coninued)

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.

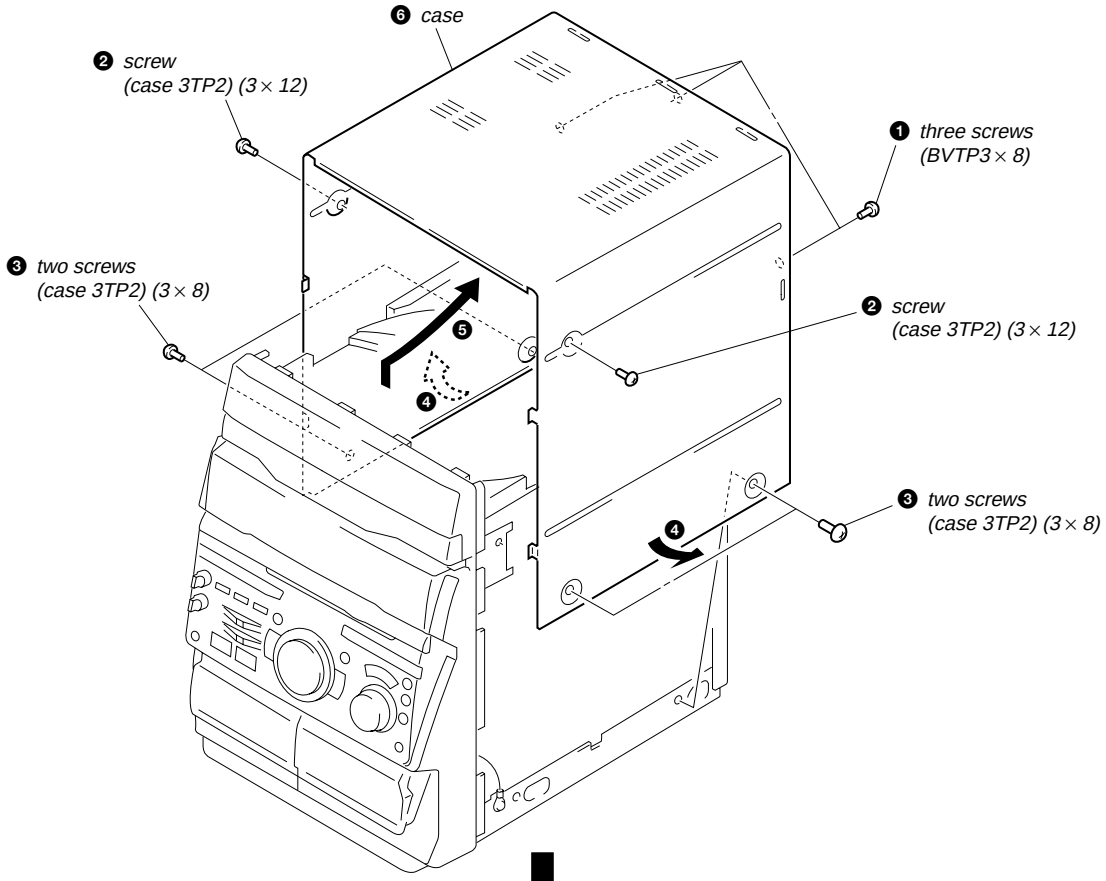
Note

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

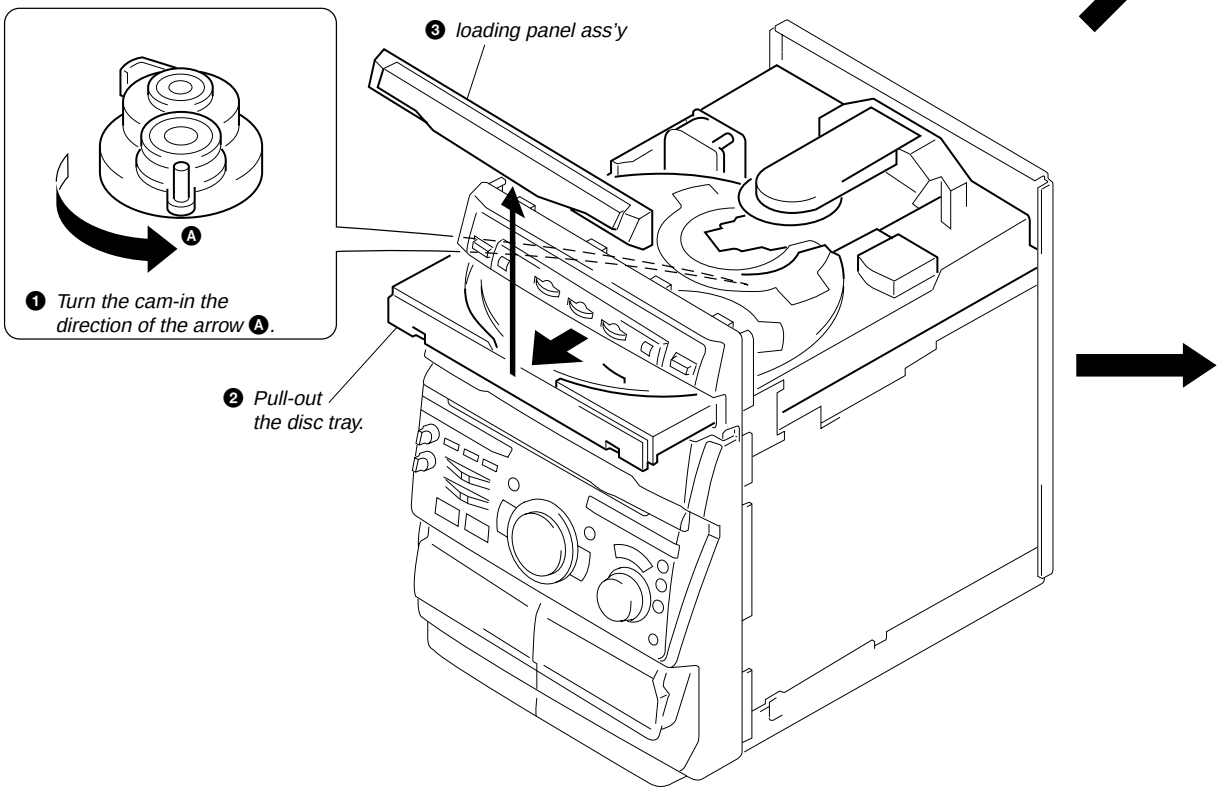
SECTION 3
DISASSEMBLY

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

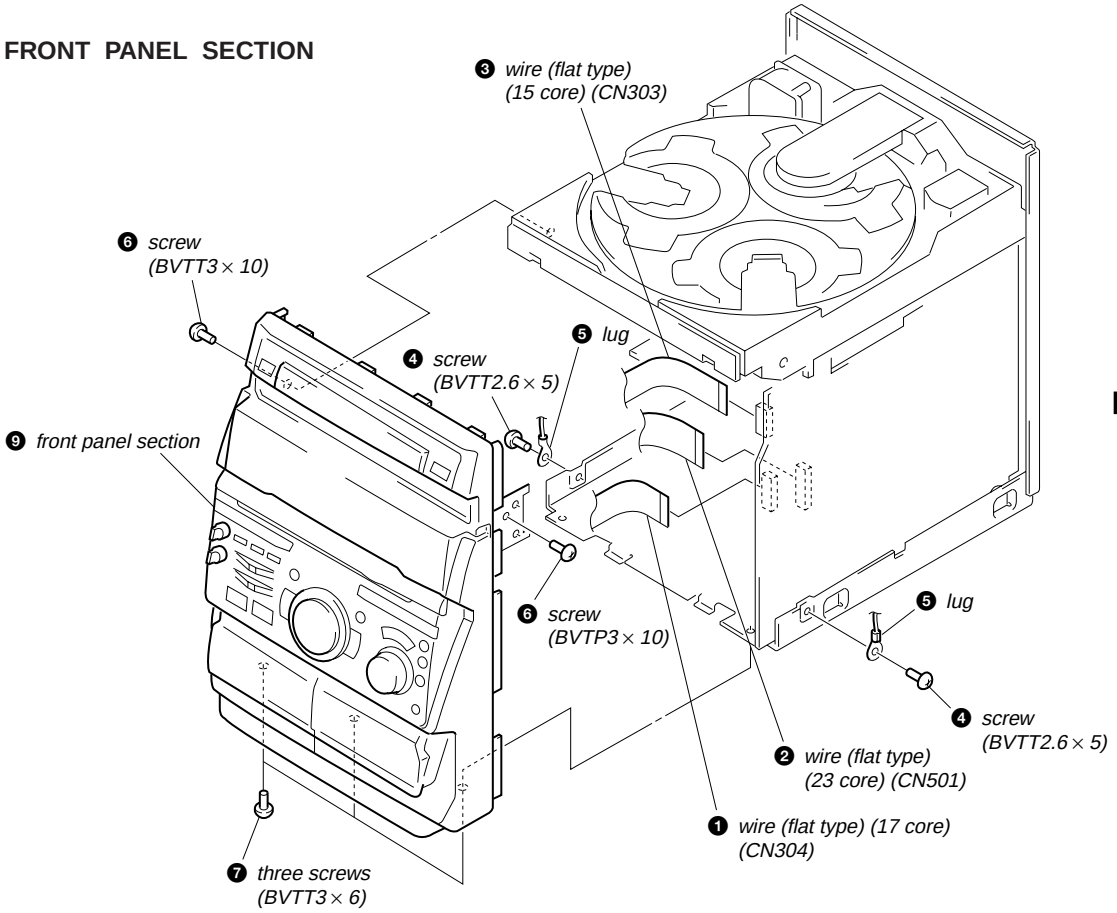
CASE



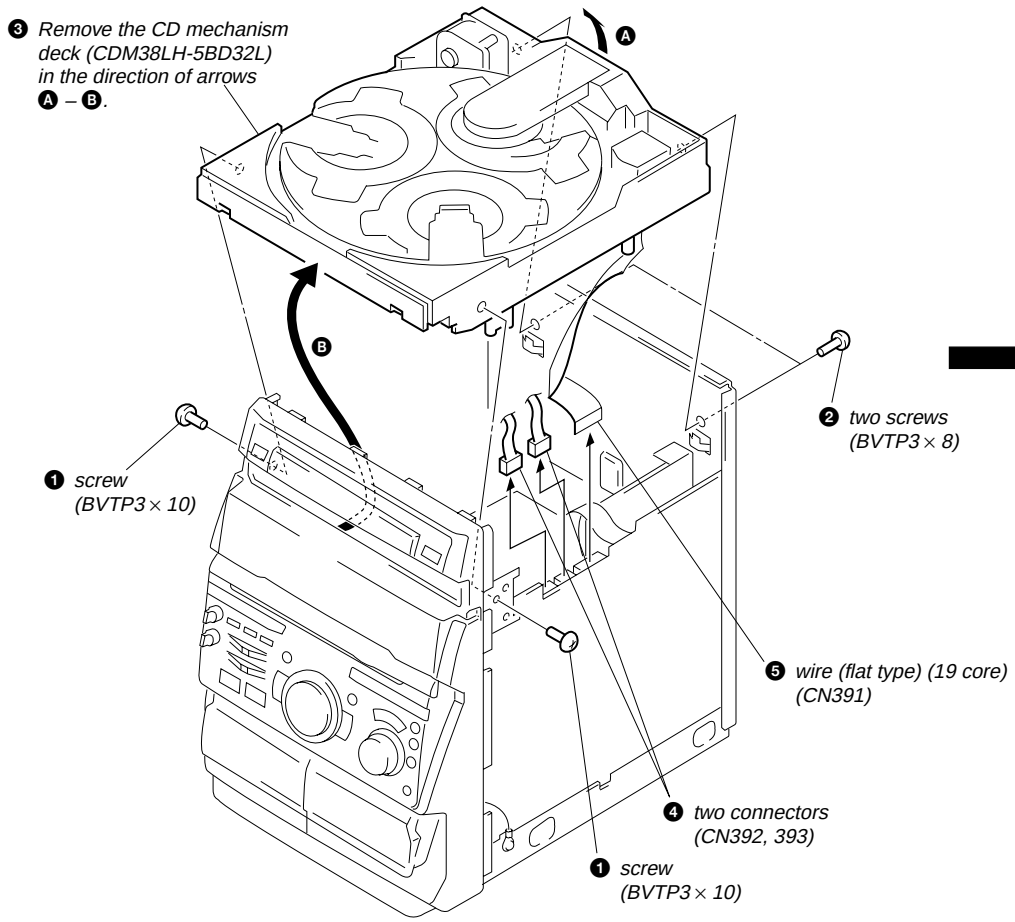
LOADING PANEL ASS'Y



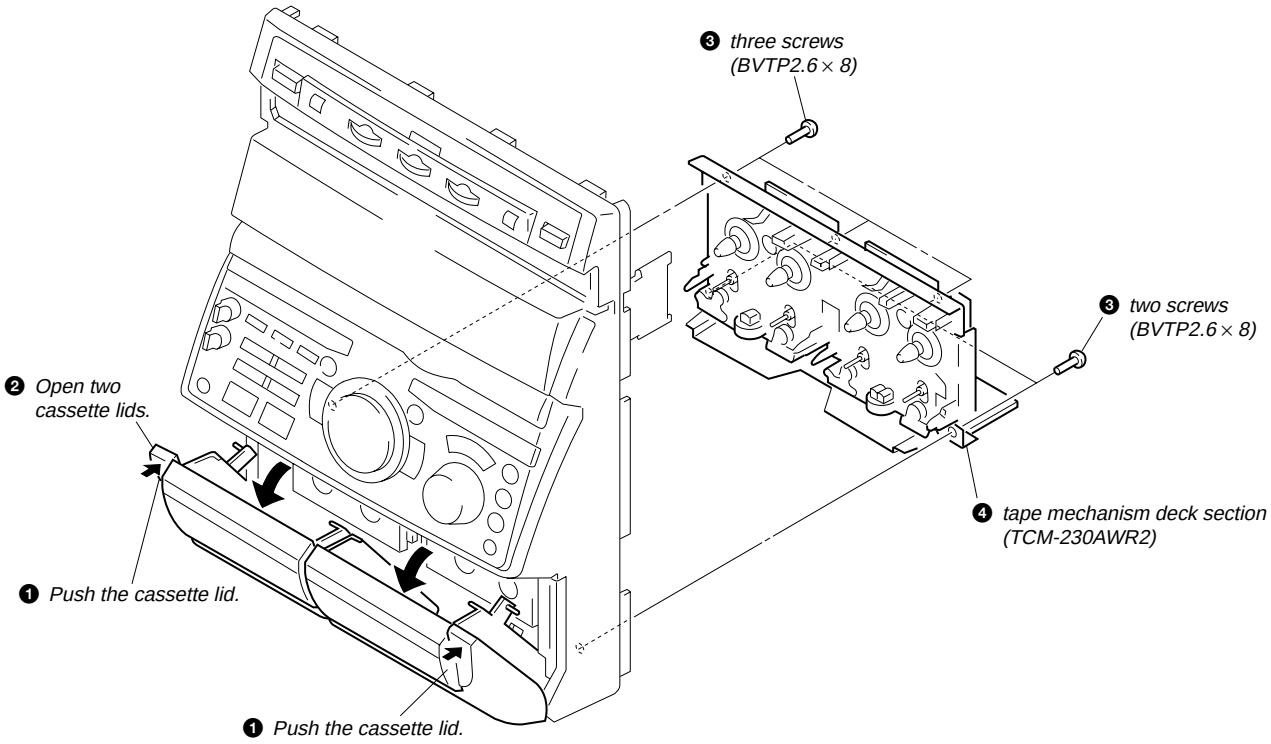
FRONT PANEL SECTION



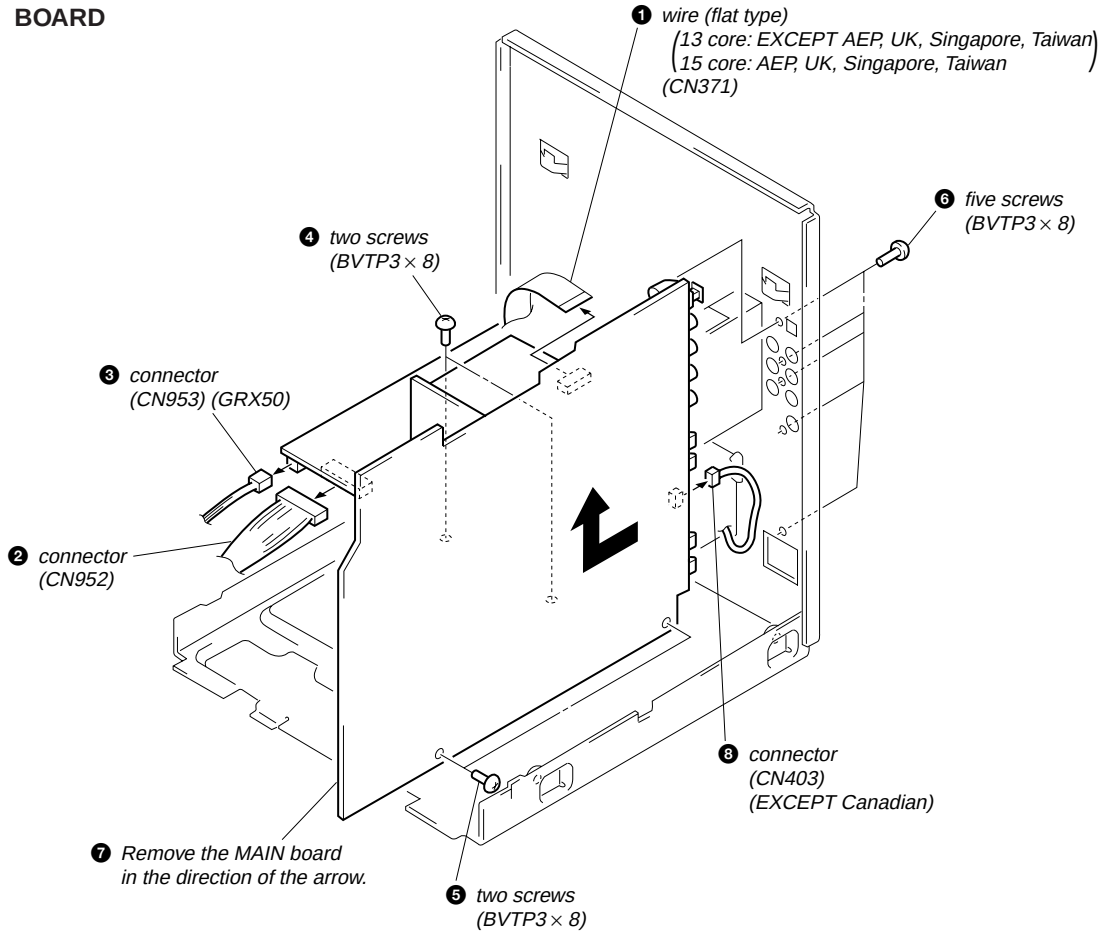
CD MECHANISM DECK SECTION (CDM38LH-5BD32L)



TAPE MECHANISM DECK SECTION (TCM-230AWR2)



MAIN BOARD



SECTION 4
TEST MODE

[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. Turn the power ON or set to the DEMO mode.
2. Press three buttons of ■, ENTER/NEXT, and I/⏻ simultaneously.
3. The set is reset, and displays “COLD RESET”, then becomes DEMO mode.

[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. Turn the power ON or set to the DEMO mode.
2. Press three buttons of ■, ENTER/NEXT, and DISC 1 simultaneously.
3. The set is reset, and becomes standby state.

[Change-over the AM Tuning Interval] (EXCEPT AEP, UK, and Saudi Arabia models)

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

Procedure:

1. Press the I/⏻ button to turn the power ON.
2. Select the function “TUNER”, and press the TUNER/BAND button to select the BAND “AM”.
3. Press the I/⏻ button to turn the power OFF.
4. Press the ENTER/NEXT and I/⏻ buttons simultaneously, and the display on the fluorescent indicator tube changes to “AM 9 k STEP” or “AM 10 k STEP”, and thus the tuning interval is changed over.

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

[LED and Fluorescent Indicator Tube All Lit, Key Check Mode]

Procedure:

1. Press three buttons of ■ , ENTER/NEXT, and DISC 2 simultaneously.
2. LEDs and fluorescent indicator tube are all turned on.
   Press the DISC 2 button, and the key check mode is activated.
3. In the key check mode, the fluorescent indicator tube displays “K 0 J0 V0”. 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 turn the JOG dial clockwise, or it decreases like 0, 9, 8 ... if turn the JOG dial counterclockwise.
   “V” value increases like 1, 2, 3 ... if turn the VOLUME dial clockwise, or it decreases like 0, 9, 8 ... if turn the JOG dial counterclockwise.
4. To exit from this mode, press three buttons in the same manner as step 1, or disconnect the power cord.

[CD Service Mode]

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

Procedure:

1. Press the I/⏻ button to turn the power ON.
2. Select the function “CD”.
3. Press three buttons of ■ , ENTER/NEXT, and ⏏ simultaneously.
4. Set to the Sled Servo mode.
5. With the CD in stop status, turn the JOG dial clockwise to move the optical pick-up to outside track, or turn it counterclockwise to inside track.
6. To exit from this mode, perform as follows.
   1) Move the optical pick-up to the most inside track.
   2) Disconnect the power cord.

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

[Aging Mode]

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

CD section and tape deck section work in parallel.

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

Procedure:

1. Set disc in DISC1 tray.
2. Load the tapes into the decks A and B respectively.
3. Press the [PLAY MODE] button to set the "ALL DISCS" mode, and press the [REPEAT] button to "REPEAT" off.
4. Press the [FUNCTION] button to select the function "CD".
5. Press three buttons of [■] , [ENTER/NEXT], and [DISC SKIP/EX-CHANGE] simultaneously.
6. The aging mode is activated, if the indicator of disc tray number on the fluorescent indicator tube is blinking.
7. To exit from the aging mode, press the [I/⏻] button to turn the power OFF and operate the cold reset. (Refer to the "MC Cold Reset")

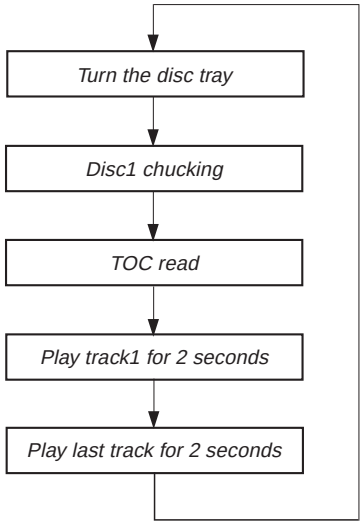
1. Display at the Aging Mode

- Display operating state of CD section and tape deck section alternately.
- If an error occurred, stop display which that section.

2. CD Section

- Display at the aging mode is the same as the normal operation.
- The sequence during the aging mode is following as below.

Aging mode sequence (CD section) :



- Display at an error occurred

1) Display of the error count

(1) Press three buttons of [■] , [ENTER/NEXT], and [CD SYNC] simultaneously.

(2) Display of the error count following as below.

Display

EMC**EDC**

Notes:

EMC**: The number of mechanical error.
EDC** : The number of no disc error after chucking the disc.

2) Display of mechanical error

Display

E**M##$$&&

Notes:

**: The number of mechanical error.("00" is latest one)
(Press the [PLAY MODE] button to changes next error display)
: Not used.
$$: Loading error. (Second figure is not used)
D : The error in the midst of close at the except mechanical trouble.
E : The error in the midst of open at the except mechanical trouble.
C : The error in the midst of chuck up at the except mechanical trouble.
F : The error in the midst of EX-open at the except mechanical trouble.
&&: Loading error. (Second figure in not used)
1: The error in the midst of chuck up.
2: The error in the midst of chuck down.
3: Time up of EX-open
4: Time up of EX-close.

3) Display of no disc error

Display

E**D##$$&&

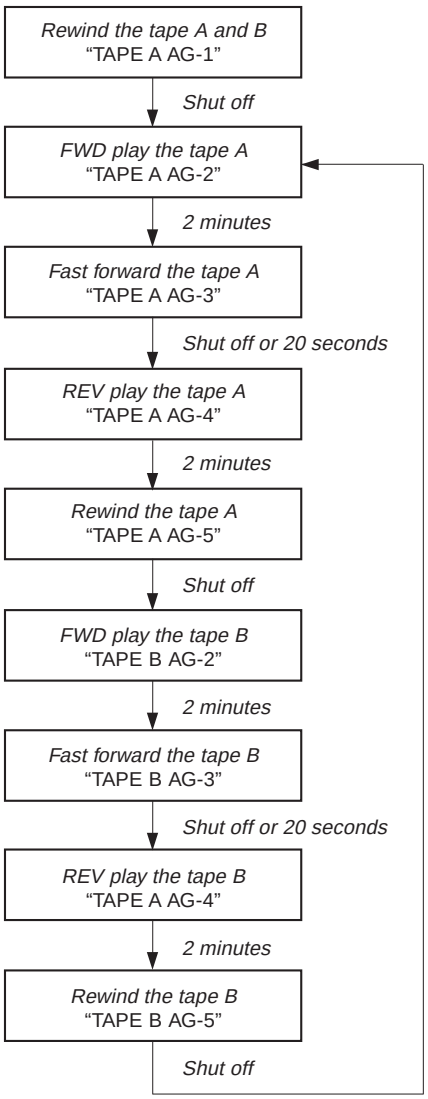
Notes:

**: The number of mechanical error.("00" is latest one)
(Press the [REPEAT] button to changes next error display)
##:
01: Focus error
02: GFS error
03: Set up error
$$:
00: No disc error when does not chucking retry.
02: No disc error when chucking retry to completion.
&&: The state when judged no disc error. (Second figure is not used)
1: Stop
2: Set up
3: TOC read
4: Access
5: Play
6: Pause
7: Manual search (Play)
8: Manual search (Pause)

3. Tape Deck Section

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

Aging mode sequence (Tape deck section) :



Note: "TAPE ∗ AG-∗" is display of each step.

SECTION 5
MECHANICAL ADJUSTMENTS

Precaution

1. Clean the following parts with a denatured alcohol-moistened swab:
   - record/playback heads
   - erase head
   - capstan
   - pinch rollers
   - rubber belts
   - 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 (0.03 – 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 (0.03 – 0.08 oz • inch)
FF/REW	CQ-201B	71 to 143 g • cm (0.99 – 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=0.775 V

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 adjust.
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.
8. Set to the DOLBY NR OFF.
9. Set to the test mode.
   (1) Press the I/⏻ button to turn the power ON.
   (2) Select the function “TAPE A or B”.
   (3) Press the button of ■ , ENTER/NEXT, and DISC 3 simultaneously, to set the tape deck test mode and blink the indicator of disc tray number on the fluorescent indicator tube.
   (4) To exit from the test mode, press the I/⏻ button.

• Test Tape

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

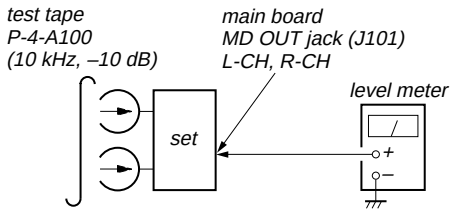
Record/Playback Head Azimuth Adjustment

DECK A **DECK B**

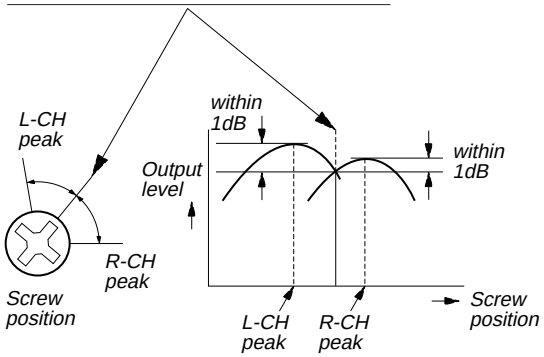
Note: Perform this adjustments for both decks

Procedure:

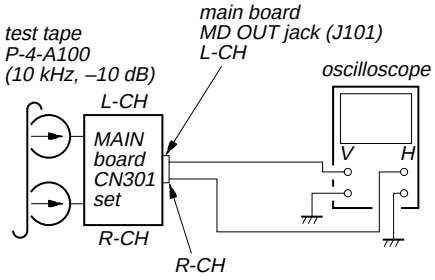
1. Mode: Playback

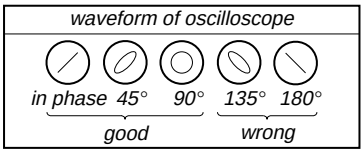


2. Turn the adjustment screw and check output peaks. If the peaks do not match for L-CH and R-CH, turn the adjustment screw so that outputs match within 1dB of peak.



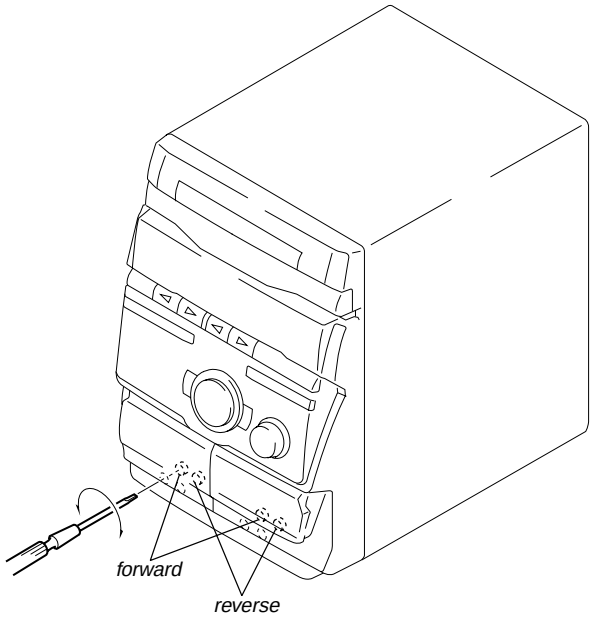
3. Mode: Playback





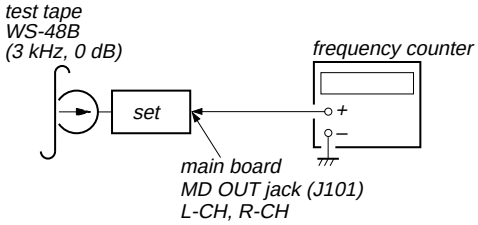
4. Repeat step 1 to 3 in playback (REV) mode.
5. After the adjustments, apply suitable locking compound to the pats adjusted.

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



Tape Speed Adjustment **DECK B**

Mode: Playback



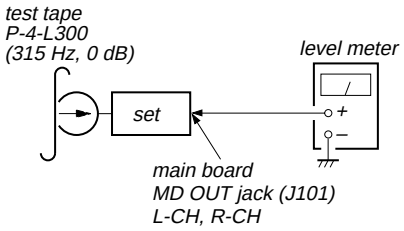
1. Insert the WS-48B into the deck B.
2. Press the ▶ button on the deck B.
3. Press the HI-DUB button in playback mode.
   Then at HIGH speed mode.
4. Adjust RV1001 on the LEAF SW board do that frequency counter reads 6,000 ± 180 Hz.
5. Press the HI-DUB button.
   Then back to NORMAL speed mode.
6. Adjust RV1002 on the LEAF SW board so that frequency counter reads 3,000 ± 90 Hz.

Adjustment Location: LEAF SW board
Sample value of Wow and Flutter: 0.3% or less W.RMS (JIS)
(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 adjustment level as follows.

Adjustment Level:

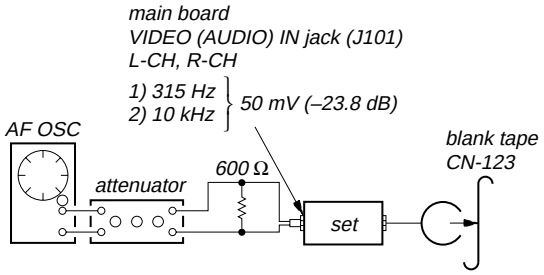
J101 PB level: 301.5 to 338.3 mV (–8.2 to –7.2 dB) level difference between the channels: within ±0.5 dB

Adjustment Location: AUDIO board

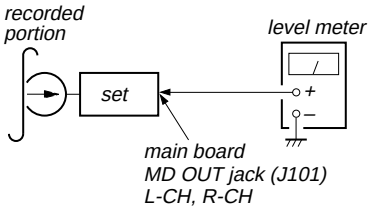
REC Bias Adjustment DECK B

Procedure:

1. Mode: Record
   FUNCTION: VIDEO



2. Mode: Playback



3. Confirm playback the signal recorded in step 1 become specification values as follows.
   If these values are out of specification values, adjust the RV341 (L-CH) and RV441 (R-CH) on the AUDIO board to repeat steps 1and 2.

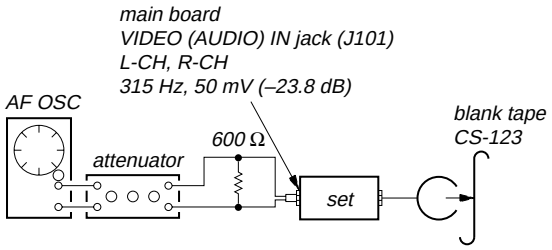
Specification values: Playback output of 315 Hz to playback output of 10 kHz: ± 0.5 dB

Adjustment Location: AUDIO board

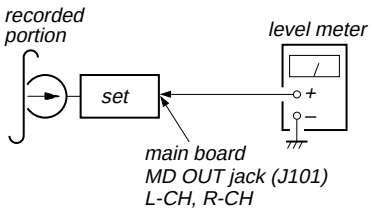
REC Level Adjustment DECK B

Procedure:

1. Mode: Record
   FUNCTION: VIDEO



2. Mode: Playback

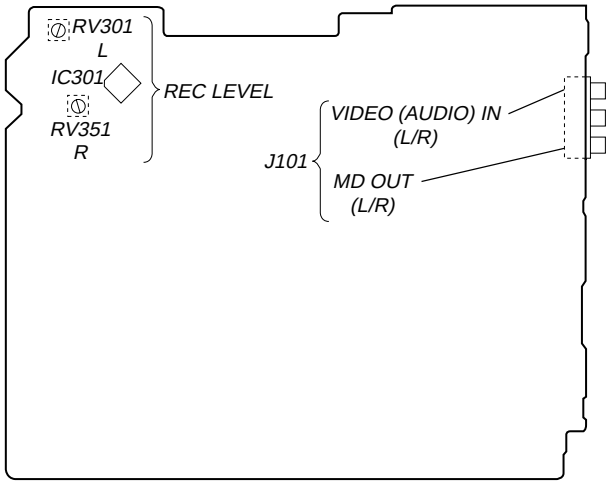


3. Confirm playback the signal recorded in step 1 become specification values as follows.
   If these values are out of specification values, adjust the RV301 (L-CH) and RV351 (R-CH) on the MAIN board to repeat steps 1 and 2.

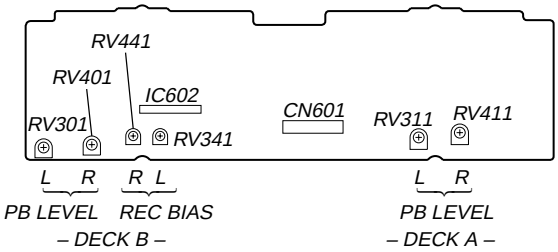
Specification values:
J101 PB level: 47.2 to 53.0 mV (–24.3 to –23.3 dB)

Adjustment Location: MAIN board

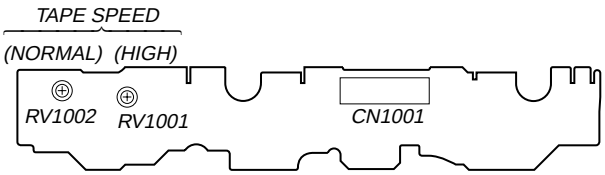
– MAIN BOARD (Conductor Side) **–**



– AUDIO BOARD (Component Side) **–**



– LEAF SW BOARD (Component Side) **–**

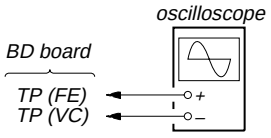


CD SECTION

Note:

1. CD Block is basically designed to operate without adjustment. Therefore, check each item in order given.
2. Use YEDS-18 disc (3-702-101-01) unless otherwise indicated.
3. Use an oscilloscope with more than 10 MΩ 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.

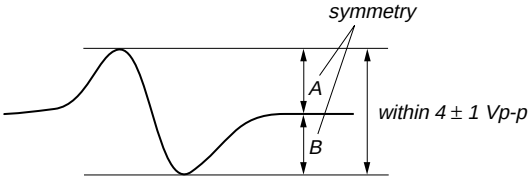
S-Curve Check



Procedure:

1. Connect oscilloscope to TP (FE).
2. Connect between TP (FE1) and TP (VC) by lead wire.
3. Connect between TP (AGCCON) and TP (GND) by lead wire.
4. Turn the power ON.
5. Load a disc (YEDS-18) and actuate the focus search. (In consequence of open and close the disc tray, actuate the focus search)
6. Cofirm that the oscilloscope waveform (S-curve) is symmetrical between A and B. And confirm peak to peak level within 4 ± 1 Vp-p.

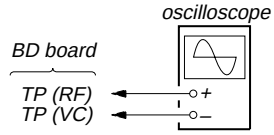
S-curve waveform



7. After check, remove the lead wire connected in step 2 and 3.

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.

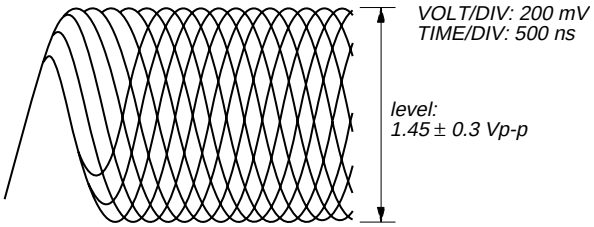
RF Level Check



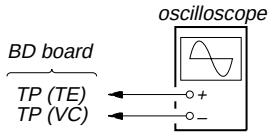
Procedure:

1. Connect oscilloscope to TP (RF).
2. Connect between TP (AGCCON) and TP (GND) by lead wire.
3. Turn the power ON.
4. Load a disc (YEDS-18) and playback.
5. Confirm that the oscilloscope waveform is clear and check RF signal level is correct or not.
6. After check, remove the lead wire connected in step 2.

Note: Clear RF signal waveform means that the shape "◇" can be clearly distinguished at the center of the waveform.



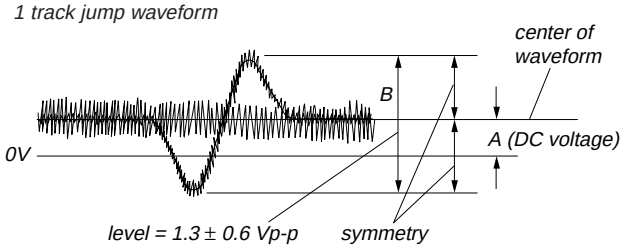
E-F Balance (1 Track Jump) Check



Procedure :

1. Connect oscilloscpe to TP (TE) and TP (VC).
2. Turn the power ON.
3. Load a disc (YEDS-18) and playback the number five track.
4. Press the ▶II (CD) button. (Becomes the 1 track jump mode)
5. Confirm that the level B and A (DC voltage) on the oscilloscope waveform.

1 track jump waveform

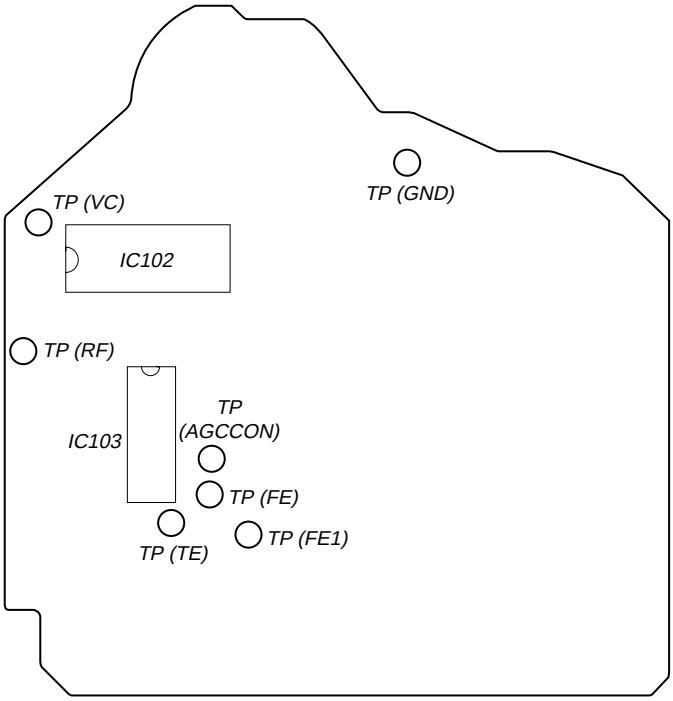


Specified level: $\frac{A}{B} \times 100$ = less than ± 22%

6. After check, remove the lead wire connected in step 1.

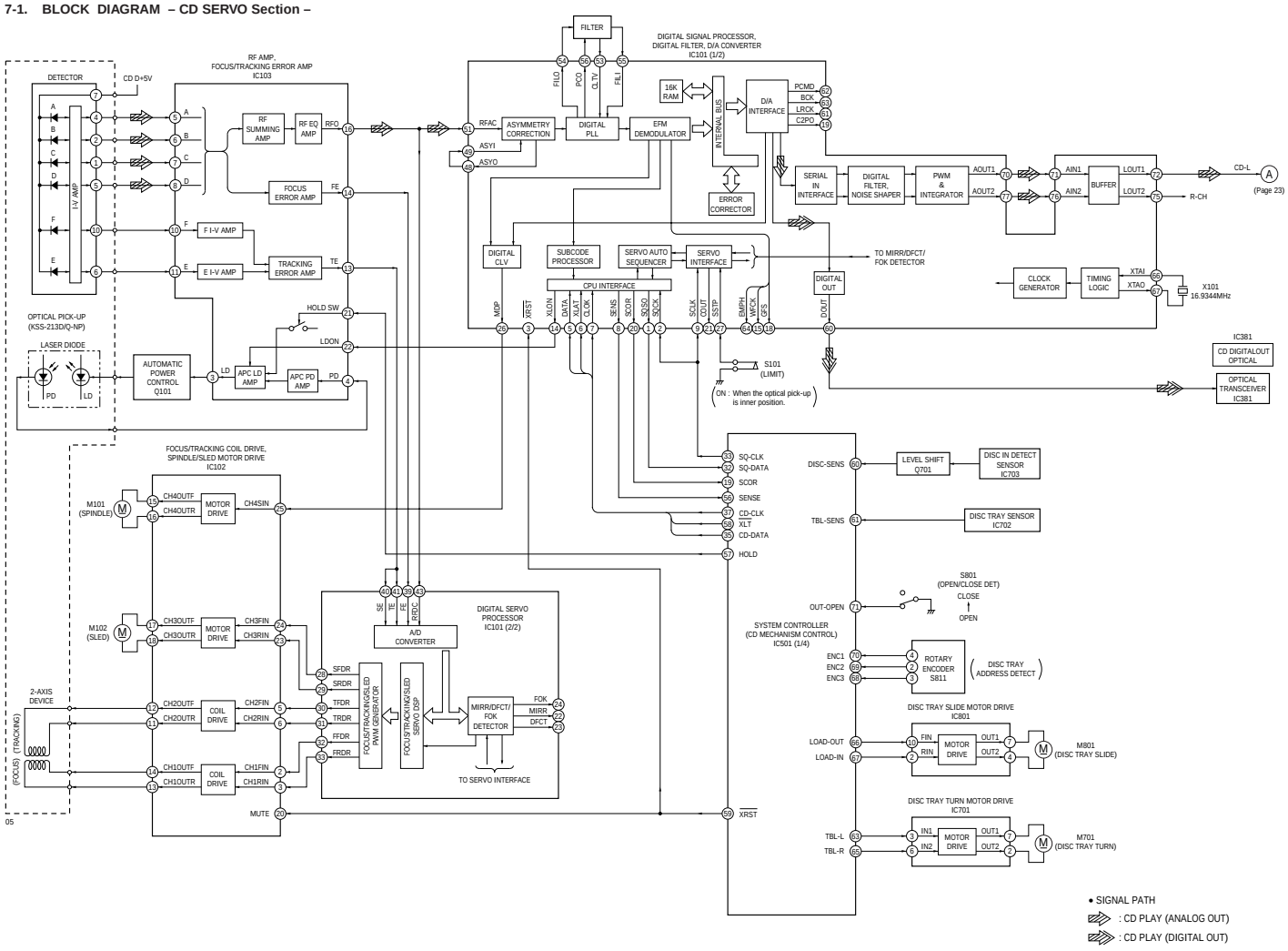
Checking Location:

– BD BOARD (Side B) **–**

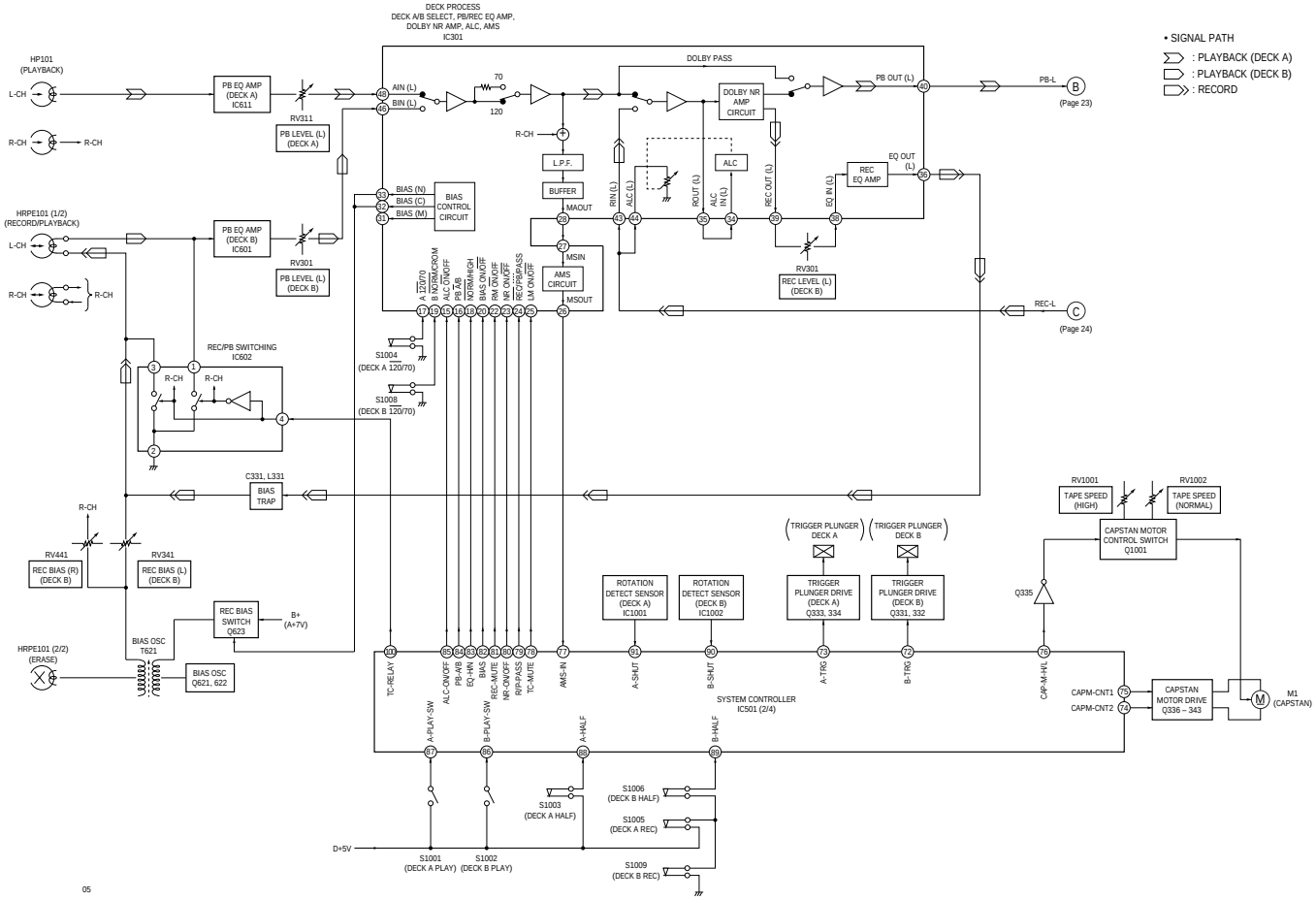


SECTION 7
DIAGRAMS

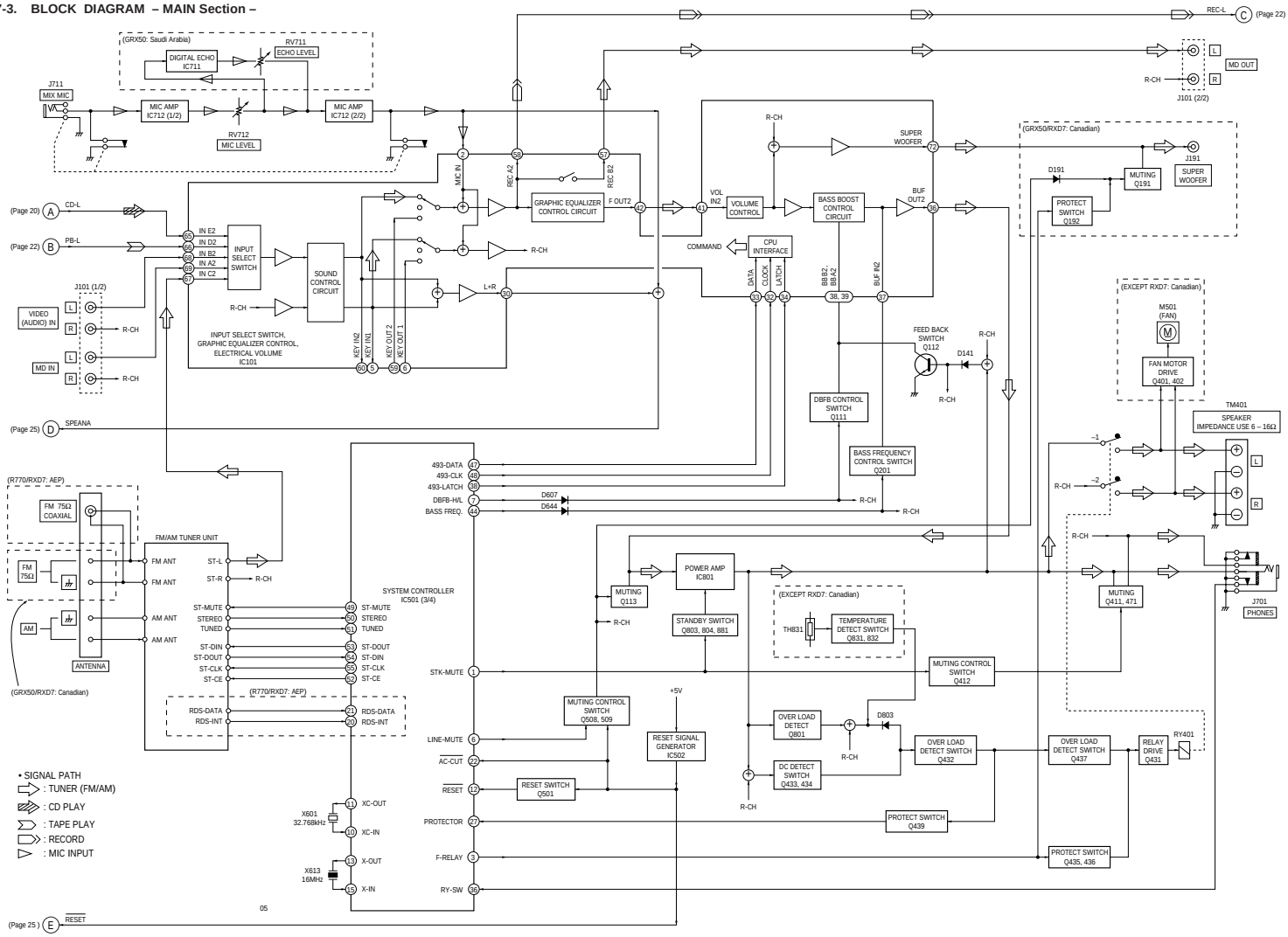
7-1. BLOCK DIAGRAM – CD SERVO Section –



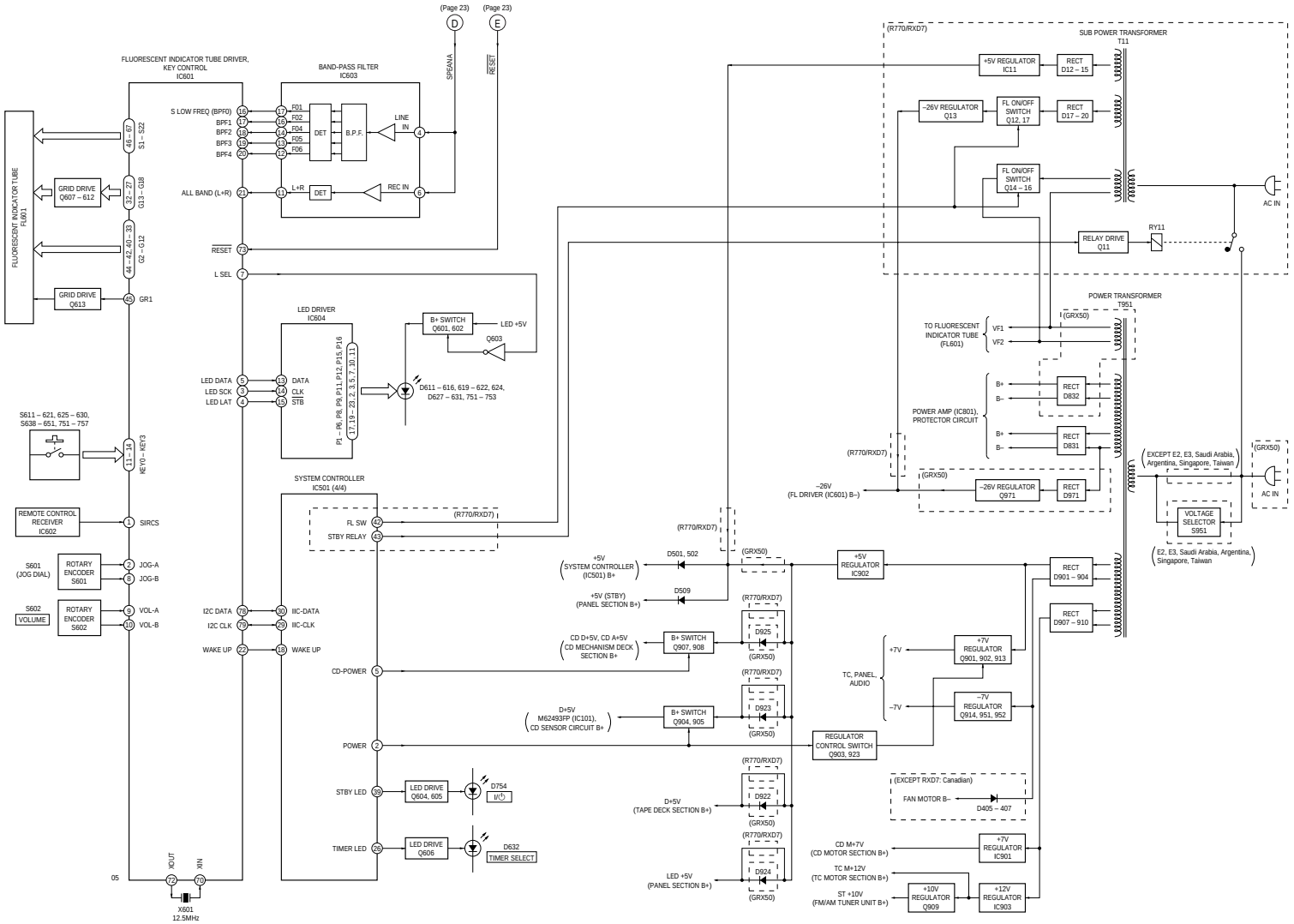
7-2. BLOCK DIAGRAM – TAPE DECK Section –



7-3. BLOCK DIAGRAM – MAIN Section –



7-4. BLOCK DIAGRAM – DISPLAY/KEY CONTROL/POWER SUPPLY Section –



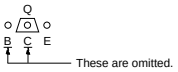
7-5. NOTE FOR PRINTED WIRING BOARDS AND SCHEMATIC DIAGRAMS

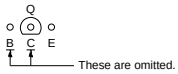
Note on Printed Wiring Board:
- ○——— : parts extracted from the component side.
- ——— : parts extracted from the conductor side.
- ■ : parts mounted on the conductor side.
- △ : internal component.
- ▒▒▒ : Pattern from the side which enables seeing.

(The other layers' patterns are not indicated.)

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

- Indication of transisitor.





Note on Schematic Diagram:
- All capacitors are in µF unless otherwise noted. pF: µµF 50 WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/4 W or less unless otherwise specified.
- △ : internal component.
- : nonflammable resistor.
- : fusible resistor.
- : panel designation.

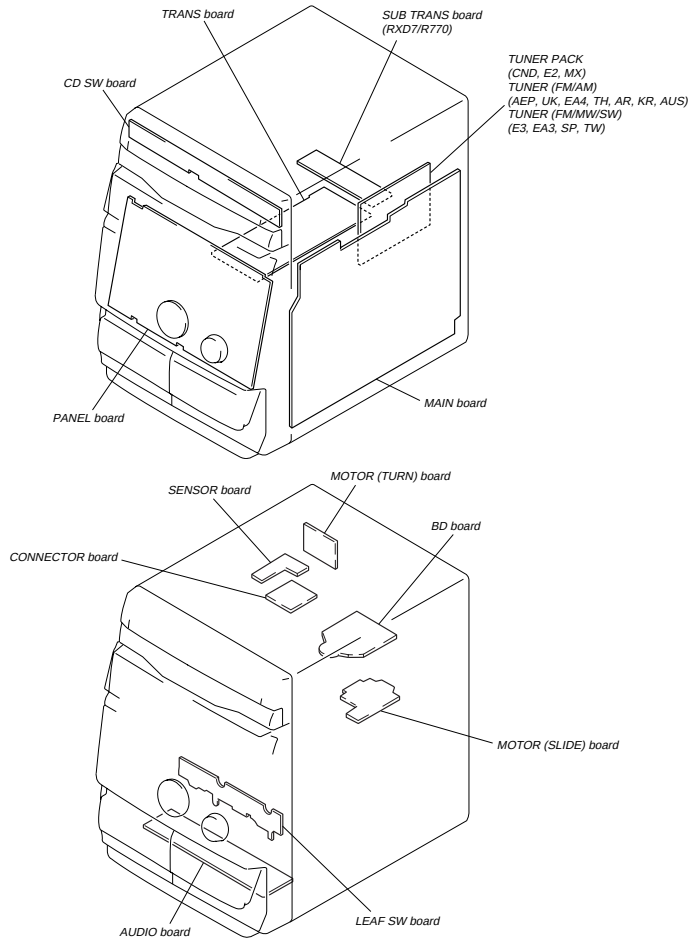
Note:	Note:
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une piéce portant le numéro spécifié.

- B+ : B+ Line.
- B− : B− Line.
- : adjustment for repair.
- Voltages are taken with a VOM (Input impedance 10 MΩ). Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken with a oscilloscope. Voltage variations may be noted due to normal production tolerances.
- Circled numbers refer to waveforms.
- Signal path.
  - : TUNER (FM/AM)
  - : PLAYBACK (DECK A)
  - : PLAYBACK (DECK B)
  - : RECORD
  - : CD PLAY (ANALOG OUT)
  - : CD PLAY (DIGITAL OUT)
  - : MIC INPUT
- Abbreviation
  - AED : North European model.
  - AR : Argentine model.
  - AUS : Australian model.
  - CND : Canadian model.
  - E2 : 120 V AC Area in E model.
  - E3 : 240 V AC Area in E model.
  - EA3 : Saudi Arabia model.
  - EA4 : Israel model.
  - G : German model.
  - KR : Korean model.
  - MX : Mexican model.
  - SP : Singapore model.
  - TH : Thai model.
  - TW : Taiwan model.

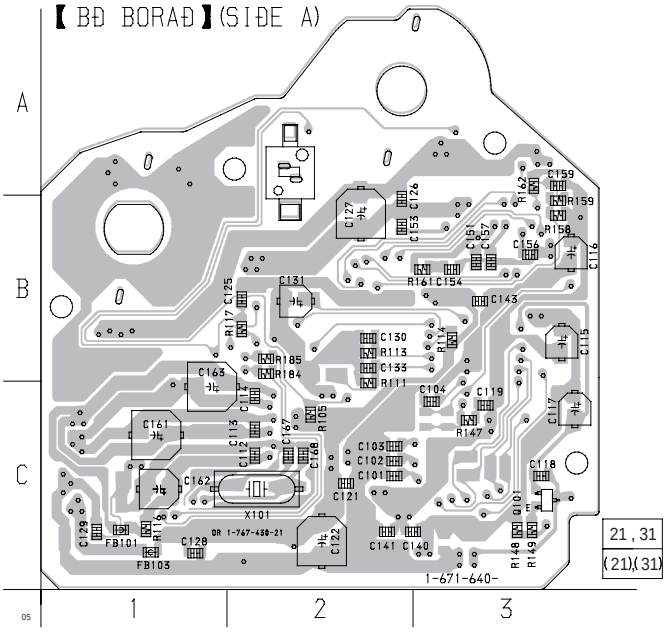
- **Circuit Boards Location**

- Abbreviation

AR	: Argentine	EA4	: Israel
AUS	: Australian	KR	: Korean
CND	: Canadian	MX	: Mexican
E2	: 120 V AC Area in E model	SP	: Singapore
E3	: 240 V AC Area in E model	TH	: Thai
EA3	: SaudiArabia	TW	: Taiwan

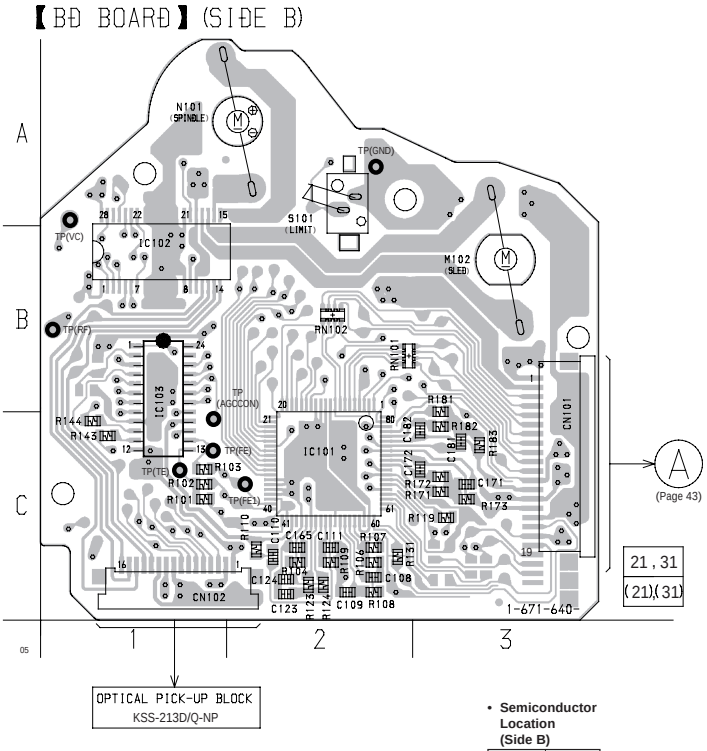


7-6. PRINTED WIRING BOARD – BD Board – • See page 28 for Circuit Boards Location.



• **Semiconductor Location (Side A)**

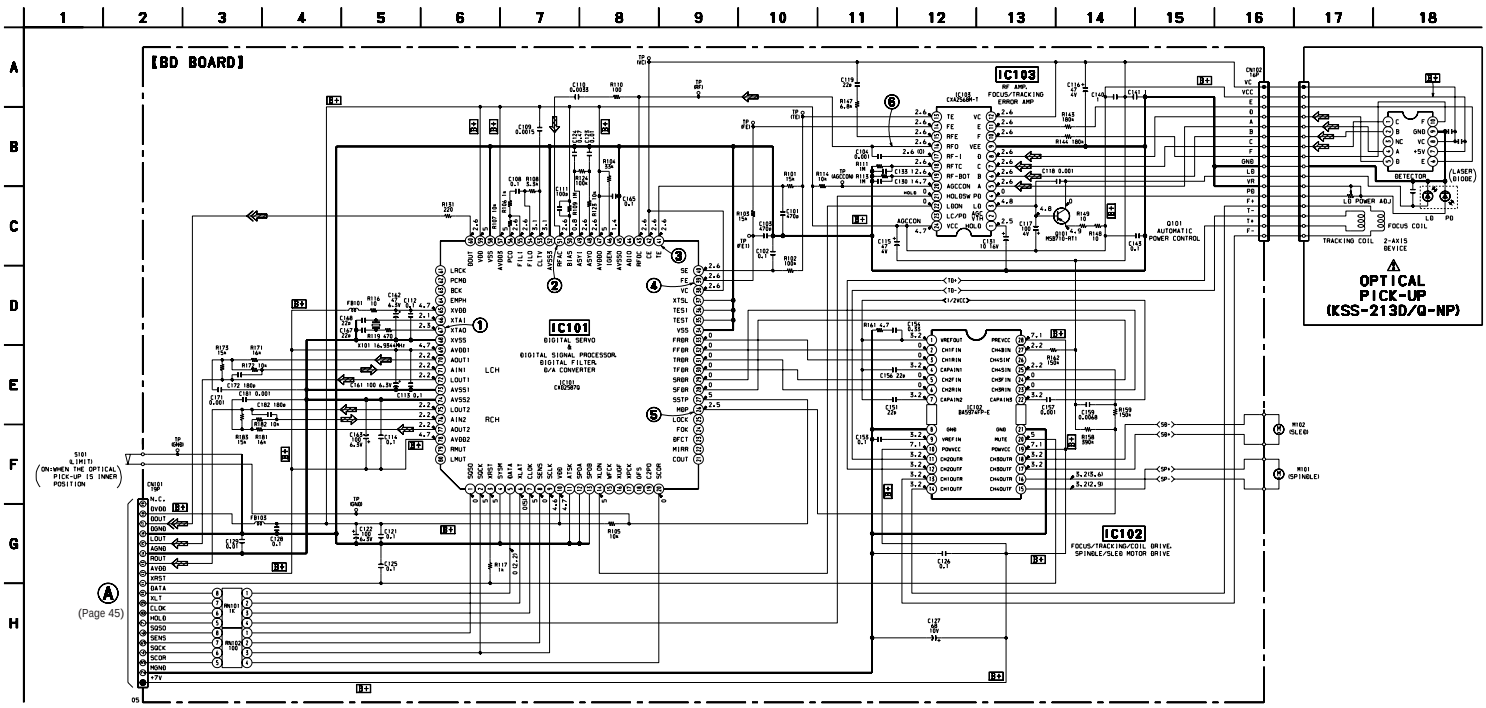
Ref. No.	Location
Q101	C-3



• **Semiconductor Location (Side B)**

Ref. No.	Location
IC101	C-2
IC102	B-1
IC103	B-1

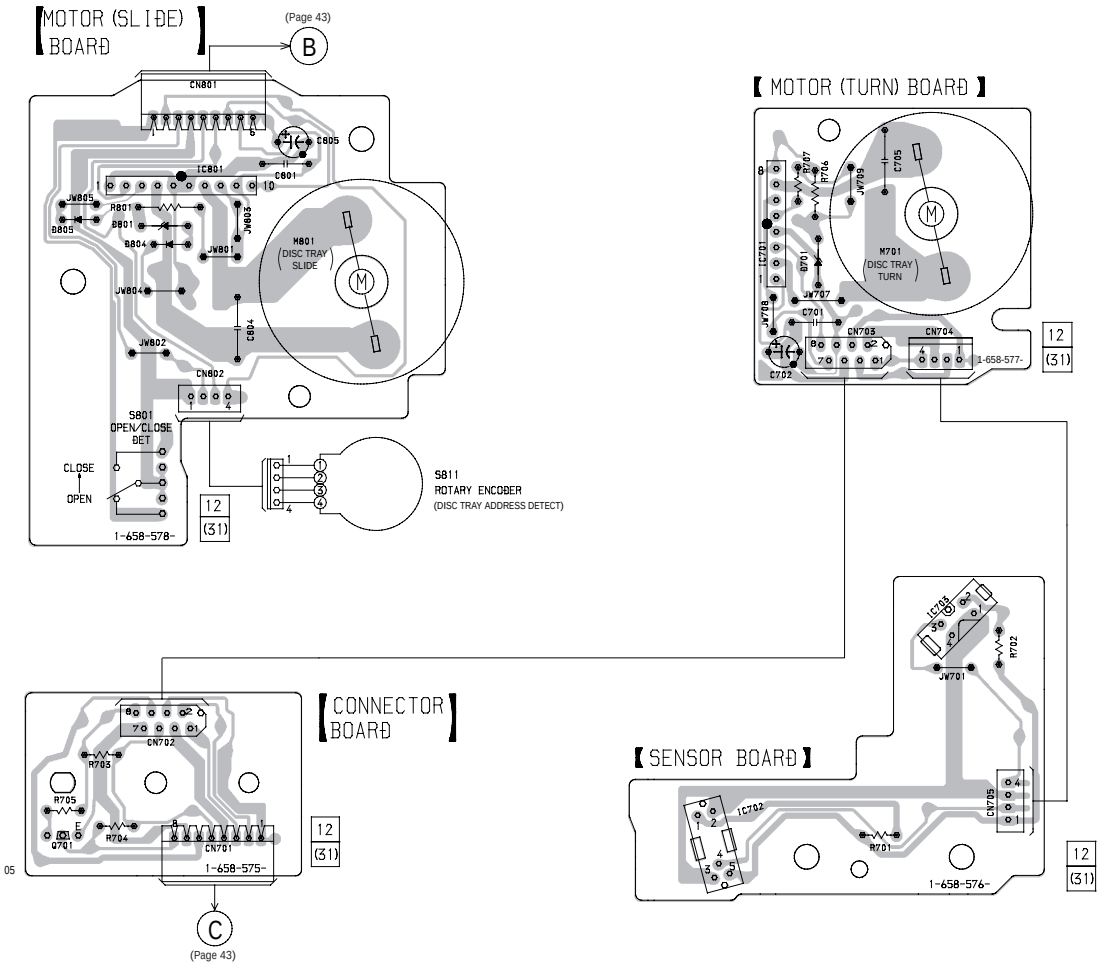
7-7. SCHEMATIC DIAGRAM – BD Board – • See page 59 for Waveforms. • See page 64 for IC Block Diagrams.



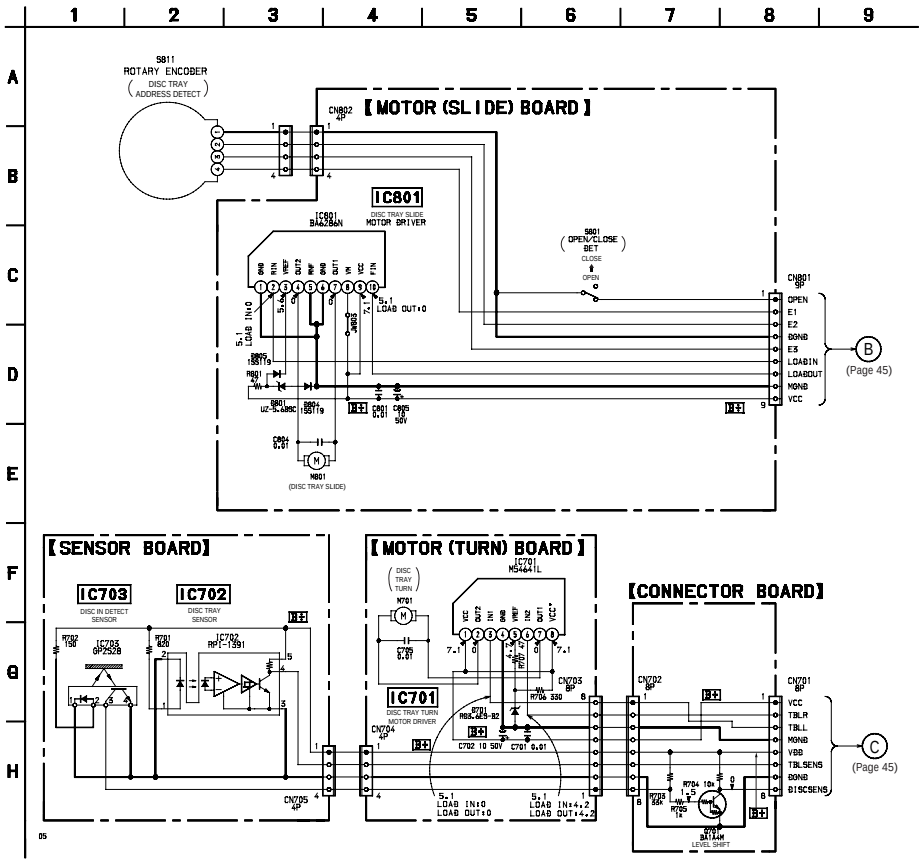
• Voltages and waveforms are dc with respect to ground under no-signal conditions.
no mark : CD STOP
( ) : CD PLAY

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une piéce portant le numéro spécifié.

7-8. PRINTED WIRING BOARDS – CD MOTOR Section – **• See page 28 for IC Circuit Boards Location.**

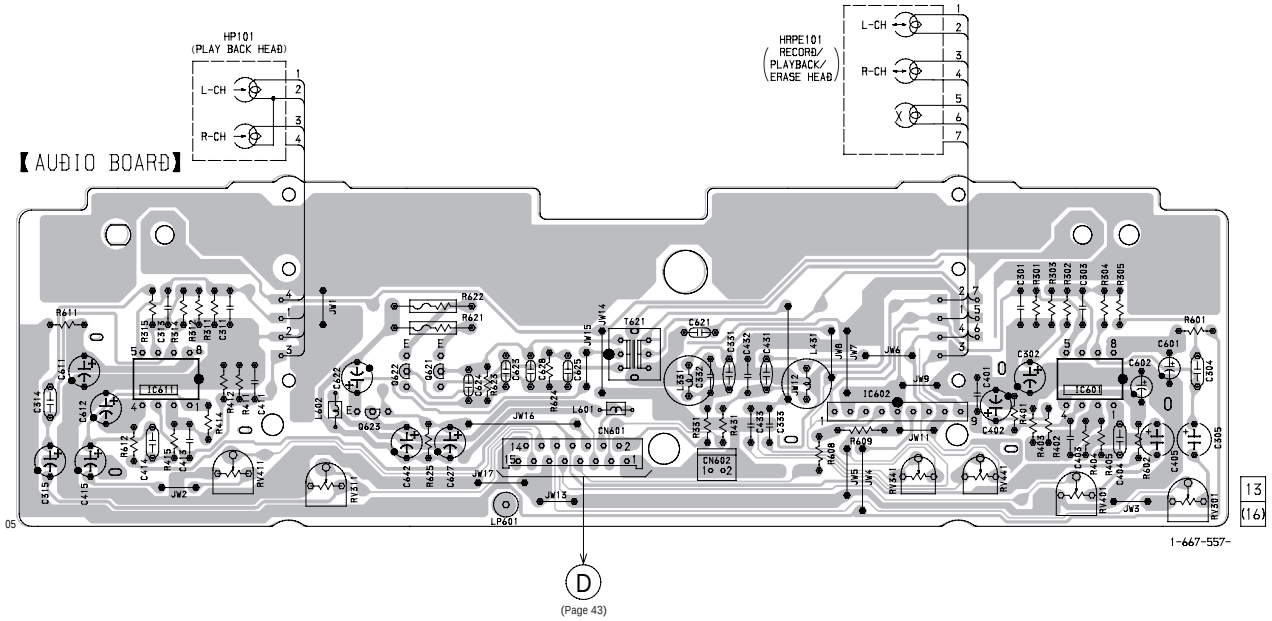


7-9. SCHEMATIC DIAGRAM – CD MOTOR Section – • See page 65 for IC Block Diagrams.

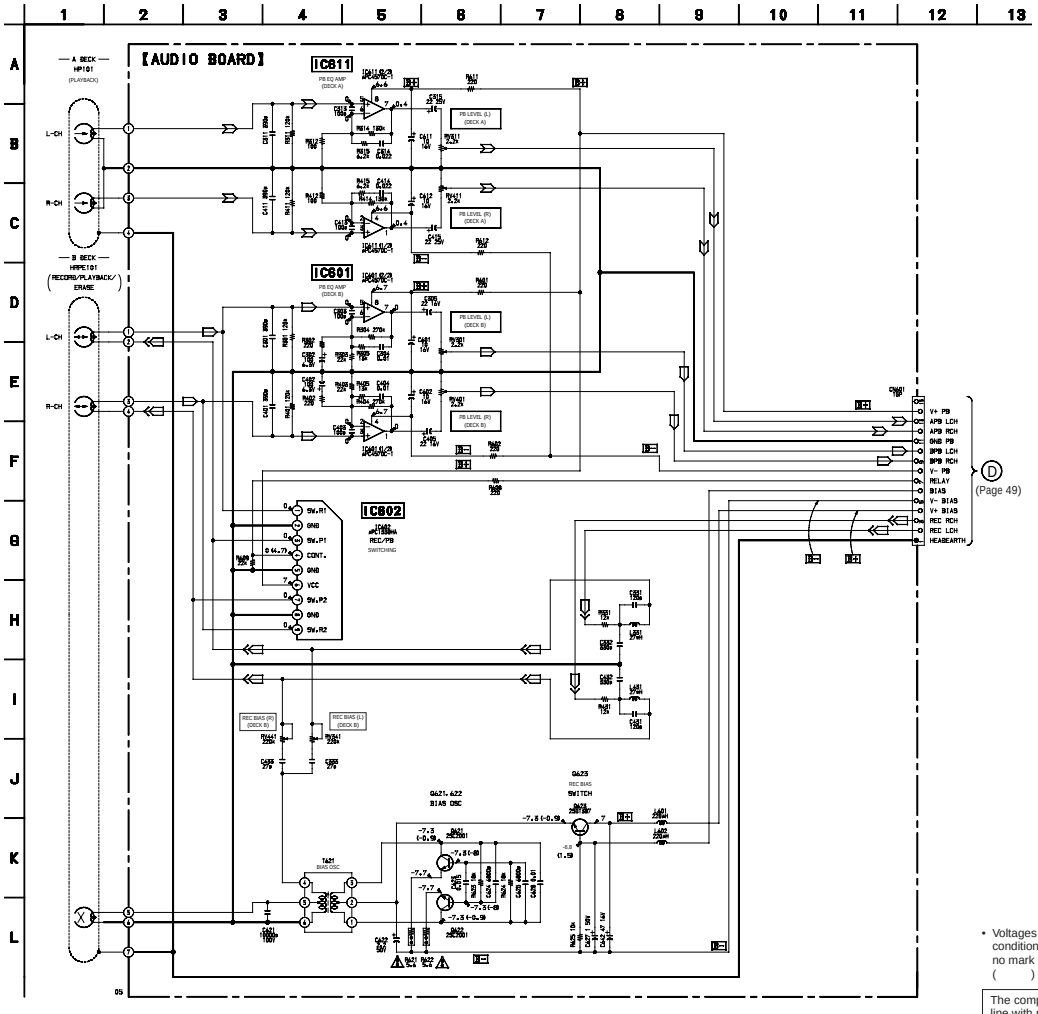


• Voltages are dc with respect to ground under no-signal conditions.
no mark : CD STOP

7-10. PRINTED WIRING BOARD – AUDIO Board – **• See page 28 for Circuit Boards Location.**



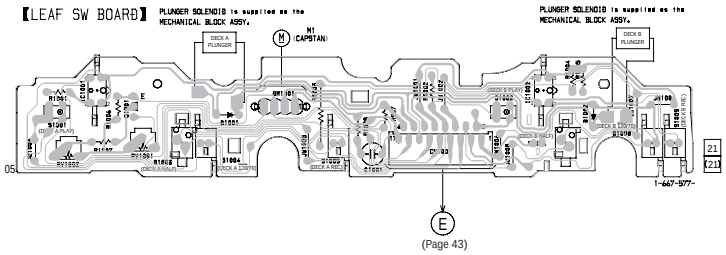
7-11. SCHEMATIC DIAGRAM – AUDIO Board – **• See page 66 for IC Block Diagram.**



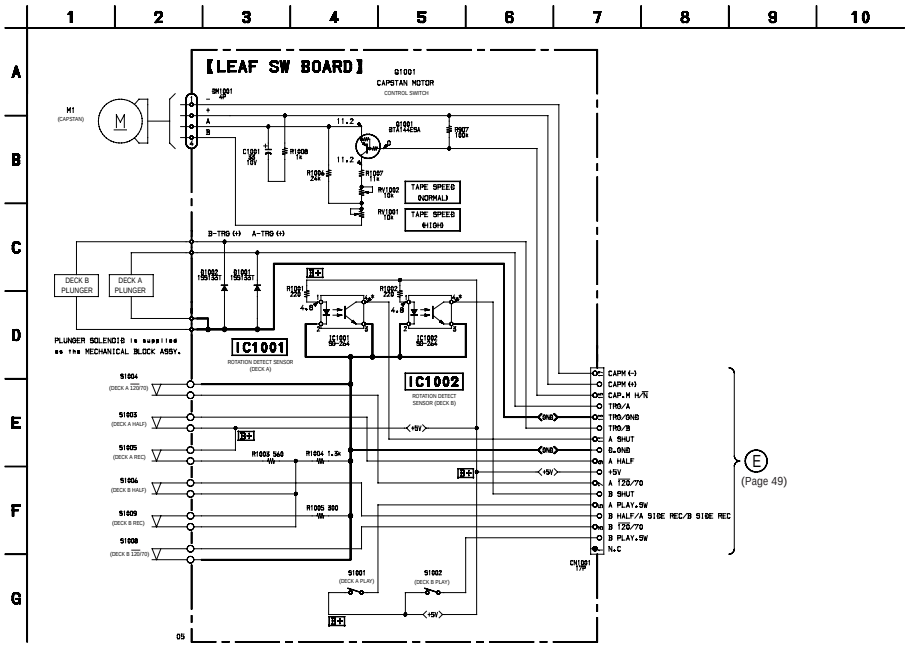
• Voltages are dc with respect to ground under no-signal conditions.
no mark : TAPE PLAY
( ) : RECORD

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une piéce portant le numéro spécifié.

7-12. PRINTED WIRING BOARD – LEAF SW Board – • See page 28 for Circuit Boards Location.



7-13. SCHEMATIC DIAGRAM – LEAF SW Board –

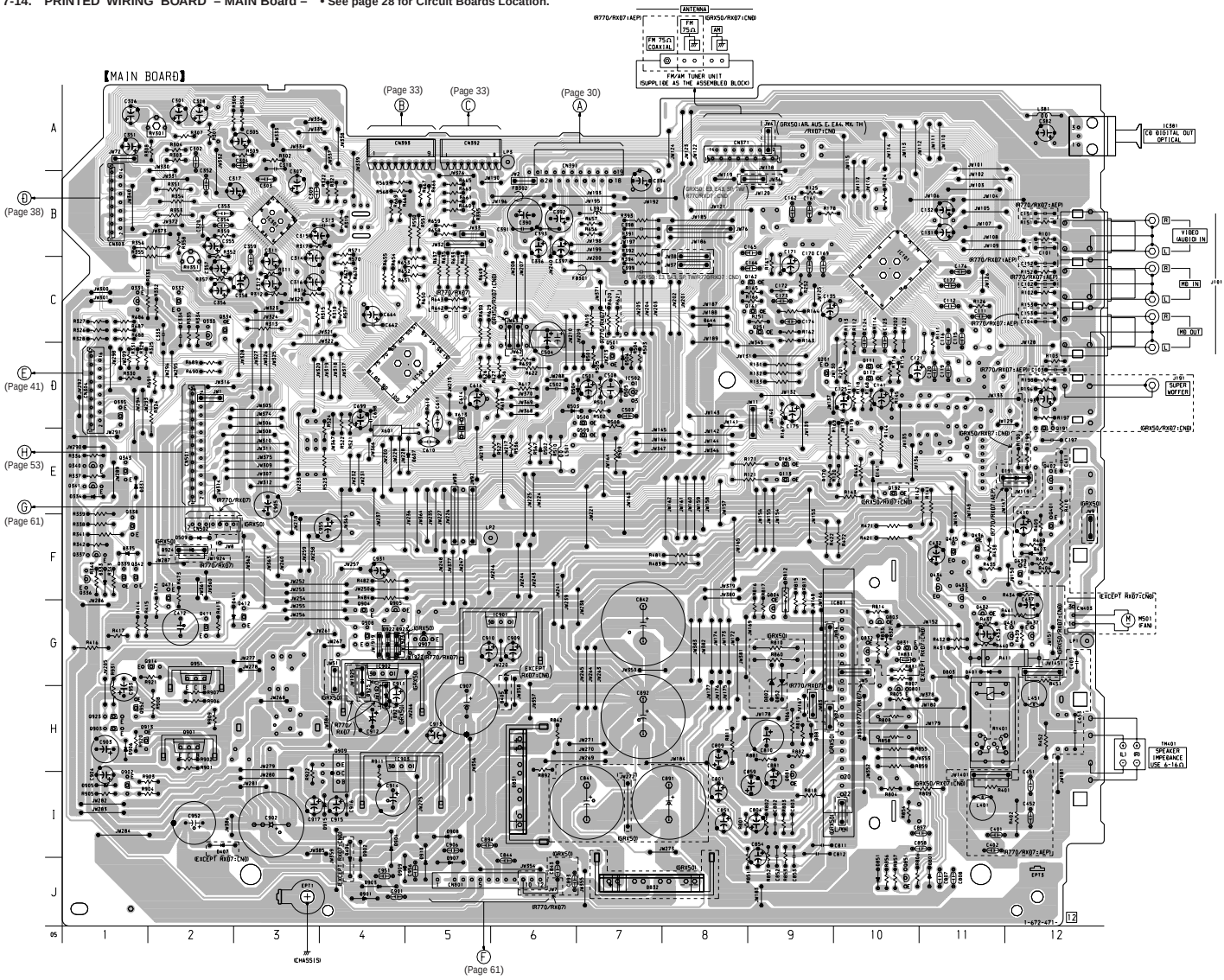


• Voltages are dc with respect to ground under no-signal conditions.
no mark : TAPE PLAY
( ) : RECORD
* : Impossible to measure

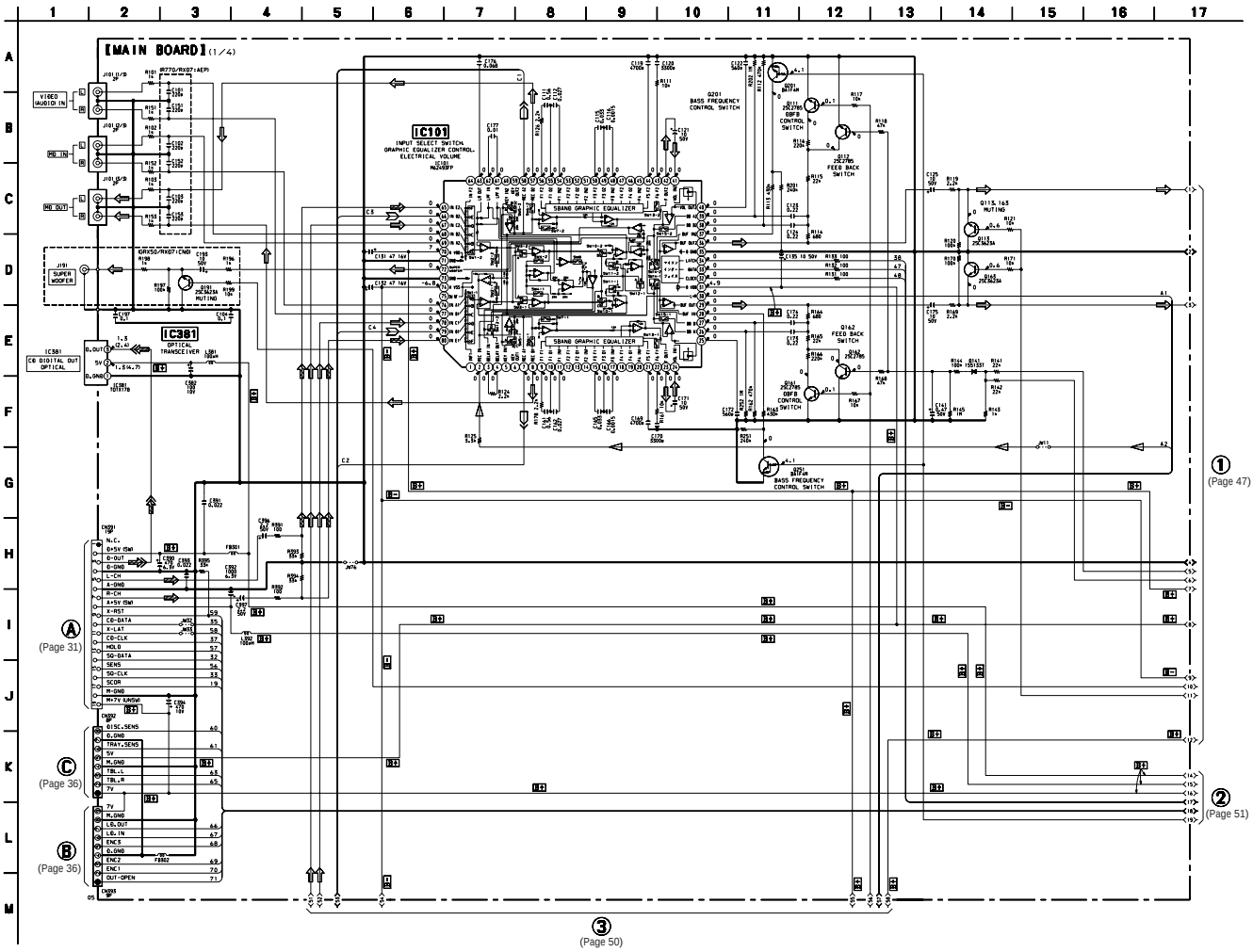
• **Semiconductor Location**

Ref. No.	Location	Ref. No.	Location
D141	E-10	Q113	E-9
D191	E-12	Q161	C-9
D331	E-1	Q162	C-9
D333	F-1	Q163	E-9
D334	E-1	Q191	E-12
D335	F-1	Q192	E-10
D401	G-11	Q201	D-9
D403	F-12	Q251	C-9
D405	H-6	Q331	C-1
D406	J-4	Q332	C-2
D407	I-2	Q333	C-2
D411	G-3	Q334	C-2
D501	D-7	Q335	D-1
D502	E-6	Q336	F-1
D503	D-6	Q337	F-1
D504	D-7	Q338	F-1
D505	D-7	Q339	F-1
D506	D-7	Q340	E-1
D509	F-2	Q341	E-1
D607	E-5	Q342	F-1
D644	C-8	Q343	E-1
D801	J-11	Q401	F-12
D802	G-9	Q402	E-12
D803	G-11	Q411	G-2
D831	I-6	Q412	G-3
D832	J-7	Q431	G-12
D851	J-10	Q432	G-11
D852	G-9	Q433	F-11
D881	H-9	Q434	F-11
D901	J-4	Q435	F-11
D902	J-4	Q436	F-11
D903	J-4	Q437	G-12
D904	I-4	Q439	F-12
D905	I-1	Q471	F-2
D906	H-1	Q501	D-7
D907	J-5	Q508	D-7
D908	I-5	Q509	E-7
D909	J-5	Q801	H-10
D910	J-5	Q803	G-10
D915	I-4	Q804	G-9
D921	H-4	Q831	G-10
D922	G-4	Q832	G-10
D923	G-4	Q851	J-10
D924	F-2	Q881	I-9
D925	G-4	Q901	H-2
		Q902	I-1
IC101	C-10	Q903	H-1
IC301	B-3	Q904	G-4
IC381	A-12	Q905	G-4
IC501	D-5	Q907	G-5
IC502	D-7	Q908	G-4
IC801	H-10	Q909	I-4
IC901	G-6	Q913	H-1
IC902	G-4	Q914	G-2
IC903	H-4	Q923	H-1
		Q951	G-2
Q111	D-10	Q952	H-1
Q112	D-10		

7-14. PRINTED WIRING BOARD – MAIN Board – • See page 28 for Circuit Boards Location.

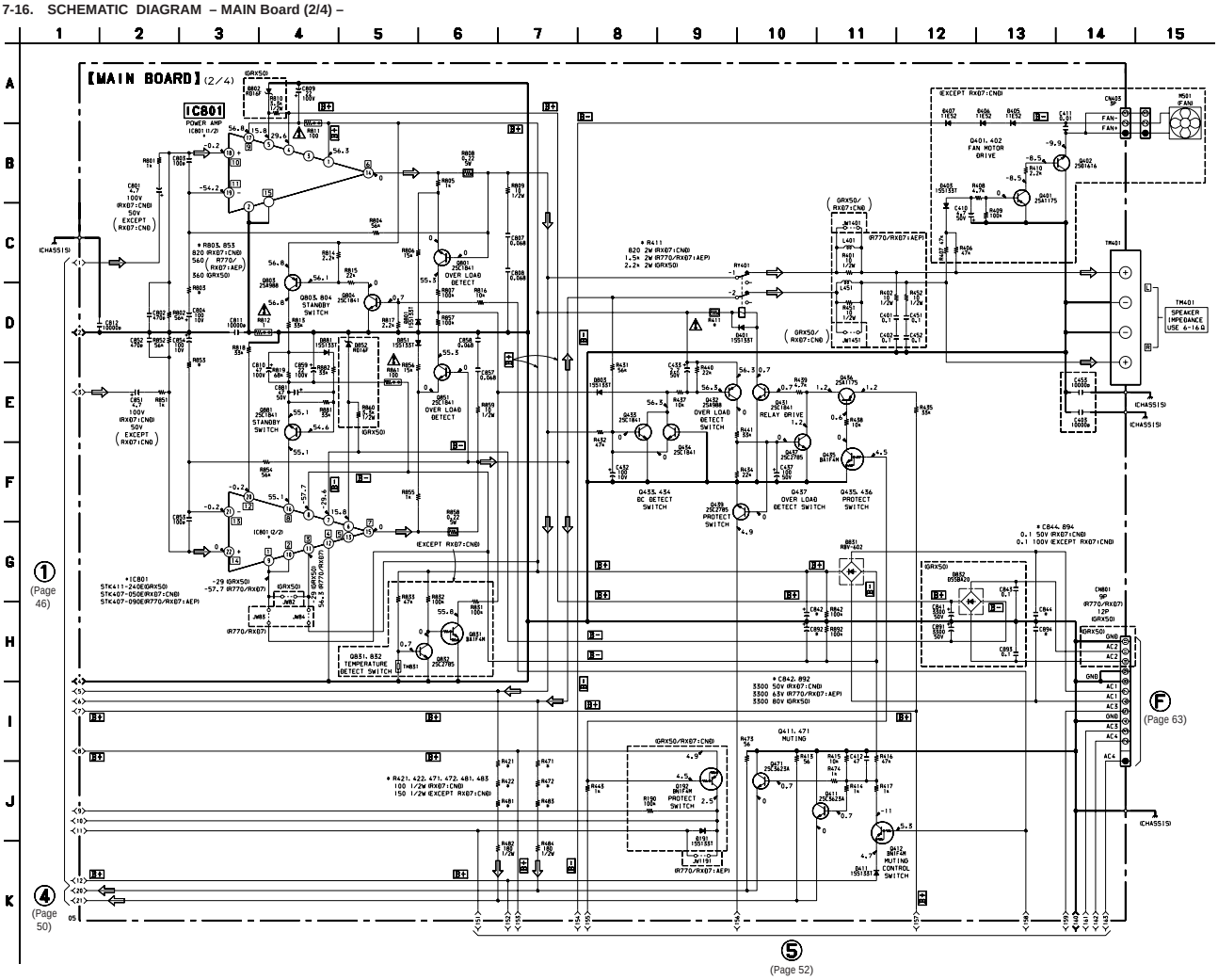


7-15. SCHEMATIC DIAGRAM – MAIN Board (1/4) –



• Voltages and waveforms are dc with respect to ground under no-signal (detuned) conditions.
no mark : TUNER (FM/AM)
( ) : CD PLAY

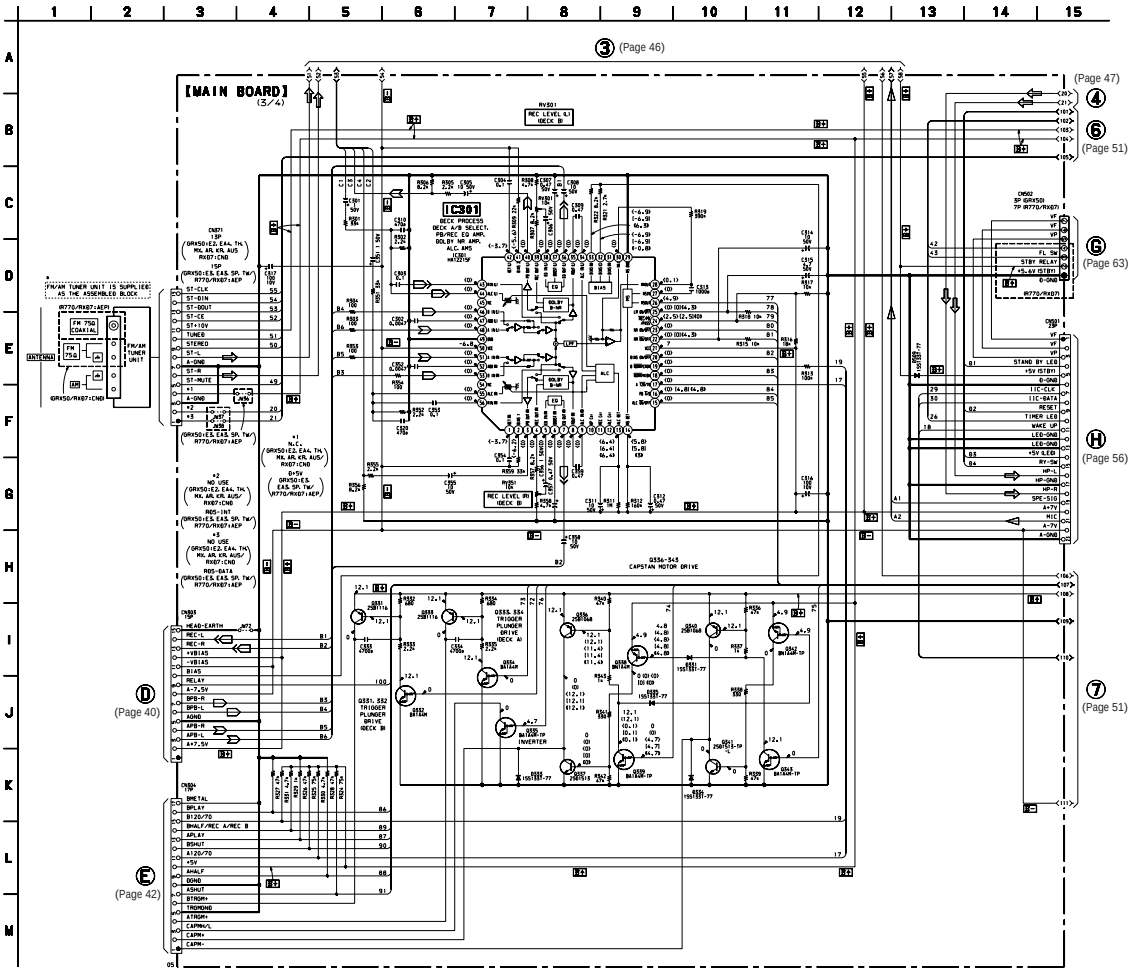
7-16. SCHEMATIC DIAGRAM – MAIN Board (2/4) –



• Voltages are dc with respect to ground under no-signal (detuned) conditions.
no mark : FM

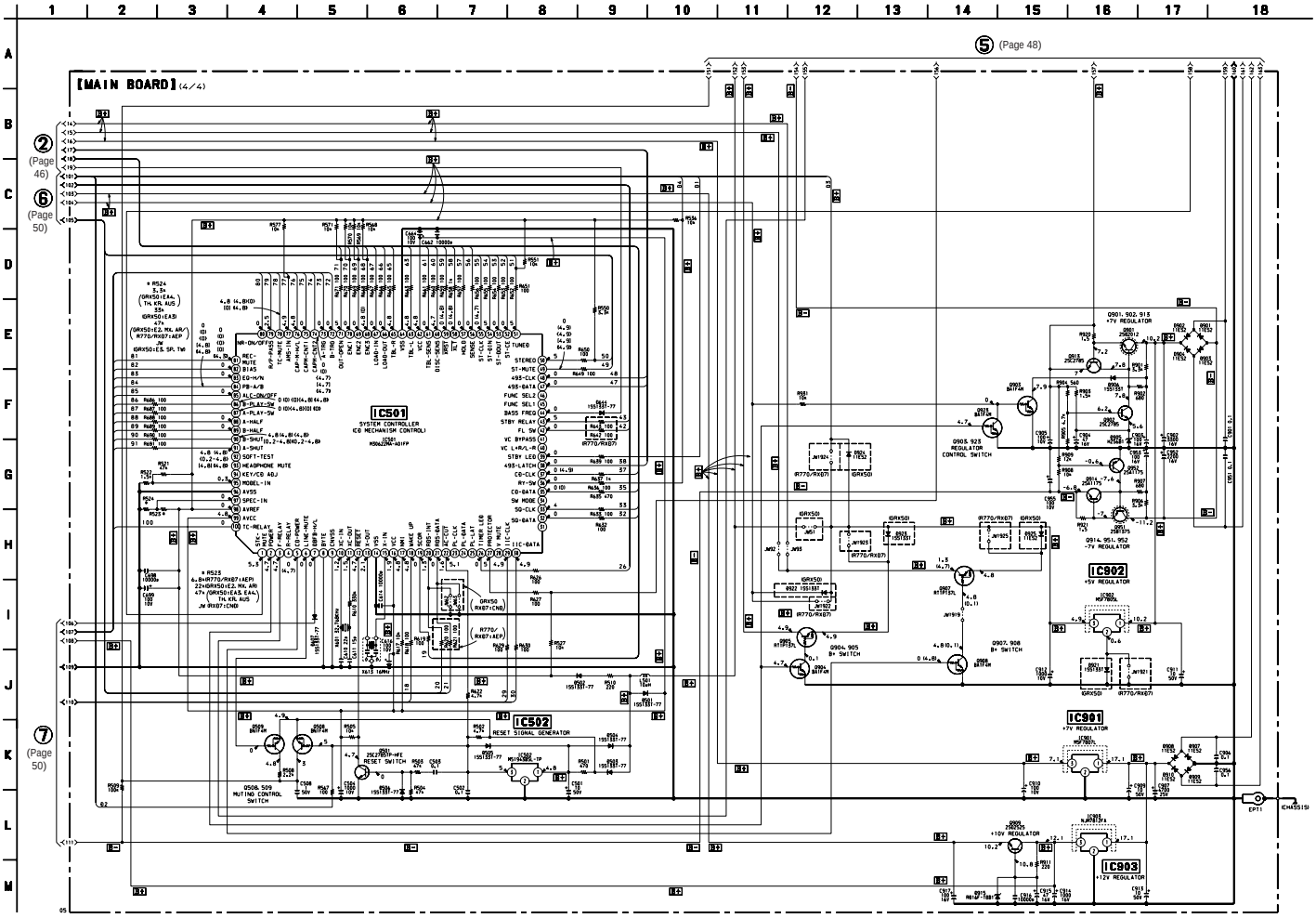
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une piéce portant le numéro spécifié.

7-17. SCHEMATIC DIAGRAM – MAIN Board (3/4) –



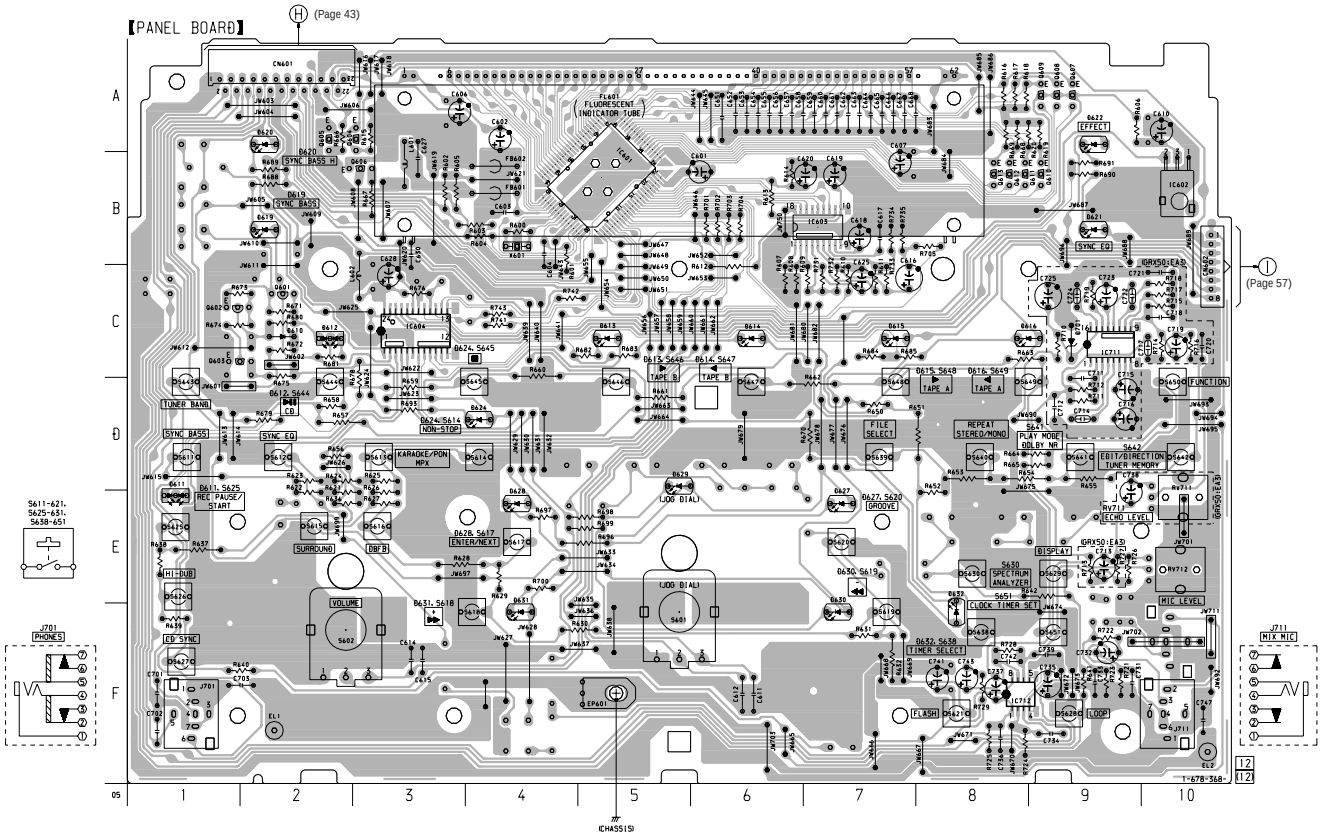
• Voltages are dc with respect to ground under no-signal (detuned) conditions.
no mark : TUNER (FM/AM)
( ) : CD PLAY
{ } : TAPE PLAYBACK (DECK A)
[ ] : TAPE PLAYBACK (DECK B)
〈〈 〉〉 : RECORD

7-18. SCHEMATIC DIAGRAM – MAIN Board (4/4) – • See page 59 for Waveforms.



• Voltages and waveforms are dc with respect to ground under no-signal (detuned) conditions.
no mark : TUNER (FM/AM)
( ) : CD PLAY
{ } : TAPE PLAYBACK (DECK A)
[ ] : TAPE PLAYBACK (DECK B)
〈〈 〉〉 : RECOARD

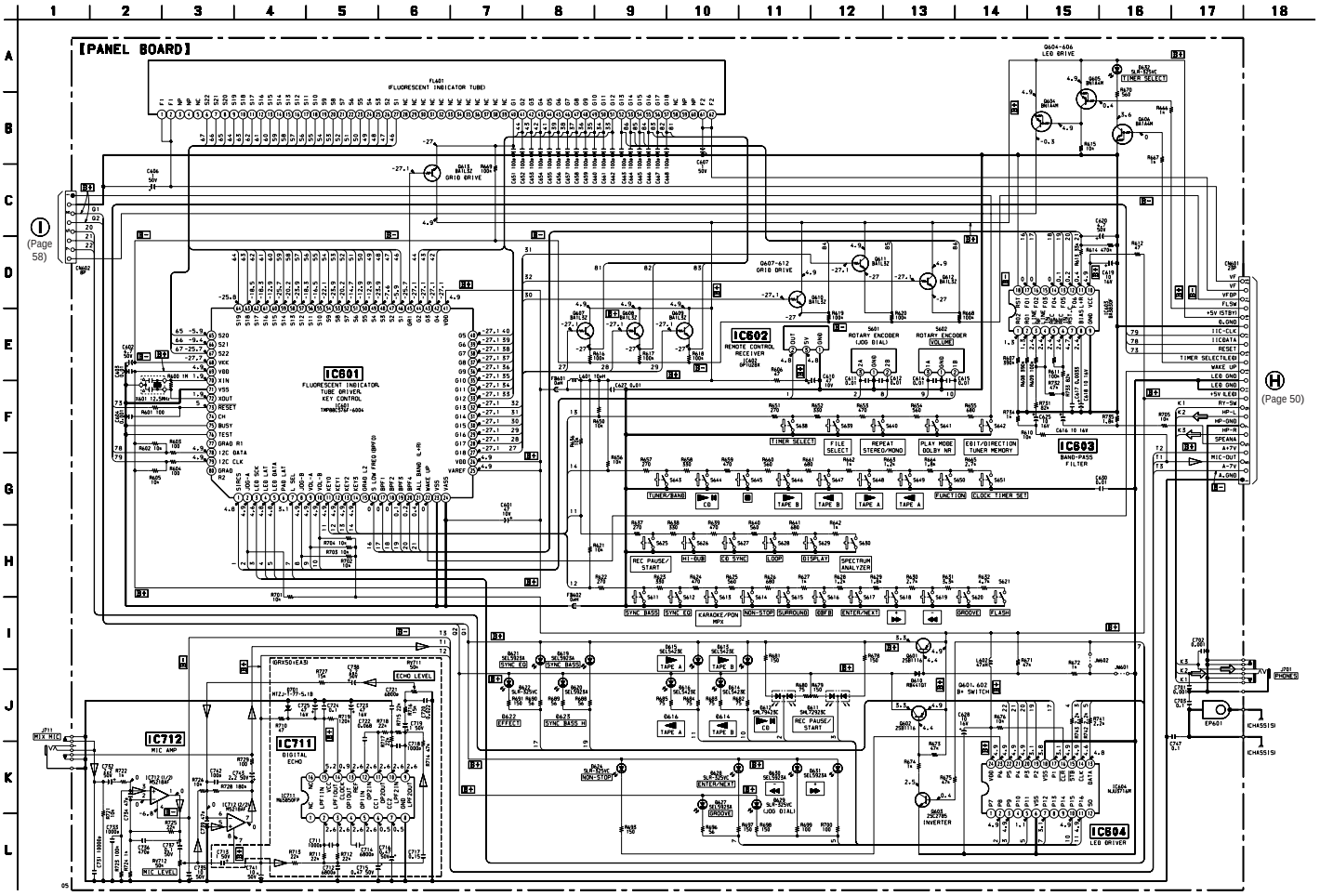
7-19. PRINTED WIRING BOARD – PANEL Board – **• See page 28 for Circuit Boards Location.**



• **Semiconductor Location**

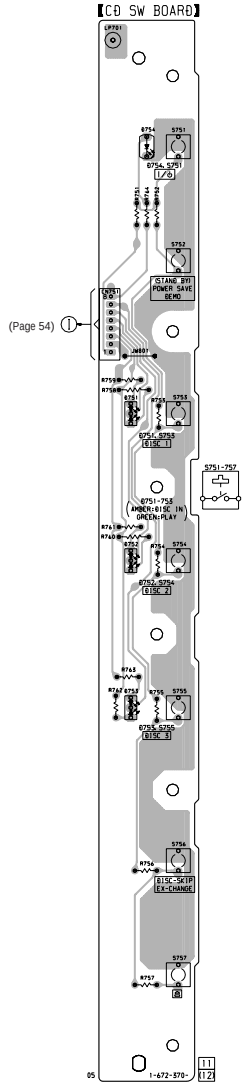
Ref. No.	Location	Ref. No.	Location	Ref. No.	Location
D610	C-2	D628	E-4	Q601	C-2
D611	E-1	D629	D-5	Q602	C-1
D612	C-2	D630	F-7	Q603	C-1
D613	C-5	D631	F-4	Q604	A-3
D614	C-6	D632	F-8	Q605	A-2
D615	C-7	D701	C-9	Q606	B-3
D616	C-8			Q607	A-9
D619	B-2	IC601	B-5	Q608	A-9
D620	A-2	IC602	B-10	Q609	A-9
D621	B-9	IC603	B-7	Q610	B-9
D622	A-9	IC604	C-3	Q611	B-8
D624	D-4	IC711	C-9	Q612	B-8
D627	E-7	IC712	F-8	Q613	B-8

7-20. SCHEMATIC DIAGRAM – PANEL Board– • See page 59 for Waveforms. • See page 66 for IC Block Diagrams.

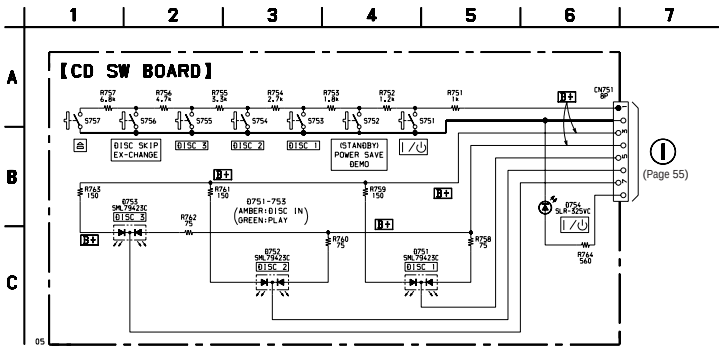


• Voltages and waveforms are dc with respect to ground under no-signal (detuned) conditions.
no mark : TUNER (FM/AM)

7-21. PRINTED WIRING BOARD – CD SW Board – • See page 28 for Circuit Boards Location.



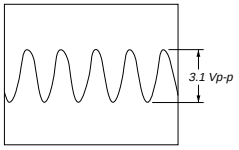
7-22. SCHEMATIC DIAGRAM – CD SW Board –



• **Waveforms**

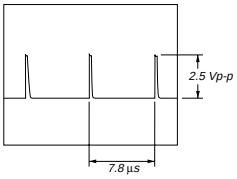
– BD Board –

❶ IC101 ㊼ (XTAO)



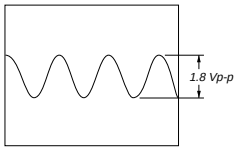
16.9344 MHz

❺ IC101 ㉘ (MDP)



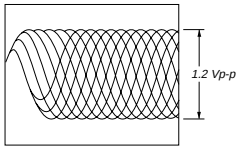
– MAIN Board –

❶ IC501 ⑯ (XC-IN)

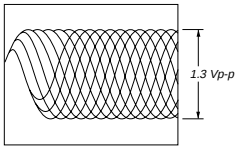


32.768 kHz

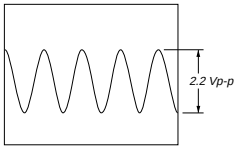
❷ IC101 ㊶ (RF AC) (CD Play Mode)



❻ IC102 ⑲ (RFO) (CD Play Mode)

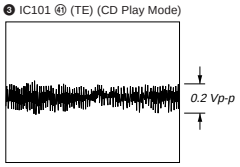


❷ IC501 ⑮ (XIN)



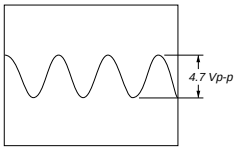
16 MHz

❸ IC101 ㊶ (TE) (CD Play Mode)



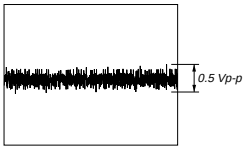
– PANEL Board –

❶ IC601 ⑫ (XOUT)



12.5 MHz

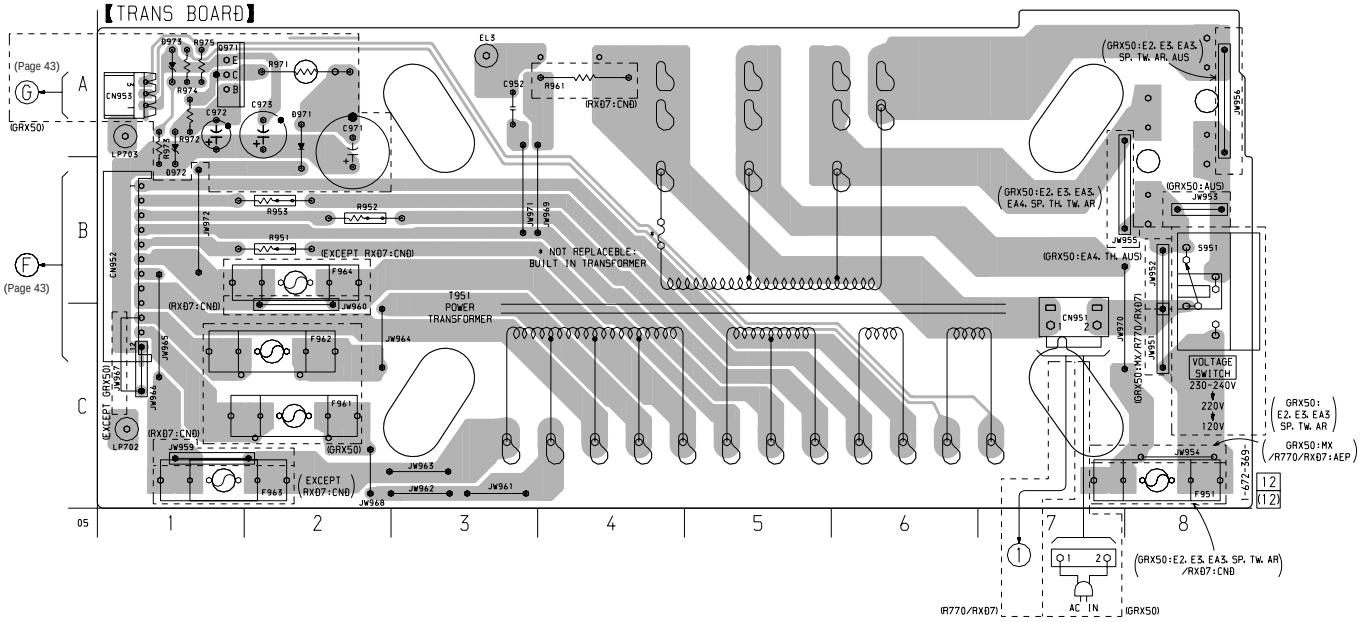
❹ IC101 ㊴ (FE) (CD Play Mode)



7-23. PRINTED WIRING BOARDS – TRANSFORMER Section – • See page 28 for Circuit Boards Location.

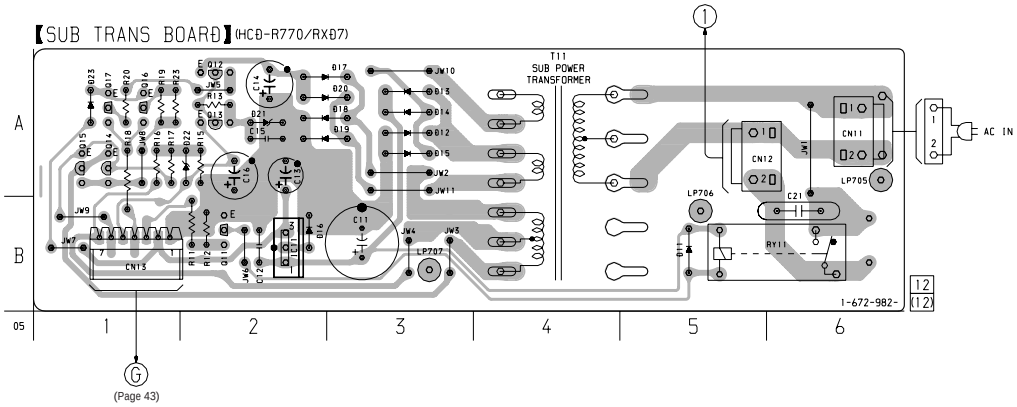
• **Semiconductor Location**

Ref. No.	Location
D971	A-2
D972	A-1
D973	A-1
Q971	A-1

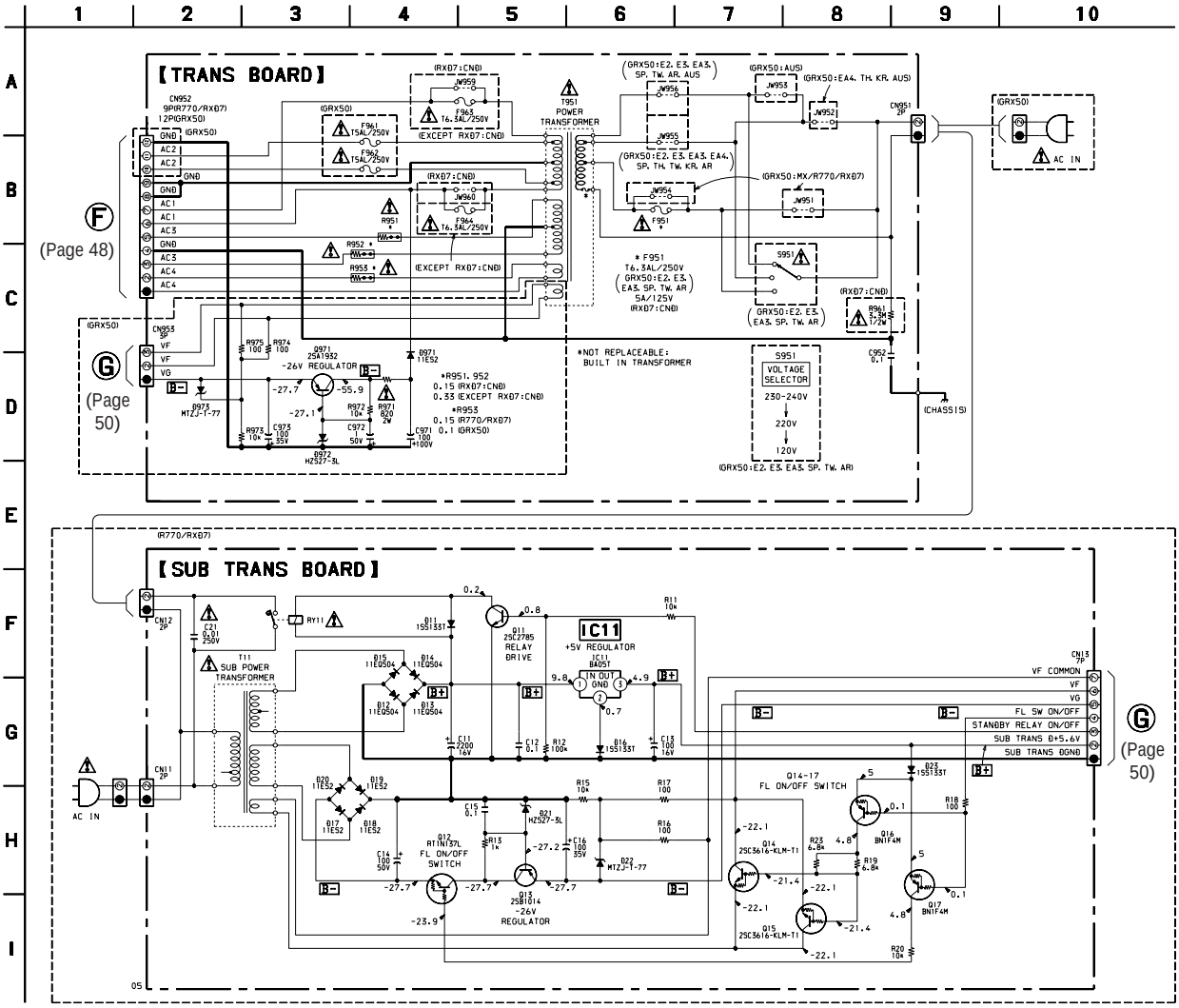


• **Semiconductor Location**

Ref. No.	Location
D11	B-5
D12	A-3
D13	A-3
D14	A-3
D15	A-3
D16	B-2
D17	A-2
D18	A-2
D19	A-2
D20	A-2
D21	A-2
D22	A-2
D23	A-1
IC11	B-2
Q11	B-2
Q12	A-2
Q13	A-2
Q14	A-1
Q15	A-1
Q16	A-1
Q17	A-1



7-24. SCHEMATIC DIAGRAM – TRANSFORMER Section –



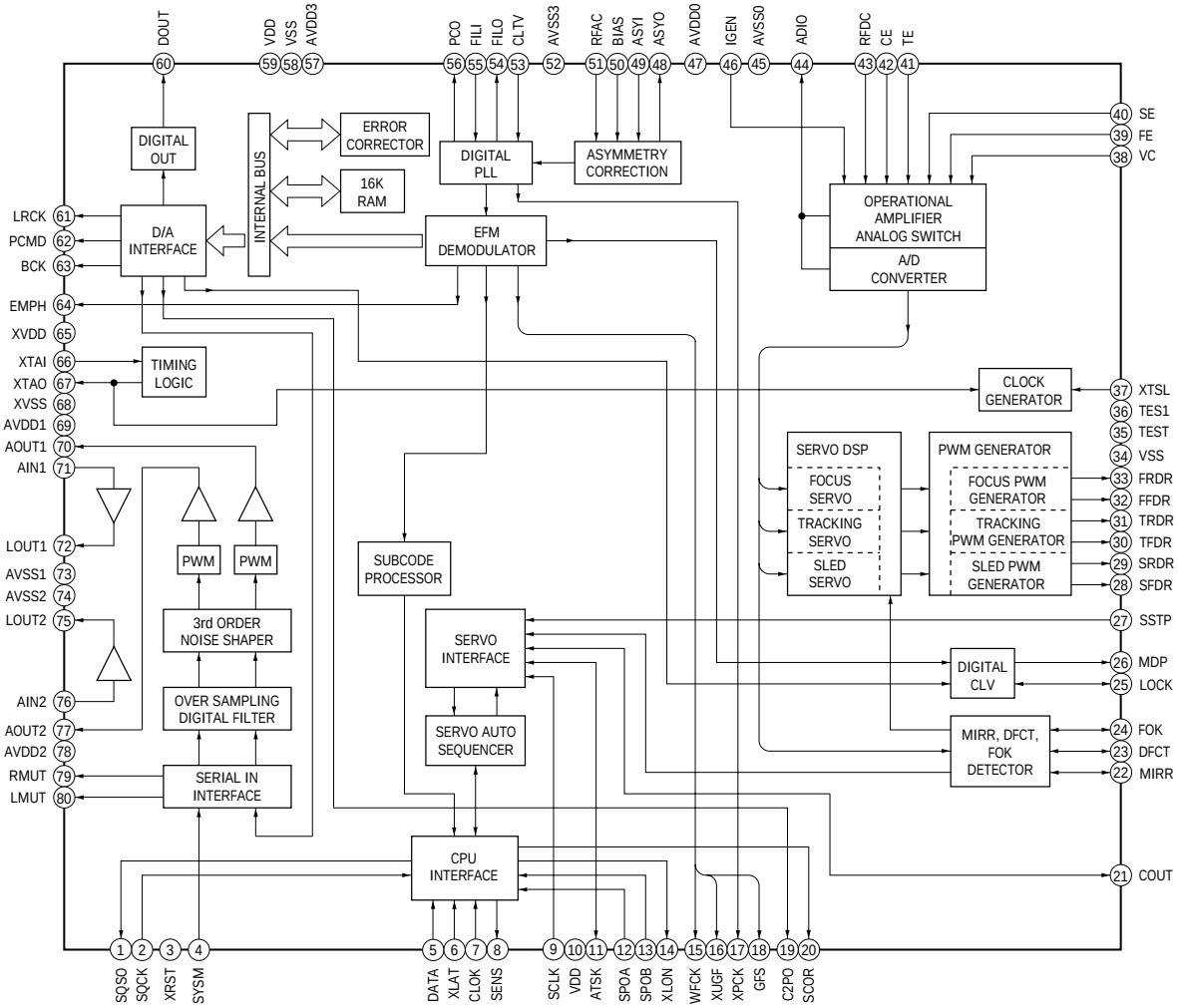
- Voltages are dc with respect to ground under no-signal (detuned) conditions.
  no mark : TUNER (FM/AM)

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une piéce portant le numéro spécifié.

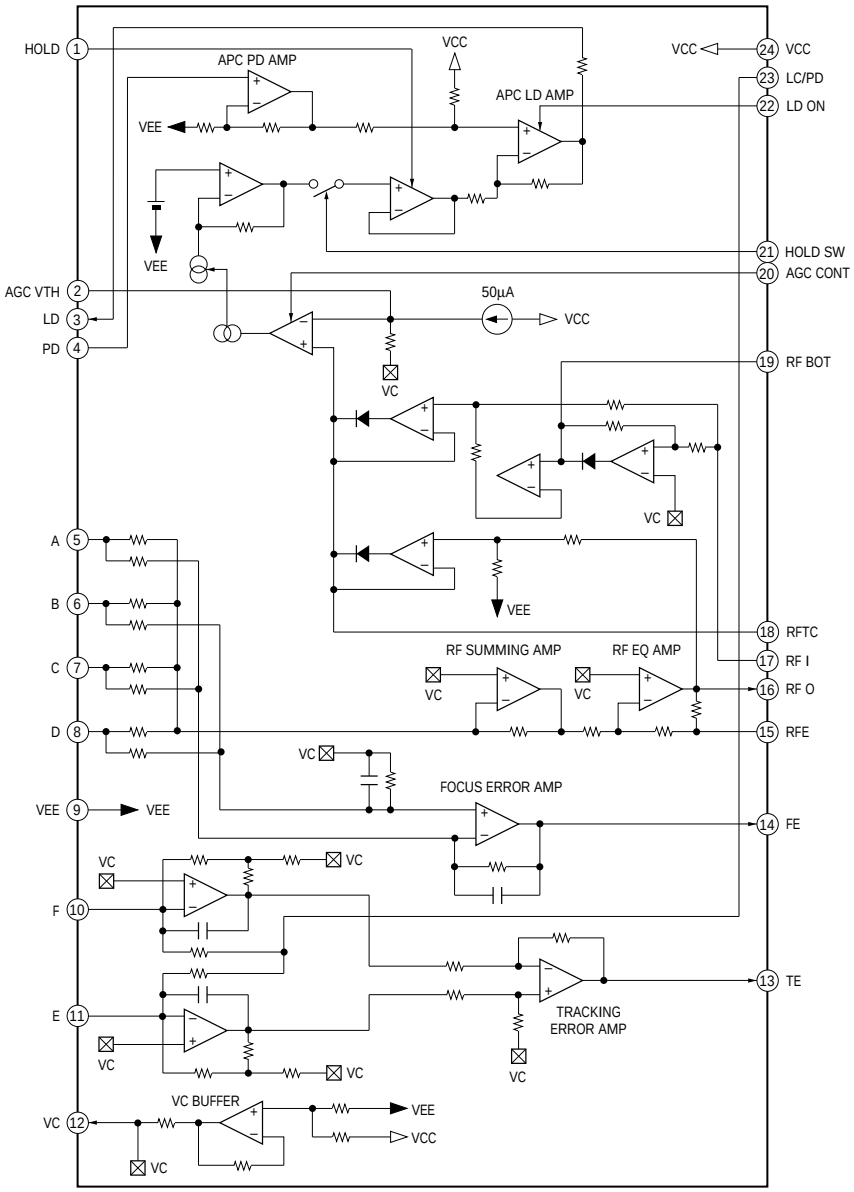
• **IC Block Diagrams**

– BD Board –

IC101 CXD2587Q

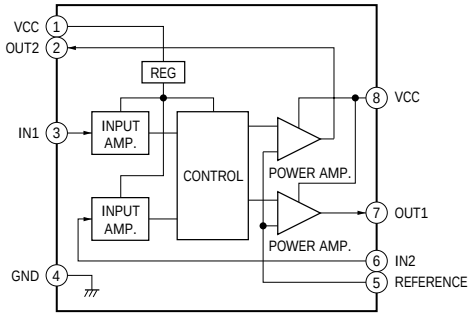


IC103 CXA2568M-T6



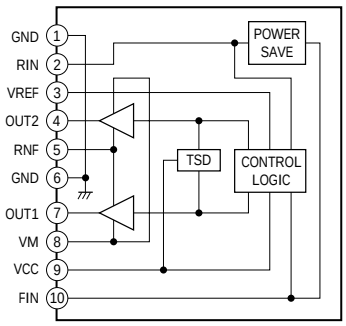
– MOTOR (TURN) Board –

IC701 M54641L



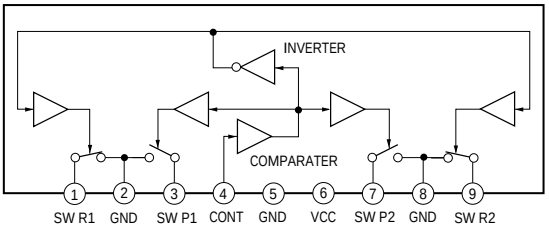
– MOTOR (SLIDE) Board –

IC801 BA6286N



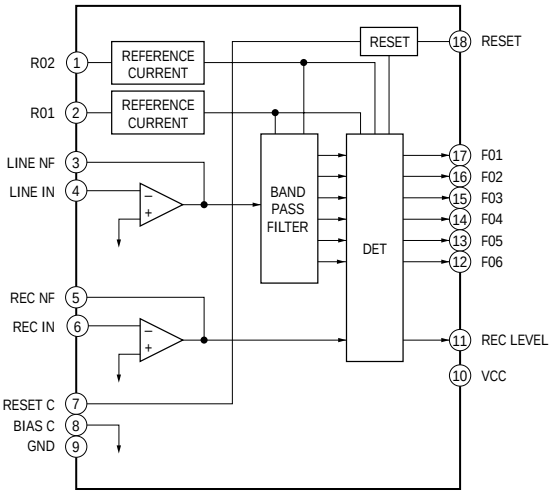
– AUDIO Board –

IC602 µPC1330HA

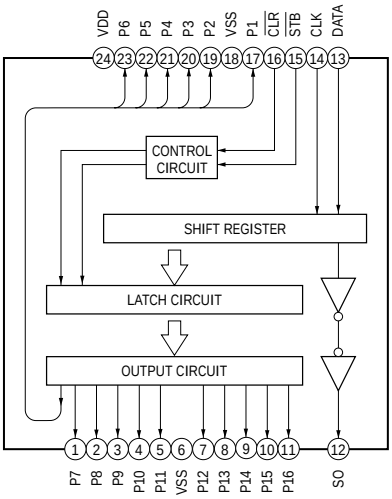


– PANEL Board –

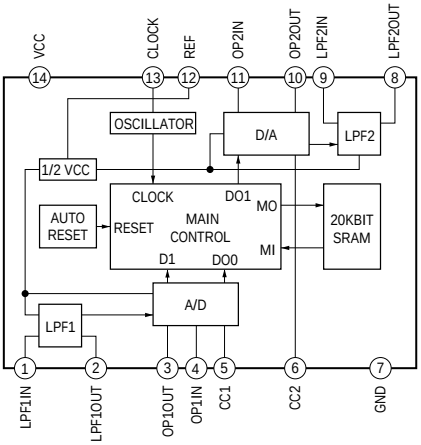
IC603 BA3830F



IC604 NJU3716M-T2



IC711 M65850FP (HCD-GRX50: Saudi Arabia)



7-25. IC PIN FUNCTION DESCRIPTION

• MAIN BOARD IC501 M30622MA-A01FP (SYSTEM CONTROLLER (CD MECHANISM CONTROL))

Pin No.	Pin Name	I/O	Function
1	STK-MUTE	O	Power amplifier on/off selection signal output terminal "L": standby mode, "H": on
2	POWER	O	Power on/off control signal output for the audio system (+5V) and deck, panel, audio system (+7V) "L": standby mode, "H": power on
3	F-RELAY	O	Relay drive signal output for the speaker protect "H": relay on
4	R-RELAY	O	Relay drive signal output for the speaker protect "H": relay on Not used (open)
5	CD-POWER	O	Power on/off control signal output for the CD mechanism deck section "L": standby mode, "H": power on
6	LINE-MUTE	O	Line muting on/off control signal output terminal "L": muting on
7	DBFB-H/L	O	DBFB normal/high selection signal output to the M62493FP (IC101) "L": DBFB high, "H": DBFB low
8	BYTE	I	External data bus line byte selection signal input terminal Fixed at "L" in this set
9	CNVSS	—	Ground terminal
10	XC-IN	I	Sub system clock input terminal (32.768 kHz)
11	XC-OUT	O	Sub system clock output terminal (32.768 kHz)
12	$\overline{\text{RESET}}$	I	System reset signal input from the reset signal generator (IC502) "L": reset For several hundreds msec. after the power supply rises, "L" is input, then it changes to "H"
13	X-OUT	O	Main system clock output terminal (16 MHz)
14	VSS	—	Ground terminal
15	X-IN	I	Main system clock input terminal (16 MHz)
16	VCC	—	Power supply terminal (+5V)
17	NMI	I	Non-maskable interrupt input terminal Fixed at "H" in this set
18	WAKE UP	I	Wakeup control signal input from the fluorescent indicator tube driver (IC601) "H" active
19	SCOR	I	Subcode sync (S0+S1) detection signal input from the CXD2587Q (IC101) on the CD block
20	RDS-INT	I	Serial data transfer clock signal input from the RDS decoder on FM/AM tuner unit Used for the HCD-R770 and HCD-RXD7: AEP models
21	RDS-DATA	I	Serial data input from the RDS decoder on FM/AM tuner unit Used for the HCD-R770 and HCD-RXD7: AEP models
22	$\overline{\text{AC-CUT}}$	I	AC off detection signal input from the reset signal generator (IC502) "L": AC cut checked
23	PL-CLK	O	Serial data transfer clock signal output to the pro-logic circuit Not used (open)
24	PL-DATA	O	Serial data output to the pro-logic circuit Not used (open)
25	PL-LAT	O	Serial data latch pulse output to the pro-logic circuit Not used (open)
26	TIMER LED	O	LED drive signal output of the TIMER SELECT indicator (D632) "H": LED on
27	PROTECTOR	I	Protect on/off detection signal input from the speaker protect circuit "L": protect on, "H": protect off
28	V MUTE	O	Muting on/off control signal output terminal "L": muting off Not used (open)
29	IIC-CLK	I/O	Communication data reading clock signal input or transfer clock signal output with the fluorescent indicator tube driver (IC601)
30	IIC-DATA	I/O	Communication data bus with the fluorescent indicator tube driver (IC601)
31	NCO	O	Not used (open)
32	SQ-DATA	I	Subcode Q data input from the CXD2587Q (IC101) on the CD block
33	SQ-CLK	O	Subcode Q data reading clock signal output to the CXD2587Q (IC101) on the CD block
34	SW MODE	O	Not used (open)
35	CD-DATA	O	Serial data output to the CXD2587Q (IC101) on the CD block
36	RY-SW	I	Connection detect signal input of the headphone jack (J701) "L": no connected, "H": headphone connected
37	CD-CLK	O	Serial data transfer clock signal output to the CXD2587Q (IC101) on the CD block
38	493-LATCH	O	Serial data latch pulse output to the M62493FP (IC101)

Pin No.	Pin Name	I/O	Function
39	STBY LED	O	LED drive signal output of the I/⏻ indicator (D754) "H": LED on (standby mode)
40	VC L+R/L–R	O	Virtual cinema L+R/L–R selection signal output terminal Not used (open)
41	VC BYPASS	O	Virtual cinema bypass control signal output terminal Not used (open)
42	FL SW	O	Filament on/off selection signal output for the fluorescent indicator tube (FL601) "L": on, "H": off Used for the HCD-R770 and HCD-RXD7 models
43	STBY RELAY	O	Main power on/off control signal output terminal "L": standby mode, "H": power on Used for the HCD-R770 and HCD-RXD7 models
44	BASS FREQ.	O	Sync bass frequency normal/high selection signal output to the M62493FP (IC101) "L": sync bass off (normal), "H": sync bass high
45	FUNC SEL1	O	Not used (open)
46	FUNC SEL0	O	Not used (open)
47	493-DATA	O	Serial data output to the M62493FP (IC101)
48	493-CLK	O	Serial data transfer clock signal output to the M62493FP (IC101)
49	ST-MUTE	O	Tuner muting control signal output to the FM/AM tuner unit "H": muting on
50	STEREO	I	FM stereo detection signal input from the FM/AM tuner unit "L": stereo
51	TUNED	I	Tuning detection signal input from the FM/AM tuner unit "L": tuned
52	ST-CE	O	PLL chip enable signal output to the FM/AM tuner unit
53	ST-DOUT	O	PLL serial data output to the FM/AM tuner unit
54	ST-DIN	I	PLL serial data input from the FM/AM tuner unit
55	ST-CLK	O	PLL serial data transfer clock signal output to the FM/AM tuner unit
56	SENSE	I	Internal status detection monitor input from the CXD2587Q (IC101) on the CD block
57	HOLD	O	Laser power control signal output to the CXA2568M (IC103) on the CD block
58	$\overline{\text{XLT}}$	O	Serial data latch pulse output to the CXD2587Q (IC101) on the CD block
59	$\overline{\text{XRST}}$	O	Reset signal output to the CXD2587Q (IC101) and BA5974FP (IC102) on the CD block "L": reset
60	DISC-SENS	I	Disc status detection signal input from the disc sensor (IC703)
61	TBL-SENS	I	Disc tray status detection signal input from the disc tray sensor (IC702)
62	VCC	—	Power supply terminal (+5V)
63	TBL-L	O	Motor drive signal output to the disc tray turn motor driver (IC701) "L" active *1
64	VSS	—	Ground terminal
65	TBL-R	O	Motor drive signal output to the disc tray turn motor driver (IC701) "L" active *1
66	LOAD-OUT	O	Motor drive signal output to the disc tray slide motor driver (IC801) "H" active *2
67	LOAD-IN	O	Motor drive signal output to the disc tray slide motor driver (IC801) "H" active *2
68 to 70	ENC3 to ENC1	I	Detection signal input from the disc tray address detect rotary encoder (S811)
71	OUT-OPEN	I	Detection signal input from the disc tray open/close detect switch (S801) "L": open, "H": close
72	B-TRG	O	Deck-B side trigger plunger drive signal output terminal "H": plunger on
73	A-TRG	O	Deck-A side trigger plunger drive signal output terminal "H": plunger on

*1 Disc tray turn motor (M701) control

Mode / Terminal	Stop	Counter-clockwise	Clockwise	Brake
TBL-L (pin ⑥③)	"H"	"L"	"H"	"L"
TBL-R (pin ⑥⑤)	"H"	"H"	"L"	"L"

*2 Disc tray slide motor (M801) control

Mode / Terminal	Stop	Table In	Table Out	Brake
LOAD-OUT (pin ⑥⑥)	"L"	"L"	"H"	"H"
LOAD-IN (pin ⑥⑦)	"L"	"H"	"L"	"H"

Pin No.	Pin Name	I/O	Function
74	CAPM-CNT2	O	Capstan motor (M1) drive signal output terminal "H" active *3
75	CAPM-CNT1	O	Capstan motor (M1) drive signal output terminal "H" active *3
76	CAP-M-H/L	O	High/normal speed selection signal output of the capstan motor (M1) "L": normal speed, "H": high speed
77	AMS-IN	I	Whether a music is present or not from HA12215F (IC301) is detected at automatic music sensor "L": music is present, "H": music is not present
78	TC-MUTE	O	Line muting on/off selection signal output to the HA12215F (IC301) "L": muting off, "H": muting on
79	R/P-PASS	O	Recording/playback/pass selection signal output to the HA12215F (IC301) "L": recording mode, "H": pass, "Hi-z": playback mode
80	NR-ON/OFF	O	Dolby NR on/off selection signal output to the HA12215F (IC301) "L": dolby off, "H": dolby on
81	REC-MUTE	O	Recording muting on/off selection signal output to the HA12215F (IC301) "L": muting on, "H": muting off
82	BIAS	O	Recording bias on/off selection signal output to the HA12215F (IC301) "L": bias off, "H": bias on
83	EQ-H/N	O	Normal/high speed selection signal output to the HA12215F (IC301) "L": normal speed, "H": high speed
84	PB-A/B	O	Deck-A/B selection signal output to the HA12215F (IC301) "L": deck-A, "H": deck-B
85	ALC-ON/OFF	O	Automatic limiter control signal output to the HA12215F (IC301) "L": limiter on
86	B-PLAY-SW	I	Detection input from the deck- B play detect switch (S1002) "H": deck-B play
87	A-PLAY-SW	I	Detection input from the deck- A play detect switch (S1001) "H": deck-A play
88	A-HALF	I	Detection input from the deck-A cassette detect switch (S1003) "L": cassette in, "H": no cassette
89	B-HALF	I	Detection input from the deck-B half detect switch (S1006)
90	B-SHUT	I	Shut off detection signal input from the deck-B side reel pulse detector (IC1002)
91	A-SHUT	I	Shut off detection signal input from the deck-A side reel pulse detector (IC1001)
92	SOFT-TEST	O	Output terminal for the software test (open)
93	HEADPHONE MUTE	O	Muting on/off control signal output terminal "L": muting on Not used (open)
94	KEY/CD ADJ	I	Setting terminal for the CD adjustment mode Not used (open)
95	MODEL-IN	I	Destination setting terminal
96	AVSS	—	Ground terminal (for A/D conversion)
97	SPEC-IN	I	Setting terminal for the version
98	AVREF	I	Reference voltage (+5V) input terminal (for A/D conversion)
99	AVCC	—	Power supply terminal (+5V) (for A/D conversion)
100	TC-RELAY	O	Recording/playback select signal output to the REC/PB switch (IC602) "L": playback, "H": recording

*3 Capstan motor (M1) control

Mode / Terminal	Stop	Forward Direction	Reverse Direction	Brake
CAPM-CNT1 (pin ⑮)	"L"	"L"	"H"	"H"
CAPM-CNT2 (pin ⑭)	"L"	"H"	"L"	"H"

• **PANEL BOARD IC601 TMP88CS76F-6004 (FLUORESCENT INDICATOR TUBE DRIVER, KEY CONTROL)**

Pin No.	Pin Name	I/O	Function
1	SIRCS	I	Remote control signal input from the remote control receiver (IC602)
2	JOG-A	I	Jog dial pulse input from the rotary encoder (S601 JOG) (A phase input)
3	LED SCK	O	Serial data transfer clock signal output to the LED driver (IC604)
4	LED LAT	O	Serial data latch pulse signal output to the LED driver (IC604)
5	LED DATA	O	Serial data output to the LED driver (IC604)
6	PAD LAT	O	Not used (open)
7	L SEL	O	LED selection signal output terminal
8	JOG-B	I	Jog dial pulse input from the rotary encoder (S601 JOG) (B phase input)
9	VOL-A	I	Jog dial pulse input from the rotary encoder (S602 VOLUME) (A phase input)
10	VOL-B	I	Jog dial pulse input from the rotary encoder (S602 VOLUME) (B phase input)
11	KEY0	I	Key input terminal (A/D input) (S625 to S630) REC PAUSE/START, HI-DUB, CD SYNC, LOOP, DISPLAY, SPECTRUM ANALYZER keys input
12	KEY1	I	Key input terminal (A/D input) (S611 to S621) SYNC BASS, SYNC EQ, KARAOKE PON/MPX, NON-STOP, SURROUND, DBFB, ENTER/NEXT, + ▶▶, – ◀◀, GROOVE, FLASH keys input
13	KEY2	I	Key input terminal (A/D input) (S638 to S642 and S751 to S757) TIMER SELECT, FILE SELECT, REPEAT STEREO/MONO, PLAY MODE/DOLBY NR, EDIT/DIRECTION TUNER MEMORY, I/⏻, (STANDBY) POWER SAVE DEMO, DISC 1/2/3, DISC SKIP EX-CHANGE, ⏏ keys input
14	KEY3	I	Key input terminal (A/D input) (S643 to S651) TUNER/BAND, ► II CD, ■, ► TAPE B, ◄ TAPE B, ► TAPE A, ◄ TAPE A, FUNCTION, CLOCK/TIMER SET keys input
15	GRAD L2	O	Not used (open)
16	S LOW FREQ (BPF0)	I	Spectrum analyzer drive (super low frequency) signal input from the spectrum analyzer band-pass filter (IC603) (for 40 Hz)
17	BPF1	I	Spectrum analyzer drive (low frequency) signal input from the spectrum analyzer band-pass filter (IC603) (for 100 Hz)
18	BPF2	I	Spectrum analyzer drive (low and middle frequency) signal input from the spectrum analyzer band-pass filter (IC603) (for 400 Hz)
19	BPF3	I	Spectrum analyzer drive (middle and high frequency) signal input from the spectrum analyzer band-pass filter (IC603) (for 2 kHz)
20	BPF4	I	Spectrum analyzer drive (high frequency) signal input from the spectrum analyzer band-pass filter (IC603) (for 6 kHz)
21	ALL BAND (L+R)	I	Spectrum analyzer drive signal input from the spectrum analyzer band-pass filter (IC603) (for VACS, non-stop signal)
22	WAKE UP	O	Wakeup control signal output to the system controller (IC501) "H" active
23	VSS	—	Ground terminal
24	VASS	—	Ground terminal (for A/D conversion)
25	VAREF	I	Reference voltage (+5V) input terminal (for A/D conversion)
26	VDD	—	Power supply terminal (+5V)
27 to 32	G18 to G13	O	Grid drive signal output to the fluorescent indicator tube (FL601)
33 to 40	G12 to G5	O	Grid drive signal output to the fluorescent indicator tube (FL601)
41	VDD	—	Power supply terminal (+5V)
42 to 44	G4 to G2	O	Grid drive signal output to the fluorescent indicator tube (FL601)
45	G1	O	Grid drive signal output to the fluorescent indicator tube (FL601)
46 to 67	S1 to S22	O	Segment drive signal output to the fluorescent indicator tube (FL601)
68	VKK	—	Power supply terminal (–30V) (for fluorescent indicator tube drive)
69	VDD	—	Power supply terminal (+5V)

Pin No.	Pin Name	I/O	Function
70	XIN	I	System clock input terminal (12.5 MHz)
71	VSS	—	Ground terminal
72	XOUT	O	System clock output terminal (12.5 MHz)
73	$\overline{\text{RESET}}$	I	System reset signal input from the reset signal generator (IC502) "L": reset For several hundreds msec. after the power supply rises, "L" is input, then it changes to "H"
74	CH	O	Not used (open)
75	BUSY	I	Not used (fixed at "L")
76	TEST	I	Connected to ground
77	GRAD R1	O	Not used (open)
78	I2C DATA	I/O	Communication data bus with the system controller (IC501)
79	I2C CLK	I/O	Communication data reading clock signal input or transfer clock signal output with the system controller (IC501)
80	GRAD R2	O	Not used (open)

SECTION 8
EXPLODED VIEWS

NOTE:

- -XX and -X mean standardized parts, so they may have some difference from the original one.
- Color Indication of Appearance Parts
  Example:
  KNOB, BALANCE (WHITE) . . . (RED)
  ↑ ↑
  Parts Color Cabinet's Color
- Abbreviation

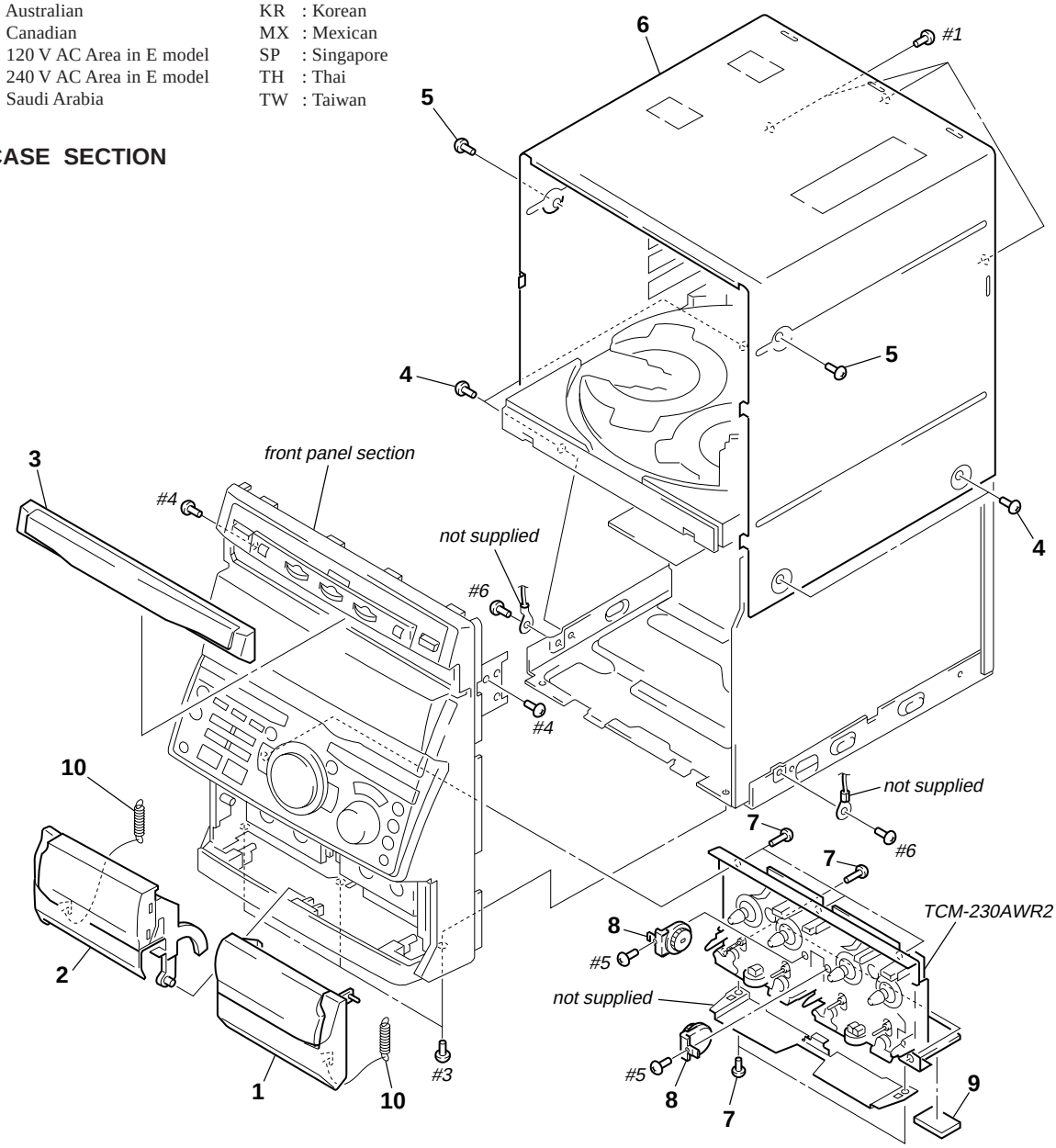
AED : North European	EA4 : Israel
AR : Argentine	G : German
AUS : Australian	KR : Korean
CND : Canadian	MX : Mexican
E2 : 120 V AC Area in E model	SP : Singapore
E3 : 240 V AC Area in E model	TH : Thai
EA3 : Saudi Arabia	TW : Taiwan

- 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 is given in the last of the electrical parts list.

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

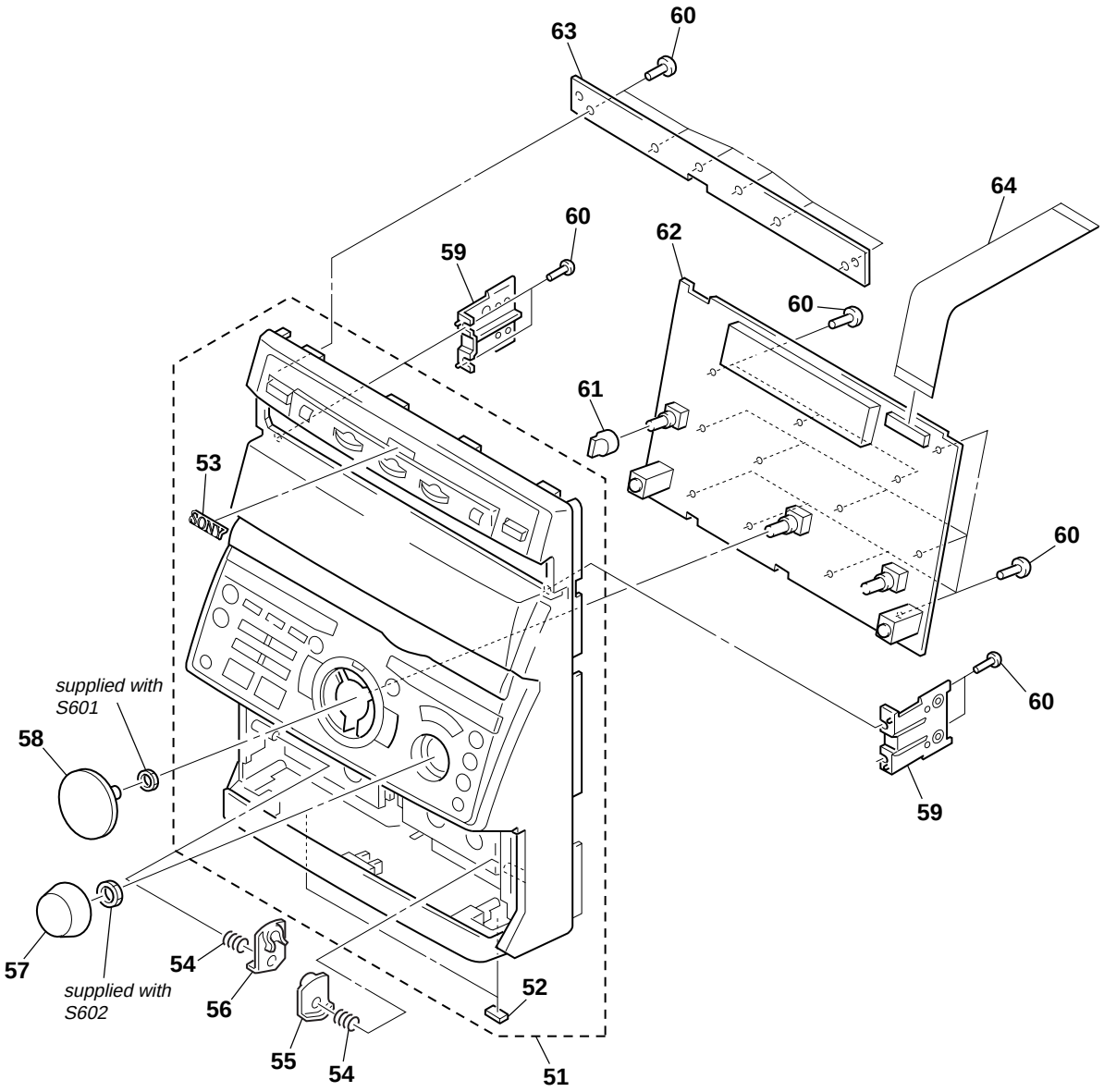
Les composants identifiés par une marque ⚠ sont critiquens pour la sécurité.
Ne les remplacer que par une pièce portant le numéro spécifié.

(1) CASE SECTION



Ref. No.	Part No.	Description	Remark
1	X-4950-832-1	HOLDER (R) ASSY, CASSETTE (SILVER)	
1	X-4950-971-1	HOLDER (R) ASSY, CASSETTE (GLAY)	
2	X-4950-828-1	HOLDER (L) ASSY, CASSETTE (SILVER)	
2	X-4950-970-1	HOLDER (L) ASSY, CASSETTE (GLAY)	
3	X-4950-751-1	PANEL ASSY, LOADING (SILVER) (GRX50)	
3	X-4950-752-1	PANEL ASSY, LOADING (RXD7)	
3	X-4950-957-1	PANEL ASSY, LOADING (R770)	
3	X-4951-471-1	PANEL ASSY, LOADING (GLAY) (GRX50)	
4	3-363-099-01	SCREW (CASE 3 TP2) (3X8) (GLAY)	
4	3-363-099-11	SCREW (CASE 3 TP2) (3X8) (SILVER)	
5	3-363-099-41	SCREW (CASE 3 TP2) (3X12) (GLAY)	
5	3-363-099-71	SCREW (CASE 3 TP2) (3X12) (SILVER)	
* 6	4-214-443-01	CASE (SILVER)	
* 6	4-215-752-01	CASE (GLAY)	
7	4-951-620-01	SCREW (2.6X8), +BVTP	
8	4-215-062-01	DAMPER	
9	4-985-642-01	CUSHION	
10	4-219-087-01	SPRING, TENSION	

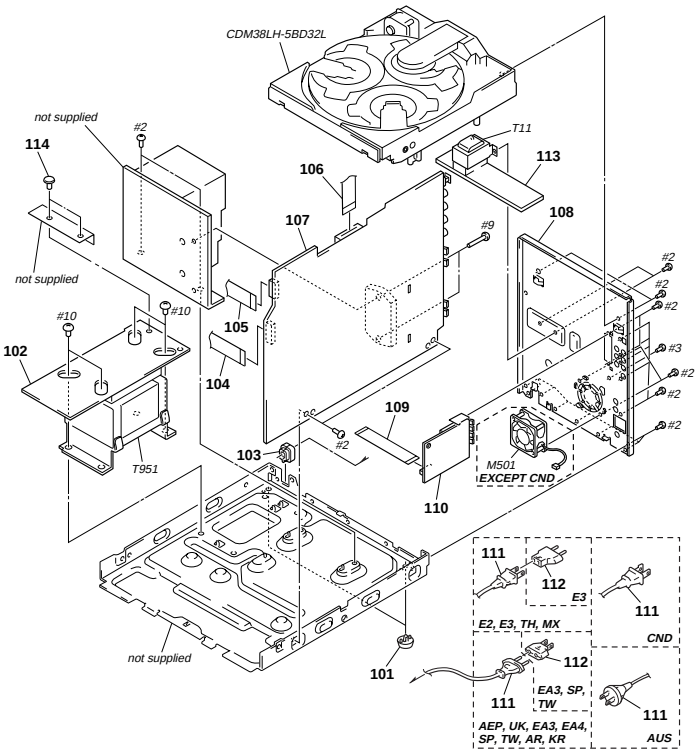
(2) FRONT PANEL SECTION



Ref. No.	Part No.	Description	Remark
51	X-4950-822-1	PANEL ASSY, FRONT (SILVER) (GRX50)	
51	X-4950-823-1	PANEL ASSY, FRONT (RXD7: AEP)	
51	X-4950-938-1	PANEL ASSY, FRONT (RXD7: CND)	
51	X-4950-982-1	PANEL ASSY, FRONT (R770)	
51	X-4951-448-1	PANEL ASSY, FRONT (GLAY) (GRX50: E3)	
51	X-4951-449-1	PANEL ASSY, FRONT (GLAY) (GRX50: EA3)	
52	4-930-336-61	FOOT (FELT)	
53	4-962-708-71	EMBLEM (4-A), SONY	
54	4-214-775-11	SPRING, PUSH CATCHER RETURN	
55	4-214-761-11	CATCHER (B), PUSH	
56	4-214-760-11	CATCHER (A), PUSH	
57	4-214-384-11	KNOB (VOL) (GRX50/RXD7)	

Ref. No.	Part No.	Description	Remark
57	4-214-384-51	KNOB (VOL) (R770)	
58	4-214-383-11	KNOB (JOG) (GRX50/RXD7)	
58	4-214-383-51	KNOB (JOG) (R770)	
* 59	4-996-716-01	HOLDER (CDM)	
60	4-951-620-01	SCREW (2.6X8), +BVTP	
61	4-214-385-11	KNOB (MIC) (GRX50/RXD7)	
61	4-214-385-51	KNOB (MIC) (R770)	
* 62	A-4417-722-A	PANEL BOARD, COMPLETE	(EXCEPT GRX50: EA3)
* 62	A-4419-727-A	PANEL BOARD, COMPLETE (GRX50: EA3)	
* 63	A-4417-727-A	CD SW BOARD, COMPLETE	
64	1-773-188-11	WIRE (FLAT TYPE) (23 CORE)	

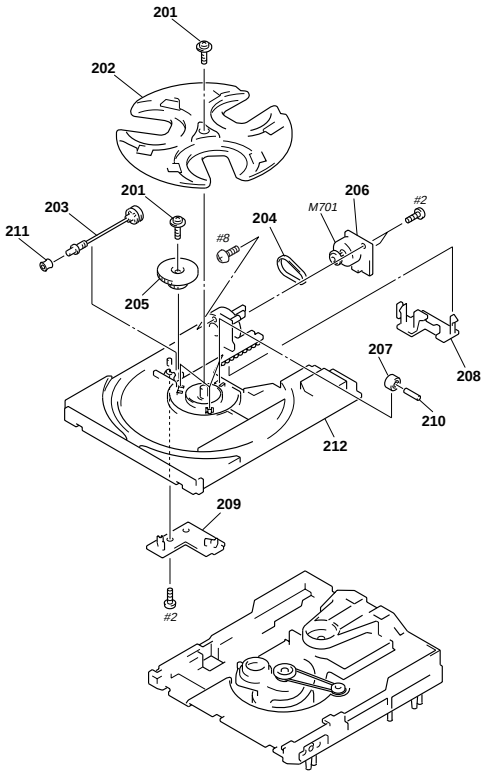
(3) CHASSIS SECTION



Ref. No.	Part No.	Description	Remark
101	4-965-822-01	FOOT	
* 102	1-672-369-11	TRANS BOARD	
* 103	3-703-244-00	BUSHING (2104), CORD (EXCEPT GRX50: E2, E3, TH, MX)	
103	3-703-571-11	BUSHING (S) (4516), CORD (GRX50: E2, E3, TH, MX)	
104	1-773-042-11	WIRE (FLAT TYPE) (17 CORE)	
105	1-773-024-11	WIRE (FLAT TYPE) (15 CORE)	
106	1-783-570-11	WIRE (FLAT TYPE) (19 CORE)	
* 107	A-4417-714-A	MAIN BOARD, COMPLETE (GRX50: E2, MX, AR)	
* 107	A-4417-718-A	MAIN BOARD, COMPLETE (RXD7: CND)	
* 107	A-4417-732-A	MAIN BOARD, COMPLETE (GRX50: E3, SP, TW)	
* 107	A-4417-868-A	MAIN BOARD, COMPLETE (R770/RXD7: AEP)	
* 107	A-4419-729-A	MAIN BOARD, COMPLETE (GRX50: EA3)	
* 107	A-4419-821-A	MAIN BOARD, COMPLETE (GRX50: EA4, TH, KR, AUS)	
* 108	4-214-442-01	PANEL, BACK (GRX50: AR)	
* 108	4-214-442-61	PANEL, BACK (GRX50: EA4, TH)	
* 108	4-215-168-01	PANEL, BACK (GRX50: E2)	
* 108	4-215-168-11	PANEL, BACK (RXD7: CND)	
* 108	4-215-168-21	PANEL, BACK (R770: AEP, UK, G, AED)	
* 108	4-215-168-31	PANEL, BACK (RXD7: AEP, CIS)	
* 108	4-215-168-41	PANEL, BACK (R770: CIS)	
* 108	4-215-168-51	PANEL, BACK (RXD7: G, AED)	
* 108	4-215-168-61	PANEL, BACK (GRX50: E3)	
* 108	4-215-168-71	PANEL, BACK (GRX50: EA3)	
* 108	4-215-168-81	PANEL, BACK (GRX50: SP)	
* 108	4-215-168-91	PANEL, BACK (GRX50: MX)	
* 108	4-220-083-01	PANEL, BACK (GRX50: AUS)	
* 108	4-220-083-11	PANEL, BACK (GRX50: TW)	
* 108	4-220-083-21	PANEL, BACK (GRX50: KR)	
109	1-769-977-11	WIRE (FLAT TYPE) (13 CORE) (GRX50: EXCEPT SP, TW/RXD7: CND)	
109	1-773-009-11	WIRE (FLAT TYPE) (15 CORE) (GRX50: SP, TW/R770/RXD7: AEP)	
110	1-233-544-14	TUNER PACK (RXD7: CND)	
110	1-233-545-11	TUNER (FM/AM) (GRX50: EA4, TH, AR, KR, AUS)	
110	1-233-545-14	TUNER PACK (GRX50: E2, MX)	
110	1-233-546-11	TUNER (FM/MW/SW) (GRX50: E3, EA3, SP, TW)	
110	1-693-443-11	TUNER (FM/AM) (R770: AEP/RXD7: AEP, UK)	
⚠ 111	1-575-651-11	CORD, POWER (R770: AEP/RXD7: AEP, UK/ GRX50: EA3, EA4, SP, TW, AR)	
⚠ 111	1-575-653-11	CORD, POWER (GRX50: E2, E3, TH, MX)	
⚠ 111	1-690-608-11	CORD, POWER (GRX50: AUS)	
⚠ 111	1-690-609-21	CORD, POWER (RXD7: CND)	
⚠ 111	1-769-079-21	CORD, POWER (GRX50: KR)	
⚠ 112	1-569-007-11	ADAPTOR, CONVERSION 2P (GRX50: E3)	
⚠ 112	1-569-008-21	ADAPTOR, CONVERSION 2P (GRX50: EA3, SP, TW)	
* 113	A-4417-729-A	SUB TRANS BOARD, COMPLETE (RXD7: CND)	
* 113	A-4419-030-A	SUB TRANS BOARD, COMPLETE (R770/RXD7: AEP)	
114	4-812-134-11	RIVET (DIA. 3.5), NYLON (R770/RXD7: AEP)	
M501	1-698-792-11	FAN, DC (EXCEPT RXD7: CND)	
⚠ T11	1-433-587-11	TRANSFORMER, POWER (RXD7: CND)	
⚠ T11	1-433-588-11	TRANSFORMER, POWER (R770/RXD7: AEP)	
⚠ T951	1-433-563-11	TRANSFORMER, POWER (RXD7: CND)	
⚠ T951	1-433-564-11	TRANSFORMER, POWER (R770/RXD7: AEP)	
⚠ T951	1-433-565-11	TRANSFORMER, POWER (GRX50)	

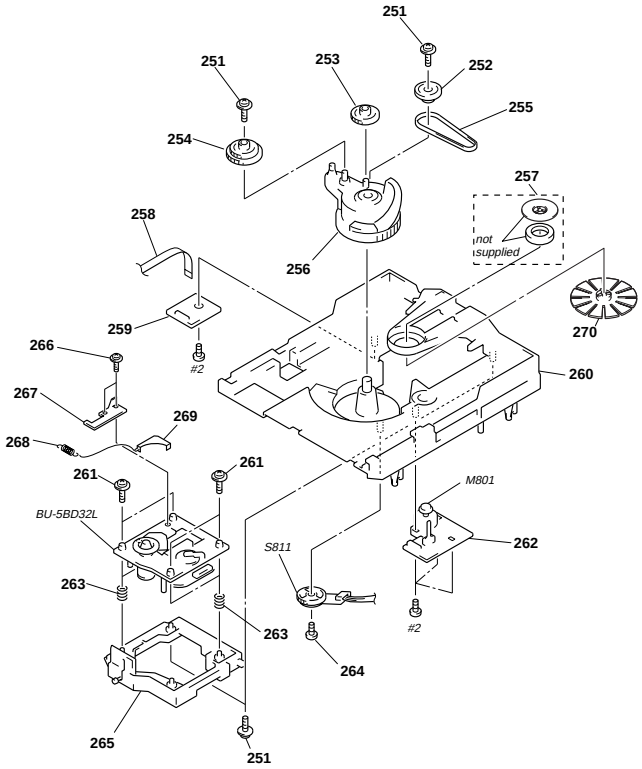
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

(4) CD MECHANISM DECK SECITON-1 (CDM38LH-5BD32L)



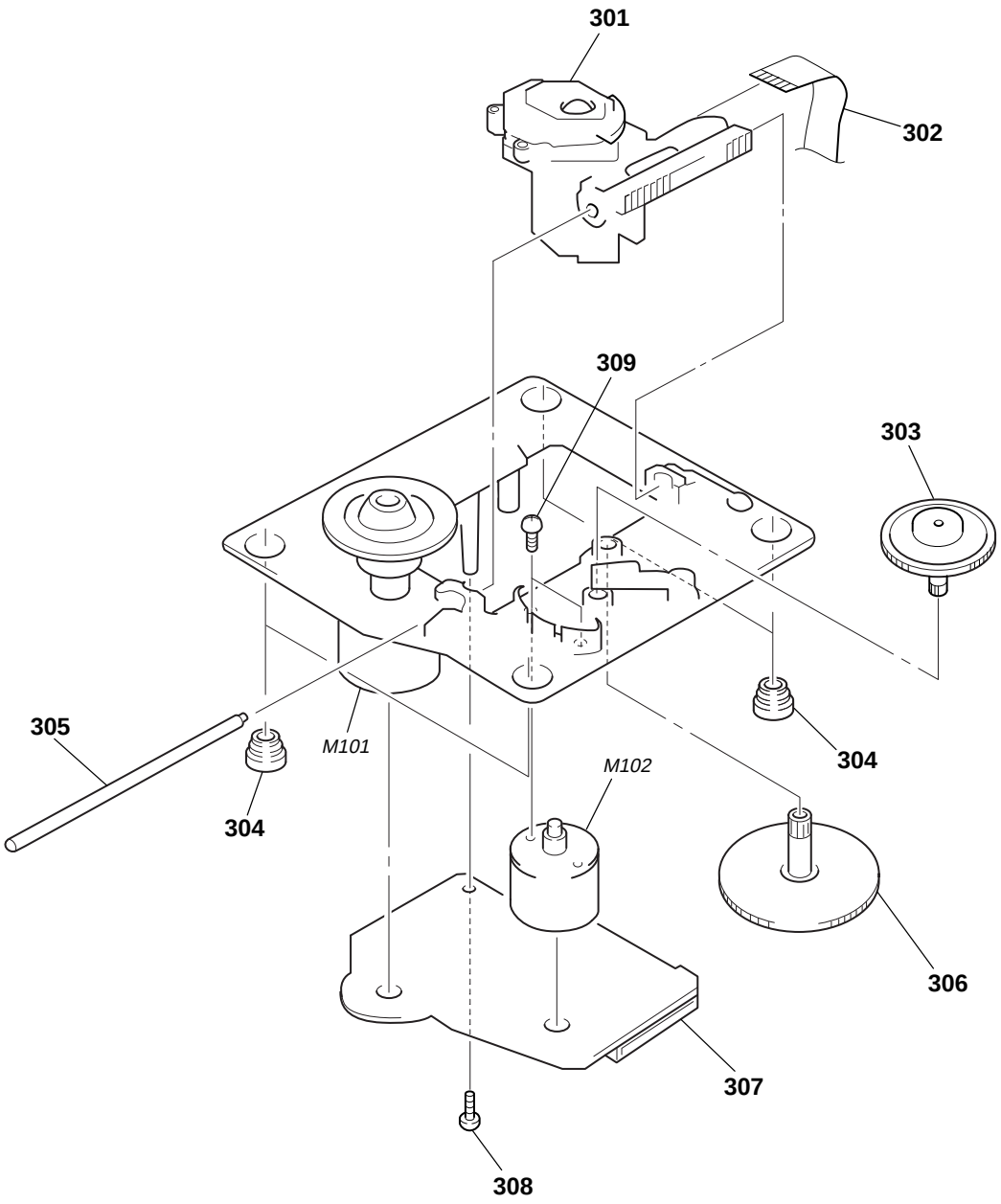
Ref. No.	Part No.	Description	Remark
201	4-981-789-11	BRACKET (2), YOKE	
202	4-977-945-01	TRAY (TURN)	
203	X-4946-665-1	SHAFT ASSY, WORM	
204	4-977-943-01	BELT (TURN) (1.2)	
205	4-977-956-01	WHEEL, WORM	
* 206	1-658-577-11	MOTOR (TURN) BOARD	
207	4-988-162-01	ROLLER	
208	4-977-941-01	BEARING (WORM)	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

(5) CD MECHANISM DECK SECITON-2 (CDM38LH-5BD32L)



Ref. No.	Part No.	Description	Remark
251	4-981-789-11	BRACKET (2), YOKE	
252	4-977-954-01	PULLEY (SL)	
253	4-977-953-01	GEAR (SL-A)	
254	4-977-955-01	GEAR (SL-B)	
255	4-977-942-01	BELT (SL) (1.4)	
256	X-4946-667-1	CAM ASSY, BU	
257	1-452-925-21	MAGNET ASSY	
258	1-776-042-11	WIRE (FLAT TYPE) (8 CORE)	
* 259	1-658-575-11	CONNECTOR BOARD	
* 260	X-4946-668-1	CHASSIS (CDM) ASSY	
261	4-985-672-01	SCREW (+PTPWHM2.6), FLOATING	
* 262	1-658-578-11	MOTOR (SLIDE) BOARD	
263	4-982-447-01	SPRING (BU), COMPRESSION	
264	4-951-620-41	SCREW (2.6), +BVTP	
265	X-4949-570-1	HOLDER (BU) ASSY	
266	4-989-494-01	SCREW (SLIDER), STEP	
267	4-989-492-11	SLIDER (38)	
268	4-989-819-11	SPRING, TENSION	
269	4-989-491-11	COVER (2), LENS	
270	4-993-142-21	PULLEY (L), PRESS	
M801	A-4672-004-A	MOTOR ASSY (SLIDE)	
S811	1-473-335-11	ENCODER, ROTARY (BU, TRAY ADDRESS DET)	

(6) BASE UNIT SECTION (BU-5BD32L)

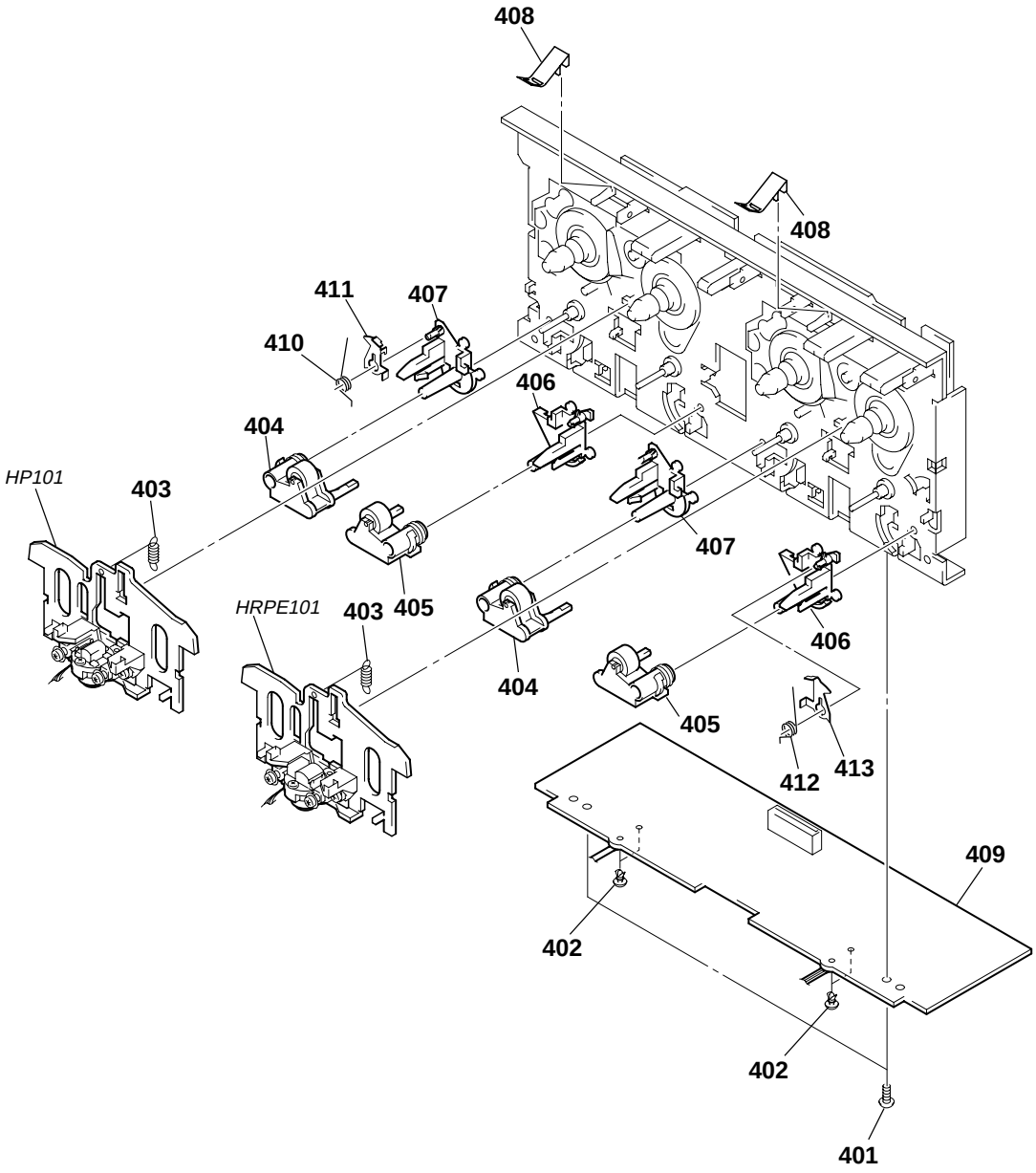


The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

Ref. No.	Part No.	Description	Remark
⚠301	8-820-020-02	OPTICAL PICK-UP KSS-213D/Q-NP	
302	1-769-069-11	WIRE (FLAT TYPE) (16 CORE)	
303	4-917-567-01	GEAR (M)	
304	4-951-940-01	INSULATOR (BU)	
305	4-917-565-01	SHAFT, SLED	
306	4-917-564-01	GEAR (P), FLATNESS	

Ref. No.	Part No.	Description	Remark
* 307	A-4724-486-A	BD BOARD, COMPLETE	
308	4-951-620-01	SCREW (2.6X8), +BVTP	
309	3-713-786-51	SCREW +P 2X3	
M101	X-4917-523-4	MOTOR ASSY (SPINDLE)	
M102	X-4917-504-1	MOTOR ASSY (SLED)	

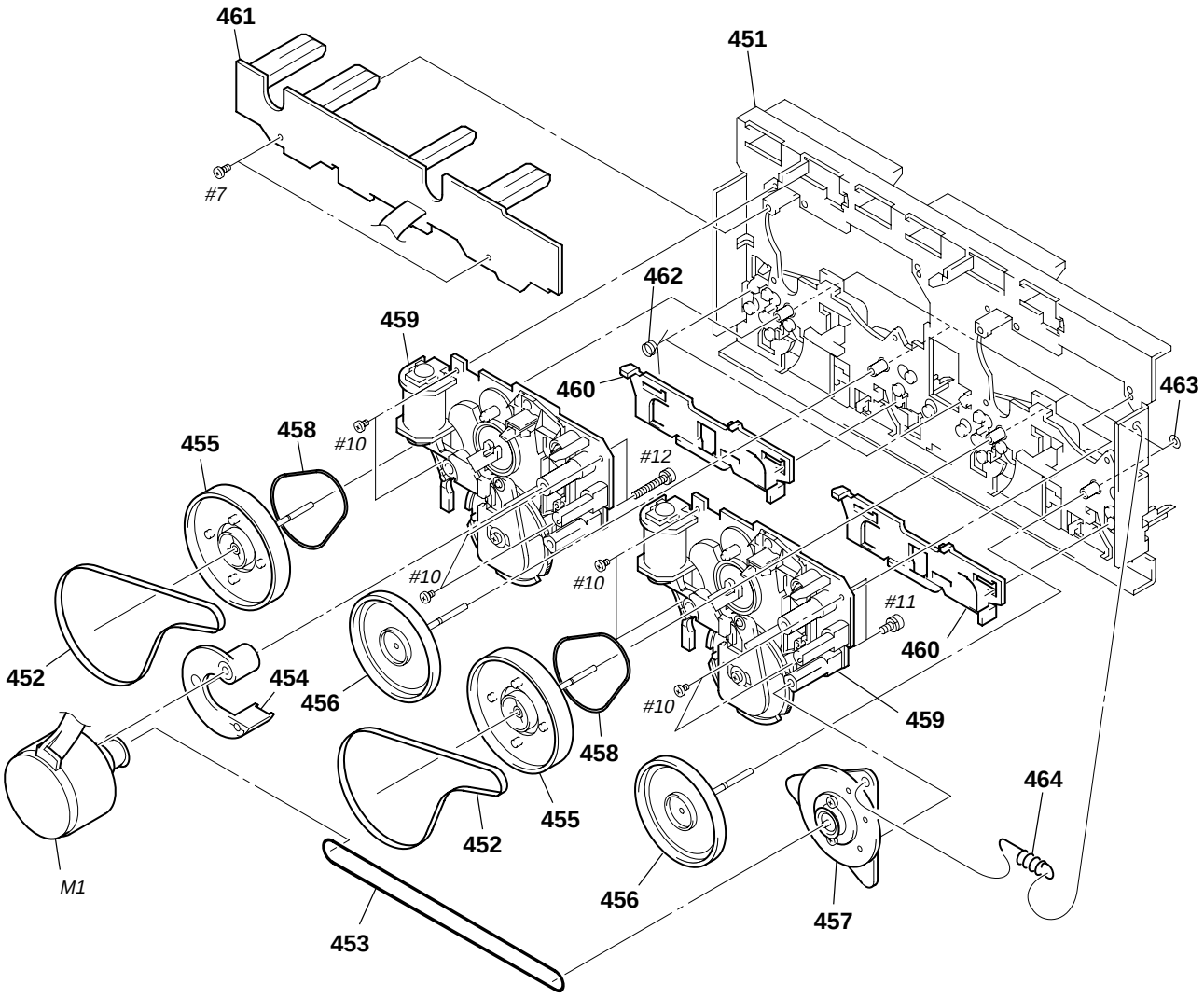
(7) TAPE MECHANISM DECK SECTION-1 (TCM-230AWR2)



Ref. No.	Part No.	Description	Remark
401	3-376-464-11	SCREW (+PTT 2.6X6), GROUND POINT	
402	3-911-116-21	RIVET, PUSH	
403	3-016-574-11	SPRING (HEAD), TENSION	
404	X-3374-156-4	PINCH LEVER (REV) ASSY	
405	X-3374-155-4	PINCH LEVER (FWD) ASSY	
406	3-016-564-01	BASE (PINCH LEVER FWD)	
407	3-016-565-01	BASE (PINCH LEVER REV)	
408	3-026-892-01	SPRING (CASSETTE), LEAF	

Ref. No.	Part No.	Description	Remark
* 409	A-2007-731-A	AUDIO BOARD, COMPLETE	
410	3-032-809-02	SPRING (L), TORSION	
411	3-016-572-01	LEVER (EJECT PREVENTION L)	
412	3-032-810-02	SPRING (R), TORSION	
413	3-016-573-01	LEVER (EJECT PREVENTION R)	
HP101	A-2056-681-A	DECK (A) ASSY, HEAD	
HRPE101	A-2056-682-A	DECK (B) ASSY, HEAD	

(8) TAPE MECHANISM DECK SECTION-2 (TCM-230AWR2)



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

AUDIO

SECTION 9
ELECTRICAL PARTS LIST

NOTE:

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- -XX and -X mean standardized parts, so they may have some difference from the original one.
- RESISTORS
  All resistors are in ohms.
  METAL: Metal-film resistor.
  METAL OXIDE: Metal oxide-film resistor.
  F: nonflammable
- Abbreviation
  AED : North European model.
  AR : Argentine model.
  AUS : Australian model.
  CND : Canadian model.
  E2 : 120 V AC Area in E model.
  E3 : 240 V AC Area in E model.
  EA3 : Saudi Arabia model.
  EA4 : Israel model.
  G : German model.
  KR : Korean model.
  MX : Mexican model.
  SP : Singapore model.
  TH : Thai model.
  TW : Taiwan model.
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- SEMICONDUCTORS
  In each case, u: µ, for example:
  uA. . : µA. . uPA. . : µPA. .
  uPB. . : µPB. . uPC. . : µPC. .
  uPD. . : µPD. .
- CAPACITORS
  uF: µF
- COILS
  uH: µH

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

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

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

Ref. No.	Part No.	Description			Remark
*	A-2007-731-A	AUDIO BOARD, COMPLETE			
		**********			
		< CAPACITOR >			
C301	1-162-289-31	CERAMIC	390PF	10%	50V
C302	1-126-968-11	ELECT	100uF	20%	6.3V
C303	1-162-282-31	CERAMIC	100PF	10%	50V
C304	1-130-483-00	MYLAR	0.01uF	5%	50V
C305	1-107-715-11	ELECT	22uF	20%	16V
C311	1-162-289-31	CERAMIC	390PF	10%	50V
C313	1-162-282-31	CERAMIC	100PF	10%	50V
C314	1-130-487-00	MYLAR	0.022uF	5%	50V
C315	1-126-233-11	ELECT	22uF	20%	50V
C331	1-137-427-11	FILM	120PF	5%	50V
C332	1-162-288-31	CERAMIC	330PF	10%	50V
C333	1-162-209-31	CERAMIC	27PF	5%	50V
C401	1-162-289-31	CERAMIC	390PF	10%	50V
C402	1-126-968-11	ELECT	100uF	20%	6.3V
C403	1-162-282-31	CERAMIC	100PF	10%	50V
C404	1-130-483-00	MYLAR	0.01uF	5%	50V
C405	1-107-715-11	ELECT	22uF	20%	16V
C411	1-162-289-31	CERAMIC	390PF	10%	50V
C413	1-162-282-31	CERAMIC	100PF	10%	50V
C414	1-130-487-00	MYLAR	0.022uF	5%	50V
C415	1-126-233-11	ELECT	22uF	20%	50V
C431	1-137-427-11	FILM	120PF	5%	50V
C432	1-162-288-31	CERAMIC	330PF	10%	50V
C433	1-162-209-31	CERAMIC	27PF	5%	50V
C601	1-104-396-11	ELECT	10uF	20%	16V
C602	1-104-396-11	ELECT	10uF	20%	16V
C611	1-104-396-11	ELECT	10uF	20%	16V
C612	1-104-396-11	ELECT	10uF	20%	16V
C621	1-137-150-11	FILM	0.01uF	5%	100V
C622	1-126-961-11	ELECT	2.2uF	20%	50V
C623	1-136-155-00	FILM	0.015uF	5%	50V
C624	1-130-481-00	MYLAR	0.0068uF	5%	50V
C625	1-130-481-00	MYLAR	0.0068uF	5%	50V
C627	1-124-903-11	ELECT	1uF	20%	50V
C628	1-136-153-00	FILM	0.01uF	5%	50V
C642	1-104-664-11	ELECT	47uF	20%	16V
		< CONNECTOR >			
CN601	1-568-834-11	SOCKET, CONNECTOR 15P			
CN601	1-695-338-11	PIN, CONNECTOR (PC BOARD) 15P			
		< IC >			
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		
L431	1-410-780-11	INDUCTOR	27mH		
L601	1-414-193-41	INDUCTOR	220uH		
L602	1-414-193-41	INDUCTOR	220uH		
		< TRANSISTOR >			
Q621	8-729-142-46	TRANSISTOR	2SC2001-LK		
Q622	8-729-142-46	TRANSISTOR	2SC2001-LK		
Q623	8-729-801-93	TRANSISTOR	2SD1387		
		< RESISTOR >			
R301	1-247-881-00	CARBON	120K	5%	1/4W
R302	1-249-409-11	CARBON	220	5%	1/4W
R303	1-249-433-11	CARBON	22K	5%	1/4W
R304	1-247-889-00	CARBON	270K	5%	1/4W
R305	1-247-858-11	CARBON	13K	5%	1/4W
R311	1-247-881-00	CARBON	120K	5%	1/4W
R312	1-247-807-31	CARBON	100	5%	1/4W
R314	1-247-882-11	CARBON	130K	5%	1/4W
R315	1-247-850-11	CARBON	6.2K	5%	1/4W
R331	1-249-430-11	CARBON	12K	5%	1/4W
R401	1-247-881-00	CARBON	120K	5%	1/4W
R402	1-249-409-11	CARBON	220	5%	1/4W
R403	1-249-433-11	CARBON	22K	5%	1/4W
R404	1-247-889-00	CARBON	270K	5%	1/4W
R405	1-247-858-11	CARBON	13K	5%	1/4W
R411	1-247-881-00	CARBON	120K	5%	1/4W

Ref. No.	Part No.	Description			Remark
R412	1-247-807-31	CARBON	100	5%	1/4W
R414	1-247-882-11	CARBON	130K	5%	1/4W
R415	1-247-850-11	CARBON	6.2K	5%	1/4W
R431	1-249-430-11	CARBON	12K	5%	1/4W
R601	1-249-409-11	CARBON	220	5%	1/4W
R602	1-249-409-11	CARBON	220	5%	1/4W
R608	1-249-409-11	CARBON	220	5%	1/4W
R609	1-249-433-11	CARBON	22K	5%	1/4W
R611	1-249-409-11	CARBON	220	5%	1/4W
R612	1-249-409-11	CARBON	220	5%	1/4W
⚠R621	1-212-851-00	FUSIBLE	5.6	5%	1/4W F
⚠R622	1-212-851-00	FUSIBLE	5.6	5%	1/4W F
R623	1-249-432-11	CARBON	18K	5%	1/4W
R624	1-249-432-11	CARBON	18K	5%	1/4W
R625	1-249-429-11	CARBON	10K	5%	1/4W
		< VARIABLE RESISTOR >			
RV301	1-238-598-11	RES, ADJ, CARBON 2.2K			
RV311	1-238-598-11	RES, ADJ, CARBON 2.2K			
RV341	1-241-768-11	RES, ADJ, CARBON 220K			
RV401	1-238-598-11	RES, ADJ, CARBON 2.2K			
RV411	1-238-598-11	RES, ADJ, CARBON 2.2K			
RV441	1-241-768-11	RES, ADJ, CARBON 220K			
		< TRANSFORMER >			
T621	1-423-980-11	TRANSFORMER, BIAS OSCILLATION			
**********					
*	A-4724-486-A	BD BOARD, COMPLETE **********			
		< CAPACITOR >			
C101	1-163-005-11	CERAMIC CHIP	470PF	10%	50V
C102	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C103	1-163-005-11	CERAMIC CHIP	470PF	10%	50V
C104	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C108	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C109	1-163-011-11	CERAMIC CHIP	0.0015uF	10%	50V
C110	1-164-182-11	CERAMIC CHIP	0.0033uF	10%	50V
C111	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C112	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C113	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C114	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C115	1-126-607-11	ELECT CHIP	47uF	20%	4V
C116	1-126-607-11	ELECT CHIP	47uF	20%	4V
C117	1-126-209-11	ELECT CHIP	100uF	20%	4V
C118	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C119	1-163-235-11	CERAMIC CHIP	22PF	5%	50V
C121	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C122	1-126-206-11	ELECT CHIP	100uF	20%	6.3V
C123	1-163-021-00	CERAMIC CHIP	0.01uF	10%	50V
C124	1-107-823-11	CERAMIC CHIP	0.47uF	10%	16V
C125	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C126	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C127	1-128-065-11	ELECT CHIP	68uF	20%	10V
C128	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C129	1-163-031-11	CERAMIC CHIP	0.01uF		50V

Ref. No.	Part No.	Description			Remark
C130	1-164-346-11	CERAMIC CHIP	1uF		16V
C131	1-124-779-00	ELECT CHIP	10uF	20%	16V
C133	1-164-346-11	CERAMIC CHIP	1uF		16V
C140	1-164-346-11	CERAMIC CHIP	1uF		16V
C141	1-164-346-11	CERAMIC CHIP	1uF		16V
C143	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C151	1-163-235-11	CERAMIC CHIP	22PF	5%	50V
C153	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C154	1-110-501-11	CERAMIC CHIP	0.33uF	10%	16V
C156	1-163-235-11	CERAMIC CHIP	22PF	5%	50V
C157	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C159	1-163-019-00	CERAMIC CHIP	0.0068uF	10%	50V
C161	1-126-206-11	ELECT CHIP	100uF	20%	6.3V
C162	1-126-205-11	ELECT CHIP	47uF	20%	6.3V
C163	1-126-206-11	ELECT CHIP	100uF	20%	6.3V
C165	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C167	1-163-235-11	CERAMIC CHIP	22PF	5%	50V
C168	1-163-235-11	CERAMIC CHIP	22PF	5%	50V
C171	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C172	1-163-123-00	CERAMIC CHIP	180PF	5%	50V
C181	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C182	1-163-123-00	CERAMIC CHIP	180PF	5%	50V
		< CONNECTOR >			
CN101	1-778-874-11	CONNECTOR, FFC (LIF (NON-ZIF)) 19P			
CN102	1-777-937-11	CONNECTOR, FFC/FPC 16P			
		< FERRITE BEAD>			
FB101	1-500-445-21	FERRITE	0uH		
FB103	1-500-445-21	FERRITE	0uH		
		< IC >			
IC101	8-752-386-85	IC CXD2587Q			
IC102	8-759-549-28	IC BA5974FP-E2			
IC103	8-752-085-51	IC CXA2568M-T6			
		< TRANSISTOR >			
Q101	8-729-010-08	TRANSISTOR MSB710-R			
		< RESISTOR >			
R101	1-216-077-00	METAL CHIP	15K	5%	1/10W
R102	1-216-097-00	RES,CHIP	100K	5%	1/10W
R103	1-216-077-00	METAL CHIP	15K	5%	1/10W
R104	1-216-085-00	METAL CHIP	33K	5%	1/10W
R105	1-216-073-00	METAL CHIP	10K	5%	1/10W
R106	1-216-049-11	RES,CHIP	1K	5%	1/10W
R107	1-216-073-00	METAL CHIP	10K	5%	1/10W
R108	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R109	1-216-121-00	RES,CHIP	1M	5%	1/10W
R110	1-216-025-00	RES,CHIP	100	5%	1/10W
R111	1-216-121-00	RES,CHIP	1M	5%	1/10W
R113	1-216-121-00	RES,CHIP	1M	5%	1/10W
R114	1-216-073-00	METAL CHIP	10K	5%	1/10W
R116	1-216-001-00	METAL CHIP	10	5%	1/10W
R117	1-216-049-11	RES,CHIP	1K	5%	1/10W
R119	1-216-041-00	METAL CHIP	470	5%	1/10W

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

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

BD **CD SW** **CONNECTOR** **LEAF SW**

Ref. No.	Part No.	Description			Remark
R123	1-216-073-00	METAL CHIP	10K	5%	1/10W
R124	1-216-097-00	RES,CHIP	100K	5%	1/10W
R131	1-216-033-00	METAL CHIP	220	5%	1/10W
R143	1-216-103-00	METAL CHIP	180K	5%	1/10W
R144	1-216-103-00	METAL CHIP	180K	5%	1/10W
R147	1-216-069-00	METAL CHIP	6.8K	5%	1/10W
R148	1-216-001-00	METAL CHIP	10	5%	1/10W
R149	1-216-001-00	METAL CHIP	10	5%	1/10W
R158	1-216-111-00	METAL CHIP	390K	5%	1/10W
R159	1-216-101-00	METAL CHIP	150K	5%	1/10W
R161	1-216-308-00	METAL CHIP	4.7	5%	1/10W
R162	1-216-101-00	METAL CHIP	150K	5%	1/10W
R171	1-216-078-00	RES,CHIP	16K	5%	1/10W
R172	1-216-073-00	METAL CHIP	10K	5%	1/10W
R173	1-216-077-00	METAL CHIP	15K	5%	1/10W
R181	1-216-078-00	RES,CHIP	16K	5%	1/10W
R182	1-216-073-00	METAL CHIP	10K	5%	1/10W
R183	1-216-077-00	METAL CHIP	15K	5%	1/10W
		< NETWORK RESISTER >			
RN101	1-233-576-11	RES, CHIP NETWORK 100			
RN102	1-233-576-11	RES, CHIP NETWORK 100			
		< SWITCH >			
S101	1-572-085-11	SWITCH, LEAF (LIMIT)			
		< VIBRATOR >			
X101	1-767-408-21	VIBRATOR, CRYSTAL (16.9344MHz)			
**********					
*	A-4417-727-A	CD SW BOARD, COMPLETE			
		**********			
		< LED >			
D751	8-719-056-13	LED SML79423C-TP15 (DISC 1)			
D752	8-719-056-13	LED SML79423C-TP15 (DISC 2)			
D753	8-719-056-13	LED SML79423C-TP15 (DISC 3)			
D754	8-719-063-93	LED SLR325VC-N-T32 (**I**/⏻)			
		< RESISTOR >			
R751	1-249-417-11	CARBON	1K	5%	1/4W
R752	1-249-418-11	CARBON	1.2K	5%	1/4W
R753	1-249-420-11	CARBON	1.8K	5%	1/4W
R754	1-249-422-11	CARBON	2.7K	5%	1/4W
R755	1-247-843-11	CARBON	3.3K	5%	1/4W
R756	1-249-425-11	CARBON	4.7K	5%	1/4W
R757	1-249-427-11	CARBON	6.8K	5%	1/4W
R758	1-247-804-11	CARBON	75	5%	1/4W
R759	1-249-407-11	CARBON	150	5%	1/4W
R760	1-247-804-11	CARBON	75	5%	1/4W
R761	1-249-407-11	CARBON	150	5%	1/4W
R762	1-247-804-11	CARBON	75	5%	1/4W
R763	1-249-407-11	CARBON	150	5%	1/4W
R764	1-249-414-11	CARBON	560	5%	1/4W
		< SWITCH >			
S751	1-762-875-21	SWITCH, KEYBOARD (**I**/⏻)			
S752	1-762-875-21	SWITCH, KEYBOARD ((STANDBY) POWER SAVE DEMO)			
S753	1-762-875-21	SWITCH, KEYBOARD (DISC 1)			
S754	1-762-875-21	SWITCH, KEYBOARD (DISC 2)			
S755	1-762-875-21	SWITCH, KEYBOARD (DISC 3)			
S756	1-762-875-21	SWITCH, KEYBOARD (DISC SKIP EX-CHANGE)			
S757	1-762-875-21	SWITCH, KEYBOARD (⏏)			
**********					
*	1-658-575-11	CONNECTOR BOARD			
		**********			
		< CONNECTOR >			
CN701	1-568-946-11	PIN, CONNECTOR 8P			
CN702	1-750-413-11	CONNECTOR, FFC/FPC 8P			
		< TRANSISTOR >			
Q701	8-729-900-80	TRANSISTOR DTC114ES			
		< RESISTOR >			
R703	1-249-435-11	CARBON	33K	5%	1/4W
R704	1-249-429-11	CARBON	10K	5%	1/4W
R705	1-249-417-11	CARBON	1K	5%	1/4W
**********					
*	A-2007-732-A	LEAF SW BOARD, COMPLETE			
		**********			
		< CAPACITOR >			
C1001	1-107-716-11	ELECT	33uF	20%	10V
		< CONNECTOR >			
CN1001	1-784-459-11	CONNECTOR, FFC/FPC 17P			
		< DIODE >			
D1001	8-719-911-19	DIODE 1SS119			
D1002	8-719-911-19	DIODE 1SS119			
		< CONNECTOR >			
* DM1001	1-784-581-11	HOLDER, CABLE (2.5MM PITCH) 4P			
		< PHOTO INTERRUPTER >			
IC1001	8-749-014-38	PHOTO INTERRUPTER SG-264			
IC1002	8-749-014-38	PHOTO INTERRUPTER SG-264			
		< TRANSISTOR >			
Q1001	8-729-029-56	TRANSISTOR DTA144ESA			
		< RESISTOR >			
R907	1-247-879-11	CARBON	100K	5%	1/4W
R1001	1-249-409-11	CARBON	220	5%	1/4W
R1002	1-249-409-11	CARBON	220	5%	1/4W
R1003	1-249-414-11	CARBON	560	5%	1/4W
R1004	1-247-834-11	CARBON	1.3K	5%	1/4W
R1005	1-247-818-11	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

Ref. No.	Part No.	Description			Remark
R1008	1-249-417-11	CARBON	1K	5%	1/4W
		< VARIABLE RESISTOR >			
RV1001	1-241-785-11	RES, ADJ, CARBON 10K			
RV1002	1-241-785-11	RES, ADJ, CARBON 10K			
		< SWITCH >			
S1001	1-570-953-11	SWITCH, PUSH (1 KEY) (DECK A PLAY)			
S1002	1-570-953-11	SWITCH, PUSH (1 KEY) (DECK B PLAY)			
S1003	1-771-333-11	SWITCH, LEAF (DECK A HALF)			
S1004	1-771-205-11	SWITCH, LEAF (DECK A 120/70)			
S1005	1-771-205-11	SWITCH, LEAF (DECK A REC)			
S1006	1-771-333-11	SWITCH, LEAF (DECK B HALF)			
S1008	1-771-205-11	SWITCH, LEAF (DECK B 120/70)			
S1009	1-771-205-11	SWITCH, LEAF (DECK B REC)			
**********					
*	A-4417-714-A	MAIN BOARD, COMPLETE (GRX50: E2, MX, AR)			
*	A-4417-718-A	MAIN BOARD, COMPLETE (RXD7: CND)			
*	A-4417-732-A	MAIN BOARD, COMPLETE (GRX50: E3, SP, TW)			
*	A-4417-868-A	MAIN BOARD, COMPLETE (R770/RXD7: AEP)			
*	A-4419-729-A	MAIN BOARD, COMPLETE (GRX50: EA3)			
*	A-4419-821-A	MAIN BOARD, COMPLETE (GRX50: EA4, TH, KR, AUS)			
		**********			
	7-685-646-79	SCREW +BVTP 3X8 TYPE2 N-S			
		< CAPACITOR >			
C101	1-162-286-21	CERAMIC	220PF	10% 50V (R770/RXD7: AEP)	
C102	1-162-286-21	CERAMIC	220PF	10% 50V (R770/RXD7: AEP)	
C103	1-162-286-21	CERAMIC	220PF	10% 50V (R770/RXD7: AEP)	
C104	1-164-159-11	CERAMIC	0.1uF	50V	
C111	1-137-195-11	FILM	0.56uF	5% 50V	
C112	1-136-158-00	FILM	0.027uF	5% 50V	
C115	1-136-159-00	FILM	0.033uF	5% 50V	
C116	1-130-473-00	MYLAR	0.0015uF	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	1-162-291-31	CERAMIC	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	
C131	1-104-664-11	ELECT	47uF	20% 16V	
C132	1-104-664-11	ELECT	47uF	20% 16V	
C135	1-126-964-11	ELECT	10uF	20% 50V	
C141	1-126-959-11	ELECT	0.47uF	20% 50V	
C151	1-162-286-21	CERAMIC	220PF	10% 50V (R770/RXD7: AEP)	
C152	1-162-286-21	CERAMIC	220PF	10% 50V (R770/RXD7: AEP)	
C153	1-162-286-21	CERAMIC	220PF	10% 50V (R770/RXD7: AEP)	
C161	1-137-195-11	FILM	0.56uF	5% 50V	

Ref. No.	Part No.	Description			Remark
C162	1-136-158-00	FILM	0.027uF	5%	50V
C165	1-136-159-00	FILM	0.033uF	5%	50V
C166	1-130-473-00	MYLAR	0.0015uF	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	1-162-291-31	CERAMIC	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
C176	1-136-495-11	FILM	0.068uF	5%	50V
C177	1-136-153-00	FILM	0.01uF	5%	50V
C193	1-126-964-11	ELECT	10uF	20%	50V (GRX50/RXD7: CND)
C197	1-164-159-11	CERAMIC	0.1uF		50V
C301	1-126-960-11	ELECT	1uF	20%	50V
C302	1-130-479-00	MYLAR	0.0047uF	5%	50V
C303	1-136-165-00	FILM	0.1uF	5%	50V
C304	1-136-165-00	FILM	0.1uF	5%	50V
C305	1-126-964-11	ELECT	10uF	20%	50V
C306	1-126-960-11	ELECT	1uF	20%	50V
C307	1-126-959-11	ELECT	0.47uF	20%	50V
C308	1-126-964-11	ELECT	10uF	20%	50V
C309	1-137-194-81	FILM	0.47uF	5%	50V
C310	1-162-290-31	CERAMIC	470PF	10%	50V
C311	1-126-964-11	ELECT	10uF	20%	50V
C312	1-126-959-11	ELECT	0.47uF	20%	50V
C313	1-162-294-31	CERAMIC	0.001uF	10%	50V
C314	1-126-964-11	ELECT	10uF	20%	50V
C315	1-126-963-11	ELECT	4.7uF	20%	50V
C316	1-104-665-11	ELECT	100uF	20%	10V
C317	1-104-665-11	ELECT	100uF	20%	10V
C320	1-162-290-31	CERAMIC	470PF	10%	50V
C333	1-162-600-11	CERAMIC	0.0047uF	30%	16V
C334	1-162-600-11	CERAMIC	0.0047uF	30%	16V
C351	1-126-960-11	ELECT	1uF	20%	50V
C352	1-130-479-00	MYLAR	0.0047uF	5%	50V
C353	1-136-165-00	FILM	0.1uF	5%	50V
C354	1-136-165-00	FILM	0.1uF	5%	50V
C355	1-126-964-11	ELECT	10uF	20%	50V
C356	1-126-960-11	ELECT	1uF	20%	50V
C357	1-126-959-11	ELECT	0.47uF	20%	50V
C358	1-126-964-11	ELECT	10uF	20%	50V
C359	1-137-194-81	FILM	0.47uF	5%	50V
C382	1-104-665-11	ELECT	100uF	20%	10V
C390	1-126-935-11	ELECT	470uF	20%	6.3V
C391	1-161-494-00	CERAMIC	0.022uF		25V
C392	1-126-916-11	ELECT	1000uF	20%	6.3V
C393	1-161-494-00	CERAMIC	0.022uF		25V
C394	1-126-925-11	ELECT	470uF	20%	10V
C396	1-126-961-11	ELECT	2.2uF	20%	50V
C397	1-126-961-11	ELECT	2.2uF	20%	50V
C401	1-136-165-00	FILM	0.1uF	5%	50V (R770/RXD7: AEP)
C402	1-136-165-00	FILM	0.1uF	5%	50V (R770/RXD7: AEP)
C403	1-162-306-11	CERAMIC	0.01uF	20%	16V (R770/RXD7: AEP)

MAIN

Ref. No.	Part No.	Description				Remark
C410	1-126-963-11	ELECT	4.7uF	20%	50V	(EXCEPT RXD7: CND)
C411	1-162-306-11	CERAMIC	0.01uF	20%	16V	(EXCEPT RXD7: CND)
C412	1-107-717-11	ELECT	47uF	20%	50V	
C432	1-104-665-11	ELECT	100uF	20%	10V	
C433	1-126-961-11	ELECT	2.2uF	20%	50V	
C437	1-126-968-11	ELECT	100uF	20%	50V	
C451	1-136-165-00	FILM	0.1uF	5%	50V	(R770/RXD7: AEP)
C452	1-136-165-00	FILM	0.1uF	5%	50V	(R770/RXD7: AEP)
C453	1-162-306-11	CERAMIC	0.01uF	20%	16V	(R770/RXD7: AEP)
C501	1-126-964-11	ELECT	10uF	20%	50V	
C502	1-164-159-11	CERAMIC	0.1uF		50V	
C503	1-136-165-00	FILM	0.1uF	5%	50V	
C504	1-126-926-11	ELECT	1000uF	20%	10V	
C508	1-109-889-11	ELECT	1uF	20%	50V	
C610	1-102-953-00	CERAMIC	18PF	5%	50V	
C611	1-102-514-11	CERAMIC	22PF	5%	50V	
C614	1-162-306-11	CERAMIC	0.01uF	20%	16V	
C616	1-104-665-11	ELECT	100uF	20%	10V	
C662	1-162-306-11	CERAMIC	0.01uF	20%	16V	
C664	1-104-665-11	ELECT	100uF	20%	10V	
C698	1-162-306-11	CERAMIC	0.01uF	20%	16V	
C699	1-104-665-11	ELECT	100uF	20%	10V	
C801	1-126-963-11	ELECT	4.7uF	20%	50V	(EXCEPT RXD7: CND)
C801	1-128-581-11	ELECT	4.7uF	20%	100V	(RXD7: CND)
C802	1-162-290-31	CERAMIC	470PF	10%	50V	
C803	1-162-282-31	CERAMIC	100PF	10%	50V	
C804	1-104-665-11	ELECT	100uF	20%	10V	
C807	1-136-495-11	FILM	0.068uF	5%	50V	
C808	1-136-495-11	FILM	0.068uF	5%	50V	
C809	1-128-560-11	ELECT	22uF	20%	100V	
C810	1-128-578-11	ELECT	1uF	20%	100V	
C811	1-162-306-11	CERAMIC	0.01uF	20%	16V	
C812	1-162-306-11	CERAMIC	0.01uF	20%	16V	
C841	1-127-811-11	ELECT	3300uF	20%	50V	(GRX50)
C842	1-127-751-11	ELECT	3300uF	20%	50V	(RXD7: CND)
C842	1-127-752-11	ELECT	3300uF	20%	63V	(R770/RXD7: AEP)
C842	1-127-814-11	ELECT	3300uF	20%	80V	(GRX50)
C843	1-136-165-00	FILM	0.1uF	5%	50V	(GRX50)
C844	1-130-777-00	FILM	0.1uF	10%	100V	(EXCEPT RXD7: CND)
C844	1-136-165-00	FILM	0.1uF	5%	50V	(RXD7: CND)
C851	1-126-963-11	ELECT	4.7uF	20%	50V	(EXCEPT RXD7: CND)
C851	1-128-581-11	ELECT	4.7uF	20%	100V	(RXD7: CND)
C852	1-162-290-31	CERAMIC	470PF	10%	50V	
C853	1-162-282-31	CERAMIC	100PF	10%	50V	
C854	1-104-665-11	ELECT	100uF	20%	10V	
C857	1-136-495-11	FILM	0.068uF	5%	50V	
C858	1-136-495-11	FILM	0.068uF	5%	50V	
C859	1-128-560-11	ELECT	22uF	20%	100V	
C881	1-126-967-11	ELECT	47uF	20%	50V	
C891	1-127-811-11	ELECT	3300uF	20%	50V	(GRX50)
C892	1-127-751-11	ELECT	3300uF	20%	50V	(RXD7: CND)
C892	1-127-752-11	ELECT	3300uF	20%	63V	(R770/RXD7: AEP)
C892	1-127-814-11	ELECT	3300uF	20%	80V	(GRX50)
C893	1-136-165-00	FILM	0.1uF	5%	50V	(GRX50)
C894	1-130-777-00	FILM	0.1uF	10%	100V	(EXCEPT RXD7: CND)
C894	1-136-165-00	FILM	0.1uF	5%	50V	(RXD7: CND)
C901	1-136-165-00	FILM	0.1uF	5%	50V	
C902	1-126-936-11	ELECT	3300uF	20%	16V	
C903	1-126-933-11	ELECT	100uF	20%	16V	
C904	1-104-664-11	ELECT	47uF	20%	16V	
C905	1-104-665-11	ELECT	100uF	20%	10V	
C906	1-136-165-00	FILM	0.1uF	5%	50V	
C907	1-128-548-11	ELECT	4700uF	20%	25V	
C909	1-126-964-11	ELECT	10uF	20%	50V	
C910	1-104-665-11	ELECT	100uF	20%	10V	
C911	1-126-964-11	ELECT	10uF	20%	50V	
C912	1-126-926-11	ELECT	1000uF	20%	10V	
C913	1-126-964-11	ELECT	10uF	20%	50V	
C914	1-126-767-11	ELECT	1000uF	20%	16V	
C915	1-104-664-11	ELECT	47uF	20%	16V	
C916	1-162-306-11	CERAMIC	0.01uF	20%	16V	
C917	1-126-933-11	ELECT	100uF	20%	16V	
C951	1-136-165-00	FILM	0.1uF	5%	50V	
C952	1-126-768-11	ELECT	2200uF	20%	16V	
C953	1-126-933-11	ELECT	100uF	20%	16V	
C955	1-104-665-11	ELECT	100uF	20%	10V	
C956	1-136-165-00	FILM	0.1uF	5%	50V	

< CONNECTOR >

CN303	1-784-776-11	CONNECTOR, FFC 15P	
CN304	1-784-778-11	CONNECTOR, FFC 17P	
CN371	1-784-774-11	CONNECTOR, FFC 13P (GRX50: E2, EA4, TH, MX, AR, KR, AUS/RXD7: CND)	
CN371	1-784-776-11	CONNECTOR, FFC 15P (GRX50: E3, EA3, SP, TW/R770/RXD7: AEP)	
CN391	1-784-741-11	CONNECTOR, FFC 19P	
CN392	1-785-334-11	PIN, CONNECTOR (LIGHT ANGLE) 8P	
CN393	1-785-335-11	PIN, CONNECTOR (LIGHT ANGLE) 9P	
* CN403	1-564-518-11	PLUG, CONNECTOR 3P (EXCEPT RXD7: CND)	
CN501	1-784-784-11	CONNECTOR, FFC 23P	

< DIODE >

D141	8-719-911-19	DIODE	1SS119
D191	8-719-911-19	DIODE	1SS119 (GRX50/RXD7: CND)
D331	8-719-911-19	DIODE	1SS119

Ref. No.	Part No.	Description	Remark
D333	8-719-911-19	DIODE 1SS119	
D334	8-719-911-19	DIODE 1SS119	
D335	8-719-911-19	DIODE 1SS119	
D401	8-719-911-19	DIODE 1SS119	
D403	8-719-911-19	DIODE 1SS119 (EXCEPT RXD7: CND)	
D405	8-719-024-99	DIODE 11ES2-NTA2B (EXCEPT RXD7: CND)	
D406	8-719-024-99	DIODE 11ES2-NTA2B (EXCEPT RXD7: CND)	
D407	8-719-024-99	DIODE 11ES2-NTA2B (EXCEPT RXD7: CND)	
D411	8-719-911-19	DIODE 1SS119	
D501	8-719-911-19	DIODE 1SS119	
D502	8-719-911-19	DIODE 1SS119	
D503	8-719-911-19	DIODE 1SS119	
D504	8-719-911-19	DIODE 1SS119	
D505	8-719-911-19	DIODE 1SS119	
D506	8-719-911-19	DIODE 1SS119	
D509	8-719-911-19	DIODE 1SS119	
D607	8-719-911-19	DIODE 1SS119	
D644	8-719-911-19	DIODE 1SS119	
D801	8-719-911-19	DIODE 1SS119	
D802	8-719-118-97	DIODE RD16F-T7B2 (GRX50)	
D803	8-719-911-19	DIODE 1SS119	
D831	8-719-302-38	DIODE RBV-602-01	
D832	8-719-302-37	DIODE RBV-602 (GRX50)	
D851	8-719-911-19	DIODE 1SS119	
D852	8-719-118-97	DIODE RD16F-T7B2 (GRX50)	
D881	8-719-911-19	DIODE 1SS119	
D901	8-719-024-99	DIODE 11ES2-NTA2B	
D902	8-719-024-99	DIODE 11ES2-NTA2B	
D903	8-719-024-99	DIODE 11ES2-NTA2B	
D904	8-719-024-99	DIODE 11ES2-NTA2B	
D905	8-719-933-36	DIODE HZS6B1L	
D906	8-719-911-19	DIODE 1SS119	
D907	8-719-024-99	DIODE 11ES2-NTA2B	
D908	8-719-024-99	DIODE 11ES2-NTA2B	
D909	8-719-024-99	DIODE 11ES2-NTA2B	
D910	8-719-024-99	DIODE 11ES2-NTA2B	
D915	8-719-935-69	DIODE HZS11B1LTA	
D921	8-719-911-19	DIODE 1SS119 (GRX50)	
D922	8-719-911-19	DIODE 1SS119 (GRX50)	
D923	8-719-911-19	DIODE 1SS119 (GRX50)	
D924	8-719-024-99	DIODE 11ES2-NTA2B (GRX50)	
D925	8-719-024-99	DIODE 11ES2-NTA2B (GRX50)	
		< FERRITE BEAD >	
FB301	1-412-473-21	INDUCTOR 0uH	
FB302	1-412-473-21	INDUCTOR 0uH	
		< IC >	
IC101	8-759-571-55	IC M62493FP-A	
IC301	8-759-495-26	IC HA12215	
IC381	8-749-923-04	IC TOTX178 (CD DIGITAL OUT OPTICAL)	
IC501	8-759-571-18	IC M30622MA-A01FP	
IC502	8-759-635-63	IC M51943BSL	
IC801	8-749-015-37	IC STK411-240E (GRX50)	
IC801	8-749-015-43	IC STK407-050E (RXD7: CND)	
IC801	8-749-015-45	IC STK407-090E (R770/RXD7: AEP)	
IC901	8-759-604-86	IC M5F7807L	
IC902	8-759-231-53	IC TA7805S	
IC903	8-759-701-79	IC NJM7812FA	
		< JACK >	
J101	1-774-411-11	JACK, PIN 6P (VIDEO (AUDIO) IN, MD IN/OUT)	
J191	1-774-785-11	JACK, PIN 1P (SUPER WOOFER)	(GRX50/RXD7: CND)
		< COIL >	
L381	1-410-521-11	INDUCTOR 100uH	
L392	1-410-521-11	INDUCTOR 100uH	
L401	1-420-872-00	COIL, AIR-CORE (R770/RXD7: AEP)	
L451	1-420-872-00	COIL, AIR-CORE (R770/RXD7: AEP)	
L501	1-410-509-11	INDUCTOR 10uH	
		< TRANSISTOR >	
Q111	8-729-119-78	TRANSISTOR 2SC403SP-51	
Q112	8-729-119-78	TRANSISTOR 2SC403SP-51	
Q113	8-729-141-30	TRANSISTOR 2SC3623A-LK	
Q161	8-729-119-78	TRANSISTOR 2SC403SP-51	
Q162	8-729-119-78	TRANSISTOR 2SC403SP-51	
Q163	8-729-141-30	TRANSISTOR 2SC3623ALK	
Q191	8-729-141-30	TRANSISTOR 2SC3623A-LK	(GRX50/RXD7: CND)
Q192	8-729-900-63	TRANSISTOR DTA124ES	(GRX50/RXD7: CND)
Q201	8-729-900-36	TRANSISTOR DTC124ES	
Q251	8-729-900-36	TRANSISTOR DTC124ES	
Q331	8-729-118-00	TRANSISTOR 2SB1116-L	
Q332	8-729-900-80	TRANSISTOR DTC114ES	
Q333	8-729-118-00	TRANSISTOR 2SB1116-L	
Q334	8-729-900-80	TRANSISTOR DTC114ES	
Q335	8-729-900-80	TRANSISTOR DTC114ES	
Q336	8-729-116-59	TRANSISTOR 2SB1068TP	
Q337	8-729-045-21	TRANSISTOR 2SD1513TP-LK	
Q338	8-729-422-57	TRANSISTOR UN4111	
Q339	8-729-900-80	TRANSISTOR DTC114ES	
Q340	8-729-116-59	TRANSISTOR 2SB1068TP	
Q341	8-729-045-21	TRANSISTOR 2SD1513TP-LK	
Q342	8-729-422-57	TRANSISTOR UN4111	
Q343	8-729-900-80	TRANSISTOR DTC114ES	
Q401	8-729-119-77	TRANSISTOR 2SA1175-FEK	(EXCEPT RXD7: CND)
Q402	8-729-111-29	TRANSISTOR 2SD1616A-K	(EXCEPT RXD7: CND)
Q411	8-729-141-30	TRANSISTOR 2SC3623A-LK	
Q412	8-729-900-63	TRANSISTOR DTA124ES	
Q431	8-729-140-84	TRANSISTOR 2SC1841-PAFAEA	
Q432	8-729-140-82	TRANSISTOR 2SA988-PAFAEA	
Q433	8-729-140-84	TRANSISTOR 2SC1841-PAFAEA	
Q434	8-729-140-84	TRANSISTOR 2SC1841-PAFAEA	
Q435	8-729-900-36	TRANSISTOR DTC124ES	
Q436	8-729-119-77	TRANSISTOR 2SA1175-FEK	
Q437	8-729-119-79	TRANSISTOR 2SC2785-FEK	
Q439	8-729-119-79	TRANSISTOR 2SC2785-FEK	
Q471	8-729-141-30	TRANSISTOR 2SC3623A-LK	
Q501	8-729-119-78	TRANSISTOR 2SC403SP-51	
Q508	8-729-900-63	TRANSISTOR DTA124ES	
Q509	8-729-900-63	TRANSISTOR DTA124ES	

MAIN

Ref. No.	Part No.	Description		Remark
Q801	8-729-140-84	TRANSISTOR	2SC1841-PAFAEA	
Q803	8-729-140-82	TRANSISTOR	2SA988-PAFAEA	
Q804	8-729-140-84	TRANSISTOR	2SC1841-PAFAEA	
Q831	8-729-140-84	TRANSISTOR	2SC1841-PAFAEA	(EXCEPT RXD7: CND)
Q832	8-729-119-79	TRANSISTOR	2SC2785-FEK	(EXCEPT RXD7: CND)
Q851	8-729-140-84	TRANSISTOR	2SC1841-PAFAEA	
Q881	8-729-140-84	TRANSISTOR	2SC1841-PAFAEA	
Q901	8-729-209-15	TRANSISTOR	2SD2012	
Q902	8-729-119-78	TRANSISTOR	2SC403SP-51	
Q903	8-729-900-36	TRANSISTOR	DTC124ES	
Q904	8-729-900-36	TRANSISTOR	DTC124ES	
Q905	8-729-040-20	TRANSISTOR	RT1P137L-TP	
Q907	8-729-040-20	TRANSISTOR	RT1P137L-TP	
Q908	8-729-900-36	TRANSISTOR	DTC124ES	
Q909	8-729-026-68	TRANSISTOR	2SD2525 (TP)	
Q913	8-729-119-78	TRANSISTOR	2SC403SP-51	
Q914	8-729-119-77	TRANSISTOR	2SA1175-FEK	
Q923	8-729-900-36	TRANSISTOR	DTC124ES	
Q951	8-729-141-83	TRANSISTOR	2SB1094-LK	
Q952	8-729-119-77	TRANSISTOR	2SA1175-FEK	

< RESISTOR >

Ref. No.	Part No.	Description			
R101	1-249-417-11	CARBON	1K	5%	1/4W
R102	1-249-417-11	CARBON	1K	5%	1/4W
R103	1-249-417-11	CARBON	1K	5%	1/4W
R111	1-249-429-11	CARBON	10K	5%	1/4W
R112	1-247-895-00	CARBON	470K	5%	1/4W
R113	1-247-894-11	CARBON	430K	5%	1/4W
R114	1-249-415-11	CARBON	680	5%	1/4W
R115	1-249-433-11	CARBON	22K	5%	1/4W
R116	1-247-887-00	CARBON	220K	5%	1/4W
R117	1-249-429-11	CARBON	10K	5%	1/4W
R118	1-249-437-11	CARBON	47K	5%	1/4W
R119	1-249-421-11	CARBON	2.2K	5%	1/4W
R120	1-249-441-11	CARBON	100K	5%	1/4W
R121	1-249-429-11	CARBON	10K	5%	1/4W
R124	1-249-421-11	CARBON	2.2K	5%	1/4W
R125	1-247-843-11	CARBON	3.3K	5%	1/4W
R126	1-249-421-11	CARBON	2.2K	5%	1/4W
R131	1-247-807-31	CARBON	100	5%	1/4W
R132	1-247-807-31	CARBON	100	5%	1/4W
R133	1-247-807-31	CARBON	100	5%	1/4W
R141	1-249-433-11	CARBON	22K	5%	1/4W
R142	1-249-433-11	CARBON	22K	5%	1/4W
R143	1-249-417-11	CARBON	1K	5%	1/4W
R144	1-249-441-11	CARBON	100K	5%	1/4W
R145	1-247-903-00	CARBON	1M	5%	1/4W
R151	1-249-417-11	CARBON	1K	5%	1/4W
R152	1-249-417-11	CARBON	1K	5%	1/4W
R153	1-249-417-11	CARBON	1K	5%	1/4W
R161	1-249-429-11	CARBON	10K	5%	1/4W
R162	1-247-895-00	CARBON	470K	5%	1/4W
R163	1-247-894-11	CARBON	430K	5%	1/4W
R164	1-249-415-11	CARBON	680	5%	1/4W
R165	1-249-433-11	CARBON	22K	5%	1/4W
R166	1-247-887-00	CARBON	220K	5%	1/4W
R167	1-249-429-11	CARBON	10K	5%	1/4W
R168	1-249-437-11	CARBON	47K	5%	1/4W
R169	1-249-421-11	CARBON	2.2K	5%	1/4W
R170	1-249-441-11	CARBON	100K	5%	1/4W
R171	1-249-429-11	CARBON	10K	5%	1/4W
R178	1-249-421-11	CARBON	2.2K	5%	1/4W
R190	1-249-441-11	CARBON	100K	5%	1/4W (GRX50/RXD7: CND)
R196	1-249-417-11	CARBON	1K	5%	1/4W (GRX50/RXD7: CND)
R197	1-249-441-11	CARBON	100K	5%	1/4W (GRX50/RXD7: CND)
R198	1-249-417-11	CARBON	1K	5%	1/4W (GRX50/RXD7: CND)
R199	1-249-429-11	CARBON	10K	5%	1/4W (GRX50/RXD7: CND)
R201	1-247-888-11	CARBON	240K	5%	1/4W
R202	1-247-903-00	CARBON	1M	5%	1/4W
R251	1-247-888-11	CARBON	240K	5%	1/4W
R252	1-247-903-00	CARBON	1M	5%	1/4W
R301	1-249-435-11	CARBON	33K	5%	1/4W
R302	1-249-421-11	CARBON	2.2K	5%	1/4W
R303	1-247-807-31	CARBON	100	5%	1/4W
R304	1-247-807-31	CARBON	100	5%	1/4W
R305	1-249-421-11	CARBON	2.2K	5%	1/4W
R306	1-249-428-11	CARBON	8.2K	5%	1/4W
R307	1-249-428-11	CARBON	8.2K	5%	1/4W
R308	1-249-425-11	CARBON	4.7K	5%	1/4W
R309	1-249-433-11	CARBON	22K	5%	1/4W
R311	1-247-903-00	CARBON	1M	5%	1/4W
R312	1-247-884-11	CARBON	160K	5%	1/4W
R313	1-249-441-11	CARBON	100K	5%	1/4W
R315	1-249-429-11	CARBON	10K	5%	1/4W
R316	1-249-432-11	CARBON	18K	5%	1/4W
R317	1-249-429-11	CARBON	10K	5%	1/4W
R318	1-249-429-11	CARBON	10K	5%	1/4W
R319	1-247-893-11	CARBON	390K	5%	1/4W
R321	1-249-422-11	CARBON	2.7K	5%	1/4W
R322	1-249-428-11	CARBON	8.2K	5%	1/4W
R324	1-247-876-11	CARBON	75K	5%	1/4W
R325	1-247-876-11	CARBON	75K	5%	1/4W
R326	1-249-437-11	CARBON	47K	5%	1/4W
R327	1-249-437-11	CARBON	47K	5%	1/4W
R328	1-249-437-11	CARBON	47K	5%	1/4W
R329	1-249-417-11	CARBON	1K	5%	1/4W
R330	1-249-425-11	CARBON	4.7K	5%	1/4W
R331	1-249-425-11	CARBON	4.7K	5%	1/4W
R332	1-249-415-11	CARBON	680	5%	1/4W
R333	1-249-421-11	CARBON	2.2K	5%	1/4W
R334	1-249-415-11	CARBON	680	5%	1/4W
R335	1-249-421-11	CARBON	2.2K	5%	1/4W
R336	1-249-437-11	CARBON	47K	5%	1/4W
R337	1-249-417-11	CARBON	1K	5%	1/4W
R338	1-249-411-11	CARBON	330	5%	1/4W
R339	1-249-437-11	CARBON	47K	5%	1/4W
R340	1-249-437-11	CARBON	47K	5%	1/4W
R341	1-249-411-11	CARBON	330	5%	1/4W
R342	1-249-437-11	CARBON	47K	5%	1/4W

Ref. No.	Part No.	Description			Remark
R343	1-249-417-11	CARBON	1K	5%	1/4W
R351	1-249-435-11	CARBON	33K	5%	1/4W
R352	1-249-421-11	CARBON	2.2K	5%	1/4W
R353	1-247-807-31	CARBON	100	5%	1/4W
R354	1-247-807-31	CARBON	100	5%	1/4W
R355	1-249-421-11	CARBON	2.2K	5%	1/4W
R356	1-249-428-11	CARBON	8.2K	5%	1/4W
R357	1-249-428-11	CARBON	8.2K	5%	1/4W
R358	1-249-425-11	CARBON	4.7K	5%	1/4W
R359	1-249-435-11	CARBON	33K	5%	1/4W
R391	1-247-807-31	CARBON	100	5%	1/4W
R392	1-247-807-31	CARBON	100	5%	1/4W
R393	1-249-435-11	CARBON	33K	5%	1/4W
R394	1-249-435-11	CARBON	33K	5%	1/4W
R401	1-260-076-11	CARBON	10	5%	1/2W (R770/RXD7: AEP)
R402	1-260-076-11	CARBON	10	5%	1/2W (R770/RXD7: AEP)
R406	1-249-437-11	CARBON	47K	5%	1/4W (EXCEPT RXD7: CND)
R407	1-249-437-11	CARBON	47K	5%	1/4W (EXCEPT RXD7: CND)
R408	1-249-425-11	CARBON	4.7K	5%	1/4W (EXCEPT RXD7: CND)
R409	1-249-441-11	CARBON	100K	5%	1/4W (EXCEPT RXD7: CND)
R410	1-249-421-11	CARBON	2.2K	5%	1/4W (EXCEPT RXD7: CND)
⚠R411	1-215-893-11	METAL OXIDE	1.5K	5%	2W F (R770/RXD7: AEP)
⚠R411	1-216-456-00	METAL OXIDE	820	5%	2W F (RXD7: CND)
⚠R411	1-215-894-11	METAL OXIDE	2.2K	5%	2W F (GRX50)
R413	1-249-402-11	CARBON	56	5%	1/4W
R414	1-249-417-11	CARBON	1K	5%	1/4W
R415	1-249-429-11	CARBON	10K	5%	1/4W
R416	1-249-437-11	CARBON	47K	5%	1/4W
R417	1-249-417-11	CARBON	1K	5%	1/4W
R421	1-260-087-81	CARBON	100	5%	1/2W (RXD7: CND)
R421	1-260-089-11	CARBON	150	5%	1/2W (EXCEPT RXD7: CND)
R422	1-260-087-81	CARBON	100	5%	1/2W (RXD7: CND)
R422	1-260-089-11	CARBON	150	5%	1/2W (EXCEPT RXD7: CND)
R431	1-249-438-11	CARBON	56K	5%	1/4W
R432	1-249-437-11	CARBON	47K	5%	1/4W
R434	1-249-433-11	CARBON	22K	5%	1/4W
R435	1-249-435-11	CARBON	33K	5%	1/4W
R437	1-249-429-11	CARBON	10K	5%	1/4W
R438	1-249-429-11	CARBON	10K	5%	1/4W
R439	1-249-425-11	CARBON	4.7K	5%	1/4W
R440	1-249-433-11	CARBON	22K	5%	1/4W
R441	1-249-435-11	CARBON	33K	5%	1/4W
R443	1-249-417-11	CARBON	1K	5%	1/4W
R451	1-260-076-11	CARBON	10	5%	1/2W (R770/RXD7: AEP)

Ref. No.	Part No.	Description			Remark
R452	1-260-076-11	CARBON	10	5%	1/2W (R770/RXD7: AEP)
R471	1-260-087-81	CARBON	100	5%	1/2W (RXD7: CND)
R471	1-260-089-11	CARBON	150	5%	1/2W (EXCEPT RXD7: CND)
R472	1-260-087-81	CARBON	100	5%	1/2W (RXD7: CND)
R472	1-260-089-11	CARBON	150	5%	1/2W (EXCEPT RXD7: CND)
R473	1-249-402-11	CARBON	56	5%	1/4W
R474	1-249-417-11	CARBON	1K	5%	1/4W
R481	1-260-087-81	CARBON	100	5%	1/2W (RXD7: CND)
R481	1-260-089-11	CARBON	150	5%	1/2W (EXCEPT RXD7: CND)
R482	1-260-087-81	CARBON	100	5%	1/2W (RXD7: CND)
R482	1-260-089-11	CARBON	150	5%	1/2W (EXCEPT RXD7: CND)
R483	1-260-087-81	CARBON	100	5%	1/2W (RXD7: CND)
R483	1-260-089-11	CARBON	150	5%	1/2W (EXCEPT RXD7: CND)
R484	1-260-087-81	CARBON	100	5%	1/2W (RXD7: CND)
R484	1-260-089-11	CARBON	150	5%	1/2W (EXCEPT RXD7: CND)
R501	1-249-413-11	CARBON	470	5%	1/4W
R502	1-249-425-11	CARBON	4.7K	5%	1/4W
R503	1-249-437-11	CARBON	47K	5%	1/4W
R504	1-249-437-11	CARBON	47K	5%	1/4W
R505	1-249-429-11	CARBON	10K	5%	1/4W
R508	1-249-421-11	CARBON	2.2K	5%	1/4W
R509	1-249-441-11	CARBON	100K	5%	1/4W
R510	1-249-409-11	CARBON	220	5%	1/4W
R521	1-249-437-11	CARBON	47K	5%	1/4W
R522	1-249-419-11	CARBON	1.5K	5%	1/4W
R523	1-249-427-11	CARBON	6.8K	5%	1/4W (R770/RXD7: AEP)
R523	1-249-433-11	CARBON	22K	5%	1/4W (GRX50: E2, MX, AR)
R523	1-249-437-11	CARBON	47K	5%	1/4W (GRX50: EA3, EA4, TH, KR, AUS)
R524	1-247-843-11	CARBON	3.3K	5%	1/4W (GRX50: EA4, TH, KR, AUS)
R524	1-249-435-11	CARBON	33K	5%	1/4W (GRX50: EA3)
R524	1-249-437-11	CARBON	47K	5%	1/4W (GRX50: E2, MX, AR/R770/RXD7: AEP)
R527	1-249-429-11	CARBON	10K	5%	1/4W
R536	1-249-429-11	CARBON	10K	5%	1/4W
R550	1-247-843-11	CARBON	3.3K	5%	1/4W
R551	1-249-429-11	CARBON	10K	5%	1/4W
R567	1-247-807-31	CARBON	100	5%	1/4W
R568	1-249-429-11	CARBON	10K	5%	1/4W
R569	1-249-429-11	CARBON	10K	5%	1/4W
R570	1-249-429-11	CARBON	10K	5%	1/4W
R571	1-249-429-11	CARBON	10K	5%	1/4W
R577	1-249-429-11	CARBON	10K	5%	1/4W
R610	1-247-891-00	CARBON	330K	5%	1/4W

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

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

MAIN

Ref. No.	Part No.	Description			Remark
R617	1-249-429-11	CARBON	10K	5%	1/4W
R618	1-247-807-31	CARBON	100	5%	1/4W
R619	1-247-807-31	CARBON	100	5%	1/4W
R620	1-247-807-31	CARBON	100	5%	1/4W
					(R770/RXD7: AEP)
R621	1-247-807-31	CARBON	100	5%	1/4W
					(R770/RXD7: AEP)
R622	1-249-425-11	CARBON	4.7K	5%	1/4W
R626	1-247-807-31	CARBON	100	5%	1/4W
R627	1-247-807-31	CARBON	100	5%	1/4W
R629	1-247-807-31	CARBON	100	5%	1/4W
R630	1-247-807-31	CARBON	100	5%	1/4W
R632	1-247-807-31	CARBON	100	5%	1/4W
R633	1-247-807-31	CARBON	100	5%	1/4W
R635	1-249-413-11	CARBON	470	5%	1/4W
R636	1-247-807-31	CARBON	100	5%	1/4W
R637	1-249-417-11	CARBON	1K	5%	1/4W
R639	1-247-807-31	CARBON	100	5%	1/4W
R642	1-247-807-31	CARBON	100	5%	1/4W
R643	1-247-807-31	CARBON	100	5%	1/4W
					(R770/RXD7)
R649	1-247-807-31	CARBON	100	5%	1/4W
					(R770/RXD7)
R650	1-247-807-31	CARBON	100	5%	1/4W
R651	1-247-807-31	CARBON	100	5%	1/4W
R652	1-247-807-31	CARBON	100	5%	1/4W
R653	1-247-807-31	CARBON	100	5%	1/4W
R654	1-247-807-31	CARBON	100	5%	1/4W
R655	1-247-807-31	CARBON	100	5%	1/4W
R656	1-247-807-31	CARBON	100	5%	1/4W
R657	1-247-807-31	CARBON	100	5%	1/4W
R658	1-249-417-11	CARBON	1K	5%	1/4W
R659	1-247-807-31	CARBON	100	5%	1/4W
R660	1-247-807-31	CARBON	100	5%	1/4W
R661	1-247-807-31	CARBON	100	5%	1/4W
R663	1-247-807-31	CARBON	100	5%	1/4W
R665	1-247-807-31	CARBON	100	5%	1/4W
R666	1-247-807-31	CARBON	100	5%	1/4W
R667	1-247-807-31	CARBON	100	5%	1/4W
R668	1-247-807-31	CARBON	100	5%	1/4W
R669	1-247-807-31	CARBON	100	5%	1/4W
R670	1-247-807-31	CARBON	100	5%	1/4W
R671	1-247-807-31	CARBON	100	5%	1/4W
R686	1-247-807-31	CARBON	100	5%	1/4W
R687	1-247-807-31	CARBON	100	5%	1/4W
R688	1-247-807-31	CARBON	100	5%	1/4W
R689	1-247-807-31	CARBON	100	5%	1/4W
R690	1-247-807-31	CARBON	100	5%	1/4W
R691	1-247-807-31	CARBON	100	5%	1/4W
R801	1-249-417-11	CARBON	1K	5%	1/4W
R802	1-249-438-11	CARBON	56K	5%	1/4W
R803	1-247-820-11	CARBON	360	5%	1/4W
					(GRX50)
R803	1-249-414-11	CARBON	560	5%	1/4W
					(R770/RXD7: AEP)
R803	1-249-416-11	CARBON	820	5%	1/4W
					(RXD7: CND)
R804	1-249-438-11	CARBON	56K	5%	1/4W

Ref. No.	Part No.	Description			Remark
R805	1-249-417-11	CARBON	1K	5%	1/4W
R806	1-249-431-11	CARBON	15K	5%	1/4W
R807	1-249-441-11	CARBON	100K	5%	1/4W
R808	1-220-893-11	METAL	0.22	10%	5W
R809	1-260-076-11	CARBON	10	5%	1/2W
R810	1-260-105-11	CARBON	3.3K	5%	1/2W
					(GRX50)
⚠R811	1-212-881-11	FUSIBLE	100	5%	1/4W F
⚠R812	1-202-972-61	FUSIBLE	1	5%	1/4W F
R813	1-249-435-11	CARBON	33K	5%	1/4W
R814	1-249-421-11	CARBON	2.2K	5%	1/4W
R815	1-249-433-11	CARBON	22K	5%	1/4W
R816	1-249-429-11	CARBON	10K	5%	1/4W
R817	1-249-421-11	CARBON	2.2K	5%	1/4W
R818	1-249-435-11	CARBON	33K	5%	1/4W
R819	1-249-439-11	CARBON	68K	5%	1/4W
R831	1-249-441-11	CARBON	100K	5%	1/4W
					(EXCEPT RXD7: CND)
R832	1-249-441-11	CARBON	100K	5%	1/4W
					(EXCEPT RXD7: CND)
R833	1-249-437-11	CARBON	47K	5%	1/4W
					(EXCEPT RXD7: CND)
R842	1-249-441-11	CARBON	100K	5%	1/4W
R851	1-249-417-11	CARBON	1K	5%	1/4W
R852	1-249-438-11	CARBON	56K	5%	1/4W
R853	1-247-820-11	CARBON	360	5%	1/4W
					(GRX50)
R853	1-249-414-11	CARBON	560	5%	1/4W
					(R770/RXD7: AEP)
R853	1-249-416-11	CARBON	820	5%	1/4W
					(RXD7: CND)
R854	1-249-438-11	CARBON	56K	5%	1/4W
R855	1-249-417-11	CARBON	1K	5%	1/4W
R856	1-249-431-11	CARBON	15K	5%	1/4W
R857	1-249-441-11	CARBON	100K	5%	1/4W
R858	1-220-893-11	METAL	0.22	10%	5W
R859	1-260-076-11	CARBON	10	5%	1/2W
R860	1-260-105-11	CARBON	3.3K	5%	1/2W
					(GRX50)
⚠R861	1-212-881-11	FUSIBLE	100	5%	1/4W F
R881	1-249-435-11	CARBON	33K	5%	1/4W
R882	1-249-435-11	CARBON	33K	5%	1/4W
R892	1-249-441-11	CARBON	100K	5%	1/4W
R901	1-247-843-11	CARBON	3.3K	5%	1/4W
R902	1-249-415-11	CARBON	680	5%	1/4W
R903	1-249-419-11	CARBON	1.5K	5%	1/4W
R904	1-249-414-11	CARBON	560	5%	1/4W
R905	1-249-425-11	CARBON	4.7K	5%	1/4W
R906	1-247-843-11	CARBON	3.3K	5%	1/4W
R907	1-249-415-11	CARBON	680	5%	1/4W
R908	1-249-429-11	CARBON	10K	5%	1/4W
R909	1-249-430-11	CARBON	12K	5%	1/4W
R911	1-249-409-11	CARBON	220	5%	1/4W
R920	1-249-383-11	CARBON	1.5	5%	1/6W
R921	1-249-383-11	CARBON	1.5	5%	1/6W
R931	1-249-429-11	CARBON	10K	5%	1/4W

< VARIABLE RESISTOR >

RV301	1-238-600-11	RES, ADJ, CARBON 10K

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

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Ne les remplacer que par une pièce portant le numéro spécifié.

Ref. No.	Part No.	Description			Remark
RV351	1-238-600-11	RES, ADJ, CARBON 10K			
		< RELAY >			
RY401	1-755-168-11	RELAY			
		< THERMISTOR >			
TH831	1-807-796-11	THERMISTOR (EXCEPT RXD7: CND)			
		< TERMINAL >			
TM401	1-694-302-11	TERMINAL BOARD (CHECKER PIN) (SPEAKER) (R770/RXD7: AEP)			
TM401	1-537-240-31	TERMINAL BOARD (CHECKER PIN) (SPEAKER) (GRX50/RXD7: CND)			
		< VIBRATOR >			
X601	1-567-098-41	VIBRATOR, CRYSTAL (32.768KHz)			
X613	1-781-107-21	VIBRATOR, CERAMIC (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	8-719-921-48	DIODE MTZJ-T-72-5.6C			
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
		< SWITCH >			
S801	1-762-527-11	SWITCH, ROTARY (OPEN/CLOSE DET)			
**********					
*	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
		< CONNECTOR >			
CN703	1-750-413-11	CONNECTOR, FFC/FPC 8P			
CN704	1-506-469-11	PIN, CONNECTOR 4P			

Ref. No.	Part No.	Description			Remark
		< DIODE >			
D701	8-719-983-66	DIODE MTZJ-T-72-3.6B			
		< 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
**********					
*	A-4417-722-A	PANEL BOARD, COMPLETE (EXCEPT GRX50: EA3)			
*	A-4419-727-A	PANEL BOARD, COMPLETE (GRX50: EA3) **********			
*	4-214-439-11	HOLDER, FL TUBE			
		< 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
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
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

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PANEL

Ref. No.	Part No.	Description			Remark
C702	1-162-294-31	CERAMIC	0.001uF	10% 50V	
C703	1-164-159-11	CERAMIC	0.1uF	50V	
C711	1-162-294-31	CERAMIC	0.001uF	10% 50V	
					(GRX50: EA3)
C712	1-162-305-11	CERAMIC	0.0068uF	30% 16V	
					(GRX50: EA3)
C713	1-126-160-11	ELECT	1uF	20% 50V	
					(GRX50: EA3)
C714	1-136-495-11	FILM	0.068uF	5% 50V	
					(GRX50: EA3)
C715	1-124-465-00	ELECT	0.47uF	20% 50V	
					(GRX50: EA3)
C716	1-124-465-00	ELECT	0.47uF	20% 50V	
					(GRX50: EA3)
C717	1-136-167-00	FILM	0.15uF	5% 50V	
					(GRX50: EA3)
C718	1-162-294-31	CERAMIC	0.001uF	10% 50V	
					(GRX50: EA3)
C719	1-126-160-11	ELECT	1uF	20% 50V	
					(GRX50: EA3)
C720	1-161-494-00	CERAMIC	0.022uF	25V	
					(GRX50: EA3)
C721	1-162-305-11	CERAMIC	0.0068uF	30% 16V	
					(GRX50: EA3)
C722	1-136-495-11	FILM	0.068uF	5% 50V	
					(GRX50: EA3)
C723	1-124-589-11	ELECT	47uF	20% 16V	
					(GRX50: EA3)
C724	1-136-165-00	FILM	0.1uF	5% 50V	
					(GRX50: EA3)
C725	1-124-589-11	ELECT	47uF	20% 16V	
					(GRX50: EA3)
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	
					(GRX50: EA3)
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	
C747	1-164-159-11	CERAMIC	0.1uF	50V	
		< CONNECTOR >			
CN601	1-784-745-11	CONNECTOR, FFC 23P			
		< DIODE >			
D610	8-719-050-84	DIODE RB441Q-40T-72			
D611	8-719-073-47	LED SML72923C-TP15 (REC PAUSE/START)			
D612	8-719-056-13	LED SML79423C-TP15 (▶II CD)			
D613	8-719-058-03	LED SEL5423E-TP15 (► TAPE B)			
D614	8-719-058-03	LED SEL5423E-TP15 (◄ TAPE B)			
D615	8-719-058-03	LED SEL5423E-TP15 (► TAPE A)			
D616	8-719-058-03	LED SEL5423E-TP15 (◄ TAPE A)			
D619	8-719-057-97	LED SEL5923A-TP15 (SYNC BASS)			
D620	8-719-057-97	LED SEL5923A-TP15 (SYNC BASS H)			

Ref. No.	Part No.	Description	Remark
D621	8-719-057-97	LED SEL5923A-TP15 (SYNC EQ)	
D622	8-719-063-93	LED SLR325VC-N-T32 (EFFECT)	
D624	8-719-063-93	LED SLR325VC-N-T32 (NON-STOP)	
D627	8-719-057-97	LED SEL5923A-TP15 (GROOVE)	
D628	8-719-063-93	LED SLR325VC-N-T32 (ENTER/NEXT)	
D629	8-719-063-93	LED SLR325VC-N-T32 (JOG DIAL)	
D630	8-719-057-97	LED SEL5923A-TP15 (- ►►)	
D631	8-719-057-97	LED SEL5923A-TP15 (+ ◄◄)	
D632	8-719-063-93	LED SLR325VC-N-T32 (TIMER SELECT)	
D701	8-719-109-85	DIODE RD5.1ES-B2 (GRX50: EA3)	
		< EARTH TERMINAL >	
* EP601	1-537-738-21	TERMINAL, EARTH	
		< FERRITE BEAD >	
FB601	1-412-473-21	INDUCTOR 0uH	
FB602	1-412-473-21	INDUCTOR 0uH	
		< FLUORESCENT INDICATOR TUBE >	
FL601	1-517-831-11	INDICATOR TUBE, FLUORESCENT	
		< IC >	
IC601	8-759-589-13	IC TMP88CS76F-6004	
IC602	8-749-011-05	IC GP1U28X	
IC603	8-759-083-77	IC BA3830F	
IC604	8-759-342-19	IC NJU3716M-T2	
IC711	8-759-496-40	IC M65850FP (GRX50: EA3)	
IC712	8-759-636-55	IC M5218AFP	
		< JACK >	
J701	1-785-569-11	JACK (SMALL TYPE) (PHONES)	
J711	1-785-569-11	JACK (SMALL TYPE) (MIX MIC)	
		< COIL >	
L601	1-410-509-11	INDUCTOR 10uH	
L602	1-410-517-11	INDUCTOR 47uH	
		< TRANSISTOR >	
Q601	8-729-118-00	TRANSISTOR 2SB1116-L	
Q602	8-729-118-00	TRANSISTOR 2SB1116-L	
Q603	8-729-119-78	TRANSISTOR 2SC403SP-51	
Q604	8-729-422-57	TRANSISTOR UN4111	
Q605	8-729-422-57	TRANSISTOR UN4111	
Q606	8-729-900-80	TRANSISTOR DTC114ES	
Q607	8-729-900-74	TRANSISTOR DTC143TS	
Q608	8-729-900-74	TRANSISTOR DTC143TS	
Q609	8-729-900-74	TRANSISTOR DTC143TS	
Q610	8-729-900-74	TRANSISTOR DTC143TS	
Q611	8-729-900-74	TRANSISTOR DTC143TS	
Q612	8-729-900-74	TRANSISTOR DTC143TS	
Q613	8-729-900-74	TRANSISTOR DTC143TS	
		< RESISTOR >	
R600	1-247-903-00	CARBON 1M 5% 1/4W	
R601	1-247-807-31	CARBON 100 5% 1/4W	
R602	1-249-429-11	CARBON 10K 5% 1/4W	

Ref. No.	Part No.	Description			Remark
R603	1-247-807-31	CARBON	100	5%	1/4W
R604	1-247-807-31	CARBON	100	5%	1/4W
R605	1-249-429-11	CARBON	10K	5%	1/4W
R606	1-249-401-11	CARBON	47	5%	1/4W
R607	1-247-893-11	CARBON	390K	5%	1/4W
R608	1-247-893-11	CARBON	390K	5%	1/4W
R609	1-249-441-11	CARBON	100K	5%	1/4W
R610	1-249-429-11	CARBON	10K	5%	1/4W
R611	1-249-441-11	CARBON	100K	5%	1/4W
R612	1-249-401-11	CARBON	47	5%	1/4W
R613	1-249-435-11	CARBON	33K	5%	1/4W
R614	1-247-895-00	CARBON	470K	5%	1/4W
R615	1-249-429-11	CARBON	10K	5%	1/4W
R616	1-249-441-11	CARBON	100K	5%	1/4W
R617	1-249-441-11	CARBON	100K	5%	1/4W
R618	1-249-441-11	CARBON	100K	5%	1/4W
R619	1-249-441-11	CARBON	100K	5%	1/4W
R620	1-249-441-11	CARBON	100K	5%	1/4W
R621	1-249-429-11	CARBON	10K	5%	1/4W
R622	1-249-410-11	CARBON	270	5%	1/4W
R623	1-249-411-11	CARBON	330	5%	1/4W
R624	1-249-413-11	CARBON	470	5%	1/4W
R625	1-249-414-11	CARBON	560	5%	1/4W
R626	1-249-415-11	CARBON	680	5%	1/4W
R627	1-249-417-11	CARBON	1K	5%	1/4W
R628	1-249-418-11	CARBON	1.2K	5%	1/4W
R629	1-249-420-11	CARBON	1.8K	5%	1/4W
R630	1-249-422-11	CARBON	2.7K	5%	1/4W
R631	1-247-843-11	CARBON	3.3K	5%	1/4W
R632	1-249-425-11	CARBON	4.7K	5%	1/4W
R636	1-249-429-11	CARBON	10K	5%	1/4W
R637	1-249-410-11	CARBON	270	5%	1/4W
R638	1-249-411-11	CARBON	330	5%	1/4W
R639	1-249-413-11	CARBON	470	5%	1/4W
R640	1-249-414-11	CARBON	560	5%	1/4W
R641	1-249-415-11	CARBON	680	5%	1/4W
R642	1-249-417-11	CARBON	1K	5%	1/4W
R650	1-249-429-11	CARBON	10K	5%	1/4W
R651	1-249-410-11	CARBON	270	5%	1/4W
R652	1-249-411-11	CARBON	330	5%	1/4W
R653	1-249-413-11	CARBON	470	5%	1/4W
R654	1-249-414-11	CARBON	560	5%	1/4W
R655	1-249-415-11	CARBON	680	5%	1/4W
R656	1-249-429-11	CARBON	10K	5%	1/4W
R657	1-249-410-11	CARBON	270	5%	1/4W
R658	1-249-411-11	CARBON	330	5%	1/4W
R659	1-249-413-11	CARBON	470	5%	1/4W
R660	1-249-414-11	CARBON	560	5%	1/4W
R661	1-249-415-11	CARBON	680	5%	1/4W
R662	1-249-417-11	CARBON	1K	5%	1/4W
R663	1-249-418-11	CARBON	1.2K	5%	1/4W
R664	1-249-420-11	CARBON	1.8K	5%	1/4W
R665	1-249-422-11	CARBON	2.7K	5%	1/4W
R666	1-249-417-11	CARBON	1K	5%	1/4W
R667	1-249-417-11	CARBON	1K	5%	1/4W
R668	1-249-441-11	CARBON	100K	5%	1/4W
R669	1-249-441-11	CARBON	100K	5%	1/4W

Ref. No.	Part No.	Description			Remark
R670	1-249-414-11	CARBON	560	5%	1/4W
R671	1-249-437-11	CARBON	47K	5%	1/4W
R672	1-249-417-11	CARBON	1K	5%	1/4W
R673	1-249-437-11	CARBON	47K	5%	1/4W
R674	1-249-417-11	CARBON	1K	5%	1/4W
R675	1-249-437-11	CARBON	47K	5%	1/4W
R676	1-249-429-11	CARBON	10K	5%	1/4W
R678	1-249-407-11	CARBON	150	5%	1/4W
R679	1-249-407-11	CARBON	150	5%	1/4W
R680	1-247-804-11	CARBON	75	5%	1/4W
R681	1-249-407-11	CARBON	150	5%	1/4W
R682	1-247-804-11	CARBON	75	5%	1/4W
R683	1-247-804-11	CARBON	75	5%	1/4W
R684	1-247-804-11	CARBON	75	5%	1/4W
R685	1-247-804-11	CARBON	75	5%	1/4W
R688	1-249-402-11	CARBON	56	5%	1/4W
R689	1-249-402-11	CARBON	56	5%	1/4W
R690	1-249-402-11	CARBON	56	5%	1/4W
R691	1-249-407-11	CARBON	150	5%	1/4W
R693	1-249-407-11	CARBON	150	5%	1/4W
R696	1-249-402-11	CARBON	56	5%	1/4W
R697	1-249-407-11	CARBON	150	5%	1/4W
R698	1-249-407-11	CARBON	150	5%	1/4W
R699	1-247-807-31	CARBON	100	5%	1/4W
R700	1-247-807-31	CARBON	100	5%	1/4W
R701	1-249-429-11	CARBON	10K	5%	1/4W
R702	1-249-429-11	CARBON	10K	5%	1/4W
R703	1-249-429-11	CARBON	10K	5%	1/4W
R704	1-249-429-11	CARBON	10K	5%	1/4W
R705	1-249-429-11	CARBON	10K	5%	1/4W
R710	1-249-401-11	CARBON	47	5%	1/4W (GRX50: EA3)
R711	1-249-433-11	CARBON	22K	5%	1/4W (GRX50: EA3)
R712	1-249-433-11	CARBON	22K	5%	1/4W (GRX50: EA3)
R713	1-249-433-11	CARBON	22K	5%	1/4W (GRX50: EA3)
R714	1-249-437-11	CARBON	47K	5%	1/4W (GRX50: EA3)
R715	1-249-433-11	CARBON	22K	5%	1/4W (GRX50: EA3)
R716	1-249-431-11	CARBON	15K	5%	1/4W (GRX50: EA3)
R717	1-249-433-11	CARBON	22K	5%	1/4W (GRX50: EA3)
R718	1-249-433-11	CARBON	22K	5%	1/4W (GRX50: EA3)
R719	1-247-881-00	CARBON	120K	5%	1/4W (GRX50: EA3)
R721	1-249-429-11	CARBON	10K	5%	1/4W
R722	1-249-417-11	CARBON	1K	5%	1/4W
R723	1-249-441-11	CARBON	100K	5%	1/4W
R724	1-249-417-11	CARBON	1K	5%	1/4W
R725	1-249-433-11	CARBON	22K	5%	1/4W
R726	1-249-429-11	CARBON	10K	5%	1/4W
R727	1-249-431-11	CARBON	15K	5%	1/4W (GRX50: EA3)
R728	1-247-885-00	CARBON	180K	5%	1/4W
R729	1-247-807-31	CARBON	100	5%	1/4W

PANEL SENSOR SUB TRANS

Ref. No.	Part No.	Description			Remark
R731	1-249-440-11	CARBON	82K	5%	1/4W
R732	1-249-437-11	CARBON	47K	5%	1/4W
R733	1-249-440-11	CARBON	82K	5%	1/4W
R734	1-249-417-11	CARBON	1K	5%	1/4W
R735	1-249-420-11	CARBON	1.8K	5%	1/4W
R741	1-249-421-11	CARBON	2.2K	5%	1/4W
R742	1-249-421-11	CARBON	2.2K	5%	1/4W
R743	1-249-421-11	CARBON	2.2K	5%	1/4W
		< VARIABLE RESISTOR >			
RV711	1-225-739-11	RES, VAR 50K (ECHO LEVEL) (GRX50: EA3)			
RV712	1-225-739-11	RES, VAR 50K (MIC LEVEL)			
		< ROTARY ENCODER/SWITCH >			
S601	1-473-534-11	ENCODER, ROTARY (JOG DIAL)			
S602	1-473-392-11	ENCODER, ROTARY (VOLUME)			
S611	1-762-875-21	SWITCH, KEYBOARD (SYNC BASS)			
S612	1-762-875-21	SWITCH, KEYBOARD (SYNC EQ)			
S613	1-762-875-21	SWITCH, KEYBOARD (KARAOKE PON/MPX)			
S614	1-762-875-21	SWITCH, KEYBOARD (NON-STOP)			
S615	1-762-875-21	SWITCH, KEYBOARD (SURROUND)			
S616	1-762-875-21	SWITCH, KEYBOARD (DBFB)			
S617	1-762-875-21	SWITCH, KEYBOARD (ENTER/NEXT)			
S618	1-762-875-21	SWITCH, KEYBOARD (+ ▶▶)			
S619	1-762-875-21	SWITCH, KEYBOARD (- ◀◀)			
S620	1-762-875-21	SWITCH, KEYBOARD (GROOVE)			
S621	1-762-875-21	SWITCH, KEYBOARD (FLASH)			
S625	1-762-875-21	SWITCH, KEYBOARD (REC PAUSE/START)			
S626	1-762-875-21	SWITCH, KEYBOARD (HI-DUB)			
S627	1-762-875-21	SWITCH, KEYBOARD (CD SYNC)			
S628	1-762-875-21	SWITCH, KEYBOARD (LOOP)			
S629	1-762-875-21	SWITCH, KEYBOARD (DISPLAY)			
S630	1-762-875-21	SWITCH, KEYBOARD (SPECTRUM ANALYZER)			
S638	1-762-875-21	SWITCH, KEYBOARD (TIMER SELECT)			
S639	1-762-875-21	SWITCH, KEYBOARD (FILE SELECT)			
S640	1-762-875-21	SWITCH, KEYBOARD (REPEAT, STEREO/MONO)			
S641	1-762-875-21	SWITCH, KEYBOARD (PLAY MODE, DOLBY NR)			
S642	1-762-875-21	SWITCH, KEYBOARD (EDIT/DIRECTION, TUNER MEMORY)			
S643	1-762-875-21	SWITCH, KEYBOARD (TUNER/BAND)			
S644	1-762-875-21	SWITCH, KEYBOARD (▶II 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)			

****

Ref. No.	Part No.	Description			Remark
*	1-658-576-11	SENSOR BOARD			
		**********			
		< PHOTO INTERRUPTER >			
IC702	8-749-924-18	PHOTO INTERRUPTER RPI-1391			
		< PHOTO REFLECTOR >			
IC703	8-749-924-30	PHOTO REFLECTOR GP2S28			
		< RESISTOR >			
R701	1-249-416-11	CARBON	820	5%	1/4W
R702	1-249-407-11	CARBON	150	5%	1/4W

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*	A-4417-729-A	SUB TRANS BOARD, COMPLETE (RXD7: CND)			
*	A-4419-030-A	SUB TRANS BOARD, COMPLETE (R770/RXD7: AEP)			
		**********			
		< CAPACITOR >			
C11	1-126-768-11	ELECT	2200uF	20%	16V (R770/RXD7)
C12	1-164-159-11	CERAMIC	0.1uF		50V (R770/RXD7)
C13	1-126-933-11	ELECT	100uF	20%	16V (R770/RXD7)
C14	1-126-968-11	ELECT	100uF	20%	50V (R770/RXD7)
C15	1-164-159-11	CERAMIC	0.1uF		50V (R770/RXD7)
C16	1-126-948-11	ELECT	00uF	20%	35V (R770/RXD7)
⚠C21	1-113-925-11	CERAMIC	0.01uF	20%	250V (R770/RXD7)
		< CONNECTOR >			
CN11	1-564-321-00	PIN, CONNECTOR 2P (R770/RXD7)			
* CN12	1-564-321-21	PIN, CONNECTOR 2P (R770/RXD7)			
CN13	1-785-333-11	PIN, CONNECTOR (LIGHT ANGLE) 7P (R770/RXD7)			
		< DIODE >			
D11	8-719-911-19	DIODE 1SS119 (R770/RXD7)			
D12	8-719-210-21	DIODE 11EQS04 (R770/RXD7)			
D13	8-719-210-21	DIODE 11EQS04 (R770/RXD7)			
D14	8-719-210-21	DIODE 11EQS04 (R770/RXD7)			
D15	8-719-210-21	DIODE 11EQS04 (R770/RXD7)			
D16	8-719-911-19	DIODE 1SS119 (R770/RXD7)			
D17	8-719-024-99	DIODE 11ES2-NTA2B (R770/RXD7)			
D18	8-719-024-99	DIODE 11ES2-NTA2B (R770/RXD7)			
D19	8-719-024-99	DIODE 11ES2-NTA2B (R770/RXD7)			
D20	8-719-024-99	DIODE 11ES2-NTA2B (R770/RXD7)			
D21	8-719-986-60	DIODE HZS27-3LTA (R770/RXD7)			
D22	8-719-109-63	DIODE RD3.0ESB2 (R770/RXD7)			
D23	8-719-911-19	DIODE 1SS119 (R770/RXD7)			
		< IC >			
IC11	8-759-450-47	IC BA05T (R770/RXD7)			

Ref. No.	Part No.	Description	Remark
		< TRANSISTOR >	
Q11	8-729-119-78	TRANSISTOR 2SC403SP-51 (R770/RXD7)	
Q12	8-729-040-19	TRANSISTOR RT1N137L-TP (R770/RXD7)	
Q13	8-729-118-01	TRANSISTOR 2SB1116 (R770/RXD7)	
Q14	8-729-048-13	TRANSISTOR 2SC3616-KLM-T1	(R770/RXD7)
Q15	8-729-048-13	TRANSISTOR 2SC3616-KLM-T1	(R770/RXD7)
Q16	8-729-900-63	TRANSISTOR DTA124ES (R770/RXD7)	
Q17	8-729-900-63	TRANSISTOR DTA124ES (R770/RXD7)	
		< RESISTOR >	
R11	1-249-429-11	CARBON 10K 5% 1/4W	(R770/RXD7)
R12	1-249-441-11	CARBON 100K 5% 1/4W	(R770/RXD7)
R13	1-249-417-11	CARBON 1K 5% 1/4W	(R770/RXD7)
R15	1-249-429-11	CARBON 10K 5% 1/4W	(R770/RXD7)
R16	1-247-807-31	CARBON 100 5% 1/4W	(R770/RXD7)
R17	1-247-807-31	CARBON 100 5% 1/4W	(R770/RXD7)
R18	1-247-807-31	CARBON 100 5% 1/4W	(R770/RXD7)
R19	1-249-427-11	CARBON 6.8K 5% 1/4W	(R770/RXD7)
R20	1-249-429-11	CARBON 10K 5% 1/4W	(R770/RXD7)
R23	1-249-427-11	CARBON 6.8K 5% 1/4W	(R770/RXD7)
		< RELAY >	
⚠RY11	1-755-276-11	RELAY, POWER (R770/RXD7)	
		< TRANSFORMER >	
⚠T11	1-433-587-11	TRANSFORMER, POWER (RXD7: CND)	
⚠T11	1-433-588-11	TRANSFORMER, POWER (R770/RXD7: AEP)	
**********			
*	1-672-369-11	TRANS BOARD **********	
	1-533-217-31	HOLDER, FUSE	
		< CAPACITOR >	
C971	1-128-563-11	ELECT 100uF 20%	100V (GRX50)
C972	1-126-960-11	ELECT 1uF 20%	50V (GRX50)
C973	1-126-948-11	ELECT 100uF 20%	35V (GRX50)
		< CONNECTOR >	
CN951	1-564-321-00	PIN, CONNECTOR 2P (GRX50)	
CN952	1-564-524-11	PLUG, CONNECTOR 9P (R770/RXD7)	
* CN952	1-564-527-11	PLUG, CONNECTOR 12P (GRX50)	
CN953	1-785-329-11	PIN, CONNECTOR (LIGHT ANGLE) 3P (GRX50)	

Ref. No.	Part No.	Description	Remark
		< DIODE >	
D971	8-719-024-99	DIODE 11ES2-NTA2B (GRX50)	
D972	8-719-986-60	DIODE HZS27-3LTA (GRX50)	
D973	8-719-109-63	DIODE RD3.0ESB2 (GRX50)	
		< FUSE >	
⚠F951	1-532-420-11	FUSE GLASS TUBE 5A/125V (RXD7: CND)	
⚠F951	1-532-506-31	FUSE T6.3AL/250V	(GRX50: E2, E3, EA3, SP, TW, AR)
⚠F961	1-532-505-31	FUSE T5AL/250V (GRX50)	
⚠F962	1-532-505-31	FUSE T5AL/250V (GRX50)	
⚠F963	1-532-506-31	FUSE T6.3AL/250V (EXCEPT RXD7: CND)	
⚠F964	1-532-506-31	FUSE T6.3AL/250V (EXCEPT RXD7: CND)	
		< TRANSISTOR >	
Q971	8-729-048-52	TRANSISTOR 2SA1932 (TP) (GRX50)	
		< RESISTOR >	
⚠R951	1-219-120-11	FUSIBLE 0.15 5% 1/4W F	(RXD7: CND)
⚠R951	1-219-122-91	FUSIBLE 0.33 5% 1/4W F	(EXCEPT RXD7: CND)
⚠R952	1-219-120-11	FUSIBLE 0.15 5% 1/4W F	(RXD7: CND)
⚠R952	1-219-122-91	FUSIBLE 0.33 5% 1/4W F	(EXCEPT RXD7: CND)
⚠R953	1-219-120-11	FUSIBLE 0.15 5% 1/4W F	(R770/RXD7)
⚠R953	1-219-119-81	FUSIBLE 0.1 5% 1/4W F	(GRX50)
⚠R961	1-202-725-00	SOLID 3.3M 10% 1/2W	(RXD7: CND)
⚠R971	1-216-456-00	METAL OXIDE 820 5% 2W F	(GRX50)
R972	1-249-429-11	CARBON 10K 5% 1/4W	(GRX50)
R973	1-249-429-11	CARBON 10K 5% 1/4W	(GRX50)
R974	1-247-807-31	CARBON 100 5% 1/4W	(GRX50)
R975	1-247-807-31	CARBON 100 5% 1/4W	(GRX50)
		< SWITCH >	
⚠S951	1-771-291-11	SWITCH, POWER (VOLTAGE SELECTOR)	(GRX50: E2, E3, EA3, SP, TW, AR)
		< TRANSFORMER >	
⚠T951	1-433-563-11	TRANSFORMER,POWER (RXD7:CND)	
⚠T951	1-433-564-11	TRANSFORMER,POWER (R770/RXD7: AEP)	
⚠T951	1-433-565-11	TRANSFORMER,POWER (GRX50)	
**********			

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

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

Ref. No.	Part No.	Description	Remark
		MISCELLANEOUS	
		**********	
64	1-773-188-11	WIRE (FLAT TYPE) (23 CORE)	
104	1-773-042-11	WIRE (FLAT TYPE) (17 CORE)	
105	1-773-024-11	WIRE (FLAT TYPE) (15 CORE)	
106	1-783-570-11	WIRE (FLAT TYPE) (19 CORE)	
109	1-769-977-11	WIRE (FLAT TYPE) (13 CORE)	(GRX50: EXCEPT SP, TW/RXD7: CND)
109	1-773-009-11	WIRE (FLAT TYPE) (15 CORE)	(GRX50: SP, TW/R770/RXD7: AEP)
110	1-233-544-14	TUNER PACK (RXD7: CND)	
110	1-233-545-11	TUNER (FM/AM) (GRX50: EA4, TH, AR, AUS)	
110	1-233-545-14	TUNER PACK (GRX50: E2, MX)	
110	1-233-546-11	TUNER (FM/MW/SW)	(GRX50: E3, EA3, SP, TW)
110	1-693-443-11	TUNER (FM/AM) (R770/RXD7: AEP)	
⚠111	1-575-651-11	CORD, POWER (R770: AEP/RXD7: AEP, UK/	GRX50: EA3, EA4, SP, TW, AR)
⚠111	1-575-653-11	CORD, POWER (GRX50: E2, E3, TH, MX)	
⚠111	1-690-608-11	CORD, POWER (GRX50: AUS)	
⚠111	1-690-609-21	CORD, POWER (RXD7: CND)	
⚠111	1-769-079-21	CORD, POWER (GRX50: KR)	
⚠112	1-569-007-11	ADAPTOR, CONVERSION 2P (GRX50: E3)	
⚠112	1-569-008-21	ADAPTOR, CONVERSION 2P	(GRX50: EA3, SP, TW)
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)	
HP101	A-2056-681-A	DECK (A) ASSY, HEAD	
HRPE101	A-2056-682-A	DECK (B) ASSY, HEAD	
M1	A-2004-628-A	MOTOR ASSY, CAPSTAN	
M101	X-4917-523-4	MOTOR ASSY (SPINDLE)	
M102	X-4917-504-1	MOTOR ASSY (SLED)	
M501	1-698-792-11	FAN, DC (EXCEPT CND)	
M801	A-4672-004-A	MOTOR ASSY (SLIDE)	
S811	1-473-335-11	ENCODER, ROTARY (BU, TRAY ADDRESS DET)	
⚠T11	1-433-587-11	TRANSFORMER, POWER (RXD7: CND)	
⚠T11	1-433-588-11	TRANSFORMER, POWER (R770/RXD7: AEP)	
⚠T951	1-433-563-11	TRANSFORMER, POWER (RXD7: CND)	
⚠T951	1-433-564-11	TRANSFORMER, POWER (R770/RXD7: AEP)	
⚠T951	1-433-565-11	TRANSFORMER, POWER (GRX50)	

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Ref. No.	Part No.	Description	Remark
		**********	
		HARDWARE LIST	
		**********	
#1	7-685-872-09	SCREW +BVTT 3X8 (S)	
#2	7-685-646-79	SCREW +BVTP 3X8 TYPE2 N-S	
#3	7-685-871-01	SCREW +BVTT 3X6 (S)	
#4	7-685-647-79	SCREW +BVTP 3X10 TYPE2 N-S	
#5	7-685-852-04	SCREW +BVTT 2X5 (S)	
#6	7-685-861-01	SCREW +BVTT 2.6X5 (S)	
#7	7-685-851-04	SCREW +BVTT 2X4 (S)	
#8	7-621-775-10	SCREW +B 2.6X4	
#9	7-685-650-79	SCREW +BVTP 3X16 TYPE2 IT-3	
#10	7-685-880-09	SCREW +BVTT 4X6 (S)	
#11	7-628-254-15	SCREW +PS 2.6X6	
#12	7-628-254-50	SCREW +PS 2.6X16	

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