

HCD-GRX80/RXD8/RXD8S

SERVICE MANUAL

Ver 1.1 2001. 06



Photo: HCD-RXD8 (SILVER)

AEP Model

HCD-RXD8/RXD8S

UK Model

HCD-RXD8

E Model

Australian Model

HCD-GRX80

HCD-GRX80/RXD8/RXD8S is the tuner, deck, CD and amplifier section in MHC-GRX80/RXD8/RXD8S.

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

* Manufactured under license from Dolby Laboratories Licensing Corporation.

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CD SECTION	Model Name Using Similar Mechanism	HCD-GRX8/R800/RX88/RX99
	CD Mechanism Type	CDM38LH-5BD32L
	Base Unit Type	BU-5BD32L
	Optical Pick-up Type	KSS-213D/Q-N
TAPE DECK SECTION	Model Name Using Similar Mechanism	HCD-GRX8/R800/RX88/RX99
	Tape Transport Mechanism Type	TCM-230AWR1/230PWR1

SPECIFICATIONS

Amplifier section

HCD-RXD8S/RXD8:

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
(8 ohms at 1 kHz, 10% THD)

HCD-GRX80:

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

DIN power output (rated)

160 + 160 watts
(6 ohms at 1 kHz, DIN)

Continuous RMS power output (reference)

200 + 200 watts
(6 ohms at 1 kHz, 10% THD)

Inputs

VIDEO IN:
(phono jacks)

voltage 250 mV,
impedance 47 kilohms

MD IN:

(phono jacks)

voltage 450 mV,
impedance 47 kilohms

MIX MIC: (phone jack)

sensitivity 1 mV,
impedance 10 kilohms

Outputs

MD OUT:
(phono jacks)

voltage 250 mV
impedance 1 kilohm

PHONES:

(stereo mini jack)

accepts headphones of
8 ohms or more

SPEAKER:

accepts impedance of 8 to
16 ohms

SURROUND SPEAKER: accepts impedance of
16 ohms
SUPER WOOFER: Voltage 1 V, impedance
(except for HCD-RXD8S/RXD8) 1 kilohm

CD player section

System

Compact disc and digital
audio system
Semiconductor laser
($\lambda=780\text{nm}$)

Laser

Emission duration:

continuous

Laser output

Max. 44.6 μW *
*This output is the value
measured at a distance of
200 mm from the
objective lens surface on
the Optical Pick-up Block
with 7 mm aperture.

Wavelength

780 - 790 nm

Frequency response

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

Signal-to-noise ratio

More than 90 dB

Dynamic range

More than 90 dB

CD OPTICAL DIGITAL OUT

(Square optical connector jack, rear panel)

Wavelength

660 nm

Output Level

-18 dBm

Tape player section

Recording system
Frequency response
(DOLBY NR OFF)

4-track 2-channel stereo
40 - 13,000 Hz ($\pm 3\text{ dB}$),
using Sony TYPE I
cassette

40 - 14,000 Hz ($\pm 3\text{ dB}$),
using Sony TYPE II
cassette

Wow and flutter

$\pm 0.15\%$ W.Peak (IEC)
0.1% W.RMS (NAB)
 $\pm 0.2\%$ W.Peak (DIN)

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

— Continued on next page —

COMPACT DISC DECK RECEIVER

SONY®

9-928-823-12

2001F0200-1

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Sony Corporation

Home Audio Company

Shinagawa Tec Service Manual Production Group

AM tuner section

Tuning range

2 Band type:

European models:

AM: 531 – 1,602 kHz
(with the interval set at 9 kHz)

Other models:

AM: 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

European models:

230 V AC, 50/60 Hz

Australian models: 230 - 240 V AC, 50/60 Hz

Israeli and Thai models: 220 V AC, 50/60 Hz

Mexican models: 120 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

HCD-GRX80/R880: 190 watts

HCD-RXD8S/RXD8: 220 watts

Dimensions (w/h/d)

Approx. 280 x 360 x 395
mm

Mass

HCD-GRX80/R880: Approx. 12.2 kg

HCD-RXD8S/RXD8: Approx. 10.5 kg

Design and specifications are subject to change
without notice.

CAUTION

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

Notes on chip component replacement

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

Flexible Circuit Board Repairing

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

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

CLASS 1 LASER PRODUCT
LUOKAN 1 LASERLAITE
KLASS 1 LASERAPPARAT

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

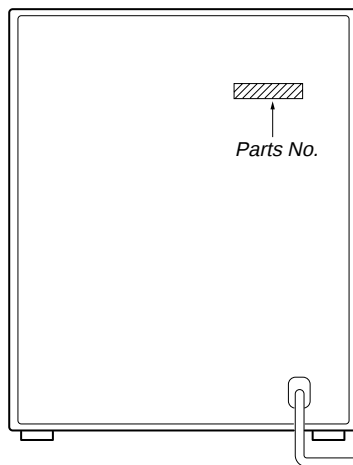
CAUTION : INVISIBLE LASER RADIATION WHEN OPEN AND INTERLOCKS DEFEATED. AVOID EXPOSURE TO BEAM.
ADVARSEL : USYNLIG LASERSTRÅLING VED ÅBNING NÅR SIKKERHEDSAFBRYDERE ER UDE AF FUNKTION. UNDGÅ UDSÆTTELSE FOR STRÅLING.
VORSICHT : UNSICHTBARE LASERSTRALUNG, WENN ABDECKUNG GEÖFFNET UND SICHERHEITSVERRIEGELUNG ÜBERBRÜCKT. NICHT DEM STRAHL AUSSETZEN.
VARO! : AVATTAESSA JA SUOJALUKITUS OHITETTAESSA OLET ALT-TIINA NÄKYMÄTTÖMÄLLÄ LASERSÄTEILYLLE. ÄLÄ KATSO SÄTEESEEN.
VARNING : OSYNLIG LASERSTRÅLING NÅR DENNA DEL ÄR ÖPPNAD OCH SPÄRREN ÄR URKOPPLAD. BETRÄKTA EJ STRÅLEN.
ADVERSEL : USYNLIG LASERSTRÅLING NÅR DEKSEL ÅPNES OG SIKKERHEDSLÅS BRYTES. UNNGÅ EKSPONERING FOR STRÅLEN.
VIGYAZAT! : A BURKOLAT NYITÁSAKOR LÁTHATATLAN LÉZERSUGÁRVESZÉLY! KERÜLJE A BESUGÁRZÁST!

This caution label is located inside the unit.

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.

MODEL IDENTIFICATION
— BACK PANEL —



PARTS No.	MODEL	PRODUCT COUNTRY
4-214-451-0□	GRX80: E2, AR	MALAYSIA
4-214-451-1□	GRX80: EA3	MALAYSIA
4-214-451-2□	GRX80: SP	MALAYSIA
4-214-451-3□	GRX80: MX	INDONESIA
4-214-451-4□	GRX80: MX	MALAYSIA
4-214-451-5□	GRX80: AUS	MALAYSIA
4-214-451-6□	GRX80: TW	MALAYSIA
4-214-451-7□	GRX80: E2	INDONESIA
4-214-451-8□	GRX80: EA4, TH	THAILAND
4-214-451-9□	GRX80: E3	MALAYSIA
4-217-515-2□	GRX80: E3	INDONESIA
4-217-515-3□	GRX80: EA3	INDONESIA
4-215-165-0□	GRX8: AEP, G, CIS, UK	INDONESIA
4-215-165-2□	GRX8S: AEP	INDONESIA
4-215-165-3□	GRX8: AEP	MALAYSIA

• Abbreviation

- G : German model
- MX : Mexican model
- SP : Singapore model
- TW : Taiwan model
- AUS : Australian model
- TH : Thai model
- EA3 : Saudi arabia model
- EA4 : Israel model
- E2 : Without SW tuner E model
- E3 : With SW tuner E model

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

The laser diode in the optical pick-up block may suffer electrostatic break-down because of the potential difference generated by the charged electrostatic load, etc. on clothing and the human body. During repair, pay attention to electrostatic break-down and also use the procedure in the printed matter which is included in the repair parts.

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

NOTES ON LASER DIODE EMISSION CHECK

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

LASER DIODE AND FOCUS SEARCH OPERATION CHECK

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

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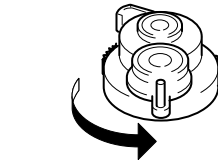
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SECTION 1 SERVICING NOTE

HOW TO OPEN THE DISC TRAY WHEN POWER SWITCH TURNS OFF

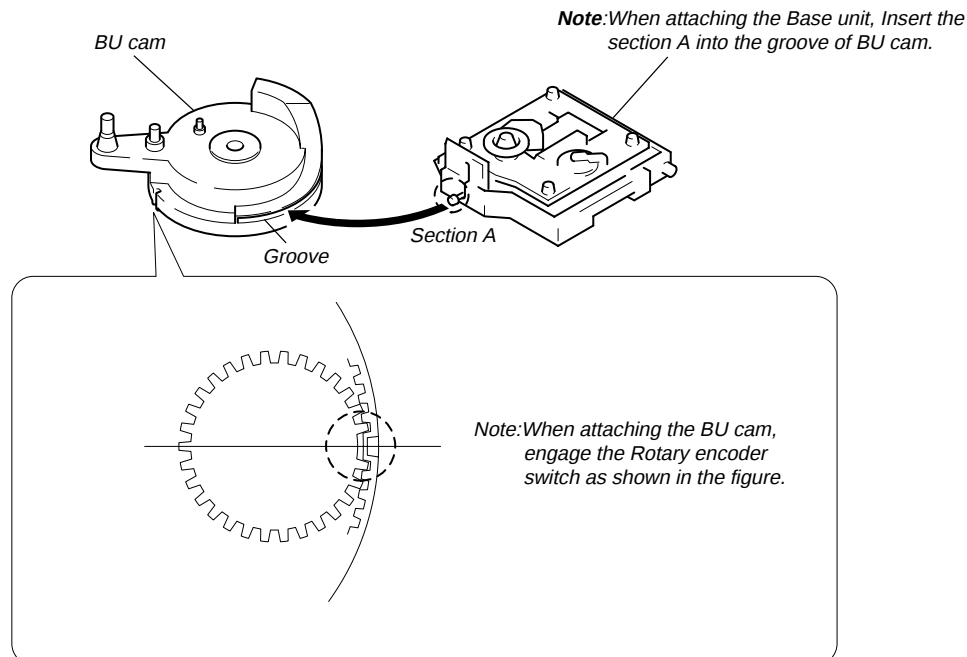
❶ Remove the Case.

❸ Pull-out the disc tray.



❷ Turn the cam to the direction
of arrow.

Note for Installation (ROTARY ENCODER)



CD-TEXT

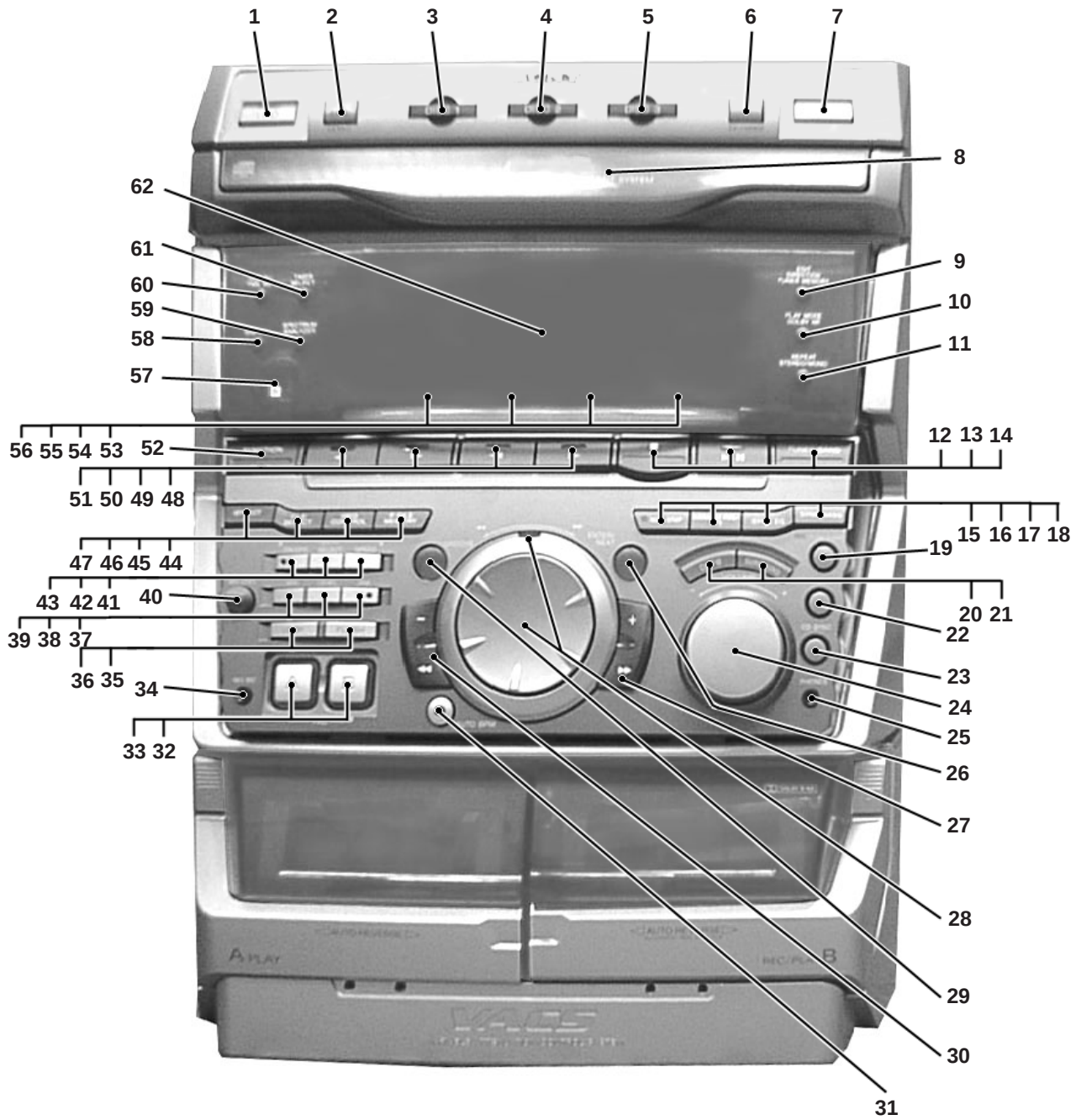
This unit is provided with a simple CD-TEXT display function.

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

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

SECTION 2 GENERAL

Front Panel



LOCATION OF PARTS AND CONTROLS

- | | | |
|---|---|--------------------------------------|
| 1 I/⏻ (Power) button and indicator | 18 SYNC BASS button | 40 MIC LEVEL knob |
| 2 DEMO (STANDBY) POWER SAVE button (RXD8/RXD8S) | 19 REC PAUSE/START button and indicator | 41 BEAT SPEED button |
| 3 DISC 1 button and indicator | 20 DBFB button | 42 BEAT SELECT button |
| 4 DISC 2 button and indicator | 21 SURROUND button | 43 BEAT ON/OFF button and indicator |
| 5 DISC 3 button and indicator | 22 HI DUB button | 44 P FILE MEMORY button |
| 6 DISC SKIP/EX-CHANGE button | 23 CD SYNC button | 45 GEQ CONTROL button |
| 7 ⏏ (Eject) button | 24 VOLUME knob | 46 FILE SELECT |
| 8 Disc tray | 25 PHONES jack | 47 EFFECT button |
| 9 EDIT DIRECTION/TUNER MEMORY button | 26 ENTER/NEXT button and indicator | 48 ► (B deck) button and indicator |
| 10 PLAY MODE/DOLBY NR/PTY button (RXD8/RXD8S) | 27 ►► + button and indicator | 49 ◄◄ (B deck) button and indicator |
| PLAY MODE/DOLBY NR button (GRX80) | 28 JOG/◄◄◄►►► dial and indicator | 50 ►► (A deck) button and indicator |
| 11 REPEAT/STEREO/MONO button | 29 GROOVE button and indicator | 51 ◄◄ (A deck) button and indicator |
| 12 ■ button | 30 ◄◄ button and indicator | 52 FUNCTION button |
| 13 ► (CD) button and indicator | 31 AUTO BPM button and indicator | 53 SYNC BASS H indicator |
| 14 TUNER/BAND button | 32 PAD B button and indicator | 54 SYNC BASS L indicator |
| 15 NON-STOP button and indicator | 33 PAD A button and indicator | 55 SYNC EQ indicator |
| 16 KARAOKE PON/MPX button | 34 MIX MIC jack | 56 EFFECT indicator |
| 17 SYNC EQ button | 35 FLASH button | 57 Remote sensor |
| | 36 LOOP button | 58 DISPLAY button |
| | 37 JAM button and indicator | 59 SPECTRUM ANALYZER button |
| | 38 LEVEL button | 60 CLOCK/TIME SET button |
| | 39 MIX button | 61 TIMER SELECT button and indicator |
| | | 62 Display Window |

This section is extracted from instruction manual.

7

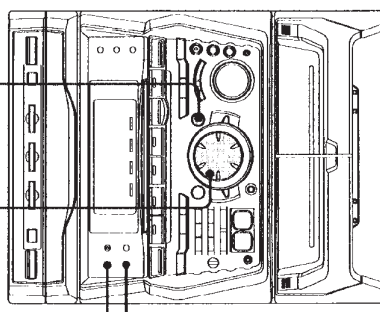
Step 2: Setting the time

You must set the time before using the timer functions.

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

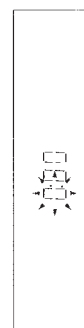
The 24-hour system model is used for illustration purposes.

1 2,4 3,5



DISPLAY

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



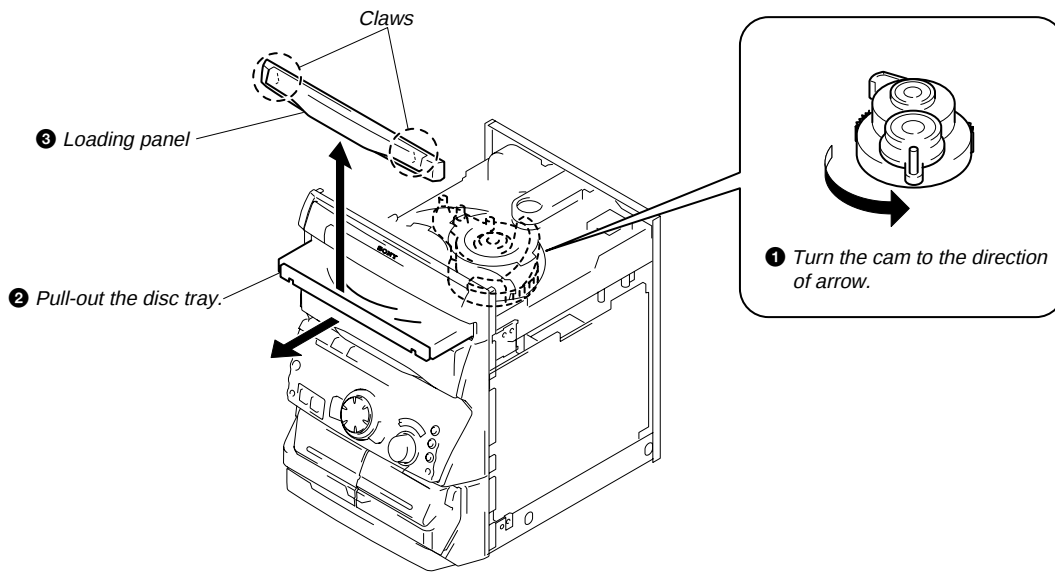
- 2 Turn the jog dial to set the hour.

6

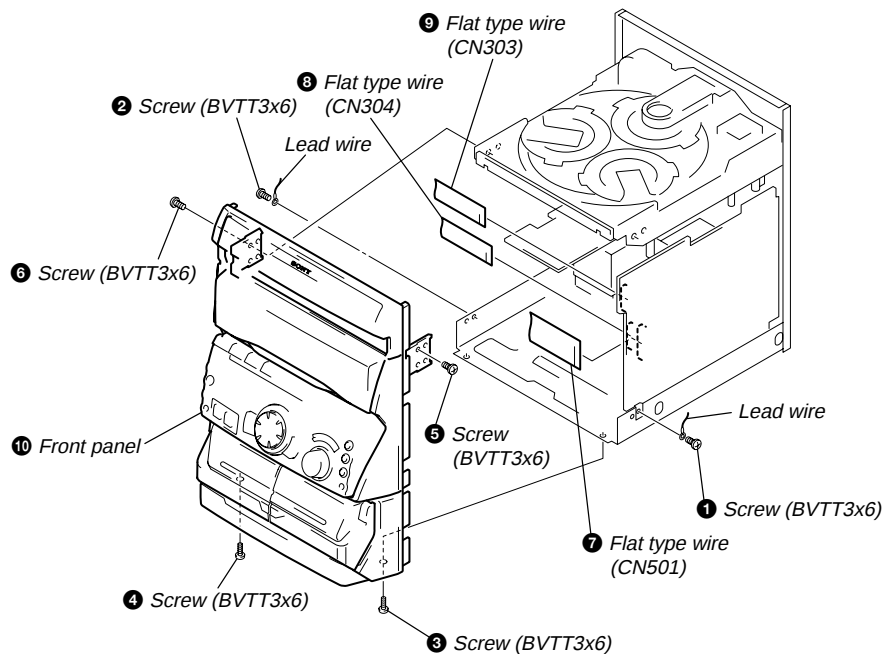
SECTION 3 DISASSEMBLY

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

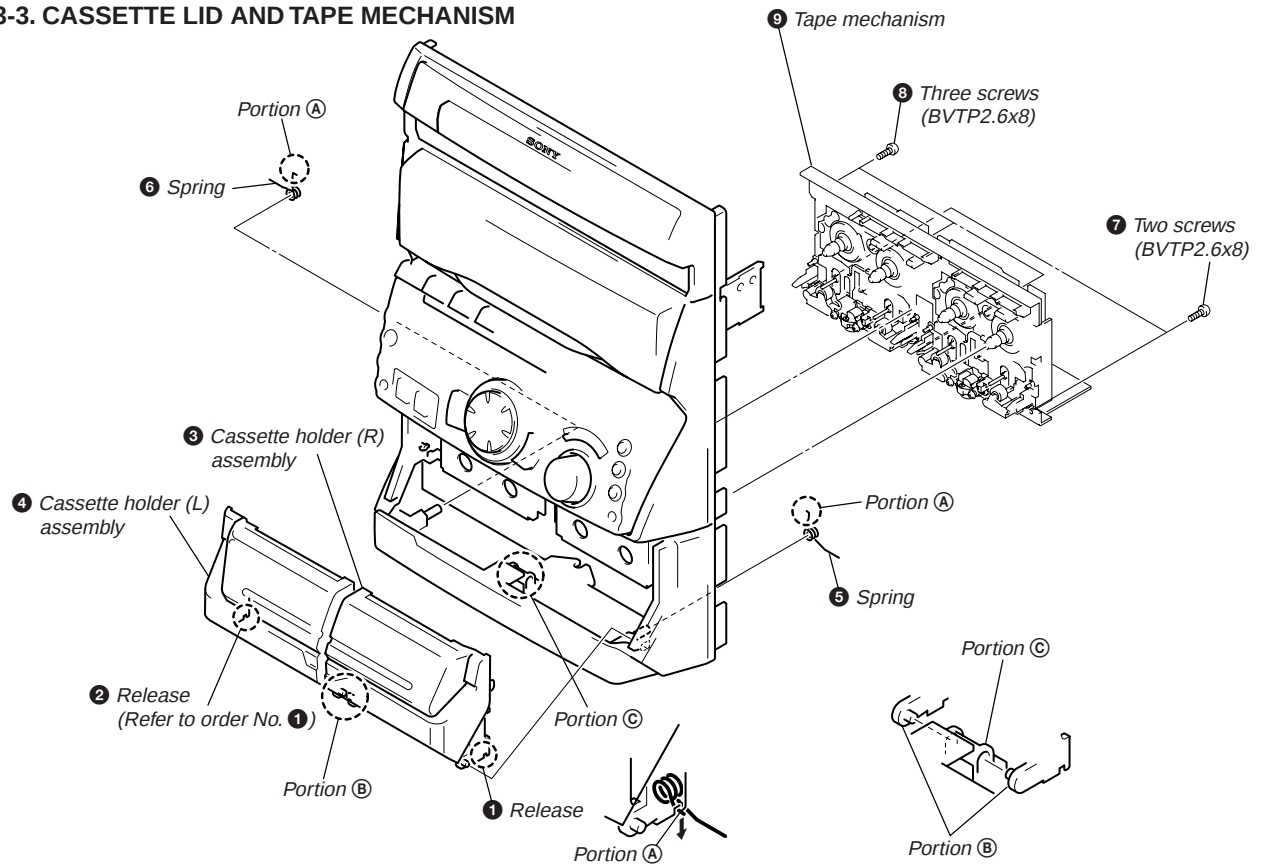
3-1. LOADING PANEL



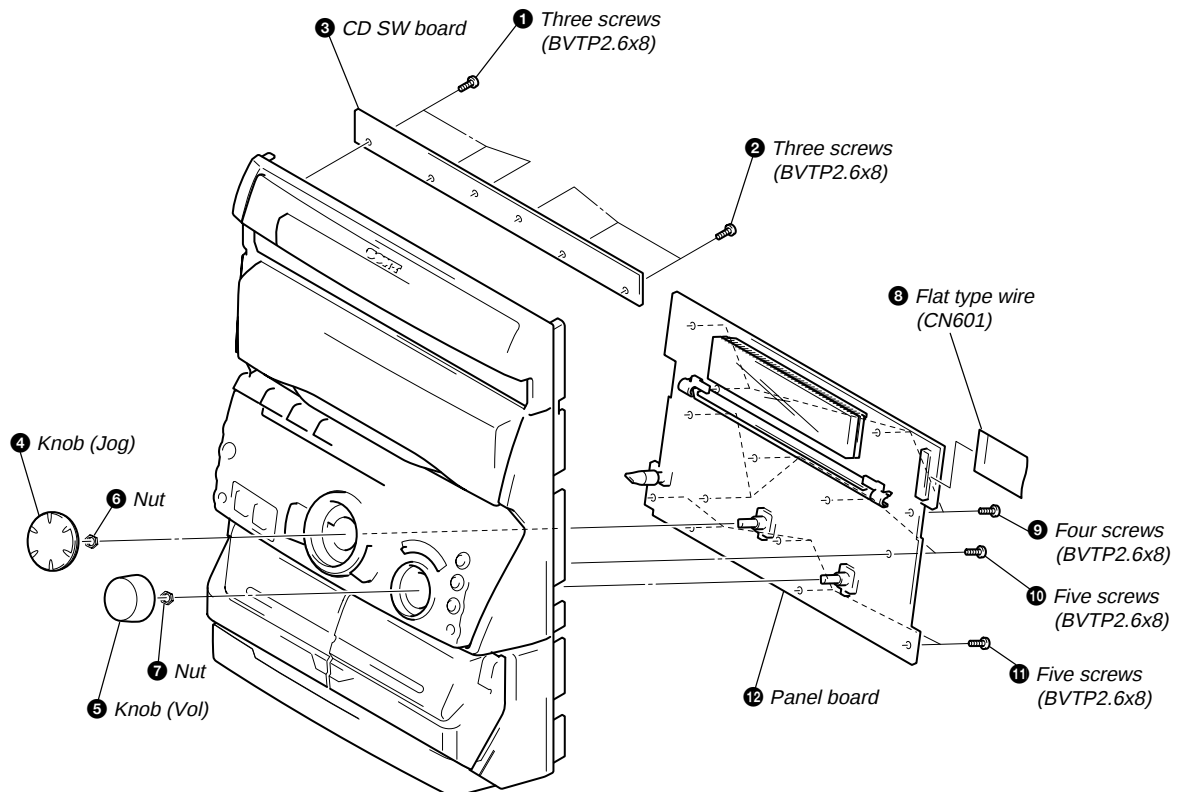
3-2. FRONT PANEL



3-3. CASSETTE LID AND TAPE MECHANISM



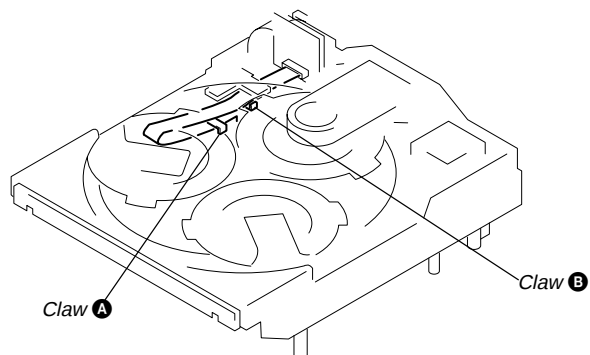
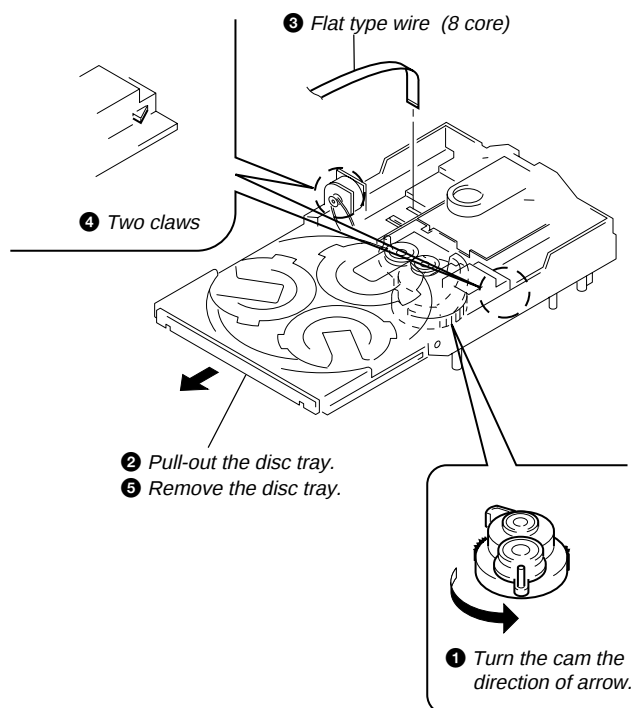
3-4. CD SW BOARD AND PANEL BOARD



3-5. DISC TRAY

(Perform after removing the front panel.)

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



SECTION 4

SERVICE 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. Press three buttons , **ENTER/NEXT**, and  simultaneously.
2. "COLD RESET" is displayed on the fluorescent display tube and reset is executed.

CD Delivery Mode

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

Procedure:

1. Press  button to turn the set ON.
2. Press **LOOP** button and  button simultaneously.
3. A message "LOCK" is displayed on the fluorescent indicator tube, and the CD delivery mode is set.

MC Hot Reset

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

Procedure:

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

Sled Servo Mode

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

Procedure:

1. Press  button to turn the set ON.
2. Press three buttons , **ENTER/NEXT**, and  simultaneously.
3. The Sled Servo mode is selected, if "CD" is blanking on the fluorescent indicator tube.
4. With the CD in stop status, When the  knob is rotated in the clockwise direction, the pick-up moves outside. When rotated counterclockwise, it moves inside.
5. To exit from this mode, perform as follows:
 - 1) Move the pick-up to the most inside track.
 - 2) Execute MC cold reset. (Press the three buttons , **ENTER/NEXT**, and  button simultaneously.)

Note:

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

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

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

Procedure:

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

LED and Fluorescent Indicator Tube All Lit, Key Check Mode

Procedure:

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

AMS Test Mode

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

JIG

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

Procedure:

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

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

Aging Mode

During the aging mode, both the CD player and tape deck are executed together.

• If an error occurs:

Aging stops, and the error state is displayed on the fluorescent display tube.

• If no error occurs:

Aging is repeated.

Procedure:

1. Press the  button to turn the unit ON.
2. Load 10 minute tapes with unbent rec-proof tabs in decks A and B.
3. Set CD on the DISC 1 table.
4. Set the CD mode REPEAT to OFF and PLAY MODE to ALL DISCS.
(Press the **PLAY MODE/DOLBY NR** and **REPEAT/STEREO/MONO** buttons to set these modes.)
5. Press the **FUNCTION** button to switch the function to "CD".
6. Press the three buttons , **ENTER/NEXT**, and **DISC SKIP/EX-CHANGE** button simultaneously.
7. Aging starts.
8. To end aging, press the  button to turn the unit OFF.

Aging Sequence:

Aging is performed in the following sequence.

• Tape Deck

1. The tape in deck A is rewound. "TAPE A AG-1" is displayed.
2. The FWD side of deck A is played for two minutes.
"TAPE A AG-2" is displayed.
3. The tape in deck A is fast forwarded. "TAPE A AG-3" is displayed. Fast forward is carried out for 20 seconds or to the tape end.
4. The RVS side of deck A is played for two minutes.
"TAPE A AG-4" is displayed.
5. The tape in deck A is rewound. "TAPE A AG-5" is displayed.
6. The FWD side of deck B is played for two minutes.
"TAPE B AG-2" is displayed.
7. The tape in deck B is fast forwarded. "TAPE B AG-3" is displayed. Fast forward is carried out for 20 seconds or to the tape end.
8. The RVS side of deck B is played for two minutes.
"TAPE B AG-4" is displayed.
9. The tape in deck A is rewound. "TAPE A AG-5" is displayed.
10. Repeated from step 2.

• CD

1. The tray rotates.
2. DISC 1 is chucked.
3. The TOC is read.
4. The first track is played for 2 seconds.
5. The last track is played for 2 seconds.
6. Repeated from step 1.

- Display when ended abnormally
When the tape deck is abnormal:

The state when ended abnormally is displayed.
The contents of display are the same as that during aging.

When the CD player is abnormal:

A message indicating that errors such as “CD MEC ERR” have occurred.
Check the error contents in the following error history display mode.

Error History Display Mode

Mode which enables the history of error occurring in the CD player to be checked.
Execute this mode after ending the aging mode.

Procedure:

1. Press the **I/O** button to turn the unit ON.
2. Press the three buttons **■**, **ENTER/NEXT**, and **CD SYNC** simultaneously.
3. A message such as “EMC@@@EDC***” is displayed.
@@ : Number of mechanical errors (Up to three past errors)
*** : Number of errors (NO DISC ERROR) which occurs after chucking (Up to three past errors)
4. When checking the history of mechanical errors, press the **PLAY MODE/DOLBY NR** buttons. When checking errors after chucking, press the **REPEAT/STEREO/MONO** buttons to switch the display.
5. Press the **I/O** button to end and turn the unit OFF.
6. To erase the error history, perform COLD reset.
(Press the three buttons **■**, **ENTER/NEXT**, and **DISC 1** simultaneously.)

- Viewing the mechanical error history display
(Switch the history by pressing the **PLAY MODE/DOLBY NR** button.)

Display

E@@@M***#\$*

@@ : Error number. 00 is the newest.

- * : Invalid
- # : Loading
D : Stop that is due to a problem of other than mechanism during CLOSE mode.
E : Stop that is due to a problem of other than mechanism during OPEN mode.
C : Stop that is due to a problem of other than mechanism during CHUCK UP mode.
F : Stop that is due to a problem of other than mechanism during EX OPEN mode.
- \$: Emerging
1 : Stop during CLOSE mode.
2 : Stop during CHUCK DOWN mode.
3 : Time limit of EX OPEN mode.
5 : Time limit of EX CLOSE mode.

- Viewing the NO DISC ERROR history display
(Switch the history by pressing the **REPEAT/STEREO/MONO** buttons.)

Display

E@@@D##\$\$%*

@@ : Error number. 00 is the newest

- ## : Error contents
01 : Focus error
02 : GFS error
03 : Setup error
- \$\$: Retries
00 : NO DISC is determined without attempting chucking retry
02 : NO DISC is determined after chucking retry.
- % : State when determined as NO DISC
1 : When stopped
2 : At setup
3 : At TOC READ
4 : When accessing
5 : When playing
6 : When pausing
7 : When manual searching (during play)
8 : When manual searching (during pausing)
- * : Invalid

SECTION 5 MECHANICAL ADJUSTMENTS

Precaution

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

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

Torque Measurement

Mode	Torque meter	Meter reading
FWD	CQ-102C	31 to 71 g • cm (0.43 – 0.98 oz • inch)
FWD back tension	CQ-102C	2 to 6 g • cm (0.02 – 0.08 oz • inch)
REV	CQ-102RC	31 to 71 g • cm (0.43 – 0.98 oz • inch)
REV back tension	CQ-102RC	2 to 6 g • cm (0.02 – 0.08 oz • inch)
FF/REW	CQ-201B	71 to 143 g • cm (0.98 – 1.99 oz • inch)
FWD tension	CQ-403A	100 g or more (3.53 oz or more)
REV tension	CQ-403R	100 g or more (3.53 oz or more)

SECTION 6 ELECTRICAL ADJUSTMENTS

DECK SECTION

0 dB=0.775V

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

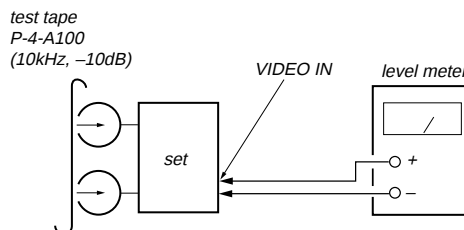
Tape	Signal	Used for
P-4-A100	10 kHz, -10 dB	Azimuth Adjustment
WS-48B	3 kHz, 0 dB	Tape Speed Adjustment
P-4-L300	315 Hz, 0 dB	Level Adjustment

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

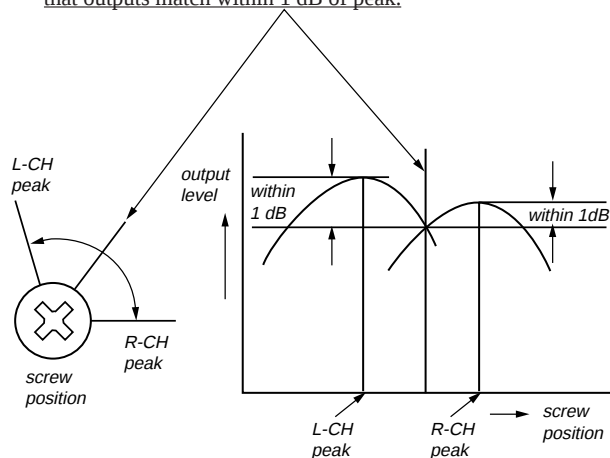
Note: Perform this adjustments for both decks.

Procedure:

- Mode : Playback

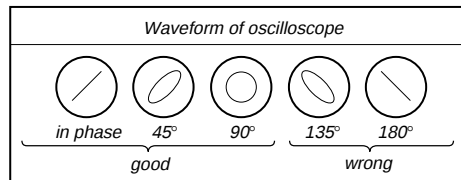
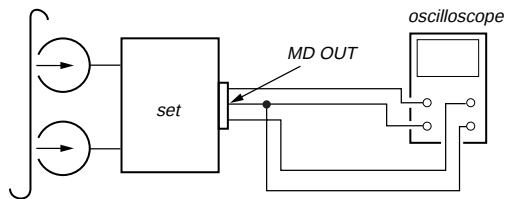


- Turn the adjustment screw and check output peaks. If the peaks do not match for L-CH and R-CH, turn the adjustment screw so that outputs match within 1 dB of peak.



3. Mode: Playback

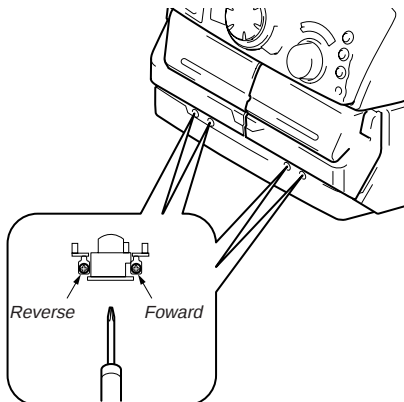
test tape
P-4-A100
(10kHz, -10dB)



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

Adjustment Location: Playback Head (Deck A)

Record/Playback/Erase Head (Deck B)



Tape Speed Adjustment (Deck A)

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

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

Procedure:

With the power turned ON, press the **[STOP]** button, **[ENTER/NEXT]** button, and **[DISC 3]** button simultaneously.

(The "CD TYPE INDICATOR" on the fluorescent display tube will blink while in the test mode.)

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

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

Adjustment Location: LEAF SW board

Sample Value of Wow and flutter

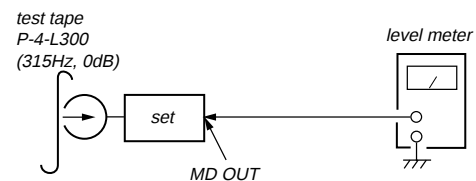
W.RMS (JIS) less than 0.3%

(test tape: WS-48B)

Playback Level Adjustment (Deck A, Deck B)

Procedure:

Mode: Playback



Deck A is RV311 (L-CH) and RV411 (R-CH), deck B is RV301 (L-CH) and RV401 (R-CH)

so that adjustment within the following adjustment level.

Adjustment level:

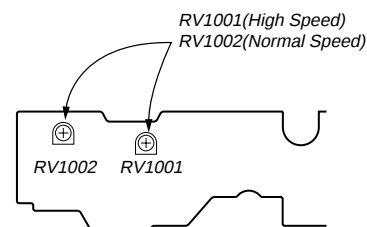
CN301 playback level: 301.5 to 338.3 mV (-8.2 to -7.2 dB)

level difference between the channels: within ± 0.5 dB

Adjustment Location: AUDIO board

Adjustment Location

[LEAF SW BOARD]



Record Bias Adjustment (Deck B)

Procedure:

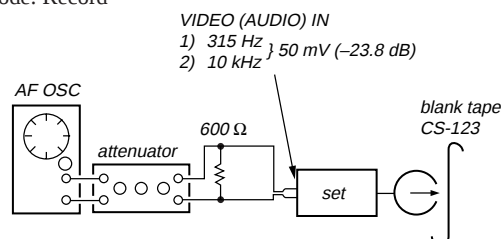
INTRODUCTION

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

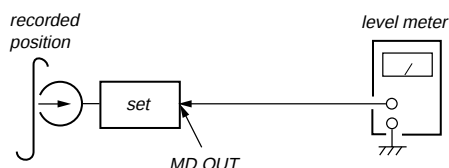
This "REC memory mode" is convenient for performing this adjustment. During recording, the input signal FUNCTION will automatically switch to VIDEO.

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

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



4. Mode: Playback



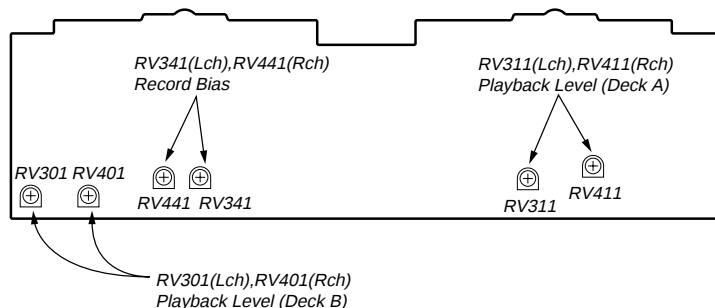
5. Confirm playback the signal recorded in step 2 become adjustment level as follows.
If these levels do not adjustment level, adjust the RV341 (L-CH) and RV441 (R-CH) on the AUDIO board to repeat steps 3 and 4.

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

Adjustment Location: AUDIO board

Adjustment Location:

[AUDIO BOARD] (Conductor Side)



Record Level Adjustment (Deck B)

Procedure:

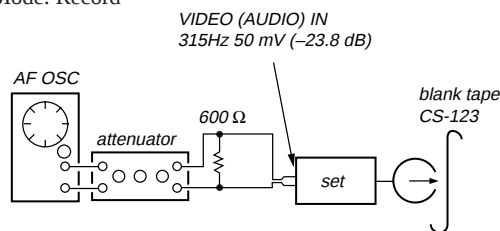
INTRODUCTION

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

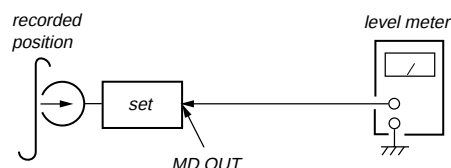
This "REC memory mode" is convenient for performing this adjustment. During recording, the input signal FUNCTION will automatically switch to VIDEO.

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

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



4. Mode: Playback

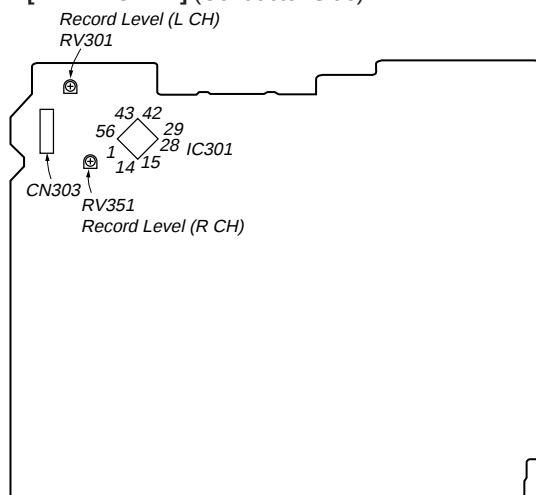


5. Confirm playback the signal recorded in step 2 become adjustment level as follows.
If these levels do not adjustment level, adjust the RV301 (L-CH) and RV351 (R-CH) on the MAIN board to repeat steps 3 and 4.

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

Adjustment Location: MAIN board

[MAIN BOARD] (Conductor Side)

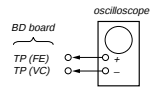


CD SECTION

Note:

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

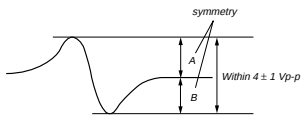
S Curve Check



Procedure :

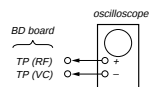
1. Connect the oscilloscope to test points TP (FE) and TP (VC).
2. Connect TP (FE1) and GND, and TP (AGCCON) and GND of the BD board with lead wires.
3. Press the **[I/II]** button to turn the set ON.
4. With the disc (YEDS-18) loaded, press the **[▶]** button and perform focus search. (Focus search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

S-curve waveform



6. After check, remove the lead wire connected in step 2.
- Note:** • Try to measure several times to make sure than the ratio of A : B or B : A is more than 10 : 7.
• Take sweep time as long as possible and light up the brightness to obtain best waveform.

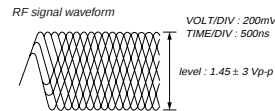
RF Level Check



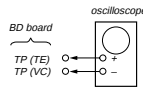
Procedure :

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

Note: Clear RF signal waveform means that the shape "0" can be clearly distinguished at the center of the waveform.



E-F Balance (1 Track Jump) check



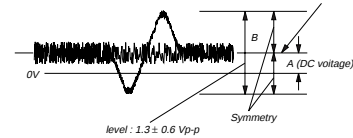
Procedure:

1. Connect oscilloscope to test point TP (TE) on BD board.
2. Press the **[I/II]** button to turn the unit ON.
3. Put disc (YEDS-18) in to play the number five track.
4. Press the **[▶]** button.
5. Check the level B of the oscilloscope's waveform and the A (DC voltage) of the center of the Traverse waveform.

Confirm the following:

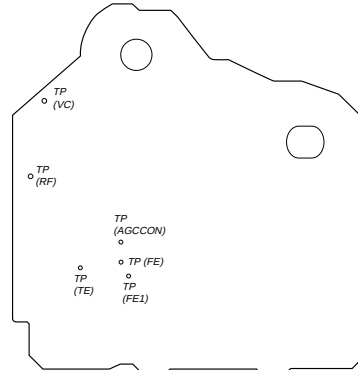
- $A/B \times 100 = \text{less than } \pm 22 (\%)$
- $B = 1.3 \pm 0.6 \text{ Vp-p}$

1 track jump waveform



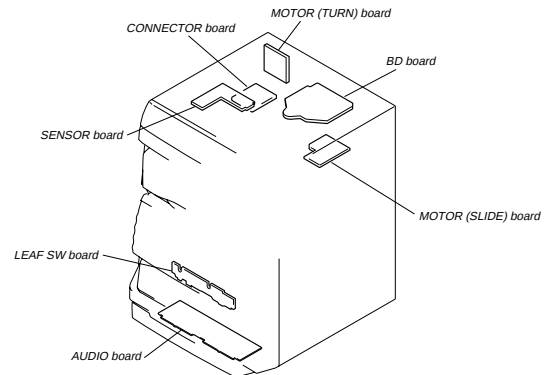
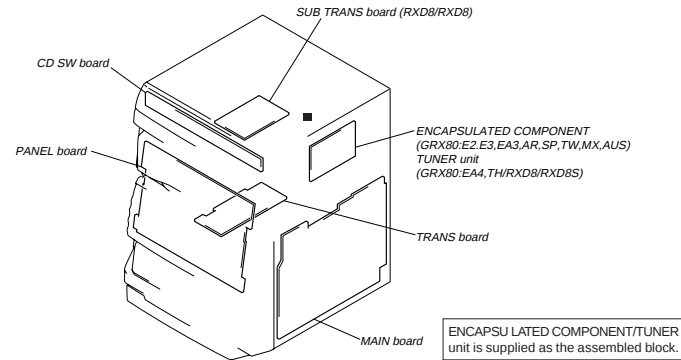
Adjustment Location :

[BD BOARD] — SIDE A —



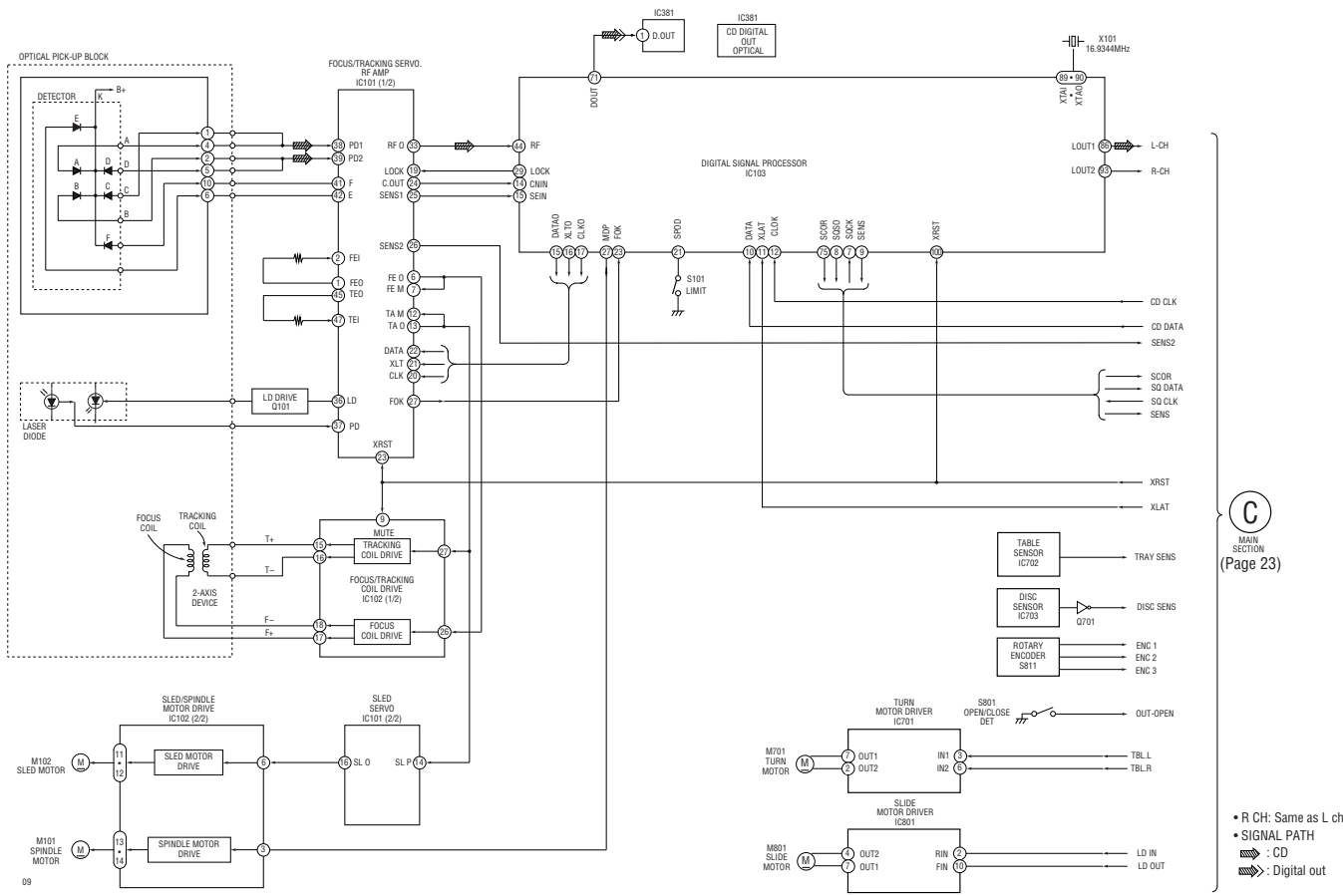
SECTION 7 DIAGRAMS

7-1. CIRCUIT BOARDS LOCATION

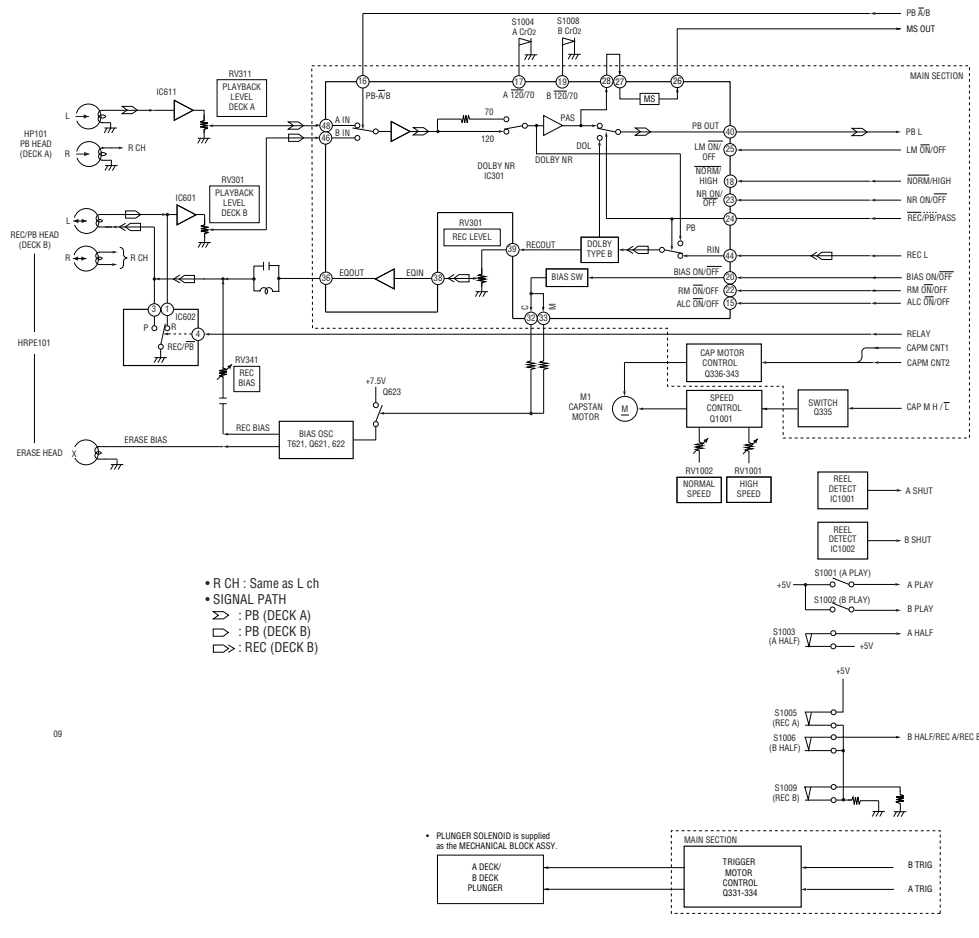


HCD-GRX80/RXD8/RXD8S

7-2. BLOCK DIAGRAMS
- CD SECTION -



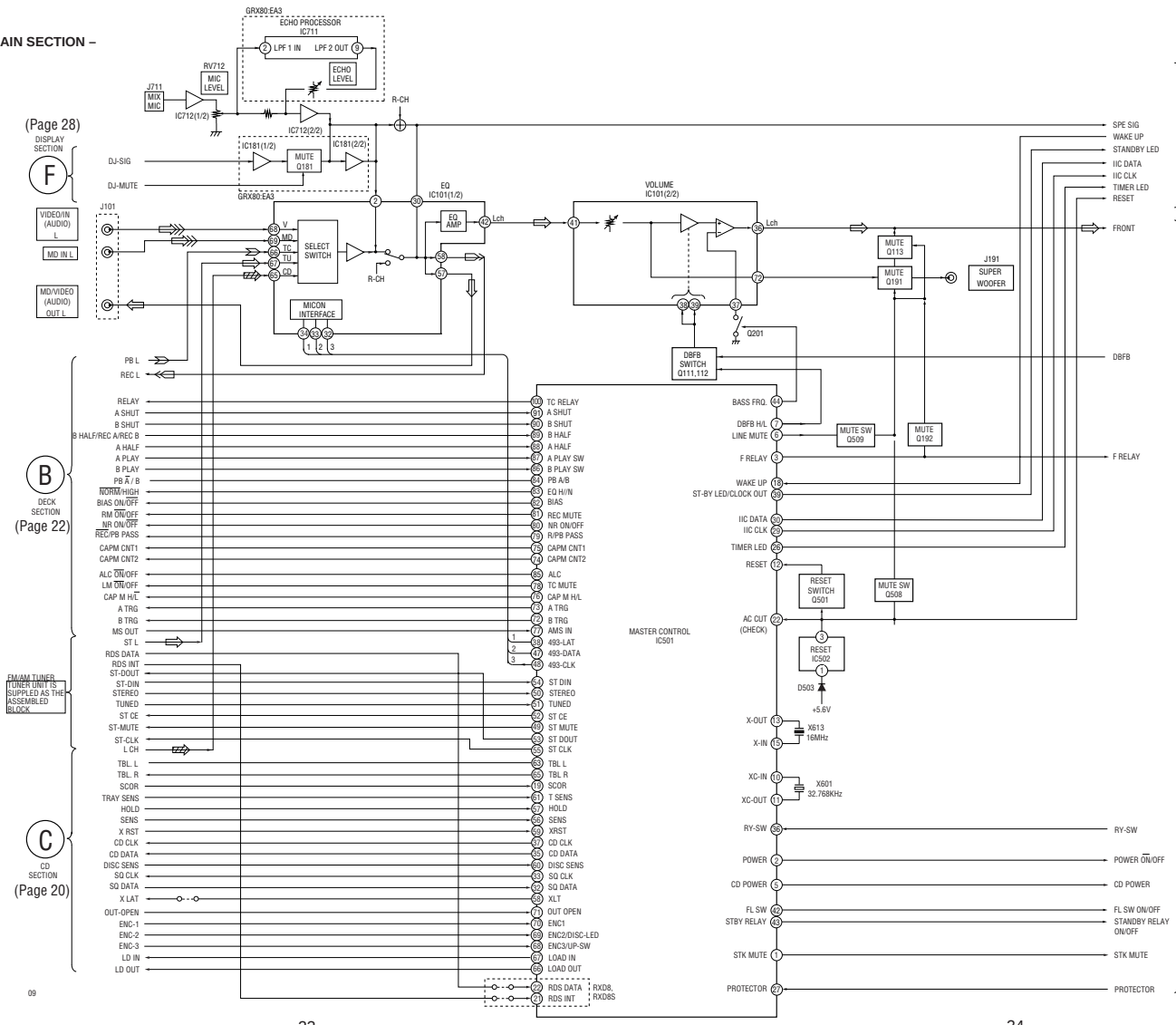
- DECK SECTION -



B
MAIN
SECTION
(Page 23)

HCD-GRX80/RXD8/RXD8S

- MAIN SECTION -



(Page 28)
DISPLAY SECTION
F

(Page 22)
DECK SECTION
B

(Page 20)
CD SECTION
C

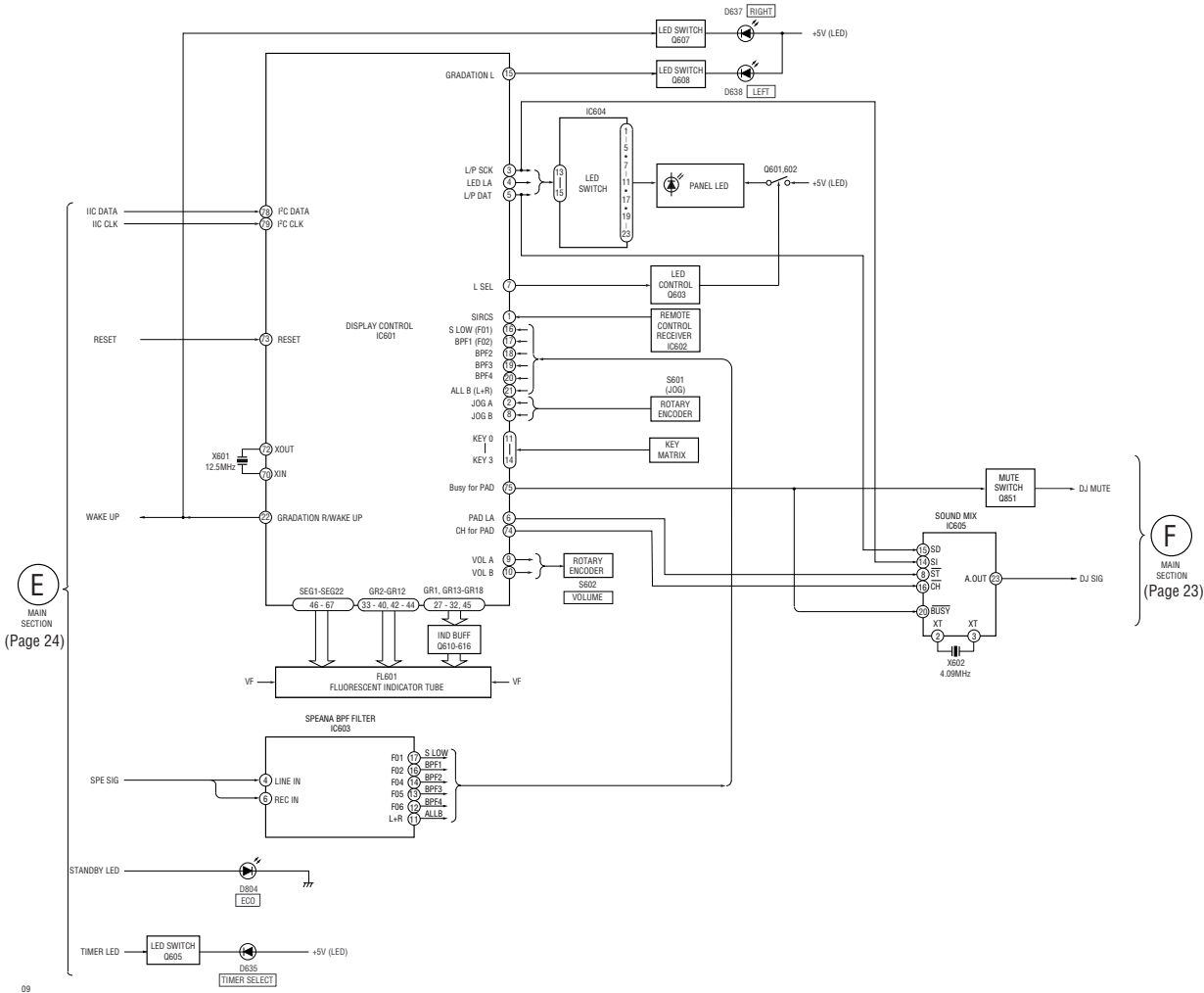
(Page 25)
POWER SECTION
D

- R CH: Same as L ch
- SIGNAL PATH
 - ⇒ : FM
 - ⇒ : CD
 - ⇒ : PB
 - ⇒ : REC
 - ⇒ : VIDEO/MD
- Abbreviation
- EA3 : Saudi Arabia model.



HCD-GRX80/RXD8/RXD8S

- DISPLAY SECTION -



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

For schematic diagrams.

Note:

- All capacitors are in μF unless otherwise noted. pF: μF 50 WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and $\frac{1}{2}$ -W or less unless otherwise specified.
- Δ : internal component.
- $\square$: panel designation.

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

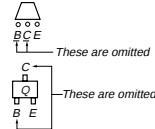
- $\square$: B+ Line.
- $\square$: B- Line.
- $\square$: adjustment for repair.
- Voltages and waveforms are dc with respect to ground under no-signal (detuned) conditions.
- Voltages are taken with a VOM (Input impedance 10 M Ω). Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken with a oscilloscope. Voltage variations may be noted due to normal production tolerances.
- Circled numbers refer to waveforms.
- Signal path.
 - $\rightarrow$: FM
 - $\rightarrow$: AM
 - $\rightarrow$: VIDEO/MD
 - $\rightarrow$: PB (DECK A)
 - $\rightarrow$: PB (DECK B)
 - $\rightarrow$: REC (DECK B)
 - $\rightarrow$: CD
 - $\rightarrow$: digital out
- Abbreviation
 - G : German model.
 - E2 : Without SW tuner E model.
 - E3 : With SW tuner E model.
 - EA3 : Saudi Arabia model.
 - EA4 : Israeli model.
 - AUS : Australian model.
 - SP : Singapore model.
 - TW : Taiwan model.
 - AR : Argentine model.
 - TH : Thailand model.
 - MX : Mexican model.

For printed wiring boards.

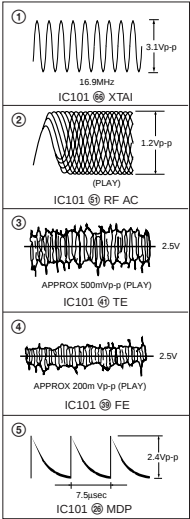
Note:

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

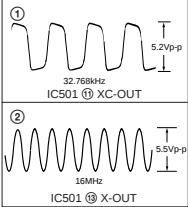
Indication of transistor



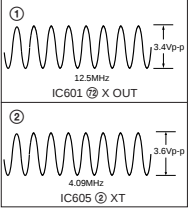
WAVEFORMS
- BD (CD) SECTION -



- MAIN (3/4) SECTION -

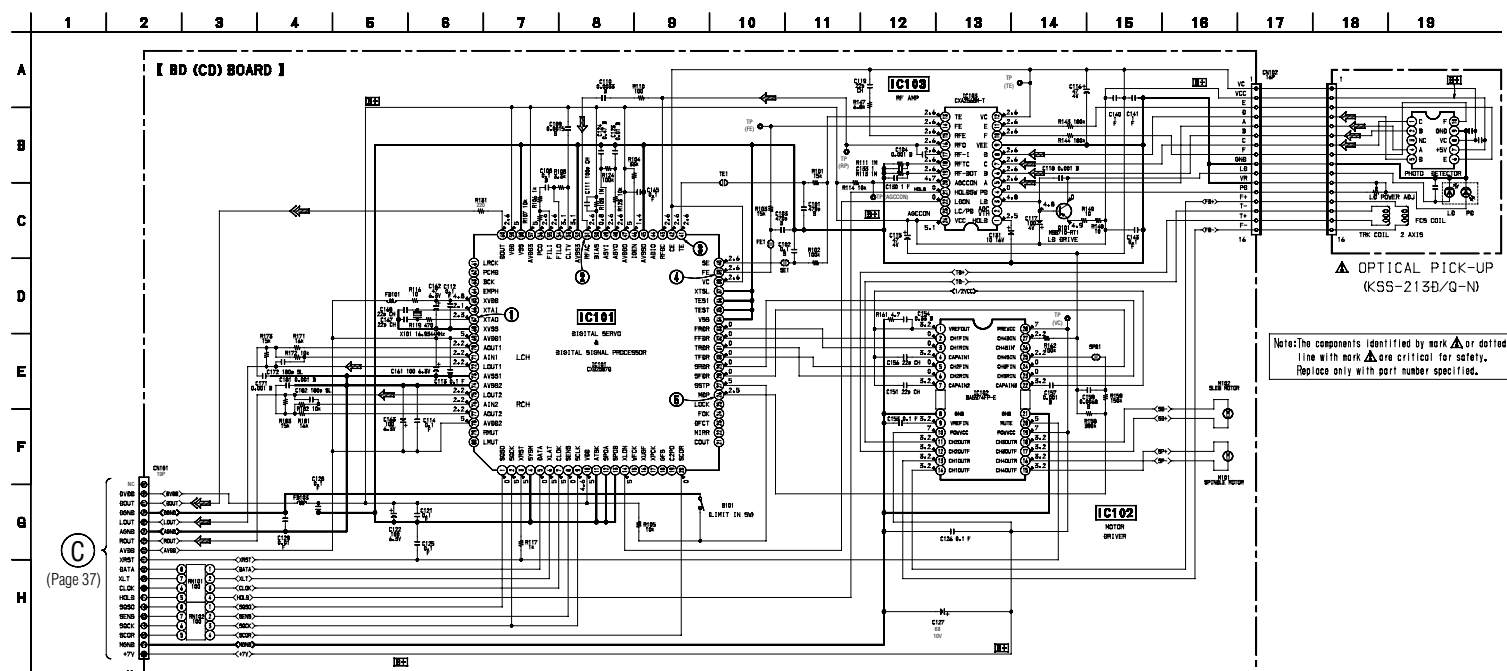


- PANEL (2/3) SECTION -



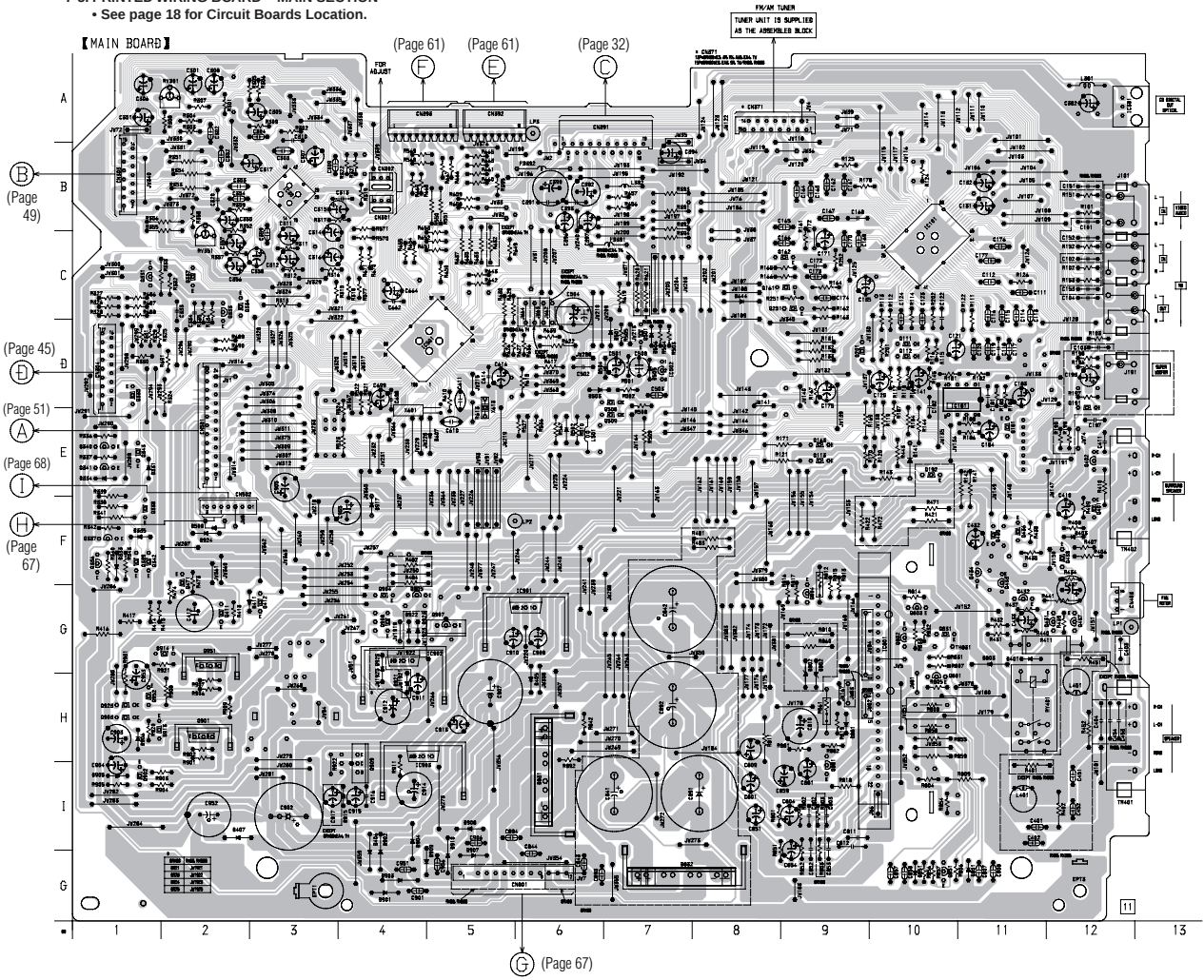
7-3. PRINTED WIRING BOARD – BD (CD) SECTION –
• See page 18 for Circuit Boards Location.

7-4. SCHEMATIC DIAGRAM – BD (CD) SECTION –
• See page 30 for Waveforms.

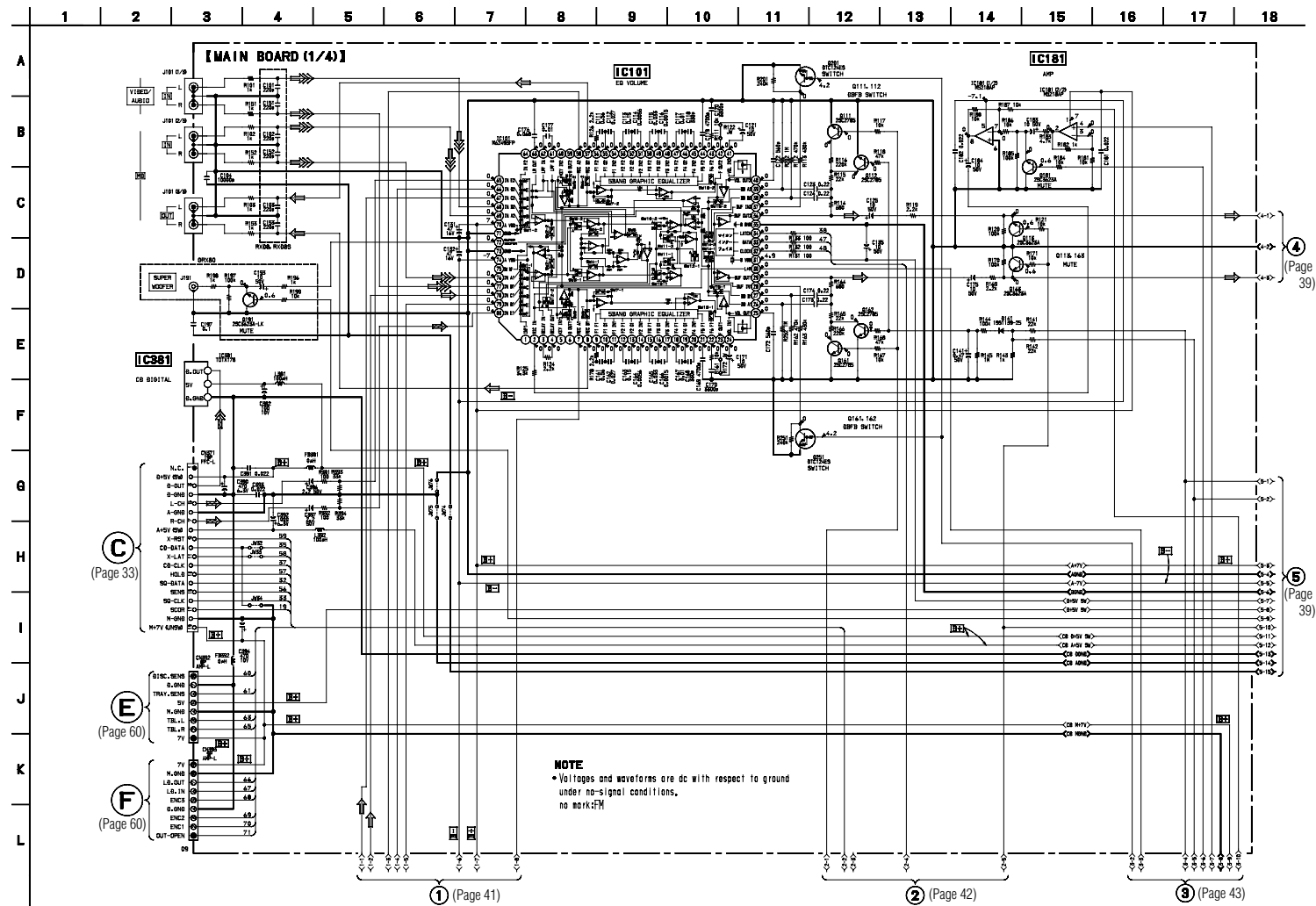


7-5. PRINTED WIRING BOARD - MAIN SECTION -
• See page 18 for Circuit Boards Location.

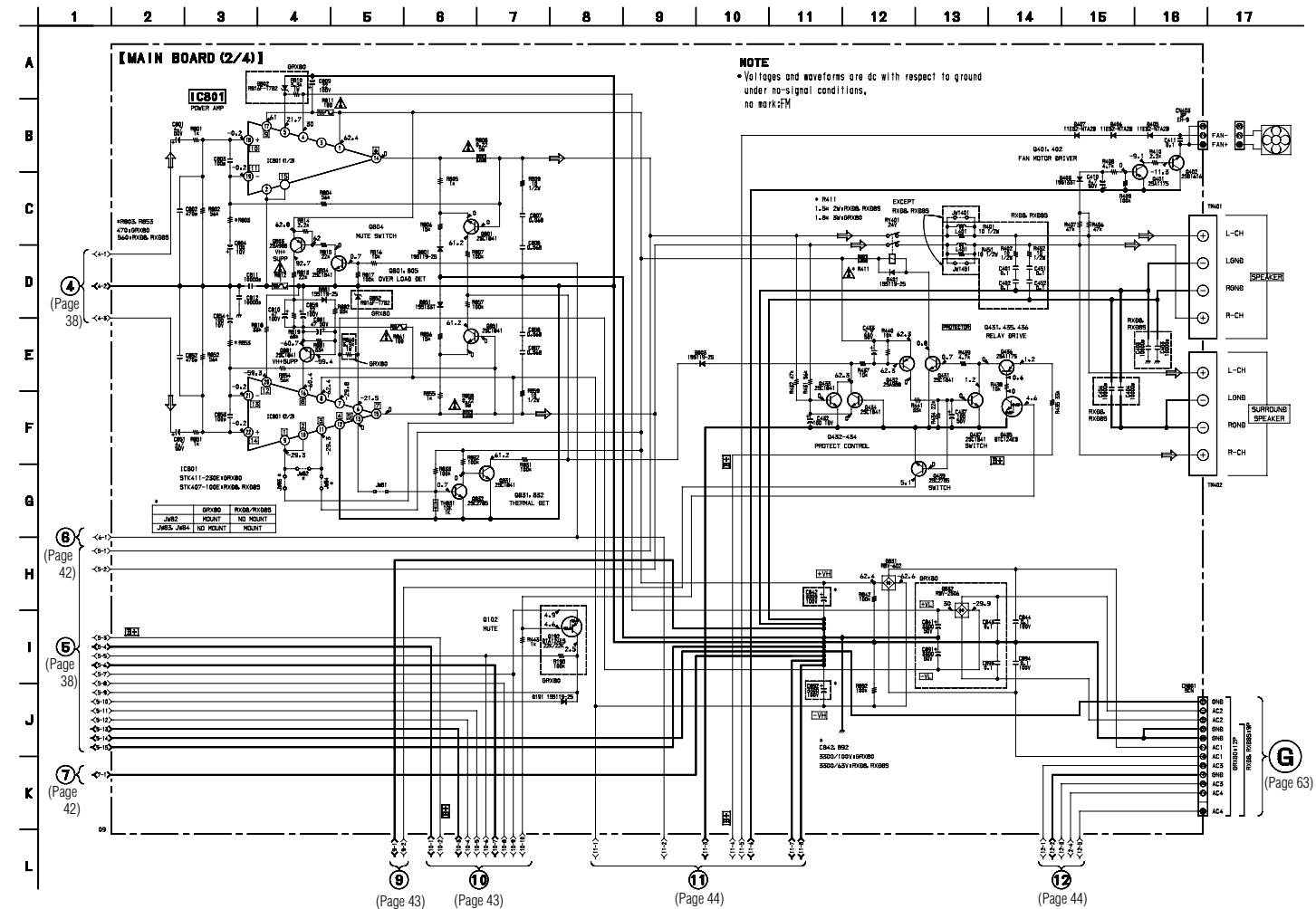
• Semiconductor Location			
Ref. No.	Location	Ref. No.	Location
D141	E-10	Q113	E-9
D191	E-10	Q161	C-9
D331	E-1	Q162	C-9
D334	E-1	Q163	E-9
D335	F-1	Q181	E-11
D401	G-11	Q191	E-10
D403	F-12	Q192	E-10
D405	H-6	Q201	D-9
D406	I-4	Q251	C-9
D407	I-2	Q331	C-1
D411	G-3	Q332	C-2
D501	D-7	Q333	C-2
D502	E-6	Q334	C-2
D503	D-6	Q335	D-1
D504	D-7	Q336	F-1
D505	D-7	Q337	F-1
D506	D-7	Q338	F-1
D509	F-2	Q339	F-1
D607	E-5	Q340	E-1
D644	C-8	Q341	E-1
D801	J-11	Q342	E-1
D802	G-9	Q343	E-1
D803	G-11	Q401	F-12
D831	I-6	Q402	E-12
D832	J-7	Q411	G-2
D851	J-10	Q412	G-2
D852	G-9	Q431	G-12
D881	H-9	Q432	G-11
D901	J-4	Q433	F-11
D902	I-4	Q434	F-11
D903	J-4	Q435	F-11
D904	I-4	Q436	F-11
D905	I-1	Q437	G-12
D906	H-1	Q439	F-12
D907	J-5	Q471	F-12
D908	I-5	Q501	D-7
D909	J-5	Q508	D-7
D910	J-5	Q509	E-7
D915	I-4	Q801	H-10
D921	H-4	Q803	G-10
D922	G-4	Q804	G-9
D923	G-4	Q831	G-10
D924	F-2	Q832	G-10
D925	C4	Q851	J-11
D971	?	Q881	I-9
		Q901	H-2
		Q902	I-1
IC101	B-10	Q903	H-1
IC181	D-11	Q904	G-4
IC301	B-3	Q905	G-4
IC381	A-12	Q907	G-5
IC501	D-5	Q908	G-4
IC502	D-7	Q909	I-4
IC801	G-10	Q913	H-1
IC901	G-6	Q914	G-2
IC902	G-4	Q923	H-1
IC903	I-4	Q951	G-2
		Q952	H-1
Q111	D-10		
Q112	D-10		



7-6. SCHEMATIC DIAGRAM – MAIN (1/4) SECTION –

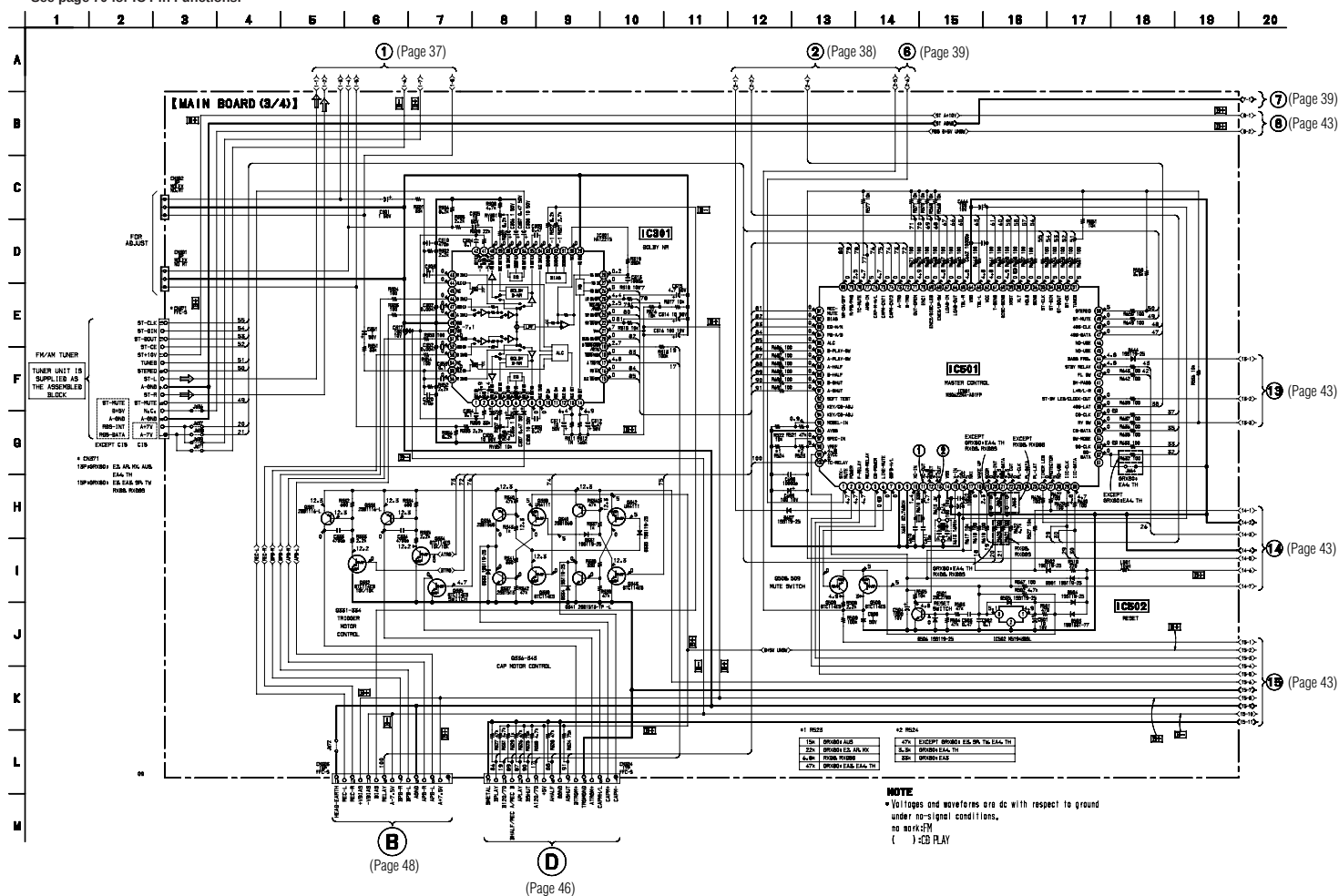


7-7. SCHEMATIC DIAGRAM – MAIN (2/4) SECTION –
• See page 35 for Printed Wiring Board.

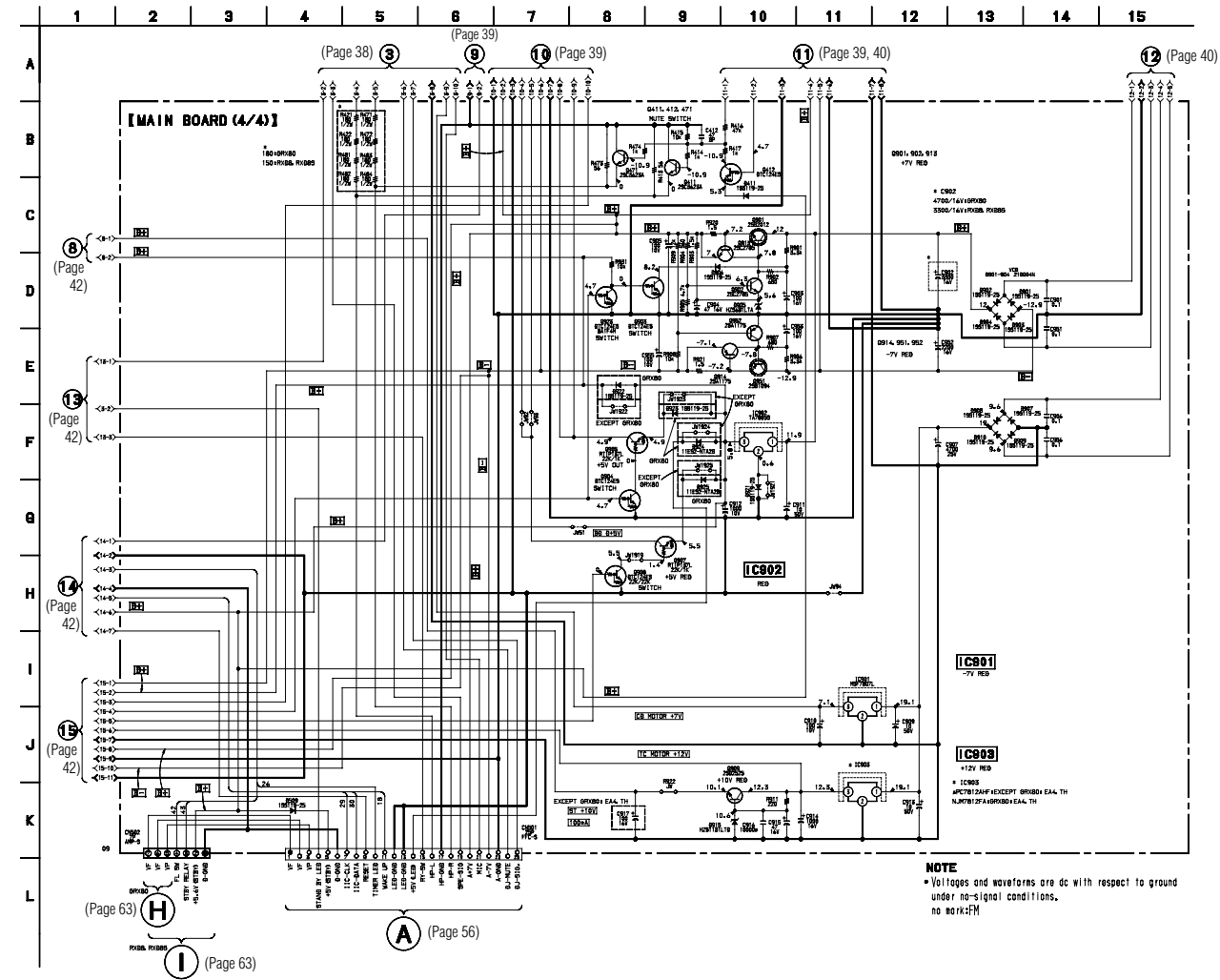


7-8. SCHEMATIC DIAGRAM – MAIN (3/4) SECTION –

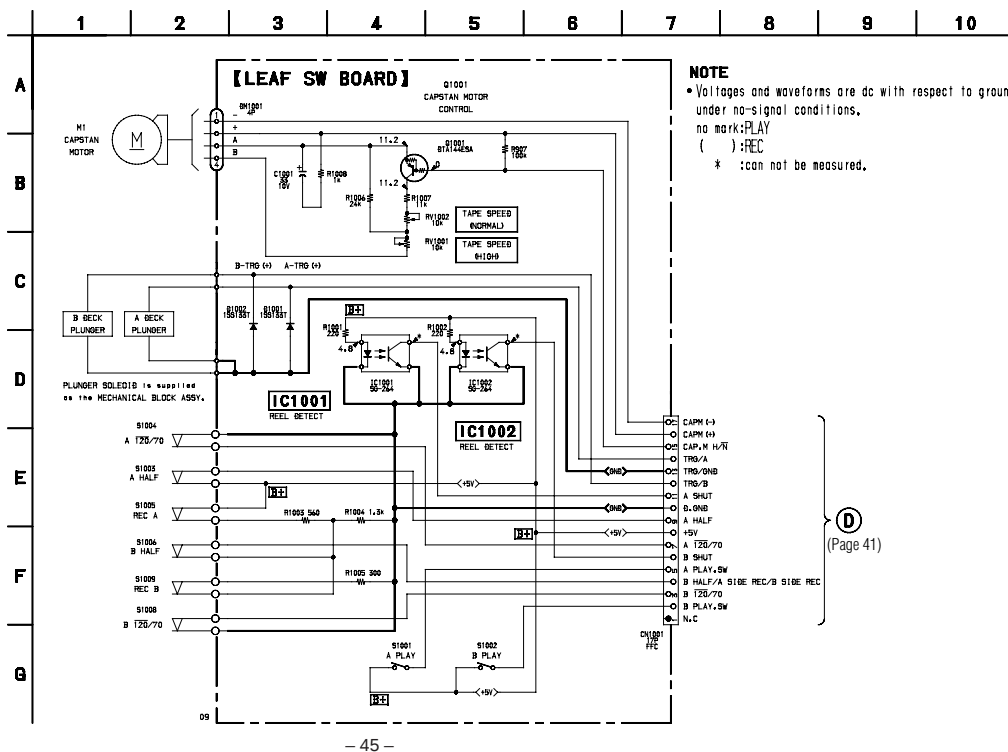
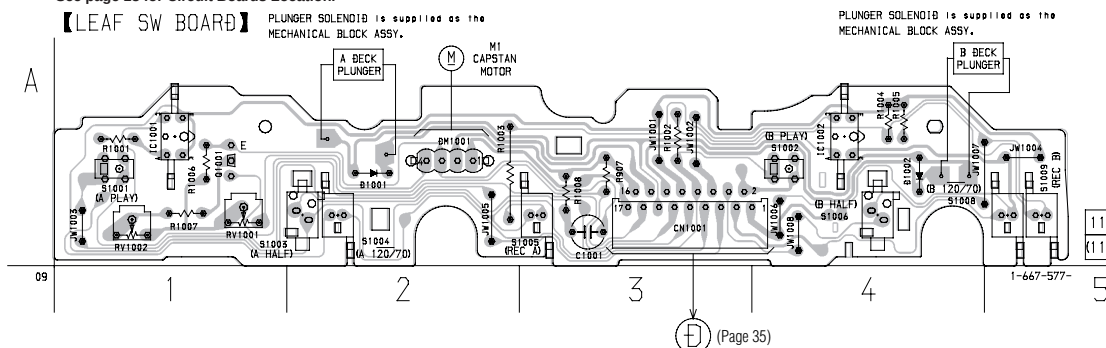
- See page 30 for Waveforms.
- See page 35 for Printed Wiring Board.
- See page 70 for IC Pin Functions.



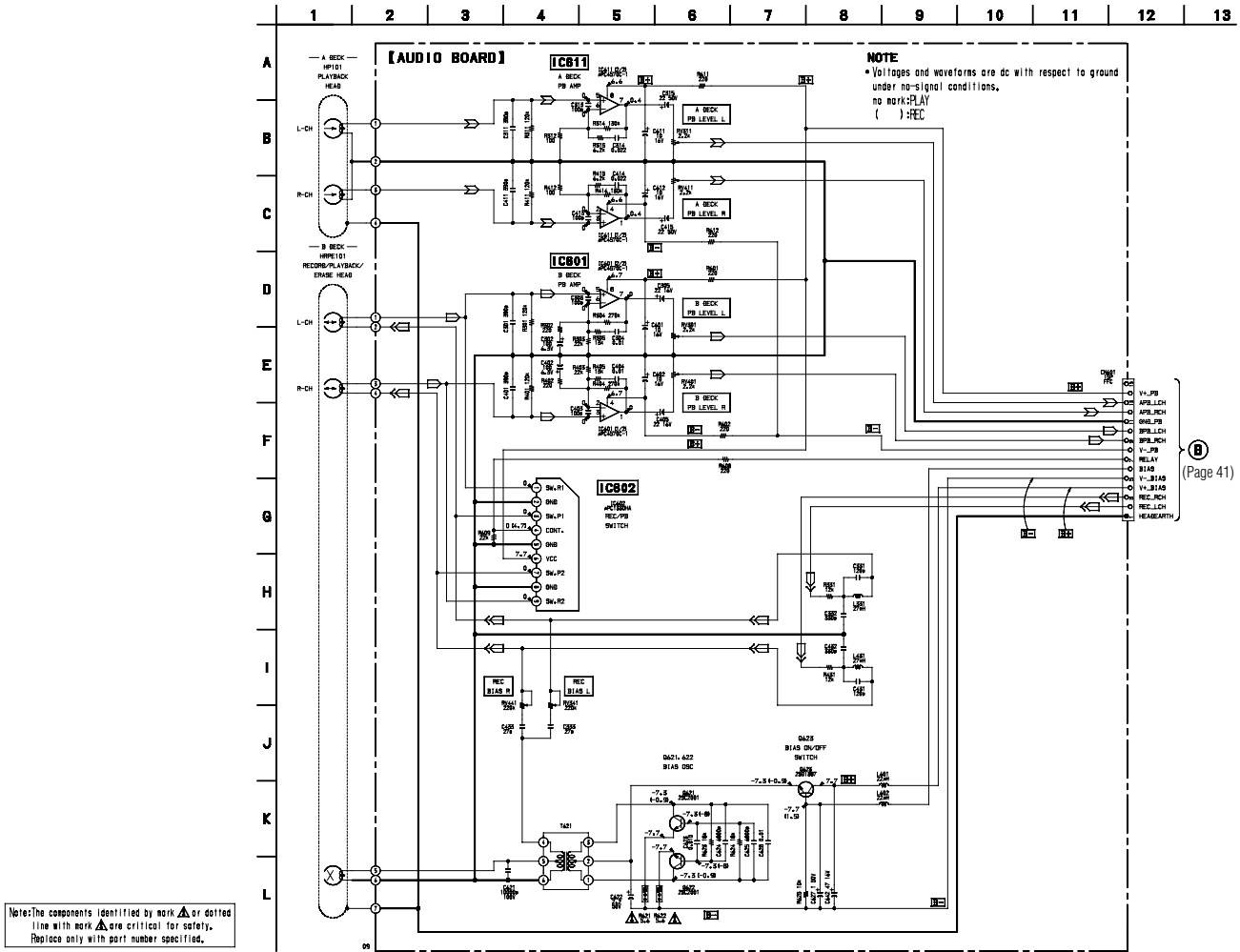
7-9. SCHEMATIC DIAGRAM – MAIN (4/4) SECTION –
• See page 35 for Printed Wiring Board.



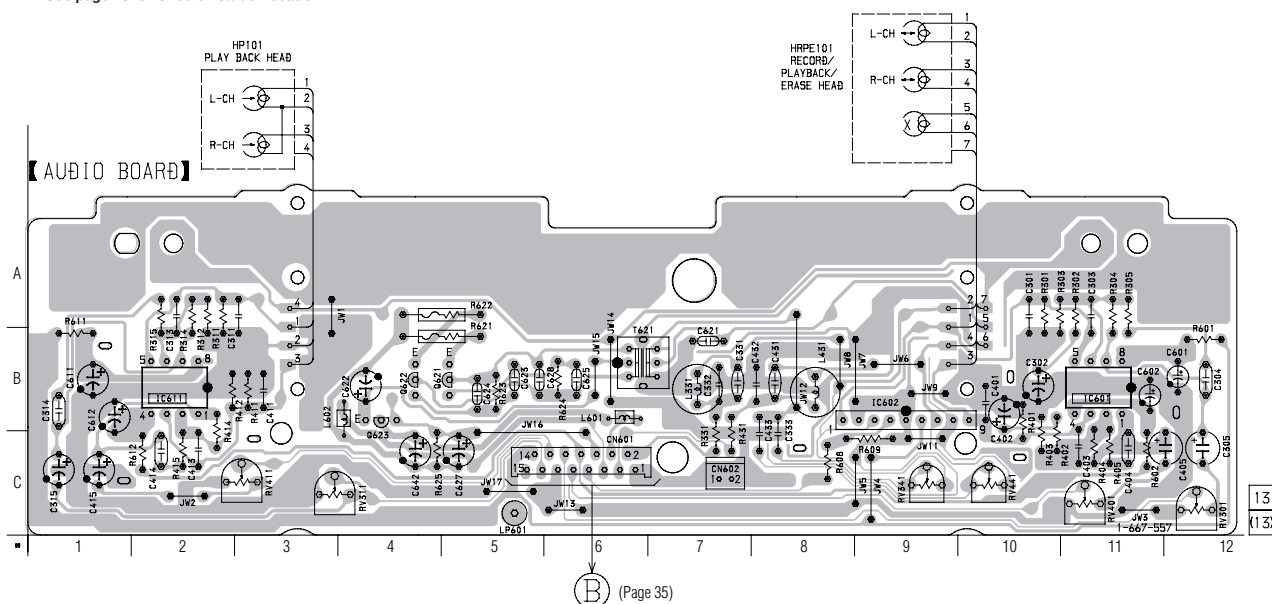
• See page 18 for Circuit Boards Location.



7-12. SCHEMATIC DIAGRAM - DECK SECTION -



7-13. PRINTED WIRING BOARD – DECK SECTION –
 • See page 18 for Circuit Boards Location.



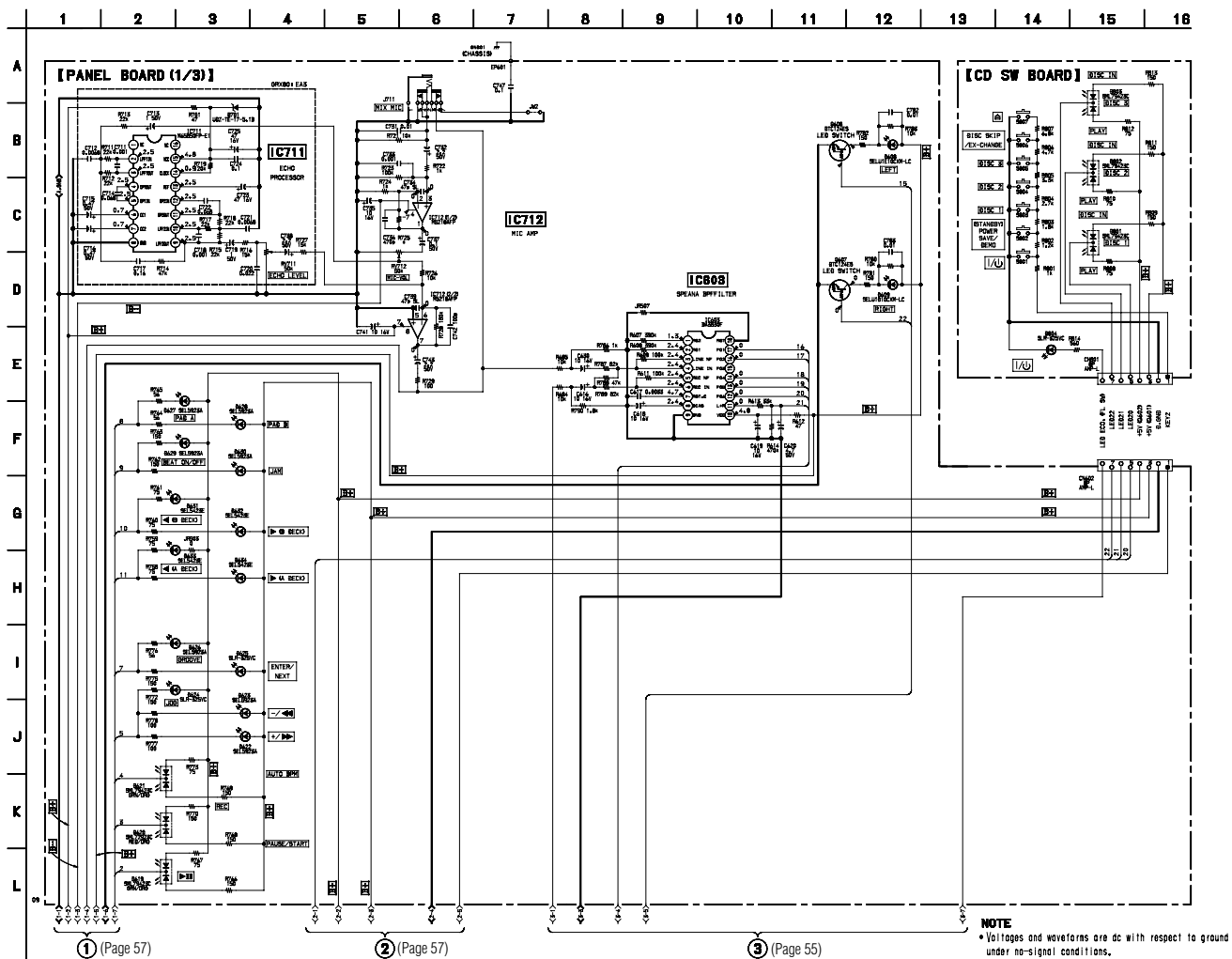
• See page 18 for Circuit Boards Location.

【PANEL BOARD】

(Page 35)



7-15. SCHEMATIC DIAGRAM – PANEL (1/3) SECTION –
 • See page 69 for IC Block Diagrams.

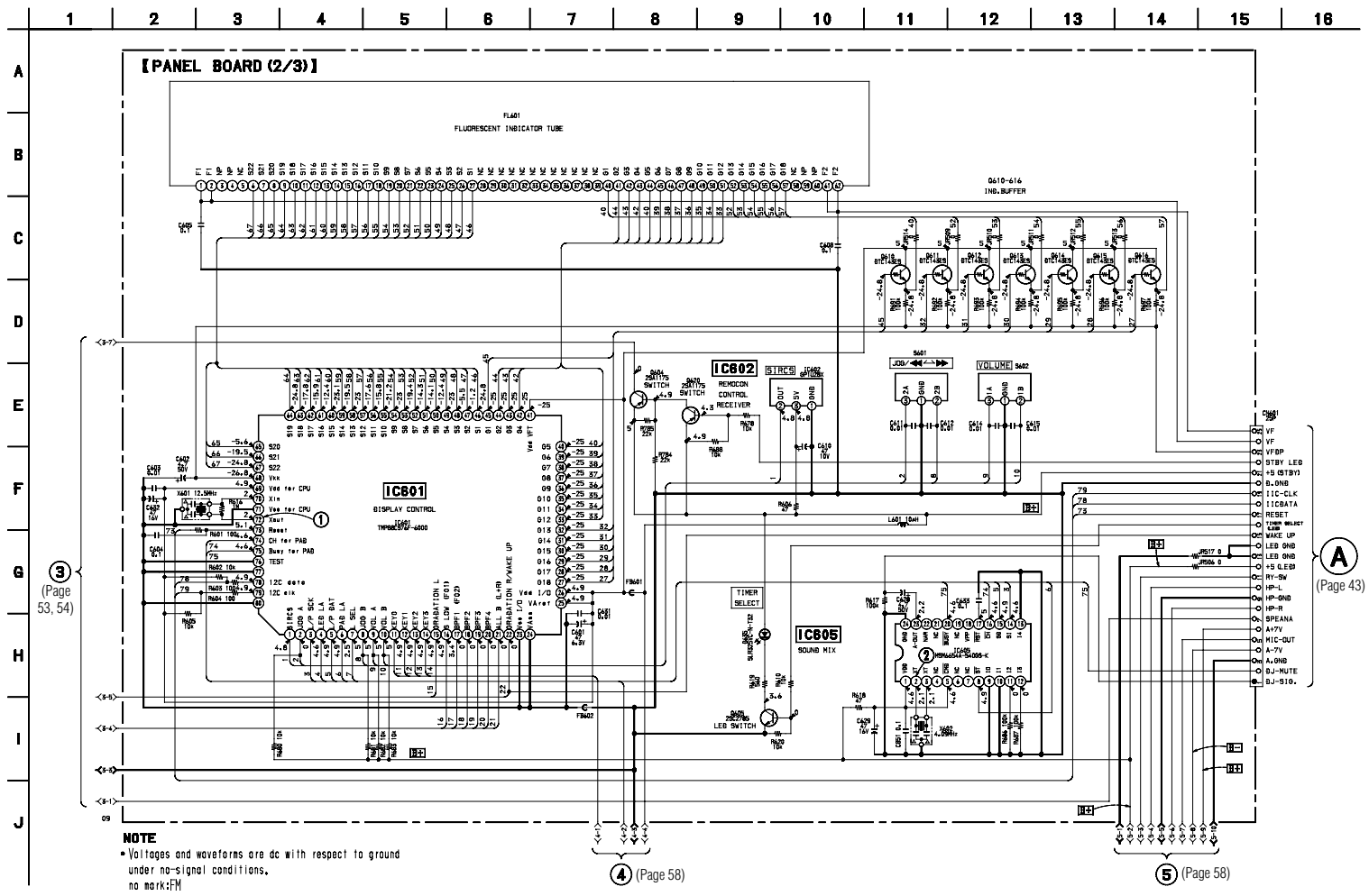


NOTE

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

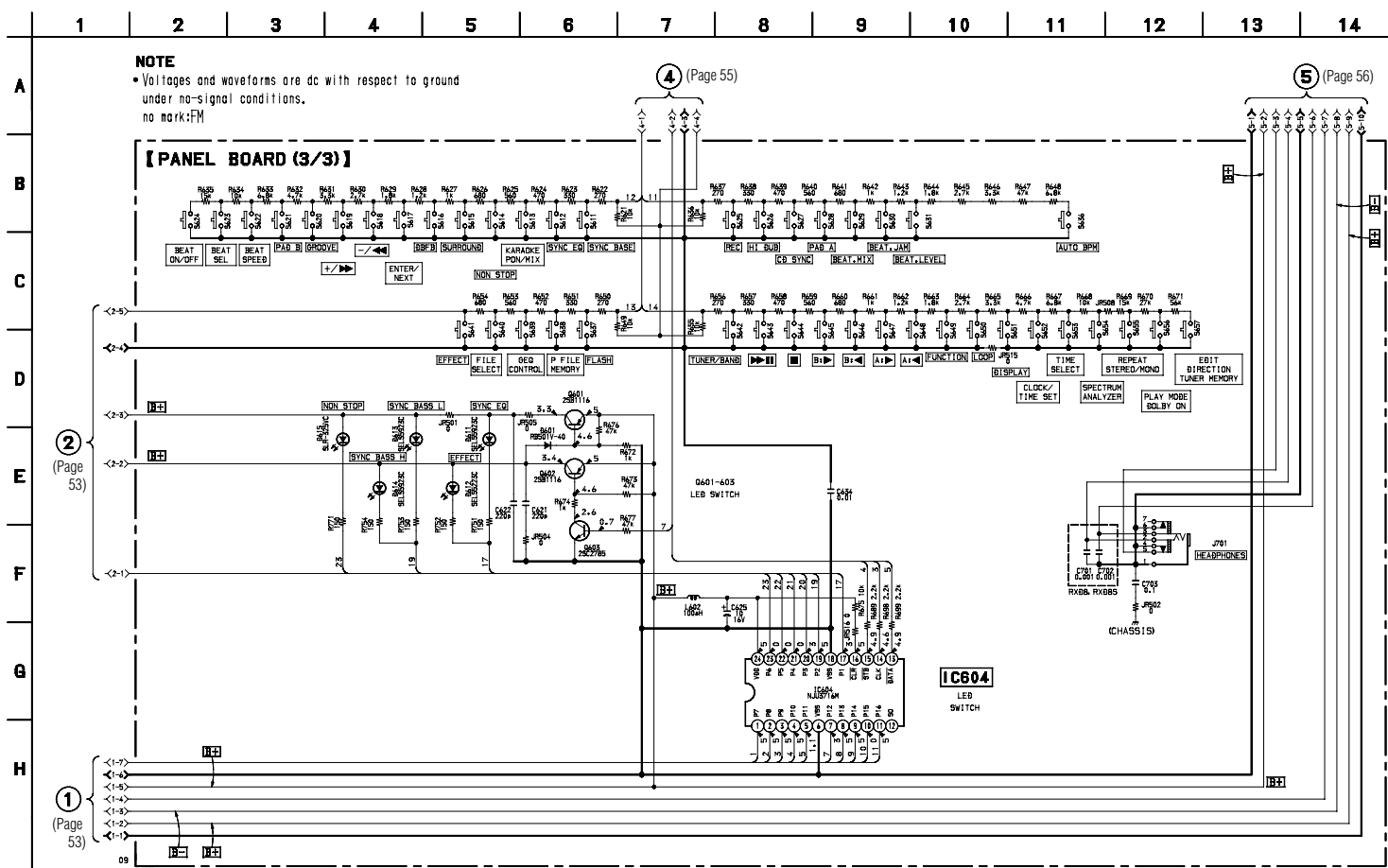
no mark:FM

7-16. SCHEMATIC DIAGRAM – PANEL (2/3) SECTION –
• See page 30 for Waveforms.
• See page 51 for Printed Wiring Board.
• See page 69 for IC Block Diagrams.
• See page 72 for IC Pin Functions.



7-17. SCHEMATIC DIAGRAM – PANEL (3/3) SECTION –

- See page 51 for Printed Wiring Board.
- See page 69 for IC Block Diagrams.



NOTE
• Voltages and waveforms are dc with respect to ground under no-signal conditions, no mark: STOP

[MOTOR (SLIDE) BOARD]

9011
ROTARY ENCODER
BU TRAY ADDRESS DET

IC801
MOTOR DRIVER

OPEN
E1
E2
D0ND
E3
LOADIN
LOADOUT
M0ND
VCC

[SENSOR BOARD]

IC703
DISC SENSOR

IC702
TABLE SENSOR

[MOTOR (TURN) BOARD]

TURN MOTOR

IC701
MOTOR DRIVER

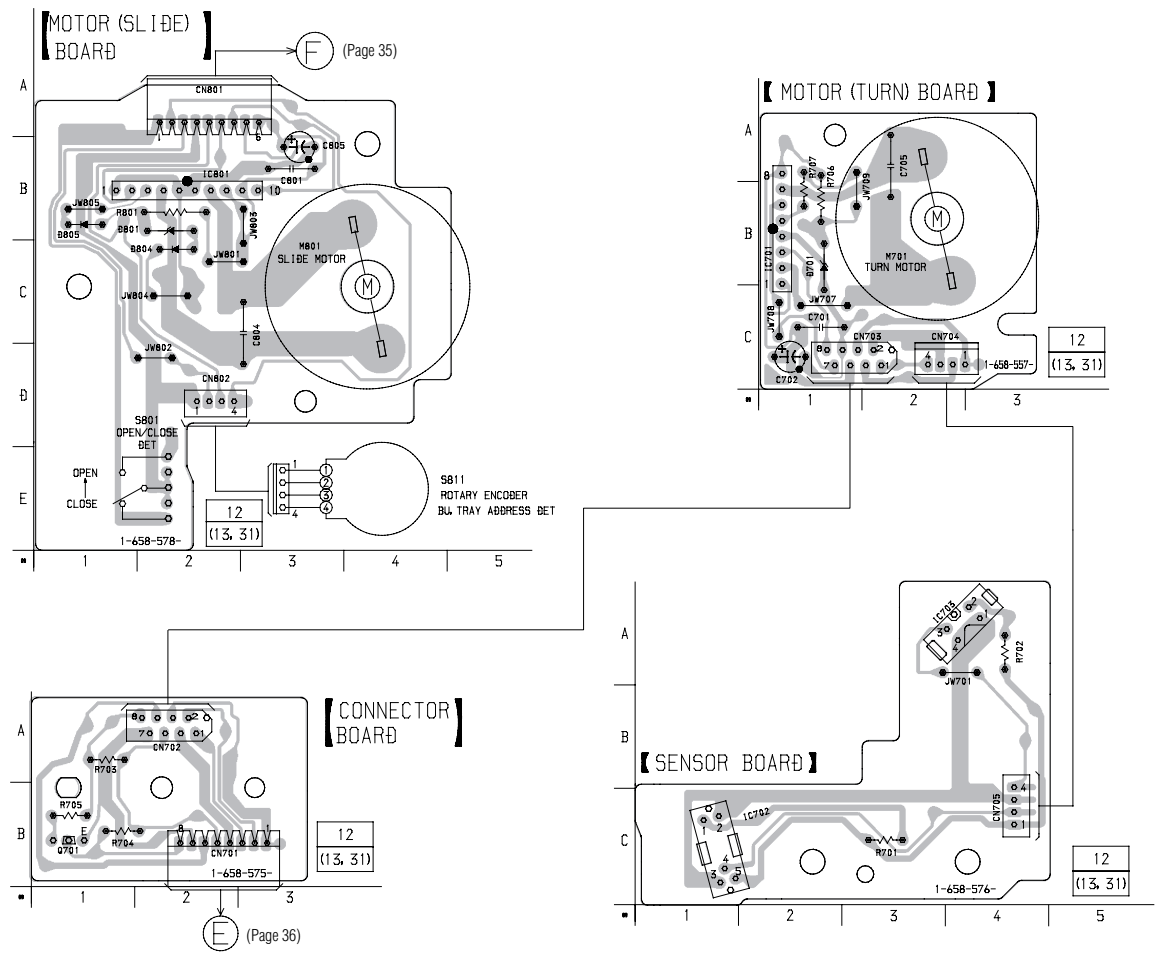
[CONNECTOR BOARD]

VCC
TBLR
TBLI
M0ND
V0B
TBLSENS
D0ND
DISCSENS

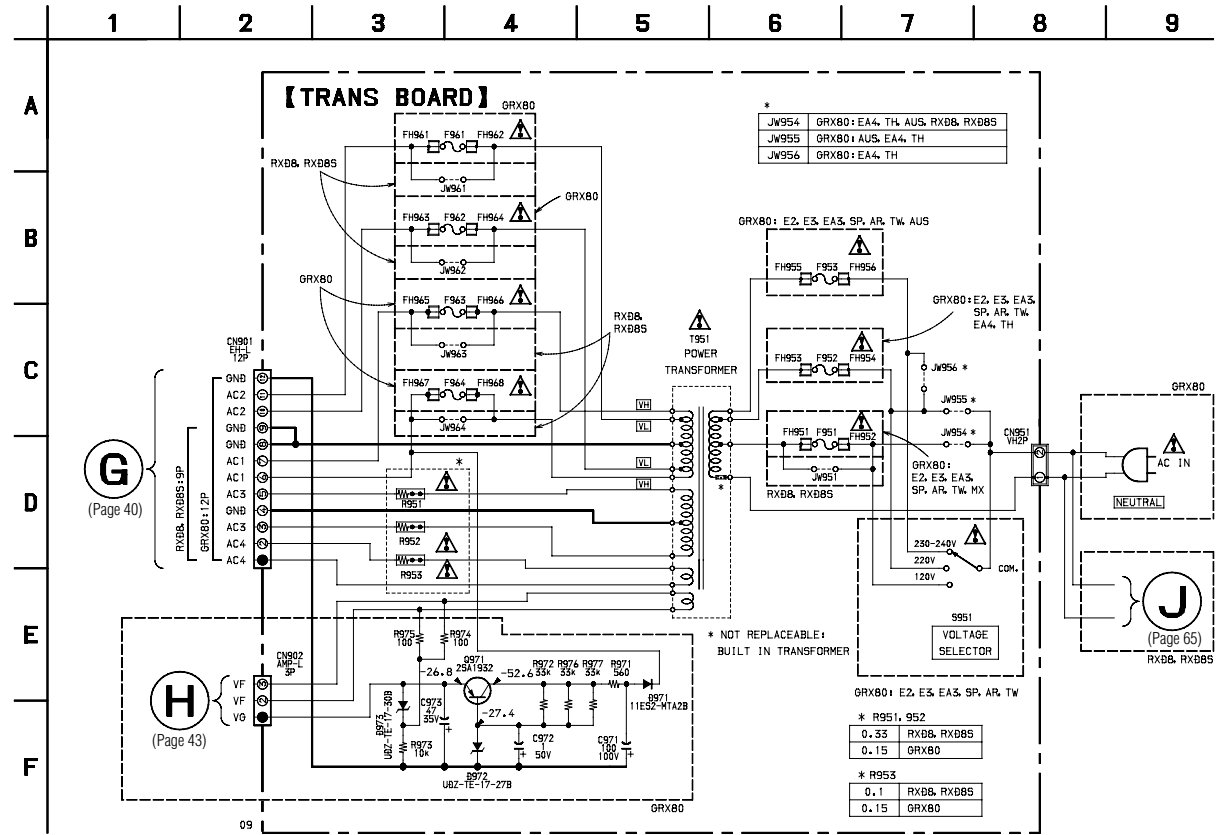
(F) (Page 37)

(E) (Page 37)

7-19. PRINTED WIRING BOARD – CD MOTOR SECTION –
• See page 18 for Circuit Boards Location.



7-20. SCHEMATIC DIAGRAM – TRANS SECTION –
• See page 67 for Printed Wiring Board.



NOTE

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

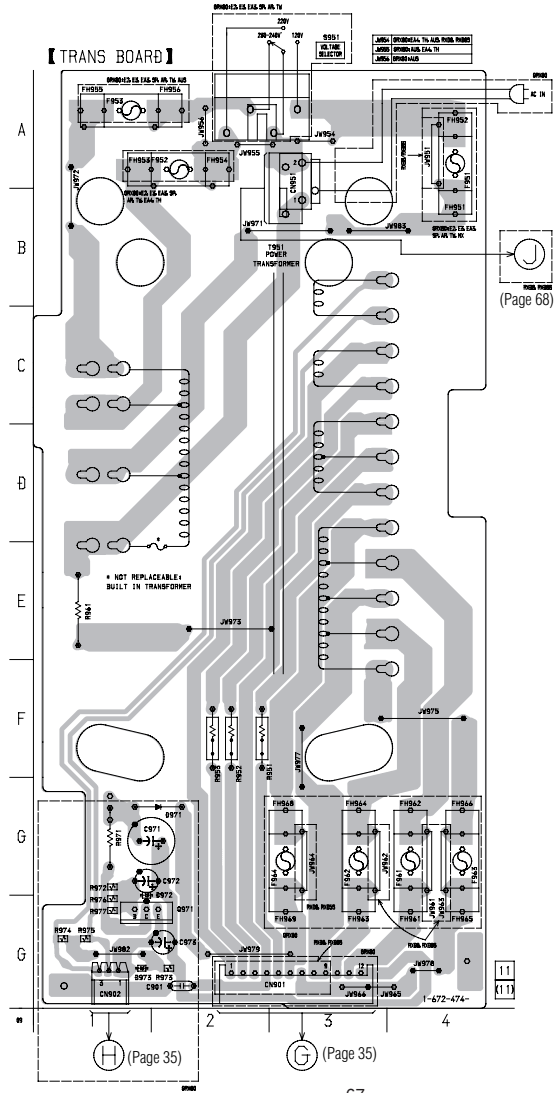
no mark:FM

Downloaded from www.Manualslib.com manuals search engine

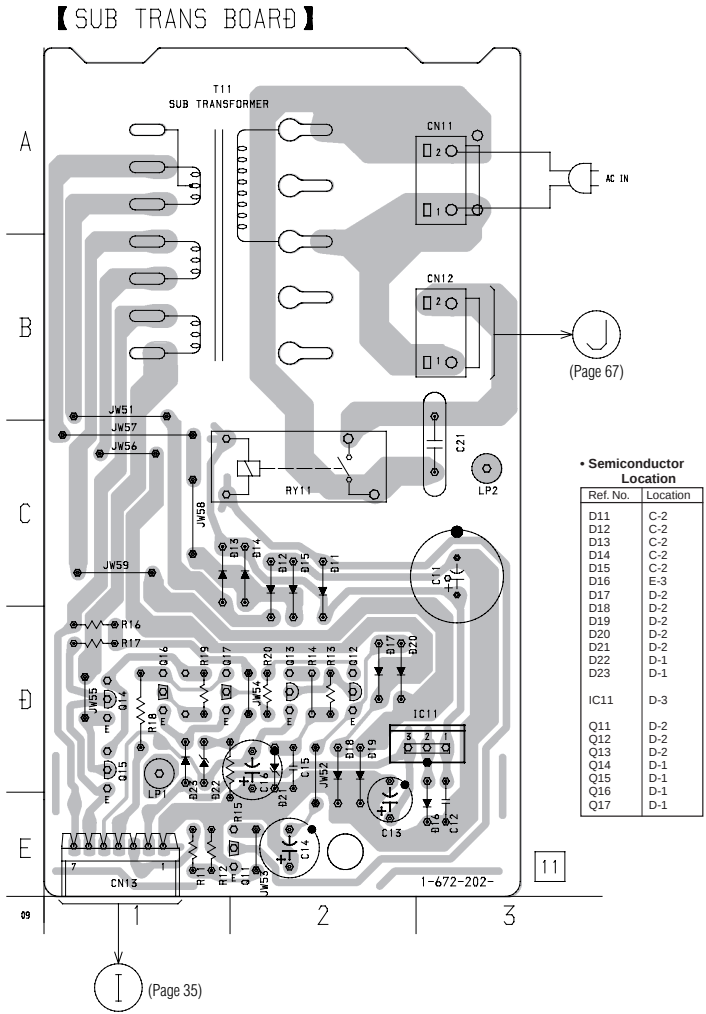


HCD-GRX80/RXD8/RXD8S

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



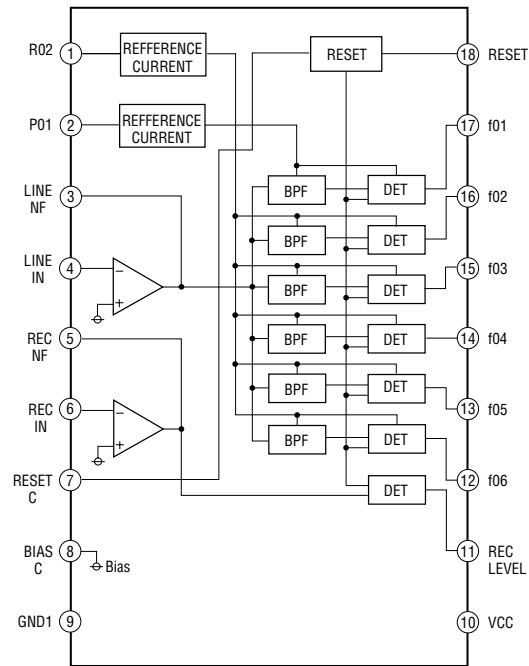
7-23. PRINTED WIRING BOARD – SUB TRANS SECTION – (RXD8/RXD8S ONLY)
• See page 18 for Circuit Boards Location.



7-24. IC BLOCK DIAGRAMS

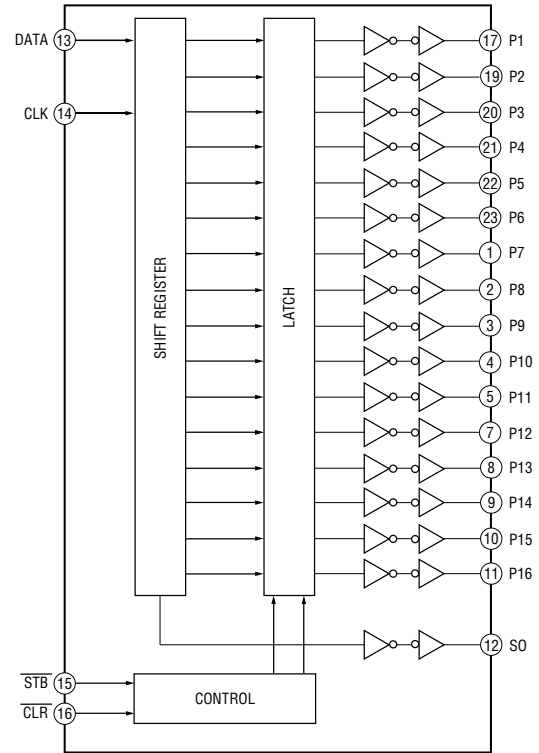
• PANEL (1/3) section

IC603 BA3830F



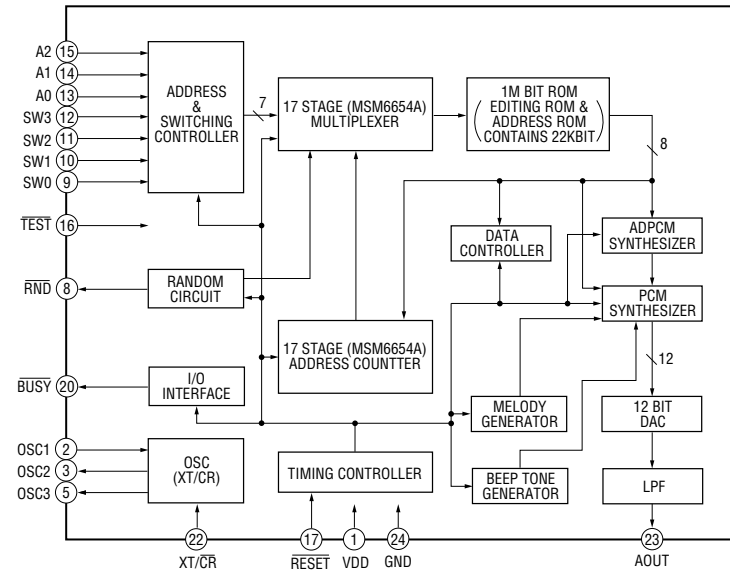
• PANEL (3/3) section

IC604 NJU3716M



• PANEL (2/3) section

IC605 MSM6654A-540GS-K



7-25. IC PIN FUNCTIONS

• IC501 MASTER CONTROL (M306622 MA-A01FP)

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

Pin No.	Pin Name	I/O	Function
50	STEREO	I	Stereo detection for tuner
51	TUNED	I	Tuned detection for tuner
52	ST-CE	O	Tuner chip enable output
53	ST-DOUT	O	Tuner data output
54	ST-DIN	I	Tuner data input
55	ST-CLK	O	Tuned clock output
56	SENS	I	BD Condition signal input
57	HDL D	O	Mode hold signal output
58	XLT	O	CD latch signal output
59	XRST	O	CD reset signal output
60	DISC-SENS	I	Slit sensor of disc table input
61	T-SENS	I	CD table detection signal input
62	VCC	–	Power supply (+5V)
63	TBL-L	O	Table motor control output
64	VSS	–	Ground
65	TBL-R	O	Table motor control output
66	LOAD-OUT	O	Loading motor control signal output
67	LOAD-IN	O	
68	ENC 3/UP-SW	I	Disc tray address detect encoder input
69	ENC 2/DISC-LED	I	
70	ENC 1	I	
71	OUT-OPEN	O	Loading out detection signal output
72	B-TRG	O	Trigger motor control output
73	A-TRG	O	
74	CAP-M-COT2	O	Capstan motor control 1(-) signal output
75	CAP-M-COT1	O	Capstan motor control 2(-) signal output
76	CAP-M-H/L	O	Capstan motor H/L speed select signal output
77	AMS-IN	I	Connected to ground
78	TC-MUTE	O	TC mute ON/OFF selection output
79	R/PB/PAS	O	REC/PB/PASS selection output
80	NR-ON/OFF	O	NR ON/OFF signal output
81	REC-MUTE	O	REC mute ON/OFF selection output
82	BIAS	O	Bias ON/OFF selection output
83	EQ-H/N	O	Equalizer H/N select output
84	PB-A/B	O	PB Deck A/Deck B select output
85	ALC	O	ALC ON/OFF output
86	B-PLAY-SW	I	Deck B play detect
87	A-PLAY-SW	I	Deck A play detect
88	A-HALF	I	Deck A cassette detect
89	B-HALF	I	Deck B cassette detect
90	B-SHUT	I	B Deck reel pulse detector
91	A-SHUT	I	A Deck reel pulse detector
92	SOFT-TEST	O	Software test port
93, 94	KEY/CD-ADJ	I	CD adjust point port
95	MODEL IN	I	Version select signal input
96	AVSS	–	Ground
97	SPEC-IN	I	Version select signal input
98	VREF	I	Analog reference voltage input
99	AVCC	–	Analog power supply
100	TC-RELAY	O	REC/PB head selection output for IC602

• IC601 DISPLAY CONTROL (TMP88CS76F-6000)

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

SECTION 8 EXPLODED VIEWS

NOTE:

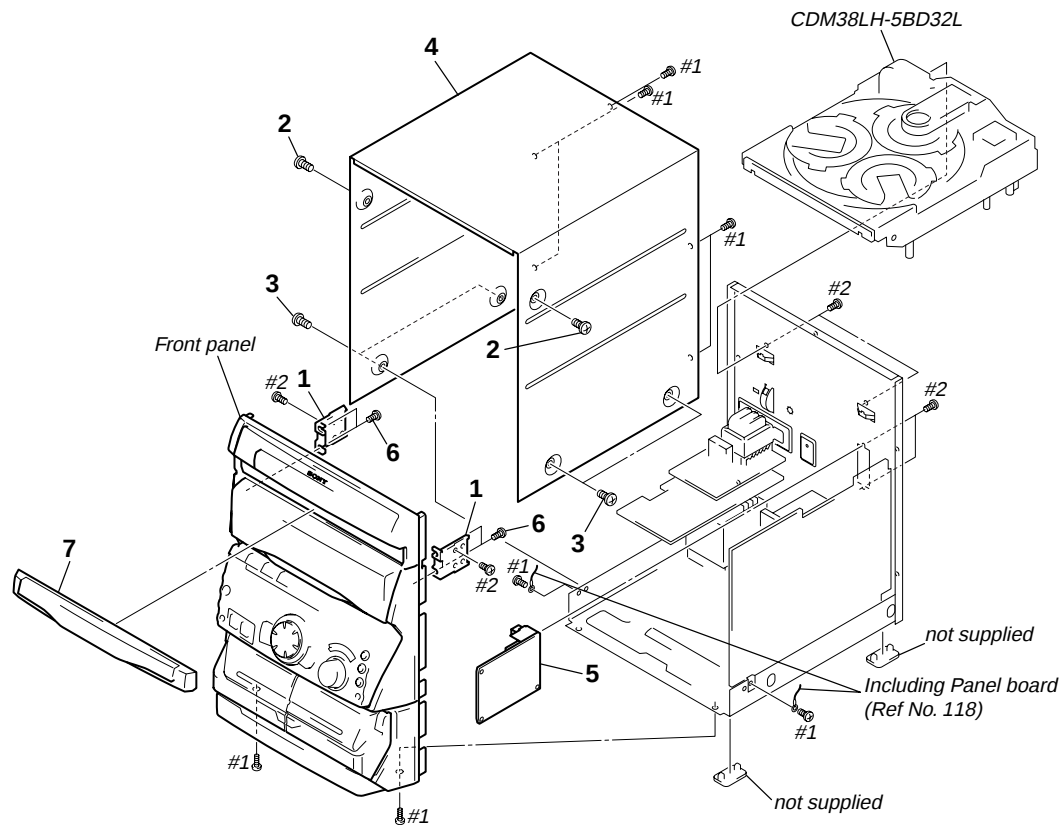
- Items marked “*” are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- The mechanical parts with no reference number in the exploded views are not supplied.
- Hardware (# mark) list and accessories and packing materials are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

↑
Cabinets color

- Abbreviation
G : German model
EA3 : Saudi Arabia model
EA4 : Israel model
MX : Mexican model
E2 : Without SW tuner model
E3 : With SW tuner model
SP : Singapore model
TW : Taiwan model
AUS : Australian model
AR : Argentine model
TH : Thailand model

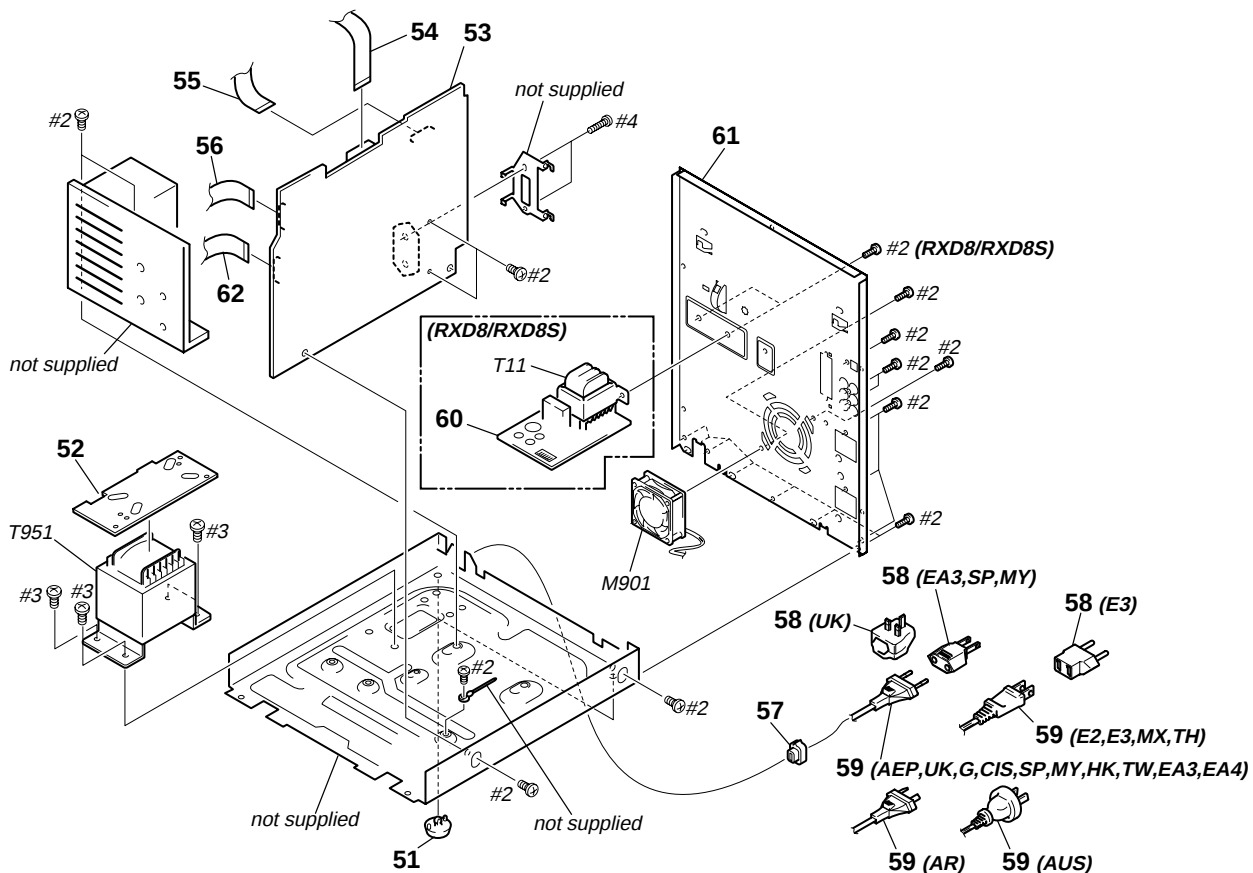
The components identified by mark $\triangle$ or dotted line with mark $\triangle$ are critical for safety.
Replace only with part number specified.

8-1. CASE SECTION



Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
* 1	4-996-716-01	HOLDER (CDM)		5	1-233-546-13	ENCAPSULATED COMPONENT (E3,EA3,SP,TW)	
2	3-363-099-41	SCREW (CASE 3 TP2)(GRAY)		5	1-693-443-11	TUNER UNIT (AEP,UK,G,CIS)	
2	3-363-099-71	SCREW (CASE 3 TP2)(SILVER)		6	4-951-620-01	SCREW (2.6x8), +BVTP	
3	3-363-099-01	SCREW (CASE 3 TP2)(GRAY)		7	X-4950-953-1	PANEL ASSY, LOADING (RXD8S)	
3	3-363-099-11	SCREW (CASE 3 TP2)(SILVER)		7	X-4950-978-1	PANEL ASSY, LOADING (GRX80)(SILVER)	
* 4	4-214-452-01	CASE (SILVER)		7	X-4950-979-1	PANEL ASSY, LOADING (GRX80)(GRAY)	
* 4	4-215-753-01	CASE (GRAY)		7	X-4950-981-1	PANEL ASSY, LOADING (RXD8)	
5	1-233-545-11	TUNER UNIT (EA4,TH)					
5	1-233-545-14	ENCAPSULATED COMPONENT (E2,AR,MX,AUS)					

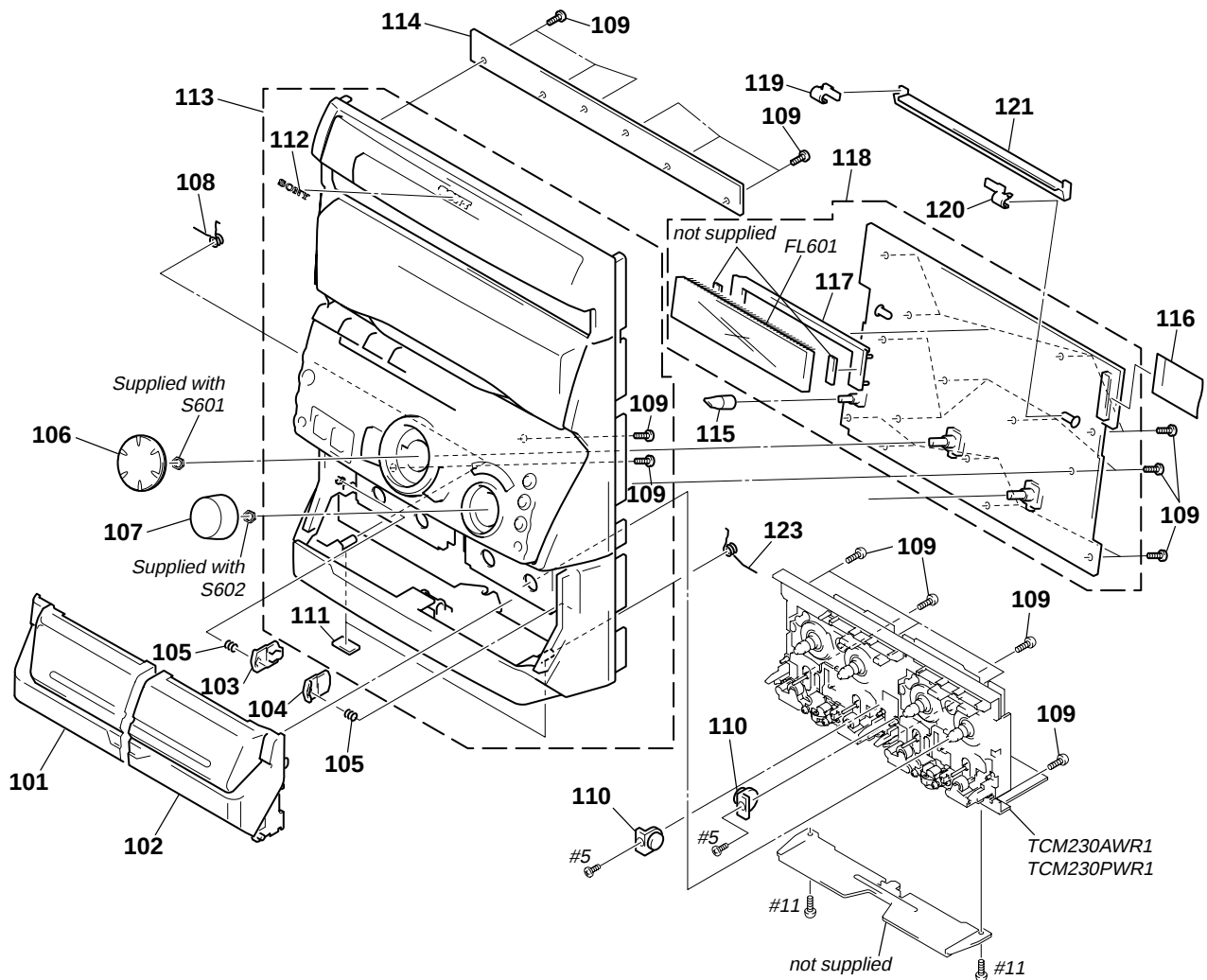
8-2. CHASSIS SECTION



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

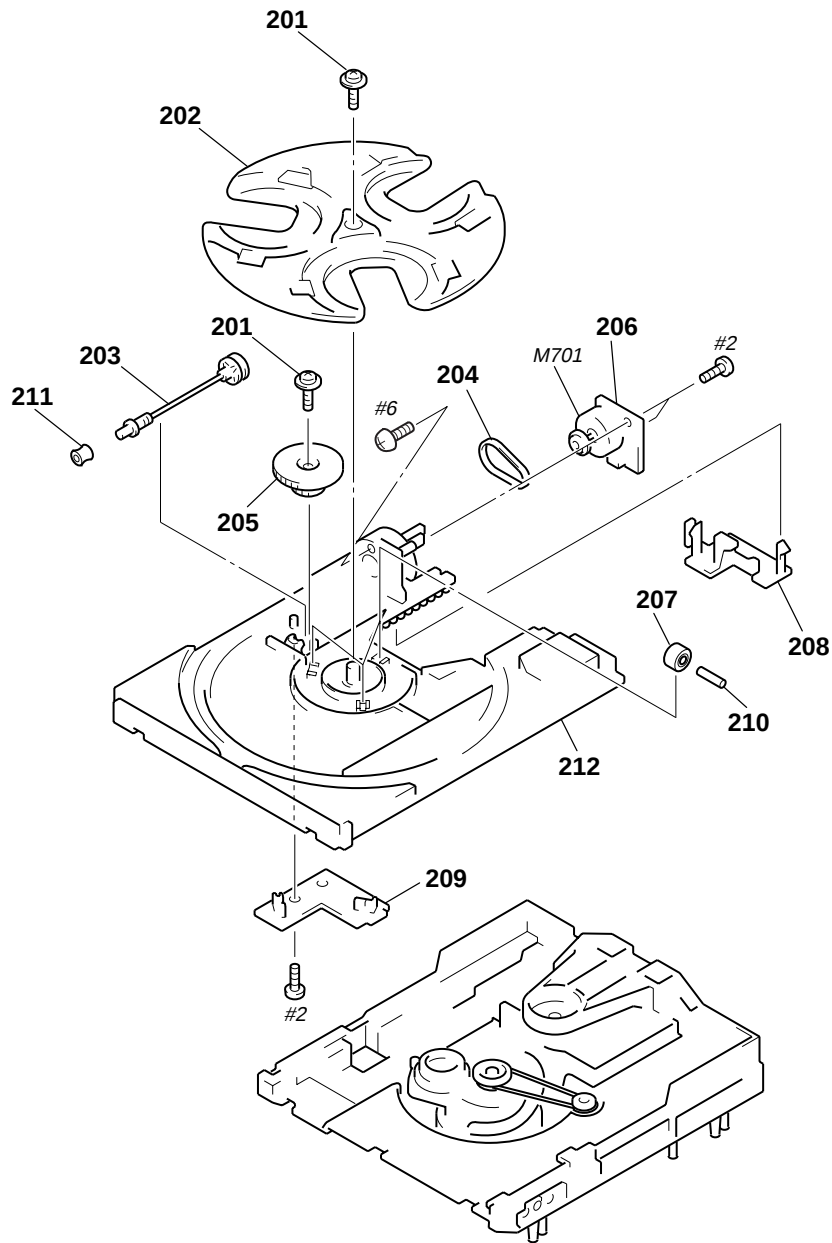
Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
51	4-965-822-01	FOOT		Δ 59	1-783-941-21	CORD, POWER (AR)	
* 52	1-672-474-11	TRANS BOARD		* 60	A-4417-646-A	SUB TRANS BOARD, COMPLETE (RXD8/RXD8S)	
* 53	A-4417-639-A	MAIN BOARD, COMPLETE (RXD8/RXD8S)		* 61	4-214-451-01	PANEL, BACK (GRX80:E2,AR)	
* 53	A-4417-648-A	MAIN BOARD, COMPLETE (GRX80:EA3)				(Malaysia PRODUCT)	
* 53	A-4417-652-A	MAIN BOARD, COMPLETE (GRX80:E3,SP,TW)		* 61	4-214-451-11	PANEL, BACK (GRX80:EA3)	
* 53	A-4417-668-A	MAIN BOARD, COMPLETE (GRX80:E2,AR,MX)		* 61	4-214-451-21	PANEL, BACK (GRX80:SP)	
* 53	A-4417-671-A	MAIN BOARD, COMPLETE (GRX80:AUS)		61	4-214-451-31	PANEL, BACK (GRX80:MX)(Indonesia PRODUCT)	
* 53	A-4417-676-A	MAIN BOARD, COMPLETE (GRX80:EA4,TH)		* 61	4-214-451-41	PANEL, BACK (GRX80:MX)(Malaysia PRODUCT)	
54	1-783-570-11	WIRE (FLAT TYPE)(19 CORE)		* 61	4-214-451-51	PANEL, BACK (GRX80:AUS)	
55	1-769-977-11	WIRE (FLAT TYPE)(13 CORE)		* 61	4-214-451-61	PANEL, BACK (GRX80:TW)	
		(GRX80:E2,E3,AR,MX,AUS,EA4,TH)		* 61	4-214-451-71	PANEL, BACK (GRX80:E2)	
55	1-773-009-11	WIRE (FLAT TYPE)(15 CORE) (150mm)		* 61	4-214-451-81	PANEL, BACK (GRX80:EA4,TH)	
		(GRX80:EA3,SP,TW/RXD8/RXD8S)		* 61	4-214-451-91	PANEL, BACK (GRX80:E3)	
56	1-773-024-11	WIRE (FLAT TYPE)(15 CORE) (320mm)		* 61	4-215-165-01	PANEL, BACK (RXD8)(Indonesia PRODUCT)	
* 57	3-703-244-00	BUSHING (2104), CORD		* 61	4-215-165-21	PANEL, BACK (RXD8S)	
		(AEP,UK,G,CIS,EA3,SP,AR,TW,AUS)		* 61	4-215-165-31	PANEL, BACK (RXD8)(Malaysia PRODUCT)	
57	3-703-571-11	BUSHING (S)(4516), CORD (E2,E3,MX,EA4,TH)		* 61	4-217-515-21	PANEL, BACK (GRX80:E3)	
58	1-569-007-11	ADAPTOR, CONVERSION 2P (E3)		* 61	4-217-515-31	PANEL, BACK (GRX80:EA3)	
58	1-569-008-21	ADAPTOR, CONVERSION 2P (EA3,SP,TW)		62	1-773-042-11	WIRE (FLAT TYPE)(17 CORE)	
58	1-770-019-11	ADAPTOR, CONVERSION PLUG 3P (UK)		M901	1-763-072-11	FAN, D.C.	
Δ 59	1-575-651-11	CORD, POWER (AEP,UK,G,CIS,EA3,SP,TW)		Δ T11	1-433-591-11	TRANSFORMER, POWER (RXD8/RXD8S)	
Δ 59	1-575-653-11	CORD, POWER (E2,E3,MX,TH)		Δ T951	1-433-556-11	TRANSFORMER, POWER (GRX80)	
Δ 59	1-690-608-11	CORD, POWER (AUS)		Δ T951	1-433-557-11	TRANSFORMER, POWER (RXD8/RXD8S)	
Δ 59	1-783-721-11	CORD, POWER (EA4)					

8-3. FRONT PANEL SECTION



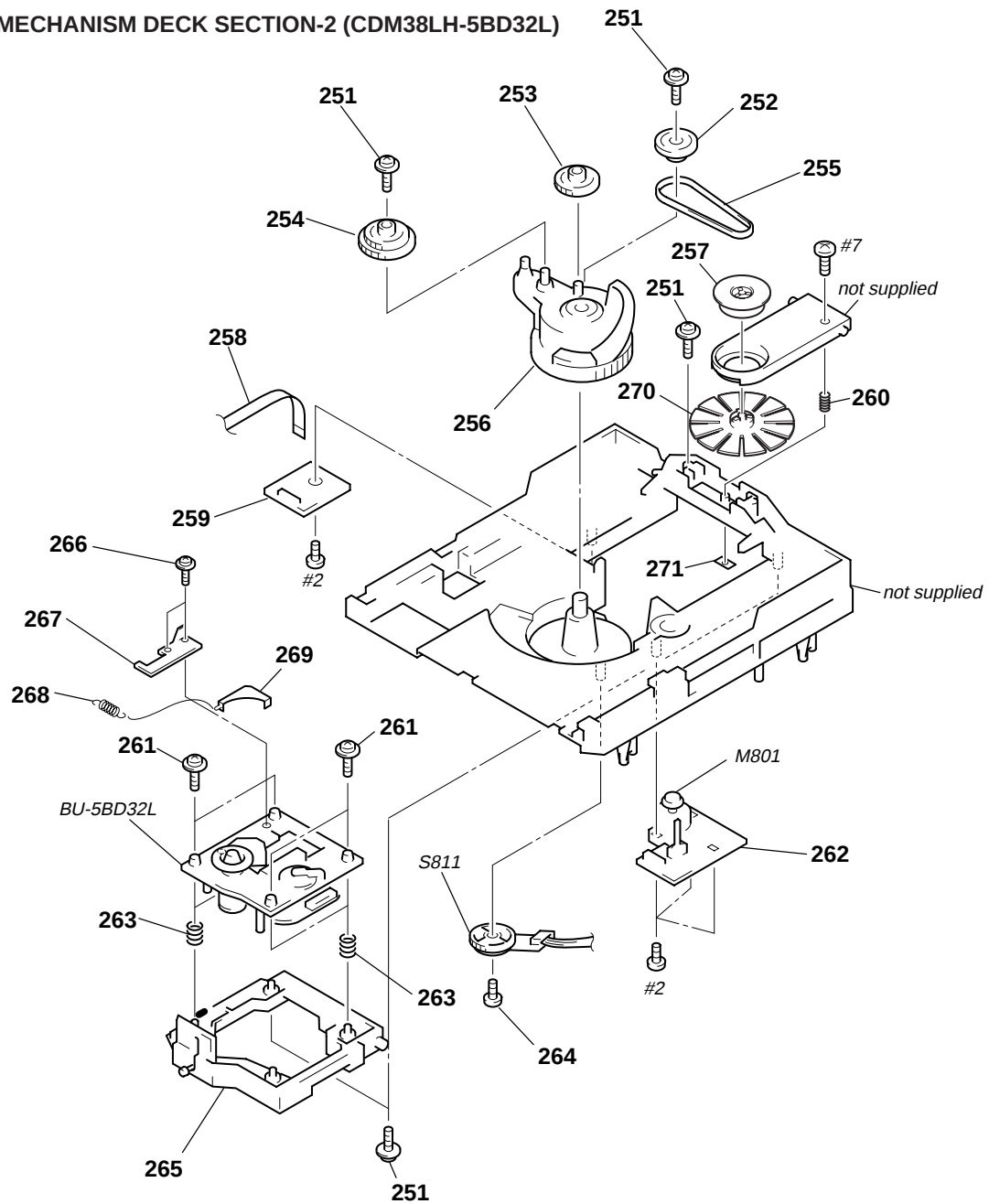
Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
101	X-4950-697-1	HOLDER (L) ASSY, CASSETTE (SILVER)		113	X-4950-701-1	PANEL ASSY, FRONT (GRX80:EA3)(GRAY)	
101	X-4950-976-1	HOLDER (L) ASSY, CASSETTE (GRAY)		113	X-4950-706-1	PANEL ASSY, FRONT (RXD8/RXD8S)	
102	X-4950-698-1	HOLDER (R) ASSY, CASSETTE (SILVER)		113	X-4950-980-1	PANEL ASSY, FRONT (GRX80:E3)(GRAY)	
102	X-4950-977-1	HOLDER (R) ASSY, CASSETTE (GRAY)					
103	4-214-760-11	CATCHER (A), PUSH		* 114	A-4417-663-A	CD SW BOARD, COMPLETE	
				115	4-214-385-11	KNOB (MIC)(SILVER)	
104	4-214-761-11	CATCHER (B), PUSH		115	4-214-385-51	KNOB (MIC)(GRAY)	
105	4-214-775-11	SPRING, PUSH CATCHER RETURN		116	1-773-223-11	WIRE (FLAT TYPE)(25 CORE)	
106	4-214-383-11	KNOB (JOG)(SILVER)		* 117	4-214-439-11	HOLDER, FL TUBE	
106	4-214-383-51	KNOB (JOG)(GRAY)					
107	4-214-384-11	KNOB (VOL)(SILVER)		* 118	A-4417-643-A	PANEL BOARD, COMPLETE (RXD8/RXD8S)	
				* 118	A-4417-650-A	PANEL BOARD, COMPLETE (GRX80:EA3)	
107	4-214-384-51	KNOB (VOL)(GRAY)		* 118	A-4417-660-A	PANEL BOARD, COMPLETE (EXCEPT GRX80:EA3/RXD8/RXD8S)	
108	4-214-447-11	SPRING, TENSION		* 119	4-214-736-11	HOLDER (L)(LED)	
109	4-951-620-01	SCREW (2.6X8), +BVTP		* 120	4-214-737-11	HOLDER (R)(LED)	
110	4-210-045-02	DAMPER					
111	4-988-663-01	FOOT (FELT)		* 121	4-214-738-11	INDICATOR (ILLUMINATION 1)	
112	4-962-708-71	EMBLEM (4-A), SONY		122	4-951-620-01	SCREW (2.6X8), +BVTP	
113	X-4950-696-1	PANEL ASSY, FRONT (GRX80:E2,SP,AR,TW,MX,AUS,EA4,TH)(SILVER)		123	4-214-446-11	SPRING, TENTION	
				FL601	1-517-831-11	INDICATOR TUBE, FLUORESCENT	

8-4. CD MECHANISM DECK SECTION-1 (CDM38LH-5BD32L)



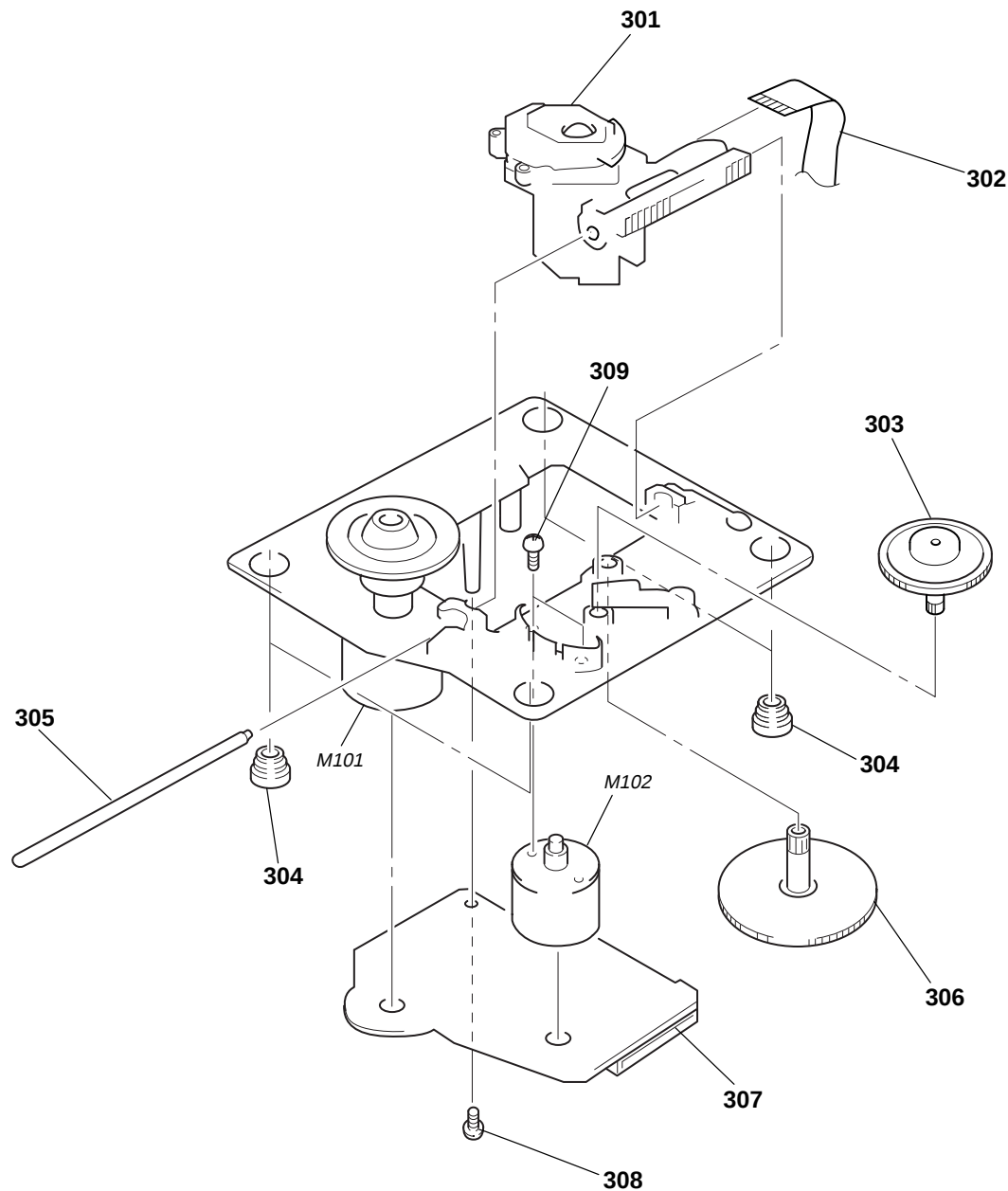
Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
201	4-981-789-01	BRACKET, YOKE		207	4-988-162-01	ROLLER	
202	4-977-945-01	TRAY (TURN)		208	4-977-941-01	BEARING (WORM)	
203	X-4946-665-1	SHAFT ASSY, WORM		* 209	1-658-576-11	SENSOR BOARD	
204	4-977-943-01	BELT (TURN) (1.2)		210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

8-5. CD MECHANISM DECK SECTION-2 (CDM38LH-5BD32L)



Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
251	4-917-583-71	BRACKET, YOKE		263	4-982-447-01	SPRING (BU), COMPRESSION	
252	4-977-954-01	PULLEY (SL)		264	4-951-620-41	SCREW (2.6), +BVTP	
253	4-977-953-01	GEAR (SL-A)		265	X-4949-570-1	HOLDER (BU) ASSY	
254	4-977-955-01	GEAR (SL-B)					
255	4-977-942-01	BELT (SL) (1.4)		266	4-989-494-01	SCREW (SLIDER), STEP	
				267	4-989-492-11	SLIDER (38)	
256	X-4946-667-1	CAM ASSY, BU		268	4-989-819-02	SPRING, TENSION	
257	1-452-925-21	MAGNET ASSY		269	4-989-491-01	COVER, LENS	
258	1-776-042-11	WIRE (FLAT TYPE) (8 CORE)		270	4-993-142-21	PULLEY (L), PRESS	
* 259	1-658-575-11	CONNECTOR BOARD		* 271	4-900-718-01	BRACKET (ADJUSTMENT)	
260	4-900-743-01	SPRING, COMPRESSION		S811	1-473-335-11	ENCODER, ROTARY	
				M801	A-4672-004-A	MOTOR ASSY (SLIDE)	
261	4-985-672-01	SCREW (+PTPWHM2.6), FLOATING					
* 262	1-658-578-11	MOTOR (SLIDE) BOARD					

8-6. BASE UNIT SECTION (BU-5BD32L)

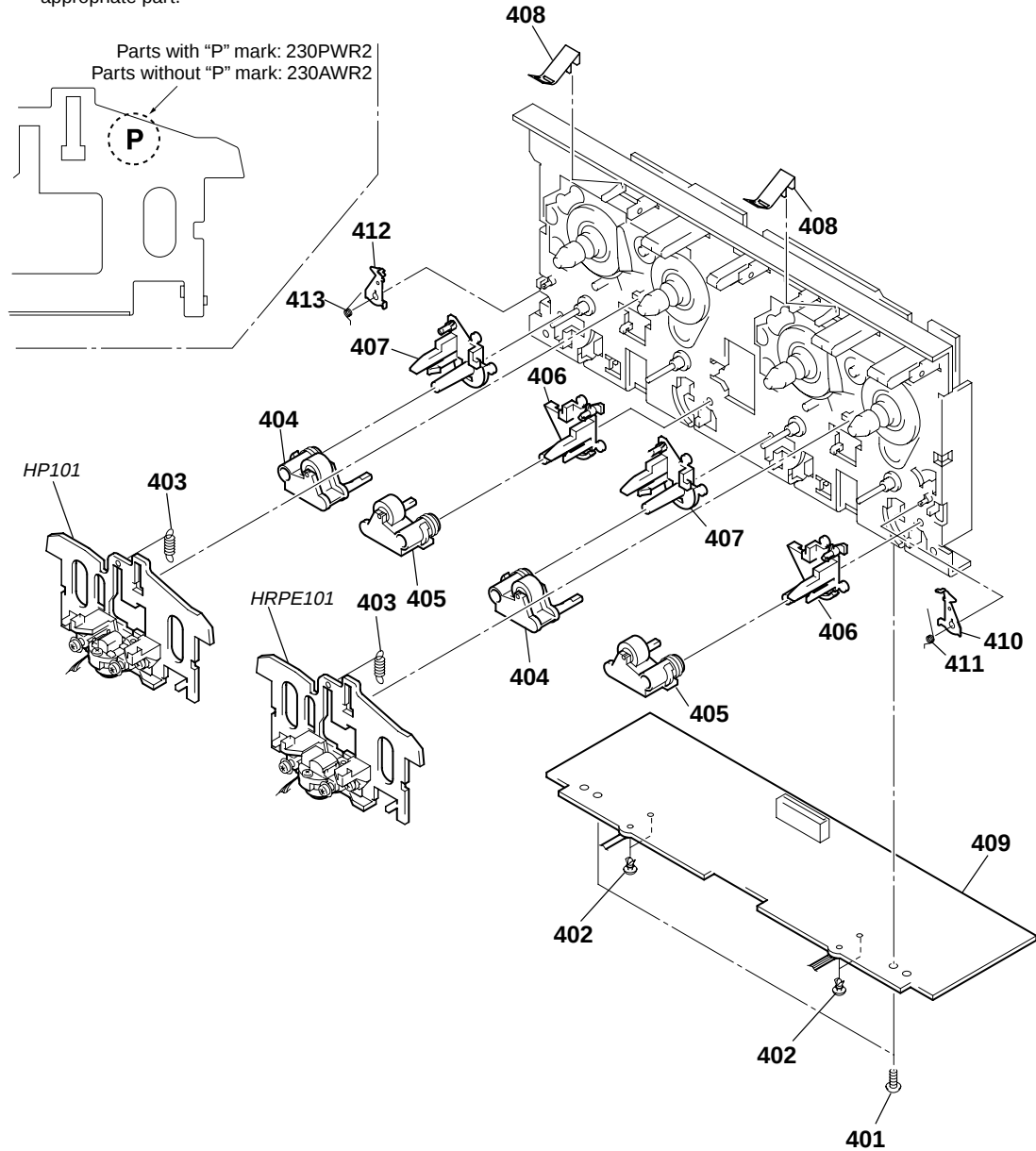


The components identified by mark $\triangle$ or dotted line with mark $\triangle$ are critical for safety. Replace only with part number specified.

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
$\triangle$ 301	8-820-020-02	OPTICAL PICK-UP KSS-213D/Q-NP		306	4-917-564-01	GEAR (P), FLATNESS	
302	1-769-069-11	WIRE (FLAT TYPE) (16 CORE)		* 307	A-4724-486-A	BD BOARD, COMPLETE	
303	4-917-567-01	GEAR (M)		308	4-951-620-01	SCREW (2.6X8), +BVTP	
304	4-951-940-01	INSULATOR (BU)		309	3-713-786-51	SCREW +P 2X3	
305	4-917-565-01	SHAFT, SLED		M101	X-4917-523-3	MOTOR ASSY (SPINDLE)	
				M102	X-4917-504-1	MOTOR ASSY (SLED)	

8-7. TC MECHANISM SECTION-1 (TCM230AWR1/230PWR1)

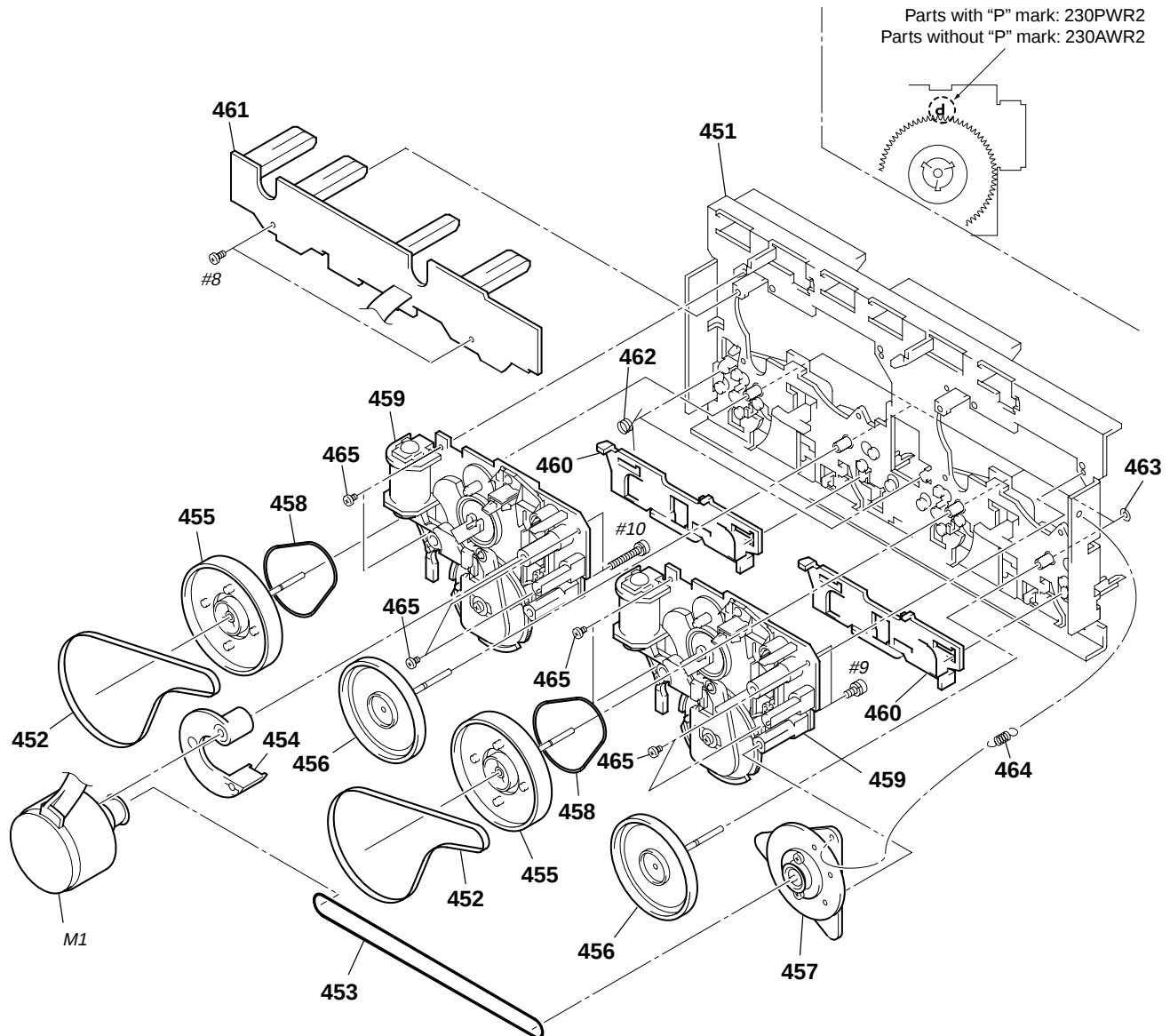
*NOTE: Two types of parts which are not interchangeable are available for the Head deck (A) ASSY and Head deck (B) ASSY. When replacing the parts, refer to the following figure, and use the appropriate part.



Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
401	3-376-464-11	SCREW(+PTT 2.6X6),GROUND POINT		410	3-016-573-01	LEVER (EJECT PREVENTION R)	
402	3-911-116-21	RIVET, PUSH		411	3-032-810-02	SPRING (R), TORSION	
403	3-016-574-11	SPRING (HEAD), TENSION		412	3-016-572-01	LEVER (EJECT PREVENTION L)	
404	X-3374-156-4	PINCH LEVER (REV) ASSY		413	3-032-809-02	SPRING (L), TORSION	
405	X-3374-155-4	PINCH LEVER (FWD) ASSY		HP101	A-2056-681-A	DECK (A) ASSY, HEAD (230AWR2)(*NOTE)	
406	3-016-564-01	BASE (PINCH LEVER FWD)		HP101	A-2056-681-B	DECK (A) ASSY, HEAD (230PWR2)(*NOTE)	
407	3-016-565-01	BASE (PINCH LEVER REV)		HRPE101	A-2056-682-A	DECK (B) ASSY, HEAD (230AWR2)(*NOTE)	
408	3-026-892-01	SPRING (CASSETTE), LEAF		HRPE101	A-2056-682-B	DECK (B) ASSY, HEAD (230PWR2)(*NOTE)	
* 409	A-2007-731-A	AUDIO BOARD, COMPLETE					

8-8. TC MECHANISM SECTION-2 (TCM230AWR1/230PWR1)

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



Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
* 451	X-3374-214-3	CHASSIS ASSY, MAIN		459	A-2004-629-B	MECHANICAL BLOCK ASSY (230PWR2)(*NOTE)	
452	3-016-570-01	BELT (CAPSTAN)		460	3-016-566-01	SLIDER, REVERSE	
453	3-016-569-01	BELT (TENSION)		* 461	A-2007-732-A	LEAF SW BOARD, COMPLETE	
454	3-017-360-01	BRACKET (MOTOR)		462	3-016-575-11	SPRING, TORSION	
455	X-3376-497-1	FLYWHEEL (FWD) ASSY		463	3-019-208-01	WASHER, STOPPER	
456	X-3374-235-1	FLYWHEEL (REV) ASSY		464	3-027-453-01	SPRING (GROUND), TENSION	
457	X-3374-238-1	PULLEY ASSY, TENSION		465	3-030-823-01	SCREW (+BVTT) (2X3.5)	
458	3-024-405-01	BELT (FR2)		M1	A-2004-628-A	MOTOR ASSY, CAPSTAN	
459	A-2004-629-A	MECHANICAL BLOCK ASSY (230AWR2)(*NOTE)					

SECTION 9 ELECTRICAL PARTS LIST

AUDIO

Note:

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

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

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- -XX, -X mean standardized parts, so they may have some difference from the original one.
- Items marked “*” are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- RESISTORS
All resistors are in ohms
METAL: Metal-film resistor
METAL OXIDE: Metal Oxide-film resistor
F : nonflammable
- SEMICONDUCTORS
In each case, u: μ , for example:
uA...: μ A..., uPA...: μ PA..., uPB...: μ PB...,
uPC...: μ PC..., uPD...: μ PD...

- CAPACITORS
uF : μ F
- COILS
uH : μ H
- Abbreviation
G : German model
EA3 : Saudi Arabia model
MX : Mexican model
EA4 : Israel model
E2 : Without SW tuner model
E3 : With SW tuner model
SP : Singapore model
TW : Taiwan model
AUS : Australian model
AR : Argentine model
TH : Thailand model

Ref. No.	Part No.	Description	Remark				Ref. No.	Part No.	Description	Remark			
*	A-2007-731-A	AUDIO BOARD, COMPLETE *****							< IC >				
		< CAPACITOR >					IC601	8-759-111-44	IC UPC4570C-1				
							IC602	8-759-143-54	IC UPC1330HA				
							IC611	8-759-111-44	IC UPC4570C-1				
C301	1-162-289-31	CERAMIC	390PF	10%	50V				< COIL >				
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		L331	1-410-780-11	INDUCTOR	27mH			
C305	1-107-715-11	ELECT	22uF	20%	16V		L431	1-410-780-11	INDUCTOR	27mH			
							L601	1-414-193-41	INDUCTOR	220uH			
C311	1-162-289-31	CERAMIC	390PF	10%	50V		L602	1-414-193-41	INDUCTOR	220uH			
C313	1-162-282-31	CERAMIC	100PF	10%	50V								
C314	1-130-487-00	MYLAR	0.022uF	5%	50V				< TRANSISTOR >				
C315	1-126-233-11	ELECT	22uF	20%	50V								
C331	1-137-427-11	FILM	120PF	5%	50V		Q621	8-729-142-46	TRANSISTOR	2SC2001-LK			
							Q622	8-729-142-46	TRANSISTOR	2SC2001-LK			
C332	1-162-288-31	CERAMIC	330PF	10%	50V		Q623	8-729-801-93	TRANSISTOR	2SD1387			
C333	1-162-209-31	CERAMIC	27PF	5%	50V				< RESISTOR >				
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		R301	1-247-881-00	CARBON	120K	5%	1/4W	
							R302	1-249-409-11	CARBON	220	5%	1/4W	F
C404	1-130-483-00	MYLAR	0.01uF	5%	50V		R303	1-249-433-11	CARBON	22K	5%	1/4W	
C405	1-107-715-11	ELECT	22uF	20%	16V		R304	1-247-889-00	CARBON	270K	5%	1/4W	
C411	1-162-289-31	CERAMIC	390PF	10%	50V		R305	1-247-858-11	CARBON	13K	5%	1/4W	
C413	1-162-282-31	CERAMIC	100PF	10%	50V								
C414	1-130-487-00	MYLAR	0.022uF	5%	50V		R311	1-247-881-00	CARBON	120K	5%	1/4W	
							R312	1-247-807-31	CARBON	100	5%	1/4W	
C415	1-126-233-11	ELECT	22uF	20%	50V		R314	1-247-882-11	CARBON	130K	5%	1/4W	
C431	1-137-427-11	FILM	120PF	5%	50V		R315	1-247-850-11	CARBON	6.2K	5%	1/4W	
C432	1-162-288-31	CERAMIC	330PF	10%	50V		R331	1-249-430-11	CARBON	12K	5%	1/4W	
C433	1-162-209-31	CERAMIC	27PF	5%	50V								
C601	1-104-396-11	ELECT	10uF	20%	16V		R401	1-247-881-00	CARBON	120K	5%	1/4W	
							R402	1-249-409-11	CARBON	220	5%	1/4W	F
C602	1-104-396-11	ELECT	10uF	20%	16V		R403	1-249-433-11	CARBON	22K	5%	1/4W	
C611	1-104-396-11	ELECT	10uF	20%	16V		R404	1-247-889-00	CARBON	270K	5%	1/4W	
C612	1-104-396-11	ELECT	10uF	20%	16V		R405	1-247-858-11	CARBON	13K	5%	1/4W	
C621	1-137-150-11	FILM	0.01uF	5%	100V								
C622	1-126-961-11	ELECT	2.2uF	20%	50V		R411	1-247-881-00	CARBON	120K	5%	1/4W	
							R412	1-247-807-31	CARBON	100	5%	1/4W	
C623	1-136-155-00	FILM	0.015uF	5%	50V		R414	1-247-882-11	CARBON	130K	5%	1/4W	
C624	1-130-481-00	MYLAR	0.0068uF	5%	50V		R415	1-247-850-11	CARBON	6.2K	5%	1/4W	
C625	1-130-481-00	MYLAR	0.0068uF	5%	50V		R431	1-249-430-11	CARBON	12K	5%	1/4W	
C627	1-124-903-11	ELECT	1uF	20%	50V								
C628	1-136-153-00	FILM	0.01uF	5%	50V		R601	1-249-409-11	CARBON	220	5%	1/4W	F
							R602	1-249-409-11	CARBON	220	5%	1/4W	F
C642	1-104-664-11	ELECT	47uF	20%	16V		R608	1-249-409-11	CARBON	220	5%	1/4W	F
		< CONNECTOR >					R609	1-249-433-11	CARBON	22K	5%	1/4W	
							R611	1-249-409-11	CARBON	220	5%	1/4W	F
CN601	1-695-338-11	PIN, CONNECTOR (PC BOARD) 15P					R612	1-249-409-11	CARBON	220	5%	1/4W	F
							△R621	1-212-851-00	FUSIBLE	5.6	5%	1/4W	Q

Ref. No.	Part No.	Description	Remark
△ 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	1-163-038-91	CERAMIC CHIP 0.1uF 25V	
C113	1-163-038-91	CERAMIC CHIP 0.1uF 25V	
C114	1-163-038-91	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	1-163-038-91	CERAMIC CHIP 0.1uF 25V	
C122	1-126-206-11	ELECT CHIP 100uF 20% 6.3V	
C123	1-163-021-91	CERAMIC CHIP 0.01uF 10% 50V	
C124	1-107-823-11	CERAMIC CHIP 0.47uF 10% 16V	
C125	1-163-038-91	CERAMIC CHIP 0.1uF 25V	
C126	1-163-038-91	CERAMIC CHIP 0.1uF 25V	
C127	1-128-065-11	ELECT CHIP 68uF 20% 10V	
C128	1-163-038-91	CERAMIC CHIP 0.1uF 25V	
C129	1-163-031-11	CERAMIC CHIP 0.01uF 50V	
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	1-163-038-91	CERAMIC CHIP 0.1uF 25V	
C151	1-163-235-11	CERAMIC CHIP 22PF 5% 50V	
C153	1-163-038-91	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	

Ref. No.	Part No.	Description	Remark
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	1-163-038-91	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-E	
IC103	8-752-085-51	IC CXA2568M-T	
< TRANSISTOR >			
Q101	8-729-010-08	TRANSISTOR MSB710-R	
< RESISTOR >			
R101	1-216-077-00	METAL CHIP 15K 5% 1/10W	
R102	1-216-097-91	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	1-216-049-91	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	1-216-121-91	RES,CHIP 1M 5% 1/10W	
R110	1-216-025-91	RES,CHIP 100 5% 1/10W	
R111	1-216-121-91	RES,CHIP 1M 5% 1/10W	
R113	1-216-121-91	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	1-216-049-91	RES,CHIP 1K 5% 1/10W	
R119	1-216-041-00	METAL CHIP 470 5% 1/10W	
R123	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R124	1-216-097-91	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	

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

Ref. No.	Part No.	Description	Remark			Ref. No.	Part No.	Description	Remark		
R161	1-216-308-00	METAL CHIP	4.7	5%	1/10W	S807	1-762-875-21	SWITCH, KEYBOARD (≡)			
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						
						*	1-658-575-11	CONNECTOR BOARD	*****		
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	< CONNECTOR >					
R183	1-216-077-00	METAL CHIP	15K	5%	1/10W						
< NETWORK >						* CN701	1-568-946-11	PIN, CONNECTOR 8P			
						CN702	1-750-413-11	CONNECTOR, FFC/FPC 8P			
						< TRANSISTOR >					
RN101	1-233-576-11	RES, CHIP NETWORK 100				Q701	8-729-900-80	TRANSISTOR DTC114ES			
RN102	1-233-576-11	RES, CHIP NETWORK 100				< RESISTOR >					
< SWITCH >											
S101	1-572-085-11	SWITCH, LEAF (LIMIT IN SW)				R703	1-249-435-11	CARBON 33K	5%	1/4W	
< VIBRATOR >						R704	1-249-429-11	CARBON 10K	5%	1/4W	
						R705	1-249-417-11	CARBON 1K	5%	1/4W	F
X101	1-767-408-21	VIBRATOR, CRYSTAL (16.9344MHz)				*****					

*	A-4417-663-A	CD SW BOARD, COMPLETE	*****			*	A-2007-732-A	LEAF SW BOARD, COMPLETE	*****		
< DIODE >						< CAPACITOR >					
D801	8-719-056-13	DIODE SML79423C-TP15	(DISC 1, DISC IN/PLAY)			C1001	1-107-716-11	ELECT 33uF	20%	10V	
D802	8-719-056-13	DIODE SML79423C-TP15	(DISC 2, DISC IN/PLAY)			< CONNECTOR >					
D803	8-719-056-13	DIODE SML79423C-TP15	(DISC 3, DISC IN/PLAY)			CN1001	1-568-860-11	SOCKET, CONNECTOR 17P			
D804	8-719-063-93	DIODE SLR325VC-N-T32	((STANDBY) POWER SAVE/DEMO)			CN1001	1-784-459-11	CONNECTOR, FFC/FPC 17P			
< RESISTOR >						< DIODE >					
						D1001	8-719-911-19	DIODE 1SS119			
R801	1-216-049-91	RES,CHIP	1K	5%	1/10W	D1002	8-719-911-19	DIODE 1SS119			
R802	1-216-051-00	METAL CHIP	1.2K	5%	1/10W	< HOLDER >					
R803	1-216-055-00	METAL CHIP	1.8K	5%	1/10W						
R804	1-216-059-00	METAL CHIP	2.7K	5%	1/10W	* DM1001	1-784-581-11	HOLDER, CABLE (2.5MM PITCH) 4P			
R805	1-216-061-00	METAL CHIP	3.3K	5%	1/10W	< IC >					
R806	1-216-065-91	RES,CHIP	4.7K	5%	1/10W						
R807	1-216-069-00	METAL CHIP	6.8K	5%	1/10W	IC1001	8-749-014-38	IC PHOTO INTERRUPTER SG-264			
R808	1-216-022-00	METAL CHIP	75	5%	1/10W	IC1002	8-749-014-38	IC PHOTO INTERRUPTER SG-264			
R809	1-216-029-00	METAL CHIP	150	5%	1/10W	< TRANSISTOR >					
R810	1-216-022-00	METAL CHIP	75	5%	1/10W						
R811	1-216-029-00	METAL CHIP	150	5%	1/10W	Q1001	8-729-029-56	TRANSISTOR DTA144ESA			
R812	1-216-022-00	METAL CHIP	75	5%	1/10W	< RESISTOR >					
R813	1-216-029-00	METAL CHIP	150	5%	1/10W						
R814	1-216-043-91	RES,CHIP	560	5%	1/10W	R907	1-247-879-11	CARBON 100K	5%	1/4W	
< SWITCH >						R1001	1-249-409-11	CARBON 220	5%	1/4W	F
S801	1-762-875-21	SWITCH, KEYBOARD (I/⏻)				R1002	1-249-409-11	CARBON 220	5%	1/4W	F
S802	1-762-875-21	SWITCH, KEYBOARD	(STANDBY) POWER SAVE/DEMO)			R1003	1-249-414-11	CARBON 560	5%	1/4W	F
S803	1-762-875-21	SWITCH, KEYBOARD (DISC 1)				R1004	1-247-834-11	CARBON 1.3K	5%	1/4W	
S804	1-762-875-21	SWITCH, KEYBOARD (DISC 2)				R1005	1-247-818-11	CARBON 300	5%	1/4W	
S805	1-762-875-21	SWITCH, KEYBOARD (DISC 3)				R1006	1-247-864-11	CARBON 24K	5%	1/4W	
						R1007	1-247-856-00	CARBON 11K	5%	1/4W	
S806	1-762-875-21	SWITCH, KEYBOARD (DISC SKIP/EX-CHANGE)				R1008	1-249-417-11	CARBON 1K	5%	1/4W	F

Ref. No.	Part No.	Description			Remark	Ref. No.	Part No.	Description			Remark
C356	1-126-960-11	ELECT	1uF	20%	50V	C842	1-127-752-11	ELECT	3300uF	20%	63V (RXD8/RXD8S)
C357	1-126-959-11	ELECT	0.47uF	20%	50V	C842	1-127-814-11	ELECT	3300uF	20%	80V (GRX80)
C358	1-126-964-11	ELECT	10uF	20%	50V	C843	1-136-165-00	FILM	0.1uF	5%	50V (GRX80)
C359	1-137-194-81	FILM	0.47uF	5%	50V	C844	1-130-777-00	FILM	0.1uF	10%	100V
C382	1-104-665-11	ELECT	100uF	20%	10V	C851	1-126-963-11	ELECT	4.7uF	20%	50V
C390	1-126-935-11	ELECT	470uF	20%	6.3V	C852	1-162-290-31	CERAMIC	470PF	10%	50V
C391	1-161-494-00	CERAMIC	0.022uF		25V	C853	1-162-282-31	CERAMIC	100PF	10%	50V
C392	1-126-916-11	ELECT	1000uF	20%	6.3V	C854	1-104-665-11	ELECT	100uF	20%	10V
C393	1-161-494-00	CERAMIC	0.022uF		25V	C857	1-136-495-11	FILM	0.068uF	5%	50V
C394	1-126-925-11	ELECT	470uF	20%	10V	C858	1-136-495-11	FILM	0.068uF	5%	50V
C396	1-126-961-11	ELECT	2.2uF	20%	50V	C859	1-128-560-11	ELECT	22uF	20%	100V
C397	1-126-961-11	ELECT	2.2uF	20%	50V	C881	1-126-967-11	ELECT	47uF	20%	50V
C401	1-136-165-00	FILM	0.1uF	5%	50V (RXD8/RXD8S)	C891	1-127-811-11	ELECT	3300uF	20%	50V (GRX80)
C402	1-136-165-00	FILM	0.1uF	5%	50V (RXD8/RXD8S)	C892	1-127-752-11	ELECT	3300uF	20%	63V (RXD8/RXD8S)
C403	1-162-306-11	CERAMIC	0.01uF	20%	16V (RXD8/RXD8S)	C892	1-127-814-11	ELECT	3300uF	20%	80V (GRX80)
C404	1-162-306-11	CERAMIC	0.01uF	20%	16V (RXD8/RXD8S)	C893	1-136-165-00	FILM	0.1uF	5%	50V (GRX80)
C410	1-126-963-11	ELECT	4.7uF	20%	50V	C894	1-130-777-00	FILM	0.1uF	10%	100V
C411	1-162-306-11	CERAMIC	0.01uF	20%	16V	C901	1-136-165-00	FILM	0.1uF	5%	50V
C412	1-107-717-11	ELECT	47uF	20%	50V	C902	1-126-936-11	ELECT	3300uF	20%	16V (RXD8/RXD8S)
C432	1-104-665-11	ELECT	100uF	20%	10V	C902	1-126-937-11	ELECT	4700uF	20%	16V (GRX80)
C433	1-126-961-11	ELECT	2.2uF	20%	50V	C903	1-126-933-11	ELECT	100uF	20%	16V
C437	1-126-968-11	ELECT	100uF	20%	50V	C904	1-104-664-11	ELECT	47uF	20%	16V
C451	1-136-165-00	FILM	0.1uF	5%	50V (RXD8/RXD8S)	C905	1-104-665-11	ELECT	100uF	20%	10V
C452	1-136-165-00	FILM	0.1uF	5%	50V (RXD8/RXD8S)	C906	1-136-165-00	FILM	0.1uF	5%	50V
C453	1-162-306-11	CERAMIC	0.01uF	20%	16V (RXD8/RXD8S)	C907	1-128-548-11	ELECT	4700uF	20%	25V
C454	1-162-306-11	CERAMIC	0.01uF	20%	16V (RXD8/RXD8S)	C909	1-126-964-11	ELECT	10uF	20%	50V
C501	1-126-964-11	ELECT	10uF	20%	50V	C910	1-104-665-11	ELECT	100uF	20%	10V
C502	1-164-159-11	CERAMIC	0.1uF		50V	C911	1-126-964-11	ELECT	10uF	20%	50V
C503	1-136-165-00	FILM	0.1uF	5%	50V	C912	1-126-926-11	ELECT	1000uF	20%	10V
C504	1-126-926-11	ELECT	1000uF	20%	10V	C913	1-126-964-11	ELECT	10uF	20%	50V
C508	1-109-889-11	ELECT	1uF	20%	50V	C914	1-126-767-11	ELECT	1000uF	20%	16V
C610	1-102-953-00	CERAMIC	18PF	5%	50V	C915	1-104-664-11	ELECT	47uF	20%	16V
C611	1-102-951-00	CERAMIC	15PF	5%	50V	C916	1-162-306-11	CERAMIC	0.01uF	20%	16V
C614	1-162-306-11	CERAMIC	0.01uF	20%	16V	C917	1-126-933-11	ELECT	100uF	20%	16V (GRX80:E2,E3,EA3,SP,AR,TW,MX,AUS/RXD8/RXD8S)
C616	1-104-665-11	ELECT	100uF	20%	10V	C951	1-136-165-00	FILM	0.1uF	5%	50V
C662	1-162-306-11	CERAMIC	0.01uF	20%	16V	C952	1-126-768-11	ELECT	2200uF	20%	16V
C664	1-104-665-11	ELECT	100uF	20%	10V	C953	1-126-933-11	ELECT	100uF	20%	16V
C698	1-162-306-11	CERAMIC	0.01uF	20%	16V	C955	1-104-665-11	ELECT	100uF	20%	10V
C699	1-104-665-11	ELECT	100uF	20%	10V	C956	1-136-165-00	FILM	0.1uF	5%	50V
C801	1-126-963-11	ELECT	4.7uF	20%	50V	< CONNECTOR >					
C802	1-162-290-31	CERAMIC	470PF	10%	50V	CN303	1-784-776-11	CONNECTOR, FFC 15P			
C803	1-162-282-31	CERAMIC	100PF	10%	50V	CN304	1-784-778-11	CONNECTOR, FFC 17P			
C804	1-104-665-11	ELECT	100uF	20%	10V	* CN371	1-568-832-11	SOCKET, CONNECTOR 13P (GRX80:E2,AR,MX,AUS,EA4,TH)			
C807	1-136-495-11	FILM	0.068uF	5%	50V	CN371	1-568-834-11	SOCKET, CONNECTOR 15P (GRX80:E3,EA3,SP,TW/RXD8/RXD8S)			
C808	1-136-495-11	FILM	0.068uF	5%	50V	* CN391	1-568-862-11	SOCKET, CONNECTOR 19P			
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 (GRX80)						

MAIN

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
CN392	1-785-334-11	PIN, CONNECTOR (LIGHT ANGLE)8P				< IC >	
CN393	1-785-335-11	PIN, CONNECTOR (LIGHT ANGLE)9P					
* CN403	1-564-518-11	PLUG, CONNECTOR 3P		IC101	8-759-571-54	IC M62493FP	
* CN501	1-568-841-11	SOCKET, CONNECTOR 25P		IC181	8-759-634-51	IC M5218AP	
		< DIODE >		IC301	8-759-495-26	IC HA12215	
D141	8-719-911-19	DIODE 1SS119-25		IC381	8-749-923-04	IC TOTX178 (CD DIGITAL OUT OPTICAL)	
D191	8-719-911-19	DIODE 1SS119-25		IC501	8-759-571-18	IC M30622MA-A01FP	
D331	8-719-911-19	DIODE 1SS119-25		IC502	8-759-635-63	IC M51943BSL	
D333	8-719-911-19	DIODE 1SS119-25		IC801	8-749-015-37	IC STK411-240E (GRX80)	
D334	8-719-911-19	DIODE 1SS119-25		IC801	8-749-015-46	IC STK407-100E (RXD8/RXD8S)	
				IC901	8-759-604-86	IC M5F7807L	
D335	8-719-911-19	DIODE 1SS119-25		IC902	8-759-231-53	IC TA7805S	
D401	8-719-911-19	DIODE 1SS119-25		IC903	8-759-088-08	IC UPC7812AHF	
D403	8-719-911-19	DIODE 1SS119-25				< JACK >	
D405	8-719-024-99	DIODE 11ES2-NTA2B		J101	1-774-411-11	JACK, PIN 6P (VIDEO/AUDIO IN, MD IN/OUT)	
D406	8-719-024-99	DIODE 11ES2-NTA2B		J191	1-774-785-11	JACK, PIN 1P (GRX80)	
						< COIL >	
D407	8-719-024-99	DIODE 11ES2-NTA2B		L381	1-410-521-11	INDUCTOR 100uH	
D411	8-719-911-19	DIODE 1SS119-25		L392	1-410-521-11	INDUCTOR 100uH	
D501	8-719-911-19	DIODE 1SS119-25		L401	1-420-872-00	COIL, AIR-CORE (RXD8/RXD8S)	
D502	8-719-911-19	DIODE 1SS119-25		L451	1-420-872-00	COIL, AIR-CORE (RXD8/RXD8S)	
D503	8-719-911-19	DIODE 1SS119-25		L501	1-410-509-11	INDUCTOR 10uH	
						< TRANSISTOR >	
D504	8-719-911-19	DIODE 1SS119-25		Q111	8-729-119-78	TRANSISTOR 2SC403SP-51	
D505	8-719-911-19	DIODE 1SS119-25		Q112	8-729-119-78	TRANSISTOR 2SC403SP-51	
D506	8-719-911-19	DIODE 1SS119-25		Q113	8-729-141-30	TRANSISTOR 2SC3623A-LK	
D509	8-719-911-19	DIODE 1SS119-25		Q161	8-729-119-78	TRANSISTOR 2SC403SP-51	
D607	8-719-911-19	DIODE 1SS119-25		Q162	8-729-119-78	TRANSISTOR 2SC403SP-51	
				Q163	8-729-141-30	TRANSISTOR 2SC3623A-LK	
D644	8-719-911-19	DIODE 1SS119-25		Q181	8-729-141-30	TRANSISTOR 2SC3623A-LK	
D801	8-719-911-19	DIODE 1SS119-25		Q191	8-729-141-30	TRANSISTOR 2SC3623A-LK (GRX80)	
D802	8-719-118-97	DIODE RD16F-T7B2		Q192	8-729-900-63	TRANSISTOR DTA124ES (GRX80)	
D803	8-719-911-19	DIODE 1SS119-25		Q201	8-729-900-36	TRANSISTOR DTC124ES	
D831	8-719-302-37	DIODE RBV-602		Q251	8-729-900-36	TRANSISTOR DTC124ES	
				Q331	8-729-118-00	TRANSISTOR 2SB1116-L	
D832	8-719-060-53	DIODE RBV-2506 (GRX80)		Q332	8-729-900-80	TRANSISTOR DTC114ES	
D851	8-719-911-19	DIODE 1SS119-25		Q333	8-729-118-00	TRANSISTOR 2SB1116-L	
D852	8-719-118-97	DIODE RD16F-T7B2 (GRX80)		Q334	8-729-900-80	TRANSISTOR DTC114ES	
D881	8-719-911-19	DIODE 1SS119-25		Q335	8-729-900-80	TRANSISTOR DTC114ES	
D901	8-719-024-99	DIODE 11ES2-NTA2B		Q336	8-729-116-59	TRANSISTOR 2SB1068TP	
				Q337	8-729-045-21	TRANSISTOR 2SD1513TP-LK	
D902	8-719-024-99	DIODE 11ES2-NTA2B		Q338	8-729-422-57	TRANSISTOR UN4111	
D903	8-719-024-99	DIODE 11ES2-NTA2B		Q339	8-729-900-80	TRANSISTOR DTC114ES	
D904	8-719-024-99	DIODE 11ES2-NTA2B		Q340	8-729-116-59	TRANSISTOR 2SB1068TP	
D905	8-719-933-36	DIODE HZS6B1L		Q341	8-729-045-21	TRANSISTOR 2SD1513TP-LK	
D906	8-719-911-19	DIODE 1SS119-25		Q342	8-729-422-57	TRANSISTOR UN4111	
				Q343	8-729-900-80	TRANSISTOR DTC114ES	
D907	8-719-024-99	DIODE 11ES2-NTA2B		Q401	8-729-119-77	TRANSISTOR 2SA1175-FEK	
D908	8-719-024-99	DIODE 11ES2-NTA2B		Q402	8-729-111-29	TRANSISTOR 2SD1616A-K	
D909	8-719-024-99	DIODE 11ES2-NTA2B		Q411	8-729-141-30	TRANSISTOR 2SC3623A-LK	
D910	8-719-024-99	DIODE 11ES2-NTA2B		Q412	8-729-900-63	TRANSISTOR DTA124ES	
D915	8-719-935-69	DIODE HZS11B1LTD		Q431	8-729-140-84	TRANSISTOR 2SC1841-PAFAEA	
				Q432	8-729-140-82	TRANSISTOR 2SA988-PAFAEA	
D921	8-719-911-19	DIODE 1SS119-25 (GRX80)		Q433	8-729-140-84	TRANSISTOR 2SC1841-PAFAEA	
D922	8-719-911-19	DIODE 1SS119-25 (GRX80)					
D923	8-719-911-19	DIODE 1SS119-25 (GRX80)					
D924	8-719-024-99	DIODE 11ES2-NTA2B (GRX80)					
D925	8-719-024-99	DIODE 11ES2-NTA2B (GRX80)					
D971	8-719-200-82	DIODE 11ES2 (GRX80:EA4,TH)					
		< FERRITE BEAD >					
FB391	1-412-473-21	INDUCTOR 0UH					
FB392	1-412-473-21	INDUCTOR 0UH					

Ref. No.	Part No.	Description	Remark			Ref. No.	Part No.	Description	Remark		
Q434	8-729-140-84	TRANSISTOR	2SC1841-PAFAEA			R152	1-249-417-11	CARBON	1K	5%	1/4W F
Q435	8-729-900-36	TRANSISTOR	DTA124ES			R153	1-249-417-11	CARBON	1K	5%	1/4W F
Q436	8-729-119-77	TRANSISTOR	2SA1175-FEK			R161	1-249-429-11	CARBON	10K	5%	1/4W
Q437	8-729-119-79	TRANSISTOR	2SC2785-FEK			R162	1-247-895-00	CARBON	470K	5%	1/4W
Q439	8-729-119-79	TRANSISTOR	2SC2785-FEK			R163	1-247-894-11	CARBON	430K	5%	1/4W
Q471	8-729-141-30	TRANSISTOR	2SC3623A-LK			R164	1-249-415-11	CARBON	680	5%	1/4W F
Q501	8-729-119-78	TRANSISTOR	2SC403SP-51			R165	1-249-433-11	CARBON	22K	5%	1/4W
Q508	8-729-900-63	TRANSISTOR	DTA124ES			R166	1-247-887-00	CARBON	220K	5%	1/4W
Q509	8-729-900-63	TRANSISTOR	DTA124ES			R167	1-249-429-11	CARBON	10K	5%	1/4W
Q801	8-729-140-84	TRANSISTOR	2SC1841-PAFAEA			R168	1-249-437-11	CARBON	47K	5%	1/4W
Q803	8-729-140-82	TRANSISTOR	2SA988-PAFAEA			R169	1-249-421-11	CARBON	2.2K	5%	1/4W F
Q804	8-729-140-84	TRANSISTOR	2SC1841-PAFAEA			R170	1-249-441-11	CARBON	100K	5%	1/4W
Q831	8-729-140-84	TRANSISTOR	2SC1841-PAFAEA			R171	1-249-429-11	CARBON	10K	5%	1/4W
Q832	8-729-119-79	TRANSISTOR	2SC2785-FEK			R178	1-249-421-11	CARBON	2.2K	5%	1/4W F
Q851	8-729-140-84	TRANSISTOR	2SC1841-PAFAEA			R181	1-249-429-11	CARBON	10K	5%	1/4W
Q881	8-729-140-84	TRANSISTOR	2SC1841-PAFAEA			R182	1-249-417-11	CARBON	1K	5%	1/4W F
Q901	8-729-209-15	TRANSISTOR	2SD2012			R183	1-249-425-11	CARBON	4.7K	5%	1/4W F
Q902	8-729-119-78	TRANSISTOR	2SC403SP-51			R184	1-249-429-11	CARBON	10K	5%	1/4W
Q903	8-729-900-36	TRANSISTOR	DTC124ES			R185	1-249-441-11	CARBON	100K	5%	1/4W
Q904	8-729-900-36	TRANSISTOR	DTC124ES			R186	1-249-429-11	CARBON	10K	5%	1/4W
Q905	8-729-040-20	TRANSISTOR	RT1P137L-TP			R187	1-249-429-11	CARBON	10K	5%	1/4W
Q907	8-729-040-20	TRANSISTOR	RT1P137L-TP			R188	1-249-429-11	CARBON	10K	5%	1/4W
Q908	8-729-900-36	TRANSISTOR	DTC124ES			R190	1-249-441-11	CARBON	100K	5%	1/4W
Q909	8-729-026-68	TRANSISTOR	2SD2525(TP)			R196	1-249-417-11	CARBON	1K	5%	(GRX80) 1/4W F
Q913	8-729-119-78	TRANSISTOR	2SC403SP-51								(GRX80)
Q914	8-729-119-77	TRANSISTOR	2SA1175-FEK			R197	1-249-441-11	CARBON	100K	5%	1/4W (GRX80)
Q923	8-729-900-36	TRANSISTOR	DTC124ES			R198	1-249-417-11	CARBON	1K	5%	1/4W F (GRX80)
Q951	8-729-141-83	TRANSISTOR	2SB1094-LK			R199	1-249-429-11	CARBON	10K	5%	1/4W (GRX80)
Q952	8-729-119-77	TRANSISTOR	2SA1175-FEK								
< RESISTOR >						R201	1-247-888-11	CARBON	240K	5%	1/4W
R101	1-249-417-11	CARBON	1K	5%	1/4W F	R202	1-247-903-00	CARBON	1M	5%	1/4W
R102	1-249-417-11	CARBON	1K	5%	1/4W F	R251	1-247-888-11	CARBON	240K	5%	1/4W
R103	1-249-417-11	CARBON	1K	5%	1/4W F	R252	1-247-903-00	CARBON	1M	5%	1/4W
R111	1-249-429-11	CARBON	10K	5%	1/4W	R301	1-249-435-11	CARBON	33K	5%	1/4W
R112	1-247-895-00	CARBON	470K	5%	1/4W	R302	1-249-421-11	CARBON	2.2K	5%	1/4W F
R113	1-247-894-11	CARBON	430K	5%	1/4W	R303	1-247-807-31	CARBON	100	5%	1/4W
R114	1-249-415-11	CARBON	680	5%	1/4W F	R304	1-247-807-31	CARBON	100	5%	1/4W
R115	1-249-433-11	CARBON	22K	5%	1/4W	R305	1-249-421-11	CARBON	2.2K	5%	1/4W F
R116	1-247-887-00	CARBON	220K	5%	1/4W	R306	1-249-428-11	CARBON	8.2K	5%	1/4W F
R117	1-249-429-11	CARBON	10K	5%	1/4W	R307	1-249-428-11	CARBON	8.2K	5%	1/4W F
R118	1-249-437-11	CARBON	47K	5%	1/4W	R308	1-249-425-11	CARBON	4.7K	5%	1/4W F
R119	1-249-421-11	CARBON	2.2K	5%	1/4W F	R309	1-249-433-11	CARBON	22K	5%	1/4W
R120	1-249-441-11	CARBON	100K	5%	1/4W	R311	1-247-903-00	CARBON	1M	5%	1/4W
R121	1-249-429-11	CARBON	10K	5%	1/4W	R312	1-247-884-11	CARBON	160K	5%	1/4W
R124	1-249-421-11	CARBON	2.2K	5%	1/4W F	R313	1-249-441-11	CARBON	100K	5%	1/4W
R125	1-247-843-11	CARBON	3.3K	5%	1/4W	R315	1-249-429-11	CARBON	10K	5%	1/4W
R126	1-249-421-11	CARBON	2.2K	5%	1/4W F	R316	1-249-432-11	CARBON	18K	5%	1/4W
R131	1-247-807-31	CARBON	100	5%	1/4W	R317	1-249-429-11	CARBON	10K	5%	1/4W
R132	1-247-807-31	CARBON	100	5%	1/4W	R318	1-249-429-11	CARBON	10K	5%	1/4W
R133	1-247-807-31	CARBON	100	5%	1/4W	R319	1-247-893-11	CARBON	390K	5%	1/4W
R141	1-249-433-11	CARBON	22K	5%	1/4W	R321	1-249-422-11	CARBON	2.7K	5%	1/4W F
R142	1-249-433-11	CARBON	22K	5%	1/4W	R322	1-249-428-11	CARBON	8.2K	5%	1/4W F
R143	1-249-417-11	CARBON	1K	5%	1/4W F	R324	1-247-876-11	CARBON	75K	5%	1/4W
R144	1-249-441-11	CARBON	100K	5%	1/4W	R325	1-247-876-11	CARBON	75K	5%	1/4W
R145	1-247-903-00	CARBON	1M	5%	1/4W	R326	1-249-437-11	CARBON	47K	5%	1/4W
R151	1-249-417-11	CARBON	1K	5%	1/4W F						

MAIN

Ref. No.	Part No.	Description			Remark	Ref. No.	Part No.	Description			Remark
R327	1-249-437-11	CARBON	47K	5%	1/4W	R434	1-249-433-11	CARBON	22K	5%	1/4W
R328	1-249-437-11	CARBON	47K	5%	1/4W	R435	1-249-435-11	CARBON	33K	5%	1/4W
R329	1-249-417-11	CARBON	1K	5%	1/4W F	R437	1-249-429-11	CARBON	10K	5%	1/4W
R330	1-249-425-11	CARBON	4.7K	5%	1/4W F	R438	1-249-429-11	CARBON	10K	5%	1/4W
R331	1-249-425-11	CARBON	4.7K	5%	1/4W F	R439	1-249-425-11	CARBON	4.7K	5%	1/4W F
R332	1-249-415-11	CARBON	680	5%	1/4W F	R440	1-249-429-11	CARBON	10K	5%	1/4W
R333	1-249-421-11	CARBON	2.2K	5%	1/4W F	R441	1-249-435-11	CARBON	33K	5%	1/4W
R334	1-249-415-11	CARBON	680	5%	1/4W F	R443	1-249-417-11	CARBON	1K	5%	1/4W F
R335	1-249-421-11	CARBON	2.2K	5%	1/4W F	R451	1-260-076-11	CARBON	10	5%	1/2W (RXD8/RXD8S)
R336	1-249-437-11	CARBON	47K	5%	1/4W	R452	1-260-076-11	CARBON	10	5%	1/2W (RXD8/RXD8S)
R337	1-249-417-11	CARBON	1K	5%	1/4W F	R471	1-260-089-11	CARBON	150	5%	1/2W (RXD8/RXD8S)
R338	1-249-411-11	CARBON	330	5%	1/4W	R471	1-260-090-11	CARBON	180	5%	1/2W (GRX80)
R339	1-249-437-11	CARBON	47K	5%	1/4W	R472	1-260-089-11	CARBON	150	5%	1/2W (RXD8/RXD8S)
R340	1-249-437-11	CARBON	47K	5%	1/4W	R472	1-260-090-11	CARBON	180	5%	1/2W (GRX80)
R341	1-249-411-11	CARBON	330	5%	1/4W	R473	1-249-402-11	CARBON	56	5%	1/4W F
R342	1-249-437-11	CARBON	47K	5%	1/4W	R474	1-249-417-11	CARBON	1K	5%	1/4W F
R343	1-249-417-11	CARBON	1K	5%	1/4W F	R481	1-260-089-11	CARBON	150	5%	1/2W (RXD8/RXD8S)
R351	1-249-435-11	CARBON	33K	5%	1/4W	R481	1-260-090-11	CARBON	180	5%	1/2W (GRX80)
R352	1-249-421-11	CARBON	2.2K	5%	1/4W F	R482	1-260-089-11	CARBON	150	5%	1/2W (RXD8/RXD8S)
R353	1-247-807-31	CARBON	100	5%	1/4W	R482	1-260-090-11	CARBON	180	5%	1/2W (GRX80)
R354	1-247-807-31	CARBON	100	5%	1/4W	R483	1-260-089-11	CARBON	150	5%	1/2W (RXD8/RXD8S)
R355	1-249-421-11	CARBON	2.2K	5%	1/4W F	R483	1-260-090-11	CARBON	180	5%	1/2W (GRX80)
R356	1-249-428-11	CARBON	8.2K	5%	1/4W F	R484	1-260-089-11	CARBON	150	5%	1/2W (RXD8/RXD8S)
R357	1-249-428-11	CARBON	8.2K	5%	1/4W F	R484	1-260-090-11	CARBON	180	5%	1/2W (GRX80)
R358	1-249-425-11	CARBON	4.7K	5%	1/4W F	R501	1-249-413-11	CARBON	470	5%	1/4W F
R359	1-249-435-11	CARBON	33K	5%	1/4W	R502	1-249-425-11	CARBON	4.7K	5%	1/4W F
R391	1-247-807-31	CARBON	100	5%	1/4W	R503	1-249-437-11	CARBON	47K	5%	1/4W
R392	1-247-807-31	CARBON	100	5%	1/4W	R504	1-249-437-11	CARBON	47K	5%	1/4W
R393	1-249-435-11	CARBON	33K	5%	1/4W	R505	1-249-429-11	CARBON	10K	5%	1/4W
R394	1-249-435-11	CARBON	33K	5%	1/4W	R508	1-249-421-11	CARBON	2.2K	5%	1/4W F
R401	1-260-076-11	CARBON	10	5%	1/2W (RXD8/RXD8S)	R509	1-249-441-11	CARBON	100K	5%	1/4W
R402	1-260-076-11	CARBON	10	5%	1/2W (RXD8/RXD8S)	R510	1-249-409-11	CARBON	220	5%	1/4W F
R406	1-249-437-11	CARBON	47K	5%	1/4W	R521	1-249-437-11	CARBON	47K	5%	1/4W
R407	1-249-437-11	CARBON	47K	5%	1/4W	R522	1-249-429-11	CARBON	10K	5%	1/4W
R408	1-249-425-11	CARBON	4.7K	5%	1/4W F	R523	1-249-427-11	CARBON	6.8K	5%	1/4W F (RXD8/RXD8S)
R409	1-249-441-11	CARBON	100K	5%	1/4W	R523	1-249-431-11	CARBON	15K	5%	1/4W (GRX80:AUS)
R410	1-249-421-11	CARBON	2.2K	5%	1/4W F	R523	1-249-433-11	CARBON	22K	5%	1/4W (GRX80:E2,AR,MX)
△ R411	1-215-893-11	METAL OXIDE	1.5K	5%	2W F (RXD8/RXD8S)	R523	1-249-437-11	CARBON	47K	5%	1/4W (GRX80:EA3,EA4,TH)
△ R411	1-216-482-11	METAL OXIDE	1.8K	5%	3W F (GRX80)	R524	1-247-843-11	CARBON	3.3K	5%	1/4W (GRX80:EA4,TH)
R413	1-249-402-11	CARBON	56	5%	1/4W F	R524	1-249-435-11	CARBON	33K	5%	1/4W (GRX80:EA3)
R414	1-249-417-11	CARBON	1K	5%	1/4W F						
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 F						
R421	1-260-089-11	CARBON	150	5%	1/2W (RXD8/RXD8S)						
R421	1-260-090-11	CARBON	180	5%	1/2W (GRX80)						
R422	1-260-089-11	CARBON	150	5%	1/2W (RXD8/RXD8S)						
R422	1-260-090-11	CARBON	180	5%	1/2W (GRX80)						
R431	1-249-438-11	CARBON	56K	5%	1/4W						
R432	1-249-437-11	CARBON	47K	5%	1/4W						

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Replace only with part number specified.

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
R524	1-249-437-11	CARBON 47K 5% 1/4W (GRX80:E2,AR,MX,AUS/RXD8/RXD8S)		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	
R527	1-249-429-11	CARBON 10K 5% 1/4W		R691	1-247-807-31	CARBON 100 5% 1/4W	
R536	1-249-429-11	CARBON 10K 5% 1/4W		R801	1-249-417-11	CARBON 1K 5% 1/4W	F
R550	1-247-843-11	CARBON 3.3K 5% 1/4W		R802	1-249-438-11	CARBON 56K 5% 1/4W	
R551	1-249-429-11	CARBON 10K 5% 1/4W		R803	1-249-413-11	CARBON 470 5% 1/4W	F
R567	1-247-807-31	CARBON 100 5% 1/4W					(GRX80)
				R803	1-249-414-11	CARBON 560 5% 1/4W	F
							(RXD8/RXD8S)
R568	1-249-429-11	CARBON 10K 5% 1/4W					
R569	1-249-429-11	CARBON 10K 5% 1/4W		R804	1-249-438-11	CARBON 56K 5% 1/4W	
R570	1-249-429-11	CARBON 10K 5% 1/4W		R805	1-249-417-11	CARBON 1K 5% 1/4W	F
R571	1-249-429-11	CARBON 10K 5% 1/4W		R806	1-249-431-11	CARBON 15K 5% 1/4W	
R577	1-249-429-11	CARBON 10K 5% 1/4W		R807	1-249-441-11	CARBON 100K 5% 1/4W	
				△ R808	1-220-893-11	METAL 0.22 10% 5W	
R610	1-247-891-00	CARBON 330K 5% 1/4W					
R617	1-249-429-11	CARBON 10K 5% 1/4W		R809	1-260-076-11	CARBON 10 5% 1/2W	
R618	1-247-807-31	CARBON 100 5% 1/4W		R810	1-215-872-11	METAL OXIDE 3.3K 5% 1W	F
R619	1-247-807-31	CARBON 100 5% 1/4W					(GRX80)
R620	1-247-807-31	CARBON 100 5% 1/4W (GRX80:EA4,TH/RXD8/RXD8S)		△ R811	1-212-881-11	FUSIBLE 100 5% 1/4W	F
				△ R812	1-202-972-61	FUSIBLE 1 5% 1/4W	F
R621	1-247-807-31	CARBON 100 5% 1/4W (RXD8/RXD8S)		R813	1-249-435-11	CARBON 33K 5% 1/4W	
R622	1-249-425-11	CARBON 4.7K 5% 1/4W	F	R814	1-249-421-11	CARBON 2.2K 5% 1/4W	F
R626	1-247-807-31	CARBON 100 5% 1/4W		R815	1-249-433-11	CARBON 22K 5% 1/4W	
R627	1-247-807-31	CARBON 100 5% 1/4W		R816	1-249-429-11	CARBON 10K 5% 1/4W	
R629	1-247-807-31	CARBON 100 5% 1/4W		R817	1-249-421-11	CARBON 2.2K 5% 1/4W	F
				R818	1-249-435-11	CARBON 33K 5% 1/4W	
R630	1-247-807-31	CARBON 100 5% 1/4W					
R632	1-247-807-31	CARBON 100 5% 1/4W (GRX80:E2,E3,EA3,SP,AR,TW,MX,AUS/RXD8/RXD8S)		R819	1-249-439-11	CARBON 68K 5% 1/4W	
				R831	1-249-441-11	CARBON 100K 5% 1/4W	
R633	1-247-807-31	CARBON 100 5% 1/4W		R832	1-249-441-11	CARBON 100K 5% 1/4W	
R635	1-249-413-11	CARBON 470 5% 1/4W	F	R833	1-249-441-11	CARBON 100K 5% 1/4W	
R636	1-247-807-31	CARBON 100 5% 1/4W		R842	1-249-441-11	CARBON 100K 5% 1/4W	
R637	1-249-417-11	CARBON 1K 5% 1/4W	F	R851	1-249-417-11	CARBON 1K 5% 1/4W	F
R639	1-247-807-31	CARBON 100 5% 1/4W		R852	1-249-438-11	CARBON 56K 5% 1/4W	
R642	1-247-807-31	CARBON 100 5% 1/4W		R853	1-249-413-11	CARBON 470 5% 1/4W	F
R643	1-247-807-31	CARBON 100 5% 1/4W					(GRX80)
R649	1-247-807-31	CARBON 100 5% 1/4W		R853	1-249-414-11	CARBON 560 5% 1/4W	F
							(RXD8/RXD8S)
R650	1-247-807-31	CARBON 100 5% 1/4W		R854	1-249-438-11	CARBON 56K 5% 1/4W	
R651	1-247-807-31	CARBON 100 5% 1/4W					
R652	1-247-807-31	CARBON 100 5% 1/4W		R855	1-249-417-11	CARBON 1K 5% 1/4W	F
R653	1-247-807-31	CARBON 100 5% 1/4W		R856	1-249-431-11	CARBON 15K 5% 1/4W	
R654	1-247-807-31	CARBON 100 5% 1/4W		R857	1-249-441-11	CARBON 100K 5% 1/4W	
				△ R858	1-220-893-11	METAL 0.22 10% 5W	
R655	1-247-807-31	CARBON 100 5% 1/4W		R859	1-260-076-11	CARBON 10 5% 1/2W	
R656	1-247-807-31	CARBON 100 5% 1/4W					
R657	1-247-807-31	CARBON 100 5% 1/4W		R860	1-215-872-11	METAL OXIDE 3.3K 5% 1W	F
R658	1-249-417-11	CARBON 1K 5% 1/4W	F				(GRX80)
R659	1-247-807-31	CARBON 100 5% 1/4W		△ R861	1-212-881-11	FUSIBLE 100 5% 1/4W	F
				R881	1-249-435-11	CARBON 33K 5% 1/4W	
R660	1-247-807-31	CARBON 100 5% 1/4W		R882	1-249-435-11	CARBON 33K 5% 1/4W	
R661	1-247-807-31	CARBON 100 5% 1/4W		R892	1-249-441-11	CARBON 100K 5% 1/4W	
R663	1-247-807-31	CARBON 100 5% 1/4W					
R665	1-247-807-31	CARBON 100 5% 1/4W		R901	1-247-843-11	CARBON 3.3K 5% 1/4W	
R666	1-247-807-31	CARBON 100 5% 1/4W		R902	1-249-415-11	CARBON 680 5% 1/4W	F
				R903	1-249-419-11	CARBON 1.5K 5% 1/4W	F
R667	1-247-807-31	CARBON 100 5% 1/4W		R904	1-249-414-11	CARBON 560 5% 1/4W	F
R668	1-247-807-31	CARBON 100 5% 1/4W		R905	1-249-425-11	CARBON 4.7K 5% 1/4W	F
R669	1-247-807-31	CARBON 100 5% 1/4W					
R670	1-247-807-31	CARBON 100 5% 1/4W		R906	1-247-843-11	CARBON 3.3K 5% 1/4W	
R671	1-247-807-31	CARBON 100 5% 1/4W		R907	1-249-415-11	CARBON 680 5% 1/4W	F
				R908	1-249-429-11	CARBON 10K 5% 1/4W	
R686	1-247-807-31	CARBON 100 5% 1/4W		R909	1-249-430-11	CARBON 12K 5% 1/4W	
R687	1-247-807-31	CARBON 100 5% 1/4W					

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

MAIN						MOTOR (SLIDE)						MOTOR (TURN)						PANEL					
Ref. No.	Part No.	Description				Remark		Ref. No.	Part No.	Description				Remark									
R911	1-249-409-11	CARBON	220	5%	1/4W	F		*	1-658-577-11	MOTOR (TURN) BOARD *****													
R920	1-249-383-11	CARBON	1.5	5%	1/6W	F																	
R921	1-249-383-11	CARBON	1.5	5%	1/6W	F				< CAPACITOR >													
R931	1-249-429-11	CARBON	10K	5%	1/4W																		
		< VARIABLE RESISTOR >								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								
		< RELAY >									< CONNECTOR >												
										CN703	1-750-413-11	CONNECTOR, FFC/FPC 8P											
										CN704	1-506-469-11	PIN, CONNECTOR 4P											
		< DIODE >																					
										D701	8-719-983-66	DIODE	MTZJ-T-72-3.6B (Malaysia PRODUCT)										
										D701	8-719-109-69	DIODE	RD3.6ES-B2 (Indonesia PRODUCT)										
		< THERMISTOR >									< IC >												
		< TERMINAL >								IC701	8-759-633-65	IC	M54641L										
											< RESISTOR >												
										R706	1-249-411-11	CARBON	330	5%	1/4W								
										R707	1-249-401-11	CARBON	47	5%	1/4W F								

		< VIBRATOR >								*	A-4417-643-A	PANEL BOARD, COMPLETE (RXD8/RXD8S) *****											
										*	A-4417-650-A	PANEL BOARD, COMPLETE (GRX80:EA3) *****											
										*	A-4417-660-A	PANEL BOARD, COMPLETE ***** (EXCEPT GRX80:EA3/RXD8/RXD8S)											
										*	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	1-163-031-11	CERAMIC CHIP	0.01uF		50V								
										C604	1-163-038-91	CERAMIC CHIP	0.1uF		25V								
										C605	1-165-319-11	CERAMIC CHIP	0.1uF		50V								
		< DIODE >								C608	1-165-319-11	CERAMIC CHIP	0.1uF		50V								
										C610	1-124-589-11	ELECT	47uF	20%	16V								
										C611	1-163-031-11	CERAMIC CHIP	0.01uF		50V								
										C612	1-163-031-11	CERAMIC CHIP	0.01uF		50V								
										C614	1-163-031-11	CERAMIC CHIP	0.01uF		50V								
		< IC >								C615	1-163-031-11	CERAMIC CHIP	0.01uF		50V								
										C616	1-126-157-11	ELECT	10uF	20%	16V								
										C617	1-164-182-11	CERAMIC CHIP	0.0033uF	10%	50V								
										C618	1-126-157-11	ELECT	10uF	20%	16V								
										C619	1-126-157-11	ELECT	10uF	20%	16V								
		< RESISTOR >								C620	1-126-163-11	ELECT	4.7uF	20%	50V								
										C621	1-163-001-11	CERAMIC CHIP	220PF	10%	50V								
										C622	1-163-001-11	CERAMIC CHIP	220PF	10%	50V								
										C625	1-126-157-11	ELECT	10uF	20%	16V								
										C628	1-126-163-11	ELECT	4.7uF	20%	50V								
		< SWITCH >																					
S801	1-762-527-11	SWITCH, ROTARY (OPEN/CLOSE)								*****													

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
C629	1-124-589-11	ELECT	47uF 20% 16V			< CONNECTOR >	
C630	1-126-157-11	ELECT	10uF 20% 16V				
C631	1-163-031-11	CERAMIC CHIP	0.01uF 50V	* CN601	1-568-867-11	SOCKET, CONNECTOR 25P	
C632	1-124-589-11	ELECT	47uF 20% 16V			< DIODE >	
C633	1-107-725-11	CERAMIC CHIP	0.1uF 10% 16V				
C634	1-163-031-11	CERAMIC CHIP	0.01uF 50V	D601	8-719-058-24	DIODE RB501V-40TE-17	
C701	1-163-009-11	CERAMIC CHIP	0.001uF 10% 50V (RXD8/RXD8S)	D608	8-719-074-27	DIODE SELUIE10CXM-LC(LEFT)	
C702	1-163-009-11	CERAMIC CHIP	0.001uF 10% 50V (RXD8/RXD8S)	D609	8-719-074-24	DIODE SELUD10CXM-LC (RIGHT)	
C703	1-163-038-91	CERAMIC CHIP	0.1uF 25V	D611	8-719-071-41	DIODE SELS5923C-TP15 (SYNC EQ)	
C711	1-163-009-11	CERAMIC CHIP	0.001uF 10% 50V (GRX80:EA3)	D612	8-719-071-44	DIODE SELS5223C-TP15 (EFFECT)	
C712	1-163-019-00	CERAMIC CHIP	0.0068uF 10% 50V (GRX80:EA3)	D613	8-719-071-41	DIODE SELS5923C-TP15 (SYNC BASS L)	
C713	1-126-160-11	ELECT	1uF 20% 50V (GRX80:EA3)	D614	8-719-071-41	DIODE SELS5923C-TP15 (SYNC BASS H)	
C714	1-164-344-11	CERAMIC CHIP	0.068uF 10% 25V (GRX80:EA3)	D615	8-719-063-93	DIODE SLR325VC-N-T32 (NON STOP)	
C715	1-124-465-00	ELECT	0.47uF 20% 50V (GRX80:EA3)	D619	8-719-056-13	DIODE SML79423C-TP15 (▶▶)	
C716	1-124-465-00	ELECT	0.47uF 20% 50V (GRX80:EA3)	D620	8-719-073-47	DIODE SML72923C-TP15 (PAUSE/START, REC)	
C717	1-164-492-11	CERAMIC CHIP	0.15uF 10% 16V (GRX80:EA3)	D621	8-719-056-13	DIODE SML79423C-TP15 (AUTO BPM)	
C718	1-163-009-11	CERAMIC CHIP	0.001uF 10% 50V (GRX80:EA3)	D622	8-719-057-97	DIODE SEL5923A-TP15 (+/▶▶)	
C719	1-126-160-11	ELECT	1uF 20% 50V (GRX80:EA3)	D623	8-719-057-97	DIODE SEL5923A-TP15 (-/◀◀)	
C720	1-163-037-11	CERAMIC CHIP	0.022uF 10% 25V (GRX80:EA3)	D624	8-719-063-93	DIODE SLR325VC-N-T32 (JOG)	
C721	1-163-019-00	CERAMIC CHIP	0.0068uF 10% 50V (GRX80:EA3)	D625	8-719-063-93	DIODE SLR325VC-N-T32 (ENTER/NEXT)	
C722	1-164-344-11	CERAMIC CHIP	0.068uF 10% 25V (GRX80:EA3)	D626	8-719-057-97	DIODE SEL5923A-TP15 (GROOVE)	
C723	1-124-589-11	ELECT	47uF 20% 16V (GRX80:EA3)	D627	8-719-057-97	DIODE SEL5923A-TP15 (PAD A)	
C724	1-163-038-91	CERAMIC CHIP	0.1uF 25V (GRX80:EA3)	D628	8-719-057-97	DIODE SEL5923A-TP15 (PAD B)	
C725	1-124-589-11	ELECT	47uF 20% 16V (GRX80:EA3)	D629	8-719-057-97	DIODE SEL5923A-TP15 (BEAT ON/OFF)	
C731	1-163-031-11	CERAMIC CHIP	0.01uF 50V	D630	8-719-057-97	DIODE SEL5923A-TP15 (BEAT JAM)	
C732	1-124-257-00	ELECT	2.2uF 20% 50V	D631	8-719-058-03	DIODE SEL5423E-TP15 (◀ (B DECK))	
C733	1-163-009-11	CERAMIC CHIP	0.001uF 10% 50V	D632	8-719-058-03	DIODE SEL5423E-TP15 (▶ (B DECK))	
C734	1-163-109-00	CERAMIC CHIP	47PF 5% 50V	D633	8-719-058-03	DIODE SEL5423E-TP15 (◀ (A DECK))	
C735	1-126-157-11	ELECT	10uF 20% 16V	D634	8-719-058-03	DIODE SEL5423E-TP15 (▶ (A DECK))	
C736	1-163-005-11	CERAMIC CHIP	470PF 10% 50V	D635	8-719-063-93	DIODE SLR325VC-N-T32 (TIMER SELECT)	
C737	1-124-463-00	ELECT	0.1uF 20% 50V	D701	8-719-976-99	DIODE DTZ5.1B (GRX80:EA3)	
C738	1-124-257-00	ELECT	2.2uF 20% 50V (GRX80:EA3)			< GROUND PLATE >	
C739	1-163-109-00	CERAMIC CHIP	47PF 5% 50V	EP601	1-537-770-21	TERMINAL BOARD, GROUND	
C741	1-126-157-11	ELECT	10uF 20% 16V			< FERRITE BEAD >	
C742	1-163-251-11	CERAMIC CHIP	100PF 5% 50V	FB601	1-414-234-22	INDUCTOR CHIP 0UH	
C743	1-124-257-00	ELECT	2.2uF 20% 50V	FB602	1-414-234-22	INDUCTOR CHIP 0UH	
C747	1-163-038-91	CERAMIC CHIP	0.1uF 25V			< FLUORESCENT INDICATOR >	
C782	1-163-031-11	CERAMIC CHIP	0.01uF 50V	FL601	1-517-831-11	INDICATOR TUBE, FLUORESCENT	
C783	1-163-031-11	CERAMIC CHIP	0.01uF 50V			< IC >	
C851	1-163-038-91	CERAMIC CHIP	0.1uF 25V	IC601	8-759-571-93	IC TMP88CS76F-6000	
				IC602	8-749-011-05	IC GP1U28X	
				IC603	8-759-083-77	IC BA3830F	
				IC604	8-759-342-19	IC NJU3716M-T2	
				IC605	8-759-577-80	IC MSM6654A-540GS-K	
				IC711	8-759-496-41	IC M65850FP-E1 (GRX80:EA3)	
				IC712	8-759-636-55	IC M5218AFP	
						< JACK >	
				J701	1-785-569-11	JACK (SMALL TYPE)(HEADPHONES)	
				J711	1-785-569-11	JACK (SMALL TYPE)(MIC 1)	

PANEL

Ref. No.	Part No.	Description				Remark	Ref. No.	Part No.	Description				Remark
< JUMPER RESISTOR >							R617	1-216-097-91	RES,CHIP	100K	5%	1/10W	
JR501	1-216-296-91	SHORT	0				R618	1-216-017-91	RES,CHIP	47	5%	1/10W	
	1-216-296-91	SHORT	0				R619	1-216-043-91	RES,CHIP	560	5%	1/10W	
	1-216-295-91	SHORT	0				R620	1-216-073-00	METAL CHIP	10K	5%	1/10W	
	1-216-295-91	SHORT	0				R621	1-216-073-00	METAL CHIP	10K	5%	1/10W	
	1-216-295-91	SHORT	0				R622	1-216-035-00	METAL CHIP	270	5%	1/10W	
JR506	1-216-295-91	SHORT	0				R623	1-216-037-00	METAL CHIP	330	5%	1/10W	
	1-216-295-91	SHORT	0				R624	1-216-041-00	METAL CHIP	470	5%	1/10W	
	1-216-296-91	SHORT	0				R625	1-216-043-91	RES,CHIP	560	5%	1/10W	
	1-216-296-91	SHORT	0				R626	1-216-045-00	METAL CHIP	680	5%	1/10W	
	1-216-296-91	SHORT	0				R627	1-216-049-91	RES,CHIP	1K	5%	1/10W	
JR511	1-216-296-91	SHORT	0				R628	1-216-051-00	METAL CHIP	1.2K	5%	1/10W	
	1-216-296-91	SHORT	0				R629	1-216-055-00	METAL CHIP	1.8K	5%	1/10W	
	1-216-296-91	SHORT	0				R630	1-216-059-00	METAL CHIP	2.7K	5%	1/10W	
	1-216-296-91	SHORT	0				R631	1-216-061-00	METAL CHIP	3.3K	5%	1/10W	
	1-216-296-91	SHORT	0				R632	1-216-065-91	RES,CHIP	4.7K	5%	1/10W	
JR516	1-216-295-91	SHORT	0				R633	1-216-069-00	METAL CHIP	6.8K	5%	1/10W	
	1-216-296-91	SHORT	0				R634	1-216-073-00	METAL CHIP	10K	5%	1/10W	
							R635	1-216-077-00	METAL CHIP	15K	5%	1/10W	
							R636	1-216-073-00	METAL CHIP	10K	5%	1/10W	
							R637	1-216-035-00	METAL CHIP	270	5%	1/10W	
< COIL >							R638	1-216-037-00	METAL CHIP	330	5%	1/10W	
L601	1-412-029-11	INDUCTOR CHIP	10uH				R639	1-216-041-00	METAL CHIP	470	5%	1/10W	
L602	1-412-032-11	INDUCTOR CHIP	100uH				R640	1-216-043-91	RES,CHIP	560	5%	1/10W	
< TRANSISTOR >							R641	1-216-045-00	METAL CHIP	680	5%	1/10W	
Q601	8-729-118-00	TRANSISTOR	2SB1116-L				R642	1-216-049-91	RES,CHIP	1K	5%	1/10W	
Q602	8-729-118-00	TRANSISTOR	2SB1116-L				R643	1-216-051-00	METAL CHIP	1.2K	5%	1/10W	
Q603	8-729-119-78	TRANSISTOR	2SC403SP-51				R644	1-216-055-00	METAL CHIP	1.8K	5%	1/10W	
Q604	8-729-119-76	TRANSISTOR	2SA1175-HFE				R645	1-216-059-00	METAL CHIP	2.7K	5%	1/10W	
Q605	8-729-119-78	TRANSISTOR	2SC403SP-51				R646	1-216-061-00	METAL CHIP	3.3K	5%	1/10W	
Q607	8-729-900-36	TRANSISTOR	DTC124ES				R647	1-216-065-91	RES,CHIP	4.7K	5%	1/10W	
Q608	8-729-900-36	TRANSISTOR	DTC124ES				R648	1-216-069-00	METAL CHIP	6.8K	5%	1/10W	
Q610	8-729-900-74	TRANSISTOR	DTC143TS				R649	1-216-073-00	METAL CHIP	10K	5%	1/10W	
Q611	8-729-900-74	TRANSISTOR	DTC143TS				R650	1-216-035-00	METAL CHIP	270	5%	1/10W	
Q612	8-729-900-74	TRANSISTOR	DTC143TS				R651	1-216-037-00	METAL CHIP	330	5%	1/10W	
Q613	8-729-900-74	TRANSISTOR	DTC143TS				R652	1-216-041-00	METAL CHIP	470	5%	1/10W	
Q614	8-729-900-74	TRANSISTOR	DTC143TS				R653	1-216-043-91	RES,CHIP	560	5%	1/10W	
Q615	8-729-900-74	TRANSISTOR	DTC143TS				R654	1-216-045-00	METAL CHIP	680	5%	1/10W	
Q616	8-729-900-74	TRANSISTOR	DTC143TS				R655	1-216-073-00	METAL CHIP	10K	5%	1/10W	
Q620	8-729-119-76	TRANSISTOR	2SA1175-HFE				R656	1-216-035-00	METAL CHIP	270	5%	1/10W	
< RESISTOR >							R657	1-216-037-00	METAL CHIP	330	5%	1/10W	
R601	1-216-025-91	RES,CHIP	100	5%	1/10W		R658	1-216-041-00	METAL CHIP	470	5%	1/10W	
R602	1-216-073-00	METAL CHIP	10K	5%	1/10W		R659	1-216-043-91	RES,CHIP	560	5%	1/10W	
R603	1-216-025-91	RES,CHIP	100	5%	1/10W		R660	1-216-045-00	METAL CHIP	680	5%	1/10W	
R604	1-216-025-91	RES,CHIP	100	5%	1/10W		R661	1-216-049-91	RES,CHIP	1K	5%	1/10W	
R605	1-216-073-00	METAL CHIP	10K	5%	1/10W		R662	1-216-051-00	METAL CHIP	1.2K	5%	1/10W	
R606	1-216-017-91	RES,CHIP	47	5%	1/10W		R663	1-216-055-00	METAL CHIP	1.8K	5%	1/10W	
R607	1-216-111-00	METAL CHIP	390K	5%	1/10W		R664	1-216-059-00	METAL CHIP	2.7K	5%	1/10W	
R608	1-216-111-00	METAL CHIP	390K	5%	1/10W		R665	1-216-061-00	METAL CHIP	3.3K	5%	1/10W	
R609	1-216-097-91	RES,CHIP	100K	5%	1/10W		R666	1-216-065-91	RES,CHIP	4.7K	5%	1/10W	
R610	1-216-073-00	METAL CHIP	10K	5%	1/10W		R667	1-216-069-00	METAL CHIP	6.8K	5%	1/10W	
R611	1-216-097-91	RES,CHIP	100K	5%	1/10W		R668	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R612	1-216-017-91	RES,CHIP	47	5%	1/10W		R669	1-216-077-00	METAL CHIP	15K	5%	1/10W	
R613	1-216-085-00	METAL CHIP	33K	5%	1/10W		R670	1-216-083-00	METAL CHIP	27K	5%	1/10W	
R614	1-216-113-00	METAL CHIP	470K	5%	1/10W		R671	1-216-091-00	METAL CHIP	56K	5%	1/10W	
R616	1-216-121-91	RES,CHIP	1M	5%	1/10W		R672	1-216-049-91	RES,CHIP	1K	5%	1/10W	
							R673	1-216-089-91	RES,CHIP	47K	5%	1/10W	

Ref. No.	Part No.	Description			Remark	Ref. No.	Part No.	Description			Remark
R674	1-216-049-91	RES,CHIP	1K	5%	1/10W	R754	1-216-029-00	METAL CHIP	150	5%	1/10W
R675	1-216-073-00	METAL CHIP	10K	5%	1/10W						
R676	1-216-089-91	RES,CHIP	47K	5%	1/10W	R758	1-216-022-00	METAL CHIP	75	5%	1/10W
						R759	1-216-022-00	METAL CHIP	75	5%	1/10W
R677	1-216-089-91	RES,CHIP	47K	5%	1/10W	R760	1-216-022-00	METAL CHIP	75	5%	1/10W
R678	1-216-073-00	METAL CHIP	10K	5%	1/10W	R761	1-216-022-00	METAL CHIP	75	5%	1/10W
R680	1-216-073-00	METAL CHIP	10K	5%	1/10W	R762	1-216-029-00	METAL CHIP	150	5%	1/10W
R681	1-216-073-00	METAL CHIP	10K	5%	1/10W						
R682	1-216-073-00	METAL CHIP	10K	5%	1/10W	R763	1-216-029-00	METAL CHIP	150	5%	1/10W
						R764	1-216-019-00	METAL CHIP	56	5%	1/10W
R683	1-216-073-00	METAL CHIP	10K	5%	1/10W	R765	1-216-019-00	METAL CHIP	56	5%	1/10W
R684	1-216-073-00	METAL CHIP	10K	5%	1/10W	R766	1-216-029-00	METAL CHIP	150	5%	1/10W
R685	1-216-073-00	METAL CHIP	10K	5%	1/10W	R767	1-216-022-00	METAL CHIP	75	5%	1/10W
R686	1-216-097-91	RES,CHIP	100K	5%	1/10W						
R687	1-216-097-91	RES,CHIP	100K	5%	1/10W	R768	1-216-029-00	METAL CHIP	150	5%	1/10W
						R769	1-216-029-00	METAL CHIP	150	5%	1/10W
R688	1-216-073-00	METAL CHIP	10K	5%	1/10W	R770	1-216-029-00	METAL CHIP	150	5%	1/10W
R689	1-216-057-00	METAL CHIP	2.2K	5%	1/10W	R771	1-216-029-00	METAL CHIP	150	5%	1/10W
R691	1-216-097-91	RES,CHIP	100K	5%	1/10W	R772	1-216-029-00	METAL CHIP	150	5%	1/10W
R692	1-216-097-91	RES,CHIP	100K	5%	1/10W						
R693	1-216-097-91	RES,CHIP	100K	5%	1/10W	R773	1-216-022-00	METAL CHIP	75	5%	1/10W
						R775	1-216-029-00	METAL CHIP	150	5%	1/10W
R694	1-216-097-91	RES,CHIP	100K	5%	1/10W	R776	1-216-019-00	METAL CHIP	56	5%	1/10W
R695	1-216-097-91	RES,CHIP	100K	5%	1/10W	R777	1-216-025-91	RES,CHIP	100	5%	1/10W
R696	1-216-097-91	RES,CHIP	100K	5%	1/10W	R778	1-216-025-91	RES,CHIP	100	5%	1/10W
R697	1-216-097-91	RES,CHIP	100K	5%	1/10W						
R698	1-216-057-00	METAL CHIP	2.2K	5%	1/10W	R780	1-216-073-00	METAL CHIP	10K	5%	1/10W
						R781	1-216-029-00	METAL CHIP	150	5%	1/10W
R699	1-216-057-00	METAL CHIP	2.2K	5%	1/10W	R782	1-216-029-00	METAL CHIP	150	5%	1/10W
R701	1-216-017-91	RES,CHIP	47	5%	1/10W	R783	1-216-073-00	METAL CHIP	10K	5%	1/10W
					(GRX80:EA3)	R784	1-216-081-00	METAL CHIP	22K	5%	1/10W
R711	1-216-081-00	METAL CHIP	22K	5%	1/10W						
					(GRX80:EA3)	R785	1-216-081-00	METAL CHIP	22K	5%	1/10W
R712	1-216-081-00	METAL CHIP	22K	5%	1/10W	R786	1-216-049-91	RES,CHIP	1K	5%	1/10W
					(GRX80:EA3)	R787	1-216-095-00	METAL CHIP	82K	5%	1/10W
R713	1-216-081-00	METAL CHIP	22K	5%	1/10W	R788	1-216-089-91	RES,CHIP	47K	5%	1/10W
					(GRX80:EA3)	R789	1-216-095-00	METAL CHIP	82K	5%	1/10W
R714	1-216-089-91	RES,CHIP	47K	5%	1/10W	R790	1-216-055-00	METAL CHIP	1.8K	5%	1/10W
					(GRX80:EA3)						
R715	1-216-081-00	METAL CHIP	22K	5%	1/10W			< VARIABLE RESISTOR >			
					(GRX80:EA3)						
R716	1-216-077-00	METAL CHIP	15K	5%	1/10W	RV711	1-225-739-11	RES, VAR 50K (GRX80:EA3)			
					(GRX80:EA3)	RV712	1-225-739-11	RES, VAR 50K			
R717	1-216-081-00	METAL CHIP	22K	5%	1/10W						
					(GRX80:EA3)			< SWITCH >			
R718	1-216-081-00	METAL CHIP	22K	5%	1/10W						
					(GRX80:EA3)						
						S601	1-473-534-11	ENCODER, ROTARY (JOG/◀◀ ↔ ▶▶)			
R719	1-216-099-00	METAL CHIP	120K	5%	1/10W	S602	1-473-392-11	ENCODER, ROTARY (VOLUME)			
					(GRX80:EA3)	S611	1-762-875-21	SWITCH, KEYBOARD (SYNC BASE)			
R721	1-216-073-00	METAL CHIP	10K	5%	1/10W	S612	1-762-875-21	SWITCH, KEYBOARD (SYNC EQ)			
R722	1-216-049-91	RES,CHIP	1K	5%	1/10W	S613	1-762-875-21	SWITCH, KEYBOARD (KARAOKE PON/MPX)			
R723	1-216-097-91	RES,CHIP	100K	5%	1/10W						
R724	1-216-049-91	RES,CHIP	1K	5%	1/10W	S614	1-762-875-21	SWITCH, KEYBOARD (NON STOP)			
						S615	1-762-875-21	SWITCH, KEYBOARD (SURROUND)			
R725	1-216-081-00	METAL CHIP	22K	5%	1/10W	S616	1-762-875-21	SWITCH, KEYBOARD (DBFB)			
R725	1-216-089-91	RES,CHIP	47K	5%	1/10W	S617	1-762-875-21	SWITCH, KEYBOARD (ENTER/NEXT)			
					(GRX80:EA3)	S618	1-762-875-21	SWITCH, KEYBOARD (+/▶▶)			
R726	1-216-073-00	METAL CHIP	10K	5%	1/10W	S619	1-762-875-21	SWITCH, KEYBOARD (-/◀◀)			
R727	1-216-077-00	METAL CHIP	15K	5%	1/10W	S620	1-762-875-21	SWITCH, KEYBOARD (GROOVE)			
					(GRX80:EA3)	S621	1-762-875-21	SWITCH, KEYBOARD (PAD B)			
R728	1-216-103-00	METAL CHIP	180K	5%	1/10W	S622	1-762-875-21	SWITCH, KEYBOARD (BEAT SPEED)			
						S623	1-762-875-21	SWITCH, KEYBOARD (BEAT SEL)			
R729	1-216-025-91	RES,CHIP	100	5%	1/10W	S624	1-762-875-21	SWITCH, KEYBOARD (BEAT ON/OFF)			
R751	1-216-029-00	METAL CHIP	150	5%	1/10W	S625	1-762-875-21	SWITCH, KEYBOARD (REC)			
R752	1-216-029-00	METAL CHIP	150	5%	1/10W	S626	1-762-875-21	SWITCH, KEYBOARD (HI DVB)			
R753	1-216-029-00	METAL CHIP	150	5%	1/10W						

PANEL	SENSOR	SUB TRANS	TRANS
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Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
S627	1-762-875-21	SWITCH, KEYBOARD (CD SYNC)		* CN12	1-564-321-21	PIN, CONNECTOR 2P	
S628	1-762-875-21	SWITCH, KEYBOARD (PAD A)		CN13	1-785-333-11	PIN, CONNECTOR (LIGHT ANGLE)7P	
S629	1-762-875-21	SWITCH, KEYBOARD (BEAT MIX)				< DIODE >	
S630	1-762-875-21	SWITCH, KEYBOARD (BEAT JAM)		D11	8-719-911-19	DIODE 1SS119-25	
S631	1-762-875-21	SWITCH, KEYBOARD (BEAT LEVEL)		D12	8-719-210-21	DIODE 11EQS04	
S636	1-762-875-21	SWITCH, KEYBOARD (AUTO BPM)		D13	8-719-210-21	DIODE 11EQS04	
S637	1-762-875-21	SWITCH, KEYBOARD (FLASH)		D14	8-719-210-21	DIODE 11EQS04	
				D15	8-719-210-21	DIODE 11EQS04	
S638	1-762-875-21	SWITCH, KEYBOARD (P FILE MEMORY)		D16	8-719-911-19	DIODE 1SS119-25	
S639	1-762-875-21	SWITCH, KEYBOARD (GEQ CONTROL)		D17	8-719-024-99	DIODE 11ES2-NTA2B	
S640	1-762-875-21	SWITCH, KEYBOARD (FILE SELECT)		D18	8-719-024-99	DIODE 11ES2-NTA2B	
S641	1-762-875-21	SWITCH, KEYBOARD (EFFECT)		D19	8-719-024-99	DIODE 11ES2-NTA2B	
S642	1-762-875-21	SWITCH, KEYBOARD (TUNER/BAND)		D20	8-719-024-99	DIODE 11ES2-NTA2B	
S643	1-762-875-21	SWITCH, KEYBOARD (▶)		D21	8-719-986-60	DIODE HZS27-3LTA	
S644	1-762-875-21	SWITCH, KEYBOARD (■)		D22	8-719-109-63	DIODE RD3.0ESB2	
S645	1-762-875-21	SWITCH, KEYBOARD (B:▶▶)		D23	8-719-911-19	DIODE 1SS119-25	
S646	1-762-875-21	SWITCH, KEYBOARD (B:◀◀)				< IC >	
S647	1-762-875-21	SWITCH, KEYBOARD (A:▶▶)		IC11	8-759-450-47	IC BA05T	
S648	1-762-875-21	SWITCH, KEYBOARD (A:◀◀)				< TRANSISTOR >	
S649	1-762-875-21	SWITCH, KEYBOARD (FANCTION)		Q11	8-729-119-78	TRANSISTOR 2SC403SP-51	
S650	1-762-875-21	SWITCH, KEYBOARD (LOOP)		Q12	8-729-040-19	TRANSISTOR RT1N137L-TP	
S651	1-762-875-21	SWITCH, KEYBOARD (DISPLAY)		Q13	8-729-118-01	TRANSISTOR 2SB1116	
S652	1-762-875-21	SWITCH, KEYBOARD (CLOCK/TIME SET)		Q14	8-729-048-13	TRANSISTOR 2SC3616-KLM-T1	
S653	1-762-875-21	SWITCH, KEYBOARD (TIME SELECT)		Q15	8-729-048-13	TRANSISTOR 2SC3616-KLM-T1	
S654	1-762-875-21	SWITCH, KEYBOARD (SPECTRUM ANALYZER)		Q16	8-729-900-63	TRANSISTOR DTA124ES	
S655	1-762-875-21	SWITCH, KEYBOARD (REPEAT STEREO/MONO)		Q17	8-729-900-63	TRANSISTOR DTA124ES	
S656	1-762-875-21	SWITCH, KEYBOARD (PLAY MODE DOLBY ON)				< RESISTOR >	
S657	1-762-875-21	SWITCH, KEYBOARD (EDIT DIRECTION TUNER MEMORY)		R11	1-249-429-11	CARBON 10K 5% 1/4W	
		< VIBRATOR >		R12	1-249-429-11	CARBON 10K 5% 1/4W	
X601	1-781-312-11	VIBRATOR, CERAMIC (12.5MHz)		R13	1-249-417-11	CARBON 1K 5% 1/4W F	
X602	1-767-353-11	VIBRATOR, CERAMIC (4.98MHz)		R15	1-249-429-11	CARBON 10K 5% 1/4W	
*****				R16	1-247-807-31	CARBON 100 5% 1/4W	
*	1-658-576-11	SENSOR BOARD					
		*****		R17	1-247-807-31	CARBON 100 5% 1/4W	
		< IC >		R18	1-247-807-31	CARBON 100 5% 1/4W	
IC702	8-749-924-18	IC PHOTO INTERRUPTER RPI-1391		R19	1-249-417-11	CARBON 1K 5% 1/4W F	
IC703	8-749-924-30	IC PHOTO REFLECTOR GP2S28		R20	1-247-807-31	CARBON 100 5% 1/4W	
*****						< RELAY >	
*	A-4417-646-A	SUB TRANS BOARD, COMPLETE (RXD8/RXD8S)		△ RY11	1-755-276-11	RELAY, POWER	
		*****				< TRANSFORMER >	
		< CAPACITOR >		△ T11	1-433-591-11	TRANSFORMER, POWER	
C11	1-126-768-11	ELECT 2200uF 20% 16V		*****			
C12	1-161-494-00	CERAMIC 0.022uF 25V		*	1-672-474-11	TRANS BOARD	
C13	1-126-933-11	ELECT 100uF 20% 16V				*****	
C14	1-126-968-11	ELECT 100uF 20% 50V				< CAPACITOR >	
C15	1-164-159-11	CERAMIC 0.1uF 50V		C971	1-128-563-11	ELECT 100uF 20% 100V (GRX80)	
C16	1-126-948-11	ELECT 100uF 20% 35V		C972	1-126-960-11	ELECT 1uF 20% 50V (GRX80)	
△ C21	1-113-925-11	CERAMIC 0.01uF 250V					
		< CONNECTOR >					
CN11	1-564-321-00	PIN, CONNECTOR 2P					

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Replace only with part number specified.

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
C973	1-126-947-11	ELECT 47uF 20%	35V (GRX80)	△ R953	1-219-119-81	FUSIBLE 0.1 5%	1/4W F (RXD8/RXD8S)
< CONNECTOR >				△ R953	1-219-120-11	FUSIBLE 0.15 5%	1/4W F (GRX80)
CN901	1-564-524-11	PLUG, CONNECTOR 9P (RXD8/RXD8S)		R971	1-216-455-11	METAL OXIDE 560 5%	2W F (GRX80)
* CN901	1-564-527-11	PLUG, CONNECTOR 12P (GRX80)		R972	1-216-085-00	METAL CHIP 33K 5%	1/10W (GRX80)
CN902	1-785-329-11	PIN, CONNECTOR (LIGHT ANGLE) 3P (GRX80)		R973	1-216-073-00	METAL CHIP 10K 5%	1/10W (GRX80)
CN951	1-564-321-00	PIN, CONNECTOR 2P (GRX80)		R974	1-216-025-91	RES,CHIP 100 5%	1/10W (GRX80)
< DIODE >				R975	1-216-025-91	RES,CHIP 100 5%	1/10W (GRX80)
D971	8-719-024-99	DIODE 11ES2-NTA2B (GRX80)		R976	1-216-085-00	METAL CHIP 33K 5%	1/10W (GRX80)
D972	8-719-056-97	DIODE UDZ-TE-17-27B (GRX80)		R977	1-216-085-00	METAL CHIP 33K 5%	1/10W (GRX80)
D973	8-719-056-74	DIODE UDZ-TE-17-3.0B (GRX80)		< SWITCH >			
< FUSE >				S951	1-771-291-11	SWITCH, POWER (VOLTAGE SELECTOR) (GRX80:E2,E3,EA3,SP,AR,TW)	
△ F951	1-532-506-31	FUSE (T6.3AL/250V) (GRX80:E2,E3,EA3,SP,AR,TW,MX)		< TRANSFORMER >			
△ F952	1-532-465-31	FUSE (3.15A/250V) (GRX80:E2,E3,EA3,SP,AR,TW,AUS,EA4,TH)		△ T951	1-433-556-11	TRANSFORMER, POWER (GRX80)	
△ F953	1-532-465-31	FUSE (3.15A/250V) (GRX80:E2,E3,EA3,SP,AR,TW,AUS,EA4,TH)		△ T951	1-433-557-11	TRANSFORMER, POWER (RXD8/RXD8S)	
△ F961	1-532-505-31	FUSE (T5AL/250V)(GRX80)		*****			
△ F962	1-532-505-31	FUSE (T5AL/250V)(GRX80)		MISCELLANEOUS			
△ F963	1-533-949-31	FUSE, CYLINDRICAL (T8AL/250V)(RXD8/RXD8S)		*****			
△ F964	1-533-949-31	FUSE, CYLINDRICAL (T8AL/250V)(RXD8/RXD8S)		5	1-233-545-11	TUNER UNIT (EA4,TH)	
< FUSE HOLDER >				5	1-233-545-14	ENCAPSULATED COMPONENT (E2,AR,MX,AUS)	
FH951	1-533-233-21	HOLDER, FUSE (GRX80:E2,E3,EA3,SP,AR,TW,MX)		5	1-233-546-13	ENCAPSULATED COMPONENT (E3,EA3,SP,TW)	
FH952	1-533-233-21	HOLDER, FUSE (GRX80:E2,E3,EA3,SP,AR,TW,MX)		5	1-693-443-11	TUNER UNIT (AEP,UK,G,CIS)	
FH953	1-533-233-21	HOLDER, FUSE (GRX80:E2,E3,EA3,SP,AR,TW,EA4,TH)		54	1-783-570-11	WIRE (FLAT TYPE)(19 CORE)	
FH954	1-533-233-21	HOLDER, FUSE (GRX80:E2,E3,EA3,SP,AR,TW,EA4,TH)		55	1-769-977-11	WIRE (FLAT TYPE)(13 CORE)	
FH955	1-533-233-21	HOLDER, FUSE (GRX80:E2,E3,EA3,SP,AR,TW,AUS)		55	1-773-009-11	WIRE (FLAT TYPE)(15 CORE)(150mm)	
FH956	1-533-233-21	HOLDER, FUSE (GRX80:E2,E3,EA3,SP,AR,TW,AUS)		56	1-773-024-11	WIRE (FLAT TYPE)(15 CORE)(320mm)	
FH961	1-533-233-21	HOLDER, FUSE (GRX80)		58	1-569-007-11	ADAPTOR, CONVERSION 2P (E3)	
FH962	1-533-233-21	HOLDER, FUSE (GRX80)		58	1-569-008-21	ADAPTOR, CONVERSION 2P (EA3,SP,TW)	
FH963	1-533-233-21	HOLDER, FUSE (GRX80)		58	1-770-019-11	ADAPTOR, CONVERSION PLUG 3P (UK)	
FH964	1-533-233-21	HOLDER, FUSE (GRX80)		△ 59	1-575-651-11	CORD, POWER (AEP,UK,G,CIS,EA3,SP,TW)	
FH965	1-533-233-21	HOLDER, FUSE (RXD8/RXD8S)		△ 59	1-575-653-11	CORD, POWER (E2,E3,MX,TH)	
FH966	1-533-233-21	HOLDER, FUSE (RXD8/RXD8S)		△ 59	1-690-608-11	CORD, POWER (AUS)	
FH967	1-533-233-21	HOLDER, FUSE (RXD8/RXD8S)		△ 59	1-783-721-11	CORD, POWER (EA4)	
FH968	1-533-233-21	HOLDER, FUSE (RXD8/RXD8S)		△ 59	1-783-941-21	CORD, POWER (GRX80:AR)	
< TRANSISTOR >				62	1-773-042-11	WIRE (FLAT TYPE)(17 CORE)	
Q971	8-729-048-52	TRANSISTOR 2SA1932(TP)(GRX80)		116	1-773-223-11	WIRE (FLAT TYPE)(25 CORE)	
< RESISTOR >				257	1-452-925-21	MAGNET ASSY	
△ R951	1-219-120-11	FUSIBLE 0.15 5%	1/4W F (GRX80)	258	1-776-042-11	WIRE (FLAT TYPE) (8 CORE)	
△ R951	1-219-122-91	FUSIBLE 0.33 5%	1/4W F (RXD8/RXD8S)	△ 301	8-820-020-02	OPTICAL PICK-UP KSS-213D/Q-NP	
△ R952	1-219-120-11	FUSIBLE 0.15 5%	1/4W F (GRX80)	302	1-769-069-11	WIRE (FLAT TYPE) (16 CORE)	
△ R952	1-219-122-91	FUSIBLE 0.33 5%	1/4W F (RXD8/RXD8S)	FL601	1-517-831-11	INDICATOR TUBE, FLUORESCENT	

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HCD-GRX80/RXD8/RXD8S

<u>Ref. No.</u>	<u>Part No.</u>	<u>Description</u>	<u>Remark</u>
M1	A-2004-628-A	MOTOR ASSY, CAPSTAN	
M101	X-4917-523-3	MOTOR ASSY (SPINDLE)	
M102	X-4917-504-1	MOTOR ASSY (SLED)	
M701	A-4672-004-A	MOTOR ASSY	
M901	1-763-072-11	FAN, D.C.	
S811	1-473-335-11	ENCODER, ROTARY	
△ T11	1-433-591-11	TRANSFORMER, POWER (RXD8/RXD8S)	
△ T951	1-433-556-11	TRANSFORMER, POWER (GRX80)	
△ T951	1-433-557-11	TRANSFORMER, POWER (RXD8/RXD8S)	

***** HARDWARE LIST *****

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

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