

ZS-M50

SERVICE MANUAL

Ver 1.1 1999.07

*AEP Model
UK Model
Tourist Model*



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MD Section	Model Name Using Similar Mechanism	NEW
	MD Mechanism Type	MDM-3Z
	Optical Pick-up Type	KMS-260A
CD Section	Model Name Using Similar Mechanism	CFD-S27
	CD Mechanism Type	KSM-213CDM
	Optical Pick-up Type	KSS-213C

SPECIFICATIONS

CD player section

System

Compact disc digital audio system

Laser diode properties

Material: GaAlAs

Wave length: 785 nm

Emission duration: Continuous

Laser output: Less than 44.6 μ W

(This output is the value measured at a distance of about 200 mm from the objective lens surface on the optical pick-up block with 7 mm aperture.)

Spindle speed

200 r/min (rpm) to 500 r/min (rpm) (CLV)

Number of programme positions

2

Frequency response

20 - 20,000 Hz +1/-2 dB

Wow and flutter

Below measurable limit

Radio section

Frequency range

FM: 87.5 - 108 MHz

MW: 531 - 1,602 kHz

LW: 153 - 279 kHz

IF

FM: 10.7 MHz

MW/LW: 450 kHz

Aerials

FM: Telescopic aerial

External aerial terminal

MW/LW: External aerial terminals

MD player section

System

Minidisc digital audio system

Disc

MiniDisc

Laser diode properties

Material: GaAlAs

Wave length: 785 nm

Emission duration: Continuous

Laser output: Less than 44.6 μ W

(This output is the value measured at a distance of about 200 mm from the objective lens surface on the optical pick-up block with 7 mm aperture.)

Recording/playback time

Maximum 74 minutes (with MDW-74)

Revolutions

400 rpm to 900 rpm (CLV)

Error correction

Advanced Cross Interleave Reed Solomon Code (ACIRC)

Sampling frequency

44.1 kHz

Coding

Adaptive TTransform Acoustic Coding (ATRAC)

Modulation system

EFM (Eight-to-Fourteen Modulation)

Number of programme positions

2 stereo programme positions

– Continued on page 2 –

PERSONAL MINIDISC SYSTEM



SONY®

Frequency response
20 - 20,000 Hz +1/-2 dB
Signal-to-noise ratio
Over 80 dB (during playback)
Wow and flutter
Below measurable limit

General

Speaker
Full-range : 8 cm (3 in.) dia., 4 ohms cone type (2)

Inputs
LINE IN (stereo minijack): Sensitivity 436 mV/
870 mV

Outputs
Headphones jack (stereo minijack) (1):
For 32 ohms impedance headphones

Maximum power output
7 W + 7 W

Power requirements
For personal minidisc system:
230 V AC, 50 Hz
For back-up memory:
4.5 V DC, 3 R6 (size AA) batteries
For remote controller:
3 V DC, 2 R6 (size AA) batteries

Power consumption
32 W

Dimensions (incl. projecting parts)
approx. 450 x 164 x 239.4 mm (w/h/d)
(17 3/4 x 6 1/2 x 9 1/2 inches)

Mass
approx. 6 kg (13 lb. 4 oz)

Supplied accessories
Mains lead (1)
Remote controller (1)
MW/LW loop aerial (1)

Design and specifications are subject to change without notice.

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SECTION 1

SERVICE NOTE

Flexible Circuit Board Repairing

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

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.

SAFETY-RELATED COMPONENT WARNING!!

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

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

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

During repair, pay attention to electrostatic breakdown 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

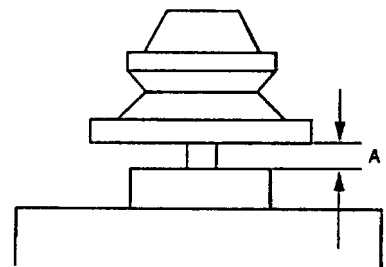
The laser beam on this model is concentrated so as to be focused on the disc reflective surface by the objective lens in the optical pick-up block. Therefore, when checking the laser diode emission, observe more than 30 cm away from the objective lens.

LASER DIODE AND FOCUS SEARCH OPERATION CHECK

1. Close the lid for CD.
2. Press CD \triangleright button.
3. Confirm the laser diode emission while observing the objecting lens. When there is no emission, Auto Power Control circuit or Optical Pick-up is broken.
Objective lens moves up and down once for the focus search.

CAUTION DURING WHEN MOUNTING THE PULLEY FOR THE CD DOOR MOTOR (M703)

Make the following adjustment when mounting the CD door motor (part number : 1-763-224-11) and motor pulley (part number : 2-627-174-01) of the CD section.

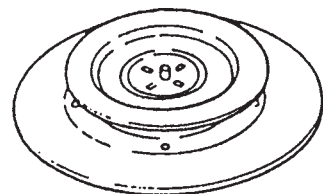


Specification : $A = 0.9$ to 1.1mm

CHUCK PLATE JIG ON REPAIRING

On repairing CD section, playing a disc without the CD lid, use Chuck Plate Jig.

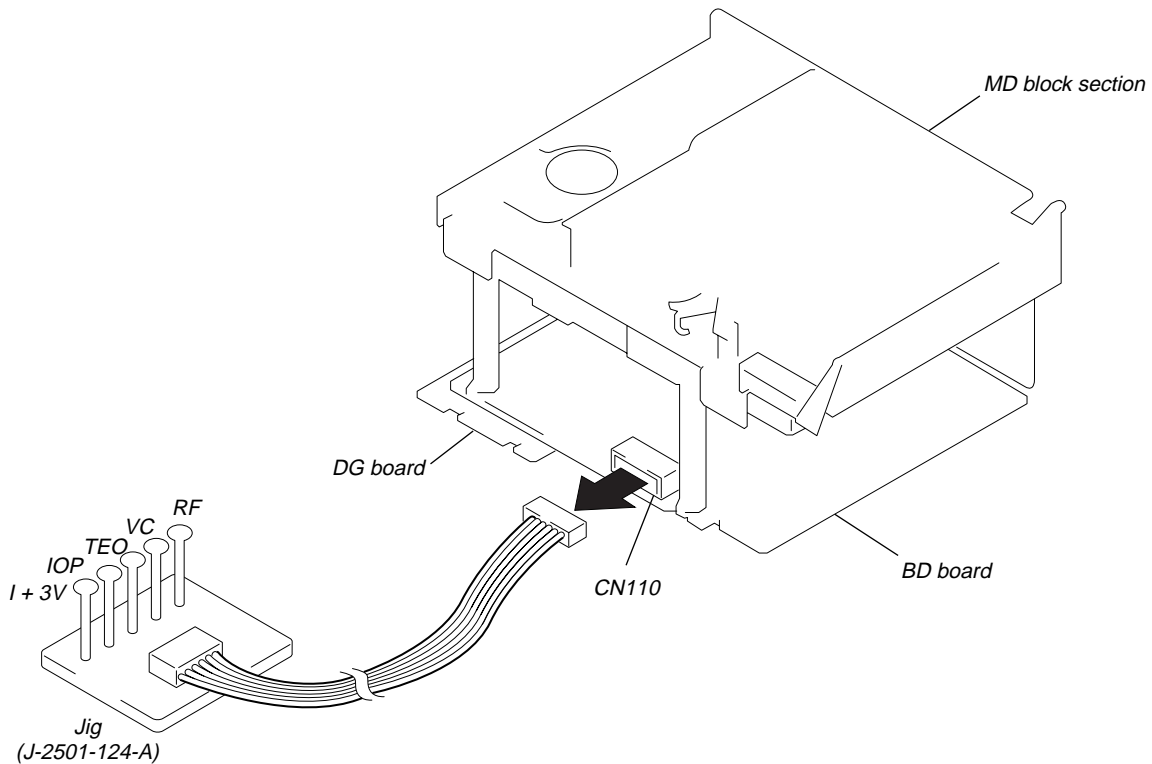
- Code number of Chuck Plate Jig : X-4918-255-1



ABOUT THE BD BOARD WAVEFORM CHECKING JIG

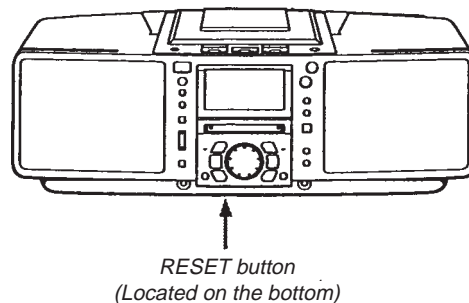
The special jig (J-2501-124-A) is highly convenient when checking the waveform of the BD board of the MD section. Pin names and items to check are as follows:

- I+3V : for IOP measurement (check for depleted optical pickup laser)
- IOP : for IOP measurement (check for depleted optical pickup laser)
- TEO : TRK error signal (traverse adjustment)
- VC : Standard level for checking signals
- RF : RF signal (jitter check)



ABOUT THE HARDWARE RESET

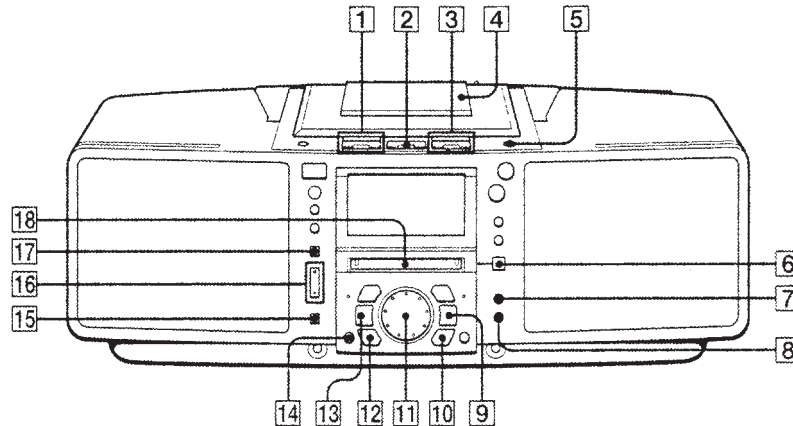
It is possible to reset the system microcomputer by pressing the RESET button located on the bottom with a pointed object. Use this button when the unit cannot be operated properly due to such problems as microcomputer errors, etc.



SECTION 2 GENERAL

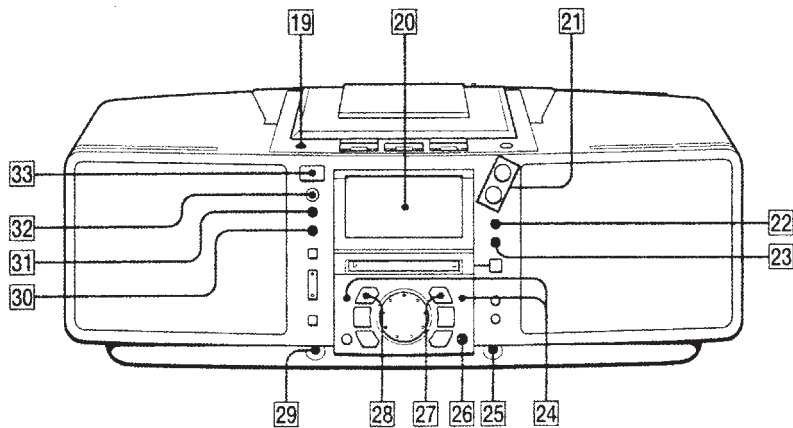
LOCATION AND FUNCTION OF CONTROLS

FRONT PANEL: MD/CD/RADIO Section



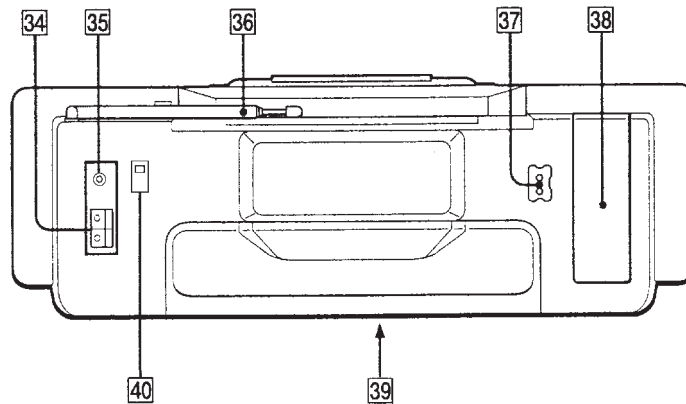
- | | |
|--|---|
| 1 MD operation buttons
▷ (play/pause)
□ (stop) | 10 YES, ENTER button |
| 2 BAND button | 11 Jog dial
◀◀/▶▶ AMS
PRESET |
| 3 CD operation buttons
▷ (play/pause)
□ (stop) | 12 NO, CANCEL button |
| 4 CD lid | 13 TUNE -, ⇌, ◀◀ button |
| 5 ▲ CD OPEN/CLOSE button | 14 EDIT button |
| 6 ▲ MD EJECT button | 15 REC button |
| 7 MONO/ST, REPEAT button | 16 REC IT button
TO TOP, TO END |
| 8 AUTO PRESET/RDS/SHUF/PGM button | 17 SYNCHRO REC
CD ▶ MD button |
| 9 TUNE +, ⇌, ▶▶ button | 18 MD insert section |

FRONT PANEL: TIMER, COM Section



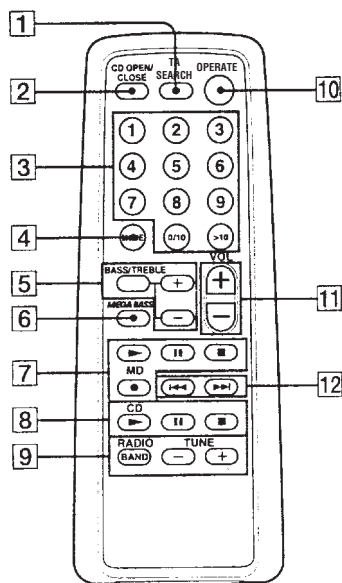
- | | |
|--|--|
| 19 LINE/LINE LEVEL button | 26 DISPLAY button |
| 20 Display window | 27 INSERT/TIMER button |
| 21 VOLUME +, - buttons | 28 DELETE/CLOCK button |
| 22 BASS/TREBLE button | 29 ♪ (Headphones) Jack (stereo mini jack) |
| 23 MEGA BASS button | 30 STANDBY button |
| 24 Jog dial Function indicator
AMS/PRESET SELECT | 31 SLEEP button |
| 25 LINE IN terminal | 32 Remote control receiver section |
| | 33 OPERATE button |

REAR PANEL Section



- 34** MW/LW ANTENNA terminal
- 35** FM EXT ANTENNA terminal
- 36** FM rod antenna
- 37** ~ AC IN jack
- 38** Battery compartment (for memory back-up)
- 39** RESET button (bottom)
- 40** FM ANTENNA SELECTOR switch

REMOTE CONTROL Section

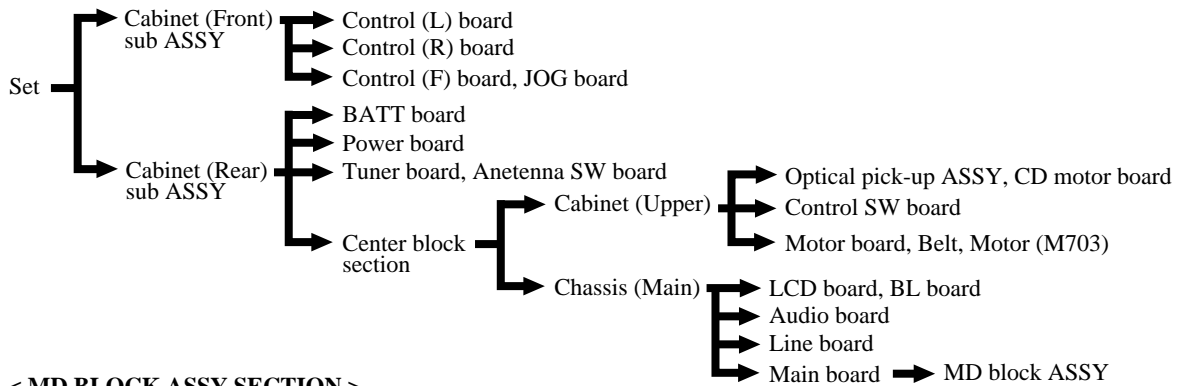


- 1** TA SERCH button
- 2** CD OPEN/CLOSE button
- 3** Numeric buttons
- 4** MODE button
- 5** BASS/TREBLE +, - buttons
- 6** MEGA BASS button
- 7** MD operation buttons
 - ▶ (play)
 - ⏸ (pause)
 - (stop)
 - (rec)
- 8** CD operation buttons
 - ▶ (play)
 - ⏸ (pause)
 - (stop)
- 9** RADIO operation buttons
 - BAND
 - TUNE -, +
- 10** OPERATE button
- 11** VOL +, - buttons
- 12** ◀◀, ▶▶ AMS, select, search buttons

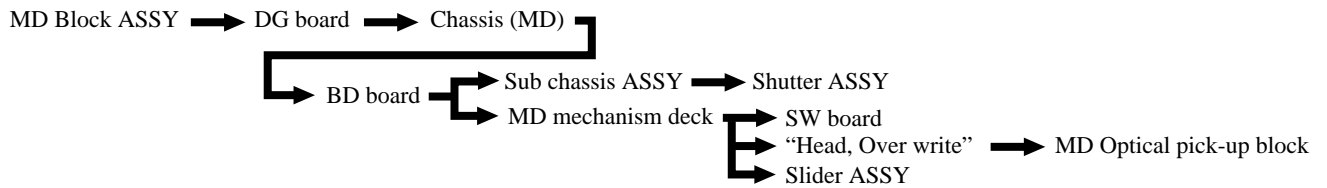
SECTION 3 DISASSEMBLY

- The equipment can be removed using the following procedure.

< MAIN BLOCK SECTION >



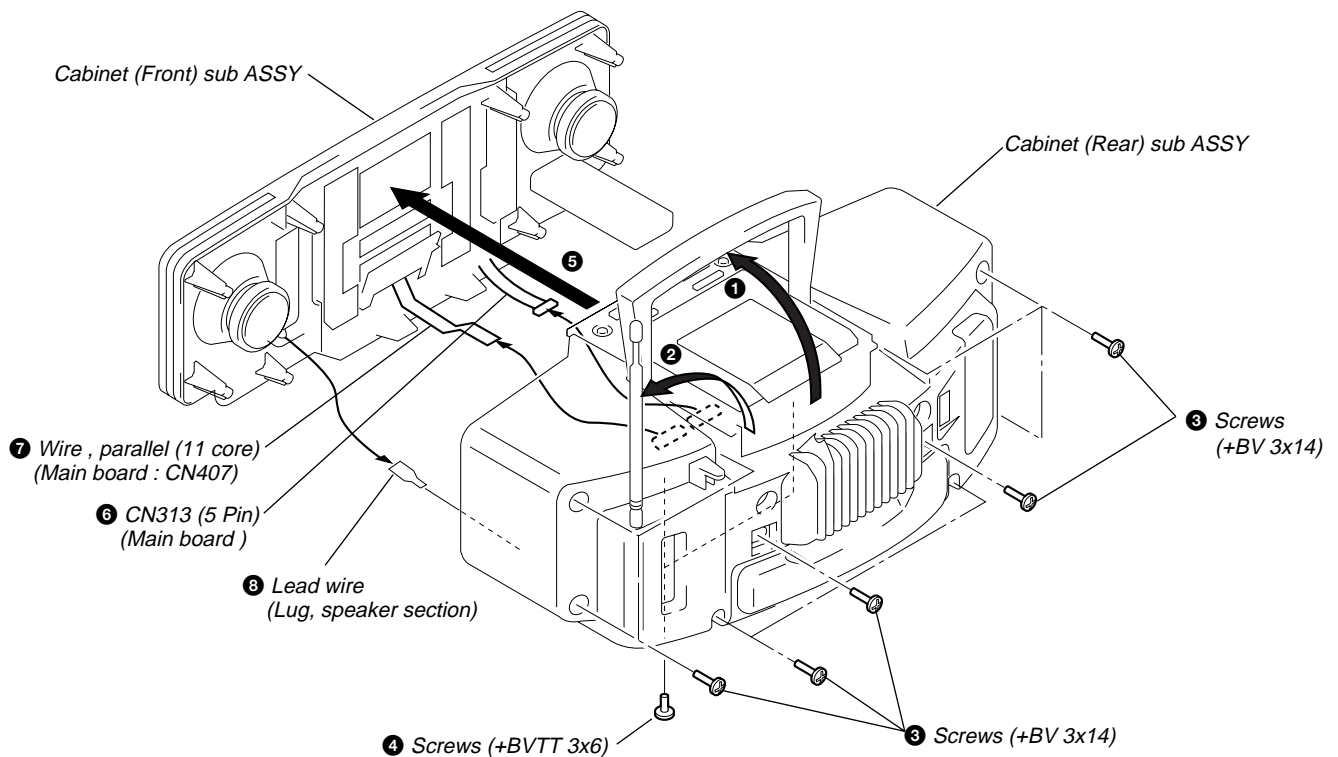
< MD BLOCK ASSY SECTION >



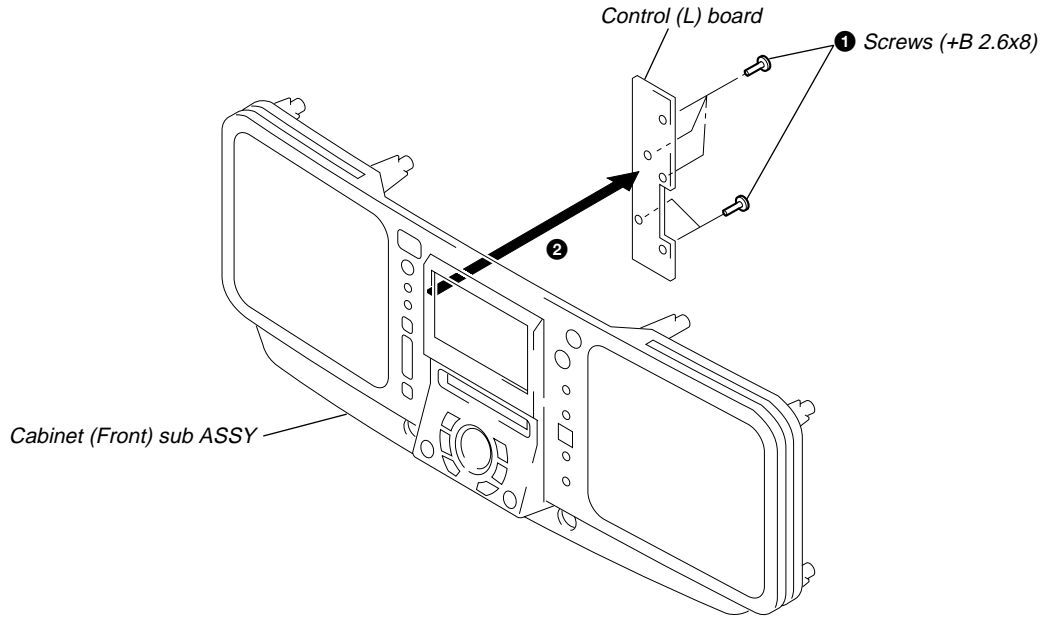
Note : Follow the disassembly procedure in the numerical order given.

<MAIN BLOCK SECTION>

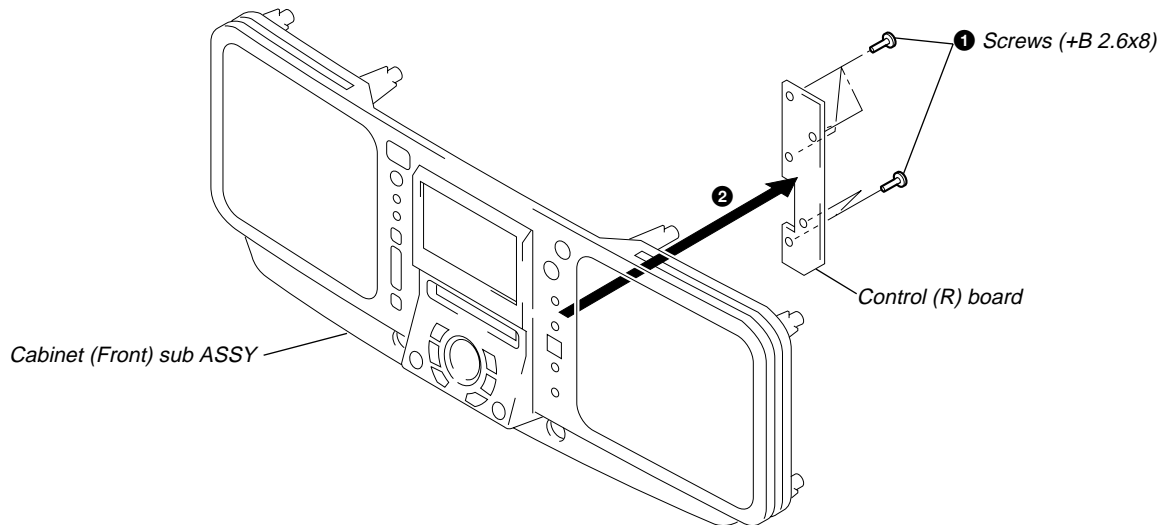
3-1. CABINET (FRONT) SUB ASSY, CABINET (REAR) SUB ASSY



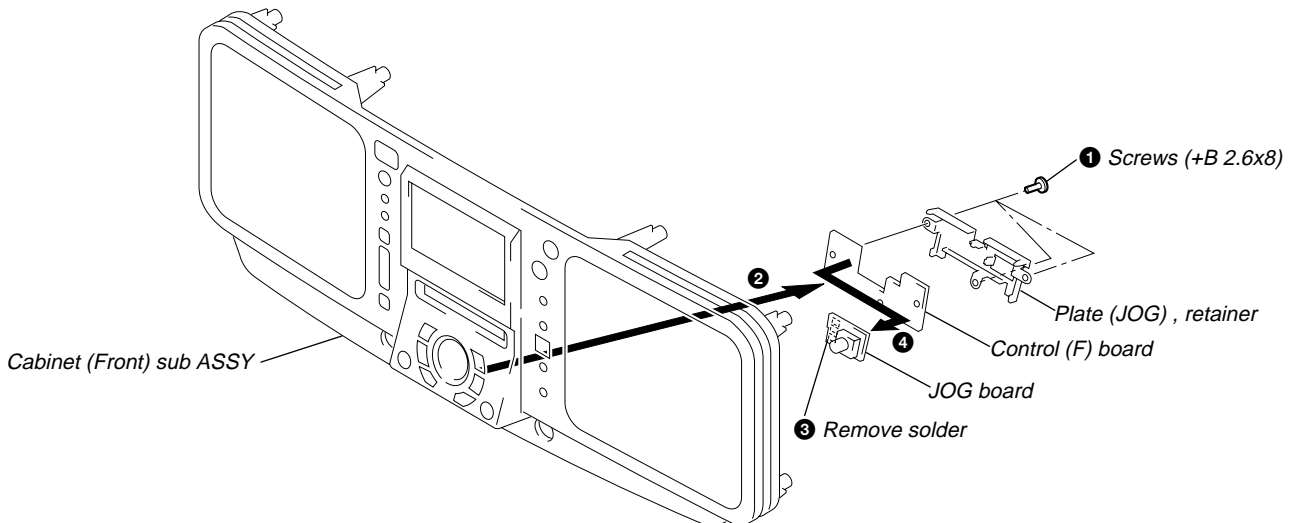
3-2. CONTROL (L) BOARD



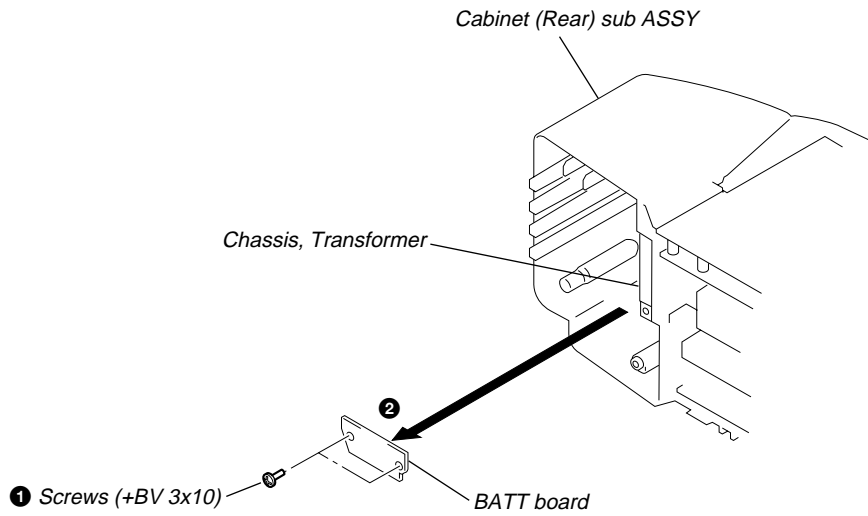
3-3. CONTROL (R) BOARD



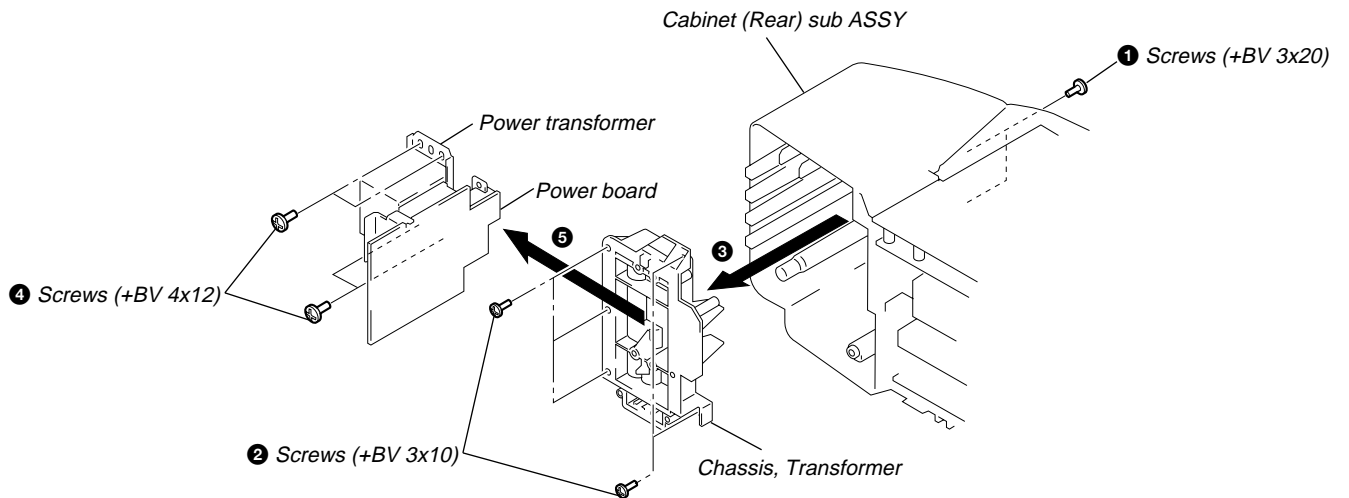
3-4. CONTROL (F) BOARD, JOG BOARD



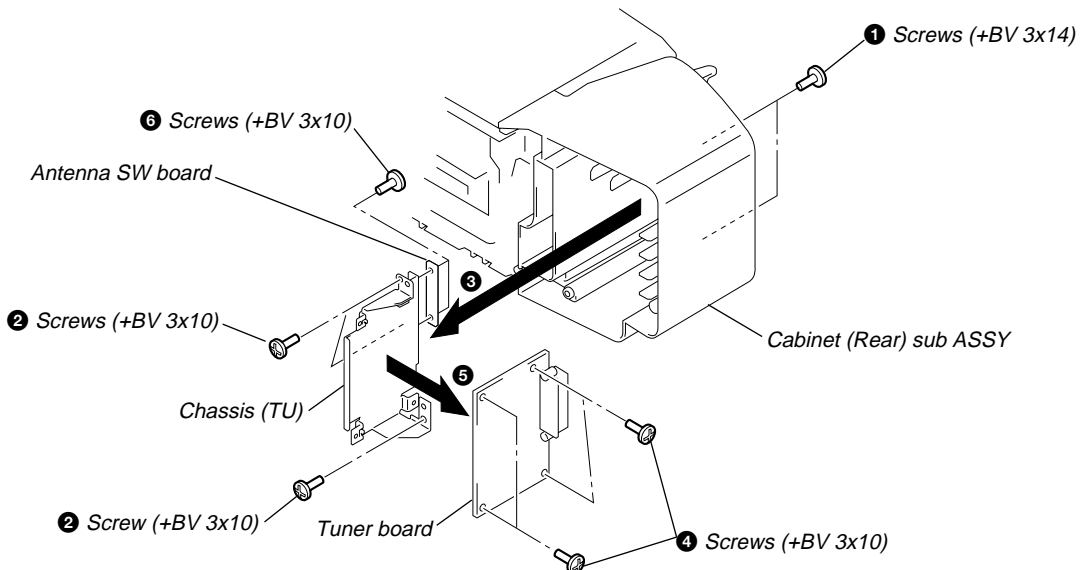
3-5. BATT BOARD



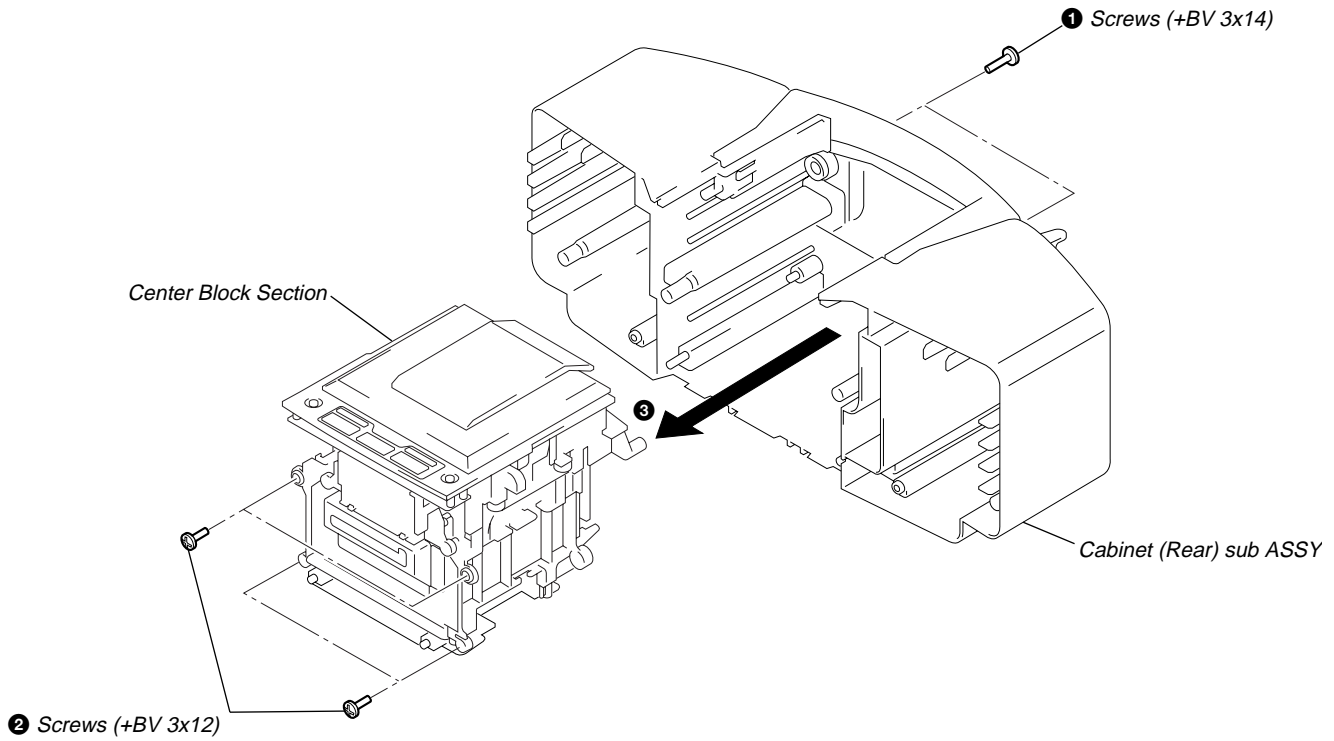
3-6. POWER BOARD



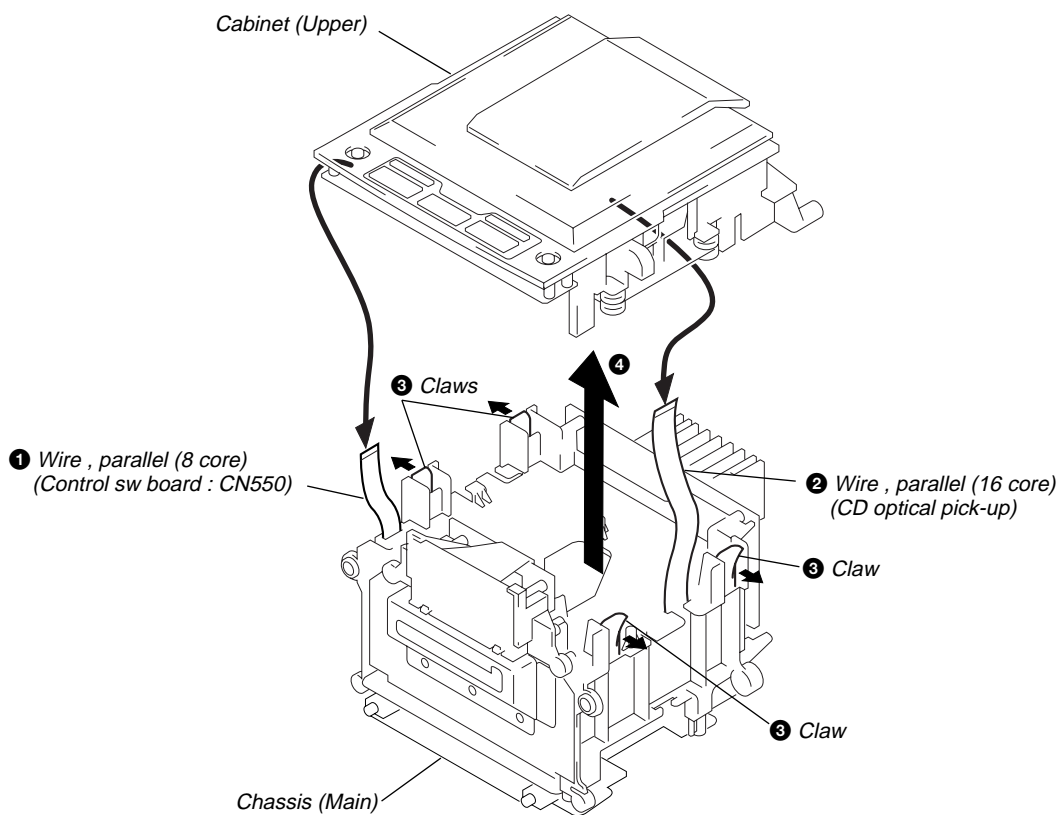
3-7. TUNER BOARD, ANTENNA SW BOARD



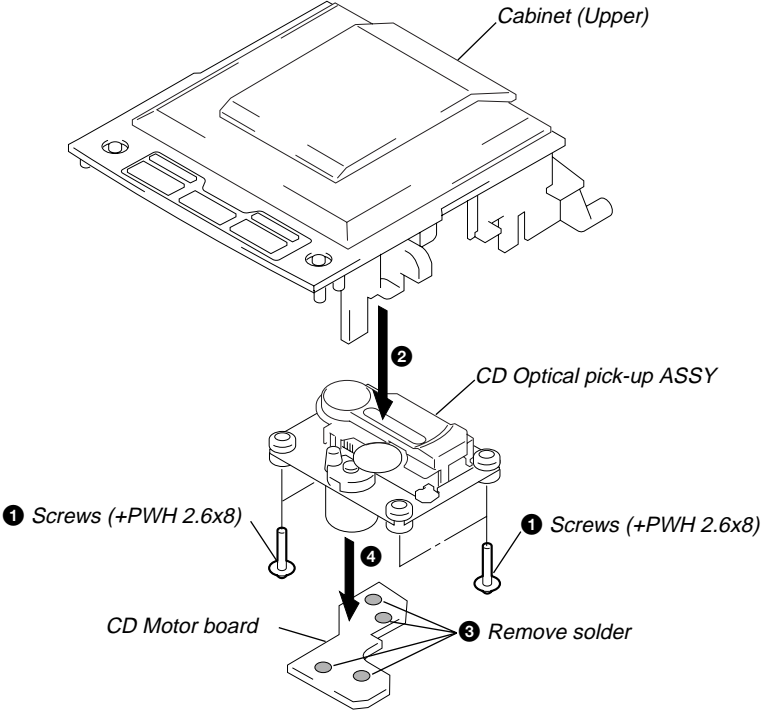
3-8. CENTER BLOCK SECTION



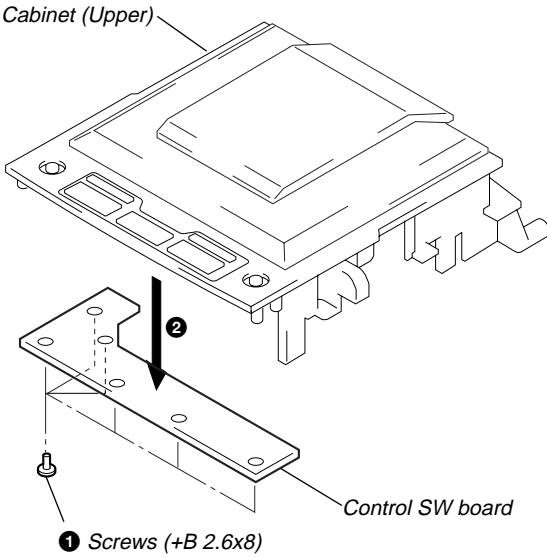
3-9. CABINET (UPPER), CHASSIS (MAIN)



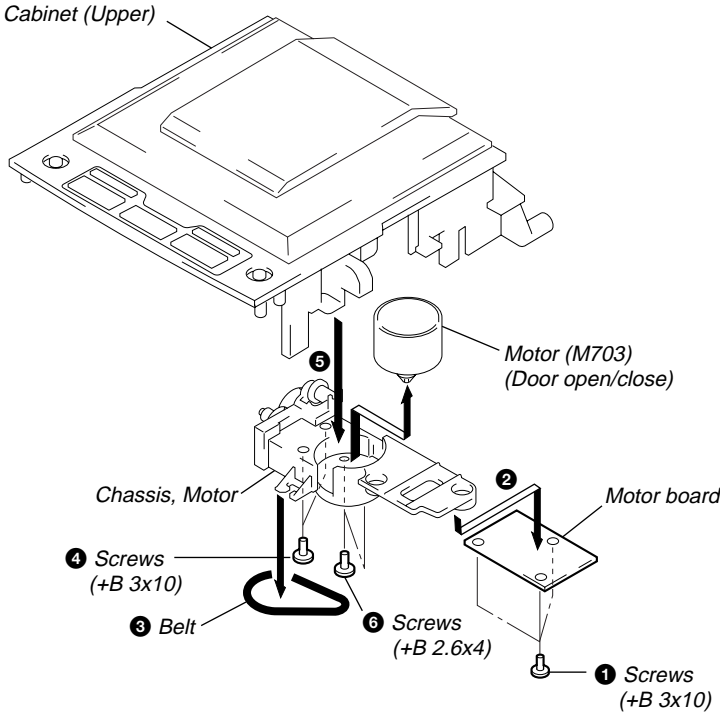
3-10. OPTICAL PICK-UP ASSY, CD MOTOR BOARD



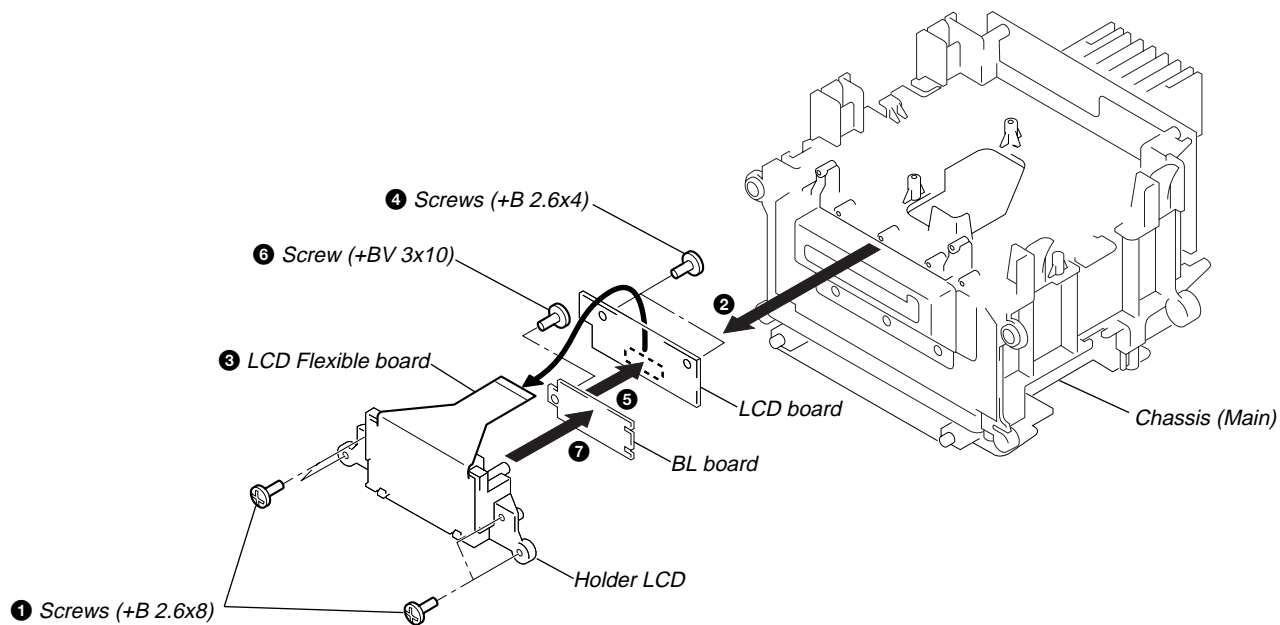
3-11. CONTROL SW BOARD



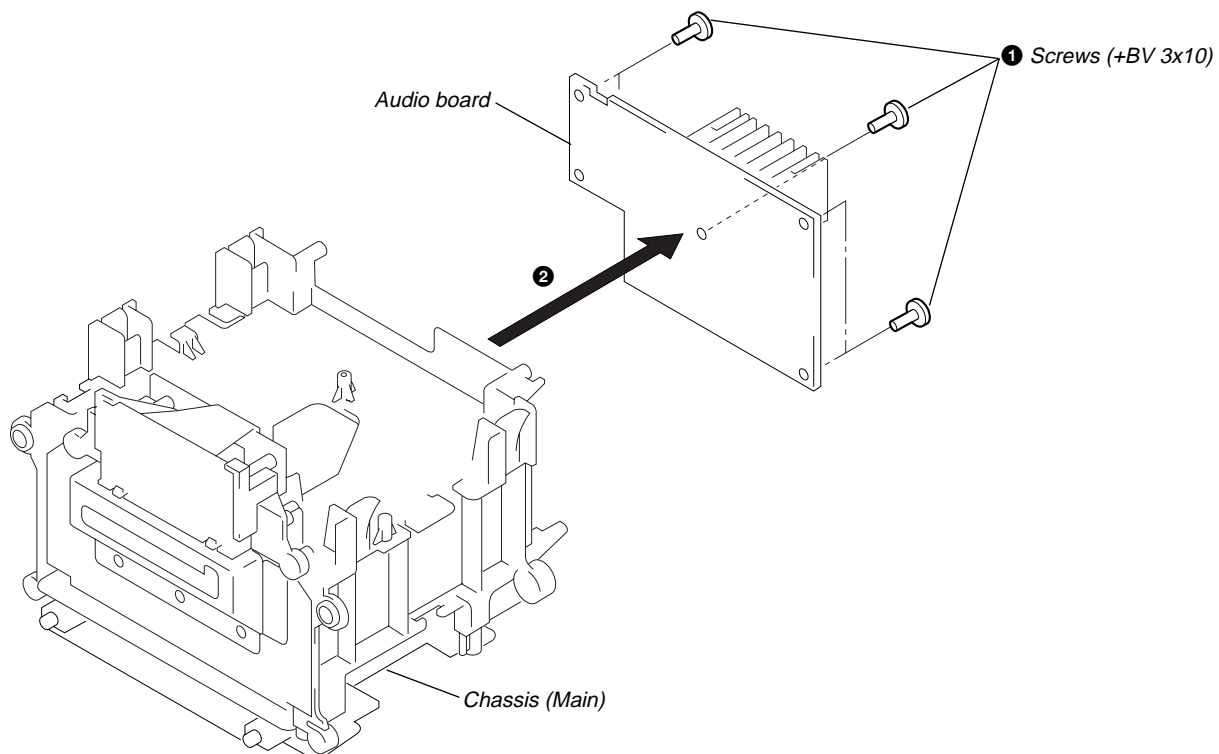
3-12. MOTOR BOARD, BELT, MOTOR (M703)



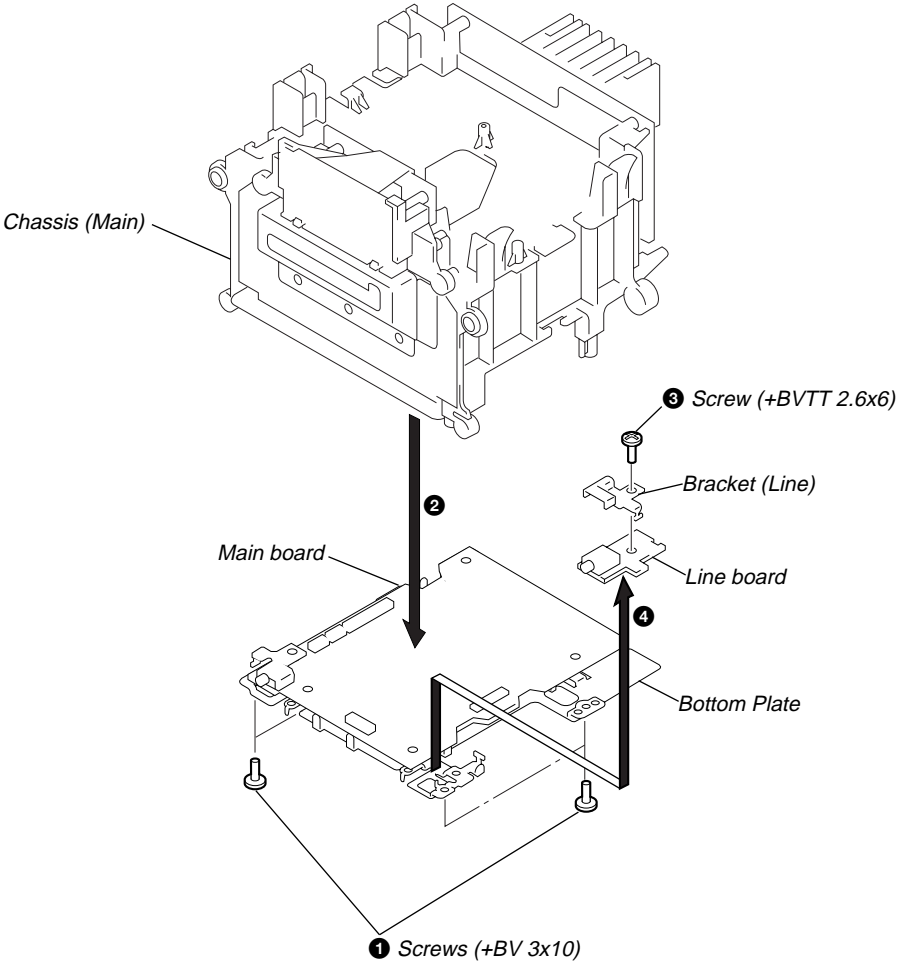
3-13. LCD BOARD, BL BOARD



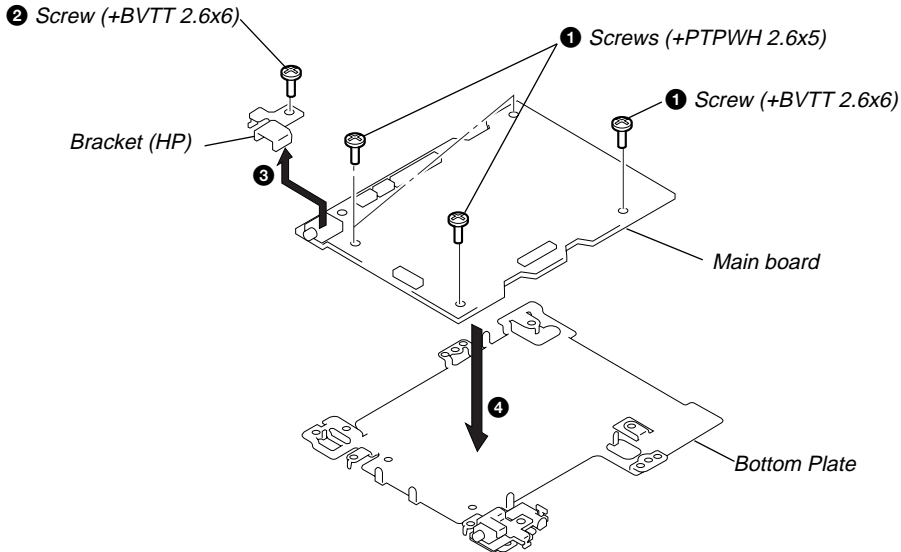
3-14. AUDIO BOARD



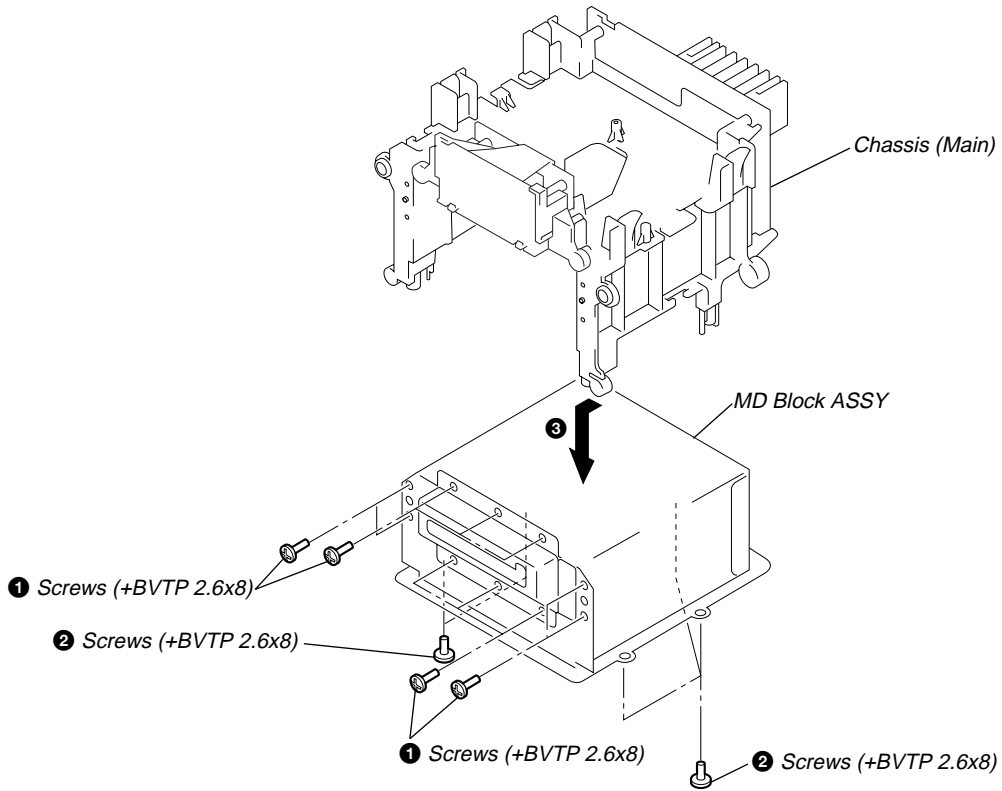
3-15. LINE BOARD



3-16. MAIN BOARD

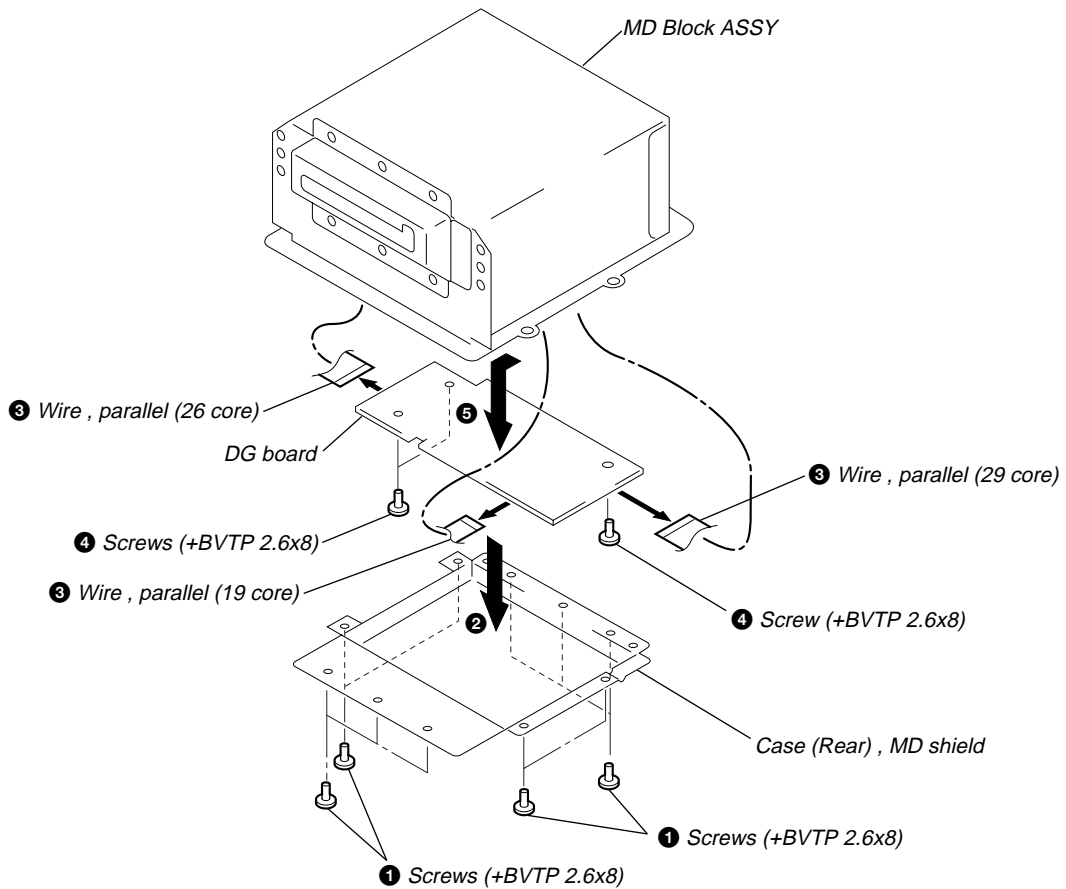


3-17. MD BLOCK ASSY

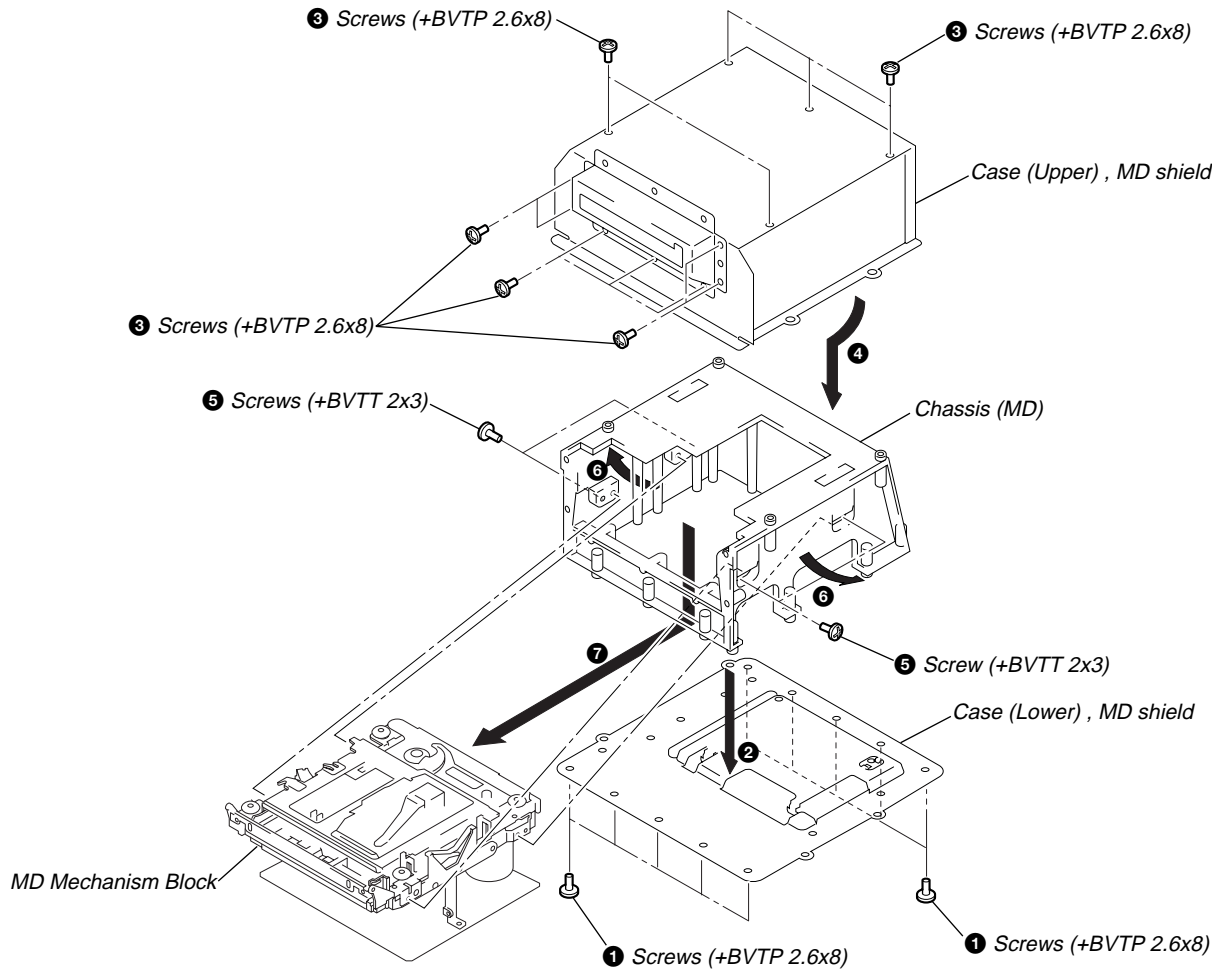


<MD BLOCK ASSY SECTION>

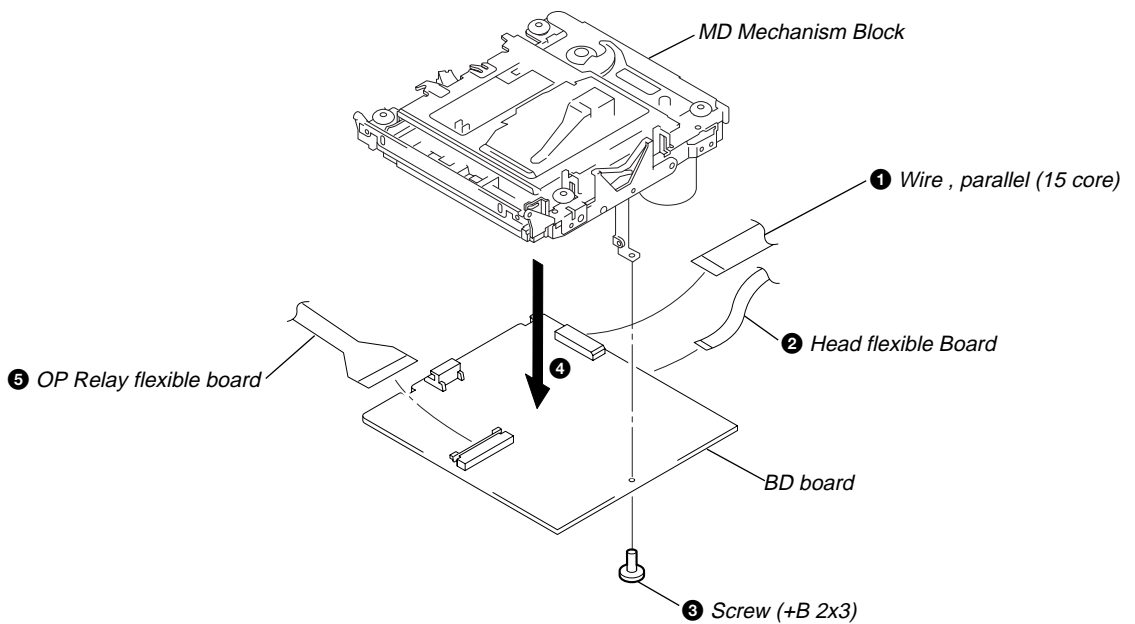
3-18. DG BOARD



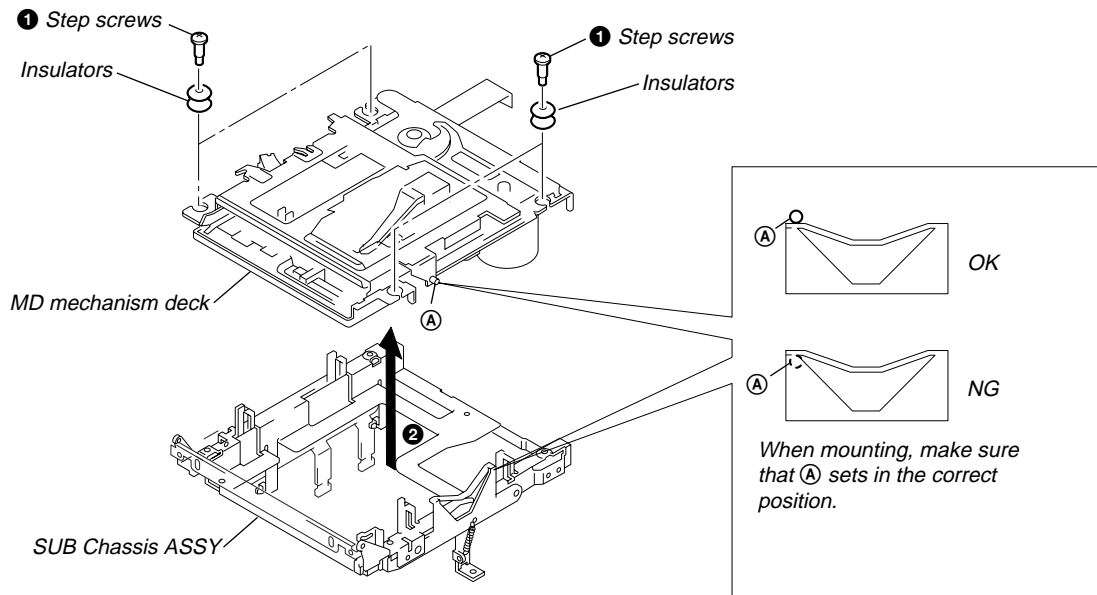
3-19. CHASSIS (MD)



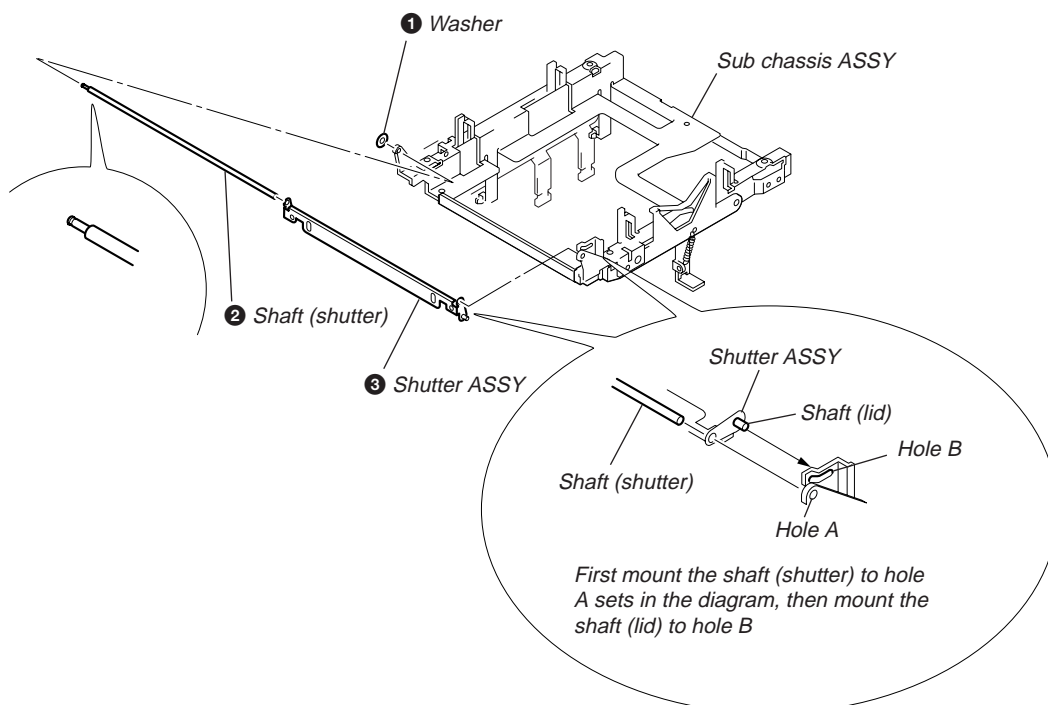
3-20. BD BOARD



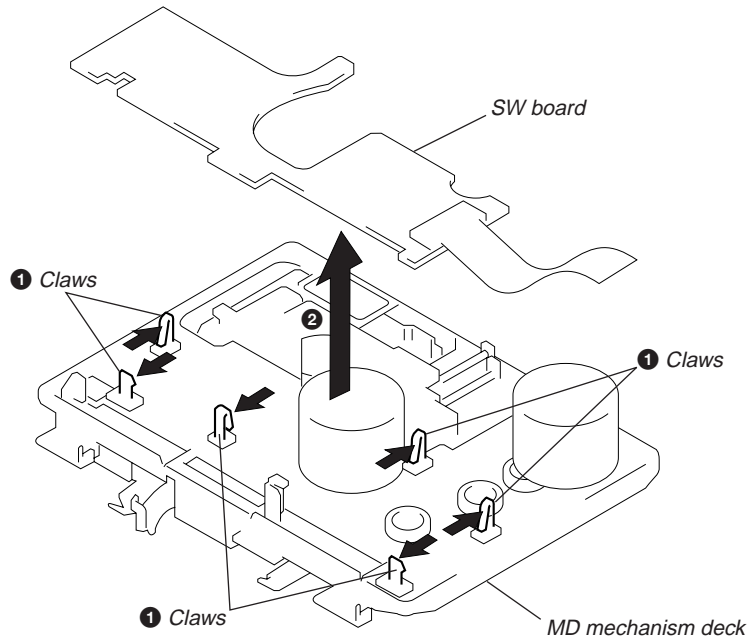
3-21. SUB CHASSIS ASSY, MD MECHANISM DECK



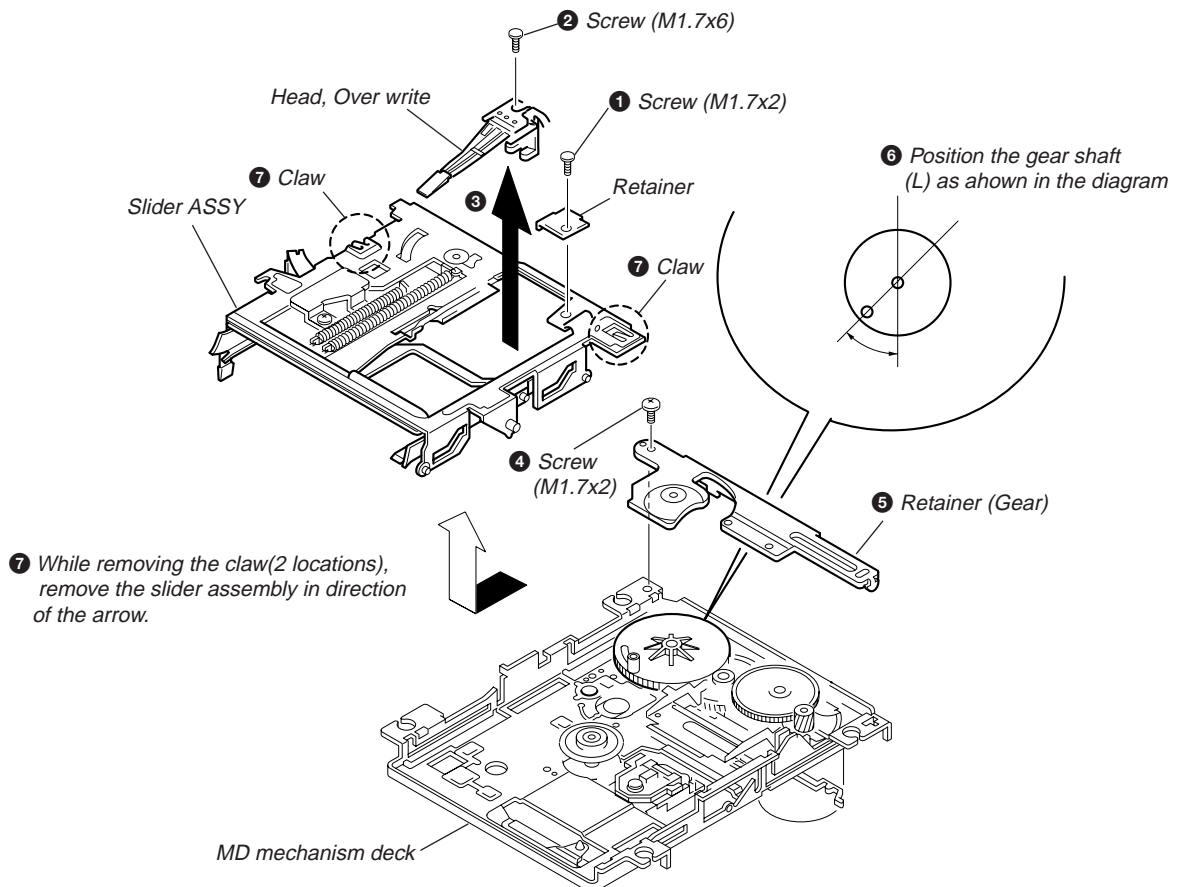
3-22. SHUTTER ASSY



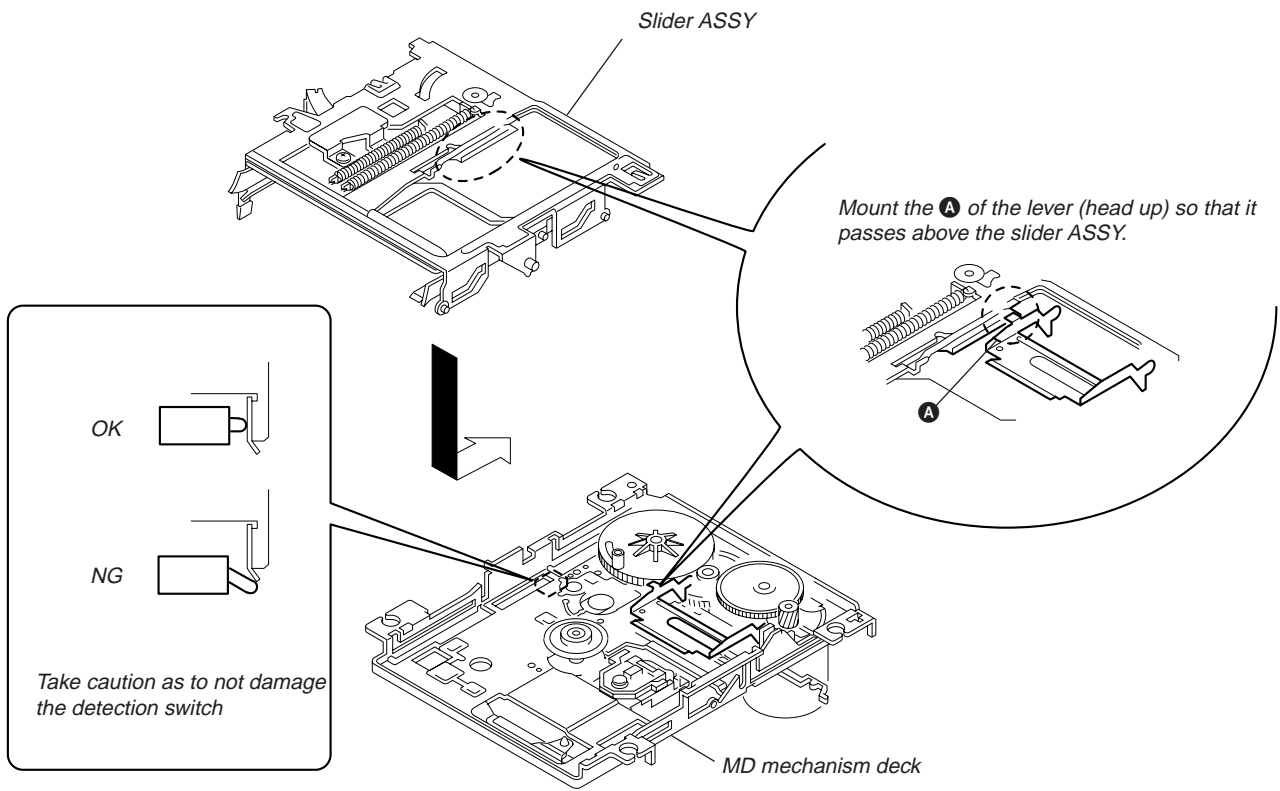
3-23. SW BOARD



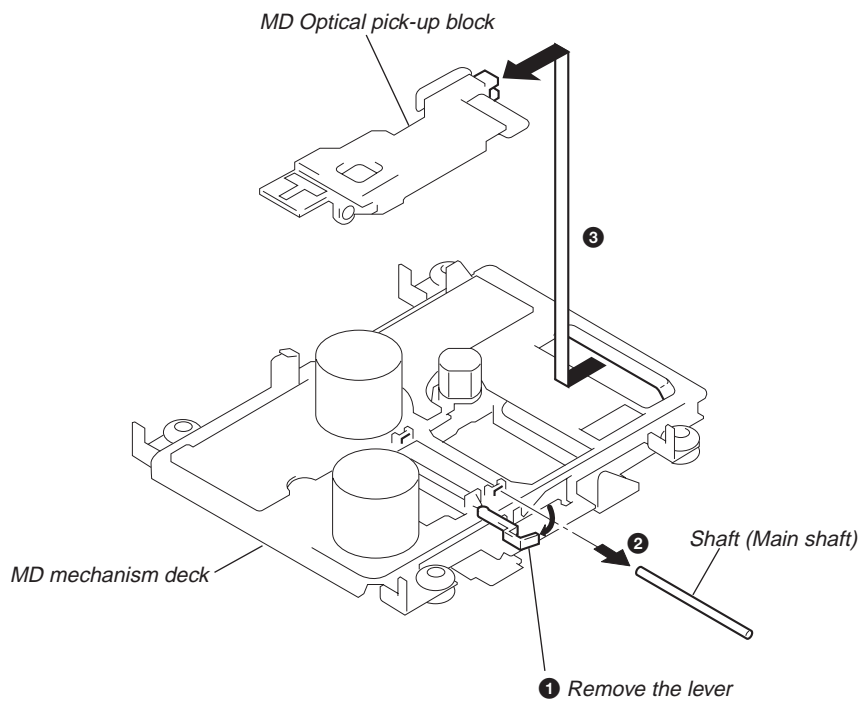
3-24. " HEAD, OVER WRITE ", SLIDER ASSY



• CAUTION DURING SLIDER ASSY ASSEMBLY



3-25. MD OPTICAL PICK-UP BLOCK



SECTION 4 TEST MODE

4-1. CAUTIONS WHEN USING THE TEST MODE

- ① Check to make sure the inserted disk is completely stopped before removing since loading related operations will operate regardless of the Test mode operation.
The rotation of the inserted disk will not stop even when pressing the MD EJECT button during continuous playback and continuous recording.
In this case, the disk will be ejected while still in motion.
Always press the NO/CANCEL button and check to see that the disk has stopped turning before pressing the MD EJECT button.
- ② In the Test mode, detection of the write-protect tab is not executed. For this reason, pressing the REC button in modes where the recording laser is emitted (see 4-1-1) will delete the recorded contents regardless of the tab position. When using a disk in the Test mode which its contents must not be deleted, avoid entering the Continuous Recording mode and Traverse Adjustment mode.

4-1-1. Modes which the record laser is emitted and button operations

- Continuous Recording mode (CREC MODE)
- Traverse Adjustment mode (EFBAL ADJUST)
- Laser Power Adjustment mode (LDPWR ADJUST)
- Laser Power Check mode (LDPWR CHECK)
- Traverse (MO) check (EF MO CHECK)
- Traverse (MO) adjustment (EF MO ADJUST)
- When pressing the REC button

4-2. TEST MODE SETTINGS

MD Test mode :

Press and hold the EDIT button and BASS/TREBLE button, then press MD ►|| → MD ■ → MD ►|| → MD ■.

CD Test mode :

Press and hold the EDIT button and BASS/TREBLE button, then press CD ►|| → CD ■ → CD ►|| → CD ■.

Display Test mode :

Press and hold the EDIT button and BASS/TREBLE button, then press BAND → LINE → BAND → LINE (FUNCTION is LINE).

Note 1 : Each test mode can be entered regardless of whether the power is on or off. However, it is not possible to enter the test mode of the particular function being operated. For example, it is not possible to enter the CD Test mode when the CD is in function.

4-3. RELEASING THE TEST MODE

Press the RESET button located on the bottom.

4-4. BASIC OPERATIONS OF THE TEST MODE

All operations are made using the AMS dial, YES/ENTER button and NO/CANCEL button.

The functions of each button are as follows:

Function Name	Functions
AMS dial	Used to change parameters and modes
YES/ENTER button	Used to advance and confirm
NO/CANCEL button	Used to return and cancel

4-5. SELECTING THE TEST MODE

There are 9 types of test modes (see table below). Turning the AMS dial clockwise switches modes shown in the table in the order from top to bottom. Turning the AMS dial counterclockwise switches modes shown in the table in the reverse order.

Display	Description
TEMP ADJUST	Temperature compensation offset adjustment
LDPWR ADJUST	Laser power adjustment
LDPWR CHECK	Laser power check
EF BAL ADJUST	Traverse adjustment
FBIAS ADJUST	Focus bias adjustment
FBIAS CHECK	Focus bias check
CPLAY MODE	Continuous playback mode
CREC MODE	Continuous recording mode
EEP MODE	Non-volatile storage memory control

- For details on each adjustment mode, see respective items of SECTION 5. ADJUSTMENT
- If you have accidentally entered another mode, press the NO/CANCEL button to exit.
- The EEP MODE is not used during servicing. Thus, details on this mode are not given. If this mode is accidentally entered, exit immediately by pressing the NO/CANCEL button as the unit may not operate correctly if the non-volatile storage memory being overwritten.

4-5-1. Operating in the Continuous Playback mode

1. Entering the Continuous Playback mode

- ① Insert a disk into the unit (either recordable or playback disk)
- ② Turn the AMS dial until "CPLAY MODE" is displayed.
- ③ Press the YES/ENTER button. The display will change to "CPLAY IN".
- ④ When accessing is completed, the display will change to "C1= [] AD = []".

Note : The numbers of "[]" displayed indicate the error rate and "ADER".

2. Changing the playback location

- ① Pressing the YES/ENTER button during continuous playback will change the display in the following manner, enabling change in the playback location.

"CPLAY MID" → "CPLAY OUT" → "CPLAY IN" ———
↑

- ② When accessing is completed, the display will change to "C1= [] AD = []".

Note : The numbers of "[]" displayed indicate the error rate and "ADER".

3. Exiting the Continuous Playback mode

- ① Press the NO/CANCEL button. The display will change to "CPLAY MODE".
- ② To remove the disk, press the MD EJECT button.

Note : The playback initiate addresses of IN, MID and OUT are indicated below. To display the playback position, press the DISPLAY button and "CPLAY([])".

IN 40h cluster
MID 300h cluster
OUT 700h cluster

4-5-2. Operating in the Continuous Recording mode

1. Entering the Continuous Recording mode

- ① Insert a disk that may be recorded into the unit (see Note 3)
- ② Turn the AMS dial until "CREC MODE" is displayed.
- ③ Press the YES/ENTER button. The display will change to "CREC MID".
- ④ When accessing is completed, the display will change to "CREC ([])".

Note : The numbers of " [] " displayed indicate the record position address.

2. Changing the recording location

- ① Pressing the YES button during continuous recording will change the display in the following manner, enabling change in the recording location. During location change, the REC indicator will be off.

"CPLAY MID" → "CPLAY OUT" → "CPLAY IN"

- ② When accessing is completed, the display will change to "CREC ([])" and the REC indicator will light.

Note : The numbers of " [] " displayed indicate the record position address.

3. Exiting the Continuous Recording mode

- ① Press the NO/CANCEL button. The display will change to "CREC MODE" and the REC indicator will turn off.
- ② To remove the disk, press the MD EJECT button.

Note 1 : The record initiate addresses of IN, MID and OUT are indicated below. To display the record position, press the DISPLAY button and "CREC ([])".

IN 40h cluster
MID 300h cluster
OUT 700h cluster

Note 2 : The NO/CANCEL button can be used at anytime to stop recording.

Note 3 : Detection for the write-protect tab is not executed when in the test mode. Do not enter the Continuous Recording mode with a disk you do not wish to have deleted.

Note 4 : Do not continuously record for more than 5 minutes.

Note 5 : Make sure no vibration is applied to the unit during continuous recording.

4-5-3. Non-volatile storage memory mode (EEP mode)

This is the mode to read and write the contents of the non-volatile storage memory.

This mode is not used for servicing.

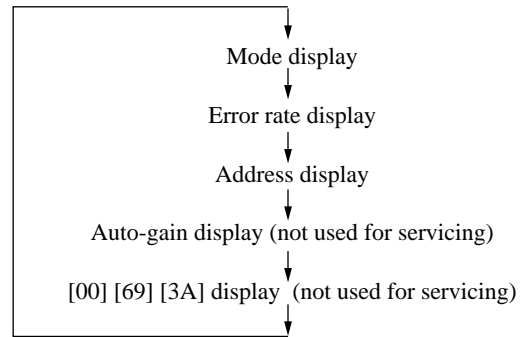
If you accidentally enter this mode, exit immediately by pressing the NO/CANCEL button.

4-6. FUNCTIONS OF OTHER BUTTONS

Function Name	Main Description
EDIT + ►	Continuous playback when pressed during disk is stopped. Tracking servo ON/OFF when pressed during continuous playback
EDIT + ■	Stopping of continuous recording/playback
►►	The thread moves outward while the button is pressed
◄◄	The thread moves inward while the button is pressed
EDIT + REC	Record ON/OFF during continuous playback
EDIT + SYNCHRO REC	Switched between pit and groove every time the button is pressed
EDIT + SHUF/PGM	Spindle servo mode switch (CLV S ← → CLV A)
DISPLAY	Display contents are switched every time the button is pressed
MD EJECT	Eject disk
RESET	Exit the test mode

4-7. TEST MODE DISPLAY

The display will switch in the following sequence every time the DISPLAY button is pressed.



1. Mode display

Displays such information as "TEMP ADJUST" and "CPLAY MODE".

2. Error rate display

The error rate is displayed using the following format.

C1=C1ER AD=ADER

3. Address display

The address is displayed using the following format (MO : recordable disk, CD : playback disk)

Switched between pit and groove every time the EDIT and SYNCHRO REC button is pressed

h = □□□□S = □□□□(MO pit and CD)

h = □□□□a = □□□□(MO groove)

h = : header address

S = : SUBQ address

a = : ATIP address

Note : "--" is displayed when servo is off.

4. Auto-gain display (not used for servicing)

The auto-gain is displayed using the following format.

AGF = @@ T = ## [&&]

@@ : focus servo gain coefficient

: tracking servo gain coefficient

&& : displays [OK], [NG] or [- -].

[- -] indicates that convergence is incomplete

Definitions of other displays

Display	Description	
	Indicator ON	Indicator OFF
SHUF	Continuous playback in operation (CLV : ON)	Disk stopped (CLV : OFF)
	Tracking servo OFF	Tracking servo ON
REC, SHUF	Recording mode ON	Recording mode OFF
TOC EDIT	ABCD adjustment completed	
DIGITAL	Focus auto-gain OK	(Flashing) Focus OK Tracking auto-gain NG
TRACK	Pit	Groove
DISC mark	High reflection	Low reflection
DATE	CLV-S	CLV-A

SECTION 5 ADJUSTMENTS

MD SECTION

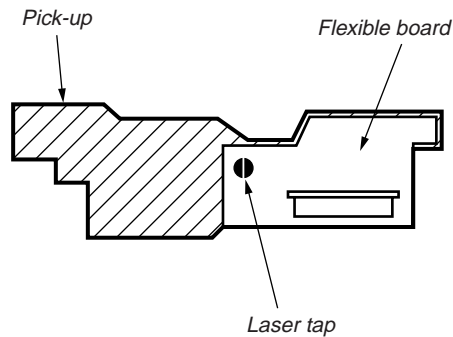
5-1. CAUTION WHEN CHECKING LASER DIODE EMISSION

Never look from directly above when checking the laser diode emission during adjustment as failure to do so may result in loss of eyesight.

5-2. CAUTIONS WHEN HANDLING THE OPTICAL PICK-UP (KMS-260A)

The laser diode within the optical pick-up is extremely vulnerable to static electricity. When handling, bridge the laser tap of the flexible board on the optical pick-up with solder.

When removing the connector, first bridge the laser tap with solder. Furthermore, do not remove the soldered bridge before reconnecting. In addition, take sufficient measures when working to prevent electrostatic damage. Take caution when handling the flexible board since it is easily torn.



5-3. CAUTIONS DURING ADJUSTMENT

1) After replacing the following parts, make adjustments and checks for the table items where indicated with a O in the order given.

	Optical pickup	BD board		
		IC171	D101	IC101,IC121,IC192
1. Temperature compensation offset adjustment	X	O	O	O
2. Laser power adjustment	O	O	X	O
3. Traverse adjustment	O	O	X	O
4. Focus bias adjustment	O	O	X	O
5. Error rate check	O	O	X	O

- 2) Perform adjustments in the test mode.
Exit the test mode when completed with adjustment.
- 2) Perform adjustments in the order given.
- 3) Use the following jig and measuring equipment:
 - Check disk (MD) TDYS-I (Part no : 4-963-646-01)
 - Laser power meter LPM-8001 (Part no : J-2501-046-A)
 - Oscilloscope (perform measurement after calibrating the probe)
 - Digital voltmeter
 - Thermometer
 - BD board waveform checking jig (part no : J-2501-124-A)
- 5) When looking at multiple signals using oscilloscope, etc., make sure VC and GND are not connected within the oscilloscope. Failure to do so will short circuit VC and GND.
- 6) Using the special jig enables checking of the waveform without soldering (see page 4 of Service Notes).

5-4. CREATING A CONTINUOUS RECORDING DISK

- This disk is used during focus bias adjustment and error rate check. The procedure for creating a continuous recording disk is as follows.

1. Insert a disk (any commercially available blank disk).
2. Turn the AMS dial until "CREC MODE" is displayed.
3. Press the YES/ENTER button to display "CREC MID". "CREC(0300)" will be displayed for an instant and recording will begin.
4. Complete recording within 5 minutes.
5. Press the NO/CANCEL button to stop recording.
6. Press the MD EJECT button to remove the disk.

A continuously recorded disk can be created by following the procedure above for focus bias adjustment and error rate check.

Note: Take caution as to not apply vibration to the unit during continuous recording.

5-5. TEMPERATURE COMPENSATION OFFSET ADJUSTMENT

The temperature data at the time is saved in the non-volatile storage memory as the standard data of 25°C.

Notes:

1. Do not make this adjustment under normal conditions.
2. Perform this adjustment in an environment with ambient temperature between 22 to 28°C. Furthermore, make the adjustment immediately after turning on the power when the internal temperature and ambient temperature are between 22 to 28°C.
3. After D101 replacement, perform the adjustment after the part has ample time to adjust to the ambient temperature.

Procedure:

1. Turn the AMS dial until "TEMP ADJUST" is displayed.
2. Press the YES/ENTER button and select the TEMP ADJUST mode.
3. "TEMP= []" and the current temperature data will be displayed.
4. To save the data: press the YES/ENTER button
To not save the data: press the NO/CANCEL button
5. After pressing the YES/ENTER button, "TEMP= []SAVE" will be displayed momentarily and the display will then return to "TEMP ADJUST".
The display will immediately return to "TEMPADJUST" when pressing the NO/CANCEL button.

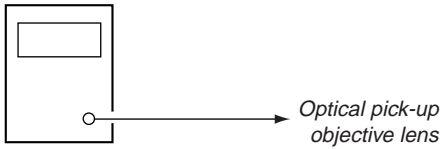
Specified values:

The value of TEMP= [] must be within the range of E0-EF, F0-FF, 00-0F, 10-1F or 20-2F.

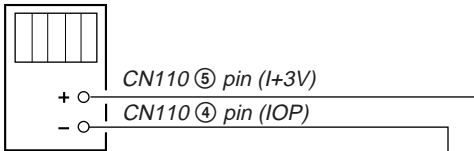
5-6. LASER POWER ADJUSTMENT

Connections:

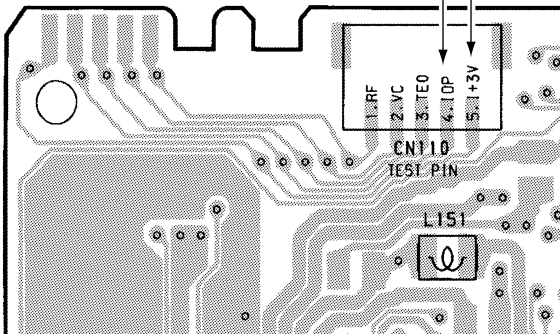
Laser power meter



Digital voltmeter



[BD BOARD] (SIDE A)



Procedure:

1. Insert the laser power meter into the disk loading port and set atop the objective lens of the optical pickup (if this cannot be done successfully, shift the optical pickup using the ◀▶ and ▶▶ buttons).
Connect the digital voltmeter to the CN110 ⑤ pin (I+3V) and CN110 ④ pin (IOP).
 2. Turn the AMS dial until "LDPWR ADJUST" is displayed. (Laser power: adjustment purposes)
 3. Press the YES/ENTER button once to display "LD 0.9mW \$ [] ".
 4. Turn the AMS dial so that the laser power meter reading is between 0.86 – 0.92mW. After setting the range dial of the laser power meter to 10mW, press the YES/ENTER button to save the adjustment result to the non-volatile storage memory (at this time, "LD SAVE \$ [] " will be displayed for an instant).
 5. Next, "LD 7.0mW \$ [] " will be displayed.
 6. Turn the AMS dial so that the laser power meter reading is between 6.9 – 7.1mW, then press the YES/ENTER button to save the adjustment result (at this time, "LD SAVE \$ [] " will be displayed for an instant).
- Note:** Do not emit the 7.0mW emission more than 15 seconds continuously.
7. Next, turn the AMS dial until "LDPWR CHECK" is displayed.
 8. Press the YES/ENTER button once to display "LD 0.9mW \$ [] ".
- At this time, check to see that the laser power meter reading is between 0.85 – 0.91mW.
9. Next, press the YES/ENTER button once more to display "LD 7.0mW \$ [] ".
- At this time check to see that the laser power meter and digital voltmeter reading comply with the specified values.

Specified values:

Laser power meter reading : 6.9–7.1mW

Digital voltmeter reading : ±10% the value on the label of the optical pickup.

(Optical pick-up label)



In this case, $I_{op} = 82.5\text{mA}$

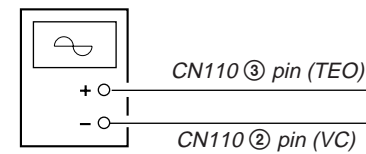
$I_{op}(\text{mA}) = \text{digital voltmeter reading (mV)} / 1(\Omega)$

10. Press the NO/CANCEL button to display "LDPWR CHECK" and stop laser emission. (The NO/CANCEL button can be used anytime to stop laser emission)

5-7. TRAVERSE ADJUSTMENT

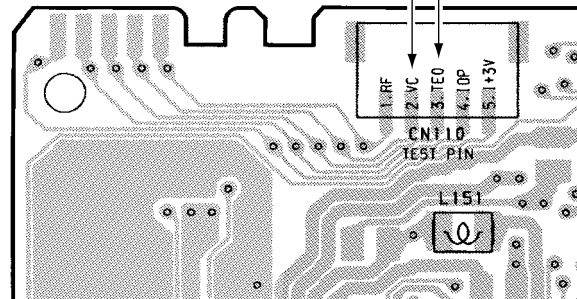
Connection:

Oscilloscope



VOLT/DIV : 0.5V
TIME/DIV : 10msec
Input: DC mode

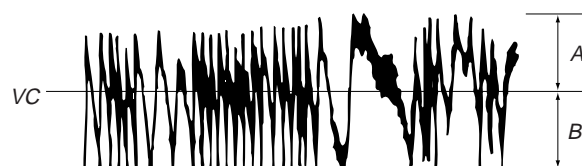
[BD BOARD] (SIDE A)



Procedure:

1. Connect the oscilloscope to the CN110 ③ pin (TEO) and CN110 ② pin (VC) of the BD board.
2. Insert a disk (any commercially available disk) that may be recorded on (see Note 1).
3. Press the ◀▶ or ▶▶ button to shift the optical pick-up to the outer edge of the pit.
4. Turn the AMS dial until "EFBAL ADJUST" is displayed.
5. Press the YES/ENTER button to display "EFB= [] MO-R". (The unit will be in the condition of: laser power READ power, focus servo ON, tracking servo OFF and spindle (S) servo ON.)
6. Turn the AMS dial so that the waveform on the oscilloscope is that of the specified value (turning the AMS dial will change the numbers of "EFB= []" as well as the waveform). During this adjustment, the waveform changes for approximately every 2%. Adjust the waveform closest to the specified value. (read power traverse adjustment)

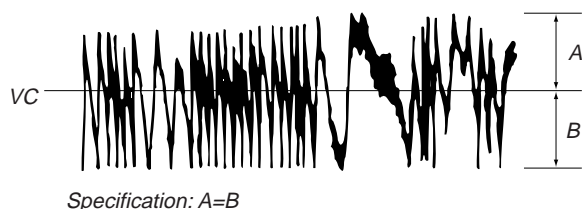
(Traverse waveform)



Specification: $A=B$

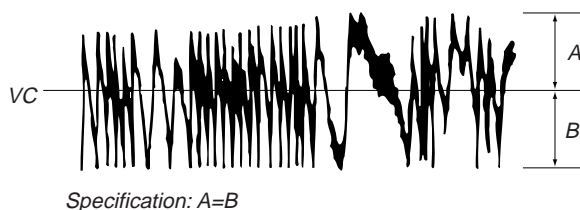
7. Press the YES/ENTER button to save the adjustment result to the non-volatile storage memory (at this time "EFB= [] SAVE" will be displayed for an instant, then "EFB= [] MO-W" will be displayed).
8. Turn the AMS dial so that the waveform on the oscilloscope is that of the specified value (turning the AMS dial will change the numbers of "EFB= []" as well as the waveform). During this adjustment, the waveform changes for approximately every 2%. Adjust the waveform closest to the specified value. (write power traverse adjustment)

(Traverse waveform)



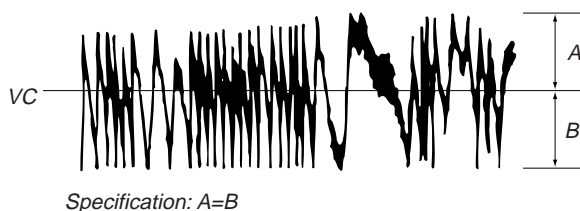
9. Press the YES/ENTER button to save the adjustment result to the non-volatile storage memory (at this time "EFB= [] SAVE" will be displayed for an instant).
10. "EFB= [] MO-P" will then be displayed and the servo will be activated after the optical pickup is automatically shifted to the inner edge of the pit.
11. At this time, turn the AMS dial so that the waveform on the oscilloscope is that of the specified value. During this adjustment, the waveform changes for approximately every 2%. Adjust the waveform closest to the specified value.

(Traverse waveform)



12. Press the YES/ENTER button to save the adjustment result to the non-volatile storage memory (at this time "EFB= [] SAVE" will be displayed for an instant). "EFBAL CD" will then be displayed and the rotation of the disk will automatically stop.
13. Press the MD EJECT button to remove the disk.
14. Insert the check disk (MD) TDYS-1.
15. Press the YES/ENTER button to display "EFB= [] CD". The servo will automatically be activated.
16. Turn the AMS dial so that the waveform on the oscilloscope is that of the specified value. During this adjustment, the waveform changes for approximately every 2%. Adjust the waveform closest to the specified value.

(Traverse waveform)



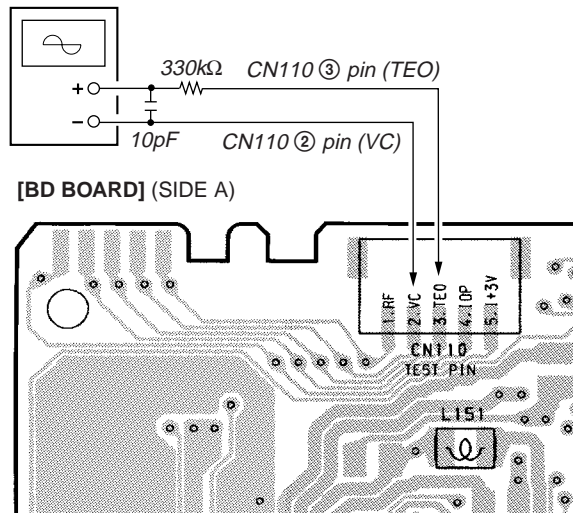
17. Press the YES/ENTER button to save the adjustment result to the non-volatile storage memory (at this time "EFB= [] SAVE" will be displayed for an instant). "EFBAL ADJUST" will then be displayed.

18. Press the MD EJECT button to remove the check disk (MD) TDYS-1.

Note 1: When using a pre-recorded disk for adjustment, data will be deleted during MO write.

Note 2: If the traverse waveform is hard to see, reconnect the oscilloscope as shown below for easier view.

Oscilloscope



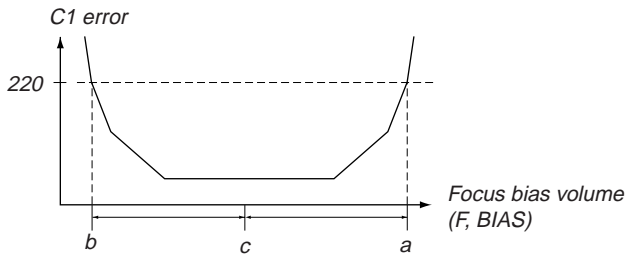
5-8. FOCUS BIAS ADJUSTMENT

Procedure:

1. Insert a continuously recorded disk (see 5-4. Creating a continuous recording disk).
2. Turn the AMS dial until "CPLAY MODE" is displayed.
3. Press the YES/ENTER button to display "CPLAY MID".
4. When "C1= [] AD= []" is displayed, press the NO/CANCEL button.
5. Turn the AMS dial until "FBIAS ADJUST" is displayed.
6. Press the YES/ENTER button to display "[]/[] a= []". The first 4 digits indicate the C1 error rate, the 2 digits following "/" indicate ADER and the 2 digits following "a=" indicate the focus bias volume.
7. Turn the AMS dial clockwise and search the focus bias volume closest to the C1 error rate of 220 (see Note 2).
8. Press the YES/ENTER button to display "[]/[] b= []".
9. Turn the AMS dial counterclockwise and search the focus bias volume which is the C1 error rate of 220.
10. Press the YES/ENTER button to display "[]/[] c= []".
11. Press the YES/ENTER button after making sure that the C1 error rate is below 50 and ADER is 00.
12. Press the YES/ENTER button if the value indicated in the "[]-[]-[] ([])" display is more than 20. Otherwise, press the NO/CANCEL button and repeat procedure from step 2.
13. Press the MD EJECT button to remove the continuously recorded disk.

Note 1: The relationship of the C1 error and focus bias volume is shown in the diagram below. Find points a and b shown in the diagram by following the procedure above. The met focal point C is found by automatic calculation.

Note 2: The C1 error rate fluctuates. Thus, make the adjustment using the average value.



5-9. ERROR RATE CHECK

5-9-1. Pit disk error rate check

Procedure:

1. Insert the check disk (MD) TDYS-1
2. Turn the AMS dial until "CPLAY MODE" is displayed.
3. Press the YES/ENTER button to display "CPLAY MID".
4. The display will change to "C1= 0000 AD= 00".
5. Check to see that the C1 error rate is less than 20.
6. Press the NO/CANCEL button to stop playback, then press the MD EJECT button to remove the check disk (MD).

5-9-2. MO error rate check

Procedure:

1. Insert a continuously recorded disk (see 5-4. Creating a continuous recording disk).
2. Turn the AMS dial until "CPLAY MODE" is displayed.
3. Press the YES/ENTER button to display "CPLAY MID".
4. The display will change to "C1= 0000 AD= 00".
5. Check to see that the C1 error rate is less than 50 and ADER is constantly not above 00.
6. Press the NO/CANCEL button to stop playback, then press the button to remove the continuously recorded disk.

5-10. FOCUS BIAS CHECK

The focus tolerance volume is checked by changing the focus bias volume.

Procedure:

1. Insert a continuously recorded disk (see 5-4. Creating a continuous recording disk).
2. Turn the AMS dial until "CPLAY MODE" is displayed.
3. Press the YES/ENTER button to display "CPLAY MID".
4. When "C1= 0000 AD= 00" is displayed, press the NO/CANCEL button.
5. Turn the AMS dial until "FBIAS CHECK" is displayed.
6. Press the YES/ENTER button to display "0000/00 c= 00". The first 4 digits indicate the C1 error, the 2 digits following "/" indicate ADER and the 2 digits following "c=" indicate the focus bias volume.
At this time, check to see that the C1 error is less than 50 and ADER is 00.
7. Press the YES/ENTER button to change the display to "0000/00 b= 00".
At this time check to see that the C1 error is not less than 220 and ADER is constantly not above 00.
8. Press the YES/ENTER button to change the display to "0000/00 a= 00".
At this time check to see that the C1 error is not less than 220 and ADER is constantly not above 00.
9. Press the NO/CANCEL button, then press the MD EJECT button to remove the continuously recorded disk.

Note 1: If the C1 error or ADER is more than 00 for only one of points a (8. above) and b (7. above), there is the possibility of a gap in the focus bias adjustment. In such case, repeat adjustment.

CD SECTION

1. Enter the CD Test mode (see page 19)

88 07 00 3A0

The above is the default display.

Pressing the ►|| button will rotate the CD and pressing the YES/ENTER button once more will output sounds.

Pressing the YES/ENTER button will execute automatic adjustment and values will change; however, this value is quite normal.

2. RF LEVEL and jitter check

Test mode PLAY status ("21" and "ALL" display ON)

21 07 00 3A0
ALL

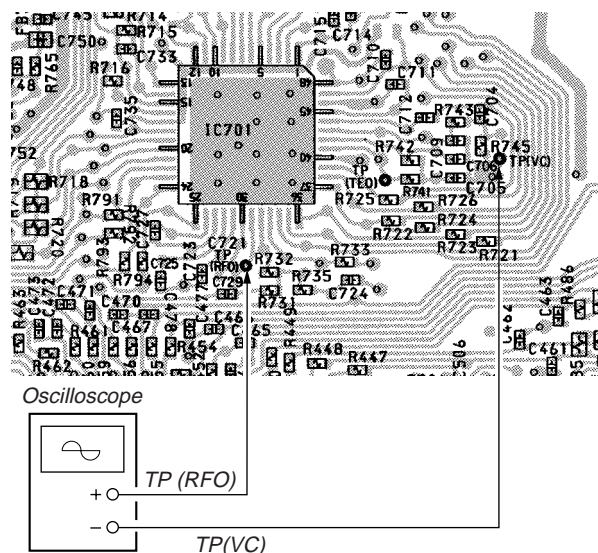
ALL display ON : LPC (laser power control ON)

ALL display OFF : LPC (laser power control OFF)

(►|| button : ALL display ON/OFF)

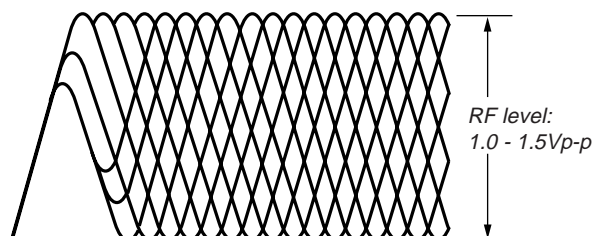
Connection Point:

[MAIN BOARD] (SIDE A)



Check to see that the jitter is less than 9.0 nsec.
and RF level is between 1.0 – 1.5Vp-p.

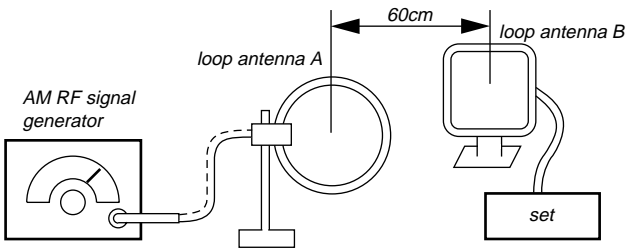
VOLT/DIV : 200mV (using 10:1 probe)
TIME/DIV : 500ns



TUNER SECTION 0dB=1μV

AM Section

Function switch : MW or LW
Volume : MIN



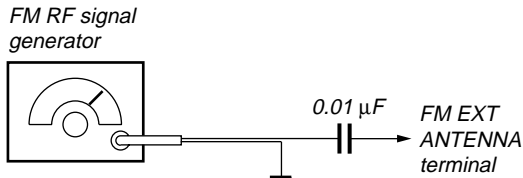
30% amplitude modulation by 400Hz signal
Output level : as low as possible

LW FREQUENCY COVERAGE ADJUSTMENT		
Adjust part	Frequency display	reading on digital voltmeter
Confirmation	153kHz	Standard value : 0.5 – 0.9V
CT3	297kHz	Adjustment value :5.5V Standard value : 5.1 – 5.9V

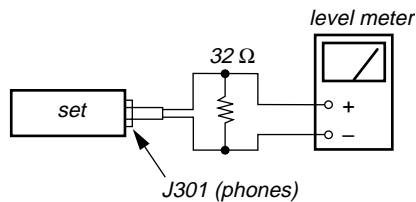
LW TRACKING ADJUSTMENT	
Adjust for a maximum reading on level meter.	
L3	162kHz
CT1	261kHz

FM Section

Function switch : FM
Volume : MIN
FM ANTENNA SELECTOR switch : EXT



22.5kHz frequency deviation by 400Hz signal.
Output level : as low as possible



J301 (phones)

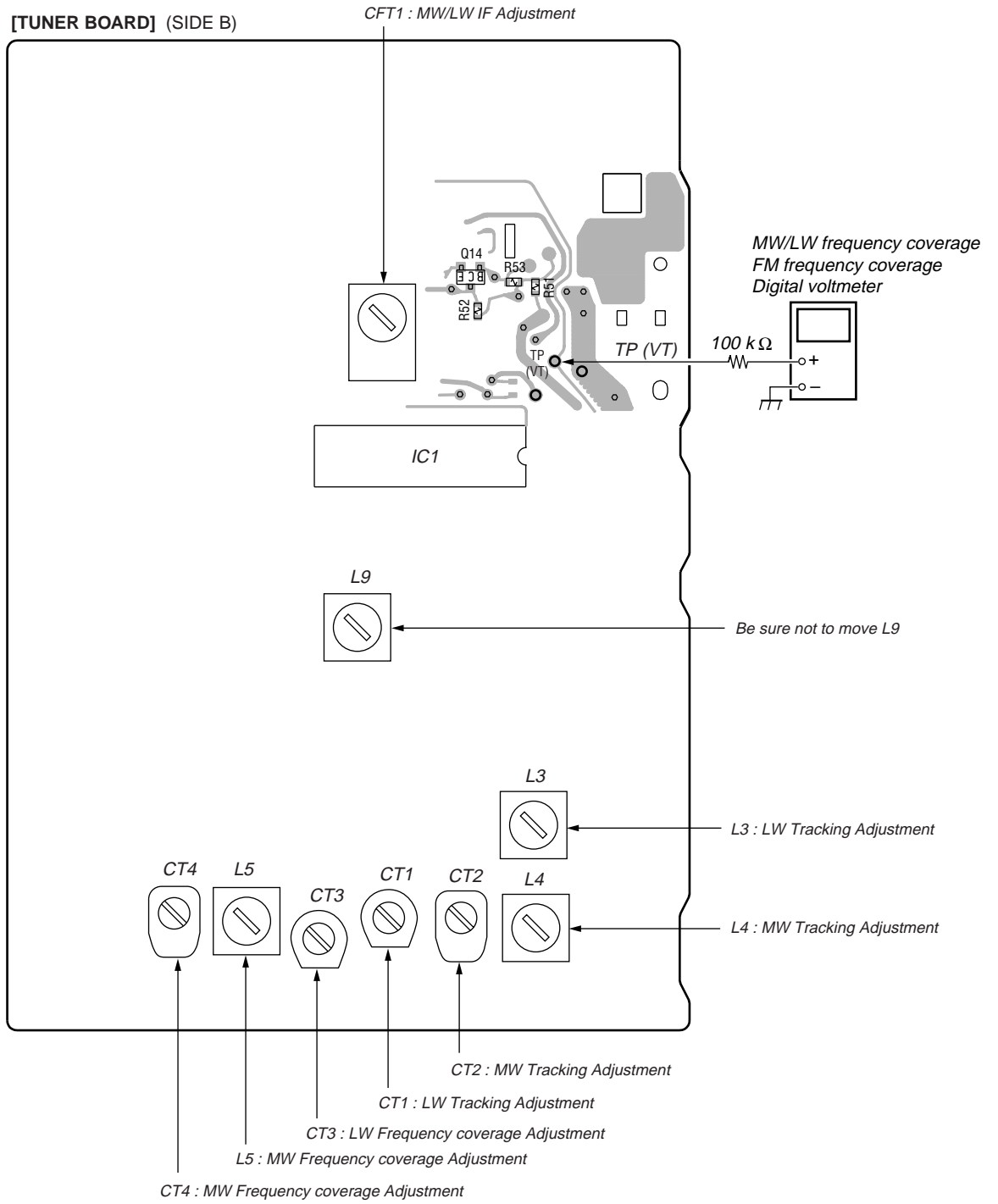
- Repeat the procedures in each adjustment several times, and the frequency coverage and tracking adjustments should be finally done by the trimmer capacitors.

MW/LW IF ADJUSTMENT	
Adjust for a maximum reading on level meter.	
CFT1	450kHz

MW FREQUENCY COVERAGE ADJUSTMENT		
Adjust part	Frequency display	reading on digital voltmeter.
L5	531kHz	Adjustment value :1.0V Standard value : 0.8 – 1.2V
CT4	1,611kHz	Adjustment value :5.4V Standard value : 5.0 – 5.8V

MW TRACKING ADJUSTMENT	
Adjust for a maximum reading on level meter.	
L4	621kHz
CT2	1,404kHz

Connect and Adjustment Location :



SECTION 6 DIAGRAMS

6-1. EXPLANATION OF IC TERMINALS

BD BOARD IC101 MD SECTION RF AMPLIFIER (CXA2523R)

Pin No.	Pin name	I/O	Description
1	I	I	Input of RF signal I converted from I to V
2	J	I	Input of RF signal J converted from I to V.
3	VC	O	Midpoint voltage (+1.5V) generation output.
4 - 9	A-F	I	Signal inputs from optical pickup detector.
10	PD	I	Light volume monitor input.
11	APC	O	Laser APC output.
12	APCREF	I	Reference voltage input for laser power setting.
13	GND	-	Ground.
14	TEMPI	I	Temperature sensor connection terminal.
15	TEMPR	O	Reference voltage output for temperature sensor.
16	SWDT	I	Serial data input from CXD2652AR.
17	SCLK	I	Serial clock input from CXD2652AR.
18	XLAT	I	Latch signal input from CXD2652AR. "L": Latch
19	XSTBY	I	Standby signal input. "L": Standby
20	FOCNT	I	Center frequency control voltage input of internal circuits BFF22, BPF3T and EQ from CXD2652AR.
21	VREF	O	Reference voltage output (not used).
22	EQADJ	I/O	Pin for center frequency setting of internal circuit EQ.
23	3TADJ	I/O	Pin for center frequency setting of internal circuit BPF3T.
24	VCC	-	Power supply (+3V).
25	WBLADJ	I/O	Pin for center frequency setting of internal circuit BPF22.
26	TE	O	Tracking error signal output to CXD2652AR.
27	CSLED	-	External condenser connector pin for thread error signal LPF.
28	SE	O	Thread error signal output to CXD2652AR.
29	ADFM	O	ADIP FM signal output.
30	ADIN	I	ADIP signal comparator input ADFM connection by coupling with AC.
31	ADAGC	-	External condenser connector pin for AGC of ADIP.
32	ADFG	O	ADIP duplex signal output to CXD2652AR.
33	AUX	O	I3 signal/temperature signal output (switched by serial command) to CXD2652AR.
34	FE	O	Focus error signal output to CXD2652AR.
35	ABCD	O	Light volume signal output to CXD2652AR.
36	BOTM	O	RF/ABCD bottom hold signal output to CXD2652AR.
37	PEAK	O	RF/ABCD peak hold signal output to CXD2652AR.
38	RF	O	RF equalizer output to CXD2652AR.
39	RFAGC	-	RF AGC circuit external condenser connector pin.
40	AGCI	I	Input RF amplifier output is input to RF AGC circuit by coupling with AC.
41	COMPO	O	User comparator output (not used).
42	COMPP	I	User comparator input (Fixed at "L").
43	ADDC	I/O	Low-pass cutoff external capacitor terminal of ADIP amplifier.
44	OPO	O	User op amplifier output (not used).
45	OPN	I	User op amplifier inverted input (Fixed at "L").
46	RFO	O	RF amplifier output.
47	MORFI	I	Group RF signal input by coupling with AC.
48	MORFO	O	Group RF signal output.

APC : Auto Power Control

AGC : Auto Gain Control

MAIN BOARD (2/2) IC405 SYSTEM CONTROL (CXP740096-026Q)

Pin No.	Pin name	I/O	Description
1	MD	O	MD function output.
2	RADIO/LINE	O	Radio/LINE function output.
3	ACCHK	I	AC power supply detection input. L : Supplied H : Not supplied
4	NC	–	Not used (OPEN).
5	NC	–	Not used (OPEN).
6	NC	–	Not used (OPEN).
7	RDS - DATA	I	RDS serial data input.
8	NC	–	Not used (OPEN).
9	RDS - CLK	I	RDS serial clock input.
10	CD - TURN	I	CD ON/OFF detection input.
11	NC	–	Not used (OPEN).
12	CD - OPEN	O	CD tray control output. H : OPEN
13	CD - CLOSE	O	CD tray control output. H : CLOSE
14	NC	–	Not used (OPEN).
15	NC	–	Not used (OPEN).
16	NC	–	Not used (OPEN).
17	MD - H	O	D/A converter down signal output (MD play).
18	REC - H	O	D/A converter down signal output (MD recording).
19	MD - RST	O	Reset signal output for MD system control.
20	MD - SCTS	O	UART send request output to MD.
21	MD - SRTS	I	UART send request input from MD.
22	MD - PDOWN	O	Notification of power cutoff to MD.
23	D/LCON	O	Back light ON/OFF control output.
24	LCD - RST	O	Reset signal output to LCD.
25	LCD - CE	O	Chip enable output to LCD.
26	LCD - A0	O	Address output to LCD.
27	LED - MD	O	MD LED drive output.
28	LED - RADIO	O	BAND LED drive output.
29	LED - CD	O	CD LED drive output.
30	NC	–	Not used (OPEN).
31	RADIO POWER	O	Radio power supply ON/OFF control output.
32	CD POWER	O	CD power supply ON/OFF control output.
33	NC	–	Not used (OPEN).
34	NC	–	Not used (OPEN).
35	NC	–	Not used (OPEN).
36	NC	–	Not used (OPEN).
37	NC	–	Not used (OPEN).
38	NC	–	Not used (OPEN).
39	TU - SFT	O	System clock shift output.
40	RST	I	System reset terminal.
41	VSS	–	Ground.
42	XTAL	I	System clock (8MHz) oscillation input.
43	EXTAL	O	System clock (8MHz) oscillation output.
44	SELECT - GND	O	Destination select terminal.
45	HP - SW	I	Headphone detection input.
46	LCD - DATA	O	Serial data output to LCD.
47	LCD - CLK	O	Serial clock output to LCD.
48	CD - DOOR	I	CD tray Open/Close detection input.
49	JOG - A	I	Jog dial rotation detection input (A).
50	JOG - B	I	Jog dial rotation detection input (B).

Pin No.	Pin name	I/O	Description
51	SELECT	I	Destination select detection input.
52	AVSS	–	A/D converter ground terminal.
53	AVREF	–	A/D converter reference voltage input.
54	AVDD	–	A/D converter power supply terminal.
55	LED - PRESET/AMS	O	AMS/PRESET LED drive output.
56	LED - SELECT	O	SELECT LED drive output.
57	LINE	O	Function LINE output.
58	LINE - LEVEL	O	LINE level control signal output.
59	KEY4	I	Key input (4).
60	KEY3	I	Key input (3).
61	KEY2	I	Key input (2).
62	KEY1	I	Key input (1).
63	TU - MUTE	O	Radio mute drive signal output.
64	TU - COUNT	I	Radio PLL data input.
65	TU - CLK	O	Radio PLL clock output.
66	TU - DATA	O	Radio PLL data output.
67	TU - CE	O	Radio PLL chip enable output.
68	NC	–	Not used (OPEN).
69	MD - SRXD	I	Communicate with MD and UART receive input.
70	MD - STXD	O	Communicate with MD and UART send output.
71	NC	–	Not used (OPEN).
72	NC	–	Not used (OPEN).
73	CD - XRST	O	CD system reset signal output.
74	CD - CLK	O	CD serial clock output.
75	CD - XLAT	O	CD system lack output.
76	CD - DATA	O	CD serial data output.
77	CD - SENSE1	I	CD SENSE 1 input.
78	CD - SCOR	I	CD SCOR input.
79	CD - SQSO	I	CD SUB Q data input.
80	CD - SHORT	I	CD POWER circuit short detection input.
81	CD - SQCK	O	CD SUB Q clock output.
82	CD - MUTE	O	CD system mute output.
83	CD - FOK	I	CD FOK input.
84	CD - SENSE2	I	CD SENSE 2 input.
85	RMC	I	Remote control signal input.
86	TEX	I	Real clock oscillation input (32.768kHz).
87	TX	O	Real clock oscillation output (32.768kHz).
88	VSS	–	Ground.
89	VDD	–	Power supply terminal.
90	NC	–	Not used (OPEN).
91	NC	–	Not used (OPEN).
92	NC	–	Not used (OPEN).
93	SPEED - L	O	Open/Close motor drive output.
94	AU - DATA	O	AUDIO data output.
95	AU - CLK	O	AUDIO clock output.
96	B/L - CONT	O	Back light ON/OFF control output.
97	PA - STANDBY	O	Power amplifier ON/Standby control output.
98	AMUTE	O	Audio mute signal output.
99	CD	O	CD function output.
100	P - CON	O	POWER ON/OFF control.

• BD BOARD IC121 digital signal processor, digital servo signal processor, EFM/ACIRC encoder/decoder, shock-proof memory controller, ATRAC encoder/decoder, 2Mbit DRAM (CXD2652AR)

Pin No.	Pin name	I/O	Description
1	MNT0(FOK)	O	FOK signal output to system control. H is outputted when in focus.
2	MNT1(SHCK)	O	Track-jump detection signal output to system control.
3	MNT2(XBUSY)	O	Monitor 2 output to system control.
4	MNT3(SLOC)	O	Monitor 3 output to system control.
5	SWDT	I	Write-data signal input from system control.
6	SCLK	I(S)	Serial clock signal input from system control.
7	XLAT	I(S)	Serial latch signal input from system control.
8	SRDT	O(3)	Read-data signal output to system control.
9	SENS	O(3)	Internal status (SENSE) output to system control.
10	XRST	I(S)	Reset signal input from system control. "L": Reset
11	SQSY	O	Subcode Q-SYNC (SCOR) output to system control. Majority of those which output "L" every 13.3 seconds output "H".
12	DQSY	O	Subcode of digital-in U-bit CD format to system control. Majority of those which outputs "L" every 13.3 seconds during output of Q-SYNG (SCOR) outputs "H".
13	RECP	I	Laser power switch input from system control "H": Record, "L": Playback.
14	XINT	O	Interrupt status output to system control.
15	TX	I	Record data output authorization input from system control.
16	OSCI	I	System clock input (512Fs = 22.5792MHz).
17	OSCO	O	System clock output (512FS = 22.5792MHz).
18	XTSL	I	Pin for system clock frequency setting . "L": 45.1584MHz "H": 22.5792MHz (Fixed at "H").
19	TEST G	-	Test terminal.
20	DVSS	-	Ground (digital system).
21	DIN	I	Digital audio input (for optical input).
22	DOUT	O	Digital audio output (for optical output).
23	ADDT	I	Data input from A/D converter.
24	DADT	O	Data output to D/A converter.
25	LRCK	O	LR clock output (44.1kHz) for A/D and D/A converters.
26	XBCK	O	Bit clock output (2.8224MHz) for A/D and D/A converters.
27	FS256	O	11.2896MHz clock output (unused).
28	DVDD	-	Power supply for digital (+3V).
29-32	A03-A00	O	DRAM address outputs.
33	A10	O	
34-38	A04-A08	O	
39	A11	O	
40	DVSS	-	Ground for digital.
41	XOE	O	DRAM output-enable output.
42	XCAS	O	DRAM CAS signal output.
43	A09	O	DRAM address output.
44	XRAS	O	DRAM RAS signal output.
45	XWE	O	DRAM write-enable signal output.
46	D1	I/O	DRAM data I/O.
47	D0	I/O	
48, 49	D2,D3	I/O	
50	MVCI	I(S)	Clock input from external VCO (Fixed at "L").

* In the I/O column, I(S) is Schmitt input, I(A) is analog input, O(3) is state output and O(A) is analog output.

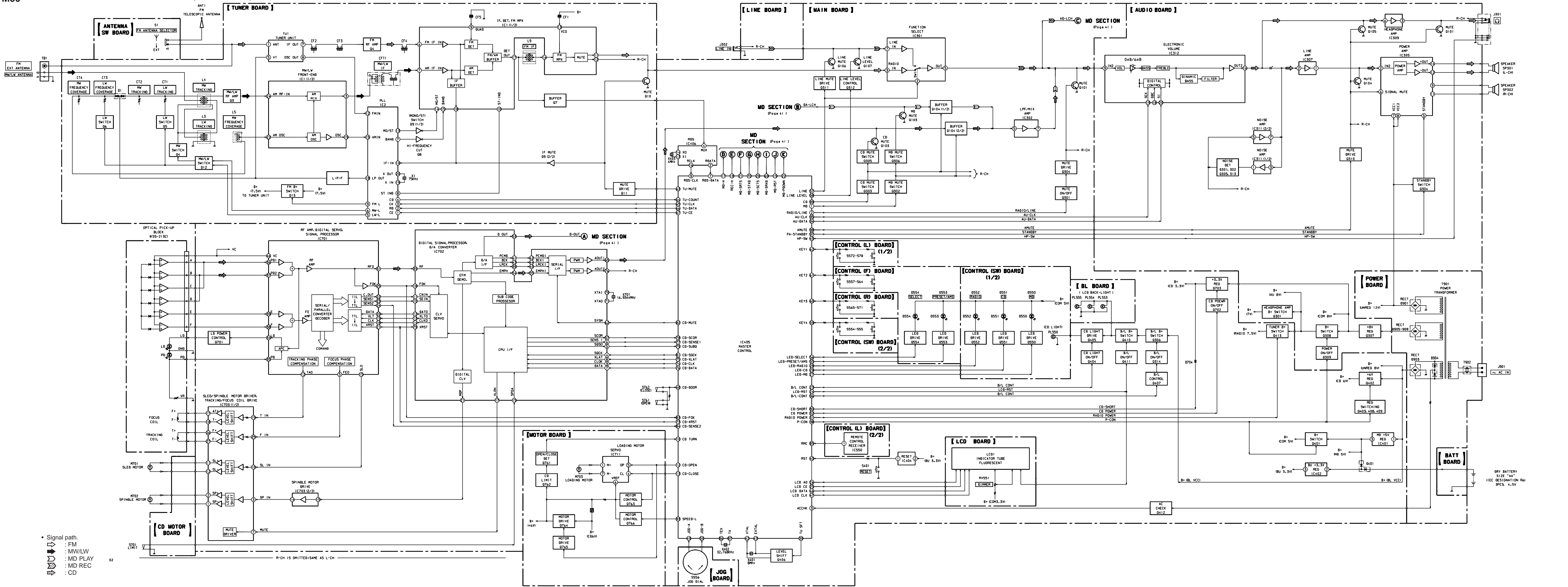
Pin No.	Pin name	I/O	Description
51	ASYO	O	Playback EFM duplex signal output.
52	ASYI	I(A)	Playback EFM comparator slice level input.
53	AVDD	-	Power supply for analog (+3V).
54	BIAS	I(A)	Playback EFM comparator bias current input.
55	RFI	I(A)	Playback EFM RF signal input.
56	AVSS	-	Ground for analog.
57	PDO	O(3)	Phase comparison output for clock playback analog PLL of playback EFM (not used).
58	PCO	O(3)	Phase comparison output for record/playback EFM system master PLL.
59	FILI	I(A)	Filter input for record/playback EFM system master PLL.
60	FILO	O(A)	Filter output for record/playback EFM system master PLL.
61	CLTV	I(A)	Internal VCO control voltage input for record/playback EFM system master PLL15.
62	PEAK	I(A)	Light volume signal peak hold input from CXA2523AR.
63	BOTM	I(A)	Light volume signal bottom hold input from CXA2523AR.
64	ABCD	I(A)	Light volume signal input from CXA2523AR.
65	FE	I(A)	Focus error signal input from CXA2523AR.
66	AUX1	I(A)	Auxiliary A/D input.
67	VC	I(A)	Midpoint voltage (+1.5V) input from CXA2523AR.
68	ADIO	O(A)	A/D converter input signal monitor output (not used).
69	AVDD	-	Power supply for analog (+3V).
70	ADRT	I(A)	A/D converter operating range upper limit voltage input (Fixed at "H").
71	ADRB	I(A)	A/D converter operating range lower limit voltage input (Fixed at "L").
72	AVSS	-	Ground for analog.
73	SE	I(A)	Thread error signal input from CXA2523AR.
74	TE	I(A)	Tracking error signal input from CXA2523AR.
75	AUX2	I(A)	Auxiliary A/D input (Fixed at "L").
76	DCHG	I(A)	Connected to +3V power supply.
77	APC	I(A)	Laser digital APC error signal input (Fixed at "L").
78	ADFG	I(S)	ADIP duplex FM signal input (22.05±1kHz) from CXA2523AR.
79	FOCNT	O	Filter f0 control output from CXA2523AR.
80	XLRF	O	Control latch output from CXA2523AR.
81	CKRF	O	Control clock output from CXA2523AR.
82	DTRF	O	Control data output from CXA2523AR.
83	APCREP	O	Laser APC reference PWM output.
84	LDDR	O	Laser digital APC PWM output (not used).
85	TRDR	O	Tracking servo drive PWM output (-).
86	TFDR	O	Tracking servo drive PWM output (+).
87	DVDD	-	Power supply for digital (+3V).
88	FFDR	O	Focus servo drive PWM output (+).
89	FRDR	O	Focus servo drive PWM output (-).
90	FS4	O	176.4kHz clock signal output (X'tal) (not used).
91	SRDR	O	Thread servo drive PWM output (-).
92	SFDR	O	Thread servo drive PWM output (+).
93	SPRD	O	Spindle servo drive PWM output (-).
94	SPFD	O	Spindle servo drive PWM output (+).
95	FGIN	I(S)	Spindle CAV servo FG input.
96-98	TEST1-TEST3	I	Test input pins (Fixed at "L").
99	DVSS	-	Ground for digital.
100	EFMO	O	EFM output during recording.

EFM : Eight to Fourteen Modulation
PLL : Phase Locked Loop
VCO : Voltage Controlled Oscillator

DG BOARD IC601 SYSYTEM CONTROL (RU8X12MF-0021)

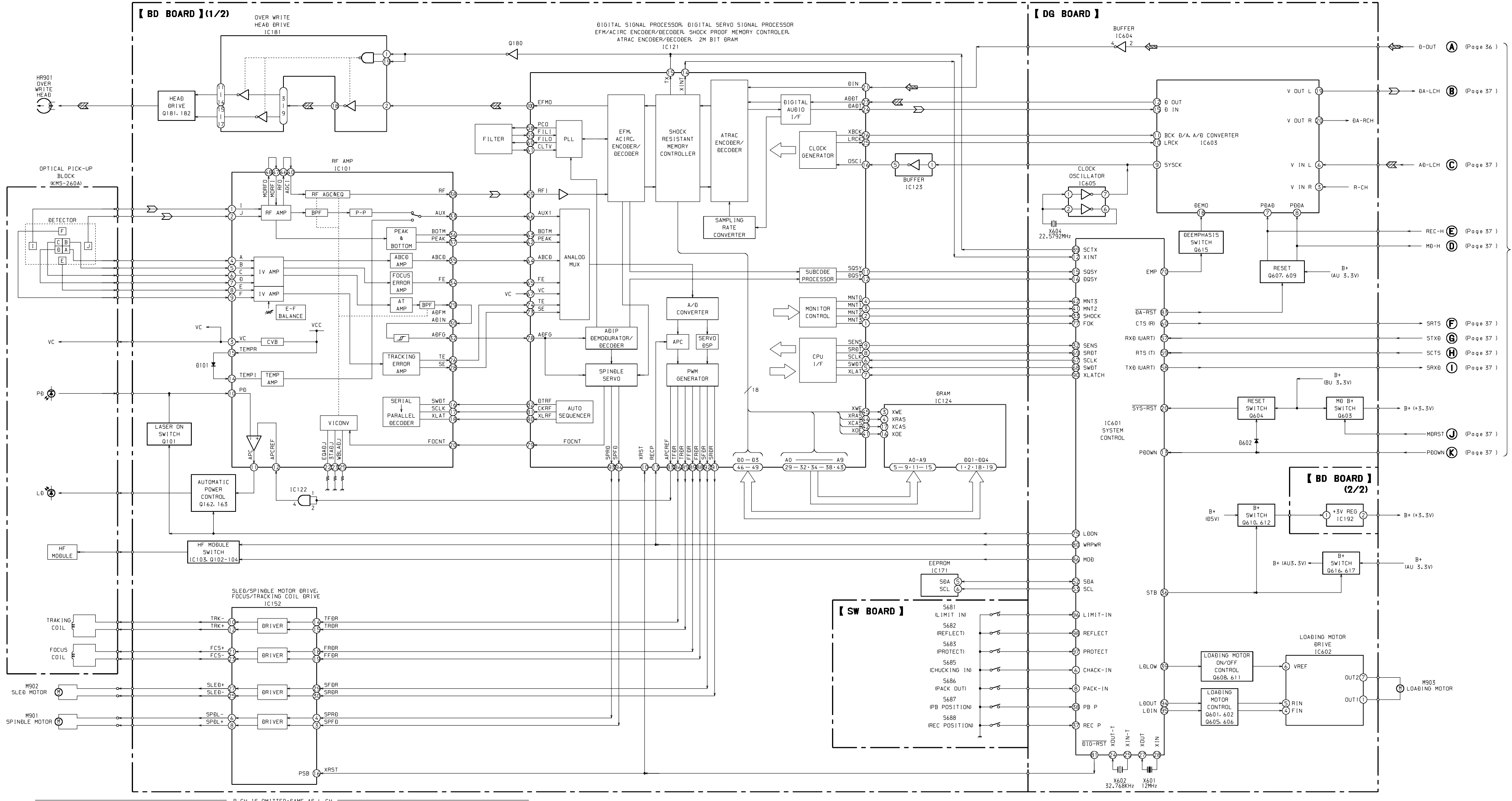
Pin No.	Pin name	I/O	Description
1	DAOUT0	-	not used (OPEN).
2	DAOUOT1	-	not used (OPEN).
3	KEY0	-	Reserved ("H" level).
4	KEY1	-	Reserved ("H" level).
5	KEY2	-	Reserved ("H" level).
6	CHACK IN	I	Detection input from chucking-in switch (S685).
7	PACK IN	I	Detection input from back-in switch (not used).
8	PACK OUT	I	Detection input from back-out switch (S686).
9		-	not used (ground connection).
10		-	not used (ground connection).
11	AVSS	-	ground for analog.
12	X INT	I	Interrupt status input from digital signal processor IC (IC121).
13	PDOWN	I	Power cutoff signal input from master control IC (IC801).
14		-	Reserved (ground connection).
15	SQSY	I	Subcode Q-SYNC (SCOR) input from digital signal processor IC (IC121).
16	DQSY	I	Digital-in U-bit format subcode input from digital signal processor IC (IC121).
17		-	Reserved (ground connection).
18		-	Reserved (ground connection).
19		-	Reserved (ground connection).
20	SYS-RST	I	System reset input pin "L": Reset.
21	TEST	I	Test mode pin "L": Normal mode, "H": Test mode.
22	+3.3V	-	Power supply terminal (VCC).
23	VBAT	I	Power supply pin for internal RTC and RAM.
24	XOUT-T	O	Sub-clock connector pin (32.768kHz).
25	XINT-T	I	Sub-clock connector pin (32.768kHz).
26	GND	-	Power supply terminal (ground).
27	XOUT	O	Main clock connector pin (12MHz).
28	XIN	I	Main clock connector pin (12MHz).
29	EXEM	I	Switch pin for External ROM mode and Internal ROM mode.
30	S1	-	not used (OPEN).
31		-	Reserved (ground connection).
32	SENS	I	Internal status (SENSE) input from digital signal processor IC (IC121).
33	SHOCK	I	Track-jump detection signal input from digital signal processor IC (IC121).
34		-	Reserved (ground connection).
35		-	Reserved (ground connection).
36	STB	O	Power ON/OFF control signal output.
37	REC P	I	Detection input from REC switch (S688).
38	PB P	I	Detection input from PB switch (S687).
39	LD LOW	O	Loading motor control signal output.
40	NC	-	not used (OPEN).
41	MNT2	I	Monitor 2 input from digital signal processor IC (IC121).
42	MNT3	I	Monitor 3 input from digital signal processor IC (IC121).
43	LEDO	-	not used (OPEN).
44		-	Reserved (ground connection).
45		-	Reserved (ground connection).
46	RST LOW	-	not used (OPEN).
47	GND	-	Power supply terminal (ground).
48	+3.3V	-	Power supply terminal (VCC).
49	SNG/CHG	-	Reserved (ground connection).
50	JOG1	-	Reserved (ground connection).

Pin No.	Pin name	I/O	Description
51	JOG0	-	Reserved (ground connection).
52	SDA	I/O	Serial data I/O with EEPROM (IC171).
53	SCL	O	Serial clock output to EEPROM (IC171).
54	2M/4M	-	Reserved ("H" level).
55		-	Reserved (ground connection).
56		-	Reserved (ground connection).
57	RXD (UART)	O	Communication with master control IC (IC801) and UART receive output.
58	TXD (UART)	I	Communication with master control IC (IC801) and UART send input.
59	RTS (T)	I	UART send request input from master control IC (IC801).
60	CTS (R)	O	UART send request output to master control IC (IC801).
61	AUBIT0	-	Reserved ("H" level).
62	AUBIT1	-	Reserved (ground connection).
63	CLKSET0	-	Reserved (ground connection).
64	CLKSET1	-	Reserved (ground connection).
65	GND	-	Power supply pin (ground).
66	+3.3V	-	power supply pin (VCC).
67	SCLK	O	Serial clock output to digital signal processor IC (IC201).
68	SWDT	O	Write data signal output to digital signal processor IC (IC121).
69	SRDT	I	Read data signal input from digital signal processor IC (IC121).
70	EMP	O	Delmphasis ON/OFF control signal output.
71	SCK1	-	not used (OPEN).
72	SOUT1	-	not used (OPEN).
73	SIN1	-	not used (OPEN).
74	CSB	-	Reserved (VCC connection).
75	LDON	O	Laser ON/OFF control signal output.
76	PIT/GRV	-	not used (OPEN).
77	FOK	I	Focus OK signal input from digital signal processor IC (IC121).
78		-	not used (OPEN).
79	LOCK	-	not used (OPEN).
80	WRPWR	O	Laser power switch signal output to digital signal processor IC (IC121).
81	DIG-RST	O	Reset signal output.
82		-	not used (OPEN).
83	DA-RST	O	Reset signal output to D/A and A/D converters "L": reset.
84	DSEL-A	-	not used (OPEN).
85	DSEL-B	-	not used (OPEN).
86	MOD	O	MD module ON/OFF control signal output.
87	REC/PB	-	not used (OPEN).
88		-	not used (OPEN).
89	SCTX	O	Record data output authorization signal output.
90	XLATCH	O	Serial latch signal output to digital signal processor IC (IC121).
91		-	not used (OPEN).
92		-	not used (OPEN).
93	AMUTE	-	not used (OPEN).
94	LD OUT	O	Loading motor F control signal output.
95	LD IN	O	Loading motor F control signal output.
96	LIMIT IN	I	Detection input from limit switch (S681).
97	PROTECT	I	Record tab detection input from disk write-protect switch (S683).
98	REFLECT	I	Disk reflection rate detection input from reflect switch (S682).
99	GND	-	Power supply terminal (ground).
100	+3.3V	-	Power supply terminal (VCC).

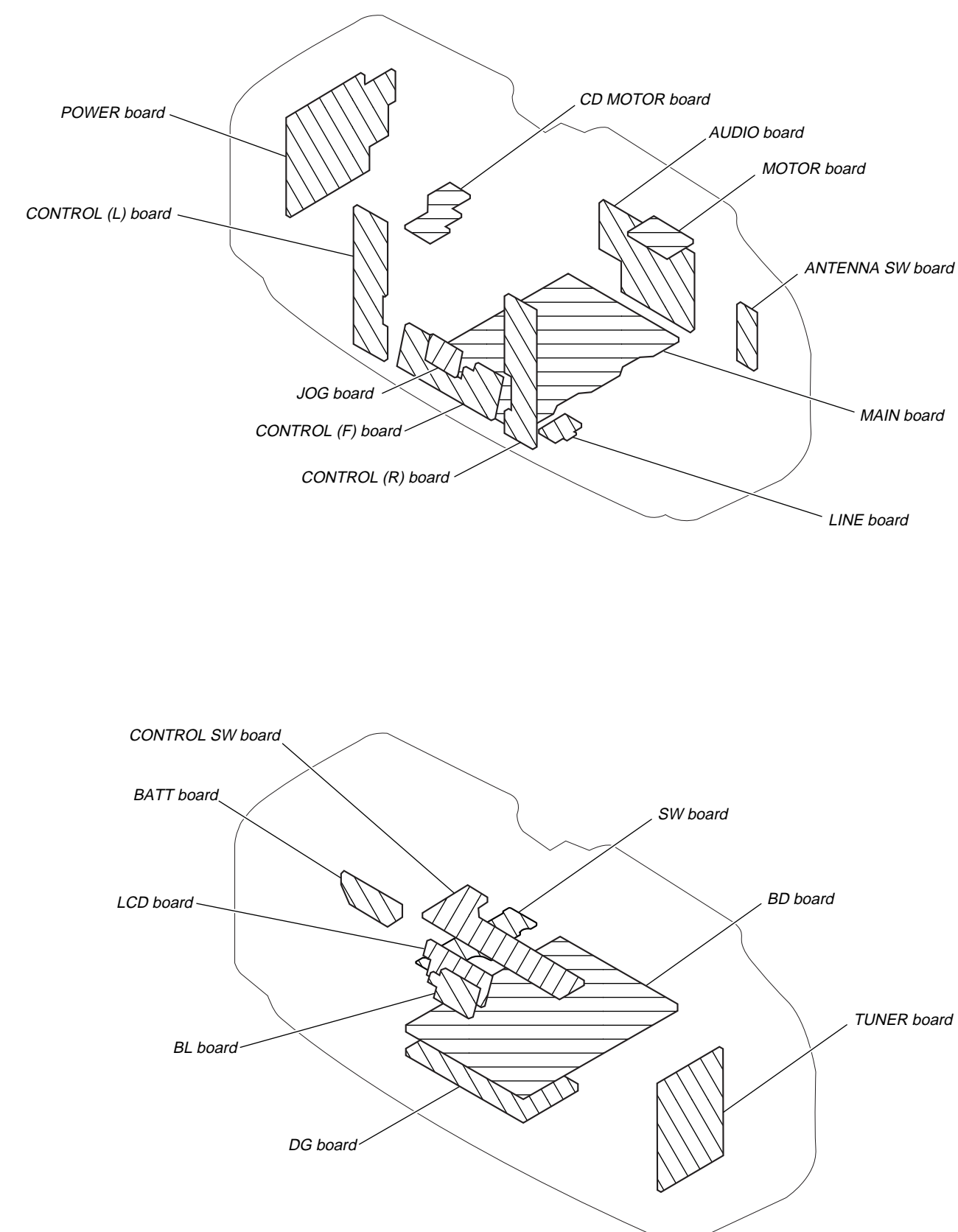


• Signal path.
 — FM
 - - - MW/LW
 ····· MD PLAY
 - - - MD REC
 — CD

6-3. BLOCK DIAGRAM (MD SECTION)



● Circuit Boards Location

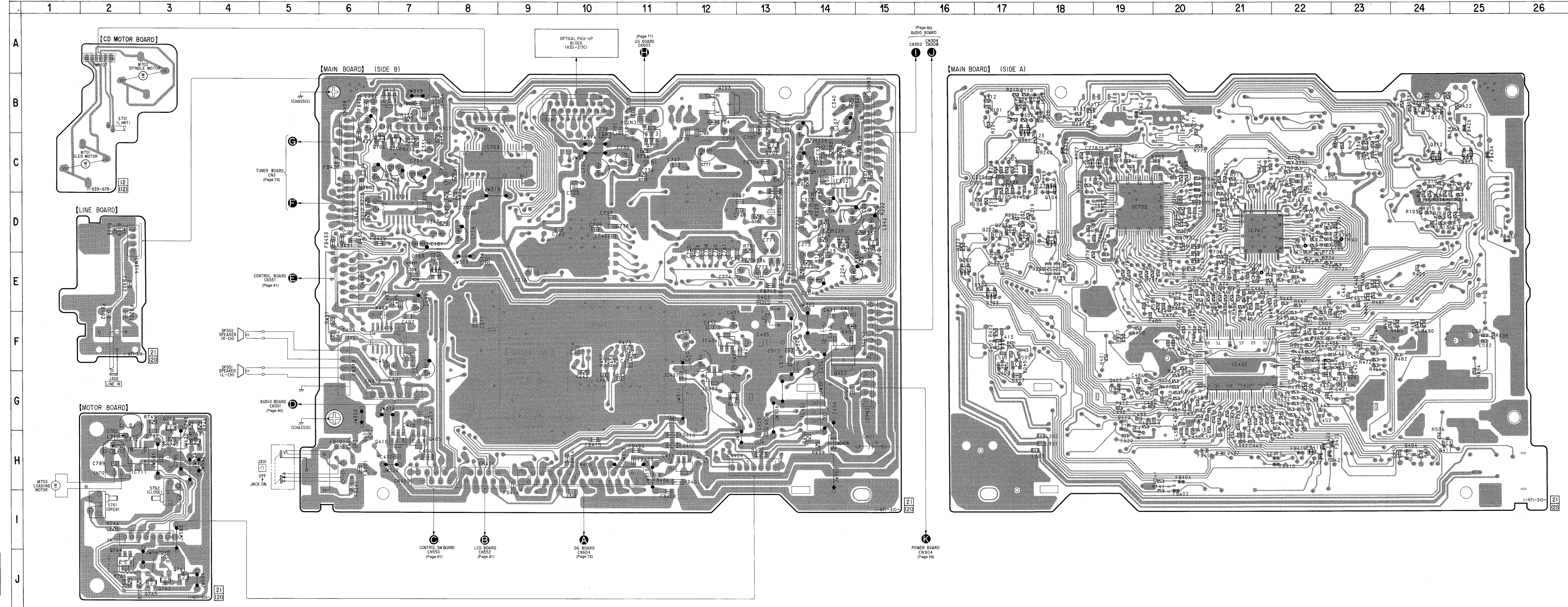


● Signal path.
 [Symbol] : MD PLAY
 [Symbol] : MD REC
 [Symbol] : CD

6-4. PRINTED WIRING BOARDS – MAIN SECTION – • Refer to page 42 for Circuit Boards Location.

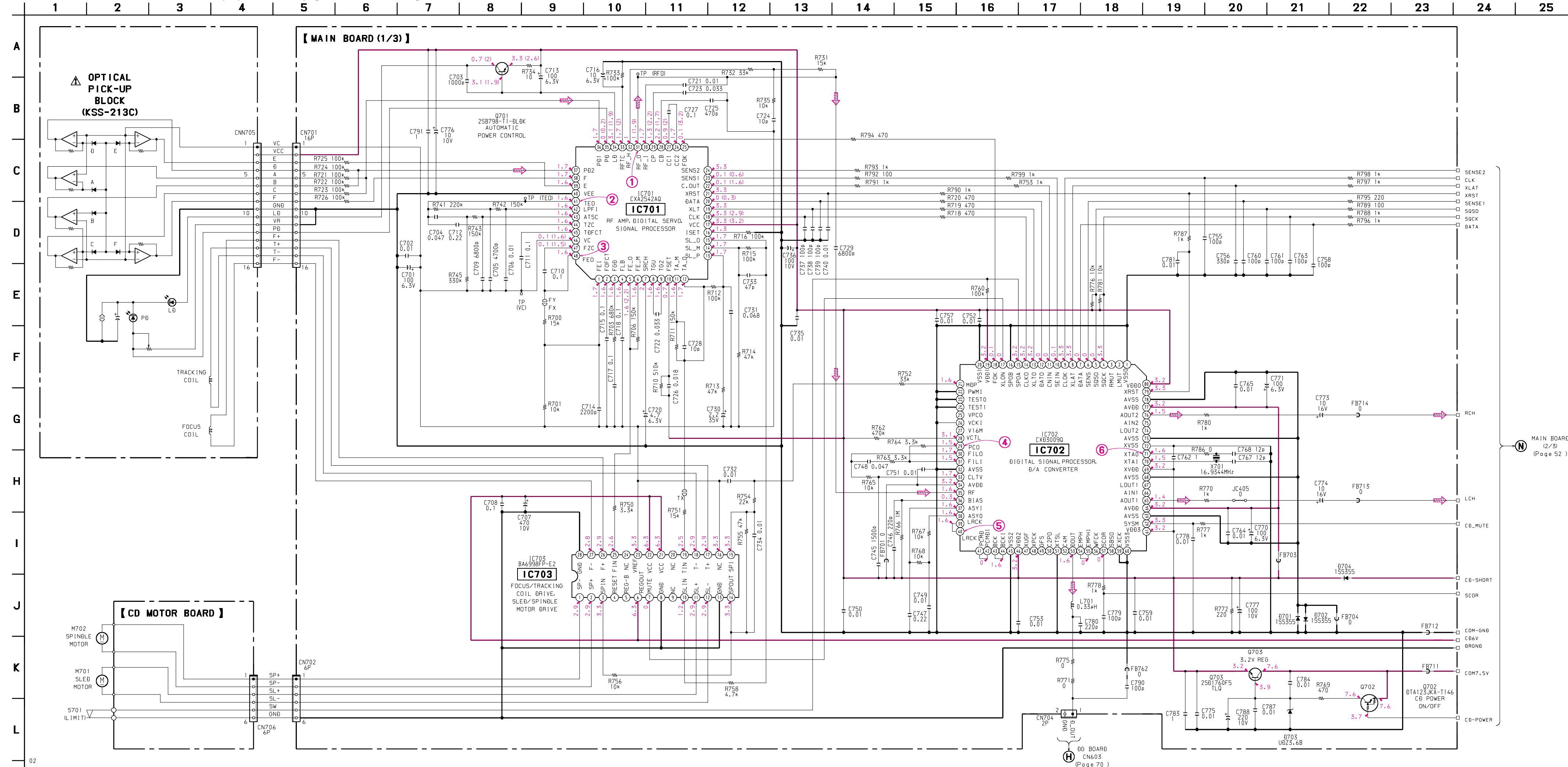
• Semiconductor Location

Ref. No.	Location	Ref. No.	Location
D308	D-2	Q203	D-17
D309	D-2	Q204	D-18
D401	G-12		
D402	F-14	Q206	C-7
D405	H-6	Q207	B-24
		Q301	B-17
D406	H-6	Q302	E-16
D407	G-17	Q303	E-17
D701	C-18		
D702	C-19	Q304	B-17
D703	B-13	Q305	D-14
		Q306	D-15
D704	B-12	Q311	C-25
D761	H-2	Q312	C-24
D762	H-2		
		Q401	E-7
		Q402	F-14
IC301	D-7	Q403	F-17
IC302	C-14	Q404	H-24
IC401	G-12	Q405	H-7
IC402	G-12		
IC403	H-12	Q406	F-22
		Q407	G-19
IC404	F-12	Q408	F-17
IC405	F-21	Q409	F-17
IC701	D-21	Q410	H-7
IC702	D-19		
IC703	C-8	Q411	H-24
		Q412	G-19
IC711	H-2	Q413	B-7
		Q701	C-11
		Q702	C-13
Q101	B-18	Q703	B-12
Q103	D-17	Q761	J-3
Q104	C-18	Q762	J-3
Q106	C-6	Q763	H-3
		Q764	J-2
Q107	B-24		
Q201	B-18	Q765	J-3
Q202	D-17	Q766	G-3

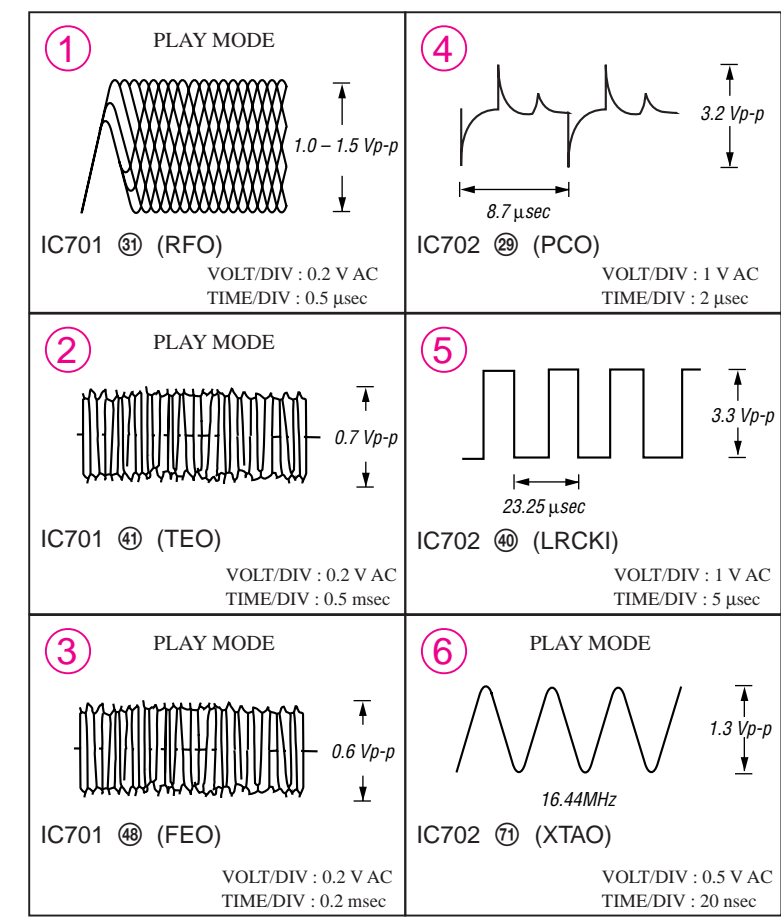


Note:
 • : parts extracted from the component side.
 ○ : Through hole.
 • : Pattern from the side which enables seeing.
 (The other layers' patterns are not indicated.)

Caution:
 Pattern face side: Parts on the pattern face side seen from the pattern face are indicated.
 Parts face side: Parts on the parts face side seen from the parts face are indicated.



Waveforms – Main Section (1/3) –

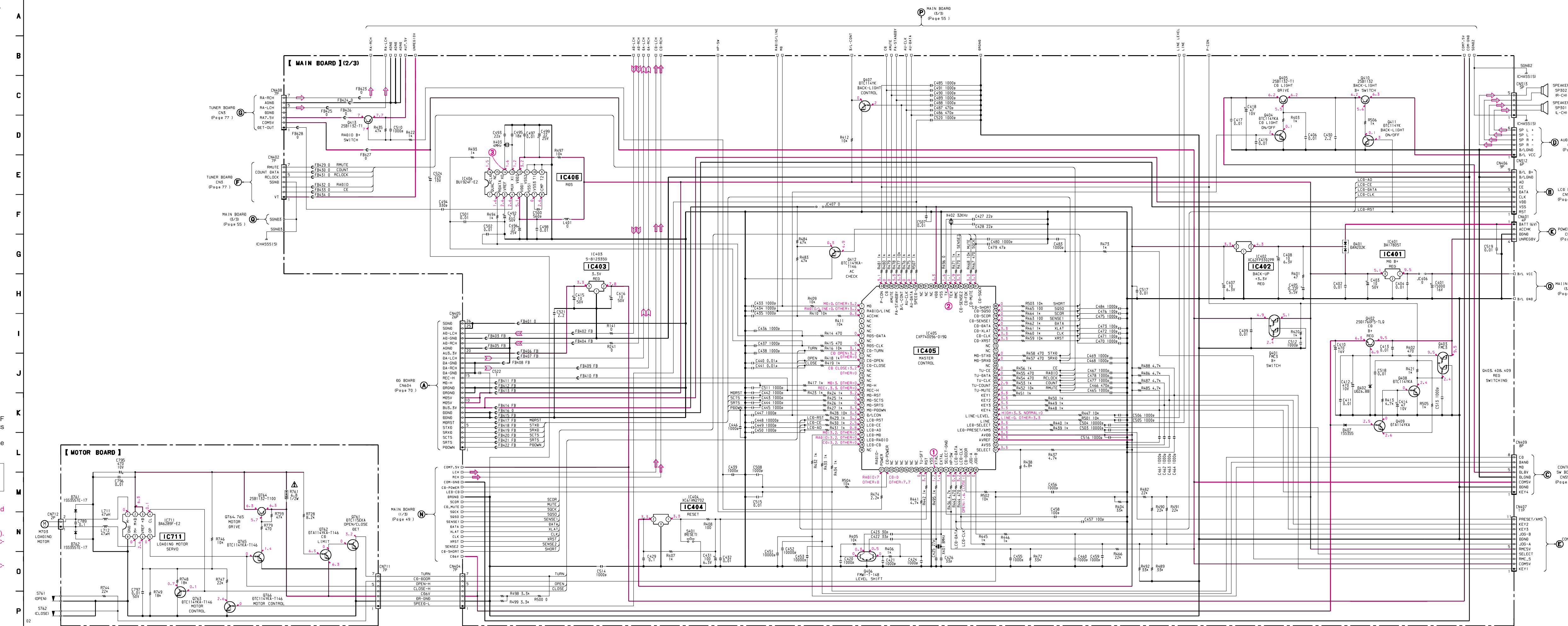
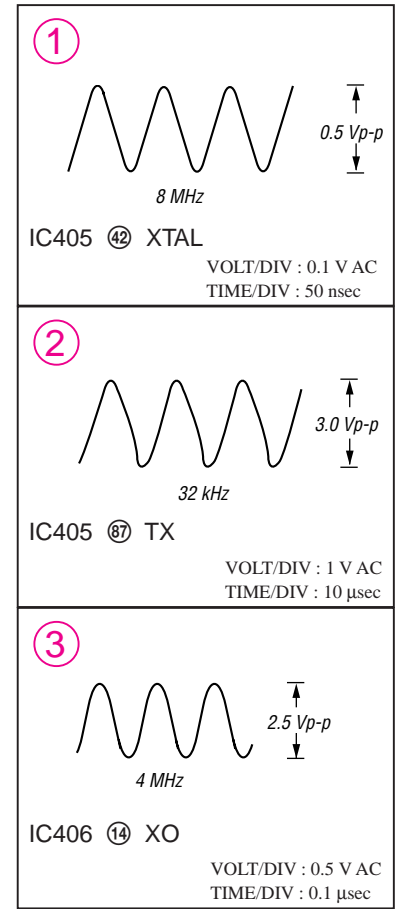


Note:
 • All capacitors are in μF unless otherwise noted. pF : μF
 50 WV or less are not indicated except for electrolytics and tantalums.
 • All resistors are in Ω and $1/4\text{W}$ or less unless otherwise specified.
Note: The components identified by mark Δ or dotted line with mark Δ are critical for safety. Replace only with part number specified.

• — : B+ Line.
 • Voltages and waveforms are dc with respect to ground under no-signal conditions.
 no mark : CD STOP
 () : CD PLAY
 • Voltages are taken with a VOM (Input impedance 10 M Ω). Voltage variations may be noted due to normal production tolerances.
 • Waveforms are taken with an oscilloscope.
 • Circled numbers refer to waveforms.
 • Signal path.
 \Rightarrow : CD

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39

Waveforms – Main Section (2/3)



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 $\frac{1}{4}W$ or less unless otherwise specified.
- \triangle : fusible resistor.

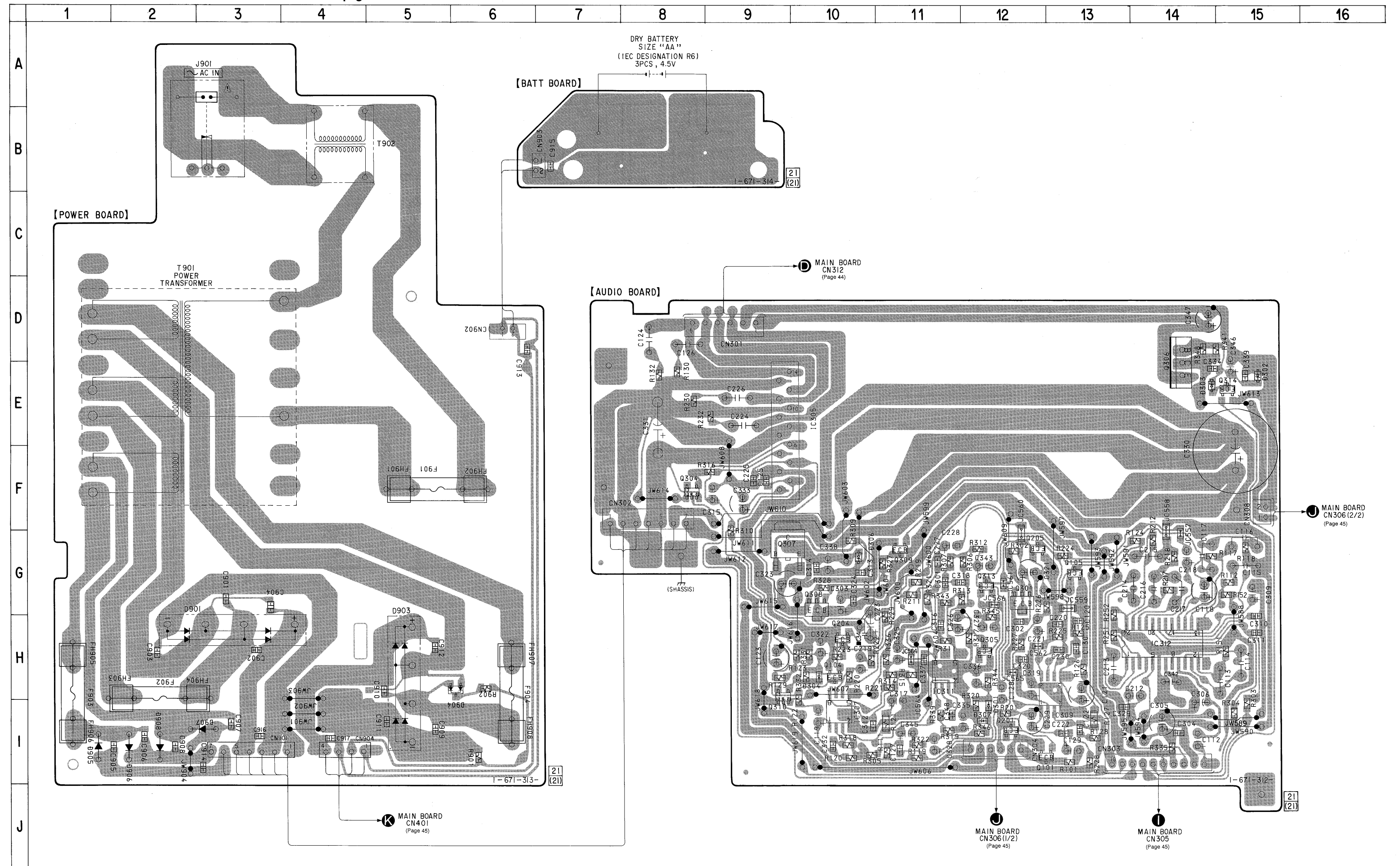
Note: The components identified by mark \triangle or dotted line with mark \triangle are critical for safety. Replace only with part number specified.

- --- : B+ Line.
- Voltages and waveforms are dc with respect to ground under no-signal conditions. no mark : FM
- Voltages are taken with a VOM (Input impedance 10 M Ω). Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken with an oscilloscope. Voltage variations may be noted due to normal production tolerances.
- Circled numbers refer to waveforms.
- Signal path.
- \rightarrow : FM
- \rightarrow : MD PLAY
- \rightarrow : MD REC
- \rightarrow : CD

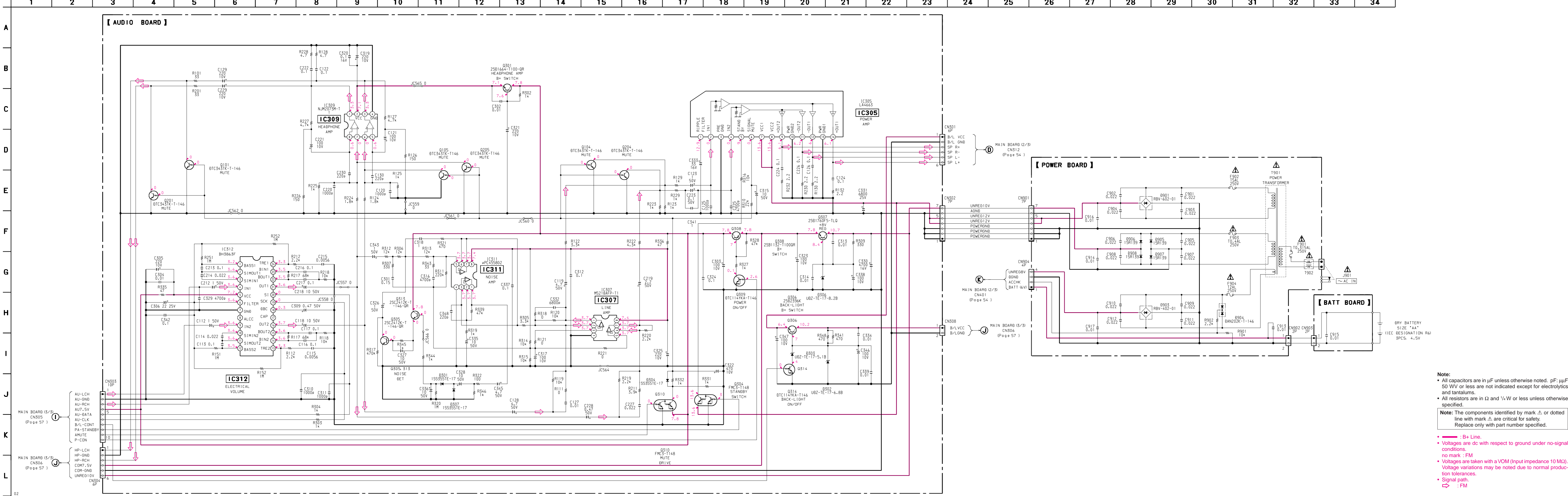
6-8. PRINTED WIRING BOARDS – AUDIO SECTION – • Refer to page 42 for Circuit Boards Location.

• Semiconductor Location

Ref. No.	Location
D301	I-12
D302	E-15
D303	E-14
D304	H-10
D306	G-10
D307	I-12
D901	H-2
D903	H-5
D904	H-5
D905	I-1
D906	I-2
D907	I-3
D908	I-2
IC305	E-9
IC307	I-10
IC309	H-13
IC311	H-11
IC312	H-14
Q101	I-12
Q104	H-10
Q105	G-13
Q201	I-12
Q204	H-10
Q205	G-12
Q301	G-12
Q304	F-8
Q305	H-12
Q306	D-14
Q307	G-9
Q308	G-10
Q309	G-11
Q310	H-9
Q313	G-12
Q314	E-15



Note:
 • : parts extracted from the component side.
 • : Pattern from the side which enables seeing.
 (The other layers' patterns are not indicated.)

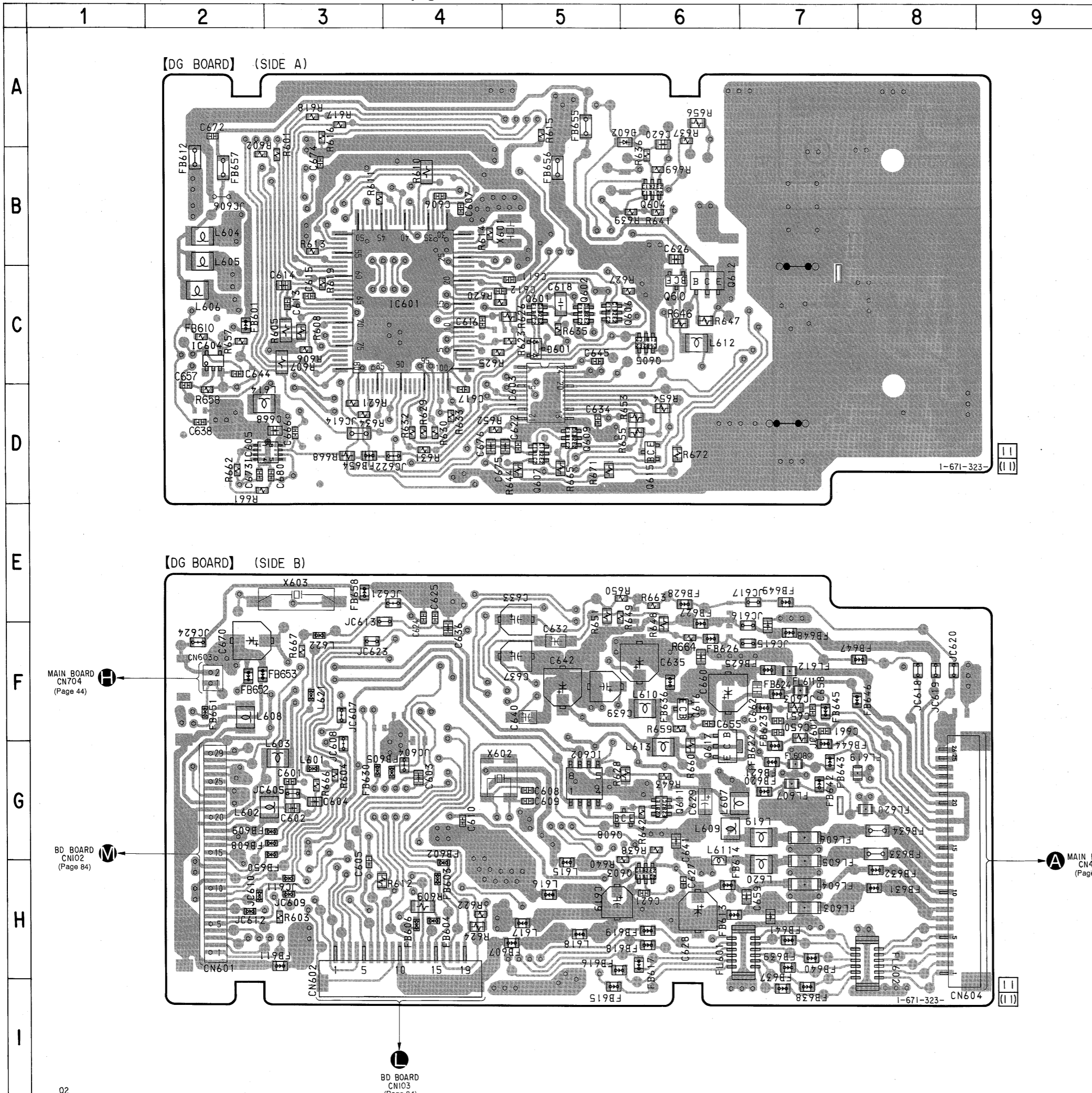


Note:

- 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 $1/4\text{W}$ or less unless otherwise specified.

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

- : B+ Line.
- ⊕ : Voltages are dc with respect to ground under no-signal conditions. no mark : FM
- ⊖ : Voltages are taken with a VOM (Input impedance 10 M Ω). Voltage variations may be noted due to normal production tolerances.
- ⊙ : Signal path.
- ↔ : FM



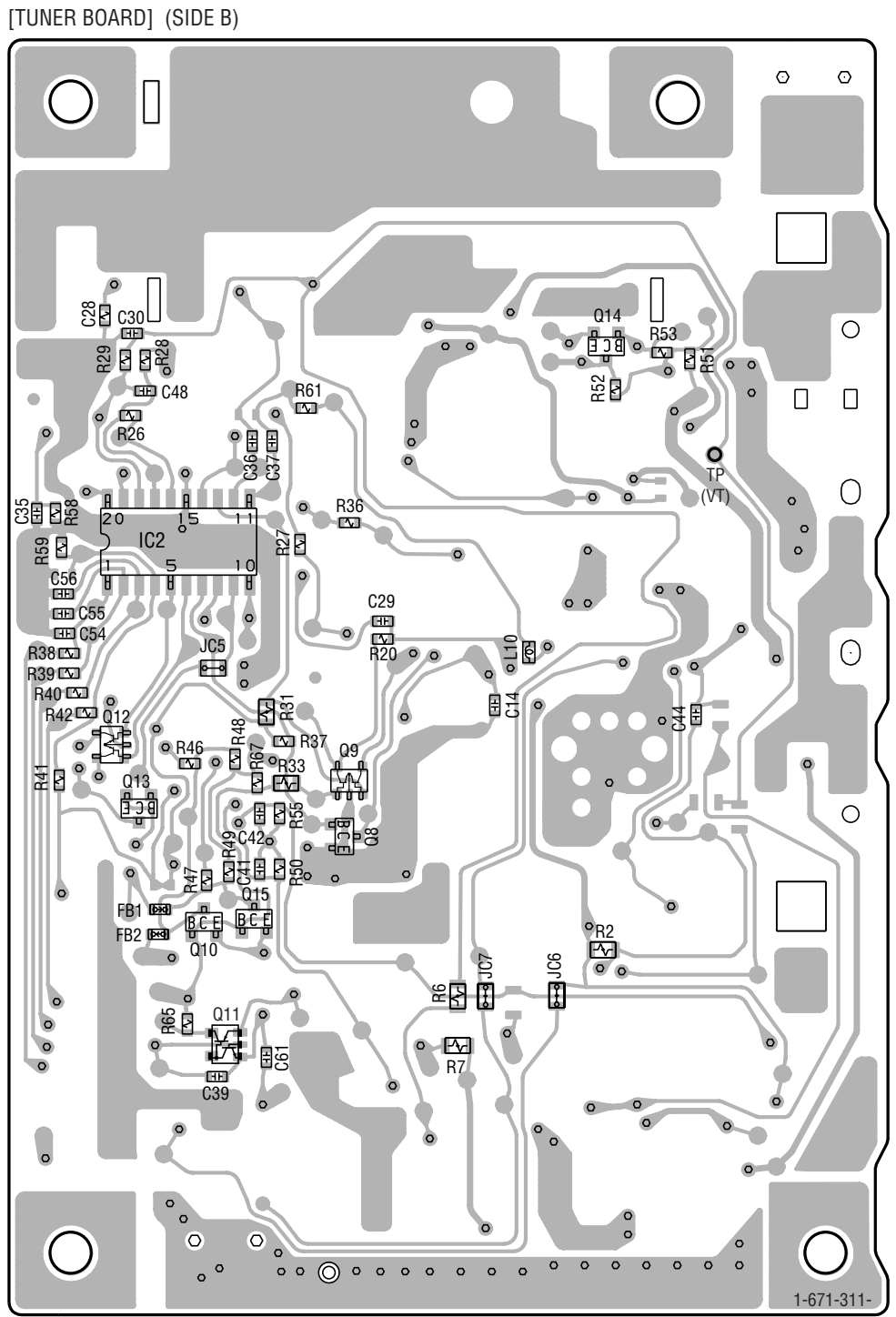
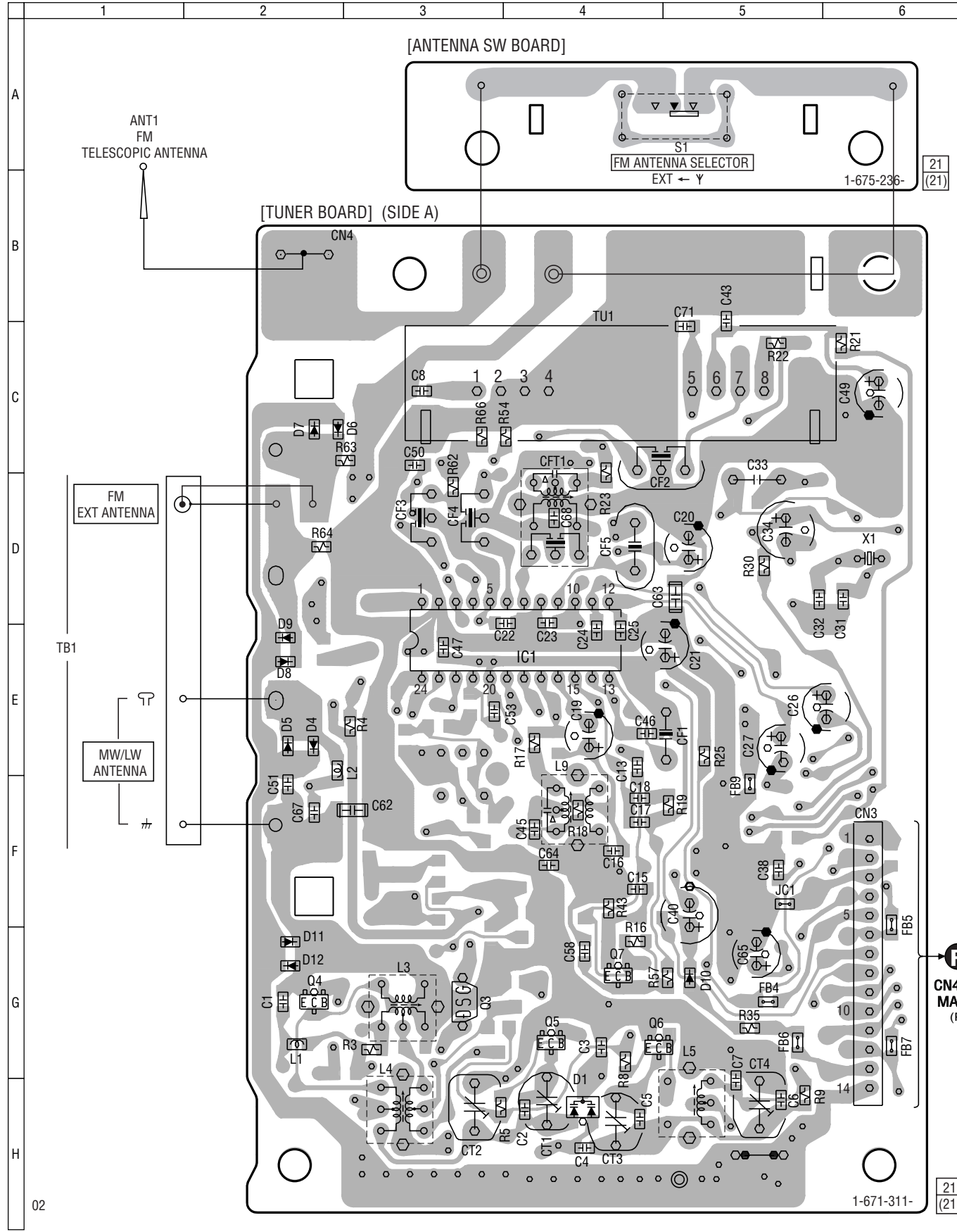
• Semiconductor Location

Ref. No.	Location
D601	C-5
D602	A-6
IC601	C-4
IC602	G-5
IC603	D-5
IC604	C-2
IC605	D-2
Q601	C-5
Q602	C-5
Q603	H-6
Q604	B-6
Q605	C-6
Q606	C-5
Q607	D-5
Q608	G-5
Q609	D-5
Q610	C-6
Q611	G-6
Q612	C-6
Q615	D-6
Q616	F-6
Q617	G-6

Note:
 • ○ : parts extracted from the component side.
 • ○ : Through hole.
 • [Pattern] : Pattern from the side which enables seeing. (The other layers' patterns are not indicated.)

Caution:
 Pattern face side: Parts on the pattern face side seen from the pattern face are indicated.
 Parts face side: Parts on the parts face side seen from the parts face are indicated.

6-12. PRINTED WIRING BOARDS – TUNER SECTION – • Refer to page 42 for Circuit Boards Location.



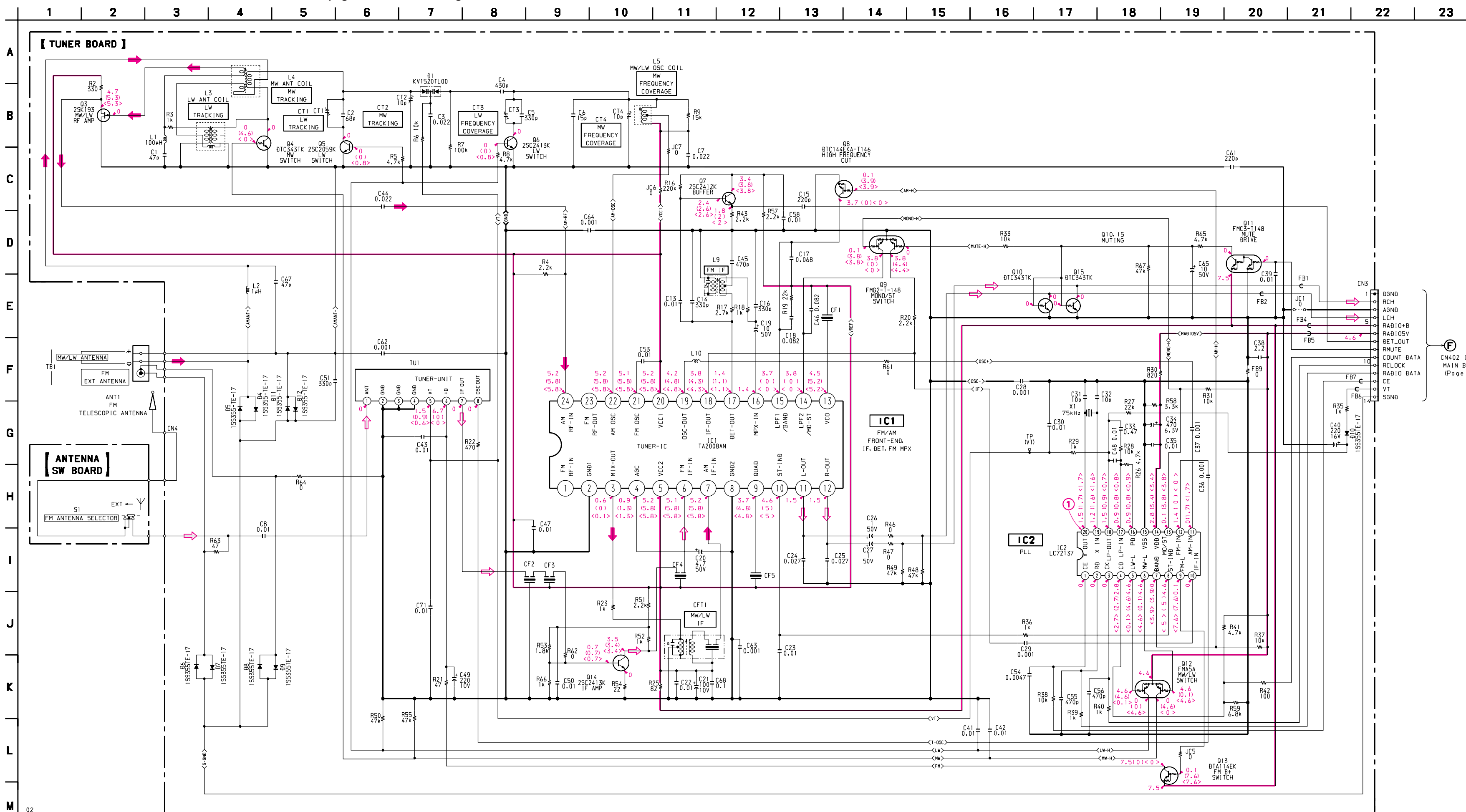
• Semiconductor Location

Ref. No.	Location
D1	H-4
D4	E-2
D5	E-2
D6	C-2
D7	C-2
D8	E-2
D9	E-2
D10	G-5
D11	G-2
D12	G-2
IC1	E-4
IC2	D-8
Q3	G-3
Q4	G-2
Q5	G-4
Q6	G-4
Q7	G-4
Q8	F-9
Q9	F-9
Q10	F-8
Q11	G-8
Q12	E-8
Q13	F-8
Q14	C-10
Q15	F-8

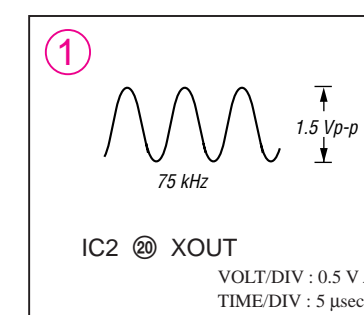
Note:
 • — : parts extracted from the component side.
 • ○ : Through hole.
 • [Pattern] : Pattern from the side which enables seeing.
 (The other layers' patterns are not indicated.)

Caution:
 Pattern face side: Parts on the pattern face side seen from the pattern face are indicated.
 Parts face side: Parts on the parts face side seen from the parts face are indicated.

6-13. SCHEMATIC DIAGRAM – TUNER SECTION – • Refer to page 94 for IC Block Diagrams.



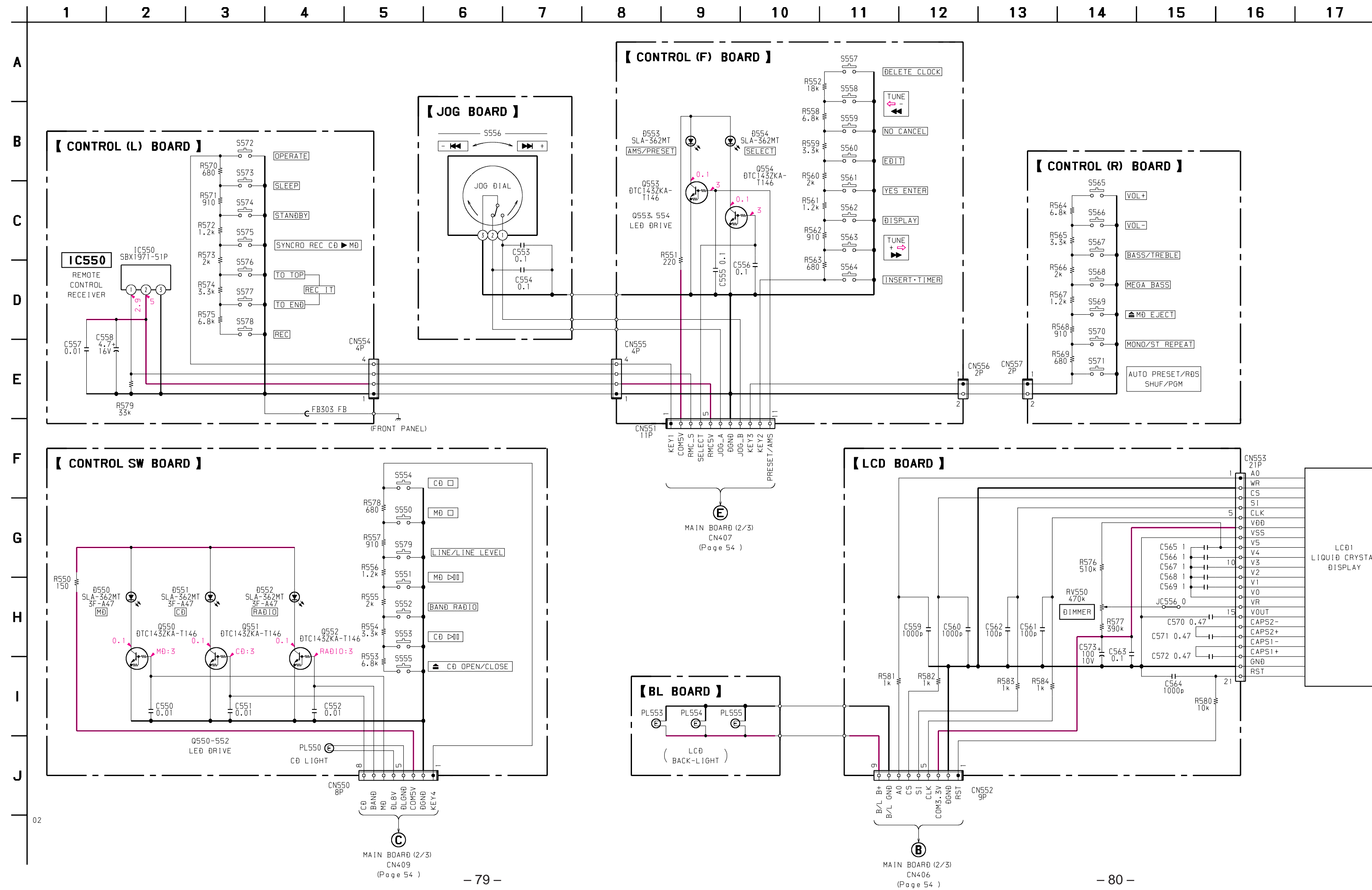
• Waveform – Tuner Section –



Note:

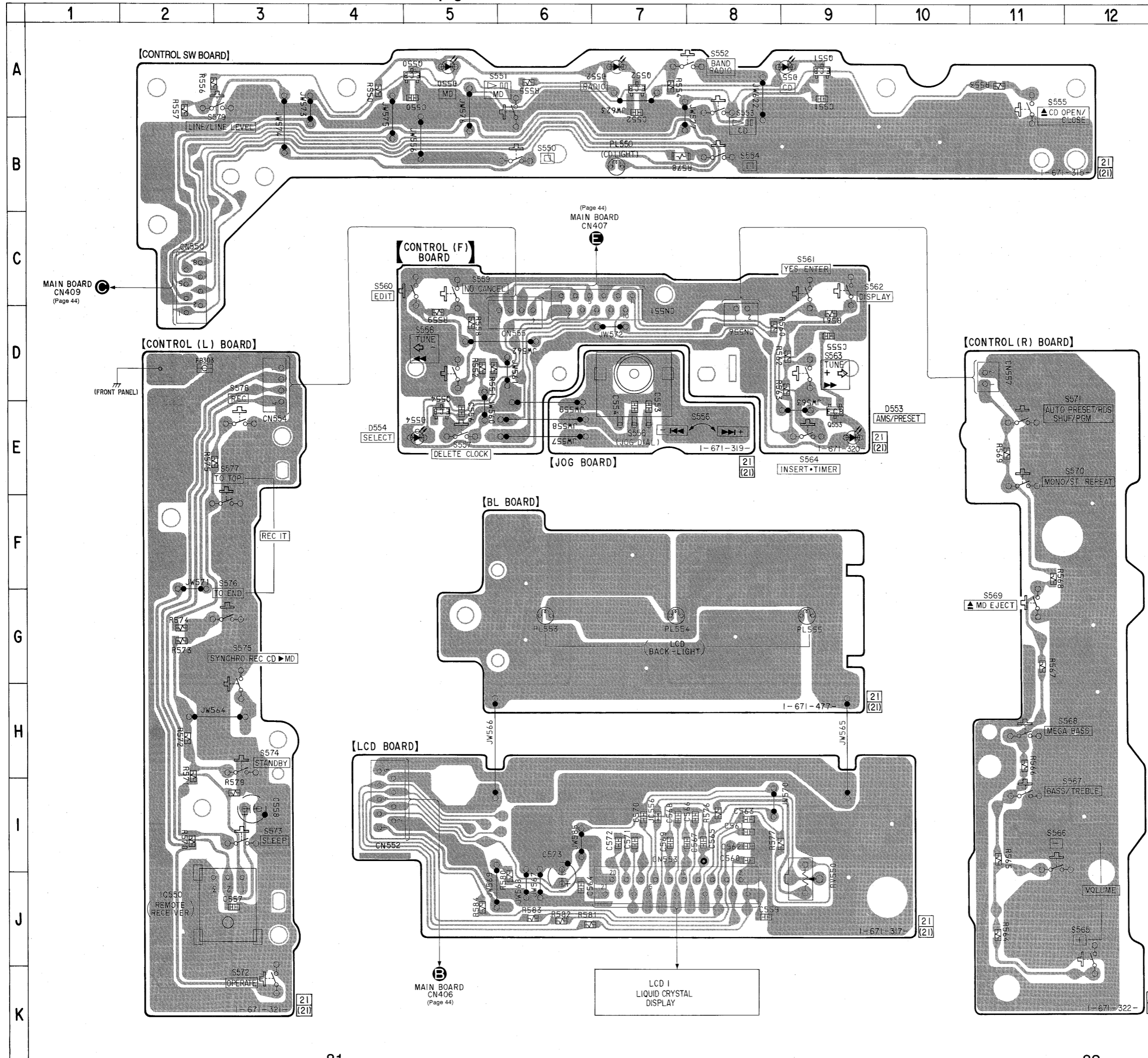
- All capacitors are in μF unless otherwise noted. pF : μF 50 WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and $1/4\text{W}$ or less unless otherwise specified.
- Δ : internal component.
- \square : B+ Line.
- \square : adjustment for repair.
- Voltages and waveforms are dc with respect to ground under no-signal (detuned) conditions.
- no mark : FM
- () : MW
- < > : LW
- Voltages are taken with a VOM (Input impedance 10 M Ω). Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken with an oscilloscope.
- Circled numbers refer to waveforms.
- Signal path.
- \rightarrow : FM
- \rightarrow : MW/LW

Ⓕ Ⓖ
CN402 CN408
MAIN BOARD
(Page 51)



Note:

- All capacitors are in μF unless otherwise noted. pF: μF F 50 WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and $1/4\text{W}$ or less unless otherwise specified.
- : B+ Line.
- : adjustment for repair.
- Voltages are dc with respect to ground under no-signal conditions.
- no mark : FM
- Voltages are taken with a VOM (Input impedance 10 M Ω). Voltage variations may be noted due to normal production tolerances.



• Semiconductor Location

Ref. No.	Location
D550	A-5
D551	A-9
D552	A-7
D553	E-9
D554	E-5
IC550	J-3
Q550	A-5
Q551	A-9
Q552	A-7
Q553	E-9
Q554	E-5

Note:
 • ○ : parts extracted from the component side.
 • ▨ : Pattern from the side which enables seeing.
 (The other layers' patterns are not indicated.)

● Semiconductor Location

Ref. No.	Location
D101	E-4
D181	C-9
D183	C-9
IC101	E-13
IC103	B-13
IC121	D-11
IC122	C-5
IC123	D-10
IC124	E-11
IC152	B-11
IC171	E-9
IC181	D-9
IC192	F-7
Q101	C-13
Q102	B-14
Q103	B-13
Q104	B-13
Q162	B-13
Q163	B-14
Q180	C-7
Q181	C-9
Q182	C-9

Note on Printed Wiring Boards:

Note:

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

Caution:

Pattern face side: Parts on the pattern face side seen from the (Side B)

Parts face side: Parts on the parts face side seen from the (Side A)

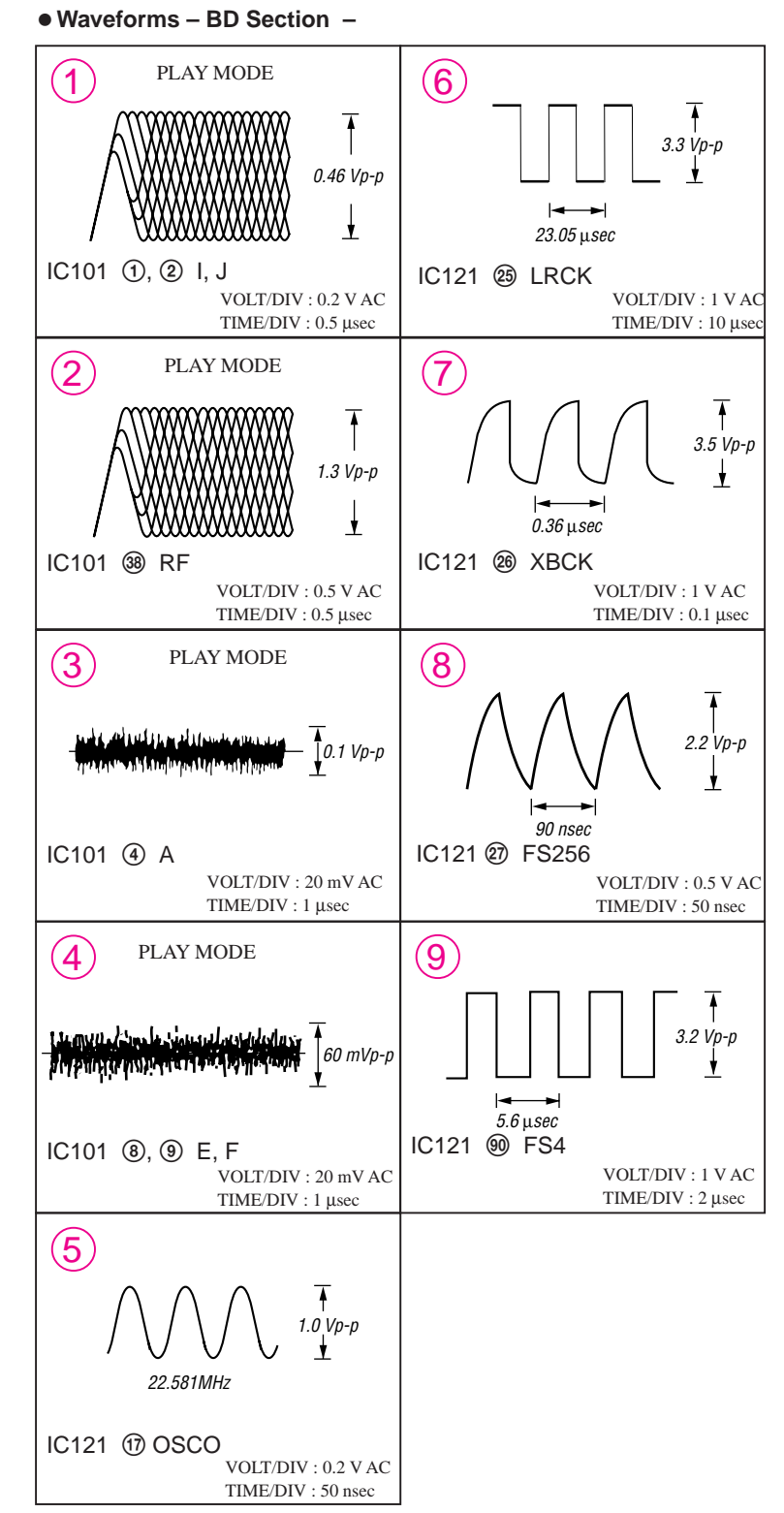
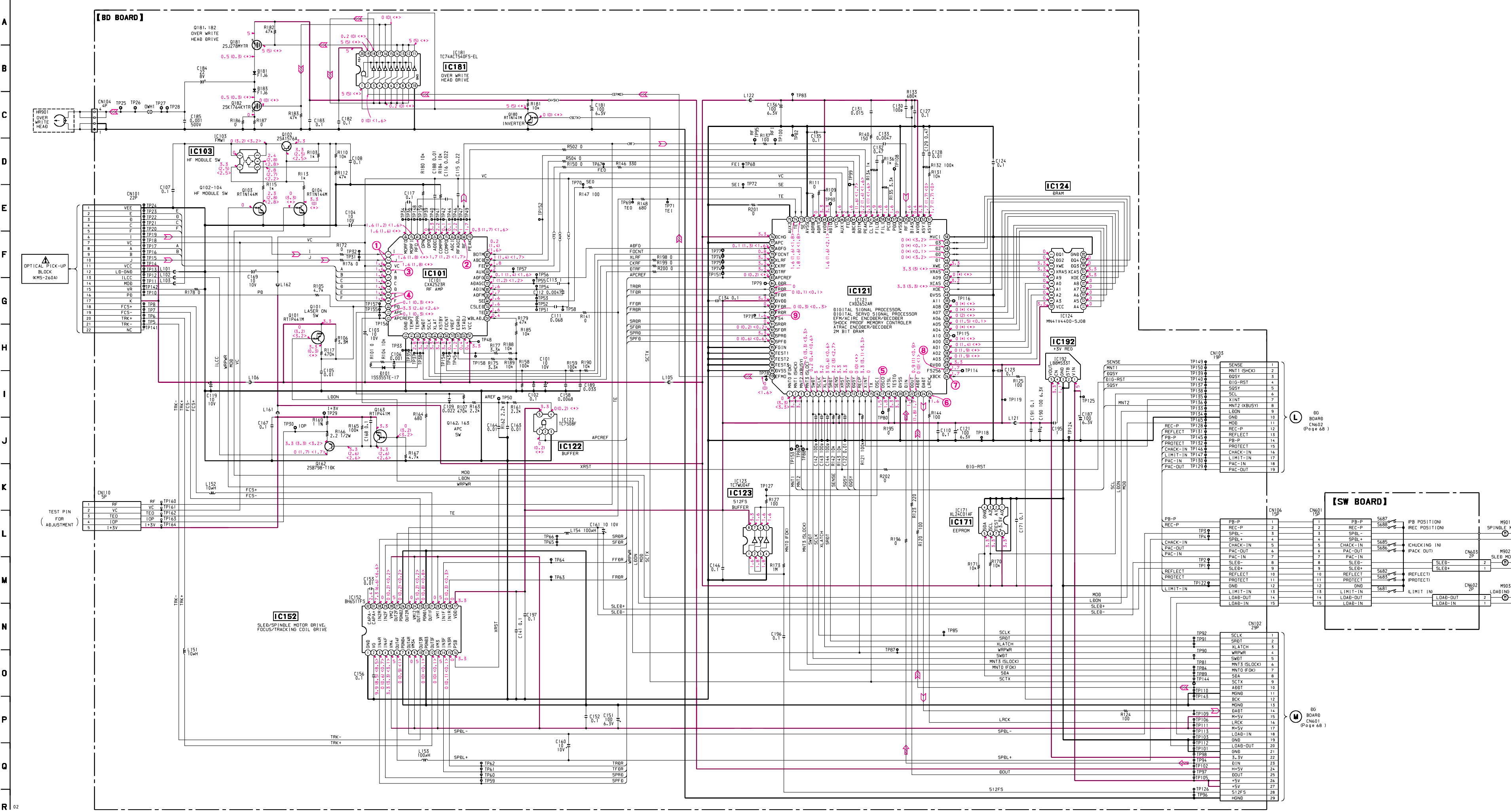
Note on Schematic Diagram:

Note:

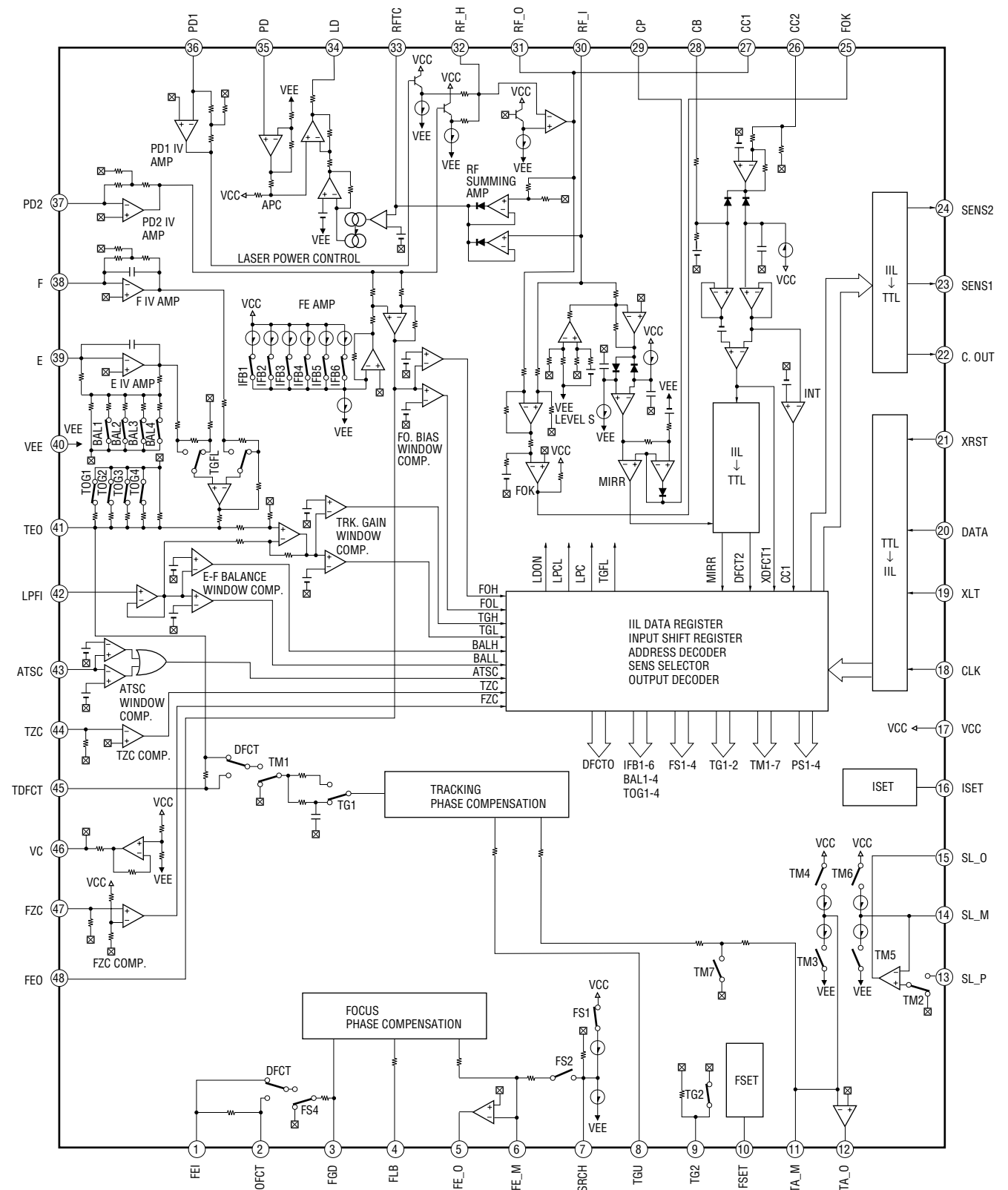
- All capacitors are in μF unless otherwise noted. pF : μF 50 WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and $1/4\text{W}$ or less unless otherwise specified.
- % : indicates tolerance.

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

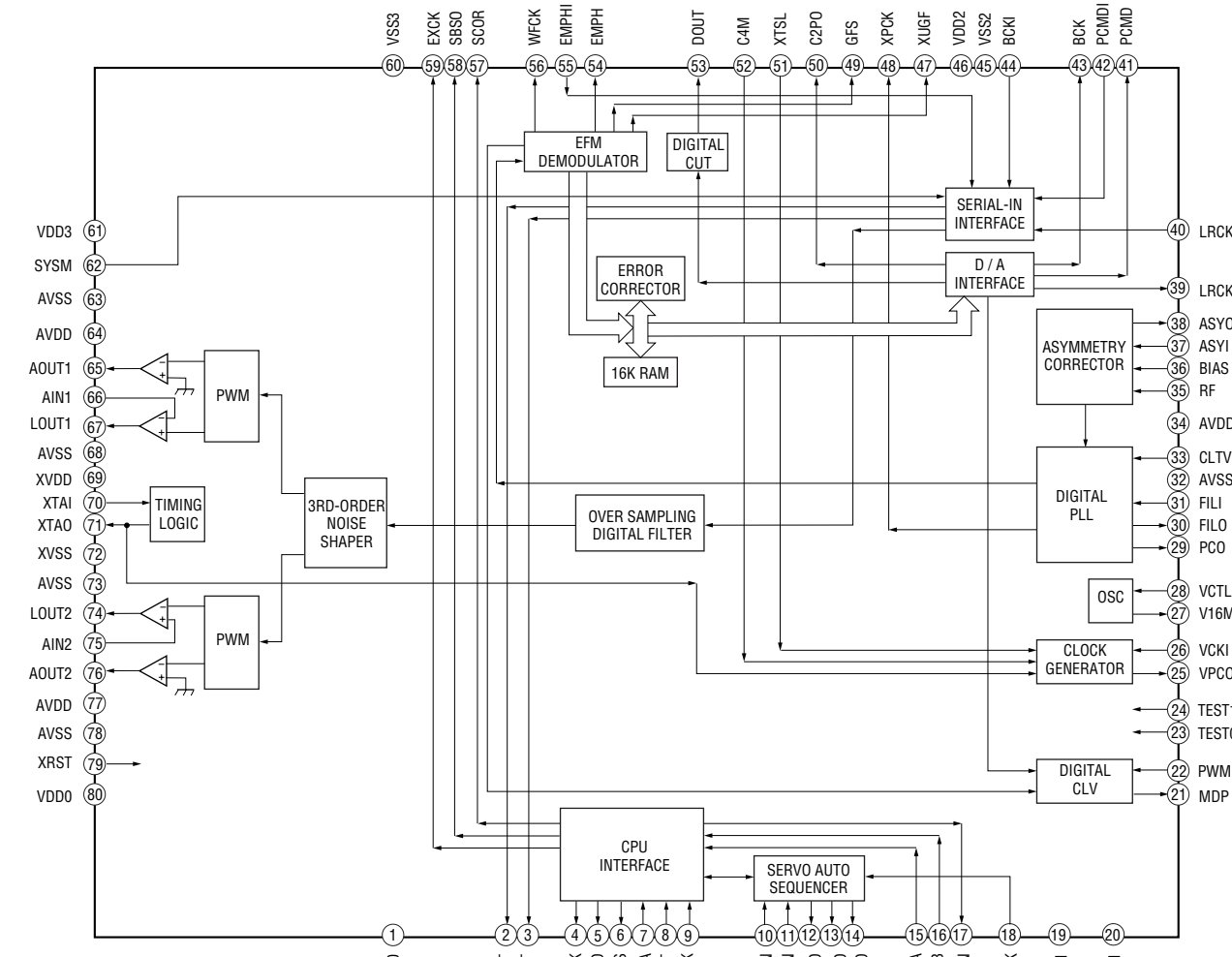
- : B+ Line.
- Volts and waveforms are dc with respect to ground under no-signal conditions. no mark : MD STOP () : MD PLAY < : MD REC * : Impossible to measure
- Volts are taken with a VOM (Input impedance 10 M Ω). Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken with a oscilloscope.
- Circled numbers refer to waveforms.
- Signal path.
 - : MD PLAY
 - : MD REC
 - : CD



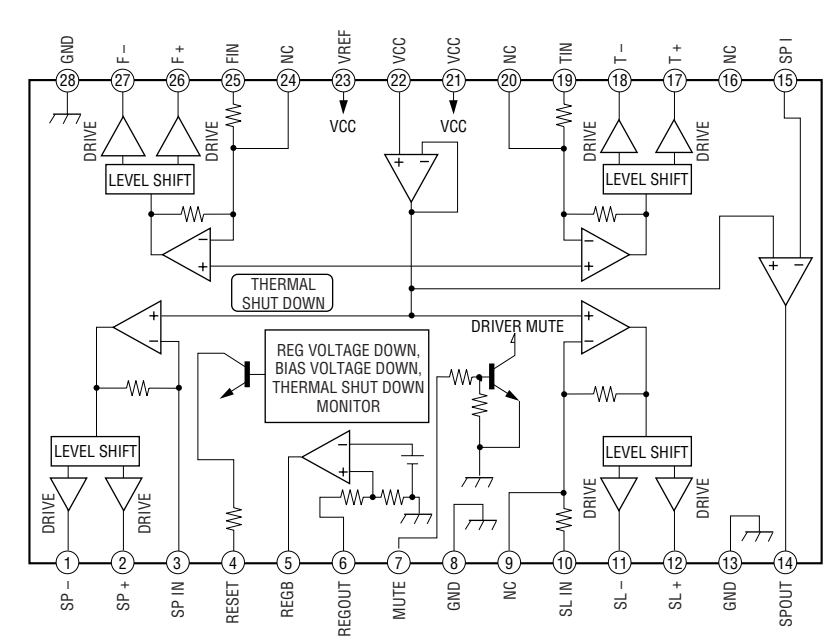
● IC Block Diagrams – Main Section –
IC701 CXA2542AQ



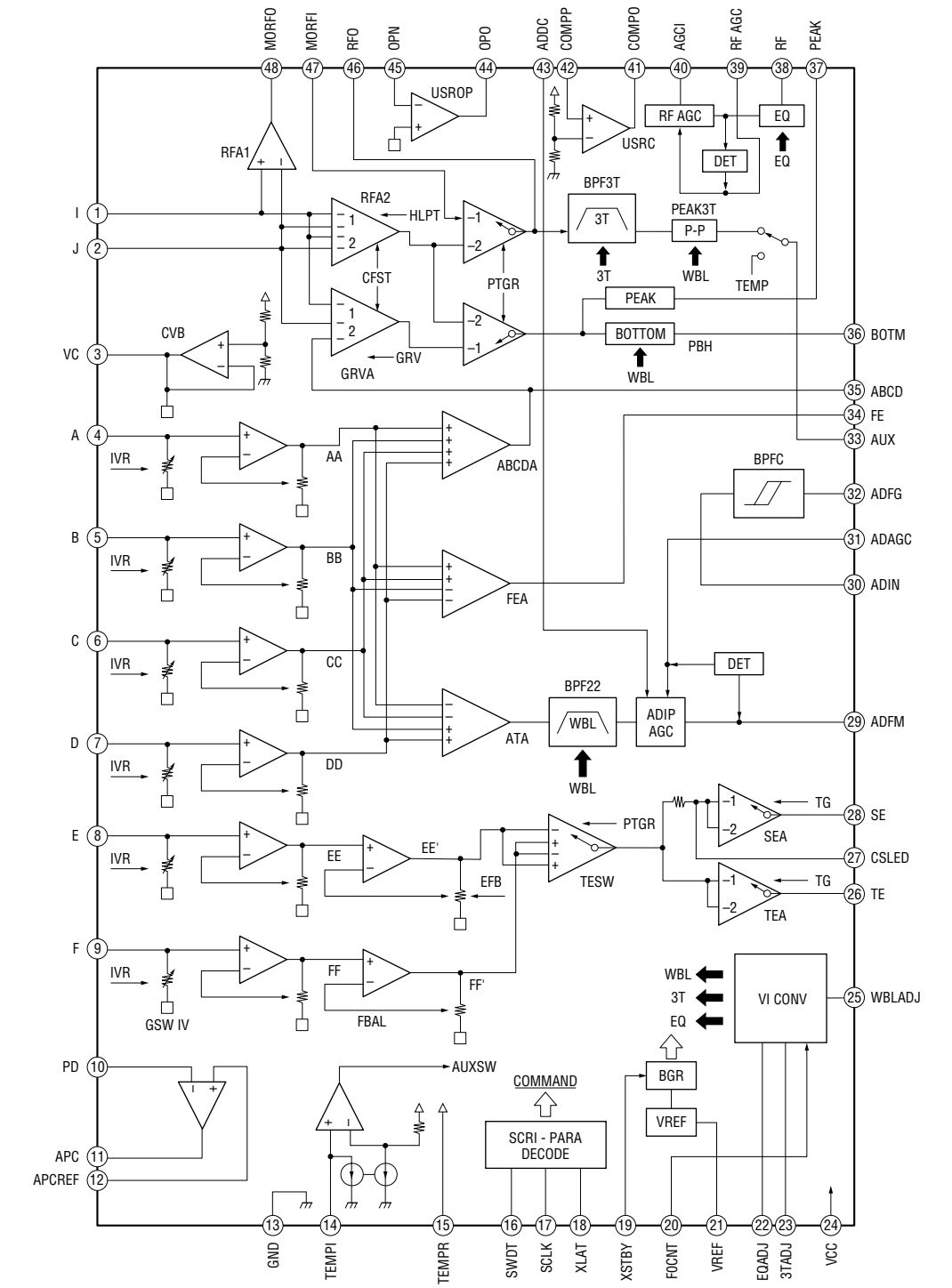
IC702 CXD3009Q



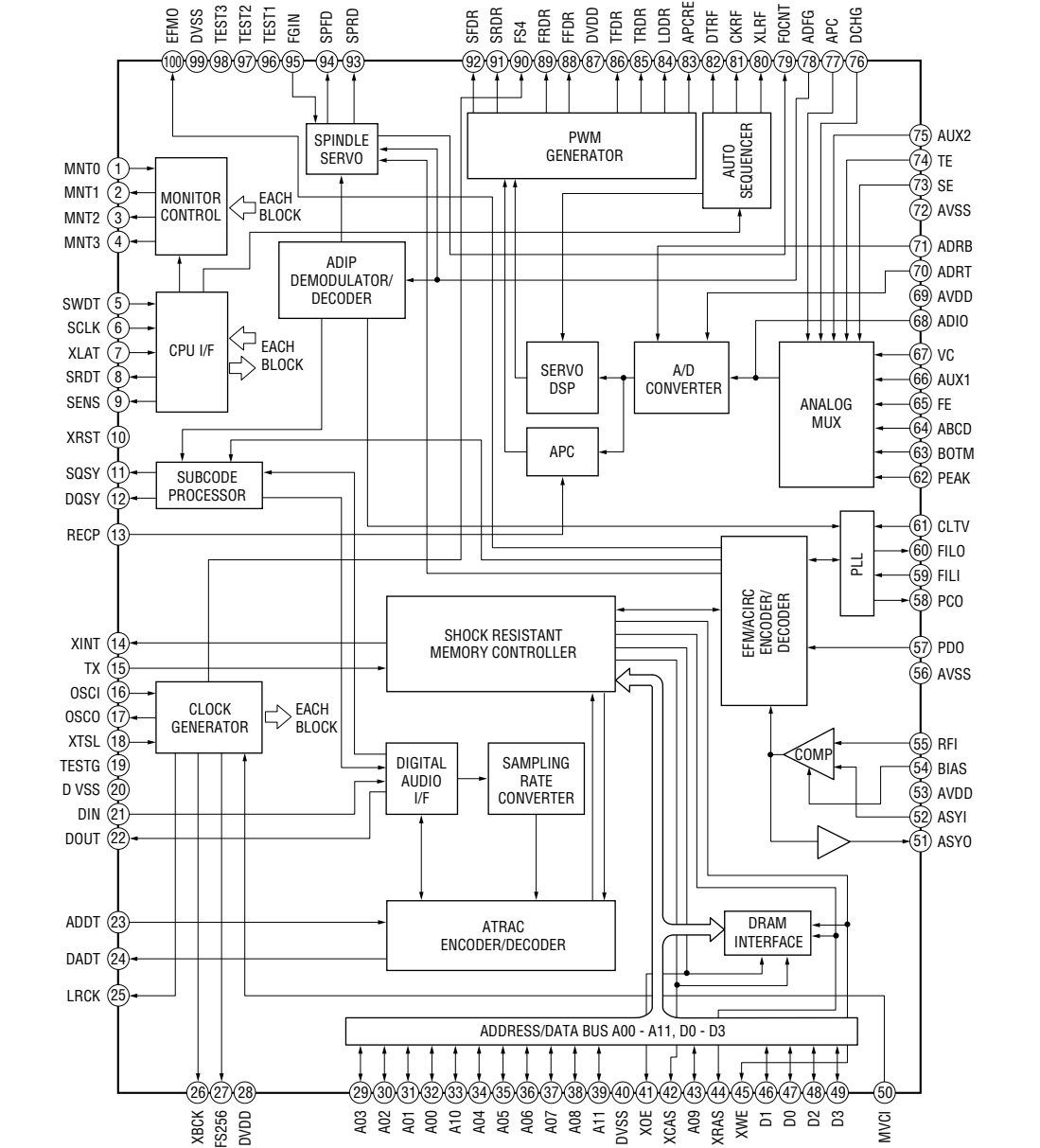
IC703 BA6898FP-E2



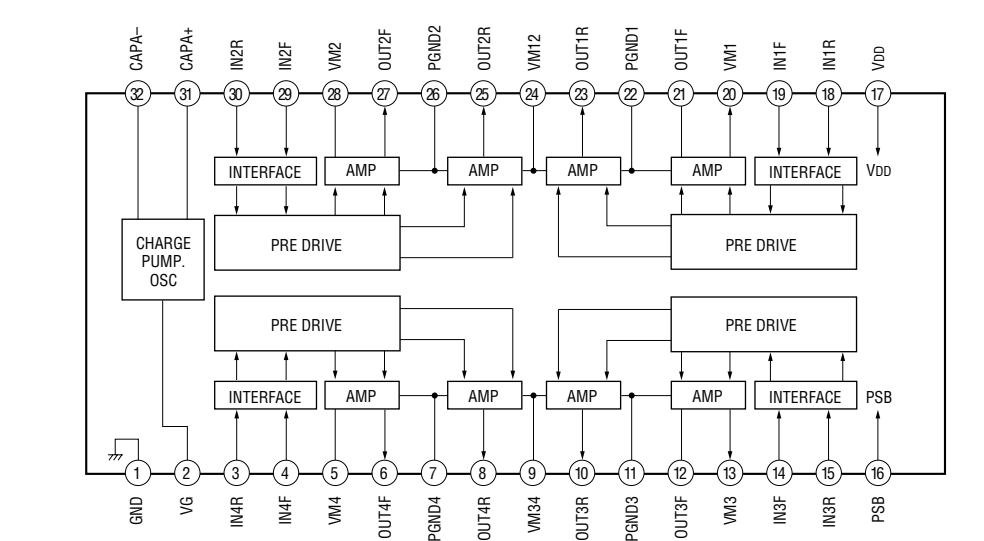
● IC Block Diagrams – BD Section –
IC101 CXD2523R



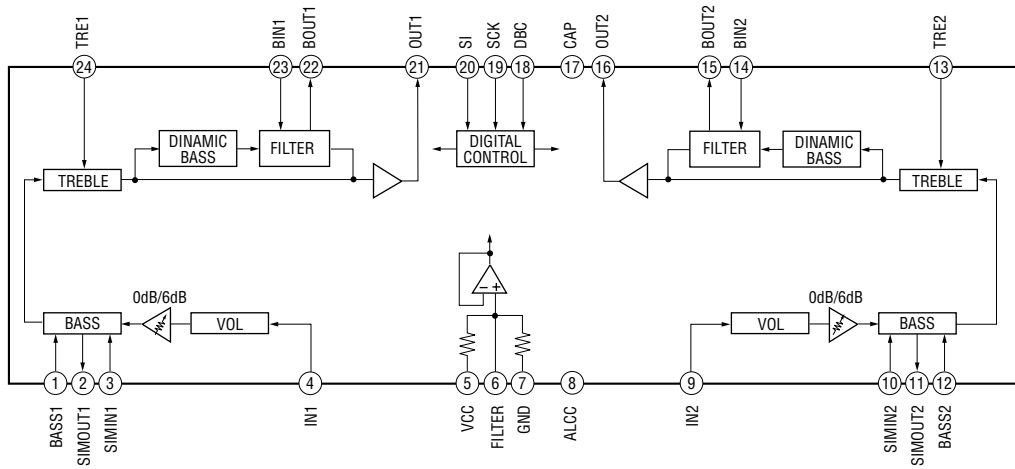
IC121 CXD2652AR



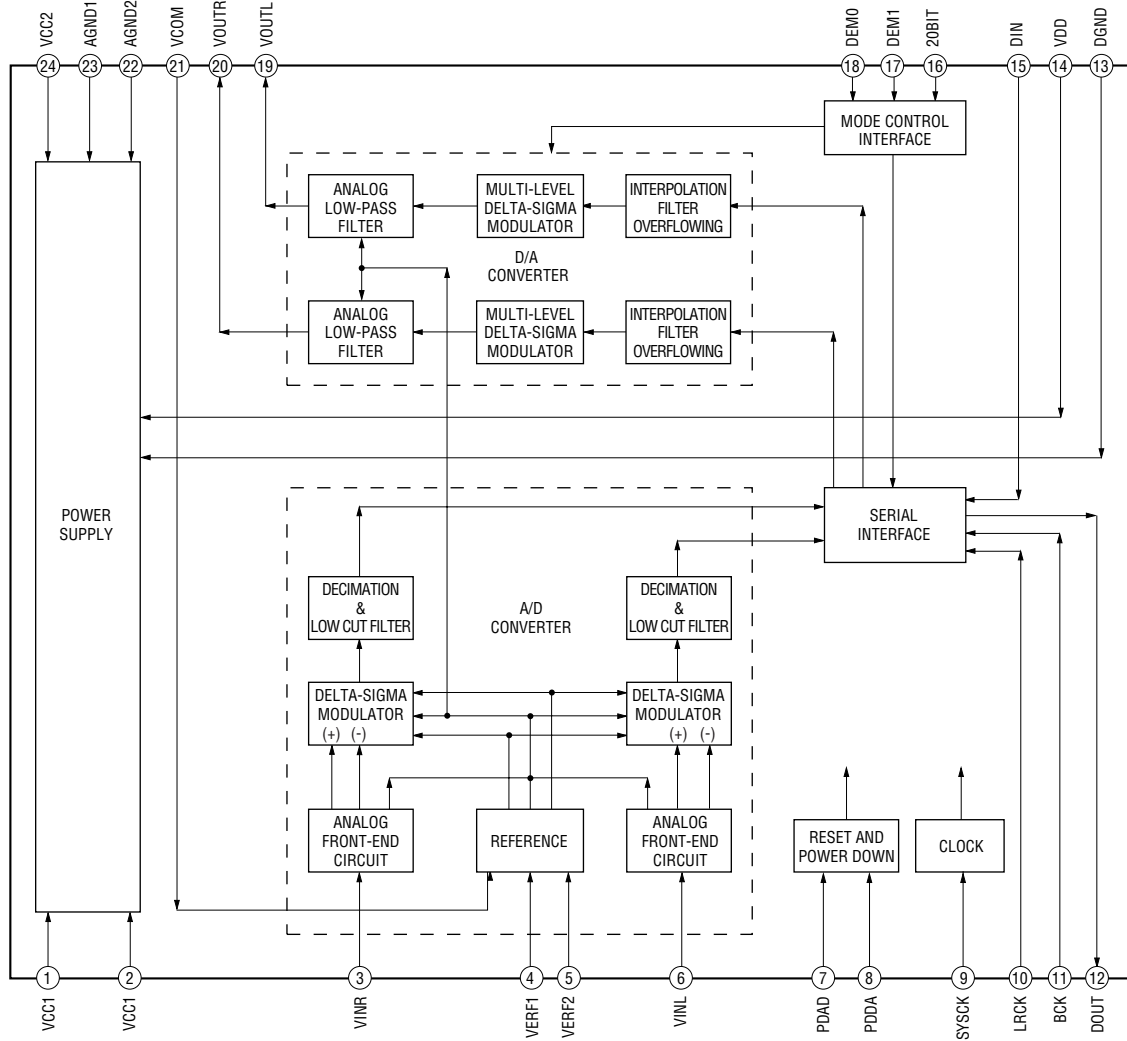
IC152 BH6511FS



● IC Block Diagram – Audio Section –
IC312 BH3863F-E2

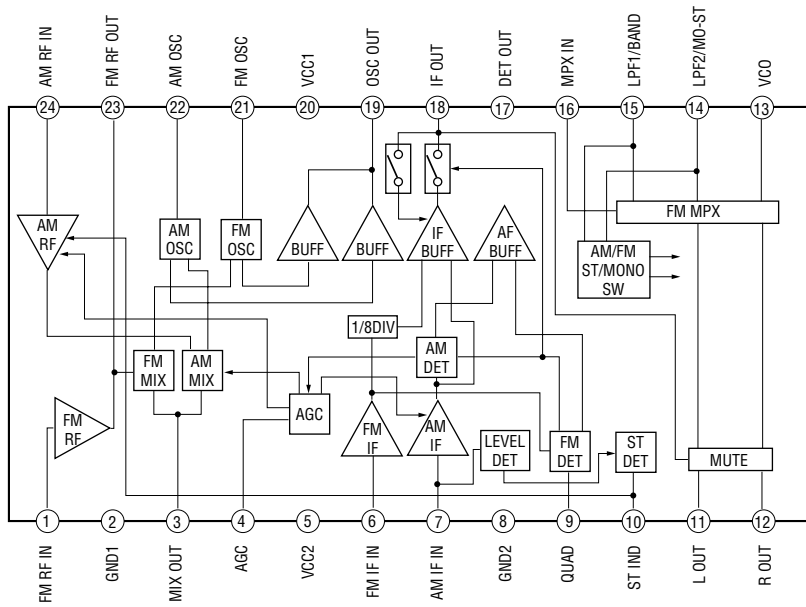


● IC Block Diagram – DG Section –
IC603 PCM3003E/T2

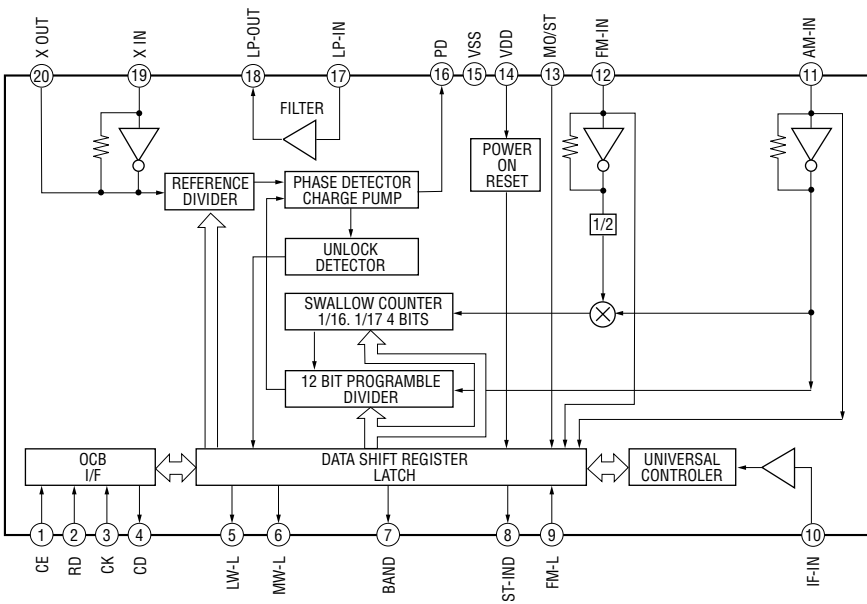


● IC Block Diagrams – Tuner Section –

IC1 TA2008AN



IC2 LC72137M-TLM



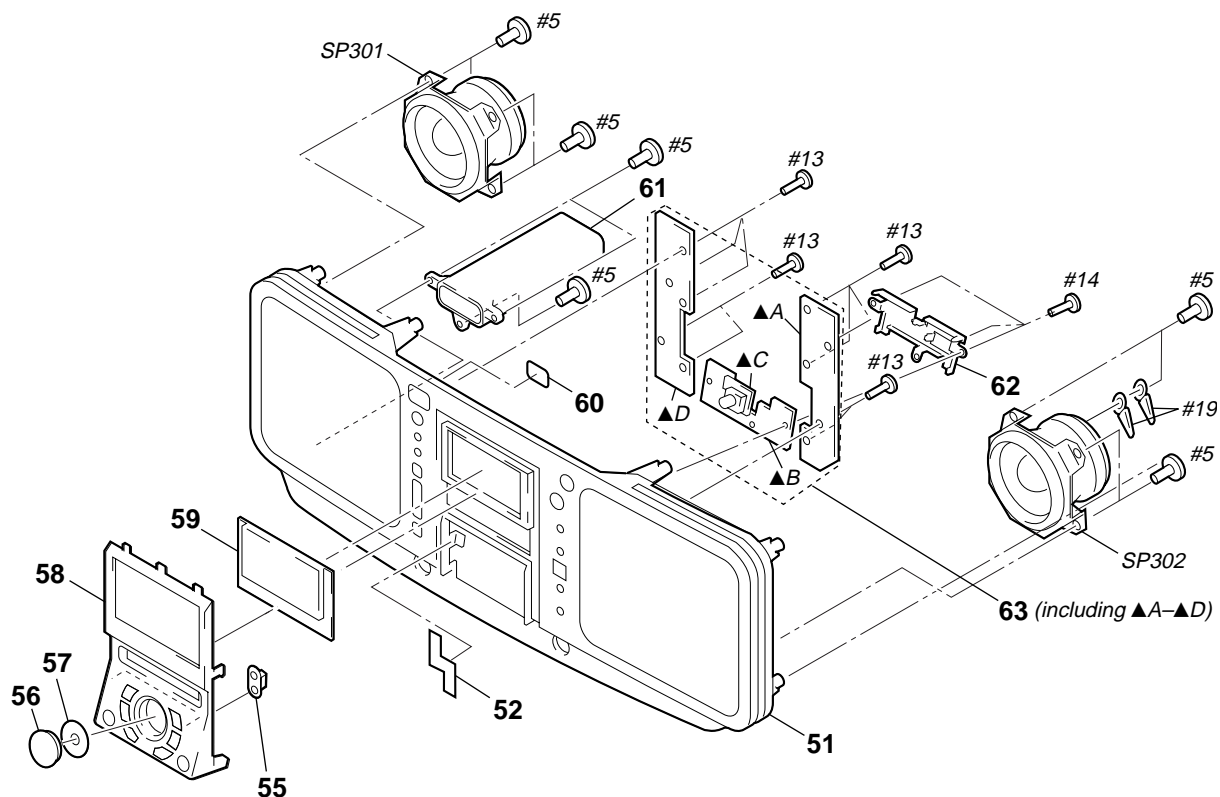
7-2. FRONT CABINET SECTION

▲ A : Control (R) board

▲ B : Control (F) board

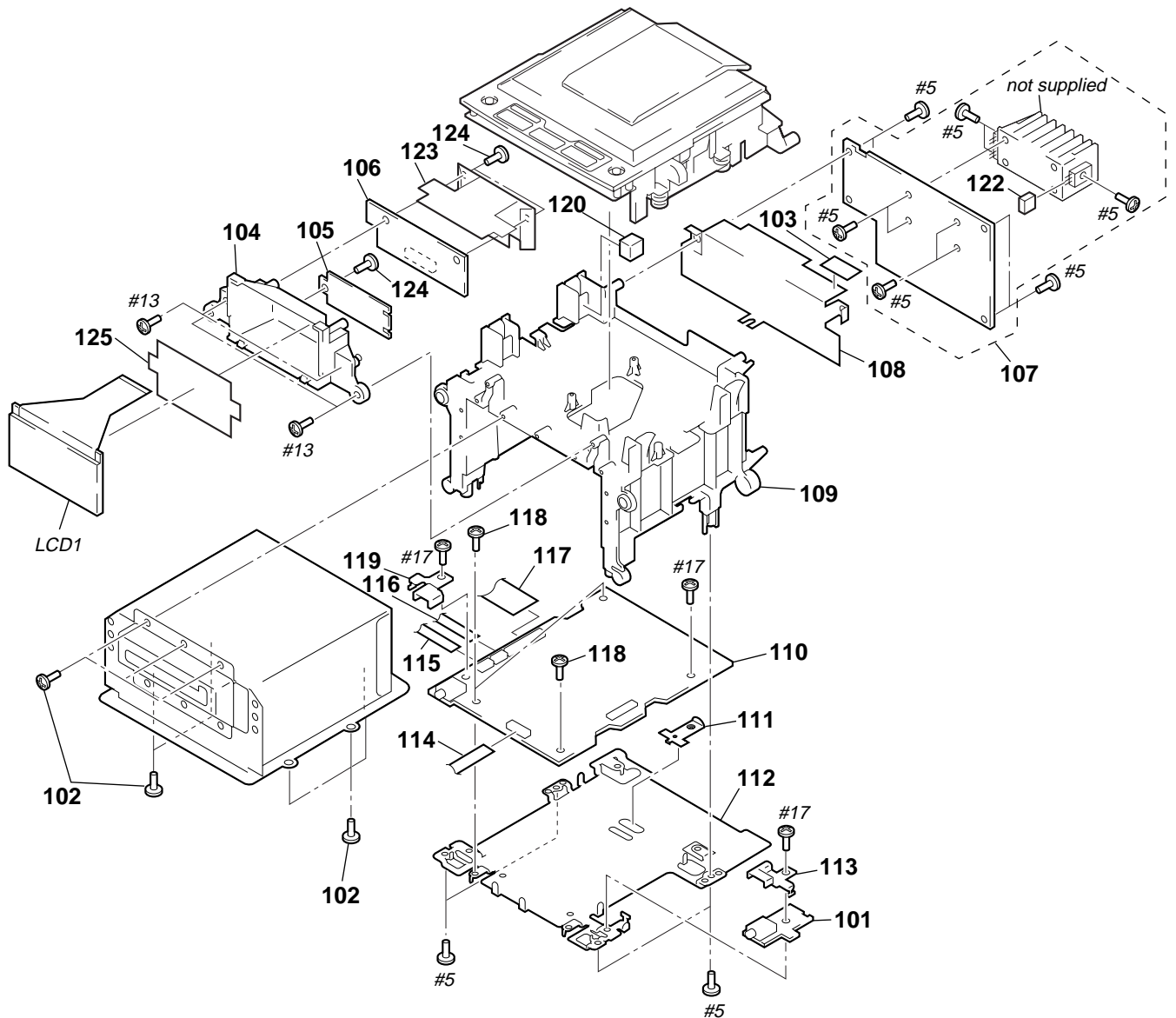
▲ C : JOG board

▲ D : Control (L) board



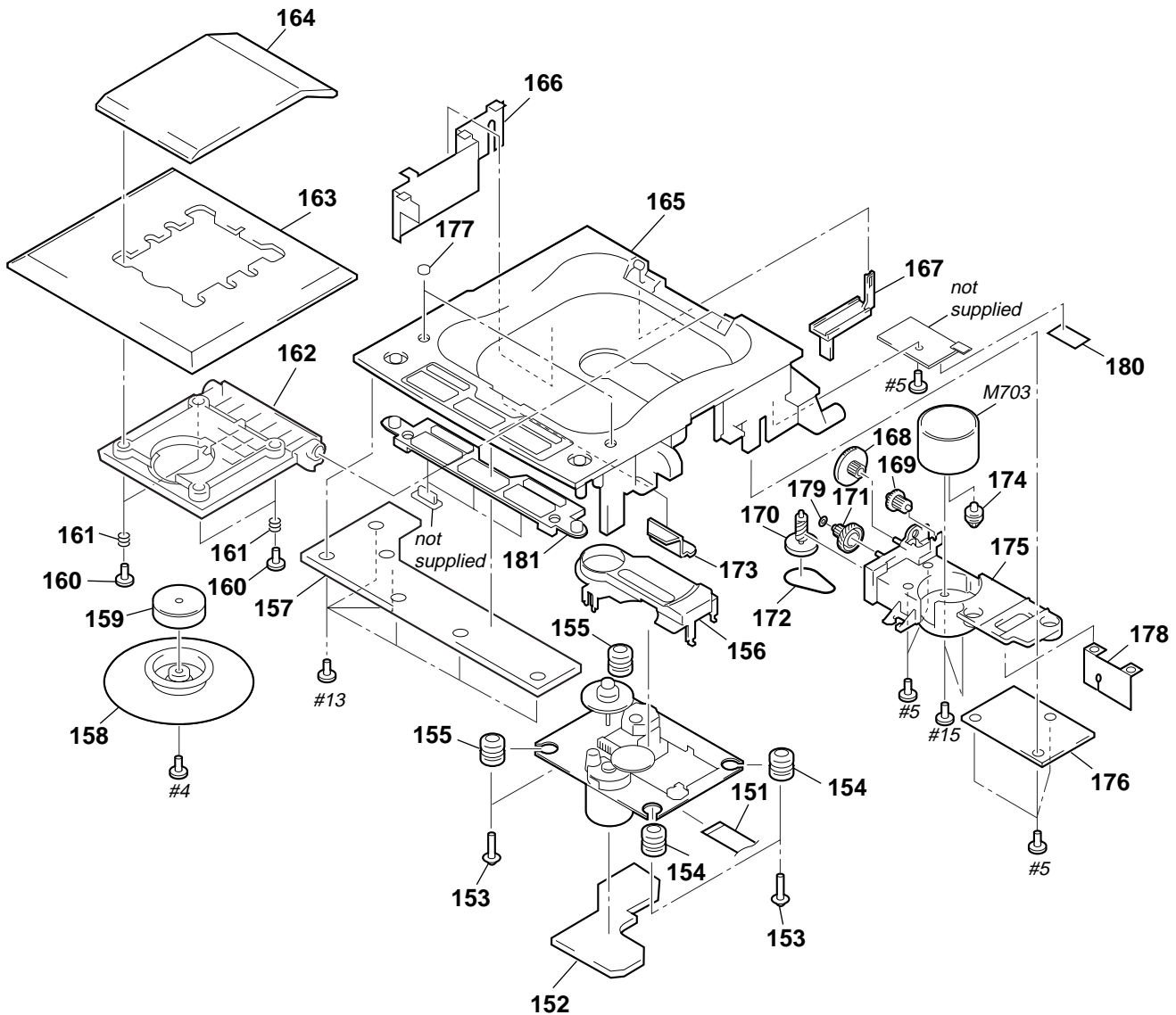
Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
51	X-3377-217-1	CABINET (FRONT) SUB ASSY		60	3-939-014-01	WINDOW, RAY CATCHER	
52	3-032-945-01	SHEET (FRONT), ELECTROSTATIC		61	3-027-659-01	DUCT	
55	3-027-653-01	PLATE (JOG), LIGHT GUIDE		62	3-028-879-01	PLATE (JOG), RETAINER	
56	3-027-660-01	DIAL, JOG		* 63	A-3323-161-A	CONTROL (F) BOARD, COMPLETE	
57	3-031-099-01	SHEET (JOG)		SP301	1-505-829-11	SPEAKER (8cm) (L-CH)	
58	X-3376-532-3	FRONT PANEL SUB ASSY		SP302	1-529-130-11	SPEAKER (8cm) (R-CH)	
59	3-027-658-01	WINDOW, LCD					

7-3. CENTER BLOCK SECTION



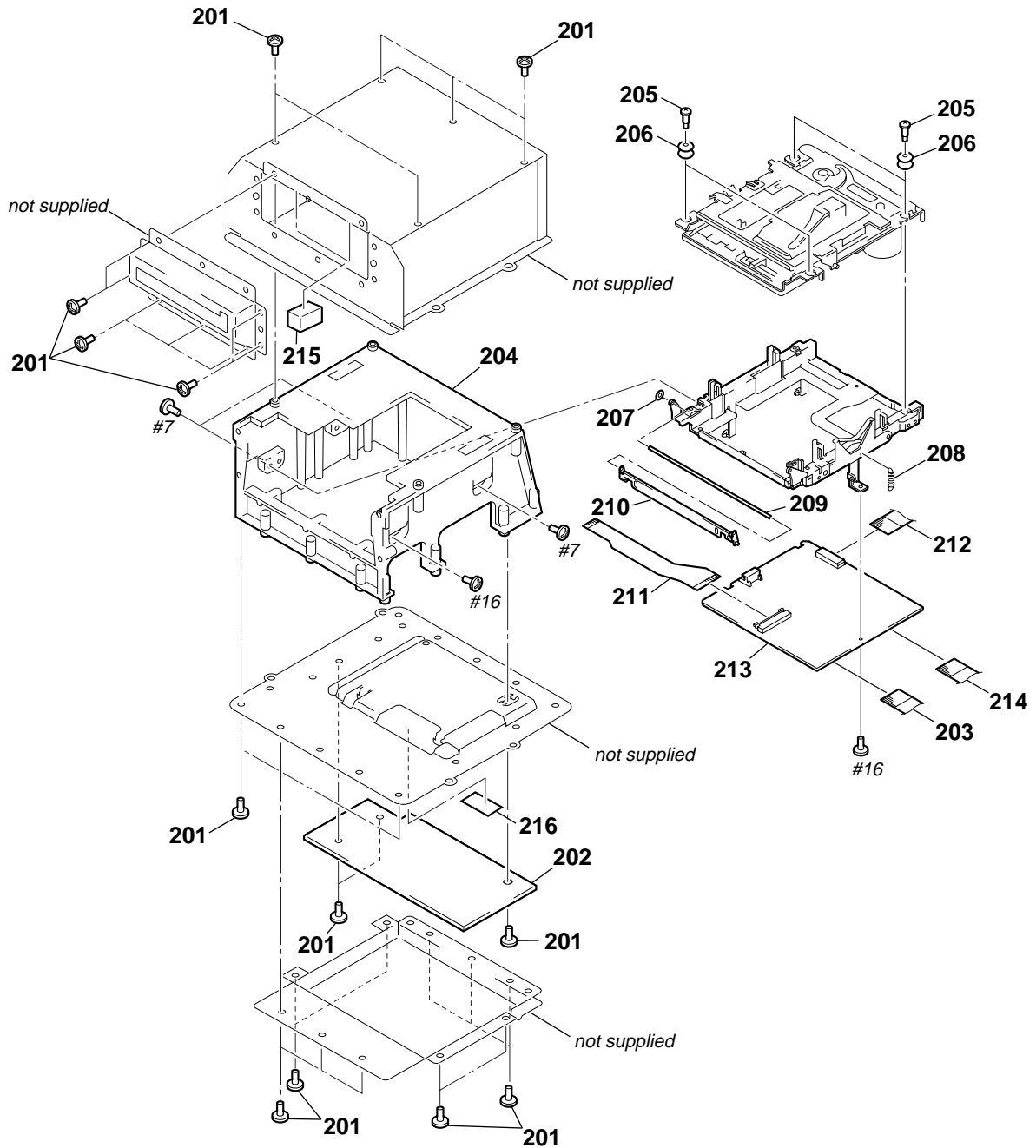
Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
* 101	1-671-318-21	LINE BOARD		114	1-783-958-11	WIRE, PARALLEL (FFC) (11 CORE)	
102	4-931-757-31	SCREW(DIA.2.6X8)(IT3B),TAPPING		115	1-783-957-11	WIRE, PARALLEL (FFC) (8 CORE)	
* 103	3-378-400-01	CUSHION, SARANET		116	1-783-956-11	WIRE, PARALLEL (FFC) (9 CORE)	
* 104	3-027-672-01	HOLDER, LCD		117	1-783-960-11	WIRE, PARALLEL (FFC) (26 CORE)	
* 105	1-671-477-21	BL BOARD		118	4-933-134-41	SCREW (+PTPWH 2.6X5)	
* 106	1-671-317-21	LCD BOARD		* 119	3-028-798-01	BRACKET (HP)	
* 107	A-3323-158-A	AUDIO BOARD, COMPLETE		120	3-033-780-01	SPACER (GEAR A)	
* 108	3-032-904-01	COVER (HEAT SINK)		* 122	1-562-327-00	SOCKET, CONNECTOR 3P	
* 109	3-027-671-01	CHASSIS (MAIN)		* 123	3-031-123-01	COVER, LCD	
* 110	A-3323-157-A	MAIN BOARD, COMPLETE		124	4-931-757-31	SCREW(DIA.2.6X8)(IT3B),TAPPING	
111	3-030-485-01	PLATE (RESET)		* 125	3-030-437-01	ILLUMINATOR	
112	3-028-779-01	PLATE, BOTTOM		LCD1	1-803-283-11	LCD UNIT	
* 113	3-028-797-01	BRACKET (LINE)					

7-4. UPPER CABINET SECTION



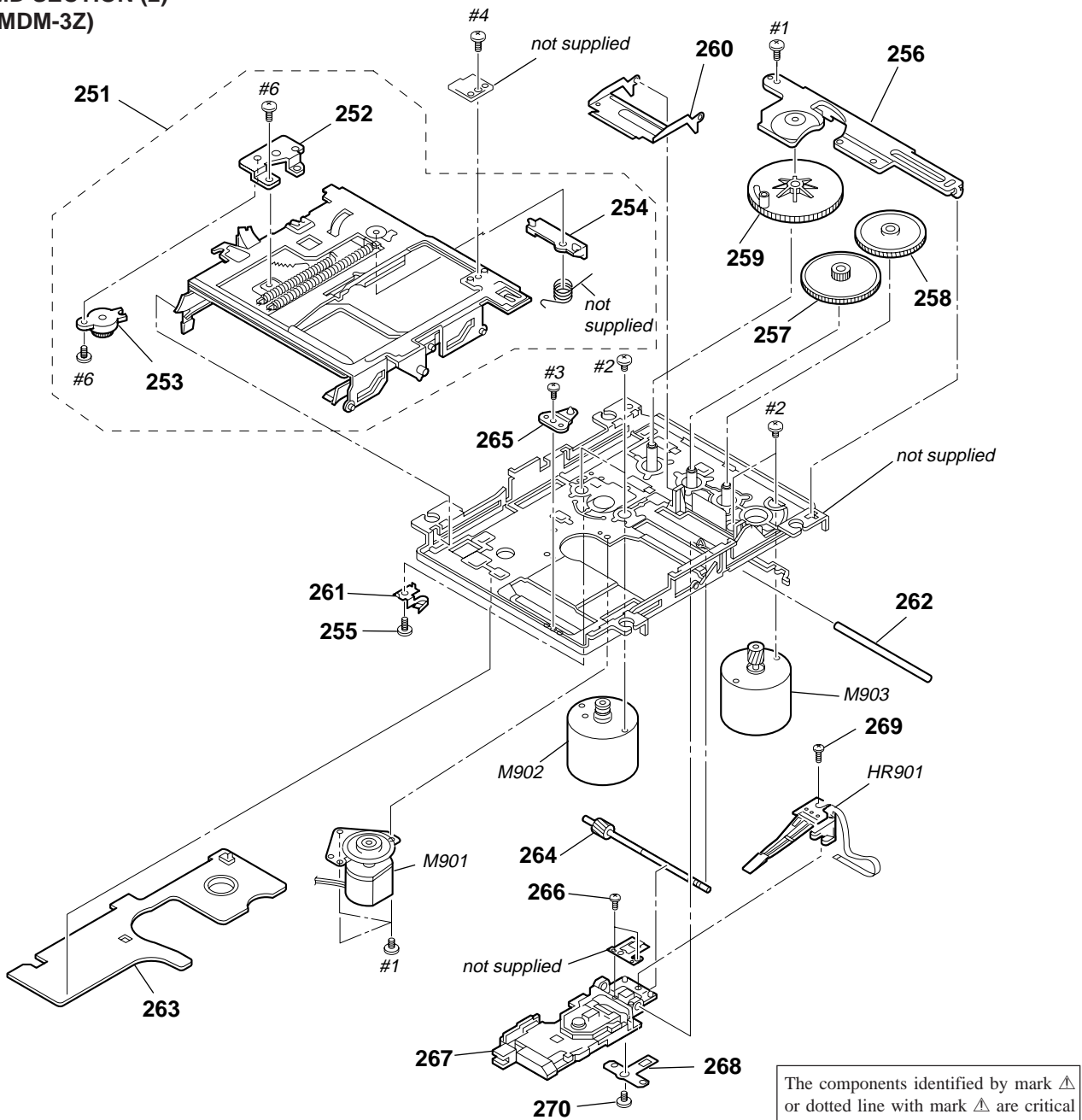
Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
	151	1-783-955-11 WIRE, PARALLEL (FFC) (16 CORE)		167	3-028-820-01	LEVER (O/C)	
*	152	1-639-678-12 CD MOTOR BOARD		168	3-027-667-01	GEAR (C)	
	153	3-921-725-01 SCREW (2.6X10), +PWH		169	3-027-668-01	GEAR (D)	
	154	3-931-379-01 RUBBER, VIBRATION PROOF (RED)		170	3-017-031-21	GEAR (A)	
	155	3-910-095-31 RUBBER, VIBRATION PROOF (GREEN)					
	156	3-910-116-01 COVER, CD		171	3-017-032-01	GEAR (B)	
*	157	A-3321-849-A CONTROL SW BOARD		172	3-033-230-01	BELT	
	158	3-029-900-01 PLATE (KSM-213-CDM), CHUCKING		173	3-027-655-01	PLATE (CD), LIGHT GUIDE	
	159	1-452-732-11 MAGNET		174	2-627-174-01	PULLEY (M)	
	160	3-029-901-01 SCREW (3X8)		*	175	3-027-666-01 CHASSIS, MOTOR	
	161	3-028-968-01 SPRING, COMPRESSION		*	176	A-3323-155-A MOTOR BOARD, COMPLETE	
	162	3-027-663-01 HOLDER, CHUCKING		177	3-029-908-01	CUSHION (CD)	
	163	3-027-661-01 LID, CD		*	178	3-032-893-01 COVER (4) (CD)	
	164	3-027-662-01 PLATE, CD ORNAMENTAL		179	3-033-781-01	WASHER (GEAR D)	
	165	3-027-648-01 CABINET (UPPER)		*	180	3-378-400-01 CUSHION, SARANET	
	166	3-032-880-01 COVER (3) (CD)		181	3-028-795-01	BUTTON (TOP)	
				M703	1-763-224-11	MOTOR, DC (DOOR OPEN/CLOSE)	

7-5. MD SECTION (1)
(MDM-3Z)



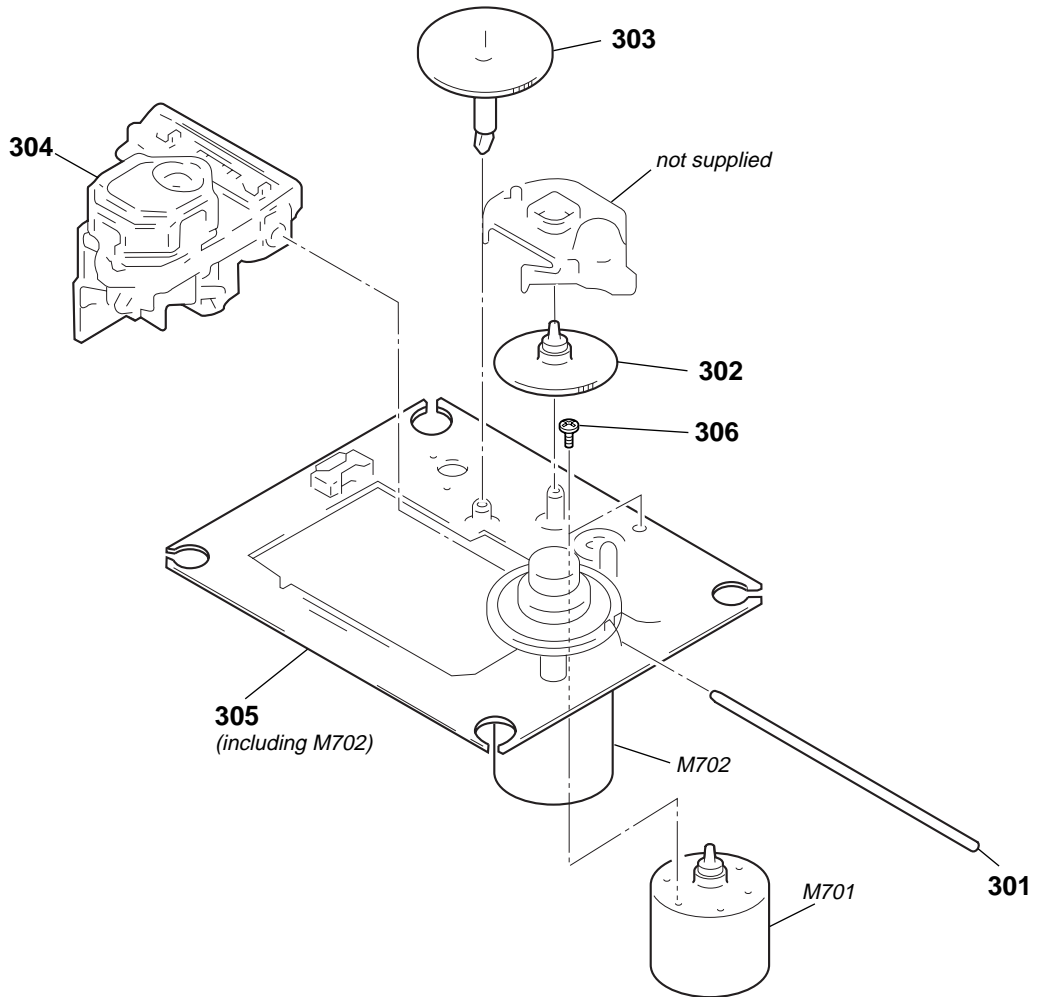
Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
201	4-931-757-31	SCREW(DIA.2.6X8)(IT3B),TAPPING		210	X-3377-791-1	SHUTTER ASSY	
* 202	A-3323-164-A	DG BOARD, COMPLETE		211	1-660-966-11	OP RALAY FLEXIBLE BOARD	
203	1-783-961-11	WIRE, PARALLEL (FFC) (19 CORE)		212	1-777-517-11	WIRE, PARALLEL (15 CORE)	
* 204	3-027-682-01	CHASSIS (MD)		* 213	A-3293-900-A	BD BOARD, COMPLETE	
205	4-628-167-01	SCREW, STEP		214	1-783-962-11	WIRE, PARALLEL (FFC) (29 CORE)	
206	4-987-327-01	INSULATOR		215	3-032-950-01	CUSHION (MD), RUBBER	
207	4-986-959-01	WASHER		216	3-378-435-01	CUSHION, SARANET	
208	4-987-910-01	SPRING (O/C), TENSION					
209	4-987-736-01	SHAFT, SHUTTER					

7-6. MD SECTION (2)
(MDM-3Z)



Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
251	A-4672-138-A	SLIDER COMPLETE ASSY		264	A-3304-200-A	SCREW ASSY, LEAD	
* 252	4-983-439-01	BRACKET (DAMPER)		* 265	4-983-511-02	PIN (OUTSERT)	
253	3-953-235-01	DAMPER, OIL		266	3-366-890-11	SCREW (M1.4)	
* 254	4-983-437-01	SLIDER (CAM)		Δ 267	8-583-028-02	OPTICAL PICK-UP KMS-260A	
255	3-342-375-11	SCREW (M1.7X1.4), SPECIAL		268	4-987-061-01	SPACER (RACK)	
* 256	4-979-890-11	RETAINER (GEAR)		269	4-988-560-01	SCREW (+P1.7X6)	
257	4-979-898-01	GEAR (LB)		270	4-955-841-11	SCREW	
258	4-979-899-01	GEAR (LC)		HR901	1-500-396-11	HEAD, OVER WRITE	
259	4-979-897-01	GEAR (LA)		M901	A-4672-135-A	MOTOR ASSY, SPINDLE (SPINDLE)	(INCLUDING GEAR)
260	4-979-885-01	LEVER (HEAD UP)		M902	A-4672-133-A	MOTOR ASSY, SLED (SLED)	(INCLUDING GEAR)
261	4-979-906-11	SPRING (LEAD SCREW)		M903	A-4672-134-A	MOTOR ASSY, LOADING (LOADING)	(INCLUDING GEAR)
* 262	4-984-556-01	SHAFT (MAIN SHAFT)					
* 263	1-661-774-11	SW BOARD					

**7-7. CD OPTICAL PICK-UP SECTION
(KSM-213CDM)**



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
301	2-626-908-01	SHAFT, SLED		305	X-2626-202-1	MOTOR SHASSIS ASSY(MB) (INCLUDING M702)(SPINDLE)	
302	2-627-003-02	GEAR (B) (RP)		306	3-713-786-51	SCREW +P 2X3	
303	2-626-907-01	GEAR (A)		M701	X-2625-769-1	MOTOR GEAR ASSY (MB) (INCLUDING GEAR) (SLED)	
\triangle 304	8-848-483-05	OPTICAL PICK-UP KSS-213C					

SECTION 8
ELECTRICAL PARTS LIST

NOTE :

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- -XX, -X mean standardized parts, so they may have some difference from the original one.
- RESISTORS
All resistors are in ohms
METAL : Metal-film resistor
METAL OXIDE :Metal oxide-film resistor
F : nonflammable
- Items marked “ * ”are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

- SEMICONDUCTORS
In each case, u : μ , for example :
uA..... : μ A..... , uPA..... : μ PA.....
uPB..... : μ PB..... , uPC..... : μ PC.....
uPD..... : μ PD.....
- CAPACITORS
uF : μ F
- COILS
uH : μ H

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.

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
*	1-675-236-21	ANTENNA SW BOARD *****		C223	1-130-495-00	MYLAR	0.1uF 5% 50V
		< SWITCH >		C224	1-136-165-00	FILM	0.1uF 5% 50V
S1	1-771-672-11	SWITCH, SLIDE (FM ANTENNA SELECTOR) *****		C225	1-163-017-00	CERAMIC CHIP	0.0047uF 5% 50V
*	A-3323-158-A	AUDIO BOARD, COMPLETE *****		C226	1-136-165-00	FILM	0.1uF 5% 50V
		< CAPACITOR >		C227	1-163-037-11	CERAMIC CHIP	0.022uF 10% 25V
*	1-562-327-00	SOCKET, CONNECTOR 3P		C228	1-126-959-11	ELECT	0.47uF 20% 50V
	7-685-647-79	SCREW +BVTP 3X10 TYPE2 N-S		C229	1-126-934-11	ELECT	220uF 20% 10V
		< CAPACITOR >		C230	1-163-259-91	CERAMIC CHIP	220PF 5% 50V
C112	1-126-960-11	ELECT	1uF 20% 50V	C301	1-164-492-11	CERAMIC CHIP	0.15uF 10% 16V
C113	1-136-165-00	FILM	0.1uF 5% 50V	C302	1-163-021-91	CERAMIC CHIP	0.01uF 10% 50V
C114	1-136-157-00	FILM	0.022uF 5% 50V	C303	1-124-994-11	ELECT	100uF 20% 10V
C115	1-130-480-00	MYLAR	0.0056uF 5% 50V	C304	1-163-021-91	CERAMIC CHIP	0.01uF 10% 50V
C116	1-136-165-00	FILM	0.1uF 5% 50V	C305	1-124-995-11	ELECT	220uF 20% 10V
C117	1-136-165-00	FILM	0.1uF 5% 50V	C306	1-128-551-11	ELECT	22uF 20% 25V
C118	1-126-964-11	ELECT	10uF 20% 50V	C309	1-126-959-11	ELECT	0.47uF 20% 50V
C119	1-126-963-11	ELECT	4.7uF 20% 50V	C310	1-163-009-11	CERAMIC CHIP	0.001uF 10% 50V
C120	1-163-009-11	CERAMIC CHIP	0.001uF 10% 50V	C311	1-163-009-11	CERAMIC CHIP	0.001uF 10% 50V
C121	1-104-665-11	ELECT	100uF 20% 10V	C312	1-107-725-11	CERAMIC CHIP	0.1uF 10% 16V
C122	1-107-725-11	CERAMIC CHIP	0.1uF 10% 16V	C313	1-163-021-91	CERAMIC CHIP	0.01uF 10% 50V
C123	1-126-960-11	ELECT	1uF 20% 50V	C314	1-163-021-91	CERAMIC CHIP	0.01uF 10% 50V
C124	1-136-165-00	FILM	0.1uF 5% 50V	C315	1-126-964-11	ELECT	10uF 20% 50V
C125	1-163-009-11	CERAMIC CHIP	0.001uF 10% 50V	C316	1-163-017-00	CERAMIC CHIP	0.0047uF 5% 50V
C126	1-136-165-00	FILM	0.1uF 5% 50V	C317	1-124-994-11	ELECT	100uF 20% 10V
C127	1-163-021-91	CERAMIC CHIP	0.01uF 10% 50V	C318	1-109-982-11	CERAMIC CHIP	1uF 10% 10V
C128	1-126-963-11	ELECT	4.7uF 20% 50V	C319	1-126-934-11	ELECT	220uF 20% 10V
C129	1-126-934-11	ELECT	220uF 20% 10V	C320	1-107-725-11	CERAMIC CHIP	0.1uF 10% 16V
C130	1-163-259-91	CERAMIC CHIP	220PF 5% 50V	C321	1-126-934-11	ELECT	220uF 20% 10V
C131	1-126-960-11	ELECT	1uF 20% 50V	C322	1-126-925-11	ELECT	470uF 20% 10V
C132	1-136-165-00	FILM	0.1uF 5% 50V	C323	1-124-994-11	ELECT	100uF 20% 10V
C133	1-136-165-00	FILM	0.1uF 5% 50V	C324	1-107-725-11	CERAMIC CHIP	0.1uF 10% 16V
C134	1-136-165-00	FILM	0.1uF 5% 50V	C325	1-126-934-11	ELECT	220uF 20% 10V
C135	1-130-480-00	MYLAR	0.0056uF 5% 50V	C326	1-126-960-11	ELECT	1uF 20% 50V
C136	1-136-165-00	FILM	0.1uF 5% 50V	C327	1-126-964-11	ELECT	10uF 20% 50V
C137	1-136-165-00	FILM	0.1uF 5% 50V	C328	1-126-964-11	ELECT	10uF 20% 50V
C138	1-126-964-11	ELECT	10uF 20% 50V	C329	1-163-017-00	CERAMIC CHIP	0.0047uF 5% 50V
C139	1-126-961-11	ELECT	2.2uF 20% 50V	C330	1-126-937-11	ELECT	4700uF 20% 16V
C140	1-163-009-11	CERAMIC CHIP	0.001uF 10% 50V	C331	1-117-207-11	ELECT(BLOCK)	6800uF 20% 25V
C141	1-104-665-11	ELECT	100uF 20% 10V	C332	1-163-019-00	CERAMIC CHIP	0.0068uF 10% 50V
C142	1-107-725-11	CERAMIC CHIP	0.1uF 10% 16V	C333	1-126-966-11	ELECT	33uF 20% 16V
				C334	1-163-021-91	CERAMIC CHIP	0.01uF 10% 50V
				C335	1-126-964-11	ELECT	10uF 20% 50V
				C336	1-126-964-11	ELECT	10uF 20% 50V
				C337	1-107-725-11	CERAMIC CHIP	0.1uF 10% 16V

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
C338	1-104-665-11	ELECT	100uF 20% 10V			< RESISTOR >	
C339	1-163-021-91	CERAMIC CHIP	0.01uF 10% 50V				
C341	1-107-682-11	CERAMIC CHIP	1uF 10% 16V	R101	1-216-013-00	METAL CHIP	33 5% 1/10W
C342	1-107-725-11	CERAMIC CHIP	0.1uF 10% 16V	R111	1-216-295-00	METAL CHIP	0 5% 1/10W
C343	1-126-960-11	ELECT	1uF 20% 50V	R112	1-216-057-00	METAL CHIP	2.2K 5% 1/10W
C345	1-126-963-11	ELECT	4.7uF 20% 50V	R117	1-216-093-91	RES,CHIP	68K 5% 1/10W
C346	1-104-665-11	ELECT	100uF 20% 10V	R118	1-216-073-00	METAL CHIP	10K 5% 1/10W
C347	1-104-665-11	ELECT	100uF 20% 10V	R119	1-216-073-00	METAL CHIP	10K 5% 1/10W
C348	1-163-259-91	CERAMIC CHIP	220PF 5% 50V	R120	1-216-073-00	METAL CHIP	10K 5% 1/10W
		< CONNECTOR >		R121	1-216-296-00	METAL CHIP	0 5% 1/8W
* CN301	1-564-509-11	PLUG, CONNECTOR 6P		R122	1-216-061-00	METAL CHIP	3.3K 5% 1/10W
* CN302	1-564-510-11	PLUG, CONNECTOR 7P		R123	1-216-049-91	RES,CHIP	1K 5% 1/10W
		< DIODE >		R124	1-216-055-00	METAL CHIP	1.8K 5% 1/10W
D301	8-719-988-61	DIODE 1SS355TE-17		R125	1-216-049-91	RES,CHIP	1K 5% 1/10W
D302	8-719-056-83	DIODE UDZ-TE-17-6.8B		R126	1-216-029-00	METAL CHIP	150 5% 1/10W
D303	8-719-976-99	DIODE DTZ5.1B		R127	1-216-214-00	RES,CHIP	4.7K 5% 1/8W
D304	8-719-988-61	DIODE 1SS355TE-17		R128	1-216-308-00	METAL CHIP	4.7 5% 1/10W
D306	8-719-056-85	DIODE UDZ-TE-17-8.2B		R129	1-216-049-91	RES,CHIP	1K 5% 1/10W
D307	8-719-988-61	DIODE 1SS355TE-17		R130	1-216-298-00	METAL CHIP	2.2 5% 1/10W
		< IC >		R132	1-216-298-00	METAL CHIP	2.2 5% 1/10W
IC305	8-759-538-94	IC LA4663		R151	1-216-121-91	RES,CHIP	1M 5% 1/10W
IC307	8-759-636-55	IC M5218AFP		R152	1-216-121-91	RES,CHIP	1M 5% 1/10W
IC309	8-759-701-02	IC NJM2073M		R201	1-216-013-00	METAL CHIP	33 5% 1/10W
IC311	8-759-100-96	IC NJM4558M-TE2		R211	1-216-063-91	RES,CHIP	3.9K 5% 1/10W
IC312	8-759-569-64	IC BH3863F-E2		R212	1-216-057-00	METAL CHIP	2.2K 5% 1/10W
		< JUMPER RESISTOR >		R217	1-216-093-91	RES,CHIP	68K 5% 1/10W
JC557	1-216-295-00	METAL CHIP	0 5% 1/10W	R218	1-216-073-00	METAL CHIP	10K 5% 1/10W
JC558	1-216-296-00	METAL CHIP	0 5% 1/8W	R219	1-216-057-00	METAL CHIP	2.2K 5% 1/10W
JC559	1-216-296-00	METAL CHIP	0 5% 1/8W	R220	1-216-057-00	METAL CHIP	2.2K 5% 1/10W
JC560	1-216-296-00	METAL CHIP	0 5% 1/8W	R221	1-216-295-00	METAL CHIP	0 5% 1/10W
JC561	1-216-295-00	METAL CHIP	0 5% 1/10W	R222	1-216-064-00	METAL CHIP	4.3K 5% 1/10W
JC562	1-216-295-00	METAL CHIP	0 5% 1/10W	R223	1-216-049-91	RES,CHIP	1K 5% 1/10W
JC564	1-216-295-00	METAL CHIP	0 5% 1/10W	R224	1-216-055-00	METAL CHIP	1.8K 5% 1/10W
JC565	1-216-295-00	METAL CHIP	0 5% 1/10W	R225	1-216-049-91	RES,CHIP	1K 5% 1/10W
JC566	1-216-295-00	METAL CHIP	0 5% 1/10W	R226	1-216-029-00	METAL CHIP	150 5% 1/10W
		< TRANSISTOR >		R227	1-216-065-91	RES,CHIP	4.7K 5% 1/10W
Q101	8-729-920-31	TRANSISTOR DTC343TK		R228	1-216-308-00	METAL CHIP	4.7 5% 1/10W
Q104	8-729-920-31	TRANSISTOR DTC343TK		R229	1-216-049-91	RES,CHIP	1K 5% 1/10W
Q105	8-729-920-31	TRANSISTOR DTC343TK		R230	1-216-298-00	METAL CHIP	2.2 5% 1/10W
Q201	8-729-920-31	TRANSISTOR DTC343TK		R232	1-216-298-00	METAL CHIP	2.2 5% 1/10W
Q204	8-729-920-31	TRANSISTOR DTC343TK		R251	1-216-121-91	RES,CHIP	1M 5% 1/10W
Q205	8-729-920-31	TRANSISTOR DTC343TK		R252	1-216-121-91	RES,CHIP	1M 5% 1/10W
Q301	8-729-920-85	TRANSISTOR 2SD1664-QR		R302	1-216-049-91	RES,CHIP	1K 5% 1/10W
Q304	8-729-920-41	TRANSISTOR FMC3		R303	1-216-049-91	RES,CHIP	1K 5% 1/10W
Q305	8-729-120-28	TRANSISTOR 2SC1623-L5L6		R304	1-216-049-91	RES,CHIP	1K 5% 1/10W
Q306	8-729-021-82	TRANSISTOR 2SD2396K		R305	1-216-061-00	METAL CHIP	3.3K 5% 1/10W
Q307	8-729-922-62	TRANSISTOR 2SD1760F5-TLQ		R306	1-216-075-00	METAL CHIP	12K 5% 1/10W
Q308	8-729-903-46	TRANSISTOR 2SB1132-P		R307	1-216-037-00	METAL CHIP	330 5% 1/10W
Q309	8-729-027-46	TRANSISTOR DTC114YKA-T146		R309	1-216-037-00	METAL CHIP	330 5% 1/10W
Q310	8-729-920-41	TRANSISTOR FMC3		R310	1-216-081-00	METAL CHIP	22K 5% 1/10W
Q313	8-729-120-28	TRANSISTOR 2SC1623-L5L6		R311	1-216-105-91	RES,CHIP	220K 5% 1/10W
Q314	8-729-027-46	TRANSISTOR DTC114YKA-T146		R312	1-216-075-00	METAL CHIP	12K 5% 1/10W
				R313	1-216-075-00	METAL CHIP	12K 5% 1/10W
				R314	1-216-073-00	METAL CHIP	10K 5% 1/10W
				R315	1-216-073-00	METAL CHIP	10K 5% 1/10W
				R316	1-216-073-00	METAL CHIP	10K 5% 1/10W
				R317	1-216-113-00	METAL CHIP	470K 5% 1/10W
				R318	1-216-295-00	METAL CHIP	0 5% 1/10W

AUDIO

BATT

BD

Ref. No.	Part No.	Description	Remark
R319	1-216-049-91	RES,CHIP 1K 5%	1/10W
R320	1-216-121-91	RES,CHIP 1M 5%	1/10W
R321	1-216-041-00	METAL CHIP 470 5%	1/10W
R322	1-216-025-91	RES,CHIP 100 5%	1/10W
R327	1-216-049-91	RES,CHIP 1K 5%	1/10W
R328	1-216-089-91	RES,CHIP 47K 5%	1/10W
R331	1-216-049-91	RES,CHIP 1K 5%	1/10W
R332	1-216-049-91	RES,CHIP 1K 5%	1/10W
R335	1-216-017-91	RES,CHIP 47 5%	1/10W
R336	1-216-017-91	RES,CHIP 47 5%	1/10W
R339	1-216-089-91	RES,CHIP 47K 5%	1/10W
R341	1-216-041-00	METAL CHIP 470 5%	1/10W
R343	1-216-013-00	METAL CHIP 33 5%	1/10W
R344	1-216-049-91	RES,CHIP 1K 5%	1/10W
R345	1-216-049-91	RES,CHIP 1K 5%	1/10W
R346	1-216-049-91	RES,CHIP 1K 5%	1/10W
R348	1-216-041-00	METAL CHIP 470 5%	1/10W

*	1-671-314-21	BATT BOARD	*****
	3-028-894-01	TERMINAL (+), BATTERY	
	3-028-895-01	TERMINAL (-), BATTERY	
		< CAPACITOR >	
C915	1-163-021-91	CERAMIC CHIP 0.01uF 10%	50V

*	A-3293-900-A	BD BOARD, COMPLETE	*****
		< CAPACITOR >	
C101	1-104-851-11	TANTAL. CHIP 10uF 20%	10V
C102	1-163-038-91	CERAMIC CHIP 0.1uF	25V
C103	1-104-851-11	TANTAL. CHIP 10uF 20%	10V
C104	1-104-851-11	TANTAL. CHIP 10uF 20%	10V
C105	1-163-021-91	CERAMIC CHIP 0.01uF 10%	50V
C106	1-163-275-11	CERAMIC CHIP 0.001uF 5%	50V
C107	1-163-038-91	CERAMIC CHIP 0.1uF	25V
C108	1-163-038-91	CERAMIC CHIP 0.1uF	25V
C109	1-163-037-11	CERAMIC CHIP 0.022uF 10%	25V
C110	1-163-038-91	CERAMIC CHIP 0.1uF	25V
C111	1-164-344-11	CERAMIC CHIP 0.068uF 10%	25V
C112	1-163-017-00	CERAMIC CHIP 0.0047uF 5%	50V
C113	1-107-682-11	CERAMIC CHIP 1uF 10%	16V
C115	1-164-489-11	CERAMIC CHIP 0.22uF 10%	16V
C116	1-163-037-11	CERAMIC CHIP 0.022uF 10%	25V
C117	1-164-004-11	CERAMIC CHIP 0.1uF 10%	25V
C119	1-104-851-11	TANTAL. CHIP 10uF 20%	10V
C121	1-126-206-11	ELECT CHIP 100uF 20%	6.3V
C122	1-163-021-91	CERAMIC CHIP 0.01uF 10%	50V
C123	1-163-038-91	CERAMIC CHIP 0.1uF	25V
C124	1-163-038-91	CERAMIC CHIP 0.1uF	25V
C127	1-163-038-91	CERAMIC CHIP 0.1uF	25V
C128	1-163-021-91	CERAMIC CHIP 0.01uF 10%	50V
C129	1-107-823-11	CERAMIC CHIP 0.47uF 10%	16V
C130	1-163-251-11	CERAMIC CHIP 100PF 5%	50V
C131	1-163-023-00	CERAMIC CHIP 0.015uF 5%	50V

Ref. No.	Part No.	Description	Remark
C132	1-107-823-11	CERAMIC CHIP 0.47uF 10%	16V
C133	1-163-017-00	CERAMIC CHIP 0.0047uF 5%	50V
C134	1-163-038-91	CERAMIC CHIP 0.1uF	25V
C135	1-163-038-91	CERAMIC CHIP 0.1uF	25V
C136	1-126-206-11	ELECT CHIP 100uF 20%	6.3V
C141	1-163-038-91	CERAMIC CHIP 0.1uF	25V
C142	1-163-251-11	CERAMIC CHIP 100PF 5%	50V
C143	1-163-251-11	CERAMIC CHIP 100PF 5%	50V
C144	1-163-251-11	CERAMIC CHIP 100PF 5%	50V
C146	1-163-038-91	CERAMIC CHIP 0.1uF	25V
C151	1-126-206-11	ELECT CHIP 100uF 20%	6.3V
C152	1-163-038-91	CERAMIC CHIP 0.1uF	25V
C153	1-163-021-91	CERAMIC CHIP 0.01uF 10%	50V
C156	1-163-038-91	CERAMIC CHIP 0.1uF	25V
C158	1-163-019-00	CERAMIC CHIP 0.0068uF 10%	50V
C160	1-104-601-11	ELECT CHIP 10uF 20%	10V
C161	1-104-601-11	ELECT CHIP 10uF 20%	10V
C163	1-163-021-91	CERAMIC CHIP 0.01uF 10%	50V
C164	1-163-021-91	CERAMIC CHIP 0.01uF 10%	50V
C167	1-163-038-91	CERAMIC CHIP 0.1uF	25V
C168	1-163-038-91	CERAMIC CHIP 0.1uF	25V
C169	1-104-851-11	TANTAL. CHIP 10uF 20%	10V
C171	1-163-038-91	CERAMIC CHIP 0.1uF	25V
C181	1-126-206-11	ELECT CHIP 100uF 20%	6.3V
C182	1-163-038-91	CERAMIC CHIP 0.1uF	25V
C183	1-163-038-91	CERAMIC CHIP 0.1uF	25V
C184	1-107-836-11	ELECT CHIP 22uF 20%	8V
C185	1-164-611-11	CERAMIC CHIP 0.001uF 10%	500V
C187	1-126-206-11	ELECT CHIP 100uF 20%	6.3V
C188	1-163-021-91	CERAMIC CHIP 0.01uF 10%	50V
C189	1-163-989-11	CERAMIC CHIP 0.033uF 10%	25V
C190	1-126-206-11	ELECT CHIP 100uF 20%	6.3V
C191	1-163-038-91	CERAMIC CHIP 0.1uF	25V
C195	1-164-346-11	CERAMIC CHIP 1uF	16V
C196	1-163-038-91	CERAMIC CHIP 0.1uF	25V
C197	1-163-038-91	CERAMIC CHIP 0.1uF	25V
		< CONNECTOR >	
CN101	1-766-508-11	CONNECTOR, FFC/FPC (ZIF) 22P	
CN102	1-778-461-11	CONNECTOR, FFC/FPC 29P	
CN103	1-778-460-11	CONNECTOR, FFC/FPC 19P	
CN104	1-766-898-21	HOUSING, CONNECTOR(PC BOARD)4P	
CN106	1-770-698-11	CONNECTOR, FFC/FPC 15P	
CN110	1-774-731-21	PIN, CONNECTOR (PC BOARD) 5P	
		< DIODE >	
D101	8-719-988-61	DIODE 1SS355TE-17	
D181	8-719-046-86	DIODE F1J6TP	
D183	8-719-046-86	DIODE F1J6TP	
		< IC >	
IC101	8-752-074-77	IC CXA2523R	
IC103	8-729-903-10	TRANSISTOR FMW1	
IC121	8-752-384-47	IC CXD2652AR	
IC122	8-759-234-20	IC TC7S08F	
IC123	8-759-242-70	IC TC7WU04F	
IC124	8-759-473-29	IC MN41V4400SJ-08-T1	

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Quantity	Tolerance	Remark
IC152	8-759-430-25	IC BH6511FS		R140	1-216-029-00	METAL CHIP	150	5%	1/10W
IC171	8-759-428-58	IC XL24C01AF-E2		R141	1-216-295-00	METAL CHIP	0	5%	1/10W
IC181	8-759-095-65	IC TC74ACT540FS		R142	1-216-073-00	METAL CHIP	10K	5%	1/10W
IC192	8-759-426-95	IC L88MS33T-TL		R143	1-216-073-00	METAL CHIP	10K	5%	1/10W
< COIL >				R144	1-216-025-91	RES,CHIP	100	5%	1/10W
L101	1-414-235-11	INDUCTOR CHIP		R146	1-216-037-00	METAL CHIP	330	5%	1/10W
L102	1-414-235-11	INDUCTOR CHIP		R147	1-216-025-91	RES,CHIP	100	5%	1/10W
L103	1-414-235-11	INDUCTOR CHIP		R148	1-216-045-00	METAL CHIP	680	5%	1/10W
L105	1-414-235-11	INDUCTOR CHIP		R150	1-216-295-00	METAL CHIP	0	5%	1/10W
L106	1-414-235-11	INDUCTOR CHIP		R158	1-216-097-91	RES,CHIP	100K	5%	1/10W
L121	1-414-235-11	INDUCTOR CHIP		R159	1-216-097-91	RES,CHIP	100K	5%	1/10W
L122	1-414-235-11	INDUCTOR CHIP		R161	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
L151	1-412-622-51	INDUCTOR 10uH		R162	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
L152	1-412-622-51	INDUCTOR 10uH		R163	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
L153	1-412-039-51	INDUCTOR CHIP 100uH		R164	1-216-045-00	METAL CHIP	680	5%	1/10W
L154	1-412-039-51	INDUCTOR CHIP 100uH		R165	1-216-097-91	RES,CHIP	100K	5%	1/10W
L161	1-414-235-11	INDUCTOR CHIP		R166	1-220-149-11	REGISTER	2.2	10%	1/2W
L162	1-414-235-11	INDUCTOR CHIP		R167	1-216-065-91	RES,CHIP	4.7K	5%	1/10W
< TRANSISTOR >				R169	1-219-724-11	METAL CHIP	1	1%	1/4W
Q101	8-729-028-91	TRANSISTOR DTA144EUA-T106		R170	1-216-073-00	METAL CHIP	10K	5%	1/10W
Q102	8-729-026-53	TRANSISTOR 2SA1576A-T106-QR		R171	1-216-073-00	METAL CHIP	10K	5%	1/10W
Q103	8-729-028-99	TRANSISTOR DTC114YUA-T106		R172	1-216-295-00	METAL CHIP	0	5%	1/10W
Q104	8-729-028-99	TRANSISTOR DTC114YUA-T106		R173	1-216-121-91	RES,CHIP	1M	5%	1/10W
Q162	8-729-101-07	TRANSISTOR 2SB798-DL		R175	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
Q163	8-729-028-91	TRANSISTOR DTA144EUA-T106		R176	1-216-295-00	METAL CHIP	0	5%	1/10W
Q180	8-729-028-96	TRANSISTOR DTC114EUA-T106		R177	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
Q181	8-729-018-75	TRANSISTOR 2SJ278MY		R178	1-216-295-00	METAL CHIP	0	5%	1/10W
Q182	8-729-017-65	TRANSISTOR 2SK1764KY		R179	1-216-089-91	RES,CHIP	47K	5%	1/10W
< RESISTOR >				R180	1-216-073-00	METAL CHIP	10K	5%	1/10W
R101	1-216-295-00	METAL CHIP	0 5% 1/10W	R181	1-216-073-00	METAL CHIP	10K	5%	1/10W
R103	1-216-049-91	RES,CHIP	1K 5% 1/10W	R182	1-216-089-91	RES,CHIP	47K	5%	1/10W
R104	1-216-073-00	METAL CHIP	10K 5% 1/10W	R183	1-216-089-91	RES,CHIP	47K	5%	1/10W
R105	1-216-065-91	RES,CHIP	4.7K 5% 1/10W	R184	1-216-073-00	METAL CHIP	10K	5%	1/10W
R106	1-216-133-00	METAL CHIP	3.3M 5% 1/10W	R185	1-216-073-00	METAL CHIP	10K	5%	1/10W
R107	1-216-113-00	METAL CHIP	470K 5% 1/10W	R186	1-216-296-00	METAL CHIP	0	5%	1/8W
R109	1-216-295-00	METAL CHIP	0 5% 1/10W	R187	1-216-296-00	METAL CHIP	0	5%	1/8W
R110	1-216-073-00	METAL CHIP	10K 5% 1/10W	R188	1-216-073-00	METAL CHIP	10K	5%	1/10W
R111	1-216-295-00	METAL CHIP	0 5% 1/10W	R189	1-216-073-00	METAL CHIP	10K	5%	1/10W
R112	1-216-089-91	RES,CHIP	47K 5% 1/10W	R190	1-216-073-00	METAL CHIP	10K	5%	1/10W
R113	1-216-049-91	RES,CHIP	1K 5% 1/10W	R195	1-216-295-00	METAL CHIP	0	5%	1/10W
R115	1-216-049-91	RES,CHIP	1K 5% 1/10W	R196	1-216-295-00	METAL CHIP	0	5%	1/10W
R117	1-216-113-00	METAL CHIP	470K 5% 1/10W	R198	1-216-295-00	METAL CHIP	0	5%	1/10W
R120	1-216-025-91	RES,CHIP	100 5% 1/10W	R199	1-216-295-00	METAL CHIP	0	5%	1/10W
R121	1-216-097-91	RES,CHIP	100K 5% 1/10W	R200	1-216-295-00	METAL CHIP	0	5%	1/10W
R123	1-216-033-00	METAL CHIP	220 5% 1/10W	R201	1-216-295-00	METAL CHIP	0	5%	1/10W
R124	1-216-025-91	RES,CHIP	100 5% 1/10W	R202	1-216-295-00	METAL CHIP	0	5%	1/10W
R125	1-216-025-91	RES,CHIP	100 5% 1/10W	R502	1-216-295-00	METAL CHIP	0	5%	1/10W
R127	1-216-025-91	RES,CHIP	100 5% 1/10W	R504	1-216-295-00	METAL CHIP	0	5%	1/10W
R131	1-216-073-00	METAL CHIP	10K 5% 1/10W	*****					
R132	1-216-097-91	RES,CHIP	100K 5% 1/10W	* 1-671-477-21	BL BOARD				
R133	1-216-117-00	METAL CHIP	680K 5% 1/10W	< PILOT LAMP >					
R134	1-216-049-91	RES,CHIP	1K 5% 1/10W	PL553	1-517-848-11	LAMP, PILOT (LCD BACK-LIGHT)			
R135	1-216-061-00	METAL CHIP	3.3K 5% 1/10W	PL554	1-517-848-11	LAMP, PILOT (LCD BACK-LIGHT)			
R136	1-216-049-91	RES,CHIP	1K 5% 1/10W	PL555	1-517-848-11	LAMP, PILOT (LCD BACK-LIGHT)			
R137	1-216-025-91	RES,CHIP	100 5% 1/10W	*****					

CD MOROR

CONTROL (F)

CONTROL (L)

CONTROL (R)

JOG

Ref. No.	Part No.	Description	Remark
*	1-639-678-12	CD MOTOR BOARD *****	
		< CONNECTOR >	
CNP707	1-564-722-11	PIN, CONNECTOR (SMALL TYPE) 6P	
		< SWITCH >	
S701	1-572-085-11	SWITCH, LEAF (LIMIT)	

*	A-3323-161-A	CONTROL (F) BOARD, COMPLETE *****	
		< CAPACITOR >	
C555	1-163-038-91	CERAMIC CHIP 0.1uF	25V
C556	1-163-038-91	CERAMIC CHIP 0.1uF	25V
		< CONNECTOR >	
CN551	1-563-614-31	HOUSING, CONNECTOR 11P	
		< DIODE >	
D553	8-719-047-57	LED SLA-362MT3F-A47 (AMS/PRESET)	
D554	8-719-047-57	LED SLA-362MT3F-A47 (SELECT)	
		< TRANSISTOR >	
Q553	8-729-027-58	TRANSISTOR DTC143ZKA-T146	
Q554	8-729-027-58	TRANSISTOR DTC143ZKA-T146	
		< RESISTOR >	
R551	1-216-033-00	METAL CHIP 220	5% 1/10W
R552	1-216-079-00	METAL CHIP 18K	5% 1/10W
R558	1-216-069-00	METAL CHIP 6.8K	5% 1/10W
R559	1-216-061-00	METAL CHIP 3.3K	5% 1/10W
R560	1-216-056-00	RES,CHIP 2K	5% 1/10W
R561	1-216-051-00	METAL CHIP 1.2K	5% 1/10W
R562	1-216-048-00	METAL CHIP 910	5% 1/10W
R563	1-216-045-00	METAL CHIP 680	5% 1/10W
		< SWITCH >	
S557	1-692-014-11	SWITCH, KEY BOARD (DELETE CLOCK)	
S558	1-692-014-11	SWITCH, KEY BOARD (TUNE ← - ◀▶)	
S559	1-692-014-11	SWITCH, KEY BOARD (NO CANCEL)	
S560	1-692-014-11	SWITCH, KEY BOARD (EDIT)	
S561	1-692-014-11	SWITCH, KEY BOARD (YES ENTER)	
S562	1-692-014-11	SWITCH, KEY BOARD (DISPLAY)	
S563	1-692-014-11	SWITCH, KEY BOARD (TUNE + ⇨ ▶▶)	
S564	1-692-014-11	SWITCH, KEY BOARD (INSERT TIMER)	
		CONTROL (L) BOARD *****	
		< CAPACITOR >	
C557	1-163-021-91	CERAMIC CHIP 0.01uF	10% 50V
C558	1-124-259-11	ELECT 4.7uF	20% 16V
		< FERRITE BEAD >	
FB303	1-500-445-21	FERRITE	

Ref. No.	Part No.	Description	Remark
		< IC >	
IC550	8-742-129-00	HYB SBX1971-51P	
		< RESISTOR >	
R570	1-216-045-00	METAL CHIP 680	5% 1/10W
R571	1-216-048-00	METAL CHIP 910	5% 1/10W
R572	1-216-051-00	METAL CHIP 1.2K	5% 1/10W
R573	1-216-056-00	RES,CHIP 2K	5% 1/10W
R574	1-216-061-00	METAL CHIP 3.3K	5% 1/10W
R575	1-216-069-00	METAL CHIP 6.8K	5% 1/10W
R579	1-216-085-00	METAL CHIP 33K	5% 1/10W
		< SWITCH >	
S572	1-692-014-11	SWITCH, KEY BOARD (OPERATE)	
S573	1-692-014-11	SWITCH, KEY BOARD (SLEEP)	
S574	1-692-014-11	SWITCH, KEY BOARD (STANDBY)	
S575	1-692-014-11	SWITCH, KEY BOARD (SYNCHRO REC CD ▶ MD)	
S576	1-692-014-11	SWITCH, KEY BOARD (REC IT TO END)	
S577	1-692-014-11	SWITCH, KEY BOARD (REC IT TO TOP)	
S578	1-692-014-11	SWITCH, KEY BOARD (REC)	
		CONTROL (R) BOARD *****	
		< RESISTOR >	
R564	1-216-069-00	METAL CHIP 6.8K	5% 1/10W
R565	1-216-061-00	METAL CHIP 3.3K	5% 1/10W
R566	1-216-056-00	RES,CHIP 2K	5% 1/10W
R567	1-216-051-00	METAL CHIP 1.2K	5% 1/10W
R568	1-216-048-00	METAL CHIP 910	5% 1/10W
R569	1-216-045-00	METAL CHIP 680	5% 1/10W
		< SWITCH >	
S565	1-692-014-11	SWITCH, KEY BOARD (VOLUME +)	
S566	1-692-014-11	SWITCH, KEY BOARD (VOLUME -)	
S567	1-692-014-11	SWITCH, KEY BOARD (BASS/TREBLE)	
S568	1-692-014-11	SWITCH, KEY BOARD (MEGA BASS)	
S569	1-692-014-11	SWITCH, KEY BOARD (▲ MD EJECT)	
S570	1-692-014-11	SWITCH, KEY BOARD (MONO/ST REPEAT)	
S571	1-692-014-11	SWITCH, KEY BOARD (AUTO PRESET/RDS SHUF/PGM)	
		JOG BOARD *****	
		< CAPACITOR >	
C553	1-163-038-91	CERAMIC CHIP 0.1uF	25V
C554	1-163-038-91	CERAMIC CHIP 0.1uF	25V
		< SWITCH >	
S556	1-475-977-11	SWITCH, ROTARY (JOG DIAL, - I◀◀, ▶▶I +)	

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
*	A-3321-849-A	CONTROL SW BOARD *****		C611	1-164-156-11	CERAMIC CHIP 0.1uF	25V
		< CAPACITOR >		C612	1-164-156-11	CERAMIC CHIP 0.1uF	25V
C550	1-163-021-91	CERAMIC CHIP 0.01uF 10%	50V	C613	1-162-927-11	CERAMIC CHIP 100PF 5%	50V
C551	1-163-021-91	CERAMIC CHIP 0.01uF 10%	50V	C614	1-163-251-11	CERAMIC CHIP 100PF 5%	50V
C552	1-163-021-91	CERAMIC CHIP 0.01uF 10%	50V	C615	1-164-156-11	CERAMIC CHIP 0.1uF	25V
		< CONNECTOR >		C616	1-164-156-11	CERAMIC CHIP 0.1uF	25V
CN550	1-691-067-31	HOUSING, CONNECTOR 8P		C617	1-164-156-11	CERAMIC CHIP 0.1uF	25V
		< DIODE >		C618	1-109-994-11	CERAMIC CHIP 2.2uF 10%	10V
D550	8-719-047-57	LED SLA-362MT3F-A47 (MD)		C619	1-126-207-11	ELECT CHIP 33uF 20%	4V
D551	8-719-047-57	LED SLA-362MT3F-A47 (CD)		C620	1-107-823-11	CERAMIC CHIP 0.47uF 10%	16V
D552	8-719-047-57	LED SLA-362MT3F-A47 (RADIO)		C621	1-162-970-11	CERAMIC CHIP 0.01uF 10%	25V
		< PILOT LAMP >		C622	1-164-156-11	CERAMIC CHIP 0.1uF	25V
PL550	1-517-848-11	LAMP, PILOT (CD LIGHT)		C624	1-162-915-11	CERAMIC CHIP 10PF 0.5PF	50V
		< TRANSISTOR >		C625	1-162-915-11	CERAMIC CHIP 10PF 0.5PF	50V
Q550	8-729-027-58	TRANSISTOR DTC143ZKA-T146		C626	1-163-021-91	CERAMIC CHIP 0.01uF 10%	50V
Q551	8-729-027-58	TRANSISTOR DTC143ZKA-T146		C627	1-164-156-11	CERAMIC CHIP 0.1uF	25V
Q552	8-729-027-58	TRANSISTOR DTC143ZKA-T146		C628	1-126-205-11	ELECT CHIP 47uF 20%	6.3V
		< RESISTOR >		C629	1-126-205-11	ELECT CHIP 47uF 20%	6.3V
R550	1-216-029-00	METAL CHIP 150 5%	1/10W	C632	1-126-603-11	ELECT CHIP 4.7uF 20%	35V
R553	1-216-069-00	METAL CHIP 6.8K 5%	1/10W	C633	1-126-603-11	ELECT CHIP 4.7uF 20%	35V
R554	1-216-061-00	METAL CHIP 3.3K 5%	1/10W	C634	1-162-970-11	CERAMIC CHIP 0.01uF 10%	25V
R555	1-216-056-00	RES,CHIP 2K 5%	1/10W	C635	1-126-205-11	ELECT CHIP 47uF 20%	6.3V
R556	1-216-051-00	METAL CHIP 1.2K 5%	1/10W	C636	1-163-227-11	CERAMIC CHIP 10PF 0.5PF	50V
R557	1-216-048-00	METAL CHIP 910 5%	1/10W	C637	1-126-603-11	ELECT CHIP 4.7uF 20%	35V
R578	1-216-194-00	METAL CHIP 680 5%	1/8W	C638	1-162-927-11	CERAMIC CHIP 100PF 5%	50V
		< SWITCH >		C639	1-124-779-00	ELECT CHIP 10uF 20%	16V
S550	1-692-014-11	SWITCH, KEY BOARD (□)		C640	1-126-603-11	ELECT CHIP 4.7uF 20%	35V
S551	1-692-014-11	SWITCH, KEY BOARD (▷⏏ MD)		C641	1-164-004-11	CERAMIC CHIP 0.1uF 10%	25V
S552	1-692-014-11	SWITCH, KEY BOARD (BAND RADIO)		C642	1-126-205-11	ELECT CHIP 47uF 20%	6.3V
S553	1-692-014-11	SWITCH, KEY BOARD (▷⏏ CD)		C644	1-164-156-11	CERAMIC CHIP 0.1uF	25V
S554	1-692-014-11	SWITCH, KEY BOARD (□)		C645	1-164-156-11	CERAMIC CHIP 0.1uF	25V
S555	1-692-014-11	SWITCH, KEY BOARD (▲ CD OPEN/CLOSE)		C650	1-162-966-11	CERAMIC CHIP 0.0022uF 10%	50V
S579	1-692-014-11	SWITCH, KEY BOARD (LINE/LINE LEVEL)		C651	1-162-966-11	CERAMIC CHIP 0.0022uF 10%	50V

*	A-3323-164-A	DG BOARD, COMPLETE *****		C655	1-162-970-11	CERAMIC CHIP 0.01uF 10%	25V
		< CAPACITOR >		C657	1-162-970-11	CERAMIC CHIP 0.01uF 10%	25V
C601	1-162-959-11	CERAMIC CHIP 330PF 5%	50V	C658	1-162-966-11	CERAMIC CHIP 0.0022uF 10%	50V
C602	1-163-263-11	CERAMIC CHIP 330PF 5%	50V	C659	1-163-021-91	CERAMIC CHIP 0.01uF 10%	50V
C603	1-163-005-11	CERAMIC CHIP 470PF 10%	50V	C660	1-126-205-11	ELECT CHIP 47uF 20%	6.3V
C604	1-163-263-11	CERAMIC CHIP 330PF 5%	50V	C661	1-162-966-11	CERAMIC CHIP 0.0022uF 10%	50V
C605	1-164-156-11	CERAMIC CHIP 0.1uF	25V	C662	1-163-038-91	CERAMIC CHIP 0.1uF	25V
C606	1-162-927-11	CERAMIC CHIP 100PF 5%	50V	C666	1-162-923-11	CERAMIC CHIP 47PF 5%	50V
C607	1-162-927-11	CERAMIC CHIP 100PF 5%	50V	C668	1-163-038-91	CERAMIC CHIP 0.1uF	25V
C608	1-162-916-11	CERAMIC CHIP 12PF 5%	50V	C670	1-126-205-11	ELECT CHIP 47uF 20%	6.3V
C609	1-162-916-11	CERAMIC CHIP 12PF 5%	50V	C672	1-162-970-11	CERAMIC CHIP 0.01uF 10%	25V
C610	1-164-156-11	CERAMIC CHIP 0.1uF	25V	C673	1-162-915-11	CERAMIC CHIP 10PF 0.5PF	50V
		< CONNECTOR >		C674	1-162-970-11	CERAMIC CHIP 0.01uF 10%	25V
CN601	1-785-371-21	CONNECTOR, FFC/FPC 29P		C675	1-163-251-11	CERAMIC CHIP 100PF 5%	50V
CN602	1-785-372-11	CONNECTOR, FFC/FPC 19P		C676	1-163-251-11	CERAMIC CHIP 100PF 5%	50V
* CN603	1-580-055-21	PIN, CONNECTOR (SMD) 2P		C680	1-162-915-11	CERAMIC CHIP 10PF 0.5PF	50V
* CN604	1-785-370-21	CONNECTOR, FFC/FPC 26P				< DIODE >	
		< DIODE >		D601	8-719-914-43	DIODE DAN202K	

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
D602	8-719-988-61	DIODE 1SS355TE-17		FB658	1-500-445-21	FERRITE	
		< FERRITE BEAD >				< FILTER >	
FB601	1-500-445-21	FERRITE		FL601	1-239-901-21	FERRITE	
FB602	1-469-125-21	FERRITE		FL602	1-239-901-21	FERRITE	
FB603	1-469-125-21	FERRITE		FL603	1-239-899-21	FILTER, CHIP EMI	
FB604	1-469-125-21	FERRITE		FL604	1-239-899-21	FILTER, CHIP EMI	
FB605	1-469-125-21	FERRITE		FL605	1-239-899-21	FILTER, CHIP EMI	
FB606	1-469-125-21	FERRITE		FL606	1-239-899-21	FILTER, CHIP EMI	
FB607	1-500-445-21	FERRITE		* FL607	1-125-971-21	FILTER, 3 TERMINAL NOISE	
FB608	1-469-125-21	FERRITE		* FL608	1-125-971-21	FILTER, 3 TERMINAL NOISE	
FB609	1-469-125-21	FERRITE		* FL611	1-125-971-21	FILTER, 3 TERMINAL NOISE	
FB610	1-412-973-11	INDUCTOR	0.33uH	* FL612	1-125-971-21	FILTER, 3 TERMINAL NOISE	
FB611	1-500-445-21	FERRITE		* FL619	1-125-971-21	FILTER, 3 TERMINAL NOISE	
FB612	1-469-185-11	FERRITE		* FL620	1-125-971-21	FILTER, 3 TERMINAL NOISE	
FB613	1-500-445-21	FERRITE				< IC >	
FB614	1-500-445-21	FERRITE		IC601	8-759-494-80	IC RU8X12MF-0021	
FB615	1-500-445-21	FERRITE		IC602	8-759-040-83	IC BA6287F	
FB616	1-500-445-21	FERRITE		IC603	8-759-561-36	IC PCM3003E/T2	
FB617	1-500-445-21	FERRITE		IC604	8-759-243-19	IC TC7SU04F	
FB618	1-500-445-21	FERRITE		IC605	8-759-096-87	IC TC7WU04FU(TE12R)	
FB619	1-500-445-21	FERRITE				< JUMPER RESISTOR >	
FB620	1-500-445-21	FERRITE		JC601	1-216-049-91	RES,CHIP 1K	5% 1/10W
FB621	1-500-445-21	FERRITE		JC603	1-216-049-91	RES,CHIP 1K	5% 1/10W
FB622	1-500-445-21	FERRITE		JC604	1-216-295-00	METAL CHIP 0	5% 1/10W
FB623	1-500-445-21	FERRITE		JC605	1-216-295-00	METAL CHIP 0	5% 1/10W
FB624	1-500-445-21	FERRITE		JC606	1-216-296-00	METAL CHIP 0	5% 1/8W
FB625	1-500-445-21	FERRITE		JC607	1-216-295-00	METAL CHIP 0	5% 1/10W
FB626	1-500-445-21	FERRITE		JC608	1-216-295-00	METAL CHIP 0	5% 1/10W
FB627	1-216-295-00	METAL CHIP	0 5% 1/10W	JC609	1-216-864-11	METAL CHIP 0	5% 1/16W
FB628	1-500-445-21	FERRITE		JC610	1-216-864-11	METAL CHIP 0	5% 1/16W
FB629	1-469-125-21	FERRITE		JC611	1-216-864-11	METAL CHIP 0	5% 1/16W
FB630	1-469-125-21	FERRITE		JC612	1-216-864-11	METAL CHIP 0	5% 1/16W
FB631	1-500-445-21	FERRITE		JC613	1-216-295-00	METAL CHIP 0	5% 1/10W
FB632	1-500-445-21	FERRITE		JC614	1-216-296-00	METAL CHIP 0	5% 1/8W
FB633	1-469-185-11	FERRITE		JC615	1-216-295-00	METAL CHIP 0	5% 1/10W
FB634	1-469-185-11	FERRITE		JC616	1-216-295-00	METAL CHIP 0	5% 1/10W
FB635	1-500-445-21	FERRITE		JC617	1-216-295-00	METAL CHIP 0	5% 1/10W
FB636	1-500-445-21	FERRITE		JC618	1-216-295-00	METAL CHIP 0	5% 1/10W
FB637	1-500-445-21	FERRITE		JC619	1-216-295-00	METAL CHIP 0	5% 1/10W
FB638	1-500-445-21	FERRITE		JC620	1-216-295-00	METAL CHIP 0	5% 1/10W
FB639	1-500-445-21	FERRITE		JC621	1-216-295-00	METAL CHIP 0	5% 1/10W
FB640	1-500-445-21	FERRITE		JC622	1-216-295-00	METAL CHIP 0	5% 1/10W
FB641	1-500-445-21	FERRITE		JC623	1-216-295-00	METAL CHIP 0	5% 1/10W
FB642	1-500-445-21	FERRITE		JC624	1-216-295-00	METAL CHIP 0	5% 1/10W
FB643	1-500-445-21	FERRITE				< COIL >	
FB644	1-500-445-21	FERRITE		L601	1-414-521-21	INDUCTOR CHIP 10uH	
FB645	1-500-445-21	FERRITE		L602	1-414-398-11	INDUCTOR 10uH	
FB646	1-500-445-21	FERRITE		L603	1-414-398-11	INDUCTOR 10uH	
FB647	1-500-445-21	FERRITE		L604	1-414-398-11	INDUCTOR 10uH	
FB648	1-500-445-21	FERRITE		L605	1-414-398-11	INDUCTOR 10uH	
FB649	1-500-445-21	FERRITE		L606	1-414-398-11	INDUCTOR 10uH	
FB650	1-469-125-21	FERRITE		L607	1-414-398-11	INDUCTOR 10uH	
FB651	1-469-125-21	FERRITE		L608	1-414-398-11	INDUCTOR 10uH	
FB652	1-216-295-00	METAL CHIP	0 5% 1/10W	L609	1-414-398-11	INDUCTOR 10uH	
FB653	1-216-295-00	METAL CHIP	0 5% 1/10W				
FB654	1-500-445-21	FERRITE					
FB655	1-469-185-11	FERRITE					
FB656	1-469-185-11	FERRITE					
FB657	1-469-185-11	FERRITE					

Ref. No.	Part No.	Description	Remark
L610	1-414-398-11	INDUCTOR 10uH	
L611	1-416-107-21	INDUCTOR	
L612	1-414-398-11	INDUCTOR 10uH	
L613	1-414-398-11	INDUCTOR 10uH	
L614	1-414-398-11	INDUCTOR 10uH	
L615	1-500-445-21	FERRITE	
L616	1-500-445-21	FERRITE	
L617	1-500-445-21	FERRITE	
L618	1-500-445-21	FERRITE	
L619	1-414-398-11	INDUCTOR 10uH	
L620	1-414-398-11	INDUCTOR 10uH	
L621	1-414-521-21	INDUCTOR CHIP 10uH	
L622	1-414-521-21	INDUCTOR CHIP 10uH	
< TRANSISTOR >			
Q601	8-729-031-43	TRANSISTOR IMD9A-T108	
Q602	8-729-031-43	TRANSISTOR IMD9A-T108	
Q603	8-729-402-84	TRANSISTOR XN4601	
Q604	8-729-402-84	TRANSISTOR XN4601	
Q605	8-729-031-43	TRANSISTOR IMD9A-T108	
Q606	8-729-031-43	TRANSISTOR IMD9A-T108	
Q607	8-729-031-43	TRANSISTOR IMD9A-T108	
Q608	8-729-027-56	TRANSISTOR DTC143TKA-T146	
Q609	8-729-031-43	TRANSISTOR IMD9A-T108	
Q610	8-729-027-46	TRANSISTOR DTC114YKA-T146	
Q611	8-729-031-43	TRANSISTOR IMD9A-T108	
Q612	8-729-101-07	TRANSISTOR 2SB798-DL	
Q615	8-729-027-46	TRANSISTOR DTC114YKA-T146	
Q616	8-729-027-46	TRANSISTOR DTC114YKA-T146	
Q617	8-729-019-72	TRANSISTOR 2SB1260	
< RESISTOR >			
R601	1-216-821-11	METAL CHIP 1K 5%	1/16W
R602	1-216-821-11	METAL CHIP 1K 5%	1/16W
R603	1-216-821-11	METAL CHIP 1K 5%	1/16W
R604	1-216-821-11	METAL CHIP 1K 5%	1/16W
R605	1-216-222-00	RES,CHIP 10K 5%	1/8W
R606	1-216-833-91	RES,CHIP 10K 5%	1/16W
R607	1-216-222-00	RES,CHIP 10K 5%	1/8W
R608	1-216-073-00	METAL CHIP 10K 5%	1/10W
R609	1-216-246-00	RES,CHIP 100K 5%	1/8W
R610	1-216-246-00	RES,CHIP 100K 5%	1/8W
R611	1-216-845-11	METAL CHIP 100K 5%	1/16W
R612	1-216-097-91	RES,CHIP 100K 5%	1/10W
R613	1-216-833-91	RES,CHIP 10K 5%	1/16W
R614	1-216-857-11	METAL CHIP 1M 5%	1/16W
R615	1-216-833-91	RES,CHIP 10K 5%	1/16W
R616	1-216-845-11	METAL CHIP 100K 5%	1/16W
R617	1-216-809-11	METAL CHIP 100 5%	1/16W
R618	1-216-809-11	METAL CHIP 100 5%	1/16W
R619	1-216-845-11	METAL CHIP 100K 5%	1/16W
R620	1-216-851-11	METAL CHIP 330K 5%	1/16W
R621	1-216-833-91	RES,CHIP 10K 5%	1/16W
R622	1-216-833-91	RES,CHIP 10K 5%	1/16W
R623	1-216-833-91	RES,CHIP 10K 5%	1/16W
R624	1-216-073-00	METAL CHIP 10K 5%	1/10W
R625	1-216-833-91	RES,CHIP 10K 5%	1/16W

Ref. No.	Part No.	Description	Remark
R626	1-216-073-00	METAL CHIP 10K 5%	1/10W
R627	1-216-841-11	METAL CHIP 47K 5%	1/16W
R628	1-216-089-91	RES,CHIP 47K 5%	1/10W
R629	1-216-833-91	RES,CHIP 10K 5%	1/16W
R630	1-216-833-91	RES,CHIP 10K 5%	1/16W
R631	1-216-821-11	METAL CHIP 1K 5%	1/16W
R632	1-216-821-11	METAL CHIP 1K 5%	1/16W
R633	1-216-833-91	RES,CHIP 10K 5%	1/16W
R634	1-216-833-91	RES,CHIP 10K 5%	1/16W
R635	1-216-833-91	RES,CHIP 10K 5%	1/16W
R636	1-216-851-11	METAL CHIP 330K 5%	1/16W
R637	1-216-829-11	METAL CHIP 4.7K 5%	1/16W
R638	1-216-841-11	METAL CHIP 47K 5%	1/16W
R639	1-216-847-11	METAL CHIP 150K 5%	1/16W
R640	1-216-821-11	METAL CHIP 1K 5%	1/16W
R641	1-216-843-11	METAL CHIP 68K 5%	1/16W
R642	1-216-833-91	RES,CHIP 10K 5%	1/16W
R643	1-216-807-11	METAL CHIP 68 5%	1/16W
R644	1-216-073-00	METAL CHIP 10K 5%	1/10W
R646	1-216-041-00	METAL CHIP 470 5%	1/10W
R647	1-216-089-91	RES,CHIP 47K 5%	1/10W
R648	1-216-073-00	METAL CHIP 10K 5%	1/10W
R649	1-216-835-11	METAL CHIP 15K 5%	1/16W
R650	1-216-833-91	RES,CHIP 10K 5%	1/16W
R651	1-216-077-00	METAL CHIP 15K 5%	1/10W
R652	1-216-819-11	METAL CHIP 680 5%	1/16W
R653	1-216-073-00	METAL CHIP 10K 5%	1/10W
R654	1-216-073-00	METAL CHIP 10K 5%	1/10W
R655	1-216-073-00	METAL CHIP 10K 5%	1/10W
R656	1-216-073-00	METAL CHIP 10K 5%	1/10W
R657	1-216-841-11	METAL CHIP 47K 5%	1/16W
R658	1-216-853-11	METAL CHIP 470K 5%	1/16W
R659	1-216-817-11	METAL CHIP 470 5%	1/16W
R660	1-216-089-91	RES,CHIP 47K 5%	1/10W
R661	1-216-857-11	METAL CHIP 1M 5%	1/16W
R662	1-216-819-11	METAL CHIP 680 5%	1/16W
R663	1-216-821-11	METAL CHIP 1K 5%	1/16W
R664	1-216-821-11	METAL CHIP 1K 5%	1/16W
R665	1-216-073-00	METAL CHIP 10K 5%	1/10W
R666	1-216-821-11	METAL CHIP 1K 5%	1/16W
R667	1-216-821-11	METAL CHIP 1K 5%	1/16W
R668	1-216-033-00	METAL CHIP 220 5%	1/10W
R669	1-216-857-11	METAL CHIP 1M 5%	1/16W
R671	1-216-049-91	RES,CHIP 1K 5%	1/10W
R672	1-216-049-91	RES,CHIP 1K 5%	1/10W
< VIBRATOR >			
X601	1-760-174-11	VIBRATOR, CERAMIC (12MHz)	
X602	1-781-183-11	VIBRATOR, CRYSTAL (32.768kHz)	
X603	1-767-151-11	VIBRATOR, CRYSTAL (22.5792MHz)	

*	1-671-317-21	LCD BOARD	*****
*	3-027-672-01	HOLDER, LCD	
*	3-030-437-01	ILLUMINATOR	
*	3-031-123-01	COVER, LCD	
*	4-931-757-31	SCREW(DIA.2.6X8)(IT3B),TAPPING	

LCD	LINE	MAIN
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Ref. No.	Part No.	Description	Remark
		< CAPACITOR >	
C559	1-163-009-11	CERAMIC CHIP 0.001uF 10%	50V
C560	1-163-009-11	CERAMIC CHIP 0.001uF 10%	50V
C561	1-163-251-11	CERAMIC CHIP 100PF 5%	50V
C562	1-163-251-11	CERAMIC CHIP 100PF 5%	50V
C563	1-163-038-91	CERAMIC CHIP 0.1uF	25V
C564	1-163-009-11	CERAMIC CHIP 0.001uF 10%	50V
C565	1-109-982-11	CERAMIC 1MF 10%	10V
C566	1-109-982-11	CERAMIC 1MF 10%	10V
C567	1-109-982-11	CERAMIC 1MF 10%	10V
C568	1-109-982-11	CERAMIC 1MF 10%	10V
C569	1-109-982-11	CERAMIC 1MF 10%	10V
C570	1-107-823-11	CERAMIC CHIP 0.47uF 10%	16V
C571	1-107-823-11	CERAMIC CHIP 0.47uF 10%	16V
C572	1-107-823-11	CERAMIC CHIP 0.47uF 10%	16V
C573	1-104-665-11	ELECT 100uF 20%	10V
		< CONNECTOR >	
CN552	1-691-068-21	HOUSING, CONNECTOR 9P	
CN553	1-563-624-11	HOUSING, CONNECTOR 21P	
		< JUMPER RESISTOR >	
JC556	1-216-295-00	METAL CHIP 0 5%	1/10W
		< LIQUID CRYSTAL DISPLAY >	
LCD1	1-803-283-11	LCD UNIT	
		< RESISTOR >	
R576	1-216-114-00	RES,CHIP 510K 5%	1/10W
R577	1-216-111-00	METAL CHIP 390K 5%	1/10W
R580	1-216-073-00	METAL CHIP 10K 5%	1/10W
R581	1-216-049-91	RES,CHIP 1K 5%	1/10W
R582	1-216-049-91	RES,CHIP 1K 5%	1/10W
R583	1-216-049-91	RES,CHIP 1K 5%	1/10W
R584	1-216-049-91	RES,CHIP 1K 5%	1/10W
		< VARIABLE RESISTOR >	
RV550	1-238-552-11	RES, ADJ, CARBON 470K (DIMMER)	

*	1-671-318-21	LINE BOARD *****	
		< CONNECTOR >	
CN314	1-785-712-11	CONNECTOR, BOARD TO BOARD 4P	
		< DIODE >	
D308	8-719-988-61	DIODE 1SS355TE-17	
D309	8-719-988-61	DIODE 1SS355TE-17	
		< FERRITE BEAD >	
FB102	1-500-241-21	FERRITE	
FB202	1-500-241-21	FERRITE	
FB302	1-500-241-21	FERRITE	
		< JACK >	
J302	1-785-369-11	JACK (LINE IN)	

Ref. No.	Part No.	Description	Remark
*	A-3323-157-A	MAIN BOARD, COMPLETE *****	
	7-685-646-79	SCREW +BVTP 3X8	TYPE2 N-S
		< CAPACITOR >	
C101	1-126-961-11	ELECT 2.2uF 20%	50V
C102	1-126-961-11	ELECT 2.2uF 20%	50V
C103	1-126-961-11	ELECT 2.2uF 20%	50V
C104	1-126-964-11	ELECT 10uF 20%	50V
C105	1-164-172-11	CERAMIC CHIP 0.0056uF 10%	25V
C106	1-162-979-11	CERAMIC CHIP 0.0027uF 10%	50V
C107	1-124-233-11	ELECT 10uF 20%	16V
C108	1-126-964-11	ELECT 10uF 20%	50V
C109	1-162-970-11	CERAMIC CHIP 0.01uF 10%	25V
C110	1-162-957-11	CERAMIC CHIP 220PF 5%	50V
C111	1-104-665-11	ELECT 100uF 20%	10V
C112	1-126-964-11	ELECT 10uF 20%	50V
C113	1-126-964-11	ELECT 10uF 20%	50V
C114	1-124-257-00	ELECT 2.2uF 20%	50V
C127	1-162-957-11	CERAMIC CHIP 220PF 5%	50V
C201	1-126-961-11	ELECT 2.2uF 20%	50V
C202	1-126-961-11	ELECT 2.2uF 20%	50V
C203	1-126-961-11	ELECT 2.2uF 20%	50V
C204	1-126-964-11	ELECT 10uF 20%	50V
C205	1-164-172-11	CERAMIC CHIP 0.0056uF 10%	25V
C206	1-162-979-11	CERAMIC CHIP 0.0027uF 10%	50V
C207	1-126-964-11	ELECT 10uF 20%	50V
C208	1-126-964-11	ELECT 10uF 20%	50V
C209	1-162-970-11	CERAMIC CHIP 0.01uF 10%	25V
C210	1-162-957-11	CERAMIC CHIP 220PF 5%	50V
C211	1-104-665-11	ELECT 100uF 20%	10V
C212	1-126-964-11	ELECT 10uF 20%	50V
C213	1-126-964-11	ELECT 10uF 20%	50V
C214	1-126-961-11	ELECT 2.2uF 20%	50V
C227	1-162-957-11	CERAMIC CHIP 220PF 5%	50V
C301	1-164-004-11	CERAMIC CHIP 0.1uF 10%	25V
C302	1-124-584-00	ELECT 100uF 20%	10V
C303	1-104-665-11	ELECT 100uF 20%	10V
C321	1-104-665-11	ELECT 100uF 20%	10V
C327	1-104-665-11	ELECT 100uF 20%	10V
C328	1-164-004-11	CERAMIC CHIP 0.1uF 10%	25V
C329	1-163-021-91	CERAMIC CHIP 0.01uF 10%	50V
C331	1-104-665-11	ELECT 100uF 20%	10V
C340	1-124-233-11	ELECT 10uF 20%	16V
C341	1-124-233-11	ELECT 10uF 20%	16V
C342	1-124-233-11	ELECT 10uF 20%	16V
C401	1-117-850-11	ELECT 15000uF 20%	16V
C402	1-163-021-91	CERAMIC CHIP 0.01uF 10%	50V
C403	1-126-964-11	ELECT 10uF 20%	50V
C404	1-163-021-91	CERAMIC CHIP 0.01uF 10%	50V
C405	1-104-905-11	CAPACITOR 0.22F	5.5V
C406	1-163-059-91	CERAMIC CHIP 0.01uF 10%	50V
C407	1-126-157-11	ELECT 10uF 20%	16V
C408	1-126-157-11	ELECT 10uF 20%	16V
C409	1-163-021-91	CERAMIC CHIP 0.01uF 10%	50V
C410	1-126-935-11	ELECT 470uF 20%	16V
C411	1-163-021-91	CERAMIC CHIP 0.01uF 10%	50V

Ref. No.	Part No.	Description			Remark	Ref. No.	Part No.	Description			Remark
C412	1-126-925-11	ELECT	470uF	20%	10V	C471	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C413	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V	C472	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C414	1-124-589-11	ELECT	47uF	20%	16V	C473	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C415	1-126-964-11	ELECT	10uF	20%	50V	C475	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C416	1-126-964-11	ELECT	10uF	20%	50V	C476	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C417	1-163-021-91	CERAMIC CHIP	0.01uF	10%	50V	C477	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C418	1-124-589-11	ELECT	47uF	20%	16V	C478	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C419	1-163-021-91	CERAMIC CHIP	0.01uF	10%	50V	C479	1-162-923-11	CERAMIC CHIP	47PF	5%	50V
C420	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V	C480	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C421	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V	C483	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C422	1-163-239-11	CERAMIC CHIP	33PF	5%	50V	C484	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C423	1-164-378-11	CERAMIC CHIP	30PF	5%	50V	C485	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C424	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V	C486	1-164-315-11	CERAMIC CHIP	470PF	5%	50V
C425	1-162-920-11	CERAMIC CHIP	27PF	5%	50V	C487	1-164-315-11	CERAMIC CHIP	470PF	5%	50V
C426	1-162-921-11	CERAMIC CHIP	33PF	5%	50V	C488	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C427	1-162-919-11	CERAMIC CHIP	22PF	5%	50V	C489	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C428	1-162-919-11	CERAMIC CHIP	22PF	5%	50V	C490	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C429	1-107-725-11	CERAMIC CHIP	0.1uF	10%	16V	C491	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C430	1-164-505-11	CERAMIC CHIP	2.2uF		16V	C492	1-126-961-11	ELECT	2.2uF	20%	50V
C431	1-124-584-00	ELECT	100uF	20%	10V	C493	1-163-235-11	CERAMIC CHIP	22PF	5%	50V
C432	1-163-021-91	CERAMIC CHIP	0.01uF	10%	50V	C494	1-163-263-11	CERAMIC CHIP	330PF	5%	50V
C433	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V	C495	1-163-233-11	CERAMIC CHIP	18PF	5%	50V
C434	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V	C496	1-128-551-11	ELECT	22uF	20%	25V
C435	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V	C497	1-163-021-91	CERAMIC CHIP	0.01uF	10%	50V
C436	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V	C498	1-163-021-91	CERAMIC CHIP	0.01uF	10%	50V
C437	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V	C499	1-126-935-11	ELECT	470uF	20%	6.3V
C438	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V	C500	1-163-135-00	CERAMIC CHIP	560PF	5%	50V
C439	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V	C501	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C440	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V	C502	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C441	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V	C503	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C442	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V	C504	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C443	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V	C505	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C444	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V	C506	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C445	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V	C507	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C446	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V	C508	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C447	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V	C510	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C448	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V	C511	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C449	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V	C512	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C450	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V	C513	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C451	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V	C514	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C452	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V	C515	1-163-021-91	CERAMIC CHIP	0.01uF	10%	50V
C453	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V	C516	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C455	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V	C517	1-163-021-91	CERAMIC CHIP	0.01uF	10%	50V
C456	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V	C518	1-163-021-91	CERAMIC CHIP	0.01uF	10%	50V
C457	1-162-927-11	CERAMIC CHIP	100PF	5%	50V	C519	1-163-021-91	CERAMIC CHIP	0.01uF	10%	50V
C458	1-163-251-11	CERAMIC CHIP	100PF	5%	50V	C520	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C459	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V	C521	1-164-505-11	CERAMIC CHIP	2.2uF		16V
C460	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V	C522	1-109-982-11	CERAMIC CHIP	1uF	10%	10V
C461	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V	C524	1-126-934-11	ELECT	220uF	20%	10V
C462	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V	C701	1-124-584-00	ELECT	100uF	20%	10V
C463	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V	C702	1-163-021-91	CERAMIC CHIP	0.01uF	10%	50V
C464	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V	C703	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C465	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V	C704	1-165-176-11	CERAMIC CHIP	0.047uF	10%	16V
C466	1-164-315-11	CERAMIC CHIP	470PF	5%	50V	C705	1-162-968-11	CERAMIC CHIP	0.0047uF	10%	50V
C467	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V	C706	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C468	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V	C707	1-126-925-11	ELECT	470uF	20%	10V
C469	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V	C708	1-107-826-91	CERAMIC CHIP	0.1uF	10%	16V
C470	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V	C709	1-162-969-11	CERAMIC CHIP	0.0068uF	10%	25V

MAIN

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
C710	1-107-826-91	CERAMIC CHIP	0.1uF 10% 16V	C776	1-127-688-21	TANTAL. CHIP	10uF 20% 6.3V
C711	1-107-826-91	CERAMIC CHIP	0.1uF 10% 16V	C777	1-126-382-11	ELECT	100uF 20% 10V
C712	1-115-467-11	CERAMIC CHIP	0.22uF 10% 10V	C778	1-162-970-11	CERAMIC CHIP	0.01uF 10% 25V
C713	1-124-584-00	ELECT	100uF 20% 10V	C779	1-162-927-11	CERAMIC CHIP	100PF 5% 50V
C714	1-162-966-11	CERAMIC CHIP	0.0022uF 10% 50V	C780	1-162-957-11	CERAMIC CHIP	220PF 5% 50V
C715	1-107-826-91	CERAMIC CHIP	0.1uF 10% 16V	C781	1-162-970-11	CERAMIC CHIP	0.01uF 10% 25V
C716	1-126-157-11	ELECT	10uF 20% 16V	C783	1-109-982-11	CERAMIC CHIP	1uF 10% 10V
C717	1-107-826-91	CERAMIC CHIP	0.1uF 10% 16V	C784	1-163-021-91	CERAMIC CHIP	0.01uF 10% 50V
C718	1-107-826-91	CERAMIC CHIP	0.1uF 10% 16V	C787	1-163-021-91	CERAMIC CHIP	0.01uF 10% 50V
C720	1-119-660-11	TANTAL. CHIP	4.7uF 20% 6.3V	C788	1-126-176-11	ELECT	220uF 20% 10V
C721	1-162-970-11	CERAMIC CHIP	0.01uF 10% 25V	C790	1-162-927-11	CERAMIC CHIP	100PF 5% 50V
C722	1-164-677-11	CERAMIC CHIP	0.033uF 10% 16V	C791	1-109-982-11	CERAMIC CHIP	1uF 10% 10V
C723	1-164-677-11	CERAMIC CHIP	0.033uF 10% 16V	< CONNECTOR >			
C724	1-162-915-11	CERAMIC CHIP	10PF 0.5PF 50V	* CN305	1-580-171-11	PIN, CONNECTOR (PC BOARD)	10P
C725	1-164-315-11	CERAMIC CHIP	470PF 5% 50V	* CN306	1-580-169-11	PIN, CONNECTOR (PC BOARD)	8P
C726	1-104-509-11	CERAMIC CHIP	0.018uF 10% 16V	CN307	1-785-713-11	CONNECTOR, BOARD TO BOARD	4P
C727	1-107-826-91	CERAMIC CHIP	0.1uF 10% 16V	* CN312	1-564-509-11	PLUG, CONNECTOR	6P
C728	1-162-915-11	CERAMIC CHIP	10PF 0.5PF 50V	* CN313	1-564-520-11	PLUG, CONNECTOR	5P
C729	1-162-969-11	CERAMIC CHIP	0.0068uF 10% 25V	* CN401	1-564-519-11	PLUG, CONNECTOR	4P
C730	1-124-257-00	ELECT	2.2uF 20% 50V	CN402	1-580-168-01	PIN, CONNECTOR (PC BOARD)	7P
C731	1-110-563-11	CERAMIC CHIP	0.068uF 10% 16V	CN404	1-580-168-11	PIN, CONNECTOR (PC BOARD)	7P
C732	1-162-970-11	CERAMIC CHIP	0.01uF 10% 25V	CN405	1-770-533-31	CONNECTOR, FFC/FPC	26P
C733	1-162-923-11	CERAMIC CHIP	47PF 5% 50V	CN406	1-568-852-11	CONNECTOR, FFC/FPC	9P
C734	1-162-970-11	CERAMIC CHIP	0.01uF 10% 25V	CN407	1-569-906-11	SOCKET, CONNECTOR	11P
C735	1-162-970-11	CERAMIC CHIP	0.01uF 10% 25V	CN408	1-580-168-11	PIN, CONNECTOR (PC BOARD)	7P
C736	1-126-382-11	ELECT	100uF 20% 10V	CN409	1-770-516-31	CONNECTOR, FFC/FPC	8P
C737	1-163-251-11	CERAMIC CHIP	100PF 5% 50V	* CN701	1-779-466-11	CONNECTOR, FFC/FPC	16P
C738	1-163-251-11	CERAMIC CHIP	100PF 5% 50V	* CN702	1-580-167-11	PIN, CONNECTOR (PC BOARD)	6P
C739	1-163-251-11	CERAMIC CHIP	100PF 5% 50V	* CN704	1-580-163-11	PIN, CONNECTOR (PC BOARD)	2P
C740	1-163-021-91	CERAMIC CHIP	0.01uF 10% 50V	< DIODE >			
C745	1-162-965-11	CERAMIC CHIP	0.0015uF 10% 50V	D401	8-719-914-43	DIODE DAN202K	
C746	1-162-957-11	CERAMIC CHIP	220PF 5% 50V	D402	8-719-056-83	DIODE UDZ-TE-17-6.8B	
C747	1-164-489-11	CERAMIC CHIP	0.22uF 10% 16V	D405	8-719-988-61	DIODE 1SS355TE-17	
C748	1-165-176-11	CERAMIC CHIP	0.047uF 10% 16V	D406	8-719-988-61	DIODE 1SS355TE-17	
C749	1-162-970-11	CERAMIC CHIP	0.01uF 10% 25V	D407	8-719-988-61	DIODE 1SS355TE-17	
C750	1-163-021-91	CERAMIC CHIP	0.01uF 10% 50V	D701	8-719-988-61	DIODE 1SS355TE-17	
C751	1-163-021-91	CERAMIC CHIP	0.01uF 10% 50V	D702	8-719-988-61	DIODE 1SS355TE-17	
C752	1-162-970-11	CERAMIC CHIP	0.01uF 10% 25V	D703	8-719-056-76	DIODE UDZ-TE-17-3.6B	
C753	1-162-970-11	CERAMIC CHIP	0.01uF 10% 25V	D704	8-719-988-61	DIODE 1SS355TE-17	
C755	1-163-251-11	CERAMIC CHIP	100PF 5% 50V	< FERRITE BEAD >			
C756	1-163-263-11	CERAMIC CHIP	330PF 5% 50V	FB101	1-216-295-00	METAL CHIP	0 5% 1/10W
C757	1-162-970-11	CERAMIC CHIP	0.01uF 10% 25V	FB201	1-216-295-00	METAL CHIP	0 5% 1/10W
C758	1-163-251-11	CERAMIC CHIP	100PF 5% 50V	FB301	1-216-295-00	METAL CHIP	0 5% 1/10W
C759	1-162-970-11	CERAMIC CHIP	0.01uF 10% 25V	FB401	1-216-296-00	METAL CHIP	0 5% 1/8W
C760	1-163-251-11	CERAMIC CHIP	100PF 5% 50V	FB402	1-469-125-21	FERRITE	
C761	1-163-251-11	CERAMIC CHIP	100PF 5% 50V	FB403	1-500-445-21	FERRITE	
C762	1-107-682-11	CERAMIC CHIP	1uF 10% 16V	FB404	1-469-125-21	FERRITE	
C763	1-163-251-11	CERAMIC CHIP	100PF 5% 50V	FB405	1-500-445-21	FERRITE	
C764	1-162-970-11	CERAMIC CHIP	0.01uF 10% 25V	FB406	1-500-445-21	FERRITE	
C765	1-162-970-11	CERAMIC CHIP	0.01uF 10% 25V	FB407	1-469-125-21	FERRITE	
C767	1-163-229-11	CERAMIC CHIP	12PF 5% 50V	FB408	1-500-445-21	FERRITE	
C768	1-163-229-11	CERAMIC CHIP	12PF 5% 50V	FB409	1-469-125-21	FERRITE	
C770	1-124-584-00	ELECT	100uF 20% 10V	FB410	1-469-125-21	FERRITE	
C771	1-124-584-00	ELECT	100uF 20% 10V	FB411	1-500-445-21	FERRITE	
C773	1-124-233-11	ELECT	10uF 20% 16V	FB412	1-469-185-11	FERRITE	
C774	1-124-233-11	ELECT	10uF 20% 16V				
C775	1-163-021-91	CERAMIC CHIP	0.01uF 10% 50V				

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
FB413	1-469-185-11	FERRITE		L701	1-412-973-11	INDUCTOR 0.33uH	
FB414	1-500-445-21	FERRITE				< TRANSISTOR >	
FB415	1-500-445-21	FERRITE					
FB416	1-216-295-00	METAL CHIP	0 5% 1/10W	Q101	8-729-920-31	TRANSISTOR DTC343TK	
FB417	1-469-125-21	FERRITE		Q102	8-729-920-31	TRANSISTOR DTC343TK	
FB418	1-469-125-21	FERRITE		Q103	8-729-920-31	TRANSISTOR DTC343TK	
FB419	1-469-125-21	FERRITE		Q104	8-729-903-10	TRANSISTOR FMW1	
FB420	1-469-125-21	FERRITE		Q106	8-729-920-31	TRANSISTOR DTC343TK	
FB421	1-469-125-21	FERRITE					
FB422	1-469-125-21	FERRITE		Q107	8-729-027-46	TRANSISTOR DTC114YKA-T146	
FB423	1-216-295-00	METAL CHIP	0 5% 1/10W	Q201	8-729-920-31	TRANSISTOR DTC343TK	
FB424	1-500-445-21	FERRITE		Q202	8-729-920-31	TRANSISTOR DTC343TK	
FB425	1-216-295-00	METAL CHIP	0 5% 1/10W	Q203	8-729-920-31	TRANSISTOR DTC343TK	
FB426	1-216-864-11	METAL CHIP	0 5% 1/16W	Q204	8-729-903-10	TRANSISTOR FMW1	
FB427	1-216-295-00	METAL CHIP	0 5% 1/10W				
FB428	1-216-295-00	METAL CHIP	0 5% 1/10W	Q206	8-729-920-31	TRANSISTOR DTC343TK	
FB429	1-216-295-00	METAL CHIP	0 5% 1/10W	Q207	8-729-027-46	TRANSISTOR DTC114YKA-T146	
FB430	1-216-295-00	METAL CHIP	0 5% 1/10W	Q301	8-729-920-41	TRANSISTOR FMC3	
FB431	1-216-295-00	METAL CHIP	0 5% 1/10W	Q302	8-729-920-41	TRANSISTOR FMC3	
FB432	1-216-864-11	METAL CHIP	0 5% 1/16W	Q303	8-729-920-41	TRANSISTOR FMC3	
FB433	1-216-295-00	METAL CHIP	0 5% 1/10W				
FB434	1-216-864-11	METAL CHIP	0 5% 1/16W	Q304	8-729-027-24	TRANSISTOR DTA114TKA-T146	
FB701	1-216-864-11	METAL CHIP	0 5% 1/16W	Q305	8-729-027-24	TRANSISTOR DTA114TKA-T146	
FB703	1-500-234-22	FERRITE		Q306	8-729-027-24	TRANSISTOR DTA114TKA-T146	
FB704	1-216-295-00	METAL CHIP	0 5% 1/10W	Q311	8-729-920-41	TRANSISTOR FMC3	
FB711	1-500-241-22	FERRITE		Q312	8-729-920-41	TRANSISTOR FMC3	
FB712	1-216-295-00	METAL CHIP	0 5% 1/10W				
FB713	1-216-295-00	METAL CHIP	0 5% 1/10W	Q401	8-729-920-41	TRANSISTOR FMC3	
FB714	1-216-295-00	METAL CHIP	0 5% 1/10W	Q402	8-729-922-62	TRANSISTOR 2SD1760F5-TLQ	
FB762	1-216-864-11	METAL CHIP	0 5% 1/16W	Q403	8-729-920-41	TRANSISTOR FMC3	
		< IC >		Q404	8-729-027-46	TRANSISTOR DTC114YKA-T146	
IC301	8-759-287-76	IC NJM2123M-T1		Q405	8-729-903-46	TRANSISTOR 2SB1132-P	
IC302	8-759-636-55	IC M5218AFP					
IC401	8-759-361-69	IC BA17805T		Q406	8-729-903-10	TRANSISTOR FMW1	
IC402	8-759-486-73	IC XC62FP3302PR		Q407	8-729-027-46	TRANSISTOR DTC114YKA-T146	
IC403	8-759-493-53	IC S-81233SGUP-DQF-T1		Q408	8-729-027-46	TRANSISTOR DTC114YKA-T146	
IC404	8-759-572-25	IC XC61AN2702PR		Q409	8-729-027-26	TRANSISTOR DTA114YKA-T146	
IC405	8-752-903-56	IC CXP740096-026Q		Q410	8-729-903-46	TRANSISTOR 2SB1132-P	
IC406	8-759-557-36	IC BU1924F-E2					
IC701	8-752-083-24	IC CXA2542AQ		Q411	8-729-027-46	TRANSISTOR DTC114YKA-T146	
IC702	8-752-387-78	IC CXD3009Q		Q412	8-729-027-46	TRANSISTOR DTC114YKA-T146	
IC703	8-759-591-63	IC BA6998FP-E2		Q413	8-729-903-46	TRANSISTOR 2SB1132-P	
		< JACK >		Q701	8-729-101-07	TRANSISTOR 2SB798-DL	
J301	1-785-368-11	JACK (♁)		Q702	8-729-027-29	TRANSISTOR DTA123JKA-T146	
		< JUMPER RESISTOR >					
JC404	1-216-296-00	METAL CHIP	0 5% 1/8W	Q703	8-729-922-62	TRANSISTOR 2SD1760F5-TLQ	
JC405	1-216-296-00	METAL CHIP	0 5% 1/8W				
JC406	1-216-296-00	METAL CHIP	0 5% 1/8W				
JC407	1-216-295-00	METAL CHIP	0 5% 1/10W				
		< COIL >					
L301	1-410-993-42	INDUCTOR CHIP 1uH		R101	1-216-845-11	METAL CHIP 100K 5% 1/16W	
L302	1-410-993-42	INDUCTOR CHIP 1uH		R102	1-216-097-91	RES,CHIP 100K 5% 1/10W	
L303	1-410-993-42	INDUCTOR CHIP 1uH		R103	1-216-845-11	METAL CHIP 100K 5% 1/16W	
L401	1-414-170-21	INDUCTOR CHIP 100uH		R104	1-216-864-11	METAL CHIP 0 5% 1/16W	
				R105	1-216-821-11	METAL CHIP 1K 5% 1/16W	
				R106	1-216-845-11	METAL CHIP 100K 5% 1/16W	
				R107	1-216-864-11	METAL CHIP 0 5% 1/16W	
				R108	1-216-821-11	METAL CHIP 1K 5% 1/16W	
				R109	1-216-230-00	RES,CHIP 22K 5% 1/8W	
				R110	1-216-821-11	METAL CHIP 1K 5% 1/16W	
				R111	1-216-025-91	RES,CHIP 100 5% 1/10W	
				R112	1-216-821-11	METAL CHIP 1K 5% 1/16W	
				R113	1-216-081-00	METAL CHIP 22K 5% 1/10W	
				R114	1-216-845-11	METAL CHIP 100K 5% 1/16W	
				R115	1-216-825-11	METAL CHIP 2.2K 5% 1/16W	
				R116	1-216-833-91	RES,CHIP 10K 5% 1/16W	

MAIN

Ref. No.	Part No.	Description			Remark	Ref. No.	Part No.	Description			Remark
R117	1-216-073-00	METAL CHIP	10K	5%	1/10W	R329	1-216-097-91	RES,CHIP	100K	5%	1/10W
R118	1-216-073-00	METAL CHIP	10K	5%	1/10W						
R119	1-216-821-11	METAL CHIP	1K	5%	1/16W	R330	1-216-097-91	RES,CHIP	100K	5%	1/10W
R120	1-216-081-00	METAL CHIP	22K	5%	1/10W	R331	1-216-833-91	RES,CHIP	10K	5%	1/16W
						R332	1-216-833-91	RES,CHIP	10K	5%	1/16W
R121	1-216-825-11	METAL CHIP	2.2K	5%	1/16W	R337	1-216-097-91	RES,CHIP	100K	5%	1/10W
R122	1-216-081-00	METAL CHIP	22K	5%	1/10W	R347	1-216-089-91	RES,CHIP	47K	5%	1/10W
R123	1-216-097-91	RES,CHIP	100K	5%	1/10W						
R124	1-216-097-91	RES,CHIP	100K	5%	1/10W	R401	1-216-805-11	METAL CHIP	47	5%	1/16W
R131	1-216-833-91	RES,CHIP	10K	5%	1/16W	R402	1-216-041-00	METAL CHIP	470	5%	1/10W
						R403	1-216-049-91	RES,CHIP	1K	5%	1/10W
R133	1-216-827-11	METAL CHIP	3.3K	5%	1/16W	R404	1-216-839-11	METAL CHIP	33K	5%	1/16W
R134	1-216-832-11	METAL CHIP	8.2K	5%	1/16W	R405	1-216-833-91	RES,CHIP	10K	5%	1/16W
R135	1-216-089-91	RES,CHIP	47K	5%	1/10W						
R136	1-216-073-00	METAL CHIP	10K	5%	1/10W	R406	1-216-821-11	METAL CHIP	1K	5%	1/16W
R137	1-216-864-11	METAL CHIP	0	5%	1/16W	R407	1-216-049-91	RES,CHIP	1K	5%	1/10W
						R408	1-216-809-11	METAL CHIP	100	5%	1/16W
R139	1-216-821-11	METAL CHIP	1K	5%	1/16W	R409	1-216-833-91	RES,CHIP	10K	5%	1/16W
R140	1-216-821-11	METAL CHIP	1K	5%	1/16W	R410	1-216-833-91	RES,CHIP	10K	5%	1/16W
R141	1-216-864-11	METAL CHIP	0	5%	1/16W						
R201	1-216-845-11	METAL CHIP	100K	5%	1/16W	R411	1-216-833-91	RES,CHIP	10K	5%	1/16W
R202	1-216-097-91	RES,CHIP	100K	5%	1/10W	R412	1-216-833-91	RES,CHIP	10K	5%	1/16W
						R413	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R203	1-216-845-11	METAL CHIP	100K	5%	1/16W	R414	1-216-817-11	METAL CHIP	470	5%	1/16W
R204	1-216-864-11	METAL CHIP	0	5%	1/16W	R415	1-216-817-11	METAL CHIP	470	5%	1/16W
R205	1-216-821-11	METAL CHIP	1K	5%	1/16W						
R206	1-216-845-11	METAL CHIP	100K	5%	1/16W	R416	1-216-833-91	RES,CHIP	10K	5%	1/16W
R207	1-216-864-11	METAL CHIP	0	5%	1/16W	R417	1-216-821-11	METAL CHIP	1K	5%	1/16W
						R418	1-216-821-11	METAL CHIP	1K	5%	1/16W
R208	1-216-821-11	METAL CHIP	1K	5%	1/16W	R419	1-216-821-11	METAL CHIP	1K	5%	1/16W
R209	1-216-230-00	RES,CHIP	22K	5%	1/8W	R420	1-216-821-11	METAL CHIP	1K	5%	1/16W
R210	1-216-821-11	METAL CHIP	1K	5%	1/16W						
R211	1-216-809-11	METAL CHIP	100	5%	1/16W	R421	1-216-821-11	METAL CHIP	1K	5%	1/16W
R212	1-216-821-11	METAL CHIP	1K	5%	1/16W	R422	1-216-821-11	METAL CHIP	1K	5%	1/16W
						R423	1-216-821-11	METAL CHIP	1K	5%	1/16W
R213	1-216-081-00	METAL CHIP	22K	5%	1/10W	R424	1-216-821-11	METAL CHIP	1K	5%	1/16W
R214	1-216-845-11	METAL CHIP	100K	5%	1/16W	R425	1-216-821-11	METAL CHIP	1K	5%	1/16W
R215	1-216-825-11	METAL CHIP	2.2K	5%	1/16W						
R216	1-216-833-91	RES,CHIP	10K	5%	1/16W	R426	1-216-821-11	METAL CHIP	1K	5%	1/16W
R217	1-216-073-00	METAL CHIP	10K	5%	1/10W	R427	1-216-821-11	METAL CHIP	1K	5%	1/16W
						R428	1-216-833-91	RES,CHIP	10K	5%	1/16W
R218	1-216-073-00	METAL CHIP	10K	5%	1/10W	R429	1-216-821-11	METAL CHIP	1K	5%	1/16W
R219	1-216-821-11	METAL CHIP	1K	5%	1/16W	R430	1-216-821-11	METAL CHIP	1K	5%	1/16W
R220	1-216-081-00	METAL CHIP	22K	5%	1/10W						
R221	1-216-825-11	METAL CHIP	2.2K	5%	1/16W	R431	1-216-821-11	METAL CHIP	1K	5%	1/16W
R222	1-216-081-00	METAL CHIP	22K	5%	1/10W	R432	1-216-821-11	METAL CHIP	1K	5%	1/16W
						R433	1-216-821-11	METAL CHIP	1K	5%	1/16W
R223	1-216-097-91	RES,CHIP	100K	5%	1/10W	R434	1-216-821-11	METAL CHIP	1K	5%	1/16W
R224	1-216-097-91	RES,CHIP	100K	5%	1/10W	R435	1-216-841-11	METAL CHIP	47K	5%	1/16W
R231	1-216-833-91	RES,CHIP	10K	5%	1/16W						
R233	1-216-827-11	METAL CHIP	3.3K	5%	1/16W	R436	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R234	1-216-832-11	METAL CHIP	8.2K	5%	1/16W	R437	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
						R438	1-216-069-00	METAL CHIP	6.8K	5%	1/10W
R235	1-216-089-91	RES,CHIP	47K	5%	1/10W	R439	1-216-821-11	METAL CHIP	1K	5%	1/16W
R236	1-216-073-00	METAL CHIP	10K	5%	1/10W	R440	1-216-821-11	METAL CHIP	1K	5%	1/16W
R237	1-216-864-11	METAL CHIP	0	5%	1/16W						
R239	1-216-821-11	METAL CHIP	1K	5%	1/16W	R441	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R240	1-216-821-11	METAL CHIP	1K	5%	1/16W	R442	1-216-049-91	RES,CHIP	1K	5%	1/10W
						R443	1-216-817-11	METAL CHIP	470	5%	1/16W
R241	1-216-864-11	METAL CHIP	0	5%	1/16W	R444	1-216-817-11	METAL CHIP	470	5%	1/16W
R301	1-216-017-91	RES,CHIP	47	5%	1/10W	R445	1-216-821-11	METAL CHIP	1K	5%	1/16W
R306	1-216-017-91	RES,CHIP	47	5%	1/10W						
R307	1-216-833-91	RES,CHIP	10K	5%	1/16W	R446	1-216-821-11	METAL CHIP	1K	5%	1/16W
R308	1-216-833-91	RES,CHIP	10K	5%	1/16W	R447	1-216-833-91	RES,CHIP	10K	5%	1/16W
						R448	1-216-821-11	METAL CHIP	1K	5%	1/16W
R317	1-216-073-00	METAL CHIP	10K	5%	1/10W	R449	1-216-821-11	METAL CHIP	1K	5%	1/16W
R318	1-216-073-00	METAL CHIP	10K	5%	1/10W	R450	1-216-821-11	METAL CHIP	1K	5%	1/16W
R323	1-216-073-00	METAL CHIP	10K	5%	1/10W						
R326	1-216-017-91	RES,CHIP	47	5%	1/10W	R451	1-216-821-11	METAL CHIP	1K	5%	1/16W

Ref. No.	Part No.	Description			Remark	Ref. No.	Part No.	Description			Remark
R452	1-216-833-91	RES,CHIP	10K	5%	1/16W	R706	1-216-847-11	METAL CHIP	150K	5%	1/16W
R453	1-216-821-11	METAL CHIP	1K	5%	1/16W	R710	1-218-273-11	RES,CHIP	510K	5%	1/16W
R454	1-216-817-11	METAL CHIP	470	5%	1/16W	R711	1-216-847-11	METAL CHIP	150K	5%	1/16W
R455	1-216-817-11	METAL CHIP	470	5%	1/16W	R712	1-216-845-11	METAL CHIP	100K	5%	1/16W
R456	1-216-821-11	METAL CHIP	1K	5%	1/16W	R713	1-216-841-11	METAL CHIP	47K	5%	1/16W
R457	1-216-041-00	METAL CHIP	470	5%	1/10W	R714	1-216-841-11	METAL CHIP	47K	5%	1/16W
R458	1-216-041-00	METAL CHIP	470	5%	1/10W	R715	1-216-847-11	METAL CHIP	150K	5%	1/16W
R459	1-216-833-91	RES,CHIP	10K	5%	1/16W	R716	1-216-845-11	METAL CHIP	100K	5%	1/16W
R460	1-216-821-11	METAL CHIP	1K	5%	1/16W	R718	1-216-817-11	RES,CHIP	470	5%	1/16W
R461	1-216-821-11	METAL CHIP	1K	5%	1/16W	R719	1-216-041-00	METAL CHIP	470	5%	1/10W
R462	1-216-821-11	METAL CHIP	1K	5%	1/16W	R720	1-216-817-11	METAL CHIP	470	5%	1/16W
R463	1-216-809-11	METAL CHIP	100	5%	1/16W	R721	1-216-845-11	METAL CHIP	100K	5%	1/16W
R464	1-216-821-11	METAL CHIP	1K	5%	1/16W	R722	1-216-845-11	METAL CHIP	100K	5%	1/16W
R465	1-216-809-11	METAL CHIP	100	5%	1/16W	R723	1-216-845-11	METAL CHIP	100K	5%	1/16W
R466	1-216-837-11	METAL CHIP	22K	5%	1/16W	R724	1-216-845-11	METAL CHIP	100K	5%	1/16W
R467	1-216-817-11	METAL CHIP	470	5%	1/16W	R725	1-216-845-11	METAL CHIP	100K	5%	1/16W
R468	1-216-833-91	RES,CHIP	10K	5%	1/16W	R726	1-216-845-11	METAL CHIP	100K	5%	1/16W
R470	1-216-821-11	METAL CHIP	1K	5%	1/16W	R731	1-216-835-11	METAL CHIP	15K	5%	1/16W
R471	1-216-049-91	RES,CHIP	1K	5%	1/10W	R732	1-216-839-11	METAL CHIP	33K	5%	1/16W
R472	1-216-839-11	METAL CHIP	33K	5%	1/16W	R733	1-216-845-11	METAL CHIP	100K	5%	1/16W
R473	1-216-049-91	RES,CHIP	1K	5%	1/10W	R734	1-216-001-00	METAL CHIP	10	5%	1/10W
R474	1-216-825-11	METAL CHIP	2.2K	5%	1/16W	R735	1-216-833-91	RES,CHIP	10K	5%	1/16W
R475	1-216-821-11	METAL CHIP	1K	5%	1/16W	R741	1-216-849-11	METAL CHIP	220K	5%	1/16W
R476	1-216-821-11	METAL CHIP	1K	5%	1/16W	R742	1-216-847-11	METAL CHIP	150K	5%	1/16W
R477	1-216-833-91	RES,CHIP	10K	5%	1/16W	R743	1-216-847-11	METAL CHIP	150K	5%	1/16W
R478	1-216-821-11	METAL CHIP	1K	5%	1/16W	R745	1-216-851-11	METAL CHIP	330K	5%	1/16W
R479	1-216-821-11	METAL CHIP	1K	5%	1/16W	R750	1-216-827-11	METAL CHIP	3.3K	5%	1/16W
R480	1-216-821-11	METAL CHIP	1K	5%	1/16W	R751	1-216-835-11	METAL CHIP	15K	5%	1/16W
R481	1-216-821-11	METAL CHIP	1K	5%	1/16W	R752	1-216-839-11	METAL CHIP	33K	5%	1/16W
R482	1-216-837-11	METAL CHIP	22K	5%	1/16W	R753	1-216-821-11	METAL CHIP	1K	5%	1/16W
R483	1-216-841-11	METAL CHIP	47K	5%	1/16W	R754	1-216-837-11	METAL CHIP	22K	5%	1/16W
R484	1-216-841-11	METAL CHIP	47K	5%	1/16W	R755	1-216-841-11	METAL CHIP	47K	5%	1/16W
R485	1-216-065-91	RES,CHIP	4.7K	5%	1/10W	R756	1-216-833-91	RES,CHIP	10K	5%	1/16W
R486	1-216-829-11	METAL CHIP	4.7K	5%	1/16W	R758	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R487	1-216-829-11	METAL CHIP	4.7K	5%	1/16W	R760	1-216-097-91	RES,CHIP	100K	5%	1/10W
R488	1-216-065-91	RES,CHIP	4.7K	5%	1/10W	R762	1-216-853-11	METAL CHIP	470K	5%	1/16W
R489	1-216-085-00	METAL CHIP	33K	5%	1/10W	R763	1-216-827-11	METAL CHIP	3.3K	5%	1/16W
R490	1-216-081-00	METAL CHIP	22K	5%	1/10W	R764	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R491	1-216-837-11	METAL CHIP	22K	5%	1/16W	R765	1-216-833-91	RES,CHIP	10K	5%	1/16W
R492	1-216-839-11	METAL CHIP	33K	5%	1/16W	R766	1-216-857-11	METAL CHIP	1M	5%	1/16W
R493	1-216-821-11	METAL CHIP	1K	5%	1/16W	R767	1-216-833-91	RES,CHIP	10K	5%	1/16W
R494	1-216-821-11	METAL CHIP	1K	5%	1/16W	R768	1-216-833-91	RES,CHIP	10K	5%	1/16W
R495	1-216-821-11	METAL CHIP	1K	5%	1/16W	R769	1-216-041-00	METAL CHIP	470	5%	1/10W
R496	1-216-864-11	METAL CHIP	0	5%	1/16W	R770	1-216-821-11	METAL CHIP	1K	5%	1/16W
R497	1-216-073-00	METAL CHIP	10K	5%	1/10W	R771	1-216-864-11	METAL CHIP	0	5%	1/16W
R498	1-216-061-00	METAL CHIP	3.3K	5%	1/10W	R772	1-216-033-00	METAL CHIP	220	5%	1/10W
R499	1-216-061-00	METAL CHIP	3.3K	5%	1/10W	R775	1-216-864-11	METAL CHIP	0	5%	1/16W
R500	1-216-296-00	METAL CHIP	0	5%	1/8W	R776	1-216-073-00	METAL CHIP	10K	5%	1/10W
R501	1-216-833-91	RES,CHIP	10K	5%	1/16W	R777	1-216-821-11	METAL CHIP	1K	5%	1/16W
R502	1-216-833-91	RES,CHIP	10K	5%	1/16W	R778	1-216-821-11	METAL CHIP	1K	5%	1/16W
R503	1-216-833-91	RES,CHIP	10K	5%	1/16W	R780	1-216-821-11	METAL CHIP	1K	5%	1/16W
R504	1-216-073-00	METAL CHIP	10K	5%	1/10W	R781	1-216-073-00	METAL CHIP	10K	5%	1/10W
R505	1-216-821-11	METAL CHIP	1K	5%	1/16W	R786	1-216-295-00	METAL CHIP	0	5%	1/10W
R506	1-216-821-11	METAL CHIP	1K	5%	1/16W	R787	1-216-821-11	METAL CHIP	1K	5%	1/16W
R507	1-216-821-11	METAL CHIP	1K	5%	1/16W	R788	1-216-821-11	METAL CHIP	1K	5%	1/16W
R700	1-216-835-11	METAL CHIP	15K	5%	1/16W	R789	1-216-809-11	METAL CHIP	100	5%	1/16W
R701	1-216-833-91	RES,CHIP	10K	5%	1/16W	R790	1-216-049-91	RES,CHIP	1K	5%	1/10W
R703	1-216-855-11	METAL CHIP	680K	5%	1/16W						

MAIN

MOTOR

POWER

Ref. No.	Part No.	Description	Remark
R791	1-216-821-11	METAL CHIP 1K 5%	1/16W
R792	1-216-809-11	METAL CHIP 100 5%	1/16W
R793	1-216-821-11	METAL CHIP 1K 5%	1/16W
R794	1-216-817-11	METAL CHIP 470 5%	1/16W
< VIBRATOR >			
R795	1-216-813-11	METAL CHIP 220 5%	1/16W
R796	1-216-821-11	METAL CHIP 1K 5%	1/16W
R797	1-216-821-11	METAL CHIP 1K 5%	1/16W
R798	1-216-821-11	METAL CHIP 1K 5%	1/16W
R799	1-216-821-11	METAL CHIP 1K 5%	1/16W
X401	1-781-050-21	VIBRATOR, CERAMIC (8MHz)	
X402	1-767-697-11	VIBRATOR, CRYSTAL (32kHz)	
X403	1-760-556-11	VIBRATOR, CRYSTAL (4.332MHz)	
X701	1-767-226-11	VIBRATOR, CRYSTAL (16.9344MHz)	

*	A-3323-155-A	MOTOR BOARD, COMPLETE	

< CAPACITOR >			
C789	1-107-725-11	CERAMIC CHIP 0.1uF 10%	16V
C795	1-126-925-11	ELECT 470uF 20%	10V
C796	1-163-021-91	CERAMIC CHIP 0.01uF 10%	50V
C797	1-163-021-91	CERAMIC CHIP 0.01uF 10%	50V
< CONNECTOR >			
* CN712	1-580-154-11	PIN, CONNECTOR (PC BOARD) 2P	
< DIODE >			
D761	8-719-988-61	DIODE 1SS355TE-17	
D762	8-719-988-61	DIODE 1SS355TE-17	
< IC >			
IC711	8-759-565-65	IC BA6289F-E2	
< COIL >			
L711	1-414-743-21	INDUCTOR 47uH	
L712	1-414-743-21	INDUCTOR 47uH	
< TRANSISTOR >			
Q761	8-729-028-66	TRANSISTOR DTC115EKA-T146	
Q762	8-729-027-26	TRANSISTOR DTA114YKA-T146	
Q763	8-729-027-46	TRANSISTOR DTC114YKA-T146	
Q764	8-729-903-46	TRANSISTOR 2SB1132-P	
Q765	8-729-027-46	TRANSISTOR DTC114YKA-T146	
Q766	8-729-027-46	TRANSISTOR DTC114YKA-T146	
< RESISTOR >			
R728	1-216-071-00	METAL CHIP 8.2K 5%	1/10W
R744	1-216-081-00	METAL CHIP 22K 5%	1/10W
R746	1-216-073-00	METAL CHIP 10K 5%	1/10W
R747	1-216-081-00	METAL CHIP 22K 5%	1/10W
R748	1-216-079-00	METAL CHIP 18K 5%	1/10W
R749	1-216-079-00	METAL CHIP 18K 5%	1/10W
R759	1-216-089-91	RES,CHIP 47K 5%	1/10W
△R761	1-212-954-11	FUSIBLE 6.8 5%	1/2W F
R779	1-216-041-00	METAL CHIP 470 5%	1/10W

Ref. No.	Part No.	Description	Remark
< SWITCH >			
S761	1-572-126-21	SWITCH, PUSH (1 KEY) (OPEN)	
S762	1-572-126-21	SWITCH, PUSH (1 KEY) (CLOSE)	

*	1-671-313-21	POWER BOARD	*****
< CAPACITOR >			
C901	1-163-037-11	CERAMIC CHIP 0.022uF 10%	25V
C902	1-163-037-11	CERAMIC CHIP 0.022uF 10%	25V
C903	1-163-037-11	CERAMIC CHIP 0.022uF 10%	25V
C904	1-163-037-11	CERAMIC CHIP 0.022uF 10%	25V
C905	1-163-037-11	CERAMIC CHIP 0.022uF 10%	25V
C906	1-163-037-11	CERAMIC CHIP 0.022uF 10%	25V
C907	1-163-037-11	CERAMIC CHIP 0.022uF 10%	25V
C908	1-163-037-11	CERAMIC CHIP 0.022uF 10%	25V
C909	1-163-037-11	CERAMIC CHIP 0.022uF 10%	25V
C910	1-163-037-11	CERAMIC CHIP 0.022uF 10%	25V
C911	1-163-037-11	CERAMIC CHIP 0.022uF 10%	25V
C912	1-163-037-11	CERAMIC CHIP 0.022uF 10%	25V
C913	1-163-021-91	CERAMIC CHIP 0.01uF 10%	50V
C914	1-163-021-91	CERAMIC CHIP 0.01uF 10%	50V
C916	1-163-021-91	CERAMIC CHIP 0.01uF 10%	50V
C917	1-163-021-91	CERAMIC CHIP 0.01uF 10%	50V
< CONNECTOR >			
* CN901	1-564-522-11	PLUG, CONNECTOR 7P	
* CN902	1-580-154-11	PIN, CONNECTOR (PC BOARD) 2P	
* CN904	1-564-519-11	PLUG, CONNECTOR 4P	
< DIODE >			
D901	8-719-302-38	DIODE RBV-602-01	
D903	8-719-510-53	DIODE D4SB60L	
D904	8-719-914-43	DIODE DAN202K	
D905	8-719-970-02	DIODE 1SR139-400	
D906	8-719-970-02	DIODE 1SR139-400	
D907	8-719-970-02	DIODE 1SR139-400	
D908	8-719-970-02	DIODE 1SR139-400	
< FUSE >			
△F901	1-532-467-51	FUSE (T0.315AL/250V)	
△F902	1-532-505-51	FUSE (T5AL/250V)	
△F903	1-532-499-51	FUSE (T0.4AL/250V)	
△F904	1-532-388-51	FUSE (T2AL/250V)	
< JACK >			
△J901	1-526-838-11	INLET, AC 2P (～ AC IN)	
< RESISTOR >			
R901	1-216-073-00	METAL CHIP 10K 5%	1/10W
R902	1-216-057-00	METAL CHIP 2.2K 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
		< TRANSFORMER >		C36	1-162-964-11	CERAMIC CHIP 0.001uF 10%	50V
△ T901	1-433-781-11	TRANSFORMER, POWER		C37	1-162-964-11	CERAMIC CHIP 0.001uF 10%	50V
△ T902	1-433-630-11	TRANSFORMER, LINE FILTER (LFT)		C38	1-164-505-11	CERAMIC CHIP 2.2uF	16V
*****				C39	1-162-970-11	CERAMIC CHIP 0.01uF 10%	25V
*	1-661-774-11	SW BOARD		C40	1-126-934-11	ELECT 220uF 20%	16V
		*****		C41	1-162-970-11	CERAMIC CHIP 0.01uF 10%	25V
		< CONNECTOR >		C42	1-162-970-11	CERAMIC CHIP 0.01uF 10%	25V
CN601	1-770-698-11	CONNECTOR, FFC/FPC 15P		C43	1-163-021-91	CERAMIC CHIP 0.01uF 10%	50V
CN602	1-778-638-21	PIN, CONNECTOR (PC BOARD) 2P		C44	1-164-227-11	CERAMIC CHIP 0.022uF 10%	25V
CN603	1-778-638-21	PIN, CONNECTOR (PC BOARD) 2P		C45	1-163-133-00	CERAMIC CHIP 470PF 5%	50V
		< SWITCH >		C46	1-164-345-11	CERAMIC CHIP 0.082uF 10%	25V
S681	1-572-467-61	SWITCH, PUSH (1 KEY) (LIMIT IN)		C47	1-163-021-91	CERAMIC CHIP 0.01uF 10%	50V
S682	1-692-377-31	SWITCH, PUSH (1 KEY) (REFLECT)		C48	1-162-970-11	CERAMIC CHIP 0.01uF 10%	25V
S683	1-692-847-21	SWITCH, PUSH (1 KEY) (PROTECT)		C49	1-126-934-11	ELECT 220uF 20%	10V
S685	1-572-467-61	SWITCH, PUSH (1 KEY) (CHUCKING IN)		C50	1-163-021-91	CERAMIC CHIP 0.01uF 10%	50V
S686	1-762-621-21	SWITCH, PUSH (1 KEY) (PACK OUT)		C51	1-163-263-11	CERAMIC CHIP 330PF 5%	50V
S687	1-572-688-11	SWITCH, PUSH (1 KEY) (PB POSITION)		C53	1-163-021-91	CERAMIC CHIP 0.01uF 10%	50V
S688	1-762-621-21	SWITCH, PUSH (1 KEY) (REC POSITION)		C54	1-162-968-11	CERAMIC CHIP 0.0047uF 10%	50V
*****				C55	1-164-315-11	CERAMIC CHIP 470PF 5%	50V
*	A-3323-154-A	TUNER BOARD, COMPLETE		C56	1-164-315-11	CERAMIC CHIP 470PF 5%	50V
		*****		C58	1-163-021-91	CERAMIC CHIP 0.01uF 10%	50V
		< CAPACITOR >		C61	1-162-957-11	CERAMIC CHIP 220PF 5%	50V
C1	1-163-243-11	CERAMIC CHIP 47PF 5%	50V	C62	1-163-205-00	CERAMIC CHIP 0.001uF 5%	50V
C2	1-163-113-00	CERAMIC CHIP 68PF 5%	50V	C63	1-163-205-00	CERAMIC CHIP 0.001uF 5%	50V
C3	1-163-037-11	CERAMIC CHIP 0.022uF 10%	25V	C64	1-163-009-11	CERAMIC CHIP 0.001uF 10%	50V
C4	1-163-132-00	CERAMIC CHIP 430PF 5%	50V	C65	1-126-964-11	ELECT 10uF 20%	50V
C5	1-163-263-11	CERAMIC CHIP 330PF 5%	50V	C67	1-163-243-11	CERAMIC CHIP 47PF 5%	50V
C6	1-163-231-11	CERAMIC CHIP 15PF 5%	50V	C68	1-163-038-91	CERAMIC CHIP 0.1uF 25V	
C7	1-163-037-11	CERAMIC CHIP 0.022uF 10%	25V	C71	1-163-021-91	CERAMIC CHIP 0.01uF 10%	50V
C8	1-163-021-91	CERAMIC CHIP 0.01uF 10%	50V			< FILTER >	
C13	1-163-021-91	CERAMIC CHIP 0.01uF 10%	50V	CF1	1-579-762-11	VIBRATOR, CERAMIC	
C14	1-162-959-11	CERAMIC CHIP 330PF 5%	50V	CF2	1-781-407-11	FILTER, CERAMIC	
C15	1-163-259-91	CERAMIC CHIP 220PF 5%	50V	CF3	1-781-407-11	FILTER, CERAMIC	
C16	1-163-263-11	CERAMIC CHIP 330PF 5%	50V	CF4	1-781-407-11	FILTER, CERAMIC	
C17	1-164-344-11	CERAMIC CHIP 0.068uF 10%	25V	CF5	1-760-125-11	DISCRIMINATOR, CERAMIC	
C18	1-164-345-11	CERAMIC CHIP 0.082uF 10%	25V			< COMPOSITION CIRCUIT BLOCK >	
C19	1-126-964-11	ELECT 10uF 20%	50V	CFT1	1-233-885-11	ENCAPSULATED COMPONENT (MW/LW IF)	
C20	1-126-963-11	ELECT 4.7uF 20%	50V			< TRIMMER >	
C21	1-104-665-11	ELECT 100uF 20%	10V	CT1	1-141-459-11	CAP, TRIMMER (SEAL TYPE) 45PF	(LW TRACKING)
C22	1-163-021-91	CERAMIC CHIP 0.01uF 10%	50V	CT2	1-141-410-11	CAP, ADJ 10PF (MW TRACKING)	
C23	1-163-021-91	CERAMIC CHIP 0.01uF 10%	50V	CT3	1-141-459-11	CAP, TRIMMER (SEAL TYPE) 45PF	(LW FREQUENCY COVERAGE)
C24	1-163-986-00	CERAMIC CHIP 0.027uF 10%	25V	CT4	1-141-410-11	CAP, ADJ 10PF (MW FREQUENCY COVERAGE)	
C25	1-163-986-00	CERAMIC CHIP 0.027uF 10%	25V			< DIODE >	
C26	1-126-960-11	ELECT 1uF 20%	50V	D1	8-719-049-75	DIODE KV1520TL00	
C27	1-126-960-11	ELECT 1uF 20%	50V	D4	8-719-988-61	DIODE 1SS355TE-17	
C28	1-162-964-11	CERAMIC CHIP 0.001uF 10%	50V	D5	8-719-988-61	DIODE 1SS355TE-17	
C29	1-162-964-11	CERAMIC CHIP 0.001uF 10%	50V	D6	8-719-988-61	DIODE 1SS355TE-17	
C30	1-162-970-11	CERAMIC CHIP 0.01uF 10%	25V	D7	8-719-988-61	DIODE 1SS355TE-17	
C31	1-163-227-11	CERAMIC CHIP 10PF 0.5PF	50V	D8	8-719-988-61	DIODE 1SS355TE-17	
C32	1-163-227-11	CERAMIC CHIP 10PF 0.5PF	50V	D9	8-719-988-61	DIODE 1SS355TE-17	
C33	1-137-194-91	FILM 0.47uF 5%	50V	D10	8-719-988-61	DIODE 1SS355TE-17	
C34	1-126-935-11	ELECT 470uF 20%	6.3V	D11	8-719-988-61	DIODE 1SS355TE-17	
C35	1-162-970-11	CERAMIC CHIP 0.01uF 10%	25V	D12	8-719-988-61	DIODE 1SS355TE-17	

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

TUNER

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
		< FERRITE BEAD >		R21	1-216-017-91	RES,CHIP	47 5% 1/10W
FB1	1-414-598-11	INDUCTOR CHIP		R22	1-216-041-00	METAL CHIP	470 5% 1/10W
FB2	1-414-598-11	INDUCTOR CHIP		R23	1-216-049-91	RES,CHIP	1K 5% 1/10W
FB4	1-414-598-11	INDUCTOR CHIP		R25	1-216-023-00	METAL CHIP	82 5% 1/10W
FB5	1-414-598-11	INDUCTOR CHIP		R26	1-216-829-11	METAL CHIP	4.7K 5% 1/16W
FB6	1-414-598-11	INDUCTOR CHIP		R27	1-216-837-11	METAL CHIP	22K 5% 1/16W
				R28	1-216-833-91	RES,CHIP	10K 5% 1/16W
FB7	1-414-598-11	INDUCTOR CHIP		R29	1-216-821-11	METAL CHIP	1K 5% 1/16W
FB9	1-216-295-00	METAL CHIP	0 5% 1/10W	R30	1-216-047-91	RES,CHIP	820 5% 1/10W
		< IC >		R31	1-216-073-00	METAL CHIP	10K 5% 1/10W
IC1	8-759-386-02	IC TA2008AN		R33	1-216-073-00	METAL CHIP	10K 5% 1/10W
IC2	8-759-483-40	IC LC72137M-TLM		R35	1-216-049-91	RES,CHIP	1K 5% 1/10W
		< JUMPER RESISTOR >		R36	1-216-821-11	METAL CHIP	1K 5% 1/16W
JC1	1-216-295-00	METAL CHIP	0 5% 1/10W	R37	1-216-833-91	RES,CHIP	10K 5% 1/16W
JC5	1-216-295-00	METAL CHIP	0 5% 1/10W	R38	1-216-833-91	RES,CHIP	10K 5% 1/16W
JC6	1-216-295-00	METAL CHIP	0 5% 1/10W	R39	1-216-821-11	METAL CHIP	1K 5% 1/16W
JC7	1-216-295-00	METAL CHIP	0 5% 1/10W	R40	1-216-821-11	METAL CHIP	1K 5% 1/16W
		< COIL >		R41	1-216-829-11	METAL CHIP	4.7K 5% 1/16W
L1	1-414-170-11	INDUCTOR CHIP	100uH	R42	1-216-809-11	METAL CHIP	100 5% 1/16W
L2	1-410-993-11	INDUCTOR CHIP	1uH	R43	1-216-057-00	METAL CHIP	2.2K 5% 1/10W
L3	1-416-129-11	COIL, LW ANT (LW TRACKING)		R46	1-216-864-11	METAL CHIP	0 5% 1/16W
L4	1-416-991-11	COIL, AM ANT (MW TRACKING)		R47	1-216-864-11	METAL CHIP	0 5% 1/16W
L5	1-411-959-11	COIL, AM OSC (MW FREQUENCY COVERAGE)		R48	1-216-841-11	METAL CHIP	47K 5% 1/16W
				R49	1-216-841-11	METAL CHIP	47K 5% 1/16W
L9	1-233-306-31	ENCAPSULATED COMPONENT (FM IF)		R50	1-216-841-11	METAL CHIP	47K 5% 1/16W
L10	1-500-284-21	INDUCTOR CHIP		R51	1-216-825-11	METAL CHIP	2.2K 5% 1/16W
		< TRANSISTOR >		R52	1-216-821-11	METAL CHIP	1K 5% 1/16W
Q3	8-729-119-32	TRANSISTOR	2SK193	R53	1-216-824-11	METAL CHIP	1.8K 5% 1/16W
Q4	8-729-920-31	TRANSISTOR	DTC343TK	R54	1-216-009-91	RES,CHIP	22 5% 1/10W
Q5	8-729-920-38	TRANSISTOR	2SC2059K-N	R55	1-216-841-11	METAL CHIP	47K 5% 1/16W
Q6	8-729-931-02	TRANSISTOR	2SC2413KQ	R57	1-216-057-00	METAL CHIP	2.2K 5% 1/10W
Q7	8-729-120-28	TRANSISTOR	2SC1623-L5L6	R58	1-216-827-11	METAL CHIP	3.3K 5% 1/16W
				R59	1-216-831-11	METAL CHIP	6.8K 5% 1/16W
Q8	1-801-806-11	TRANSISTOR	DTC144EKA-T146	R61	1-216-864-11	METAL CHIP	0 5% 1/16W
Q9	8-729-904-07	TRANSISTOR	FMG2	R62	1-216-295-00	METAL CHIP	0 5% 1/10W
Q10	8-729-920-31	TRANSISTOR	DTC343TK	R63	1-216-017-91	RES,CHIP	47 5% 1/10W
Q11	8-729-920-41	TRANSISTOR	FMC3	R64	1-216-295-00	METAL CHIP	0 5% 1/10W
Q12	8-729-039-73	TRANSISTOR	FMA5A-T148	R65	1-216-829-11	METAL CHIP	4.7K 5% 1/16W
Q13	8-729-901-04	TRANSISTOR	DTA114EK	R66	1-216-049-91	METAL CHIP	1K 5% 1/10W
Q14	8-729-931-02	TRANSISTOR	2SC2413KQ	R67	1-216-841-11	METAL CHIP	47K 5% 1/16W
Q15	8-729-920-31	TRANSISTOR	DTC343TK			< TERMINAL >	
		< RESISTOR >		TB1	1-537-489-21	TERMINAL BOARD (ANT) (FM EXT ANTENNA, MW/LW ANTENNA)	
R2	1-216-037-00	METAL CHIP	330 5% 1/10W			< TUNER UNIT >	
R3	1-216-049-91	RES,CHIP	1K 5% 1/10W	* TU1	1-693-378-11	TUNER UNIT	
R4	1-216-057-00	METAL CHIP	2.2K 5% 1/10W			< VIBRATOR >	
R5	1-216-065-91	RES,CHIP	4.7K 5% 1/10W	X1	1-760-130-11	VIBRATOR, CRYSTAL (75kHz)	
R6	1-216-073-00	METAL CHIP	10K 5% 1/10W			*****	
R7	1-216-097-91	RES,CHIP	100K 5% 1/10W			MISCELLANEOUS	
R8	1-216-065-91	RES,CHIP	4.7K 5% 1/10W			*****	
R9	1-216-077-00	METAL CHIP	15K 5% 1/10W	2	1-533-217-31	HOLDER, FUSE	
R16	1-216-105-91	RES,CHIP	220K 5% 1/10W	64	1-410-397-21	FERRITE BEAD INDUCTOR	
R17	1-216-059-00	METAL CHIP	2.7K 5% 1/10W	114	1-783-958-11	WIRE, PARALLEL (FFC) (11 CORE)	
R18	1-216-049-91	RES,CHIP	1K 5% 1/10W				
R19	1-216-081-00	METAL CHIP	22K 5% 1/10W				
R20	1-216-825-11	METAL CHIP	2.2K 5% 1/16W				

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
115	1-783-957-11	WIRE, PARALLEL (FFC) (8 CORE)		#3	7-627-852-28	+P 1.7X3	
116	1-783-956-11	WIRE, PARALLEL (FFC) (9 CORE)		#4	7-685-133-19	SCREW +P 2.6X6 TYPE2 SLIT	
117	1-783-960-11	WIRE, PARALLEL (FFC) (26 CORE)		#5	7-685-647-79	SCREW +BVTP 3X10 TYPE2 N-S	
* 122	1-562-327-00	SOCKET, CONNECTOR 3P		#6	7-685-850-01	SCREW +BVTT 2X3 (S)	
151	1-783-955-11	WIRE, PARALLEL (FFC) (16 CORE)		#7	7-685-851-04	SCREW +BVTT 2X4 (S)	
159	1-452-732-11	MAGNET		#8	7-685-872-09	SCREW +BVTT 3X8 (S)	
203	1-783-961-11	WIRE, PARALLEL (FFC) (19 CORE)		#9	7-685-648-79	SCREW +BVTP 3X12 TYPE2 N-S	
211	1-660-966-11	OP RALAY FLEXIBLE BOARD		#10	7-685-649-79	SCREW +BVTP 3X14 TYPE2 N-S	
212	1-777-517-11	WIRE, PARALLEL (15 CORE)		#11	7-685-651-79	SCREW +BVTP 3X20 TYPE2 N-S	
214	1-783-962-11	WIRE, PARALLEL (FFC) (29 CORE)		#12	7-685-871-09	SCREW +BVTT 3X6 (S)	
△ 267	8-583-028-02	OPTICAL PICK-UP KMS-260A		#13	7-685-534-19	SCREW +BTP 2.6X8 TYPE2 N-S	
△ 304	8-848-483-05	OPTICAL PICK-UP KSS-213C		#14	7-685-535-19	SCREW +BTP 2.6X10 TYPE2 N-S	
305	X-2626-202-1	MOTOR SHASSIS ASSY(MB) (INCLUDING M702)(SPINDLE)		#15	7-621-773-86	SCREW +B 2.6X4	
ANT1	1-754-023-11	ANTENNA, TELESCOPIC		#16	7-621-772-00	SCREW +B 2X3	
D901	8-719-302-38	DIODE RBV-602-01		#17	7-685-862-09	SCREW +BVTT 2.6X6 (S)	
△ F901	1-532-467-51	FUSE (T0.315AL/250V)		#18	7-685-661-79	SCREW +BVTP 4X12 TYPE2 N-S	
△ F902	1-532-505-51	FUSE (T5AL/250V)		#19	7-623-508-01	LUG, 3	
△ F903	1-532-499-51	FUSE (T0.4AL/250V)		#20	7-685-646-79	SCREW +BVTP 3X8 TYPE2 N-S	
△ F904	1-532-388-51	FUSE (T2AL/250V)					
HR901	1-500-396-11	HEAD, OVER WRITE					
LCD1	1-803-283-11	LCD UNIT					
M701	X-2625-769-1	MOTOR GEAR ASSY (MB) (INCLUDING GEAR) (SLED)					
M703	1-763-224-11	MOTOR, DC (DOOR OPEN/CLOSE)					
M901	A-4672-135-A	MOTOR ASSY, SPINDLE (SPINDLE)					
M902	A-4672-133-A	MOTOR ASSY, SLED (SLED) (INCLUDING GEAR)					
M903	A-4672-134-A	MOTOR ASSY, LOADING (LOADING) (INCLUDING GEAR)					
SP301	1-505-829-11	SPEAKER (8cm) (L-CH)					
SP302	1-529-130-11	SPEAKER (8cm) (R-CH)					
△ T901	1-433-781-11	TRANSFORMER, POWER					

ACCESSORIES & PACKING MATERIALS							

△	1-501-374-11	ANTENNA, LOOP					
△	1-769-412-13	CORD, POWER					
△	1-770-019-11	ADAPTOR, CONVERSION PLUG 3P (UK)					
	3-704-222-11	LABEL, SERIAL NUMBER (PRINTER)					
	3-864-598-11	MANUAL, INSTRUCTION (ENGLISH, SPANISH)					
	3-864-598-21	MANUAL, INSTRUCTION (FRENCH,GERMAN) (AEP, Tourist)					
	3-864-598-31	MANUAL, INSTRUCTION (DUTCH, PORTUGUESE) (AEP, Tourist)					
	3-864-598-41	MANUAL, INSTRUCTION (SWEDISH, FINNISH) (AEP, Tourist)					
	3-864-598-51	MANUAL, INSTRUCTION (ITALIAN) (AEP, Tourist)					
	8-917-663-90	REMOTE COMMANDER RMT-CM50AD					
	4-991-047-01	LID, BATTERY CASE (FOR RMT-CM50AD)					

HARDWARE LIST							

#1	7-627-552-27	SCREW,PRECISION +P 1.7X2					
#2	7-627-553-17	PRECISION SCREW +P 2X2 TYPE 3					

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