

ZS-M30

SERVICE MANUAL

Ver 1.1 2001.04

*AEP Model
UK Model
Australian Model*



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CD Section	Model Name Using Similar Mechanism	NEW
	CD Mechanism Type	KSM-213CDP
	Optical Pick-up Name	KSS-213C
MD Section	Model Name Using Similar Mechanism	NEW
	MD Mechanism Type	MT-ZSM30-168
	Optical Pick-up Name	KMS-260B

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 (9 kHz step)

530 - 1,610 kHz (10 kHz step)

LW: 153 - 279 kHz

IF FM: 10.7 MHz

MW/LW: 450 kHz

Aerials

FM: Telescopic aerial

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

Stereo recording:

Maximum 80 minutes (with MDW-80)

Monaural recording:

Maximum 160 minutes (with MDW-80)

Revolutions

400 rpm to 900 rpm (CLV)

Error correction

Advanced Cross Interleave Reed Solomon Code (ACIRC)

Sampling frequency

44.1 kHz

Coding

Adaptive Transform Acoustic Coding (ATRAC)

9-873-011-12

2001D0200-1

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Sony Corporation

Personal Audio Company

Shinagawa Tec Service Manual Production Group

PERSONAL MINIDISC SYSTEM

SONY®

- Modulation system
 - EFM (Eight-to-Fourteen Modulation)
- Number of programme positions
 - 2 stereo programme positions
- 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 1/4 in.) dia., 4 Ω cone type (2)
 - Panorama sound: 5 cm (2 in.) dia., 12 Ω cone type (2)
- Inputs
 - LINE IN (stereo minijack): Sensitivity 436 mV/870 mV
- Outputs
 - Headphones jack (stereo minijack) (1):
For 32 Ω impedance headphones
- Maximum power output
 - Full-range: 8 W
 - Panorama sound: 3.4 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 control:
3 V DC, 2 R6 (size AA) batteries
- Power consumption
 - 26 W
- Dimensions (incl. projecting parts)
 - approx. 475 X 165.5 X 249 mm (w/h/d)
 - (18 3/4 X 6 5/8 X 9 7/8 inches)
- Mass
 - approx. 4.6 kg (10 lb. 2 oz)
- Supplied accessories
 - Mains lead (1)
 - Remote control (1)
 - MW/LW loop aerial (1)
 - AV connecting cord (1)
 - Audio connecting cord (1)

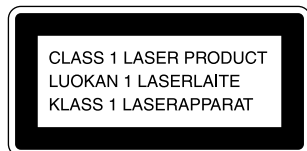
Design and specifications are subject to change without notice.

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SECTION 1 SERVICE NOTE



This Compact Disc player is classified as a CLASS 1 LASER product. The CLASS 1 LASER PRODUCT label is located on the bottom exterior.

CAUTION

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

1-1. NOTES ON HANDLING THE OPTICAL PICK-UP BLOCK OR BASE UNIT

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

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

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

1-2. NOTES ON LASER DIODE EMISSION CHECK

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

1-3. 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.

1-4. 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.

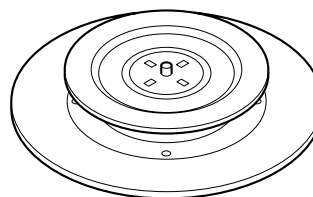
SAFETY-RELATED COMPONENT WARNING!!

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.

1-5. CHUCK PLATE JIG ON REPAIRING

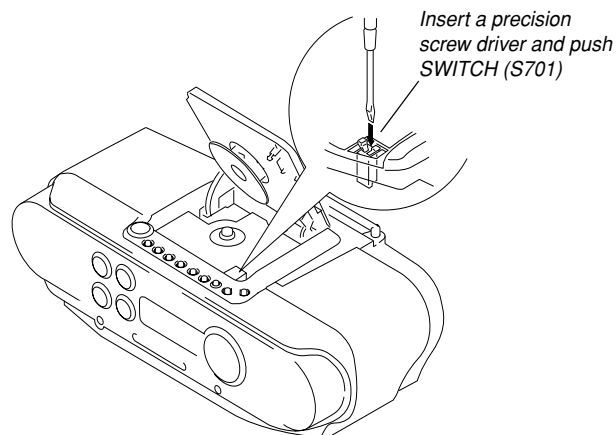
On repairing CD section, playing a disc without the CD lid, use Chuck Plate Jig.

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



1-6. CHECKING THE LASER DIODE AND FOCUS SEARCH OPERATION

1. Turn on the POWER and open the CD cover.
2. As shown below, push S701 (CD DOOR) with a screwdriver or other tool.
3. Press the CD button.
4. Check the objective lens to make sure that the laser diode is emitting light. If not so, the auto power control circuit or optical pickup would be damaged. Verify that the objective lens moves vertically three times for focus search.



1-7. CHECKS PRIOR TO PARTS REPLACEMENT AND ADJUSTMENTS (FOR MD SECTION)

Before performing repairs, perform the following checks to determine the faulty locations up to a certain extent. Details of the procedures are described in “5 Electrical Adjustments”

	Criteria for Determination (Unsatisfactory if specified value is not satisfied)	Measure if unsatisfactory:
Laser power check	<ul style="list-style-type: none"> • 0.9 mW power Specified value : 0.80 to 0.96 mW • 7.0 mW power Specified value : 6.8 to 7.2 mW 	<ul style="list-style-type: none"> • Clean the optical pick-up • Adjust again • Replace the optical pick-up
	<ul style="list-style-type: none"> • Iop (at 7mW) • Labeled on the optical pickup Iop value \pm 10% 	<ul style="list-style-type: none"> • Replace the optical pick-up
Focus power check	<ul style="list-style-type: none"> • Error rate check Specified value : For points a and b C1 error : About 200 ADER : Below 2 Point C C1 error :Below 50 AD error :Below 2 	<ul style="list-style-type: none"> • Replace the optical pick-up
C PLAY check	<ul style="list-style-type: none"> • Error rate check Specified value: a. When using test disc (MDW-74/AU-1) C1 error : Below 80 ADER : Below 2 b. When using check disc (TDYS-1) C1 error : Below 50 	<ul style="list-style-type: none"> • Replace the optical pick-up
Self-recording/playback check	<ul style="list-style-type: none"> • CPLAY error rate check Specified value: C1 error : Below 80 ADER : Below 2 	If always unsatisfactory: <ul style="list-style-type: none"> • Replace the overwrite head • Check for disconnection of the circuits around the overwrite head
		If occasionally unsatisfactory: <ul style="list-style-type: none"> • Check if the overwrite head is distorted • Check the mechanism around the sled

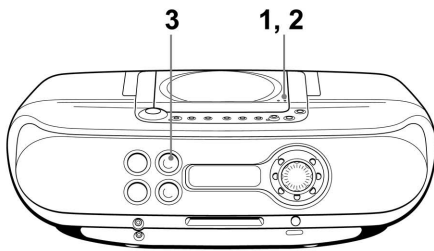
Note:
The criteria for determination above is intended merely to determine if satisfactory or not, and does not serve as the specified value for adjustments.
When performing adjustments, use the specified values for adjustments.

SECTION 2 GENERAL

This section is extracted from instruction manual.

Basic Operations

Playing a CD



For hookup instructions, see pages 40 and 41.

- 1**

Press ▲ PUSH OPEN/CLOSE down to open the CD compartment and place the CD on the CD compartment.

With the label side up
- 2**

Close the lid of the CD compartment.
- 3**

Press CD ► (CD ► on the remote).
The player turns on (direct power-on) and the player plays all the tracks once.

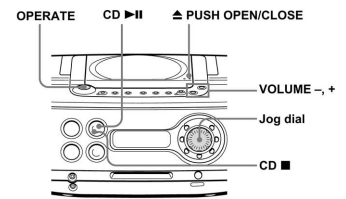
Display

01	00:01
Track number	Playing time

4 GB

Tip
Next time you want to listen to a CD, just press CD ►. The player turns on automatically and starts playing the CD.

Use these buttons for additional operations

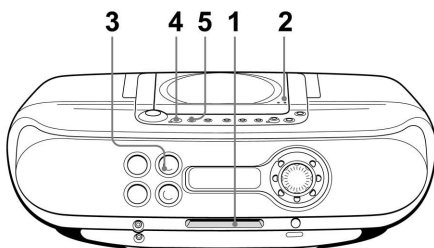


To	Do this
adjust the volume	Press VOLUME +, - (VOL +, - on the remote).
stop playback	Press CD ■.
pause playback	Press CD ► (CD ► on the remote). Press the button again to resume play after pause.
go to the next track	Turn the jog dial clockwise. (On the remote, press ►.)
go back to the previous track	Turn the jog dial counterclockwise. (On the remote, press ◀.)
remove the CD	Press ▲ PUSH OPEN/CLOSE.
turn on/off the player	Press OPERATE.

Basic Operations

5 GB

Recording a whole CD (Synchronized recording)



For hookup instructions, see pages 40 and 41.

- 1**

Insert a recordable MD (direct power-on).

With the label side up
Insert in the direction of the arrow.

Display

After "TOC Reading" is displayed, the disc name will be displayed if it is labelled.
- 2**

Press ▲ PUSH OPEN/CLOSE and place the CD on the CD compartment.
Press ▲ PUSH OPEN/CLOSE again to close the lid of the CD compartment.

With the label side up
- 3**

Press CD ■.

11 38:50

6 GB

- 4**

HIGH SPEED
To record at high speed, press HIGH SPEED. The indicator lights up.
To record at normal speed, skip this step.
- 5**

SYNCHRO REC
CD ► MD
Press SYNCHRO REC CD ► MD.
The player starts recording automatically.
If the MD has any previous recording, recording will be made from the last recorded position.

Track number of CD
Playing time of CD

Basic Operations

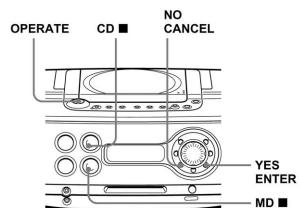
Notes

- **TOC EDIT** After you stop recording, do not disconnect the mains lead or move the player while "TOC EDIT" is flashing in the display. If you do so, recording may not be done properly.
- When you record a whole CD, you cannot pause recording.

Tips

- Adjusting the volume or the audio emphasis (page 34) will not affect the recording level. Keep the volume at a moderate level so as to prevent the sound from skipping.
- To record over the previous recording, see page 24.
- Once the clock is set, the recording date and time are stamped automatically (page 35).
- You can label an MD or a track during recording (page 30).

Use these buttons for additional operations

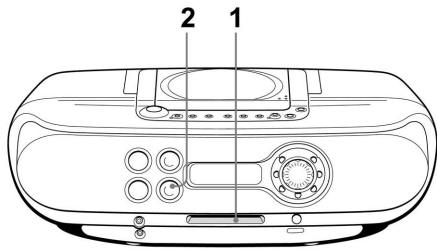


To	Press
stop recording	MD ■ or CD ■
turn on/off the player	OPERATE

If "CD>MD OK?" alternates with time display
There is not enough space on the MD to record the whole CD. If it is all right to record as much as possible and cancel recording of some tracks, press YES-ENTER. To stop recording, press NO-CANCEL.
If any other messages are displayed, see page 51.

7 GB

Playing an MD



For hookup instructions, see pages 40 and 41.

1 Insert the MD (direct power-on).
With the label side up
Insert in the direction of the arrow.

Display
011 0SELECT1
After "TOC Reading" is displayed, the disc name will be displayed if it is labelled.

011 38:58

2 Press MD **▶▶** (MD **▶▶** on the remote).
The player plays all the tracks once.

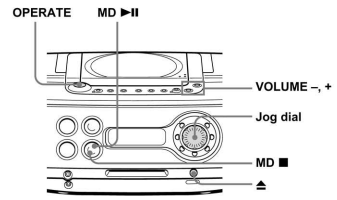
MD

Track name is displayed if it is labelled.

001 Love Sc
001 00:01
Track number Playing time

8GB

Use these buttons for additional operations



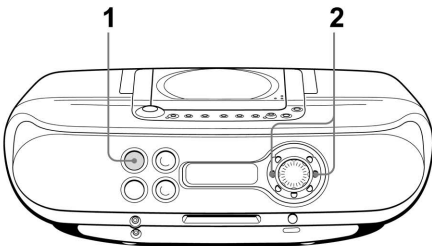
Basic Operations

To	Do this
adjust the volume	Press VOLUME +, - (VOL +, - on the remote).
stop playback	Press MD ■ .
pause playback	Press MD ▶▶ (MD ▶▶ on the remote). Press the button again to resume play after pause.
go to the next track	Turn the jog dial clockwise. (On the remote, press ▶▶ .)
go back to the previous track	Turn the jog dial counterclockwise. (On the remote, press ◀◀ .)
remove the MD	Press ▲ .
turn on/off the player	Press OPERATE.

Tip
Next time you want to listen to an MD, just press MD **▶▶**. The player turns on automatically and starts playing the MD.

9GB

Listening to the radio



For hookup instructions, see pages 40 and 41.

1 Press RADIO BAND•AUTO PRESET until the band you want appears in the display (direct power-on).

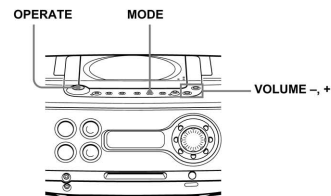
Display
FM 87.60
"FM", "MW" or "LW" appears

2 Hold down TUNE + or TUNE - until the frequency digits begin to change in the display.
The player automatically scans the radio frequencies and stops when it finds a clear station.
If you can't tune in a station, press TUNE + or TUNE - repeatedly to change the frequency step by step.

Display
FM 89.20
Indicates an FM stereo broadcast

10GB

Use these buttons for additional operations



Basic Operations

To	Press
adjust the volume	VOLUME +, - (VOL +, - on the remote)
turn on/off the radio	OPERATE

To improve broadcast reception

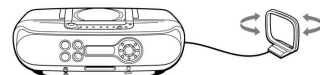
FM:

Reorient the aerial.



MW/LW:

Keep the MW/LW loop aerial as far as possible from the player and reorient it.

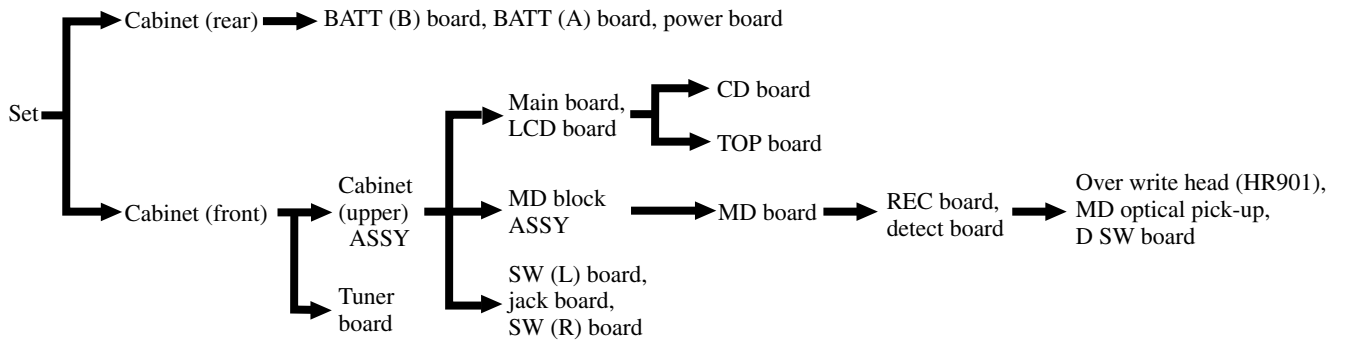


If the broadcast is still noisy, connect the external aerial (page 41).

11GB

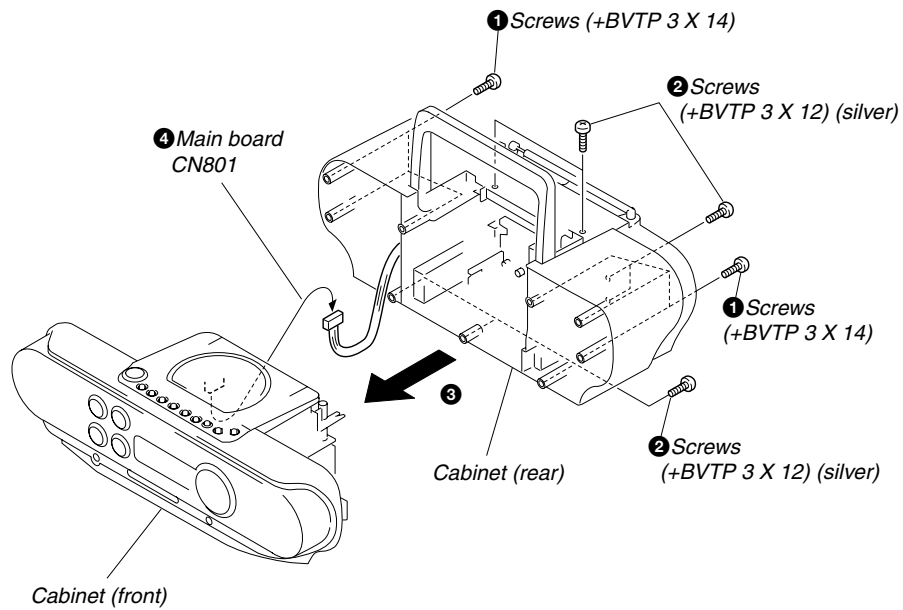
SECTION 3 DISASSEMBLY

• The equipment can be removed using the following procedure.

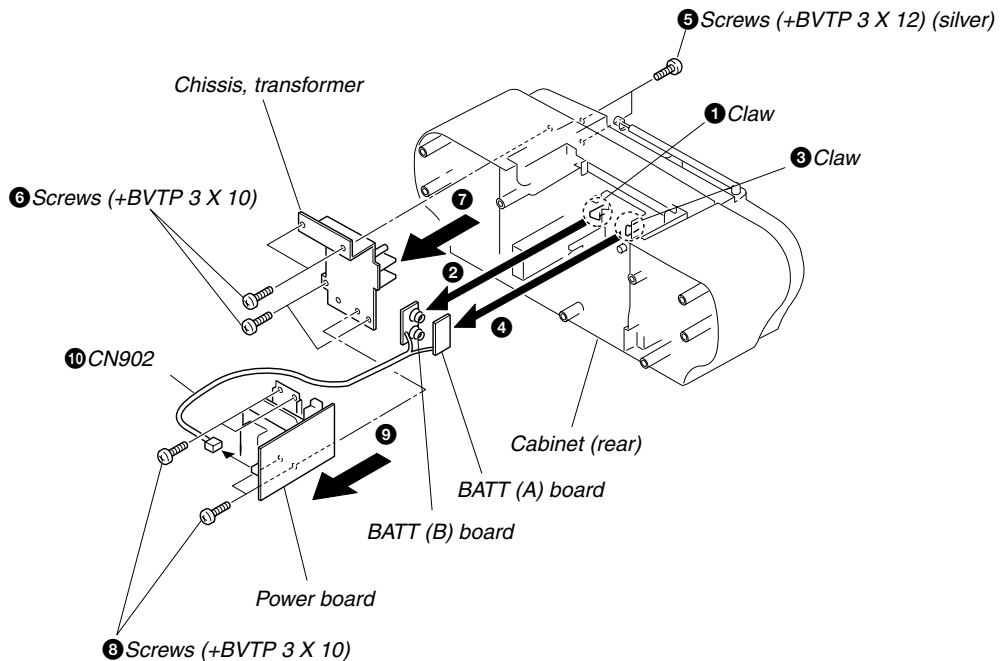


Note : Follow the disassembly procedure in the numerical order given.

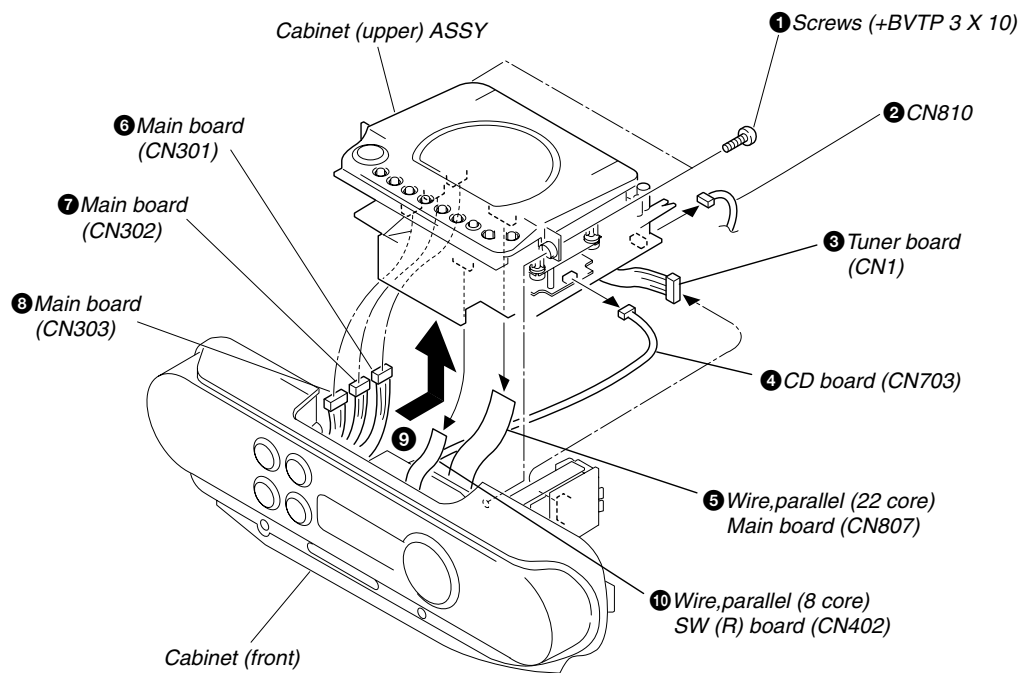
3-1. CABINET (REAR), CABINET (FRONT)



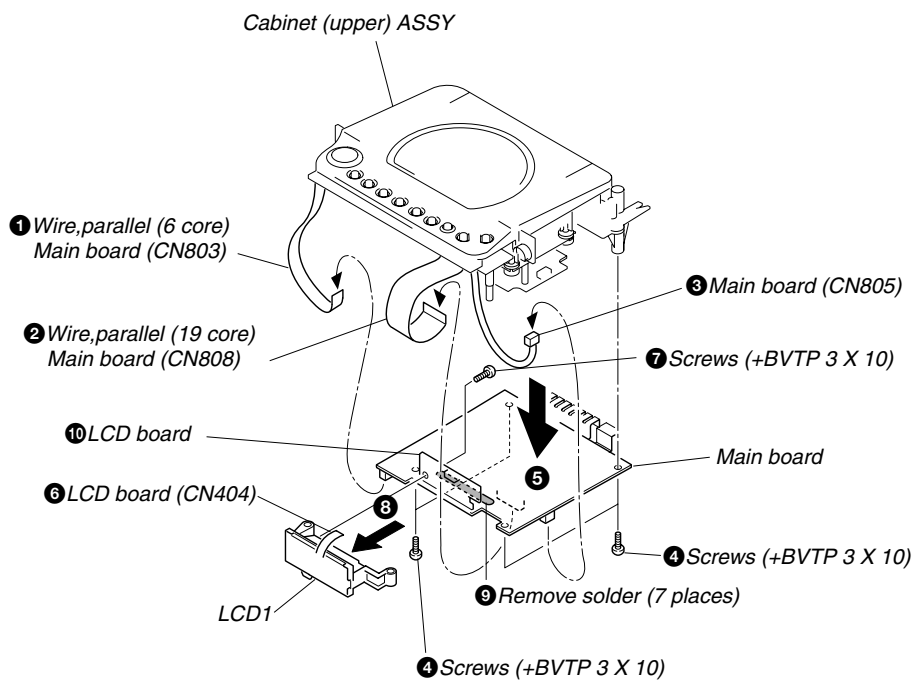
3-2. BATT (B) BOARD, BATT (A) BOARD, POWER BOARD



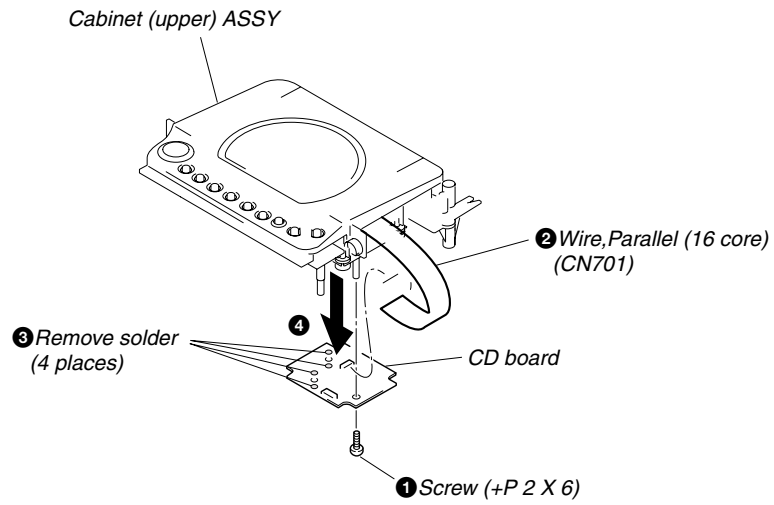
3-3. CABINET (UPPER) ASSY



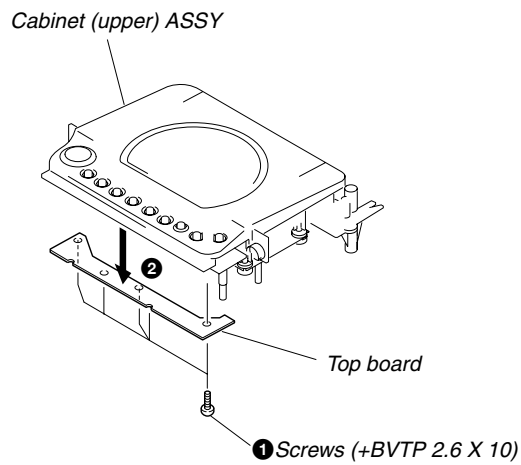
3-4. MAIN BOARD, LCD BOARD



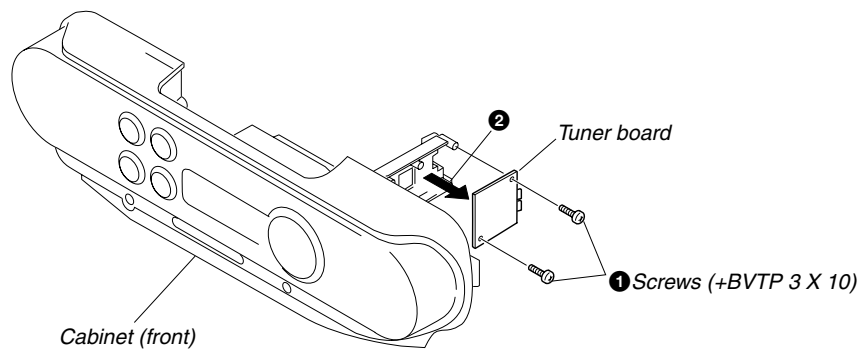
3-5. CD BOARD



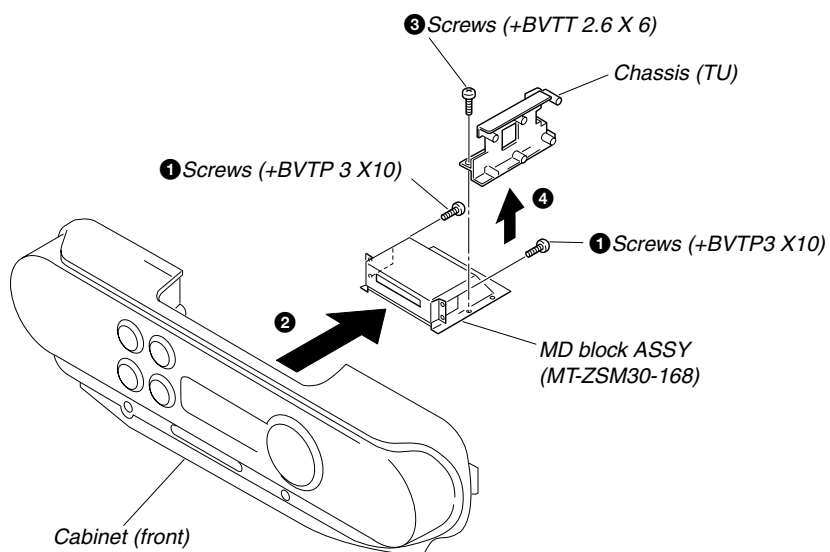
3-6. TOP BOARD



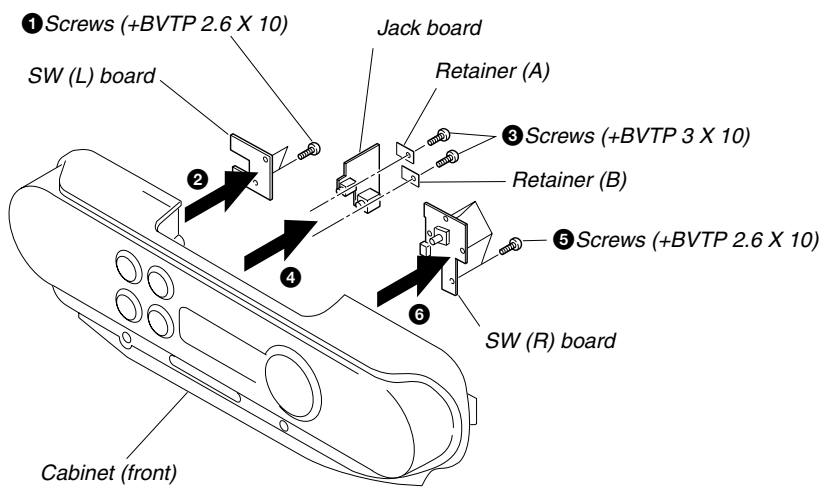
3-7. TUNER BOARD



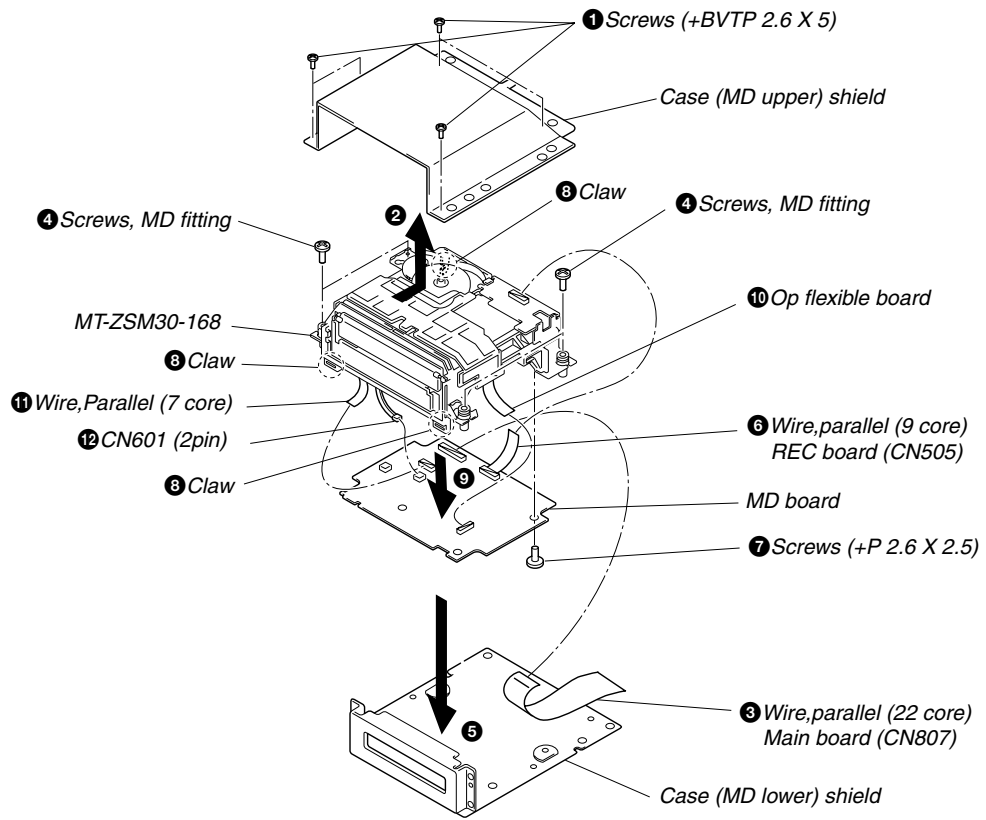
3-8. MD BLOCK ASSY



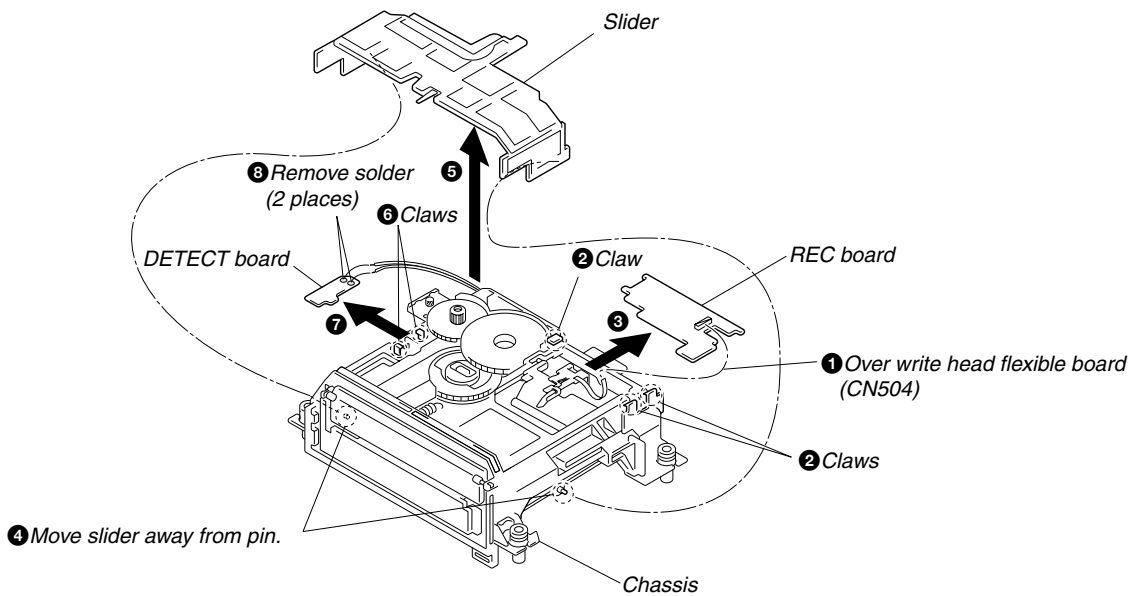
3-9. SW (L) BOARD, JACK BOARD, SW (R) BOARD



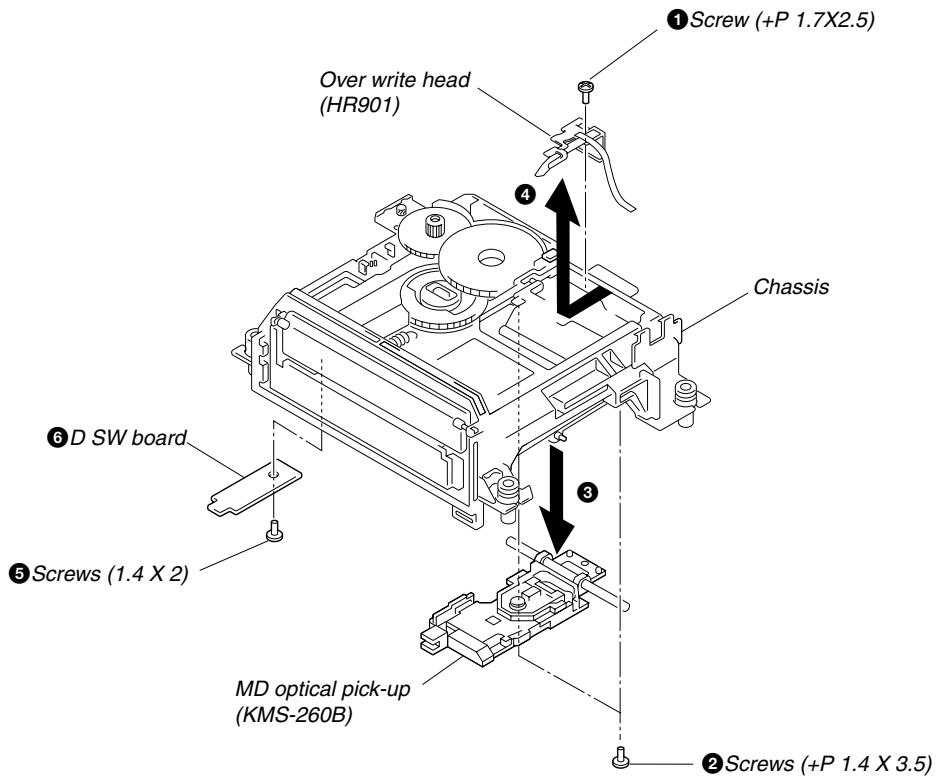
3-10. MD BOARD



3-11. REC BOARD, DETECT BOARD



3-12. OVER WRITE HEAD (HR901), MD OPTICAL PICK-UP, D SW BOARD






SECTION 4 TEST MODE


Refer to “5. ELECTRICAL ADJUSTMENT” for the test mode of CD section.

4-1. MD SECTION






1. PRECAUTIONS FOR USE OF TEST MODE

- As loading related operations will be performed regardless of the test mode operations being performed, be sure to check that the disc is stopped before setting and removing it.
 Even if the  (MD EJECT) button is pressed while the disc is rotating during continuous playback, continuous recording, etc., the disc will not stop rotating.
 Therefore, it will be ejected while rotating.
 Be sure to press the  (MD EJECT) button after pressing the  button and the rotation of disc is stopped.

1-1. Recording laser emission mode and operating buttons

- Continuous recording mode (CREC MODE)
- Laser power check mode (LDPWR CHECK)
- Laser power adjustment mode (LDPWR ADJUST)
- When pressing the  button.





4-2. SETTING THE TEST MODE

1. Set to standby state.
2. Press and hold the  button then press MD  →  →  → .





4-3. RELEASING THE TEST MODE

Remove the power cord to release the test mode.

4-4. BASIC OPERATIONS OF THE TEST MODE

All operations are performed with the following buttons: jogdial , ,  and .

The functions of these buttons are as follows.

Function name	Function
JOG ()	Proceeds the parameter/mode change.
JOG ()	Returns to the parameter/mode change.
	Goes ahead. Determines the setting/selection.
	Suspends.

4-5. SELECTING THE TEST MODE

There are 9 types of test modes as shown below. The groups can be switched by turn the jog dial. After selecting the group to be used, press the **YES/ENTER** button. After setting a certain group, turn the jog dial between these modes.

Display	Contents
TEMP ADJUST	Temperature compensation offset adjustment
LDPWR ADJUST	Laser power adjustment
LDPWR CHECK	Laser power check
LOAD CHECK	load check
S CURVE CHECK	S curve check
EFBAL ADJUST	EF balance adjustment
FBIAS ADJUST	Focus bias adjustment
FBIAS CHECK	Focus bias check
CPLAY MODE	Continuous playback mode
CREC MODE	Continuous recording mode
DETRK CHECK	Detrack check
LOAD AGING	Load aging
EEP MODE	Non-volatile memory control

- For details of each adjustment mode, refer to “5. Electrical Adjustments”.
- If a different mode has been selected by mistake, press the **NO/CANCEL** button to release that mode.
- EEP MODE is not used for servicing and therefore are not described in detail. If these modes are set accidentally, press the **NO/CANCEL** button to release the mode immediately. Be especially careful this mode will overwrite the non-volatile memory and reset it, and as a result, the unit will not operate normally.
- When selecting test mode, usually the message “TEMP ADJUST” appears. In two rare cases, however, another message may be shown.

1. After conclusion of automatic temperature compensation (starting from display “TEMP = 00”), the message “Disc Insert” appears.
2. The message “Disc Insert” is displayed right from the start.
In both cases press the **YES/ENTER** button while holding the **EDIT** button, thus displaying “TEMP ADJUST” and entering normal test mode.

In order to cause “TEMP ADJUST” to be displayed whenever test mode is selected, execute the following steps.

1. Rotate the jog dial until “EEP MODE” is shown.
2. Press the **YES/ENTER** button to display “EEP READ”.
3. Press the **YES/ENTER** button to display “EEP XXXX”.
(The first two “X”-marks represent the address, the latter two the value).
4. Rotate the jog dial to set the address to 15.
5. Press the **YES/ENTER** button while holding the **EDIT** button.
6. Confirm that the display shows “EEP15XX >XX”.
7. Rotate the jog dial to set the value after the “>”-mark to FF.
8. Press the **YES/ENTER** button.
9. Confirm that the display shows “Complete”.
10. After that, confirm that the display turns to “EEP READ”.
11. Press the **YES/ENTER** button.
12. Confirm that the display shows “EEP15FF”.
13. Press the **NO/CANCEL** button.

4-5-1. Operating the Continuous Playback Mode

1. Entering the continuous playback mode

- ① Set the disc in the unit. (Whichever recordable discs or discs for playback only are available)
- ② Rotate the jog dial and display “CPLAY MODE”.
- ③ Press the **[YES/ENTER]** button to change the display to “CPLAY MID”.
- ④ When access completes, the display changes to “C1 = [] AD = []”.

Note: The numbers “ ” displayed show you error rates and ADER.

2. Changing the parts to be played back

- ① Press the **[YES/ENTER]** button during continuous playback to change the display as below.



When pressed another time, the parts to be played back can be moved.

- ② When access completes, the display changes to “C1 = [] AD = []”.

Note: The numbers “ ” displayed show you error rates and ADER.

3. Ending the continuous playback mode

- ① Press the **[NO/CANCEL]** button. The display will change to “CPLAY MODE”.
- ② Press the **[▲](MD)** button and take out the disc.

Note: The playback start addresses for IN, MID, and OUT are as follows.

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

4-5-2. Operating the Continuous Recording Mode (Use only when performing self-recording/palyback check)

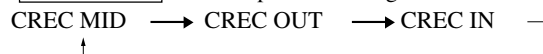
1. Entering the continuous recording mode

- ① Set a recordable disc in the unit.
- ② Rotate the jog dial and display “CRDE MODE”.
- ③ Press the **[YES/ENTER]** button to change the display to “CREC MID”.
- ④ When access completes, the display changes to “CREC ([])” and “REC ” lights up.

Note: The numbers “ ” displayed shows you the recording position addresses.

2. Changing the parts to be recorded

- ① When the **[YES/ENTER]** button is pressed during continuous recording, the display changes as below.



When pressed another time, the parts to be recorded can be changed. “REC ” goes off.

- ② When access completes, the display changes to “CREC ([])” and “REC ” lights up.

Note: The numbers “ ” displayed shows you the recording position addresses.

3. Ending the continuous recording mode

- ① Press the **[NO/CANCEL]** button. The display changes to “CREC MODE” and “REC ” goes off.
- ② Press the **[▲](MD)** button and take out the disc.

Note 1: The recording start addresses for IN, MID, and OUT are as follows.

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

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

Note 3: Do not perform continuous recording for long periods of time above 5 minutes.

Note 4: During continuous recording, be careful not to apply vibration.






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

This is the mode to read/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	Contents
 (MD)	Sets continuous playback when pressed in the STOP state. When pressed during continuous playback, the tracking servo turns ON/OFF.
 (MD)	Stops continuous playback and continuous recording.
	The sled moves to the outer circumference only when this is pressed.
	The sled moves to the inner circumference only when this is pressed.
DISPLAY	Switches the displayed contents each time the button is pressed
 (MD)	Ejects the disc
REC/REC MODE	When pressed during continuous playback, switches between recording start stop.

4-7. TEST MODE DISPLAYS

Each time the **DISPLAY** button is pressed, the display changes in the following order.

1. Mode display

Displays “TEMP ADJUST”, “CPLAYMODE”, etc.

2. Error rate display

Displays the error rate in the following way.

C1 = 0000 AD = 00

C1 = Indicates the C1 error.

AD = Indicates ADER.

3. Address display

The address is displayed as follows. (MO: recordable disc, CD: playback only disc)

Press the **REPEAT** buttons at the same time to switches between the groove display and pit display.

h = 0000 s = 0000 (MO pit and CD)

h = 0000 a = 0000 (MO groove)

h = Indicates the header address.

s = Indicates the SUBQ address.

a = Indicates the ADIP address.

Note: “-” is displayed when servo is not imposed.

4. Auto gain display (Not used in servicing)

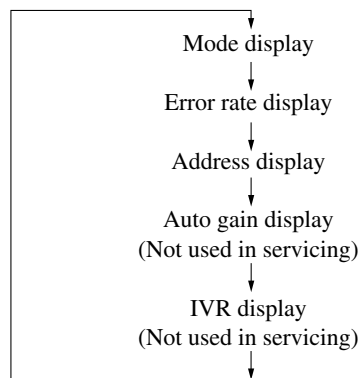
The auto gain is displayed as follows.

AG F = 00 T = 00


5. IVR display (Not used in servicing)

The IVR is displayed as follows.

[00] [00] [00]



4-8. MEANINGS OF OTHER DISPLAYS

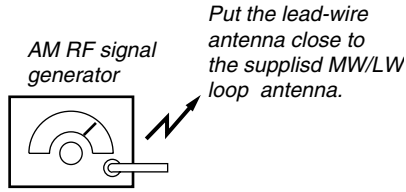
Display	Contents	
	Contents When Lit	When Off
SHUF	During continuous playback (CLV: ON)	STOP (CLV: OFF)
PGM	Tracking servo OFF	Tracking servo ON
	Recording mode ON	Recording mode OFF
TOC EDIT	ABCD adjustment completed	
TRACK	Pit	Groove
TIMER	CLV-S	CLV-A
MONO	FCS/TRK/AUTO GAIN successful	FCS successful, TRK unsuccessful

SECTION 5 ELECTRICAL ADJUSTMENTS

5-1. TUNER SECTION

AM Section

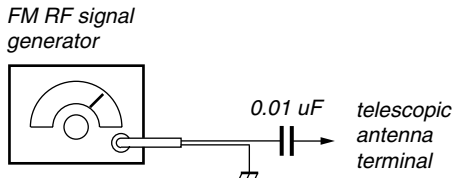
RADIO BAND button : MW or LW
Volume : MIN



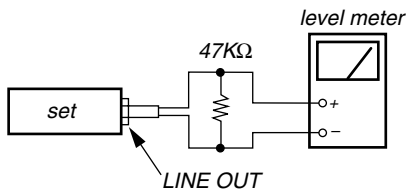
30% amplitude modulation by 400Hz signal.
Output level : as low as possible

FM Section

RADIO BAND button : FM
Volume : MIN



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



Adjustment Location : Tuner board (See page 18)

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

AM IF ADJUSTMENT	
Adjust for a maximum reading on level meter.	
T1	450kHz

MW FREQUENCY COVERAGE ADJUSTMENT		
Adjust part	Frequency display	reading on digital voltmeter.
L5	531kHz	Adjustment value: 1.0V Standard value: 0.7 to 1.3V
Confirmation	1,611kHz	5.1 to 5.9V

MW TRACKING ADJUSTMENT	
Adjust for a maximum reading on level meter.	
L 3	621kHz
CT2	1,404kHz

LW FREQUENCY COVERAGE ADJUSTMENT		
Adjust part	Frequency display	reading on digital voltmeter
CT4	279kHz	Adjustment value: 5.4 to 6.0V
Confirmation	153kHz	0.4 to 1.1V

LW TRACKING ADJUSTMENT	
Adjust for a maximum reading on level meter.	
L 4	162kHz
CT3	261kHz

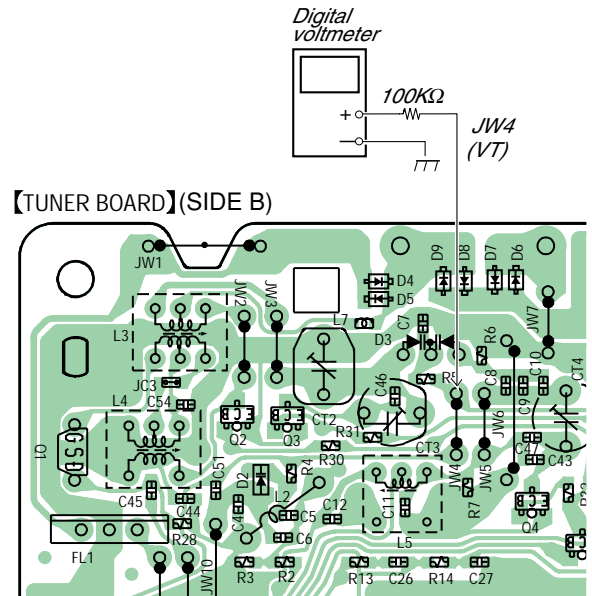
FM IF ADJUSTMENT	
Adjust for a maximum reading on level meter.	
L6	10.7MHz

FM FREQUENCY COVERAGE ADJUSTMENT		
Adjust part	Frequency display	reading on digital voltmeter
Confirmation	87.5kHz	1.4 to 2.4V
Confirmation	108kHz	2.7 to 3.7V

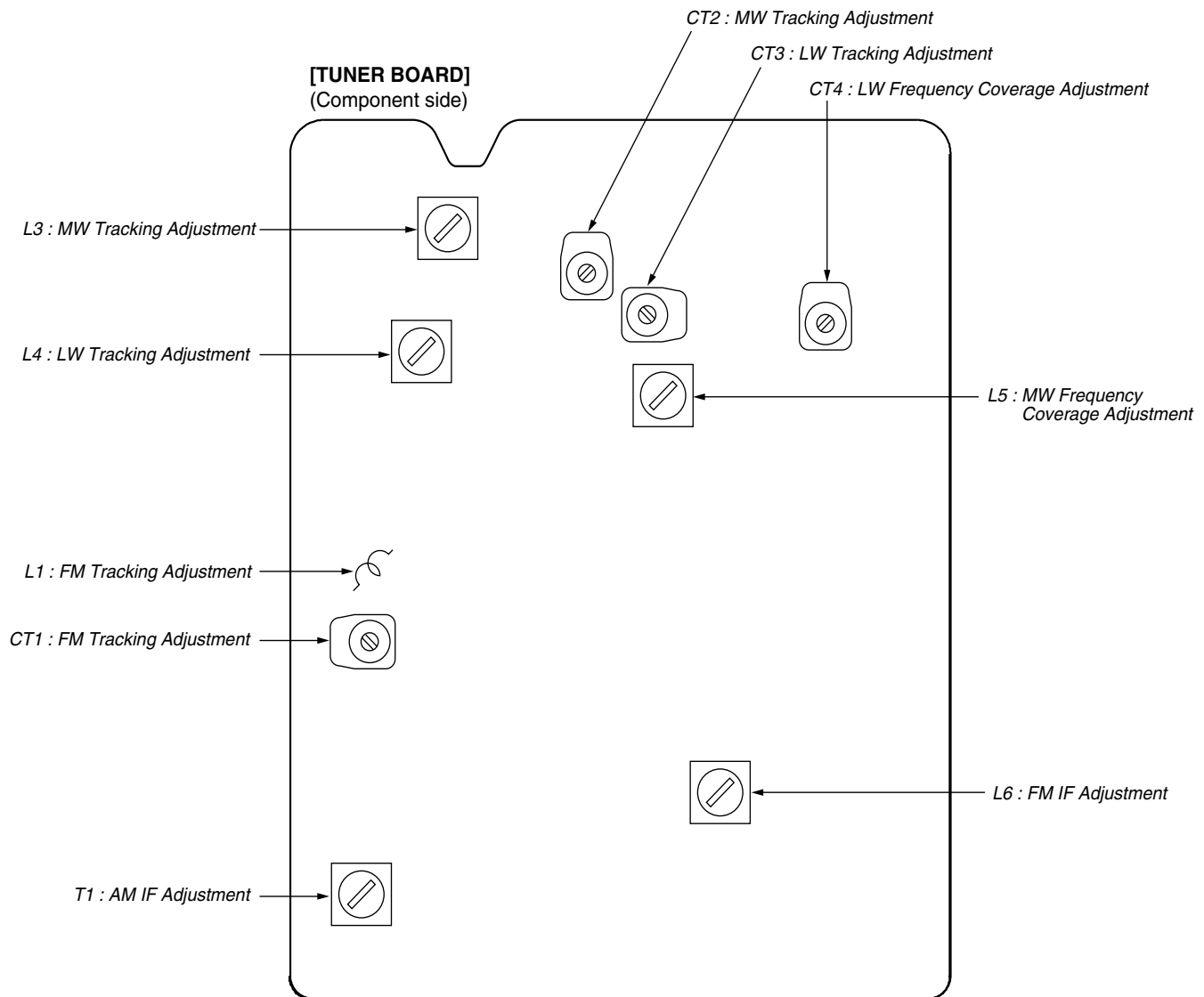
FM TRACKING ADJUSTMENT	
Adjust for a maximum reading on level meter.	
L1	87.5MHz
CT1	108MHz

Frequency Coverage Adjustment

Connect Location :



Adjustment Location:

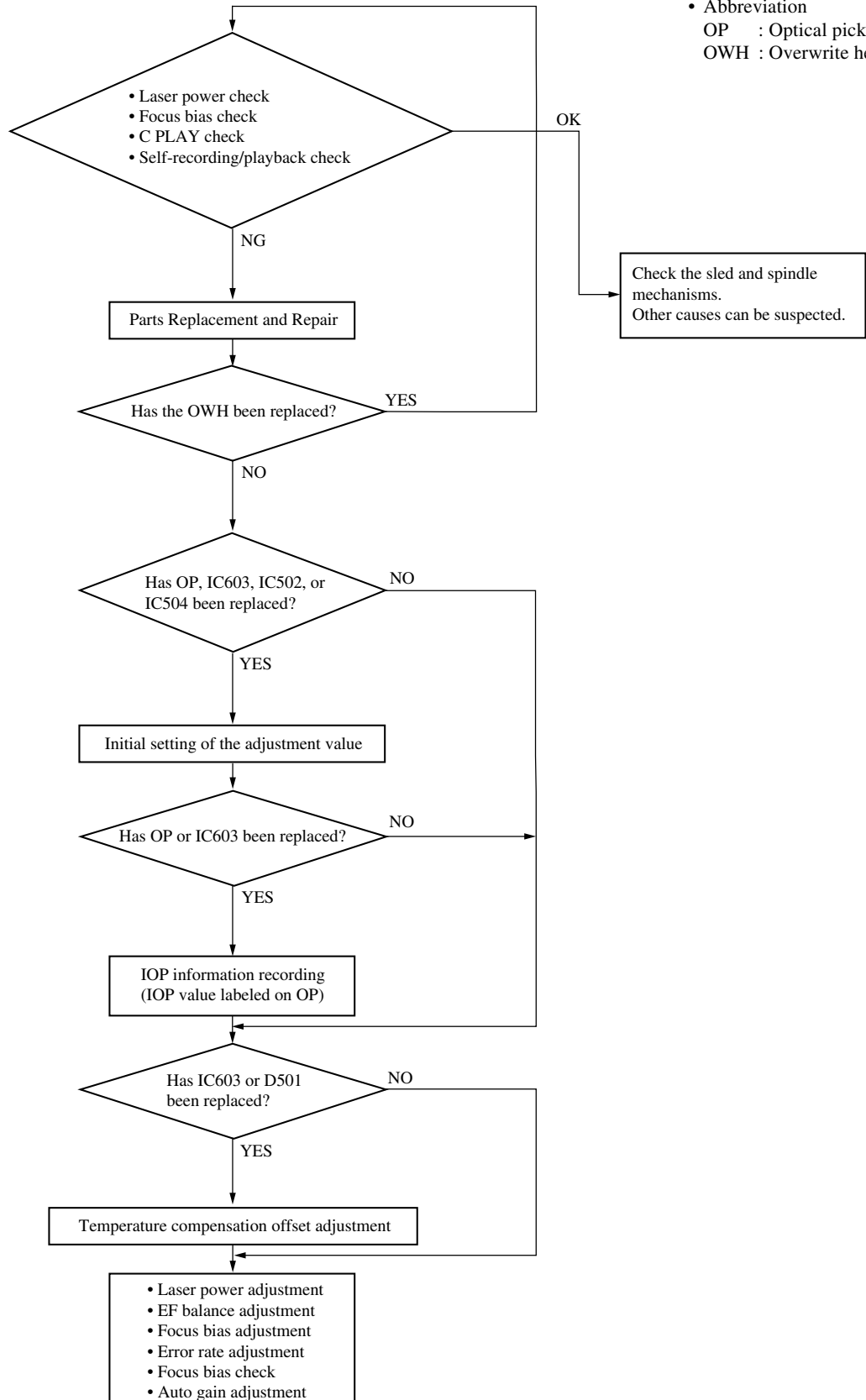


5-2. MD SECTION

1. PARTS REPLACEMENT AND ADJUSTMENT

- Check and adjust the mechanism deck as follows.
The procedure changes according to the part replaced.

- Abbreviation
OP : Optical pick-up
OWH : Overwrite head

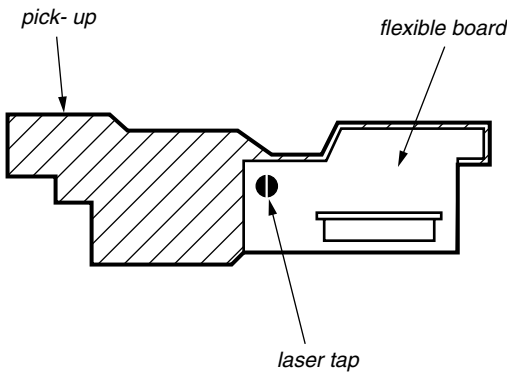


2. PRECAUTIONS FOR CHECKING LASER DIODE EMISSION

To check the emission of the laser diode during adjustments, never view directly from the top as this may lose your eye-sight.

3. PRECAUTIONS FOR USE OF OPTICAL PICK-UP (KMS-260B)

As the laser diode in the optical pick-up is easily damaged by static electricity, solder the laser tap of the flexible board when using it. Before disconnecting the connector, desolder first. Before connecting the connector, be careful not to remove the solder. Also take adequate measures to prevent damage by static electricity. Handle the flexible board with care as it breaks easily.



Optical pick-up flexible board

4. PRECAUTIONS FOR ADJUSTMENTS

1. When replacing the following parts, perform the adjustments and checks with in the order shown in the following table.

	Optical Pick-up	BD Board			
		IC603	D501	IC502, IC504	IC506
1. Recording of IOP information (Value written in the pick-up)	○	○	×	×	×
2. Temperature compensation offset adjustment	×	○	○	×	×
3. Laser power adjustment	○	○	×	○	○
4. EF balance adjustment	○	○	×	○	×
5. Focus bias adjustment	○	○	×	○	×
6. Error rate check	○	○	×	○	×

- Set the test mode when performing adjustments. After completing the adjustments, release the test mode. Perform the adjustments and checks in "group S" of the test mode.
- Perform the adjustments to be needed in the order shown.

- Use the following tools and measuring device.
 - Check Disc (MD) TDYS-1 (Part No. 4-963-646-01)
 - Test Disc (MDW-74/AU-1) (Part No. 8-892-341-41)
 - Laser power meter LPM-8001 (Part No. J-2501-046-A) or MD Laser power meter 8010S (Part No. J-2501-145-A)
 - Oscilloscope (Measure after performing CAL of prove)
 - Digital voltmeter
 - Thermometer
- When observing several signals on the oscilloscope, etc., make sure that VC and ground do not connect inside the oscilloscope. (VC and ground will become short-circuited)
- Using the above jig enables the waveform to be checked without the need to solder. (Refer to Service Note on page 3)
- As the disc used will affect the adjustment results, make sure that not dusts nor fingerprints are attached to it.

Laser Power Meter

When performing laser power checks and adjustment (electrical adjustment), use of the new MD laser power meter 8010S (Part No. J-2501-145-A) instead of the conventional laser power meter is convenient.

It sharply reduces the time and trouble to set the laser power meter sensor onto the objective lens of optical pick-up.

5. CREATING CONTINUOUSLY-RECORDED DISC

* This disc is used in focus bias adjustment and error rate check.

The following describes how to create a continuous recording disc.

- Insert a disc (blank disc) commercially available.
- Turn the JOG dial to display "CREC MODE".
- Press the **YES/ENTER** button again to display "CREC MID". Display "CREC (0300)" and start to recording.
- Complete recording within 5 minutes.
- Press the **NO/CANCEL** button and stop recording.
- Press the **▲(MD)** button and remove the disc.

The above has been how to create a continuous recorded data for the focus bias adjustment/check and MO error rate check.

Note:

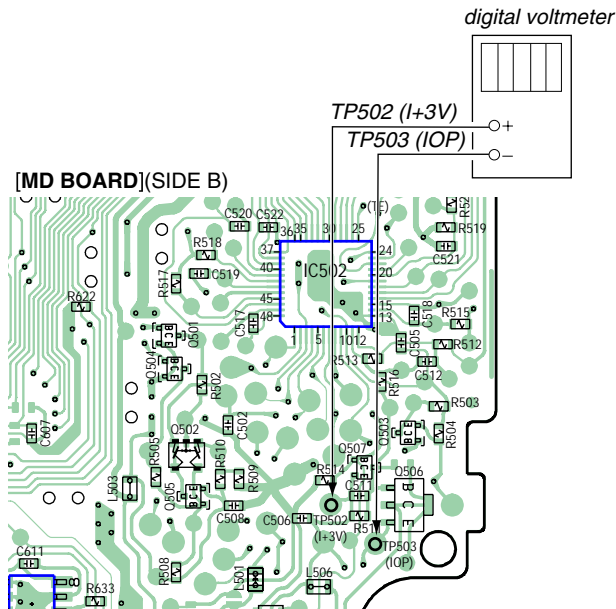
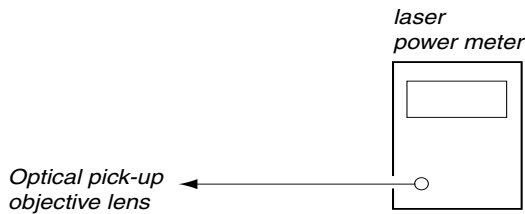
- Be careful not to apply vibration during continuous recording.

6. CHECK PRIOR TO REPAIRS

These checks are performed before replacing parts according to “approximate specifications” to determine the faulty locations. For details, refer to “Checks Prior to Parts Replacement and Adjustments”(See page 4).

6-1. Laser Power Check

Connection:



Checking Procedure:

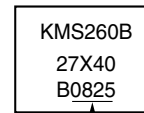
1. Set the laser power meter on the objective lens of the optical pick-up. (When it cannot be set properly, press the ◀ button or ▶ button to move the optical pick-up)
Connect the digital voltmeter to TPO 502 (I+3 V) and TP503 (IOP) on the MD board.
2. Turn the JOG dial to display “LDPWR CHECK”.
3. Press the YES/ENTER button once to display “LD 0.9 mW \$ ”. Check that the reading of the laser power meter become 0.80 to 0.96 mW.
4. Press the YES/ENTER button once more to display “LD 7.0 mW \$ ”. Check that the reading the laser power meter and digital voltmeter satisfy the specified value.

Specified Value:

Laser power meter reading : 6.8 - 7.2 mW

Digital voltmeter reading : Value on the optical pick-up label
± 10 %

(Optical pick-up label)



IOP=82.5 mA in this case

$$IOP (mA) = \text{Digital voltmeter reading (mV)} / 3.3 (\Omega)$$

5. Press the NO/CANCEL button to display “LDPWR CHECK” and stop the laser emission.
(The NO/CANCEL button is effective at all times to stop the laser emission)

Note 1: After step 4, each time the YES/ENTER button is pressed, the display will be switched “LD 0.7 mW \$ ”, “LD 6.2 mW \$ ”, and “LD WP ホセイ \$ ”. Nothing needs to be performed here. (ホセイ= correction)

6-2. Focus Bias Check

Change the focus bias and check the focus tolerance amount.

Checking Procedure:

1. Load the test disc (MDW-74/AU-1).
2. Turn the JOG dial to display “CPLAY MODE”.
3. Press the YES/ENTER button twice to display “CPLAY MID”.
4. Press the NO/CANCEL button when “C1 = AD = ” is displayed.
5. Turn the JOG dial to display “FBIAS CHECK”.
6. Press the YES/ENTER button to display “ / c = ”. The first four digits indicate the C1 error rate, the two digits after (/) indicate ADER, and the 2 digits after “c =” indicate the focus bias value.
Check that the C1 error is below 50 and ADER is below 2.
7. Press the YES/ENTER button to display “ / b = ”. Check that the C1 error is about 200 and ADER is below 2.
8. Press the YES/ENTER button to display “ / a = ”. Check that the C1 error is about 200 and ADER is below 2.
9. Press the NO/CANCEL button, then press the ▲ (MD) button and take out the test disc.

6-3. C PLAY Check

MO Error Rate Check

Checking Procedure:

1. Load the test disc (MDW-74/AU-1).
2. Turn the JOG dial to display “CPLAY MODE”.
3. Press the YES/ENTER button to display “CPLAY MID”.
4. The display changes to “C1 = AD = ”.
5. If the C1 error rate is below 80, check that ADER is below 2.
6. Press the NO/CANCEL button to stop playback, then press the ▲ (MD) button and take out the test disc.

CD Error Rate Check

Checking Procedure:

1. Load the check disc (MD) TDYS-1.
2. Turn the JOG dial to display “CPLAY MODE”.
3. Press the YES/ENTER button twice to display “CPLAY MID”.
4. The display changes to “C1 = AD = ”.
5. Check that the C1 error rate is below 50.
6. Press the NO/CANCEL button to stop playback, then press the ▲ (MD) button and take out the check disc.

6-4. Self-Recording/playback Check

Prepare a continuous recording disc using the unit to be repaired and check the error rate.

Checking Procedure:

1. Load a recordable disc (blank disc).
2. Turn the JOG dial to display “CREC MODE”.
3. Press the **[YES/ENTER]** button to display “CREC MID”.
4. When recording starts, lights up “ REC ” and display “CREC (@@@@)” (@@@@ is the address).
5. About 1 minute later, press the **[NO/CANCEL]** button to stop continuous recording.
6. Turn the JOG dial to display “CPLAY MODE”.
7. Press the **[YES/ENTER]** button to display “CPLAY MID”.
8. “C1 = 0000 AD = 00 ” will be displayed.
9. Check that the C1 error becomes below 80 and the ADER below 2.
10. Press the **[NO/CANCEL]** button to stop play back, then press the **[▲](MD)** button and take out the disc.

Note: After the TEST MODE is entered, insert the disc.

7. TEMPERATURE COMPENSATION OFFSET ADJUSTMENT

Save the temperature data at that time in the non-volatile memory as 25 °C reference data.

Note:

1. Usually, do not perform this adjustment.
2. Perform this adjustment in an ambient temperature of 22 °C to 28 °C.
Perform it immediately after the power is turned on when the internal temperature of the unit is the same as the ambient temperature of 22 °C to 28 °C.
3. When D501 has been replaced, perform this adjustment after the temperature of this part has become the ambient temperature.

Adjusting Procedure:

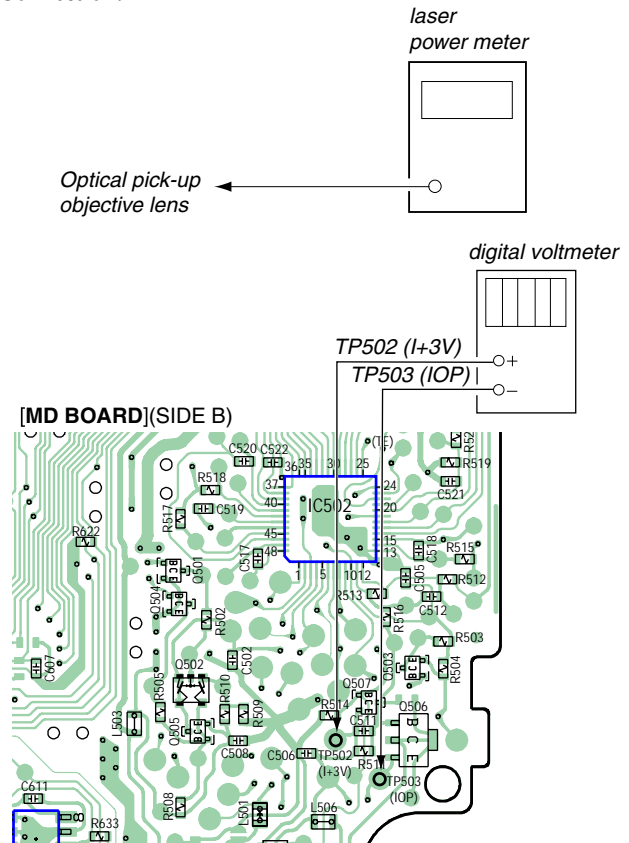
1. Turn the JOG dial to display “TEMP ADJUST”.
2. Press the **[YES/ENTER]** button to select the “TEMP ADJUST” mode.
3. “TEMP = 00 ” and the current temperature data will be displayed.
4. To save the data, press the **[YES/ENTER]** button.
When not saving the data, press the **[NO/CANCEL]** button.
5. When the **[YES/ENTER]** button is pressed, “TEMP = SAVE” will be displayed and turned back to “TEMP ADJUST” display then. When the **[NO/CANCEL]** button is pressed, “TEMP ADJUST” will be displayed immediately.

Specified Value:

The “TEMP = 00 ” should be within “E0 - EF”, “F0 - FF”, “00 - 0F”, “10 - 1F” and “20 - 2F”.

8. LASER POWER ADJUSTMENT

Connection:



Adjusting Procedure:

1. Set the laser power meter on the objective lens of the optical pick-up. (When it cannot be set properly, press the **[◀]** button or **[▶]** button to move the optical pick-up)
Connect the digital voltmeter to TP502 (I+3 V) and TP503 (IOP) on the MD board.
2. Turn the JOG dial to display “LDPWR ADJUST”. (Laser power: For adjustment)
3. Press the **[YES/ENTER]** button once to display “LD 0.9 mW \$ 00 ”.
4. Turn the JOG dial so that the reading of the laser power meter becomes 0.85 to 0.91 mW. Press the **[YES/ENTER]** button after setting the range knob of the laser power meter, and save the adjustment results. (“LD SAVE \$ 00 ” will be displayed for a moment)
5. Then “LD 7.0 mW \$ 00 ” will be displayed.
6. Turn the JOG dial and adjust so that the reading on the laser power meter is 6.9 to 7.1 mW. Press the **[YES/ENTER]** button to save the setting.

Note: Do not perform the emission with 7.0 mW more than 15 seconds continuously.

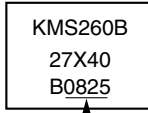
7. Turn the JOG dial to display “LDPWR CHECK”.
8. Press the **[YES/ENTER]** button once to display “LD 0.9mW \$ 00 ”. Check that the reading of the laser power meter become 0.85 to 0.91 mW.
9. Press the **[YES/ENTER]** button once more to display “LD 7.0 mW \$ 00 ”. Check that the reading the laser power meter and digital voltmeter satisfy the specified value.
Note down the digital voltmeter reading value.

Specified Value:

Laser power meter reading : 7.0 ± 0.2 mW

Digital voltmeter reading : Value on the optical pick-up label
 $\pm 10\%$

(Optical pick-up label)



IOP=82.5 mA in this case

$$IOP \text{ (mA)} = \text{Digital voltmeter reading (mV)} / 3.3 \text{ } (\Omega)$$

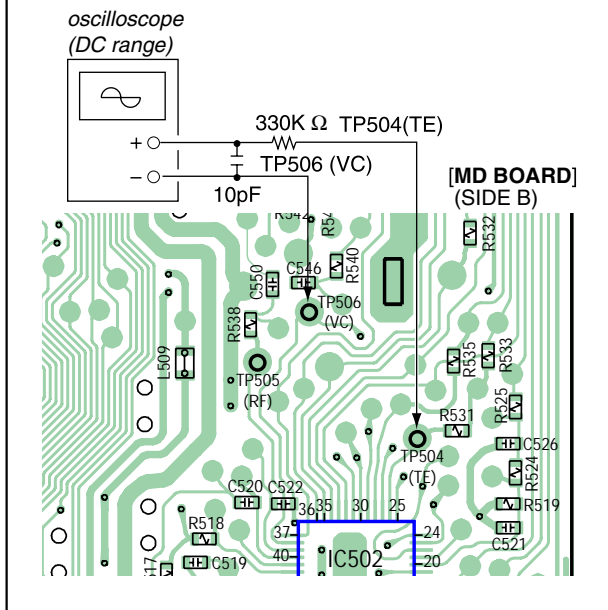
- Press the **[NO/CANCEL]** button to display “LDPWR CHECK” and stop the laser emission.
 (The **[NO/CANCEL]** button is effective at all times to stop the laser emission)

Note 1: After step 9, each time the **[YES/ENTER]** button is pressed, the display will be switched “LD 0.7 mW \$ [] ”, “LD 6.2 mW \$ [] ”, and “LD WP ホセイ \$ [] ”. Nothing needs to be performed here.
 (ホセイ = correction)

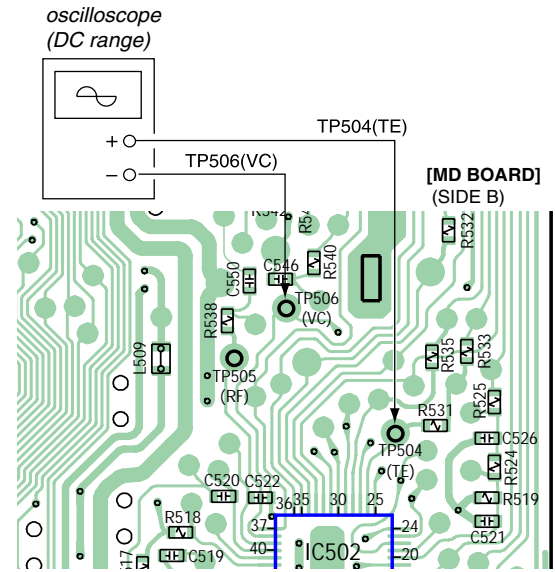
9. EF BALANCE ADJUSTMENT

Note 1: Data will be erased during MO reading if a recorded disc is used in this adjustment.

Note 2: If the traverse waveform is not clear, connect the oscilloscope as shown in the following figure so that it can be seen more clearly.



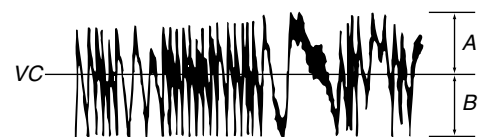
Connection:



Adjusting Procedure:

- Connect an oscilloscope to TP504 (TE) and TP506 (VC) on the MD board.
- Load a disc (any available on the market). (Refer to Note 1)
- Press the **[▶▶]** button to move the optical pick-up outside the pit.
- Turn the JOG dial to display “EFBAL ADJUST”.
- Press the **[YES/ENTER]** button to display “EFB = MO-R”.
 (Laser power READ power/Focus servo ON/tracking servo OFF/spindle (S) servo ON)
- Turn the JOG dial so that the waveform of the oscilloscope becomes the specified value.
 (When the JOG dial is turned, the [] of “EFB = [] ” changes and the waveform changes) In this adjustment, wave form varies at intervals of approx. 2%. Adjust the waveform so that the specified value is satisfied as much as possible.
 (Read power traverse adjustment)

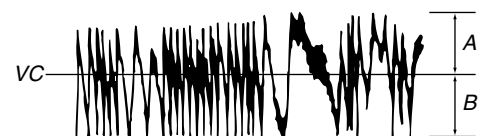
Traverse Waveform



Specification : A = B

- Press the **[YES/ENTER]** button and save the result of adjustment to the non-volatile memory. (“EFB = SAVE” will be displayed for a moment. Then “EFB = MO-W” will be displayed)
- Turn the JOG dial so that the waveform of the oscilloscope becomes the specified value.
 (When the JOG dial is turned, the [] of “EFB- [] ” changes and the waveform changes) In this adjustment, waveform varies at intervals of approx. 2%. Adjust the waveform so that the specified value is satisfied as much as possible.
 (Write power traverse adjustment)

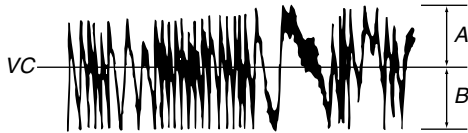
Traverse Waveform



Specification : A = B

9. Press the **YES/ENTER** button, and save the adjustment results in the non-volatile memory. (“EFB = **00** SAVE” will be displayed for a moment)
10. “EFB = **00** MO-P” will be displayed.
The optical pick-up moves to the pit area automatically and servo is imposed.
11. Turn the JOG dial until the waveform of the oscilloscope moves closer to the specified value.
In this adjustment, waveform varies at intervals of approx. 2%.
Adjust the waveform so that the specified value is satisfied as much as possible.

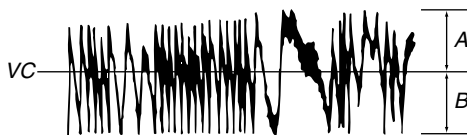
Traverse Waveform



Specification : A = B

12. Press the **YES/ENTER** button, and save the adjustment results in the non-volatile memory. (“EFB = **00** SAVE” will be displayed for a moment)
Next “EFBAL ADJUST” is displayed. The disc stops rotating automatically.
13. Press the **▲** (MD) button and take out the disc.
14. Load the check disc (MD) TDYS-1.
15. Press the **YES/ENTER** button to display “EFB = **00** CD”.
Servo is imposed automatically.
16. Turn the JOG dial so that the waveform of the oscilloscope moves closer to the specified value.
In this adjustment, waveform varies at intervals of approx. 2%.
Adjust the waveform so that the specified value is satisfied as much as possible.

Traverse Waveform



Specification : A = B

17. Press the **YES/ENTER** button, display “EFB = **00** SAVE” for a moment and save the adjustment results in the non-volatile memory.
Next “EFBAL ADJUST” will be displayed.
18. Press the **▲** (MD) button and take out the disc.

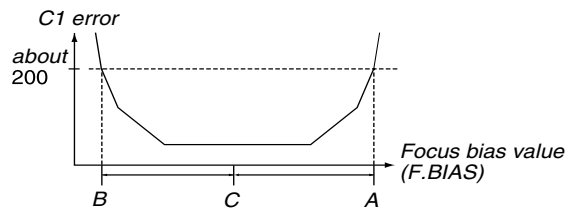
10. FOCUS BIAS ADJUSTMENT

Adjusting Procedure:

1. Load the continuously-recorded disc.
(Refer to “5. CREATING CONTINUOUSLY-RECORDED DISC”)
2. Turn the JOG dial to display “CPLAY MODE”.
3. Press the **YES/ENTER** button to display “CPLAY MID”.
4. Press the **NO/CANCEL** button when “C1 = **0000** AD = **00**” is displayed.
5. Turn the JOG dial to display “FBIAS ADJUST”.
6. Press the **YES/ENTER** button to display “**0000** / a = **00**”.
The first four digits indicate the C1 error rate, the two digits after “ / ” indicate ADER, and the 2 digits after “a =” indicate the focus bias value.
7. Turn the JOG dial clockwise and find the focus bias value at which the C1 error rate becomes about 200 (Refer to Note 2).
8. Press the **YES/ENTER** button to display “**0000** / b = **00**”.
9. Turn the JOG dial counterclockwise and find the focus bias value at which the C1 error rate becomes about 200.
10. Press the **YES/ENTER** button to display “**0000** / c = **00**”.
11. Check that the C1 error rate is below 50 and ADER is 00.
Then press the **YES/ENTER** button.
12. If the “(**00**)” in “**00** - **00** - **00** (**00**)” is above 20, press the **YES/ENTER** button.
If below 20, press the **NO/CANCEL** button and repeat the adjustment from step 2.
13. Press the **▲** (MD) button and take out the disc.

Note 1: The relation between the C1 error and focus bias is as shown in the following figure. Find points A and B in the following figure using the above adjustment. The focal point position C is automatically calculated from points A and B.

Note 2: As the C1 error rate changes, perform the adjustment using the average value.



11. ERROR RATE CHECK

11-1. CD Error Rate Check

Checking Procedure:

1. Load the check disc (MD) TDYS-1.
2. Turn the JOG dial and display “CPLAY MODE”.
3. Press the **YES/ENTER** button twice and display “CPLAY MID”.
4. The display changes to “C1 = **0000** AD = **00**”.
5. Check that the C1 error rate is below 20.
6. Press the **NO/CANCEL** button to stop playback, then press the **▲** (MD) button and take out the check disc.

11-2. MO Error Rate Check

Checking Procedure:

1. Load the continuously-recorded disc. (Refer to “5. CREATING CONTINUOUSLY-RECORDED DISC”)
2. Turn the JOG dial to display “CPLAY MODE”.
3. Press the **YES/ENTER** button to display “CPLAY MID”.
4. The display changes to “C1 = **0000** AD = **00**”.
5. If the C1 error rate is below 50, check that ADER is 00.
6. Press the **NO/CANCEL** button to stop playback, then press the **▲** (MD) button and take out the test disc.

12. FOCUS BIAS CHECK

Change the focus bias and check the focus tolerance amount.

Checking Procedure:

1. Load the continuously-recorded disc. (Refer to “5. CREATING CONTINUOUSLY-RECORDED DISC”)
2. Turn the JOG dial to display “CPLAY MODE”.
3. Press the **YES/ENTER** button twice to display “CPLAY MID”.
4. Press the **NO/CANCEL** button when “C1 = 0000 AD = 00” is displayed.
5. Turn the JOG dial to display “FBIAS CHECK”.
6. Press the **YES/ENTER** button to display “0000 / 00 c = 00”. The first four digits indicate the C1 error rate, the two digits after “ / ” indicate ADER, and the 2 digits after “c =” indicate the focus bias value.
Check that the C1 error is below 50 and ADER is below 2.
7. Press the **YES/ENTER** button and display “0000 / 00 b = 00”. Check that the C1 error is about 200 and ADER is below 2.
8. Press the **YES/ENTER** button and display “0000 / 00 a = 00”. Check that the C1 error is about 200 and ADER is below 2.
9. Press the **NO/CANCEL** button, then press the **▲** (MD) button and take out the disc.

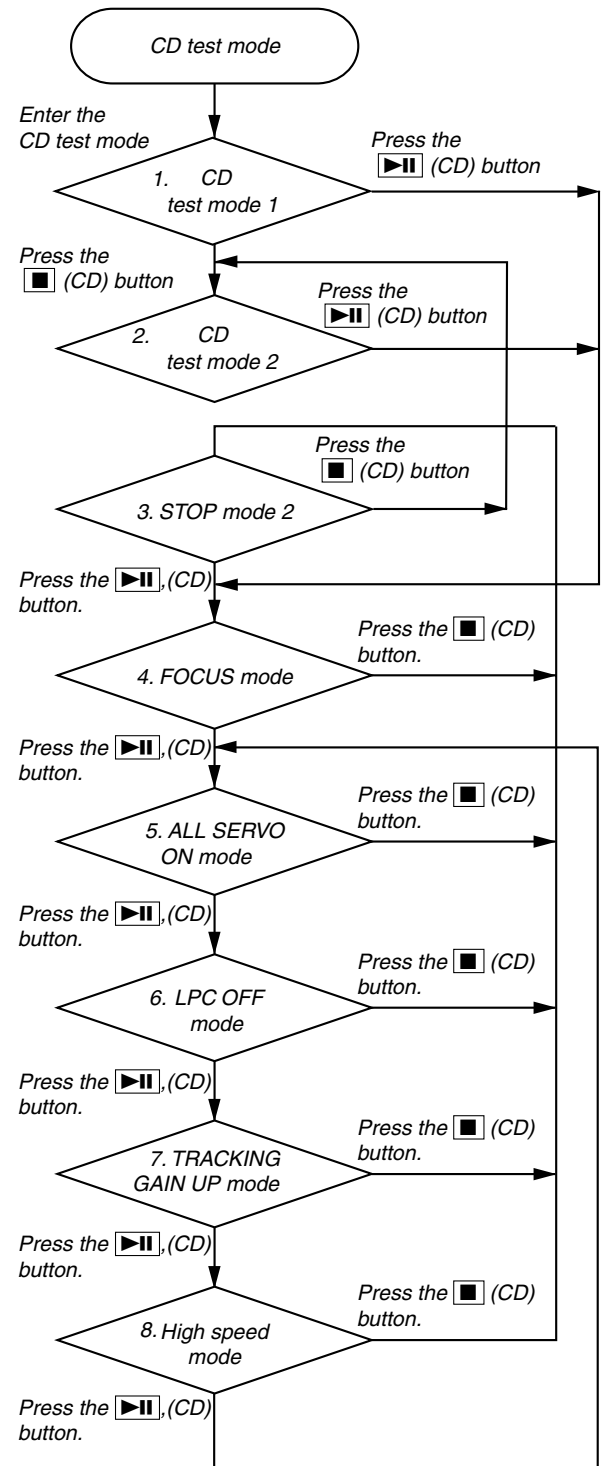
Note 1: If the C1 error and ADER are above other than the specified value at points A (step 8. in the above) or B (step 7. in the above), the focus bias adjustment may not have been carried out properly. Adjust perform the beginning again.

5-3. CD SECTION

Set the CD test mode when performing confirmations. After completing the confirmation, release the CD test mode.

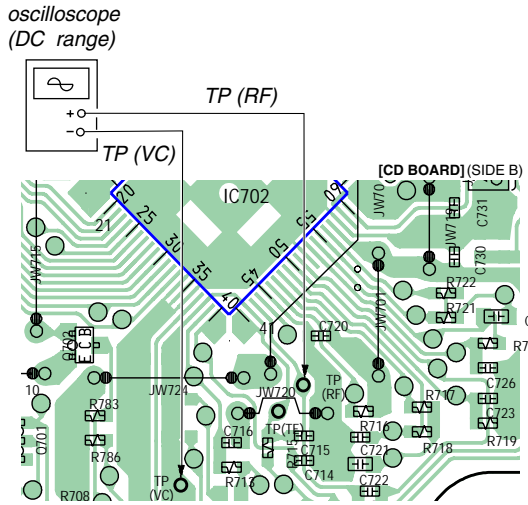
In the CD test mode, the set works as following sequence.

CD test mode sequence:



2. Connect an oscilloscope to TP (RF) and TP (VC) on the CD board.

Connection:

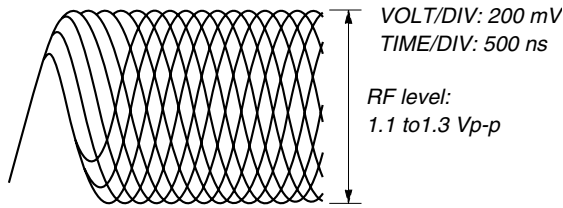


6. Releasing the CD Test Mode

1. Press the (CD) button to stop rotate the disc.
2. Press the (POWER) button, then remove the power cord to release the test mode.

3. Confirm that the RF level and jitter of waveform satisfy specified values as follows.

RF signal Waveform



Specified Values:

RF level : 1.1 to 1.3 Vp-p
 jitterless than 9nsec

5. LPC Mode

(RF Level and Jitter Confirmation 2)

1. Press the button to enter the LPC OFF mode and display as below. (All servo ON, LPC OFF)

Display



2. Confirm that the RF level and jitter of waveform satisfy specified values as follows.

Specified Values:

RF level : 0.9 to 1.4 Vp-p
 jitterless than 9nsec

If the RF level and jitter are out of specified values, measure again after clean the object lens by an applicator with lens cleaning liquid.

SECTION 6 DIAGRAMS

6-1. IC PIN FUNCTION DESCRIPTIONS

• MAIN BOARD IC801 System control (CXP740096-059Q)

Pin No.	Pin name	I/O	Description
1	MD-PDOWN	O	Power down signal output to the MD mechanism controller(IC601)
2	MD-SRTS	I	System controller busy status monitor input from the MD mechanism controller
3	MD-PACK IN	I	MO disc detection signal input
4	MD-SCTS	I	MD mechanism controller busy status monitor input from the MD mechanism controller
5	MD-RST	O	Power supply on /off control signal output for the MD mechanism controller
6	MD-H	O	MD play control signal output to the A/D, D/A converter(IC604)
7	REC-H	O	MD record signal output to the A/D, D/A converter (IC604)
8-10	————	—	Not used (OPEN)
11	B/L7V-SHORT	I	Backlight voltage detection input
12	————	—	Not used (OPEN)
13	CD-MUTE	—	Not used (OPEN)
14	AU-MUTE	O	Audio mute drive signal output
15-17	————	—	Not used (OPEN)
18	SUR-CTR	—	Not used (OPEN)
19, 20	————	—	Not used (OPEN)
21	MEGA BASS	O	MEGA-BASS ON/OFF signal output
22	HP-SW	O	Headphones ON/OFF signal output
23	AU-CS	O	Audio chip select signal output
24	AU-DATA	O	Serial data output to the electrical volume (IC302)
25	AU-CLK	O	Serial data transfer clock signal output
26-29	————	—	Not used (OPEN)
30	LEO-OPERATION2	—	Not used (OPEN)
31	PA-STANDBY	O	Power amplifier ON/OFF signal output “ L ” : standby “ H ” power ON
32	P-CON2	—	Not used (OPEN)
33	LINE-MUTE	O	Line mute drive signal output
34	TU-MUTE	—	Not used (OPEN)
35	SUR	O	Panorama sound select signal output
36	LED-HIGHSPEED2	O	HIGHSPEED LED ON/OFF control signal output
37	LED-SURROUND2	O	Panorama sound LED ON/OFF control signal output
38	VDD-CONT	O	VDD 3.3V ON/OFF control signal output
39	TU-SFT	O	Level shift control signal output
40	RST	I	System reset signal input
41	VSS	—	Ground terminal
42	XTAL	I	Main system clock input terminal (8MHz)
43	EXTAL	O	Main system clock output terminal (8MHz)
44	————	—	Not used (OPEN)
45	LCD-STB	O	LCD standby signal output
46	LCD-DATA	O	LCD serial data output
47	LCD-CLK	O	LCD clock signal output
48	SELECT-GND	—	Not used (OPEN)
49	SELECT	—	Not used (fixed “ H ”)
50	LED-OPERATION	—	Not used (OPEN)
51	LEO-HISPEED	—	Not used (OPEN)
52	AVSS	—	Ground terminal
53	AVREF	—	Reference voltage (3.3V) input for A/D converter
54	AVDD	—	Power supply terminal(3.3V)
55	KEY-AD1	I	Key input terminal
56	KEY-AD0	I	Key input terminal
57	JOG-B	I	Jog controller (B) input

Pin No.	Pin name	I/O	Description
58	JOG-A	I	Jog controller (A) input
59	KEY-AD4	I	Key input terminal
60	KEY-AD3	I	Key input terminal
61	KEY-AD2	I	Key input terminal
62	COM3.3V-SHORT	I	COM3.3V voltage detection terminal
63	LED-SURROUND	—	Not used (OPEN)
64	CD-POWER	O	Power supply ON/OFF signal output for CD servo system
65	CD-C2P0	—	Not used (OPEN)
66	CD-SPH	O	CD High speed recording control signal output
67	CD-AGC CONT	O	CD AGC signal output
68	CD-SCLK	O	Subcode Q data transfer clock signal output for CD DSP IC (IC702)
69	MD-SRXD	I	UART communication data input from the MD mechanism controller (IC601)
70	MD-STXD	O	UART communication data output to the MD mechanism controller (IC601)
71	————	—	Not used (OPEN)
72	————	—	Not used (OPEN)
73	CD-CLK	O	Serial data transfer clock signal output to the CD DSP IC (IC702)
74	CD-XLAT	O	Serial data latch pulse signal output to the CD DSP IC (IC702)
75	CD-DATA	O	Serial data output to the CD DSP IC (IC702)
76	CD-XRST	O	CD reset signal output to the CD RF AMP (IC701), CD DSP IC (IC702)
77	CD SENSE	I	Internal status (SENSE) input from the CD DSP IC (IC702)
78	CD-SCOR	I	Subcode sync (SO +S1) detection signal input from the CD DSP IC (IC702)
79	CD-SQSO	I	Subcode Q data input from the CD DSP IC (IC702)
80	CD-RFH	O	CD RF level select output
81	CD-SQCK	O	Subcode Q data reading clock signal output to the CD DSP IC (IC702)
82,83	————	—	Not used (OPEN)
84	CD-DOOR	I	CD door open/close signal input
85	RMC	I	Remote control signal input
86	TEX	I	Sub system clock input terminal (32.768KHz)
87	TX	O	Sub system clock output terminal (32.768KHz)
88	VSS	—	Ground terminal
89	VDD	—	Power supply terminal (3.3V)
90-92	————	—	Not used (OPEN)
93	B/L-CONT	O	LCD backlight control signal output
94	ACCHK	I	AC power supply voltage detection terminal
95	P-COM	O	Power ON/OFF control signal output
96	————	—	Not used (OPEN)
97	TU-CE	O	PLL serial chip enable signal output to the tuner IC (IC1)
98	TU-DATA	O	PLL serial data output to the tuner IC (IC1)
99	TU-CLK	O	PLL serial data transfer clock signal output to the tuner IC (IC1)
100	TU-COUNT	I	PLL serial data input from the tuner IC (IC1)

• MD BOARD IC502 CXA2523AR (RF AMP, FOCUS/TRACKING ERROR AMP)

Pin No.	Pin Name	I/O	Pin Description
1	I	I	I-V converted RF signal I input from the optical pick-up block detector
2	J	I	I-V converted RF signal J input from the optical pick-up block detector
3	VC	O	Middle point voltage (+ 1.65 V) generation output terminal
4 – 9	A – F	I	Signal input from the optical pick-up detector
10	PD	I	Light amount monitor input from the optical pick-up block laser diode
11	APC	O	Laser amplifier output terminal to the automatic power control circuit
12	APCREF	I	Reference voltage input terminal for setting laser power
13	GND	—	Ground terminal
14	TEMPI	I	Connected to the temperature sensor
15	TEMPR	O	Output terminal for a temperature sensor reference voltage
16	SWDT	I	Writing serial data input from the CXD2654R (IC504)
17	SCLK	I	Serial data transfer clock signal input from the CXD2654R (IC504)
18	XLAT	I	Serial data latch pulse signal input from the CXD2654R (IC504)
19	XSTBY	I	Standby signal input terminal “L”: standby (fixed at “H” in this set)
20	F0CNT	I	Center frequency control voltage input terminal of internal circuit (BPF22, BPF3T, EQ) input from the CXD2654R (IC504)
21	VREF	O	Reference voltage output terminal Not used (open)
22	EQADJ	I/O	Center frequency setting terminal for the internal circuit (EQ)
23	3TADJ	I/O	Center frequency setting terminal for the internal circuit (BPF3T)
24	VCC	—	Power supply terminal (+3.3V)
25	WBLADJ	I/O	Center frequency setting terminal for the internal circuit (BPF22)
26	TE	O	Tracking error signal output to the CXD2654R (IC504)
27	CSLED	I	Connected to the external capacitor for low-pass filter of the sled error signal
28	SE	O	Sled error signal output to the CXD2654R (IC504)
29	ADFM	O	FM signal output of the ADIP
30	ADIN	I	Receives a ADIP FM signal in AC coupling
31	ADAGC	I	Connected to the external capacitor for ADIP AGC
32	ADFG	O	ADIP duplex signal (22.05 kHz ± 1 kHz) output to the CXD2654R (IC504)
33	AUX	O	Auxiliary signal (I3 signal/temperature signal) output to the CXD2654R (IC504)
34	FE	O	Focus error signal output to the CXD2654R (IC504)
35	ABCD	O	Light amount signal (ABCD) output to the CXD2654R (IC504)
36	BOTM	O	Light amount signal (RF/ABCD) bottom hold output to the CXD264R (IC504)
37	PEAK	O	Light amount signal (RF/ABCD) peak hold output to the CXD2654R (IC504)
38	RF	O	Playback EFM RF signal output to the CXD2654R (IC504)
39	RFAGC	I	Connected to the external capacitor for RF auto gain control circuit
40	AGCI	I	Receives a RF signal in AC coupling
41	COMPO	O	User comparator output terminal Not used (open)
42	COMPP	I	User comparator input terminal Not used (fixed at “L”)
43	ADDC	I/O	Connected to the external capacitor for cutting the low band of the ADIP amplifier
44	OPO	O	User operational amplifier output terminal Not used (open)
45	OPN	I	User operational amplifier inversion input terminal Not used (fixed at “L”)
46	RFO	O	RF signal output terminal
47	MORFI	I	Receives a MO RF signal in AC coupling
48	MORFO	O	MO RF signal output terminal

• MD BOARD IC 504 CXD2654R
(DIGITAL SIGNAL PROCESSOR, DIGITAL SERVO SIGNAL PROCESSOR, EFM/ACIRC ENCODER/DECODER,
SHOCK PROOF MEMORY CONTROLLER, ATRAC ENCODER/DECODER)

Pin No.	Pin Name	I/O	Pin Description
1	MNT0 (FOK)	O	Focus OK signal output to the MD mechanism controller (IC601) “H” is output when focus is on (“L”: NG)
2	MNT1 (SHOCK)	O	Track jump detection signal output to the MD mechanism controller (IC601)
3	MNT2 (XBUSY)	O	Busy monitor signal output to the MD mechanism controller (IC601)
4	MNT3 (SLOCK)	O	Spindle servo lock status monitor signal output to the MD mechanism controller (IC601)
5	SWDT	I	Writing serial data signal input from the MD mechanism controller (IC601)
6	SCLK	I (S)	Serial data transfer clock signal input from the MD mechanism controller (IC601)
7	XLAT	I (S)	Serial data latch pulse signal input from the MD mechanism controller (IC601)
8	SRDT	O (3)	Reading serial data signal output to the MD mechanism controller (IC601)
9	SENS	O (3)	Internal status (SENSE) output to the MD mechanism controller (IC601)
10	XRST	I (S)	Reset signal input from the MD mechanism controller (IC601) “L”: reset
11	SQSY	O	Subcode Q sync (SCOR) output to the MD mechanism controller (IC601) “L” is output every 13.3 msec Almost all, “H” is output
12	DQSY	O	Digital In U-bit CD format subcode Q sync (SCOR) output to the MD mechanism controller(IC601) “L” is output every 13.3 msec Almost all, “H” is output
13	RECP	I	Laser power selection signal input from the MD mechanism controller (IC601)“L”: playback mode, “H”: recording mode
14	XINT	O	Interrupt status output to the MD mechanism controller (IC601)
15	TX	I	Recording data output enable signal input from the MD mechanism controller(IC601) Writing data transmission timing input (Also serves as the magnetic head on/off output)
16	OSCI	I	System clock signal (512 Fs = 45.1584 MHz) input terminal
17	OSCO	O	System clock signal (512 Fs = 45.1584 MHz) output terminal
18	XTSL	I	Input terminal for the system clock frequency setting “L”: 45.1584 MHz, “H”: 22.5792 MHz (fixed at “H” in this set)
19	DIN0	I	Digital audio signal input terminal when recording mode (for digital optical input) Not used
20	DIN1	I	Digital audio signal input terminal when recording mode (for digital optical input)
21	DOUT	O	Digital audio signal output terminal when playback mode (for digital optical output) Not used
22	DATAI	I	Serial data input terminal Not used (fixed at “L”)
23	LRCKI	I	L/R sampling clock signal (44.1 kHz) input terminal Not used (fixed at “L”)
24	XBCKI	I	Bit clock signal (2.8224 MHz) input terminal Not used (fixed at “L”)
25	ADDT	I	Recording data input from the A/D, D/A converter (IC604)
26	DADI	I	Playback data input from the A/D, D/A converter (IC604)
27	LRCK	O	L/R sampling clock signal (44.1 kHz) output to the A/D, D/A converter (IC604)
28	XBCK	O	Bit clock signal (2.8224 MHz) output to the A/D, D/A converter (IC604)
29	FS256	O	Clock signal (11.2896 MHz) output terminal
30	DVDD	—	Power supply terminal (+3.3 V) (digital system)
31 – 34	A03	O	A00 O Address signal output to the D-RAM (IC505)
35	A10	O	Address signal output to the external D-RAM Not used (open)
36 – 40	A04 – A08	O	Address signal output to the D-RAM (IC505)
41	A11	O	Address signal output to the external D-RAM Not used (open)
42	DVSS	—	Ground terminal (digital system)
43	XOE	O	Output enable signal output to the D-RAM (IC505) “L” active
44	XCAS	O	Column address strobe signal output to the D-RAM (IC505) “L” active
45	A09	O	Address signal output to the D-RAM (IC505)

Pin No.	Pin Name	I/O	Pin Description
46	XRAS	O	Row address strobe signal output to the D-RAM (IC505) "L" active
47	XWE	O	Write enable signal output to the D-RAM (IC505) "L" active
48	D1	I/O	Two-way data bus with the D-RAM (IC505)
49	D0	I/O	
50	D2	I/O	
51	D3	I/O	
52	MVCI	I (S)	Digital in PLL oscillation input from the external VCO Not used (fixed at "L")
53	ASYO	O	Playback EFM full-swing output terminal
54	ASYI	I (A)	Playback EFM asymmetry comparator voltage input terminal
55	AVDD	—	Power supply terminal (+3.3 V) (analog system)
56	BIAS	I (A)	Playback EFM asymmetry circuit constant current input terminal
57	RFI	I (A)	Playback EFM RF signal input from the CXA2523AR (IC502)
58	AVSS	—	Ground terminal (analog system)
59	PCO	O (3)	Phase comparison output for master clock of the recording/playback EFM master PLL
60	FILI	I (A)	Filter input for master clock of the recording/playback master PLL
61	FILO	O (A)	Filter output for master clock of the recording/playback master PLL
62	CLTV	I (A)	Internal VCO control voltage input of the recording/playback master PLL
63	PEAK	I (A)	Light amount signal (RF/ABCD) peak hold input from the CXA2523AR (IC502)
64	BOTM	I (A)	Light amount signal (RF/ABCD) bottom hold input from the CXA2523AR (IC502)
65	ABCD	I (A)	Light amount signal (ABCD) input form the CXA2523AR (IC502)
66	FE	I (A)	Focus error signal input from the CXA2523AR (IC502)
67	AUX1	I (A)	Auxiliary signal (I3 signal/temperature signal) input from the CXA2523AR (IC502)
68	VC	I (A)	Middle point voltage (+1.65 V) input from the CXA2523AR (IC502)
69	ADIO	O (A)	Monitor output of the A/D converter input signal Not used (open)
70	AVDD	—	Power supply terminal (+3.3 V) (analog system)
71	ADRT	I (A)	A/D converter operational range upper limit voltage input terminal (fixed at "H" in this set)
72	ADRB	I (A)	A/D converter operational range lower limit voltage input terminal (fixed at "L" in this set)
73	AVSS	—	Ground terminal (analog system)
74	SE	I (A)	Sled error signal input from the CXA2523AR (IC502)
75	TE	I (A)	Tracking error signal input from the CXA2523AR (IC502)
76	DCHG	I (A)	Connected to the +3.3 V power supply
77	APC	I (A)	Error signal input for the laser automatic power control Not used (fixed at "H")
78	ADFG	I (S)	ADIP duplex FM signal (22.05 kHz \pm 1 kHz) input from the CXA2523AR (IC502)
79	F0CNT	O	Filter f0 control signal output to the CXA2523AR (IC502)
80	XLRF	O	Serial data latch pulse signal output to the CXA2523AR (IC502)
81	CKRF	O	Serial data transfer clock signal output to the CXA2523AR (IC502)
82	DTRF	O	Writing serial data output to the CXA2523AR (IC502)
83	APCREF	O	Control signal output to the reference voltage generator circuit for the laser automatic powercontrol
84	TESTO	—	Not used (OPEN)
85	TRDR	O	Tracking servo drive PWM signal (-) output to the BH6511FS (IC501)
86	TFDR	O	Tracking servo drive PWM signal (+) output to the BH6511FS (IC501)
87	DVDD	—	Power supply terminal (+3.3 V) (digital system)
88	FFDR	O	Focus servo drive PWM signal (+) output to the BH6511FS (IC501)
89	FRDR	O	Focus servo drive PWM signal (-) output to the BH6511FS (IC501)
90	FS4	O	Clock signal (176.4 kHz) output terminal (X'tal system) Not used (open)

Pin No.	Pin Name	I/O	Pin Description
91	SRDR	O	Sled servo drive PWM signal (-) output to the BH6511FS (IC501)
92	SFDR	O	Sled servo drive PWM signal (+) output to the BH6511FS (IC501)
93	SPRD	O	Spindle servo drive PWM signal (-) output to the BH6511FS (IC501)
94	SPFD	O	Spindle servo drive PWM signal (+) output to the BH6511FS (IC501)
95	FGIN	I (S)	Input terminal for the test (fixed at "L")
96	TEST1	I	
97	TEST2	I	
98	TEST3	I	
99	DVSS	—	Ground terminal (digital system)
100	EFMO	O	EFM signal output terminal when recording mode

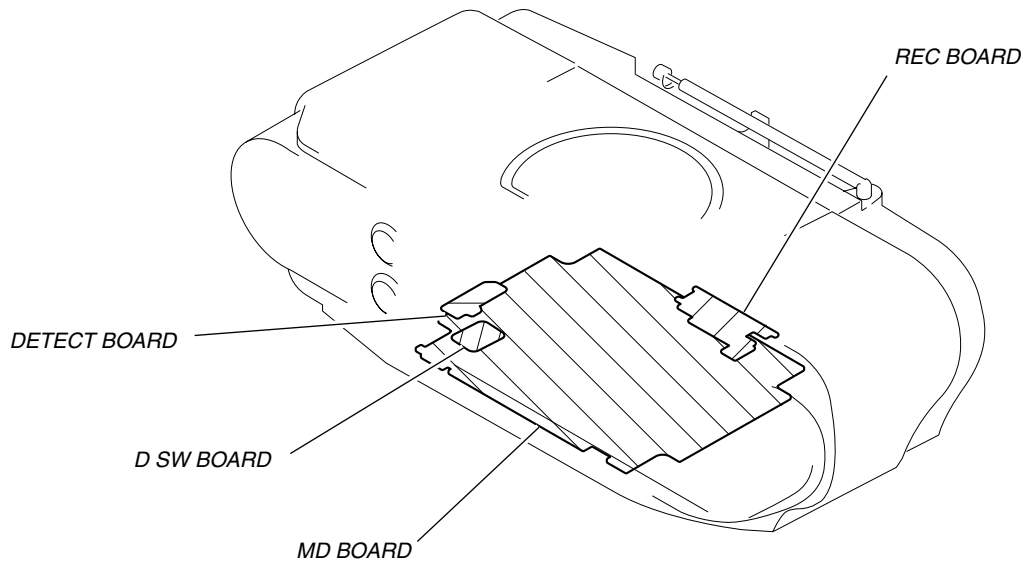
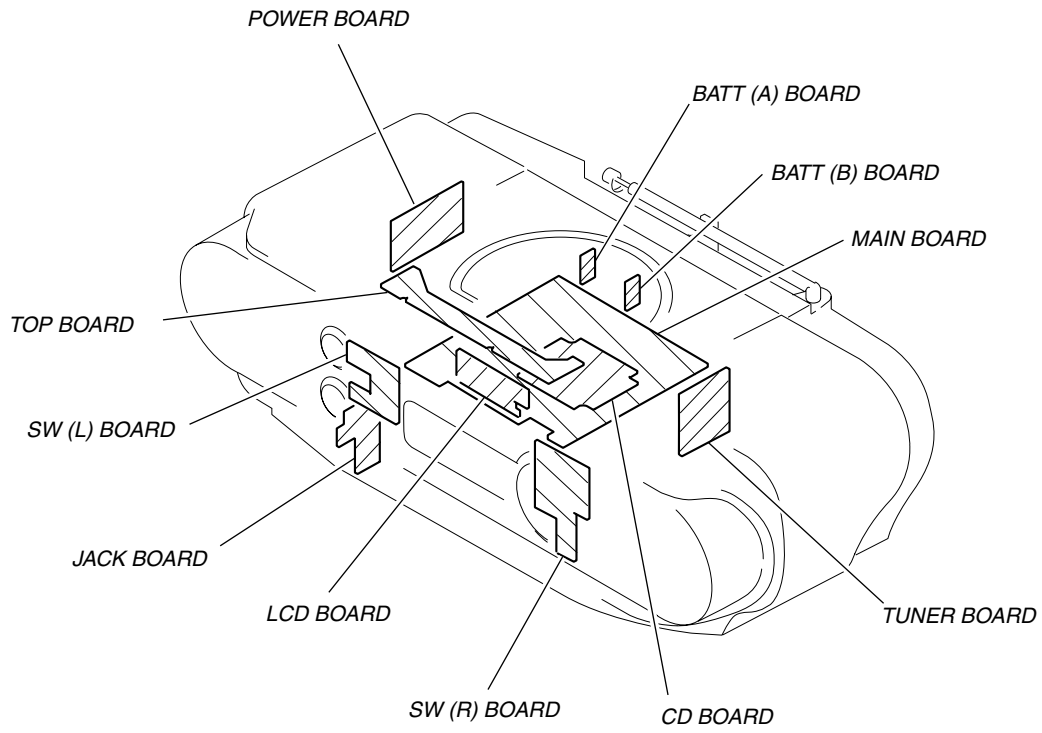
* I (S) stands for schmitt input, I (A) for analog input, O (3) for 3-state output, and O (A) for analog output in the column I/O.

• MD BOARD IC601 MD System control (M30620MCA-A73FP)

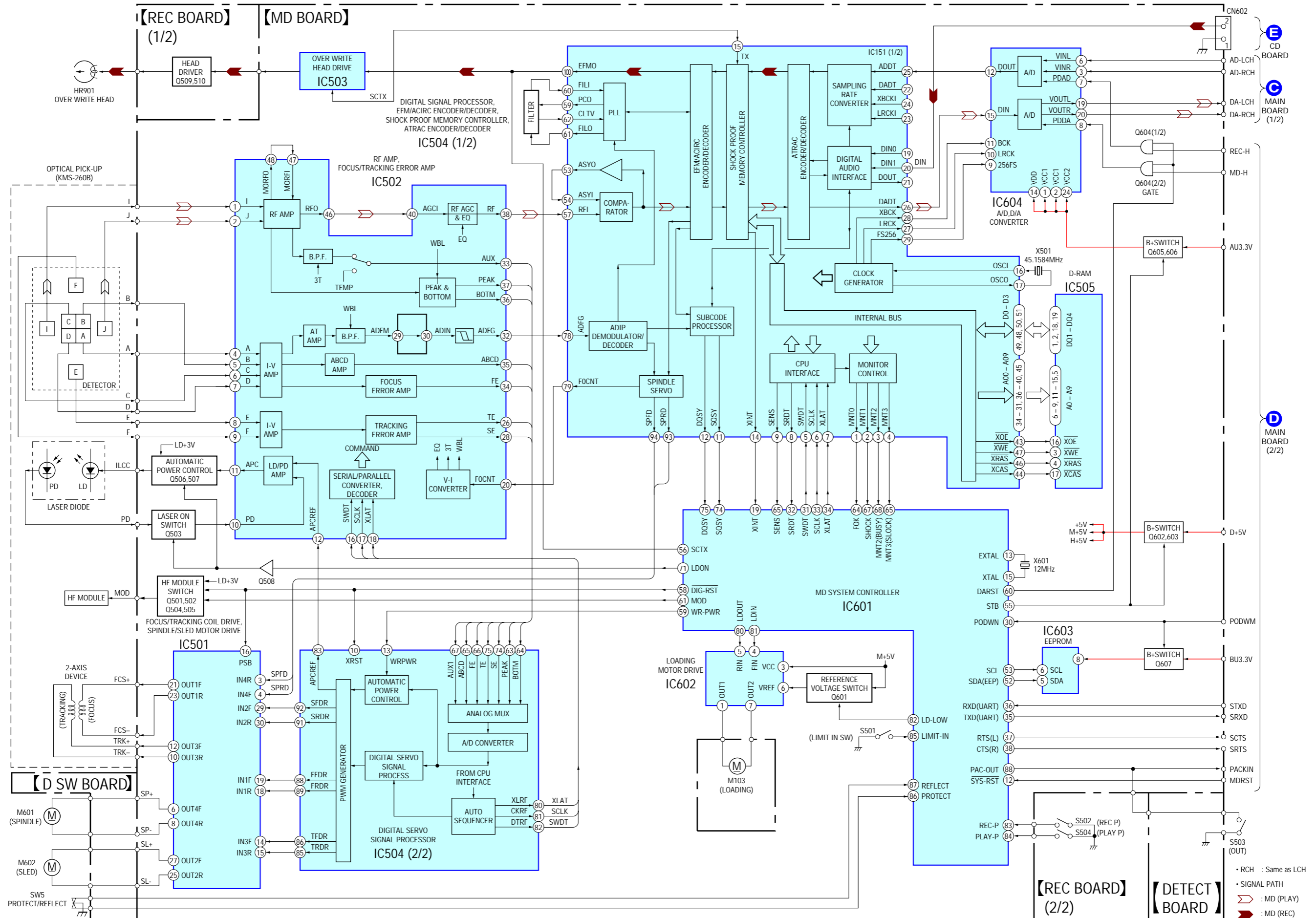
Pin No.	Pin Name	I/O	Pin Description
1	LCD_DATA	—	Not used (OPEN)
2	LCD_CLK	—	Not used (OPEN)
3	LCD_CE	—	Not used (OPEN)
4	LCD_AO	—	Not used (OPEN)
5-7		—	Not used (OPEN)
8	BYTE	—	Not used (OPEN) (connect to ground)
9	CNVss	—	Ground terminal
10,11		—	Not used (OPEN)
12	SYS-RST	I	System reset input "L" reset
13	EXTAL	O	Main system clock output terminal (12MHz)
14	Vss	—	Ground terminal
15	XTAL	I	Main system clock input terminal (12MHz)
16	Vcc	—	Power supply terminal
17		—	Not used (fixed at "L")
18		—	Not used (OPEN)
19	XINT	I	Sub system clock input terminal (32.768KHz)
20	PDOWN	I	Power down signal input from main system control (IC801)
21		—	Not used (OPEN)
22	LEO-0	—	Not used (OPEN)
23	LEO-1	—	Not used (OPEN)
24	LEO-2	—	Not used (OPEN)
25-30		—	Not used (OPEN)
31	SWDT	O	Writing data signal output to the serial bus
32	SRDT	I	Reading signal input from the serial bus
33	SCLK	O	Clock signal output to the serial bus
34	XLATCH	O	Latch signal output to the serial bus
35	TXD(UART)	I	Communication UART transfer input for main system control (IC801)
36	RXD(UART)	O	Communication UART receive output for main system control (IC801)
37	RTS(T)	I	UART transfer request input from master system control (IC801)
38	CTS(R)	O	UART transfer request output to master system control (IC801)
39,40		—	Not used (OPEN)
41		—	Not used (fixed at "L")
42 - 45		—	Not used (OPEN)
46		—	Not used (fixed at "H")
47- 50		—	Not used (OPEN)
51	A-MUTE	—	Not used (OPEN)
52	SDA	I/O	Serial data IN/OUT terminal for EEPROM (IC603)
53	SCL	O	Serial clock output terminal for EEPROM (IC603)
54	2654/2662	I	Destination select terminal
55	STB	O	Power ON/OFF control signal output
56	SCTX	O	Writing data transmission timing output to the CXD2654R (IC504) shared with the magnetic head ON/OFF output
57	EMP	O	Diemphasis ON/OFF control signal output
58	DIG-RST	O	Reset signal output "L" reset
59	WRPWR	O	Write power ON/OFF output
60	DA-RST	O	Reset signal output to the D/A, A/D converter (IC604)
61	MOD	O	Laser modulation swithing signal output
62	Vcc	—	Power supply terminal
63		—	Not used (OPEN)

Pin No.	Pin Name	I/O	Pin Description
64	Vss	—	Ground terminal
65	SENS	I	Internal status (SENS) input from the CXD2654R (IC504)
66	FOK	I	Focus OK signal input from CXD2654R (IC504)
67	SHOCK	I	Track jump detection signal input from CXD2654R (IC504)
68	MNT2(XBUSY)	I	In the state of executive command from the CXD2654R (IC504)
69	MNT3(SLOCK)	I	In the state of spindle servo lock from the CXD2654R (IC504)
70		—	Not used (OPEN)
71	LDON	O	Laser ON/OFF control output “H” : Laser ON
72–73		—	Not used (OPEN)
74	SQSY	I	ADIP sync or subcode Q sync input from the CXD2654R (IC504)
75	DQSY	I	Digital in sync input from the CXD2654R (IC504)
76–79		—	Not used (OPEN)
80	LDOUT	O	Loading motor control output
81	LDIN	I	Loading motor control input
82	LD LOW	O	Loading motor voltage control output Low voltage : “H”
83	REC P	I	Recording position detection switch (S502) input
84	PB P	I	Playback position detection switch (S504) input
85	LIMIT-IN	I	Limit switch (S681) input
86	PROTECT	I	Disc write protect detect switch (SW5) input
87	REFLECT	I	Disc reflection rate detection input from the reflect detection switch (SW5)
88	PAC-OUT	I	Pack out switch (S503) input
89	KYE0	—	Not used (OPEN)
90	KYE1	—	Not used (OPEN)
91	KYE2	—	Not used (OPEN)
92	JOG0	—	Not used (OPEN)
93	JOG1	—	Not used (OPEN)
94 –95		—	Not used (OPEN)
96	Avss	—	Ground terminal
97	Vref	—	Reference voltage input
98		—	Not used (OPEN)
99	Avcc	—	Power supply terminal
100		—	Not used (OPEN)

• Circuit Board Location.

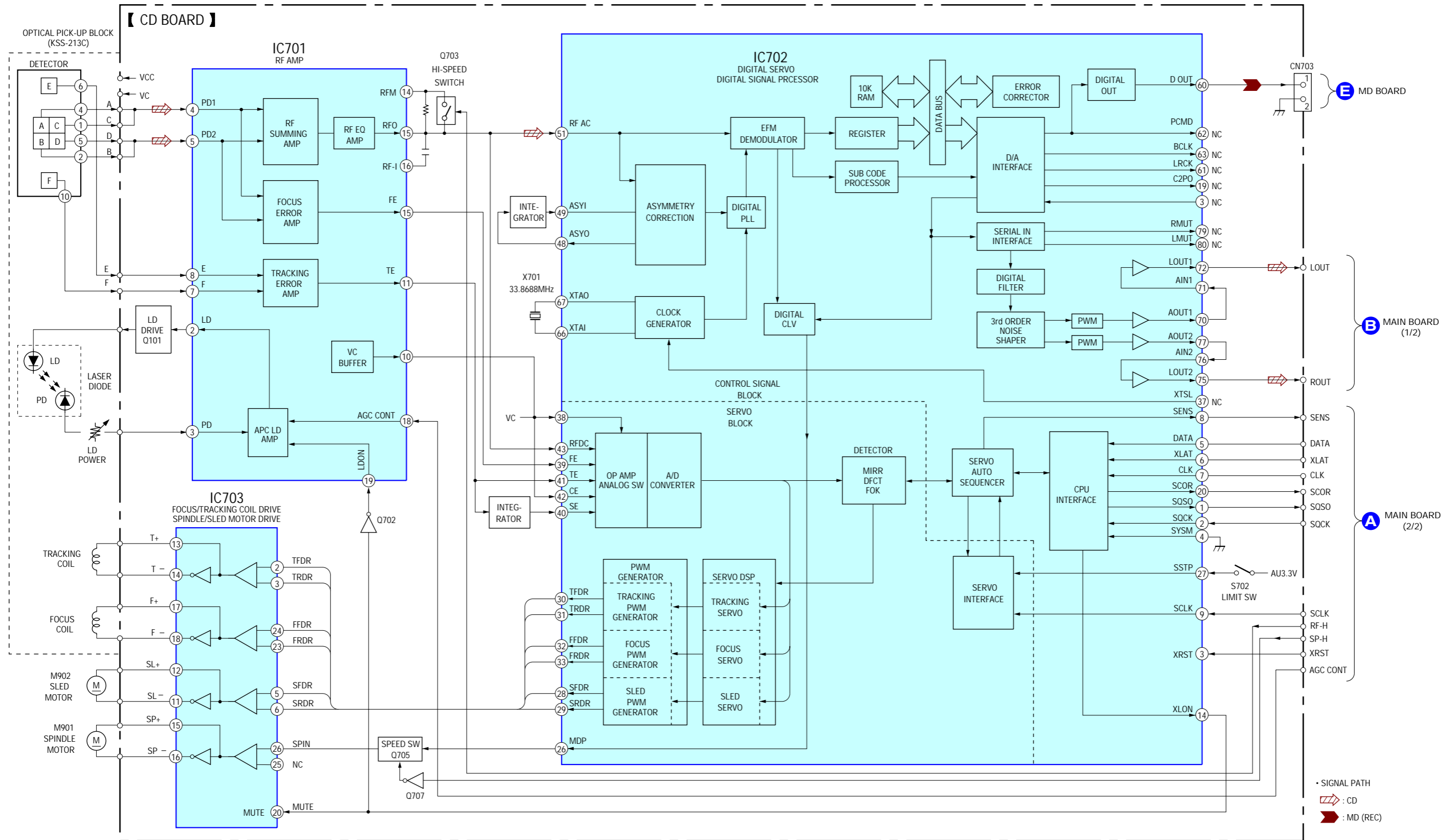


6-2. BLOCK DIAGRAMS (1/4)

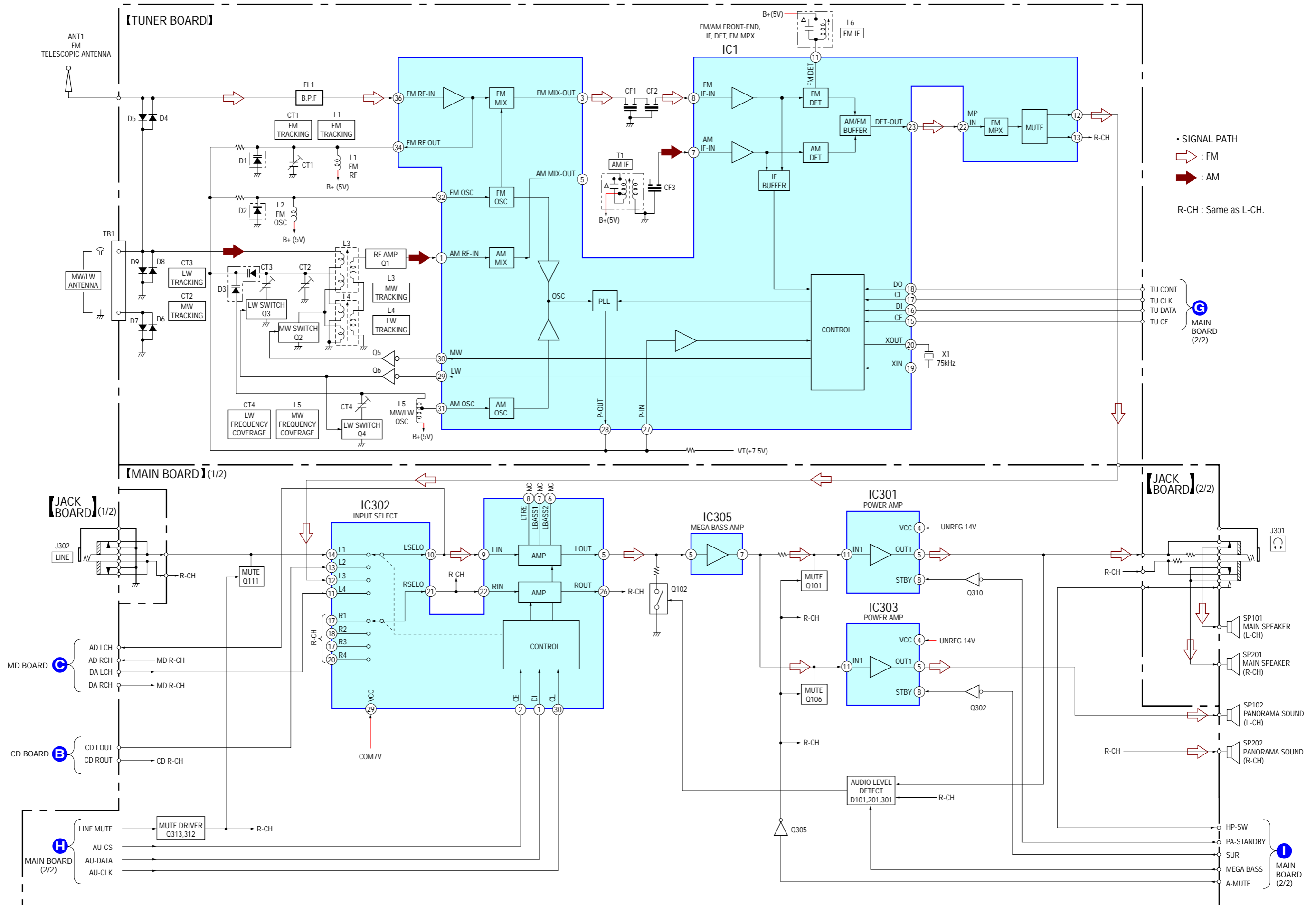


- RCH : Same as LCH
- SIGNAL PATH
- : MD (PLAY)
- : MD (REC)

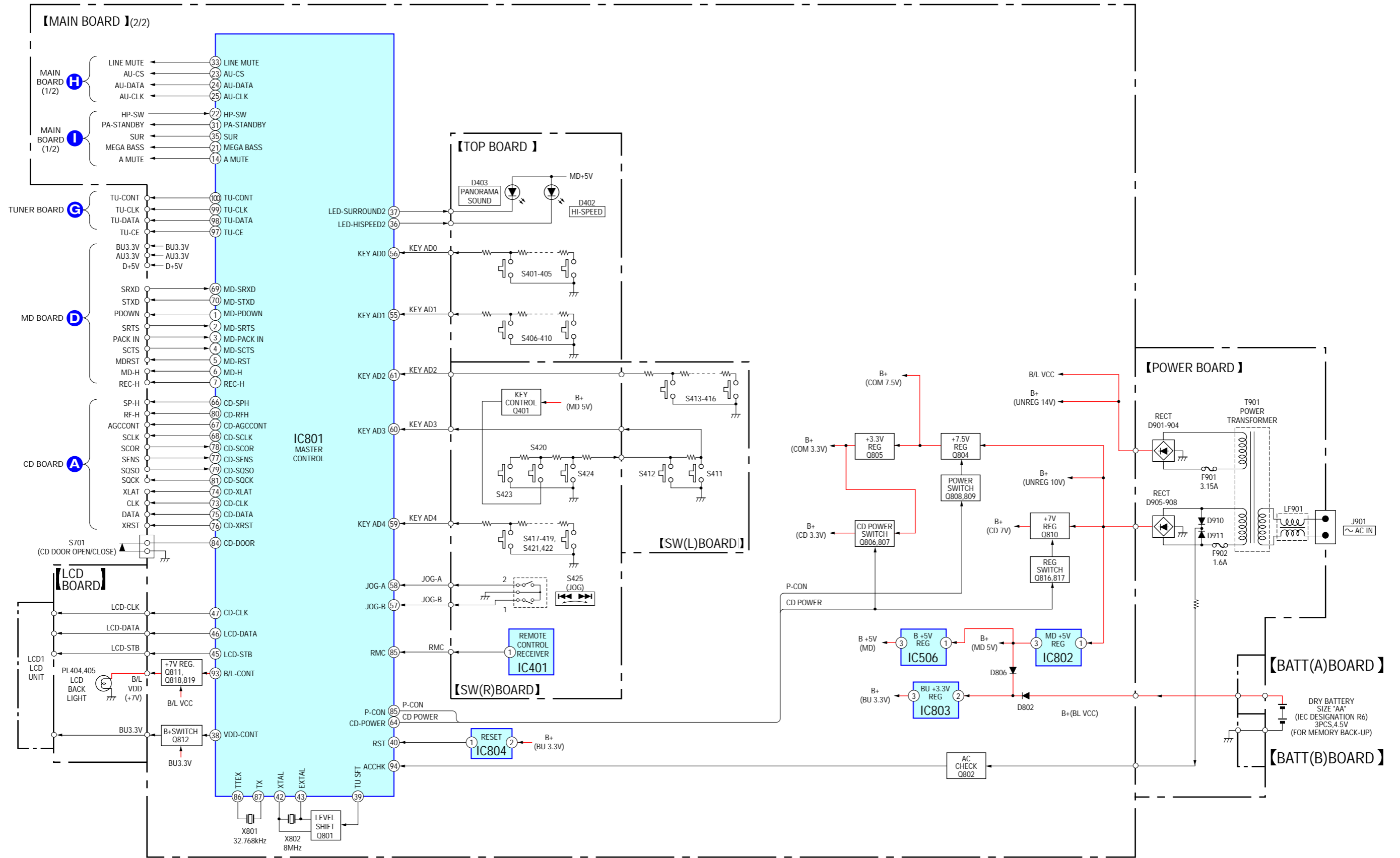
6-3. BLOCK DIAGRAMS (2/4)



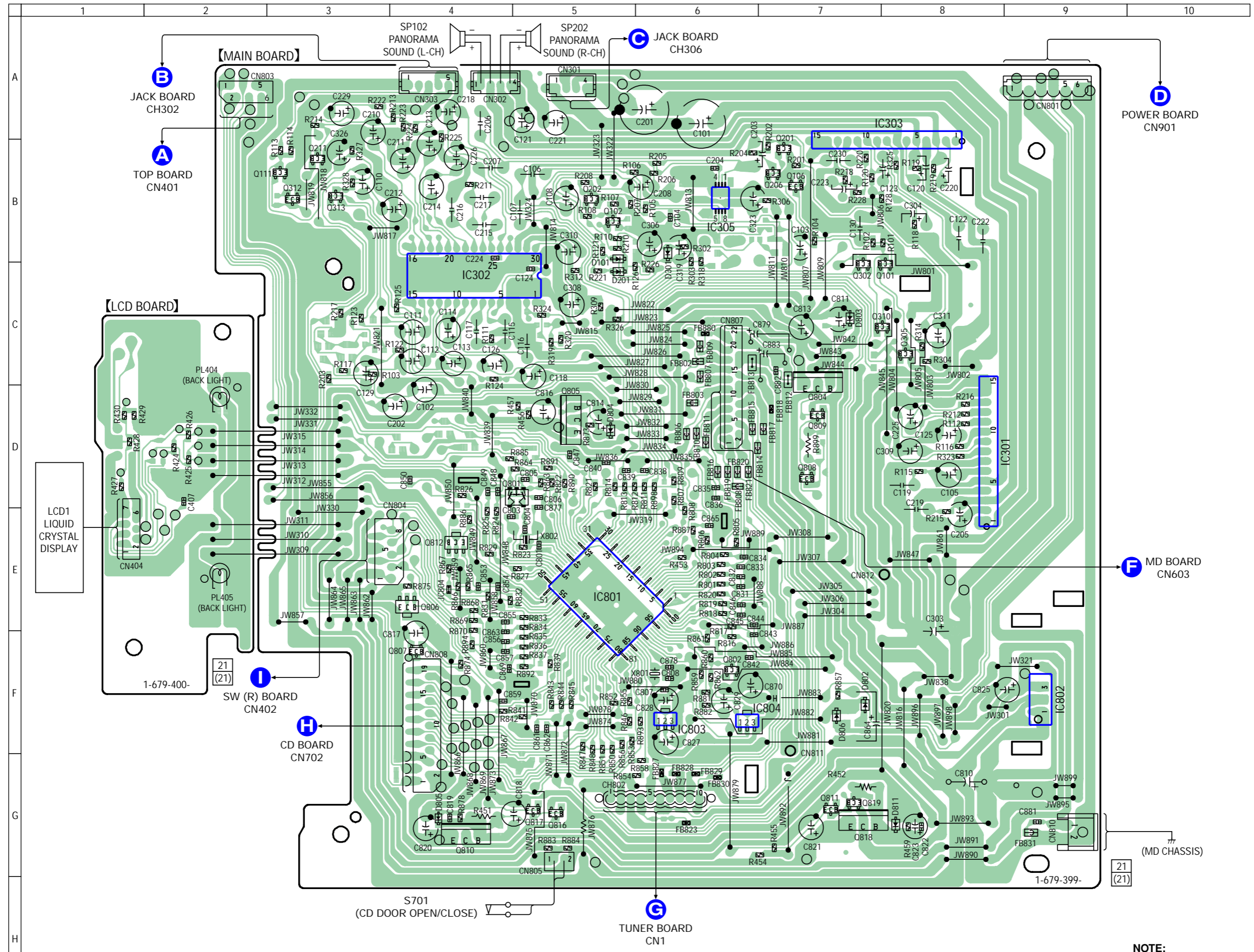
6-4. BLOCK DIAGRAMS (3/4)



6-5. BLOCK DIAGRAMS (4/4)



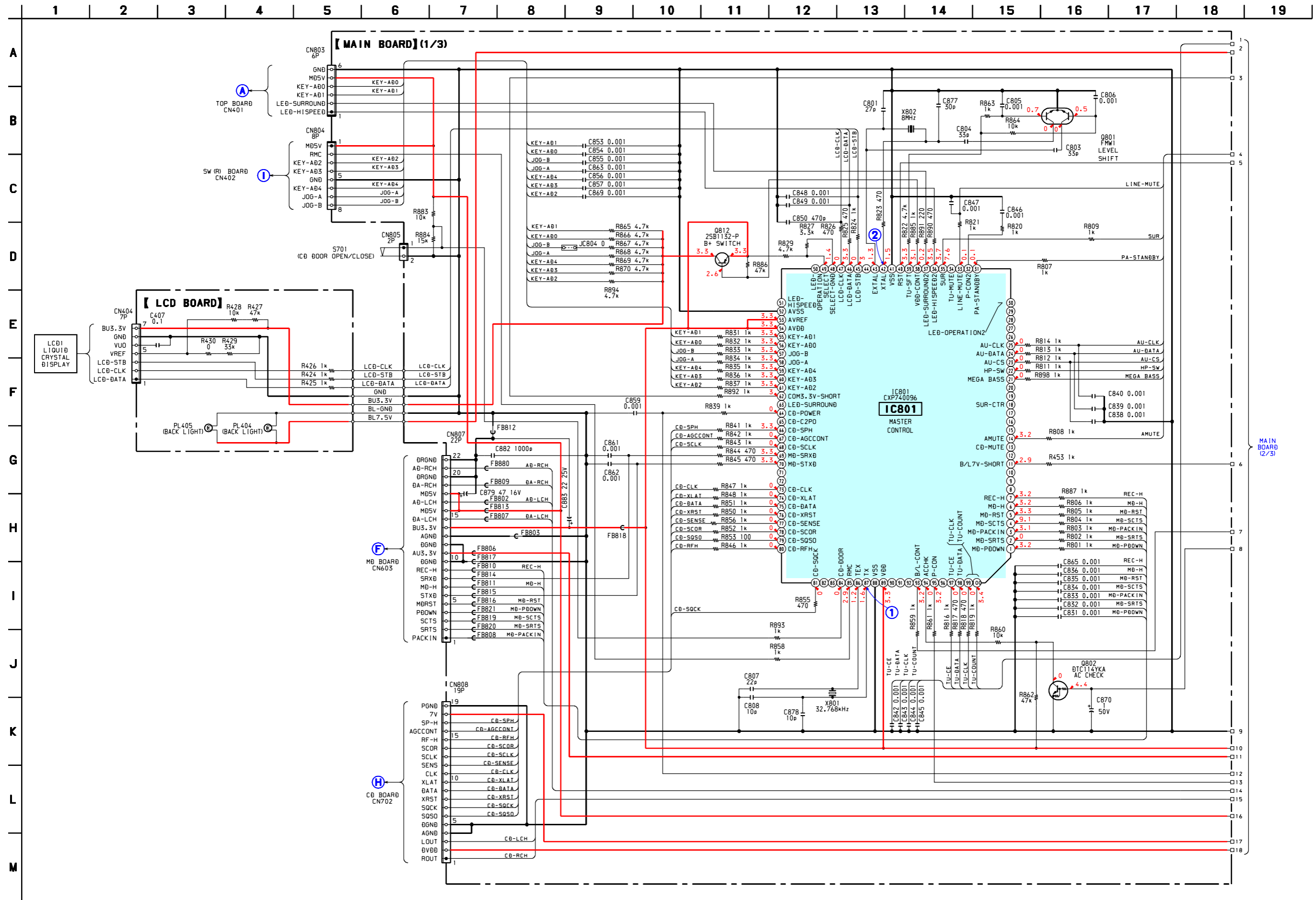
6-6. PRINTED WIRING BOARDS – MAIN SECTION –



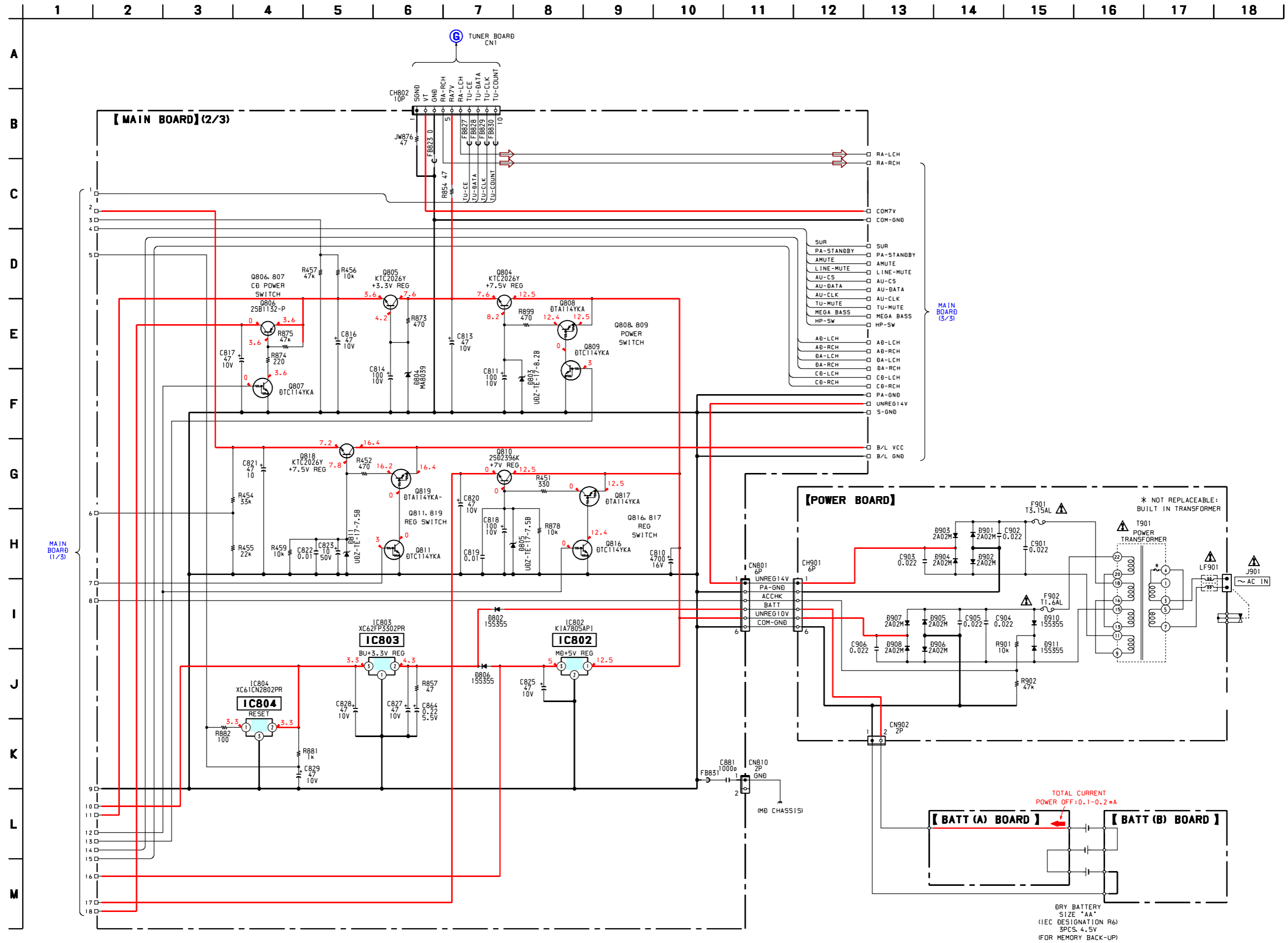
● Semiconductor Location

Ref. No.	Location
D101	B-5
D201	C-5
D301	B-6
D802	F-7
D803	C-7
D804	D-5
D805	G-4
D806	F-7
D811	G-8
IC301	D-8
IC302	C-4
IC303	A-8
IC305	B-6
IC801	E-5
IC802	F-9
IC803	F-6
IC804	F-6
Q101	C-8
Q102	B-5
Q106	B-7
Q111	B-3
Q201	B-7
Q202	B-5
Q206	B-7
Q211	B-3
Q302	C-7
Q305	C-8
Q310	C-7
Q312	B-3
Q313	B-3
Q801	D-5
Q802	F-6
Q804	C-7
Q805	D-5
Q806	E-4
Q807	F-4
Q808	D-7
Q809	A-7
Q810	G-4
Q811	G-7
Q812	E-4
Q816	G-5
Q817	G-5
Q818	G-7
Q819	G-7

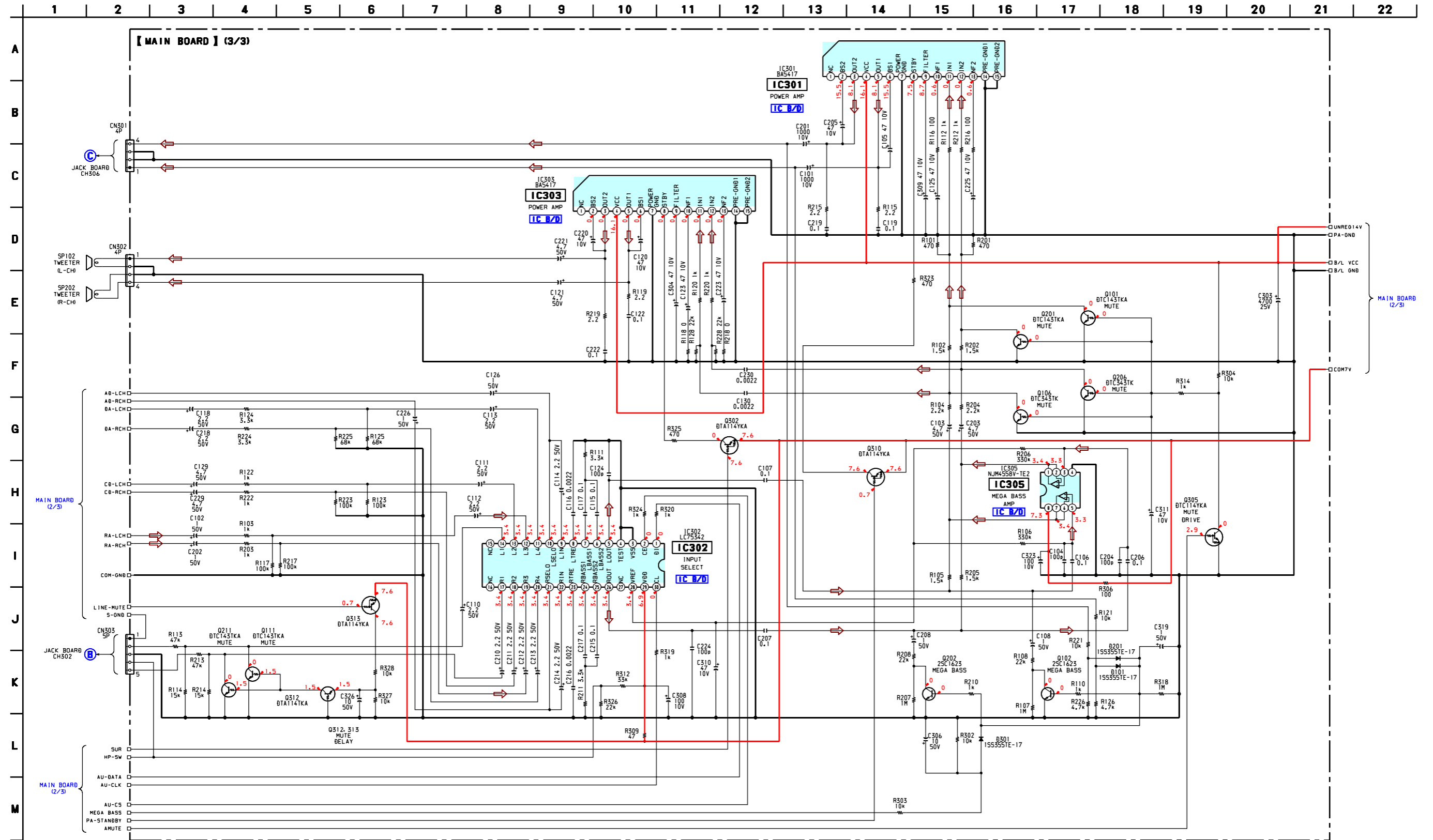
NOTE:
 ○ : parts extracted from the component side.
 ▨ : Pattern of the rear side.



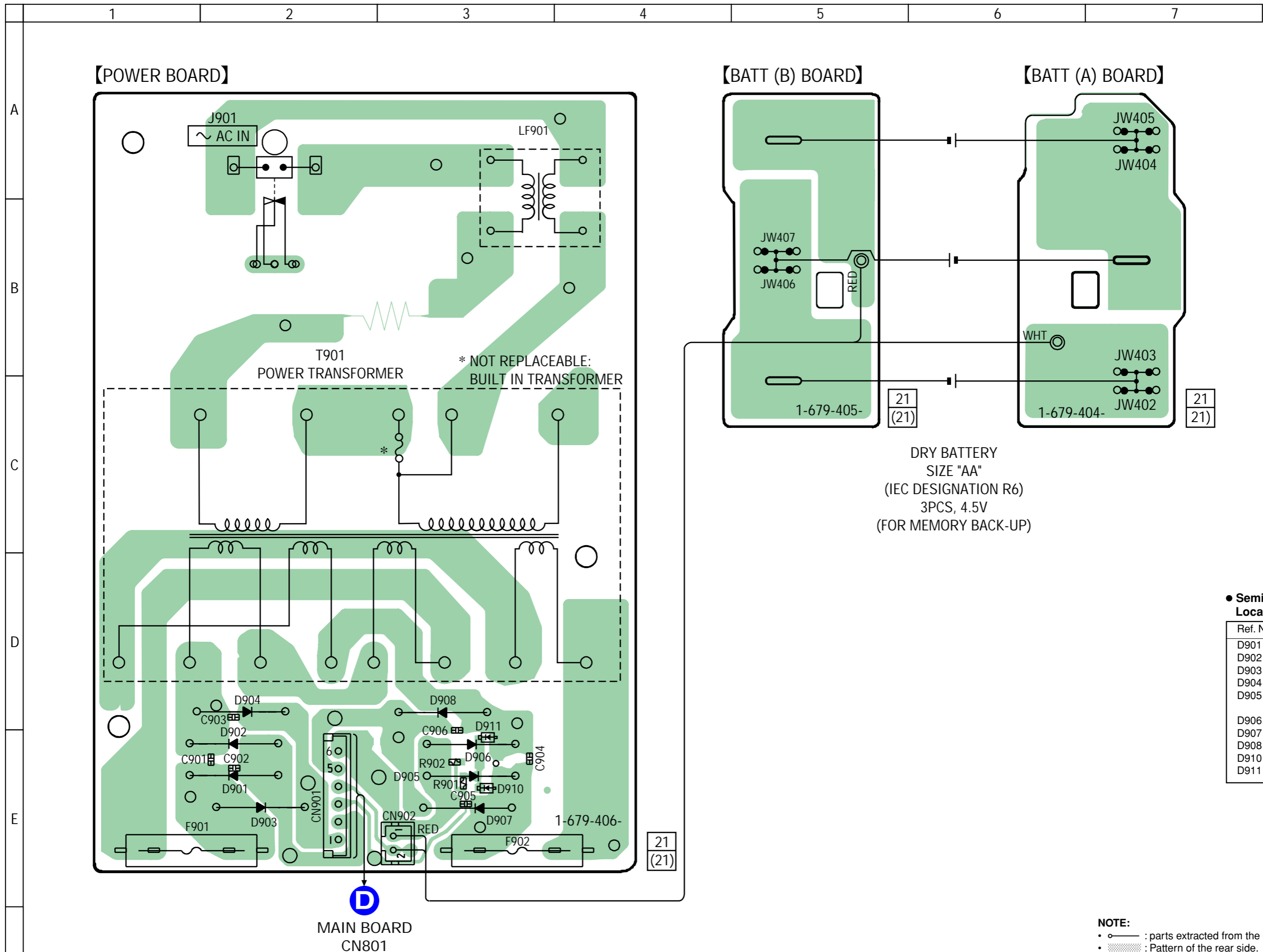
6-8. SCHEMATIC DIAGRAM – MAIN SECTION (2/3) – ● Refer to page 55 for Notes. ● Refer to page 58 to 61 for IC Block Diagrams.



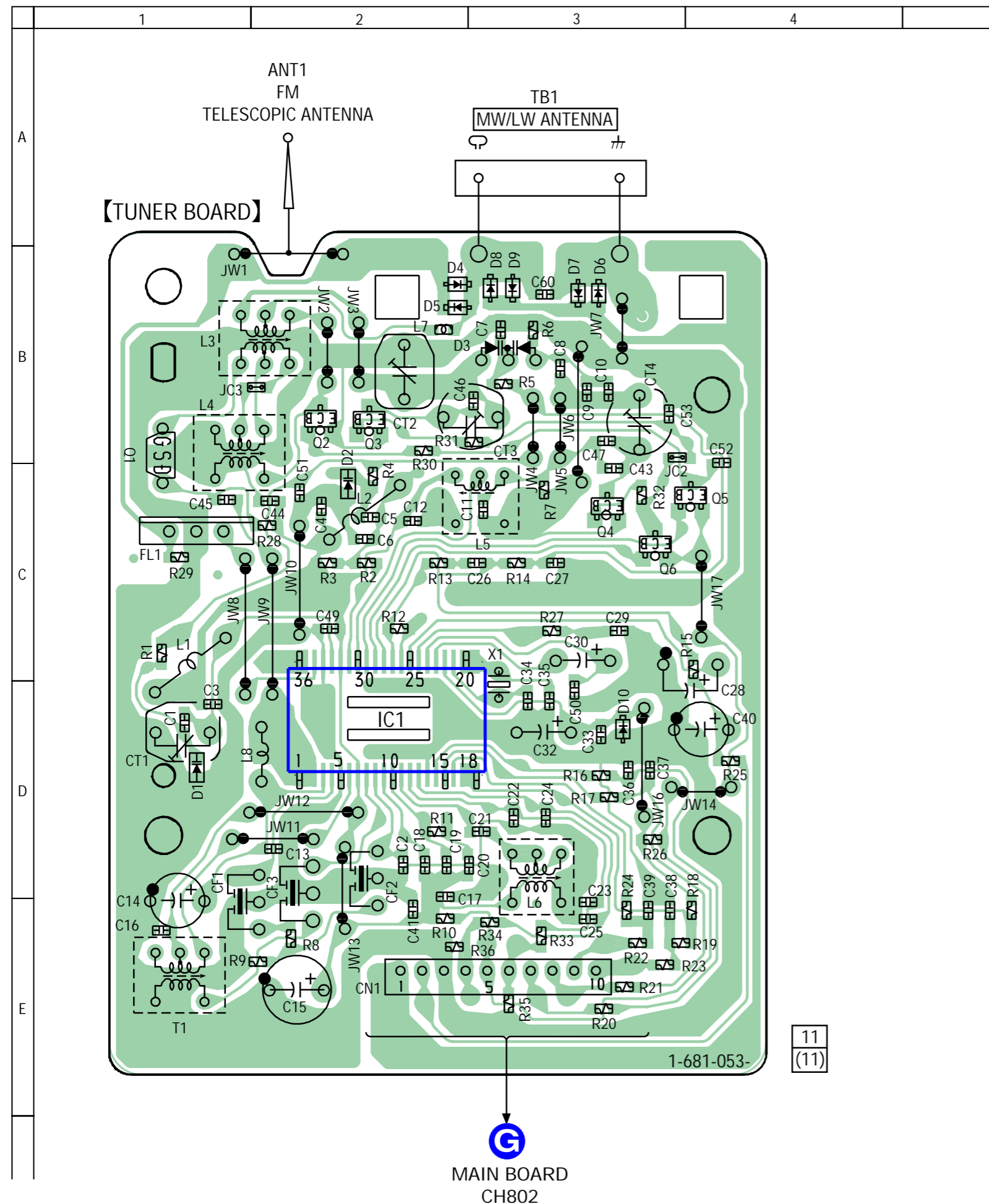
6-9. SCHEMATIC DIAGRAM – MAIN SECTION (3/3) – Refer to page 55 for Notes. Refer to page 58 to 61 for IC Block Diagrams.



6-10. PRINTED WIRING BOARDS – POWER SECTION –



6-11. PRINTED WIRING BOARDS – TUNER SECTION –



● Semiconductor Location

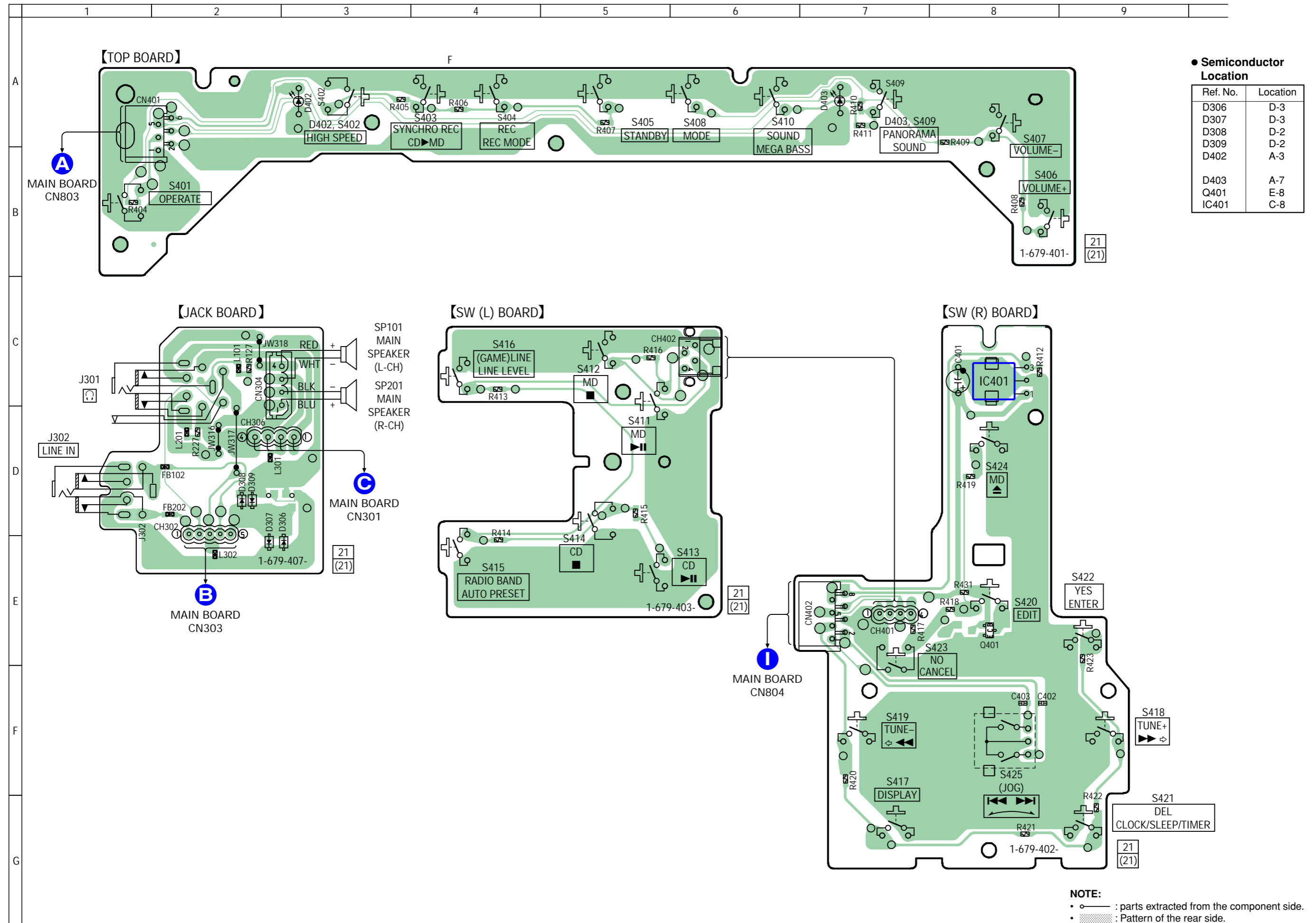
Ref. No.	Location
D1	D-1
D2	C-2
D3	B-3
D4	B-2
D5	B-2
D6	B-3
D7	B-3
D8	B-3
D9	B-3
D10	D-3
IC1	D-2
Q1	B-1
Q2	B-2
Q3	B-2
Q4	C-3
Q5	C-4
Q6	C-3

NOTE:

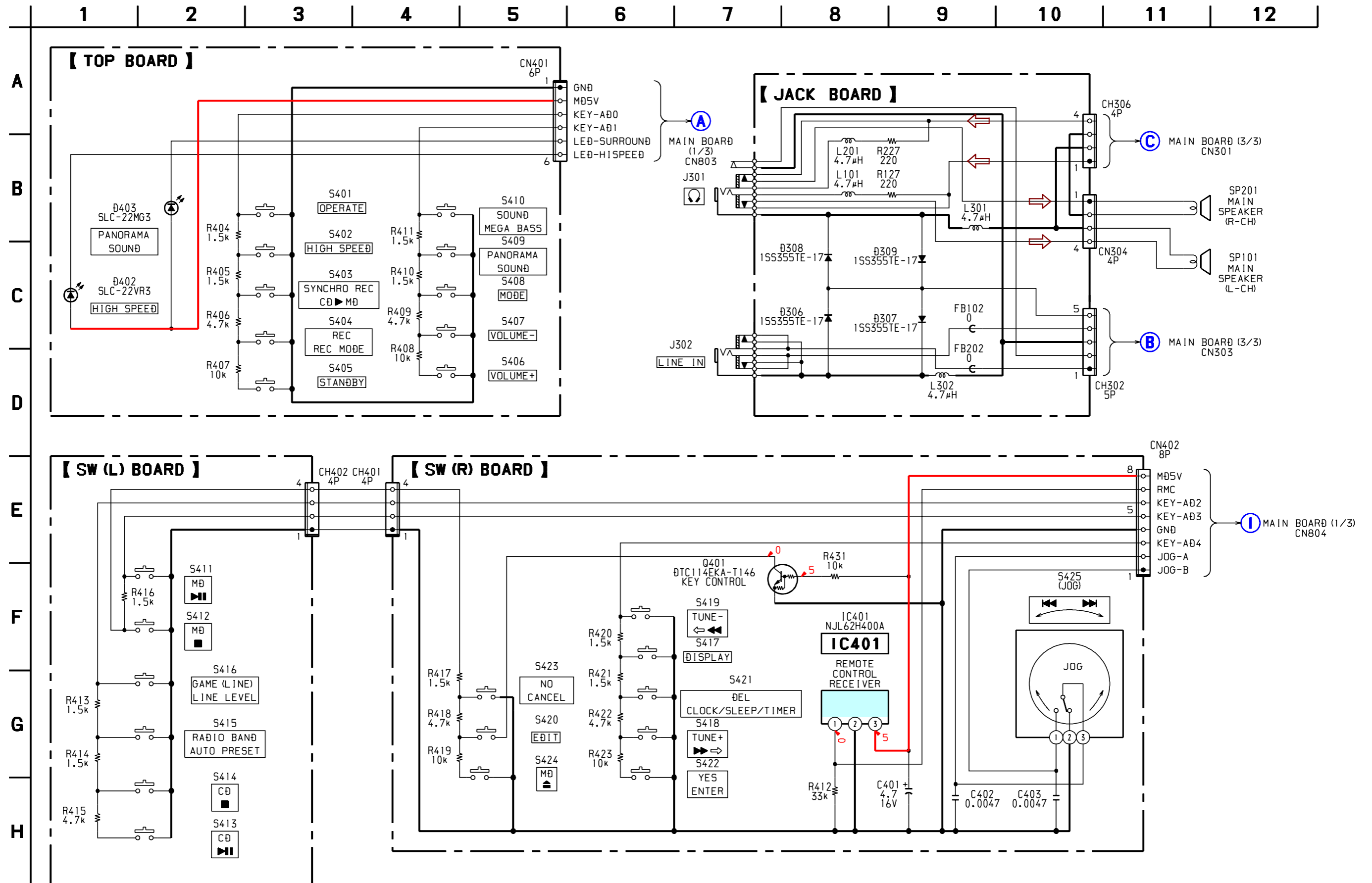
- : parts extracted from the component side.
- △ : internal component.
- : parts mounted on the conductor side.
- ▨ : Pattern of the rear side.

11
(11)

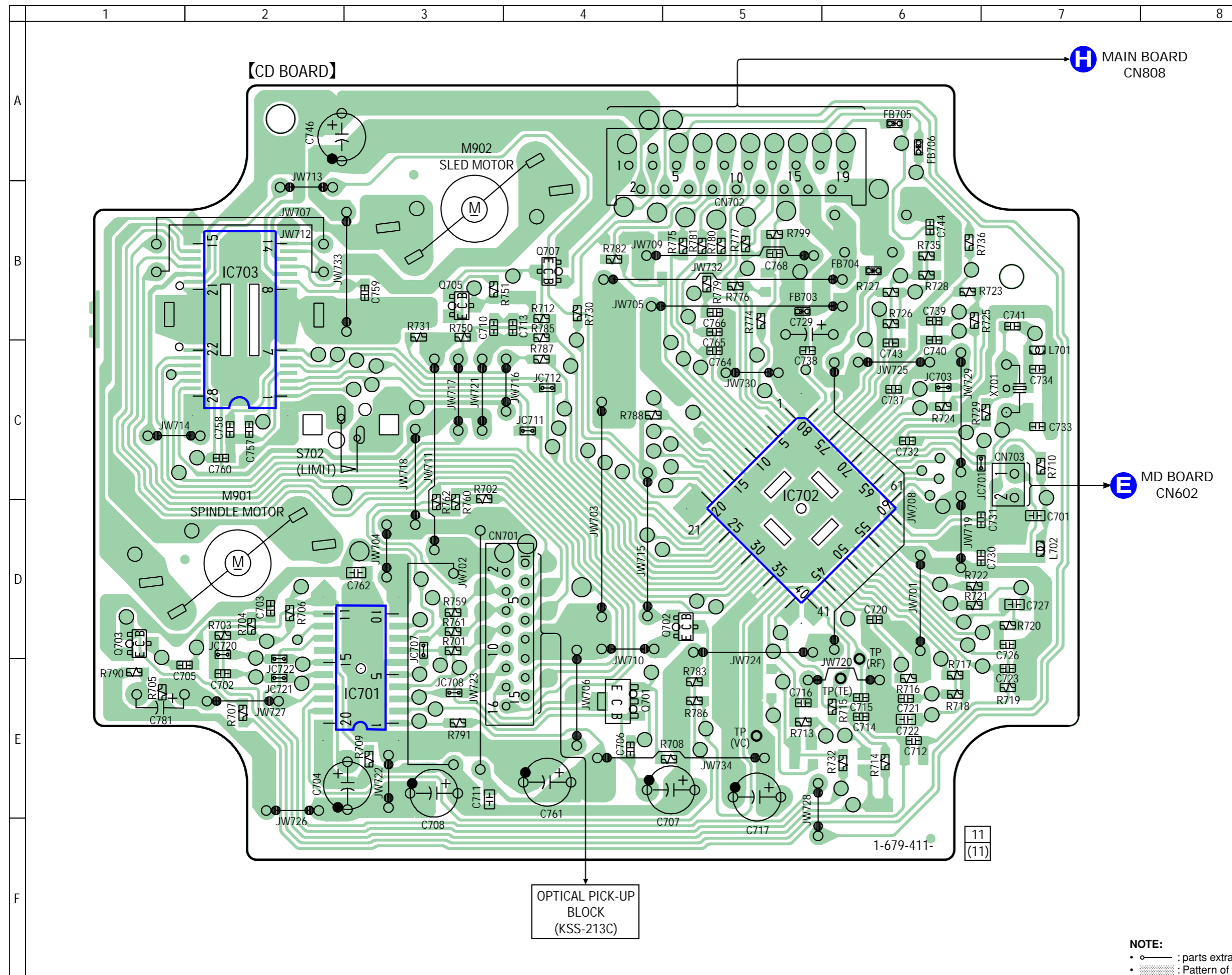
6-13. PRINTED WIRING BOARDS – CONTROL SECTION –



6-14. SCHEMATIC DIAGRAM – CONTROL SECTION – ● Refer to page 55 for Notes.



6-15. PRINTED WIRING BOARDS – CD SECTION –



● Semiconductor Location

Ref. No.	Location
IC701	E-3
IC702	D-5
IC703	B-2
Q701	E-4
Q702	D-5
Q703	D-1
Q705	B-3
Q707	B-4

MD BOARD
CN602

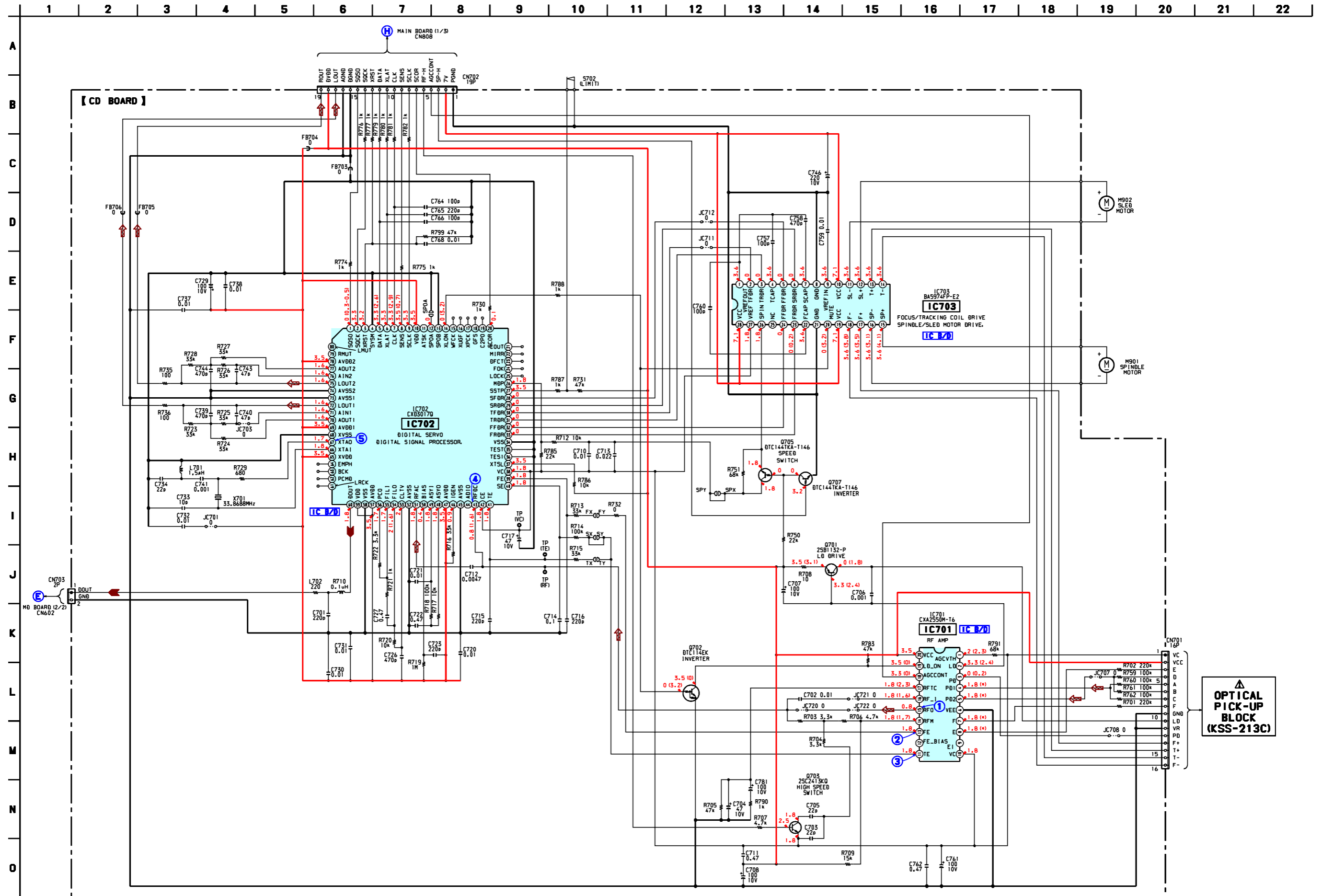
MAIN BOARD
CN808

OPTICAL PICK-UP
BLOCK
(KSS-213C)

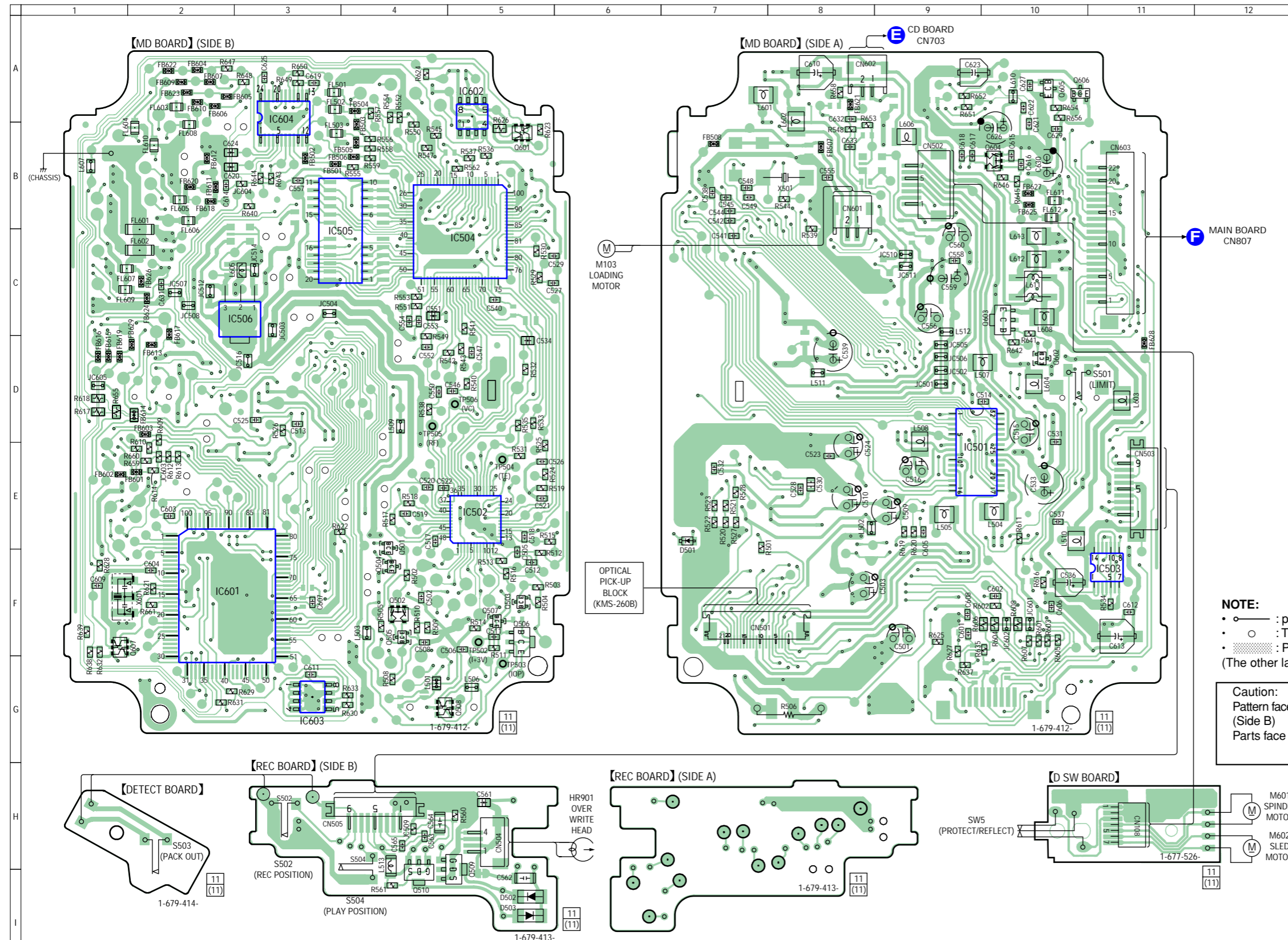
NOTE:
 • — : parts extracted from the component side.
 • : Pattern of the rear side.

6-16. SCHEMATIC DIAGRAM – CD SECTION –

● Refer to page 55 for Notes. ● Refer to page 58 to 61 for IC Block Diagrams. ● Refer to page 56 for Waveforms.



6-17. PRINTED WIRING BOARDS – MD SECTION –



● Semiconductor Location

Ref. No.	Location
D501	E-7
D502	I-5
D503	I-5
IC501	E-9
IC502	E-5
IC503	F-11
IC504	B-5
IC505	B-3
IC506	C-3
IC601	F-2
IC602	A-5
IC603	G-3
IC604	A-3
Q501	F-4
Q502	F-4
Q503	F-5
Q504	F-4
Q505	F-4
Q506	F-5
Q507	F-5
Q508	G-5
Q509	I-5
Q510	I-4
Q601	B-5
Q602	D-10
Q603	C-10
Q604	B-10
Q605	A-10
Q606	A-10
Q607	F-1

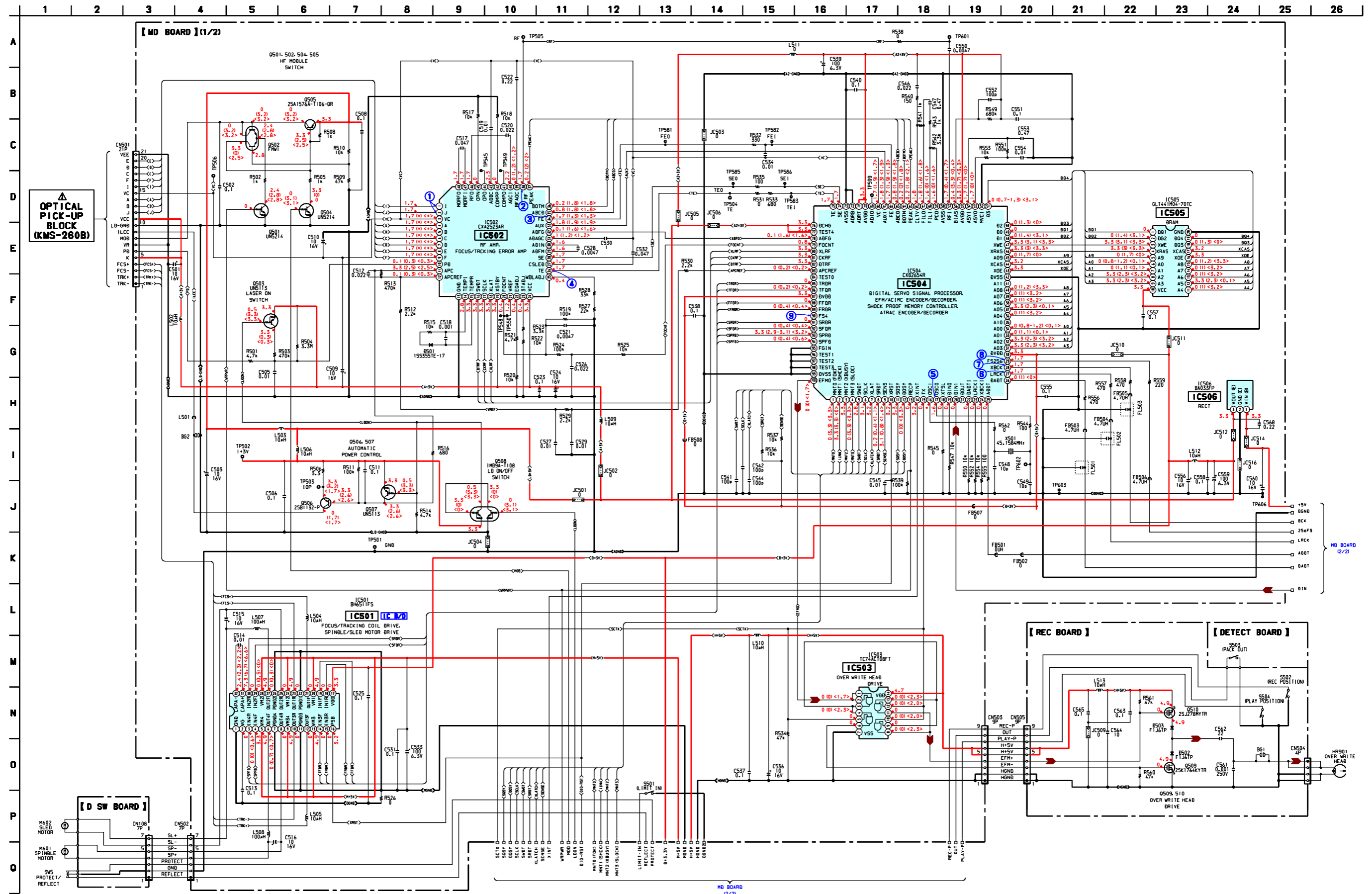
NOTE:

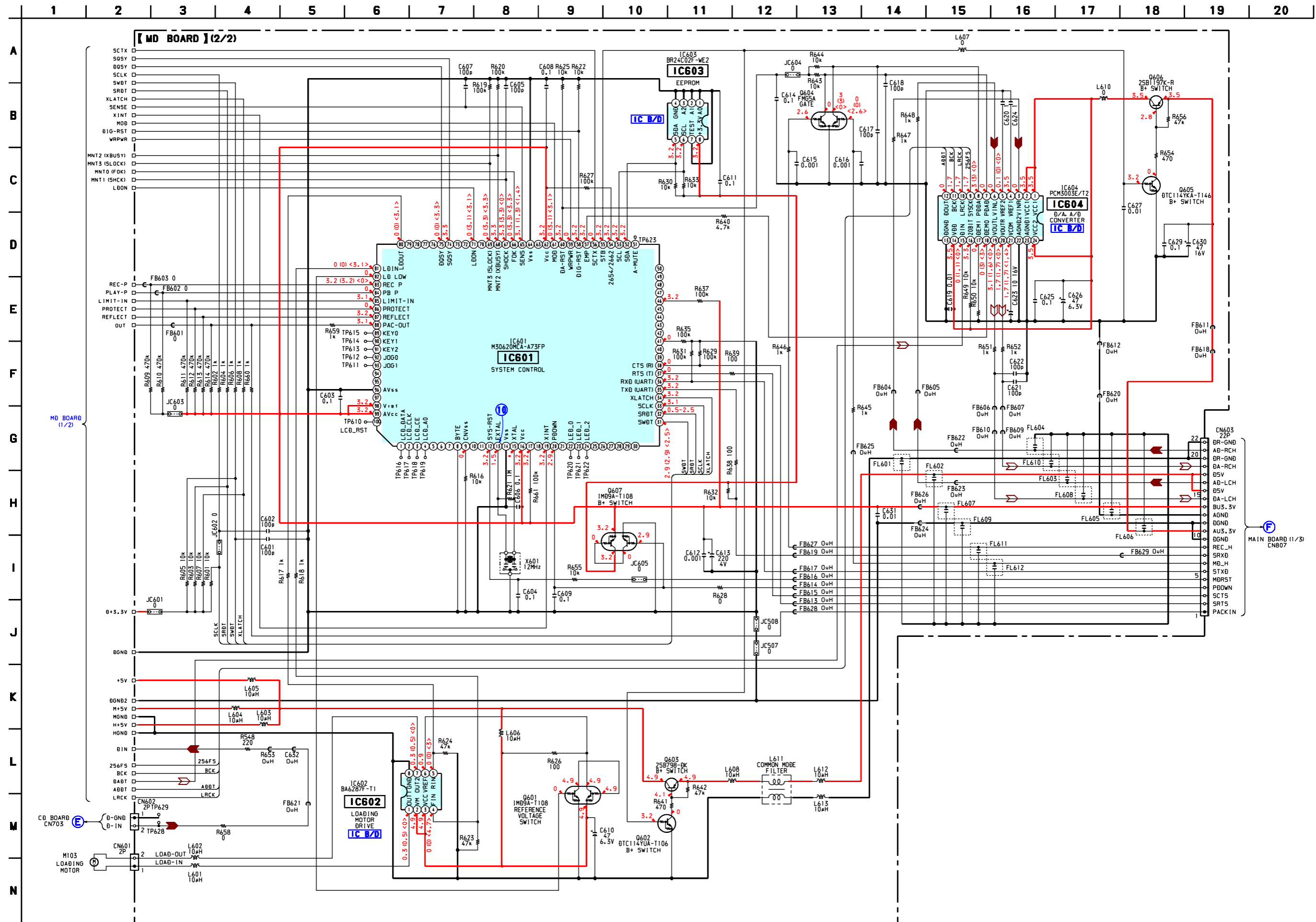
- : parts extracted from the component side.
- : Through hole.
- ▨ : Pattern from the side which enables seeing. (The other layers' patterns are not indicated.)

Caution:


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

6-18. SCHEMATIC DIAGRAM – MD SECTION (1/2) – Refer to page 55 for Notes. Refer to page 58 to 61 for IC Block Diagrams. Refer to page 57 for Waveforms.






Note on Schematic Diagram: MAIN SECTION (1/3)

- All capacitors are in mF unless otherwise noted. pF: mmF 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.
-  : B+ Line.
- Voltages and waveforms are dc with respect to ground under no-signal (detuned) 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.



Note on Schematic Diagram: MAIN SECTION (2/3)

- All capacitors are in mF unless otherwise noted. pF: mmF 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.





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

-  : B+ Line.
- Voltages and waveforms are dc with respect to ground under no-signal (detuned) 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.


Note on Schematic Diagram: MAIN SECTION (3/3)

- All capacitors are in mF unless otherwise noted. pF: mmF 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.
-  : B+ Line.
- Voltages and waveforms are dc with respect to ground under no-signal (detuned) 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

Note on Schematic Diagram: TUNER SECTION

- All capacitors are in mF unless otherwise noted. pF: mmF 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.
- Δ : internal component.
-  : B+ Line.
-  : 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.
Voltage variations may be noted due to normal production tolerances.
- Circled numbers refer to waveforms.
- Signal path.
 : FM
 : AM




Note on Schematic Diagram: CONTROLSECTION

- All capacitors are in mF unless otherwise noted. pF: mmF 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.
-  : B+ Line.
- Voltages and waveforms are dc with respect to ground under no-signal (detuned) 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.

Note on Schematic Diagram: CD SECTION

- All capacitors are in mF unless otherwise noted. pF: mmF 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.




Note: The components identified by mark ! or dotted line with mark ! 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 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.
Voltage variations may be noted due to normal production tolerances.
- Circled numbers refer to waveforms.
- Signal path.
 : CD
 : MD REC

Note on Schematic Diagram: MD SECTION (1/2) (2/2)

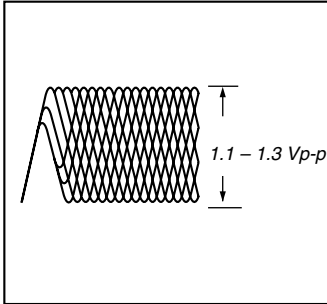
- All capacitors are in μF unless otherwise noted. pF: $\mu\mu F$ 50 WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and $\frac{1}{4} W$ or less unless otherwise specified.

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

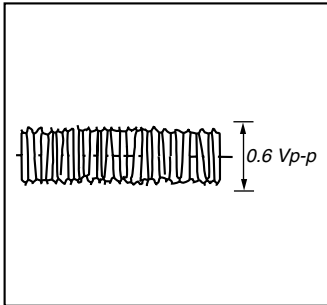
-  : B+ Line.
- Voltages and waveforms are dc with respect to ground under no-signal conditions.
no mark : STOP
() : PLAY
< > : REC
* : Impossible to measure
- Voltages are taken with a VOM (Input impedance 10 M Ω).
Voltage variations may be noted due to normal production tolerances.
- Waveforms are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

• Waveforms – CD SECTION –

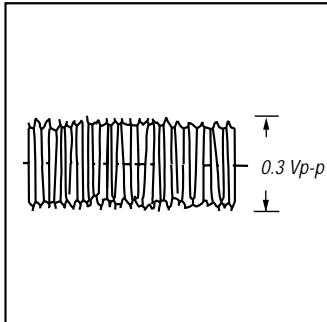
- 1 IC701 ⑬ (RFO)
(PLAY MODE)
VOLT/DIV : 0.5 V AC
TIME/DIV : 1 msec



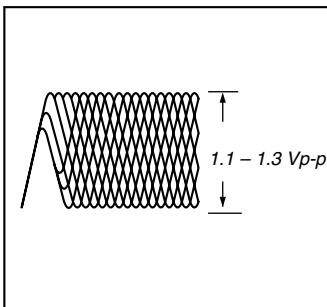
- 2 IC701 ⑬ (FE)
(PLAY MODE)
VOLT/DIV : 0.1 V AC
TIME/DIV : 5 msec



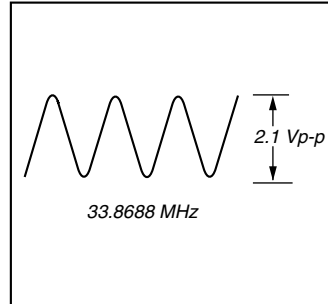
- 3 IC701 ⑪ (TE)
(PLAY MODE)
VOLT/DIV : 0.1 V AC
TIME/DIV : 5 msec



- 4 IC702 ④ (RF DC)
(PLAY MODE)
VOLT/DIV : 0.5 V AC
TIME/DIV : 1 msec

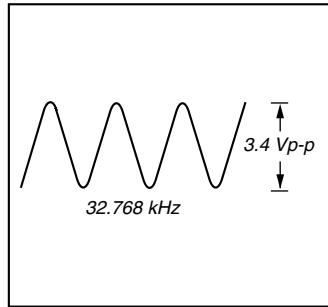


- 5 IC702 ⑦ (XTAO)
(PLAY MODE)
VOLT/DIV : 0.5 V AC
TIME/DIV : 20 μsec

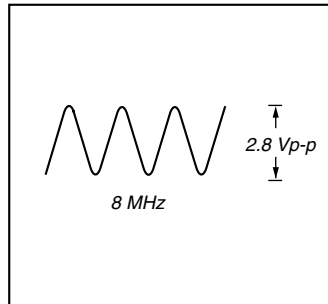


• Waveforms – MAIN SECTION –

- 1 IC801 ⑥ TX
VOLT/DIV : 1 V AC
TIME/DIV : 20 μsec

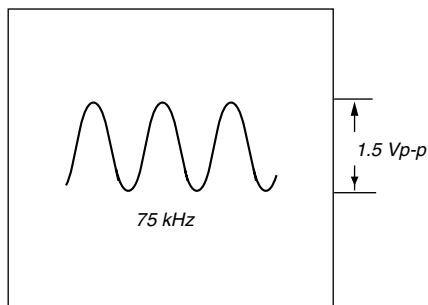


- 2 IC801 ④ XTAL
VOLT/DIV : 1 V AC
TIME/DIV : 0.1 μsec



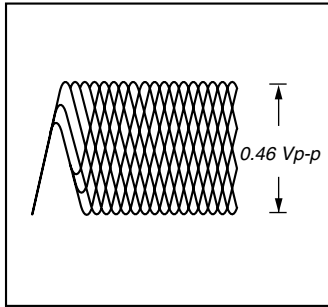
• Waveforms – TUNER SECTION –

- 1 IC1 ⑳ X OUT
VOLT/DIV : 0.5 V AC
TIME/DIV : 10 μsec

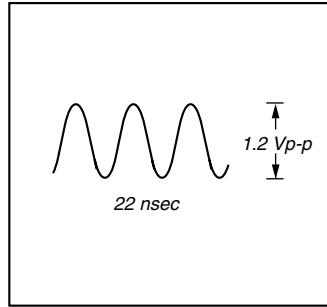


• Waveforms – MD SECTION –

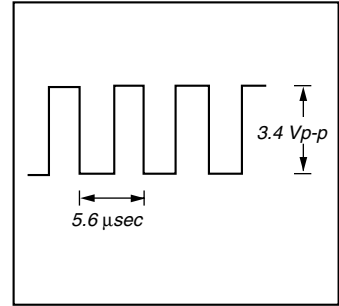
1 IC502 ①, ②I, J
(PLAY MODE)
VOLT/DIV : 0.2 V AC
TIME/DIV : 0.5 μ sec



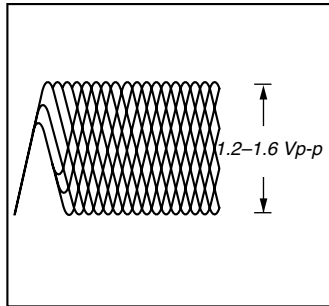
5 IC504 ⑰ OSCO
VOLT/DIV : 0.5 V AC
TIME/DIV : 20 msec



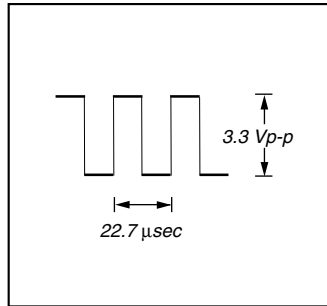
9 IC504 ⑳ FS4
VOLT/DIV : 1 V AC
TIME/DIV : 2 μ sec



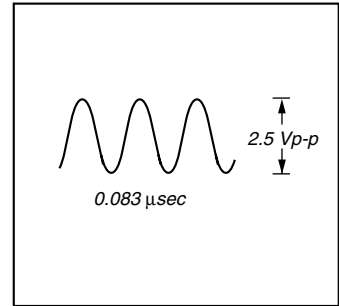
2 IC502 ⑳ FE
(PLAY MODE)
VOLT/DIV : 0.5 V AC
TIME/DIV : 0.5 μ sec



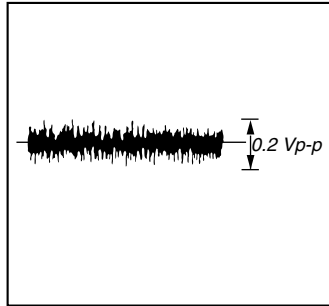
6 IC504 ⑳ LRCK
VOLT/DIV : 1 V AC
TIME/DIV : 10 μ sec



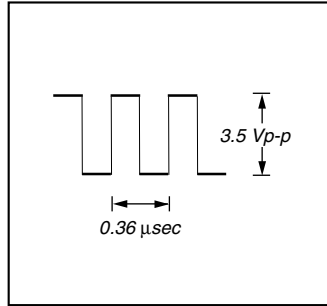
10 IC601 ⑬ EXTAL
VOLT/DIV : 1 V AC
TIME/DIV : 0.1 μ sec



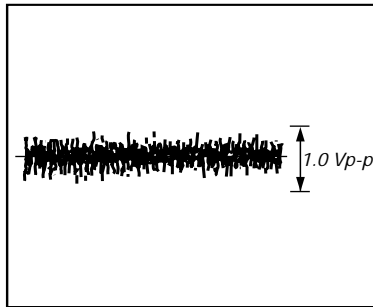
3 IC502 ㉑ FE
(PLAY MODE)
VOLT/DIV : 100 V AC
TIME/DIV : 5 μ sec



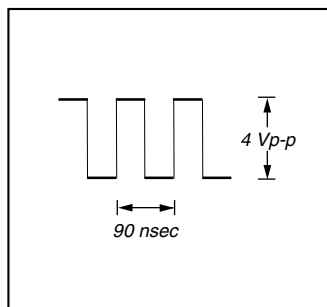
7 IC504 ㉑ XBCK
VOLT/DIV : 1 V AC
TIME/DIV : 0.1 μ sec



4 IC502 ㉒ TE
(PLAY Mode)
VOLT/DIV : 2 V AC
TIME/DIV : 5 msec

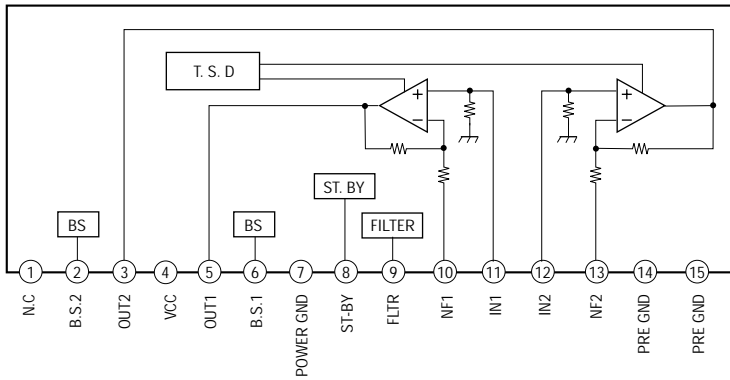


8 IC504 ㉒ FS256
VOLT/DIV : 1 V AC
TIME/DIV : 50 nsec

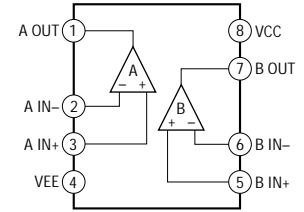


• IC BLOCK DIAGRAMS (MAIN SECTION)

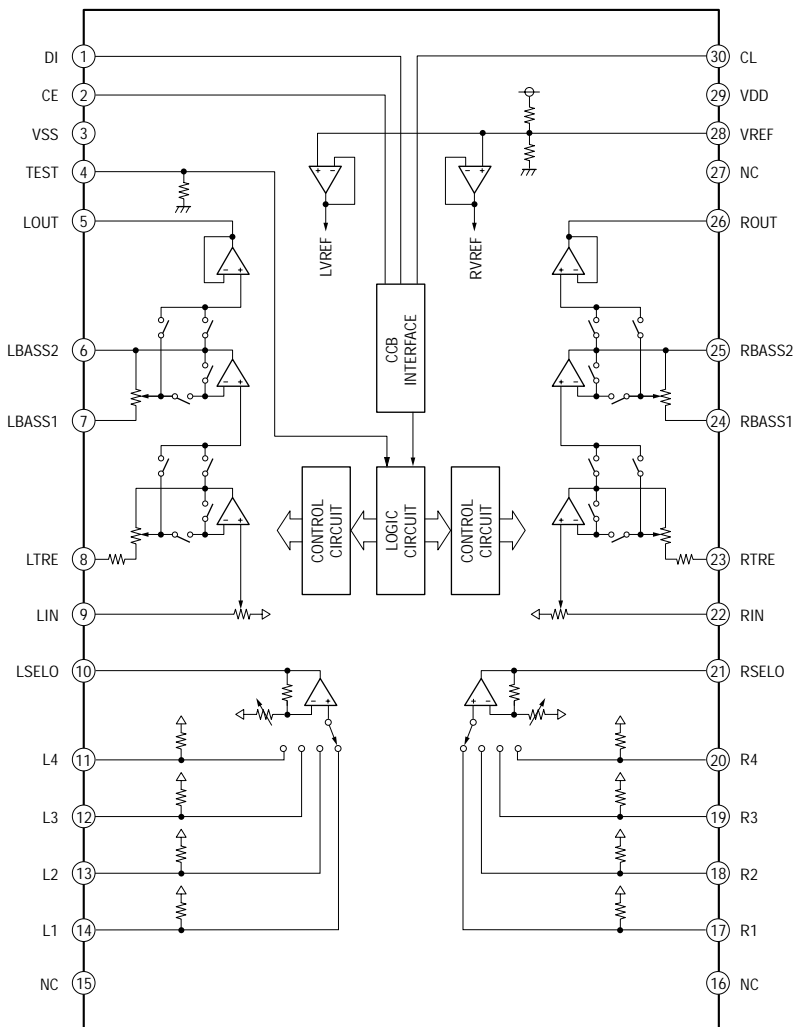
IC301,303 BA5417



IC305 NJM4558V-TE2

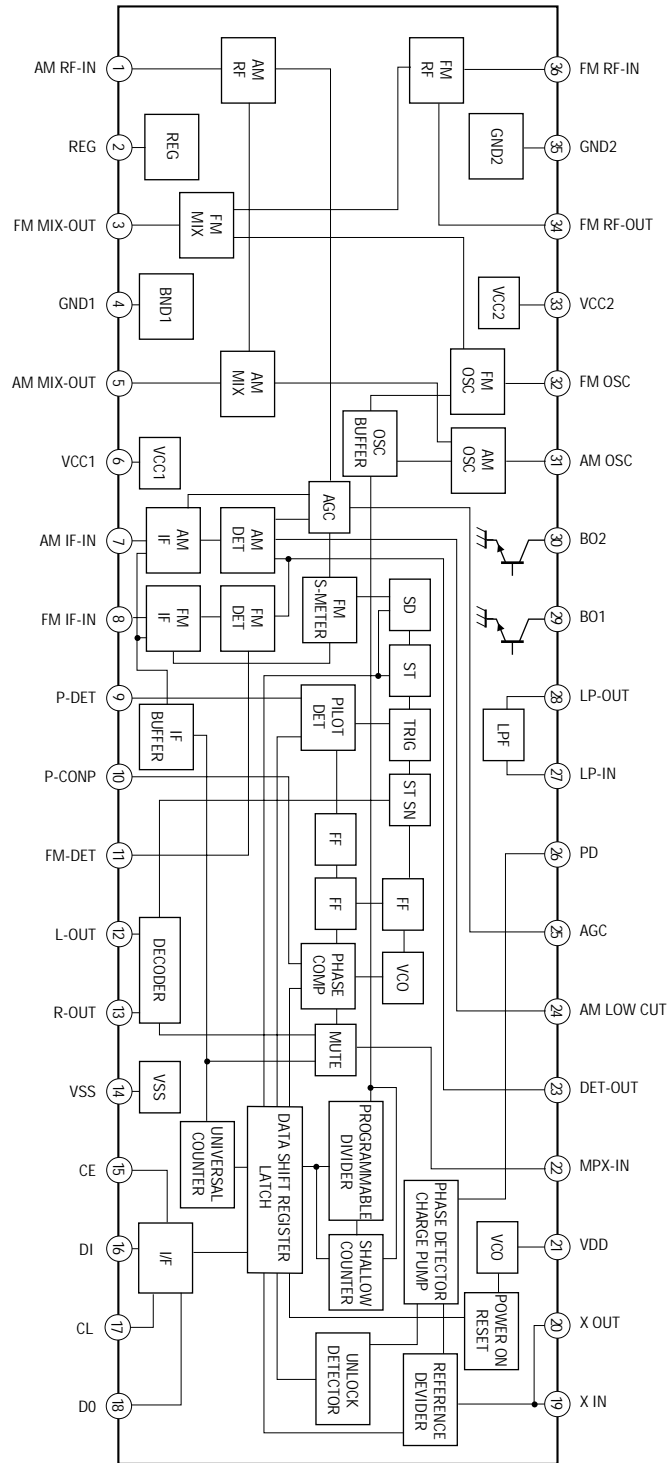


IC302 LC75342



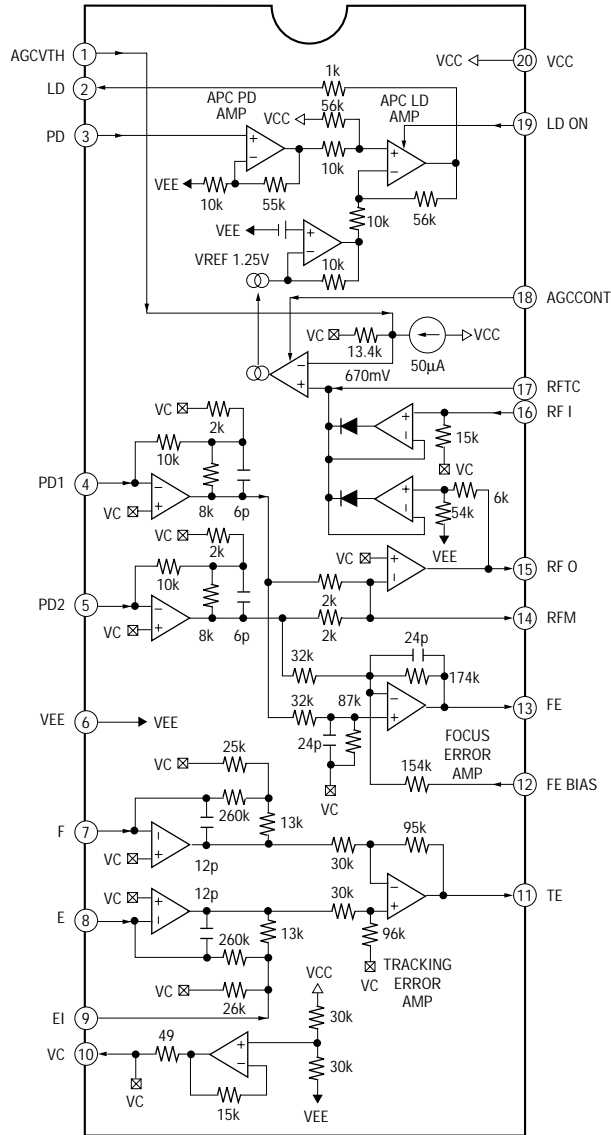
• IC BLOCK DIAGRAMS (TUNER SECTION)

IC1 LV2300M-TLM

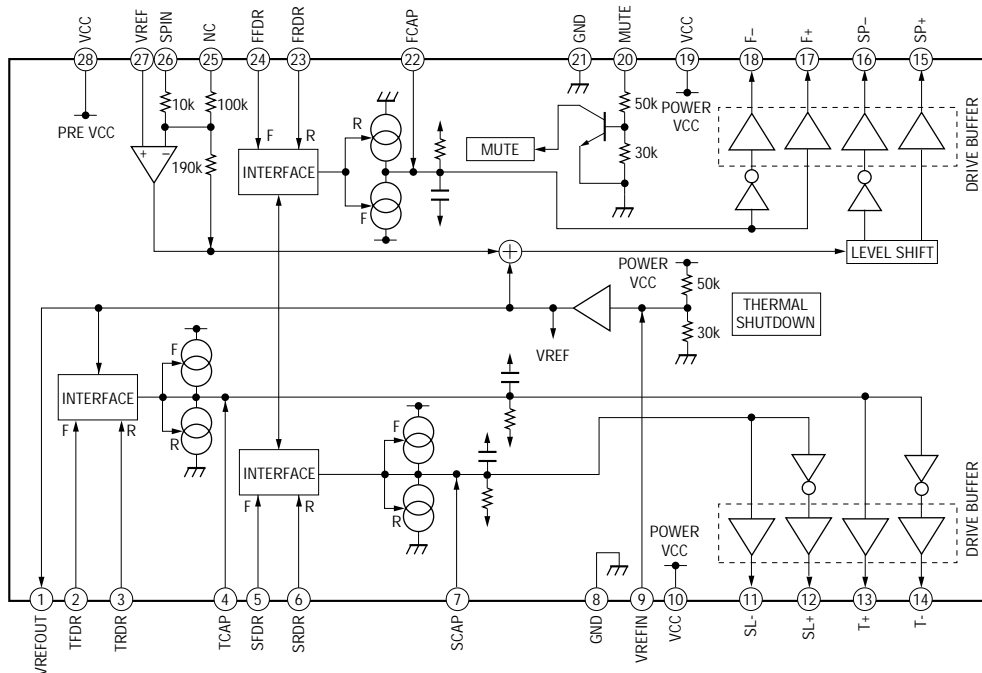


• IC BLOCK DIAGRAMS (CD SECTION)

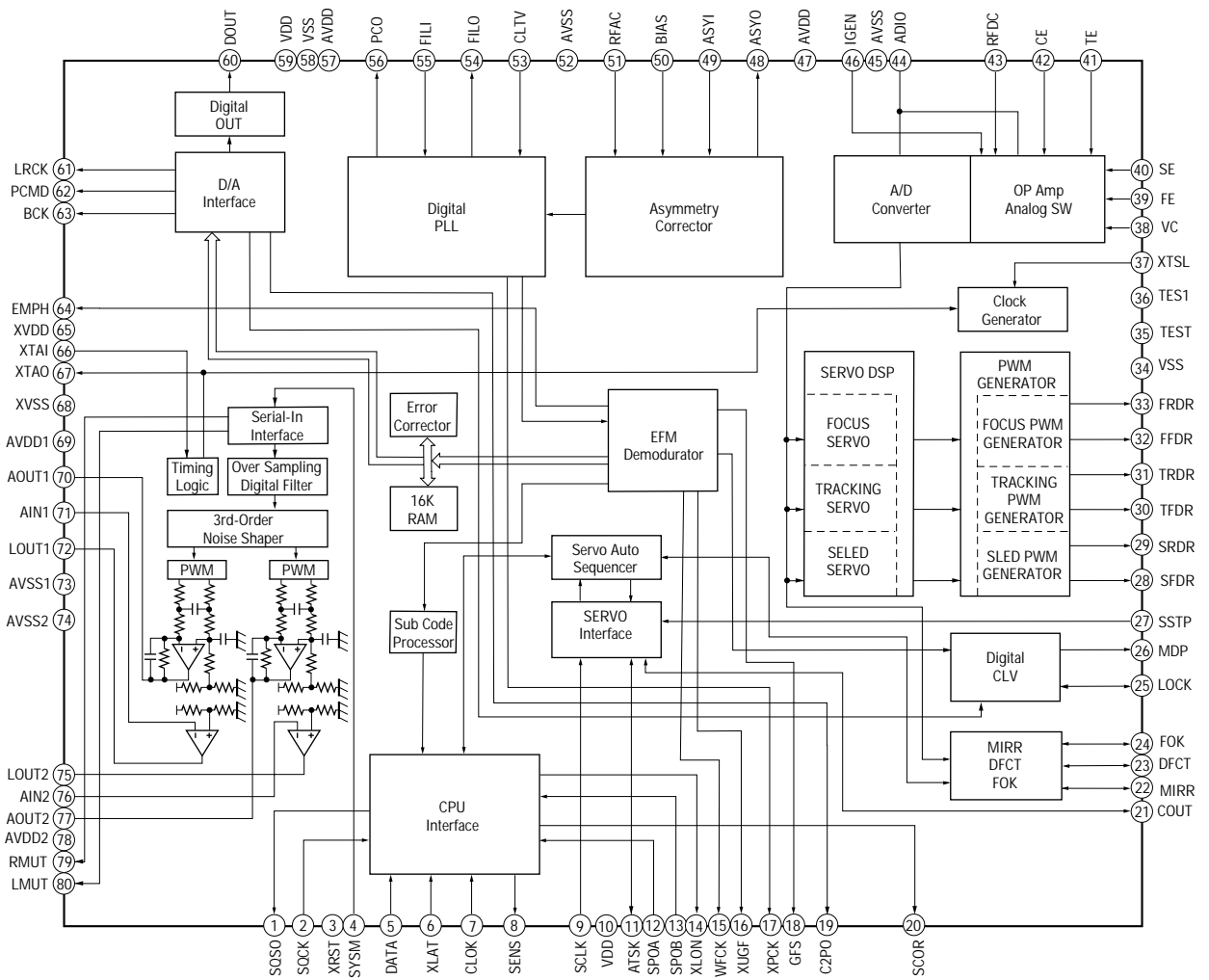
IC701 CXA2550M-T6



IC703 BA5974FP-E2

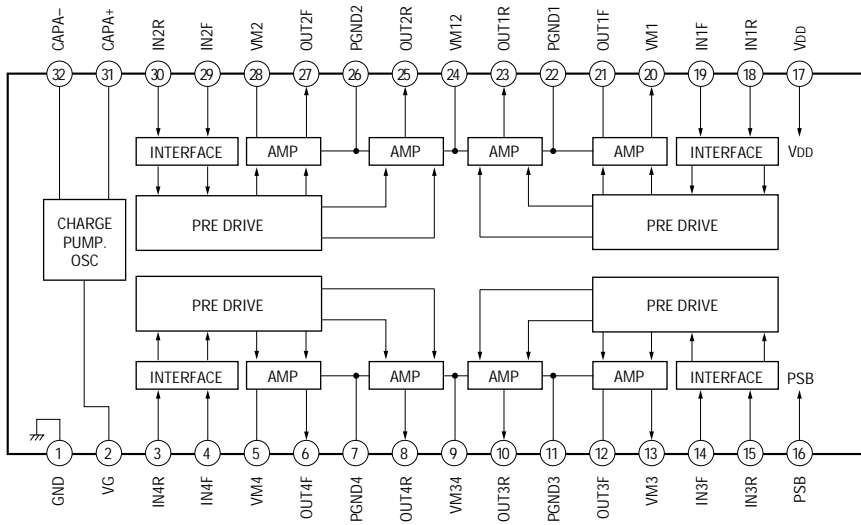


IC702 CXD3017Q

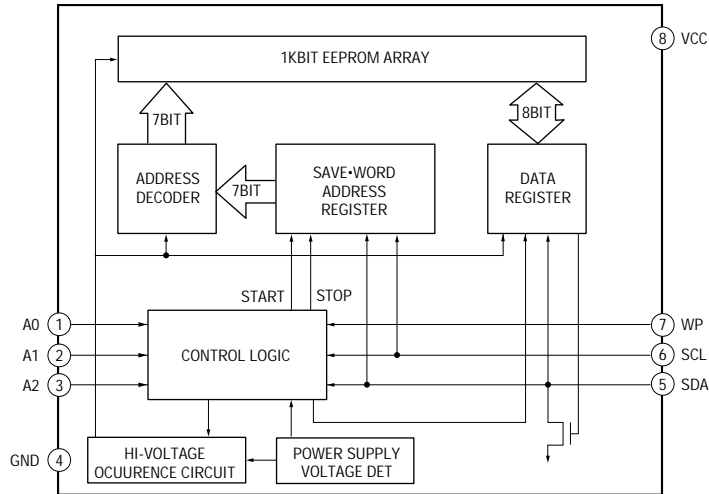


• IC BLOCK DIAGRAMS (MD SECTION)

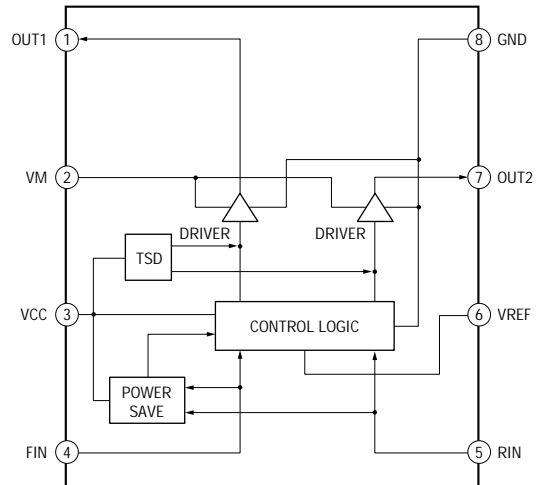
IC501 BH6511FS-E2



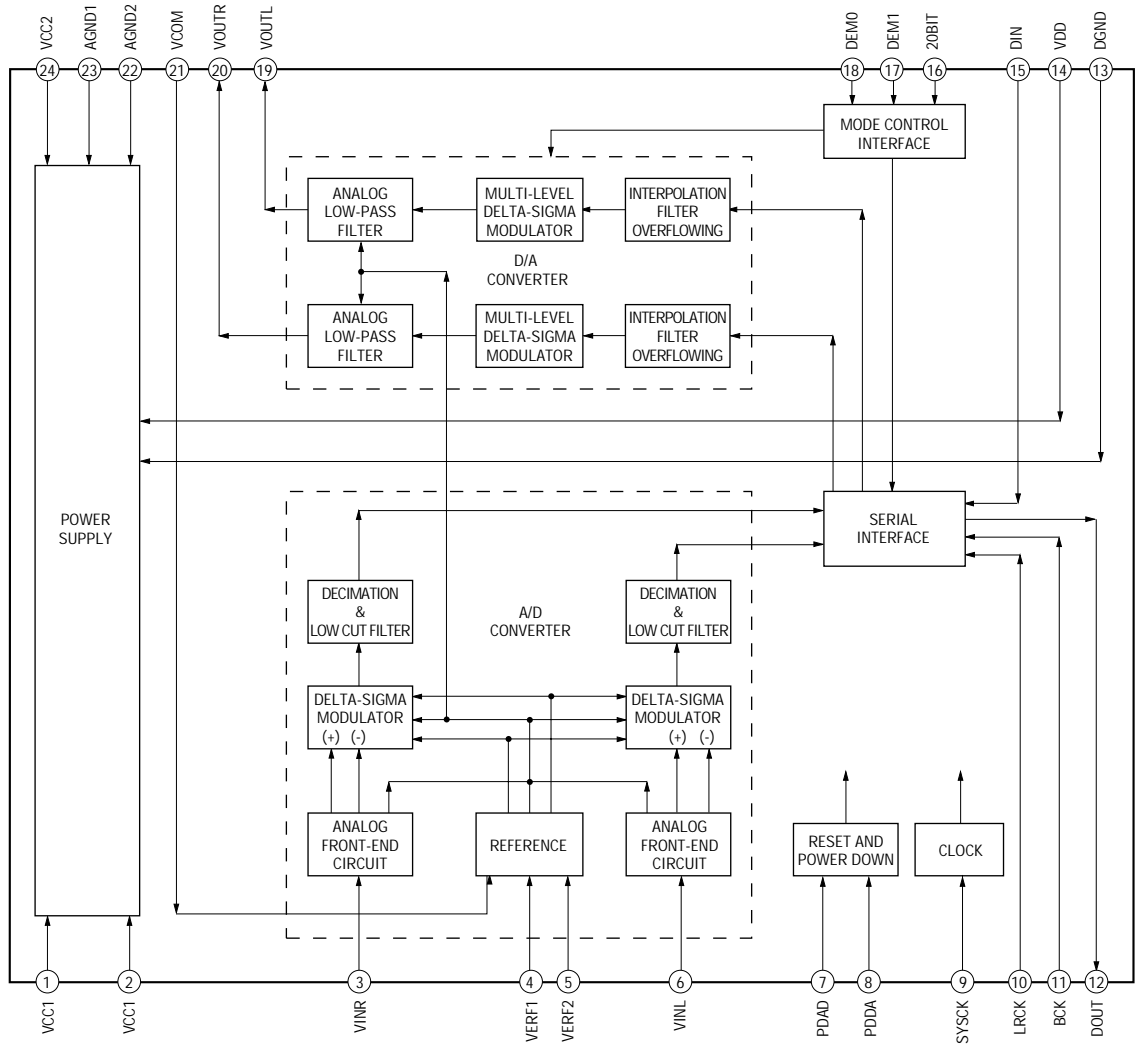
IC603 BR24C02F-WE2



IC602 BA6287F-T1



IC604 PCM3003E/T2



SECTION 7 EXPLODED VIEWS

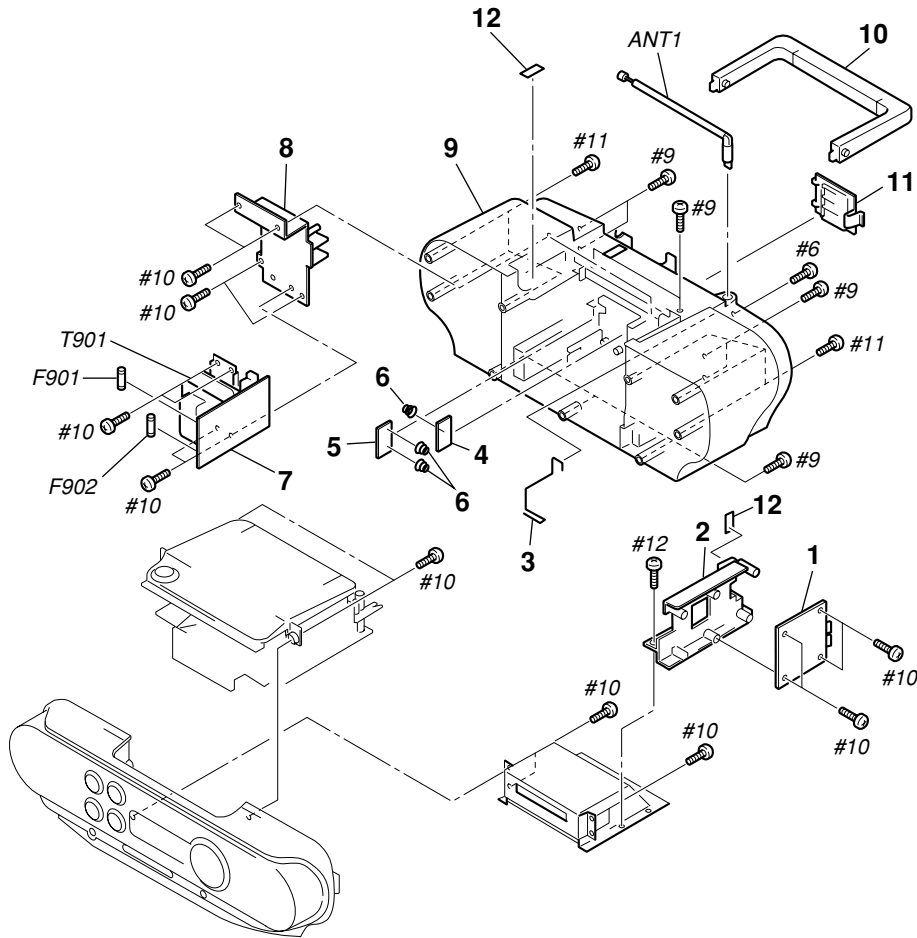
NOTE :

- -XX, -X mean standardized parts, so they may have some difference from the original one.
- Color indication of Appearance Parts
Example :
KNOB, BALANCE (WHITE) ... (RED)
 ↑ ↑
 Parts color Cabinet's color
- Items marked “ * ” are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

- The mechanical parts with no reference number in the exploded views are not supplied.
- Hardware (# mark) list and accessories and packing materials are given in the last of this parts list.

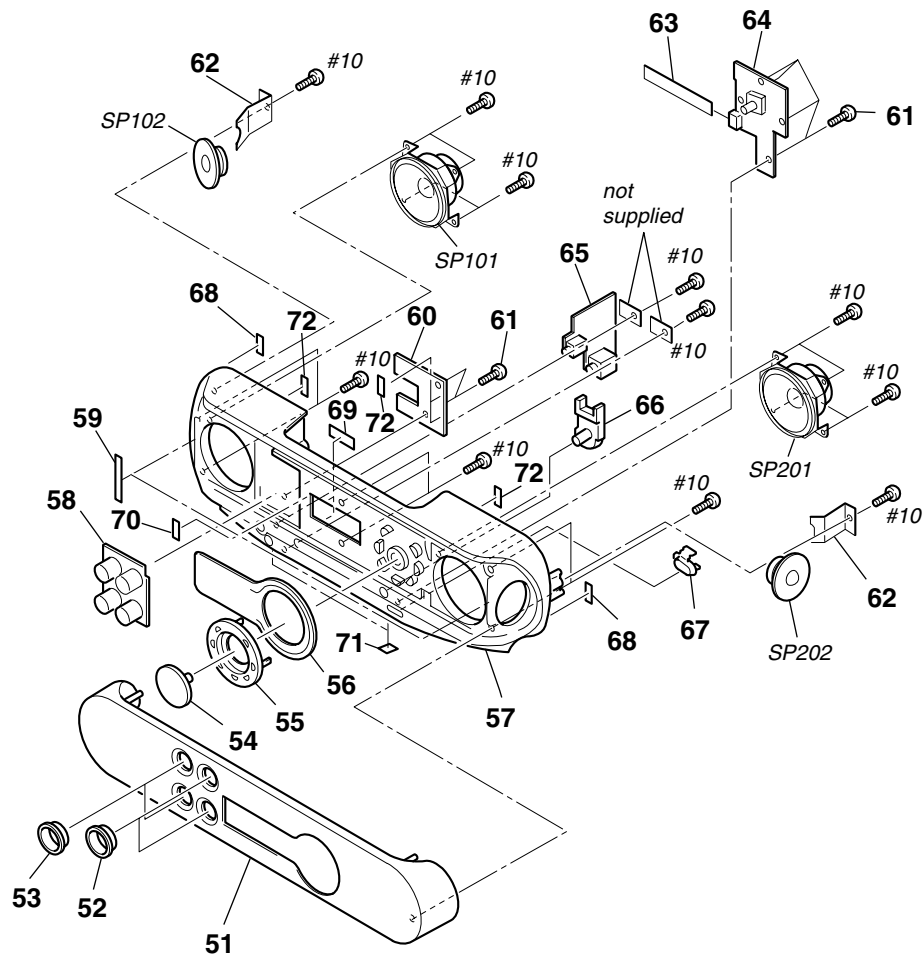
The components identified by mark Δ or dotted line with mark Δ are critical for safety.
Replace only with part number specified.

7-1. REAR CABINET SECTION



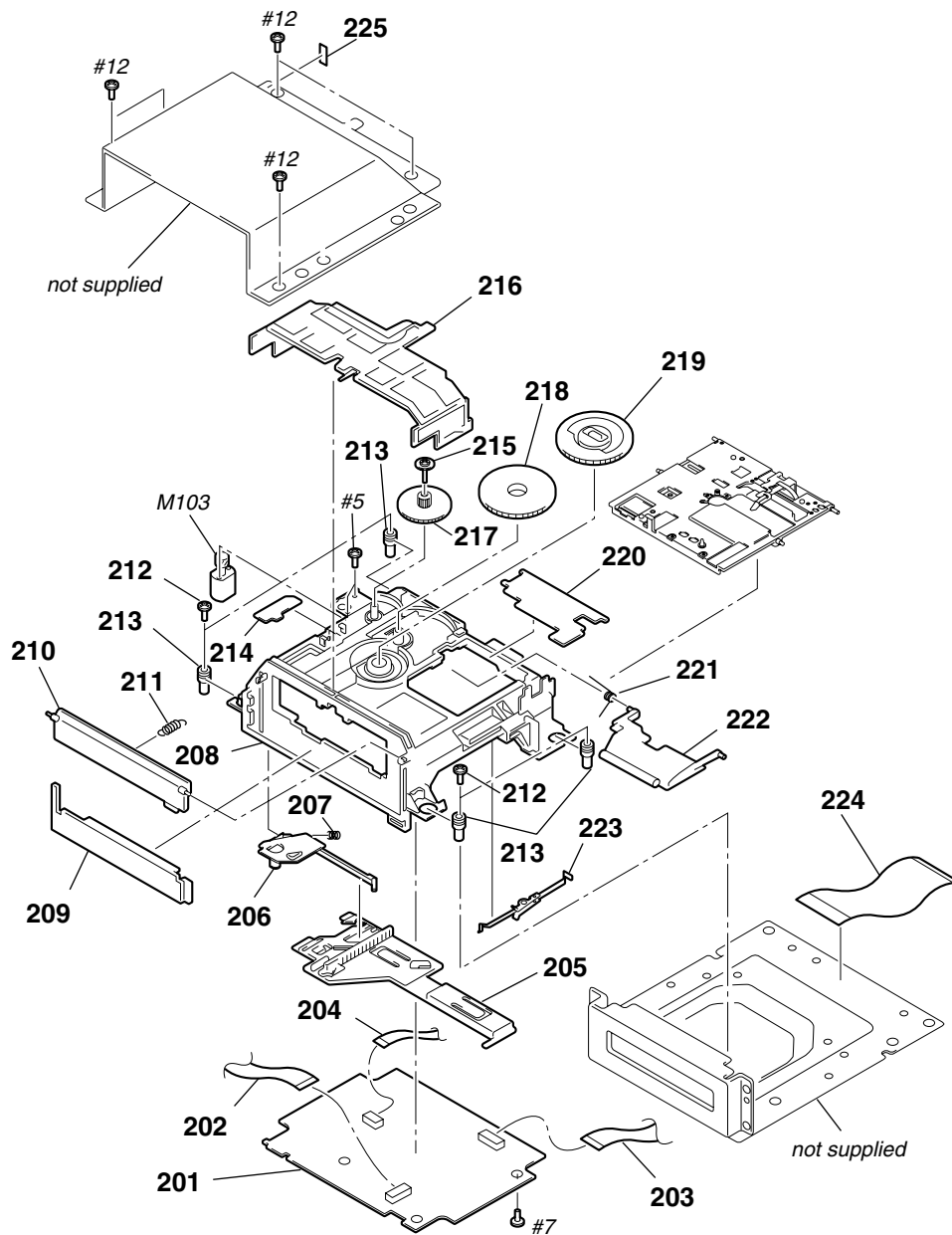
Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
* 1	A-3347-168-A	TUNER BOARD, COMPLETE		10	3-222-343-11	HANDLE... (WHITE)	
2	3-222-353-01	CHASSIS (TU)		10	3-222-343-21	HANDLE... (BLUE)	
3	3-222-362-01	TERMINAL, ANT					
* 4	1-679-404-21	BATT (A) BOARD		10	3-222-343-31	HANDLE... (GREEN)	
* 5	1-679-405-21	BATT (B) BOARD		11	3-226-496-01	LID, BATTERY CASE... (ORANGE)	
				11	3-226-496-11	LID, BATTERY CASE... (WHITE)	
6	3-039-967-01	TERMINAL (-) , BATTERY		11	3-226-496-21	LID, BATTERY CASE... (BLUE)	
* 7	1-679-406-21	POWER BOARD		11	3-226-496-31	LID, BATTERY CASE... (GREEN)	
8	3-222-350-01	CHASSIS, TRANSFORMER		12	3-831-441-99	CUSHION (A)	
9	3-222-341-41	CABINET (REAR) ... (ORANGE)					
9	3-222-341-51	CABINET (REAR) ... (WHITE)		ANT1	1-501-452-11	ANTENNA, TELESCOPIC	
9	3-222-341-61	CABINET (REAR) ... (BLUE)		Δ F901	1-532-465-51	FUSE, TIME LAG 3.15A/250V	
9	3-222-341-71	CABINET (REAR) ... (GREEN)		Δ F902	1-532-503-51	FUSE, TIME LAG 1.6A/250V	
10	3-222-343-01	HANDLE... (ORANGE)		Δ T901	1-435-872-11	TRANSFORMER, POWER	

7-2. FRONT CABINET SECTION



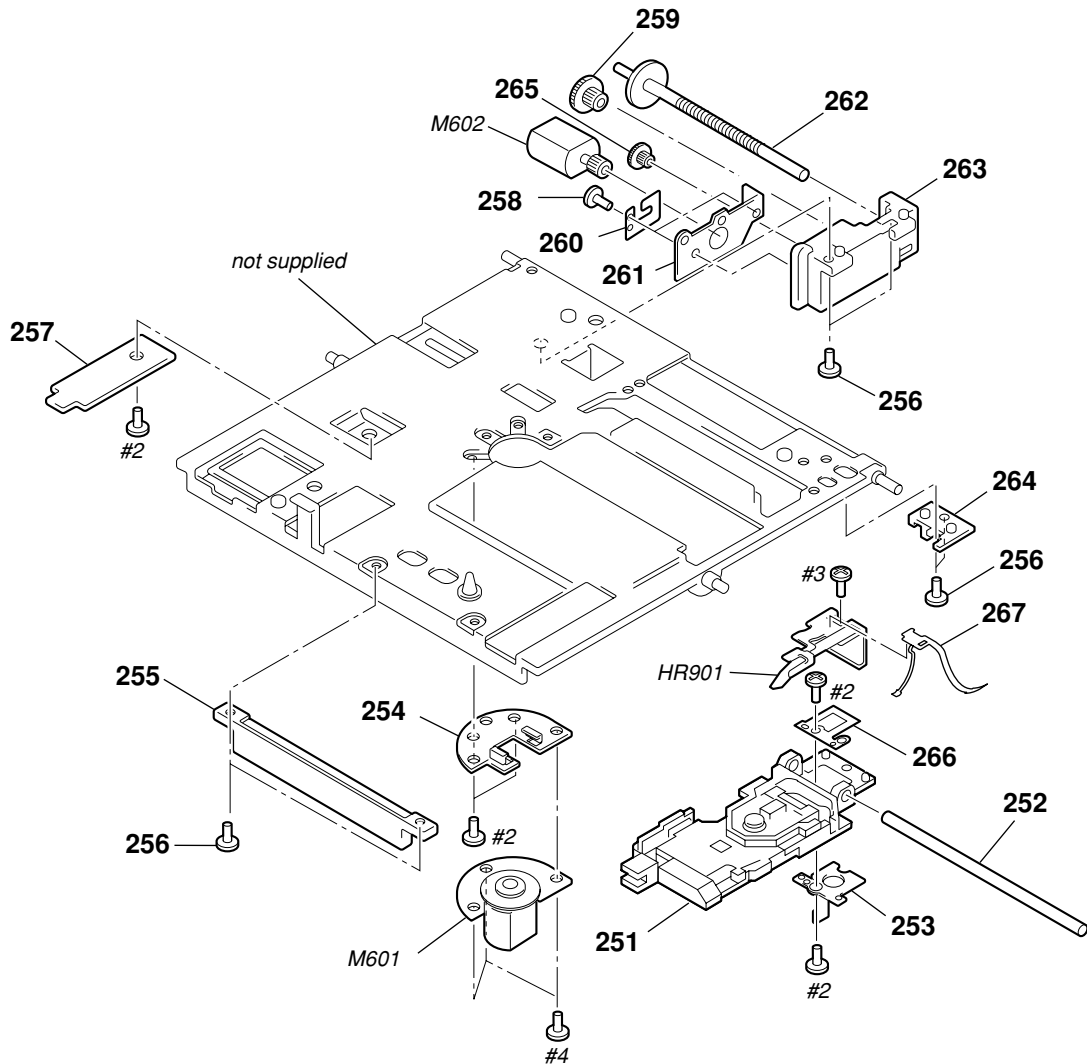
Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
51	X-3379-522-1	CHASSIS ASSY, NET (ORANGE)		58	3-222-344-01	BUTTON (PLAY) ... (ORANGE)	
51	X-3379-574-1	CHASSIS ASSY, NET (WHITE)		58	3-222-344-11	BUTTON (PLAY) ... (WHITE)	
51	X-3379-575-1	CHASSIS ASSY, NET (BLUE)		58	3-222-344-21	BUTTON (PLAY) ... (BLUE)	
51	X-3379-576-1	CHASSIS ASSY, NET (GREEN)		58	3-222-344-31	BUTTON (PLAY) ... (GREEN)	
52	3-222-387-01	ORNAMENT (CD.MD) , BUTTON... (ORANGE,WHITE,BLUE)		59	3-224-892-01	CUSHION	
52	3-222-387-11	ORNAMENT (CD.MD) , BUTTON... (GREEN)		* 60	1-679-403-21	SW (L) BOARD	
53	3-222-388-01	ORNAMENT (BAND.LINE) , BUTTON... (ORANGE,WHITE,BLUE)		61	4-951-620-11	SCREW (2.6X10) , +BVTP	
53	3-222-388-11	ORNAMENT (BAND.LINE) , BUTTON... (GREEN)		* 62	3-222-389-01	BRACKET (SP)	
54	3-222-349-01	KNOB (JOG)		63	1-757-153-11	WIRE, PARALLEL (FFC) (8 CORE)	
55	3-222-386-01	PLATE (JOG) , ORNAMENTAL... (ORANGE,WHITE)		* 64	1-679-402-21	SW (R) BOARD	
55	3-222-386-11	PLATE (JOG) , ORNAMENTAL... (BLUE)		* 65	1-679-407-21	JACK BOARD	
55	3-222-386-21	PLATE (JOG) , ORNAMENTAL... (GREEN)		66	3-222-346-01	BUTTON (EJECT)	
56	3-222-352-01	WINDOW (LCD) ... (ORANGE)		67	3-222-337-01	WINDOW, REMOTE CONTROL	
56	3-222-352-11	WINDOW (LCD) ... (WHITE)		68	3-831-441-99	CUSHION (A)	
56	3-222-352-21	WINDOW (LCD) ... (BLUE)		69	3-226-251-01	SHEET (LCD) , ADHESIVE	
56	3-222-352-31	WINDOW (LCD) ... (GREEN)		70	3-041-801-01	SHEET (B) , ADHESIVE	
57	3-222-336-01	CABINET (FRONT) ... (ORANGE)		71	3-040-916-01	FOOT (F) , RUBBER	
57	3-222-336-11	CABINET (FRONT) ... (WHITE)		72	3-831-441-11	CUSHION (F)	
57	3-222-336-21	CABINET (FRONT) ... (BLUE)		SP101	1-529-846-11	SPEAKER (8 cm) (L-CH)	
57	3-222-336-31	CABINET (FRONT) ... (GREEN)		SP102	1-529-847-11	SPEAKER (5.7 cm) (L-CH)	
				SP201	1-529-846-11	SPEAKER (8 cm) (R-CH)	
				SP202	1-529-847-11	SPEAKER (5.7 cm) (R-CH)	

7-5. MD SECTION-1 (MT-ZSM30-168)



Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
* 201	A-3322-905-A	MD BOARD, COMPLETE		215	3-042-588-01	SCREW (1.4X4) , PWH	
202	1-669-180-11	OP FLEXIBLE BOARD		* 216	3-042-573-01	LIFTER	
203	1-757-156-11	CABLE, FLEXIBLE FLAT (9 CORE)		217	3-042-579-01	GEAR (A)	
204	1-792-047-11	CABLE, FLEXIBLE FLAT (7 CORE)		218	3-042-580-01	GEAR (B)	
* 205	3-042-574-01	SLIDER		219	3-042-576-01	GEAR, LOADING	
* 206	3-042-575-01	CATCHER, LOADING		* 220	A-3322-907-A	REC BOARD, COMPLETE	
207	3-042-582-01	SPRING, CATCHER		221	3-042-583-01	SPRING, HEAD ARM	
* 208	3-042-572-01	CHASSIS		222	3-042-577-01	ARM, HEAD	
209	3-042-587-12	LID (B)		223	3-042-581-01	SPRING, SHUTTER	
210	3-042-585-13	LID (A)		224	1-757-155-11	WIRE, PARALLEL (FFC) (22 CORE)	
211	3-042-586-01	SPRING, LID (A)		225	3-831-441-99	CUSFION (A)	
212	3-044-636-01	SCREW, MD FITTING		M103	X-3378-325-1	MOTOR ASSY, LOADING (INCLUDING GEAR)	
213	3-042-689-01	DAMPER					
* 214	1-679-414-11	DETECTION BOARD					

7-6. MD SECTION-2 (MT-ZSM30-168)



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

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
Δ 251	A-4672-541-A	KMS-260B (MD) OPTICAL PICK-UP ASSY		262	X-2626-330-1	SCREW ASSY, LEAD	
252	2-646-452-01	SHAFT, GUIDE		* 263	2-646-574-03	HOLDER (A) , LEAD	
253	3-042-584-01	LEVER, DETECTION		* 264	2-646-573-01	HOLDER (B) , LEAD	
* 254	2-646-566-01	BRACKET, SP MOTOR		265	2-648-055-01	GEAR (LD)	
255	2-648-052-01	GUIDE, SUB		* 266	2-647-338-01	SPRING, RACK	
256	2-627-404-01	GRIP (1.4X3.5)		267	1-676-550-11	FLEXIBLE BOARD	
* 257	1-677-526-11	D SW BOARD		* HR901	1-500-518-11	HEAD, MD OVER LIGHT	
258	2-627-431-01	SCREW (1.2X3.3)		M601	X-2626-327-1	MOTOR ASSY, SPINDLE (MB) (SPINDLE)	
* 259	2-646-571-11	GEAR (MD)		M602	X-2646-617-2	MOTOR ASSY, SLED (SLED) (INCLUDING GEAR)	
* 260	2-646-567-01	PLATE, PRE ROAD					
261	2-648-049-01	BRACKET, SL MOTOR					

BATT (A)

BATT (B)

CD

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
*	1-679-404-21	BATT (A) BOARD *****	
	3-039-967-01	TERMINAL (-), BATTERY *****	
*	1-679-405-21	BATT (B) BOARD *****	
	3-039-967-01	TERMINAL (-), BATTERY *****	
*	A-3347-177-A	CD BOARD, COMPLETE *****	
		< CAPACITOR >	
C701	1-164-230-11	CERAMIC CHIP 220PF	5% 50V
C702	1-162-970-11	CERAMIC CHIP 0.01uF	10% 25V
C703	1-162-919-11	CERAMIC CHIP 22PF	5% 50V
C704	1-104-664-11	ELECT 47uF	20% 10V
C705	1-162-919-11	CERAMIC CHIP 22PF	5% 50V
C706	1-162-964-11	CERAMIC CHIP 0.001uF	10% 50V
C707	1-104-665-11	ELECT 100uF	20% 10V
C708	1-104-665-11	ELECT 100uF	20% 10V
C710	1-162-970-11	CERAMIC CHIP 0.01uF	10% 25V
C711	1-107-823-11	CERAMIC CHIP 0.47uF	10% 16V
C712	1-162-968-11	CERAMIC CHIP 0.0047uF	10% 50V
C713	1-164-227-11	CERAMIC CHIP 0.022uF	10% 25V
C714	1-107-826-11	CERAMIC CHIP 0.1uF	10% 16V
C715	1-164-230-11	CERAMIC CHIP 220PF	5% 50V
C716	1-164-230-11	CERAMIC CHIP 220PF	5% 50V
C717	1-104-664-11	ELECT 47uF	20% 10V
C720	1-162-970-11	CERAMIC CHIP 0.01uF	10% 25V
C721	1-162-970-11	CERAMIC CHIP 0.01uF	10% 25V
C722	1-107-823-11	CERAMIC CHIP 0.47uF	10% 16V
C723	1-164-230-11	CERAMIC CHIP 220PF	5% 50V
C726	1-162-962-11	CERAMIC CHIP 470PF	10% 50V
C727	1-107-823-11	CERAMIC CHIP 0.47uF	10% 16V
C729	1-104-665-11	ELECT 100uF	20% 10V
C730	1-162-970-11	CERAMIC CHIP 0.01uF	10% 25V
C731	1-162-970-11	CERAMIC CHIP 0.01uF	10% 25V
C732	1-162-970-11	CERAMIC CHIP 0.01uF	10% 25V
C733	1-162-915-11	CERAMIC CHIP 10PF	0.5PF 50V
C734	1-162-919-11	CERAMIC CHIP 22PF	5% 50V
C737	1-162-970-11	CERAMIC CHIP 0.01uF	10% 25V

Ref. No.	Part No.	Description	Remark
C738	1-162-970-11	CERAMIC CHIP 0.01uF	10% 25V
C739	1-162-962-11	CERAMIC CHIP 470PF	10% 50V
C740	1-162-923-11	CERAMIC CHIP 47PF	5% 50V
C741	1-162-964-11	CERAMIC CHIP 0.001uF	10% 50V
C743	1-162-923-11	CERAMIC CHIP 47PF	5% 50V
C744	1-162-962-11	CERAMIC CHIP 470PF	10% 50V
C746	1-126-934-11	ELECT 220uF	20% 10V
C757	1-162-927-11	CERAMIC CHIP 100PF	5% 50V
C758	1-162-962-11	CERAMIC CHIP 470PF	10% 50V
C759	1-162-970-11	CERAMIC CHIP 0.01uF	10% 25V
C760	1-162-927-11	CERAMIC CHIP 100PF	5% 50V
C761	1-104-665-11	ELECT 100uF	20% 10V
C762	1-107-823-11	CERAMIC CHIP 0.47uF	10% 16V
C764	1-162-927-11	CERAMIC CHIP 100PF	5% 50V
C765	1-164-230-11	CERAMIC CHIP 220PF	5% 50V
C766	1-162-927-11	CERAMIC CHIP 100PF	5% 50V
C768	1-162-970-11	CERAMIC CHIP 0.01uF	10% 25V
C781	1-104-665-11	ELECT 100uF	20% 10V
		< CONNECTOR >	
CN701	1-779-466-11	CONNECTOR,FFC (LIF (NON-ZIF)) 16P	
CN702	1-695-380-31	PIN, CONNECTOR (PC BOARD) 19P	
CN703	1-569-614-11	PLUG, CONNECTOR 2P	
		< FERRITE BEAD >	
FB703	1-216-864-91	SHORT	0
FB704	1-216-864-91	SHORT	0
FB705	1-216-864-91	SHORT	0
FB706	1-216-864-91	SHORT	0
		< IC >	
IC701	8-752-097-74	IC CXA2550M-T6	
IC702	8-752-402-31	IC CXD3017Q	
IC703	8-759-549-28	IC BA5974FP-E2	
		< JUMPER >	
JC701	1-216-864-91	SHORT	0
JC703	1-216-864-91	SHORT	0
JC707	1-216-864-91	SHORT	0
JC708	1-216-864-91	SHORT	0
JC711	1-216-864-91	SHORT	0
JC712	1-216-864-91	SHORT	0

CD
D SW
DETECTION
JACK

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
JC720	1-216-864-91	SHORT	0	R777	1-216-821-11	METAL CHIP 1K 5%	1/16W
JC721	1-216-864-91	SHORT	0	R779	1-216-821-11	METAL CHIP 1K 5%	1/16W
JC722	1-216-864-91	SHORT	0	R780	1-216-821-11	METAL CHIP 1K 5%	1/16W
< COIL >				R781	1-216-821-11	METAL CHIP 1K 5%	1/16W
L701	1-412-981-11	INDUCTOR 1.5uH		R782	1-216-821-11	METAL CHIP 1K 5%	1/16W
L702	1-216-813-11	METAL CHIP 220	5% 1/16W	R783	1-216-841-11	METAL CHIP 47K 5%	1/16W
< TRANSISTOR >				R785	1-216-837-11	METAL CHIP 22K 5%	1/16W
Q701	8-729-903-46	TRANSISTOR 2SB1132-P		R786	1-216-833-11	METAL CHIP 10K 5%	1/16W
Q702	8-729-900-53	TRANSISTOR DTC114EK		R787	1-216-821-11	METAL CHIP 1K 5%	1/16W
Q703	8-729-931-02	TRANSISTOR 2SC2413KQ		R788	1-216-821-11	METAL CHIP 1K 5%	1/16W
Q705	8-729-027-60	TRANSISTOR DTC144TKA-T146		R790	1-216-821-11	METAL CHIP 1K 5%	1/16W
Q707	8-729-027-60	TRANSISTOR DTC144TKA-T146		R791	1-216-843-11	METAL CHIP 68K 5%	1/16W
< RESISTOR >				R799	1-216-841-11	METAL CHIP 47K 5%	1/16W
R701	1-216-849-11	METAL CHIP 220K	5% 1/16W	< SWITCH >			
R702	1-216-849-11	METAL CHIP 220K	5% 1/16W	S702	1-762-812-11	SWITCH, LEAF (LIMIT)	
R703	1-216-827-11	METAL CHIP 3.3K	5% 1/16W	< VIBRATOR >			
R704	1-216-827-11	METAL CHIP 3.3K	5% 1/16W	X701	1-795-046-21	VIBRATOR, CRYSTAL (33.8688MHz)	
R705	1-216-841-11	METAL CHIP 47K	5% 1/16W	*****			
R706	1-216-829-11	METAL CHIP 4.7K	5% 1/16W	1-677-526-11	D SW BOARD	*****	
R707	1-216-829-11	METAL CHIP 4.7K	5% 1/16W	< CONNECTOR >			
R708	1-216-797-11	METAL CHIP 10	5% 1/16W	* CN108	1-794-627-21	CONNECTOR, FFC/FPC 7P	
R709	1-216-835-11	METAL CHIP 15K	5% 1/16W	< SWITCH >			
R710	1-412-967-31	INDUCTOR 0.1uH		SW5	1-771-327-11	SWITCH, 2PIN PUSH (2KEY)(PROTECT/ REFLECT)	
R712	1-216-833-11	METAL CHIP 10K	5% 1/16W	*****			
R713	1-216-839-11	METAL CHIP 33K	5% 1/16W	1-679-414-11	DETECTION BOARD	*****	
R714	1-216-845-11	METAL CHIP 100K	5% 1/16W	< SWITCH >			
R715	1-216-839-11	METAL CHIP 33K	5% 1/16W	S503	1-572-688-11	SWITCH, PUSH LEVER (1KEY) (PACK OUT)	
R716	1-216-839-11	METAL CHIP 33K	5% 1/16W	*****			
R717	1-216-833-11	METAL CHIP 10K	5% 1/16W	1-679-407-21	JACK BOARD	*****	
R718	1-216-845-11	METAL CHIP 100K	5% 1/16W	< HOLDER >			
R719	1-216-857-11	METAL CHIP 1M	5% 1/16W	* CH302	1-565-386-11	HOLDER, CABLE 5P	
R720	1-216-833-11	METAL CHIP 10K	5% 1/16W	* CH306	1-815-170-11	HOLDER, CABLE 4P	
R721	1-216-821-11	METAL CHIP 1K	5% 1/16W	< CONNECTOR >			
R722	1-216-827-11	METAL CHIP 3.3K	5% 1/16W	* CN304	1-564-778-11	PLUG, CONNECTOR (2.5MM) 4P	
R723	1-216-839-11	METAL CHIP 33K	5% 1/16W	< DIODE >			
R724	1-216-839-11	METAL CHIP 33K	5% 1/16W	D306	8-719-988-61	DIODE 1SS355TE-17	
R725	1-216-839-11	METAL CHIP 33K	5% 1/16W	D307	8-719-988-61	DIODE 1SS355TE-17	
R726	1-216-839-11	METAL CHIP 33K	5% 1/16W	D308	8-719-988-61	DIODE 1SS355TE-17	
R727	1-216-839-11	METAL CHIP 33K	5% 1/16W	D309	8-719-988-61	DIODE 1SS355TE-17	
R728	1-216-839-11	METAL CHIP 33K	5% 1/16W	< FERRITE BEAD >			
R729	1-216-819-11	METAL CHIP 680	5% 1/16W	FB102	1-216-864-91	SHORT	0
R730	1-216-821-11	METAL CHIP 1K	5% 1/16W	FB202	1-216-864-91	SHORT	0
R731	1-216-841-11	METAL CHIP 47K	5% 1/16W				
R732	1-216-864-91	SHORT	0				
R735	1-216-809-11	METAL CHIP 100	5% 1/16W				
R736	1-216-809-11	METAL CHIP 100	5% 1/16W				
R750	1-216-837-11	METAL CHIP 22K	5% 1/16W				
R751	1-216-843-11	METAL CHIP 68K	5% 1/16W				
R759	1-216-845-11	METAL CHIP 100K	5% 1/16W				
R760	1-216-845-11	METAL CHIP 100K	5% 1/16W				
R761	1-216-845-11	METAL CHIP 100K	5% 1/16W				
R762	1-216-845-11	METAL CHIP 100K	5% 1/16W				
R774	1-216-821-11	METAL CHIP 1K	5% 1/16W				
R775	1-216-821-11	METAL CHIP 1K	5% 1/16W				
R776	1-216-821-11	METAL CHIP 1K	5% 1/16W				

ZS-M30

JACK **LCD** **MAIN**

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
		< COIL >		C103	1-126-963-11	ELECT	4.7uF 20% 50V
L101	1-412-987-41	INDUCTION	4.7uH	C104	1-162-927-11	CERAMIC CHIP	100PF 5% 50V
L201	1-412-987-41	INDUCTION	4.7uH	C105	1-104-664-11	ELECT	47uF 20% 10V
L301	1-412-987-41	INDUCTION	4.7uH				
L302	1-412-987-41	INDUCTION	4.7uH	C106	1-130-495-00	MYLAR	0.1uF 5% 50V
		< JACK >		C107	1-130-495-00	MYLAR	0.1uF 5% 50V
J301	1-794-838-11	JACK (⊘)		C108	1-126-960-11	ELECT	1uF 20% 50V
J302	1-566-891-11	JACK (LINE IN)		C110	1-126-961-11	ELECT	2.2uF 20% 50V
		< RESISTOR >		C111	1-126-961-11	ELECT	2.2uF 20% 50V
R127	1-216-813-11	METAL CHIP	220 5% 1/16W				
R227	1-216-813-11	METAL CHIP	220 5% 1/16W	C112	1-126-961-11	ELECT	2.2uF 20% 50V
*****				C113	1-126-961-11	ELECT	2.2uF 20% 50V
	1-679-400-21	LCD BOARD		C114	1-126-961-11	ELECT	2.2uF 20% 50V
		*****		C115	1-130-495-00	MYLAR	0.1uF 5% 50V
	3-222-351-01	HOLDER (LCD)		C116	1-137-366-11	MYLAR	0.0022uF 5% 50V
	3-222-467-01	ILLUMINATOR					
	7-685-647-79	SCREW +BVTP	3X10 TYPE2 N-S	C117	1-130-495-00	MYLAR	0.1uF 5% 50V
		< CAPACITOR >		C118	1-126-961-11	ELECT	2.2uF 20% 50V
C407	1-107-826-11	CERAMIC CHIP	0.1uF 10% 16V	C119	1-130-495-00	MYLAR	0.1uF 5% 50V
		< CONNECTOR >		C120	1-104-664-11	ELECT	47uF 20% 10V
CN404	1-573-069-11	SOCKET, CONNECTOR 7P		C121	1-126-963-11	ELECT	4.7uF 20% 50V
		< LIQUID CRYSTAL DISPLAY >					
LCD1	1-476-281-11	INDICATOR UNIT, LIQUID CRYSTAL		C122	1-130-495-00	MYLAR	0.1uF 5% 50V
		< PILOT LAMP >		C123	1-104-664-11	ELECT	47uF 20% 10V
PL404	1-517-409-11	LAMP, PILOT (ORANGE) (BACK LIGHT)		C124	1-162-927-11	CERAMIC CHIP	100PF 5% 50V
PL404	1-518-726-11	LAMP, PILOT (WHITE,BLUE) (BACK LIGHT)		C125	1-104-664-11	ELECT	47uF 20% 10V
PL404	1-518-727-11	LAMP, PILOT (GREEN) (BACK LIGHT)		C126	1-126-960-11	ELECT	1uF 20% 50V
PL405	1-517-409-11	LAMP, PILOT (ORANGE) (BACK LIGHT)					
PL405	1-518-726-11	LAMP, PILOT (WHITE,BLUE) (BACK LIGHT)		C129	1-126-963-11	ELECT	4.7uF 20% 50V
PL405	1-518-727-11	LAMP, PILOT (GREEN) (BACK LIGHT)		C130	1-137-366-11	MYLAR	0.0022uF 5% 50V
		< RESISTOR >		C201	1-126-926-11	ELECT	1000uF 20% 10V
R424	1-216-821-11	METAL CHIP	1K 5% 1/16W	C202	1-126-960-11	ELECT	1uF 20% 50V
R425	1-216-821-11	METAL CHIP	1K 5% 1/16W	C203	1-126-963-11	ELECT	4.7uF 20% 50V
R426	1-216-821-11	METAL CHIP	1K 5% 1/16W				
R427	1-216-841-11	METAL CHIP	47K 5% 1/16W	C204	1-162-927-11	CERAMIC CHIP	100PF 5% 50V
R428	1-216-833-11	METAL CHIP	10K 5% 1/16W	C205	1-104-664-11	ELECT	47uF 20% 10V
		< CAPACITOR >		C206	1-130-495-00	MYLAR	0.1uF 5% 50V
R429	1-216-839-11	METAL CHIP	33K 5% 1/16W	C207	1-130-495-00	MYLAR	0.1uF 5% 50V
R430	1-216-864-91	SHORT	0	C208	1-126-960-11	ELECT	1uF 20% 50V

	A-3347-176-A	MAIN BOARD, COMPLETE		C210	1-126-961-11	ELECT	2.2uF 20% 50V
		*****		C211	1-126-961-11	ELECT	2.2uF 20% 50V
	7-685-647-79	SCREW +BVTP	3X10 TYPE2 N-S	C212	1-126-961-11	ELECT	2.2uF 20% 50V
	7-685-647-79	SCREW +BVTP	3X10 TYPE2 N-S	C213	1-126-961-11	ELECT	2.2uF 20% 50V
		< CAPACITOR >		C214	1-126-961-11	ELECT	2.2uF 20% 50V
C101	1-126-926-11	ELECT	1000uF 20% 10V				
C102	1-126-960-11	ELECT	1uF 20% 50V	C215	1-130-495-00	MYLAR	0.1uF 5% 50V
				C216	1-137-366-11	MYLAR	0.0022uF 5% 50V
				C217	1-130-495-00	MYLAR	0.1uF 5% 50V
				C218	1-126-961-11	ELECT	2.2uF 20% 50V
				C219	1-130-495-00	MYLAR	0.1uF 5% 50V
				C220	1-104-664-11	ELECT	47uF 20% 10V
				C221	1-126-963-11	ELECT	4.7uF 20% 50V
				C222	1-130-495-00	MYLAR	0.1uF 5% 50V
				C223	1-104-664-11	ELECT	47uF 20% 10V
				C224	1-162-927-11	CERAMIC CHIP	100PF 5% 50V
				C225	1-104-664-11	ELECT	47uF 20% 10V
				C226	1-126-960-11	ELECT	1uF 20% 50V
				C229	1-126-963-11	ELECT	4.7uF 20% 50V
				C230	1-137-366-11	MYLAR	0.0022uF 5% 50V
				C303	1-128-548-11	ELECT	4700uF 20% 25V
				C304	1-104-664-11	ELECT	47uF 20% 10V
				C306	1-126-964-11	ELECT	10uF 20% 50V
				C308	1-104-665-11	ELECT	100uF 20% 10V
				C309	1-104-664-11	ELECT	47uF 20% 10V
				C310	1-104-664-11	ELECT	47uF 20% 10V

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
C311	1-104-664-11	ELECT	47uF 20% 10V	C877	1-164-378-11	CERAMIC CHIP 30PF 5% 50V	
C319	1-126-960-11	ELECT	1uF 20% 50V	C878	1-162-915-11	CERAMIC CHIP 10PF 0.5PF 50V	
C323	1-104-665-11	ELECT	100uF 20% 10V				
C326	1-126-964-11	ELECT	10uF 20% 50V	C879	1-104-664-11	ELECT 47uF 20% 10V	
C801	1-162-920-11	CERAMIC CHIP	27PF 5% 50V	C881	1-162-964-11	CERAMIC CHIP 0.001uF 10% 50V	
				C882	1-162-964-11	CERAMIC CHIP 0.001uF 10% 50V	
C803	1-162-921-11	CERAMIC CHIP	33PF 5% 50V	C883	1-285-511-11	ELECT 22uF 20% 25V	
C804	1-162-921-11	CERAMIC CHIP	33PF 5% 50V			< HOLDER >	
C805	1-162-964-11	CERAMIC CHIP	0.001uF 10% 50V	* CH802	1-815-154-11	HOLDER, CABLE 10P	
C806	1-162-964-11	CERAMIC CHIP	0.001uF 10% 50V			< CONNECTOR >	
C807	1-162-919-11	CERAMIC CHIP	22PF 5% 50V				
C808	1-162-915-11	CERAMIC CHIP	10PF 0.5PF 50V	* CN301	1-785-656-21	PIN, CONNECTOR (PC BOARD) 4P	
C810	1-126-937-11	ELECT	4700uF 20% 16V	* CN302	1-785-656-11	PIN, CONNECTOR (PC BOARD) 4P	
C811	1-104-665-11	ELECT	100uF 20% 10V	* CN303	1-785-657-11	PIN, CONNECTOR (PC BOARD) 5P	
C813	1-104-664-11	ELECT	47uF 20% 10V	* CN801	1-564-779-11	PLUG, CONNECTOR (2.5MM) 6P	
C814	1-104-665-11	ELECT	100uF 20% 10V	* CN803	1-695-329-31	PIN, CONNECTOR (PC BOARD) 6P	
C816	1-104-664-11	ELECT	47uF 20% 10V				
C817	1-104-664-11	ELECT	47uF 20% 10V	* CN804	1-568-827-11	PIN, CONNECTOR (PC BOARD) 8P	
C818	1-104-665-11	ELECT	100uF 20% 10V	* CN805	1-785-654-11	PIN, CONNECTOR (PC BOARD) 2P	
C819	1-162-970-11	CERAMIC CHIP	0.01uF 10% 25V	CN807	1-770-650-11	CONNECTOR, FFC/FPC 22P	
C820	1-104-664-11	ELECT	47uF 20% 10V	CN808	1-695-342-31	PIN, CONNECTOR (PC BOARD) 19P	
				CN810	1-569-614-11	PLUG, CONNECTOR 2P	
C821	1-104-664-11	ELECT	47uF 20% 10V			< DIODE >	
C822	1-162-970-11	CERAMIC CHIP	0.01uF 10% 25V	D101	8-719-988-61	DIODE 1SS355TE-17	
C823	1-126-964-11	ELECT	10uF 20% 50V	D201	8-719-988-61	DIODE 1SS355TE-17	
C825	1-104-664-11	ELECT	47uF 20% 10V	D301	8-719-988-61	DIODE 1SS355TE-17	
C827	1-104-664-11	ELECT	47uF 20% 10V	D802	8-719-988-61	DIODE 1SS355TE-17	
				D803	8-719-056-85	DIODE UDZ-TE-17-8.2B	
C828	1-104-664-11	ELECT	47uF 20% 10V				
C829	1-104-664-11	ELECT	47uF 20% 10V	D804	8-719-422-12	DIODE MA8039	
C831	1-162-964-11	CERAMIC CHIP	0.001uF 10% 50V	D805	8-719-056-84	DIODE UDZ-TE-17-7.5B	
C832	1-162-964-11	CERAMIC CHIP	0.001uF 10% 50V	D806	8-719-988-61	DIODE 1SS355TE-17	
C833	1-162-964-11	CERAMIC CHIP	0.001uF 10% 50V	D811	8-719-056-84	DIODE UDZ-TE-17-7.5B	
						< FERRITE BEAD >	
C834	1-162-964-11	CERAMIC CHIP	0.001uF 10% 50V	FB802	1-500-329-21	FERRITE 0uH	
C835	1-162-964-11	CERAMIC CHIP	0.001uF 10% 50V	FB803	1-500-329-21	FERRITE 0uH	
C836	1-162-964-11	CERAMIC CHIP	0.001uF 10% 50V	FB806	1-500-329-21	FERRITE 0uH	
C838	1-162-964-11	CERAMIC CHIP	0.001uF 10% 50V	FB807	1-500-329-21	FERRITE 0uH	
C839	1-162-964-11	CERAMIC CHIP	0.001uF 10% 50V	FB808	1-500-329-21	FERRITE 0uH	
C840	1-162-964-11	CERAMIC CHIP	0.001uF 10% 50V	FB809	1-500-329-21	FERRITE 0uH	
C842	1-162-964-11	CERAMIC CHIP	0.001uF 10% 50V	FB810	1-500-329-21	FERRITE 0uH	
C843	1-162-964-11	CERAMIC CHIP	0.001uF 10% 50V	FB811	1-500-329-21	FERRITE 0uH	
C844	1-162-964-11	CERAMIC CHIP	0.001uF 10% 50V	FB812	1-469-185-11	FERRITE 0uH	
C845	1-162-964-11	CERAMIC CHIP	0.001uF 10% 50V	FB813	1-469-185-11	FERRITE 0uH	
C846	1-162-964-11	CERAMIC CHIP	0.001uF 10% 50V	FB814	1-500-329-21	FERRITE 0uH	
C847	1-162-964-11	CERAMIC CHIP	0.001uF 10% 50V	FB815	1-500-329-21	FERRITE 0uH	
C848	1-162-964-11	CERAMIC CHIP	0.001uF 10% 50V	FB816	1-500-329-21	FERRITE 0uH	
C849	1-162-964-11	CERAMIC CHIP	0.001uF 10% 50V	FB817	1-500-329-21	FERRITE 0uH	
C850	1-162-962-11	CERAMIC CHIP	470PF 10% 50V	FB818	1-500-329-21	FERRITE 0uH	
C853	1-162-964-11	CERAMIC CHIP	0.001uF 10% 50V	FB819	1-500-329-21	FERRITE 0uH	
C854	1-162-964-11	CERAMIC CHIP	0.001uF 10% 50V	FB820	1-500-329-21	FERRITE 0uH	
C855	1-162-964-11	CERAMIC CHIP	0.001uF 10% 50V	FB821	1-500-329-21	FERRITE 0uH	
C856	1-162-964-11	CERAMIC CHIP	0.001uF 10% 50V	FB823	1-216-864-11	SHORT 0	
C857	1-162-964-11	CERAMIC CHIP	0.001uF 10% 50V	FB827	1-469-179-21	FERRITE 0uH	
C859	1-162-964-11	CERAMIC CHIP	0.001uF 10% 50V	FB828	1-469-179-21	FERRITE 0uH	
C861	1-162-964-11	CERAMIC CHIP	0.001uF 10% 50V	FB829	1-469-179-21	FERRITE 0uH	
C862	1-162-964-11	CERAMIC CHIP	0.001uF 10% 50V	FB830	1-469-179-21	FERRITE 0uH	
C863	1-162-964-11	CERAMIC CHIP	0.001uF 10% 50V	* FB831	1-469-532-21	FERRITE 0uH	
C864	1-104-905-11	CAPACITOR	0.22F 5.5V				
C865	1-162-964-11	CERAMIC CHIP	0.001uF 10% 50V				
C869	1-162-964-11	CERAMIC CHIP	0.001uF 10% 50V				
C870	1-126-960-11	ELECT	1uF 20% 50V				

MAIN

Ref. No.	Part No.	Description	Remark			Ref. No.	Part No.	Description	Remark		
FB880	1-500-329-21	FERRITE	OuH			R110	1-216-821-11	METAL CHIP	1K	5%	1/16W
		< IC >				R111	1-216-827-11	METAL CHIP	3.3K	5%	1/16W
IC301	8-759-426-51	IC BA5417				R112	1-216-821-11	METAL CHIP	1K	5%	1/16W
IC302	8-759-669-03	IC LC75342				R113	1-216-841-11	METAL CHIP	47K	5%	1/16W
IC303	8-759-426-51	IC BA5417				R114	1-216-835-11	METAL CHIP	15K	5%	1/16W
IC305	8-759-278-58	IC NJM4558V-TE2				R115	1-216-789-11	METAL CHIP	2.2	5%	1/16W
IC801	8-752-921-18	IC CXP740096-059Q				R116	1-216-809-11	METAL CHIP	100	5%	1/16W
IC802	8-759-646-52	IC KIA7805API				R117	1-216-845-11	METAL CHIP	100K	5%	1/16W
IC803	8-759-486-73	IC XC62FP3302PR				R118	1-216-864-91	SHORT	0		
IC804	8-759-649-23	IC XC61CN2802PR				R119	1-216-789-11	METAL CHIP	2.2	5%	1/16W
		< JUMPER >				R120	1-216-821-11	METAL CHIP	1K	5%	1/16W
JC804	1-216-864-91	SHORT	0			R121	1-216-833-11	METAL CHIP	10K	5%	1/16W
		< JUMPER RESISTOR >				R122	1-216-821-11	METAL CHIP	1K	5%	1/16W
JW876	1-249-401-11	CARBON	47	5%	1/4W	R123	1-216-845-11	METAL CHIP	100K	5%	1/16W
		< TRANSISTOR >				R124	1-216-827-11	METAL CHIP	3.3K	5%	1/16W
Q101	8-729-027-56	TRANSISTOR	DTC143TKA-T146			R125	1-216-843-11	METAL CHIP	68K	5%	1/16W
Q102	8-729-120-28	TRANSISTOR	2SC1623-L5L6			R126	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
Q106	8-729-920-31	TRANSISTOR	DTC343TK			R128	1-216-837-11	METAL CHIP	22K	5%	1/16W
Q111	8-729-027-56	TRANSISTOR	DTC143TKA-T146			R201	1-216-817-11	METAL CHIP	470	5%	1/16W
Q201	8-729-027-56	TRANSISTOR	DTC143TKA-T146			R202	1-216-823-11	METAL CHIP	1.5K	5%	1/16W
Q202	8-729-120-28	TRANSISTOR	2SC1623-L5L6			R203	1-216-821-11	METAL CHIP	1K	5%	1/16W
Q206	8-729-920-31	TRANSISTOR	DTC343TK			R204	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
Q211	8-729-027-56	TRANSISTOR	DTC143TKA-T146			R205	1-216-823-11	METAL CHIP	1.5K	5%	1/16W
Q302	8-729-027-26	TRANSISTOR	DTA114YKA-T146			R206	1-216-851-11	METAL CHIP	330K	5%	1/16W
Q305	8-729-027-46	TRANSISTOR	DTC114YKA-T146			R207	1-216-857-11	METAL CHIP	1M	5%	1/16W
Q310	8-729-027-26	TRANSISTOR	DTA114YKA-T146			R208	1-216-837-11	METAL CHIP	22K	5%	1/16W
Q312	8-729-027-24	TRANSISTOR	DTA114TKA-T146			R210	1-216-821-11	METAL CHIP	1K	5%	1/16W
Q313	8-729-027-26	TRANSISTOR	DTA114YKA-T146			R211	1-216-827-11	METAL CHIP	3.3K	5%	1/16W
Q801	8-729-903-10	TRANSISTOR	FMW1			R212	1-216-821-11	METAL CHIP	1K	5%	1/16W
Q802	8-729-027-46	TRANSISTOR	DTC114YKA-T146			R213	1-216-841-11	METAL CHIP	47K	5%	1/16W
Q804	8-729-052-52	TRANSISTOR	KTC2026Y			R214	1-216-835-11	METAL CHIP	15K	5%	1/16W
Q805	8-729-052-52	TRANSISTOR	KTC2026Y			R215	1-216-789-11	METAL CHIP	2.2	5%	1/16W
Q806	8-729-903-46	TRANSISTOR	2SB1132-P			R216	1-216-809-11	METAL CHIP	100	5%	1/16W
Q807	8-729-027-46	TRANSISTOR	DTC114YKA-T146			R217	1-216-845-11	METAL CHIP	100K	5%	1/16W
Q808	8-729-027-26	TRANSISTOR	DTA114YKA-T146			R218	1-216-864-91	SHORT	0		
Q809	8-729-027-46	TRANSISTOR	DTC114YKA-T146			R219	1-216-789-11	METAL CHIP	2.2	5%	1/16W
Q810	8-729-021-82	TRANSISTOR	2SD2396K			R220	1-216-821-11	METAL CHIP	1K	5%	1/16W
Q811	8-729-027-46	TRANSISTOR	DTC114YKA-T146			R221	1-216-833-11	METAL CHIP	10K	5%	1/16W
Q812	8-729-903-46	TRANSISTOR	2SB1132-P			R222	1-216-821-11	METAL CHIP	1K	5%	1/16W
Q816	8-729-027-46	TRANSISTOR	DTC114YKA-T146			R223	1-216-845-11	METAL CHIP	100K	5%	1/16W
Q817	8-729-027-26	TRANSISTOR	DTA114YKA-T146			R224	1-216-827-11	METAL CHIP	3.3K	5%	1/16W
Q818	8-729-052-52	TRANSISTOR	KTC2026Y			R225	1-216-843-11	METAL CHIP	68K	5%	1/16W
Q819	8-729-027-26	TRANSISTOR	DTA114YKA-T146			R226	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
		< RESISTOR >				R228	1-216-837-11	METAL CHIP	22K	5%	1/16W
R101	1-216-817-11	METAL CHIP	470	5%	1/16W	R302	1-216-833-11	METAL CHIP	10K	5%	1/16W
R102	1-216-823-11	METAL CHIP	1.5K	5%	1/16W	R303	1-216-833-11	METAL CHIP	10K	5%	1/16W
R103	1-216-821-11	METAL CHIP	1K	5%	1/16W	R304	1-216-833-11	METAL CHIP	10K	5%	1/16W
R104	1-216-825-11	METAL CHIP	2.2K	5%	1/16W	R306	1-216-809-11	METAL CHIP	100	5%	1/16W
R105	1-216-823-11	METAL CHIP	1.5K	5%	1/16W	R309	1-216-805-11	METAL CHIP	47	5%	1/16W
R106	1-216-851-11	METAL CHIP	330K	5%	1/16W	R312	1-216-839-11	METAL CHIP	33K	5%	1/16W
R107	1-216-857-11	METAL CHIP	1M	5%	1/16W	R314	1-216-821-11	METAL CHIP	1K	5%	1/16W
R108	1-216-837-11	METAL CHIP	22K	5%	1/16W	R318	1-216-857-11	METAL CHIP	1M	5%	1/16W
						R319	1-216-821-11	METAL CHIP	1K	5%	1/16W
						R320	1-216-821-11	METAL CHIP	1K	5%	1/16W
						R323	1-216-817-11	METAL CHIP	470	5%	1/16W
						R324	1-216-821-11	METAL CHIP	1K	5%	1/16W
						R325	1-216-817-11	METAL CHIP	470	5%	1/16W

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
R326	1-216-837-11	METAL CHIP	22K 5% 1/16W	R855	1-216-817-11	METAL CHIP	470 5% 1/16W
R327	1-216-833-11	METAL CHIP	10K 5% 1/16W	R856	1-216-821-11	METAL CHIP	1K 5% 1/16W
R328	1-216-833-11	METAL CHIP	10K 5% 1/16W	R857	1-216-805-11	METAL CHIP	47 5% 1/16W
R451	1-249-411-11	CARBON	330 5% 1/4W	R858	1-216-821-11	METAL CHIP	1K 5% 1/16W
R452	1-249-413-11	CARBON	470 5% 1/4W	R859	1-216-821-11	METAL CHIP	1K 5% 1/16W
R453	1-216-821-11	METAL CHIP	1K 5% 1/16W	R860	1-216-833-11	METAL CHIP	10K 5% 1/16W
R454	1-216-839-11	METAL CHIP	33K 5% 1/16W	R861	1-216-821-11	METAL CHIP	1K 5% 1/16W
R455	1-216-837-11	METAL CHIP	22K 5% 1/16W	R862	1-216-841-11	METAL CHIP	47K 5% 1/16W
R456	1-216-833-11	METAL CHIP	10K 5% 1/16W	R863	1-216-821-11	METAL CHIP	1K 5% 1/16W
R457	1-216-841-11	METAL CHIP	47K 5% 1/16W	R864	1-216-833-11	METAL CHIP	10K 5% 1/16W
R459	1-216-833-11	METAL CHIP	10K 5% 1/16W	R865	1-216-829-11	METAL CHIP	4.7K 5% 1/16W
R801	1-216-821-11	METAL CHIP	1K 5% 1/16W	R866	1-216-829-11	METAL CHIP	4.7K 5% 1/16W
R802	1-216-821-11	METAL CHIP	1K 5% 1/16W	R867	1-216-829-11	METAL CHIP	4.7K 5% 1/16W
R803	1-216-821-11	METAL CHIP	1K 5% 1/16W	R868	1-216-829-11	METAL CHIP	4.7K 5% 1/16W
R804	1-216-821-11	METAL CHIP	1K 5% 1/16W	R869	1-216-829-11	METAL CHIP	4.7K 5% 1/16W
R805	1-216-821-11	METAL CHIP	1K 5% 1/16W	R870	1-216-829-11	METAL CHIP	4.7K 5% 1/16W
R806	1-216-821-11	METAL CHIP	1K 5% 1/16W	R873	1-216-817-11	METAL CHIP	470 5% 1/16W
R807	1-216-821-11	METAL CHIP	1K 5% 1/16W	R874	1-216-813-11	METAL CHIP	220 5% 1/16W
R808	1-216-821-11	METAL CHIP	1K 5% 1/16W	R875	1-216-841-11	METAL CHIP	47K 5% 1/16W
R809	1-216-821-11	METAL CHIP	1K 5% 1/16W	R878	1-216-833-11	METAL CHIP	10K 5% 1/16W
R811	1-216-821-11	METAL CHIP	1K 5% 1/16W	R881	1-216-821-11	METAL CHIP	1K 5% 1/16W
R812	1-216-821-11	METAL CHIP	1K 5% 1/16W	R882	1-216-809-11	METAL CHIP	100 5% 1/16W
R813	1-216-821-11	METAL CHIP	1K 5% 1/16W	R883	1-216-833-11	METAL CHIP	10K 5% 1/16W
R814	1-216-821-11	METAL CHIP	1K 5% 1/16W	R884	1-216-835-11	METAL CHIP	15K 5% 1/16W
R816	1-216-821-11	METAL CHIP	1K 5% 1/16W	R885	1-216-821-11	METAL CHIP	1K 5% 1/16W
R817	1-216-817-11	METAL CHIP	470 5% 1/16W	R886	1-216-841-11	METAL CHIP	47K 5% 1/16W
R818	1-216-817-11	METAL CHIP	470 5% 1/16W	R887	1-216-821-11	METAL CHIP	1K 5% 1/16W
R819	1-216-821-11	METAL CHIP	1K 5% 1/16W	R890	1-216-817-11	METAL CHIP	470 5% 1/16W
R820	1-216-821-11	METAL CHIP	1K 5% 1/16W	R891	1-216-813-11	METAL CHIP	220 5% 1/16W
R821	1-216-821-11	METAL CHIP	1K 5% 1/16W	R892	1-216-821-11	METAL CHIP	1K 5% 1/16W
R822	1-216-829-11	METAL CHIP	4.7K 5% 1/16W	R893	1-216-821-11	METAL CHIP	1K 5% 1/16W
R823	1-216-817-11	METAL CHIP	470 5% 1/16W	R894	1-216-829-11	METAL CHIP	4.7K 5% 1/16W
R824	1-216-821-11	METAL CHIP	1K 5% 1/16W	R898	1-216-821-11	METAL CHIP	1K 5% 1/16W
R825	1-216-817-11	METAL CHIP	470 5% 1/16W	R899	1-249-413-11	CARBON	470 5% 1/4W
R826	1-216-817-11	METAL CHIP	470 5% 1/16W			< VIBRATOR >	
R827	1-216-827-11	METAL CHIP	3.3K 5% 1/16W	X801	1-767-697-11	VIBRATOR, CRYSTAL (32.768KHz)	
R829	1-216-829-11	METAL CHIP	4.7K 5% 1/16W	X802	1-781-598-21	VIBRATOR, CERAMIC (8MHz)	
R831	1-216-821-11	METAL CHIP	1K 5% 1/16W	*****			
R832	1-216-821-11	METAL CHIP	1K 5% 1/16W	A-3322-905-A	MD BOARD, COMPLETE		
R833	1-216-821-11	METAL CHIP	1K 5% 1/16W	*****			
R834	1-216-821-11	METAL CHIP	1K 5% 1/16W			< CAPACITOR >	
R835	1-216-821-11	METAL CHIP	1K 5% 1/16W	C501	1-126-791-11	ELECT	10uF 20% 16V
R836	1-216-821-11	METAL CHIP	1K 5% 1/16W	C502	1-107-826-11	CERAMIC CHIP	0.1uF 10% 16V
R837	1-216-821-11	METAL CHIP	1K 5% 1/16W	C503	1-126-791-11	ELECT	10uF 20% 16V
R839	1-216-821-11	METAL CHIP	1K 5% 1/16W	C505	1-162-970-11	CERAMIC CHIP	0.01uF 10% 25V
R841	1-216-821-11	METAL CHIP	1K 5% 1/16W	C506	1-164-156-11	CERAMIC CHIP	0.1uF 25V
R842	1-216-821-11	METAL CHIP	1K 5% 1/16W	C508	1-164-156-11	CERAMIC CHIP	0.1uF 25V
R843	1-216-821-11	METAL CHIP	1K 5% 1/16W	C509	1-126-791-11	ELECT	10uF 20% 16V
R844	1-216-817-11	METAL CHIP	470 5% 1/16W	C510	1-126-791-11	ELECT	10uF 20% 16V
R845	1-216-817-11	METAL CHIP	470 5% 1/16W	C511	1-164-156-11	CERAMIC CHIP	0.1uF 25V
R846	1-216-821-11	METAL CHIP	1K 5% 1/16W	C512	1-164-227-11	CERAMIC CHIP	0.022uF 10% 25V
R847	1-216-821-11	METAL CHIP	1K 5% 1/16W	C513	1-164-156-11	CERAMIC CHIP	0.1uF 25V
R848	1-216-821-11	METAL CHIP	1K 5% 1/16W	C514	1-162-970-11	CERAMIC CHIP	0.01uF 10% 25V
R850	1-216-821-11	METAL CHIP	1K 5% 1/16W	C515	1-126-791-11	ELECT	10uF 20% 16V
R851	1-216-821-11	METAL CHIP	1K 5% 1/16W	C516	1-126-791-11	ELECT	10uF 20% 16V
R852	1-216-821-11	METAL CHIP	1K 5% 1/16W				
R853	1-216-809-11	METAL CHIP	100 5% 1/16W				
R854	1-216-805-11	METAL CHIP	47 5% 1/16W				

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
C517	1-165-176-11	CERAMIC CHIP 0.047uF 10%	16V	C616	1-162-964-11	CERAMIC CHIP 0.001uF 10%	50V
C518	1-162-964-11	CERAMIC CHIP 0.001uF 10%	50V	C617	1-162-927-11	CERAMIC CHIP 100PF 5%	50V
C519	1-162-970-11	CERAMIC CHIP 0.01uF 10%	25V	C618	1-162-927-11	CERAMIC CHIP 100PF 5%	50V
C520	1-164-227-11	CERAMIC CHIP 0.022uF 10%	25V	C619	1-162-970-11	CERAMIC CHIP 0.01uF 10%	25V
C521	1-162-968-11	CERAMIC CHIP 0.0047uF 10%	50V	C620	1-109-982-11	CERAMIC CHIP 1uF 10%	10V
C522	1-115-467-11	CERAMIC CHIP 0.22uF 10%	10V	C621	1-162-927-11	CERAMIC CHIP 100PF 5%	50V
C523	1-164-156-11	CERAMIC CHIP 0.1uF	25V	C622	1-162-927-11	CERAMIC CHIP 100PF 5%	50V
C524	1-126-791-11	ELECT 10uF 20%	16V	C623	1-124-779-00	ELECT CHIP 10uF 20%	16V
C525	1-164-156-11	CERAMIC CHIP 0.1uF	25V	C624	1-109-982-11	CERAMIC CHIP 1uF 10%	10V
C526	1-164-227-11	CERAMIC CHIP 0.022uF 10%	25V	C625	1-164-156-11	CERAMIC CHIP 0.1uF	25V
C527	1-162-970-11	CERAMIC CHIP 0.01uF 10%	25V	C626	1-124-589-11	ELECT 47uF 20%	16V
C528	1-162-968-11	CERAMIC CHIP 0.0047uF 10%	50V	C627	1-162-970-11	CERAMIC CHIP 0.01uF 10%	25V
C529	1-162-970-11	CERAMIC CHIP 0.01uF 10%	25V	C629	1-164-156-11	CERAMIC CHIP 0.1uF	25V
C530	1-109-982-11	CERAMIC CHIP 1uF 10%	10V	C630	1-124-589-11	ELECT 47uF 20%	16V
C531	1-164-156-11	CERAMIC CHIP 0.1uF	25V	C631	1-162-970-11	CERAMIC CHIP 0.01uF 10%	25V
C532	1-165-176-11	CERAMIC CHIP 0.047uF 10%	16V	C632	1-469-125-21	FERRITE 0uH	
C533	1-126-382-11	ELECT 100uF 20%	6.3V	< CONNECTOR >			
C534	1-163-021-91	CERAMIC CHIP 0.01uF 10%	50V	CN501	1-766-833-21	CONNECTOR, FFC/FPC (ZIF) 21P	
C536	1-124-779-00	ELECT CHIP 10uF 20%	16V	* CN502	1-794-627-21	CONNECTOR, FFC/FPC 7P	
C537	1-164-156-11	CERAMIC CHIP 0.1uF	25V	CN503	1-770-692-11	CONNECTOR, FFC/FPC 9P	
C538	1-164-156-11	CERAMIC CHIP 0.1uF	25V	* CN601	1-580-055-21	PIN, CONNECTOR (SMD) 2P	
C539	1-126-382-11	ELECT 100uF 20%	6.3V	* CN602	1-580-055-21	PIN, CONNECTOR (SMD) 2P	
C540	1-164-156-11	CERAMIC CHIP 0.1uF	25V	CN603	1-770-705-11	CONNECTOR, FFC/FPC 22P	
C541	1-162-927-11	CERAMIC CHIP 100PF 5%	50V	< DIODE >			
C542	1-162-927-11	CERAMIC CHIP 100PF 5%	50V	D501	8-719-988-61	DIODE 1SS355TE-17	
C544	1-162-927-11	CERAMIC CHIP 100PF 5%	50V	< FERRITE BEAD >			
C545	1-162-970-11	CERAMIC CHIP 0.01uF 10%	25V	FB501	1-469-179-21	FERRITE 0uH	
C546	1-164-227-11	CERAMIC CHIP 0.022uF 10%	25V	FB502	1-469-125-21	FERRITE 0uH	
C547	1-125-891-11	CERAMIC CHIP 0.47uF 10%	10V	FB503	1-412-987-31	INDUCTOR 4.7uH	
C548	1-162-915-11	CERAMIC CHIP 10PF 0.5PF	50V	FB504	1-412-987-31	INDUCTOR 4.7uH	
C549	1-162-915-11	CERAMIC CHIP 10PF 0.5PF	50V	FB505	1-412-987-31	INDUCTOR 4.7uH	
C550	1-162-968-11	CERAMIC CHIP 0.0047uF 10%	50V	FB506	1-412-987-31	INDUCTOR 4.7uH	
C551	1-163-038-11	CERAMIC CHIP 0.1uF	25V	FB507	1-216-864-91	SHORT 0	
C552	1-162-927-11	CERAMIC CHIP 100PF 5%	50V	FB508	1-216-864-91	SHORT 0	
C553	1-125-891-11	CERAMIC CHIP 0.47uF 10%	10V	FB601	1-216-864-91	SHORT 0	
C554	1-162-970-11	CERAMIC CHIP 0.01uF 10%	25V	FB602	1-216-864-91	SHORT 0	
C555	1-164-156-11	CERAMIC CHIP 0.1uF	25V	FB603	1-216-864-91	SHORT 0	
C556	1-126-791-11	ELECT 10uF 20%	16V	FB604	1-469-125-21	FERRITE 0uH	
C557	1-164-156-11	CERAMIC CHIP 0.1uF	25V	FB605	1-469-125-21	FERRITE 0uH	
C558	1-164-156-11	CERAMIC CHIP 0.1uF	25V	FB606	1-469-125-21	FERRITE 0uH	
C559	1-126-382-11	ELECT 100uF 20%	6.3V	FB607	1-469-125-21	FERRITE 0uH	
C560	1-126-791-11	ELECT 10uF 20%	16V	FB609	1-469-125-21	FERRITE 0uH	
C601	1-162-927-11	CERAMIC CHIP 100PF 5%	50V	FB610	1-469-125-21	FERRITE 0uH	
C602	1-162-927-11	CERAMIC CHIP 100PF 5%	50V	FB611	1-469-125-21	FERRITE 0uH	
C603	1-164-156-11	CERAMIC CHIP 0.1uF	25V	FB612	1-469-125-21	FERRITE 0uH	
C604	1-164-156-11	CERAMIC CHIP 0.1uF	25V	FB613	1-469-125-21	FERRITE 0uH	
C605	1-162-927-11	CERAMIC CHIP 100PF 5%	50V	* FB614	1-469-532-21	FERRITE 0uH	
C606	1-164-156-11	CERAMIC CHIP 0.1uF	25V	FB615	1-469-125-21	FERRITE 0uH	
C607	1-162-927-11	CERAMIC CHIP 100PF 5%	50V	FB616	1-469-125-21	FERRITE 0uH	
C608	1-164-156-11	CERAMIC CHIP 0.1uF	25V	FB617	1-469-125-21	FERRITE 0uH	
C609	1-164-156-11	CERAMIC CHIP 0.1uF	25V	FB618	1-469-125-21	FERRITE 0uH	
C610	1-126-205-11	ELECT CHIP 47uF 20%	6.3V	FB619	1-469-125-21	FERRITE 0uH	
C611	1-164-156-11	CERAMIC CHIP 0.1uF	25V	FB620	1-469-125-21	FERRITE 0uH	
C612	1-162-964-11	CERAMIC CHIP 0.001uF 10%	50V	FB621	1-500-329-21	FERRITE 0uH	
C613	1-126-246-11	ELECT CHIP 220uF 20%	4V				
C614	1-107-826-11	CERAMIC CHIP 0.1uF 10%	16V				
C615	1-162-964-11	CERAMIC CHIP 0.001uF 10%	50V				

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
FB622	1-469-125-21	FERRITE	OuH			< COIL >	
FB623	1-469-125-21	FERRITE	OuH				
FB624	1-469-125-21	FERRITE	OuH	* L501	1-469-532-21	FERRITE	OuH
FB625	1-469-125-21	FERRITE	OuH	L502	1-469-967-21	INDUCTOR	10uH
FB626	1-469-125-21	FERRITE	OuH	L503	1-414-771-91	INDUCTOR	10uH
FB627	1-469-125-21	FERRITE	OuH	L504	1-414-398-11	INDUCTOR	10uH
FB628	1-469-125-21	FERRITE	OuH	L505	1-414-398-11	INDUCTOR	10uH
FB629	1-469-125-21	FERRITE	OuH	L506	1-469-967-21	INDUCTOR	10uH
		< FILTER >		L507	1-414-404-11	INDUCTOR	100uH
FL501	1-234-117-21	FILTER, CHIP EMI		L508	1-414-404-11	INDUCTOR	100uH
FL502	1-234-117-21	FILTER, CHIP EMI		L509	1-414-771-91	INDUCTOR	10uH
FL503	1-234-117-21	FILTER, CHIP EMI		L510	1-414-398-11	INDUCTOR	10uH
FL601	1-239-899-21	FILTER, CHIP EMI		L511	1-216-295-11	SHORT	0
FL602	1-239-899-21	FILTER, CHIP EMI		L512	1-469-967-21	INDUCTOR	10uH
FL603	1-234-121-21	FILTER, CHIP EMI		L601	1-469-967-21	INDUCTOR	10uH
FL604	1-234-121-21	FILTER, CHIP EMI		L602	1-469-967-21	INDUCTOR	10uH
FL605	1-234-177-21	FILTER, CHIP EMI		L603	1-414-398-11	INDUCTOR	10uH
FL606	1-234-177-21	FILTER, CHIP EMI		L604	1-414-398-11	INDUCTOR	10uH
FL607	1-234-177-21	FILTER, CHIP EMI		L605	1-414-771-91	INDUCTOR	10uH
FL608	1-234-121-21	FILTER, CHIP EMI		L606	1-469-967-21	INDUCTOR	10uH
FL609	1-234-177-21	FILTER, CHIP EMI		L607	1-216-295-11	SHORT	0
FL610	1-234-121-21	FILTER, CHIP EMI		L608	1-414-398-11	INDUCTOR	10uH
FL611	1-234-126-21	FILTER, CHIP EMI		L610	1-216-295-11	SHORT	0
FL612	1-234-126-21	FILTER, CHIP EMI		L611	1-416-107-21	INDUCTOR	0uH
		< IC >		L612	1-414-398-11	INDUCTOR	10uH
IC501	8-759-430-25	IC BH6511FS-E2		L613	1-414-398-11	INDUCTOR	10uH
IC502	8-752-080-95	IC CXA2523AR				< TRANSISTOR >	
IC503	8-759-523-37	IC TC74ACT08FT (EL)		Q501	8-729-402-93	TRANSISTOR	UN5214
IC504	8-752-389-44	IC CXD2654R		Q502	8-729-903-10	TRANSISTOR	FMW1
IC505	8-759-653-36	IC GLT441M04-70TC		Q503	8-729-403-35	TRANSISTOR	UN5113
IC506	8-759-460-72	IC BA033FP-E2		Q504	8-729-402-93	TRANSISTOR	UN5214
IC601	8-759-697-89	IC M30620MCA-A73FP		Q505	8-729-026-53	TRANSISTOR	2SA1576A-T106-QR
IC602	8-759-040-83	IC BA6287F-T1		Q506	8-729-903-46	TRANSISTOR	2SB1132-P
IC603	8-759-640-39	IC BR24C02F-WE2		Q507	8-729-403-35	TRANSISTOR	UN5113
IC604	8-759-561-36	IC PCM3003E/T2		Q508	8-729-031-43	TRANSISTOR	IMD9A-T108
		< JUMPER >		Q601	8-729-031-43	TRANSISTOR	IMD9A-T108
JC501	1-216-295-11	SHORT	0	Q602	8-729-028-99	TRANSISTOR	DTC114YUA-T106
JC502	1-216-295-11	SHORT	0	Q603	8-729-101-07	TRANSISTOR	2SB798-DL
JC503	1-216-295-11	SHORT	0	Q604	8-729-907-03	TRANSISTOR	FMG5
JC504	1-216-295-11	SHORT	0	Q605	8-729-027-46	TRANSISTOR	DTC114YKA-T146
JC505	1-216-295-11	SHORT	0	Q606	8-729-904-87	TRANSISTOR	2SB1197K-R
JC506	1-216-295-11	SHORT	0	Q607	8-729-031-43	TRANSISTOR	IMD9A-T108
JC507	1-216-295-11	SHORT	0			< RESISTOR >	
JC508	1-216-295-11	SHORT	0	R501	1-216-829-11	METAL CHIP	4.7K 5% 1/16W
JC510	1-216-295-11	SHORT	0	R502	1-216-821-11	METAL CHIP	1K 5% 1/16W
JC511	1-216-295-11	SHORT	0	R503	1-216-853-11	METAL CHIP	470K 5% 1/16W
JC512	1-216-295-11	SHORT	0	R504	1-216-863-11	RES-CHIP	3.3M 5% 1/16W
JC514	1-216-295-11	SHORT	0	R505	1-216-821-11	METAL CHIP	1K 5% 1/16W
JC516	1-216-295-11	SHORT	0	R506	1-249-387-11	CARBON	3.3 5% 1/4W
JC601	1-216-295-11	SHORT	0	R508	1-216-821-11	METAL CHIP	1K 5% 1/16W
JC602	1-216-295-11	SHORT	0	R509	1-216-841-11	METAL CHIP	47K 5% 1/16W
JC603	1-216-864-91	SHORT	0	R510	1-216-833-11	METAL CHIP	10K 5% 1/16W
JC604	1-216-864-91	SHORT	0	R511	1-216-845-11	METAL CHIP	100K 5% 1/16W
JC605	1-216-295-11	SHORT	0	R512	1-216-825-11	METAL CHIP	2.2K 5% 1/16W
				R513	1-216-853-11	METAL CHIP	470K 5% 1/16W
				R514	1-216-829-11	METAL CHIP	4.7K 5% 1/16W
				R515	1-216-833-11	METAL CHIP	10K 5% 1/16W

ZS-M30

MD

Ref. No.	Part No.	Description	Quantity	Unit	Remark
R516	1-216-819-11	METAL CHIP	680	5%	1/16W
R517	1-216-833-11	METAL CHIP	10K	5%	1/16W
R518	1-216-833-11	METAL CHIP	10K	5%	1/16W
R519	1-216-845-11	METAL CHIP	100K	5%	1/16W
R520	1-216-833-11	METAL CHIP	10K	5%	1/16W
R521	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R522	1-216-833-11	METAL CHIP	10K	5%	1/16W
R523	1-216-827-11	METAL CHIP	3.3K	5%	1/16W
R524	1-216-845-11	METAL CHIP	100K	5%	1/16W
R525	1-216-833-11	METAL CHIP	10K	5%	1/16W
R526	1-216-864-91	SHORT	0		
R527	1-216-837-11	METAL CHIP	22K	5%	1/16W
R528	1-216-839-11	METAL CHIP	33K	5%	1/16W
R529	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R530	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R531	1-216-864-91	SHORT	0		
R532	1-216-815-11	METAL CHIP	330	5%	1/16W
R533	1-216-819-11	METAL CHIP	680	5%	1/16W
R534	1-216-841-11	METAL CHIP	47K	5%	1/16W
R535	1-216-809-11	METAL CHIP	100	5%	1/16W
R536	1-216-833-11	METAL CHIP	10K	5%	1/16W
R537	1-216-833-11	METAL CHIP	10K	5%	1/16W
R538	1-216-864-91	SHORT	0		
R539	1-216-845-11	METAL CHIP	100K	5%	1/16W
R540	1-216-811-11	METAL CHIP	150	5%	1/16W
R541	1-216-821-11	METAL CHIP	1K	5%	1/16W
R542	1-216-827-11	METAL CHIP	3.3K	5%	1/16W
R543	1-216-821-11	METAL CHIP	1K	5%	1/16W
R544	1-216-809-11	METAL CHIP	100	5%	1/16W
R545	1-216-864-91	SHORT	0		
R547	1-216-833-11	METAL CHIP	10K	5%	1/16W
R548	1-216-813-11	METAL CHIP	220	5%	1/16W
R549	1-216-855-11	METAL CHIP	680K	5%	1/16W
R550	1-216-833-11	METAL CHIP	10K	5%	1/16W
R551	1-216-845-11	METAL CHIP	100K	5%	1/16W
R552	1-216-833-11	METAL CHIP	10K	5%	1/16W
R553	1-216-833-11	METAL CHIP	10K	5%	1/16W
R554	1-216-833-11	METAL CHIP	10K	5%	1/16W
R555	1-216-809-11	METAL CHIP	100	5%	1/16W
R556	1-216-817-11	METAL CHIP	470	5%	1/16W
R557	1-216-817-11	METAL CHIP	470	5%	1/16W
R558	1-216-817-11	METAL CHIP	470	5%	1/16W
R559	1-216-813-11	METAL CHIP	220	5%	1/16W
R562	1-216-864-91	SHORT	0		
R601	1-216-833-11	METAL CHIP	10K	5%	1/16W
R602	1-216-821-11	METAL CHIP	1K	5%	1/16W
R603	1-216-833-11	METAL CHIP	10K	5%	1/16W
R604	1-216-049-11	RES-CHIP	1K	5%	1/10W
R605	1-216-833-11	METAL CHIP	10K	5%	1/16W
R606	1-216-049-11	RES-CHIP	1K	5%	1/10W
R607	1-216-833-11	METAL CHIP	10K	5%	1/16W
R608	1-216-049-11	RES-CHIP	1K	5%	1/10W
R609	1-216-853-11	METAL CHIP	470K	5%	1/16W
R610	1-216-853-11	METAL CHIP	470K	5%	1/16W
R611	1-216-853-11	METAL CHIP	470K	5%	1/16W
R612	1-216-853-11	METAL CHIP	470K	5%	1/16W

Ref. No.	Part No.	Description	Quantity	Unit	Remark
R613	1-216-853-11	METAL CHIP	470K	5%	1/16W
R614	1-216-853-11	METAL CHIP	470K	5%	1/16W
R616	1-216-833-11	METAL CHIP	10K	5%	1/16W
R617	1-216-049-11	RES-CHIP	1K	5%	1/10W
R618	1-216-049-11	RES-CHIP	1K	5%	1/10W
R619	1-216-845-11	METAL CHIP	100K	5%	1/16W
R620	1-216-845-11	METAL CHIP	100K	5%	1/16W
R621	1-216-857-11	METAL CHIP	1M	5%	1/16W
R622	1-216-833-11	METAL CHIP	10K	5%	1/16W
R623	1-216-841-11	METAL CHIP	47K	5%	1/16W
R624	1-216-841-11	METAL CHIP	47K	5%	1/16W
R625	1-216-833-11	METAL CHIP	10K	5%	1/16W
R626	1-216-025-11	RES-CHIP	100	5%	1/10W
R627	1-216-845-11	METAL CHIP	100K	5%	1/16W
R628	1-216-864-91	SHORT	0		
R629	1-216-845-11	METAL CHIP	100K	5%	1/16W
R630	1-216-833-11	METAL CHIP	10K	5%	1/16W
R631	1-216-845-11	METAL CHIP	100K	5%	1/16W
R632	1-216-833-11	METAL CHIP	10K	5%	1/16W
R633	1-216-833-11	METAL CHIP	10K	5%	1/16W
R635	1-216-845-11	METAL CHIP	100K	5%	1/16W
R637	1-216-845-11	METAL CHIP	100K	5%	1/16W
R638	1-216-809-11	METAL CHIP	100	5%	1/16W
R639	1-216-809-11	METAL CHIP	100	5%	1/16W
R640	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R641	1-216-817-11	METAL CHIP	470	5%	1/16W
R642	1-216-841-11	METAL CHIP	47K	5%	1/16W
R643	1-216-833-11	METAL CHIP	10K	5%	1/16W
R644	1-216-833-11	METAL CHIP	10K	5%	1/16W
R645	1-216-821-11	METAL CHIP	1K	5%	1/16W
R646	1-216-821-11	METAL CHIP	1K	5%	1/16W
R647	1-216-821-11	METAL CHIP	1K	5%	1/16W
R648	1-216-821-11	METAL CHIP	1K	5%	1/16W
R649	1-216-833-11	METAL CHIP	10K	5%	1/16W
R650	1-216-833-11	METAL CHIP	10K	5%	1/16W
R651	1-216-821-11	METAL CHIP	1K	5%	1/16W
R652	1-216-821-11	METAL CHIP	1K	5%	1/16W
R653	1-500-329-21	FERRITE	0uH		
R654	1-216-817-11	METAL CHIP	470	5%	1/16W
R655	1-216-073-00	METAL CHIP	10K	5%	1/10W
R656	1-216-841-11	METAL CHIP	47K	5%	1/16W
R658	1-216-864-91	SHORT	0		
R659	1-216-821-11	METAL CHIP	1K	5%	1/16W
R660	1-216-821-11	METAL CHIP	1K	5%	1/16W
R661	1-216-845-11	METAL CHIP	100K	5%	1/16W
< SWITCH >					
S501	1-762-596-21	SWITCH, PUSH (1 KEY) (LIMIT)			
< VIBRATOR >					
X501	1-760-173-11	VIBRATOR, CRYSTAL (45.1584MHZ)			
X601	1-781-155-21	VIBRATOR, CERAMIC (12MHZ)			

POWER

REC

SW(L)

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
	1-679-406-21	POWER BOARD *****		C564	1-125-817-11	CERAMIC CHIP 10uF 10%	6.3V
		< CAPACITOR >		C565	1-107-826-11	CERAMIC CHIP 0.1uF 10%	16V
C901	1-162-995-11	CERAMIC CHIP 0.022uF	50V			< CONNECTOR >	
C902	1-162-995-11	CERAMIC CHIP 0.022uF	50V	* CN504	1-778-774-11	HOUSING, CONNECTOR (FPC) 4P	
C903	1-162-995-11	CERAMIC CHIP 0.022uF	50V	CN505	1-784-683-11	CONNECTOR, FFC/FPC 9P	
C904	1-162-995-11	CERAMIC CHIP 0.022uF	50V			< DIODE >	
C905	1-162-995-11	CERAMIC CHIP 0.022uF	50V	D502	8-719-046-86	DIODE F1J6TP	
C906	1-162-995-11	CERAMIC CHIP 0.022uF	50V	D503	8-719-046-86	DIODE F1J6TP	
		< CONNECTOR >				< JUMPER >	
* CN902	1-785-654-11	PIN, CONNECTOR (PC BOARD) 2P		JC509	1-216-864-91	SHORT 0	
		< DIODE >				< COIL >	
D901	8-719-046-07	DIODE 2A02M		L513	1-414-398-11	INDUCTOR 10uH	
D902	8-719-046-07	DIODE 2A02M				< TRANSISTOR >	
D903	8-719-046-07	DIODE 2A02M		Q509	8-729-017-65	TRANSISTOR 2SK1764KYTR	
D904	8-719-046-07	DIODE 2A02M		Q510	8-729-018-75	TRANSISTOR 2SJ278MYTR	
D905	8-719-046-07	DIODE 2A02M				< RESISTOR >	
D906	8-719-046-07	DIODE 2A02M		R560	1-216-841-11	METAL CHIP 47K 5%	1/16W
D907	8-719-046-07	DIODE 2A02M		R561	1-216-841-11	METAL CHIP 47K 5%	1/16W
D908	8-719-046-07	DIODE 2A02M				< SWITCH >	
D910	8-719-988-61	DIODE 1SS355TE-17		S502	1-771-783-21	SWITCH, PUSH LEVER (REC POSOTION)	
D911	8-719-988-61	DIODE 1SS355TE-17		S504	1-771-783-21	SWITCH, PUSH LEVER (PLAY POSOTION)	
		< FUSE >		*****			
△ F901	1-532-465-51	FUSE, TIME LAG 3.15A/250V			1-679-403-21	SW (L) BOARD *****	
△ F902	1-532-503-51	FUSE, TIME LAG 1.6A/250V			3-831-441-11	CUSHION (B)	
		< FUSE HOLDER >				< HOLDER >	
FH901	1-533-233-31	HOLDER, FUSE		* CH402	1-815-155-11	HOLDER, CABLE 4P	
FH902	1-533-233-31	HOLDER, FUSE				< RESISTOR >	
FH903	1-533-233-31	HOLDER, FUSE		R413	1-216-823-11	METAL CHIP 1.5K 5%	1/16W
FH904	1-533-233-31	HOLDER, FUSE		R414	1-216-823-11	METAL CHIP 1.5K 5%	1/16W
		< JACK >		R415	1-216-829-11	METAL CHIP 4.7K 5%	1/16W
△ J901	1-526-838-11	INLET, AC 2P (~ AC IN)		R416	1-216-823-11	METAL CHIP 1.5K 5%	1/16W
		< LINE FILTER >				< SWITCH >	
△ LF901	1-402-663-11	TRANSFORMER, LINE FILTER (LFT)		S411	1-786-050-21	SWITCH, KEY BOARD (MD▶▶II)	
		< RESISTOR >		S412	1-786-050-21	SWITCH, KEY BOARD (MD■)	
R901	1-216-833-11	METAL CHIP 10K 5%	1/16W	S413	1-786-050-21	SWITCH, KEY BOARD (CD▶▶II)	
R902	1-216-841-11	METAL CHIP 47K 5%	1/16W	S414	1-786-050-21	SWITCH, KEY BOARD (CD■)	
		< TRANSFORMER >		S415	1-786-050-21	SWITCH, KEY BOARD (RADIO BAND,AUTO PRESET)	
△ T901	1-435-872-11	TRANSFORMER, POWER		S416	1-786-050-21	SWITCH, KEY BOARD (GAME(LINE),LINE LEVEL)	
		*****		*****			
A-3322-907-A	REC BOARD, COMPLETE *****					< CAPACITOR >	
C561	1-127-677-21	CERAMIC CHIP 0.001uF 10%	250V				
C562	1-119-667-11	CERAMIC CHIP 22uF	10V				
C563	1-107-826-11	CERAMIC CHIP 0.1uF 10%	16V				

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

ZS-M30

SW(R) TOP TUNER

Ref. No.	Part No.	Description	Remark
	1-679-402-21	SW (R) BOARD *****	
		< CAPACITOR >	
C401	1-124-259-11	ELECT 4.7uF 20% 16V	
C402	1-162-968-11	CERAMIC CHIP 0.0047uF 10% 50V	
C403	1-162-968-11	CERAMIC CHIP 0.0047uF 10% 50V	
		< HOLDER >	
* CH401	1-565-385-11	HOLDER, CABLE 4P	
		< TRANSISTOR >	
Q401	8-729-027-43	TRANSISTOR DTC144EKA-T146	
		< CONNECTOR >	
CN402	1-770-516-31	PIN, CONNECTOR (PC BOARD) 8P	
		< IC >	
IC401	8-749-016-97	IC NJL62H400A	
		< RESISTOR >	
R412	1-216-839-11	METAL CHIP 33K 5% 1/16W	
R417	1-216-823-11	METAL CHIP 1.5K 5% 1/16W	
R418	1-216-829-11	METAL CHIP 4.7K 5% 1/16W	
R419	1-216-833-11	METAL CHIP 10K 5% 1/16W	
R420	1-216-823-11	METAL CHIP 1.5K 5% 1/16W	
R421	1-216-823-11	METAL CHIP 1.5K 5% 1/16W	
R422	1-216-829-11	METAL CHIP 4.7K 5% 1/16W	
R423	1-216-833-11	METAL CHIP 10K 5% 1/16W	
R431	1-216-833-11	METAL CHIP 10K 5% 1/16W	
		< SWITCH >	
S417	1-786-050-21	SWITCH, KEY BOARD (DISPLAY)	
S418	1-786-050-21	SWITCH, KEY BOARD (TUNE+, ►► ⇐)	
S419	1-786-050-21	SWITCH, KEY BOARD (TUNE-, ◀◀ ⇐)	
S420	1-786-050-21	SWITCH, KEY BOARD (EDIT)	
S421	1-786-050-21	SWITCH, KEY BOARD (DEL,CLOCK/SLEEP/ TIMER)	
S422	1-786-050-21	SWITCH, KEY BOARD (YES,ENTER)	
S423	1-786-050-21	SWITCH, KEY BOARD (NO,CANCEL)	
S424	1-786-050-21	SWITCH, KEY BOARD ((MD)▲)	
S425	1-771-915-11	SWITCH, ROTARY (JOG)	

	1-679-401-21	TOP BOARD *****	
		< CONNECTOR >	
CN401	1-770-540-31	PIN, CONNECTOR (PC BOARD) 6P	
		< DIODE >	
D402	8-719-941-07	LED SLC-22VR3 (HIGH SPEED)	
D403	8-719-077-29	LED SLC-22MG3F (PANORAMA SOUND)	
		< RESISTOR >	
R404	1-216-823-11	METAL CHIP 1.5K 5% 1/16W	
R405	1-216-823-11	METAL CHIP 1.5K 5% 1/16W	

Ref. No.	Part No.	Description	Remark
R406	1-216-829-11	METAL CHIP 4.7K 5% 1/16W	
R407	1-216-833-11	METAL CHIP 10K 5% 1/16W	
R408	1-216-833-11	METAL CHIP 10K 5% 1/16W	
R409	1-216-829-11	METAL CHIP 4.7K 5% 1/16W	
R410	1-216-823-11	METAL CHIP 1.5K 5% 1/16W	
R411	1-216-823-11	METAL CHIP 1.5K 5% 1/16W	
		< SWITCH >	
S401	1-786-050-21	SWITCH, KEY BOARD (OPERATE)	
S402	1-786-050-21	SWITCH, KEY BOARD (HIGH SPEED)	
S403	1-786-050-21	SWITCH, KEY BOARD (SYNCHRO REC,CD▶MD)	
S404	1-786-050-21	SWITCH, KEY BOARD (REC,REC MODE)	
S405	1-786-050-21	SWITCH, KEY BOARD (STANDBY)	
S406	1-786-050-21	SWITCH, KEY BOARD (VOLUME+)	
S407	1-786-050-21	SWITCH, KEY BOARD (VOLUME-)	
S408	1-786-050-21	SWITCH, KEY BOARD (MODE)	
S409	1-786-050-21	SWITCH, KEY BOARD (PANORAMA SOUND)	
S410	1-786-050-21	SWITCH, KEY BOARD (SOUND MEGA BASS)	

	A-3347-168-A	TUNER BOARD, COMPLETE *****	
		< CAPACITOR >	
C1	1-162-964-11	CERAMIC CHIP 0.001uF 10% 50V	
C2	1-162-923-11	CERAMIC CHIP 47PF 5% 50V	
C3	1-162-970-11	CERAMIC CHIP 0.01uF 10% 25V	
C4	1-162-970-11	CERAMIC CHIP 0.01uF 10% 25V	
C5	1-162-970-11	CERAMIC CHIP 0.01uF 10% 25V	
C6	1-162-915-11	CERAMIC CHIP 10PF 0.5PF 50V	
C7	1-165-176-11	CERAMIC CHIP 0.047uF 10% 16V	
C8	1-164-230-11	CERAMIC CHIP 220PF 5% 50V	
C9	1-162-927-11	CERAMIC CHIP 100PF 5% 50V	
C10	1-162-923-11	CERAMIC CHIP 47PF 5% 50V	
C11	1-162-918-11	CERAMIC CHIP 18PF 5% 50V	
C12	1-164-227-11	CERAMIC CHIP 0.022uF 10% 25V	
C13	1-164-227-11	CERAMIC CHIP 0.022uF 10% 25V	
C14	1-104-664-11	ELECT 47uF 20% 10V	
C15	1-126-935-11	ELECT 470uF 20% 10V	
C16	1-164-227-11	CERAMIC CHIP 0.022uF 10% 25V	
C17	1-164-227-11	CERAMIC CHIP 0.022uF 10% 25V	
C18	1-115-156-11	CERAMIC CHIP 1uF 10V	
C19	1-125-891-11	CERAMIC CHIP 0.47uF 10% 10V	
C20	1-115-156-11	CERAMIC CHIP 1uF 10V	
C21	1-162-917-11	CERAMIC CHIP 15PF 5% 50V	
C22	1-162-970-11	CERAMIC CHIP 0.01uF 10% 25V	
C23	1-162-968-11	CERAMIC CHIP 0.0047uF 10% 50V	
C24	1-162-970-11	CERAMIC CHIP 0.01uF 10% 25V	
C25	1-162-968-11	CERAMIC CHIP 0.0047uF 10% 50V	
C26	1-125-891-11	CERAMIC CHIP 0.47uF 10% 10V	
C27	1-162-970-11	CERAMIC CHIP 0.01uF 10% 25V	
C28	1-128-551-11	ELECT 22uF 20% 25V	
C29	1-164-227-11	CERAMIC CHIP 0.022uF 10% 25V	
C30	1-126-963-11	ELECT 4.7uF 20% 50V	
C32	1-126-934-11	ELECT 220uF 20% 10V	
C33	1-162-970-11	CERAMIC CHIP 0.01uF 10% 25V	
C34	1-162-915-11	CERAMIC CHIP 10PF 0.5PF 50V	
C35	1-162-915-11	CERAMIC CHIP 10PF 0.5PF 50V	

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
C36	1-162-968-11	CERAMIC CHIP	0.0047uF 10% 50V			< COIL >	
C37	1-162-962-11	CERAMIC CHIP	470PF 10% 50V	L1	1-424-716-11	COIL, AIR-CORE (FM TRACKING)	
C38	1-162-962-11	CERAMIC CHIP	470PF 10% 50V	L2	1-424-717-11	COIL, AIR-CORE	
C39	1-162-927-11	CERAMIC CHIP	100PF 5% 50V	L3	1-416-991-11	COIL, AM ANT (MW TRACKING)	
C40	1-126-964-11	ELECT	10uF 20% 50V	L4	1-416-129-11	COIL, LW ANT (LW TRACKING)	
C41	1-164-227-11	CERAMIC CHIP	0.022uF 10% 25V	L5	1-411-959-11	COIL, AM OSC (MW FREQUENCY COVERAGE)	
C43	1-162-925-11	CERAMIC CHIP	68PF 5% 50V	L6	1-419-465-11	COIL (FM DET) (FM IF)	
C44	1-165-176-11	CERAMIC CHIP	0.047uF 10% 16V	L7	1-412-979-21	INDUCTOR 1uH	
C45	1-165-176-11	CERAMIC CHIP	0.047uF 10% 16V	L8	1-410-071-11	INDUCTOR 10MH	
C46	1-162-925-11	CERAMIC CHIP	68PF 5% 50V			< TRANSISTOR >	
C47	1-164-230-11	CERAMIC CHIP	220PF 5% 50V				
C49	1-165-176-11	CERAMIC CHIP	0.047uF 10% 16V	Q1	8-729-119-32	TRANSISTOR 2SK193-E	
C50	1-162-927-11	CERAMIC CHIP	100PF 5% 50V	Q2	8-729-920-31	TRANSISTOR DTC343TK	
C51	1-165-176-11	CERAMIC CHIP	0.047uF 10% 16V	Q3	8-729-920-38	TRANSISTOR 2SC2059K-N	
C52	1-162-970-11	CERAMIC CHIP	0.01uF 10% 25V	Q4	8-729-931-02	TRANSISTOR 2SC2413KQ	
C53	1-162-970-11	CERAMIC CHIP	0.01uF 10% 25V	Q5	8-729-027-26	TRANSISTOR DTA114YKA-T146	
C60	1-164-230-11	CERAMIC CHIP	220PF 5% 50V	Q6	8-729-027-26	TRANSISTOR DTA114YKA-T146	
		< FILTER >				< RESISTOR >	
CF1	1-781-407-11	FILTER, CERAMIC		R1	1-216-845-11	METAL CHIP 100K 5% 1/16W	
CF2	1-781-407-11	FILTER, CERAMIC		R2	1-216-797-11	METAL CHIP 10 5% 1/16W	
CF3	1-781-344-12	FILTER, AM CERAMIC		R3	1-216-827-11	METAL CHIP 3.3K 5% 1/16W	
		< CONNECTOR >		R4	1-216-835-11	METAL CHIP 15K 5% 1/16W	
* CN1	1-785-662-11	PIN, CONNECTOR (PC BOARD) 10P		R5	1-216-833-11	METAL CHIP 10K 5% 1/16W	
		< TRIMMER >		R6	1-216-845-11	METAL CHIP 100K 5% 1/16W	
CT1	1-141-601-21	CAP, ADJ 10PF (FM TRACKING)		R7	1-216-839-11	METAL CHIP 33K 5% 1/16W	
CT2	1-141-601-21	CAP, ADJ 10PF (MW TRACKING)		R8	1-216-805-11	METAL CHIP 47 5% 1/16W	
CT3	1-141-459-11	CAP, TRIMMER (SEAL TYPE) 45PF (LW TRACKING)		R9	1-216-817-11	METAL CHIP 470 5% 1/16W	
CT4	1-141-459-11	CAP, TRIMMER (SEAL TYPE) 45PF (LW FREQUENCY COVERAGE)		R10	1-216-801-11	METAL CHIP 22 5% 1/16W	
		< DIODE >		R11	1-216-827-11	METAL CHIP 3.3K 5% 1/16W	
D1	8-719-076-71	DIODE KV1471ETR		R12	1-216-825-11	METAL CHIP 2.2K 5% 1/16W	
D2	8-719-076-71	DIODE KV1471ETR		R13	1-216-831-11	METAL CHIP 6.8K 5% 1/16W	
D3	8-719-050-69	DIODE KV1520N		R14	1-216-821-11	METAL CHIP 1K 5% 1/16W	
D4	8-719-988-61	DIODE 1SS355TE-17		R15	1-216-833-11	METAL CHIP 10K 5% 1/16W	
D5	8-719-988-61	DIODE 1SS355TE-17		R16	1-216-809-11	METAL CHIP 100 5% 1/16W	
D6	8-719-988-61	DIODE 1SS355TE-17		R17	1-216-809-11	METAL CHIP 100 5% 1/16W	
D7	8-719-988-61	DIODE 1SS355TE-17		R18	1-216-809-11	METAL CHIP 100 5% 1/16W	
D8	8-719-988-61	DIODE 1SS355TE-17		R19	1-216-809-11	METAL CHIP 100 5% 1/16W	
D9	8-719-988-61	DIODE 1SS355TE-17		R20	1-216-833-11	METAL CHIP 10K 5% 1/16W	
D10	8-719-978-04	DIODE DTZ-TT11-3.3B		R21	1-216-821-11	METAL CHIP 1K 5% 1/16W	
		< FILTER >		R22	1-216-821-11	METAL CHIP 1K 5% 1/16W	
FL1	1-236-711-21	FILTER, BAND PASS		R23	1-216-809-11	METAL CHIP 100 5% 1/16W	
		< IC >		R24	1-216-829-11	METAL CHIP 4.7K 5% 1/16W	
IC1	8-759-689-35	IC LV23000M-TLM		R25	1-216-829-11	METAL CHIP 4.7K 5% 1/16W	
		< JUMPER >		R26	1-216-819-11	METAL CHIP 680 5% 1/16W	
JC2	1-216-864-91	SHORT 0		R27	1-216-837-11	METAL CHIP 22K 5% 1/16W	
JC3	1-216-864-91	SHORT 0		R28	1-216-819-11	METAL CHIP 680 5% 1/16W	
				R29	1-216-813-11	METAL CHIP 220 5% 1/16W	
				R30	1-216-829-11	METAL CHIP 4.7K 5% 1/16W	
				R31	1-216-833-11	METAL CHIP 10K 5% 1/16W	
				R32	1-216-833-11	METAL CHIP 10K 5% 1/16W	
				R33	1-216-829-11	METAL CHIP 4.7K 5% 1/16W	
				R34	1-216-829-11	METAL CHIP 4.7K 5% 1/16W	
				R35	1-216-837-11	METAL CHIP 22K 5% 1/16W	
				R36	1-216-837-11	METAL CHIP 22K 5% 1/16W	

TUNER

Ref. No.	Part No.	Description	Remark
		< TRANSFORMER >	
T1	1-433-741-11	TRANSFORMER, IF (AM IF)	
		< TERMINAL >	
TB1	1-694-156-11	TERMINAL BOARD (MW/LW ANTENNA)	
		< VIBRATOR >	
X1	1-760-130-11	VIBRATOR, CRYSTAL (75kHz)	

		MISCELLANEOUS	

63	1-757-153-11	WIRE, PARALLEL (FFC) (8 CORE)	
106	1-757-152-11	WIRE, PARALLEL (FFC) (6 CORE)	
112	1-471-110-11	MAGNET	
119	1-757-470-11	WIRE, PARALLEL (FFC) (16 CORE)	
120	1-757-154-11	CABLE, FLEXIBLE FLAT (19 CORE)	
153	X-2646-381-1	SHASSIS ASSY, MOTOR (MB) (SPINDLE) (INCLUDING M901)	
△154	8-848-483-05	OPTICAL PICK-UP KSS-213C	
202	1-669-180-11	OP FLEXIBLE BOARD	
203	1-757-156-11	CABLE, FLEXIBLE FLAT (9 CORE)	
204	1-792-047-11	CABLE, FLEXIBLE FLAT (7 CORE)	
224	1-757-155-11	WIRE, PARALLEL (FFC) (22 CORE)	
△251	A-4672-541-A	KMS-260B (MD) OPTICAL PICK-UP ASSY	
267	1-676-550-11	FLEXIBLE BOARD	
ANT1	1-501-452-22	ANTENNA, TELESCOPIC	
△F901	1-532-465-51	FUSE, TIME LAG 3.15A/250V	
△F902	1-532-503-51	FUSE, TIME LAG 1.6A/250V	
LCD1	1-476-281-11	INDICATOR UNIT, LIQUID CRYSTAL	
M103	X-3378-325-1	MOTOR ASSY, LOADING (INCLUDING GEAR)	
M601	X-2626-327-1	MOTOR ASSY, SPINDLE (MB) (SPINDLE)	
M602	X-2646-617-2	MOTOR ASSY, SLED (SLED) (ENCLUDING GEAR)	
M603	X-3378-325-1	MOTOR ASSY, LOADING (ENCLUDING GEAR)	
M902	X-2625-769-1	GEAR ASSY, MOTOR (MB) (RP) (SLED) (INCLUDING GEAR)	
S701	1-692-960-11	SWITCH, PUSH (1 KEY) (CD DOOR OPEN/ CLOSE)	
△T901	1-435-872-11	TRANSFORMER, POWER	
* HR901	1-500-518-11	HEAD, MD OVER LIGHT	
SP101	1-529-846-11	SPEAKER (8cm)(L-CH)	
SP102	1-529-847-11	SPEAKER (5.7cm)(L-CH)	
SP201	1-529-846-11	SPEAKER (8 cm) (R-CH)	
SP202	1-529-847-11	SPEAKER (5.7 cm) (R-CH)	

Ref. No.	Part No.	Description	Remark
		ACCESSORIES & PACKING MATERIALS	

△	1-696-819-11	CORD, POWER (Australian)	
	1-754-102-21	ANTENNA, ROOP (LW.MW)	
	1-757-404-11	CORD, CONNECTION (AUDIO)(STEREO MINI PLUG/STEREO MINI PULUG,102cm)	
△	1-769-412-13	CORD, POWER (AEP,UK)	
△	1-770-019-11	ADAPTOR, CONVERSION PLUG 3P (UK)	
	3-027-153-11	LID, BATTERY CASE (for RMT-CM30AD)	
	3-222-390-31	MANUAL, INSTRUCTION (ENGLISH,SPANISH) (AEP,UK,Australian)	
	3-222-390-42	MANUAL, INSTRUCTION (FRENCH,GERMAN) (AEP)	
	3-222-390-52	MANUAL, INSTRUCTION (DUTCH,PORTUGUESE) (AEP)	
	3-222-390-72	MANUAL, INSTRUCTION (SWEDISH,FINNISH) (AEP)	
	A-3364-624-A	CONNECTION UNIT ASSY(AV CONNECTING CORD)	
	A-3258-095-A	REMOTE CONTROLLER (RMT-CM30AD)	

		HARDWARE LIST	

#1	7-621-255-45	SCREW +P 2X6	
#2	7-627-850-79	SCREW, PRECISION +P1.4X1.8TYPE3	
#3	7-627-852-08	SCREW, PRECISION +P 1.7X2.5	
#4	7-627-852-18	SCREW, PRECISION +P 1.7X4 TYPE3	
#5	7-627-853-28	SCREW, PRECISION +P 2X3 TYPE3	
#6	7-682-549-04	SCREW +B 3X10	
#7	7-685-132-19	SCREW +P 2.6X5 TYPE2 NON-SLIT	
#8	7-685-533-19	SCREW +BTP 2.6X6 TYPE2 N-S	
#9	7-685-648-14	SCREW +BVTP 3X12 TYPE2 N-S	
#10	7-685-647-79	SCREW +BVTP 3X10 TYPE2 N-S	
#11	7-685-649-79	SCREW +BVTP 3X14 TYPE2 N-S	
#12	7-685-862-09	SCREW +BVTT 2.6X6 (S)	

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

