

MZ-B100

SERVICE MANUAL

Tourist Model

Ver 1.0 2001.10



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Model Name Using Similar Mechanism	NEW
Mechanism Type	MT-MZB100-171
Optical Pick-up Name	LCX-4R

SPECIFICATIONS

System

Audio playing system
MiniDisc digital audio system

Laser diode properties
Material: GaAlAs
Wavelength: $\lambda = 790 \text{ nm}$
Emission duration: continuous
Laser output: less than $44.6 \mu\text{W}$
(This output is the value measured at a distance of 200 mm from the lens surface on the optical pick-up block with 7 mm aperture.)

Recording and playback time
When using MDW-80
Maximum 160 min. in monaural.
Maximum 320 min. in stereo

Revolutions
350 rpm to 2,800 rpm (CLV)

Error correction
ACIRC (Advanced Cross Interleave Reed Solomon Code)

Sampling frequency
44.1 kHz

Sampling rate converter
Input: 32 kHz/44.1 kHz/48 kHz

Coding
ATRAC (Adaptive TRansform Acoustic Coding)
ATRAC3 — LP2/LP4

Modulation system
EFM (Eight to Fourteen Modulation)

Speaker
28 mm (1 1/8 in.) dia.

Frequency response (digital/analog input)
20 to 20,000 Hz $\pm 3 \text{ dB}$

Wow and Flutter
Below measurable limit

Inputs
Microphone: stereo mini-jack (minimum input level 0.25 mV)
Line in¹⁾: stereo mini-jack for analog input (minimum input level 39 mV)
optical (digital) mini-jack for optical (digital) input

Outputs
Ⓜ: stereo mini-jack (dedicated remote control jack)

Maximum output (DC)²⁾
Headphones: 5 mW + 5 mW (16 ohm)
Speaker: 70 mW

— Continued on next page —

PORTABLE MINIDISC RECORDER

9-873-341-01 Sony Corporation
2001J0200-1 Personal Audio Company
© 2001.10 Published by Sony Engineering Corporation

SONY®

General

Power requirements

DC 3V

LR6 (size AA) alkaline dry battery (world model only)

Battery operation time

Battery life¹⁾

When recording²⁾³⁾ (Unit: approx.hours) (JEITA⁴⁾)

Recording mode	Approx. hours
Stereo	9
LP2 Stereo	12.5
LP4 Stereo	15
MONO	12

¹⁾ The battery life may be shorter due to operating conditions and the temperature of the location.

²⁾ When using a Sony LR6 (SG) "STAMINA" alkaline dry battery (produced in Japan). Recording time may differ according to the alkaline batteries.

³⁾ When recorded with the built-in microphones.

⁴⁾ Measured in accordance with the JEITA (Japan Electronics and Information Technology Industries Association) standard.

When playing¹⁾ (Unit: approx.hours) (JEITA²⁾)

Recording mode	Speaker ³⁾	Headphones ⁴⁾
Stereo	25.5	34.5
LP2 Stereo	27	39.5
LP4 Stereo	30	43
MONO	30	43

¹⁾ When using a Sony LR6 (SG) "STAMINA" alkaline dry battery (produced in Japan).

²⁾ Measured in accordance with the JEITA (Japan Electronics and Information Technology Industries Association) standard.

³⁾ When played using the built-in speaker.

⁴⁾ When played using headphones.

Dimensions

Approx. 105.7 × 80.0 × 24.9 mm (w/h/d)

(4 1/4 × 3 1/8 × 1 in.) not incl. projecting parts and controls.

Mass

Approx. 160 g (5.7 oz) (main unit only)

Supplied accessories

Remote control (1)

Headphones (1)

Carrying pouch (1)

Hand strap (1)

Sony LR6 (size AA) alkaline dry battery (1)

¹⁾ The LINE IN (OPTICAL) jack is used to connect either a digital (optical) cable or a line (analog) cable.

²⁾ Measured in accordance with JEITA.

Design and specifications are subject to change without notice.

Flexible Circuit Board Repairing

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

Notes on chip component replacement

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

CAUTION

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

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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.

SECTION 1 SERVICING NOTES

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

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

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

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

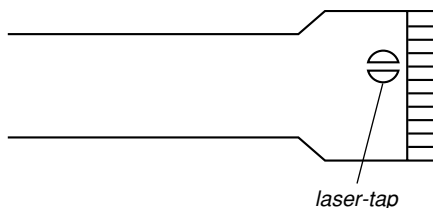
NOTES ON LASER DIODE EMISSION CHECK

Never look into the laser diode emission from right above when checking it for adjustment. It is feared that you will lose your sight.

NOTES ON HANDLING THE OPTICAL PICK-UP BLOCK (LCX-4R)

The laser diode in the optical pick-up block may suffer electrostatic break-down easily. When handling it, perform soldering bridge to the laser-tap on the flexible board. Also perform measures against electrostatic break-down sufficiently before the operation.

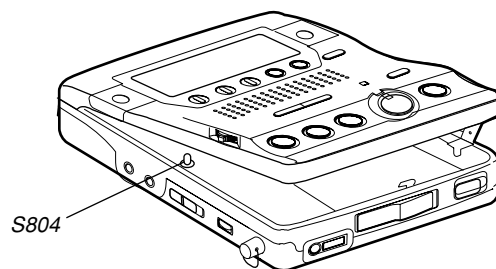
The flexible board is easily damaged and should be handled with care.



OPTICAL PICK-UP FLEXIBLE BOARD

- When repairing this device with the power on, if you remove the MAIN board or open the upper panel assy, this device stops working.

In this case, you can work without the device stopping by fastening the hook of the open/close detect switch (S804).



- This set is designed to perform automatic adjustment for each adjustment and write its value to EEPROM. Therefore, when EEPROM (IC802) has been replaced in service, be sure to perform automatic adjustment and write resultant values to the new EEPROM. (Refer to Section 5 Electrical Adjustment. (page 19))
- Replacement of CXD 2671-209GA (IC801) used in this set requires a special tool.

• UNLEADED SOLDER

Boards requiring use of unleaded solder are printed with the lead-free mark (LF) indicating the solder contains no lead.

(Caution: Some printed circuit boards may not come printed with the lead free mark due to their particular size.)

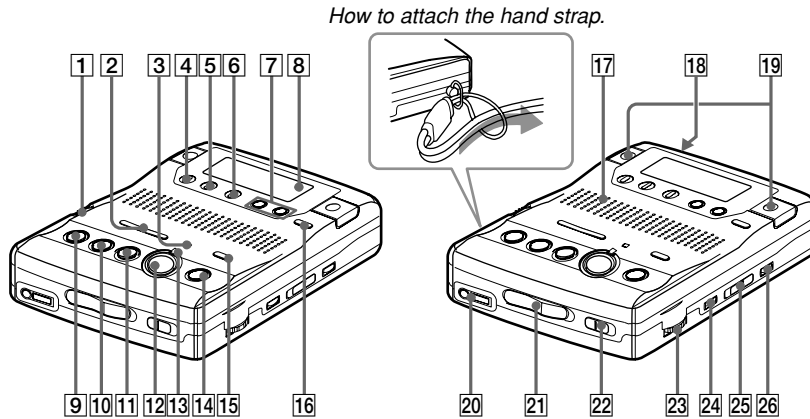


Unleaded solder has the following characteristics.

- Unleaded solder melts at a temperature about 40°C higher than ordinary solder.
Ordinary soldering irons can be used but the iron tip has to be applied to the solder joint for a slightly longer time.
Soldering irons using a temperature regulator should be set to about 350°C.
Caution: The printed pattern (copper foil) may peel away if the heated tip is applied for too long, so be careful!
- Strong viscosity
Unleaded solder is more viscous (sticky, less prone to flow) than ordinary solder so use caution not to let solder bridges occur such as on IC pins, etc.
- Usable with ordinary solder
It is best to use only unleaded solder but unleaded solder may also be added to ordinary solder.

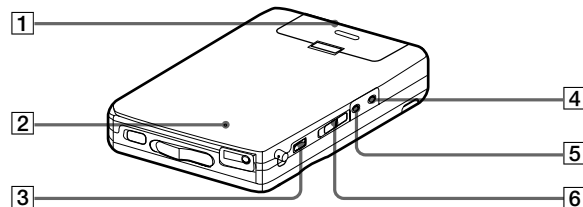
LOCATION AND FUNCTION OF CONTROLS

– Front of the recorder –



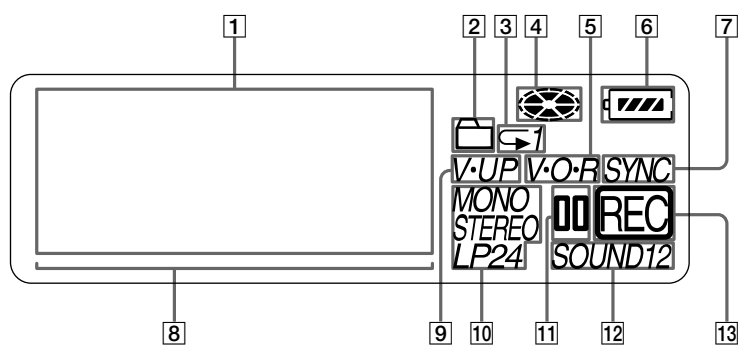
- | | |
|-----------------------------------------------------|------------------------------|
| 1 SPEED CONTROL dial | 14 TRACK MARK button |
| 2 ◀◀ REVIEW/AMS/▶▶ CUE/AMS
(search /AMS) buttons | 15 REC MODE switch |
| 3 VOR indicator | 16 GROUP button |
| 4 DISPLAY button | 17 Speaker |
| 5 PLAY MODE button | 18 DC IN 3V jack |
| 6 EDIT/ENTER button | 19 Microphones |
| 7 EASY SEARCH +/- buttons | 20 🎧 (headphones) jack |
| 8 Display window | 21 OPEN switch |
| 9 ■ STOP button | 22 HOLD switch |
| 10 ▶ PLAY (play) button | 23 VOL control |
| The ▶ PLAY button has a tactile dot. | 24 VOR button |
| 11 PAUSE button | 25 SYNCHRO REC ON/OFF switch |
| 12 ● REC button | 26 ERASE button |
| 13 REC indicator | |

– Back of the recorder –



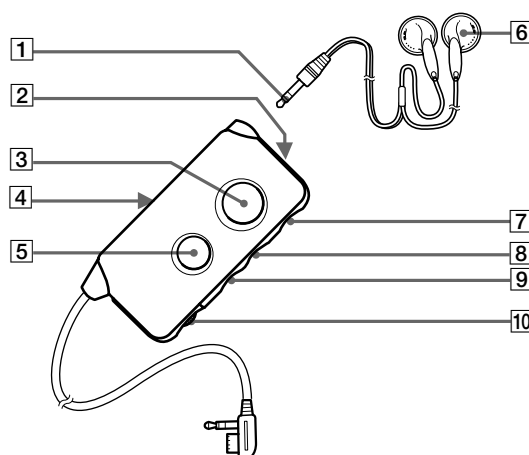
- | | |
|--------------------------|----------------------------------------------------|
| 1 Battery compartment | 5 MIC (PLUG IN POWER) jack |
| 2 CLOCK SET button | The MIC (PLUG IN POWER) jack
has a tactile dot. |
| 3 SOUND button | 6 MIC SENS (H/L) switch |
| 4 LINE IN (OPTICAL) jack | |

– The display window –



- | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>1 Character information display
Displays the disc and track names, date, error messages, track numbers, recording level, etc.</p> <p>2 Group indication</p> <p>3 Play mode indication</p> <p>4 Disc indication
Shows that the disc is rotating for recording, playing or editing an MD.</p> <p>5 VOR indication</p> | <p>6 Battery level indication</p> <p>7 SYNC (synchro-recording) indication</p> <p>8 Playback level meter</p> <p>9 V-UP indication</p> <p>10 STEREO (stereo), LP2 (LP2 stereo), LP4 (LP4 stereo), MONO (monaural) indication</p> <p>11 Pause indication</p> <p>12 SOUND indication</p> <p>13 REC indication</p> |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

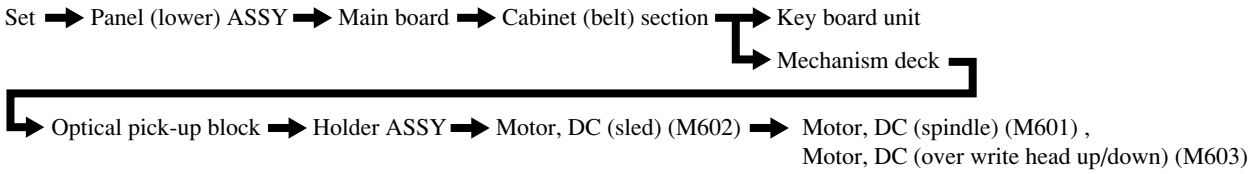
– The remote control –



- | | |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>1 Stereo mini plug</p> <p>2 SOUND button</p> <p>3 TRACK MARK button</p> <p>4 HOLD switch
Slide to lock the controls of the remote control.</p> <p>5 (pause) button</p> | <p>6 Headphones</p> <p>7 ■ (stop) button</p> <p>8 ►►► buttons
The ►►► buttons has a tactile dot.</p> <p>9 ◀◀◀ REVIEW/AMS</p> <p>10 VOL control
The VOL control has a tactile dot.</p> |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

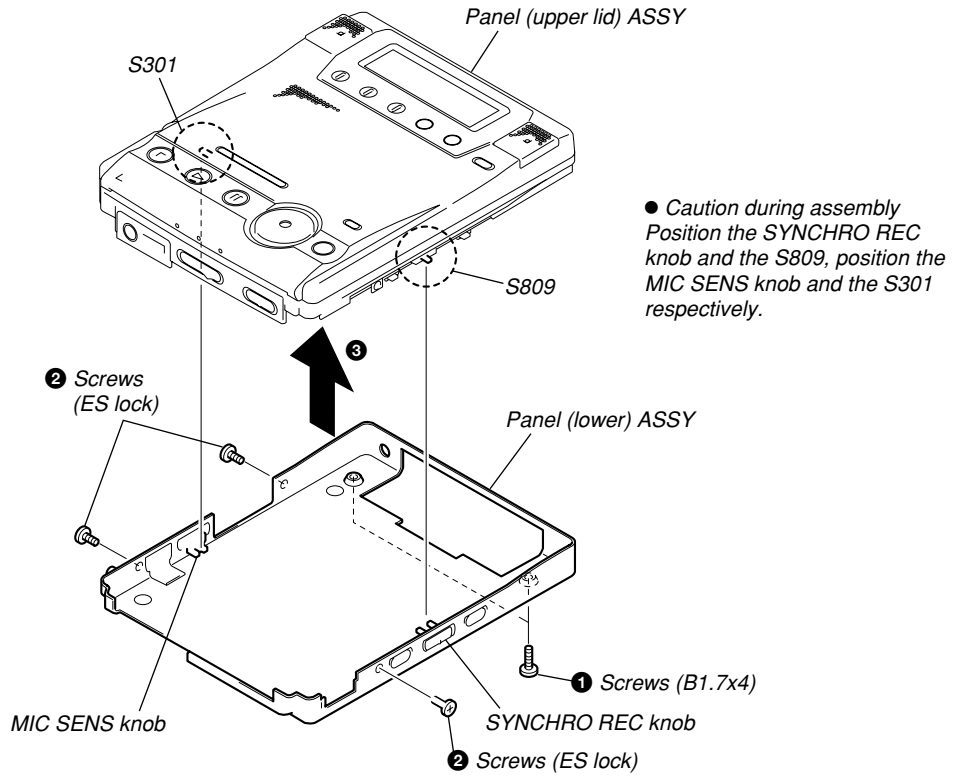
SECTION 3 DISASSEMBLY

• The equipment can be removed using the following procedure.

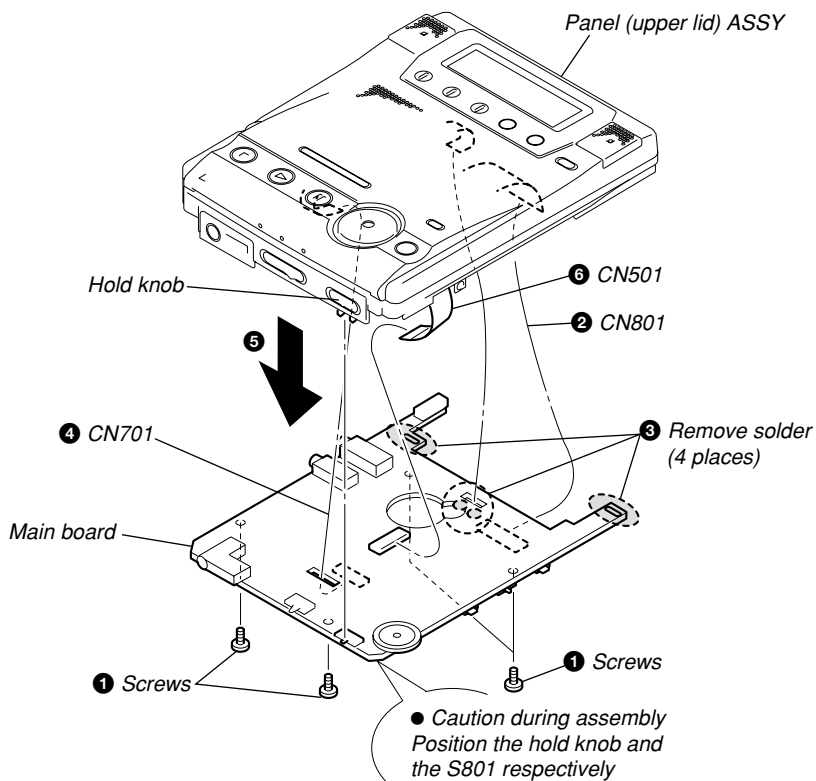


Note : Follow the disassembly procedure in the numerical order given.

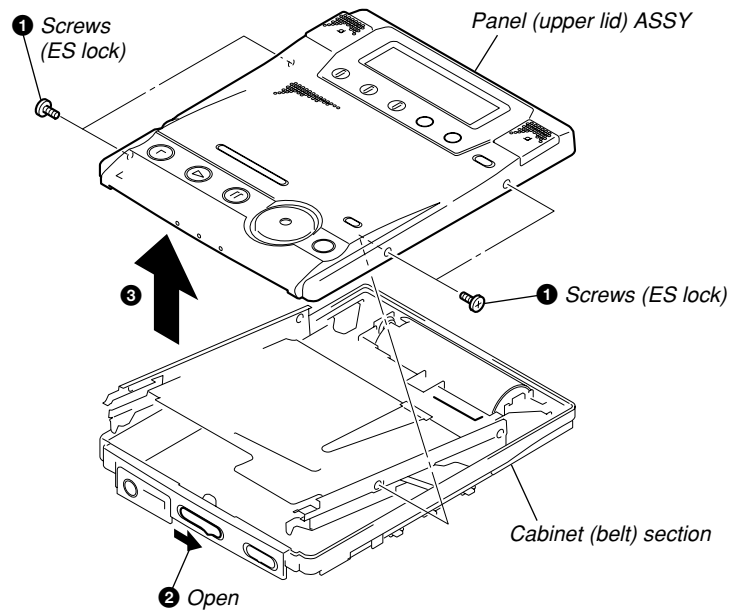
3-1. PANEL (LOWER) ASSY



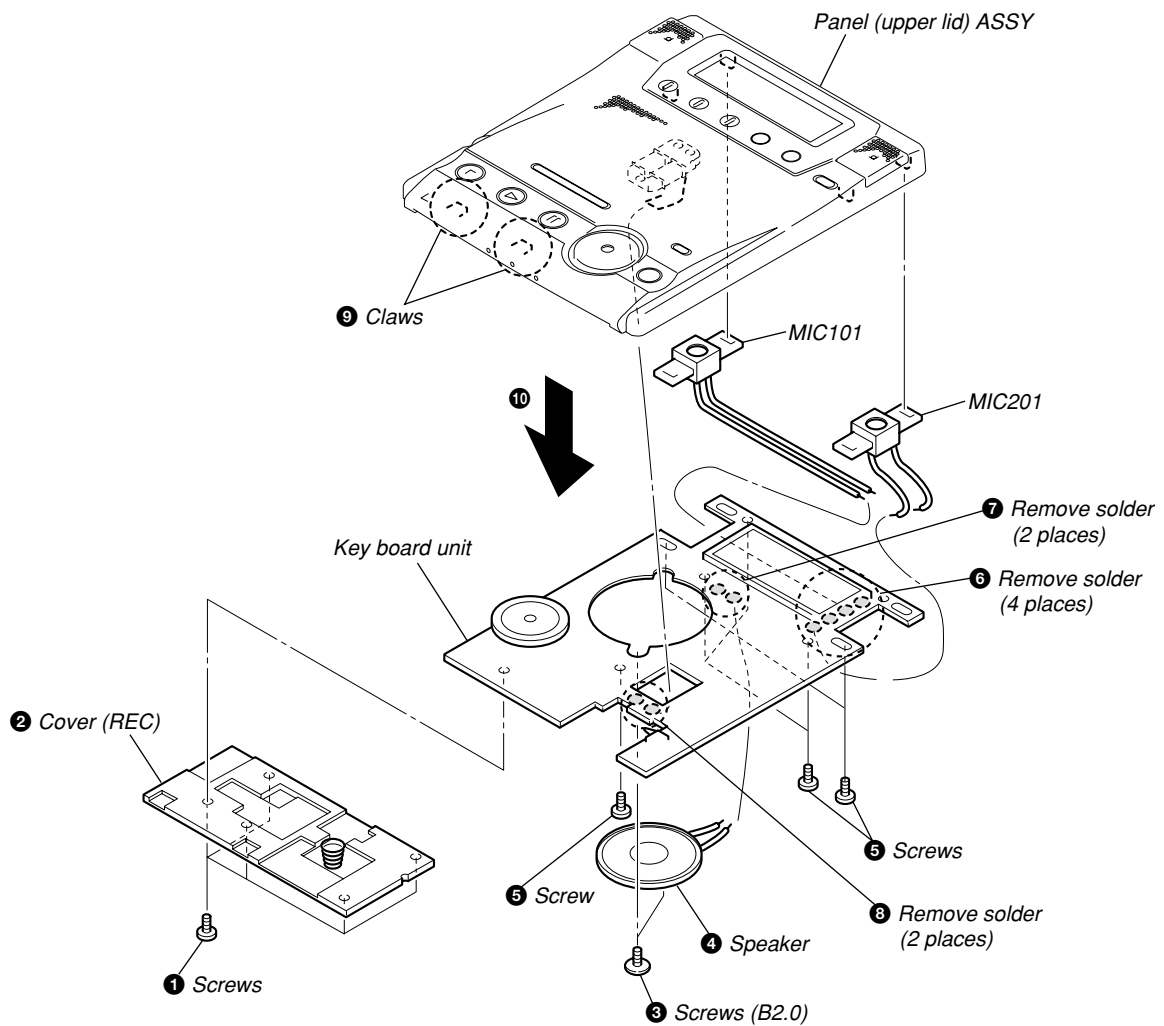
3-2. MAIN BOARD



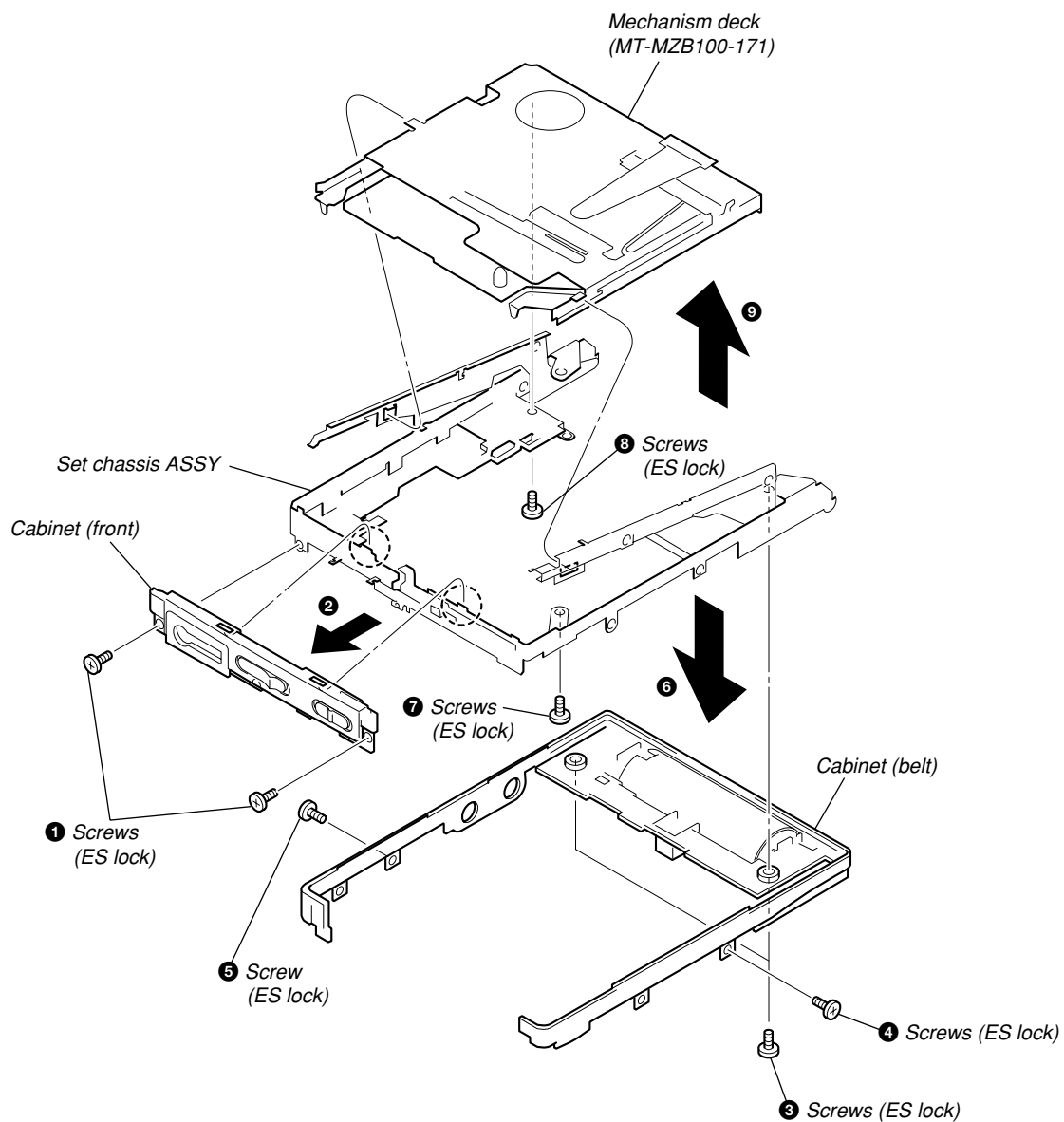
3-3. CABINET (BELT) SECTION



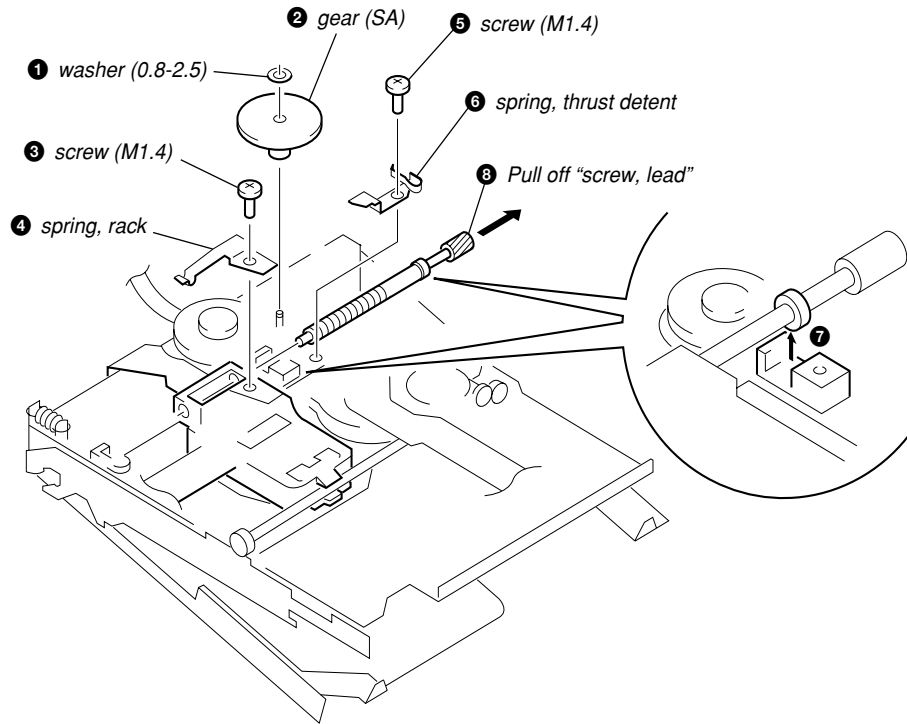
3-4. KEY BOARD UNIT



3-5. MECHANISM DECK

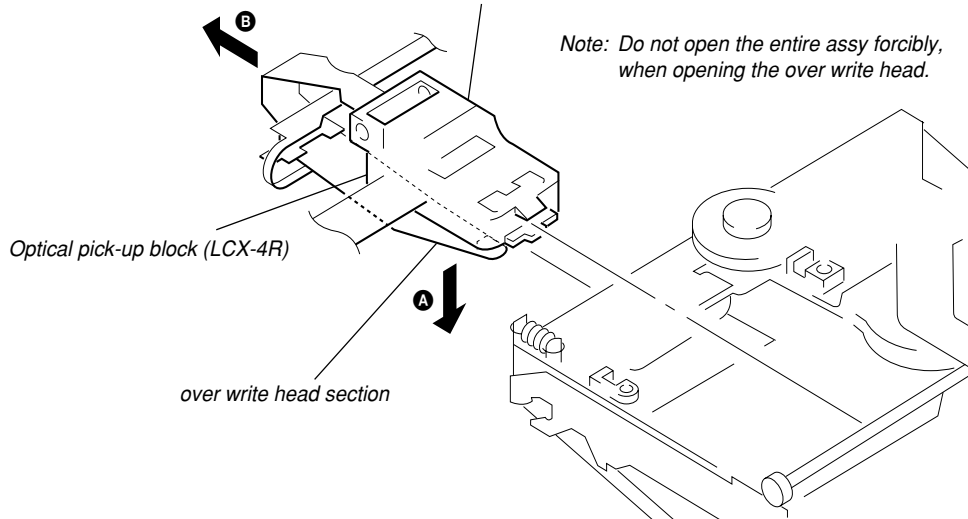


3-6. OPTICAL PICK-UP BLOCK (LCX-4R)

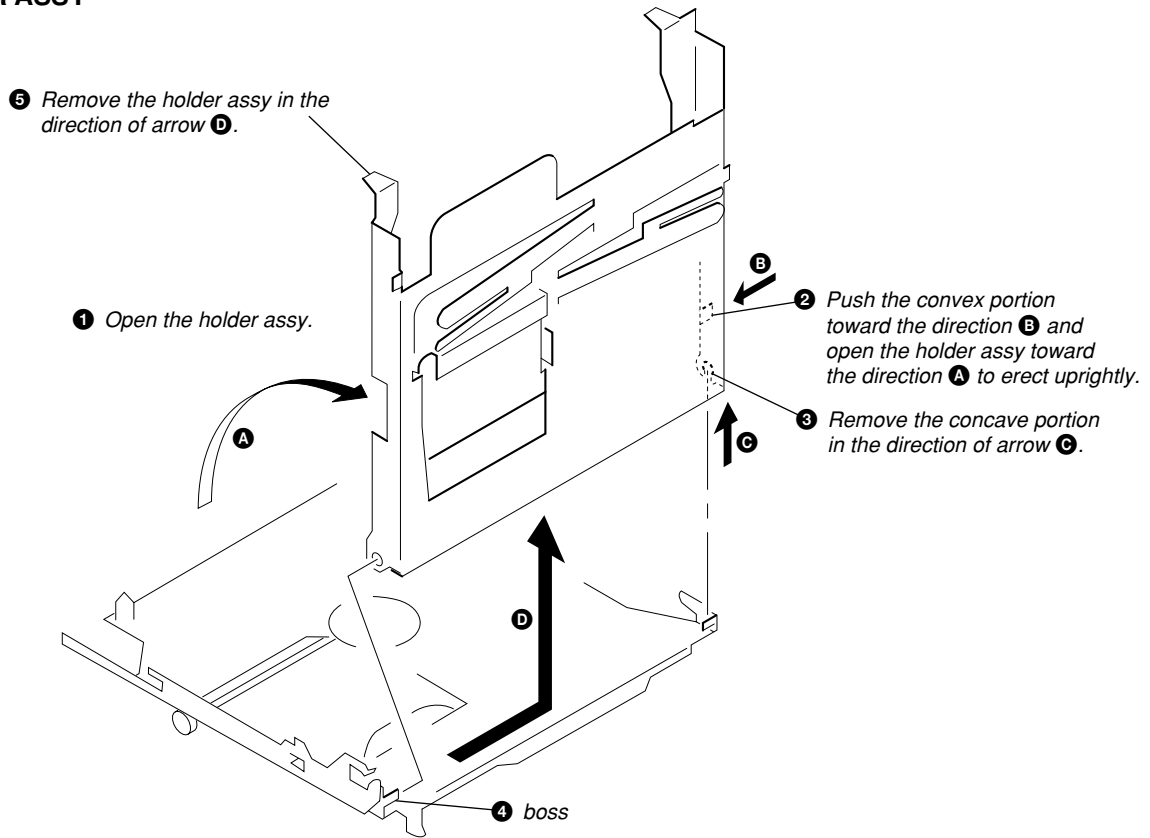


8 Opening the over write head toward the direction **A**, remove the optical pick-up block (LCX-4R) toward the direction **B**.

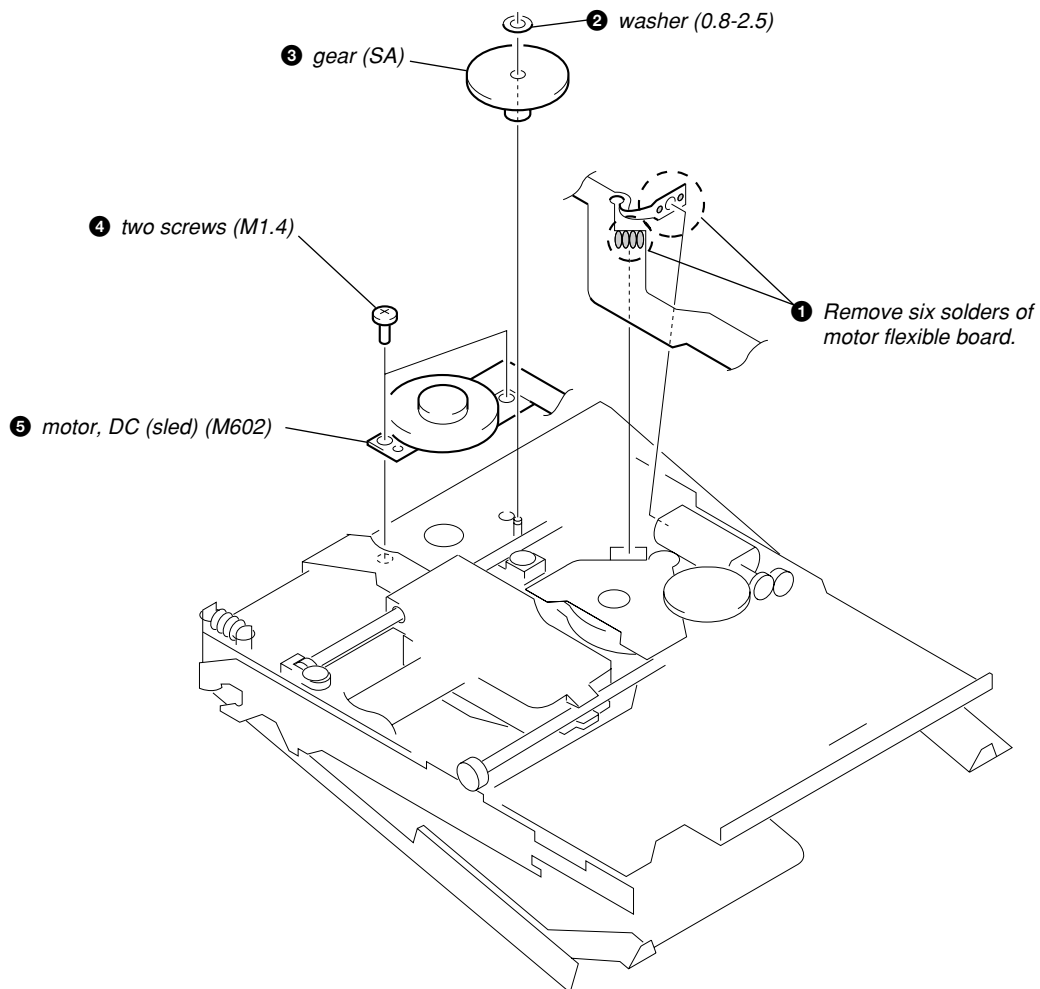
Note: Do not open the entire assy forcibly, when opening the over write head.



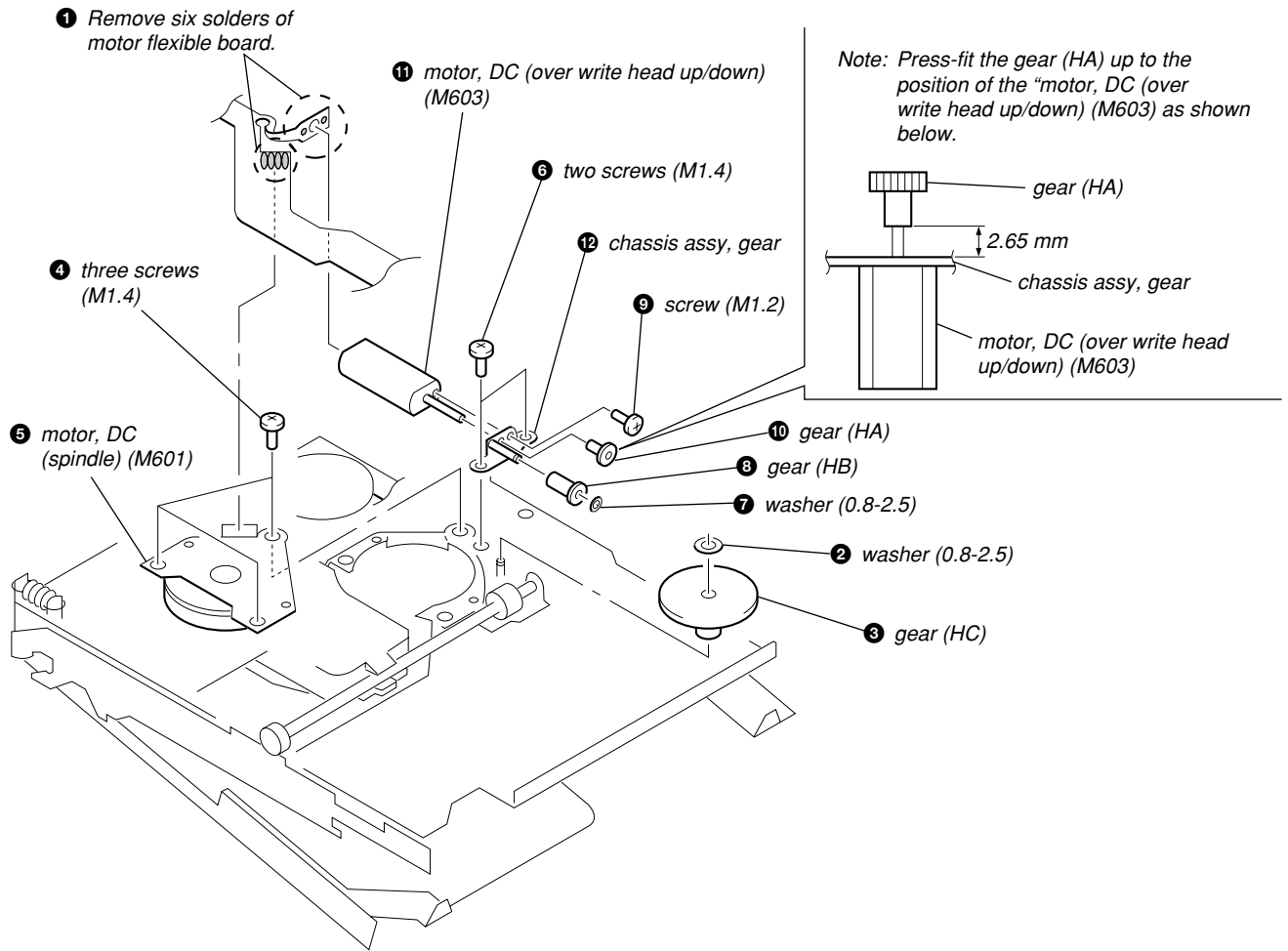
3-7. HOLDER ASSY



3-8. MOTOR, DC (SLED) (M602)



3-9. "MOTOR, DC (SPINDLE) (M601)", "MOTOR, DC (OVER WRITE HEAD UP/DOWN) (M603)"



SECTION 4 TEST MODE

[Outline]

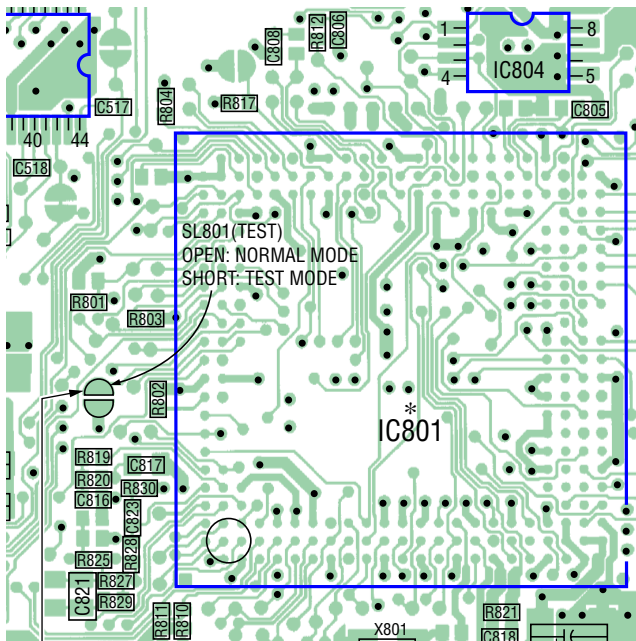
- This set provides the Overall adjustment mode (Assy mode) that allows CD and MO disc to be automatically adjusted when in the test mode. In this overall adjustment mode, the protect switch is detected to judge the disc, CD or MO, and each adjustment is automatically executed in order. If a fault is found, the system displays its location. Also, the manual mode allows each individual adjustment to be automatically adjusted.
- The keys in the description refer to the keys on both set and remote commander unless otherwise specified.

[Setting Method of Test Mode]

There are two different methods to set the test mode:

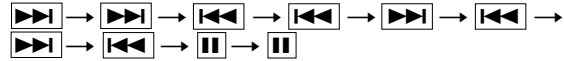
- ① Short SL801 (TEST) on the MAIN board with a solder bridge (connect pin 202 of IC801 to the ground). Then, turn on the power.

[MAIN BOARD] (SIDE A)



SL801
(SHORT: TEST MODE)
(OPEN: NORMAL MODE)

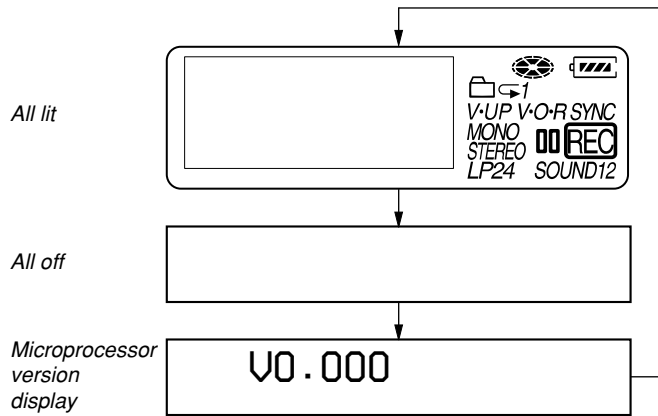
- ② In the normal mode, turn on the HOLD switch on the set. While pressing the key on the set, press the following set keys in the following order:



[Operation in Setting the Test Mode]

- When the test mode becomes active, first the display check mode is selected. (Press key once, when the display check mode is not active.)
- Other mode can be selected from the display check mode.
- When the test mode is set, the LCD repeats the following display.

LCD display



- When the key is pressed and hold down, the display at that time is held so that display can be checked.

[Releasing the Test Mode]

For test mode set with the method ①:

Turn off the power and open the solder bridge on SL801 (TEST) on the MAIN board.

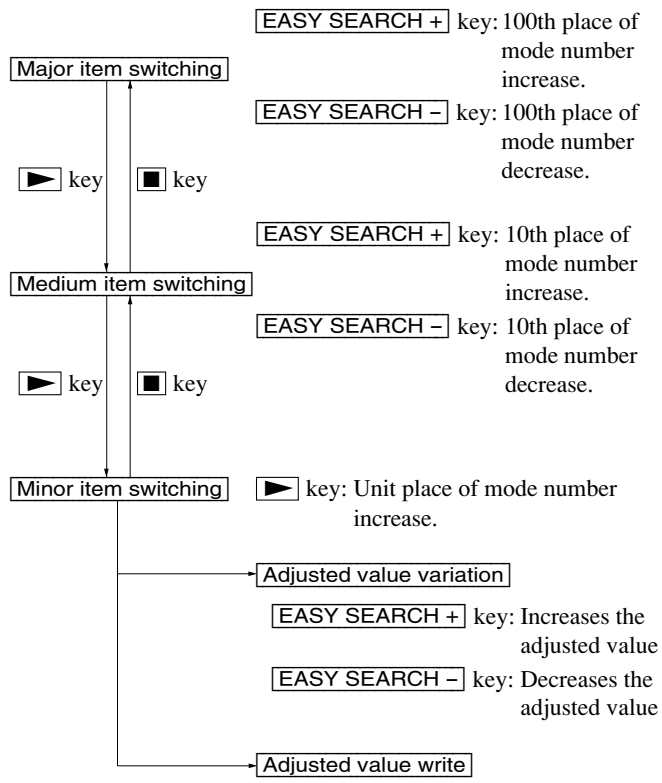
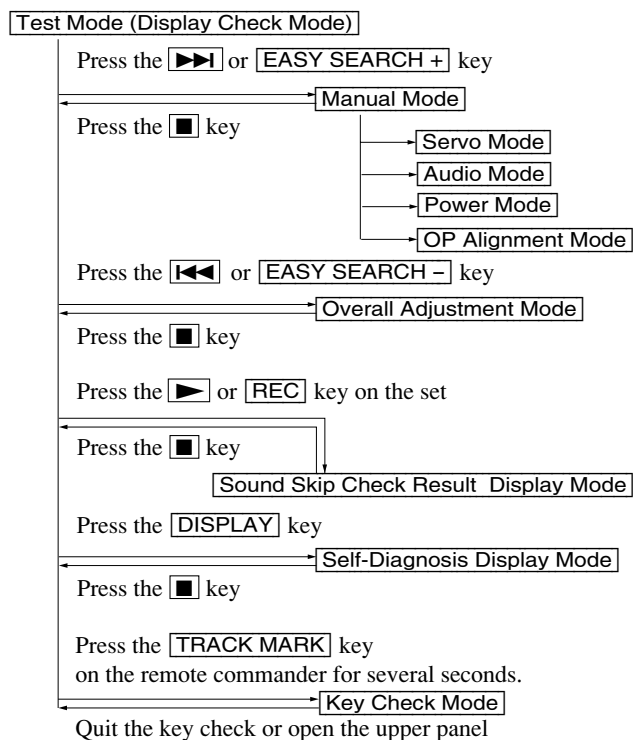
Note: Remove the solders completely. Remaining could be shorted with the chassis, etc.

For test mode set with the method ②:

Turn off the power.

Note: If electrical adjustment (see page 19) has not been finished completely, always start in the test mode. (The set cannot start in normal mode.)

[Configuration of Test Mode]



[Manual Mode]

Mode to adjust or check the operation of the set by function. Normally, the adjustment in this mode is not executed.

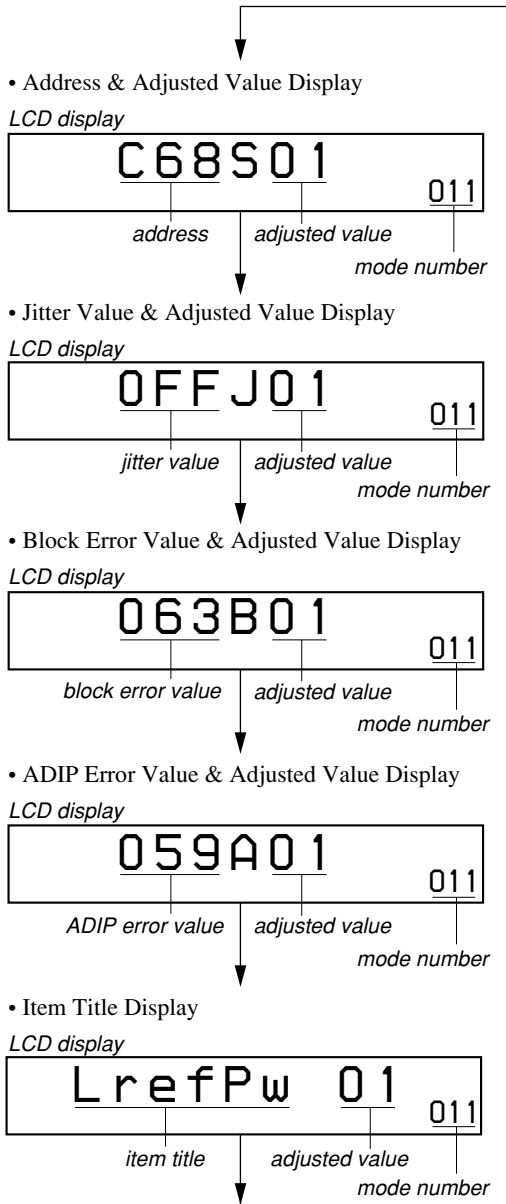
- Transition method in Manual Mode
- 1. Setting the test mode. (See page 12)
- 2. Press the [EASY SEARCH +] key activates the manual mode where the LCD display as shown below.

LCD display



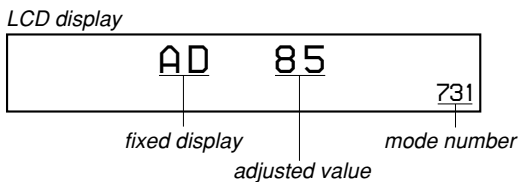
- 3. The optical pick-up moves outward or inward while the [EASY SEARCH +] or [EASY SEARCH -] key is pressed for several seconds respectively.
- 4. Each test item is assigned with a 3-digit mode number; 100th place is a major item, 10th place is a medium item, and unit place is a minor item.

5. Set the mode No. to 011. The display changes as shown below each time the **DISPLAY** key is pressed.



However in the power mode (mode number 700's), only the power adjustment value is displayed.

- Power Supply Adjusted Value



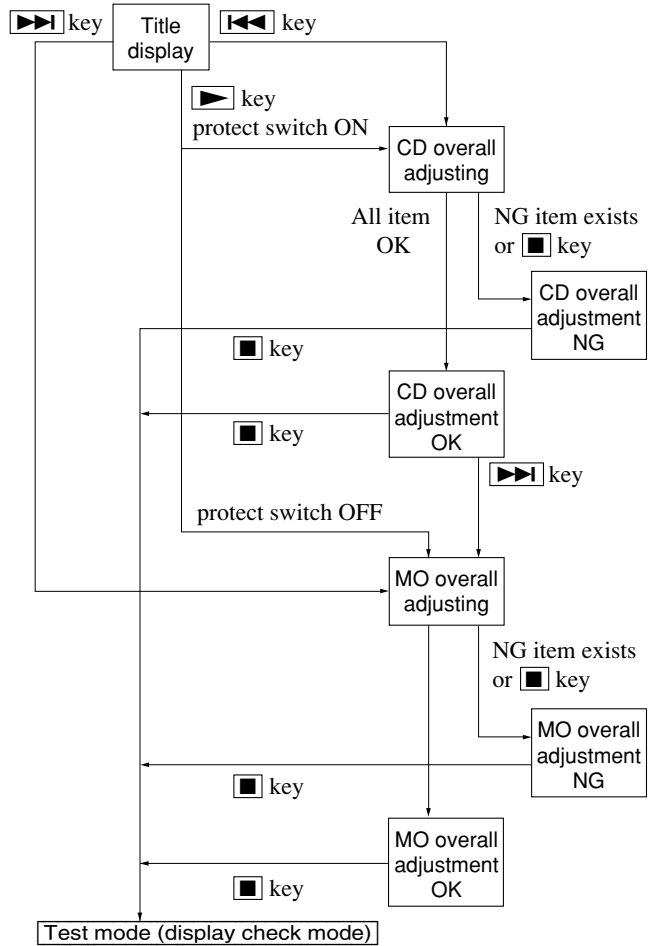
6. Quit the manual mode, and press **■** key to return to the test mode (display check mode).

[Overall Adjustment Mode]

Mode to adjust the servo automatically in all items. Normally, automatic adjustment is executed in this mode at the repair.

Adjust the CD first, when performing adjustment.

- Configuration of overall adjustment



For further information, refer to the Section 5 Electrical Adjustment. (See page 19)

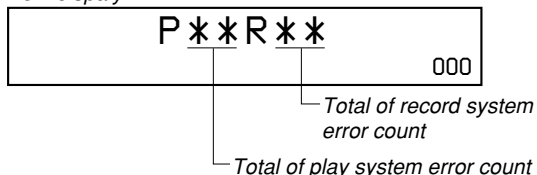
[Sound Skip Check Result Display Mode]

This set can display and check the error count occurring during record and play.

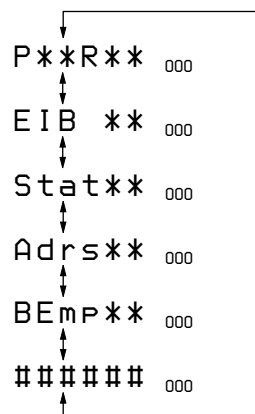
• Setting method of Sound Skip Check Result Display Mode

1. Setting the test mode. (See page 12)
2. Press the **▶** or **REC** key on the set activates the sound skip check result display mode where the LCD displays as shown below.

LCD display

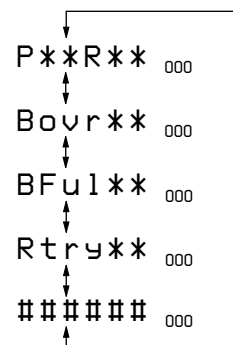


3. When **▶** key is pressed, the total of error count is displayed on the LCD, and each time the **▶▶** key is pressed, the error count descends one by one as shown below. Also, when **◀◀** key is pressed, the error count ascends by one. If **REC** key on the set is pressed, the error count during record is displayed.



** : Sound skip check items counter (hexadecimal)
 ##### : 6-digit address (hexadecimal) where a sound skipped last

4. When **REC** key on the set is pressed, the total of error count is displayed on the LCD, and each time the **▶▶** key is pressed, the error count descends one by one as shown below. Also, when **◀◀** key is pressed, the error count ascends by one. If **▶** key is pressed, the error count during play is displayed.



** : Sound skip check items counter (hexadecimal)
 ##### : 6-digit address (hexadecimal) where a sound skipped last

Error code

	Cause of error	Description of error
Playback	EIB	Sound error correction error
	Stat	Decoder status error
	Adrs	Cannot access the address
	BEmp	Buffer becomes empty
Recording	BOvr	Buffer becomes full and sounds are dumped
	BFul	Buffer capacity lowers and data are forcibly written
	Rtry	Retry count over

5. Quit the sound skip check result display mode, and press the **■** key to return to the test mode (display check mode).

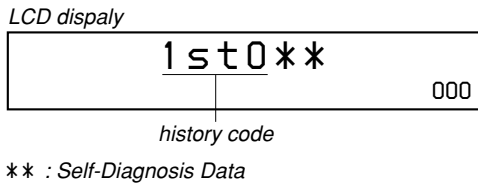
[Self-Diagnosis Display Mode]

- This set uses the self-diagnosis system in which if an error occurs in recording/playback mode, the error is detected by the model control and power control blocks of the microprocessor and information on the cause is stored as history in EEPROM. By viewing this history in test mode, it helps you to analyze a fault and determine its location.

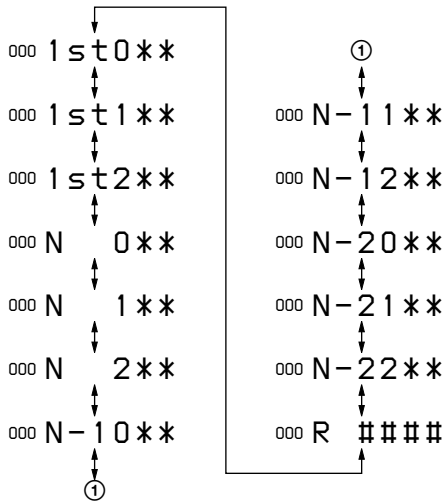
Total recording time has been recorded as optical pick-up using time, and it is compared with the total recording time in the self-diagnosis display mode to find when an error occurred.

Clear both total recording time and the time in self-diagnosis display mode, when the optical pick-up was replaced.

1. Setting the test mode. (See page 12)
2. Press the **[DISPLAY]** key activates the self-diagnosis display mode where the LCD display as shown below.



3. Then, each time **[▶▶]** key is pressed, LCD display descends by one as shown below. Also, the LCD display ascends by one when **[◀◀]** key is pressed.



4. Quit the self-diagnosis display mode, and press the **[■]** key to return to the test mode (display check mode).

• Description of Indication History

History code number	Description
1st0	The first error
1st1	Total recording time when 1st0 was generated (Higher rank byte)
1st2	Total recording time when 1st0 was generated (Lower rank byte)
N 0	The last error
N 1	Total recording time when N 0 was generated (Higher rank byte)
N 2	Total recording time when N 0 was generated (Lower rank byte)
N-10	One error before the last.
N-11	Total recording time when N-10 was generated (Higher rank byte)
N-12	Total recording time when N-10 was generated (Lower rank byte)
N-20	Two errors before the last.
N-21	Total recording time when N-20 was generated (Higher rank byte)
N-22	Total recording time when N-20 was generated (Lower rank byte)
REC	Total recording time *

* Total recording time
Total recording time is recorded in minutes. It is recorded in hexadecimal format and up to 65,535 min. can be counted. It returns to "0000min" when recorder goes beyond this limit.

• Description of Error Indication Codes

Problem	Indication code	Meaning of code	Description
No error	00	No error	
Servo error	01	Illegal access target address was specified	Attempt to access an abnormal address
	02	High temperture	High temperture
	03	Focus error	Forcus could not be applied
	04	Spindle error	Abnormal lotation of disc
Power error	21	Initial low battery	Abnormal voltage at initialization
	22	Low battery	Momentary interruption detected
	23	Low battery NI	Momentary interruption detected (NiMH)
	24	Low battery AM	Momentary interruption detected (AM)

[Clearing Self-Diagnosis Data and Total Recording Time]

1. Setting the test mode. (See page 12.)
2. Move up the jog key on the set or press the **[DISPLAY]** key on the remote commander activates the self-diagnosis display mode.
3. Press the **[II]** key or **[REC]** key on the set during display of self-diagnosis data when clearing the self-diagnosis data, or during display of total recording time when clearing the total recording time. Thus, "ClrOK?" will be displayed on the LCD, and press the same key again, and when self-diagnosis data is cleared "ErrCLR" is displayed and the data is cleared. Also when total recording time is cleared, "ReeT O" is displayed and it is cleared.

[Key Check Mode]






This set can check if the set and remote commander function normally.

• Setting Method of Key Check Mode





1. Setting the test mode. (See page 12)
2. Press the **T MARK** activates the key check mode where all segments of LCD turn OFF. (At the last two digits of DOT section, AD value of remote commander key line is displayed in hexadecimal)
3. When each key is pressed, it is displayed on the LCD, implying that it was successfully checked as shown below. However, for the slide switch on the set, it is not checked unless it is reciprocated.

* The key pressed to enter the key check mode was already checked at that time.

Set key

Key	Indication
	PLAY
	FF
	FR
	PAUSE
EASY SEARCH +	EASY +
EASY SEARCH -	EASY -
	STOP
REC	REC
TRACK MARK	T MARK
HOLD (hold)	HLDOn
HOLD (off)	HLDoff
SYNCHRO REC (on)	SYCon
SYNCHRO REC (off)	SYCoff
PLAY MODE	P MODE
DISPLAY	DISP
EDIT/ENTER	MENU
VOR	VOR
ERASE	ERASE
REC MODE	R-MODE
GROUP	GROUP

Remote commander key

Key	Indication
	rPLAY
	rFR
	rPAUSE
	rSTOP
TRACK MARK	rREP
V-UP	rSOUND

4. The test mode (display check mode) is automatically activated when all keys on the set and remote commander were checked (see above). Also, the test mode (display check mode) gets back if opening the upper panel during a key check.

SECTION 5 ELECTRICAL ADJUSTMENTS

[Outline]

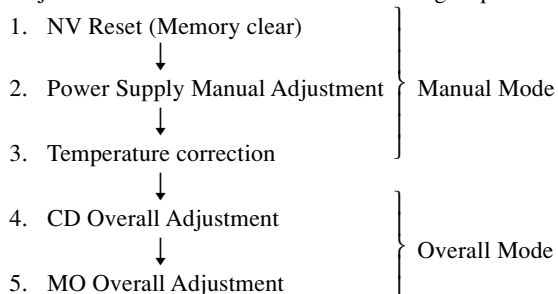
- In this set, automatic adjustment of CD and MO can be performed by entering the test mode. (See page 12)
However, before starting automatic adjustment, the memory clear, power adjustment and temperature adjustment must be performed in the manual mode.
- The keys in the description refer to the keys on both set and remote commander unless otherwise specified.
Though LCD display shows the LCD of the remote commander, same contents are also displayed on the LCD of the set.

[Precautions for Adjustment]

1. Adjustment must be done in the test mode only.
After adjusting, release the test mode.
2. Use the following tools and measuring instruments.
 - Test CD disc TDYS-1
(Part No. : 4-963-646-01)
Available SONY CD disc
 - Recorded MO disc PTDM-1
(Part No. : J-2501-054-A)
Available SONY MO disc (recorded)
 - Laser power meter LPM-8001
(Part No. : J-2501-046-A)
 - Digital voltmeter
3. Unless specified otherwise, supply DC 3V from the DC IN 3V jack.
4. Switch position
HOLD switch OFF

[Adjustment Sequence]

Adjustment must be done with the following steps.



[NV Reset]

• Setting method of NV reset

1. Select the manual mode of test mode, and set mode number 021NV Reset.

LCD display



2. Press the **[HOLD]** key.

LCD display



3. Press the **[HOLD]** key once more.

LCD display



↓ NV reset (after several seconds)



4. Quit the manual mode, and activate the test mode.

[Power Supply Manual Adjustment]

• Adjustment sequence

Adjustment must be done with the following steps.

1. VC PWM Duty (L) adjustment (mode number: 762)
↓
2. VREM PWM Duty (H) adjustment (mode number: 763)
↓
3. VREM PWM Duty (L) adjustment (mode number: 764)
↓
4. VC PWM Duty (H) adjustment (mode number: 765)
↓
5. VREM PWM Duty (H) adjustment (mode number: 766)
↓
6. VREM PWM Duty (L) adjustment (mode number: 767)

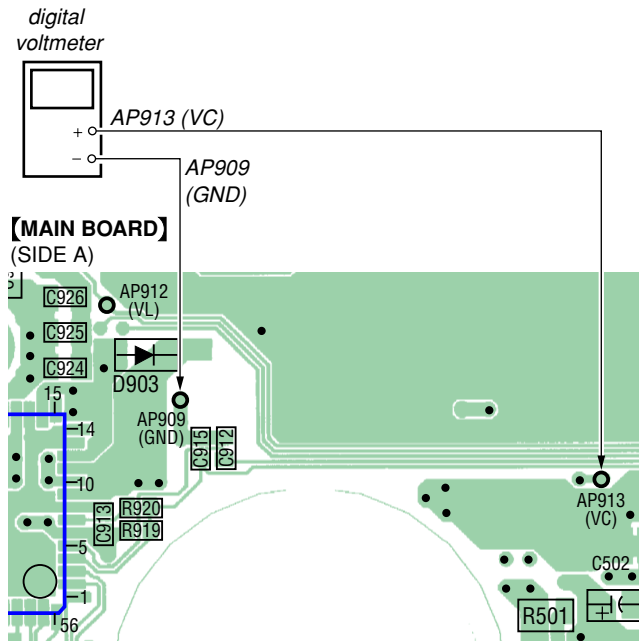
• **Adjustment method of VC PWM Duty (L)**
(mode number: 762)

1. Select the manual mode of the test mode, and set the mode number 762. (See page 13)

LCD display



2. Connect a digital voltmeter to the AP913 (VC) on the MAIN board, and adjust **[EASY SEARCH +]** key (voltage up) or **[EASY SEARCH -]** key (voltage down) so that the voltage becomes 2.5 ± 0.02 V.
Proceed to the next step without pressing **[]** key if voltage is already adjusted.

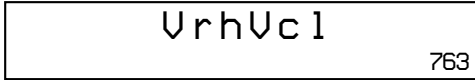


3. Press the **[]** key to write the adjusted value.

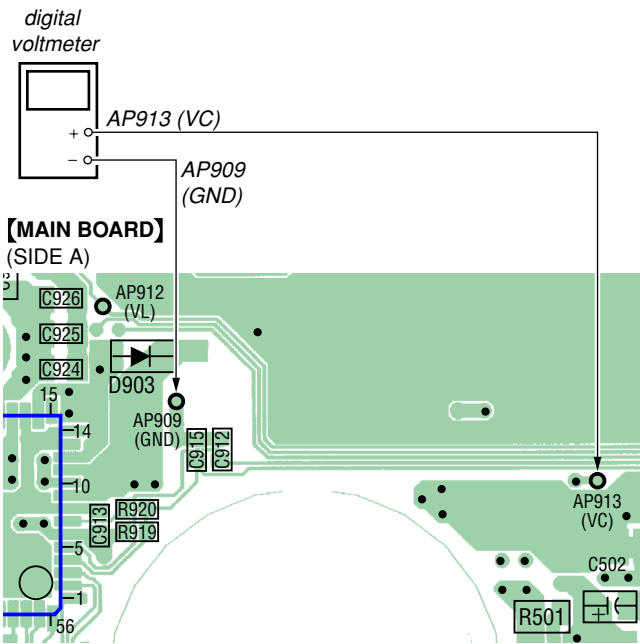
• **Adjustment method of VREM PWM Duty (H)**
(mode number: 763)

1. Select the manual mode of the test mode, and set the mode number 763. (See page 13)

LCD display



2. Connect a digital voltmeter to the AP913 (VC) on the MAIN board, and adjust **[EASY SEARCH +]** key (voltage up) or **[EASY SEARCH -]** key (voltage down) so that the voltage becomes 2.75 ± 0.02 V.
Proceed to the next step without pressing **[]** key if voltage is already adjusted.



3. Press the **[]** key to write the adjusted value.

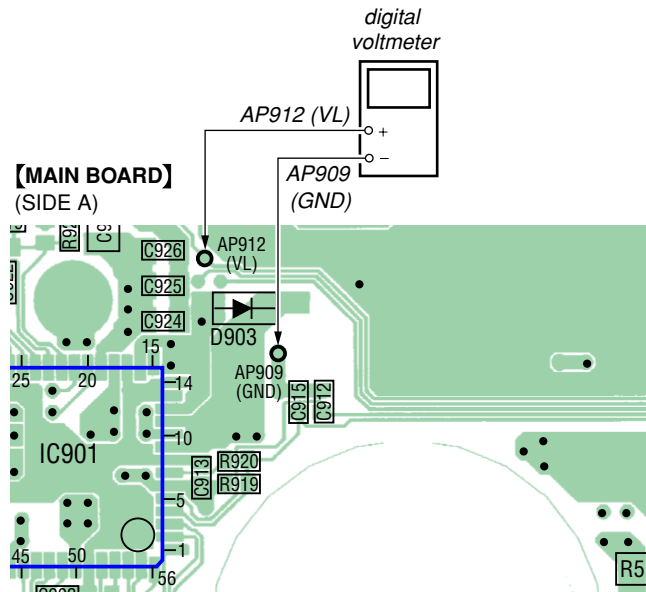
• **Adjustment method of VREM PWM Duty (L)**
(mode number: 764)

1. Select the manual mode of the test mode, and set the mode number 764. (See page 13)

LCD display



2. Connect a digital voltmeter to the AP912 (VL) on the MAIN board, and adjust **[EASY SEARCH +]** key (voltage up) or **[EASY SEARCH -]** key (voltage down) so that the voltage becomes 2.5 ± 0.02 V.
Proceed to the next step without pressing **[]** key if voltage is already adjusted.

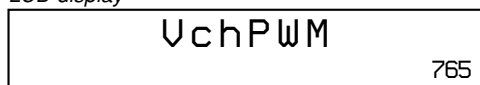


3. Press the **[]** key to write the adjusted value.

• **Adjustment method of VC PWM Duty (H)**
(mode number: 765)

1. Select the manual mode of the test mode, and set the mode number 765. (See page 13)

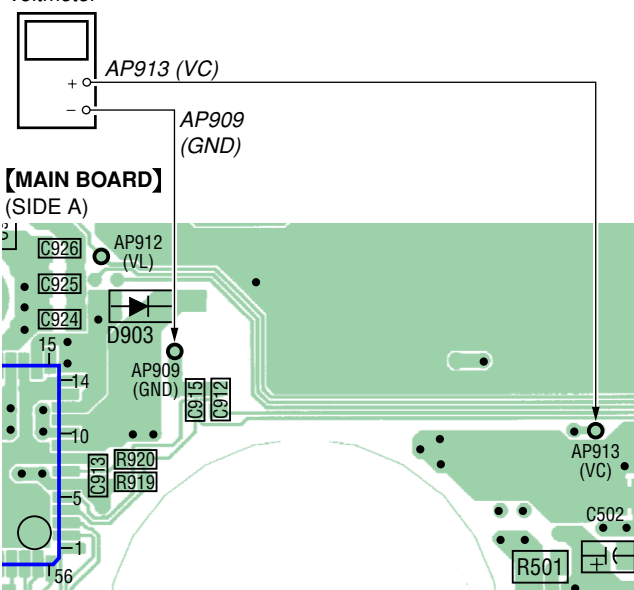
LCD display



2. Connect a digital voltmeter to the AP913 (VC) on the MAIN board, and adjust **[EASY SEARCH +]** key (voltage up) or **[EASY SEARCH -]** key (voltage down) so that the voltage becomes 2.75 ± 0.02 V.

Proceed to the next step without pressing **[]** key if voltage is already adjusted.

digital voltmeter

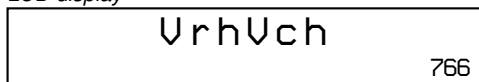


3. Press the **[]** key to write the adjusted value.

• **Adjustment method of VREM PWM Duty (H)**
(mode number: 766)

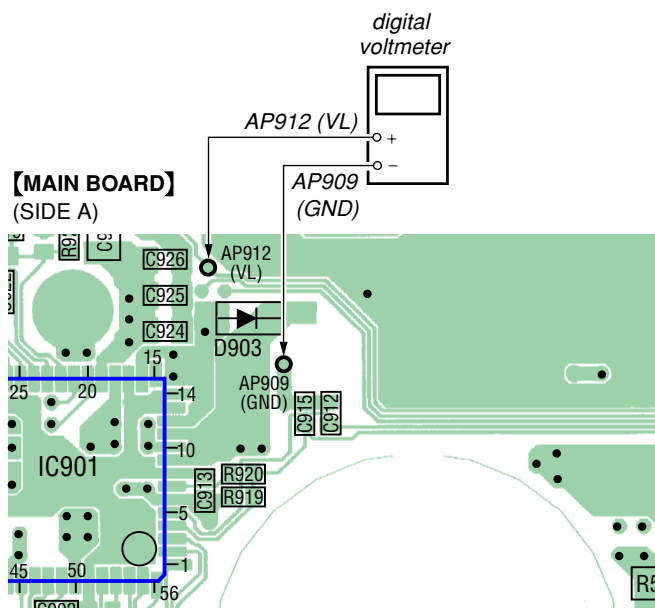
1. Select the manual mode of the test mode, and set the mode number 766. (See page 13)

LCD display



2. Connect a digital voltmeter to the AP912 (VL) on the MAIN board, and adjust **[EASY SEARCH +]** key (voltage up) or **[EASY SEARCH -]** key (voltage down) so that the voltage becomes 2.75 ± 0.02 V.

Proceed to the next step without pressing **[]** key if voltage is already adjusted.

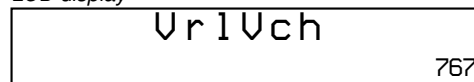


3. Press the **[]** key to write the adjusted value.

• **Adjustment method of VREM PWM Duty (L)**
(mode number: 767)

1. Select the manual mode of the test mode, and set the mode number 767. (See page 13)

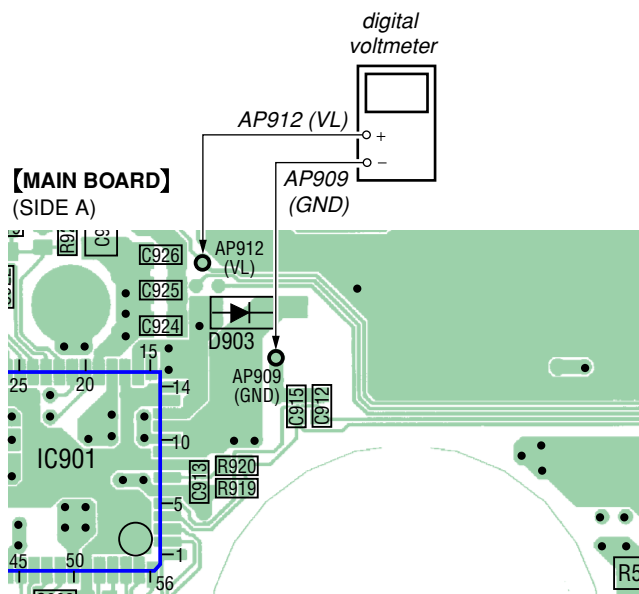
LCD display



2. Connect a digital voltmeter to the AP912 (VL) on the MAIN board, and adjust **[EASY SEARCH +]** key (voltage up) or **[EASY SEARCH -]** key (voltage down) so that the voltage becomes 2.5 ± 0.02 V.

Proceed to the next step without pressing **[]** key if voltage is already adjusted.

3. Press the **[]** key to write the adjusted value.



[Temperature Correction]

• **Adjustment Method of temperature correction**

1. Select the manual mode of test mode, and set the mode number 014. (See page 13)

LCD display



2. Measure the ambient temperature.
3. Adjust with [EASY SEARCH +], [EASY SEARCH -] key so that the adjusted value (hexadecimal value) becomes the ambient temperature. (Initial value: 14h = 20 °C, Adjusting range: 80h to 7fh (-128 °C to +127 °C))
4. Press the [II] key to write the adjusted value.

[Overall Adjustment Mode]

• **Adjustment Method of Overall Adjustment Mode**

1. Setting the test mode. (See page 12)
2. Press the [◀◀] or [EASY SEARCH -] key activates the overall adjustment mode where the LCD display as shown below.

LCD display



- ◉ : (DISC MARK) When power adjustment "H" finished; Outward ON
When power adjustment "L" finished; Inward ON
Power supply is not yet adjusted unless both outward and inward disc marks are ON.
Note: Disc mark is displayed on the remote commander LCD only.
- ** : Left side = MO auto adjustment information
F* : Auto adjustment finished
1* : Manual adjustment remains
0* : Not adjusted yet
Right side = CD auto adjustment information
* F: CD auto adjustment finished
* 1: Manual adjustment remains (not auto adjustment)
* 0: Not adjusted yet

3. Insert the CD test disc TDYS-1 (Parts No.4-963-646-01) or an available SONY CD disc.
4. Press [▶] key. The system discriminates between CD and MO and performs automatic adjustment for CD. Also, if [◀◀] key is pressed, CD is adjusted automatically.

LCD display



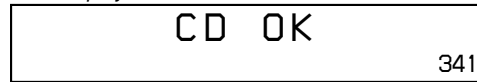
???: Manual mode number being executed

- CD Automatic Adjustment item

Mode No.	Description
312	CD electrical offset adjustment
313	
314	
328	CD TWPP gain adjustment
321	CD tracking error gain adjustment
323	CD tracking error offset adjustment
332	
336	CD ABCD level adjustment
344	CD focus gain adjustment
345	CD tracking gain adjustment
521	CD two-axis sensibility adjustment
522	
341	CD focus bias adjustment

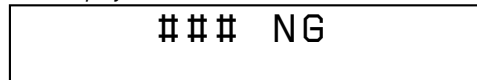
5. If the result of automatic adjustment is OK, the following display appears in the LCD:

LCD display



6. If the result of automatic adjustment is NG, the following display appears in the LCD:

LCD display



: Overall adjustment. NG mode number

7. If NG, set the manual mode. Perform automatic adjustment for the items not accepted. (See page 13)
8. If CD adjustment is OK, insert an available SONY MO disc (recorded). At this time, be sure to turn OFF the disc protect switch.
9. Press [▶] key. The system discriminates between CD and MO and performs automatic adjustment for the MO disc. Also, if [▶▶] key is pressed, MO is adjusted automatically. However, when CD adjustment is not finished, "SetCD!" is blinking on the LCD and MO adjustment is not executed.

LCD display



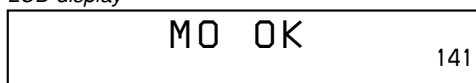
???: Manual mode number being executed

• MO Automatic Adjustment item

Mode No.	Description
112	MO electrical offset adjustment
113	
114	
118	
221	Lower reflection CD tracking error gain adjustment
223	Lower reflection CD tracking error offset adjustment
232	
236	Lower reflection CD ABCD level adjustment
244	Lower reflection CD focus gain adjustment
245	Lower reflection CD tracking gain adjustment
121	MO tracking error gain adjustment
122	MO tracking error offset adjustment
134	MO TWPP gain adjustment
131	MO double speed read TWPP offset adjustment
132	
136	MO ABCD level adjustment
144	MO focus gain adjustment
145	MO tracking gain adjustment
434	MO write TWPP gain adjustment
431	MO write TWPP offset adjustment
432	
436	MO write ABCD level adjustment
445	MO write tracking gain adjustment
411	MO normal speed read TWPP offset adjustment
412	
448	32 cluster full recording
141	MO focus bias adjustment

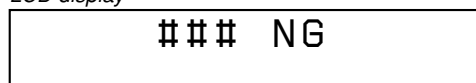
10. If the result of automatic adjustment is OK, the following display appears in the LCD:

LCD display



11. If the result of automatic adjustment is NG, the following display appears in the LCD:

LCD display



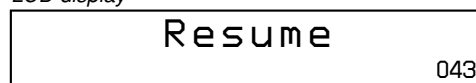
: Overall adjustment. NG mode number

12. If NG, set the manual mode. Perform automatic adjustment for the items not accepted. (See page 13)

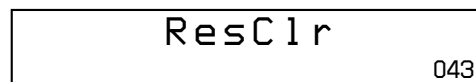
13. To clear the data in overall adjustment mode, set the manual mode and change the mode number 021 (Res NV) to reset the NV. (See page 13)

14. When both CD and MO overall adjustments are OK, set the mode No. 043 (Resume) and clear the clock data.

LCD display



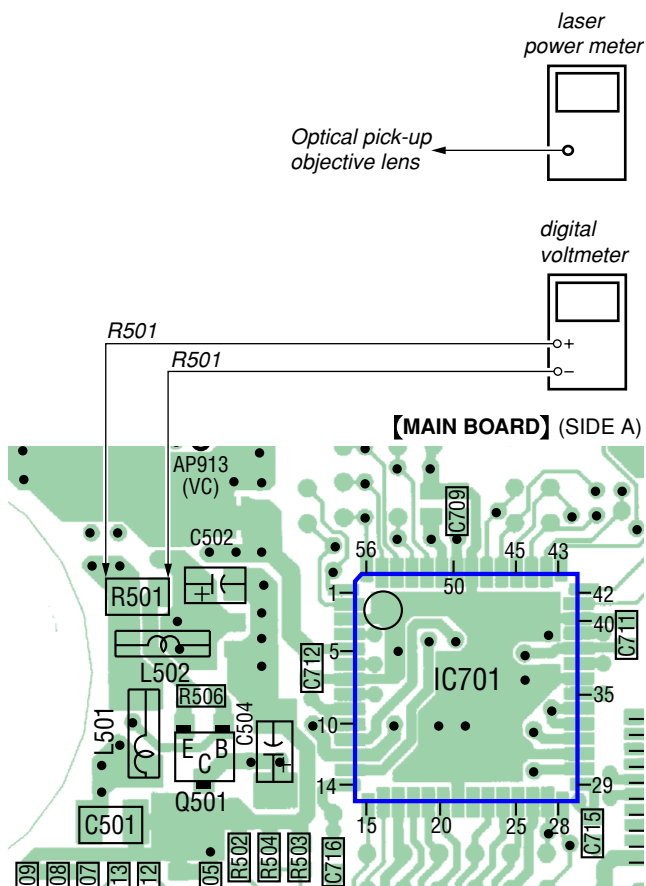
↓ Press the key, historical data clear



Note: In step 10, set the clock data to 99Y11M11D11H11M00S, and in step 14, do not set the clock.

[Laser Power Check]

Connection :



Check Method :

1. Select the manual mode of test mode, and set the laser power adjusting mode. (mode number 010)
2. Press the key continuously until the optical pick-up moves to the most inward track.
3. Open the cover and set the laser power meter on the objective lens of the optical pick-up.
4. Press the key, and set the laser MO read adjustment mode. (mode number 011)
5. Check that the laser power meter reading is 0.81 ± 0.08 mW.
6. Check that the voltage both ends of resistor R501 at this time is below 44 mV.
7. Press the key, and set the laser CD read adjustment mode. (mode number 012)
8. Check that the laser power meter reading is 0.97 ± 0.10 mW.
9. Check that the voltage both ends of resistor R501 at this time is below 44 mV.
10. Press the key, and set the laser MO write adjustment mode. (mode number 013)
11. Check that the laser power meter reading is 4.95 ± 0.50 mW.
12. Check that the voltage both ends of resistor R501 at this time is below 80 mV.
13. Press the key.
14. Release the test mode.

SECTION 6 DIAGRAMS

6-1. EXPLANATION OF IC TERMINALS

• MAIN BOARD IC501 SN761057DBT (RF AMP, FOCUS/TRACKING ERROR AMP)

Pin No.	Pin name	I/O	Description
1	TE	O	Tracking error signal output to IC801
2	REXT	—	Connected to the external resistor for the ADIP amplifier control
3	WPPLPF	—	Connected to the external capacitor for low-pass filter of the TPP/WPP
4	VREF11	O	Reference voltage output terminal (+1.1V)
5	C	I	Signal input from the optical pick-up detector (C)
6	D	I	Signal input from the optical pick-up detector (D)
7	D-C	I	Signal input from the optical pick-up detector (D) (AC input)
8	IY	I	I-V converted RF signal IY input from the optical pick-up block detector
9	IX	I	I-V converted RF signal IX input from the optical pick-up block detector
10	JX	I	I-V converted RF signal JX input from the optical pick-up block detector
11	JY	I	I-V converted RF signal JY input from the optical pick-up block detector
12	A	I	Signal input from the optical pick-up detector (A)
13	A-C	I	Signal input from the optical pick-up detector (A) (AC input)
14	B	I	Signal input from the optical pick-up detector (B)
15	TON-C	—	Connected to the external capacitor for the TON hold
16	CIG	—	Connected to the external capacitor for low-pass filter of the NPP divider denominator
17	CDN	—	Connected to the external capacitor for low-pass filter of the CSL divider denominator
18	PD-NI	I	Light amount monitor input terminal (non-invert input)
19	PD-I	I	Light amount monitor input terminal (invert input)
20	PD-O	O	Light amount monitor output terminal
21	ADFG	O	ADIP duplex FM signal (22.05 kHz \pm 1 kHz) output to IC801
22	DVDD	—	Power supply terminal (+2.4V) (digital system)
23	SBUS	I/O	Two-way SSB serial data bus with the system controller (IC801)
24	SCK	I	SSB serial clock signal input from the system controller (IC801)
25	XRST	I	Reset signal input from the system controller (IC801) “L”: reset
26	OFTRK	I	Off track signal input from IC801
27	DGND	—	Ground terminal (digital system)
28	BOTM	O	Light amount signal (RF/ABCD) bottom hold output to IC801
29	PEAK	O	Light amount signal (RF/ABCD) peak hold output to IC801
30	VREF075	—	Connected to the external capacitor for the internal reference voltage
31	VC	O	Middle point voltage (+1.2V) generation output terminal
32	CCSL2	—	Connected to the external capacitor for low-pass filter of the TPP/WPP
33	RF OUT	O	Playback EFM RF signal output to IC801
34	AGND	—	Ground terminal (analog system)
35	EQ	—	Connected to the external capacitor for the RF equalizer
36	LP	—	Connected to the external capacitor for the RF equalizer
37	PS	—	Connected to the external capacitor for the RF equalizer
38	OFC-2	—	Connected to the external capacitor for the RF AC coupling
39	OFC-1	—	Connected to the external capacitor for the RF AC coupling
40	AVCC	—	Power supply terminal (+2.4V) (analog system)
41	ABCD	O	Light amount signal (ABCD) output to IC801
42	FE	O	Focus error signal output to IC801
43	S-MON	O	Servo signal monitor output to the system controller (IC801)
44	ADIP-IN	I	ADIP duplex FM signal (22.05 kHz \pm 1 kHz) input terminal Not used

• IC801 CXD2671-209GA (SYSTEM CONTROLLER, DIGITAL SIGNAL PROCESSOR, 16M BIT D-RAM)

Pin No.	Pin name	I/O	Description
1	MICAMP CTL	O	MIC AMP ON/OFF control output
2	XHP DET	I	Headphones connection detect input
3	V UP	O	Volume control output
4	SP AMP	O	Speaker amplifier ON/OFF control output
5	XMONO MODE	O	MONO/STEREO control output
6	MCUVDD0	—	Power supply terminal (for microcomputer block) (+1.5V)
7	MIFVSS3	—	Ground terminal (for microcomputer I/F)
8	XRST	I	System reset signal input terminal from the power control (IC901) “L”: reset
9	S MON	I	Servo signal monitor input terminal (A/D input) from RF amp (IC501)
10	VB MON	I	Voltage monitor input terminal of UNREG power supply (A/D input)
11	CHG MON	I	Charge voltage monitor input terminal (A/D input) from IC601
12	VREF MON	I	Clear reference monitor voltage input terminal (A/D input) from RF amp (IC501)
13 to 15	SET KEY 1 – 3	I	Key input terminal from the switch & LCD module (A/D input)
16	HIDC MON	I	HIGH DC voltage monitor input terminal (A/D input)
17	WK DET	I	Set key start switching detection signal input terminal (A/D input)
18	REC KEY	I	REC key input terminal (A/D input)
19	HALF LOCK SW	I	Open button detection switch (S805) input terminal (A/D input) Input “L” when the open button is pressed. Input “H” in other cases.
20	RMC KEY	I	Key input terminal (A/D input) from the remote commander attached headphone
21	AVDD	—	Power supply terminal (for the analog circuit block) (+2.8V)
22	AVSS	—	Ground terminal (for the analog circuit block)
23	VDIOSC	—	Power supply terminal (for OSC cell) (+2.4V)
24	OSCI	I	System clock (45.1584MHz) input terminal
25	OSCO	O	System clock (45.1584MHz) output terminal
26	VSIOSC	—	Ground terminal (for OSC cell)
27	DAVDD	—	Power supply terminal (for the built-in D/A converter) (+2.4V)
28	VREFL	I	Reference voltage input terminal (for the internal D/A converter L-CH)
29	AOUTL	O	Built-in D/A converter (L-CH) output terminal
30	AOUTR	O	Built-in D/A converter (R-CH) output terminal
31	VREFR	I	Reference voltage input terminal (for the built-in D/A converter R-CH)
32	DAVSS	—	Ground terminal (for the built-in D/A converter)
33	ASYO	O	Playback EFM duplex signal output terminal
34	ASYI	I	Playback EFM comparison slice level input terminal
35	AVD1	—	Ground terminal (for the analog) (+2.4V)
36	BIAS	I	Bias current input terminal for the playback EFM comparison
37	RFI	I	Playback EFM RF signal input from RF amp (IC501)
38	AVS1	—	Ground terminal (for the analog)
39	PCO	O	Phase comparison output terminal for the playback EFM system master PLL
40	PDO	O	Phase comparison output terminal for the analog PLL Not used (open)
41	FILI	I	Filter input terminal for the playback EFM system master PLL
42	FILO	O	Filter output terminal for the playback EFM system master PLL
43	CLTV	I	Internal VCO control voltage input for the playback EFM system master PLL
44	PEAK	I	Peak hold signal input of the light amount signal (RF/ABCD) from RF amp (IC501)
45	BOTM	I	Bottom hold signal input of the light amount signal (RF/ABCD) from RF amp (IC501)
46	ABCD	I	Light amount signal (ABCD) input from RF amp (IC501)
47	FE	I	Focus error signal input from RF amp (IC501)
48	AUX1	I	Support signal (I3 signal/temperature signal) input terminal (A/D input)
49	VC	I	Middle point voltage (+1.2V) input terminal
50	ADIO	O	Monitor output terminal of A/D converter input signal Not used (open)
51	ADRT	I	A/D converter the upper limit voltage input terminal (fixed at “H” in this set)

Pin No.	Pin name	I/O	Description
52	AVD2	—	Power supply terminal (for the analog) (+2.4V)
53	AVS2	—	Ground terminal (for the analog)
54	ADRB	I	A/D converter the lower limit voltage input (fixed at “L” in this set)
55	SE	I	Sled error signal input terminal Not used (fixed at “L”)
56	TE	I	Tracking error signal input from RF amp (IC501)
57	DCHG	—	Connecting analog power supply of the low impedance (fixed at “H” in this set)
58	APC	I	Error signal input for the laser automatic power control Not used (fixed at “H”)
59	DSPVDD0	—	Power supply terminal (for DSP block) (+1.5V)
60	DSPVSS0	—	Ground terminal (for DSP block)
61	XTSL	I	Input terminal for the frequency set up of the system clock “L”: 45.1584MHz, “H”: 22.5792MHz (fixed at “L” in this set)
62	DIN1	I	Input terminal of the record system digital audio signal
63	DOUT	O	Output terminal of the playback system digital audio signal Not used (open)
64	DAPWMLP	O	D/A converter PWM output terminal (L-CH right phase) Not used (open)
65	DAPWMLN	O	D/A converter PWM output terminal (L-CH reverse phase) Not used (open)
66	DAPWMRP	O	D/A converter PWM output terminal (R-CH right phase) Not used (open)
67	DADT	O	Audio data output to the external A/D converter Not used (open)
68	ADDT	I	Data input from the external A/D converter (IC301)
69	LRCK	O	L/R sampling block signal (44.1KHz) output to the external A/D converter (IC301)
70	XBCK	O	Bit clock signal (2.8224MHz) output to the external A/D converter (IC301)
71	FS256	O	11.2896MHz clock signal output to the external A/D converter (IC301)
72	MVCI	I	Clock signal input from the external VCO Not used (fixed at “L”)
73	DSPVDD1	—	Power supply terminal (for DSP block) (+1.5V)
74	ADFG	I	ADIP duplex FM signal (20.05±1kHz) input from RF amp (IC501)
75	F0CNT	O	Filter cut off control signal output terminal Not used (open)
76	DIFVDD0	—	Power supply terminal (for DSP I/F) (+2.3V)
77	DIFVSS0	—	Ground terminal (for DSP I/F)
78	APCREF	O	Reference PWM signal output for the laser automatic power control to RF amp (IC501)
79	LDDR	O	PWM signal output for the laser automatic power control Not used (open)
80	TRDR	O	Tracking servo drive PWM signal output (–) to the motor driver (IC701)
81	TFDR	O	Tracking servo drive PWM signal output (+) to the motor driver (IC701)
82	FFDR	O	Focus servo drive PWM signal output (+) to the motor driver (IC701)
83	FRDR	O	Focus servo drive PWM signal output (–) to the motor driver (IC701)
84	MCUVDD1	—	Power supply terminal (for the microcomputer block) (+1.5V)
85	FGIN	I	FG signal input terminal for the spindle CAV servo Not used (open)
86	FS4	O	176.4kHz clock signal output to the power control (IC601, IC901)
87	SPDU	O	Spindle motor drive control signal output (U) to the motor driver (IC701)
88	SPFD/SPVS/PWM3	O	Spindle servo drive PWM signal output to the motor driver (IC701)
89	SPDV	O	Spindle motor drive control signal output (V) to the motor driver (IC701)
90	SPDW	O	Spindle motor drive control signal output (W) to the motor driver (IC701)
91	DSPVDD2	—	Power supply terminal (for DSP block) (+1.5V)
92	DSPVSS1	—	Ground terminal (for DSP block)
93	SPCU	I	Spindle motor drive comparison signal input (U) from the motor driver (IC701)
94	SPCV	I	Spindle motor drive comparison signal input (V) from the motor driver (IC701)
95	SPCW	I	Spindle motor drive comparison signal input (W) from the motor driver (IC701)
96	SRDR	O	Sled motor drive signal output (U) to the motor driver (IC701)
97	SFDR	O	Sled servo drive PWM signal output to the motor driver (IC701)
98	SLDV	O	Sled motor drive signal output (V) to the motor driver (IC701)
99	SLDW	O	Sled motor drive signal output (W) to the motor driver (IC701)
100	SLCU	I	Sled motor drive comparison signal input (U) from the motor driver (IC701)

Pin No.	Pin name	I/O	Description
101	SLCV	I	Sled motor drive comparison signal input (V) from the motor driver (IC701)
102	SLCW	I	Sled motor drive comparison signal input (W) from the motor driver (IC701)
103	DIFVDD1	—	Power supply terminal (for DSP I/F) (+2.3V)
104	DIFVSS1	—	Ground terminal (for DSP I/F)
105	EFMO	O	EFM encode data output for the record to the over write head drive (IC601)
106	MNT0	O	Internal DSP monitor output (0) terminal Not used (open)
107	MNT1	O	Internal DSP monitor output (1) terminal Not used (open)
108	MNT2	O	Internal DSP monitor output (2) terminal Not used (open)
109	MNT3	O	Internal DSP monitor output (3) terminal Not used (open)
110	SENSE	O	Internal DSP (SENS) monitor output terminal Not used (open)
111	TX	O	Record data output enable signal output monitor terminal of the internal DSP Not used (open)
112	RECP	O	Laser power changeover signal output monitor terminal Not used (open)
113	DSPVDD3	—	Power supply terminal (for DSP block) (+1.5V)
114 to 117	NC	O	Output terminal for the external D-RAM Not used (open)
118	DRAMVSS0	—	Ground terminal (for the external D-RAM)
119	DRAMVDD0	—	Power supply terminal (for the external D-RAM) (+2.4V)
120 to 138	NC	O	Output terminal for the external D-RAM Not used (open)
139	DRAMVDD1	—	Power supply terminal (for the external D-RAM) (+2.4V)
140	DRAMVSS1	—	Ground terminal (for the external D-RAM)
141	TSB MST VDD	—	Power supply terminal (for TSB master communication) (+2.8V)
142	RMC DTCK	I/O	TSB serial data input/output with the remote commander attached headphone
143	TSB SLV VDD	—	Power supply terminal (for I/F to TSB slave communication)
144	TSB SLVI	I	TSB slave signal input from the remote commander attached headphone
145	TSB SLVO	O	TSB slave signal output to the remote commander attached headphone
146	TDI	I	Data input terminal for JTAG Not used (open)
147	TMS	I	Test mode control input terminal for JTAG Not used (open)
148	TCK	I	Clock input terminal for JTAG Not used (open)
149	XTRST	I	Reset input terminal for JTAG Not used (open)
150	TDO	O	Data output terminal for JTAG Not used (open)
151	JTAGVDD	—	Power supply terminal (for JTAG) (+2.4V)
152	JTAGVSS	—	Ground terminal (for JTAG)
153	MCUVDD2	—	Power supply terminal (for the microcomputer block) (+1.5V)
154	MIFVDD0	—	Power supply terminal (for the microcomputer I/F block) (+2.3V)
155	MIFVSS0	—	Ground terminal (for the microcomputer I/F block)
156, 157	TEST1, TEST0	I	Input terminal for the main test (normally fixed at “L”)
158	EVA	I	EVA/FLASH chip discrimination terminal “L”: FLASH chip, “H”: EVA chip
159	OPR LED	—	Not used (open)
160	SSB DATA	I/O	Input/output of SSB data with RF amp (IC501)
161	SSB CLK	O	SSB clock output to RF amp (IC501)
162	MCUVSS0	—	Ground terminal (for the microcomputer block)
163	VREC PWM	O	Over write head control spare terminal Not used (open)
164	VL PWM	O	PWM signal output for the laser power supply voltage control to the power control (IC901)
165	VC PWM	O	PWM signal output for the system power supply voltage control to the power control (IC901)
166	SPDL AUX PWM	O	PWM signal output for the spindle support to the motor driver (IC701)
167, 168	NC	O	Not used (open)
169	CLK SEL	O	System clock select signal output to the power control (IC901)
170	OPEN CLOSE SW	I	Open/close detection switch (S806) of the upper panel input terminal “L”: when upper panel close

Pin No.	Pin name	I/O	Description
171	PLCTL	O	PL control signal output
172	SET CODE0	I	Input terminal for the set (fixed at "L" in this set)
173	SET CODE1	I	Input terminal for the set (open in this set)
174, 175	SET CODE2, 3	I	Input terminal for the set (fixed at "L" in this set)
176	MIFVDD1	—	Power supply terminal (for the microcomputer I/F block) (+2.3V)
177	MIFVSS1	—	Ground terminal (for the microcomputer I/F block)
178	AOUT SEL	—	Not used (open)
179	SI0	I	Serial data input from the nonvolatile memory (IC804) and liquid crystal display element module
180	SO0	O	Serial data output to the nonvolatile memory (IC804), A/D converter (IC301) and liquid crystal display element module
181	SCK0	O	Serial clock signal output to the nonvolatile memory (IC804), A/D converter (IC301) and liquid crystal display element module
182	XGUM ON	I	Rechargeable battery detection switch (S804) input terminal "L": there is rechargeable battery
183	BEEP	O	Beep sound control signal output to the headphone amp (IC302)
184	NC	O	Not used (open)
185	VD SEL	O	VD power supply changeover signal output terminal Not used (open)
186	XMUTE	O	Analog muting control signal output terminal to the headphone amp (IC302) "L": muting ON
187	LCD RST AUX	O	Reset control signal output terminal to the liquid crystal display element "L": reset
188	PAUSE KEY	I	Pause key input terminal from the switch & LCD module
189	MIC SENSE	O	Not used (open)
190	XPATCH	I	Patch function detection input terminal "L": patch function Not used (open)
191	OPT DET	I	DIN plug detection signal input terminal
192	XJACK DET	I	LINE IN plug detection signal input terminal
193	XMIC DET	I	Microphone plug detection signal input terminal
194, 195	PD S0, PD S1	O	PD IC mode changeover signal output to the optical pick up
196	MIFVDD2	—	Power supply terminal (for the microcomputer I/F block) (+2.3V)
197 to 199	MODE1 to 3	O	Power supply control signal output (for the over write head drive) to the over write head drive (IC601)
200, 201	HD CON 1, 2	O	Over write head control signal output to the over write head drive (IC601)
202	XTEST	I	Terminal for test mode set (nomally: open) "L": test mode
203	XCS ADA	O	Chip select signal output to A/D converter (IC301)
204	XPD ADA	O	Power supply control signal output for the drive to A/D converter (IC301)
205	XCS LCD	O	Chip select signal output to the liquid crystal display element
206	LCD STB	O	Strobe signal output to the liquid crystal display element
207	LCD RST	O	Reset control signal output to the liquid crystal display element Not used (open)
208	REC LED	O	LED ON/OFF control signal output for REC display
209	LD ON	O	ON/OFF control signal output terminal of the laser diode Not used (open)
210	TSB SLV CHK	O	TSB slave detection signal output terminal
211	K-TAI MON	—	Not used (open)
212	K-TAI SW	—	Not used (open)
213	MCUVSS1	—	Ground terminal (for the microcomputer block)
214	GND SW	O	GND changeover control signal output
215	XOPT CTL	O	Power supply ON/OFF control signal output for DIN PD drive
216	CS RTC	O	Chip select signal output to the clock IC
217	OFTRK	O	Off track signal output to RF amp (IC501)
218	MUTE	O	Analog muting control signal output "H": muting ON Not used (open)
219	XCS NV	O	Chip select signal output to EEPROM (IC804)

Pin No.	Pin name	I/O	Description
220	XRST MTR DRV	O	Reset control signal output to the motor driver (IC701)
221	XRF RST	O	Reset control signal output to RF amp (IC501)
222	MCUVDD3	—	Power supply terminal (for the microcomputer block) (+1.5V)
223	SPDL MON	I	Spindle servo monitor signal input from the motor driver (IC701)
224	XAVLS	I	Input terminal for AVLS switch detection signal
225, 226	JOG A, B	I	Jog dial pulse input terminal from the switch & LCD module
227	XHOLD SW	I	HOLD switch (S801) input terminal "L": hold ON, "H": hold OFF
228	SYNC REC	I	SYNCHRO REC switch (S802) input terminal "L": OFF, "H": ON Not used (open)
229	TSB SSB CTL	O	TSB/SSB changeover control signal output Not used (open)
230	PROTECT	I	Detection input terminal of the record check claw from the protect detection switch (S803) "L": recording possible condition, "H": protect
231	FLASHVDD	—	Power supply terminal (for the internal FLASH ROM) (+2.4V)
232	FLASHVSS	—	Ground terminal (for the internal FLASH ROM)
233	SLD MON	I	Sled servo monitor signal input from the motor driver (IC701)
234	VLON	O	Power supply control signal output for the laser diode drive to the power control (IC901)
235	SLEEP	O	System sleep control signal output to the power control (IC901) "H": sleep ON
236	FFCLR	O	Input latch output for the start switching to the power control (IC901)
237	CHG GAIN	O	Charge gain control signal output to the power control (IC601)
238	CHG	O	Charge ON/OFF control signal output to the power control (IC601) "H": charge ON
239	TUN REG ON	O	Not used (open)
240	XHP STBY	O	Power supply control signal output terminal for the headphone amp Not used (open)
241	MIFVDD3	—	Power supply terminal (for the microcomputer I/F block) (+2.3V)
242	MIFVSS2	—	Ground terminal (for the microcomputer I/F block)
243	TEST2	I	Input terminal for the main test (normally open)
244	NC	—	Not used (open)

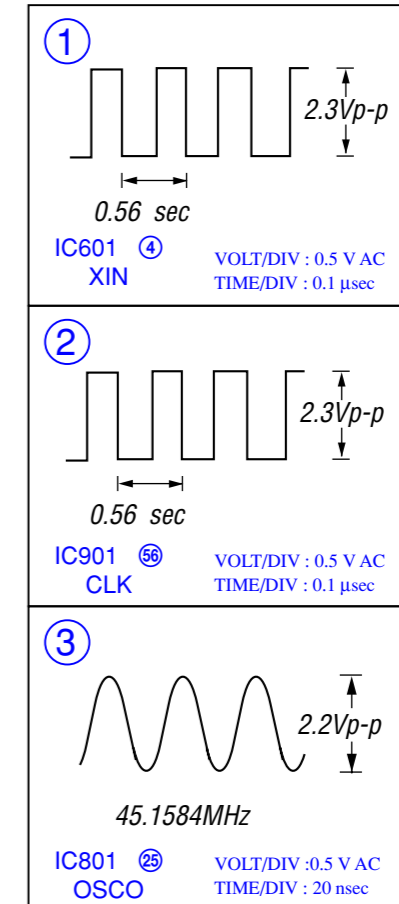
Note on Schematic Diagram:

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

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.
- Power voltage is dc 3 V and fed with regulated dc power supply from external power voltage jack.
- Voltages and waveforms are dc with respect to ground under no-signal conditions.
- no mark : PLAYBACK
- (*) : RECORD
- * : Impossible to measure
- Voltages are taken with a VOM (Input impedance $10\text{ M}\Omega$). Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken with a oscilloscope. Voltage variations may be noted due to normal production tolerances.
- Circled numbers refer to waveforms.
- Signal path.
- \Rightarrow : PLAYBACK
- \Rightarrow : PLAYBACK (ANALOG IN)
- \Rightarrow : RECORD (DEGITAL IN)
- Replacement of IC801 used in this set requires a special tool.
- The voltage and waveform of CSP (chip size package) cannot be measured, because its lead layout is different form that of conventional IC.

Waveforms

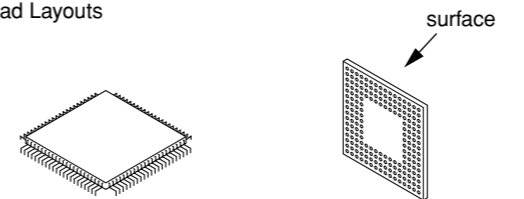


Note on Printed Wiring Board:

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

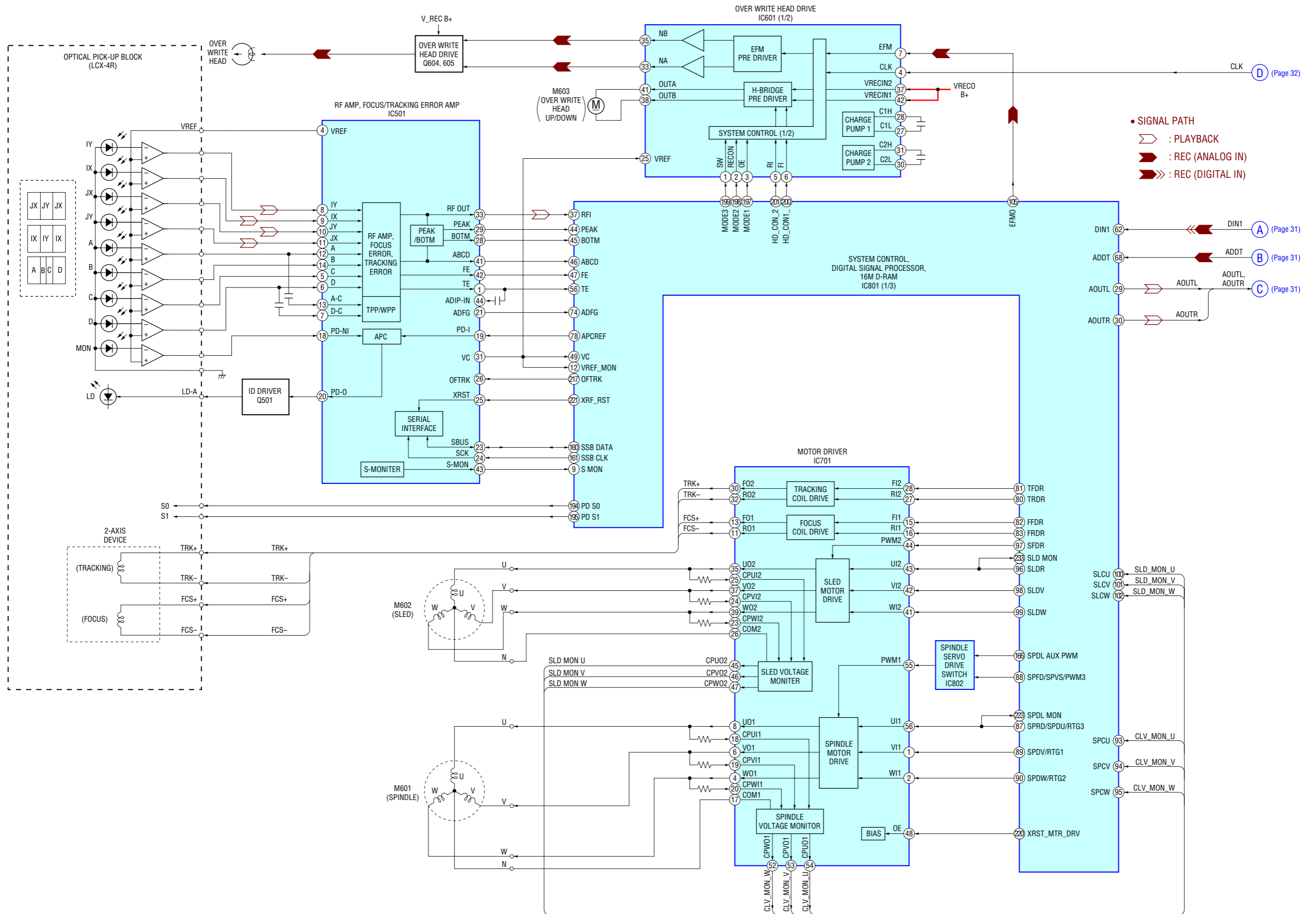
Caution:
 Pattern face side: Parts on the pattern face side seen from the pattern face are indicated.
 Parts face side: Parts on the parts face side seen from the parts face are indicated.

- Main board is four-layer printed board. However, the patterns of layers 2 and 3 have not been included in this diagrams.
- Replacement of IC801 used in this set requires a special tool.
- Lead Layouts

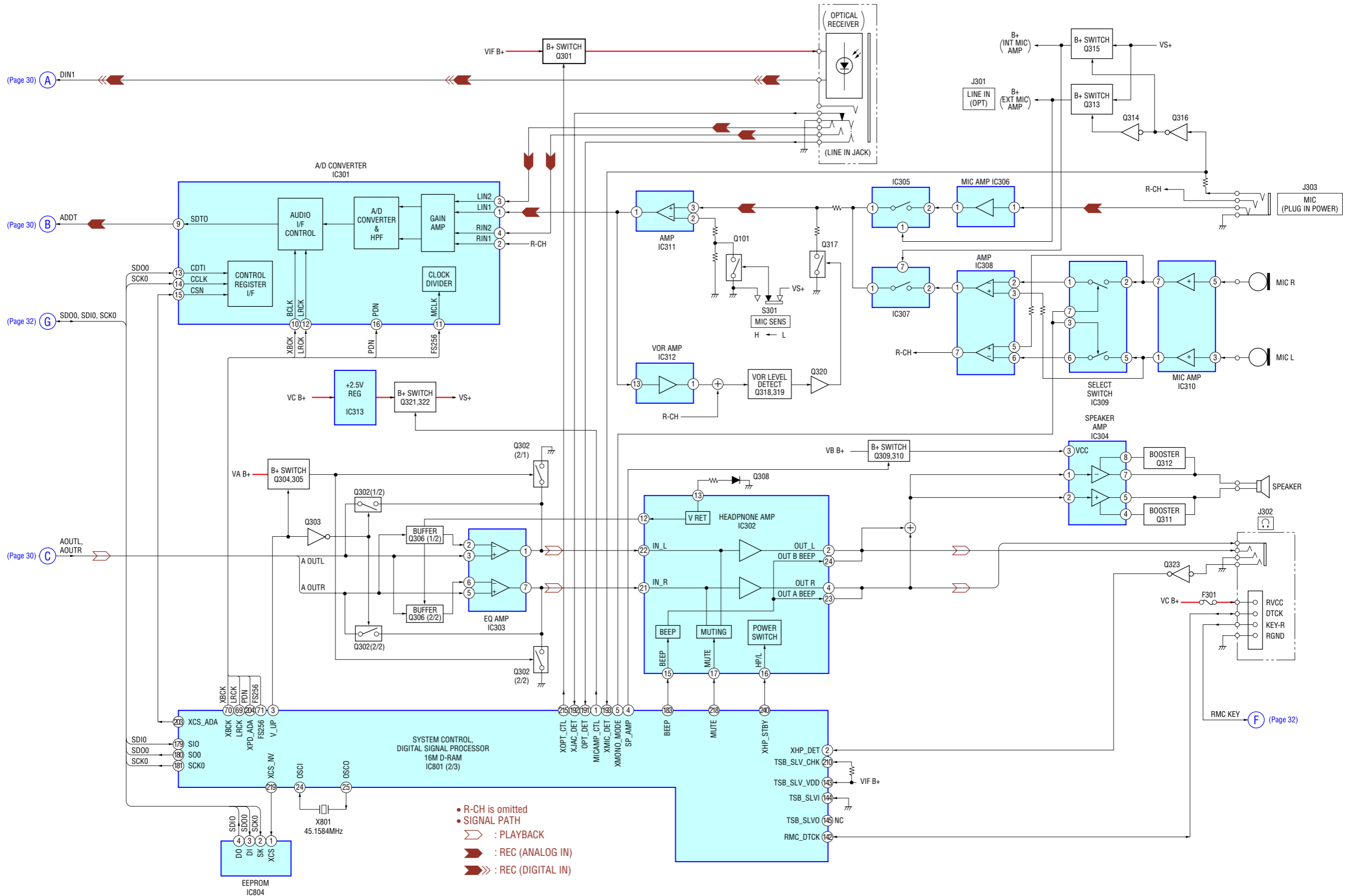


Lead layout of conventional IC CSP (chip size package)

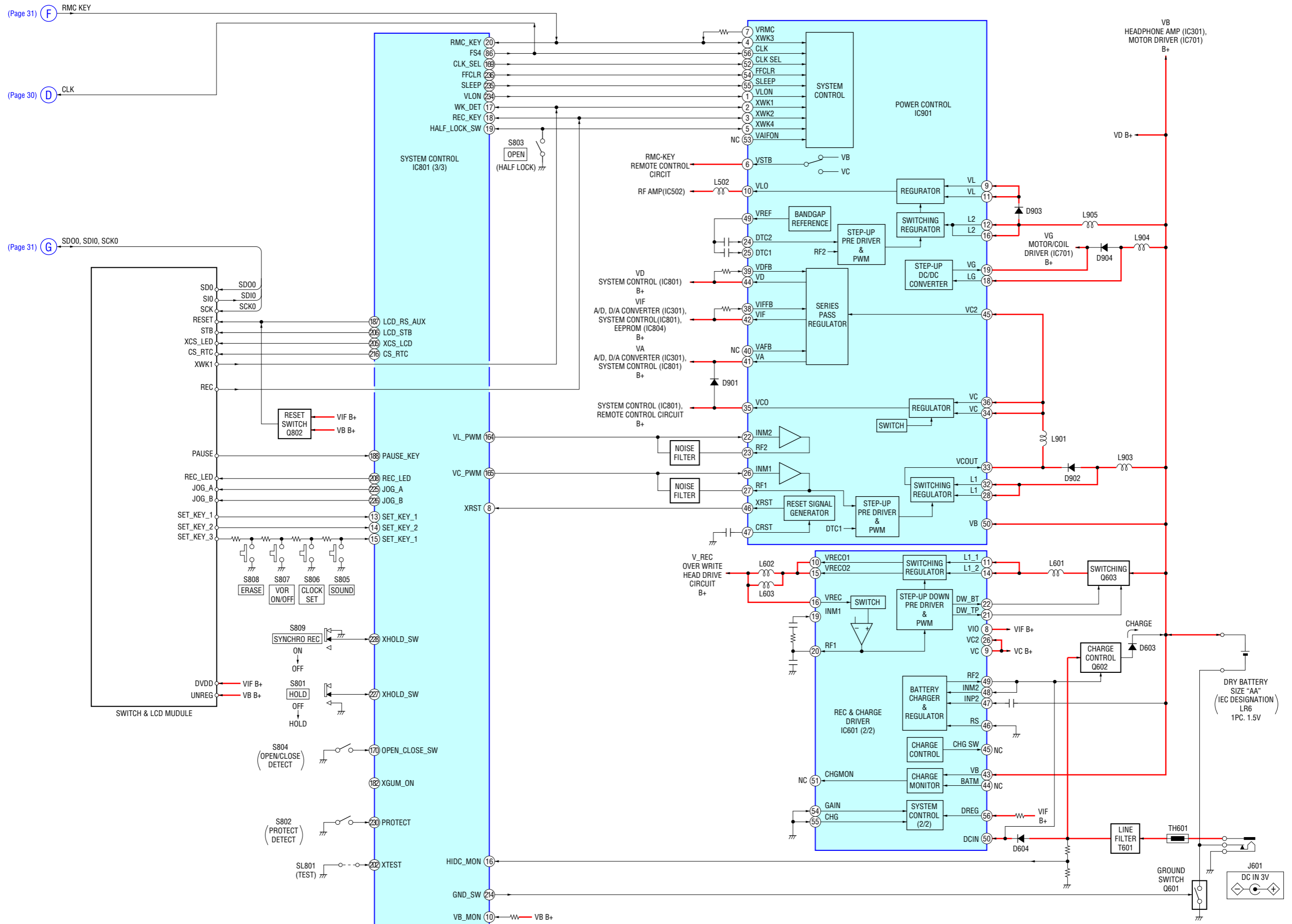
6-2. BLOCK DIAGRAM – MAIN Section (1/3) –



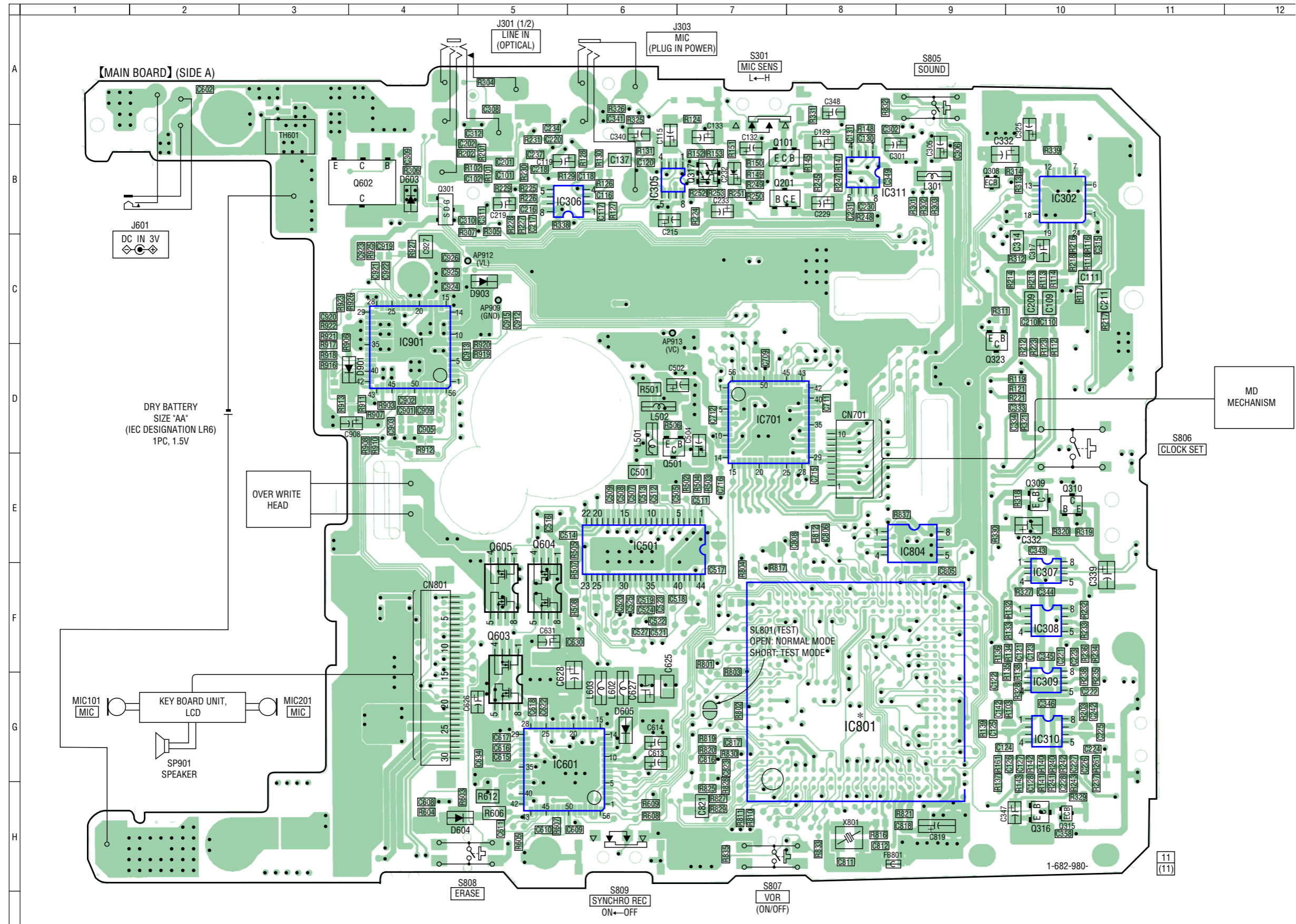
6-3. BLOCK DIAGRAM – MAIN Section (2/3) –



6-4. BLOCK DIAGRAM – MAIN Section (3/3) –

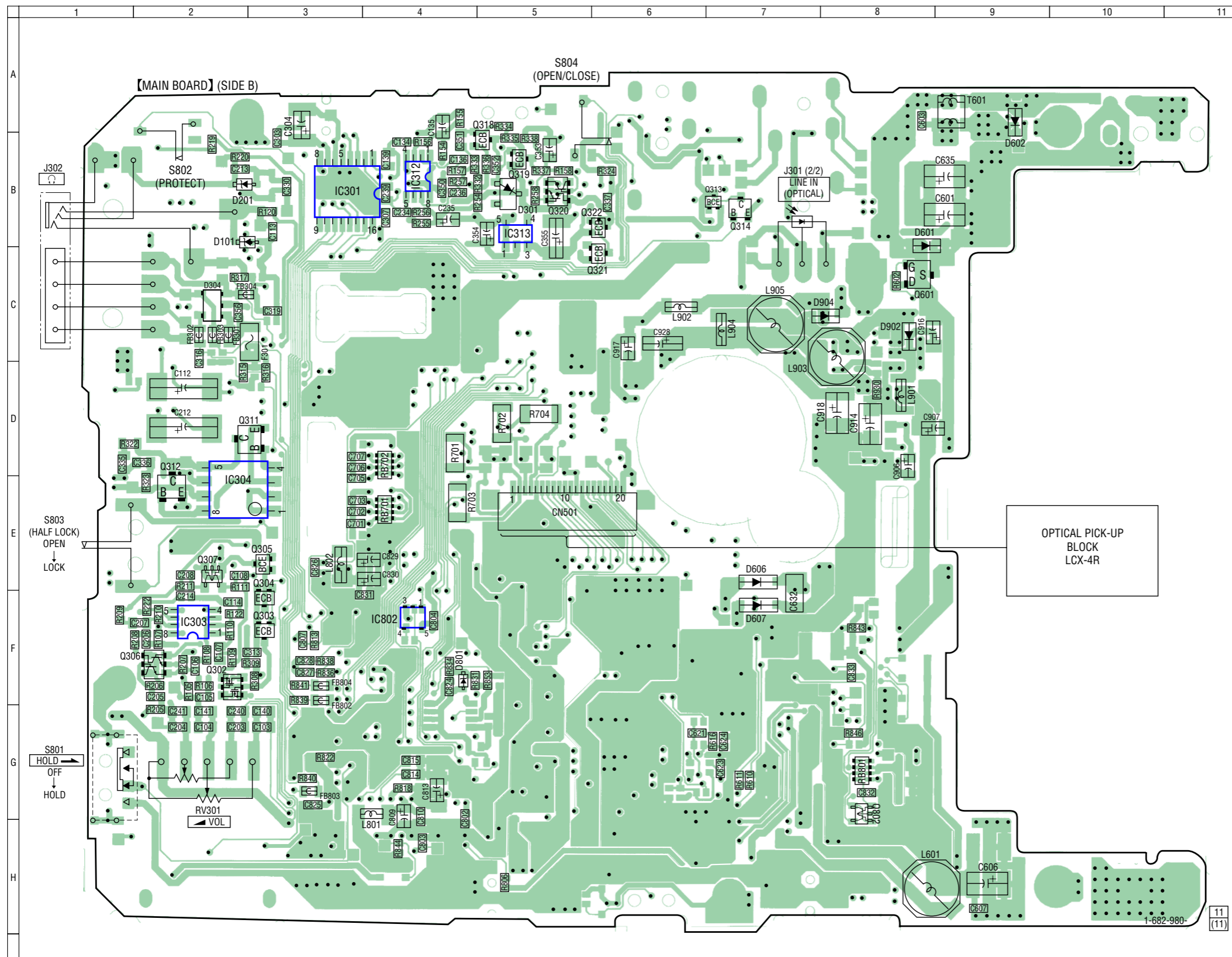


6-5. PRINTED WIRING BOARD – MAIN Section (1/2) – ● Refer to page 29 for Notes.  : Uses unleaded solder.



● Semiconductor Location

Ref. No.	Location
D603	B-4
D604	H-5
D605	G-6
D901	D-4
D903	C-5
IC302	B-10
IC305	B-6
IC306	B-5
IC307	F-10
IC308	F-10
IC309	G-10
IC310	G-10
IC311	B-8
IC501	E-6
IC601	G-5
IC701	D-7
IC801	G-8
IC804	E-9
IC901	C-4
Q101	B-7
Q201	B-7
Q301	B-4
Q308	B-9
Q309	E-10
Q310	E-10
Q315	H-10
Q316	H-10
Q317	B-7
Q323	D-9
Q501	E-6
Q602	B-4
Q603	F-5
Q604	F-5
Q605	F-5

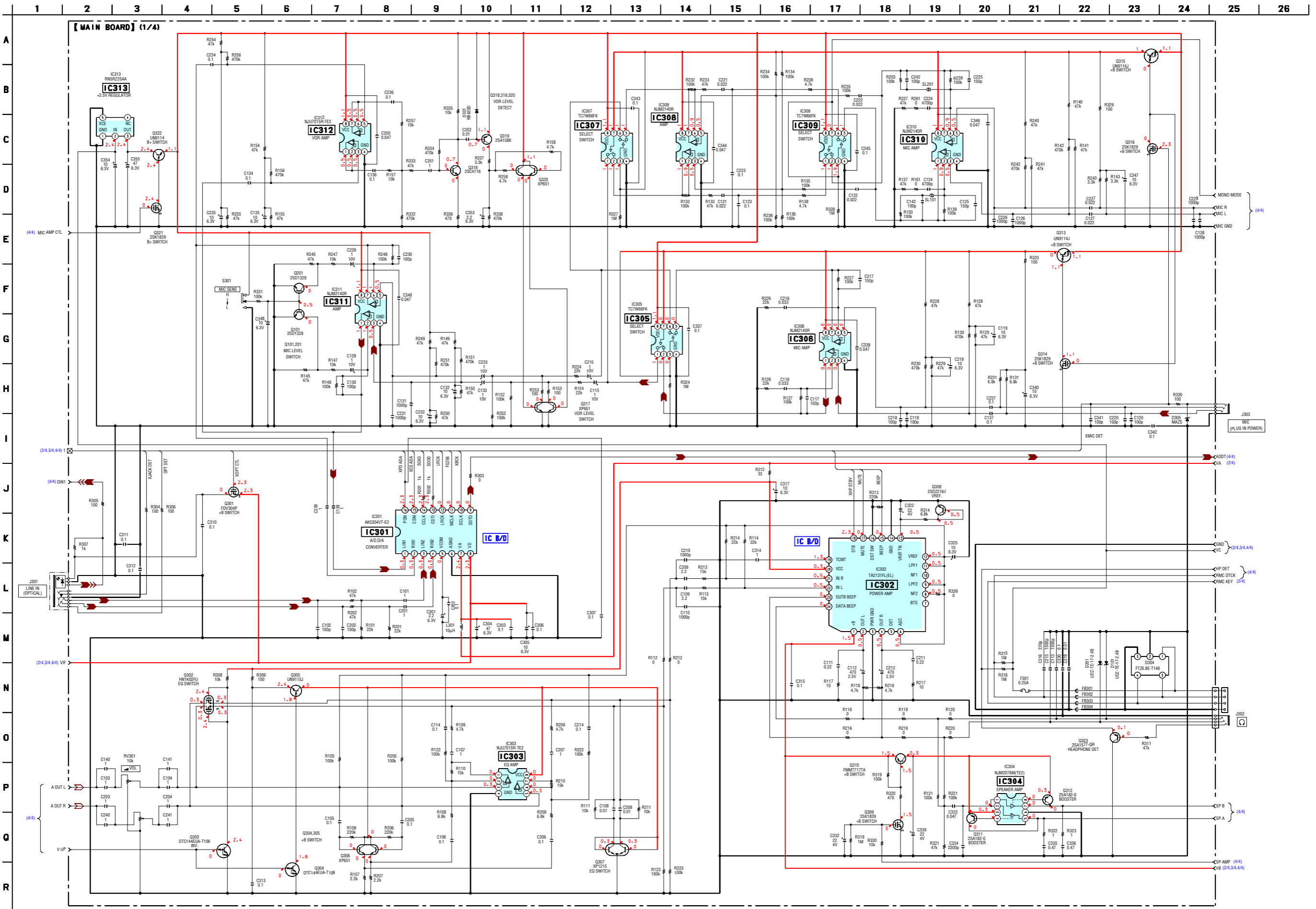


● Semiconductor Location

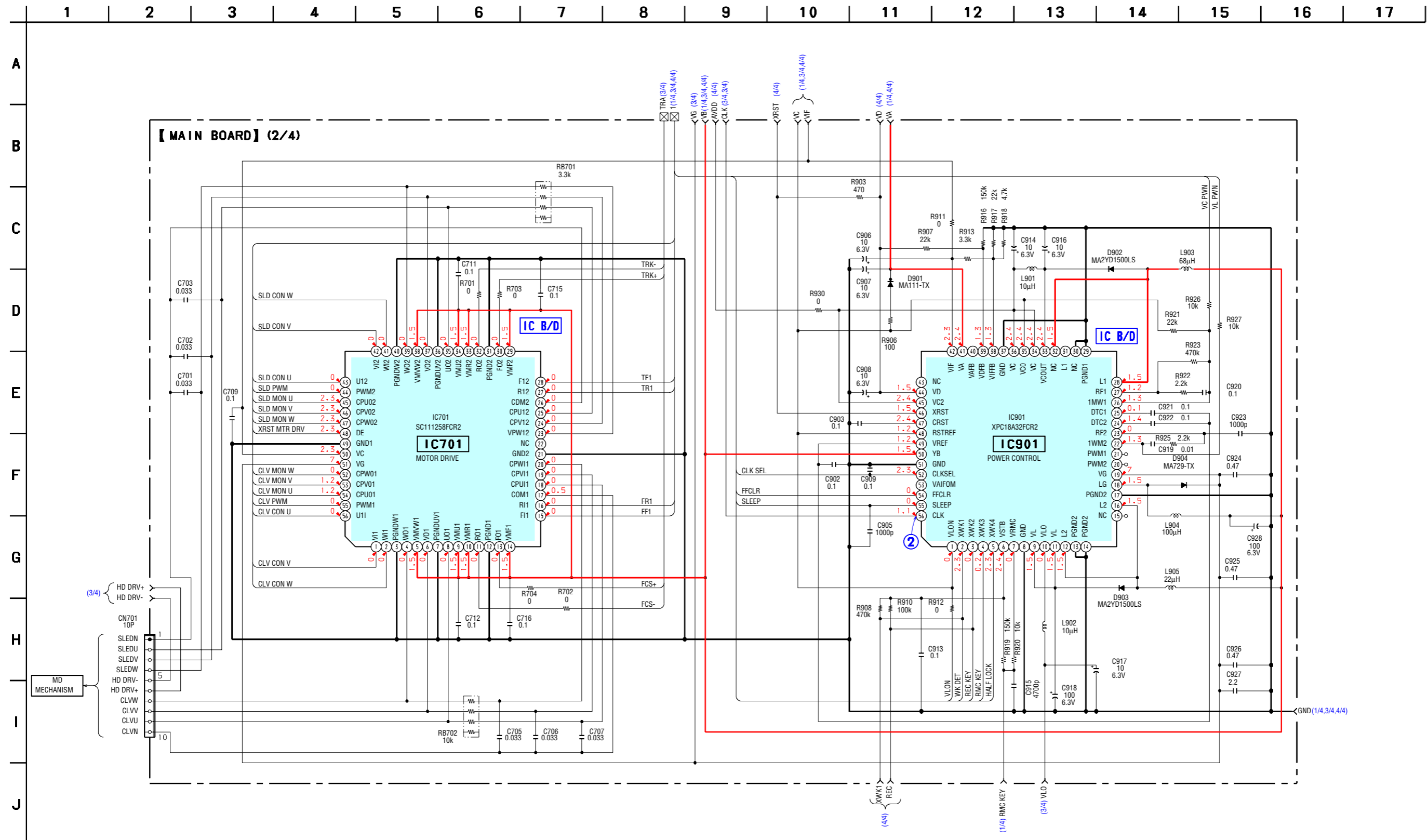
Ref. No.	Location
D101	B-2
D201	B-2
D301	B-5
D304	C-2
D601	B-8
D602	B-9
D606	E-7
D607	F-7
D801	F-4
D902	C-8
D904	C-8
IC301	B-3
IC303	F-2
IC304	E-2
IC312	B-4
IC313	B-5
IC802	F-4
Q302	F-2
Q303	F-3
Q304	E-3
Q305	E-3
Q306	F-2
Q307	E-2
Q311	D-2
Q312	D-2
Q313	B-7
Q314	B-7
Q318	A-5
Q319	B-5
Q320	B-5
Q321	C-6
Q322	B-6
Q601	C-8
Q802	G-8

1-682-980-11
(11)

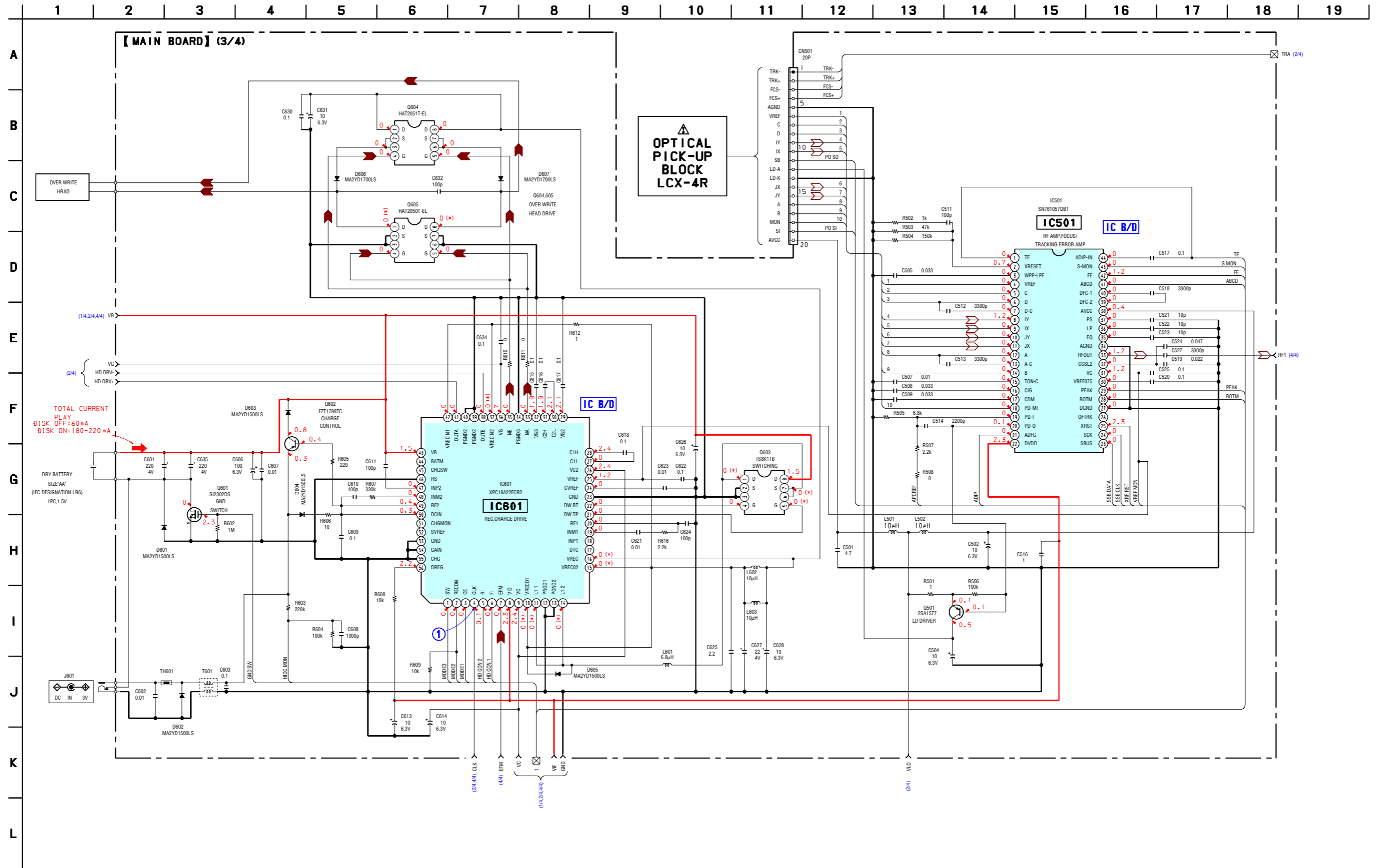
6-7. SCHEMATIC DIAGRAM – MAIN Section (1/4) – Refer to page 29 for Notes. Refer to page 29 for Waveforms. Refer to page 39 - 41 for IC Block Diagrams.



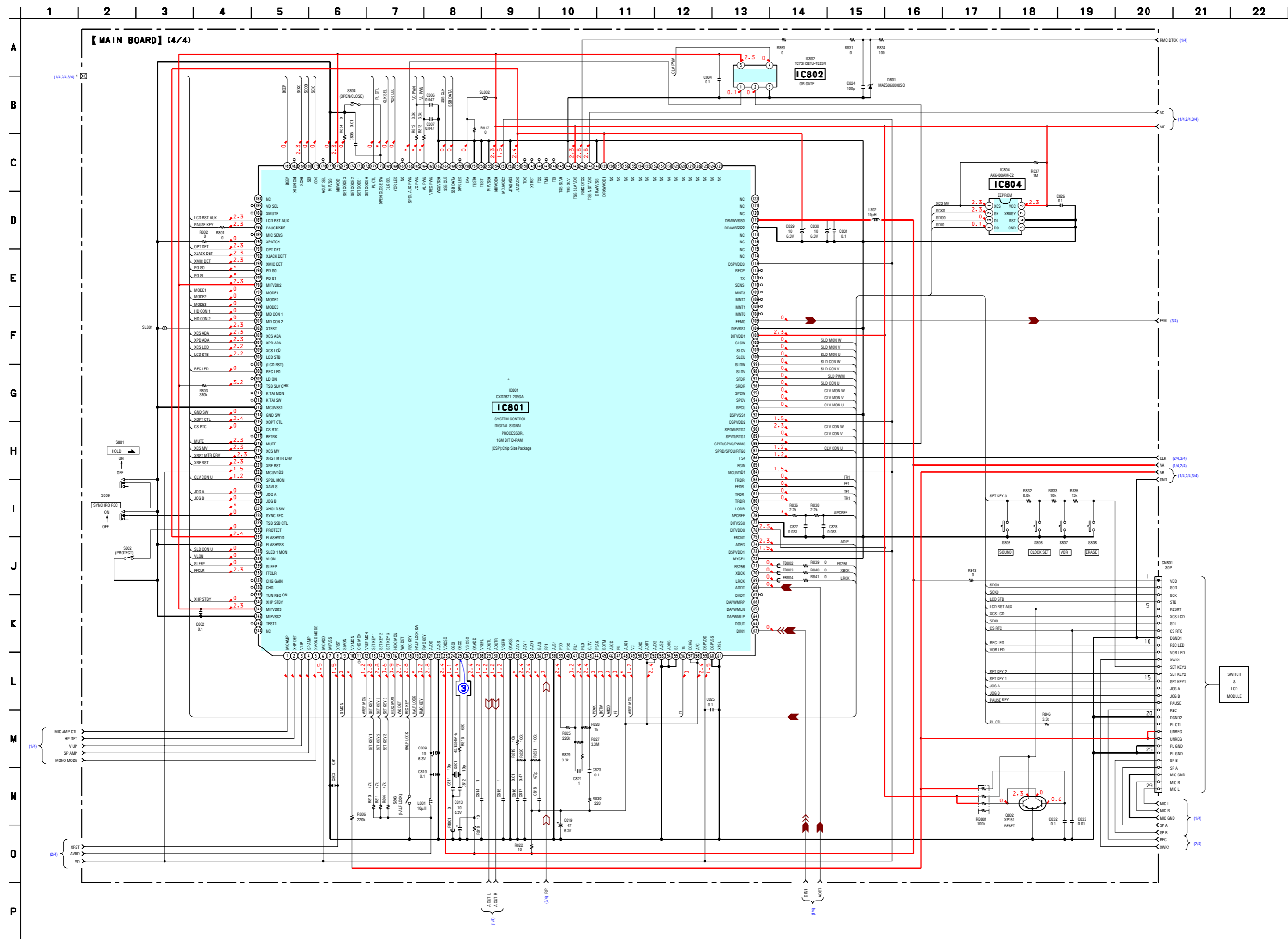
6-8. SCHEMATIC DIAGRAM – MAIN Section (2/4) – ● Refer to page 29 for Notes. ● Refer to page 29 for Waveforms. ● Refer to page 39 - 41 for IC Block Diagrams.



6-9. SCHEMATIC DIAGRAM – MAIN Section (3/4) – Refer to page 29 for Notes. Refer to page 29 for Waveforms. Refer to page 39 - 41 for IC Block Diagrams.

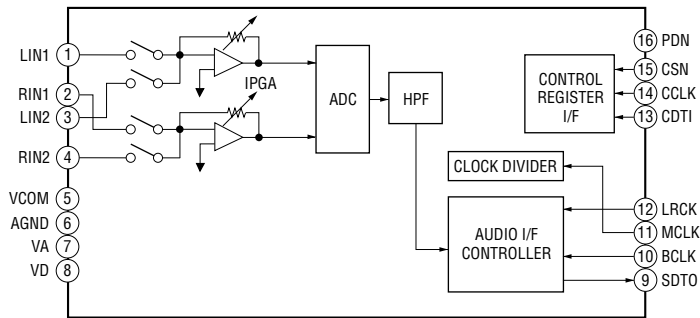


6-10. SCHEMATIC DIAGRAM – MAIN Section (4/4) – Refer to page 29 for Notes. Refer to page 29 for Waveforms. Refer to page 39 - 41 for IC Block Diagrams.

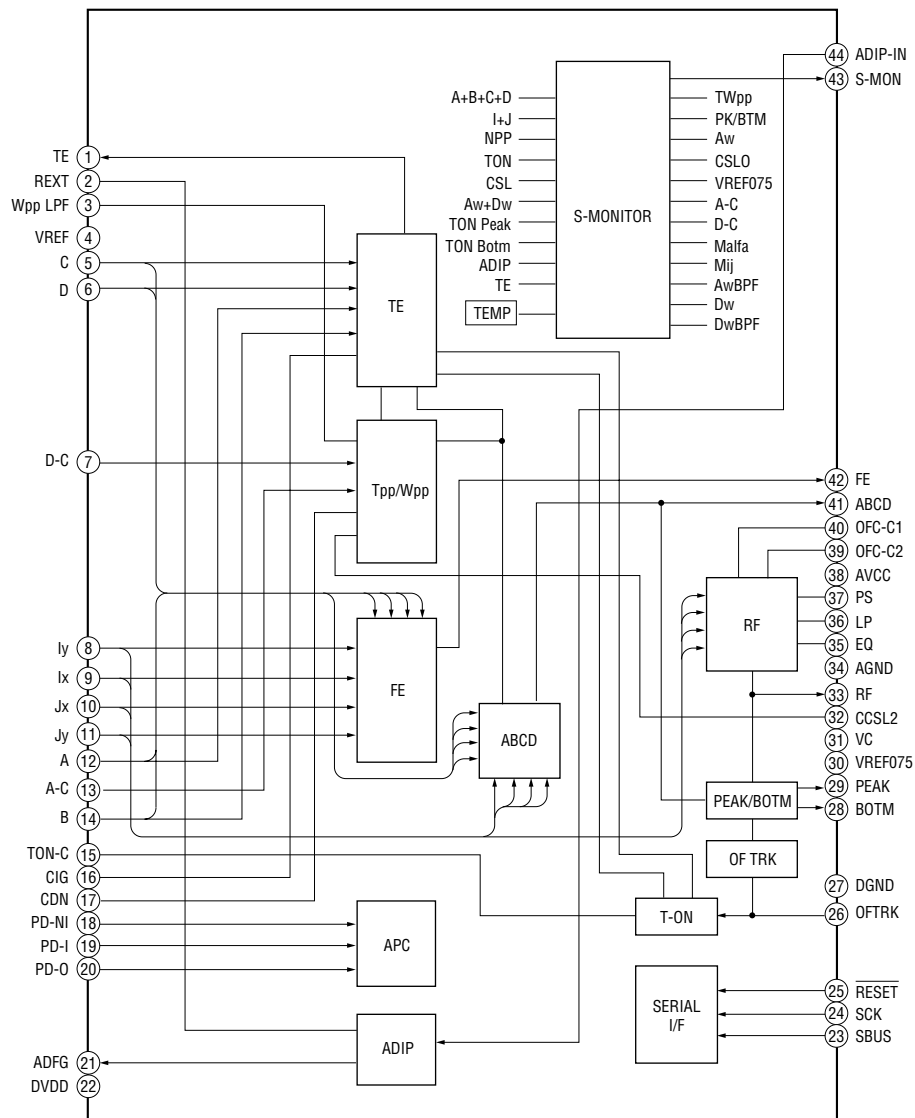


• IC Block Diagrams

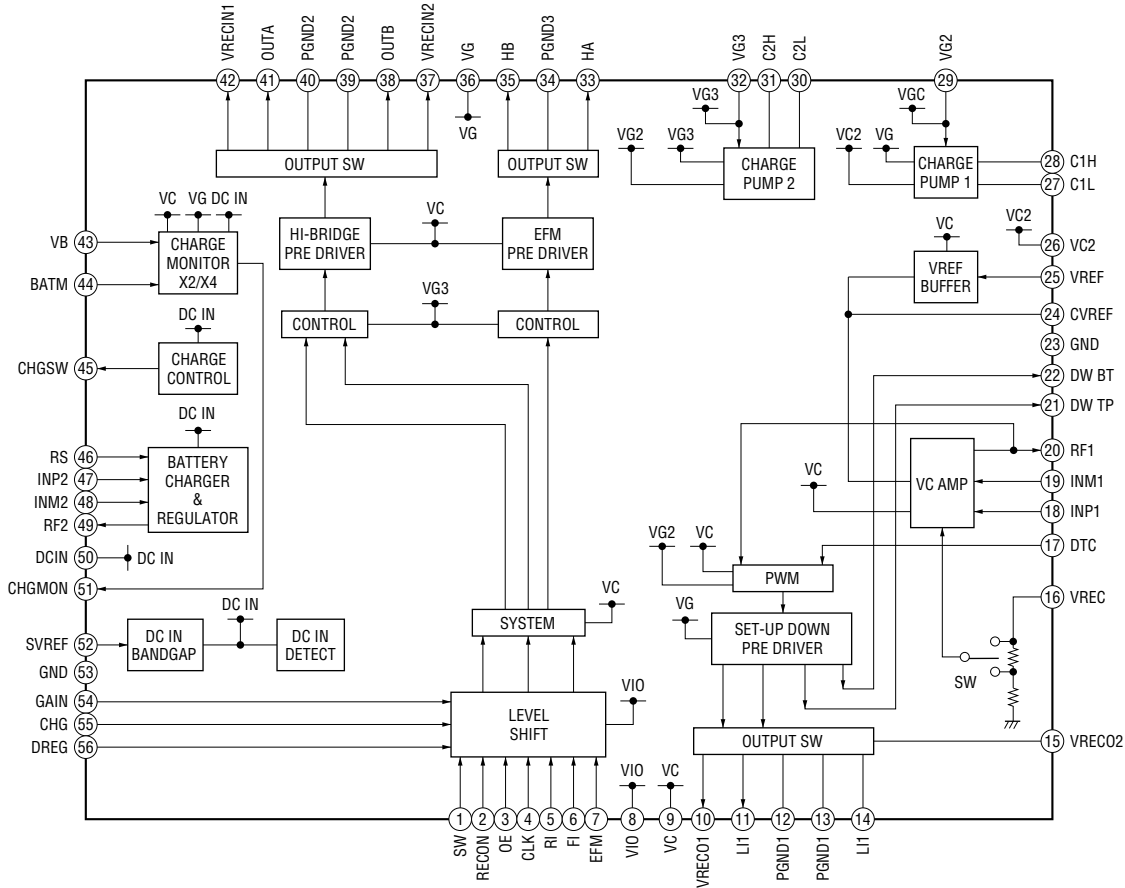
IC301 AK5354VT-E2



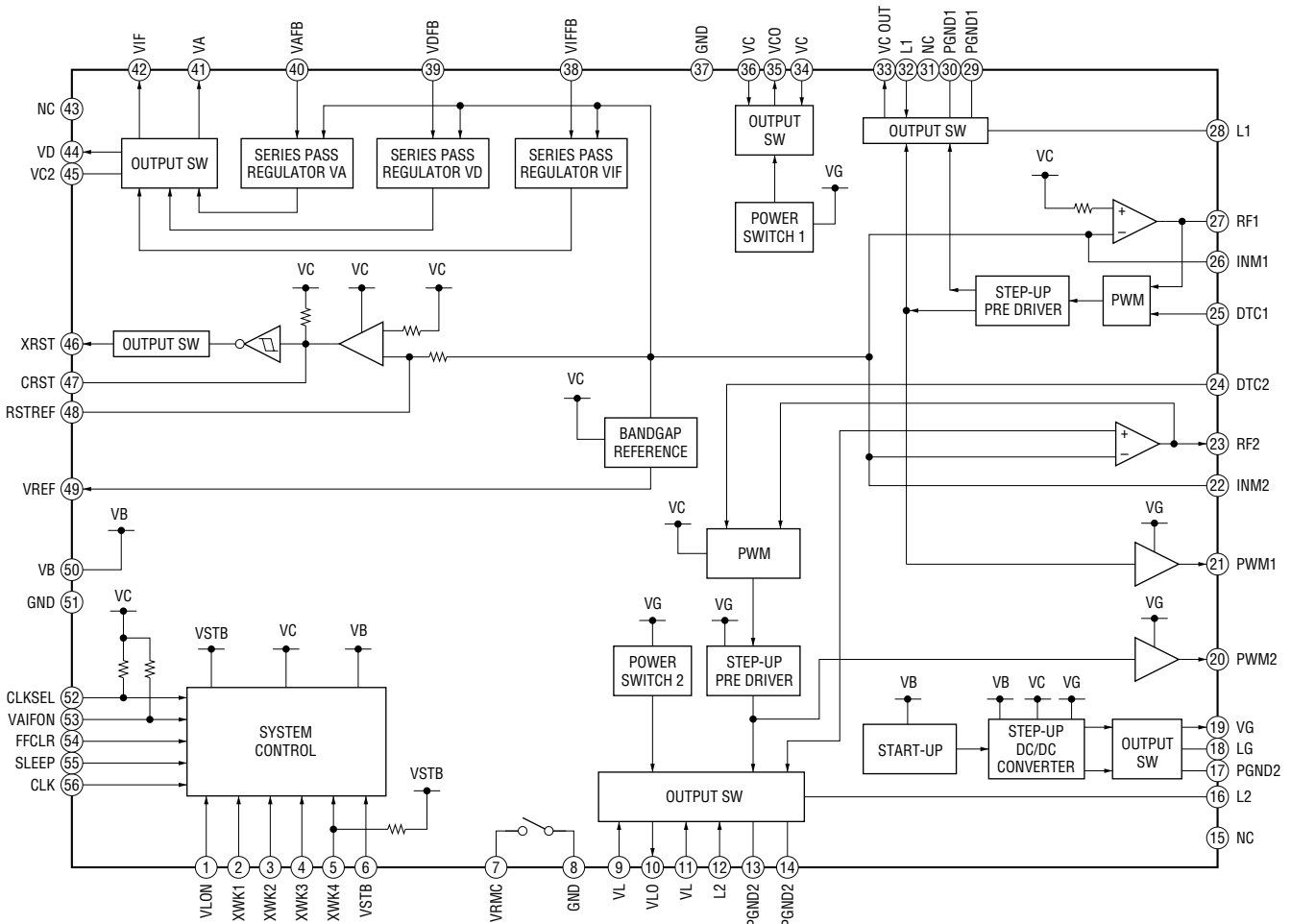
IC501 SN761057DBT



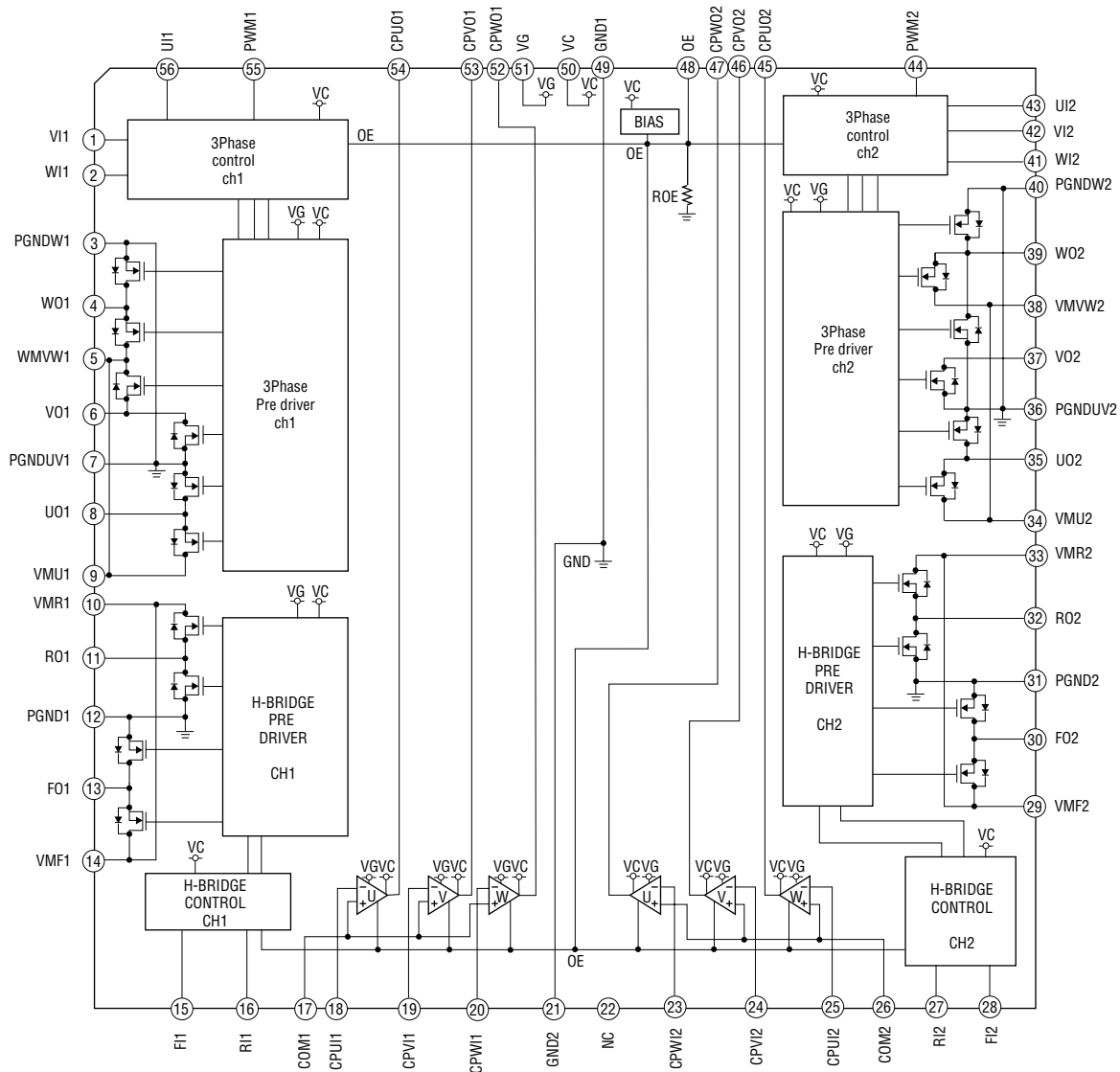
IC601 XPC18A22FCR2



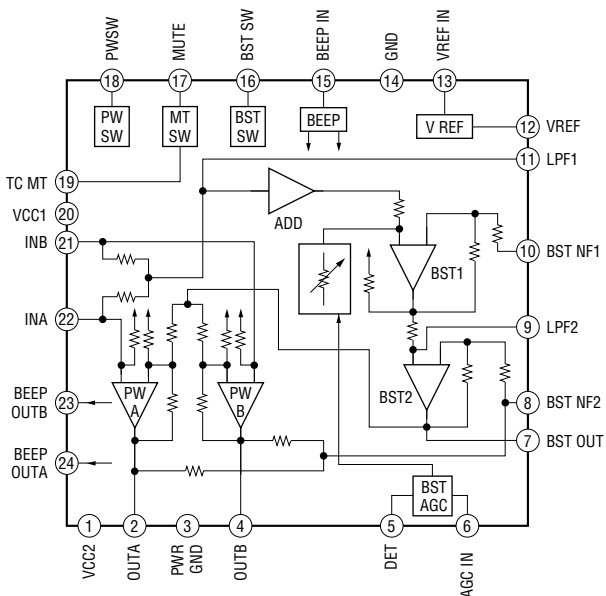
IC901 XPC18A32FCR2



IC701 SC111258FCR2



IC302 TA2131FL (EL)



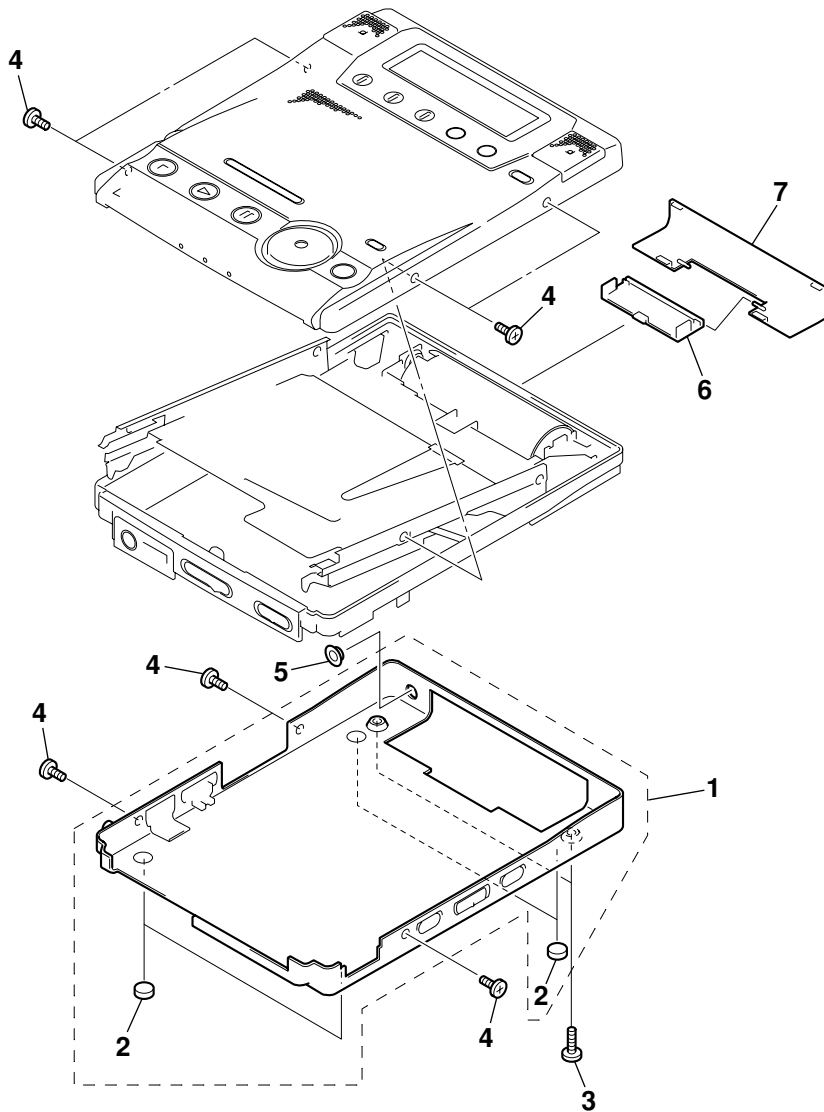
SECTION 7 EXPLODED VIEWS

NOTE :

- -XX, -X mean standardized parts, so they may have some difference from the original one.
- Items marked “ * ” are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- The mechanical parts with no reference number in the exploded views are not supplied.
- Hardware (# mark) list are given in the last of this parts list.

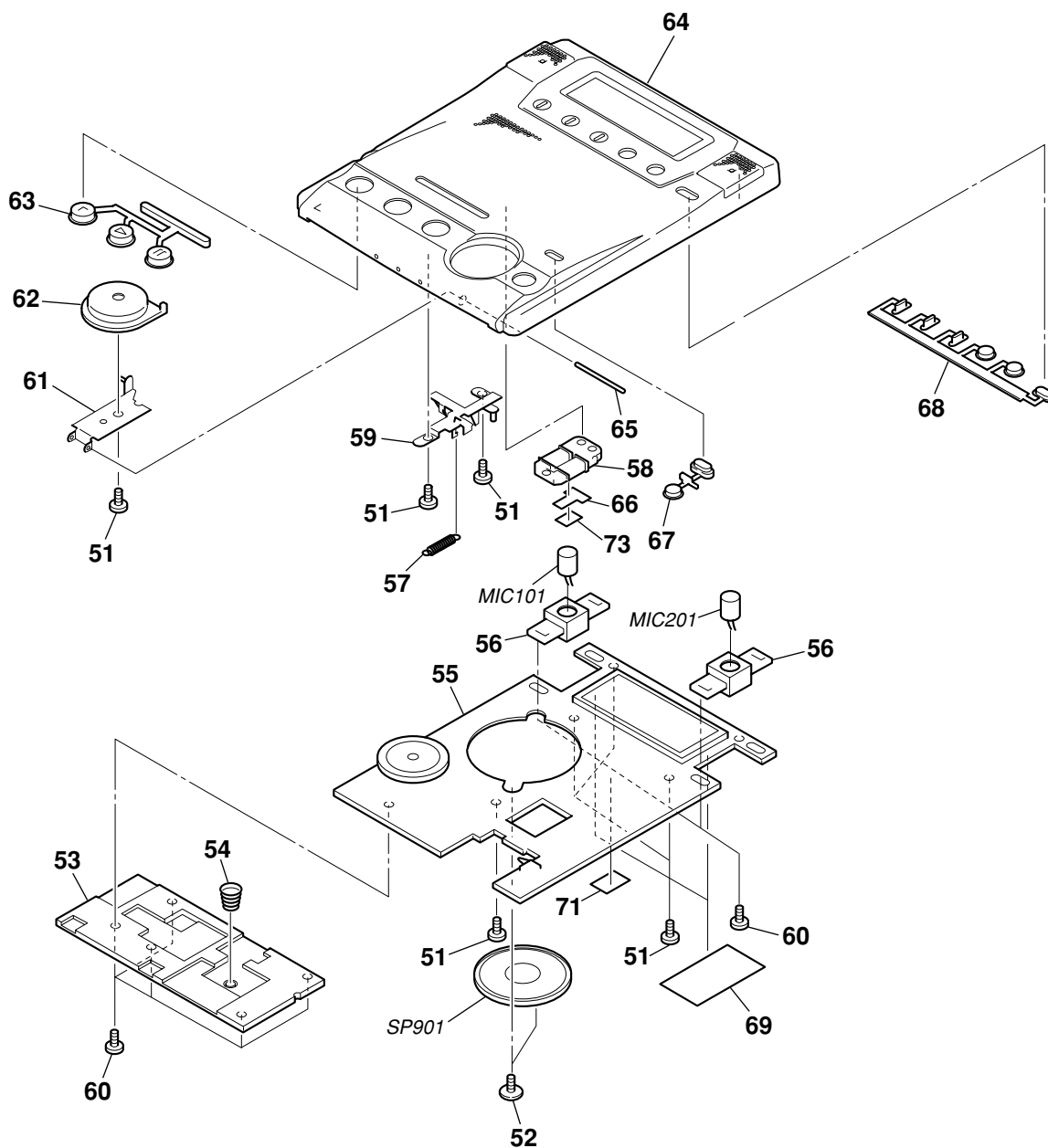
The components identified by mark \triangle or dotted line with mark \triangle are critical for safety.
Replace only with part number specified.

7-1. PANEL (LOWER) SECTION



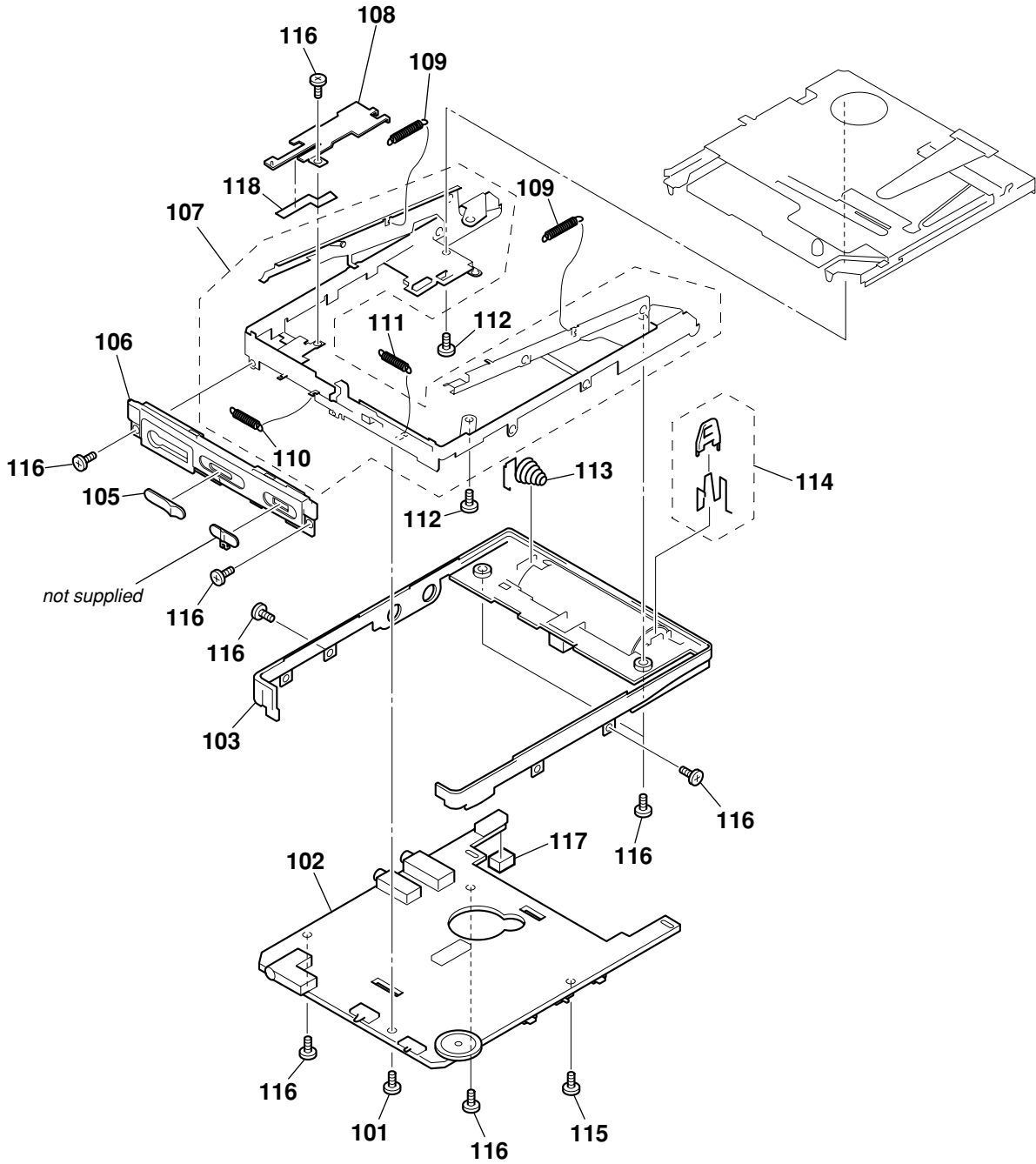
Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
1	X-3381-334-1	PANEL (LOWER) ASSY		5	3-010-287-01	COLLAR (DC IN)	
2	3-049-923-01	FOOT		6	3-049-909-11	HINGE (BATTERY CASE LID)	
3	3-318-203-61	SCREW (B1.7X4), TAPPING		7	3-235-189-01	LID, BATTERY CASE	
4	3-225-873-25	SCREW, ES LOCK					

7-2. PANEL (UPPER LID) SECTION



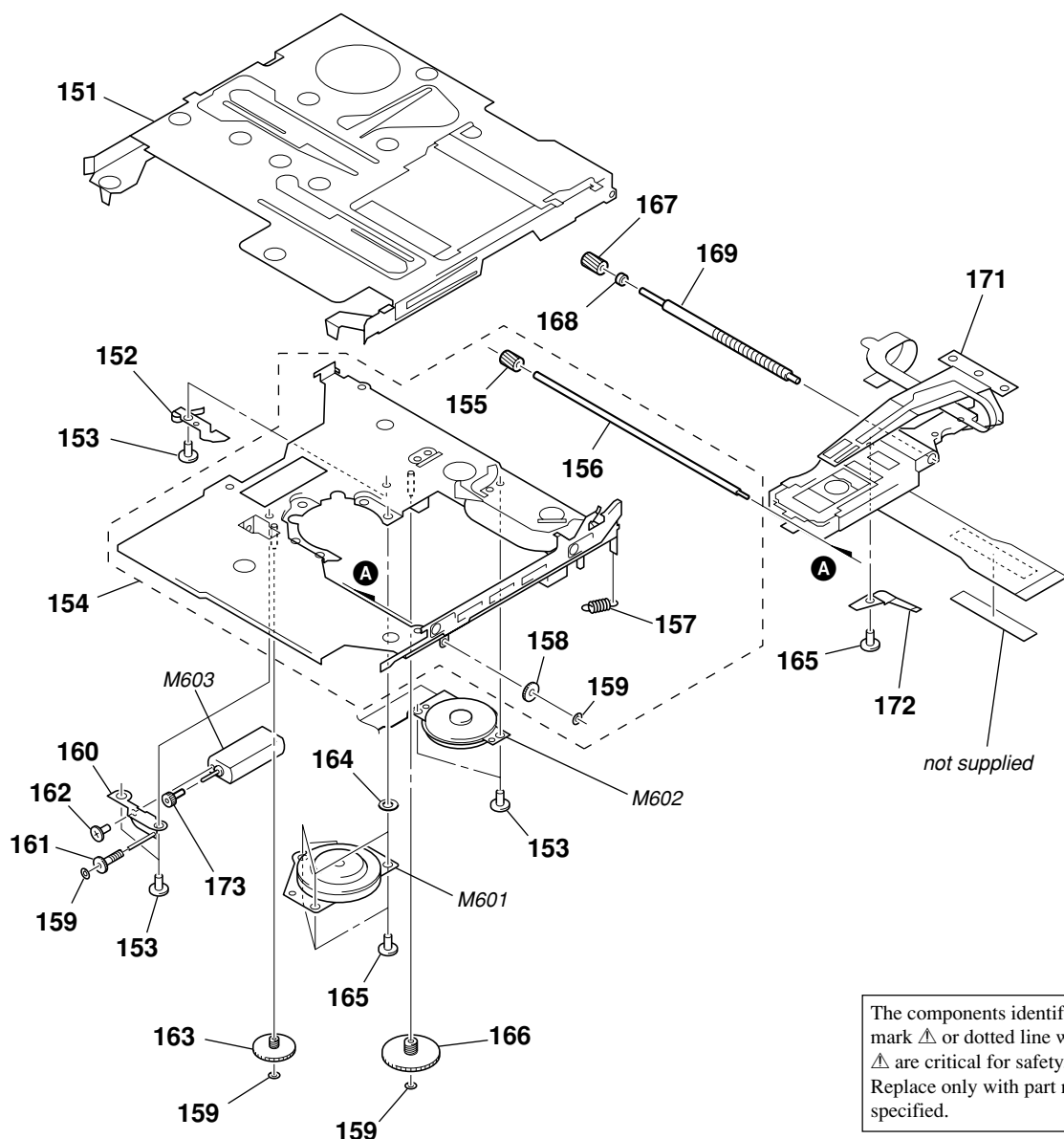
Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
51	4-984-017-01	SCREW (1.7), TAPPING		63	3-235-170-01	BUTTON (B)	
52	3-034-792-01	SCREW, TAPPING (B2.0)		64	A-3052-943-A	PANEL (UPPER LID) SUB ASSY	
53	3-235-185-01	COVER (REC)		65	3-669-481-05	PIN (DIA. 1X15), PARALLEL	
54	3-235-184-01	SPRING (REC), COMPRESSION		66	1-682-981-11	PLUNGER FLEXIBLE BOARD	
55	1-476-937-11	KEY BOARD UNIT		67	3-235-171-01	BUTTON (C)	
56	3-235-172-01	CUSHION (MICROPHONE)		68	3-235-169-01	BUTTON (A)	
57	3-235-179-01	SPRING (SOLENOID), TENSION		69	3-237-416-01	SHEET (MIC)	
58	1-454-674-31	SOLENOID, PLUNGER		71	3-346-280-01	CUSHON (B)	
59	X-3381-104-1	BRACKET (SOLENOID) ASSY		73	3-237-415-01	SHEET (SOLENOID), ADHESIVE	
60	3-375-114-41	SCREW		MIC101	1-542-228-11	MICROPHONE (L-CH)	
61	X-3381-105-1	LEVER (REC) ASSY		MIC201	1-542-228-11	MICROPHONE (R-CH)	
62	3-235-182-01	BUTTON (REC)		SP901	1-529-276-21	SPEAKER (2.8CM)	

7-3. CABINET (BELT) SECTION



Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
101	3-225-873-31	SCREW, ES LOCK (L:3)		111	3-238-525-01	SPRING (OPEN), TENSION	
* 102	A-3021-591-A	MAIN BOARD, COMPLETE		112	3-225-873-07	SCREW, ES LOCK	
103	3-235-156-11	CABINET (BELT)		113	3-235-158-01	TERMINAL (-), BATTERY	
105	4-223-096-01	KNOB (OPEN)		114	X-3381-102-1	TERMINAL (+) ASSY, BATTERY	
106	3-235-160-01	CABINET (FRONT)		115	3-704-197-81	NYLOCK (M1.4X5)	
107	X-3381-101-1	CHASSIS ASSY, SET		116	3-225-873-25	SCREW,ES LOCK (L:2.5)	
108	3-235-159-01	COVER (MD)		117	3-237-417-01	CUSHION (DC IN)	
109	3-235-155-01	SPRING (UP), TENSION		118	3-238-099-01	PLATE, DETECTION SUPPORT	
110	3-235-149-01	SPRING (LOCK), TENSION COIL					

7-4. MECHANISM DECK SECTION
(MT-MZB100-171)



Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
151	X-3379-498-1	HOLDER ASSY		164	4-997-677-11	WASHER	
152	3-224-779-01	SPRING, THRUST DETENT		165	3-225-996-06	SCREW (M1.4)(EG),PRECISION PAN	
153	3-225-996-01	SCREW (M1.4)(EG),PRECISION PAN		166	3-235-144-01	GEAR (SA)	
154	X-3379-497-1	CHASSIS ASSY		167	4-222-208-01	GEAR (SB)	
155	4-222-218-01	GEAR (HD)		168	3-043-237-02	BEARING (N)	
156	4-222-223-01	SHAFT, SUB		169	4-222-203-01	SCREW, LEAD	
157	4-222-226-01	SPRING (EJECT), TENSION		△ 171	X-3379-508-1	OPTICAL PICK-UP (LCX-4R)	
158	4-222-222-01	GEAR (RACK)		172	4-222-205-11	SPRING, RACK	
159	3-338-645-31	WASHER (0.8-2.5)		173	3-222-544-01	GEAR (HA)	
160	X-4951-918-1	CHASSIS ASSY, GEAR		M601	8-835-744-01	MOTOR, DC SSM18B (SPINDLE) (INCLUDING TURN TABLE)	
161	3-222-545-01	GEAR (HB)		M602	1-763-727-31	MOTOR, DC (SLED) (INCLUDING GEAR)	
162	4-224-885-01	SCREW (M1.2X1.5)		M603	1-763-400-21	MOTOR, DC (OVER WRITE HEAD UP/DOWN)	
163	4-222-215-01	GEAR (HC)					

SECTION 8
ELECTRICAL PARTS LIST

NOTE:

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- -XX and -X mean standardized parts, so they may have some difference from the original one.
- RESISTORS
All resistors are in ohms.
METAL: Metal-film resistor.
METAL OXIDE: Metal oxide-film resistor.
F: nonflammable

- 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
- Abbreviation
JEW : Tourist

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

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

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
*	A-3021-591-A	MAIN BOARD, COMPLETE *****		C141	1-125-837-11	CERAMIC CHIP 1uF 10% 6.3V	
		<CAPACITOR>		C142	1-164-874-11	CERAMIC CHIP 100PF 5% 50V	
C101	1-125-837-11	CERAMIC CHIP 1uF 10% 6.3V		C201	1-125-837-11	CERAMIC CHIP 1uF 10% 6.3V	
C102	1-164-874-11	CERAMIC CHIP 100PF 5% 50V		C202	1-164-874-11	CERAMIC CHIP 100PF 5% 50V	
C103	1-125-837-11	CERAMIC CHIP 1uF 10% 6.3V		C203	1-125-837-11	CERAMIC CHIP 1uF 10% 6.3V	
C104	1-125-837-11	CERAMIC CHIP 1uF 10% 6.3V		C204	1-125-837-11	CERAMIC CHIP 1uF 10% 6.3V	
C105	1-125-777-11	CERAMIC CHIP 0.1uF 10% 10V		C205	1-125-777-11	CERAMIC CHIP 0.1uF 10% 10V	
C106	1-125-777-11	CERAMIC CHIP 0.1uF 10% 10V		C206	1-125-777-11	CERAMIC CHIP 0.1uF 10% 10V	
C107	1-125-837-11	CERAMIC CHIP 1uF 10% 6.3V		C207	1-125-837-11	CERAMIC CHIP 1uF 10% 6.3V	
C108	1-164-943-11	CERAMIC CHIP 0.01uF 10% 16V		C208	1-164-943-11	CERAMIC CHIP 0.01uF 10% 16V	
C109	1-125-889-11	CERAMIC CHIP 2.2uF 10% 10V		C209	1-125-889-11	CERAMIC CHIP 2.2uF 10% 10V	
C110	1-164-937-11	CERAMIC CHIP 0.001uF 10% 50V		C210	1-164-937-11	CERAMIC CHIP 0.001uF 10% 50V	
C111	1-127-715-11	CERAMIC CHIP 0.22uF 10% 16V		C211	1-127-715-11	CERAMIC CHIP 0.22uF 10% 16V	
C112	1-131-727-11	TANTAL. CHIP 470uF 20% 2.5V		C212	1-131-727-11	TANTAL. CHIP 470uF 20% 2.5V	
C113	1-164-937-11	CERAMIC CHIP 0.001uF 10% 50V		C213	1-164-937-11	CERAMIC CHIP 0.001uF 10% 50V	
C114	1-125-777-11	CERAMIC CHIP 0.1uF 10% 10V		C214	1-125-777-11	CERAMIC CHIP 0.1uF 10% 10V	
C115	1-135-208-11	TANTAL. CHIP 1uF 20% 10V		C215	1-135-208-11	TANTAL. CHIP 1uF 20% 10V	
C116	1-127-772-11	CERAMIC CHIP 33000PF 10% 10V		C216	1-127-772-11	CERAMIC CHIP 33000PF 10% 10V	
C117	1-164-878-11	CERAMIC CHIP 150PF 5% 16V		C217	1-164-878-11	CERAMIC CHIP 150PF 5% 16V	
C118	1-164-874-11	CERAMIC CHIP 100PF 5% 50V		C218	1-164-874-11	CERAMIC CHIP 100PF 5% 50V	
C119	1-117-919-11	TANTAL. CHIP 10uF 20% 6.3V		C219	1-117-919-11	TANTAL. CHIP 10uF 20% 6.3V	
C120	1-164-874-11	CERAMIC CHIP 100PF 5% 50V		C220	1-164-874-11	CERAMIC CHIP 100PF 5% 50V	
C121	1-107-819-11	CERAMIC CHIP 0.022uF 10% 16V		C221	1-107-819-11	CERAMIC CHIP 0.022uF 10% 16V	
C122	1-107-819-11	CERAMIC CHIP 0.022uF 10% 16V		C222	1-107-819-11	CERAMIC CHIP 0.022uF 10% 16V	
C123	1-125-777-11	CERAMIC CHIP 0.1uF 10% 10V		C223	1-125-777-11	CERAMIC CHIP 0.1uF 10% 10V	
C124	1-164-941-11	CERAMIC CHIP 0.0047uF 10% 16V		C224	1-164-941-11	CERAMIC CHIP 0.0047uF 10% 16V	
C125	1-164-878-11	CERAMIC CHIP 150PF 5% 16V		C225	1-164-878-11	CERAMIC CHIP 150PF 5% 16V	
C126	1-164-937-11	CERAMIC CHIP 0.001uF 10% 50V		C226	1-164-937-11	CERAMIC CHIP 0.001uF 10% 50V	
C127	1-107-819-11	CERAMIC CHIP 0.022uF 10% 16V		C227	1-107-819-11	CERAMIC CHIP 0.022uF 10% 16V	
C128	1-164-937-11	CERAMIC CHIP 0.001uF 10% 50V		C228	1-164-937-11	CERAMIC CHIP 0.001uF 10% 50V	
C129	1-135-208-11	TANTAL. CHIP 1uF 20% 10V		C229	1-135-208-11	TANTAL. CHIP 1uF 20% 10V	
C130	1-164-874-11	CERAMIC CHIP 100PF 5% 50V		C230	1-164-874-11	CERAMIC CHIP 100PF 5% 50V	
C131	1-164-937-11	CERAMIC CHIP 0.001uF 10% 50V		C231	1-164-937-11	CERAMIC CHIP 0.001uF 10% 50V	
C132	1-117-919-11	TANTAL. CHIP 10uF 20% 6.3V		C232	1-117-919-11	TANTAL. CHIP 10uF 20% 6.3V	
C133	1-135-208-11	TANTAL. CHIP 1uF 20% 10V		C233	1-135-208-11	TANTAL. CHIP 1uF 20% 10V	
C134	1-125-777-11	CERAMIC CHIP 0.1uF 10% 10V		C234	1-125-777-11	CERAMIC CHIP 0.1uF 10% 10V	
C135	1-117-919-11	TANTAL. CHIP 10uF 20% 6.3V		C235	1-117-919-11	TANTAL. CHIP 10uF 20% 6.3V	
C136	1-125-777-11	CERAMIC CHIP 0.1uF 10% 10V		C236	1-125-777-11	CERAMIC CHIP 0.1uF 10% 10V	
C137	1-107-826-11	CERAMIC CHIP 0.1uF 10% 16V		C237	1-107-826-11	CERAMIC CHIP 0.1uF 10% 16V	
C139	1-125-837-11	CERAMIC CHIP 1uF 10% 6.3V		C239	1-125-837-11	CERAMIC CHIP 1uF 10% 6.3V	
C140	1-125-837-11	CERAMIC CHIP 1uF 10% 6.3V		C240	1-125-837-11	CERAMIC CHIP 1uF 10% 6.3V	
				C241	1-125-837-11	CERAMIC CHIP 1uF 10% 6.3V	

Ref. No.	Part No.	Description			Remark	Ref. No.	Part No.	Description			Remark
C242	1-164-874-11	CERAMIC CHIP	100PF	5%	50V	C519	1-107-819-11	CERAMIC CHIP	0.022uF	10%	16V
C301	1-113-600-11	TANTAL. CHIP	2.2uF	20%	6.3V	C520	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C302	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V	C521	1-164-850-11	CERAMIC CHIP	10PF	0.50PF	50V
C303	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V	C522	1-164-850-11	CERAMIC CHIP	10PF	0.50PF	50V
C304	1-125-839-11	TANTAL. CHIP	47uF	20%	6.3V	C523	1-164-850-11	CERAMIC CHIP	10PF	0.50PF	50V
C305	1-117-919-11	TANTAL. CHIP	10uF	20%	6.3V	C524	1-119-923-11	CERAMIC CHIP	0.047uF	10%	10V
C306	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V	C525	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C307	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V	C527	1-164-940-11	CERAMIC CHIP	0.0033uF	10%	16V
C310	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V	C601	1-137-859-11	TANTAL. CHIP	220uF	20%	4V
C311	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V	C602	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C312	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V	C603	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C313	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V	C606	1-128-964-11	TANTAL. CHIP	100uF	20%	6.3V
C314	1-125-837-11	CERAMIC CHIP	1uF	10%	6.3V	C607	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C315	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V	C608	1-164-937-11	CERAMIC CHIP	0.001uF	10%	50V
C316	1-164-882-11	CERAMIC CHIP	220PF	5%	16V	C609	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C317	1-117-919-11	TANTAL. CHIP	10uF	20%	6.3V	C610	1-164-874-11	CERAMIC CHIP	100PF	5%	50V
C319	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V	C611	1-164-874-11	CERAMIC CHIP	100PF	5%	50V
C322	1-125-841-11	TANTAL. CHIP	22uF	20%	4V	C613	1-117-919-11	TANTAL. CHIP	10uF	20%	6.3V
C325	1-117-919-11	TANTAL. CHIP	10uF	20%	6.3V	C614	1-117-919-11	TANTAL. CHIP	10uF	20%	6.3V
C330	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V	C615	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C332	1-125-841-11	TANTAL. CHIP	22uF	20%	4V	C616	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C333	1-119-923-11	CERAMIC CHIP	0.047uF	10%	10V	C617	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C334	1-164-939-11	CERAMIC CHIP	0.0022uF	10%	50V	C618	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C335	1-125-891-11	CERAMIC CHIP	0.47uF	10%	10V	C621	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C336	1-125-891-11	CERAMIC CHIP	0.47uF	10%	10V	C622	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C337	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V	C623	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C338	1-119-923-11	CERAMIC CHIP	0.047uF	10%	10V	C624	1-164-874-11	CERAMIC CHIP	100PF	5%	50V
C339	1-125-841-11	TANTAL. CHIP	22uF	20%	4V	C625	1-125-889-11	CERAMIC CHIP	2.2uF	10%	10V
C340	1-117-919-11	TANTAL. CHIP	10uF	20%	6.3V	C626	1-117-919-11	TANTAL. CHIP	10uF	20%	6.3V
C341	1-164-874-11	CERAMIC CHIP	100PF	5%	50V	C627	1-125-841-11	TANTAL. CHIP	22uF	20%	4V
C342	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V	C628	1-125-840-11	TANTALUM	10uF	20%	6.3V
C343	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V	C630	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C344	1-119-923-11	CERAMIC CHIP	0.047uF	10%	10V	C631	1-117-919-11	TANTAL. CHIP	10uF	20%	6.3V
C345	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V	C632	1-137-760-11	CAP-CHIP	100PF	5%	100V
C346	1-119-923-11	CERAMIC CHIP	0.047uF	10%	10V	C634	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C347	1-117-919-11	TANTAL. CHIP	10uF	20%	6.3V	C635	1-137-859-11	TANTAL. CHIP	220uF	20%	4V
C348	1-117-919-11	TANTAL. CHIP	10uF	20%	6.3V	C701	1-127-772-11	CERAMIC CHIP	33000PF	10%	10V
C349	1-119-923-11	CERAMIC CHIP	0.047uF	10%	10V	C702	1-127-772-11	CERAMIC CHIP	33000PF	10%	10V
C350	1-119-923-11	CERAMIC CHIP	0.047uF	10%	10V	C703	1-127-772-11	CERAMIC CHIP	33000PF	10%	10V
C351	1-125-837-11	CERAMIC CHIP	1uF	10%	6.3V	C705	1-127-772-11	CERAMIC CHIP	33000PF	10%	10V
C352	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V	C706	1-127-772-11	CERAMIC CHIP	33000PF	10%	10V
C353	1-113-600-11	TANTAL. CHIP	2.2uF	20%	6.3V	C707	1-127-772-11	CERAMIC CHIP	33000PF	10%	10V
C354	1-117-919-11	TANTAL. CHIP	10uF	20%	6.3V	C709	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C355	1-125-839-11	TANTAL. CHIP	47uF	20%	6.3V	C711	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C501	1-127-760-11	CERAMIC CHIP	4.7uF	10%	6.3V	C712	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C502	1-117-919-11	TANTAL. CHIP	10uF	20%	6.3V	C715	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C504	1-125-840-11	TANTALUM	10uF	20%	6.3V	C716	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C505	1-127-772-11	CERAMIC CHIP	33000PF	10%	10V	C802	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C507	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V	C803	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C508	1-127-772-11	CERAMIC CHIP	33000PF	10%	10V	C804	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C509	1-127-772-11	CERAMIC CHIP	33000PF	10%	10V	C805	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C511	1-164-874-11	CERAMIC CHIP	100PF	5%	50V	C806	1-119-923-11	CERAMIC CHIP	0.047uF	10%	10V
C512	1-164-940-11	CERAMIC CHIP	0.0033uF	10%	16V	C807	1-119-923-11	CERAMIC CHIP	0.047uF	10%	10V
C513	1-164-940-11	CERAMIC CHIP	0.0033uF	10%	16V	C809	1-117-919-11	TANTAL. CHIP	10uF	20%	6.3V
C514	1-164-939-11	CERAMIC CHIP	0.0022uF	10%	50V	C810	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C516	1-125-837-11	CERAMIC CHIP	1uF	10%	6.3V	C811	1-164-850-11	CERAMIC CHIP	10PF	0.50PF	50V
C517	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V	C812	1-164-850-11	CERAMIC CHIP	10PF	0.50PF	50V
C518	1-164-940-11	CERAMIC CHIP	0.0033uF	10%	16V						

MAIN

Ref. No.	Part No.	Description	Remark
C813	1-125-840-11	TANTALUM 10uF 20%	6.3V
C814	1-125-837-11	CERAMIC CHIP 1uF 10%	6.3V
C815	1-125-837-11	CERAMIC CHIP 1uF 10%	6.3V
C816	1-164-943-11	CERAMIC CHIP 0.01uF 10%	16V
C817	1-125-891-11	CERAMIC CHIP 0.47uF 10%	10V
C818	1-164-935-11	CERAMIC CHIP 470PF 10%	50V
C819	1-125-839-11	TANTAL. CHIP 47uF 20%	6.3V
C821	1-125-837-11	CERAMIC CHIP 1uF 10%	6.3V
C823	1-125-777-11	CERAMIC CHIP 0.1uF 10%	10V
C824	1-164-874-11	CERAMIC CHIP 100PF 5%	50V
C825	1-125-777-11	CERAMIC CHIP 0.1uF 10%	10V
C826	1-125-777-11	CERAMIC CHIP 0.1uF 10%	10V
C827	1-127-772-11	CERAMIC CHIP 33000PF 10%	10V
C828	1-127-772-11	CERAMIC CHIP 33000PF 10%	10V
C829	1-117-919-11	TANTAL. CHIP 10uF 20%	6.3V
C830	1-117-919-11	TANTAL. CHIP 10uF 20%	6.3V
C831	1-125-777-11	CERAMIC CHIP 0.1uF 10%	10V
C832	1-125-777-11	CERAMIC CHIP 0.1uF 10%	10V
C833	1-164-943-11	CERAMIC CHIP 0.01uF 10%	16V
C902	1-125-777-11	CERAMIC CHIP 0.1uF 10%	10V
C903	1-125-777-11	CERAMIC CHIP 0.1uF 10%	10V
C905	1-164-937-11	CERAMIC CHIP 0.001uF 10%	50V
C906	1-117-919-11	TANTAL. CHIP 10uF 20%	6.3V
C907	1-125-840-11	TANTALUM 10uF 20%	6.3V
C908	1-117-919-11	TANTAL. CHIP 10uF 20%	6.3V
C909	1-125-777-11	CERAMIC CHIP 0.1uF 10%	10V
C913	1-125-777-11	CERAMIC CHIP 0.1uF 10%	10V
C914	1-125-840-11	TANTALUM 10uF 20%	6.3V
C915	1-164-941-11	CERAMIC CHIP 0.0047uF 10%	16V
C916	1-125-840-11	TANTALUM 10uF 20%	6.3V
C917	1-117-919-11	TANTAL. CHIP 10uF 20%	6.3V
C918	1-128-964-11	TANTAL. CHIP 100uF 20%	6.3V
C919	1-164-943-11	CERAMIC CHIP 0.01uF 10%	16V
C920	1-125-777-11	CERAMIC CHIP 0.1uF 10%	10V
C921	1-125-777-11	CERAMIC CHIP 0.1uF 10%	10V
C922	1-125-777-11	CERAMIC CHIP 0.1uF 10%	10V
C923	1-164-937-11	CERAMIC CHIP 0.001uF 10%	50V
C924	1-125-891-11	CERAMIC CHIP 0.47uF 10%	10V
C925	1-125-891-11	CERAMIC CHIP 0.47uF 10%	10V
C926	1-125-891-11	CERAMIC CHIP 0.47uF 10%	10V
C927	1-125-889-11	CERAMIC CHIP 2.2uF 10%	10V
C928	1-128-964-11	TANTAL. CHIP 100uF 20%	6.3V
<CONNECTOR>			
* CN501	1-778-168-11	CONNECTOR, FFC/FPC (ZIF) 20P	
* CN701	1-778-158-21	CONNECTOR, FFC/FPC (ZIF) 10P	
* CN801	1-778-178-21	CONNECTOR, FFC/FPC (ZIF) 30P	
<DIODE>			
D101	8-719-056-72	DIODE UDZ-TE-17-2.4B	
D201	8-719-056-72	DIODE UDZ-TE-17-2.4B	
D301	8-719-975-43	DIODE RB420D	
D304	8-719-066-17	DIODE FTZ6.8E-T148	
D601	8-719-081-33	DIODE MA2YD15LSO	
D602	8-719-081-33	DIODE MA2YD15LSO	
D603	8-719-081-33	DIODE MA2YD15LSO	
D604	8-719-081-33	DIODE MA2YD15LSO	
D605	8-719-081-33	DIODE MA2YD15LSO	

Ref. No.	Part No.	Description	Remark
D606	8-719-081-35	DIODE MA2YD17LSO	
D607	8-719-081-35	DIODE MA2YD17LSO	
D801	8-719-056-54	DIODE MAZS0688SO	
D901	8-719-404-50	DIODE MA111-TX	
D902	8-719-081-33	DIODE MA2YD15LSO	
D903	8-719-081-33	DIODE MA2YD15LSO	
D904	8-719-420-51	DIODE MA729	
<FUSE>			
F301	1-576-439-21	FUSE (SMD)(0.25A)	
<FERRITE BEAD>			
FB301	1-216-864-11	METAL CHIP 0	5% 1/16W
FB302	1-216-864-11	METAL CHIP 0	5% 1/16W
FB303	1-216-864-11	METAL CHIP 0	5% 1/16W
FB304	1-216-864-11	METAL CHIP 0	5% 1/16W
FB801	1-216-864-11	METAL CHIP 0	5% 1/16W
FB802	1-216-864-11	METAL CHIP 0	5% 1/16W
FB803	1-216-864-11	METAL CHIP 0	5% 1/16W
FB804	1-216-864-11	METAL CHIP 0	5% 1/16W
<IC>			
IC301	8-759-694-88	IC AK5354VT-E2	
IC302	8-759-598-15	IC TA2131FL(EL)	
IC303	8-759-559-89	IC NJU7015R-TE2	
IC304	8-759-289-74	IC NJM2076M(TE2)	
IC305	8-759-647-75	IC TC7W66FK(TE85R)	
IC306	8-759-572-38	IC NJM2140R	
IC307	8-759-647-75	IC TC7W66FK(TE85R)	
IC308	8-759-572-38	IC NJM2140R	
IC309	8-759-647-75	IC TC7W66FK(TE85R)	
IC310	8-759-572-38	IC NJM2140R	
IC311	8-759-572-38	IC NJM2140R	
IC312	8-759-559-89	IC NJU7015R-TE2	
IC313	8-759-559-91	IC RN5RZ25AA-TR	
IC501	8-759-689-67	IC SN761057DBT	
IC601	8-759-698-60	IC XPC18A22FCR2	
IC701	6-700-680-01	IC SC111258FCR2	
@ IC801	8-753-000-14	IC CXD2671-209GA	
IC802	8-759-196-97	IC TC7SH32FU-TE85R	
IC804	8-759-445-94	IC AK6480AM-E2	
IC901	8-759-698-61	IC XPC18A32FCR2	
<JACK>			
J301	1-793-619-21	JACK (LINE IN (OPTICAL))	
J302	1-794-154-21	JACK (⊘)	
J303	1-794-084-21	JACK (MIC (PLUG IN POWER))	
J601	1-785-383-11	JACK,DC(POLARITY UNIFIED TYPE)	(DC IN 3V)
<INDUCTOR>			
L301	1-469-535-21	INDUCTOR 10uH	
L501	1-469-535-21	INDUCTOR 10uH	
L502	1-469-535-21	INDUCTOR 10uH	
L601	1-419-959-21	INDUCTOR 6.8uH	
L602	1-469-535-21	INDUCTOR 10uH	
L603	1-469-535-21	INDUCTOR 10uH	
L801	1-469-535-21	INDUCTOR 10uH	

@ Replacement of CXD2671-209GA (IC801) used in the set requires a special tool.

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
L802	1-469-535-21	INDUCTOR	10uH	R118	1-218-961-11	RES-CHIP	4.7K 5% 1/16W
L901	1-469-367-21	INDUCTOR	10uH	R119	1-218-990-11	SHORT 0	
L902	1-414-398-11	INDUCTOR	10uH	R120	1-218-990-11	SHORT 0	
L903	1-419-952-21	INDUCTOR	68uH	R121	1-218-977-11	RES-CHIP	100K 5% 1/16W
L904	1-469-426-21	INDUCTOR	100uH	R122	1-218-977-11	RES-CHIP	100K 5% 1/16W
L905	1-419-949-21	INDUCTOR	22uH	R123	1-218-977-11	RES-CHIP	100K 5% 1/16W
<TRANSISTOR>				R124	1-208-715-11	METAL CHIP	22K 1% 1/16W
Q101	8-729-420-74	TRANSISTOR	2SD1328-RST	R126	1-208-715-11	METAL CHIP	22K 1% 1/16W
Q201	8-729-420-74	TRANSISTOR	2SD1328-RST	R127	1-208-935-11	METAL CHIP	100K 1% 1/16W
Q301	8-729-046-49	TRANSISTOR	FDV304P	R128	1-208-927-11	METAL CHIP	47K 1% 1/16W
Q302	8-729-038-05	TRANSISTOR	HN1K02FU (T5RSONY)	R129	1-208-927-11	METAL CHIP	47K 1% 1/16W
Q303	8-729-029-14	TRANSISTOR	DTC144EUA-T106	R130	1-218-985-11	METAL CHIP	470K 1% 1/16W
Q304	8-729-029-14	TRANSISTOR	DTC144EUA-T106	R131	1-208-703-11	METAL CHIP	6.8K 1% 1/16W
Q305	8-729-037-63	TRANSISTOR	UN9115J-(TX).SO	R132	1-208-935-11	METAL CHIP	100K 1% 1/16W
Q306	8-729-427-83	TRANSISTOR	XP651	R133	1-208-927-11	METAL CHIP	47K 1% 1/16W
Q307	8-729-426-36	TRANSISTOR	XP1215-TXE	R134	1-208-935-11	METAL CHIP	100K 1% 1/16W
Q308	8-729-037-52	TRANSISTOR	2SD2216J-QR(TX). SO	R135	1-208-935-11	METAL CHIP	100K 1% 1/16W
Q309	8-729-028-26	TRANSISTOR	2SK1829(TE85L)	R136	1-208-935-11	METAL CHIP	100K 1% 1/16W
Q310	8-729-039-86	TRANSISTOR	FMMT717TA	R137	1-208-927-11	METAL CHIP	47K 1% 1/16W
Q311	8-729-030-31	TRANSISTOR	2SA1182-0(TE85R)	R138	1-208-699-11	METAL CHIP	4.7K 1% 1/16W
Q312	8-729-030-31	TRANSISTOR	2SA1182-0(TE85R)	R139	1-208-935-11	METAL CHIP	100K 1% 1/16W
Q313	8-729-037-62	TRANSISTOR	UN9114J-(TX).SO	R140	1-208-927-11	METAL CHIP	47K 1% 1/16W
Q314	8-729-028-26	TRANSISTOR	2SK1829(TE85L)	R141	1-208-927-11	METAL CHIP	47K 1% 1/16W
Q315	8-729-037-62	TRANSISTOR	UN9114J-(TX).SO	R142	1-218-985-11	METAL CHIP	470K 1% 1/16W
Q316	8-729-028-26	TRANSISTOR	2SK1829(TE85L)	R143	1-208-695-11	METAL CHIP	3.3K 1% 1/16W
Q317	8-729-427-83	TRANSISTOR	XP651	R145	1-208-927-11	METAL CHIP	47K 1% 1/16W
Q318	8-729-230-63	TRANSISTOR	2SC4116-YG	R147	1-208-707-11	METAL CHIP	10K 1% 1/16W
Q319	8-729-230-60	TRANSISTOR	2SA1586-YG	R148	1-208-935-11	METAL CHIP	100K 1% 1/16W
Q320	8-729-427-83	TRANSISTOR	XP651	R149	1-208-927-11	METAL CHIP	47K 1% 1/16W
Q321	8-729-028-26	TRANSISTOR	2SK1829(TE85L)	R150	1-208-927-11	METAL CHIP	47K 1% 1/16W
Q322	8-729-037-62	TRANSISTOR	UN9114J-(TX).SO	R151	1-218-985-11	METAL CHIP	470K 1% 1/16W
Q323	8-729-922-10	TRANSISTOR	2SA1577-QR	R152	1-208-935-11	METAL CHIP	100K 1% 1/16W
Q501	8-729-922-10	TRANSISTOR	2SA1577-QR	R153	1-218-941-11	METAL CHIP	100 1% 1/16W
Q601	8-729-046-45	TRANSISTOR	SI2302DS-T1	R154	1-208-927-11	METAL CHIP	47K 1% 1/16W
Q602	8-729-042-81	TRANSISTOR	FZT788BTC	R155	1-208-927-11	METAL CHIP	47K 1% 1/16W
Q603	8-729-053-71	TRANSISTOR	TS8K1TB	R156	1-218-985-11	METAL CHIP	470K 1% 1/16W
Q604	8-729-046-43	TRANSISTOR	HAT2051T-EL	R157	1-208-707-11	METAL CHIP	10K 1% 1/16W
Q605	8-729-046-42	TRANSISTOR	HAT2050T-EL	R158	1-208-699-11	METAL CHIP	4.7K 1% 1/16W
Q802	8-729-429-44	TRANSISTOR	XP151	R161	1-218-990-11	SHORT 0	
<RESISTOR>				R201	1-208-715-11	METAL CHIP	22K 1% 1/16W
R101	1-208-715-11	METAL CHIP	22K 1% 1/16W	R202	1-208-927-11	METAL CHIP	47K 1% 1/16W
R102	1-208-927-11	METAL CHIP	47K 1% 1/16W	R203	1-208-935-11	METAL CHIP	100K 1% 1/16W
R103	1-208-935-11	METAL CHIP	100K 1% 1/16W	R205	1-218-977-11	RES-CHIP	100K 5% 1/16W
R105	1-218-977-11	RES-CHIP	100K 5% 1/16W	R206	1-218-981-11	RES-CHIP	220K 5% 1/16W
R106	1-218-981-11	RES-CHIP	220K 5% 1/16W	R207	1-218-957-11	RES-CHIP	2.2K 5% 1/16W
R107	1-218-957-11	RES-CHIP	2.2K 5% 1/16W	R208	1-218-963-11	RES-CHIP	6.8K 5% 1/16W
R108	1-218-963-11	RES-CHIP	6.8K 5% 1/16W	R209	1-218-961-11	RES-CHIP	4.7K 5% 1/16W
R109	1-218-961-11	RES-CHIP	4.7K 5% 1/16W	R210	1-218-967-11	RES-CHIP	15K 5% 1/16W
R110	1-218-967-11	RES-CHIP	15K 5% 1/16W	R211	1-218-965-11	RES-CHIP	10K 5% 1/16W
R111	1-218-965-11	RES-CHIP	10K 5% 1/16W	R212	1-218-990-11	SHORT 0	
R112	1-218-990-11	SHORT 0		R213	1-218-967-11	RES-CHIP	15K 5% 1/16W
R113	1-218-967-11	RES-CHIP	15K 5% 1/16W	R214	1-218-969-11	RES-CHIP	22K 5% 1/16W
R114	1-218-969-11	RES-CHIP	22K 5% 1/16W	R216	1-218-990-11	SHORT 0	
R116	1-218-990-11	SHORT 0		R217	1-208-635-11	RES-CHIP	10 5% 1/16W
R117	1-208-635-11	RES-CHIP	10 5% 1/16W	R218	1-218-961-11	RES-CHIP	4.7K 5% 1/16W
				R219	1-218-990-11	SHORT 0	
				R220	1-218-990-11	SHORT 0	
				R221	1-218-977-11	RES-CHIP	100K 5% 1/16W

MZ-B100

MAIN

Ref. No.	Part No.	Description			Remark	Ref. No.	Part No.	Description			Remark
R222	1-218-977-11	RES-CHIP	100K	5%	1/16W	R325	1-218-941-11	METAL CHIP	100	1%	1/16W
R223	1-218-977-11	RES-CHIP	100K	5%	1/16W	R326	1-218-941-11	RES-CHIP	100	5%	1/16W
R224	1-208-715-11	METAL CHIP	22K	1%	1/16W	R327	1-218-989-11	RES-CHIP	1M	5%	1/16W
R226	1-208-715-11	METAL CHIP	22K	1%	1/16W	R328	1-218-989-11	RES-CHIP	1M	5%	1/16W
R227	1-208-935-11	METAL CHIP	100K	1%	1/16W	R329	1-218-941-11	METAL CHIP	100	1%	1/16W
R228	1-208-927-11	METAL CHIP	47K	1%	1/16W	R330	1-218-965-11	RES-CHIP	10K	5%	1/16W
R229	1-208-927-11	METAL CHIP	47K	1%	1/16W	R331	1-218-977-11	RES-CHIP	100K	5%	1/16W
R230	1-218-985-11	METAL CHIP	470K	1%	1/16W	R332	1-218-985-11	METAL CHIP	470K	1%	1/16W
R231	1-208-703-11	METAL CHIP	6.8K	1%	1/16W	R333	1-208-927-11	METAL CHIP	47K	1%	1/16W
R232	1-208-935-11	METAL CHIP	100K	1%	1/16W	R334	1-218-985-11	METAL CHIP	470K	1%	1/16W
R233	1-208-927-11	METAL CHIP	47K	1%	1/16W	R335	1-208-707-11	METAL CHIP	10K	1%	1/16W
R234	1-208-935-11	METAL CHIP	100K	1%	1/16W	R336	1-208-675-11	METAL CHIP	470	1%	1/16W
R235	1-208-935-11	METAL CHIP	100K	1%	1/16W	R337	1-208-695-11	METAL CHIP	3.3K	1%	1/16W
R236	1-208-935-11	METAL CHIP	100K	1%	1/16W	R338	1-218-985-11	METAL CHIP	470K	1%	1/16W
R237	1-208-927-11	METAL CHIP	47K	1%	1/16W	R339	1-218-990-11	SHORT 0			
R238	1-208-699-11	METAL CHIP	4.7K	1%	1/16W	R501	1-218-446-11	METAL CHIP	1	5%	1/16W
R239	1-208-935-11	METAL CHIP	100K	1%	1/16W	R502	1-218-953-11	RES-CHIP	1K	5%	1/16W
R240	1-208-927-11	METAL CHIP	47K	1%	1/16W	R503	1-218-973-11	RES-CHIP	47K	5%	1/16W
R241	1-208-927-11	METAL CHIP	47K	1%	1/16W	R504	1-218-979-11	RES-CHIP	150K	5%	1/16W
R242	1-218-985-11	METAL CHIP	470K	1%	1/16W	R505	1-208-703-11	METAL CHIP	6.8K	1%	1/16W
R243	1-208-695-11	METAL CHIP	3.3K	1%	1/16W	R506	1-218-977-11	RES-CHIP	100K	5%	1/16W
R245	1-208-927-11	METAL CHIP	47K	1%	1/16W	R507	1-208-691-11	METAL CHIP	2.2K	1%	1/16W
R247	1-208-707-11	METAL CHIP	10K	1%	1/16W	R508	1-218-990-11	SHORT 0			
R248	1-208-935-11	METAL CHIP	100K	1%	1/16W	R602	1-218-989-11	RES-CHIP	1M	5%	1/16W
R249	1-208-927-11	METAL CHIP	47K	1%	1/16W	R603	1-218-981-11	RES-CHIP	220K	5%	1/16W
R250	1-208-927-11	METAL CHIP	47K	1%	1/16W	R604	1-218-977-11	RES-CHIP	100K	5%	1/16W
R251	1-218-985-11	METAL CHIP	470K	1%	1/16W	R605	1-218-945-11	RES-CHIP	220	5%	1/16W
R252	1-208-935-11	METAL CHIP	100K	1%	1/16W	R606	1-216-797-11	METAL CHIP	10	5%	1/16W
R253	1-218-941-11	METAL CHIP	100	1%	1/16W	R607	1-218-983-11	RES-CHIP	330K	5%	1/16W
R254	1-208-927-11	METAL CHIP	47K	1%	1/16W	R608	1-218-965-11	RES-CHIP	10K	5%	1/16W
R255	1-208-927-11	METAL CHIP	47K	1%	1/16W	R609	1-218-965-11	RES-CHIP	10K	5%	1/16W
R256	1-218-985-11	METAL CHIP	470K	1%	1/16W	R610	1-218-990-11	SHORT 0			
R257	1-208-707-11	METAL CHIP	10K	1%	1/16W	R611	1-218-990-11	SHORT 0			
R258	1-208-699-11	METAL CHIP	4.7K	1%	1/16W	R612	1-217-671-11	METAL CHIP	1	5%	1/10W
R261	1-218-990-11	SHORT 0				R616	1-218-957-11	RES-CHIP	2.2K	5%	1/16W
R301	1-218-953-11	RES-CHIP	1K	5%	1/16W	R701	1-216-296-11	SHORT 0			
R302	1-218-953-11	RES-CHIP	1K	5%	1/16W	R702	1-216-296-11	SHORT 0			
R303	1-218-990-11	SHORT 0				R703	1-216-296-11	SHORT 0			
R304	1-218-941-11	RES-CHIP	100	5%	1/16W	R704	1-216-296-11	SHORT 0			
R305	1-218-941-11	RES-CHIP	100	5%	1/16W	R801	1-218-990-11	SHORT 0			
R306	1-218-941-11	RES-CHIP	100	5%	1/16W	R802	1-218-990-11	SHORT 0			
R307	1-218-953-11	RES-CHIP	1K	5%	1/16W	R803	1-218-983-11	RES-CHIP	330K	5%	1/16W
R308	1-218-965-11	RES-CHIP	10K	5%	1/16W	R804	1-218-990-11	SHORT 0			
R309	1-218-941-11	RES-CHIP	100	5%	1/16W	R806	1-218-981-11	RES-CHIP	220K	5%	1/16W
R311	1-218-973-11	RES-CHIP	47K	5%	1/16W	R810	1-208-927-11	METAL CHIP	47K	1%	1/16W
R312	1-218-935-11	RES-CHIP	33	5%	1/16W	R811	1-208-927-11	METAL CHIP	47K	1%	1/16W
R313	1-218-981-11	RES-CHIP	220K	5%	1/16W	R812	1-218-959-11	RES-CHIP	3.3K	5%	1/16W
R314	1-218-963-11	RES-CHIP	6.8K	5%	1/16W	R813	1-218-959-11	RES-CHIP	3.3K	5%	1/16W
R315	1-218-989-11	RES-CHIP	1M	5%	1/16W	R816	1-218-951-11	RES-CHIP	680	5%	1/16W
R316	1-218-989-11	RES-CHIP	1M	5%	1/16W	R817	1-218-990-11	SHORT 0			
R318	1-218-989-11	RES-CHIP	1M	5%	1/16W	R818	1-208-635-11	RES-CHIP	10	5%	1/16W
R319	1-218-977-11	RES-CHIP	100K	5%	1/16W	R819	1-218-965-11	RES-CHIP	10K	5%	1/16W
R320	1-218-949-11	RES-CHIP	470	5%	1/16W	R820	1-218-977-11	RES-CHIP	100K	5%	1/16W
R321	1-218-973-11	RES-CHIP	47K	5%	1/16W	R821	1-218-977-11	RES-CHIP	100K	5%	1/16W
R322	1-218-446-11	METAL CHIP	1	5%	1/16W	R822	1-208-635-11	RES-CHIP	10	5%	1/16W
R323	1-218-446-11	METAL CHIP	1	5%	1/16W	R825	1-218-981-11	RES-CHIP	220K	5%	1/16W
R324	1-218-989-11	RES-CHIP	1M	5%	1/16W	R827	1-202-974-11	RES-CHIP	3.3M	5%	1/16W
						R828	1-218-953-11	RES-CHIP	1K	5%	1/16W

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
R829	1-218-959-11	RES-CHIP	3.3K 5%	1/16W		<TRANSFORMER>	
R830	1-218-945-11	RES-CHIP	220 5%	1/16W			
R831	1-218-990-11	SHORT 0			T601	1-416-405-21	FERRITE 0uH
R832	1-208-703-11	METAL CHIP	6.8K 1%	1/16W		<THERMISTOR>	
R833	1-208-707-11	METAL CHIP	10K 1%	1/16W			
R834	1-218-941-11	METAL CHIP	100 1%	1/16W	TH601	1-533-817-21	THERMISTOR
R835	1-208-711-11	METAL CHIP	15K 1%	1/16W		<VIBLATOR>	
R836	1-208-691-11	METAL CHIP	2.2K 1%	1/16W	X801	1-795-000-21	VIBRATOR, CRYSTAL (45.1584MHz)
R837	1-218-989-11	RES-CHIP	1M 5%	1/16W		*****	
R838	1-208-691-11	METAL CHIP	2.2K 1%	1/16W		MISCELLANEOUS	
R839	1-218-990-11	SHORT 0				*****	
R840	1-218-990-11	SHORT 0					
R841	1-218-990-11	SHORT 0			55	1-476-937-11	KEY BOARD UNIT
R843	1-218-990-11	SHORT 0			58	1-454-674-31	SOLENOID, PLUNGER
R844	1-208-927-11	METAL CHIP	47K 1%	1/16W	66	1-682-981-11	PLUNGER FLEXIBLE BOARD
R846	1-218-959-11	RES-CHIP	3.3K 5%	1/16W	△ 171	X-3379-508-1	OPTICAL PICK-UP (LCX-4R)
R853	1-218-990-11	SHORT 0			M601	8-835-744-01	MOTOR, DC SSM18B (SPINDLE) (INCLUDING TURN TABLE)
R903	1-218-949-11	RES-CHIP	470 5%	1/16W	M602	1-763-727-31	MOTOR, DC (SLED) (INCLUDING GEAR)
R906	1-218-941-11	RES-CHIP	100 5%	1/16W	M603	1-763-400-21	MOTOR, DC (OVER WRITE HEAD UP/DOWN)
R907	1-208-715-11	METAL CHIP	22K 1%	1/16W	MIC101	1-542-228-21	MICROPHONE (L-CH)
R908	1-218-985-11	RES-CHIP	470K 5%	1/16W	MIC201	1-542-228-31	MICROPHONE (R-CH)
R910	1-218-977-11	RES-CHIP	100K 5%	1/16W	SP901	1-529-276-21	SPEAKER (2.8CM)
R911	1-218-990-11	SHORT 0				*****	
R912	1-218-990-11	SHORT 0				ACCESSORIES	
R913	1-208-695-11	METAL CHIP	3.3K 1%	1/16W		*****	
R916	1-208-939-11	METAL CHIP	150K 1%	1/16W			
R917	1-208-715-11	METAL CHIP	22K 1%	1/16W		1-476-966-11	CONTROL UNIT, REMOTE (RM-MZB10)
R918	1-208-699-11	METAL CHIP	4.7K 1%	1/16W		2-283-326-01	LABEL, CAUTION
R919	1-218-979-11	RES-CHIP	150K 5%	1/16W		3-220-749-01	CASE, CARRYING
R920	1-208-707-11	METAL CHIP	10K 1%	1/16W		3-235-455-01	MANUAL, INSTRUCTION (JAPANESE)
R921	1-218-969-11	RES-CHIP	22K 5%	1/16W		3-235-455-11	MANUAL, INSTRUCTION (ENGLISH, SPANISH, RUSSIAN)
R922	1-218-957-11	RES-CHIP	2.2K 5%	1/16W		3-235-455-41	MANUAL, INSTRUCTION (TRADITIONAL CHINESE, SIMPLIFIED CHINESE, KOREAN)
R923	1-218-985-11	RES-CHIP	470K 5%	1/16W		3-928-815-01	STRAP, HAND
R925	1-218-957-11	RES-CHIP	2.2K 5%	1/16W		8-954-008-91	RECEIVER, EAR MDR-E808SP
R926	1-218-965-11	RES-CHIP	10K 5%	1/16W			
R927	1-218-965-11	RES-CHIP	10K 5%	1/16W			
R930	1-218-990-11	SHORT 0					
		<NETWORK RESISTOR>					
RB701	1-233-964-21	RES, NETWORK (CHIP TYPE)	3.3K				
RB702	1-233-967-11	RES, NETWORK (CHIP TYPE)	10K				
RB801	1-233-973-11	RES, NETWORK (CHIP TYPE)	100K				
		<VARIABLE RESISTOR>					
RV301	1-223-874-11	RES, VAR, CARBON	10K/10K (▲ VOL)				
		<SWITCH>					
S301	1-572-922-11	SWITCH, SLIDE (MIC SENS)					
S801	1-572-922-11	SWITCH, SLIDE (HOLD ▲)					
S802	1-771-860-21	SWITCH, PUSH (1KEY) (PROTECT)					
S803	1-771-483-61	SWITCH, PUSH (1KEY) (HALF LOCK)					
S804	1-762-805-21	SWITCH, PUSH (1KEY) (OPEN/CLOSE)					
S805	1-786-020-21	SWITCH, TACTILE (EVQ PU TYPE) (SOUND)					
S806	1-572-938-21	SWITCH, TACTIL (CLOCK SET)					
S807	1-786-020-21	SWITCH, TACTILE (EVQ PU TYPE) (VOR)					
S808	1-786-020-21	SWITCH, TACTILE (EVQ PU TYPE) (ERASE)					
S809	1-572-922-11	SWITCH, SLIDE (SYNCHRO REC)					

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

