

# MZ-B50

## SERVICE MANUAL

Ver 1.1 2001.03  
With SUPPLEMENT-1  
(9-927-952-83)

*US Model  
Canadian Model  
AEP Model  
Tourist Model*



US and foreign patents licensed from Dolby Laboratories Licensing Corporation

Model Name Using Similar Mechanism	NEW
Mechanism Type	MT-MZB50-165
Optical Pick-up Name	LCX-2R

### 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

Maximum 80 minutes (MDW-80, stereo recording)

Maximum 160 minutes (MDW-80, monaural recording)

Maximum 74 minutes (MDW-74, stereo recording)

Maximum 148 minutes (MDW-74, monaural recording)

Revolutions

400 rpm to 1,800 rpm (CLV)

Error correction

Advanced Cross Interleave Reed Solomon Code (ACIRC)

Sampling frequency

44.1 kHz

Sampling rate converter

Input: 32 kHz/44.1 kHz/48 kHz

Coding

Adaptive TTransform Acoustic Coding (ATRAC)

Modulation system

EFM (Eight to Fourteen Modulation)

Number of channels

2 stereo channels

1 monaural channel

Speaker

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

Frequency response

20 to 20,000 Hz  $\pm 3 \text{ dB}$

Wow and Flutter

Below measurable limit

Inputs

Microphone: stereo mini-jack, 0.35–1.38 mV

Line in: stereo mini-jack, 69–194 mV

Optical (Digital) in: optical (digital) mini-jack

Outputs

⌀ : stereo mini-jack

Headphones/earphones: 5 mW + 5 mW

Speaker: 300 mW

– Continued on next page –

## PORTABLE MINIDISC RECORDER

9-927-952-12  
2001C0200-1  
© 2001.3

**Sony Corporation**  
Audio Entertainment Group  
General Engineering Dept.

# SONY®

## General

### Power requirements

DC 3V

Two LR6 (size AA) alkaline batteries

### Battery operation time

Battery life<sup>1)</sup> (EIAJ<sup>2)</sup>)

Batteries	Recording	Playback
Two LR6 (size AA)	Approx.	Approx.
Sony alkaline dry batteries	6 hours	18 hours

<sup>1)</sup> The battery life may be shorter due to operating conditions, the temperature of the location, and varieties of batteries.

<sup>2)</sup> Measured in accordance with the EIAJ (Electronic Industries Association of Japan) standard.

<sup>3)</sup> When using LR6 (SG) Sony "STAMINA" alkaline dry batteries (produced in Japan).

<sup>4)</sup> To prevent interrupted recording due to drained batteries, use new batteries for recording operations.

<sup>5)</sup> When played using the built-in speaker.

### Dimensions

Approx. 88.0 × 28.0 × 121.4 mm (w/h/d)

(3 1/2 × 1 1/8 × 4 7/8 in.) not incl. projecting parts and controls.

### Mass

Approx. 240 g (8.4 oz)

### Supplied accessories

Headphones/earphones with a remote control (1)

Sony LR6 (size AA) dry batteries (2)

Carrying pouch (1)

Hand strap (1)

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.

### 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.**

## TABLE OF CONTENTS

1.	SERVICING NOTES	3
2.	GENERAL	4
3.	DISASSEMBLY	
	3-1. Panel (Lower) ASSY	6
	3-2. Main Board, Sled Control Board	6
	3-3. Panel (Upper Lid) ASSY	7
	3-4. Key Board Unit	7
	3-5. BATT Board, DC Jack Board	8
	3-6. Mechanism Deck	8
	3-7. Optical Pick-up	9
4.	TEST MODE	10
5.	ELECTRICAL ADJUSTMENTS	17
6.	DIAGRAMS	
	6-1. Explanation of IC Terminals	22
	6-2. Block Diagram – Main Section (1/3) –	29
	6-3. Block Diagram – Main Section (2/3) –	31
	6-4. Block Diagram – Main Section (3/3) –	33
	6-5. Printed Wiring Boards – Main Section (1/2) –	35
	6-6. Printed Wiring Boards – Main Section (2/2) –	37
	6-7. Printed Wiring Boards – Battery Section –	39
	6-8. Schematic Diagram – Main Section (1/4) –	41
	6-9. Schematic Diagram – Main Section (2/4) –	43
	6-10. Schematic Diagram – Main Section (3/4) –	45
	6-11. Schematic Diagram – Main Section (4/4) –	47
7.	EXPLODED VIEWS	
	7-1. Panel (Lower) Section	55
	7-2. Panel Upper Lid Section	56
	7-3. Cabinet (Belt) Section	57
	7-4. Mechanism Deck Section (MT-MZB50-165)	58
8.	ELECTRICAL PARTS LIST	59

## 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.

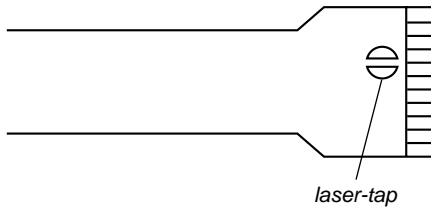
The flexible board is easily damaged and should be handled with care.

### 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.

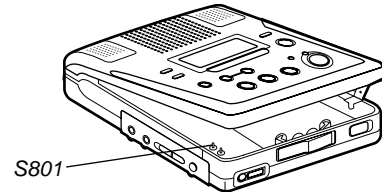
### NOTES ON HANDLING THE OPTICAL PICK-UP BLOCK (LCX-2R)

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 (S801).



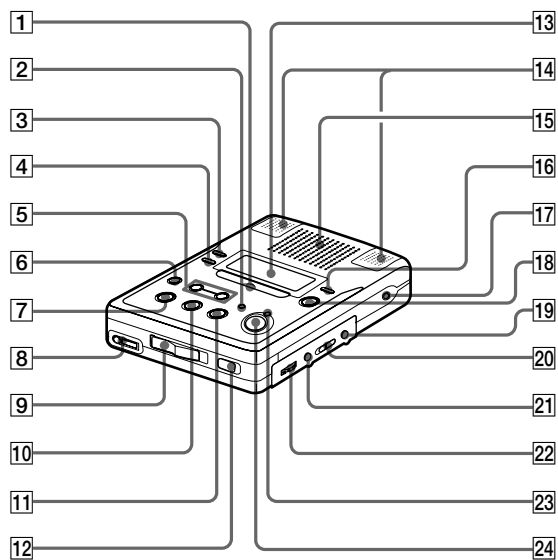
- This set is designed to perform automatic adjustment for each adjustment and write its value to EEPROM. Therefore, when EEPROM (IC802) has been replaced in service, be sure to perform automatic adjustment and write resultant values to the new EEPROM. (Refer to Section 5 Electrical Adjustment. (page 17))
- Replacement of CXD2660GA (IC502) and CXR701080-020GA (IC801) used in this set requires a special tool.

## SECTION 2 GENERAL

This section is extracted from instruction manual.

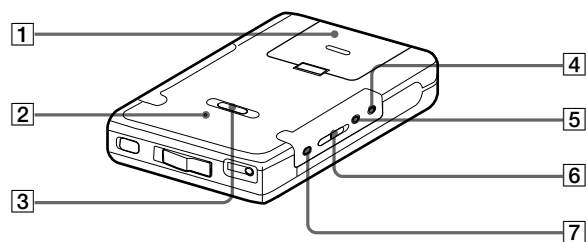
### LOCATION AND FUNCTION OF CONTROLS

#### – Front of the recorder –



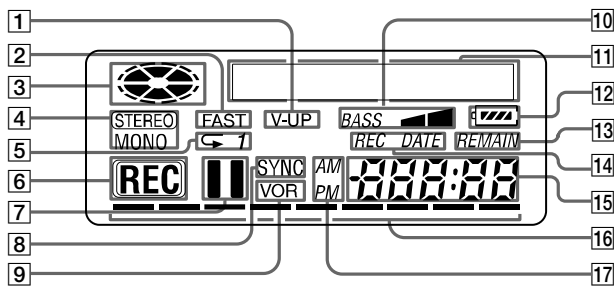
- 1 EASY SEARCH +/- buttons
- 2 VOR indicator
- 3 PLAY MODE button
- 4 DISPLAY button
- 5 ◀◀ REVIEW/AMS/▶▶ CUE/AMS (search /AMS) button
- 6 FAST PB button
- 7 ■ STOP button
- 8 🎧 (headphones/earphones) jack
- 9 OPEN switch
- 10 ▶ PLAY (play) button
- 11 || PAUSE button
- 12 HOLD switch
- 13 Display window
- 14 Microphones
- 15 Speaker
- 16 EDIT/ENTER button
- 17 DC IN 3V jack
- 18 TRACK MARK button
- 19 ERASE button
- 20 REC MODE switch
- 21 VOR button
- 22 VOL control
- 23 REC indicator
- 24 ● REC button

#### – Back of the recorder –



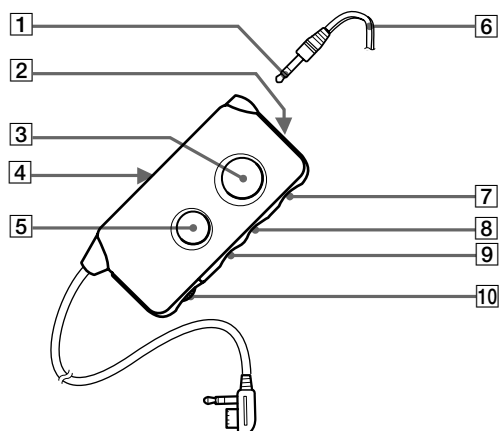
- 1 Battery compartment
- 2 CLOCK SET button
- 3 SYNCHRO REC (synchro-recording) switch
- 4 MIC (PLUG IN POWER) jack
- 5 LINE IN (OPTICAL) jack
- 6 MIC SENS switch
- 7 MEGA BASS button

**– The display window –**



- 1** V-UP indication
- 2** Fast Playback indication
- 3** Disc indication  
Shows that the disc is rotating for recording, playing or editing an MD.
- 4** STEREO (stereo)/MONO (monaural) indication
- 5** Play mode indication
- 6** REC indication  
Lights up while recording. When flashing, the recorder is in record standby mode.
- 7** Pause indication
- 8** SYNC (synchro-recording) indication
- 9** VOR indication
- 10** Mega Bass indication
- 11** Character information display  
Displays the disc and track names, date, error messages, track numbers, etc.
- 12** Battery indication
- 13** REMAIN (remaining time/tracks) indication  
Lights up along with the remaining time of the track, the remaining time of the MD, or the remaining number of tracks.
- 14** REC DATE (recorded/current date) indication  
Lights up along with the date and time the MD was recorded. When only “DATE” lights up, the current date and time are displayed.
- 15** Time display
- 16** Level meter  
Shows the volume of the MD being played or recorded.
- 17** AM/PM indication

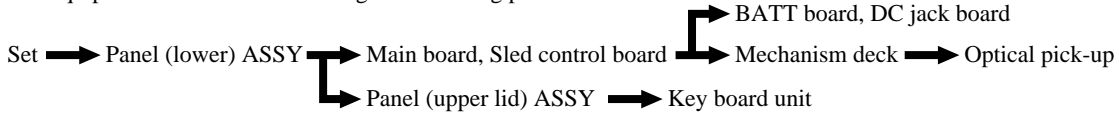
**– The headphones/earphones with a remote control –**



- 1** Stereo mini plug
- 2** V-UP button
- 3** TRACK MARK button
- 4** HOLD switch  
Slide to lock the controls of the remote control.
- 5** ■■ (pause) button
- 6** Headphones/earphones
- 7** ■ (stop) button
- 8** ►►► buttons
- 9** ◀◀◀ REVIEW/AMS
- 10** VOL control

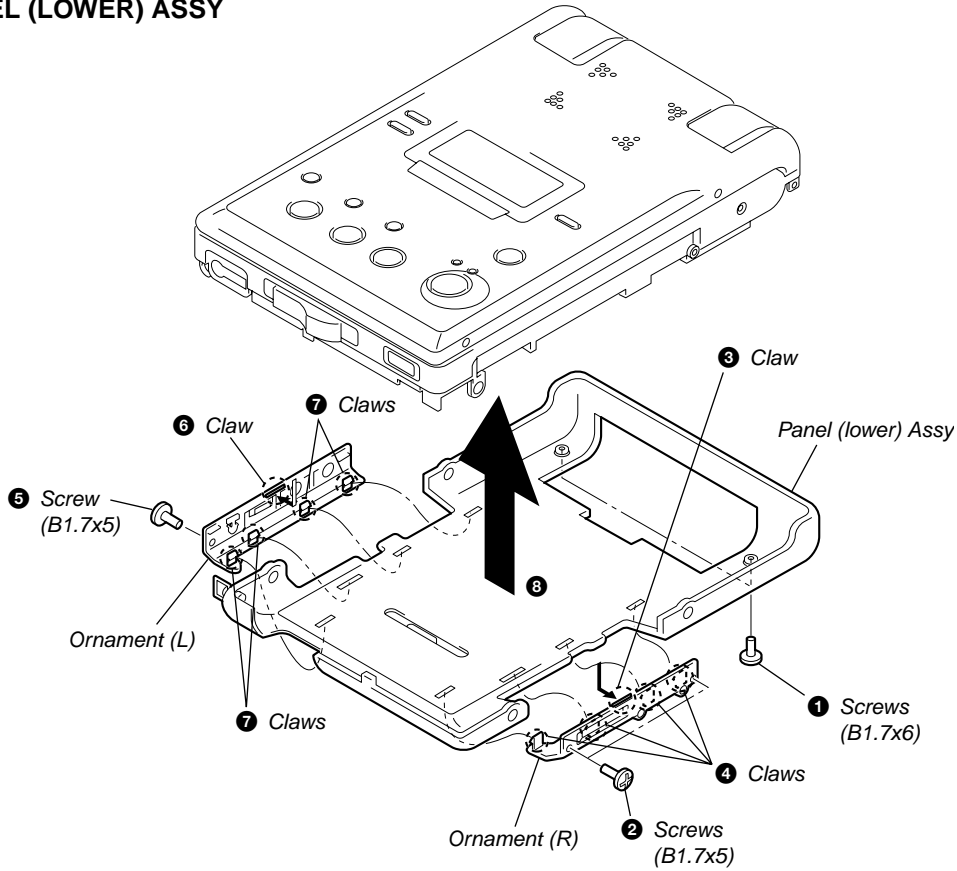
## SECTION 3 DISASSEMBLY

• The equipment can be removed using the following procedure.

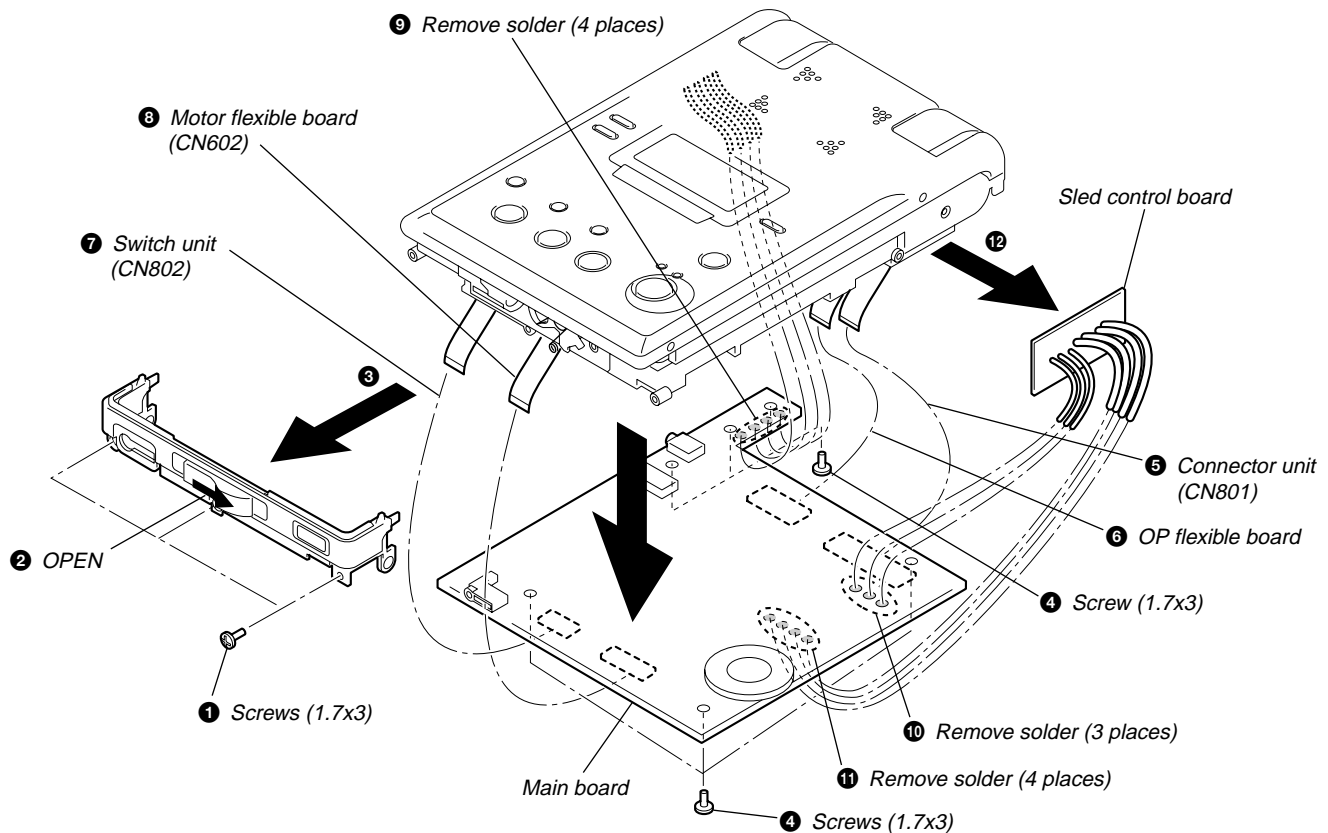


**Note :** Follow the disassembly procedure in the numerical order given.

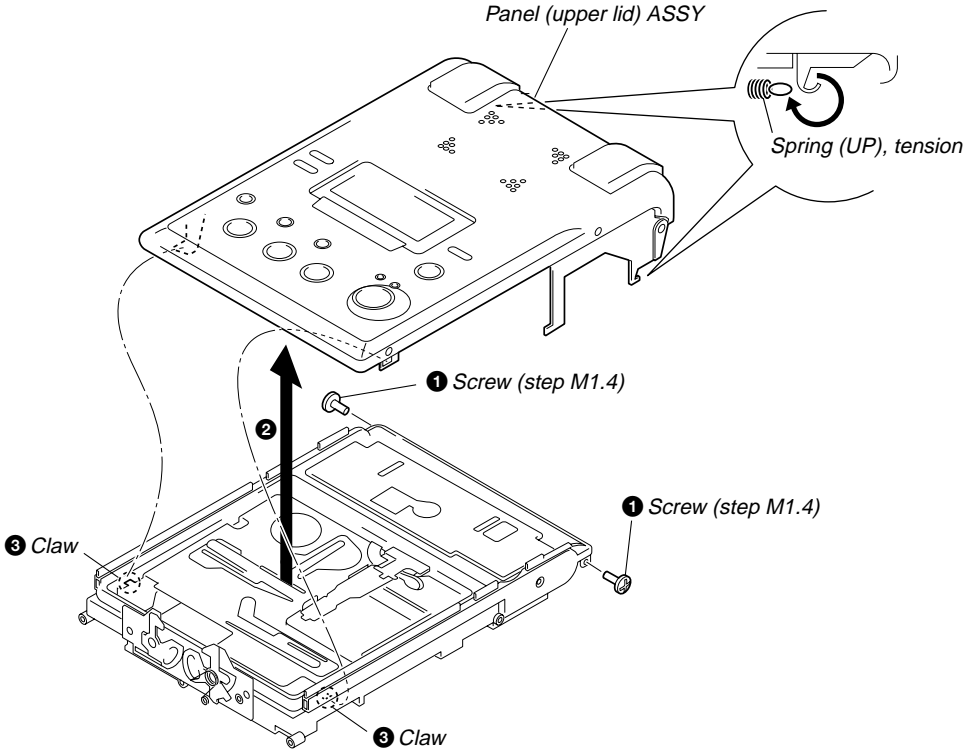
### 3-1. PANEL (LOWER) ASSY



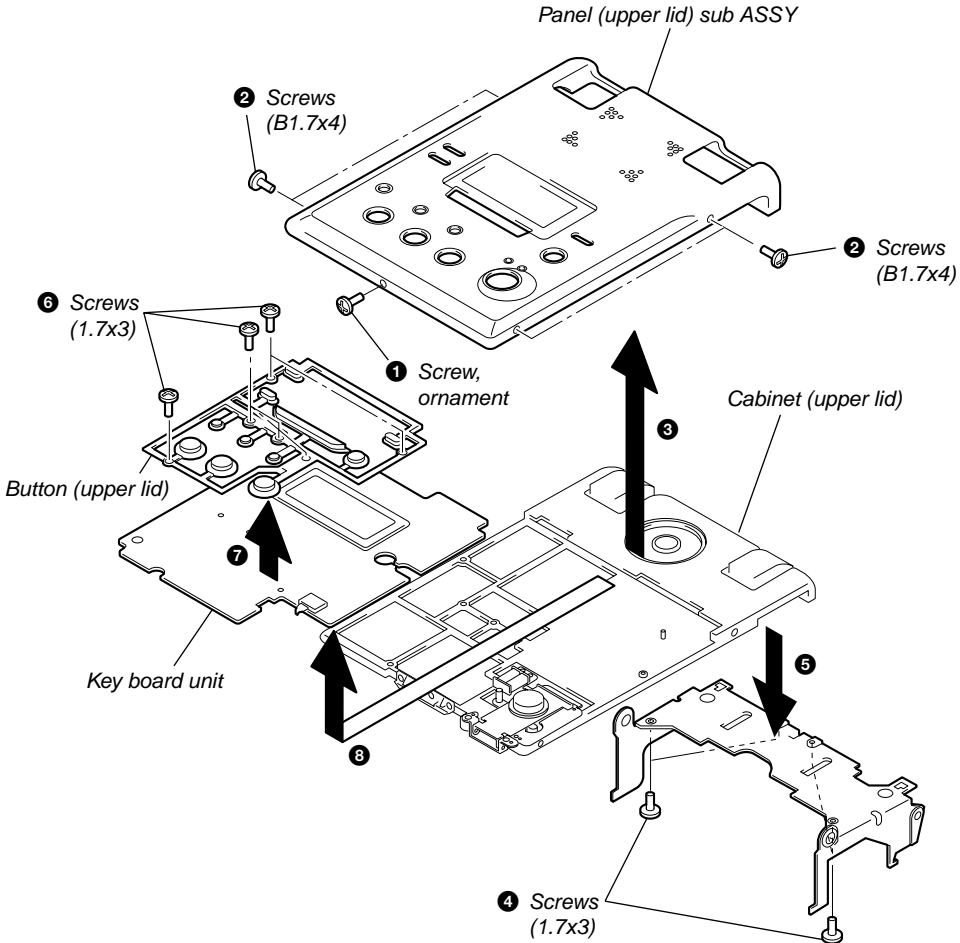
### 3-2. MAIN BOARD, SLED CONTROL BOARD



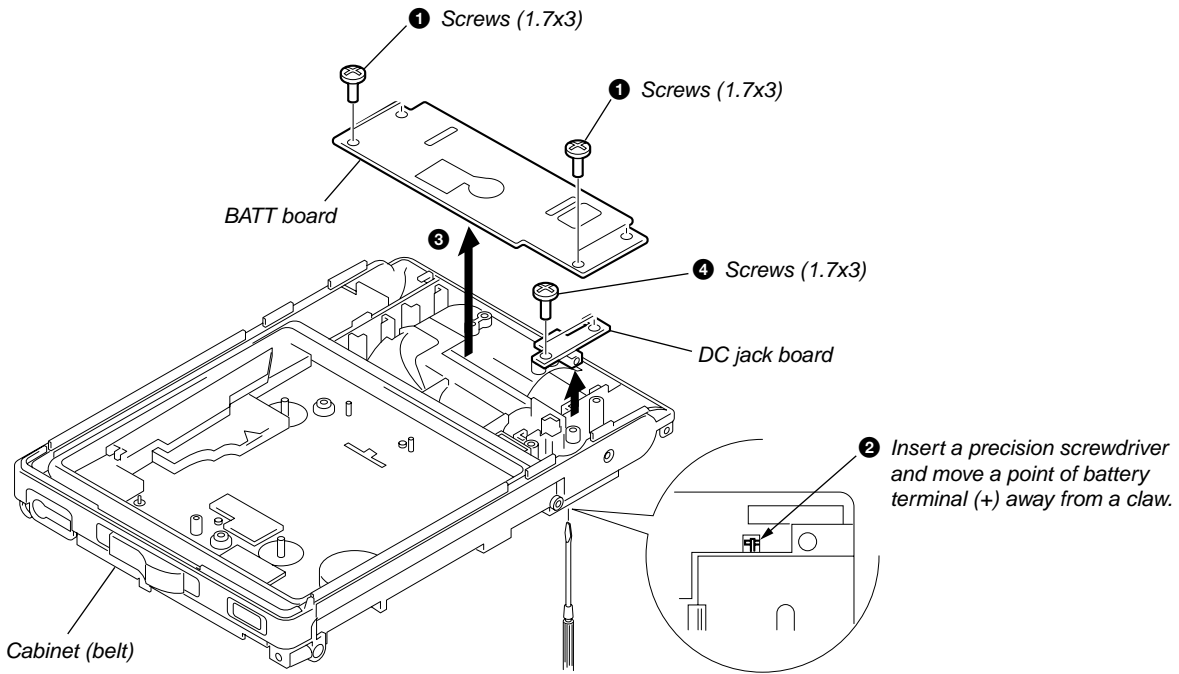
**3-3. PANEL (UPPER LID) ASSY**



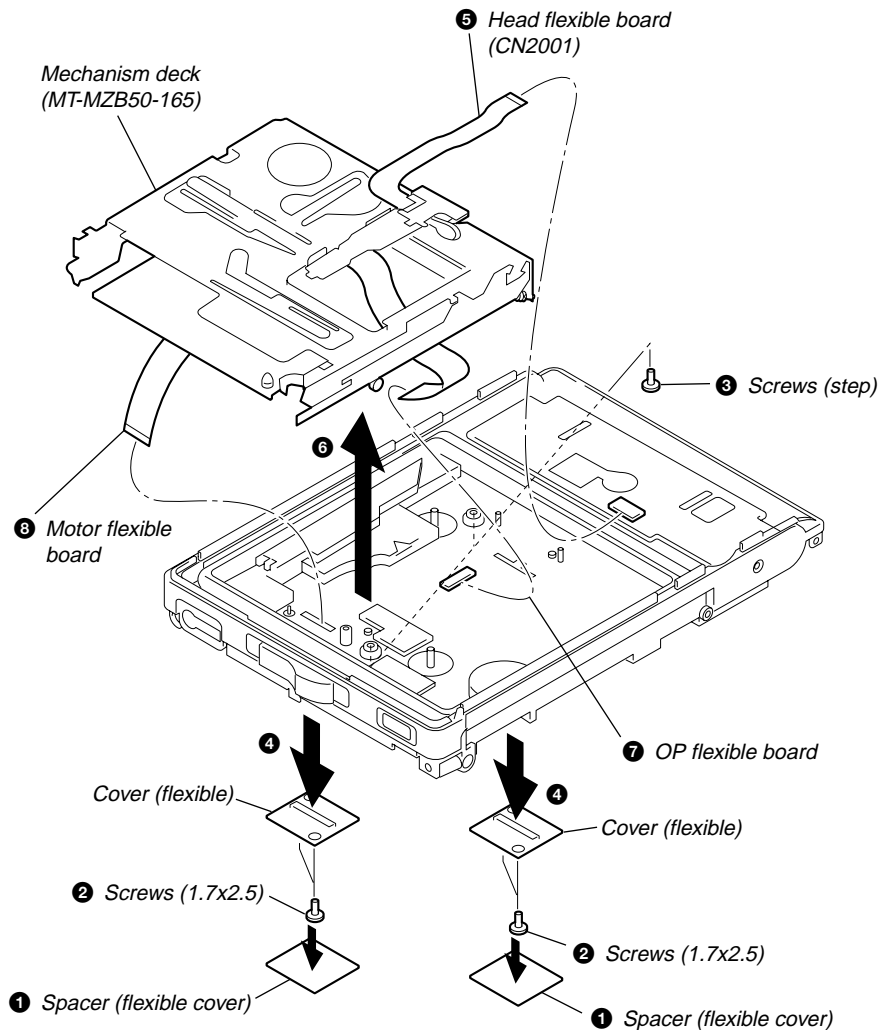
**3-4. KEY BOARD UNIT**



### 3-5. BATT BOARD, DC JACK BOARD

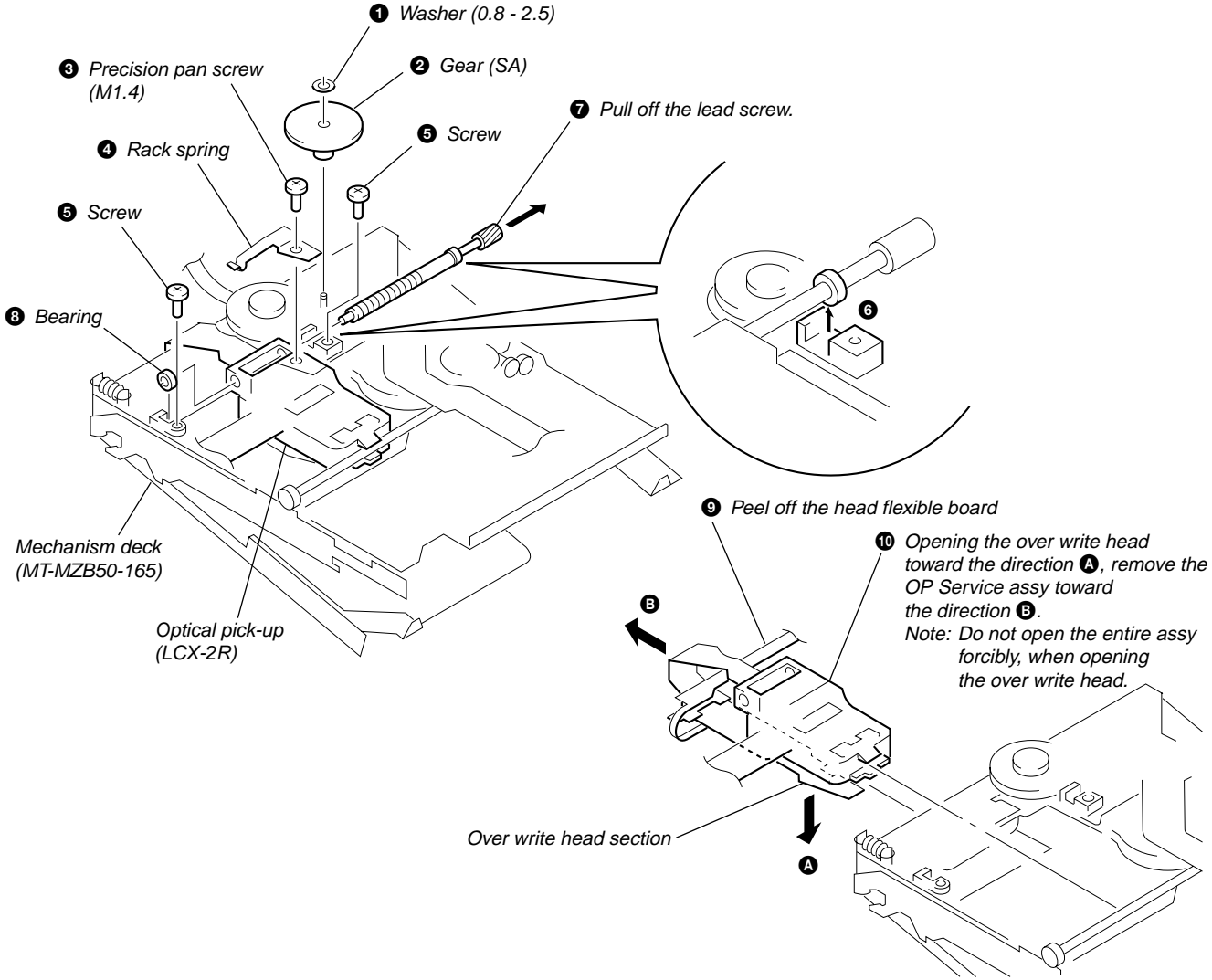


### 3-6. MECHANISM DECK





**3-7. OPTICAL PICK-UP**



## SECTION 4 TEST MODE

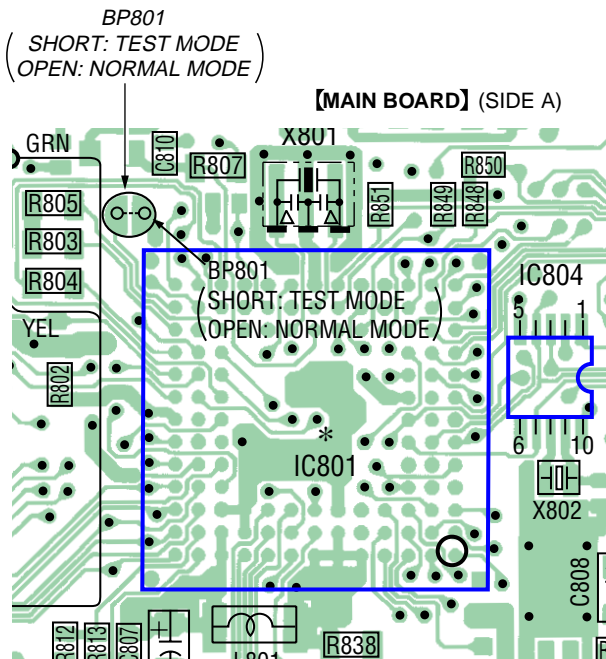
### [Outline]

- 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. Though LCD display shows the LCD of the remote commander, same contents are also displayed on the LCD of the set.

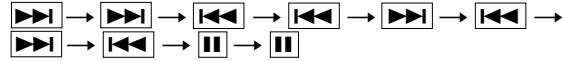
### [Setting Method of Test Mode]

There are two different methods to set the test mode:

- ① Short BP801 (TEST) on the MAIN board with a solder bridge (connect pin ⑥ of IC801 to the ground). Then, turn on the power.



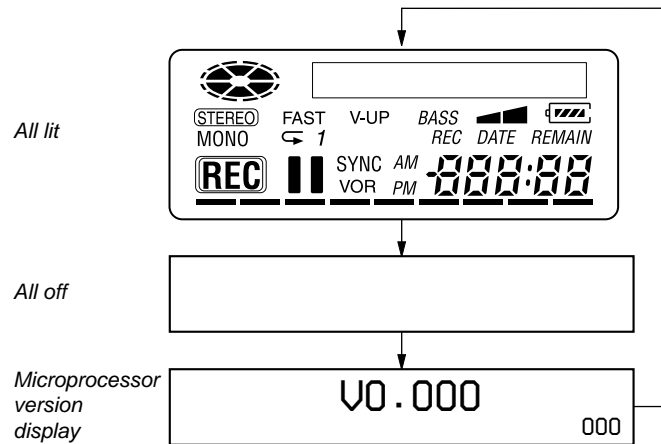
- ② In the normal mode, turn on the HOLD switch on the set. While pressing the [▶] key on the set, press the following set keys in the following order:



### [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 BP801 (TEST) on the MAIN board.

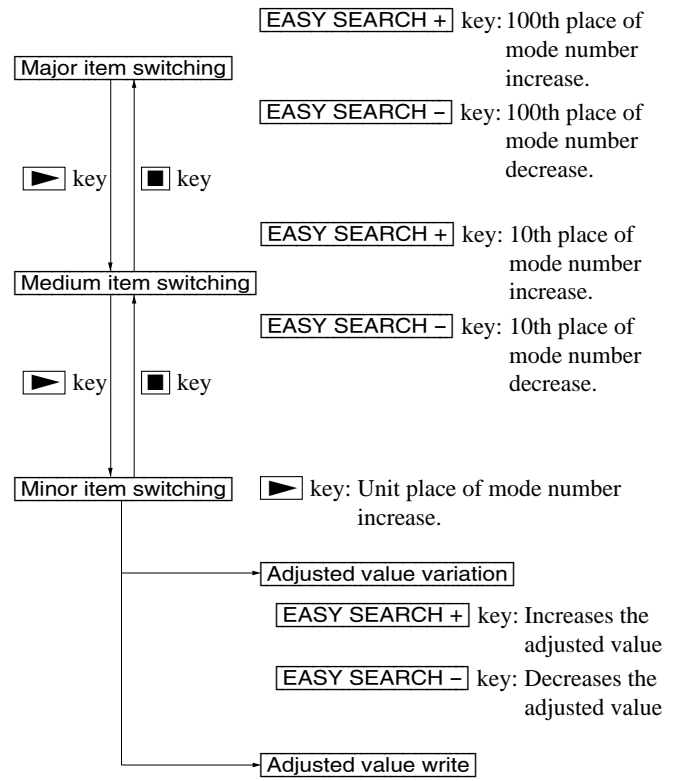
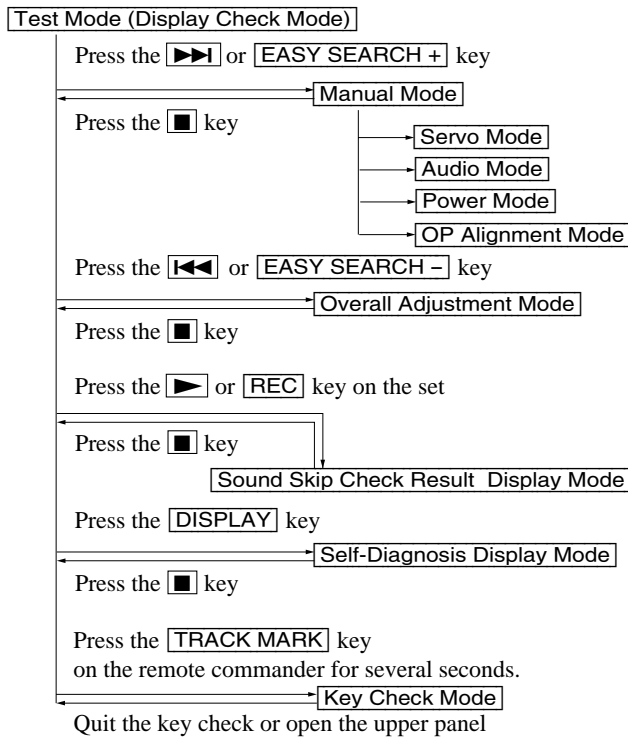
Note: Remove the solders completely. Remaining could be shorted with the chassis, etc.

For test mode set with the method ②:

Turn off the power.

**Note:** If electrical adjustment (see page 18) 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.

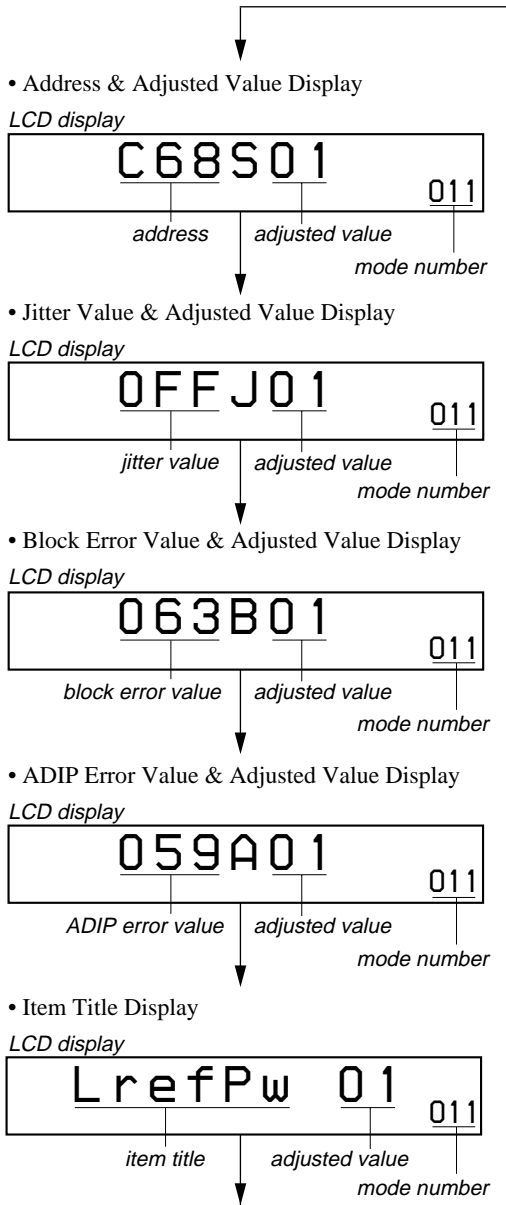
- Transition method in Manual Mode
1. Setting the test mode. (See page 10)
  2. Press the **[▶▶]** or **[EASY SEARCH +]** key activates the manual mode where the LCD display as shown below.

LCD display

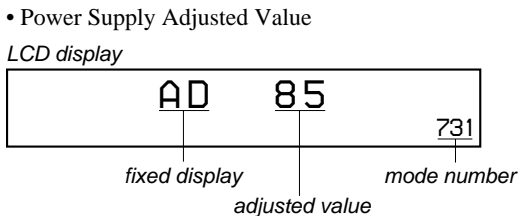


3. The optical pick-up moves outward or inward while the **[▶▶]** or **[◀◀]** key is pressed for several seconds respectively.
4. Each test item is assigned with a 3-digit mode number; 100th place is a major item, 10th place is a medium item, and unit place is a minor item.

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.



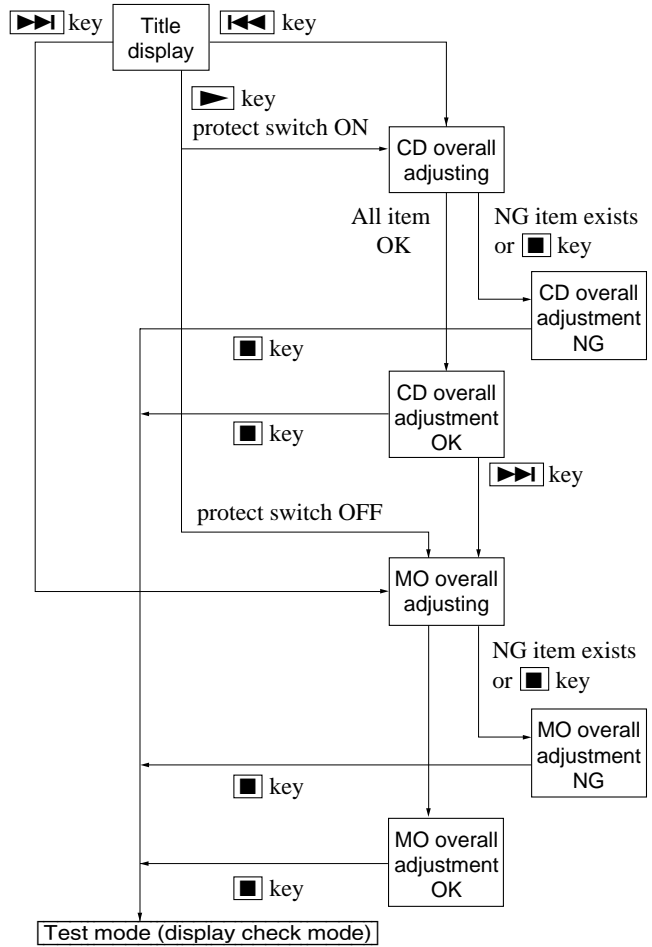
6. Quit the manual mode, and press **■** key to return to the test mode (display check mode).

### [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 17)

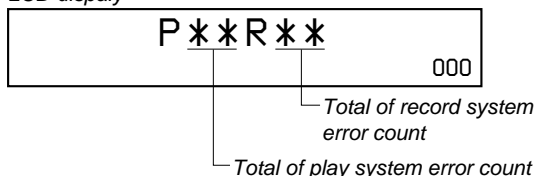
### [Sound Skip Check Result Display Mode]

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

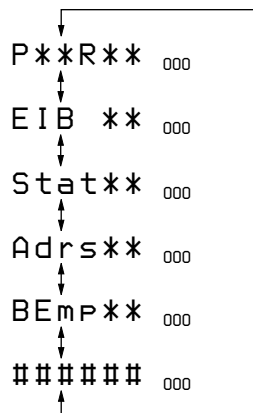
#### • Setting method of Sound Skip Check Result Display Mode

1. Setting the test mode. (See page 10)
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

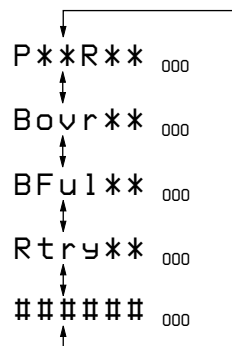


3. When **▶** key is pressed, the total of error count is displayed on the LCD, and each time the **▶▶** key is pressed, the error count descends one by one as shown below. Also, when **◀◀** key is pressed, the error count ascends by one. If **REC** key on the set is pressed, the error count during record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

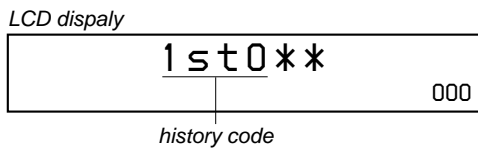
### [Self-Diagnosis Display Mode]

- 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.

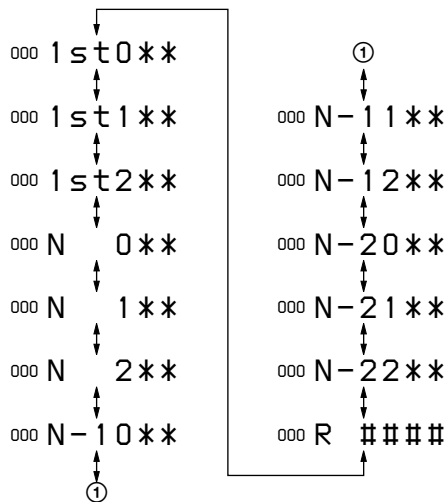
Clear both total recording time and the time in self-diagnosis display mode, when the optical pick-up was replaced.

- Setting the test mode. (See page 10)
- Press the [DISPLAY] key activates the self-diagnosis display mode where the LCD display as shown below.



\*\* : Self-Diagnosis Data

- 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.



- 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 10.)
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 10)
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	ENTER
FAST PB	FAST P
MEGA BASS	M BASS
VOR	VOR
ERASE	ERASE
REC MODE (STEREO)	RMODEs
REC MODE (MONO)	RMODEm

### Remote commander key

Key	Indication
	rPLAY
	rFR
	rPAUSE
	rSTOP

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 10)  
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.

- |  |   |   |             |   |              |
|--|---|---|-------------|---|--------------|
| <ol style="list-style-type: none"> <li>1. NV Reset (Memory clear)</li> <li style="text-align: center;">↓</li> <li>2. Power Supply Manual Adjustment</li> <li style="text-align: center;">↓</li> <li>3. Temperature correction</li> <li style="text-align: center;">↓</li> <li>4. CD Overall Adjustment</li> <li style="text-align: center;">↓</li> <li>5. MO Overall Adjustment</li> </ol> | <table style="border: none;"> <tr> <td style="font-size: 3em; vertical-align: middle;">}</td> <td style="vertical-align: middle;">Manual Mode</td> </tr> <tr> <td style="font-size: 3em; vertical-align: middle;">}</td> <td style="vertical-align: middle;">Overall Mode</td> </tr> </table> | } | Manual Mode | } | Overall Mode |
| }  | Manual Mode   |   |             |   |              |
| }  | Overall Mode  |   |             |   |              |

### [NV Reset]

#### • Setting method of NV reset

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

*LCD display*

ResNV
021

2. Press the **|||** key.

*LCD display*

ResOK?
021

3. Press the **|||** key once more.

*LCD display*

Res\*\*\*
021

↓ NV reset (after several seconds)

Reset!
021

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)

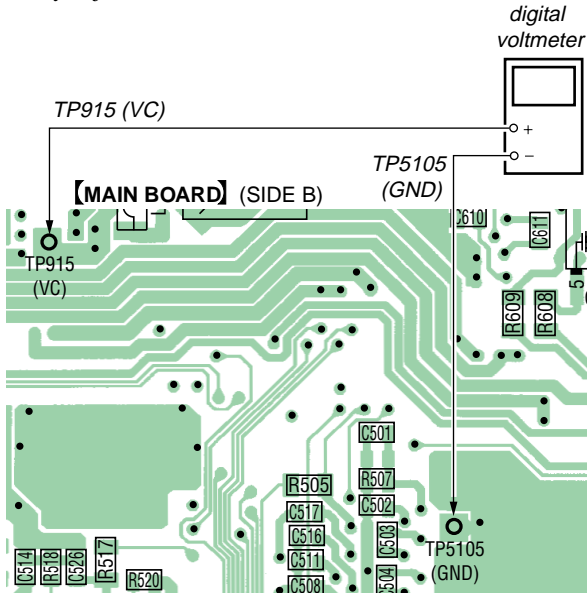
1. Select the manual mode of the test mode, and set the mode number 762. (See page 11)

LCD display



2. Connect a digital voltmeter to the TP915 (VC) on the MAIN board, and adjust [EASY SEARCH +] key (voltage up) or [EASY SEARCH -] key (voltage down) so that the voltage becomes  $2.5 \pm 0.02$  V.

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

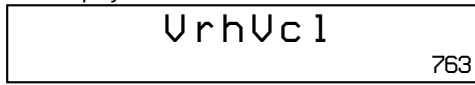


3. Press the [ ] key to write the adjusted value.

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

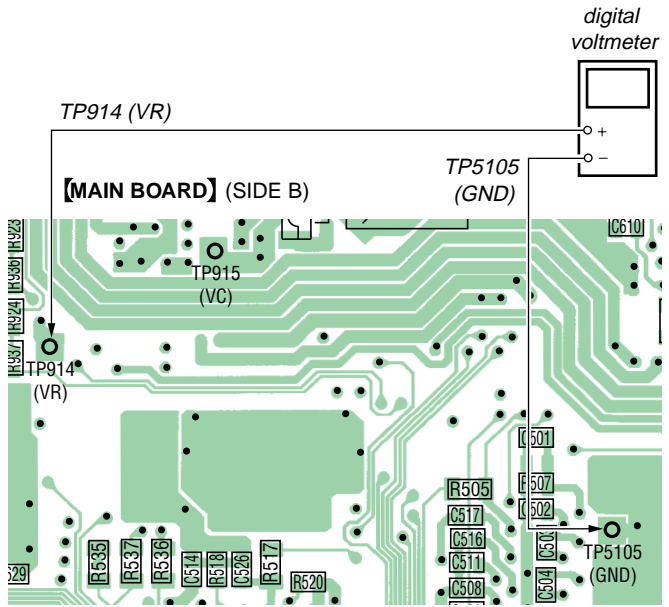
1. Select the manual mode of the test mode, and set the mode number 763. (See page 11)

LCD display



2. Connect a digital voltmeter to the TP914 (VR) on the MAIN board, and adjust [EASY SEARCH +] key (voltage up) or [EASY SEARCH -] key (voltage down) so that the voltage becomes  $2.75 \pm 0.02$  V.

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

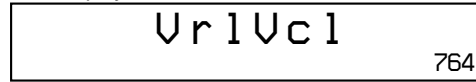


3. Press the [ ] key to write the adjusted value.

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

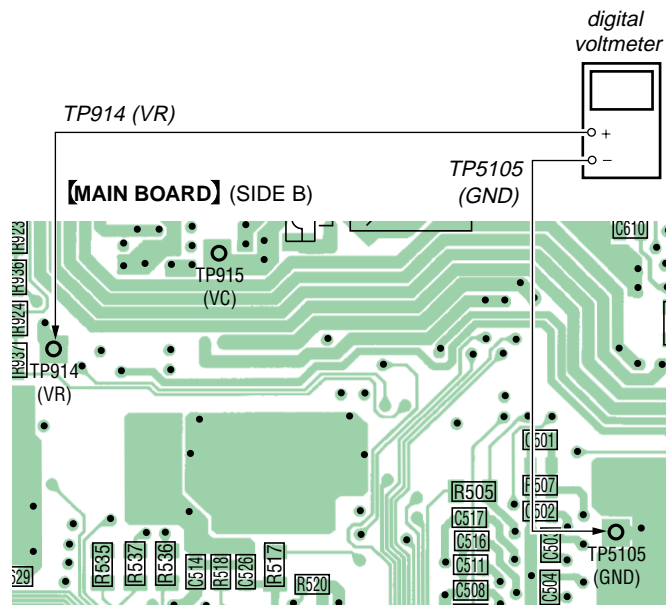
1. Select the manual mode of the test mode, and set the mode number 764. (See page 11)

LCD display



2. Connect a digital voltmeter to the TP914 (VR) on the MAIN board, and adjust [EASY SEARCH +] key (voltage up) or [EASY SEARCH -] key (voltage down) so that the voltage becomes  $2.5 \pm 0.02$  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)**

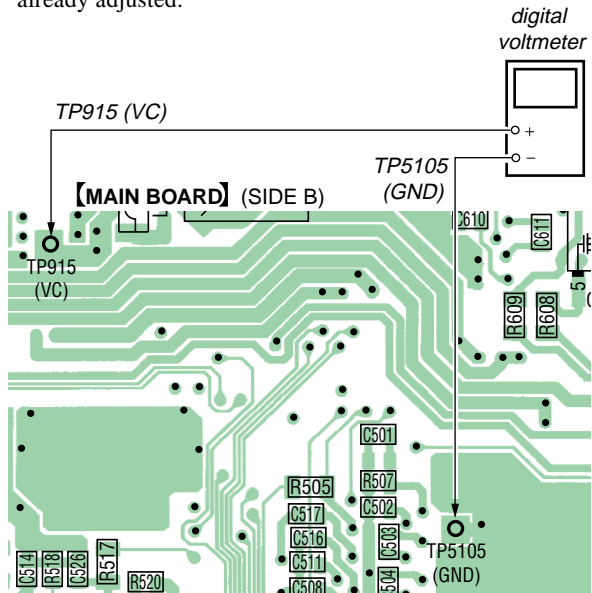
1. Select the manual mode of the test mode, and set the mode number 765. (See page 11)

LCD display



2. Connect a digital voltmeter to the TP915 (VC) on the MAIN board, and adjust [EASY SEARCH +] key (voltage up) or [EASY SEARCH -] key (voltage down) so that the voltage becomes  $2.75 \pm 0.02$  V.

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

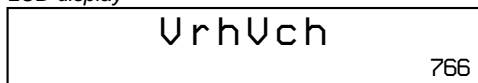


3. Press the [ ] key to write the adjusted value.

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

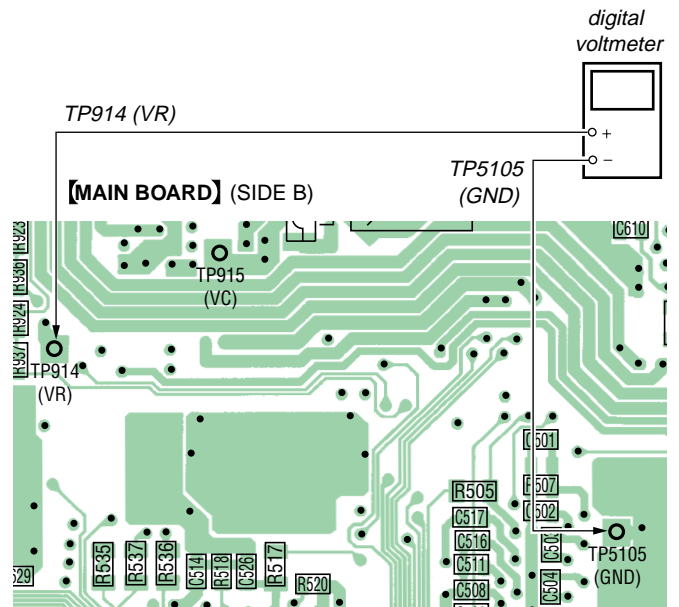
1. Select the manual mode of the test mode, and set the mode number 766. (See page 11)

LCD display



2. Connect a digital voltmeter to the TP914 (VR) on the MAIN board, and adjust [EASY SEARCH +] key (voltage up) or [EASY SEARCH -] key (voltage down) so that the voltage becomes  $2.75 \pm 0.02$  V.

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

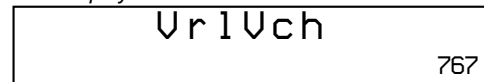


3. Press the [ ] key to write the adjusted value.

• **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 11)

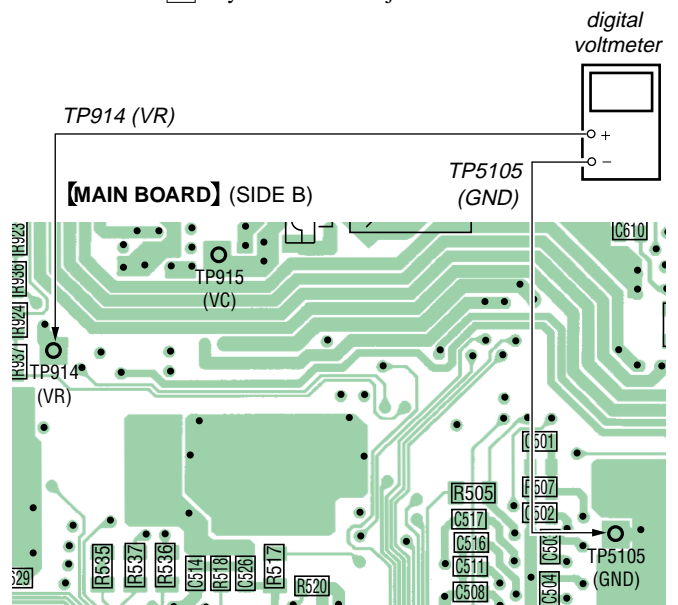
LCD display



2. Connect a digital voltmeter to the TP914 (VR) on the MAIN board, and adjust [EASY SEARCH +] key (voltage up) or [EASY SEARCH -] key (voltage down) so that the voltage becomes  $2.5 \pm 0.02$  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 11)

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 [ ] key to write the adjusted value.

## [Overall Adjustment Mode]

### • Adjustment Method of Overall Adjustment Mode

1. Setting the test mode. (See page 10)
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



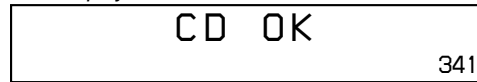
???: Manual mode number being executed

- 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

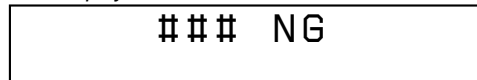
5. If the result of automatic adjustment is OK, the following display appears in the LCD:

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 11)
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



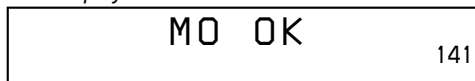
???: Manual mode number being executed

• 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

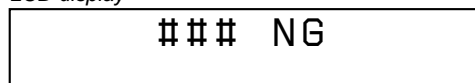
10. If the result of automatic adjustment is OK, the following display appears in the LCD:

LCD display



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

LCD display



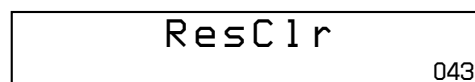
### : Overall adjustment. NG mode number

12. If NG, set the manual mode. Perform automatic adjustment for the items not accepted. (See page 11)
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 11)
14. When both CD and MO overall adjustments are OK, set the mode No. 043 (Resume) and clear the clock data.

LCD display



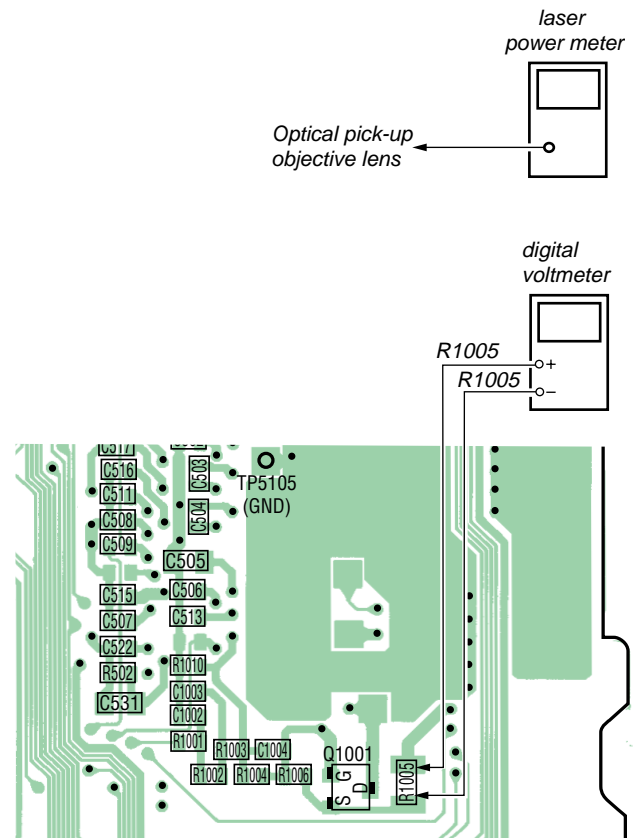
↓ Press the [ ] key, historical data clear



**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  $0.81 \pm 0.08$  mW.
6. Check that the voltage both ends of resistor R1005 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  $0.97 \pm 0.10$  mW.
9. Check that the voltage both ends of resistor R1005 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  $4.95 \pm 0.50$  mW.
12. Check that the voltage both ends of resistor R1005 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 SN761056CDBT (RF AMP, FOCUS/TRACKING ERROR AMP)

Pin No.	Pin name	I/O	Description
1	TE	O	Tracking error signal output to the CXD2660GA (IC502)
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 the CXD2660GA (IC502)
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	$\overline{\text{XRST}}$	I	Reset signal input from the system controller (IC801) "L": reset
26	OFTRK	I	Off track signal input from the CXD2660GA (IC502)
27	DGND	—	Ground terminal (digital system)
28	BOTM	O	Light amount signal (RF/ABCD) bottom hold output to the CXD2660GA (IC502)
29	PEAK	O	Light amount signal (RF/ABCD) peak hold output to the CXD2660GA (IC502)
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 the CXD2660GA (IC502)
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 the CXD2660GA (IC502)
42	FE	O	Focus error signal output to the CXD2660GA (IC502)
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

• MAIN BOARD IC502 CXD2660GA

(DIGITAL SIGNAL PROCESSOR, DIGITAL SERVO SIGNAL PROCESSOR, EFM/ACIRC ENCODER/DECODER, SHOCK PROOF MEMORY CONTROLLER, ATRAC ENCODER/DECODER, 16M BIT D-RAM)

Pin No.	Pin name	I/O	Description
1	VDC0	—	Power supply terminal (+1.8V) (for internal logic)
2	MNT0	I/O	Not used (open)
3	MNT1	O	Recording shock detect signal output to the system controller (IC801)
4	MNT2	O	Off track signal output to the SN761056CDBT (IC501) and system controller (IC801)
5	MNT3	O	Focus OK signal output to the system controller (IC801) “H”: is output when focus is on (“L”: NG)
6	SWDT	I	Serial data input from the system controller (IC801)
7	SCLK	I (S)	Serial clock signal input from the system controller (IC801)
8	XLAT	I (S)	Serial data latch pulse input from the system controller (IC801)
9	VSC0	—	Ground terminal (for internal logic)
10	SRDT	O (3)	Serial data output to the system controller (IC801)
11	SENS	O (3)	Internal status (SENSE) output to the system controller (IC801)
12	$\overline{\text{XRST}}$	I (S)	Reset signal input from the system controller (IC801) “L”: reset
13	SQSY	O	Subcode Q sync (SCOR) output the system controller (IC801) “L” is output every 13.3 msec Almost all, “H” is output
14	DQSY (MTFLGL)	O	Digital In U-bit CD format subcode Q sync (SCOR) output to the system controller (IC801) “L” is output every 13.3 msec Almost all, “H” is output
15	RECP	I	Laser power selection signal input from the system controller (IC801) “L”: playback mode, “H”: recording mode
16	XINT	O	Interrupt status output to the system controller (IC801)
17	TX	I	Recording data output enable signal input from the system controller (IC801) Writing data transmission timing input
18	VDIO0	—	Power supply terminal (+2.4V) (for I/O)
19	OSCI	I	System clock (512Fs=22.5792 MHz) input terminal
20	OSCO	O	System clock (512Fs=22.5792 MHz) output terminal
21	VSIO0	—	Ground terminal (for I/O)
22 to 29	NC	—	Not used (open)
30	VSC1	—	Ground terminal (for internal logic)
31	XTSL	I	Input terminal for the system clock frequency setting “L”: 45.1584 MHz, “H”: 22.5792 MHz (fixed at “H” in this set)
32	XCS_DSP	I	Chip select signal input from the system controller (IC801)
33	DIN1	I	Digital audio signal input terminal when recording mode
34	DOUT	O	Digital audio signal output terminal when playback mode Not used (open)
35	DT72	O	Not used (open)
36, 37	VDC1, VDC2	—	Power supply terminal (+1.8V) (for internal logic)
38	DATAI	I	Serial data input terminal Not used (fixed at “L”)
39	LRCKI	I	L/R sampling clock signal (44.1 kHz) input terminal “L”: Rch, “H”: Lch Not used (fixed at “L”)
40	XBCKI	I	Serial input/output data bit clock signal (2.8224 MHz) input terminal Not used (fixed at “L”)
41	ADDT	I	Recording data signal input from the A/D, D/A converter (IC301)
42	DADT	O	Playback data signal output to the A/D, D/A converter (IC301)
43	LRCK	O	L/R sampling clock signal (44.1 kHz) output to the A/D, D/A converter (IC301)
44	VSC2	—	Ground terminal (for internal logic)
45	XBCK	O	Serial input/output data bit clock signal (2.8224 MHz) out put to the A/D, D/A converter (IC301)

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

Pin No.	Pin name	I/O	Description
46	FS256	O	Clock signal (11.2896 MHz) output to the A/D, D/A converter (IC301) (X' tal system)
47 to 52	A03, A04, A02, A05, A01, A06	O	Address signal output to the external D-RAM Not used (open)
53	VDIO1	—	Power supply terminal (+2.4V) (for I/O)
54	VSIO1	—	Ground terminal (for I/O)
55 to 59	A00, A07, A10, A08, A09	O	Address signal output to the external D-RAM Not used (open)
60	$\overline{\text{X}}\text{RAS}$	O	Row address strobe signal output to the external D-RAM "L" active Not used (open)
61	$\overline{\text{I}}\text{XOE}$	O	Output enable signal output terminal for internal D-RAM "L" active Not used (open)
62	$\overline{\text{I}}\text{XWE}$	O	Data write enable signal output terminal for internal D-RAM "L" active Not used (open)
63	$\overline{\text{X}}\text{CAS}$	O	Column address strobe signal output to the external D-RAM "L" active Not used (open)
64 to 67	D1, D2, D0, D3	I/O	Two-way data bus with the external D-RAM Not used (open)
68	VDC3	—	Power supply terminal (+1.8V) (for internal logic)
69	VSC3	—	Ground terminal (for internal logic)
70	A11	O	Address signal output to the external D-RAM Not used (open)
71	$\overline{\text{X}}\text{OE}$	O	Output enable signal output to the external D-RAM "L" active Not used (open)
72	$\overline{\text{X}}\text{WE}$	O	Data write enable signal output to the external D-RAM "L" active Not used (open)
73	MVCI	I (S)	Digital in PLL oscillation input from the external VCO Not used (fixed at "L")
74	ASYO	O (A)	Playback EFM full-swing output terminal
75	ASYI	I (A)	Playback EFM asymmetry comparator voltage input terminal
76	AVD1	—	Power supply terminal (+2.4V) (analog system)
77	BIAS	I (A)	Playback EFM asymmetry circuit constant current input terminal
78	RFI	I (A)	Playback EFM RF signal input from the SN761056CDBT (IC501)
79	AVS1	—	Ground terminal (analog system)
80	PCO	O (3)	Phase comparison output for master clock of the recording/playback EFM master PLL
81	FILI	I (A)	Filter input for master clock of the recording/playback EFM master PLL
82	FILO	O (A)	Filter output for master clock of the recording/playback EFM master PLL
83	CLTV	I (A)	Internal VCO control voltage input of the recording/playback EFM master PLL
84	PEAK	I (A)	Light amount signal (RF/ABCD) peak hold input from the SN761056CDBT (IC501)
85	BOTM	I (A)	Light amount signal (RF/ABCD) bottom hold input from the SN761056CDBT (IC501)
86	ABCD	I (A)	Light amount signal (ABCD) input from the SN761056CDBT (IC501)
87	FE	I (A)	Focus error signal input from the SN761056CDBT (IC501)
88	AUX1	I (A)	Auxiliary signal (I3 signal/temperature signal) input terminal Not used (fixed at "H")
89	VC	I (A)	Middle point voltage (+1.2V) input terminal
90	ADIO	O (A)	Monitor output of the A/D converter input signal Not used (open)
91	ADRT	I (A)	A/D converter operational range upper limit voltage input terminal (fixed at "H" in this set)
92	AVD2	—	Power supply terminal (+2.4V) (analog system)
93	AVS2	—	Ground terminal (analog system)
94	ADRB	I (A)	A/D converter operational range lower limit voltage input terminal (fixed at "L" in this set)
95	SE	I (A)	Sled error signal input terminal Not used (fixed at "L")
96	TE	I (A)	Tracking error signal input from the SN761056CDBT (IC501)
97	DCHG	I (A)	Connected to the +2.4V power supply
98	APC	I (A)	Error signal input for the laser automatic power control Not used (fixed at "H")
99	ADFG	I (A)	ADIP duplex FM signal (22.05 kHz $\pm$ 1 kHz) input from the SN761056ADBT (IC501)
100	VDIO2	—	Power supply terminal (+2.4V) (for I/O)
101	VSIO2	—	Ground terminal (for I/O)
102	F0CNT	O	Filter f0 control signal output terminal Not used (open)

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



Pin No.	Pin name	I/O	Description
103	XLRF	O	Serial latch signal output terminal Not used (open)
104	CKRF	O	Serial clock signal output terminal Not used (open)
105	DTRF	O	Writing data output terminal Not used (open)
106	APCREF	O	Control signal output to the reference voltage generator circuit for the laser automatic power control
107	LDDR	O	PWM signal output for the laser automatic power control Not used (open)
108	VDC4	—	Power supply terminal (+1.8V) (for internal logic)
109	TRDR	O	Tracking servo drive PWM signal (–) output to the XC111256FTAEB (IC601)
110	TFDR	O	Tracking servo drive PWM signal (+) output to the XC111256FTAEB (IC601)
111	FFDR	O	Focus servo drive PWM signal (+) output to the XC111256FTAEB (IC601)
112	FRDR	O	Focus servo drive PWM signal (–) output to the XC111256FTAEB (IC601)
113	FS4	O	Clock signal (176.4 kHz) output to the MPC18A20MTAEL (IC603) (X' tal system)
114	SRDR	O	Sled servo drive PWM signal (–) output terminal Not used (open)
115	SFDR	O	Sled servo drive PWM signal (+) output terminal Not used (open)
116	VSC4	—	Ground terminal (for internal logic)
117	SPRD	O	Spindle servo drive PWM signal (–) output terminal Not used (open)
118	SPFD	O	Spindle servo drive PWM signal (+) output terminal Not used (open)
119	FGIN	I	FG signal input terminal for spindle servo Not used (open)
120 to 122	TEST1 to TEST3	I	Input terminal for the test (normally : fixed at “L”)
123	EFMO	O	EFM signal output when recording mode to the MPC18A20MTAEL (IC603)
124	SPVS	O	Spindle servo drive voltage control signal output to the XC111256FTAEB (IC601)
125	VDIO3	—	Power supply terminal (+2.4V) (for I/O)
126	VSIO3	—	Ground terminal (for I/O)
127	SPDU	O	Spindle servo (U) drive signal output to the XC111256FTAEB (IC601)
128	SPDV	O	Spindle servo (V) drive signal output to the XC111256FTAEB (IC601)
129	SPDW	O	Spindle servo (W) drive signal output to the XC111256FTAEB (IC601)
130	SPCU	I	Spindle servo (U) timing signal input from the XC111256FTAEB (IC601)
131	SPCV	I	Spindle servo (V) timing signal input from the XC111256FTAEB (IC601)
132	SPCW	I	Spindle servo (W) timing signal input from the XC111256FTAEB (IC601)
133	SLDU	O	Sled servo (1+) drive signal output to the XC111256FTAEB (IC601)
134	SLDV	O	Sled servo (1–) drive signal output to the XC111256FTAEB (IC601)
135	SLDW	O	Sled servo (2+) drive signal output to the XC111256FTAEB (IC601)
136	VDC5	—	Power supply terminal (+1.8V) (for internal logic)
137	VSC5	—	Ground terminal (for internal logic)
138	SLCU	I	Sled servo (1) timing signal input from the XC111256FTAEB (IC601)
139	SLCV	I	Sled servo (2) timing signal input from the XC111256FTAEB (IC601)
140	SLCW	O	Sled servo (2–) timing signal output to the XC111256FTAEB (IC601)
141	SLVS	O	Sled servo voltage control signal output to the XC111256FTAEB (IC601)
142	BYPS	O	By-pass transistor control signal output to the XC111256FTAEB (IC601)
143	VSS	—	Ground terminal (for internal 16M bit D-RAM)
144	VDD	—	Power supply terminal (+2.4V) (for internal 16M bit D-RAM)
145	VSS	—	Ground terminal (for internal 16M bit D-RAM)
146	VDD	—	Power supply terminal (+2.4V) (for internal 16M bit D-RAM)
147	IVC	O	Output terminal for the test Not used (open)

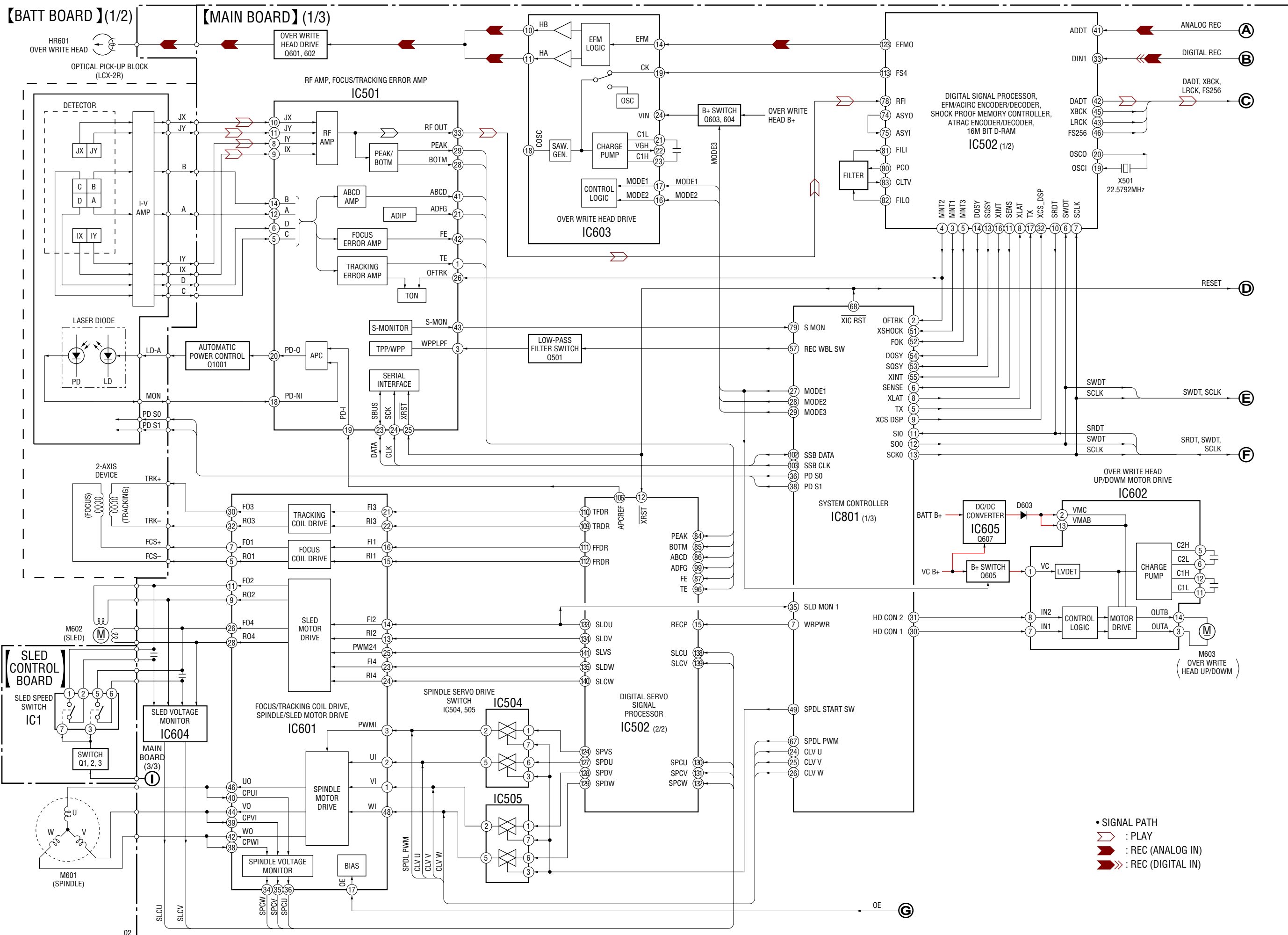
• MAIN BOARD IC801 CXR701080-020GA (MASTER CONTROLLER)

Pin No.	Pin name	I/O	Description
1	SYNC REC	I	SYNCHRO REC switch (S801) input terminal "L": off, "H": on
2	OFTRK	I	Off track signal input from the CXD2660GA (IC502)
3	PROTECT	I	Rec-proof claw detect input from the protect detect switch (S806) "L": recording possible, "H": protect
4	PAUSE KEY	I	Set pause key input terminal
5	TX	O	Recording data output enable signal output to the CXD2660GA (IC502) Writing data transmission timing output
6	SENSE	I	Internal status (SENSE) input from the CXD2660GA (IC502)
7	WRPWR	O	Laser power select signal output to the CXD2660GA (IC502) "L": playback mode, "H": recording mode
8	XLAT	O	Serial data latch pulse output to the CXD2660GA (IC502)
9	XCS DSP	O	Chip select signal output to the CXD2660GA (IC502)
10	CS RTC	O	Chip select signal output to the real time clock (IC804)
11	SI0	I	Serial data input from the A/D, D/A converter (IC301), CXD2660GA (IC502), EEPROM (IC802), real time clock (IC804) and switch & liquid crystal display module unit
12	SO0	O	Serial data output to the A/D, D/A converter (IC301), CXD2660GA (IC502), EEPROM (IC802), real time clock (IC804) and switch & liquid crystal display module unit
13	SCK0	O	Serial clock signal output to the A/D, D/A converter (IC301), CXD2660GA (IC502), EEPROM (IC802), real time clock (IC804) and switch & liquid crystal display module unit
14	OCLT (NC)	—	Not used (open)
15	VSS	—	Ground terminal
16	VDD	—	Power supply terminal (+2.4V)
17	NC	—	Not used (open)
18	BEEP	O	Beep sound control signal input terminal
19	RMC DTCK	I/O	TSB serial communication data input/output terminal for remote commander with headphone
20	XCS LCD	O	Chip select signal output to the liquid crystal display
21	LCD STB	O	Strobe signal output to the liquid crystal display
22	LCD RST	O	Reset control signal output to the liquid crystal display
23	XHP STBY	O	Standby on/off control signal output to the line/headphone amplifier (IC303) "L": standby mode, "H": amplifier on
24	CLV U	O	Spindle servo (U) drive signal output to the XC111256FTAEB (IC601)
25	CLV V	O	Spindle servo (V) drive signal output to the XC111256FTAEB (IC601)
26	CLV W	O	Spindle servo (W) drive signal output to the XC111256FTAEB (IC601)
27	MODE1	O	Power supply control signal output for over write head drive to the MPC18A20MTAEL (IC603)
28	MODE2	O	Power supply control signal output for over write head drive to the MPC18A20MTAEL (IC603)
29	MODE3	O	Power supply control signal output terminal for over write head drive
30	HD CON 1	O	Over write head control signal output to the MPC17A17XDTBR2 (IC602)
31	HD CON 2	O	Over write head control signal output to the MPC17A17XDTBR2 (IC602)
32	XREC MODE	O	Not used (open)
33	LD ON	O	Laser diode on/off control signal output terminal "L": laser off, "H": laser on Not used (open)
34	VOR	O	VOR on/off control signal output terminal
35	SLD MON 1	I	Sled servo timing signal input from the XC111256FTAEB (IC601)

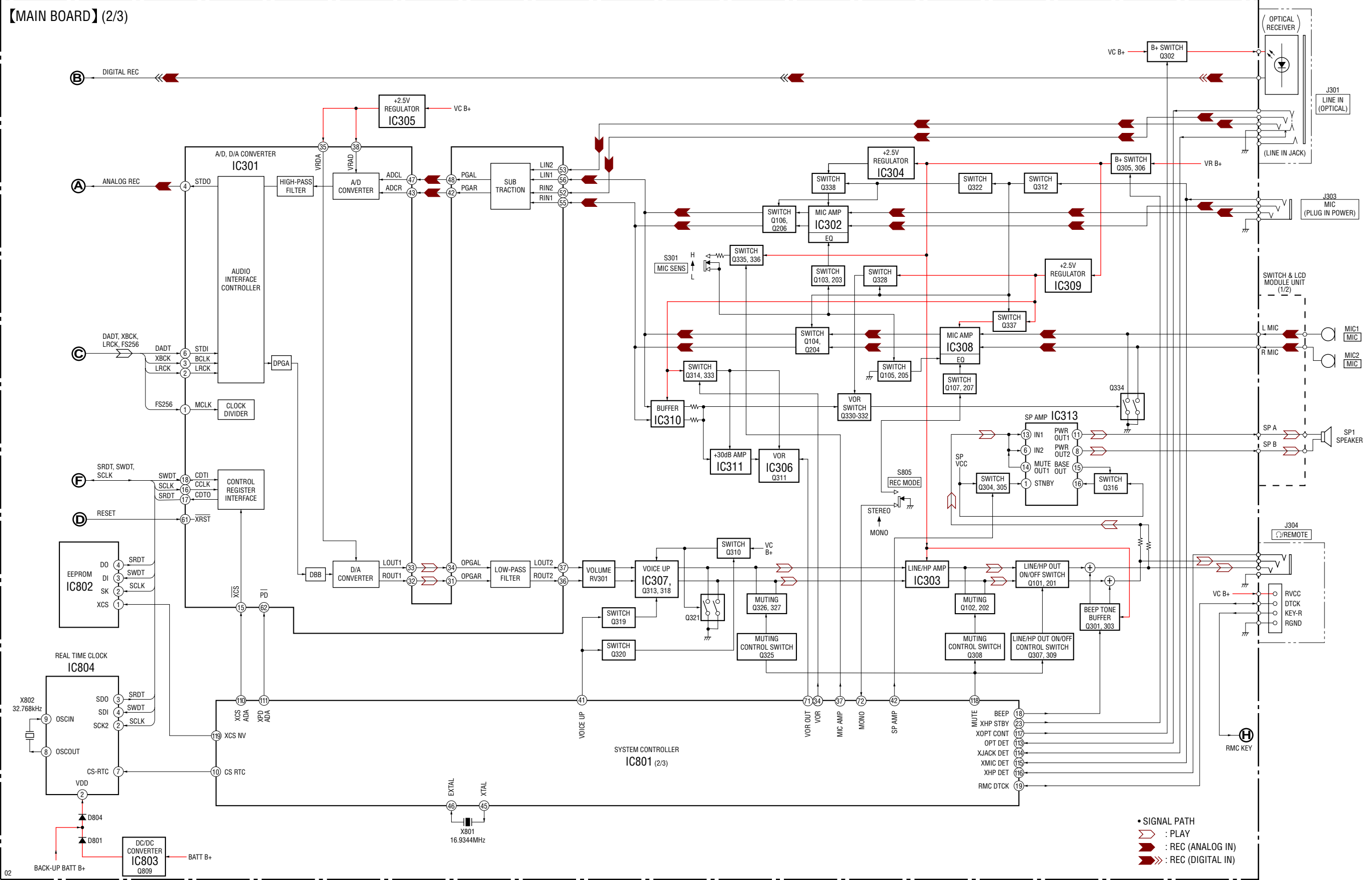
Pin No.	Pin name	I/O	Description
36	PD S0	O	PD IC mode switching signal output to the optical pick-up block
37	MIC AMP	O	+2.5V REG on/off control signal output terminal
38	PD S1	O	PD IC mode switching signal output to the optical pick-up block
39	FFCLR	O	Input latch output for starting signal to the MPC18A31FTAEB (IC901)
40	SLEEP	O	System sleep control signal output to the MPC18A31FTAEB (IC901) "H": sleep on
41	VOICE UP	O	Voice up on/off control signal output terminal
42	SP AMP	O	Speaker amp on/off control signal output terminal
43	XRST	I	System reset signal input from the MPC18A31FTAEB (IC901) "L": reset For several hundreds msec. after the power supply rises, "L" is input, then it changes to "H"
44	VSS	—	Ground terminal
45	XTAL	O	Main system clock output terminal (16.9344 MHz)
46	EXTAL	I	Main system clock input terminal (16.9344 MHz)
47	VDD	—	Power supply terminal (+2.4V)
48	MEGA BASS	I/O	MEGA BASS switch (S814) input terminal
49	SPDL START SW	O	Spindle servo start switching signal output to the analog switch (IC504, 505)
50	OPEN CLOSE SW	I	Upper panel open/close detect switch (S801) input terminal (A/D input) "L": upper panel close, "H": upper panel open
51	XSHOCK	I	Recording shock detect signal input from the CXD2660GA (IC502)
52	FOK	I	Focus OK signal input from the CXD2660GA (IC502) "H": is input when focus is on ("L": NG)
53	SQSY	I	Subcode Q sync (SCOR) input from the CXD2660GA (IC502) "L" is input every 13.3 msec Almost all, "H" is input
54	DQSY	I	Digital In U-bit CD format subcode Q sync (SCOR) input from the CXD2660GA (IC502) "L" is input every 13.3 msec Almost all, "H" is input
55	XINT	I	Interrupt status input from the CXD2660GA (IC502)
56	T.MARK	I	T MARK switch (S803) input terminal
57	REC WBL SW	O	Stable control signal is output when recording
58	SERON	O	Series power supply control signal output to the MPC18A31FTAEB (IC901)
59	PLUNGER	O	REC button release plunger control output
60	XTEST	I	Setting terminal for the test mode "L": test mode, normally: fixed at "H"
61	SET CODE0	I	Destination setting terminal Fixed at "L" in this set
62	SET CODE1	I	Destination setting terminal Fixed at "L" in this set (US, canadian model: Not used (open))
63	SET CODE2	I	Destination setting terminal Fixed at "L" in this set (US, canadian model: Not used (open))
64	REG CTL PWM	O	Synchronizing external clock signal output to the MPC18A31FTAEB (IC901)
65	VRM PWM	O	VREM power supply voltage control PWM signal output to the MPC18A31FTAEB (IC901)
66	VC PWM	O	System power supply voltage control PWM signal output to the MPC18A31FTAEB (IC901)
67	SPDL PWM	O	Spindle servo drive voltage control PWM signal output to the XC111256FTAEB (IC601)
68	XIC RST	O	Reset signal output to the A/D, D/A converter (IC301), SN761056ADBT (IC501) and CXD2660GA (IC502) "L": reset
69	REC LED	O	REC LED drive signal output terminal "H": LED on
70	VOR LED	O	VOR LED drive signal output terminal "H": LED on
71	VOR OUT	O	VOR ON/OFF signal output terminal
72	MONO	I	REC MODE switch (S805) input
73	XHOLD SW	I	HOLD switch (S804) input terminal "L": hold on, "H": hold off
74	VDD	—	Power supply terminal (+2.4V)
75	TEX	I	Sub system clock input terminal Not used (open)

Pin No.	Pin name	I/O	Description
76	TX	O	Sub system clock output terminal Not used (open)
77	VSS	—	Ground terminal
78	VBKAN	I	Sub power supply input terminal
79	S MON	I	Servo signal monitor input from the SN761056ADBT (IC501) (A/D input)
80	VB MON	I	Un-regulator power supply voltage monitor input terminal (A/D input)
81	SET KEY3	I	VOR key (S811), ERASE key (S813) input
82	VREF MON	I	Reference voltage monitor input from the SN761056ADBT (IC501) (A/D input)
83	WK DET	I	Set key starting detect signal input terminal (A/D input)
84	HALF LOCK SW	I	Open knob detect switch (S802) input terminal “L”: normal position, “H”: open knob slid
85	RMC KEY	I	Remote commander with headphone key input terminal (A/D input)
86	SET KEY 1	I	Set key input terminal (A/D input) (■, ►►I, I◄◄, VOL +/- keys input)
87	SET KEY 2	I	Set key input terminal (A/D input) (►, jog, END SEARCH keys input)
88	REC KEY	I	REC key input terminal
89	VRM MON	I	VREM voltage monitor input terminal (A/D input)
90	HIDC MON	I	HI-DC voltage monitor input terminal (A/D input)
91	AVSS	—	Ground terminal (for A/D converter)
92	AVREF	I	Input terminal for power supply voltage adjustment reference voltage (+2.4V) (for A/D converter)
93	AVDD	—	Power supply terminal (+2.4V) (for A/D converter)
94	TEST0	I	Input terminal for the test (normally: fixed at “L”)
95	TEST1	I	Input terminal for the test (normally: fixed at “L”)
96	TDI	I	Input terminal for JTAG Not used (open)
97	TMS	I	Input terminal for JTAG Not used (open)
98	TCK	I	Input terminal for JTAG Not used (open)
99	TRST	I	Input terminal for JTAG Not used (open)
100	TDO	O	Output terminal for JTAG Not used (open)
101	PLAY KEY	O	Not used (fixed at “H”)
102	SSB DATA	I/O	Two-way SSB serial data bus with the SN761056ADBT (IC501)
103	SSB CLK	O	SSB serial clock signal output to the SN761056ADBT (IC501)
104	FLASH WR EN	—	Not used (fixed at “H”)
105	VDD	—	Power supply terminal (+2.4V)
106	VSS	—	Ground terminal
107 to 109	VLC1 to VLC3	—	Power supply terminal for the liquid crystal display (+2.4V)
110	XCS ADA	O	Chip select signal output to the A/D, D/A converter (IC301)
111	XPD ADA	O	Power supply control signal output to the A/D, D/A converter (IC301)
112	XRST MTR DRV	O	Reset signal output terminal “L”: reset Not used (open)
113	OPT DET	I	DIN plug detect signal input terminal
114	XJACK DET	I	LINE IN plug detect signal input terminal
115	XMIC DET	I	MIC plug detect signal input terminal
116	XHP DET	I	Headphones jack detect signal input terminal
117	XOPT CONT	O	Power supply control signal output to the DIN plug laser diode
118	MUTE	O	Analog muting on/off control signal output terminal “L”: muting off, “H”: muting on
119	XCS NV	O	Chip select signal output to the EEPROM (IC802)
120	CLOCK SET	I	CLOCK SET key (S808) input terminal

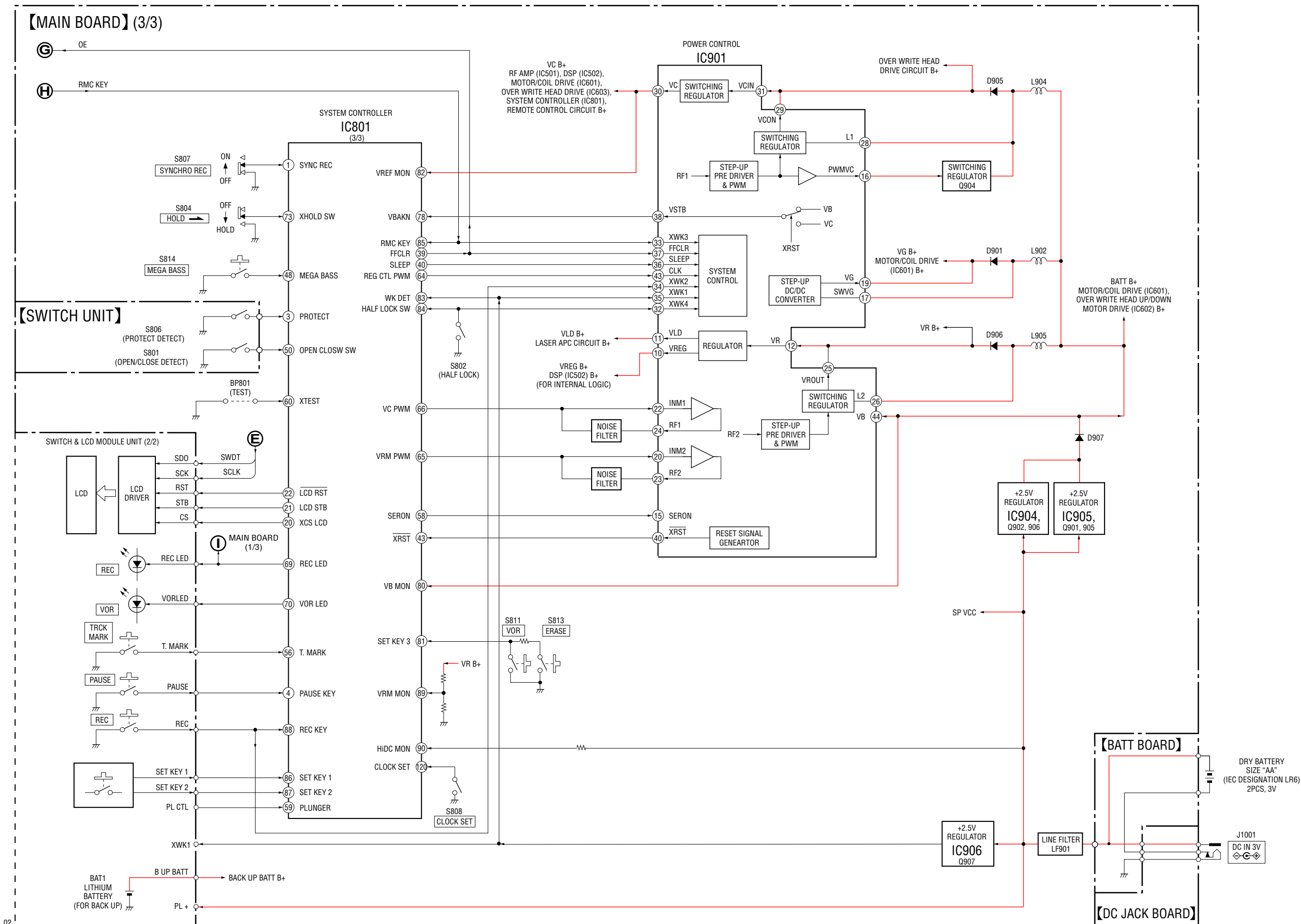
6-2. BLOCK DIAGRAM - MAIN Section (1/3) -



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



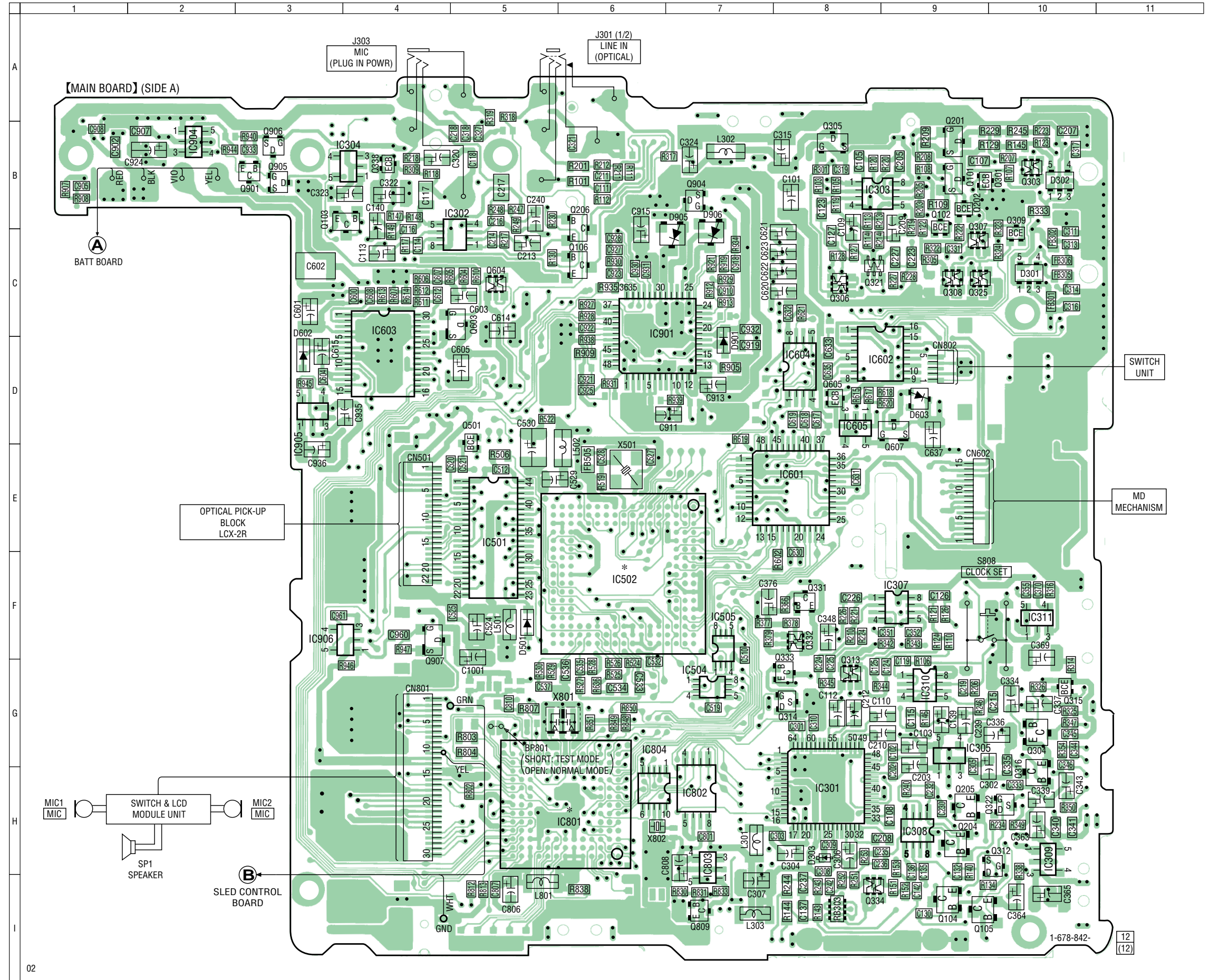
6-4. BLOCK DIAGRAM – MAIN Section (3/3) –



6-5. PRINTED WIRING BOARDS – MAIN Section (1/2) – ● Refer to page 49 for Notes.

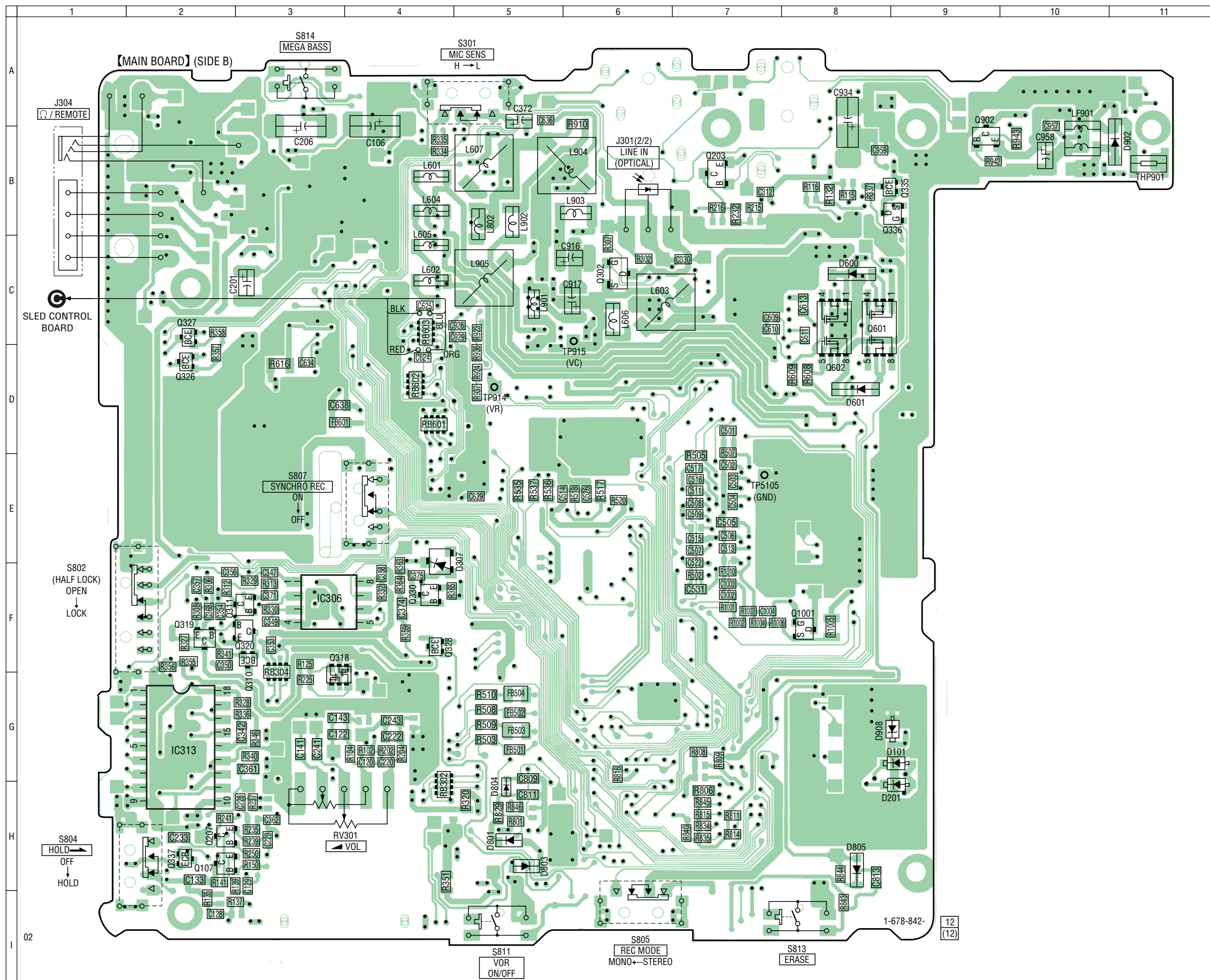
● Semiconductor Location

Ref. No.	Location	Ref. No.	Location
D301	C-10	Q104	I-9
D302	B-10	Q105	I-9
D303	H-8		
D501	F-5	Q106	C-6
D602	D-3	Q201	B-9
		Q202	B-9
D603	D-9	Q204	H-9
D901	D-7	Q205	H-9
D905	C-7		
D906	C-7	Q206	C-6
		Q301	B-9
		Q303	B-10
		Q304	G-10
		Q305	B-8
IC301	H-8		
IC302	C-5		
IC303	B-8		
IC304	B-4	Q306	C-8
IC305	G-9	Q307	C-9
		Q308	C-9
		Q309	C-10
		Q312	H-10
IC307	F-9		
IC308	H-9		
IC309	H-10		
IC310	G-9	Q313	G-8
IC311	F-10	Q314	G-8
		Q315	G-10
IC501	F-5	Q316	H-10
IC502	F-6	Q321	C-8
IC504	G-7		
IC505	F-7	Q322	H-10
IC601	E-8	Q325	C-9
		Q331	F-8
IC602	D-8	Q332	F-8
IC603	D-4	Q333	G-8
IC604	D-8		
IC605	D-8	Q334	I-8
IC801	H-6	Q338	B-4
		Q501	D-5
IC802	H-7	Q603	C-5
IC803	H-7	Q604	C-5
IC804	H-6		
IC901	D-6	Q605	D-8
IC904	B-2	Q607	D-9
		Q809	I-7
IC905	D-3	Q901	B-3
IC906	F-4	Q904	B-7
		Q905	B-3
Q101	B-9	Q906	B-3
Q102	B-9	Q907	F-4
Q103	B-4		



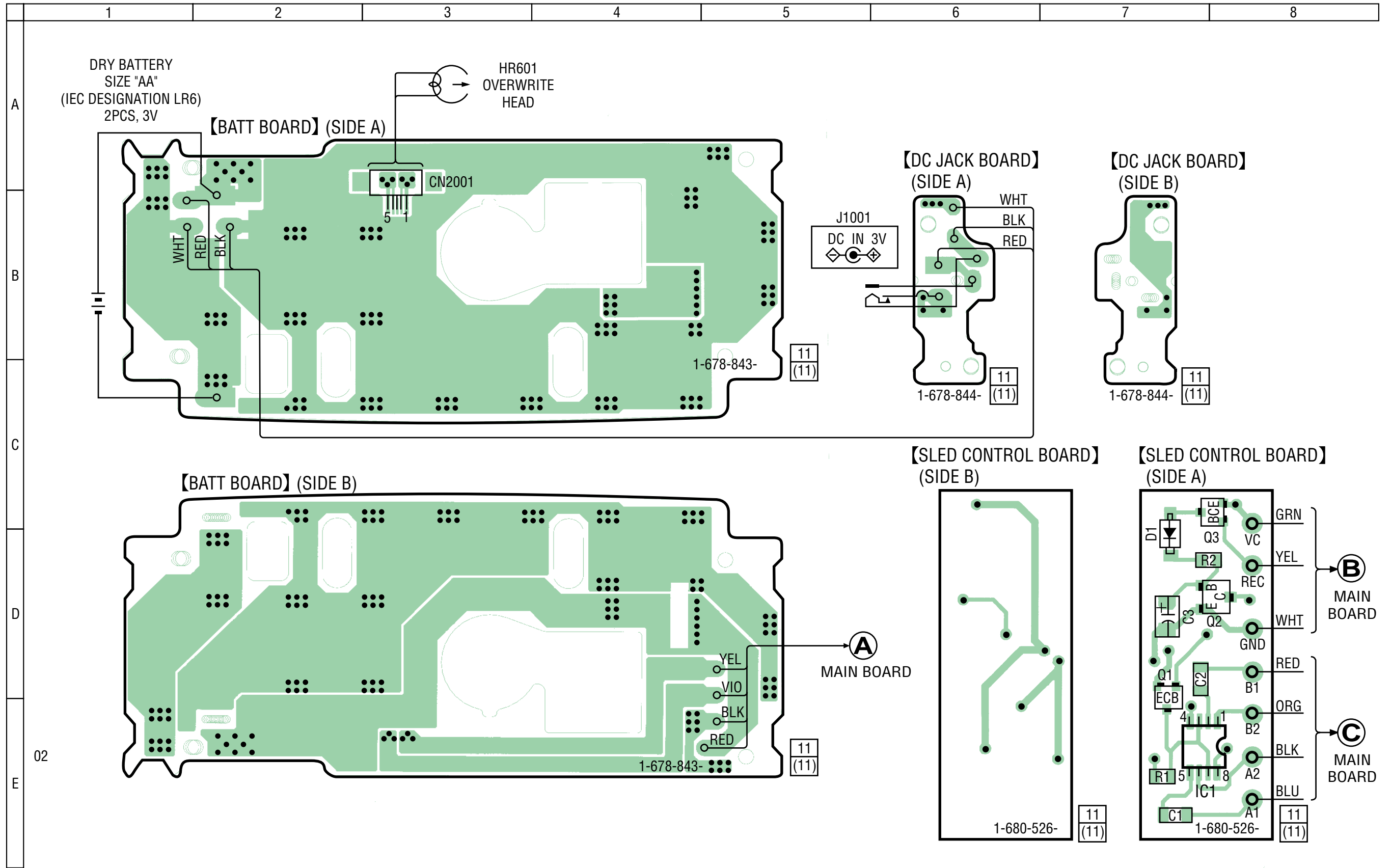


6-6. PRINTED WIRING BOARDS – MAIN Section (2/2) – • Refer to page 49 for Notes.



• Semiconductor Location

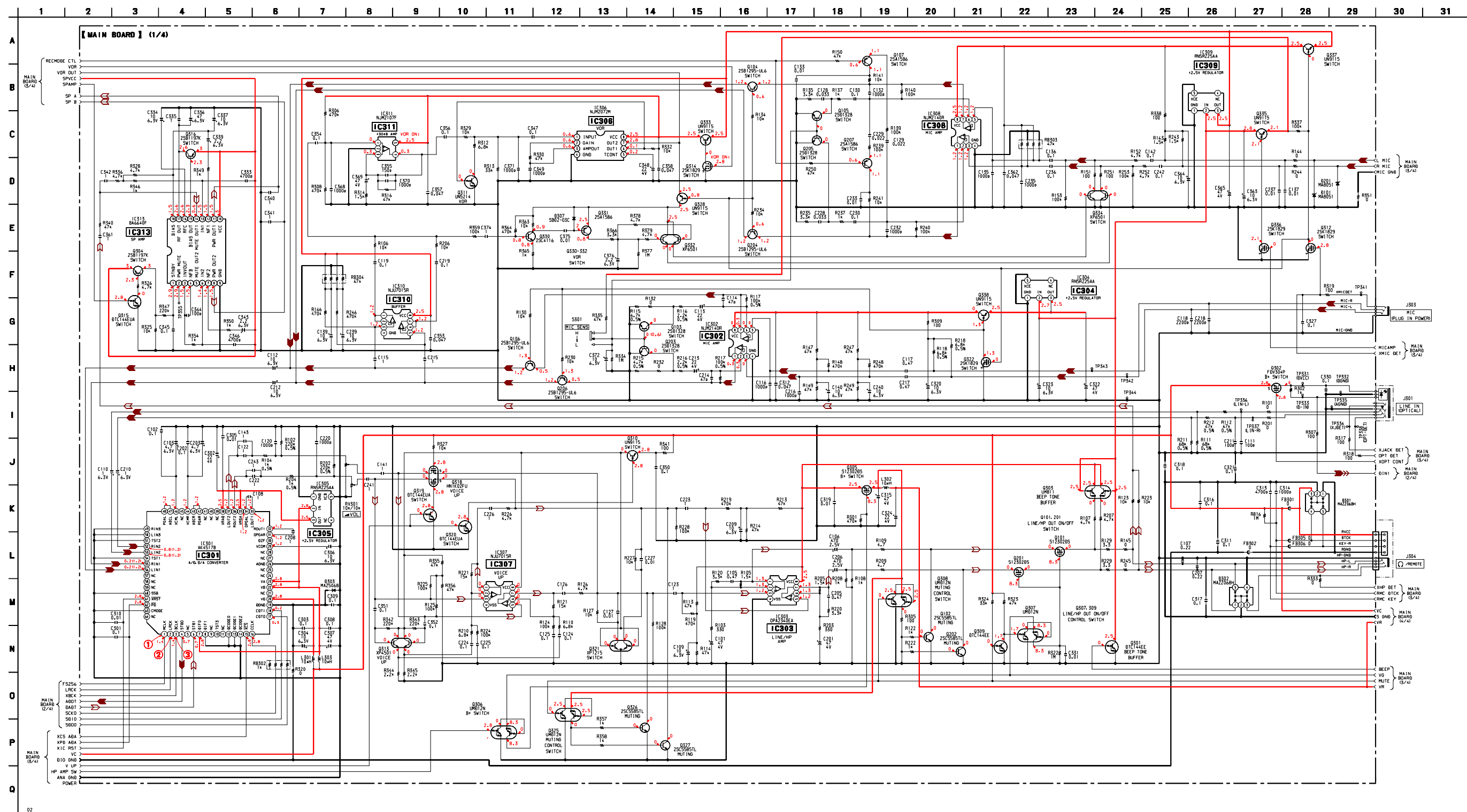
Ref. No.	Location
D101	G-9
D201	G-9
D307	E-4
D600	C-8
D601	D-8
D801	H-5
D803	H-5
D804	H-5
D805	H-8
D902	B-11
D908	G-9
IC306	F-3
IC313	G-2
Q107	H-2
Q203	B-7
Q207	H-2
Q302	C-6
Q310	F-3
Q311	F-3
Q318	G-3
Q319	F-2
Q320	F-3
Q326	D-2
Q327	C-2
Q328	F-4
Q330	F-4
Q335	B-9
Q336	B-9
Q337	H-2
Q601	C-8
Q602	C-8
Q902	B-9
Q1001	F-8



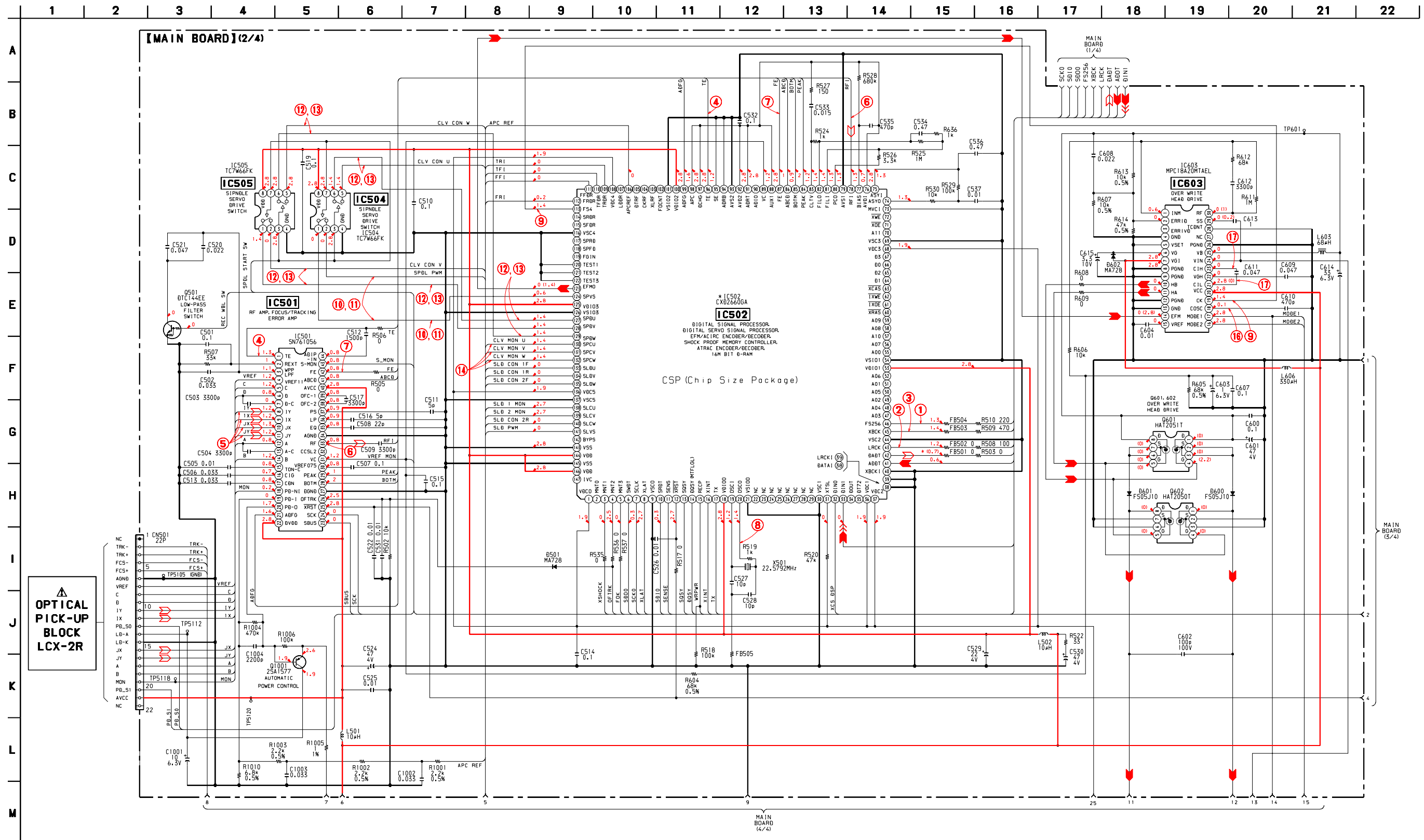
● Semiconductor Location

Ref. No.	Location
D1	D-7
IC1	E-7
Q1	D-7
Q2	D-8
Q3	D-8

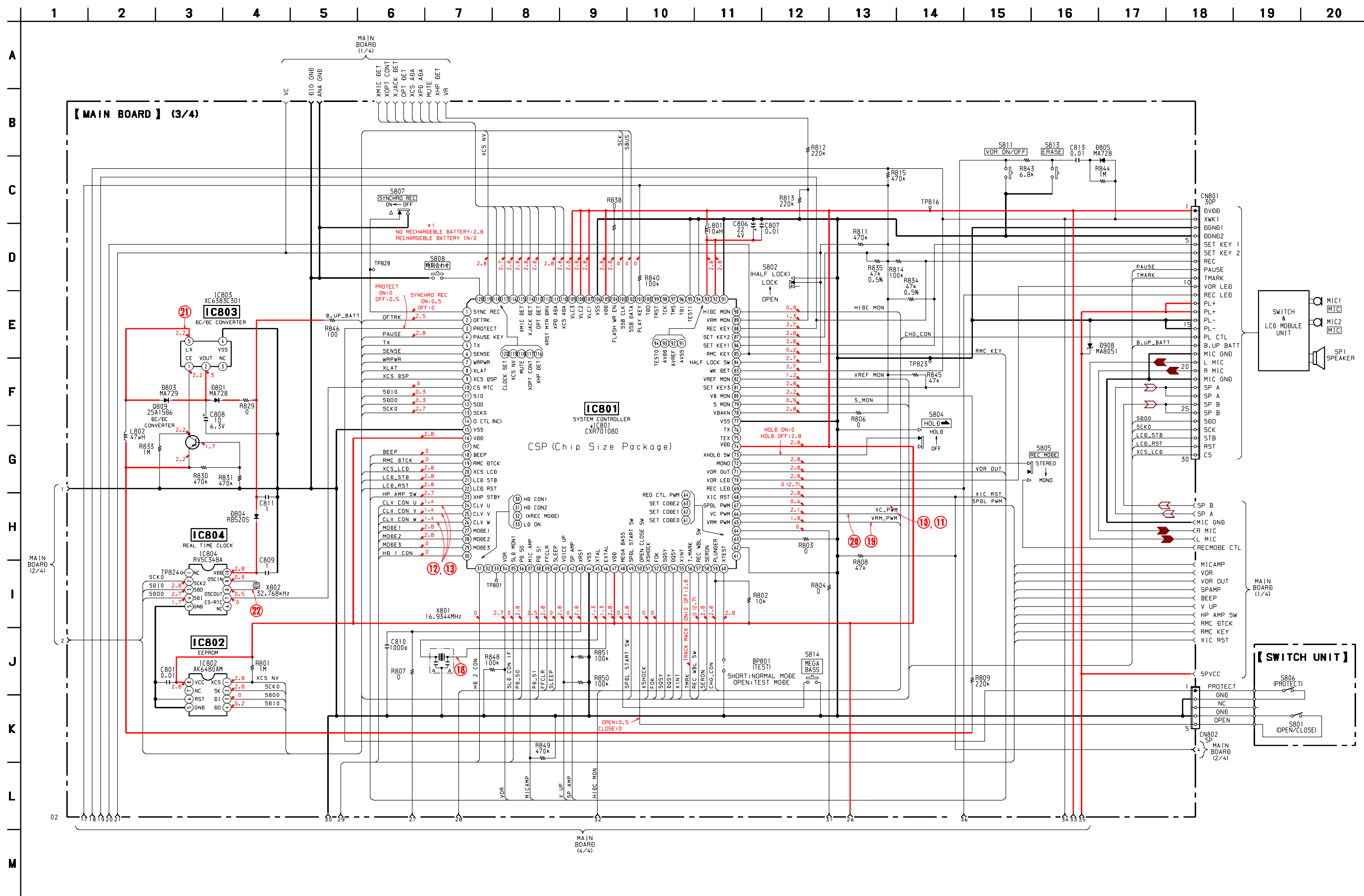
6-8. SCHEMATIC DIAGRAM – MAIN Section (1/4) – Refer to page 49 for Notes. Refer to page 50 - 51 for Waveforms. Refer to page 52 - 54 for IC Block Diagrams.



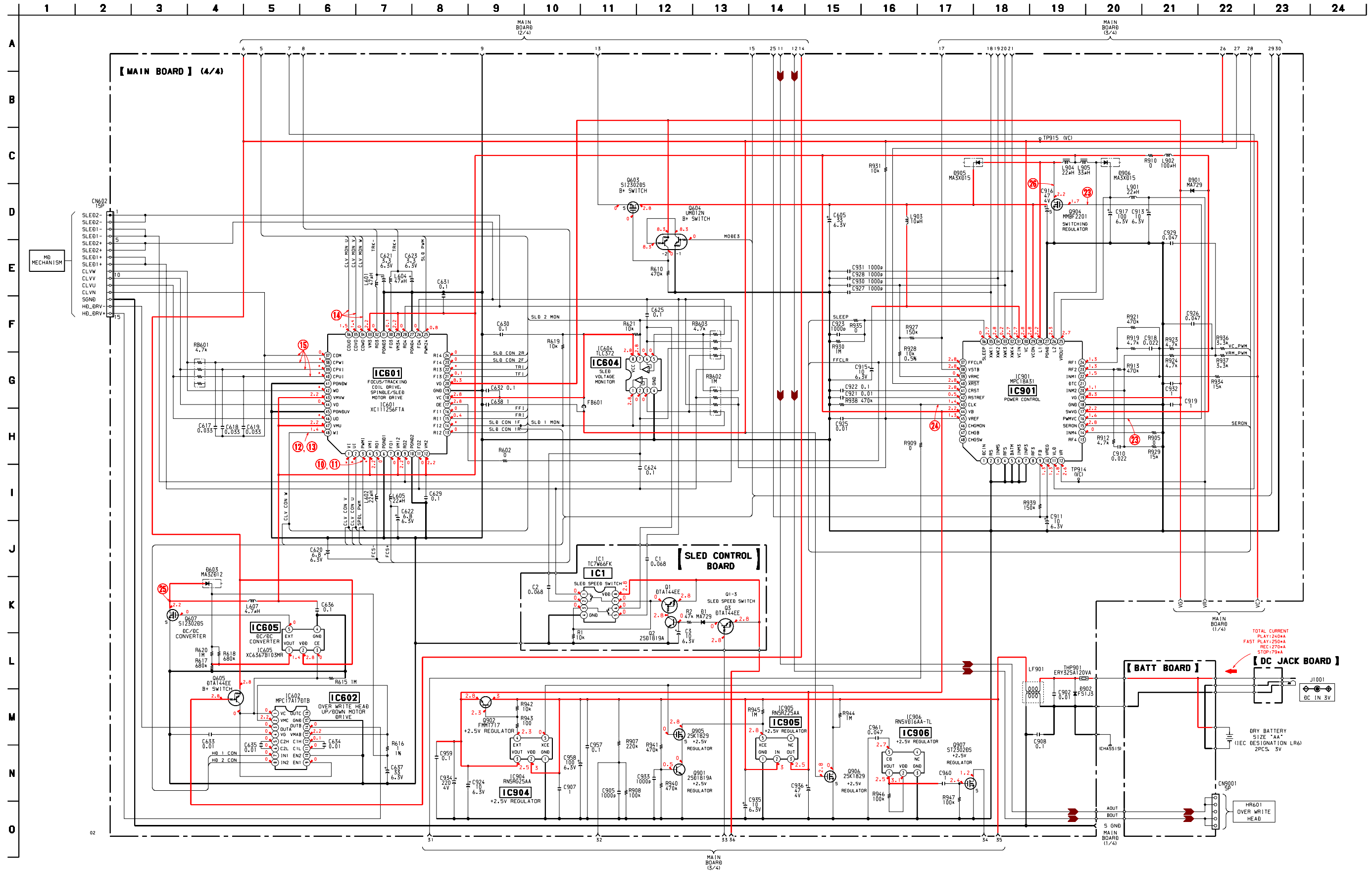
6-9. SCHEMATIC DIAGRAM – MAIN Section (2/4) – ● Refer to page 49 for Notes. ● Refer to page 50 - 51 for Waveforms. ● Refer to page 52 - 54 for IC Block Diagrams.



6-10. SCHEMATIC DIAGRAM – MAIN Section (3/4) – Refer to page 49 for Notes. Refer to page 50 - 51 for Waveforms.



6-11. SCHEMATIC DIAGRAM – MAIN Section (4/4) – Refer to page 49 for Notes. Refer to page 50 - 51 for Waveforms. Refer to page 52 - 54 for IC Block Diagrams.



**Note on Schematic Diagram:**

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

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

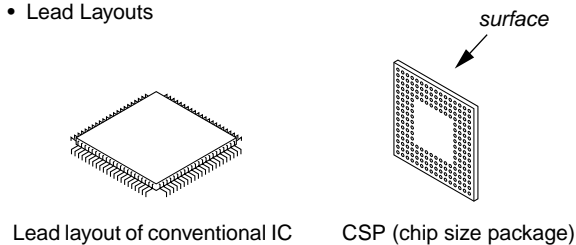
- — : B+ Line.
- Power voltage is dc 3 V and fed with regulated dc power supply from external power voltage jack.
- Voltages and waveforms are dc with respect to ground under no-signal conditions.  
no mark : PLAYBACK  
( ) : RECORD  
\* : Impossible to measure
- Voltages are taken with a VOM (Input impedance 10 M $\Omega$ ).  
Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken with an oscilloscope.  
Voltage variations may be noted due to normal production tolerances.
- Circled numbers refer to waveforms.
- Signal path.  
Σ : PLAYBACK  
▶ : PLAYBACK (ANALOG IN)  
▶▶ : RECORD (DEGITAL IN)
- Replacement of IC502 and 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 from that of conventional IC.

**Note on Printed Wiring Board:**

- ○ : parts extracted from the component side.
- — : parts extracted from the conductor side.
- ■ : parts mounted on the conductor side.
- ● : Through hole.
- ■ : Pattern from the side which enables seeing.  
(The other layers' patterns are not indicated.)

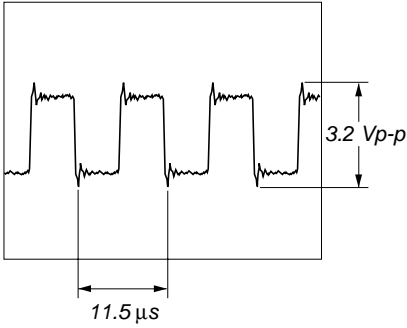
**Caution:**  
Pattern face side: Parts on the pattern face side seen from the pattern face are indicated.  
(Conductor Side)  
Parts face side: Parts on the parts face side seen from the parts face are indicated.  
(Component Side)

- Main board is four-layer printed board.  
However, the patterns of layers 2 and 3 have not been included in this diagrams.
- Replacement of IC502 and IC801 used in this set requires a special tool.
- Lead Layouts

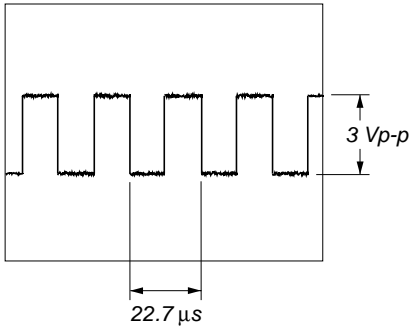


• Waveforms

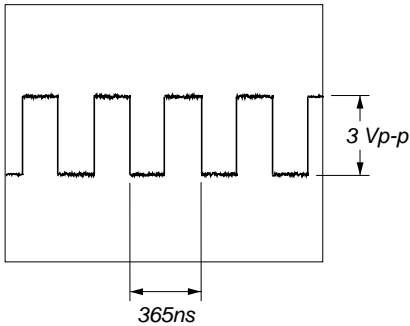
1 IC301 ① (MCLK), IC502 ④⑥ (FS256)  
1 V/DIV, 20 ns/DIV



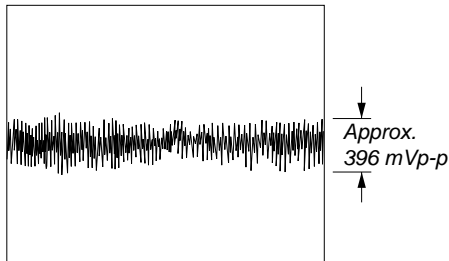
2 IC301 ② (LRCK), IC502 ④③ (LRCK)  
1 V/DIV, 5 μs/DIV



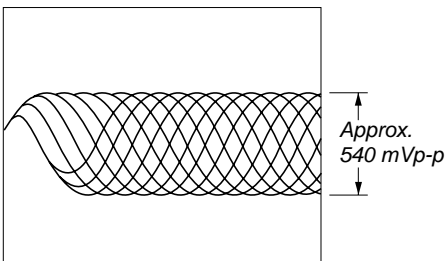
3 IC301 ③ (BCLK), IC502 ④⑤ (XBCK)  
1 V/DIV, 200 ns/DIV



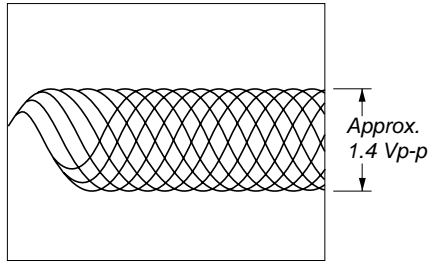
4 IC501 ① (TE), IC502 ⑥⑥ (TE)  
(PLAY Mode)  
200 mV/DIV, 1 μs/DIV



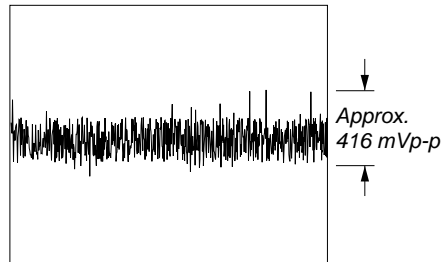
5 IC501 ⑧, ⑨, ⑩, ⑪ (IY, IX, JX, JY)  
(PLAY Mode)  
200 mV/DIV, 500 ns/DIV



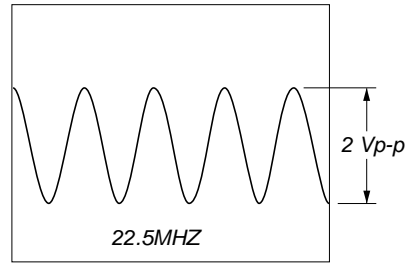
6 IC501 ③③ (RF), IC502 ⑦⑧ (RF1) (PLAY Mode)  
400 mV/DIV, 1 μs/DIV



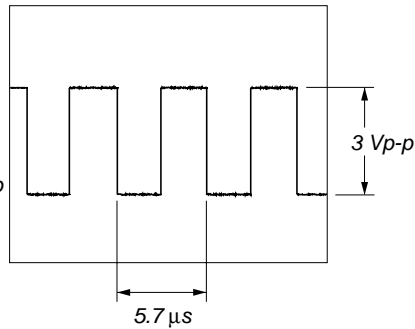
7 IC501 ④② (FE), IC502 ⑦⑦ (FE) (PLAY Mode)  
200 mV/DIV, 1 μs/DIV



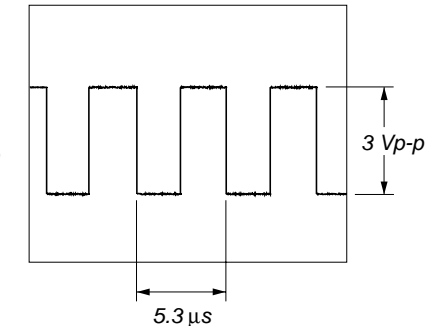
8 IC502 ②⑩ (OSCO)  
400 mV/DIV, 20 ns/DIV



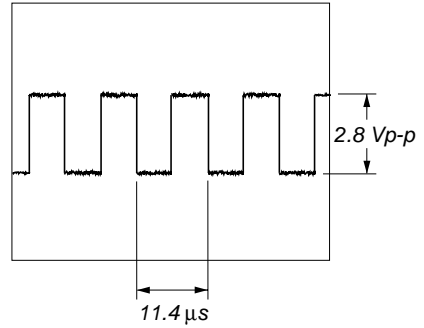
9 IC502 ⑩⑩ (FS4), IC603 ①⑨ (CK)  
1 V/DIV, 2 μs/DIV



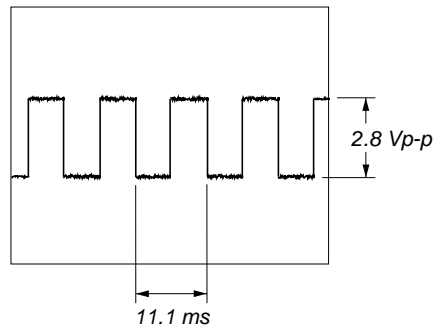
10 IC502 ⑩⑩ (SPVS), IC504 ①, ②  
IC601 ③ (PWMI), IC801 ⑥⑦ (SPDL PWM)  
(PLAY Mode)  
1 V/DIV, 2 μs/DIV



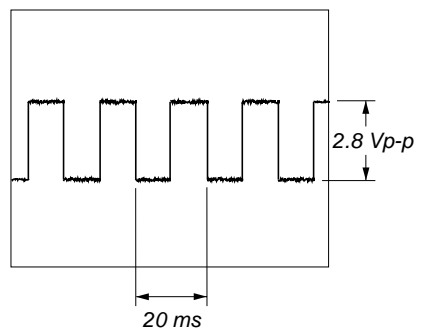
11 IC502 ⑩⑩ (SPVS), IC504 ①, ②  
IC601 ③ (PWMI), IC801 ⑥⑦ (SPDL PWM)  
(REC Mode)  
1 V/DIV, 5 μs/DIV



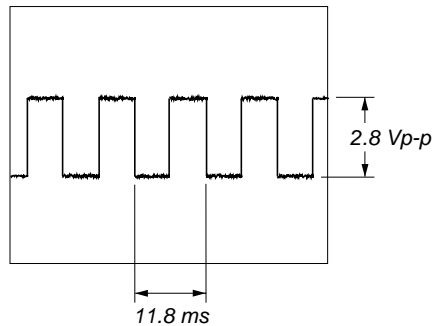
12 IC502 ⑩⑩, ⑩⑩, ⑩⑩ (SPDU, SPDV, SPDW)  
IC504 ⑤, ⑥, IC505 ①, ②, ⑤, ⑥  
IC601 ④⑥ (VI, UI, WI)  
IC801 ②④, ②⑤, ②⑥ (CLV U, CLV V, CLV W)  
(PLAY Mode)  
1 V/DIV, 5 ms/DIV



13 IC502 ⑩⑩, ⑩⑩, ⑩⑩ (SPDU, SPDV, SPDW)  
IC504 ⑤, ⑥, IC505 ①, ②, ⑤, ⑥  
IC601 ④⑥ (VI, UI, WI)  
IC801 ②④, ②⑤, ②⑥ (CLV U, CLV V, CLV W)  
(REC Mode)  
1 V/DIV, 10 ms/DIV

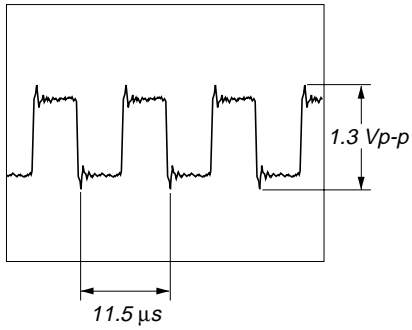


14 IC502 ⑩⑩, ⑩⑩, ⑩⑩ (SPCU, SPCV, SPCW)  
IC601 ②④, ②⑤, ②⑥ (COWO, COVO, COUO)  
1 V/DIV, 5 ms/DIV

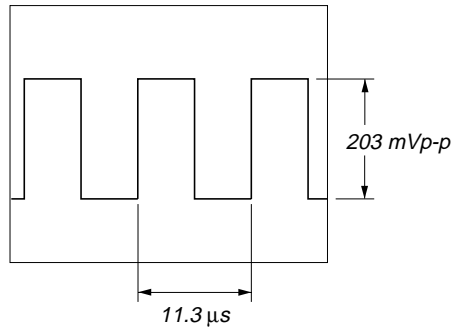




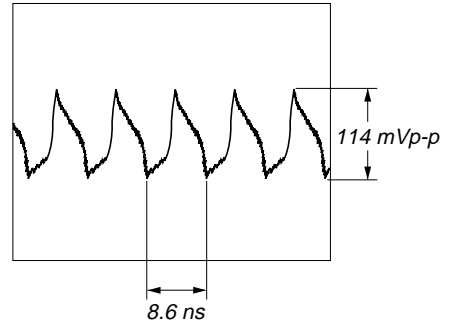
15 IC601 ⑳, ㉑, ㉒, ㉓ (COM, CPWI, CPVI, CPU)  
400 mV/DIV, 5  $\mu$ s/DIV



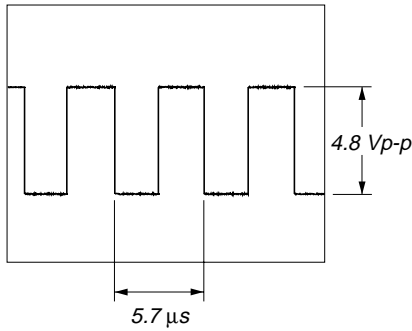
20 IC801 ㉔ (VC PWM)  
40 mV/DIV, 5  $\mu$ s/DIV



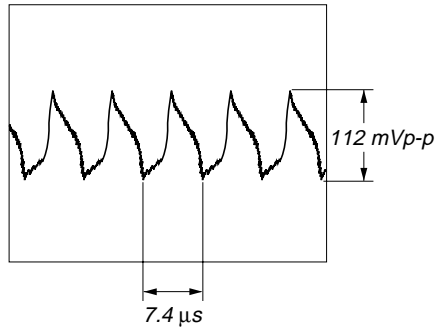
25 Q607 (Drain)  
50 mV/DIV, 5  $\mu$ s/DIV



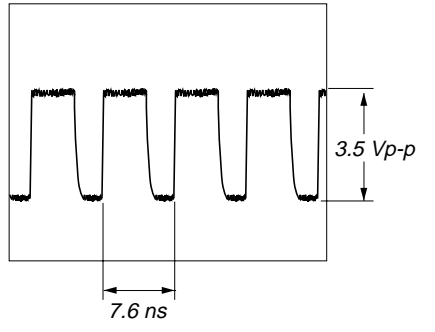
16 IC603 ㉕ (COSC) (REC Mode)  
400 mV/DIV, 5  $\mu$ s/DIV



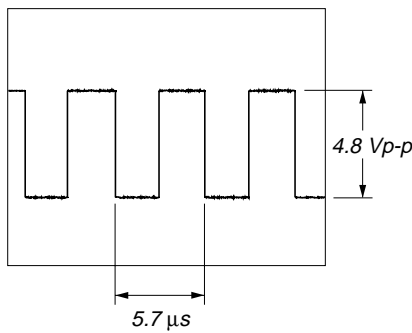
21 IC803 ㉖ (LX)  
50 mV/DIV, 5  $\mu$ s/DIV



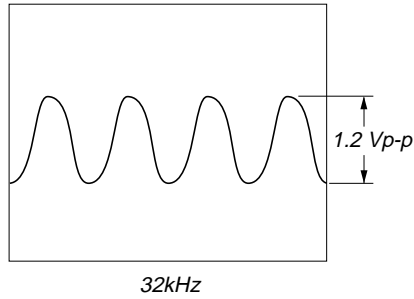
26 Q904 (Drain)  
1 V/DIV, 5  $\mu$ s/DIV



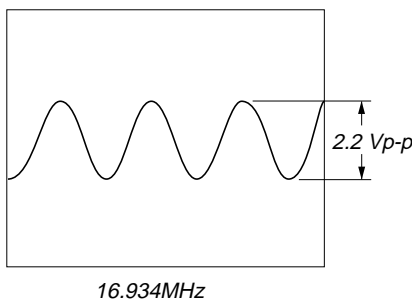
17 IC603 ㉗, ㉘ (CIH, CIL) (REC Mode)  
2 V/DIV, 2  $\mu$ s/DIV



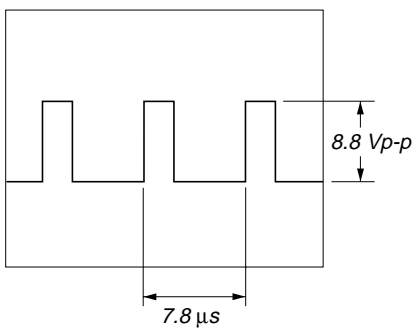
22 IC804 ㉙ (OSCOUT)  
500 mV/DIV, 20  $\mu$ s/DIV



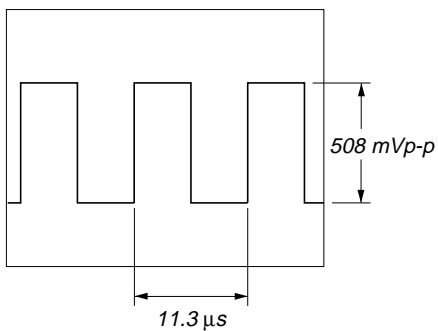
18 IC801 ㉚ (XTAL)  
1 V/DIV, 20 ns/DIV



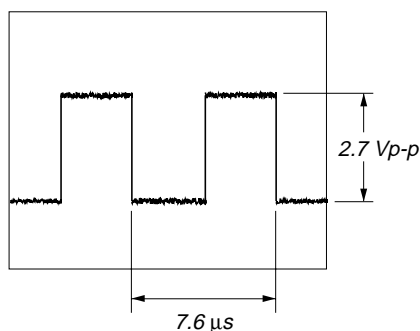
23 IC901 ㉛ (PWMVC), Q904 (Gate)  
5 V/DIV, 2  $\mu$ s/DIV



19 IC801 ㉜ (VRM PWM)  
100 mV/DIV, 5  $\mu$ s/DIV

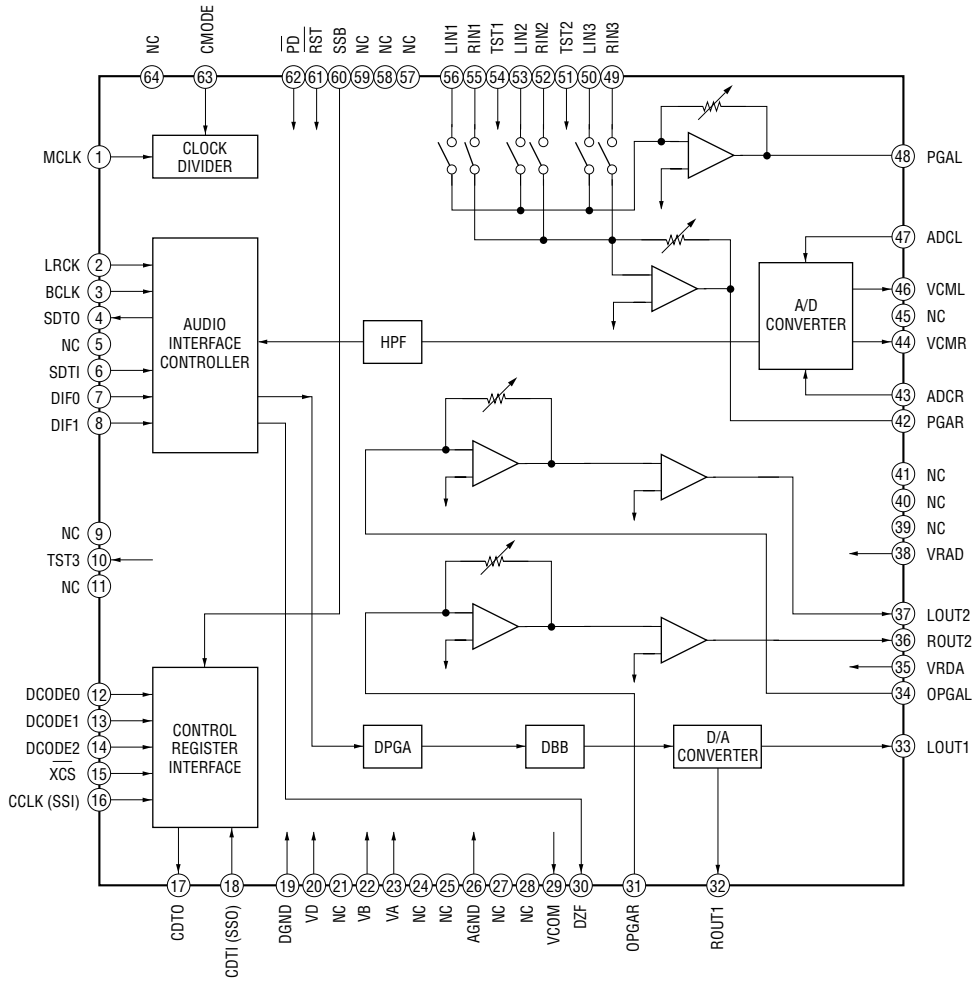


24 IC901 ㉞ (CLK)  
1 V/DIV, 2  $\mu$ s/DIV

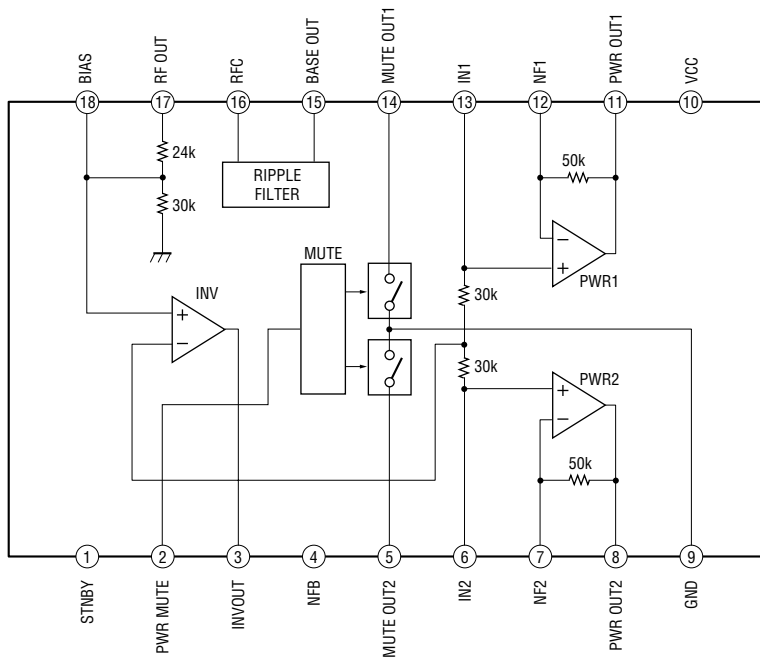


• IC BLOCK DIAGRAMS (MAIN SECTION)

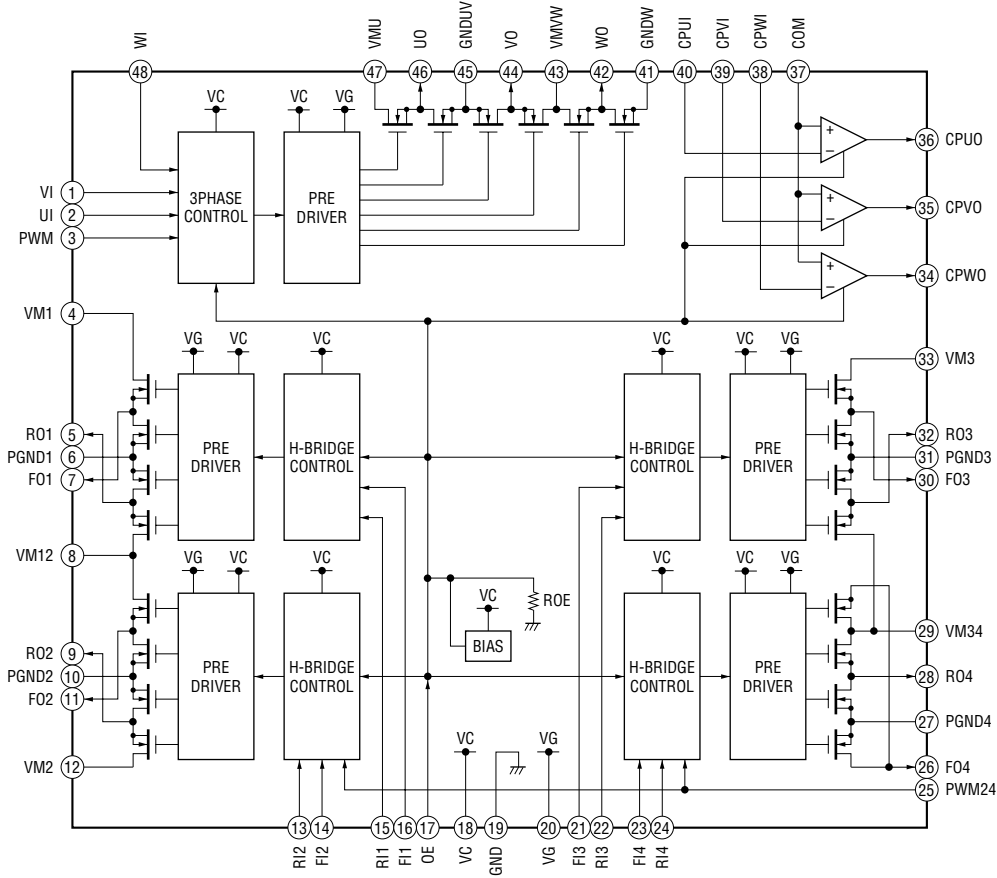
IC301 AK4517BVQ-L



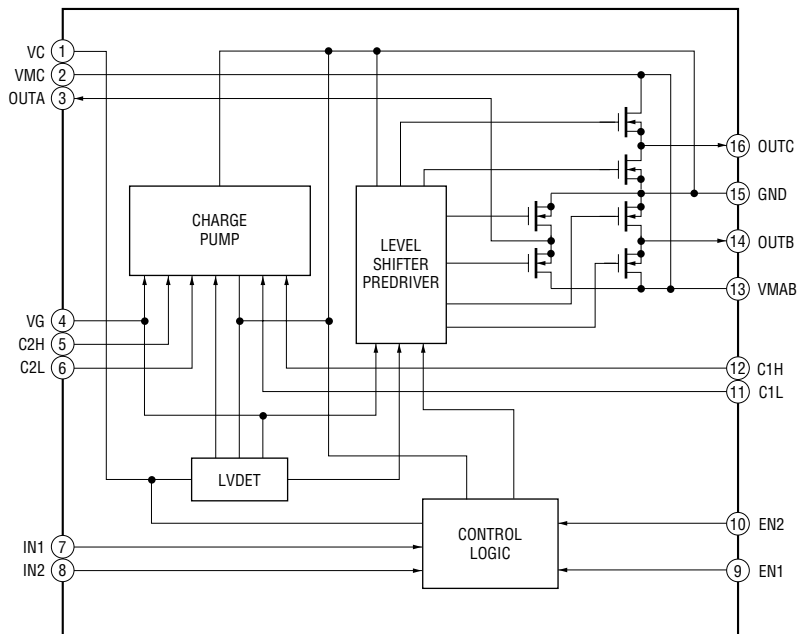
IC313 BA6640F-E2



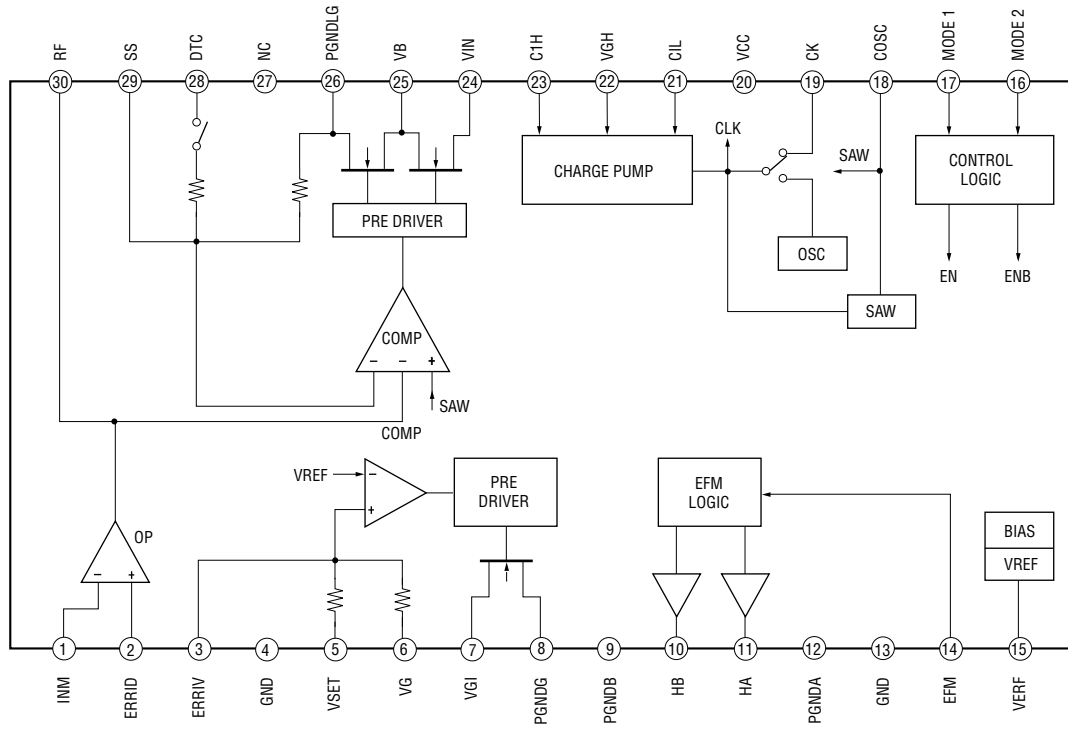
**IC601 XC111256FTAEB**



**IC602 MPC17A17XDTBR2**



**IC603 MPC18A20MTAEL**



## SECTION 7 EXPLODED VIEWS

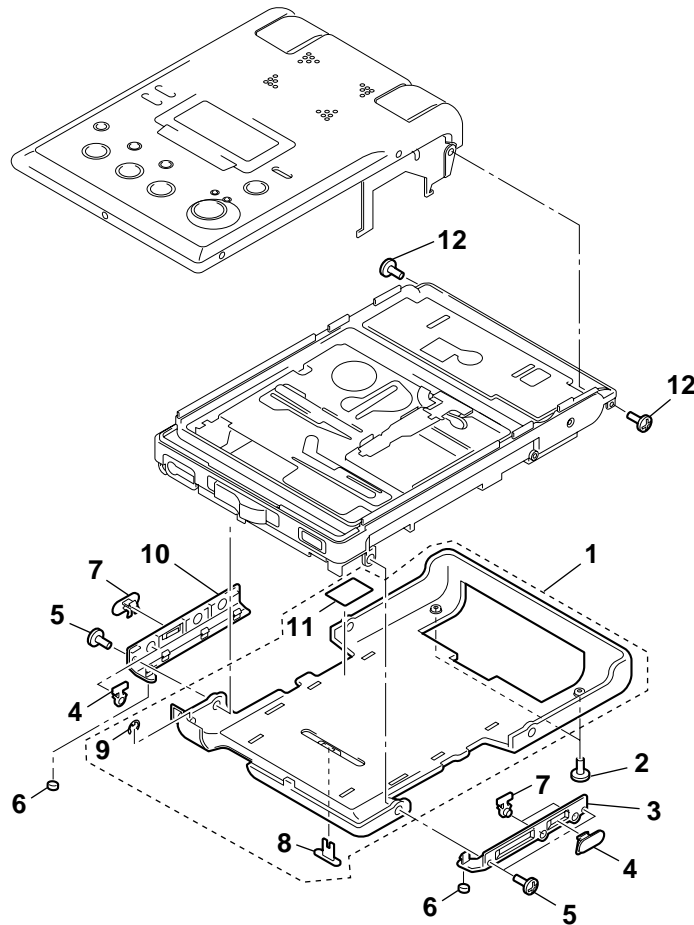
**NOTE :**

- -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 and accessories and packing materials are given in the last of this parts list.

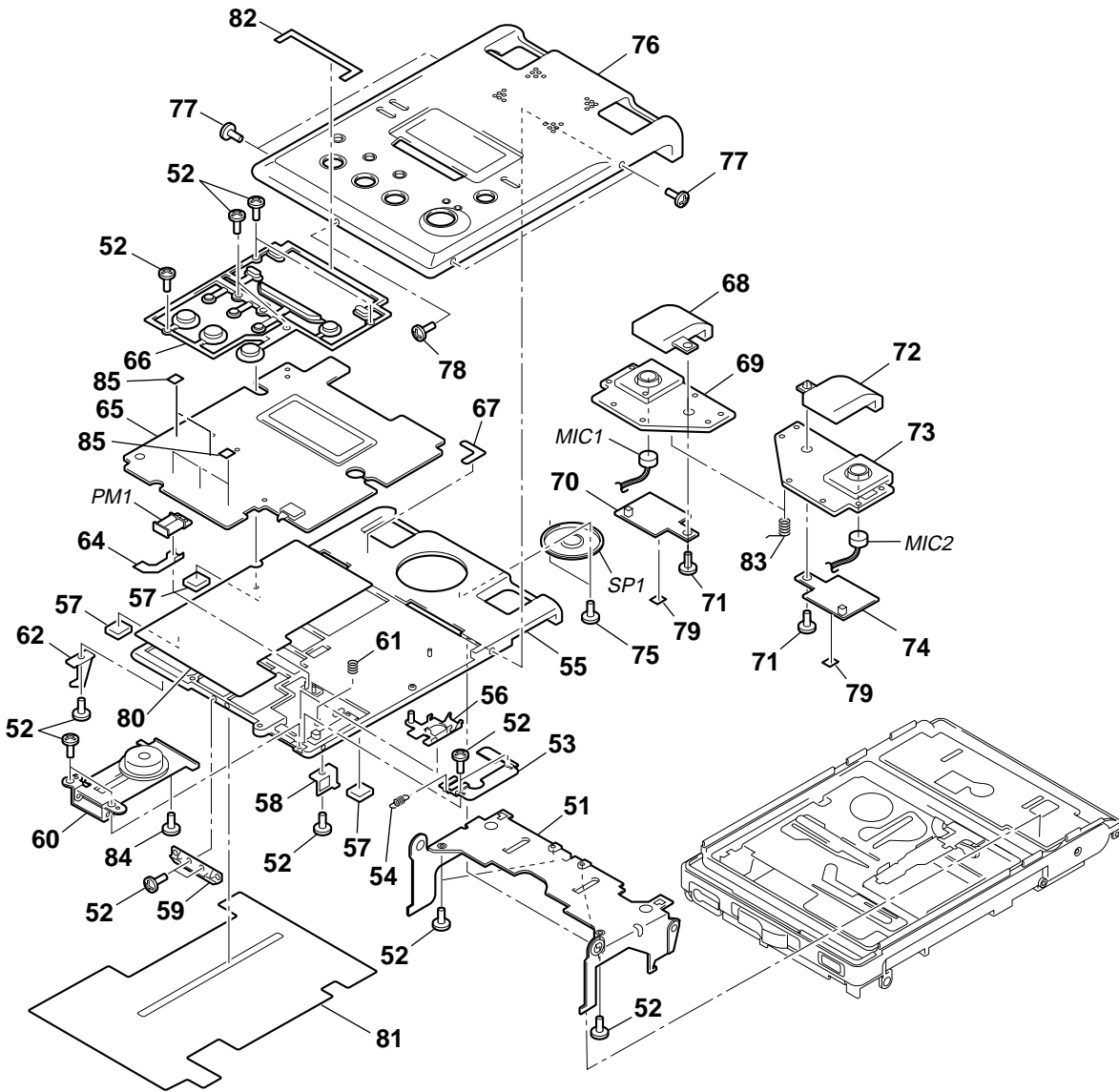
The components identified by mark  $\triangle$  or dotted line with mark  $\triangle$  are critical for safety.  
Replace only with part number specified.

### 7-1. PANEL (LOWER) SECTION



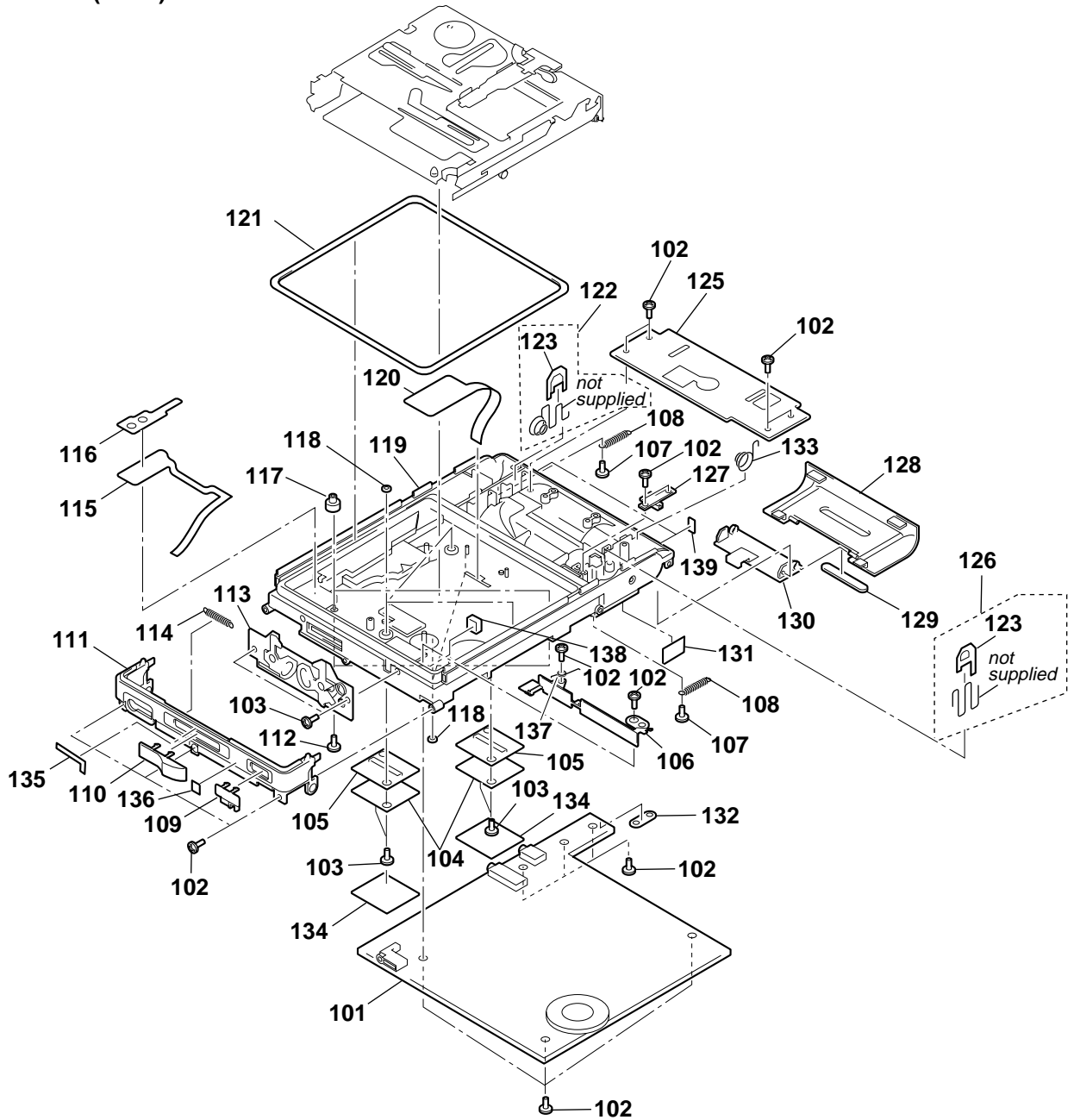
Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
1	A-3052-244-A	PANEL (LOWER) ASSY		7	3-049-902-01	KNOB (MIC SENS)	
2	3-318-203-01	SCREW (B 1.7X6), TAPPING		8	3-049-904-02	KNOB (S.REC)	
3	3-049-899-11	ORNAMENT (R)		9	7-624-102-04	STOP RING 1.5, TYPE -E	
4	3-049-903-02	BUTTON (M.BASS)		10	3-049-900-11	ORNAMENT (L)	
5	3-893-942-21	SCREW (1.7X5), TAPPING (B)		11	3-222-488-01	SPACER (JACK)	
6	3-049-923-01	FOOT		12	3-704-260-61	SCREW (M1.4)	

## 7-2. PANEL UPPER LID SECTION



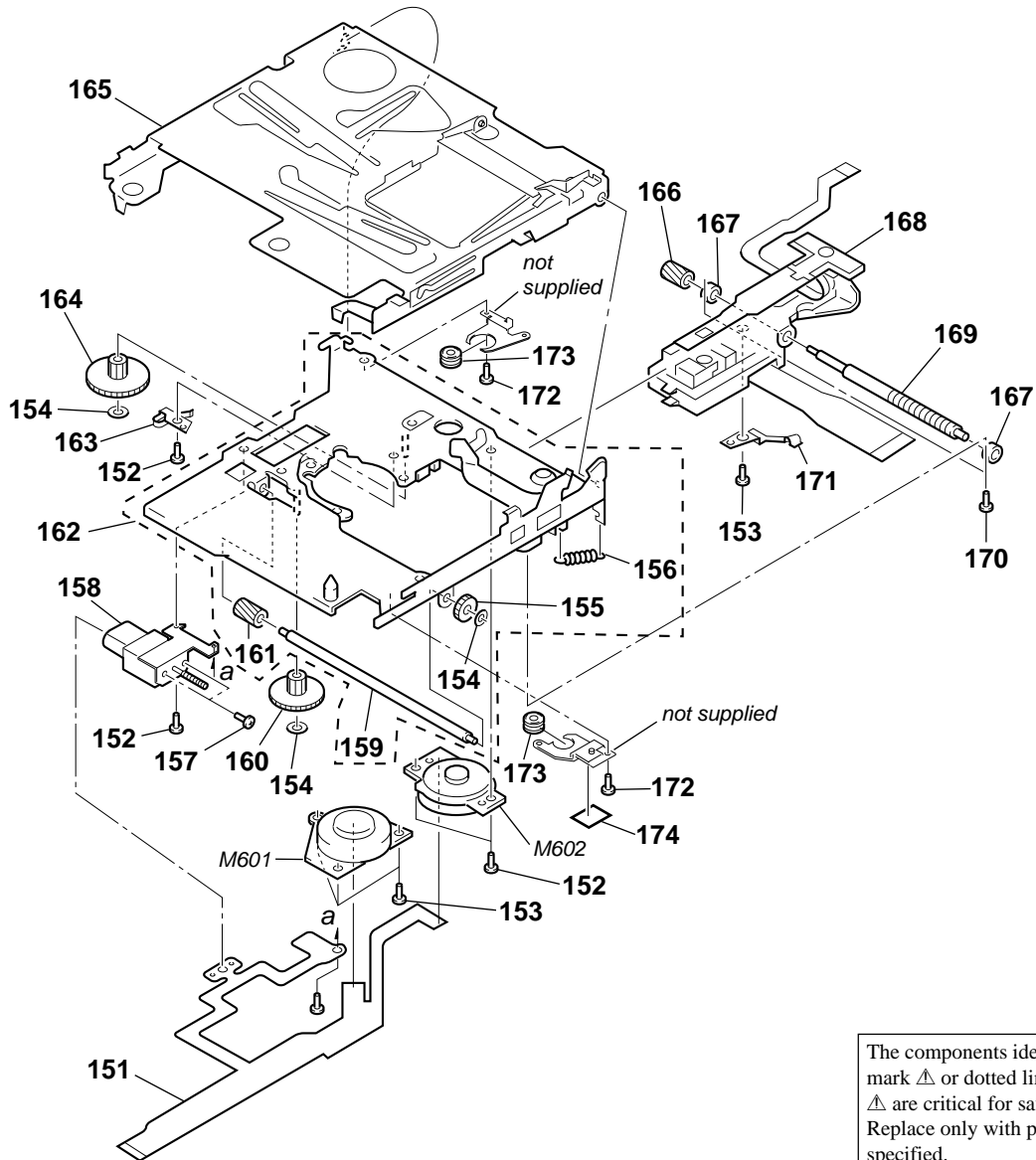
Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
* 51	3-049-881-01	HOLDER (UPPER LID)		71	3-318-382-61	SCREW (1.7X2.5), TAPPING	
52	3-318-382-31	SCREW (1.7X3), TAPPING		72	A-3052-234-A	CABINET (MIC-R) SUB ASSY	
* 53	3-049-879-01	BRACKET (REC LOCK)		73	3-049-893-01	CUSHION (MICROPHONE R)	
54	3-049-921-01	SPRING (REC), TENSION		74	3-049-894-01	RETAINER (MICROPHONE R)	
55	3-049-880-02	CABINET (UPPER LID)		75	3-034-792-01	SCREW, TAPPING (B2.0)	
56	X-3379-414-1	LEVER (REC LOCK) ASSY		76	A-3052-243-A	PANEL (UPPER LID) SUB ASSY	
57	3-049-915-01	CUSHION (HOLDER)		77	3-893-942-31	SCREW (1.7X4), TAPPING (B)	
58	3-049-918-01	HOLDER (R)		78	3-315-989-01	SCREW, ORNAMENT	
* 59	3-049-882-01	LOCKER, OPEN		79	3-224-622-01	CUSHION (RETAINER)	
60	A-3052-230-A	BUTTON (REC) ASSY		80	3-226-904-01	PLATE (LCD), DAMPER	
61	3-049-922-01	SPRING (REC LOCK), COMPRESSION		81	3-226-906-01	PLATE (MD-A), DAMPER	
62	3-049-919-01	HOLDER (L)		82	3-226-907-01	CUSHION (LCD)	
64	1-678-999-11	PLUNGER FLEXIBLE BOARD (SPINDLE) (INCLUDING GEAR)		83	3-937-134-01	SPRING (M GROUND), COMPRESSION	
65	1-476-172-11	KEY BOARD UNIT		84	4-996-249-11	SCREW (M1.2X1.2)	
66	3-049-874-01	BUTTON (UPPER LID)		85	3-223-224-01	SPACER (BUTTON)	
67	3-222-967-01	PAPER (UPPER LID), GROUND		PM1	1-454-674-31	SOLENOID, PLUNGER	
68	A-3052-236-A	CABINET (MIC-L) SUB ASSY		SP1	1-529-276-21	SPEAKER (2.8cm)	
69	3-049-897-01	CUSHION (MICROPHONE L)		MIC1	1-542-445-11	MICROPHONE, ELECTRET CAP (L-CH)	
70	3-049-898-01	RETAINER (MIC L)		MIC2	1-542-445-11	MICROPHONE, ELECTRET CAP (R-CH)	

### 7-3. CABINET (BELT) SECTION



Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
101	A-3021-349-A	MAIN BOARD, COMPLETE		121	3-049-916-02	PACKING	
102	3-318-382-31	SCREW (1.7X3), TAPPING		122	X-3379-359-1	TERMINAL (+ -) ASSY, BATTERY	
103	3-318-382-61	SCREW (1.7X2.5), TAPPING		123	4-973-282-01	TERMINAL BOARD, BATTERY	
* 104	3-049-912-01	COVER (FLEXIBLE)		* 125	1-678-843-11	BATT BOARD	
105	3-049-913-01	CUSHION (FLEXIBLE)		126	X-3379-360-1	TERMINAL (+) ASSY, BATTERY	
106	X-3379-267-2	BRACKET (OPEN) ASSY		* 127	1-678-844-11	DC JACK BOARD	
107	3-222-489-01	SCREW (B1.7), STEP TAPPING		128	3-049-908-01	LID, BATTERY CASE	
108	3-049-924-01	SPRING (UP), TENSION		129	3-220-025-01	FOOT (BATTERY CASE LID)	
109	3-049-901-02	KNOB (HOLD)		130	3-049-909-01	HINGE (BATTERY CASE LID)	
110	3-049-890-01	BUTTON (OPEN)		* 131	1-680-526-11	SLED CONTROL BOARD	
111	3-049-889-12	ESCUTCHEON (OPEN)		132	3-222-968-01	PAPER (LOWER), GROUND	
112	3-220-016-01	SCREW (FLOAT), STEP		133	3-049-906-01	TERMINAL (-), BATTERY	
113	X-3379-268-2	BRACKET (LOCK) ASSY		134	3-224-170-01	SPACER (FLEXIBLE COVER)	
114	3-224-483-01	SPRING, TENSION		135	3-224-756-01	SPACER (BRACKET A)	
115	1-476-354-11	SWITCH UNIT (including S801, S806)		136	3-224-757-01	SPACER (BRACKET B)	
116	3-049-925-01	PLATE (SENSOR), BLIND		137	3-226-891-01	SPRING (GROUND), TORSION	
117	3-049-866-01	CUSHION (MD)		138	3-223-807-01	CUSHION (MD CHASSIS)	
118	3-049-914-01	WASHER (FLOATING)		139	3-223-835-01	CUSHION (BATTERY CASE LID)	
119	3-049-887-02	CABINET (BELT)					
120	1-476-359-11	CONNECTOR UNIT					

## 7-4. MECHANISM DECK SECTION (MT-MZB50-165)



Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
151	1-678-846-11	MOTOR FLEXIBLE BOARD		164	4-222-216-01	GEAR (SA)	
152	4-963-883-42	SCREW (M1.4), PRECISION PAN		165	X-4951-919-1	HOLDER ASSY	
153	4-963-883-31	SCREW (M1.4), PRECISION PAN		166	4-222-208-01	GEAR (SB)	
154	3-338-645-31	WASHER (0.8-2.5)		167	4-222-204-01	BEARING (N)	
155	4-222-222-01	GEAR (RACK)		▲ 168	X-4952-386-1	OPTICAL PICK-UP ASSY(LCX-2R)	
156	4-222-226-01	SPRING (EJECT), TENSION		169	4-222-203-01	SCREW, LEAD	
157	4-224-885-01	SCREW (M1.2X1.5)		170	3-349-825-21	SCREW	
158	A-3052-224-A	CHASSIS BLOCK ASSY, GEAR (INCLUDING M603)		171	4-222-205-01	SPRING, RACK	
159	4-222-223-01	SHAFT, SUB		172	3-704-197-01	SCREW (M1.4X1.6), LOCKING	
160	3-049-840-01	GEAR (HC)		173	4-221-927-11	INSULATOR	
161	4-222-218-01	GEAR (HD)		174	3-223-807-01	CUTION (MD CHASSIS)	
162	X-4951-920-1	CHASSIS ASSY		M601	8-835-666-11	MOTOR, DC SSM-01C14A (SPINDLE) (INCLUDING TURN TABLE)	
163	4-222-206-01	SPRING, THRUST		M602	1-763-399-31	MOTOR, DC (SLED) (INCLUDING GEAR)	



# SECTION 8 ELECTRICAL PARTS LIST

**BATT**

**JACK**

**MAIN**

**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:  $\mu$ , for example:  
uA. . . :  $\mu$ A. . .      uPA. . . :  $\mu$ PA. . .  
uPB. . . :  $\mu$ PB. . .    uPC. . . :  $\mu$ PC. . .  
uPD. . . :  $\mu$ PD. . .
- **CAPACITORS**  
uF:  $\mu$ F
- **COILS**  
uH:  $\mu$ H
- **Abbreviation**  
JEW : Tourist

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

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

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
*	1-678-843-11	BATT BOARD *****		C128	1-127-772-81	CERAMIC CHIP 33000PF	10% 10V
		< CONNECTOR >		C129	1-107-819-11	CERAMIC CHIP 0.022uF	10% 16V
* CN2001	1-793-510-21	CONNECTOR, FPC (ZIF) 5P *****		C130	1-125-777-11	CERAMIC CHIP 0.1uF	10% 10V
*	1-678-844-11	JACK BOARD *****		C132	1-164-937-11	CERAMIC CHIP 0.001uF	10% 16V
		< JACK >		C133	1-162-970-11	CERAMIC CHIP 0.01uF	10% 25V
J1001	1-794-615-11	JACK,DC(POLARITY UNIFIED TYPE) (DC IN 3V) *****		C135	1-164-937-11	CERAMIC CHIP 0.001uF	10% 16V
	A-3021-349-A	MAIN BOARD, COMPLETE *****		C136	1-125-777-11	CERAMIC CHIP 0.1uF	10% 10V
		< CAPACITOR >		C137	1-162-970-11	CERAMIC CHIP 0.01uF	10% 25V
C101	1-131-725-91	TANTAL. CHIP 47uF	20% 4V	C139	1-117-919-11	TANTAL. CHIP 10uF	20% 6.3V
C102	1-107-820-11	CERAMIC CHIP 0.1uF	16V	C140	1-117-919-11	TANTAL. CHIP 10uF	20% 6.3V
C103	1-131-734-21	TANTAL. CHIP 4.7uF	20% 6.3V	C141	1-125-837-91	CERAMIC CHIP 1uF	10% 6.3V
C105	1-117-863-11	CERAMIC CHIP 0.47uF	10% 6.3V	C142	1-125-777-11	CERAMIC CHIP 0.1uF	10% 10V
C106	1-131-727-91	TANTAL. CHIP 470uF	20% 2.5V	C143	1-125-837-91	CERAMIC CHIP 1uF	10% 6.3V
C107	1-127-715-91	CERAMIC CHIP 0.22uF	10% 16V	C201	1-131-725-91	TANTAL. CHIP 47uF	20% 4V
C108	1-125-837-91	CERAMIC CHIP 1uF	10% 6.3V	C202	1-107-820-11	CERAMIC CHIP 0.1uF	16V
C109	1-117-919-11	TANTAL. CHIP 10uF	20% 6.3V	C203	1-131-734-21	TANTAL. CHIP 4.7uF	20% 6.3V
C110	1-135-337-11	TANTAL. CHIP 1uF	20% 6.3V	C205	1-117-863-11	CERAMIC CHIP 0.47uF	10% 6.3V
C111	1-164-874-11	CERAMIC CHIP 100PF	5.00% 16V	C206	1-131-727-91	TANTAL. CHIP 470uF	20% 2.5V
C112	1-117-919-11	TANTAL. CHIP 10uF	20% 6.3V	C207	1-127-715-91	CERAMIC CHIP 0.22uF	10% 16V
C113	1-127-895-91	TANTAL. CHIP 22uF	20% 4V	C208	1-125-837-91	CERAMIC CHIP 1uF	10% 6.3V
C114	1-164-866-11	CERAMIC CHIP 47PF	5.00% 16V	C209	1-117-919-11	TANTAL. CHIP 10uF	20% 6.3V
C115	1-125-837-91	CERAMIC CHIP 1uF	10% 6.3V	C210	1-135-337-11	TANTAL. CHIP 1uF	20% 6.3V
C116	1-164-937-11	CERAMIC CHIP 0.001uF	10% 16V	C211	1-164-874-11	CERAMIC CHIP 100PF	5.00% 16V
C117	1-125-985-91	CERAMIC CHIP 0.47uF	10% 25V	C212	1-117-919-11	TANTAL. CHIP 10uF	20% 6.3V
C118	1-164-939-11	CERAMIC CHIP 0.0022uF	10% 16V	C213	1-127-895-91	TANTAL. CHIP 22uF	20% 4V
C119	1-125-777-11	CERAMIC CHIP 0.1uF	10% 10V	C214	1-164-866-11	CERAMIC CHIP 47PF	5.00% 16V
C120	1-164-937-11	CERAMIC CHIP 0.001uF	10% 16V	C215	1-125-837-91	CERAMIC CHIP 1uF	10% 6.3V
C122	1-125-837-91	CERAMIC CHIP 1uF	10% 6.3V	C216	1-164-937-11	CERAMIC CHIP 0.001uF	10% 16V
C123	1-125-837-91	CERAMIC CHIP 1uF	10% 6.3V	C217	1-125-985-91	CERAMIC CHIP 0.47uF	10% 25V
C124	1-125-777-11	CERAMIC CHIP 0.1uF	10% 10V	C218	1-164-939-11	CERAMIC CHIP 0.0022uF	10% 16V
C125	1-125-777-11	CERAMIC CHIP 0.1uF	10% 10V	C219	1-125-777-11	CERAMIC CHIP 0.1uF	10% 10V
C126	1-125-837-91	CERAMIC CHIP 1uF	10% 6.3V	C220	1-164-937-11	CERAMIC CHIP 0.001uF	10% 16V
C127	1-162-970-11	CERAMIC CHIP 0.01uF	10% 25V	C222	1-125-837-91	CERAMIC CHIP 1uF	10% 6.3V
				C223	1-125-837-91	CERAMIC CHIP 1uF	10% 6.3V
				C224	1-125-777-11	CERAMIC CHIP 0.1uF	10% 10V
				C225	1-125-777-11	CERAMIC CHIP 0.1uF	10% 10V
				C226	1-125-837-91	CERAMIC CHIP 1uF	10% 6.3V
				C227	1-162-970-11	CERAMIC CHIP 0.01uF	10% 25V
				C228	1-127-772-81	CERAMIC CHIP 33000PF	10% 10V
				C229	1-107-819-11	CERAMIC CHIP 0.022uF	10% 16V
				C230	1-125-777-11	CERAMIC CHIP 0.1uF	10% 10V
				C232	1-164-937-11	CERAMIC CHIP 0.001uF	10% 16V
				C233	1-162-970-11	CERAMIC CHIP 0.01uF	10% 25V

**MAIN**

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
C235	1-164-937-11	CERAMIC CHIP	0.001uF 10% 16V	C356	1-125-777-11	CERAMIC CHIP	0.1uF 10% 10V
C236	1-125-777-11	CERAMIC CHIP	0.1uF 10% 10V	C357	1-164-949-11	CERAMIC CHIP	0.047uF 16V
C237	1-162-970-11	CERAMIC CHIP	0.01uF 10% 25V	C358	1-164-949-11	CERAMIC CHIP	0.047uF 16V
C239	1-117-919-11	TANTAL. CHIP	10uF 20% 6.3V	C361	1-125-837-91	CERAMIC CHIP	1uF 10% 6.3V
C240	1-117-919-11	TANTAL. CHIP	10uF 20% 6.3V	C362	1-164-949-11	CERAMIC CHIP	0.047uF 16V
C241	1-125-837-91	CERAMIC CHIP	1uF 10% 6.3V	C363	1-117-919-11	TANTAL. CHIP	10uF 20% 6.3V
C242	1-125-777-11	CERAMIC CHIP	0.1uF 10% 10V	C364	1-117-919-11	TANTAL. CHIP	10uF 20% 6.3V
C243	1-125-837-91	CERAMIC CHIP	1uF 10% 6.3V	C365	1-131-725-91	TANTAL. CHIP	47uF 20% 4V
C301	1-107-820-11	CERAMIC CHIP	0.1uF 16V	C368	1-164-937-11	CERAMIC CHIP	0.001uF 10% 16V
C302	1-127-895-91	TANTAL. CHIP	22uF 20% 4V	C369	1-131-725-91	TANTAL. CHIP	47uF 20% 4V
C303	1-107-820-11	CERAMIC CHIP	0.1uF 16V	C370	1-164-937-11	CERAMIC CHIP	0.001uF 10% 16V
C304	1-117-919-11	TANTAL. CHIP	10uF 20% 6.3V	C371	1-164-937-11	CERAMIC CHIP	0.001uF 10% 16V
C305	1-164-943-11	CERAMIC CHIP	0.01uF 10% 16V	C372	1-117-919-11	TANTAL. CHIP	10uF 20% 6.3V
C306	1-117-919-11	TANTAL. CHIP	10uF 20% 6.3V	C374	1-125-837-91	CERAMIC CHIP	1uF 10% 6.3V
C307	1-131-725-91	TANTAL. CHIP	47uF 20% 4V	C375	1-164-943-11	CERAMIC CHIP	0.01uF 10% 16V
C308	1-107-820-11	CERAMIC CHIP	0.1uF 16V	C376	1-113-600-11	TANTAL. CHIP	2.2uF 20% 6.3V
C309	1-125-777-11	CERAMIC CHIP	0.1uF 10% 10V	C501	1-125-777-11	CERAMIC CHIP	0.1uF 10% 10V
C310	1-164-943-11	CERAMIC CHIP	0.01uF 10% 16V	C502	1-127-772-81	CERAMIC CHIP	33000PF 10% 10V
C311	1-125-777-11	CERAMIC CHIP	0.1uF 10% 10V	C503	1-164-940-11	CERAMIC CHIP	0.0033uF 10% 16V
C312	1-164-949-11	CERAMIC CHIP	0.047uF 16V	C504	1-164-940-11	CERAMIC CHIP	0.0033uF 10% 16V
C313	1-164-941-11	CERAMIC CHIP	0.0047uF 10% 16V	C505	1-162-970-11	CERAMIC CHIP	0.01uF 10% 25V
C314	1-164-937-11	CERAMIC CHIP	0.001uF 10% 16V	C506	1-127-772-81	CERAMIC CHIP	33000PF 10% 10V
C315	1-131-725-91	TANTAL. CHIP	47uF 20% 4V	C507	1-125-777-11	CERAMIC CHIP	0.1uF 10% 10V
C316	1-125-777-11	CERAMIC CHIP	0.1uF 10% 10V	C508	1-164-858-11	CERAMIC CHIP	22PF 5.00% 16V
C317	1-125-777-11	CERAMIC CHIP	0.1uF 10% 10V	C509	1-164-940-11	CERAMIC CHIP	0.0033uF 10% 16V
C318	1-125-777-11	CERAMIC CHIP	0.1uF 10% 10V	C510	1-125-777-11	CERAMIC CHIP	0.1uF 10% 10V
C319	1-164-943-11	CERAMIC CHIP	0.01uF 10% 16V	C511	1-164-845-11	CERAMIC CHIP	5PF 0.25PF 16V
C320	1-117-919-11	TANTAL. CHIP	10uF 20% 6.3V	C512	1-164-938-11	CERAMIC CHIP	0.0015uF 10% 16V
C321	1-125-777-11	CERAMIC CHIP	0.1uF 10% 10V	C513	1-127-772-81	CERAMIC CHIP	33000PF 10% 10V
C322	1-131-725-91	TANTAL. CHIP	47uF 20% 4V	C514	1-125-777-11	CERAMIC CHIP	0.1uF 10% 10V
C323	1-117-919-11	TANTAL. CHIP	10uF 20% 6.3V	C515	1-125-777-11	CERAMIC CHIP	0.1uF 10% 10V
C324	1-127-895-91	TANTAL. CHIP	22uF 20% 4V	C516	1-164-845-11	CERAMIC CHIP	5PF 0.25PF 16V
C327	1-125-777-11	CERAMIC CHIP	0.1uF 10% 10V	C517	1-164-940-11	CERAMIC CHIP	0.0033uF 10% 16V
C330	1-107-820-11	CERAMIC CHIP	0.1uF 16V	C519	1-125-777-11	CERAMIC CHIP	0.1uF 10% 10V
C331	1-164-943-11	CERAMIC CHIP	0.01uF 10% 16V	C520	1-107-819-11	CERAMIC CHIP	0.022uF 10% 16V
C333	1-164-941-11	CERAMIC CHIP	0.0047uF 10% 16V	C521	1-119-923-81	CERAMIC CHIP	0.047uF 10% 10V
C334	1-117-919-11	TANTAL. CHIP	10uF 20% 6.3V	C522	1-164-943-11	CERAMIC CHIP	0.01uF 10% 16V
C335	1-125-837-91	CERAMIC CHIP	1uF 10% 6.3V	C524	1-131-725-91	TANTAL. CHIP	47uF 20% 4V
C336	1-125-839-11	TANTAL. CHIP	47uF 20% 6.3V	C525	1-164-943-11	CERAMIC CHIP	0.01uF 10% 16V
C337	1-117-919-11	TANTAL. CHIP	10uF 20% 6.3V	C526	1-164-943-11	CERAMIC CHIP	0.01uF 10% 16V
C339	1-113-600-11	TANTAL. CHIP	2.2uF 20% 6.3V	C527	1-164-850-11	CERAMIC CHIP	10PF 0.50PF 16V
C340	1-125-837-91	CERAMIC CHIP	1uF 10% 6.3V	C528	1-164-850-11	CERAMIC CHIP	10PF 0.50PF 16V
C341	1-125-837-91	CERAMIC CHIP	1uF 10% 6.3V	C529	1-127-895-91	TANTAL. CHIP	22uF 20% 4V
C342	1-125-837-91	CERAMIC CHIP	1uF 10% 6.3V	C530	1-131-725-91	TANTAL. CHIP	47uF 20% 4V
C343	1-113-600-11	TANTAL. CHIP	2.2uF 20% 6.3V	C531	1-162-970-11	CERAMIC CHIP	0.01uF 10% 25V
C344	1-164-874-11	CERAMIC CHIP	100PF 5.00% 16V	C532	1-125-777-11	CERAMIC CHIP	0.1uF 10% 10V
C345	1-125-777-11	CERAMIC CHIP	0.1uF 10% 10V	C533	1-164-245-11	CERAMIC CHIP	0.015uF 10% 25V
C346	1-164-941-11	CERAMIC CHIP	0.0047uF 10% 16V	C534	1-117-863-11	CERAMIC CHIP	0.47uF 10% 6.3V
C347	1-125-777-11	CERAMIC CHIP	0.1uF 10% 10V	C535	1-164-935-11	CERAMIC CHIP	470PF 10% 16V
C348	1-127-895-91	TANTAL. CHIP	22uF 20% 4V	C536	1-117-863-11	CERAMIC CHIP	0.47uF 10% 6.3V
C349	1-164-937-11	CERAMIC CHIP	0.001uF 10% 16V	C537	1-164-943-11	CERAMIC CHIP	0.01uF 10% 16V
C350	1-125-777-11	CERAMIC CHIP	0.1uF 10% 10V	C600	1-125-777-11	CERAMIC CHIP	0.1uF 10% 10V
C351	1-125-777-11	CERAMIC CHIP	0.1uF 10% 10V	C601	1-131-725-91	TANTAL. CHIP	47uF 20% 4V
C352	1-125-777-11	CERAMIC CHIP	0.1uF 10% 10V	C602	1-109-813-11	CAP-CHIP	100PF 5.00% 100V
C353	1-164-949-11	CERAMIC CHIP	0.047uF 16V	C603	1-135-337-11	TANTAL. CHIP	1uF 20% 6.3V
C354	1-125-777-11	CERAMIC CHIP	0.1uF 10% 10V	C604	1-164-943-11	CERAMIC CHIP	0.01uF 10% 16V
C355	1-164-878-11	CERAMIC CHIP	150PF 5.00% 16V	C605	1-131-726-91	TANTAL. CHIP	33uF 20% 6.3V
				C607	1-107-820-11	CERAMIC CHIP	0.1uF 16V

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
C608	1-107-819-11	CERAMIC CHIP	0.022uF 10% 16V	C929	1-119-923-81	CERAMIC CHIP	0.047uF 10% 10V
C609	1-119-923-81	CERAMIC CHIP	0.047uF 10% 10V	C930	1-164-937-11	CERAMIC CHIP	0.001uF 10% 16V
C610	1-164-935-11	CERAMIC CHIP	470PF 10% 16V	C931	1-164-937-11	CERAMIC CHIP	0.001uF 10% 16V
C611	1-119-923-81	CERAMIC CHIP	0.047uF 10% 10V	C932	1-125-837-91	CERAMIC CHIP	1uF 10% 6.3V
C612	1-164-940-11	CERAMIC CHIP	0.0033uF 10% 16V	C933	1-164-937-11	CERAMIC CHIP	0.001uF 10% 16V
C613	1-125-837-91	CERAMIC CHIP	1uF 10% 6.3V	C934	1-125-899-11	TANTAL. CHIP	220uF 20% 4V
C614	1-131-726-91	TANTAL. CHIP	33uF 20% 6.3V	C935	1-117-919-11	TANTAL. CHIP	10uF 20% 6.3V
C615	1-135-379-91	TANTAL. CHIP	3.3uF 20% 10V	C936	1-131-725-91	TANTAL. CHIP	47uF 20% 4V
C617	1-127-772-81	CERAMIC CHIP	33000PF 10% 10V	C957	1-125-777-11	CERAMIC CHIP	0.1uF 10% 10V
C618	1-127-772-81	CERAMIC CHIP	33000PF 10% 10V	C958	1-128-964-91	TANTAL. CHIP	100uF 20% 6.3V
C619	1-127-772-81	CERAMIC CHIP	33000PF 10% 10V	C959	1-125-777-11	CERAMIC CHIP	0.1uF 10% 10V
C620	1-131-621-91	TANTAL. CHIP	6.8uF 20% 6.3V	C960	1-125-837-91	CERAMIC CHIP	1uF 10% 6.3V
C621	1-127-578-91	TANTAL. CHIP	3.3uF 20% 6.3V	C961	1-119-923-81	CERAMIC CHIP	0.047uF 10% 10V
C622	1-131-621-91	TANTAL. CHIP	6.8uF 20% 6.3V	C1001	1-125-840-91	TANTALUM	10uF 20% 6.3V
C623	1-127-578-91	TANTAL. CHIP	3.3uF 20% 6.3V	C1002	1-127-772-81	CERAMIC CHIP	33000PF 10% 10V
C624	1-125-777-11	CERAMIC CHIP	0.1uF 10% 10V	C1003	1-127-772-81	CERAMIC CHIP	33000PF 10% 10V
C625	1-125-777-11	CERAMIC CHIP	0.1uF 10% 10V	C1004	1-164-939-11	CERAMIC CHIP	0.0022uF 10% 16V
C629	1-125-777-11	CERAMIC CHIP	0.1uF 10% 10V	< CONNECTOR >			
C630	1-125-777-11	CERAMIC CHIP	0.1uF 10% 10V	* CN501	1-794-639-21	CONNECTOR, FPC (ZIF) 22P	
C631	1-125-777-11	CERAMIC CHIP	0.1uF 10% 10V	* CN602	1-793-511-21	CONNECTOR, FPC (ZIF) 15P	
C632	1-125-777-11	CERAMIC CHIP	0.1uF 10% 10V	* CN801	1-794-616-21	CONNECTOR, FPC (ZIF) 30P	
C633	1-162-970-11	CERAMIC CHIP	0.01uF 10% 25V	* CN802	1-793-510-21	CONNECTOR, FPC (ZIF) 5P	
C634	1-164-943-11	CERAMIC CHIP	0.01uF 10% 16V	< DIODE >			
C635	1-164-943-11	CERAMIC CHIP	0.01uF 10% 16V	D101	8-719-422-37	DIODE MA8051-TX	
C636	1-125-777-11	CERAMIC CHIP	0.1uF 10% 10V	D201	8-719-422-37	DIODE MA8051-TX	
C637	1-131-726-91	TANTAL. CHIP	33uF 20% 6.3V	D301	8-719-077-43	DIODE MAZZ068H01S0	
C638	1-125-837-91	CERAMIC CHIP	1uF 10% 6.3V	D302	8-719-077-43	DIODE MAZZ068H01S0	
C639	1-119-923-81	CERAMIC CHIP	0.047uF 10% 10V	D303	8-719-056-54	DIODE MAZS068008SO	
C640	1-119-923-81	CERAMIC CHIP	0.047uF 10% 10V	D307	8-719-975-43	DIODE SB02-03C-TB	
C801	1-164-943-11	CERAMIC CHIP	0.01uF 10% 16V	D501	8-719-421-27	DIODE MA728-TX	
C806	1-127-895-91	TANTAL. CHIP	22uF 20% 4V	D600	8-719-072-10	DIODE FS05J10-TP	
C807	1-164-943-11	CERAMIC CHIP	0.01uF 10% 16V	D601	8-719-072-10	DIODE FS05J10-TP	
C808	1-117-919-11	TANTAL. CHIP	10uF 20% 6.3V	D602	8-719-421-27	DIODE MA728-TX	
C809	1-125-837-91	CERAMIC CHIP	1uF 10% 6.3V	D603	8-719-067-36	DIODE MA3ZD1200LS0	
C810	1-164-937-11	CERAMIC CHIP	0.001uF 10% 16V	D801	8-719-421-27	DIODE MA728-TX	
C811	1-125-837-91	CERAMIC CHIP	1uF 10% 6.3V	D803	8-719-420-51	DIODE MA729-TX	
C813	1-162-970-11	CERAMIC CHIP	0.01uF 10% 25V	D804	8-719-069-29	DIODE RB520S-30TE61	
C902	1-162-970-11	CERAMIC CHIP	0.01uF 10% 25V	D805	8-719-421-27	DIODE MA728-TX	
C905	1-164-937-11	CERAMIC CHIP	0.001uF 10% 16V	D901	8-719-420-51	DIODE MA729-TX	
C907	1-125-837-91	CERAMIC CHIP	1uF 10% 6.3V	D902	8-719-072-26	DIODE FS1J3-TP	
C908	1-125-777-11	CERAMIC CHIP	0.1uF 10% 10V	D905	8-719-074-74	DIODE MA3XD15001S0	
C910	1-107-819-11	CERAMIC CHIP	0.022uF 10% 16V	D906	8-719-074-74	DIODE MA3XD15001S0	
C911	1-117-919-11	TANTAL. CHIP	10uF 20% 6.3V	D908	8-719-422-37	DIODE MA8051-TX	
C913	1-117-919-11	TANTAL. CHIP	10uF 20% 6.3V	< FERRITE BEAD >			
C915	1-125-840-91	TANTALUM	10uF 20% 6.3V	FB301	1-500-329-21	FERRITE	0uH
C916	1-131-725-91	TANTAL. CHIP	47uF 20% 4V	FB302	1-500-329-21	FERRITE	0uH
C917	1-128-964-91	TANTAL. CHIP	100uF 20% 6.3V	FB305	1-500-329-21	FERRITE	0uH
C918	1-107-819-11	CERAMIC CHIP	0.022uF 10% 16V	FB306	1-500-329-21	FERRITE	0uH
C919	1-125-837-91	CERAMIC CHIP	1uF 10% 6.3V	FB501	1-216-864-11	METAL CHIP	0 5% 1/16W
C921	1-164-943-11	CERAMIC CHIP	0.01uF 10% 16V	FB502	1-216-864-11	METAL CHIP	0 5% 1/16W
C922	1-125-777-11	CERAMIC CHIP	0.1uF 10% 10V	FB503	1-414-235-22	FERRITE	0uH
C923	1-164-937-11	CERAMIC CHIP	0.001uF 10% 16V	FB504	1-414-234-22	FERRITE	0uH
C924	1-125-840-91	TANTALUM	10uF 20% 6.3V	FB505	1-500-329-21	FERRITE	0uH
C925	1-164-943-11	CERAMIC CHIP	0.01uF 10% 16V	FB601	1-500-329-21	FERRITE	0uH
C926	1-119-923-81	CERAMIC CHIP	0.047uF 10% 10V				
C927	1-164-937-11	CERAMIC CHIP	0.001uF 10% 16V				
C928	1-164-937-11	CERAMIC CHIP	0.001uF 10% 16V				

# MAIN

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
		< IC >				< LINE FILTER >	
IC301	8-759-641-92	IC AK4517BVQ-L		LF901	1-416-405-21	FILTER, CHIP EMI (COMMON MODE)	
IC302	8-759-572-38	IC NJM2140R				< TRANSISTOR >	
IC303	8-759-687-37	IC OPA2340EA/2K5-S		Q101	8-729-046-45	TRANSISTOR SI2302DS-T1	
IC304	8-759-559-91	IC RN5RZ25AA-TR		Q102	8-729-050-32	TRANSISTOR 2SC5585TL	
IC305	8-759-559-91	IC RN5RZ25AA-TR		Q103	8-729-400-56	TRANSISTOR 2SD1328-T-TX	
IC306	8-759-701-51	IC NJM2072M(TE2)		Q104	8-729-800-71	TRANSISTOR 2SB1295-UL6-TB	
IC307	8-759-559-89	IC NJU7015R-TE2		Q105	8-729-400-56	TRANSISTOR 2SD1328-T-TX	
IC308	8-759-572-38	IC NJM2140R		Q106	8-729-800-71	TRANSISTOR 2SB1295-UL6-TB	
IC309	8-759-559-91	IC RN5RZ25AA-TR		Q107	8-729-230-60	TRANSISTOR 2SA1586YG-TE85L	
IC310	8-759-559-89	IC NJU7015R-TE2		Q201	8-729-046-45	TRANSISTOR SI2302DS-T1	
IC311	8-759-710-79	IC NJM2107F-TE1		Q202	8-729-050-32	TRANSISTOR 2SC5585TL	
IC313	8-759-650-96	IC BA6640F-E2		Q203	8-729-400-56	TRANSISTOR 2SD1328-T-TX	
IC501	8-759-682-68	IC SN761056CDBT		Q204	8-729-800-71	TRANSISTOR 2SB1295-UL6-TB	
@ IC502	8-752-412-73	IC CXD2660GA		Q205	8-729-400-56	TRANSISTOR 2SD1328-T-TX	
IC504	8-759-647-75	IC TC7W66FK(TE85R)		Q206	8-729-800-71	TRANSISTOR 2SB1295-UL6-TB	
IC505	8-759-647-75	IC TC7W66FK(TE85R)		Q207	8-729-230-60	TRANSISTOR 2SA1586YG-TE85L	
IC601	8-759-680-36	IC XC111256FTAEB		Q301	8-729-928-81	TRANSISTOR DTC144EE-TL	
IC602	8-759-642-58	IC MPC17A17XDTBR2		Q302	8-729-046-49	TRANSISTOR FDV304P	
IC603	8-759-642-59	IC MPC18A20MTAEL		Q303	8-729-929-99	TRANSISTOR UMB11-TN	
IC604	8-759-358-40	IC TLC372CPW-E20		Q304	8-729-904-86	TRANSISTOR 2SB1197K-T-146-Q	
IC605	8-759-586-58	IC XC6367B103MR		Q305	8-729-046-45	TRANSISTOR SI2302DS-T1	
@ IC801	8-752-921-16	IC CXR701080-020GA		Q306	8-729-047-48	TRANSISTOR UMD12N-TR	
IC802	8-759-445-94	IC AK6480AM-E2		Q307	8-729-047-48	TRANSISTOR UMD12N-TR	
IC803	8-759-641-93	IC XC6383C301MR		Q308	8-729-047-48	TRANSISTOR UMD12N-TR	
IC804	8-759-641-91	IC RV5C348A-E2		Q309	8-729-928-81	TRANSISTOR DTC144EE-TL	
IC901	8-759-678-82	IC MPC18A31FTAEB		Q310	8-729-037-63	TRANSISTOR UN9115J-(TX).SO	
IC904	8-759-652-23	IC RN5RG25AA-TR		Q311	8-729-402-93	TRANSISTOR UN5214-TX	
IC905	8-759-559-91	IC RN5RZ25AA-TR		Q312	8-729-028-26	TRANSISTOR 2SK1829(TE85L)	
IC906	8-759-372-65	IC RN5VD16AA-TL		Q313	8-729-427-72	TRANSISTOR XP4501-TXE	
		< JACK >		Q314	8-729-028-26	TRANSISTOR 2SK1829(TE85L)	
J301	1-793-619-21	JACK (LINE IN (OPTICAL))		Q315	8-729-029-14	TRANSISTOR DTC144EUA-T106	
J303	1-794-084-22	JACK (MIC (PLUG IN POWER))		Q316	8-729-904-86	TRANSISTOR 2SB1197K-T-146-Q	
J304	1-794-154-22	JACK (Ⓜ)		Q318	8-729-038-06	TRANSISTOR HN1K02FU(TE85L)	
		< COIL >		Q319	8-729-029-14	TRANSISTOR DTC144EUA-T106	
L301	1-469-535-21	INDUCTOR 10uH		Q320	8-729-029-14	TRANSISTOR DTC144EUA-T106	
L302	1-469-535-21	INDUCTOR 10uH		Q321	8-729-426-36	TRANSISTOR XP1215-TXE	
L303	1-469-535-21	INDUCTOR 10uH		Q322	8-729-028-26	TRANSISTOR 2SK1829(TE85L)	
L501	1-469-535-21	INDUCTOR 10uH		Q325	8-729-047-48	TRANSISTOR UMD12N-TR	
L502	1-469-535-21	INDUCTOR 10uH		Q326	8-729-050-32	TRANSISTOR 2SC5585TL	
L601	1-410-389-31	INDUCTOR CHIP 47uH		Q327	8-729-050-32	TRANSISTOR 2SC5585TL	
L602	1-414-400-41	INDUCTOR 22uH		Q328	8-729-037-63	TRANSISTOR UN9115J-(TX).SO	
L603	1-419-258-21	INDUCTOR 68uH		Q330	8-729-230-63	TRANSISTOR 2SC4116-YGRBL-TE85L	
L604	1-410-389-31	INDUCTOR CHIP 47uH		Q331	8-729-230-60	TRANSISTOR 2SA1586YG-TE85L	
L605	1-414-400-41	INDUCTOR 22uH		Q332	8-729-427-83	TRANSISTOR XP6501-(TX).SO	
L606	1-414-407-41	INDUCTOR 330uH		Q333	8-729-037-63	TRANSISTOR UN9115J-(TX).SO	
L607	1-419-441-21	INDUCTOR 4.7uH		Q334	8-729-427-83	TRANSISTOR XP6501-(TX).SO	
L801	1-469-535-21	INDUCTOR 10uH		Q335	8-729-037-63	TRANSISTOR UN9115J-(TX).SO	
L802	1-410-389-31	INDUCTOR CHIP 47uH		Q336	8-729-028-26	TRANSISTOR 2SK1829(TE85L)	
L901	1-414-400-41	INDUCTOR 22uH		Q337	8-729-037-63	TRANSISTOR UN9115J-(TX).SO	
L902	1-469-426-21	INDUCTOR 100uH		Q338	8-729-037-63	TRANSISTOR UN9115J-(TX).SO	
L903	1-469-367-21	INDUCTOR 10uH		Q501	8-729-928-81	TRANSISTOR DTC144EE-TL	
L904	1-419-257-21	INDUCTOR 22uH		Q601	8-729-046-43	TRANSISTOR HAT2051T-EL	
L905	1-419-407-21	INDUCTOR 33uH		Q602	8-729-046-42	TRANSISTOR HAT2050T-EL	
				Q603	8-729-046-45	TRANSISTOR SI2302DS-T1	
				Q604	8-729-047-48	TRANSISTOR UMD12N-TR	

@ Replacement of IC502 and IC801 used in this set requires a special tool.

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
Q605	8-729-928-27	TRANSISTOR	DTA144EE-TL	R151	1-218-941-11	RES-CHIP	100 5% 1/16W
Q607	8-729-046-45	TRANSISTOR	SI2302DS-T1	R152	1-208-699-11	METAL CHIP	4.7K 0.5% 1/16W
Q809	8-729-230-60	TRANSISTOR	2SA1586YG-TE85L	R153	1-208-935-11	METAL CHIP	100K 0.5% 1/16W
Q901	8-729-230-63	TRANSISTOR	2SD1819A-QRS-TX	R201	1-216-864-11	METAL CHIP	0 5% 1/16W
Q902	8-729-039-86	TRANSISTOR	FMMT717TA	R202	1-208-943-11	METAL CHIP	220K 0.5% 1/16W
Q904	8-729-043-46	TRANSISTOR	MMBF2201NT1	R203	1-208-671-11	METAL CHIP	330 0.5% 1/16W
Q905	8-729-028-26	TRANSISTOR	2SK1829(TE85L)	R204	1-208-683-11	METAL CHIP	1K 0.5% 1/16W
Q906	8-729-028-26	TRANSISTOR	2SK1829(TE85L)	R205	1-208-687-11	METAL CHIP	1.5K 0.5% 1/16W
Q907	8-729-046-45	TRANSISTOR	SI2302DS-T1	R206	1-208-707-11	METAL CHIP	10K 0.5% 1/16W
Q1001	8-729-922-04	TRANSISTOR	2SA1577-T106-P	R207	1-218-961-11	RES-CHIP	4.7K 5% 1/16W
< RESISTOR >				R208	1-218-953-11	RES-CHIP	1K 5% 1/16W
R101	1-216-864-11	METAL CHIP	0 5% 1/16W	R209	1-216-793-11	RES-CHIP	4.7 5% 1/16W
R102	1-208-943-11	METAL CHIP	220K 0.5% 1/16W	R210	1-218-963-11	RES-CHIP	6.8K 5% 1/16W
R103	1-208-671-11	METAL CHIP	330 0.5% 1/16W	R211	1-208-931-11	METAL CHIP	68K 0.5% 1/16W
R104	1-208-683-11	METAL CHIP	1K 0.5% 1/16W	R212	1-208-927-11	METAL CHIP	47K 0.5% 1/16W
R105	1-208-687-11	METAL CHIP	1.5K 0.5% 1/16W	R213	1-208-927-11	METAL CHIP	47K 0.5% 1/16W
R106	1-208-707-11	METAL CHIP	10K 0.5% 1/16W	R214	1-208-927-11	METAL CHIP	47K 0.5% 1/16W
R107	1-218-961-11	RES-CHIP	4.7K 5% 1/16W	R215	1-208-699-11	METAL CHIP	4.7K 0.5% 1/16W
R108	1-218-953-11	RES-CHIP	1K 5% 1/16W	R216	1-208-691-11	METAL CHIP	2.2K 0.5% 1/16W
R109	1-216-793-11	RES-CHIP	4.7 5% 1/16W	R217	1-208-935-11	METAL CHIP	100K 0.5% 1/16W
R110	1-218-963-11	RES-CHIP	6.8K 5% 1/16W	R218	1-208-703-11	METAL CHIP	6.8K 0.5% 1/16W
R111	1-208-931-11	METAL CHIP	68K 0.5% 1/16W	R219	1-218-985-11	METAL CHIP	470K 0.5% 1/16W
R112	1-208-927-11	METAL CHIP	47K 0.5% 1/16W	R220	1-208-695-11	METAL CHIP	3.3K 0.5% 1/16W
R113	1-208-927-11	METAL CHIP	47K 0.5% 1/16W	R221	1-218-967-11	RES-CHIP	15K 5% 1/16W
R114	1-208-927-11	METAL CHIP	47K 0.5% 1/16W	R222	1-218-953-11	RES-CHIP	1K 5% 1/16W
R115	1-208-699-11	METAL CHIP	4.7K 0.5% 1/16W	R223	1-218-965-11	RES-CHIP	10K 5% 1/16W
R116	1-208-691-11	METAL CHIP	2.2K 0.5% 1/16W	R224	1-218-977-11	RES-CHIP	100K 5% 1/16W
R117	1-208-935-11	METAL CHIP	100K 0.5% 1/16W	R225	1-218-977-11	RES-CHIP	100K 5% 1/16W
R118	1-208-703-11	METAL CHIP	6.8K 0.5% 1/16W	R226	1-218-961-11	RES-CHIP	4.7K 5% 1/16W
R119	1-218-985-11	METAL CHIP	470K 0.5% 1/16W	R227	1-218-965-11	RES-CHIP	10K 5% 1/16W
R120	1-208-695-11	METAL CHIP	3.3K 0.5% 1/16W	R228	1-218-977-11	RES-CHIP	100K 5% 1/16W
R121	1-218-967-11	RES-CHIP	15K 5% 1/16W	R229	1-216-791-11	METAL CHIP	3.3 5% 1/16W
R122	1-218-953-11	RES-CHIP	1K 5% 1/16W	R230	1-218-965-11	RES-CHIP	10K 5% 1/16W
R123	1-218-965-11	RES-CHIP	10K 5% 1/16W	R232	1-216-864-11	METAL CHIP	0 5% 1/16W
R124	1-218-977-11	RES-CHIP	100K 5% 1/16W	R234	1-218-965-11	RES-CHIP	10K 5% 1/16W
R125	1-218-977-11	RES-CHIP	100K 5% 1/16W	R235	1-208-695-11	METAL CHIP	3.3K 0.5% 1/16W
R126	1-218-961-11	RES-CHIP	4.7K 5% 1/16W	R237	1-208-683-11	METAL CHIP	1K 0.5% 1/16W
R127	1-218-965-11	RES-CHIP	10K 5% 1/16W	R239	1-208-935-11	METAL CHIP	100K 0.5% 1/16W
R128	1-218-977-11	RES-CHIP	100K 5% 1/16W	R240	1-208-935-11	METAL CHIP	100K 0.5% 1/16W
R129	1-216-791-11	METAL CHIP	3.3 5% 1/16W	R241	1-208-707-11	METAL CHIP	10K 0.5% 1/16W
R130	1-218-965-11	RES-CHIP	10K 5% 1/16W	R243	1-208-691-11	METAL CHIP	2.2K 0.5% 1/16W
R132	1-216-864-11	METAL CHIP	0 5% 1/16W	R244	1-216-864-11	METAL CHIP	0 5% 1/16W
R134	1-218-965-11	RES-CHIP	10K 5% 1/16W	R245	1-216-864-11	METAL CHIP	0 5% 1/16W
R135	1-208-695-11	METAL CHIP	3.3K 0.5% 1/16W	R246	1-218-985-11	METAL CHIP	470K 0.5% 1/16W
R137	1-208-683-11	METAL CHIP	1K 0.5% 1/16W	R247	1-208-927-11	METAL CHIP	47K 0.5% 1/16W
R139	1-208-935-11	METAL CHIP	100K 0.5% 1/16W	R248	1-218-985-11	METAL CHIP	470K 0.5% 1/16W
R140	1-208-935-11	METAL CHIP	100K 0.5% 1/16W	R249	1-208-927-11	METAL CHIP	47K 0.5% 1/16W
R141	1-208-707-11	METAL CHIP	10K 0.5% 1/16W	R250	1-218-973-11	RES-CHIP	47K 5% 1/16W
R143	1-208-691-11	METAL CHIP	2.2K 0.5% 1/16W	R251	1-218-941-11	RES-CHIP	100 5% 1/16W
R144	1-216-864-11	METAL CHIP	0 5% 1/16W	R252	1-208-699-11	METAL CHIP	4.7K 0.5% 1/16W
R145	1-216-864-11	METAL CHIP	0 5% 1/16W	R253	1-208-935-11	METAL CHIP	100K 0.5% 1/16W
R146	1-218-985-11	METAL CHIP	470K 0.5% 1/16W	R301	1-218-985-11	RES-CHIP	470K 5% 1/16W
R147	1-208-927-11	METAL CHIP	47K 0.5% 1/16W	R302	1-218-953-11	RES-CHIP	1K 5% 1/16W
R148	1-218-985-11	METAL CHIP	470K 0.5% 1/16W	R305	1-218-941-11	RES-CHIP	100 5% 1/16W
R149	1-208-927-11	METAL CHIP	47K 0.5% 1/16W	R306	1-218-985-11	METAL CHIP	470K 0.5% 1/16W
R150	1-218-973-11	RES-CHIP	47K 5% 1/16W	R307	1-218-941-11	RES-CHIP	100 5% 1/16W
				R308	1-218-985-11	METAL CHIP	470K 0.5% 1/16W
				R309	1-218-941-11	RES-CHIP	100 5% 1/16W

**MAIN**

<u>Ref. No.</u>	<u>Part No.</u>	<u>Description</u>			<u>Remark</u>	<u>Ref. No.</u>	<u>Part No.</u>	<u>Description</u>			<u>Remark</u>
R312	1-218-963-11	RES-CHIP	6.8K	5%	1/16W	R518	1-218-977-11	RES-CHIP	100K	5%	1/16W
R313	1-218-971-11	RES-CHIP	33K	5%	1/16W	R519	1-218-953-11	RES-CHIP	1K	5%	1/16W
R314	1-208-687-11	METAL CHIP	1.5K	0.5%	1/16W	R520	1-218-973-11	RES-CHIP	47K	5%	1/16W
R316	1-208-927-11	METAL CHIP	47K	0.5%	1/16W	R522	1-218-935-11	RES-CHIP	33	5%	1/16W
R317	1-218-941-11	RES-CHIP	100	5%	1/16W	R524	1-218-953-11	RES-CHIP	1K	5%	1/16W
R318	1-218-941-11	RES-CHIP	100	5%	1/16W	R525	1-218-989-11	RES-CHIP	1M	5%	1/16W
R319	1-218-941-11	RES-CHIP	100	5%	1/16W	R526	1-218-959-11	RES-CHIP	3.3K	5%	1/16W
R320	1-216-864-11	METAL CHIP	0	5%	1/16W	R527	1-218-943-11	RES-CHIP	150	5%	1/16W
R322	1-218-989-11	RES-CHIP	1M	5%	1/16W	R528	1-218-987-11	RES-CHIP	680K	5%	1/16W
R323	1-218-973-11	RES-CHIP	47K	5%	1/16W	R529	1-218-977-11	RES-CHIP	100K	5%	1/16W
R324	1-218-971-11	RES-CHIP	33K	5%	1/16W	R530	1-218-965-11	RES-CHIP	10K	5%	1/16W
R325	1-218-965-11	RES-CHIP	10K	5%	1/16W	R535	1-216-864-11	METAL CHIP	0	5%	1/16W
R326	1-218-961-11	RES-CHIP	4.7K	5%	1/16W	R536	1-216-864-11	METAL CHIP	0	5%	1/16W
R327	1-218-965-11	RES-CHIP	10K	5%	1/16W	R537	1-216-864-11	METAL CHIP	0	5%	1/16W
R328	1-218-961-11	RES-CHIP	4.7K	5%	1/16W	R602	1-216-864-11	METAL CHIP	0	5%	1/16W
R329	1-218-965-11	RES-CHIP	10K	5%	1/16W	R604	1-208-931-11	METAL CHIP	68K	0.5%	1/16W
R330	1-218-973-11	RES-CHIP	47K	5%	1/16W	R605	1-208-931-11	METAL CHIP	68K	0.5%	1/16W
R332	1-218-965-11	RES-CHIP	10K	5%	1/16W	R606	1-218-965-11	RES-CHIP	10K	5%	1/16W
R333	1-216-864-11	METAL CHIP	0	5%	1/16W	R607	1-208-707-11	METAL CHIP	10K	0.5%	1/16W
R334	1-218-989-11	RES-CHIP	1M	5%	1/16W	R608	1-216-864-11	METAL CHIP	0	5%	1/16W
R335	1-218-973-11	RES-CHIP	47K	5%	1/16W	R609	1-216-864-11	METAL CHIP	0	5%	1/16W
R336	1-218-961-11	RES-CHIP	4.7K	5%	1/16W	R610	1-218-985-11	RES-CHIP	470K	5%	1/16W
R337	1-218-977-11	RES-CHIP	100K	5%	1/16W	R611	1-218-989-11	RES-CHIP	1M	5%	1/16W
R338	1-218-941-11	RES-CHIP	100	5%	1/16W	R612	1-218-975-11	RES-CHIP	68K	5%	1/16W
R340	1-218-973-11	RES-CHIP	47K	5%	1/16W	R613	1-208-707-11	METAL CHIP	10K	0.5%	1/16W
R341	1-218-941-11	RES-CHIP	100	5%	1/16W	R614	1-208-927-11	METAL CHIP	47K	0.5%	1/16W
R342	1-218-981-11	RES-CHIP	220K	5%	1/16W	R615	1-218-989-11	RES-CHIP	1M	5%	1/16W
R343	1-218-981-11	RES-CHIP	220K	5%	1/16W	R616	1-219-724-11	METAL CHIP	1	1%	1/4W
R344	1-218-957-11	RES-CHIP	2.2K	5%	1/16W	R617	1-218-987-11	RES-CHIP	680K	5%	1/16W
R345	1-218-957-11	RES-CHIP	2.2K	5%	1/16W	R618	1-218-987-11	RES-CHIP	680K	5%	1/16W
R346	1-218-953-11	RES-CHIP	1K	5%	1/16W	R619	1-218-965-11	RES-CHIP	10K	5%	1/16W
R347	1-218-981-11	RES-CHIP	220K	5%	1/16W	R620	1-218-989-11	RES-CHIP	1M	5%	1/16W
R349	1-218-953-11	RES-CHIP	1K	5%	1/16W	R621	1-218-965-11	RES-CHIP	10K	5%	1/16W
R350	1-218-953-11	RES-CHIP	1K	5%	1/16W	R636	1-218-953-11	RES-CHIP	1K	5%	1/16W
R351	1-216-864-11	METAL CHIP	0	5%	1/16W	R801	1-218-989-11	RES-CHIP	1M	5%	1/16W
R354	1-218-953-11	RES-CHIP	1K	5%	1/16W	R802	1-218-965-11	RES-CHIP	10K	5%	1/16W
R355	1-218-973-11	RES-CHIP	47K	5%	1/16W	R803	1-216-864-11	METAL CHIP	0	5%	1/16W
R356	1-218-973-11	RES-CHIP	47K	5%	1/16W	R804	1-216-864-11	METAL CHIP	0	5%	1/16W
R357	1-218-953-11	RES-CHIP	1K	5%	1/16W	R806	1-216-864-11	METAL CHIP	0	5%	1/16W
R358	1-218-953-11	RES-CHIP	1K	5%	1/16W	R807	1-216-864-11	METAL CHIP	0	5%	1/16W
R359	1-208-935-11	METAL CHIP	100K	0.5%	1/16W	R808	1-218-973-11	RES-CHIP	47K	5%	1/16W
R363	1-208-707-11	METAL CHIP	10K	0.5%	1/16W	R809	1-218-981-11	RES-CHIP	220K	5%	1/16W
R364	1-218-985-11	METAL CHIP	470K	0.5%	1/16W	R811	1-218-985-11	RES-CHIP	470K	5%	1/16W
R365	1-208-683-11	METAL CHIP	1K	0.5%	1/16W	R812	1-208-943-11	METAL CHIP	220K	0.5%	1/16W
R366	1-208-695-11	METAL CHIP	3.3K	0.5%	1/16W	R813	1-208-943-11	METAL CHIP	220K	0.5%	1/16W
R377	1-218-989-11	RES-CHIP	1M	5%	1/16W	R814	1-218-977-11	RES-CHIP	100K	5%	1/16W
R378	1-208-699-11	METAL CHIP	4.7K	0.5%	1/16W	R815	1-218-985-11	RES-CHIP	470K	5%	1/16W
R379	1-208-699-11	METAL CHIP	4.7K	0.5%	1/16W	R816	1-218-989-11	RES-CHIP	1M	5%	1/16W
R502	1-218-965-11	RES-CHIP	10K	5%	1/16W	R829	1-216-864-11	METAL CHIP	0	5%	1/16W
R503	1-216-864-11	METAL CHIP	0	5%	1/16W	R830	1-218-985-11	RES-CHIP	470K	5%	1/16W
R505	1-216-864-11	METAL CHIP	0	5%	1/16W	R831	1-218-985-11	RES-CHIP	470K	5%	1/16W
R506	1-216-864-11	METAL CHIP	0	5%	1/16W	R833	1-218-989-11	RES-CHIP	1M	5%	1/16W
R507	1-218-971-11	RES-CHIP	33K	5%	1/16W	R834	1-208-927-11	METAL CHIP	47K	0.5%	1/16W
R508	1-218-823-11	METAL CHIP	100	0.5%	1/16W	R835	1-208-927-11	METAL CHIP	47K	0.5%	1/16W
R509	1-218-839-11	METAL CHIP	470	0.5%	1/16W	R838	1-216-864-11	METAL CHIP	0	5%	1/16W
R510	1-218-831-11	METAL CHIP	220	0.5%	1/16W	R840	1-218-977-11	RES-CHIP	100K	5%	1/16W
R517	1-216-864-11	METAL CHIP	0	5%	1/16W	R843	1-208-703-11	METAL CHIP	6.8K	0.5%	1/16W
						R844	1-218-989-11	RES-CHIP	1M	5%	1/16W

Ref. No.	Part No.	Description	Value	Tolerance	Power	Remark
R845	1-208-927-11	METAL CHIP	47K	0.5%	1/16W	
R846	1-218-941-11	RES-CHIP	100	5%	1/16W	
R848	1-218-977-11	RES-CHIP	100K	5%	1/16W	
R849	1-218-985-11	RES-CHIP	470K	5%	1/16W	
R850	1-218-977-11	RES-CHIP	100K	5%	1/16W	
R851	1-218-977-11	RES-CHIP	100K	5%	1/16W	
R905	1-216-864-11	METAL CHIP	0	5%	1/16W	
R907	1-208-943-11	METAL CHIP	220K	0.5%	1/16W	
R908	1-208-935-11	METAL CHIP	100K	0.5%	1/16W	
R909	1-216-864-11	METAL CHIP	0	5%	1/16W	
R910	1-216-864-11	METAL CHIP	0	5%	1/16W	
R912	1-218-961-11	RES-CHIP	4.7K	5%	1/16W	
R913	1-218-985-11	RES-CHIP	470K	5%	1/16W	
R919	1-218-961-11	RES-CHIP	4.7K	5%	1/16W	
R921	1-218-985-11	RES-CHIP	470K	5%	1/16W	
R923	1-218-961-11	RES-CHIP	4.7K	5%	1/16W	
R924	1-218-961-11	RES-CHIP	4.7K	5%	1/16W	
R927	1-218-979-11	RES-CHIP	150K	5%	1/16W	
R928	1-208-707-11	METAL CHIP	10K	0.5%	1/16W	
R929	1-218-967-11	RES-CHIP	15K	5%	1/16W	
R930	1-218-989-11	RES-CHIP	1M	5%	1/16W	
R931	1-218-965-11	RES-CHIP	10K	5%	1/16W	
R934	1-218-967-11	RES-CHIP	15K	5%	1/16W	
R935	1-216-864-11	METAL CHIP	0	5%	1/16W	
R936	1-218-959-11	RES-CHIP	3.3K	5%	1/16W	
R937	1-218-959-11	RES-CHIP	3.3K	5%	1/16W	
R938	1-218-985-11	RES-CHIP	470K	5%	1/16W	
R939	1-218-979-11	RES-CHIP	150K	5%	1/16W	
R940	1-218-985-11	RES-CHIP	470K	5%	1/16W	
R941	1-218-985-11	RES-CHIP	470K	5%	1/16W	
R942	1-218-965-11	RES-CHIP	10K	5%	1/16W	
R943	1-216-809-11	METAL CHIP	100	5%	1/16W	
R944	1-218-989-11	RES-CHIP	1M	5%	1/16W	
R945	1-218-989-11	RES-CHIP	1M	5%	1/16W	
R946	1-208-935-11	METAL CHIP	100K	0.5%	1/16W	
R947	1-208-935-11	METAL CHIP	100K	0.5%	1/16W	
R1001	1-208-691-11	METAL CHIP	2.2K	0.5%	1/16W	
R1002	1-208-691-11	METAL CHIP	2.2K	0.5%	1/16W	
R1003	1-208-691-11	METAL CHIP	2.2K	0.5%	1/16W	
R1004	1-218-985-11	RES-CHIP	470K	5%	1/16W	
R1005	1-219-724-11	METAL CHIP	1	1%	1/4W	
R1006	1-218-977-11	RES-CHIP	100K	5%	1/16W	
R1010	1-208-703-11	METAL CHIP	6.8K	0.5%	1/16W	
< COMPOSITION CIRCUIT BLOCK >						
RB302	1-233-961-11	RES, NETWORK (CHIP TYPE)	1K			
RB303	1-233-971-11	RES, NETWORK (CHIP TYPE)	47K			
RB304	1-233-971-11	RES, NETWORK (CHIP TYPE)	47K			
RB601	1-233-965-11	RES, NETWORK (CHIP TYPE)	4.7K			
RB602	1-233-979-11	RES, NETWORK (CHIP TYPE)	1M			
RB603	1-233-965-11	RES, NETWORK (CHIP TYPE)	4.7K			
< VARIABLE RESISTOR >						
RV301	1-223-874-11	RES, VAR, CARBON	10K/10K			(▲ VOL)

Ref. No.	Part No.	Description	Value	Tolerance	Power	Remark
< SWITCH >						
S301	1-572-922-11	SWITCH, SLIDE				(MIC SENSE)
S802	1-771-475-21	SWITCH, SLIDE				(HALF LOCK)
S804	1-572-922-11	SWITCH, SLIDE				(HOLD ▲)
S805	1-572-922-11	SWITCH, SLIDE				(REC MODE)
S807	1-572-922-11	SWITCH, SLIDE				(SYNCHRO REC)
S808	1-572-938-21	SWITCH, TACTIL				(CLOCK SET)
S811	1-786-020-21	SWITCH, TACTILE				(EVQ PU TYPE) (VOR ON/OFF)
S813	1-786-020-21	SWITCH, TACTILE				(EVQ PU TYPE) (ERASE)
S814	1-786-020-21	SWITCH, TACTILE				(EVQ PU TYPE) (MEGA BASS)
< THERMISTOR(POSITIVE) >						
THP901	1-803-795-21	THERMISTOR, POSITIVE				
< VIBRATOR >						
X501	1-781-574-21	VIBRATOR, CRYSTAL				(22.5792MHz)
X801	1-781-575-21	VIBRATOR, CERAMIC				(16.9344MHz)
X802	1-781-525-21	VIBRATOR, CRYSTAL				(32.768kHz)
*****						
*	1-680-526-11	SLED CONTROL BOARD				*****
< CAPACITOR >						
C1	1-110-563-11	CERAMIC CHIP	0.068uF		16V	
C2	1-110-563-11	CERAMIC CHIP	0.068uF		16V	
C3	1-117-919-11	TANTAL. CHIP	10uF 20%		6.3V	
< RESISTOR >						
R1	1-218-965-11	RES-CHIP	10K	5%	1/16W	
R2	1-218-973-11	RES-CHIP	47K	5%	1/16W	
< DIODE >						
D1	8-719-420-51	DIODE	MA729			
< TRANSISTOR >						
Q1	8-729-928-27	TRANSISTOR	DTA144EE			
Q2	8-729-230-63	TRANSISTOR	2SC4116-YG			
Q3	8-729-928-27	TRANSISTOR	DTA144EE			
< IC >						
IC1	8-759-647-75	IC	TC7W66FK			(TE85R)
*****						

# MZ-B50

Ref. No.	Part No.	Description	Remark
MISCELLANEOUS *****			
64	1-678-999-11	PLUNGER FLEXIBLE BOARD (SPINDLE) (INCLUDING GEAR)	
65	1-476-172-11	KEY BOARD UNIT	
115	1-476-354-11	SWITCH UNIT (INCLUDING S801, S806)	
120	1-476-359-11	CONNECTOR UNIT	
151	1-678-846-11	MOTOR FLEXIBLE BOARD	
158	A-3052-224-A	CHASSIS BLOCK ASSY, GEAR (INCLUDING M603)	
△ 168	X-4952-386-1	OPTICAL PICK-UP ASSY(LCX-2R)	
PM1	1-454-674-32	SOLENOID, PLUNGER	
SP1	1-529-276-21	SPEAKER (2.8cm)	
M601	8-835-666-11	MOTOR, DC SSM-01C14A (SPINDLE) (INCLUDING TURN TABLE)	
M602	1-763-399-31	MOTOR, DC (SLED) (INCLUDING GEAR)	
MIC1	1-542-445-11	MICROPHONE, ELECTRET CAP (L-CH)	
MIC2	1-542-445-11	MICROPHONE, ELECTRET CAP (R-CH)	
*****			
ACCESSORIES & PACKING MATERIALS *****			
*	1-418-915-11	REMOTE CONTROL UNIT (RM-MZB5)	
	2-283-326-01	LABEL, CAUTION (JEW)	
	3-044-622-01	POUCH, CARRYING	
	3-349-265-01	STRAP, HAND	
	3-868-000-01	MANUAL, INSTRUCTION (JEW)	
	3-868-000-11	MANUAL, INSTRUCTION (ENGLISH, SPANISH) (US,AEP)	
	3-868-000-21	MANUAL, INSTRUCTION (FRENCH, GERMAN, PORTUGUESE, ITALIAN) (AEP)	
	3-868-000-31	MANUAL, INSTRUCTION (DUTCH, SWEDISH, FINNISH, RUSSIAN) (AEP)	
	3-868-000-41	MANUAL, INSTRUCTION (ENGLISH, RUSSIAN, TRADITIONAL CHINESE, SIMPLIFIED CHINESE, KOREAN) (JEW)	
	8-953-304-90	RECEIVER MDR-E805SP (AEP,JEW)	
	8-953-733-90	HEADPHONE MDR-W034SP (US)	

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



# MZ-B50

**SONY**<sup>®</sup>

## SERVICE MANUAL

2001.03

*US Model  
Canadian Model  
AEP Model  
Tourist Model*

## SUPPLEMENT-1

File this Supplement with the Service Manual.

**Subject :**

- **CANADIAN MODEL HAS BEEN ADDED**
- **CHANGE OF BOARDS**

### • MODEL ADDETION

The Canadian model is approximately the same as the US model .

Only difference between Canadian model and US model are listed.

For other informations, please refer to the previously issued service manual (9-927-952-11) .

# MZ-B50

## • CHANGED PARTS LIST

**EXPLODED VIEWS** (Service Manual See page 55 to 57)

- Abbreviation  
CND : Canadian  
JEW : Tourist

Ref.No.	Before Change		After Change	
	Part No.	Description	Part No.	Description
1 1	A-3052-244-A	PANEL (LOWER) ASSY	A-3052-244-A A-3052-614-A	PANEL (LOWER) ASSY (AEP,JEW) PANEL (LOWER) ASSY (US,CND)
65 65	1-476-172-11	KEY BOARD UNIT	1-476-172-12 1-476-172-21	KEY BOARD UNIT (AEP,JEW) KEY BOARD UNIT (US,CND)
76 76	A-3052-243-A	PANEL (UPPER LID) SUB ASSY	A-3052-243-A A-3052-613-A	PANEL (UPPER LID) SUB ASSY (AEP,JEW) PANEL (UPPER LID) SUB ASSY (US,CND)
101 101	A-3021-349-A	MAIN BOARD, COMPLETE	A-3021-349-A *A-3021-457-A	MAIN BOARD ASSY (AEP,JEW) MAIN BOARD ASSY (US,CND)
125 125	*1-678-843-11	BATT BOARD	*1-678-843-11 *1-678-843-21	BATT BOARD (AEP,JEW) BATT BOARD (US,CND)
127 127	*1-678-844-11	DC JACK BOARD	*1-678-844-11 *1-678-844-21	DC JACK BOARD (JEW) DC JACK BOARD (US,CND,AEP)
131	*1-680-526-11	SLED CONTROL BOARD		
			1-681-817-11	GND FLEXIBLE BOARD (US,CND)

## ACCESORIES & PACKING MATERIALS (Canadian Model)

Ref.No.	Part No.	Description
	1-418-915-11	REMOTE CONTROL UNIT (RM-MZB5)
	1-543-793-11	FILTER, CLAMP (FERRITE CORE)
	3-044-622-01	POUCH, CARRYING
	3-349-265-01	STRAP, HAND
	3-868-000-14	MANUAL, INSTRUCTION (ENGLISH, FRENCH, SPANISH)
	8-953-304-90	RECEIVER MDR-E805SP

• **CHANGE OF BOARDS**

Printinted wiring boards have been changed.  
 Printed wiring board and schematic diagram of new type,  
 and changed parts list are described in this Supplement-1.  
 Refer to original service manual (9-927-952-11) previously issued for other information.

	Before Change	After Change
BATT BOARD	1-678-843-11	1-678-843-11 (AEP,JEW) 1-678-843-21 (US,CND)
DC JACK BOARD	1-678-844-11	1-678-844-11 (JEW) 1-678-844-21 (US,CND,AEP)
MAIN BOARD	1-678-842-12	1-678-842-13 (AEP,JEW) 1-678-842-21 (US,CND)
SLED CONTROL BOARD	1-680-526-11	_____

• **ELECTRICAL PARTS LIST**

**BATT** (Service Manual See page 59)

Ref.No.	Part No.	Description	Before Change	Part No.	Description	After Change
	*1-678-843-11	BATT BOARD	_____	*1-678-843-11	BATT BOARD (AEP,JEW)	
				*1-678-843-21	BATT BOARD (US,CND)	

**DC JACK** (Service Manual See page 59)

Ref.No.	Part No.	Description	Before Change	Part No.	Description	After Change
	*1-678-844-11	DC JACK BOARD	_____	*1-678-844-11	DC JACK BOARD (JEW)	
				*1-678-844-21	DC JACK BOARD (US,CND,AEP)	
D1001			_____	8-719-072-26	DIODE FS1J3-TP (US,CND,AEP)	
LF1001			_____	1-416-405-21	FILTER, CHIP EMI (COMMON MODE)(US,CND,AEP)	

**MAIN** (Service Manual See page 59 to 65)

Ref.No.	Part No.	Description	Before Change (-12)	Part No.	Description	After Change (-13,-21)
	A-3021-349-A	MAIN BOARD, COMPLETE	_____	A-3021-349-A	MAIN PC BOARD ASSY (AEP,JEW)	
				*A-3021-457-A	MAIN PC BOARD ASSY (US,CND)	
C355	1-164-878-11	CERAMIC CHIP	150PF 5% 16V	_____		
C356	1-125-777-11	CERAMIC CHIP	0.1uF 10% 10V	_____		
C601	1-131-725-91	TANTAL CHIP	47uF 20% 4V	1-131-725-91	TANTAL. CHIP 47uF 20% 4V (AEP,JEW)	
C601			_____	1-131-726-91	TANTAL. CHIP 33uF 20% 6.3V (US,CND)	
C639	1-119-923-81	CERAMIC CHIP	0.047uF 10% 10V	1-110-563-11	CERAMIC CHIP 0.068uF 10% 16V	
C640	1-119-923-81	CERAMIC CHIP	0.047uF 10% 10V	1-110-563-11	CERAMIC CHIP 0.068uF 10% 16V	
C641			_____	1-117-919-11	TANTAL. CHIP 10uF 20% 6.3V	
C642			_____	1-125-777-11	CERAMIC CHIP 0.1uF 10% 10V (US,CND)	
C814			_____	1-125-777-11	CERAMIC CHIP 0.1uF 10% 10V (US,CND)	
D604			_____	8-719-420-51	DIODE MA729	
D806			_____	8-719-422-37	DIODE MA8051	
FB144			_____	1-500-329-21	FERRITE 0uH	
FB244			_____	1-500-329-21	FERRITE 0uH	
FB307			_____	1-500-329-21	FERRITE 0uH (US,CND)	
FB308			_____	1-500-329-21	FERRITE 0uH (US,CND)	
FB309			_____	1-500-329-21	FERRITE 0uH (US,CND)	
FB333			_____	1-500-329-21	FERRITE 0uH (US,CND)	
FB351			_____	1-500-329-21	FERRITE 0uH (US,CND)	
FB503	1-414-235-22	FERRITE	0uH	1-414-235-22	FERRITE 0uH (AEP,JEW)	
FB503			_____	1-500-329-21	FERRITE 0uH (US,CND)	
FB504	1-414-235-22	FERRITE	0uH	1-414-234-22	FERRITE 0uH (AEP,JEW)	
FB504			_____	1-414-760-21	FERRITE 0uH (US,CND)	

# MZ-B50

Ref.No.	Before Change (-12)						After Change (-13,-21)					
	Part No.	Description					Part No.	Description				
FB801		_____					1-216-864-91	SHORT	0			
IC303	8-759-687-37	IC	OPA2340EA/2K5-S				8-759-641-90	IC	OPA2340EA/2K5			
IC606		_____					8-759-647-75	IC	TC7W66FK(TE85R)			
@IC801	8-752-921-16	IC	CXR701080-020GA				8-752-922-26	IC	CXR701080-021GA			
Q608		_____					8-729-928-27	TRANSISTOR	DTA144EE			
Q609		_____					8-729-230-63	TRANSISTOR	2SC4116-YG			
Q610		_____					8-729-928-27	TRANSISTOR	DTA144EE			
R144	1-216-864-11	METAL CHIP	0	5%	1/16W		_____					
R145	1-216-864-11	METAL CHIP	0	5%	1/16W		1-216-864-91	SHORT	0 (AEP,JEW)			
R244	1-216-864-11	METAL CHIP	0	5%	1/16W		_____					
R245	1-216-864-11	METAL CHIP	0	5%	1/16W		1-216-864-91	SHORT	0 (AEP,JEW)			
R333	1-216-864-11	METAL CHIP	0	5%	1/16W		1-216-864-91	SHORT	0 (AEP,JEW)			
R351	1-216-864-11	METAL CHIP	0	5%	1/16W		1-500-329-21	FERRITE	0uH (AEP,JEW)			
R508	1-218-823-11	METAL CHIP	100	0.50%	1/16W		1-218-823-11	METAL CHIP	100	0.5%	1/16W	(AEP,JEW)
R508		_____					1-218-831-11	METAL CHIP	220	0.5%	1/16W	(US,CND)
R509	1-218-839-11	METAL CHIP	470	0.50%	1/16W		1-218-839-11	METAL CHIP	470	0.5%	1/16W	(AEP,JEW)
R509		_____					1-218-847-11	METAL CHIP	1K	0.5%	1/16W	(US,CND)
R510	1-218-831-11	METAL CHIP	220	0.50%	1/16W		1-218-831-11	METAL CHIP	220	0.5%	1/16W	(AEP,JEW)
R510		_____					1-218-839-11	METAL CHIP	470	0.5%	1/16W	(US,CND)
R637		_____					1-218-965-11	RES-CHIP	10K	5%	1/16W	
R638		_____					1-218-973-11	RES-CHIP	47K	5%	1/16W	
R852		_____					1-216-864-91	SHORT	0 (US,CND)			

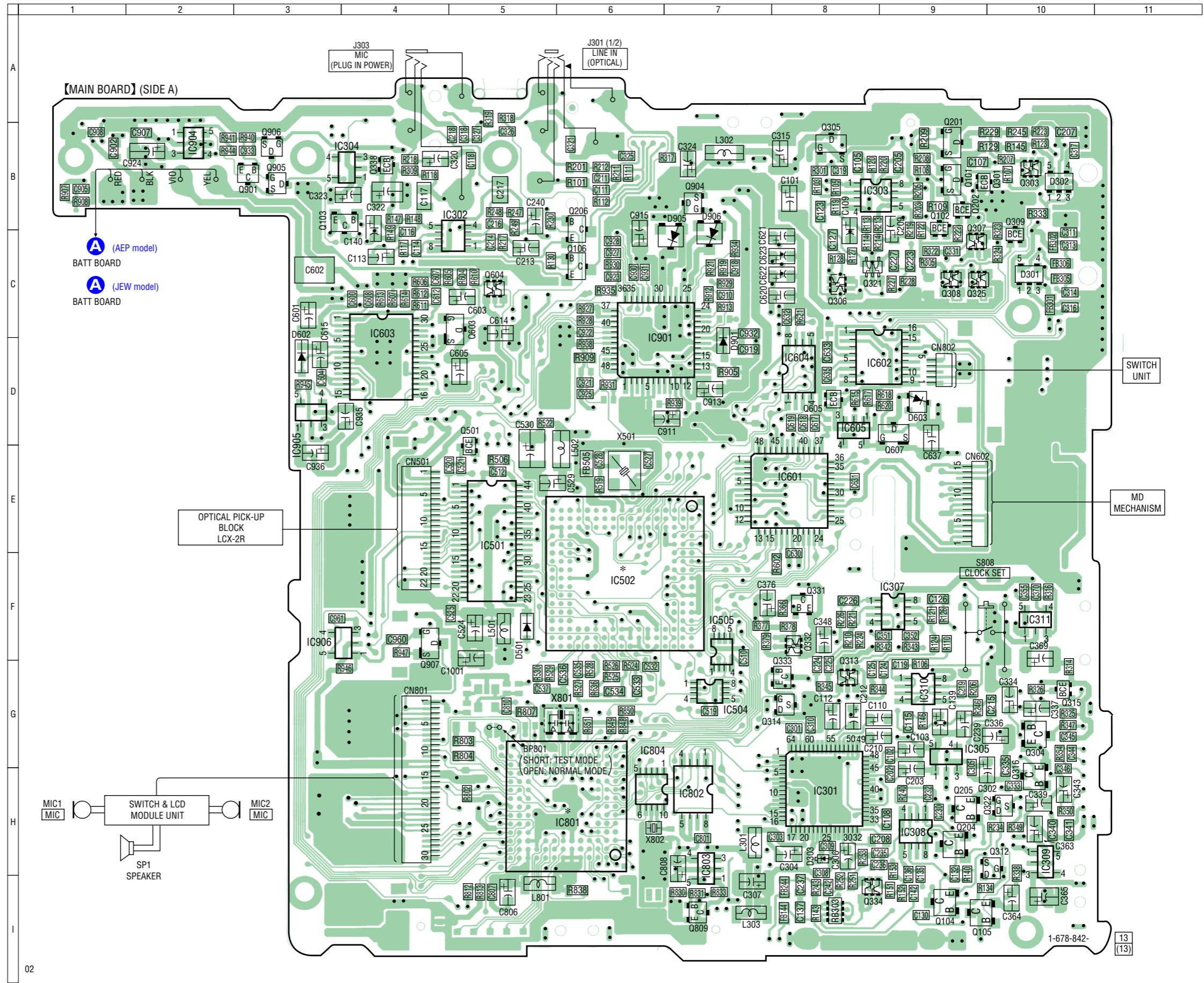
## SLED CONTROL (Service Manual See page 65)

Ref.No.	Before Change (For Main Board -12)					After Change (For Main Board -13 or -21)				
	Part No.	Description				Part No.	Description			
	*1-680-526-11	SLED CONTROL BOARD				_____				

PRINTED WIRING BOARDS – MAIN Section (1/2) – (Last digit –13: AEP, JEW MODEL)

● Semiconductor Location

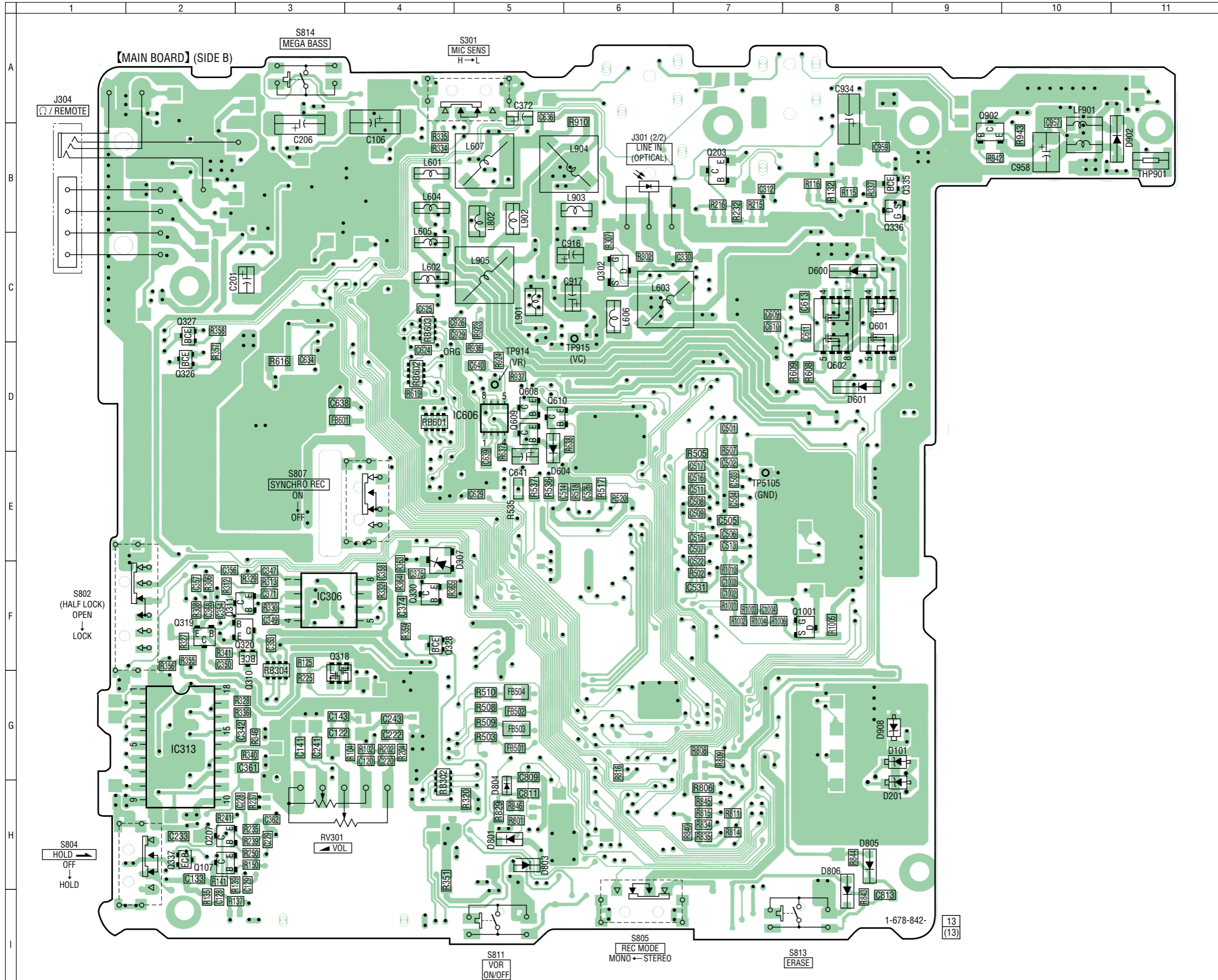
Ref. No.	Location	Ref. No.	Location
D301	C-10	Q104	I-9
D302	B-10	Q105	I-9
D303	H-8		
D501	F-5	Q106	C-6
D602	D-3	Q201	B-9
		Q202	B-9
D603	D-9	Q204	H-9
D901	D-7	Q205	H-9
D905	C-7		
D906	C-7	Q206	C-6
		Q301	B-9
		Q303	B-10
IC301	H-8	Q304	G-10
IC302	C-5	Q305	B-8
IC303	B-8		
IC304	B-4	Q306	C-8
IC305	G-9	Q307	C-9
		Q308	C-9
IC307	F-9	Q309	C-10
IC308	H-9	Q312	H-10
IC309	H-10		
IC310	G-9	Q313	G-8
IC311	F-10	Q314	G-8
		Q315	G-10
IC501	F-5	Q316	H-10
IC502	F-6	Q321	C-8
IC504	G-7		
IC505	F-7	Q322	H-10
IC601	E-8	Q325	C-9
		Q331	F-8
IC602	D-8	Q332	F-8
IC603	D-4	Q333	G-8
IC604	D-8		
IC605	D-8	Q334	I-8
IC801	H-6	Q338	B-4
		Q501	D-5
IC802	H-7	Q603	C-5
IC803	H-7	Q604	C-5
IC804	H-6		
IC901	D-6	Q605	D-8
IC904	B-2	Q607	D-9
		Q809	I-7
		Q901	B-3
IC905	D-3	Q904	B-7
IC906	F-4		
		Q905	B-3
Q101	B-9	Q906	B-3
Q102	B-9	Q907	F-4
Q103	B-4		



02

1-678-842-

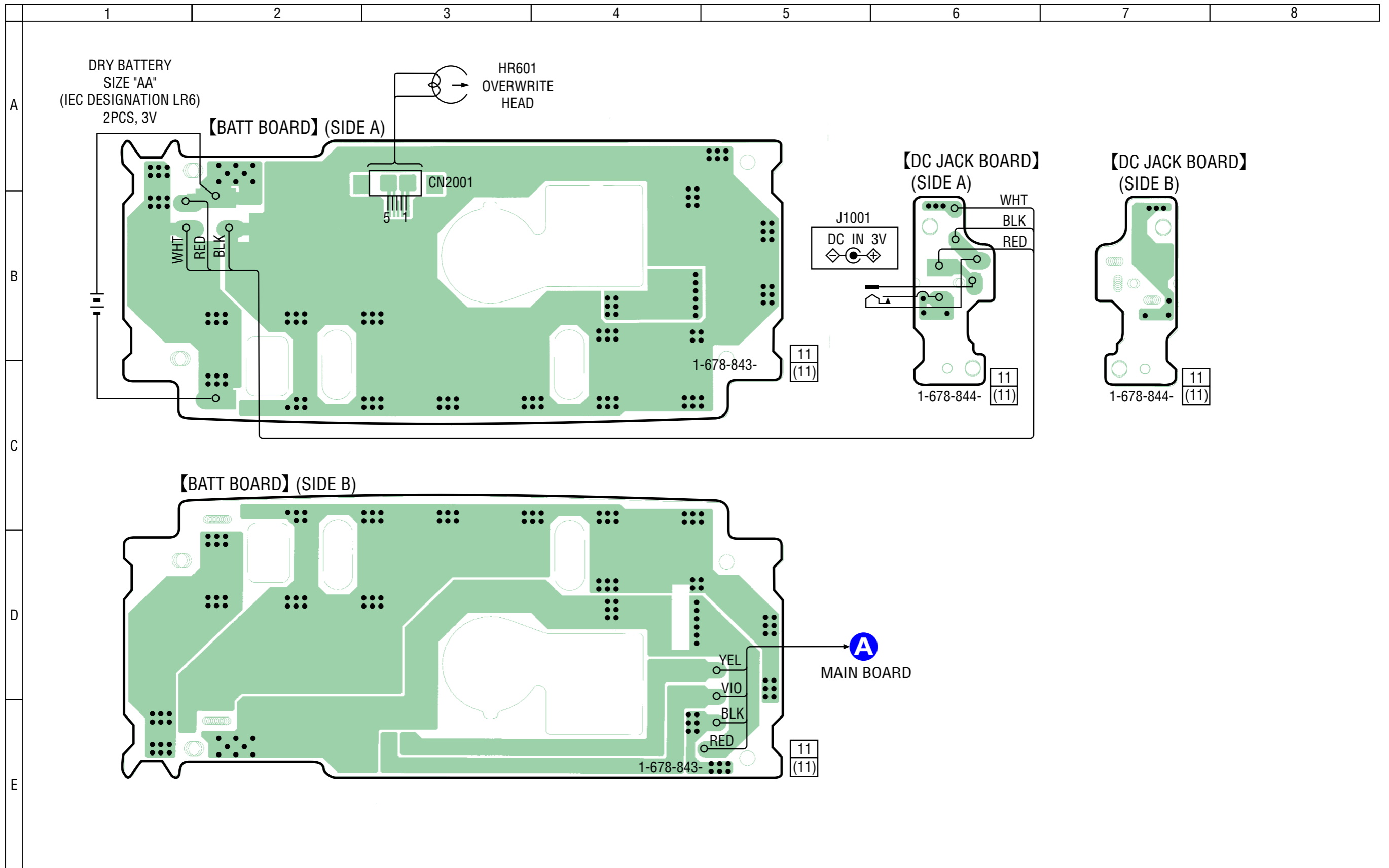
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(13)



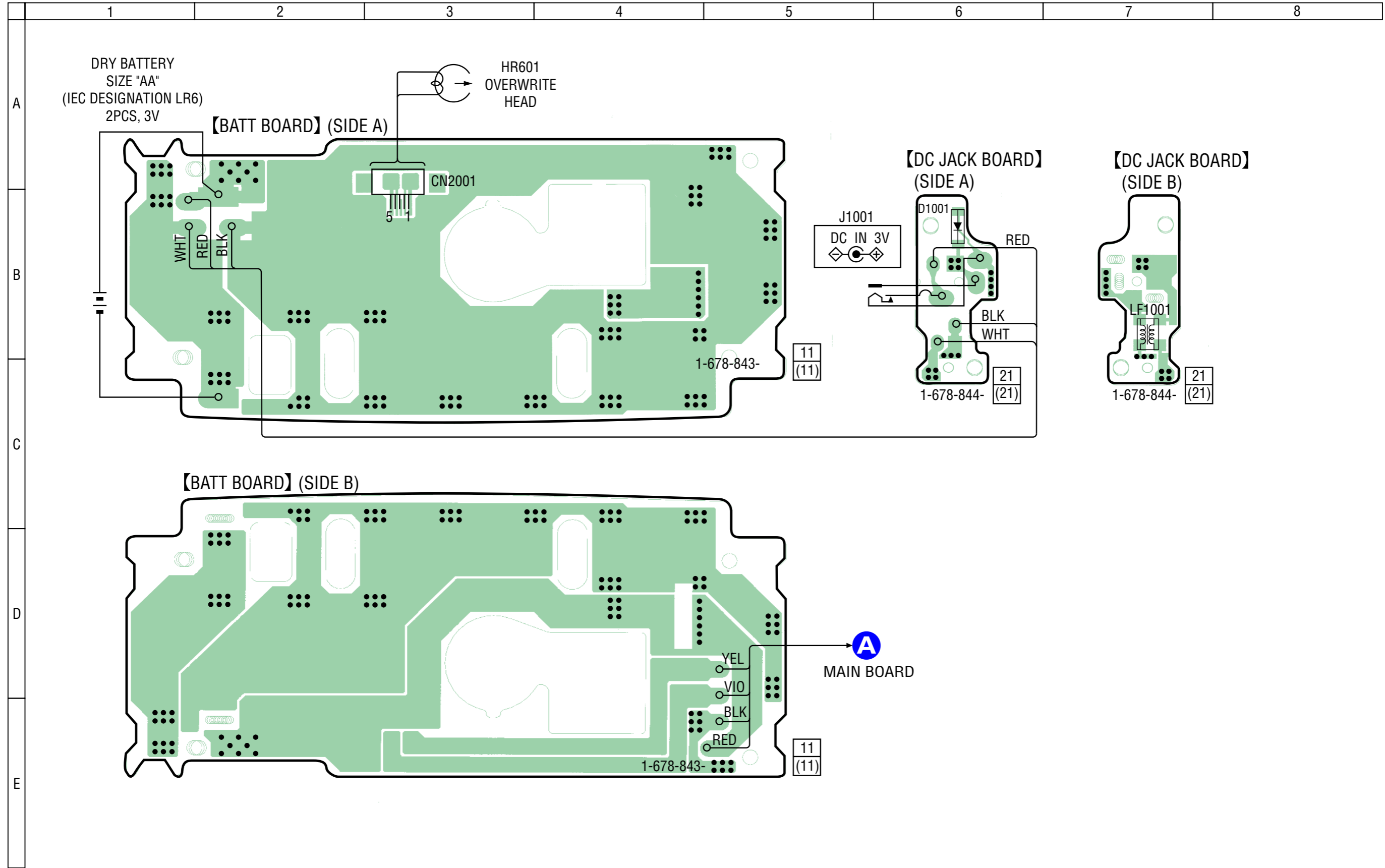
● Semiconductor Location

Ref. No.	Location
D101	G-9
D201	G-9
D307	E-4
D600	C-8
D601	D-8
D604	E-6
D801	H-5
D803	H-5
D804	H-5
D805	H-8
D806	H-8
D902	B-11
D908	G-9
IC306	F-3
IC313	G-2
IC606	D-5
Q107	H-2
Q203	B-7
Q207	H-2
Q302	C-6
Q310	F-3
Q311	F-3
Q318	G-3
Q319	F-2
Q320	F-3
Q326	D-2
Q327	C-2
Q328	F-4
Q330	F-4
Q335	B-9
Q336	B-9
Q337	H-2
Q601	C-8
Q602	C-8
Q608	D-5
Q609	D-5
Q610	D-5
Q902	B-9
Q1001	F-8

PRINTED WIRING BOARDS – BATTERY Section – (JEW MODEL)



PRINTED WIRING BOARDS – BATTERY Section – (AEP MODEL)

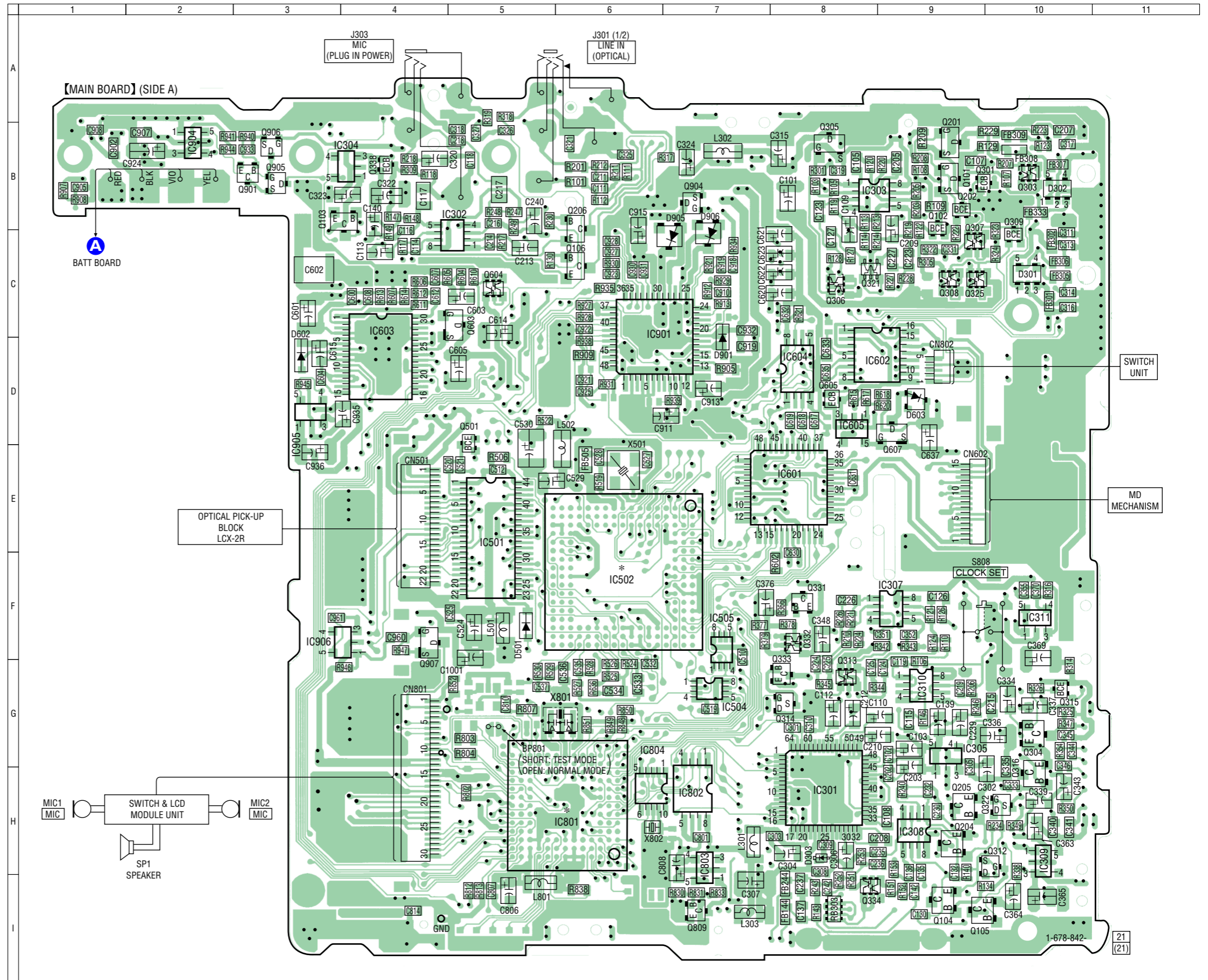


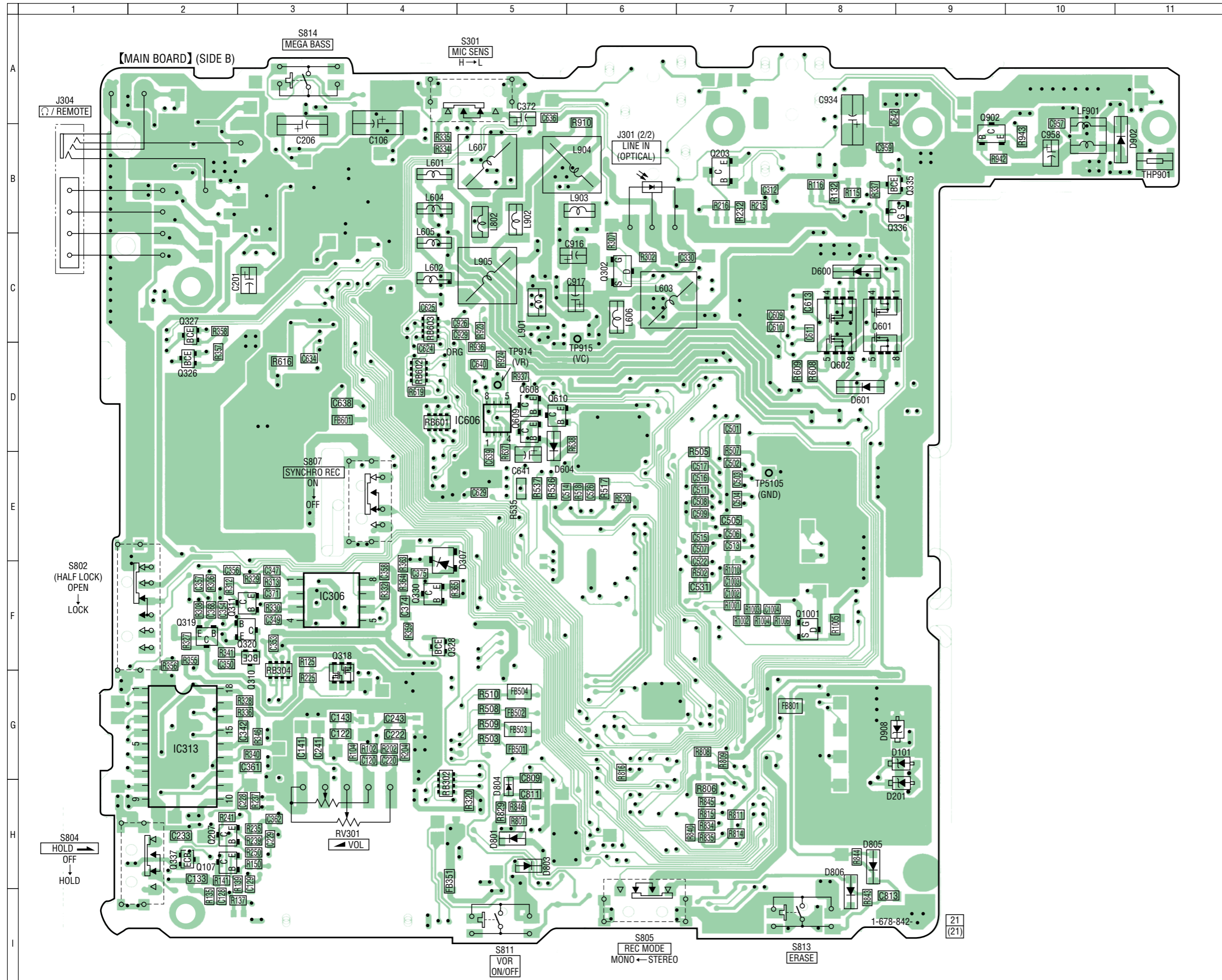


PRINTED WIRING BOARDS – MAIN Section(1/2) – (Last digit –21:US, CANADIAN MODEL)

● Semiconductor Location

Ref. No.	Location	Ref. No.	Location
D301	C-10	Q104	I-9
D302	B-10	Q105	I-9
D303	H-8		
D501	F-5	Q106	C-6
D602	D-3	Q201	B-9
		Q202	B-9
D603	D-9	Q204	H-9
D901	D-7	Q205	H-9
D905	C-7		
D906	C-7	Q206	C-6
		Q301	B-9
		Q303	B-10
IC301	H-8	Q304	G-10
IC302	C-5	Q305	B-8
IC303	B-8		
IC304	B-4	Q306	C-8
IC305	G-9	Q307	C-9
		Q308	C-9
IC307	F-9	Q309	C-10
IC308	H-9	Q312	H-10
IC309	H-10		
IC310	G-9	Q313	G-8
IC311	F-10	Q314	G-8
		Q315	G-10
IC501	F-5	Q316	H-10
IC502	F-6	Q321	C-8
IC504	G-7		
IC505	F-7	Q322	H-10
IC601	E-8	Q325	C-9
		Q331	F-8
IC602	D-8	Q332	F-8
IC603	D-4	Q333	G-8
IC604	D-8		
IC605	D-8	Q334	I-8
IC801	H-6	Q338	B-4
		Q501	D-5
IC802	H-7	Q603	C-5
IC803	H-7	Q604	C-5
IC804	H-6		
IC901	D-6	Q605	D-8
IC904	B-2	Q607	D-9
		Q809	I-7
IC905	D-3	Q901	B-3
IC906	F-4	Q904	B-7
		Q905	B-3
Q101	B-9	Q906	B-3
Q102	B-9	Q907	F-4
Q103	B-4		

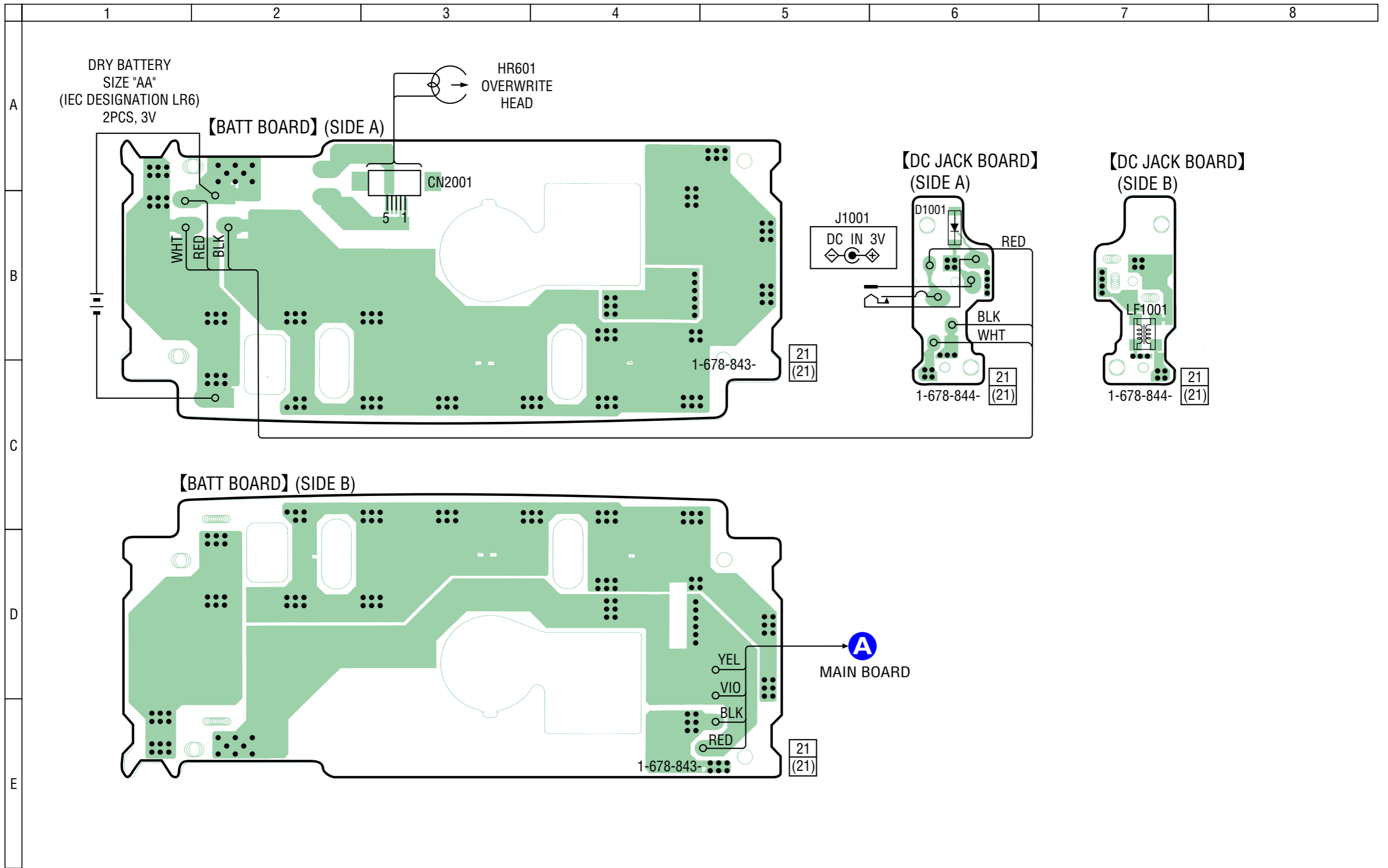


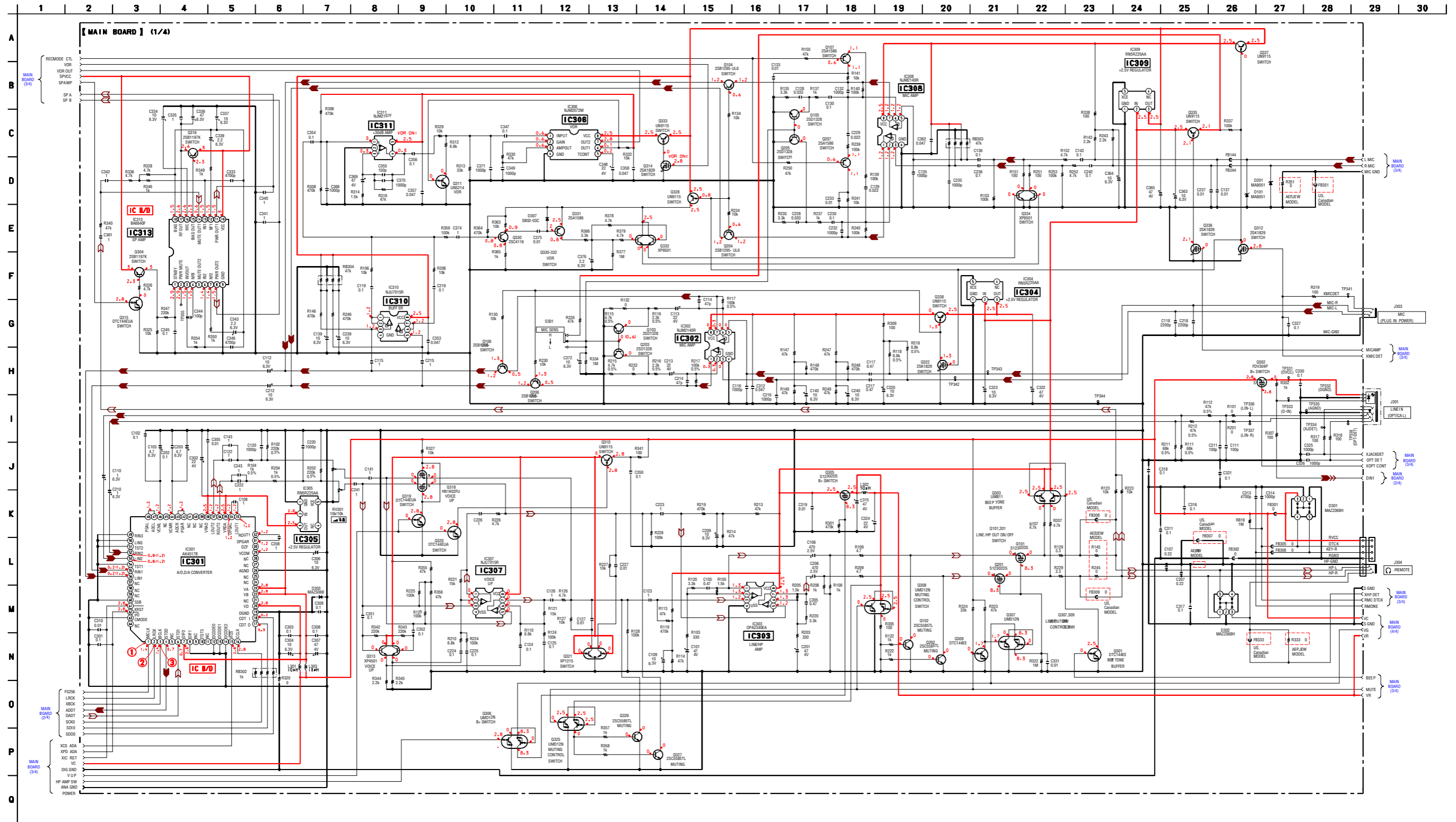


**● Semiconductor Location**

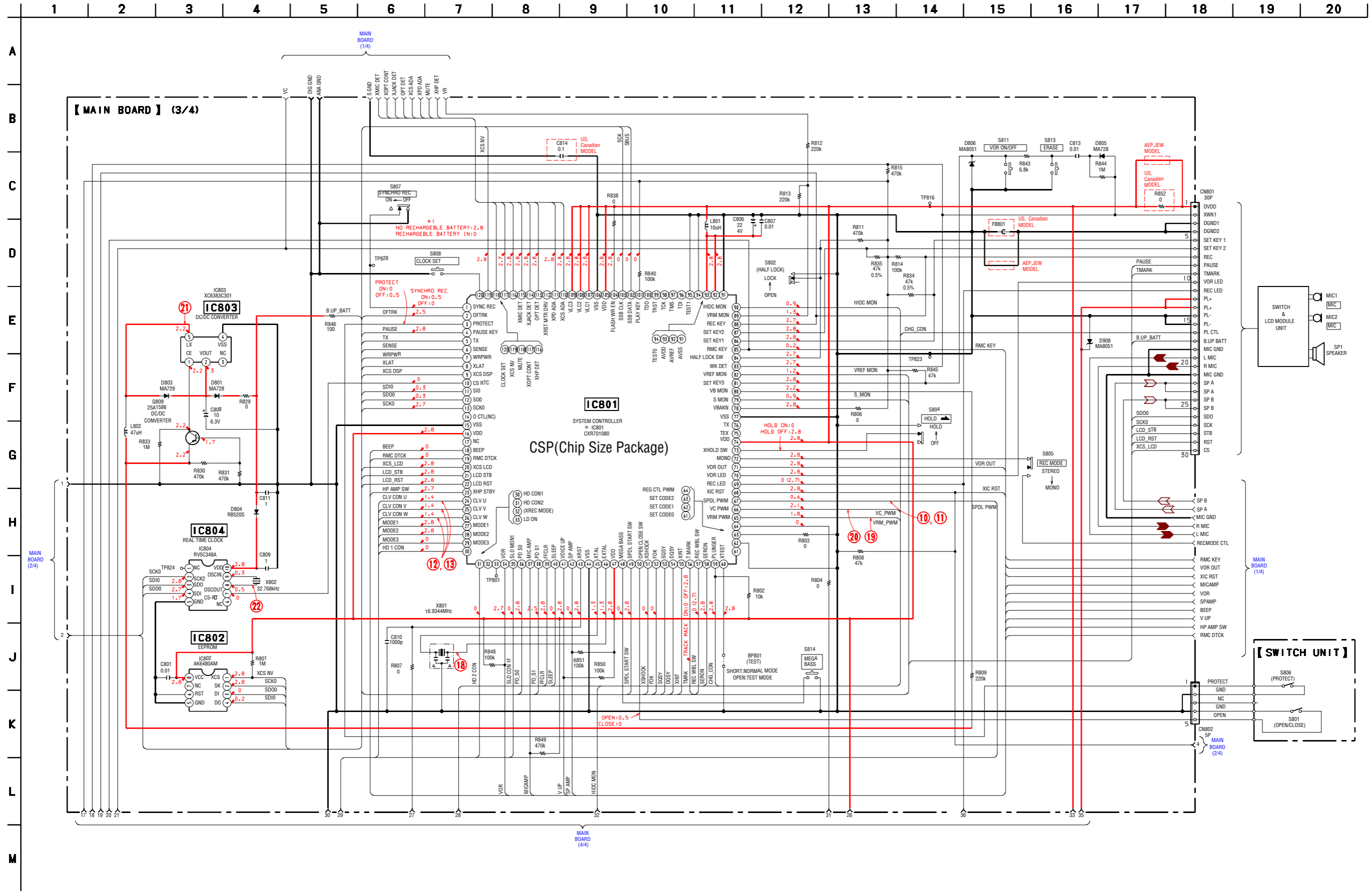
Ref. No.	Location
D101	G-9
D201	G-9
D307	E-4
D600	C-8
D601	D-8
D604	E-6
D801	H-5
D803	H-5
D804	H-5
D805	H-8
D806	H-8
D902	B-11
D908	G-9
IC306	F-3
IC313	G-2
IC606	D-5
Q107	H-2
Q203	B-7
Q207	H-2
Q302	C-6
Q310	F-3
Q311	F-3
Q318	G-3
Q319	F-2
Q320	F-3
Q326	D-2
Q327	C-2
Q328	F-4
Q330	F-4
Q335	B-9
Q336	B-9
Q337	H-2
Q601	C-8
Q602	C-8
Q608	D-5
Q609	D-5
Q610	D-5
Q902	B-9
Q1001	F-8

PRINTED WIRING BOARDS – BATTERY Section – (US,CANADIAN MODEL)









SCHEMATIC DIAGRAM – MAIN Section (4/4) – (Last digit –13, –21)

