

MZ-DH710

SERVICE MANUAL

Ver. 1.1 2010.10

US Model
Canadian Model



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Model Name Using Similar Mechanism	NEW
MD Mechanism Type	MT-MZNH900-181
Optical Pick-up Name	ABX-U

SPECIFICATIONS

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)

– Continued on next page –

PORTABLE MD PLAYER

SONY[®]

MZ-DH710

Recording and playback time

List of the recording time for each disc

When using a disc in Hi-MD mode

When transferring from the computer	Recording time ¹⁾²⁾			
Codec/Bit rate	1GB Hi-MD disc	80-minute standard disc	74-minute standard disc	60-minute standard disc
Linear PCM/1.4Mbps	1 hour and 34 minutes	28 minutes	26 minutes	21 minutes
ATRAC3plus/256kbps	7 hours and 55 minutes	2 hours and 20 minutes	2 hours and 10 minutes	1 hour and 40 minutes
ATRAC3plus/64kbps	34 hours	10 hours and 10 minutes	9 hours and 20 minutes	7 hours and 40 minutes
ATRAC3plus/ 48 kbps	45 hours	13 hours and 30 minutes	12 hours and 30 minutes	10 hours
ATRAC3/132kbps	16 hours and 30 minutes	4 hours and 50 minutes	4 hours and 30 minutes	3 hours and 40 minutes
ATRAC3/105kbps	20 hours and 40 minutes	6 hours and 10 minutes	5 hours and 40 minutes	4 hours and 40 minutes
ATRAC3/66kbps	32 hours and 40 minutes	9 hours and 50 minutes	9 hours	7 hours and 20 minutes
MP3/128kbps	17 hours	5 hours	4 hours and 30 minutes	3 hours and 30 minutes

¹⁾ Approximate time

²⁾ When transferring 4-minute tracks

When using a disc in MD mode

When transferring from the computer	Recording time ¹⁾²⁾		
Codec/Bit rate	80-minute standard disc	74-minute standard disc	60-minute standard disc
ATRAC3(stereo)/292kbps	80 minutes	74 minutes	60 minutes
ATRAC3/132, 105kbps	2 hours and 40 minutes	2 hours and 28 minutes	2 hours
ATRAC3/66kbps	5 hours and 20 minutes	4 hours and 56 minutes	4 hours

¹⁾ Approximate time

²⁾ When transferring 4-minute tracks

Revolutions

350 rpm to 3,000 rpm (CLV)

Error correction

Hi-MD:

 LDC (Long Distance Code)/BIS (Burst Indicator Subcode)

MD:

 ACIRC (Advanced Cross Interleave Reed Solomon Code)

Sampling frequency

44.1 kHz

Audio formats supported by this player

Linear PCM (44.1 kHz/16 bit)

ATRAC3plus (Adaptive TRansform Acoustic Coding 3 plus)

ATRAC3

ATRAC

MP3 (MPEG-1 Audio Layer-3/Sampling

frequency 44.1 kHz/Bit rate 32 - 320 kbps

(constant/variable bit rate))

Modulation system

Hi-MD:

 1-7RLL (Run Length Limited)/PRML (Partial Response Maximum Likelihood)

MD:

 EFM (Eight to Fourteen Modulation)

Frequency response

20 to 20,000 Hz ± 3 dB

Outputs

⌚: stereo mini-jack

Maximum output (DC)

Headphones:

 5 mW + 5 mW (16 Ω)

Power requirements

One LR6 (size AA) alkaline battery (not supplied)

Operating temperature

+5°C (+41°F) to +35°C (+95°F)

Battery operation time

Battery life¹⁾

When playing continuously in Hi-MD mode

(Unit: approx. hours) (JEITA²⁾)

Disc type	Linear PCM	Hi-SP	Hi-LP	MP3 ³⁾
1GB Hi-MD disc	9.5	16.5	19.5	19.0
60/74/80-minute standard disc	8.5	16.0	19.0	18.5

¹⁾ When using a new Sony LR6 (size AA) alkaline dry battery (produced in Japan)

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

³⁾ Tracks transferred at 128 kbps.

When playing continuously in MD mode

(Unit: approx. hours) (JEITA)

Disc type	SP	LP2	LP4
60/74/80-minute standard disc	18.0	21.5	23.5

Dimensions

Approx. 83.6 × 29.5 × 77.0 mm (w/h/d)
(3⁹/₁₆ × 1³/₁₆ × 3¹/₈ in.)(excluding projecting parts and controls)

Mass

Approx. 107 g (3.8 oz.) (the player only)

Supplied accessories

Earphones

Dedicated USB cable

CD-ROM (SonicStage/MD Simple Burner)*

Recordable disc

* Do not play a CD-ROM on an audio CD player.

Design and specifications are subject to change without notice.

Notes on chip component replacement

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

Flexible Circuit Board Repairing

- Keep the temperature of 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.

CAUTION

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

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SAFETY-RELATED COMPONENT WARNING!!

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

ATTENTION AU COMPOSANT AYANT RAPPORT À LA SÉCURITÉ!

LES COMPOSANTS IDENTIFIÉS PAR UNE MARQUE $\triangle$ SUR LES DIAGRAMMES SCHÉMATIQUES ET LA LISTE DES PIÈCES SONT CRITIQUES POUR LA SÉCURITÉ DE FONCTIONNEMENT. NE REMPLACER CES COM- POSANTS QUE PAR DES PIÈCES SONY DONT LES NUMÉROS SONT DONNÉS DANS CE MANUEL OU DANS LES SUPPLÉMENTS PUBLIÉS PAR SONY.

SECTION 1
SERVICING NOTES

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

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

NOTES ON LASER DIODE EMISSION CHECK

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

UNLEADED SOLDER

Boards requiring use of unleaded solder are printed with the lead-free mark (LF) indicating the solder contains no lead.
(Caution: Some printed circuit boards may not come printed with the lead free mark due to their particular size)

LF : LEAD FREE MARK

Unleaded solder has the following characteristics.

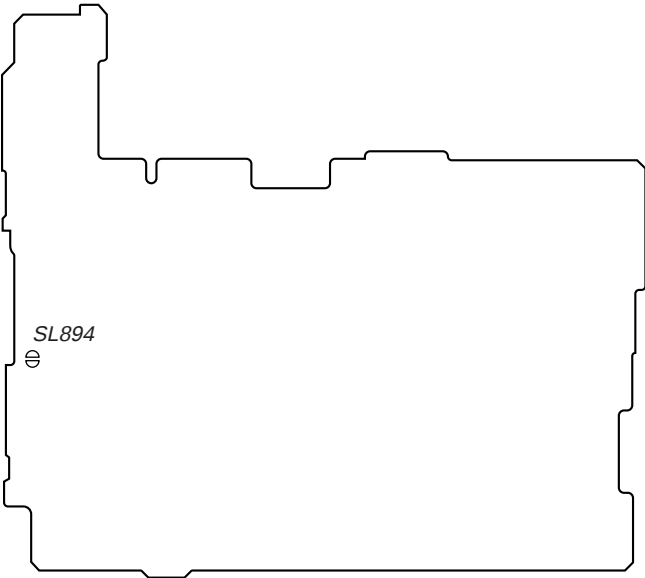
- Unleaded solder melts at a temperature about 40 °C higher than ordinary solder.
Ordinary soldering irons can be used but the iron tip has to be applied to the solder joint for a slightly longer time.
Soldering irons using a temperature regulator should be set to about 350 °C.
Caution: The printed pattern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

NOTES ON REPLACEMENT OF CSP (CHIP SIZE PACKAGE) IC
Replacement of SN761059AZQLR (IC501), SC901585VAR2 (IC601) and CXD2681-225GG (IC801) used in this set requires a special tool.

OPERATION CHECK WHEN THE MAIN BOARD IS
REMOVED

In making an operation check with the MAIN board removed from the set, short the SL894 of the MAIN board with the solder before starting the operation check.
Note: Be sure to remove the solder used for shortcircuit after the repair is completed.

– MAIN BOARD (Conductor Side) –



Providing the required system environment

System requirements

The following system environment is required in order to use the SonicStage Ver. 3.0/MD Simple Burner Ver. 2.0 software for the MD Walkman.

Computer	IBM PC/AT or Compatible • CPU: Pentium III 450 MHz or higher • Hard disk drive space: 200 MB or more (1.5 GB or more is recommended) (The amount space will vary according to Windows version and the number of music files stored on the hard disk.) • RAM: 128 MB or more Others • CD drive (capable of digital playback by WDM) (A CD-R/RW drive is necessary for CD writing) • Sound Board • USB port
Operating System	Factory installed: Windows XP Media Center Edition 2005/Windows XP Media Center Edition 2004/Windows XP Media Center Edition/Windows XP Professional/Windows XP Home Edition/Windows 2000 Professional/Windows Millennium Edition/Windows 98 Second Edition
Display	High Color (16bit) or higher, 800 × 600 dots or better (1024 × 768 dots or better is recommended)
Others	• Internet access: for Web registration, EMD services and CDDB • Windows Media Player (version 7.0 or higher) installed for playing WMA files

- This software is not supported by the following environments:
- OSs other than the indicated above
 - Personally constructed PCs or operating systems
 - An environment that is an upgrade of the original manufacturer-installed operating system
 - Multi-boot environment
 - Multi-monitor environment
 - Macintosh

Notes

- We do not ensure trouble-free operation on all computers that satisfy the system requirements.
- The NTFS format of Windows XP/Windows 2000 Professional can be used only with the standard (factory) settings.
- For Windows 2000 Professional users, install Service Pack 3 or later version before using the software.
- We do not ensure trouble-free operation of the system suspend, sleep, or hibernation function on all computers.

SECTION 2
GENERAL

This section is extracted from instruction manual.

Looking at controls

The player

1

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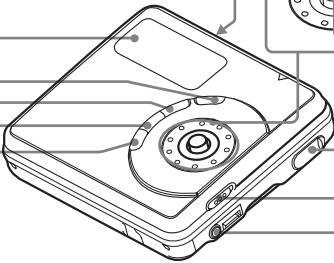
8

9

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11

12



1 OPEN switch

2 Display window

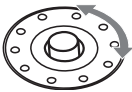
3 DOWNLOAD button
This button allows you to record music tracks from an audio CD in the CD drive of your computer to an MD Walkman using the supplied MD Simple Burner software.

4 (pause) button

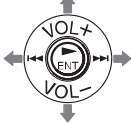
5 •SEARCH/ •MENU button
Press lightly to go to the SEARCH setting mode. Press for 2 seconds or more to go to the MENU setting mode.

6 (stop) • CANCEL button

7 Jog dial



8 5-way control key



Operation	Function
Press ENT ¹⁾	play, enter
Press towards	find the beginning of the previous track, rewind
Press towards	find the beginning of the next track, fast forward
Press towards VOL + ¹⁾ or VOL -.	volume

¹⁾ There are tactile dots beside the ENT and VOL + buttons.

9 Battery compartment (at the bottom)

10 USB cable connecting jack

11 HOLD switch
Slide the switch in the direction of the arrow to disable the buttons on the player. To prevent the buttons from being accidentally operated when you carry the player, use this function.

12 (earphones) jack

The display window of the player

1

2

3

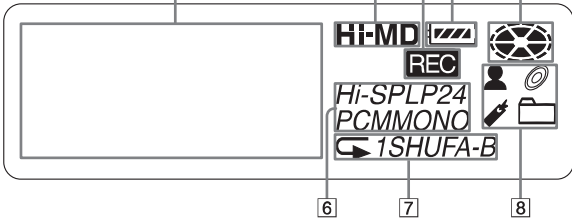
4

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1 Character information display
Displays the disc and track names, date, error messages, track numbers, etc.

2 Hi-MD/MD indication
“Hi-MD” lights up when the operation mode of the player is in Hi-MD mode and “MD” lights up when the operation mode is in MD mode.

3 REC indication
Lights up during file transfers from the computer. When flashing, the player is in record standby mode.

4 Battery indication
Shows the approximate remaining battery power. If the battery is weak, the indication becomes empty and starts flashing.

5 Disc indication
Shows that the disc is rotating for playing.

6 Track mode (PCM, Hi-SP, Hi-LP, SP, LP2, LP4, MONO) indication

7 Sub play mode/Repeat play indications
Shows the selected Sub play mode (single-track play, shuffle play, etc.) or Repeat play.

8 Main play mode indications
Shows the selected main play mode (group play, bookmark play, etc.).

5

SECTION 3
 DISASSEMBLY

- This set can be disassembled in the order shown below.

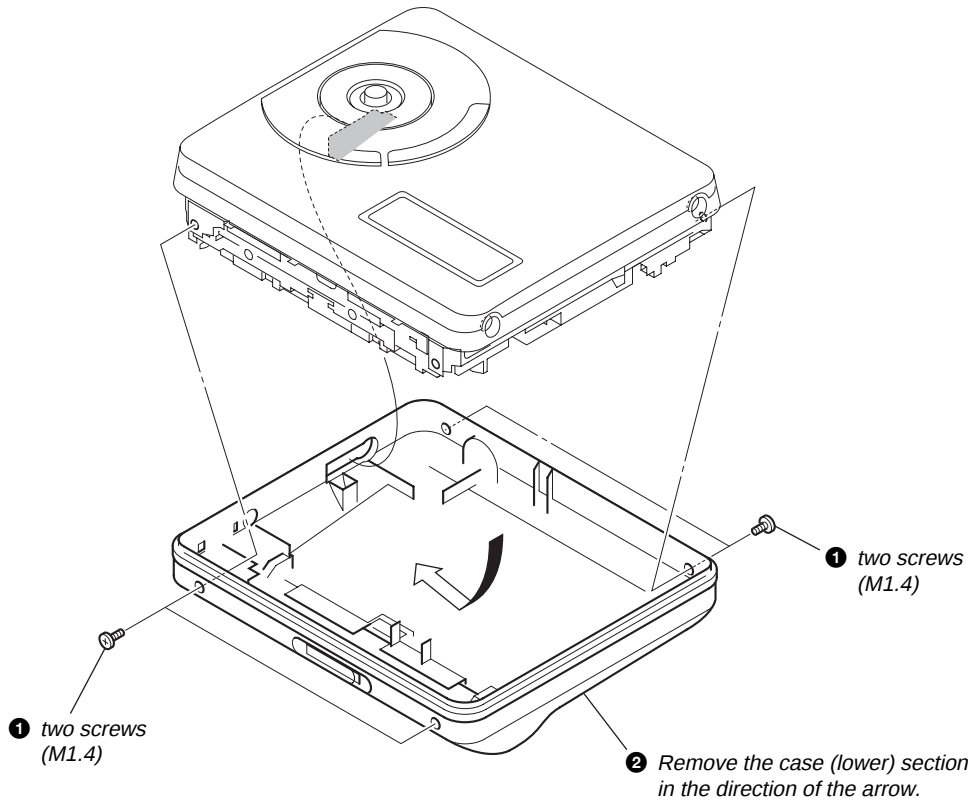
3-1. DISASSEMBLY FLOW

Note 1: The process described in  can be performed in any order.

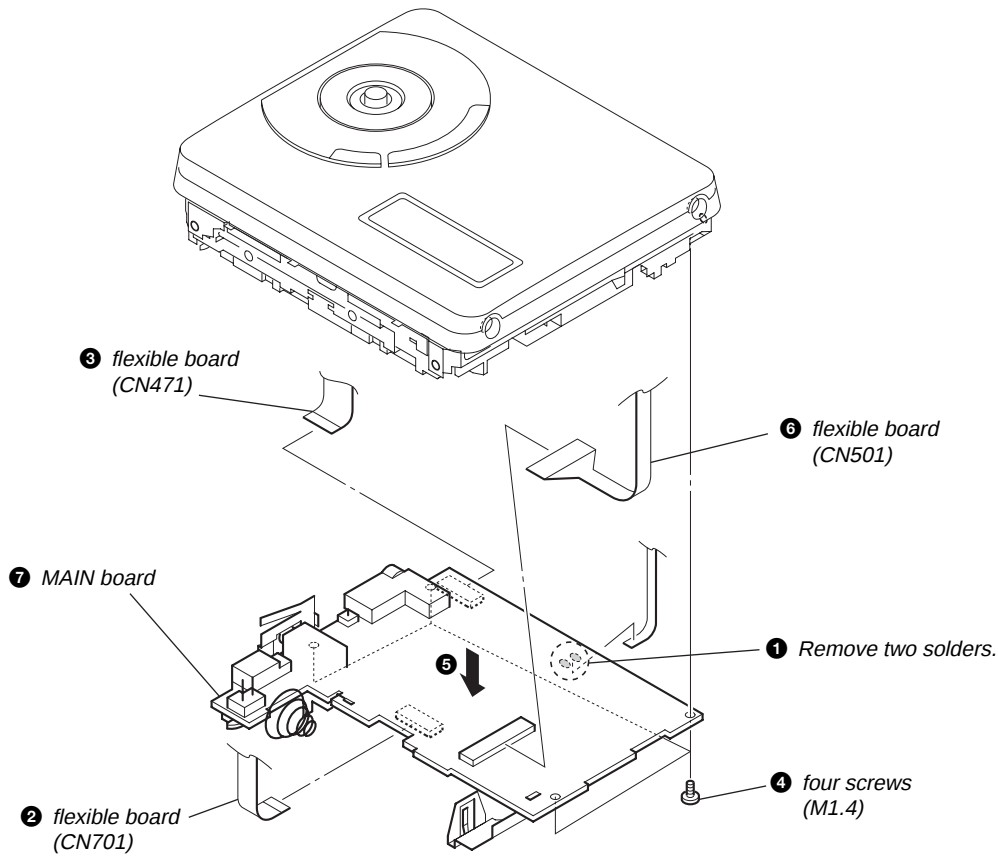
Note 2: Without completing the process described in , the next process can not be performed.



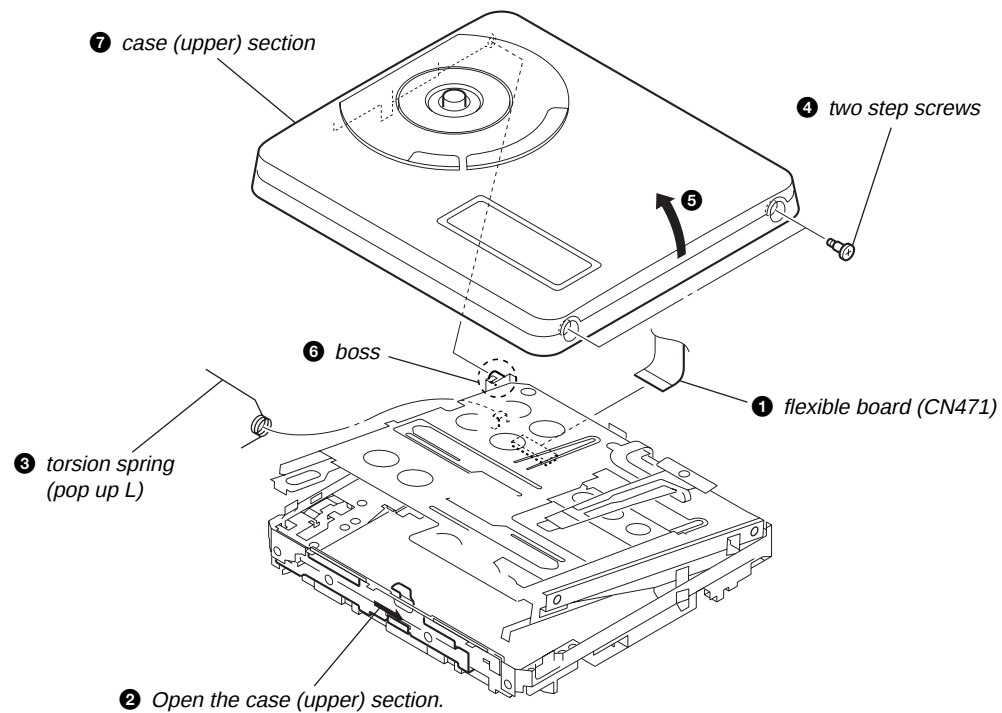
3-2. CASE (LOWER) SECTION



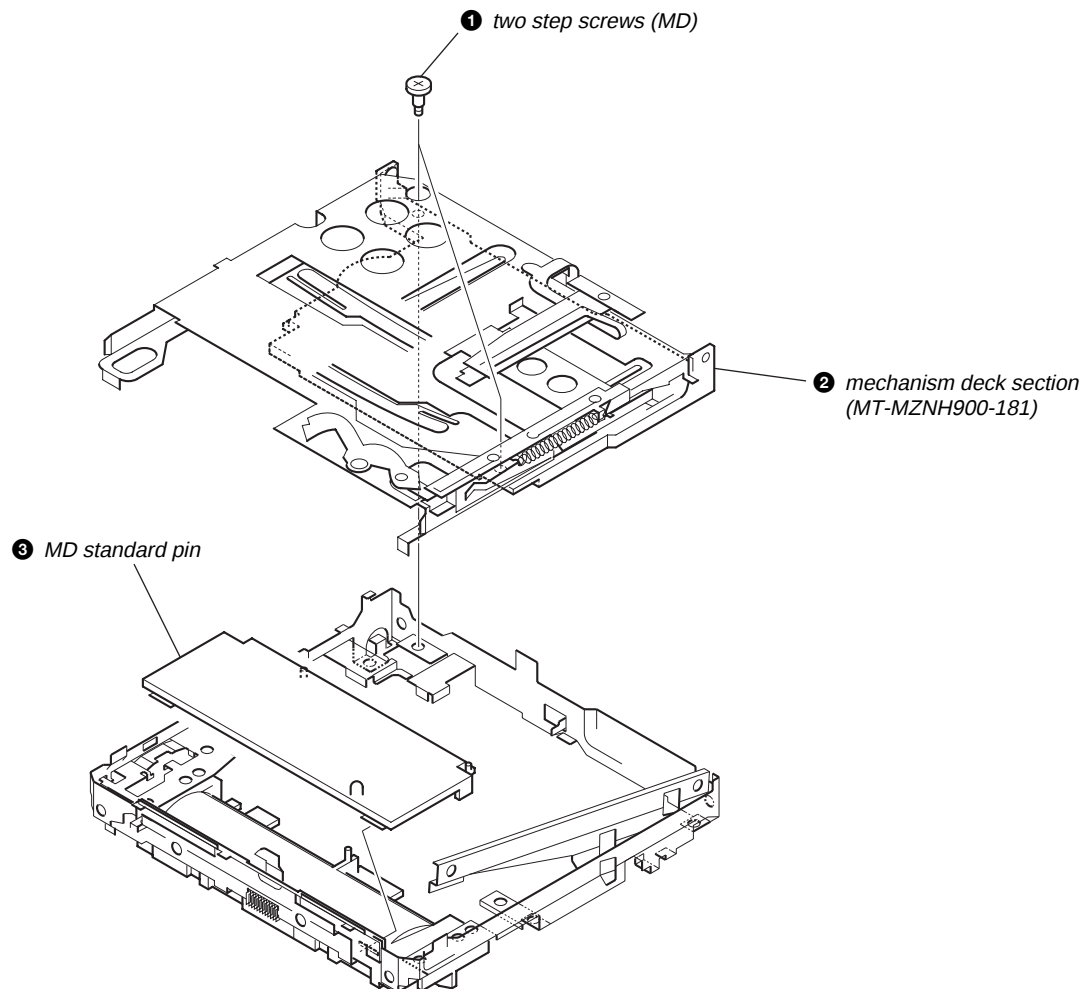
3-3. MAIN BOARD



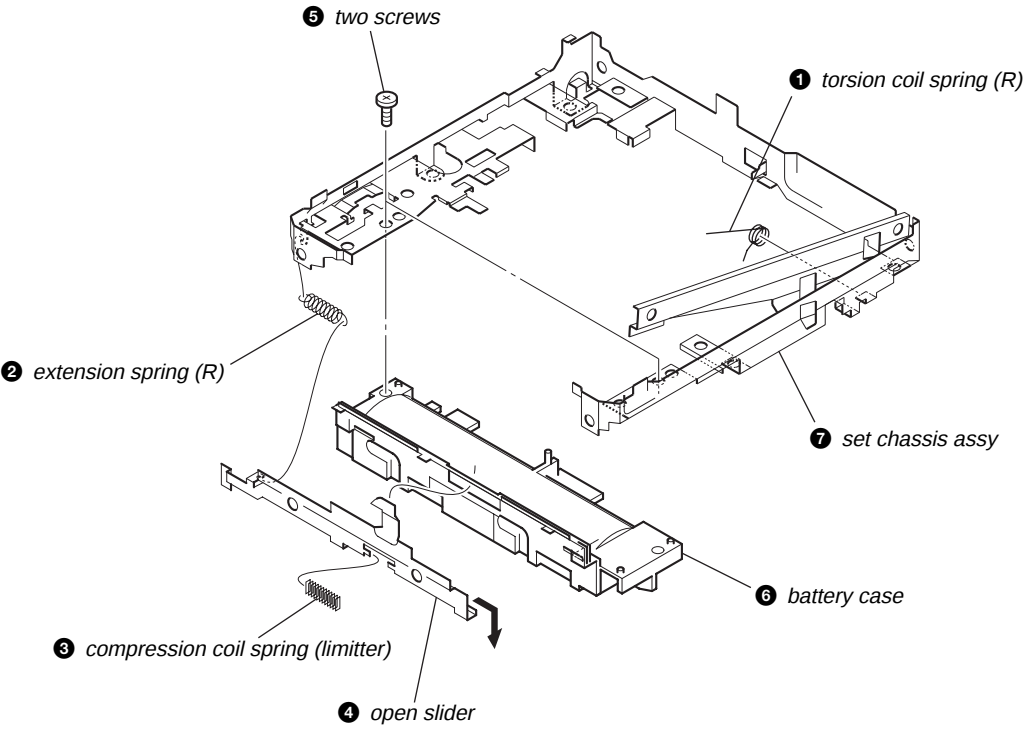
3-4. CASE (UPPER) SECTION



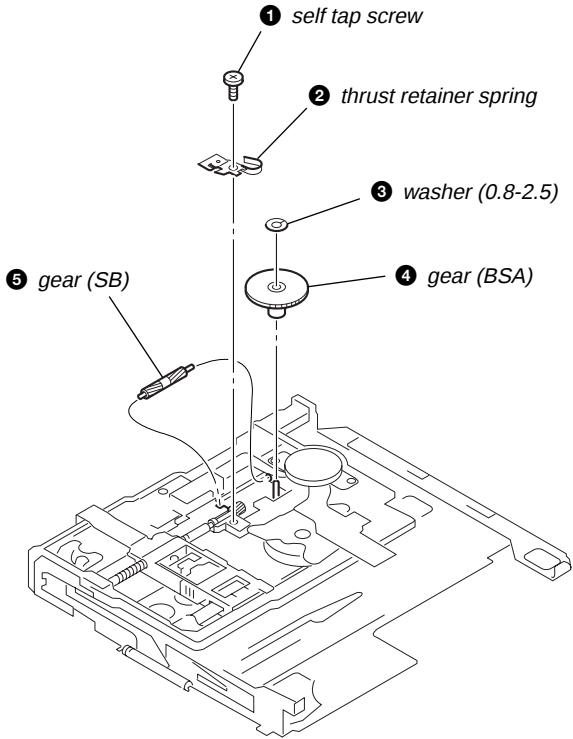
3-5. MECHANISM DECK SECTION (MT-MZNH900-181), MD STANDARD PIN



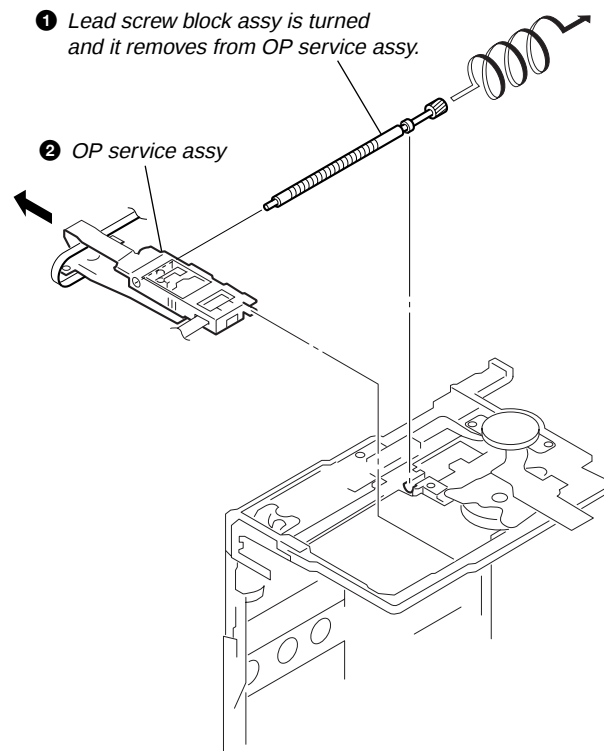
3-6. SET CHASSIS ASSY



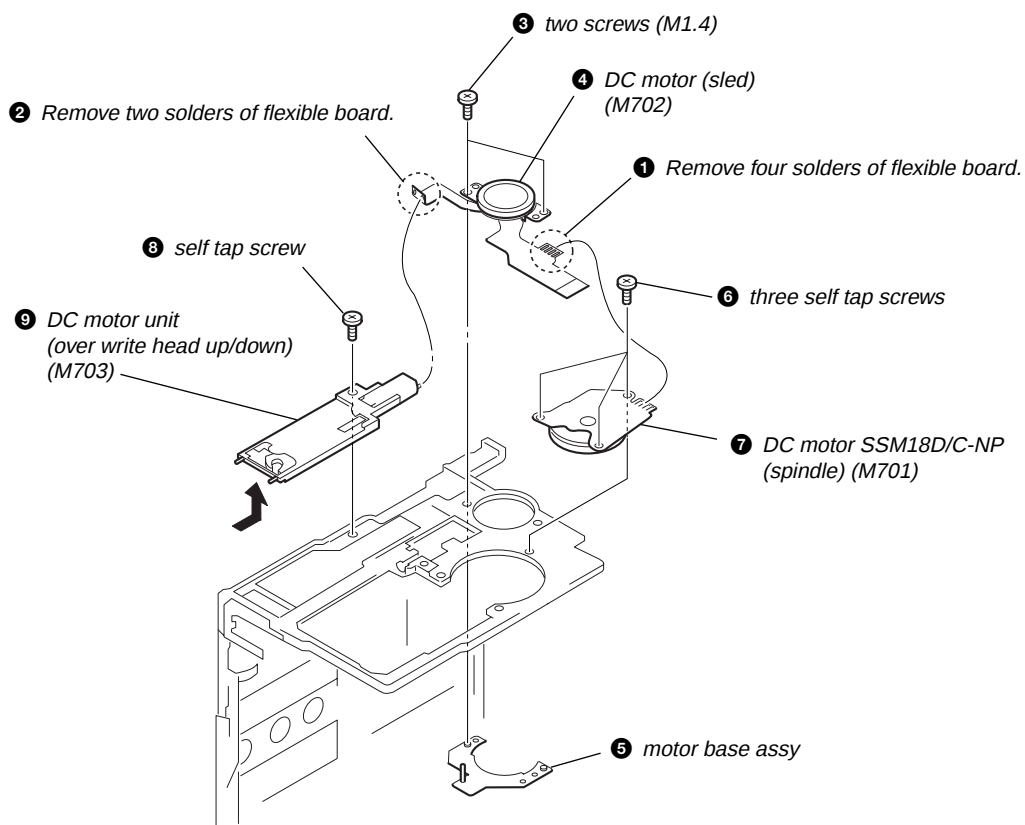
3-7. GEAR (BSA), GEAR (SB)



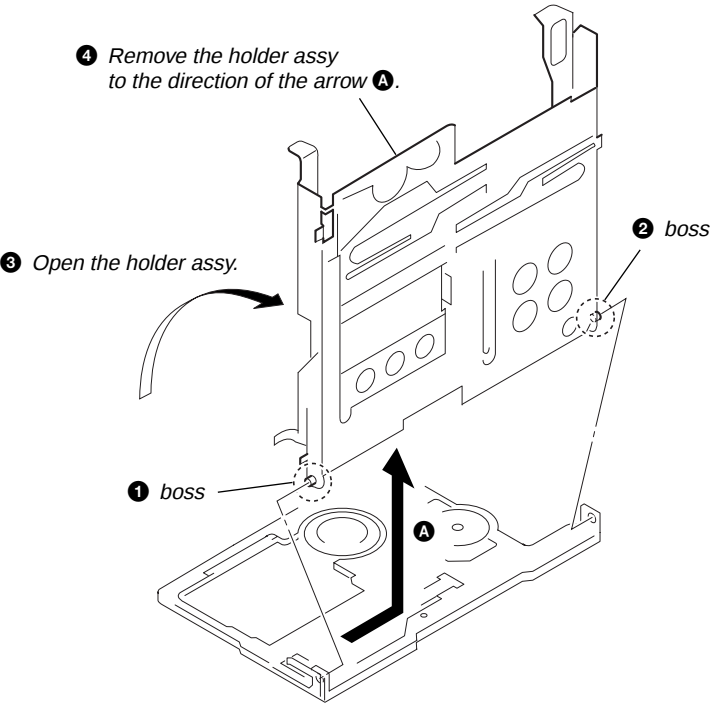
3-8. OP SERVICE ASSY



3-9. DC MOTOR SSM18D/C-NP (SPINDLE) (M701), DC MOTOR (SLED) (M702), DC MOTOR UNIT (OVER WRITE HEAD UP/DOWN) (M703)

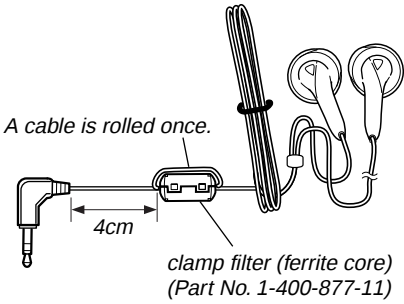


3-10. HOLDER ASSY

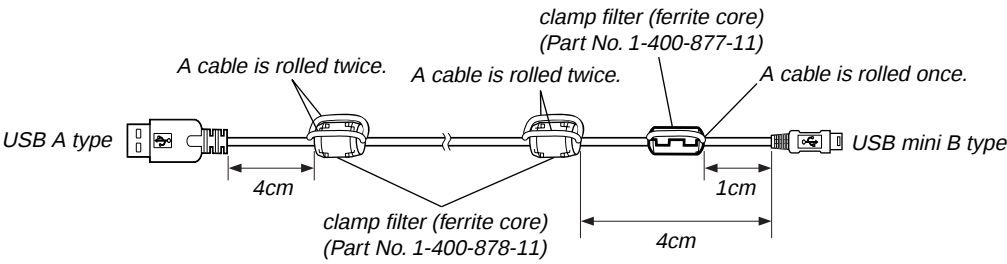


3-11. POSITION OF FERRITE CORE

-EARPHONES-



-USB CABLE-



SECTION 4
TEST MODE

OUTLINE

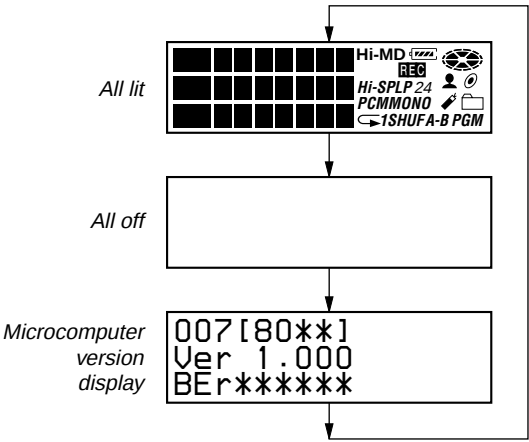
Operation in the test mode is performed with the set. A key having no particular description in the text, indicates a set key. Also, For the LCD display, the LCD on the set is shown.

1. OPERATION IN SETTING THE TEST MODE

- When the test mode becomes active, first the Display Check mode is selected.
- Other mode can be selected from the Display Check mode.
- When the test mode is set, the LCD repeats the following display.
- When the  key is pressed and hold down, the display at that time is held so that display can be checked.

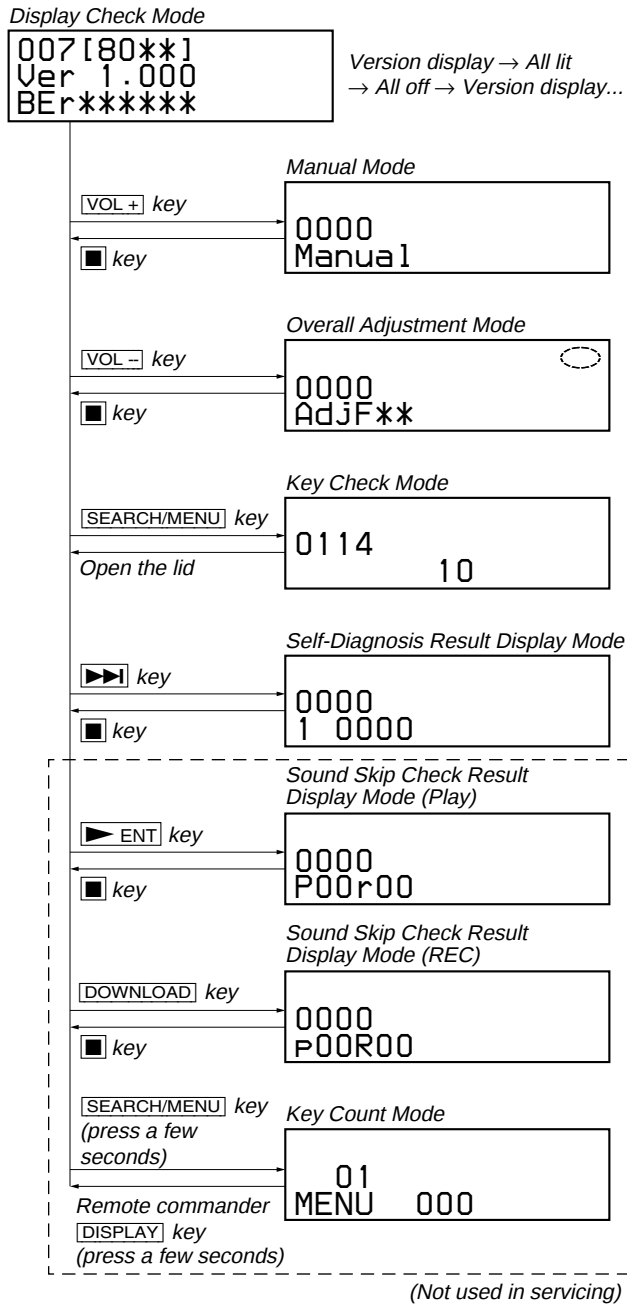
Display check mode:

Set LCD display



2. CONFIGURATION OF THE TEST MODE

Flow of the test mode:

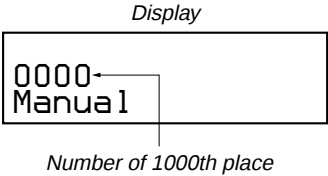


3. MANUAL MODE

This is mode to adjust or check the operation of the set by function.

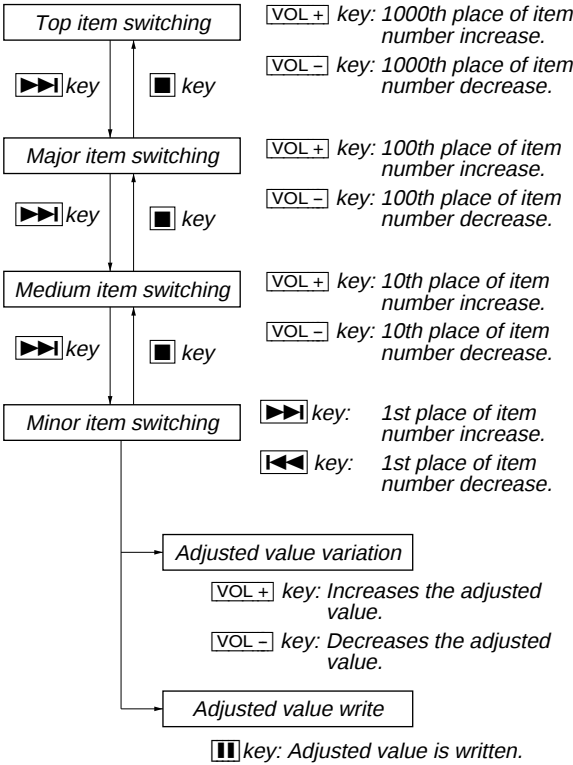
Operation of The Manual Mode

1. Enter the test mode (Display Check mode).
2. Press the [VOL+] key to activate the Manual mode where the LCD displays as shown below.

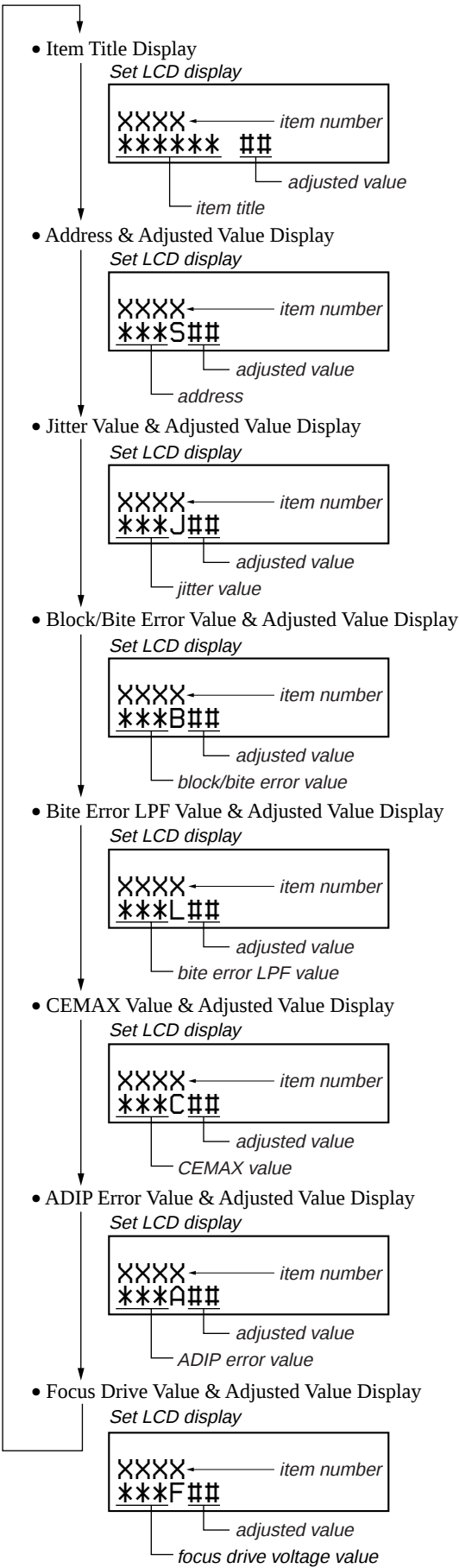


3. During Manual mode, the optical pick-up moves outward or inward while the [▶▶] or [◀◀] key is pressed for several seconds respectively.
4. Each test item is assigned with a four-digit item number; 1000th place is a top item, 100th place is a major item, 10th place is a medium item, and unit place is a minor item.

Flow of manual mode operation:



5. The display changes a shown below each time the [SEARCH/MENU] key is pressed.



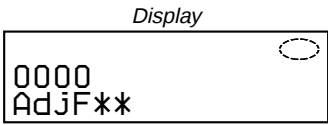
*1) It is skipped excluding the item number 5000 less than 8000.

6. To release the Manual mode, press the [] key to return to the Display Check mode.

4. OVERALL ADJUSTMENT MODE

4-1. Operation of The Overall Adjustment Mode

- 1. Enter the test mode (Display Check mode).
- 2. Press the [VOL-] key to activate the Overall Adjustment mode where the LCD displays as shown below.

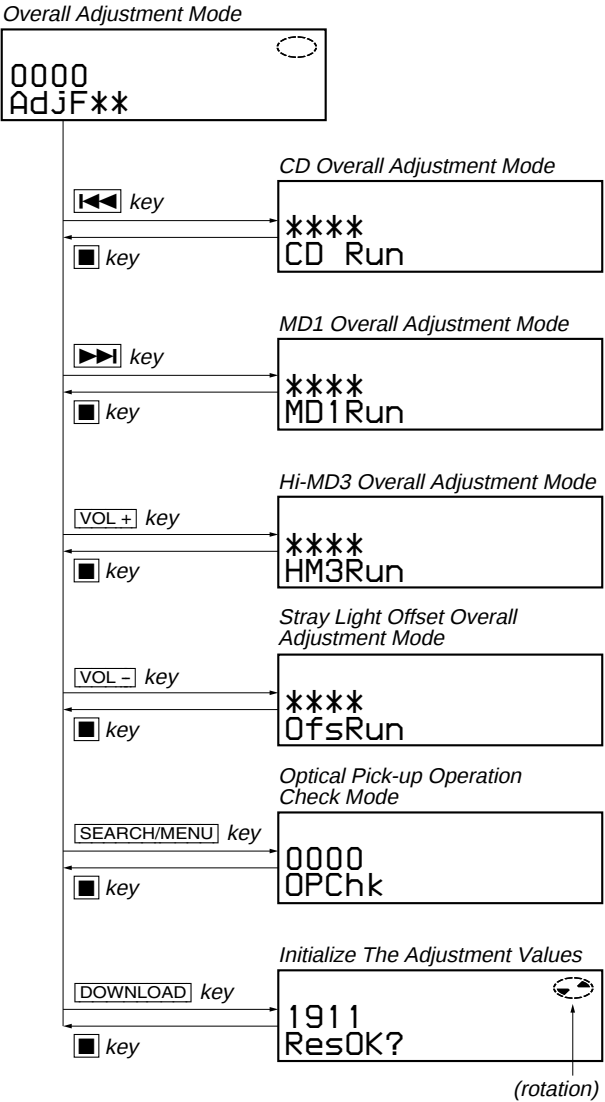


Disc mark:

- Lit the inner segments: Completed the power supply adjustment.
 - Lit the outer segments: Completed the check of charge function.
- “**”:
- If “DF” or “FF” is displayed, it mean that completed the servo overall adjustment.

- 3. To release the Overall Adjustment mode, press the [key] and return to the Display Check mode.

Flow of overall adjustment mode:



4-2. Error Message in The Overall Adjustment Mode

In the Overall Adjustment mode, if an error occurred, it displays as following table.

Display	Description
Close!	Dose not close the lid
DfDis!	Unsuitableness disc was inserted
NoChg!	Does not finish the check of charge function yet
NoTmp!	Does not setting the temperature correction value
NotCD!	Does not complete the CD Overall adjustment before the MD1 Overall adjustment
NotM1!	Does not complete the MD1 Overall adjustment before the Hi-MD3 Overall adjustment
NotH3!	Does not complete the Hi-MD3 Overall adjustment before the Stray Light Offset Overall adjustment
****NG	Error of item number “****”

5. SELF-DIAGNOSIS RESULT DISPLAY MODE

This set uses the self-diagnostic function system in which if an error occurred during the recording or playing, the mechanism control block and the power supply control block in the microcomputer detect it and record its cause as history in the nonvolatile memory. By checking this history in the test mode, you can analyze a fault and determine its location.

Total recording time is recorded as a guideline of how long the optical pick-up has been used, and by comparing it with the total recording time at the time when an error occurred in the self-diagnosis result display mode, you can determine when the error occurred.

Clear the total recording time, if the optical pick-up was replaced.

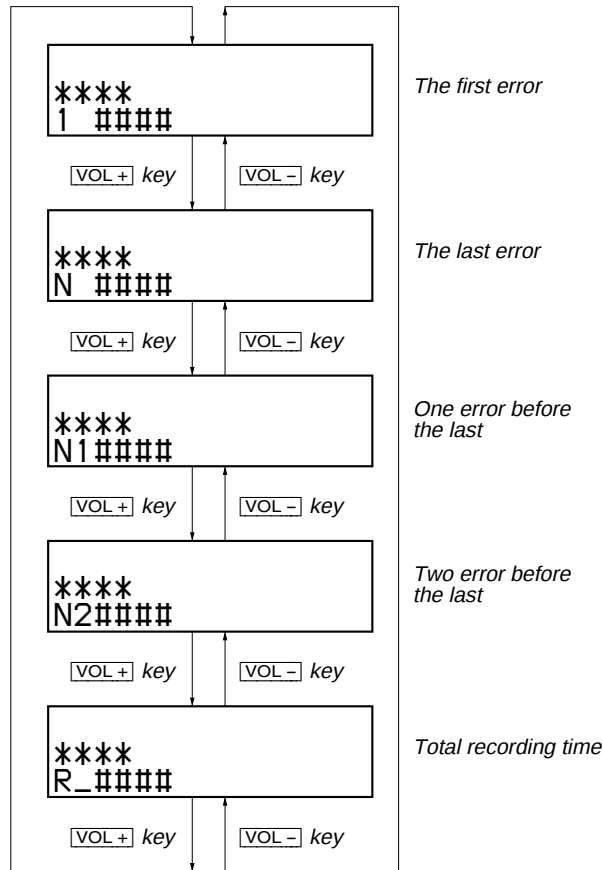
5-1. Operation of The Self-Diagnosis Result Display Mode

- 1. Enter the test mode (Display Check mode).
- 2. Press the [key] to activate the Self-Diagnosis Result Display mode where the LCD displays as shown below.



- “****” : Error display code
 - “\$\$” : Error rivision history code
 - “####” : Addition information when error occurs
- 3. To release the Self-Diagnosis Result Display mode, press the [key] and return to the Display Check mode.

Flow of Self-diagnosis Result Display mode operation:



5-2. Error Code of The Self-Diagnosis Result Display Mode

Error display code	Description
000	No error
001	Attempt to access an abnormal address
002	High temperature detected
003	Focus error (no change)
004	Abnormal rotation of disc
005	Fault of disc discriminate
006	Error of access loop (no change)
007	Error of access loop (with change)
008	Could not read address
009	Focus error (with change)
012	Could not read data with SYNC
013	TOC address data error
032	Focus error, ABCD offset error
033	Tracking error, offset error
034	X1 tracking error, Tracking error, offset error

Error display code	Addition information when error occurs
000	0000
001	Illegal cluster specified when error occurs
002 to 034	Total recording time when error occurs

5-3. Clear The Total Recording Time

After replacing the optical pick-up, clear the total recording time.

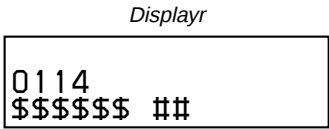
1. Enter the test mode (Display Check mode).
2. Press the **[▶▶]** key to activate the Self-Diagnosis Result Display mode.
3. Press the **[VOL-]** key once to display the total recording time indication.
4. Press the **[II]** key and display "ClrOK?".
5. Press the **[II]** key again to display "RecT 0" and clear the total recording time.

6. KEY CHECK MODE

This mode is used for key check.

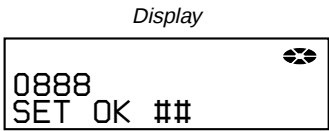
Operation of The Key Check Mode

1. Enter the test mode (Display Check mode).
2. Press the **[SEARCH/MENU]** key to activate the Key Check mode where the LCD displays as shown below.



- “\$\$\$\$\$\$” : Pressed key name.
When the jog dial is turned, it displays “JOG+ X” or “JOG- X” (“X” is number of 1 to 3). If the jog dial is turned four click, it displays “JOG+OK” or “JOG-OK”
- “##” : Key voltage of remote commander. (Hexadecimal number)

3. When all keys check is OK on the main unit, it displays as follows.



4. When all keys check are OK, it display backs to the Display Check mode automatically.
5. To release the Key Check mode, open the lid and return to the Display check mode.

SECTION 5 ELECTRICAL ADJUSTMENTS

1. PRECAUTIONS FOR ADJUSTMENT

1. Adjustment must be done in the test mode only. After adjusting, release the test mode. A key having no particular description in the text, indicates a set key. Also, for the LCD display, the LCD on the set is shown.
2. Use the following tools and measuring instruments.
 - Digital multi meter
 - Regulated dc power supply (two sets)
 - Thermometer
 - Laser power meter
 - CD adjustment disc TDYS-1 (Part No. : 4-963-646-01)
 - MD1/HiMD1 hybrid adjustment disc MDW-74/GA2 (Part No. : J-2503-022-A)
 - Hi-MD3 adjustment disc HMD1GSDJ (Part No. : 8-892-388-38) *1

*1) Hi-MD3 adjustment disc (HMD1GSDJ) is consumable. Therefore if it is used 400 times, exchange it for a new.

2. ADJUSTMENT SEQUENCE

Adjustment must be done with the following order.

Adjustment order:

1. Entering the test mode
- Note:** Enter the test mode with a key.
2. Initialize the adjustment value
3. Setting the temperature correction value
4. Power supply voltage adjustment
5. Laser power check
6. Setting the adjustment values
7. Servo Overall adjustment
8. Resume clear
9. Releasing the test mode

3. ADJUSTMENT OF THE EACH ITEM

3-1. Initialize The Adjustment Value

Procedure:

1. In the test mode (Display Check mode), press the [VOL-] key to enter the Overall adjustment mode.
2. Press the [DOWNLOAD] key and display "911 ResOK?".
3. Press the [II] key to display "911 Reset!" and initialize the adjustment values.
4. Press the [■] key and back to Display Check mode.

3-2. Setting The Temperature Correction Value

Procedure:

1. Enter the test mode (Display Check mode).
2. Press the [VOL+] key to enter the Manual mode.
3. Press the [▶▶] key twice, and press the [VOL+] key twice to display as follows.

Display

0130
Temp

4. Press the [▶▶] key once to select the item number 0131 and display as follows.

Display

0131
###S**

adjustment value (hexadecimal)

5. Measure the ambient temperature.
6. Adjust with [VOL+]/[VOL-] keys so that the adjusted value (hexadecimal value) becomes the ambient temperature. (example: 25 °C = 19h)
7. Press the [II] to write the adjusted value.
8. Press the [■] key four times and back to the Display Check mode.

3-3. Power Supply Voltage Adjustment

Adjustment must be done with the following order.

3-3-1. Setting

Procedure:

1. Apply the voltage of 1.2 V to the battery terminals, and enter the test mode (Display Check mode).
2. Press the [VOL+] key to enter the Manual mode.
3. Press the [VOL+] key twice to display as follows.

Display

2000
POWER

4. Press the [▶▶] key once, press the [VOL+] key once, and press the [▶▶] key once again to display as follows.

Display

2210
PwrAdj

5. Repeat the next procedures (3-3-2. PwrAdj Adjustments), and adjust all contents of "table 3-3-1. PwrAdj Specifications".

3-3-2. PwrAdj adjustments

Repeat the following procedures and adjust all contents of "table 3-3-1. PwrAdj Specifications".

Example Display (Item No. 2211)

2211
**

adjustment value (hexadecimal)

Procedure:

1. Connect the digital multi meter to measuring point (refer to the following table) and CL433 (GND).
2. Press the [▶▶] key to change the item numberr to 2211.
3. Adjust with [VOL+]/[VOL-] keys so that the value of digital multi meter becomes specification value.
4. Press the [II] key to write the adjusted value. (Shifts to the next item automatically)
5. Repeat adjustment from step 3 until item number 2233.

ItemNo.	Display	Specification value	Measuring point
2211	211 VC1 **	2.05V + 0.02V	CL8027
2212	212 VC1H N **	2.25V ± 0.01V	CL8027
2213	213 VC2 **	1.20V + 0.01V	CL8001
2214	214 DDC3 L **	3.10V ± 0.015V	CL658
2215	215 DDC3 H **	3.10V ± 0.015V	CL658
2216	216 REG1 L **	3.02V ± 0.02V	CL919
2217	217 REG1 H **	3.02V ± 0.02V	CL919
2218	218 REG2 1 **	2.275V ± 0.01V	CL921
2219	219 REG2 2 **	2.480V ± 0.01V	CL921
2221	221 REG2 3 **	2.740V ± 0.01V	CL921
2222	222 REG2 4 **	2.985V ± 0.01V	CL921
2223	223 REG3 **	2.52V ± 0.02V	CL931
2224	224 VREC 1 **	0.89V ± 0.02V	CL604
2225	225 VREC 2 **	1.08V ± 0.02V	CL604
2226	226 VREC 3 **	1.52V ± 0.02V	CL604
2227	227 VREC 4 **	2.27V ± 0.02V	CL604
2228	228 VREC 5 **	2.97V ± 0.02V	CL604
2229	229 VREC 6 **	0.94V ± 0.02V	CL604
2231	231 VREC 7 **	1.28V ± 0.02V	CL604
2232	232 VREC 8 **	2.57V ± 0.02V	CL604
2233	233 VREC 9 **	2.57V ± 0.02V	CL604

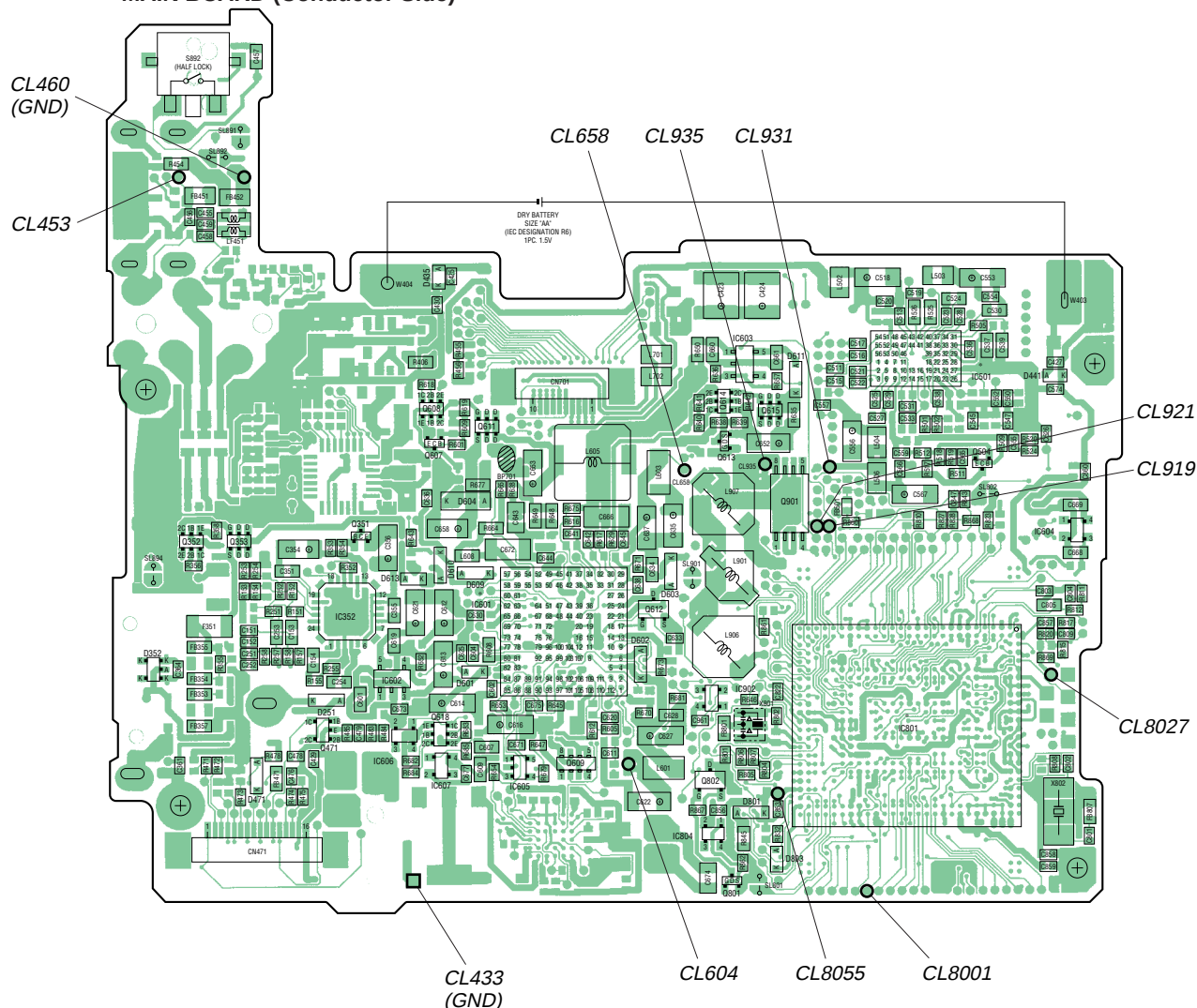
Note1: “**” is adjustment value (hexadecimal number).

Note2: Ground point of all measuring points is CL433.

Table 3-3-1. PwrAdj Specifications

Adjustment Location:

– MAIN BOARD (Conductor Side) –



3-3-3. VBsAdj adjustments

Procedure:

1. In the “3-3-2. PwrAdj Adjustments” completed status, display as follows.

Display

2240
VBsAdj

2. Apply the voltage of 5 V to the CL453 and CL460 (GND).
3. Press the **▶▶** key to change the item number to 2241.
4. Adjust with **[VOL+]/[VOL-]** keys so that the value of digital multi meter becomes specification value. (Refer to “table 3-3-2. VBsAdj Specifications”)
5. Press the **■** key to write the adjusted value.
6. Repeat adjustments to item number 2243 at the same manner as step 4 to step 5.

ItemNo.	Display	Specification value	Measuring point
2241	241 REG4 **	1.13 V ± 0.01 V	CL8001
2242	242 REG5 **	2.05 V + 0.02 V	CL8027
2243	243 REG6 **	3.30 V ± 0.01 V	CL8055

Note1: “**” is adjustment value (hexadecimal number).

Note2: Ground point of all adjustment points is CL433.

Table 3-3-2. VBsAdj Specifications

7. Select the item number 2244, and turn off the power supply of battery terminal.
8. Press the **▶▶** key to select the item number 2245.
9. Adjust with **[VOL+]/[VOL-]** keys so that the voltage of between CL935 and CL433 (GND) becomes 1.80 V (− 0.02 V).
10. Apply the voltage of 1.2 V to the battery terminal again.
11. Turn off the voltage of 5 V to the CL453 and CL460 (GND).
12. Press the **■** key three times and back to the Display Check mode.

3-4. Laser Power Check

Procedure:

1. Enter the test mode (Display Check mode).
2. Press the **[VOL+]** key to enter the Manual mode.
3. Open the lid and press the **◀◀** key continuously until the optical pick-up moves to the most inward track.
4. Press the **[VOL-]** key once to display as follows.

Display

9000
DESIGN

5. Press the **▶▶** key three times to select the item number 9111 and display as follows.

Display

9111
LrefPw **

6. Set the laser power meter so that the laser beam from the optical pick-up aims at the objective lens of laser power meter at right angle. (Confirm it with the disc not inserted)
7. Confirm that the value of laser power meter is 0.860 mW ± 19.2%.
8. Press the **▶▶** key to select the item number 9112.
9. Confirm that the value of laser power meter is 0.763 mW ± 18.2%.
10. Press the **▶▶** key to select the item number 9113.
11. Confirm that the value of laser power meter is 6.87 mW ± 12%.
12. Press the **■** key four times and back to the Display Check mode.

3-5. Setting The Adjustment Values

3-5-1. Hi-MD3 setting

Preparation:

1. Perform calculation every item based on the data given by the Hi-MD3 adjustment disc by referring to the following table. (Round off the value in decimal place)
2. Convert the calculated value into hexadecimal number.

Note: The Hi-MD3 adjustment parameters vary depending on the disc, and therefore use the parameters of the disc used when performing the adjustment.

Item No.	Calculating formula (*3)
0211 (*1)	Pr_nominal / 0.05
	Por / 0.05
0212	Kr × (−100)
0213 (*2)	Pw_nominal / 0.05
	Ppw / 0.05
0214	Kw × (−100)
0215	Prmin / 0.05
0216	Pwmin / 0.05

- *1) If the “Pr_nominal” value is indicated, use the “Pr_nominal” value and not used “Por” value.
- *2) If the “Pw_nominal” value is indicated, use the “Pw_nominal” value and not used “Ppw” value.
- *3) Round off after the decimal point.

Table 3-5-1. Hi-MD3 adjustment parameter

Example of Calculation:

Item No.	Parameter		Result	
			Decimal	Hexadecimal
0211	Pr_nominal	2.48 mW	50	32h
0212	Kr	−0.3 %/°C	30	1Eh
0213	Pw_nominal	7.35 mW	147	93h
0214	Kw	−0.4 %/°C	40	28h
0215	Prmin	1.9 mW	38	26h
0216	Pwmin	5.8 mW	116	74h

Procedure:

1. Enter the test mode (Display Check mode).
2. Press the **[VOL+]** key to enter the Manual mode.
3. Press the **▶▶** key once, press the **[VOL+]** key once, and press the **▶▶** key once again to display as follows.

Display

0210
DiscPr

4. Press the **▶▶** key once to select the item number 0211.
5. Adjust with **[VOL+]/[VOL-]** keys so that the adjustment value of LCD becomes calculated value.
6. Press the **||** key to write the adjusted value.
7. Press the **▶▶** key to next item.
8. Repeat adjustment from step 4 until item number 0216.

3-5-2. Destination setting

Procedure:

1. Enter the test mode (Display Check mode).
2. Press the **[VOL+]** key to enter the Manual mode.
3. Press the **▶▶** key five time to select the item number 0113 and display as follows.

Display

0113
DistFL **

adjustment value (hexadecimal)

4. Press the **[VOL+]/[VOL-]** key and set the according value to each destination referring to the following table.
5. Press the **||** key to write the adjusted value.
6. Press the **▶▶** key to select the item number 0114.
7. Repeat adjustment from step 3.
8. Press the **■** key four times and back to the Display Check mode.

Destination	Setting value	
	Item No. 0113	Item No. 0114
US and Canadian	20	80

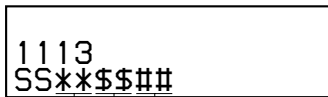
Table 3-5-2. Destination Setting

3-5-3. Other setting

Procedure:

1. Enter the test mode (Display Check mode).
2. Press the **[VOL+]** key to enter the Manual mode.
3. Press the **[VOL+]** key once and press the **[▶▶]** key five time to select the item number 1113 and display as follows.

Display of the remote commander



adjustment value (hexadecimal)

4. Adjust with **[VOL+]/[VOL-]** keys so that the adjustment value of “*” on the LCD becomes “1A”.
5. Press the **[■]** to write the adjusted value. (\$\$ blinks and disc mark rotates on the LCD)
6. Adjust with **[VOL+]/[VOL-]** keys so that the adjustment value of “\$\$” on the LCD becomes “20”.
7. Press the **[■]** key to write the adjusted value. (### blinks and disc mark rotates on the LCD)
8. Adjust with **[VOL+]/[VOL-]** keys so that the adjustment value of “###” on the LCD becomes “94”.
9. Press the **[■]** key to write the adjusted value.
10. Press the **[VOL+]** key once to change the adjustment value of “*” on the LCD into “1B”.
11. Press the **[■]** key to write the adjusted value. (\$\$ blinks and disc mark rotates on the LCD)
12. Adjust with **[VOL+]/[VOL-]** keys so that the adjustment value of “\$\$” on the LCD becomes “F1”.
13. Press the **[■]** key to write the adjusted value. (### blinks and disc mark rotates on the LCD)
14. Adjust with **[VOL+]/[VOL-]** keys so that the adjustment value of “###” on the LCD becomes “1A”.
15. Press the **[■]** to write the adjusted value.
16. Press the **[■]** key four times and back to the Display Check mode.

3-6. Servo Overall Adjustment

Note1: Be sure to adjustment so that the set is horizontal and the LCD is upside. Unless performed in that state, it is not adjusted correctly.

Note2: If NG is displayed in the middle of this adjustments, perform “3-2. Initialize The Adjustment Value” and “3-5. Setting The Adjustment Values” again, then retry this adjustments from step 1.

Procedure:

1. Enter the test mode (Display Check mode).
2. Press the **[VOL-]** key to enter the Overall Adjustment mode.
3. Insert the CD adjustment disc (TDYS-1).
4. Put the main unit horizontal so that the LCD becomes upside, and press the **[◀◀]** key.
5. Wait until “CD OK” is displayed on the LCD.
6. Insert the MD1/HiMD1 hybrid adjustment disc (MDW-74/GA2).
7. Put the main unit horizontal so that the LCD becomes upside, and press the **[▶▶]** key.
8. Wait until “MD1 OK” is displayed on the LCD.
9. Insert the Hi-MD3 adjustment disc (HMD1GSDJ).
10. Put the main unit horizontal so that the LCD becomes upside, and press the **[VOL+]** key.
11. Wait until “HMD3OK” is displayed on the LCD.
12. Eject the disc and close the lid.
13. Put the main unit horizontal so that the LCD becomes upside, and press the **[VOL-]** key.
14. Wait until “OfstOK” is displayed on the LCD.
15. Press the **[■]** key and back to the Display Check mode.

3-7. Resume Clear

Procedure:

1. Enter the test mode (Display Check mode).
2. Press the **[VOL+]** key to enter the Manual mode.
3. Press the **[VOL+]** key once, press the **[▶▶]** key once, press the **[VOL-]** key once, press the **[▶▶]** key once, and press the **[VOL+]** key twice, press the **[▶▶]** key three times to select the item number 1933.
4. Press the **[■]** key to resume clear.
5. Press the **[■]** key four times and back to the Display Check mode.

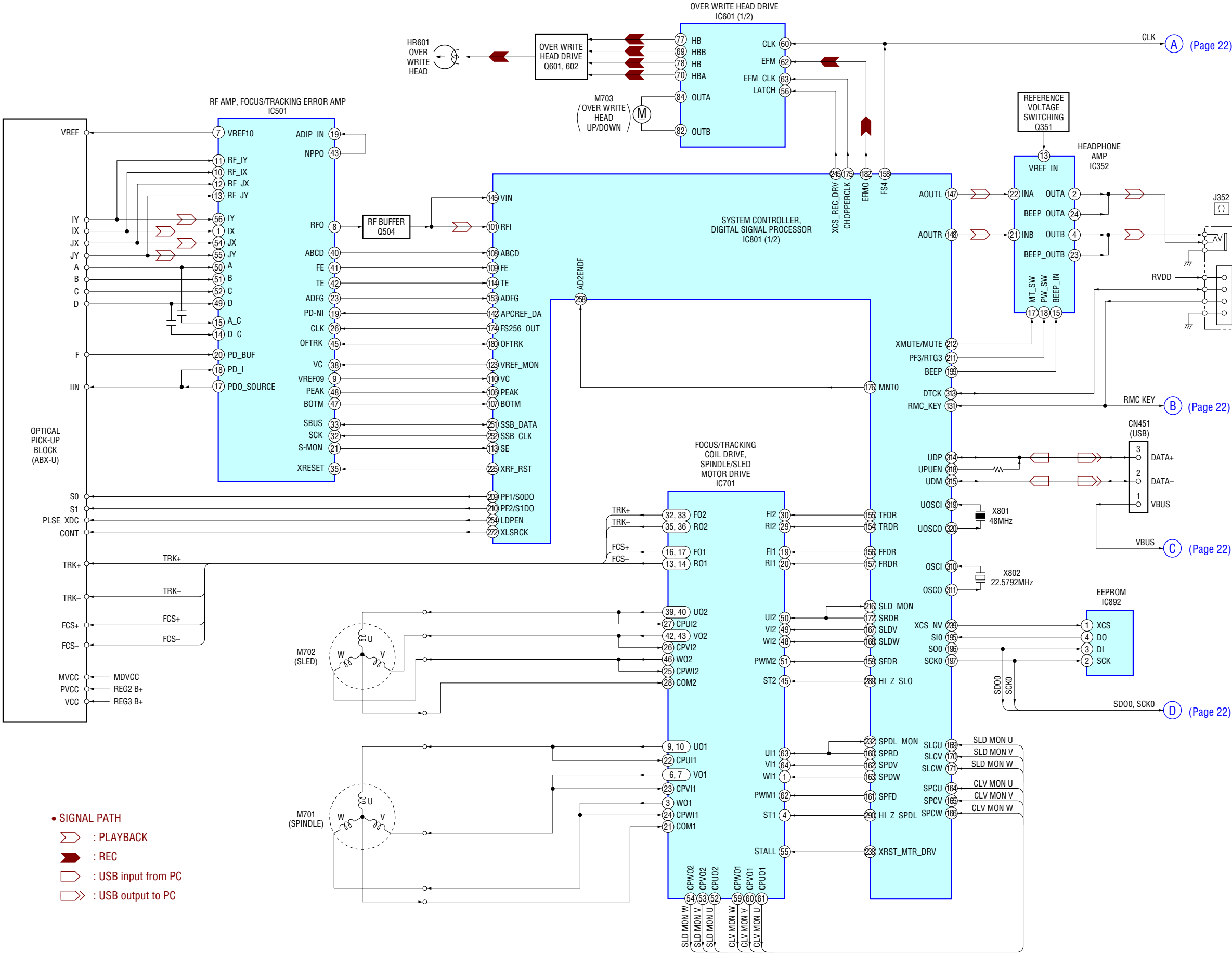
3-8. Releasing The Test Mode

Note: When the power supply is switched on in the state where all electrical adjustments have not finished, it is displayed on LCD as “Error EE” and the usual operation can’t be performed. When a power supply is accidentally turn off in the middle of electrical adjustments, it is again set as test mode and electrical adjustments is mode to complete.

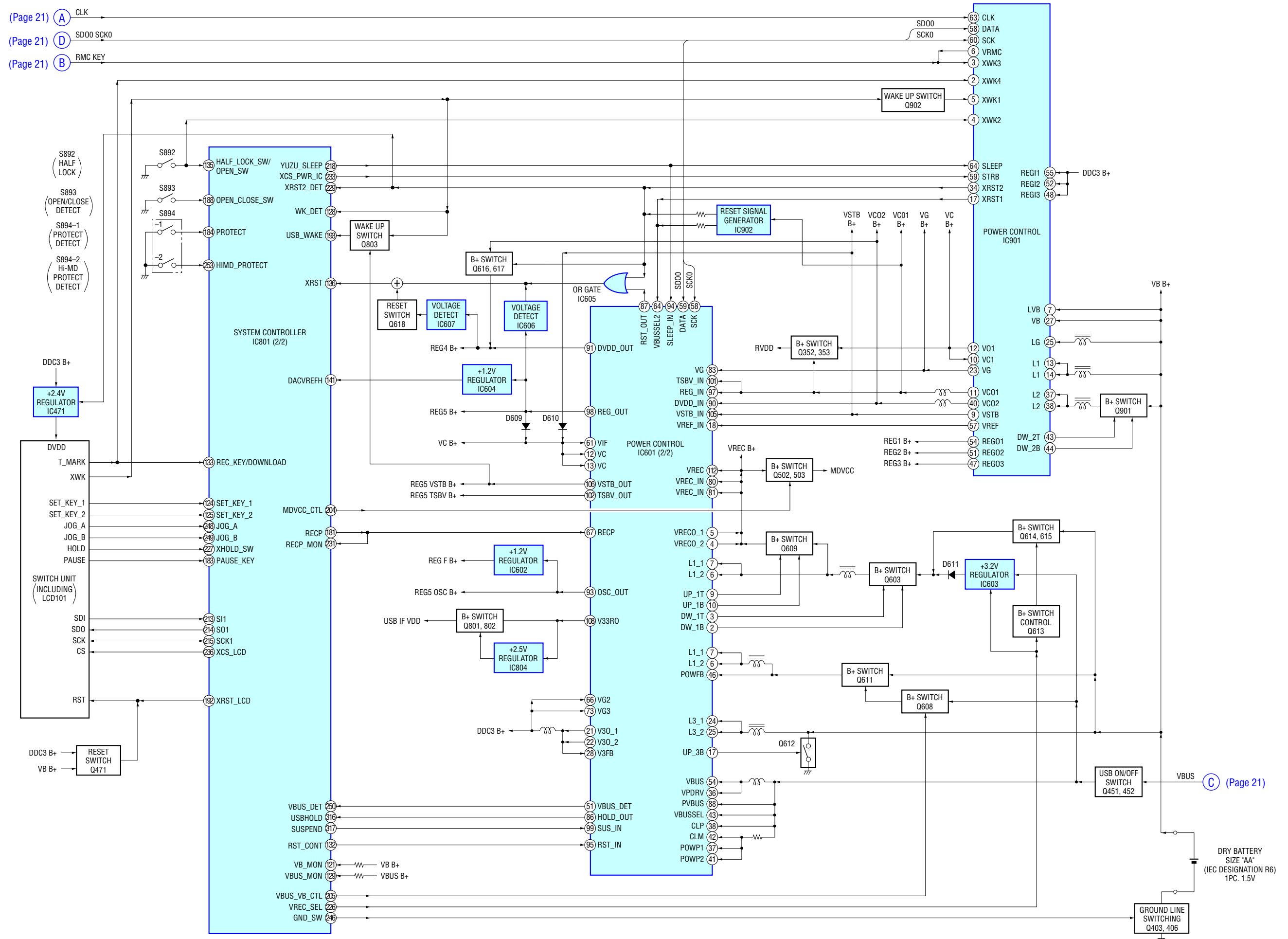
MEMO

SECTION 6
DIAGRAMS

6-1. BLOCK DIAGRAM – MD SERVO Section –



22 22



• Note For Printed Wiring Boards and Schematic Diagrams

Note on Printed Wiring Board:

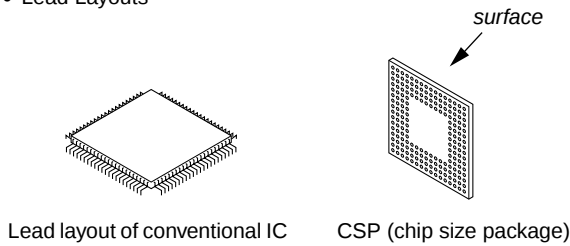
- — : parts extracted from the component side.
- : parts extracted from the conductor side.
- △ : internal component.
- : Pattern from the side which enables seeing.
(The other layers' patterns are not indicated.)

Caution:

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

* Replacement of IC501, IC601 and IC801 used in this set requires a special tool.

- MAIN board is multi-layer printed board. However, the patterns of intermediate-layer have not been included in this diagrams.
- Lead Layouts



Note on Schematic Diagram:

- All capacitors are in μF unless otherwise noted. (p: pF) 50 WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and $\frac{1}{4}W$ or less unless otherwise specified.
- △ : internal component.
- : panel designation.

Note:

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

Note:

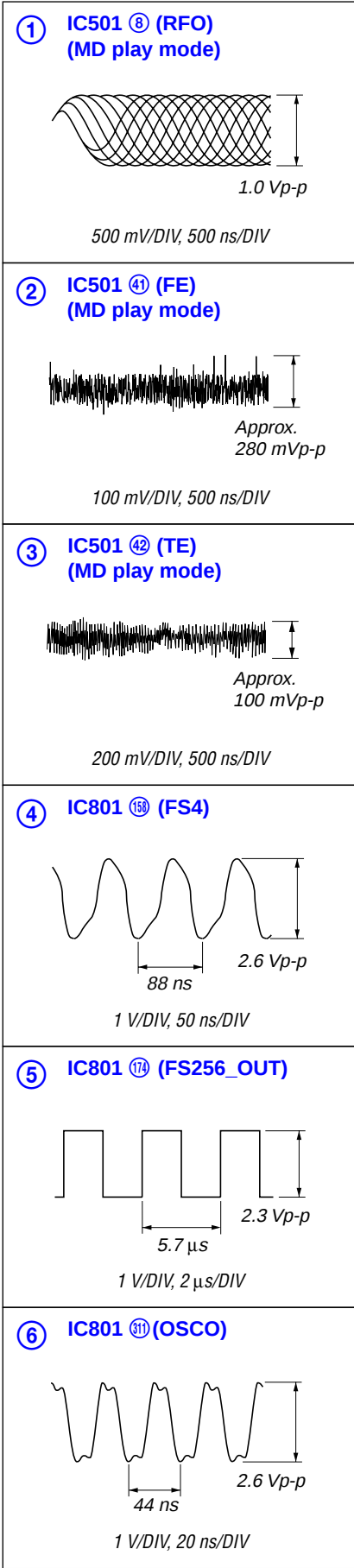
Les composants identifiés par une marque △ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

- : B+ Line.
- Power voltage is dc 1.5 V and fed with regulated dc power supply from battery terminal.
- Voltages and waveforms are dc with respect to ground under no-signal conditions.
- no mark : PLAYBACK
- Voltages are taken with a VOM (Input impedance 10 M Ω). Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken with a oscilloscope. Voltage variations may be noted due to normal production tolerances.
- Circled numbers refer to waveforms.
- Signal path.
 - Σ : PLAYBACK
 - : REC
 - : USB input from PC
 - : USB output to PC

* Replacement of IC501, IC601 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 form that of conventional IC.

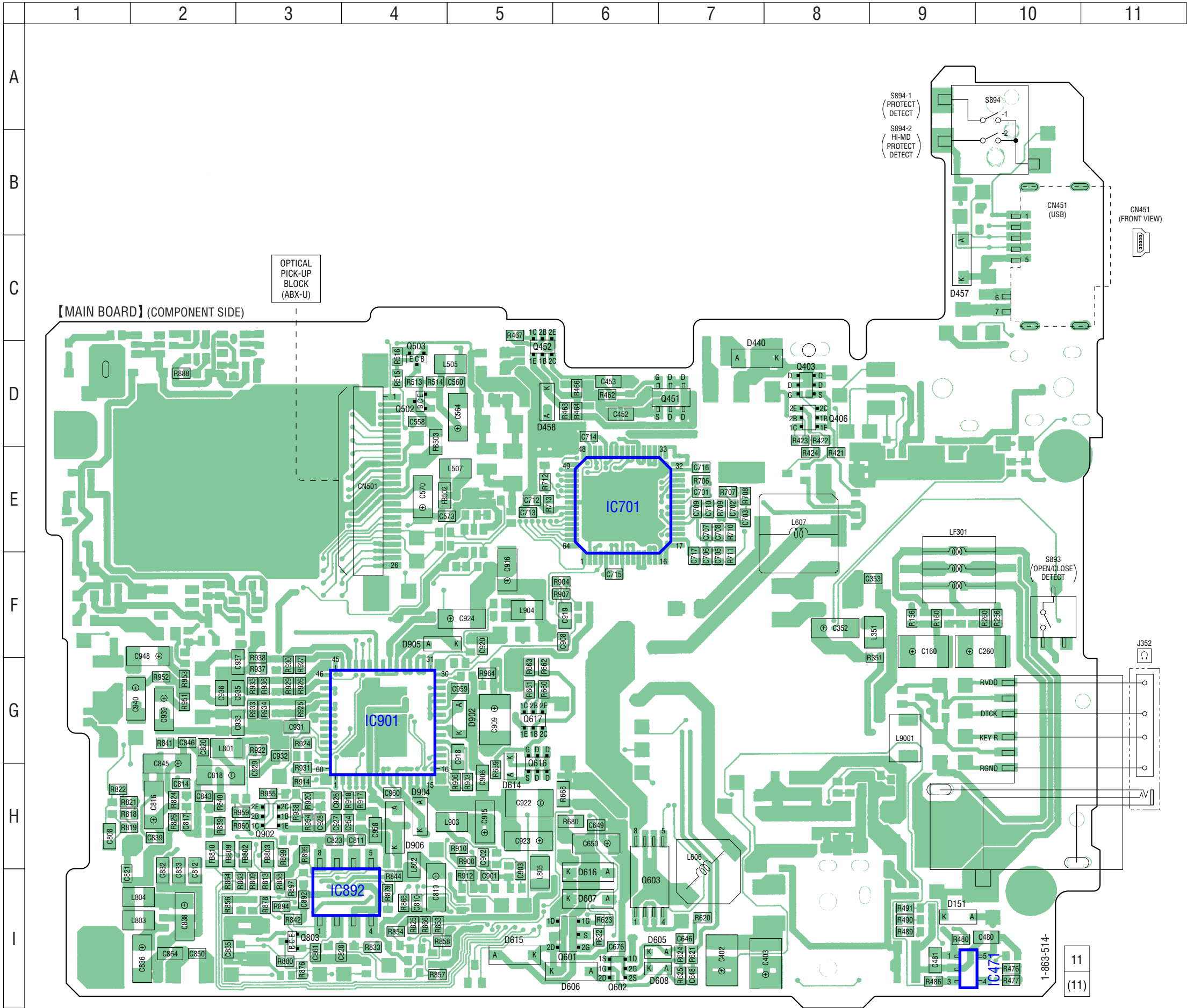
• Waveforms



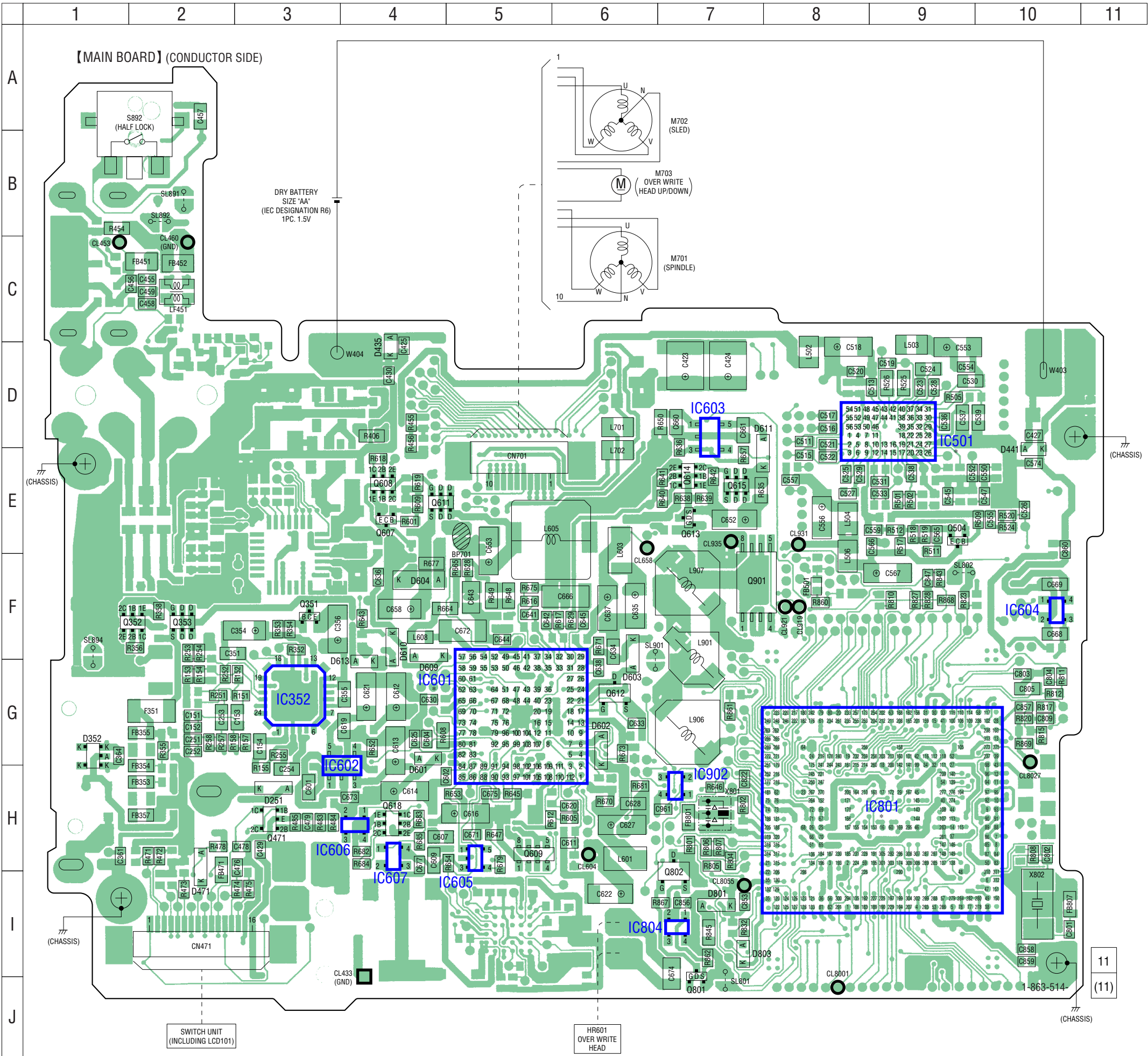
6-3. PRINTED WIRING BOARD – MAIN Section (1/2) –  : Uses unleaded solder.

• Semiconductor Location

Ref. No.	Location
D151	I-9
D440	D-7
D457	C-9
D458	D-5
D605	I-6
D606	I-6
D607	I-6
D608	I-6
D614	H-5
D615	I-5
D616	I-6
D902	G-5
D904	H-4
D905	F-4
D906	H-4
IC471	I-9
IC701	E-6
IC892	I-4
IC901	G-4
Q403	D-8
Q406	D-8
Q451	D-7
Q452	D-5
Q502	D-4
Q503	D-4
Q601	I-6
Q602	I-6
Q603	I-6
Q616	G-5
Q617	G-5
Q803	I-3
Q902	H-3



6-4. PRINTED WIRING BOARDS – MAIN Section (2/2) – : Uses unleaded solder.



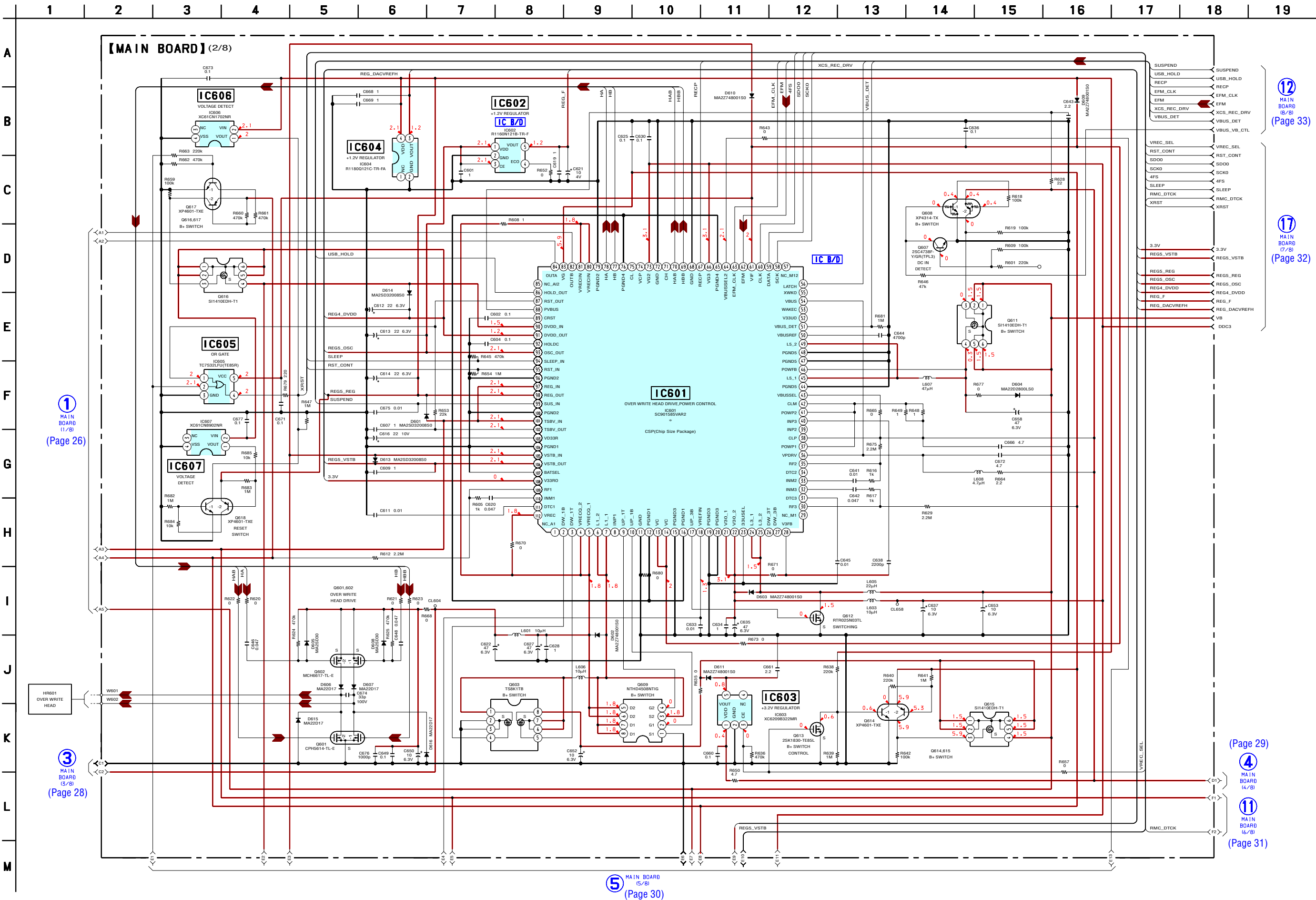
• Semiconductor Location

Ref. No.	Location
D251	H-3
D352	G-1
D471	H-2
D601	G-4
D602	G-6
D603	F-6
D604	F-4
D609	F-4
D610	F-4
D611	E-7
D613	G-4
D801	I-7
D803	I-7
IC352	G-3
IC501	D-9
IC601	G-5
IC602	H-4
IC603	D-7
IC604	F-10
IC605	H-5
IC606	H-4
IC607	H-4
IC801	H-9
IC804	I-7
IC902	H-7
Q351	F-3
Q352	F-2
Q353	F-2
Q471	H-3
Q504	E-9
Q607	E-4
Q608	E-4
Q609	H-5
Q611	E-4
Q612	G-6
Q613	E-7
Q614	E-7
Q615	E-7
Q618	H-4
Q801	I-7
Q802	H-7
Q901	F-7

26



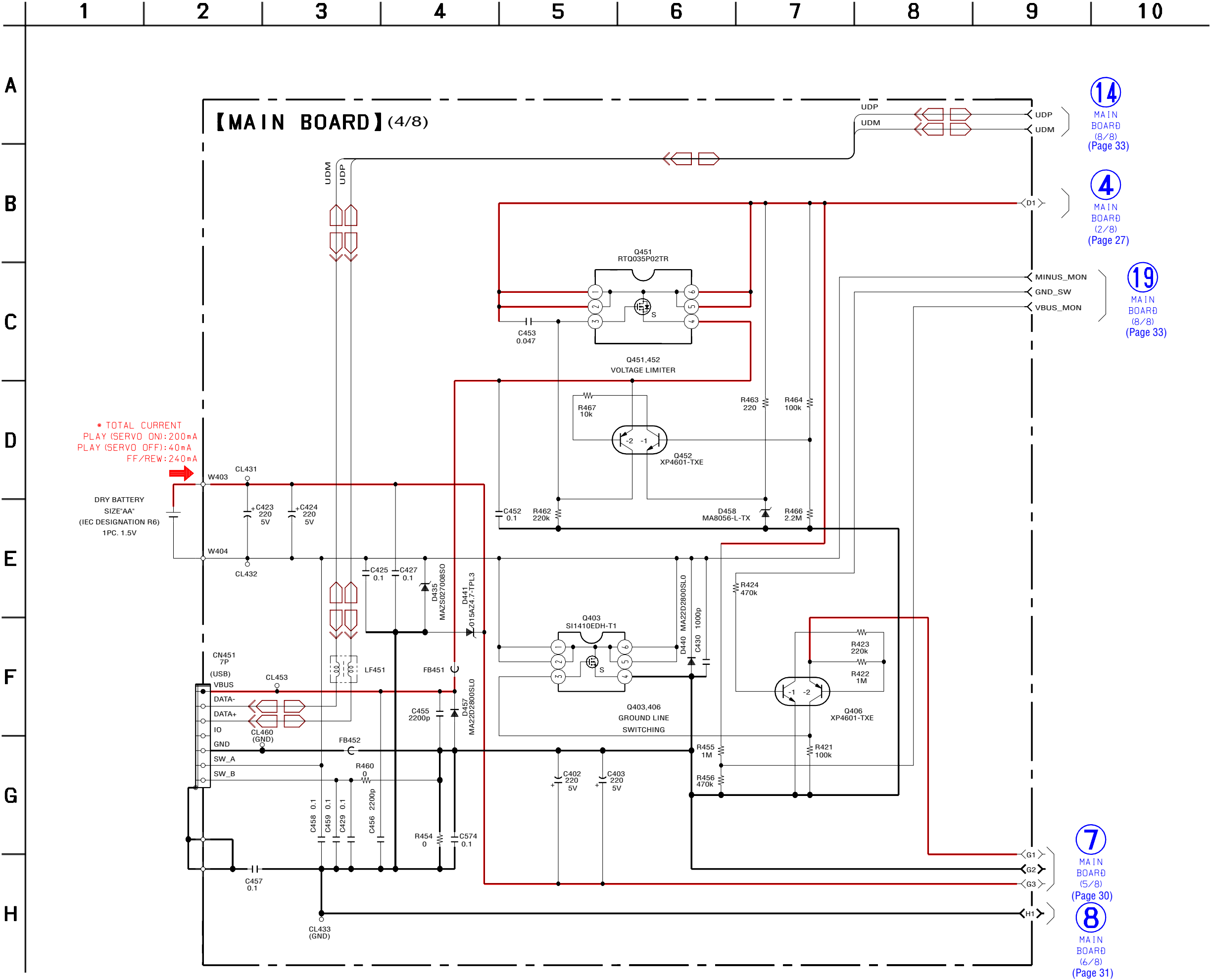
6-6. SCHEMATIC DIAGRAM – MAIN Section (2/8) – • See page 34 for IC Block Diagrams.



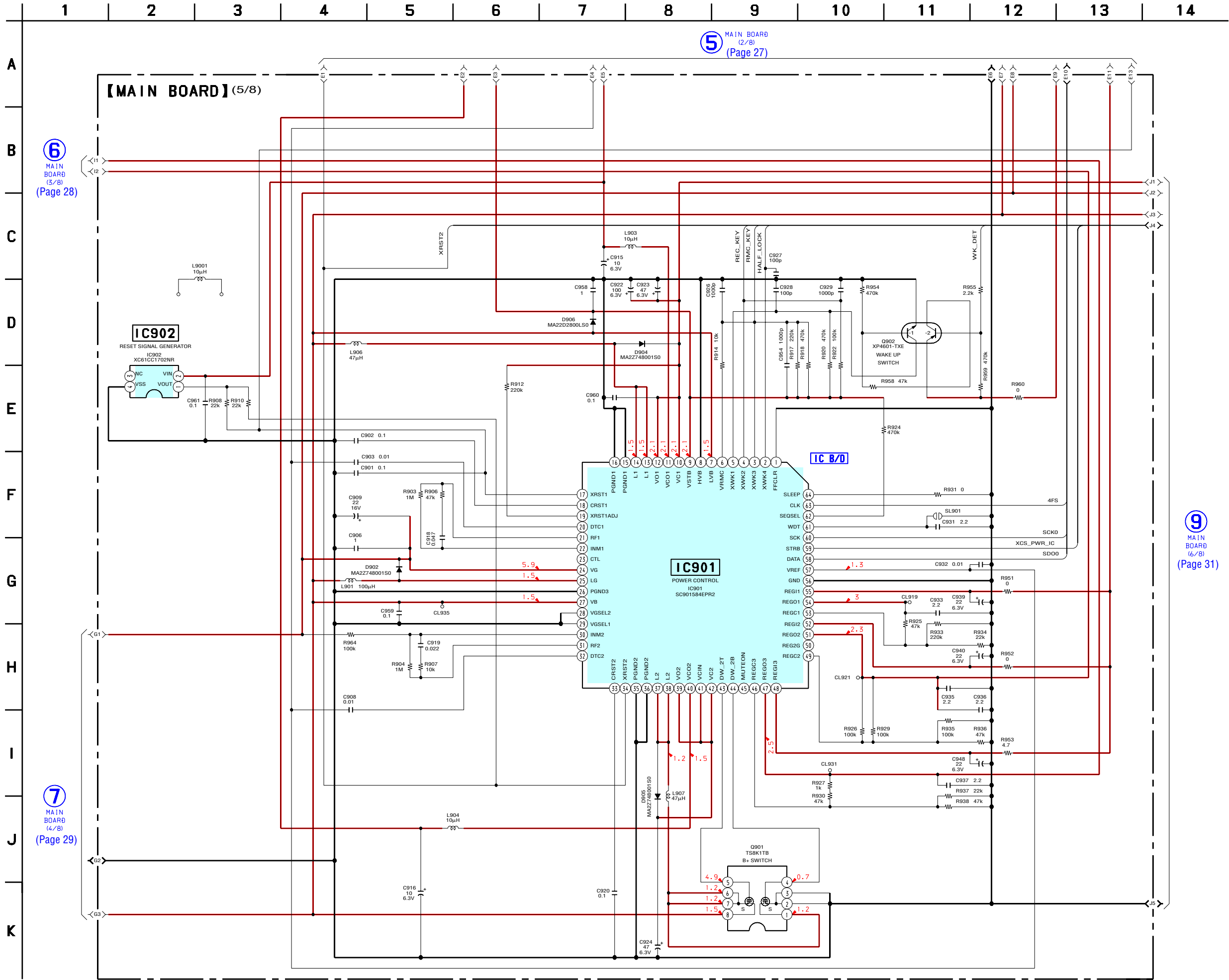
28 28



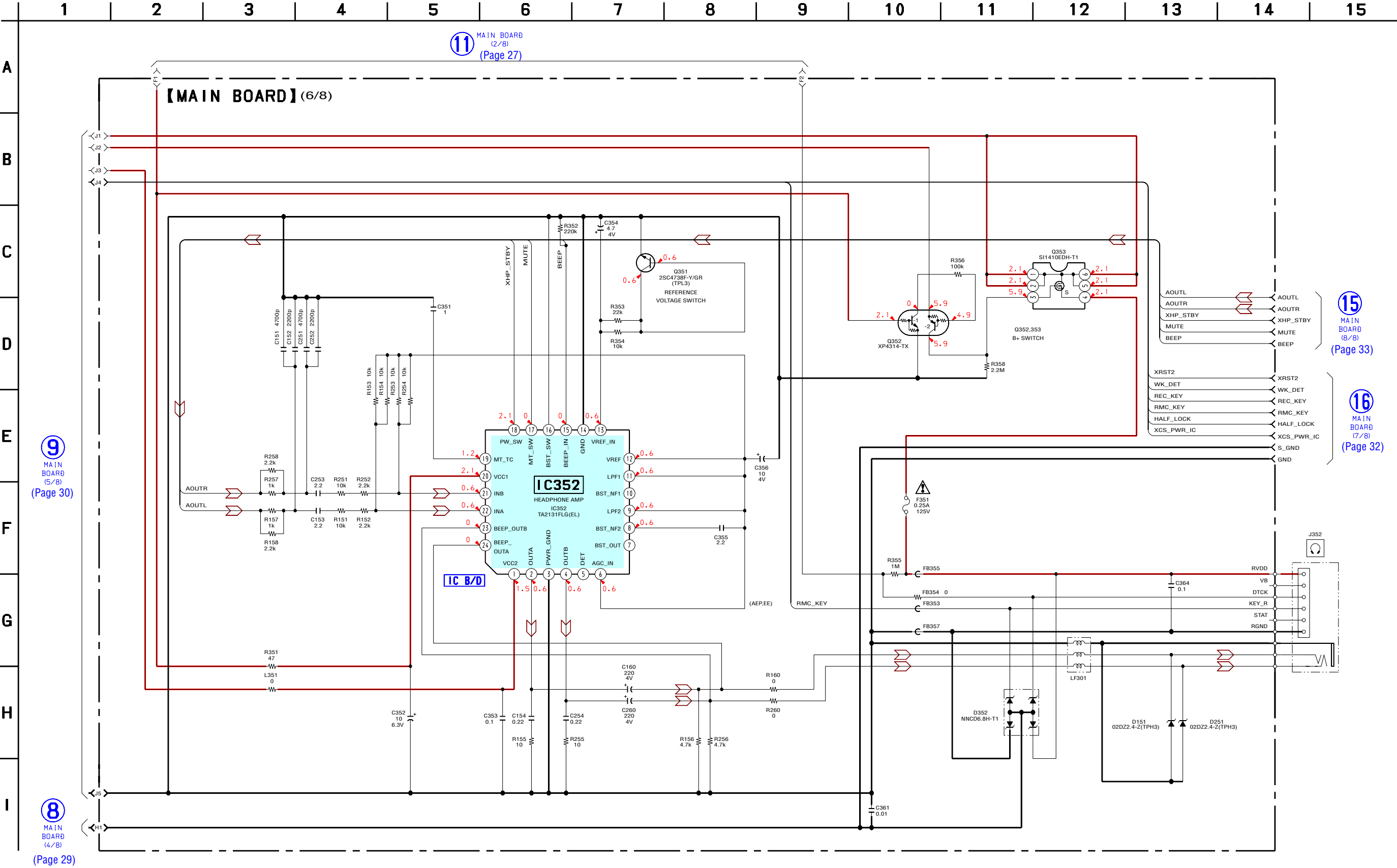
6-8. SCHEMATIC DIAGRAM – MAIN Section (4/8) –



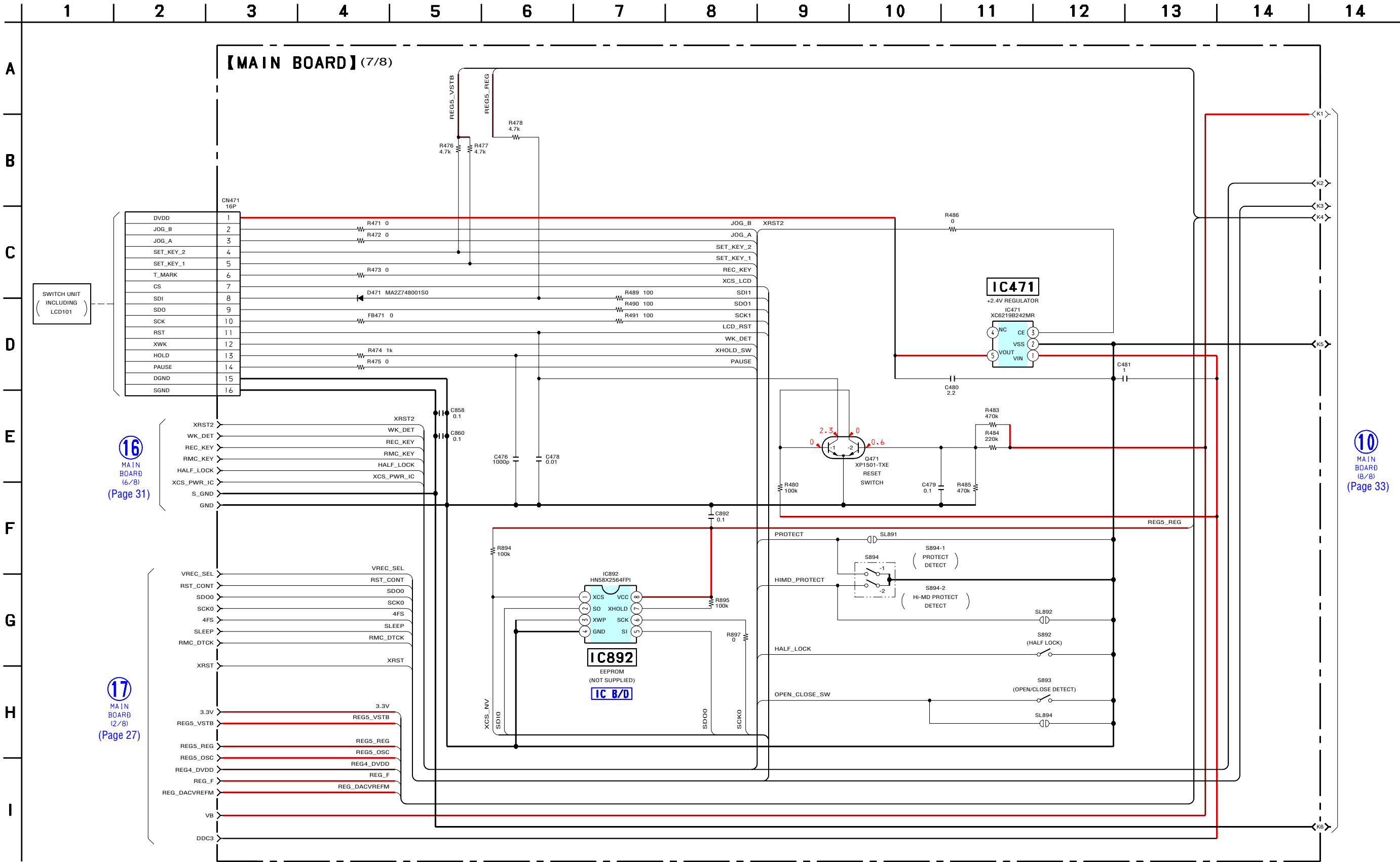
6-9. SCHEMATIC DIAGRAM – MAIN Section (5/8) – • See page 34 for IC Block Diagram.



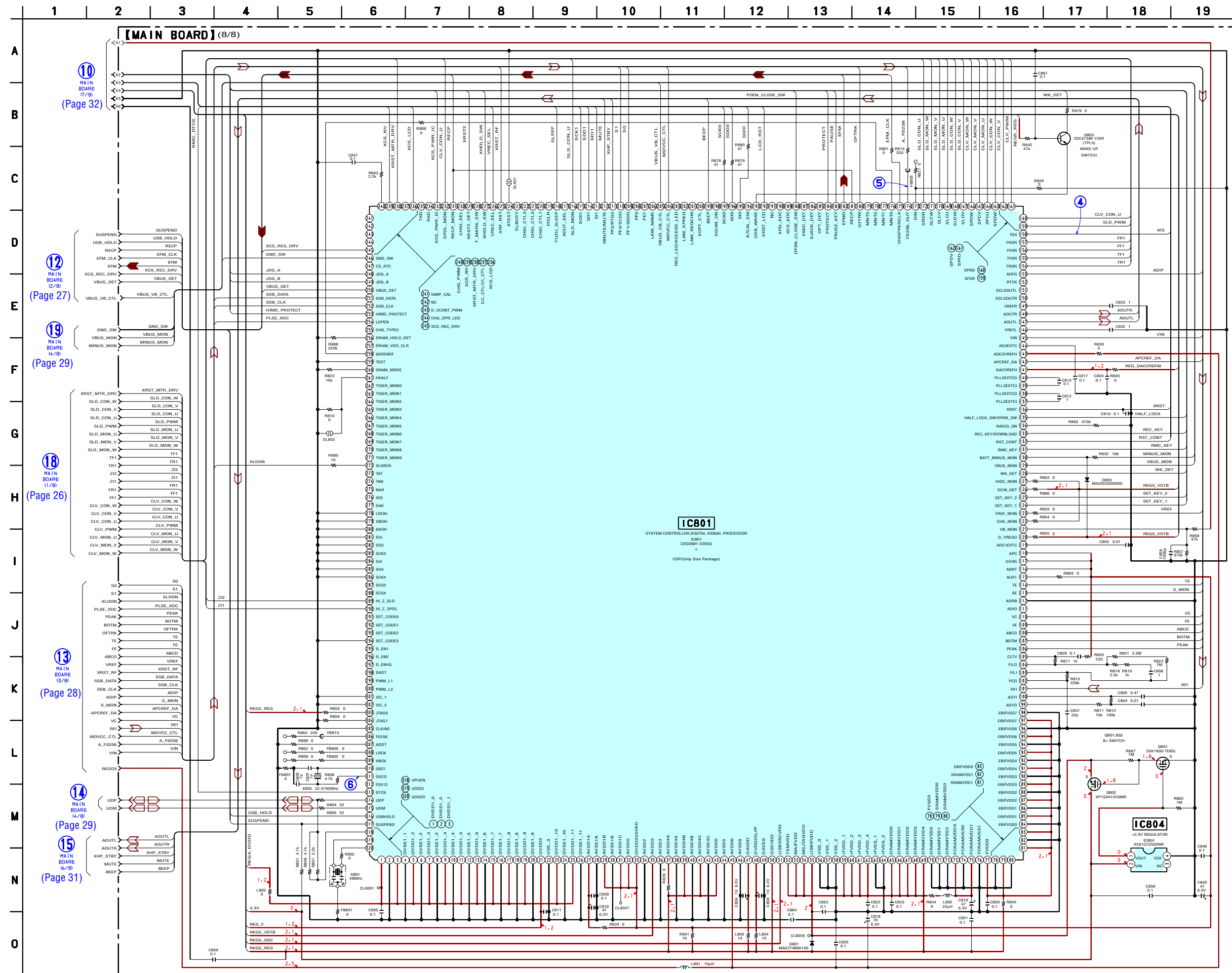
6-10. SCHEMATIC DIAGRAM – MAIN Section (6/8) – • See page 34 for IC Block Diagram.



6-11. SCHEMATIC DIAGRAM – MAIN Section (7/8) – • See page 34 for IC Block Diagram.

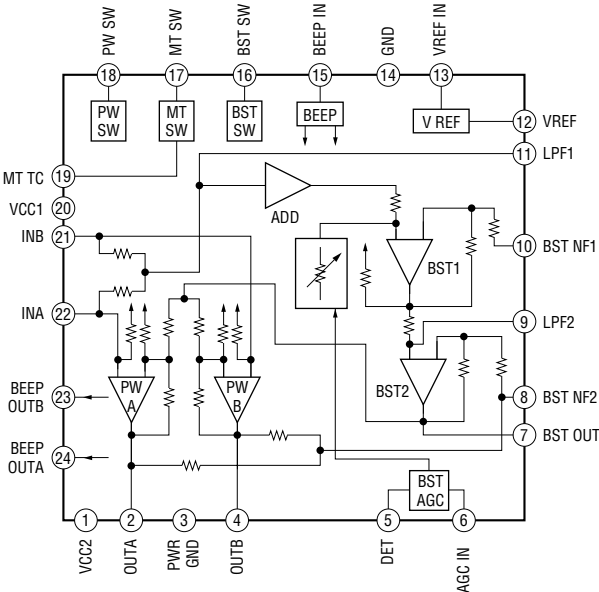


6-12. SCHEMATIC DIAGRAM – MAIN Section (8/8) – • See page 23 for Waveforms. • See page 37 for IC Pin Function Description.

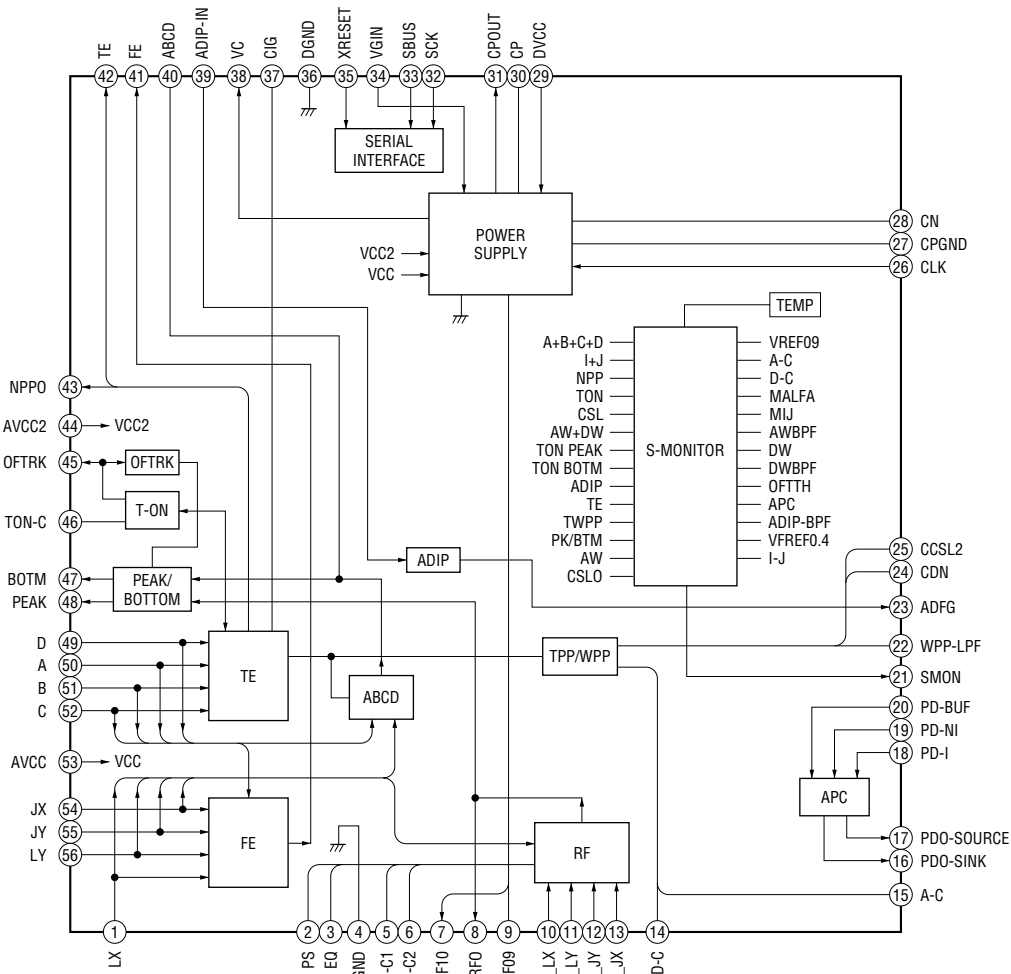


• IC Block Diagrams

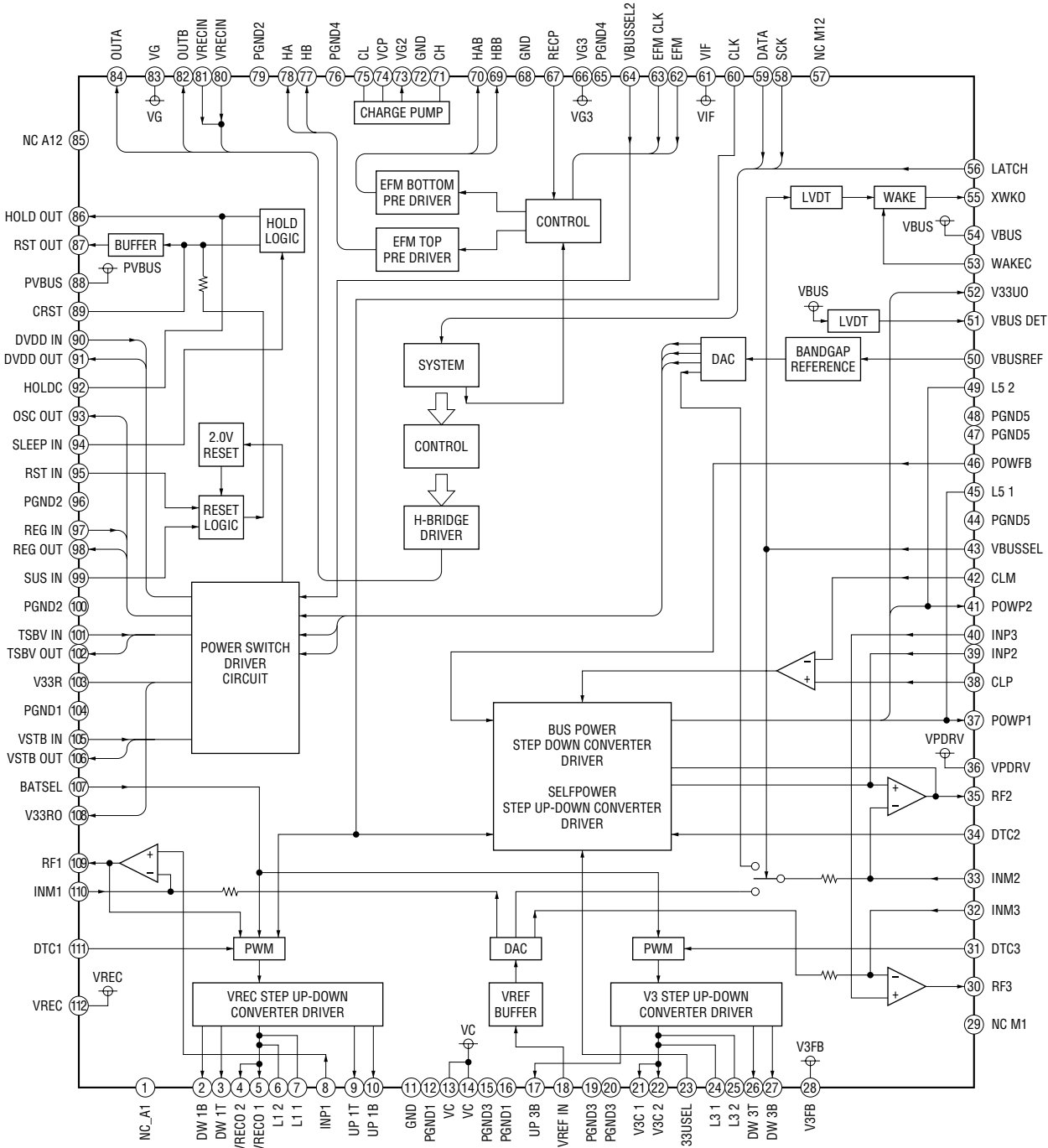
IC352 TA2131FLG (EL)



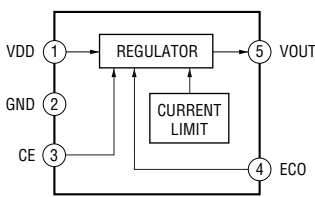
IC501 SN761059AZQLR



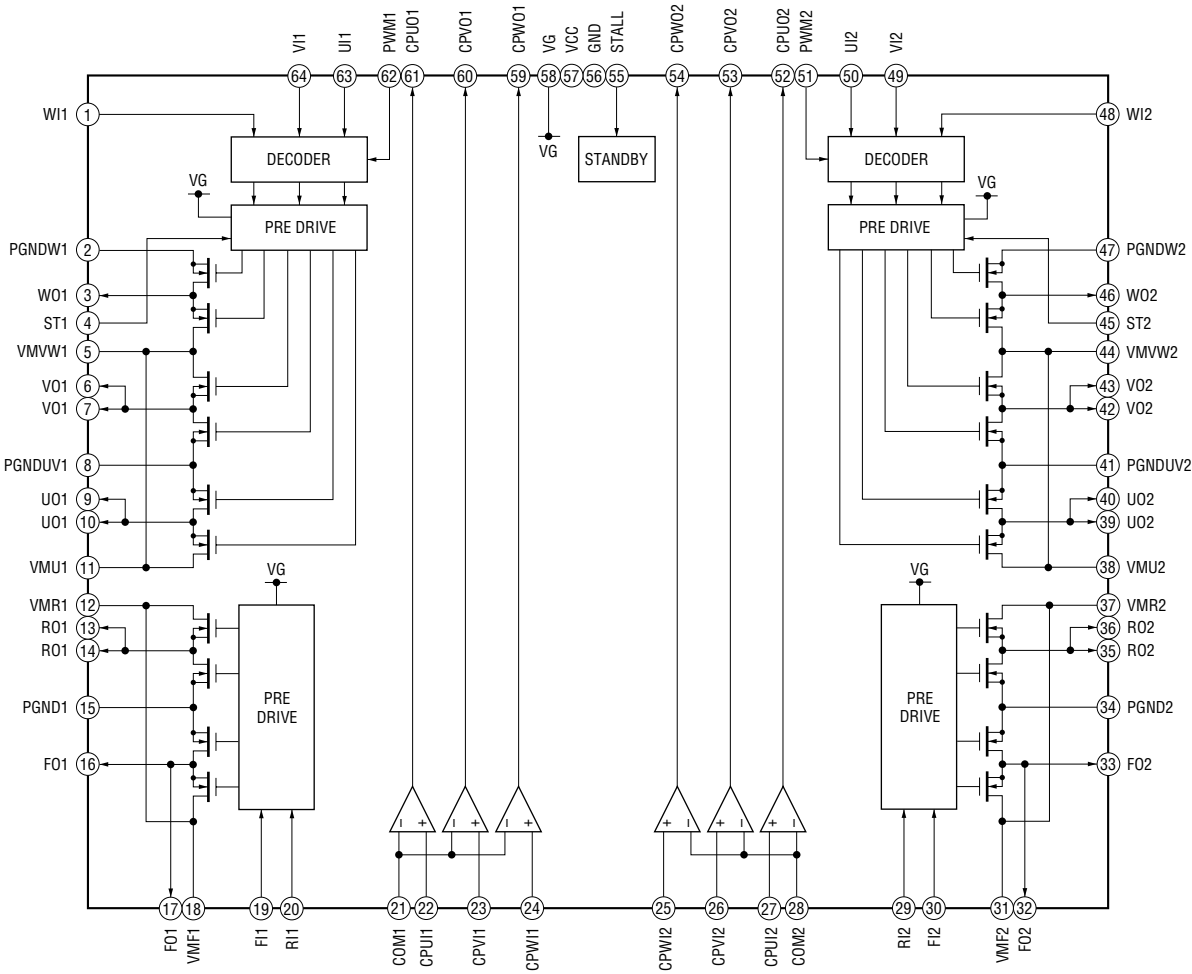
IC601 SC901585VAR2



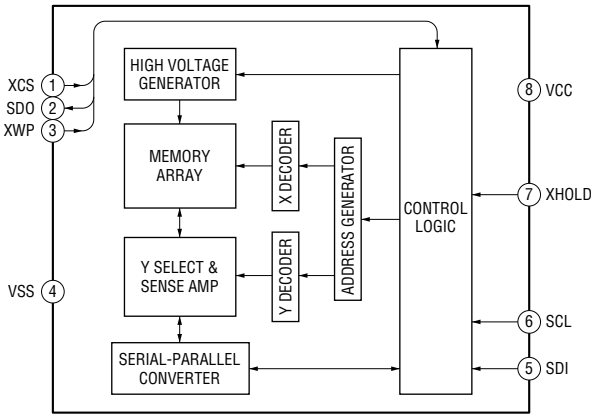
IC602 R1160N121B-TR-FA



IC701 BD6607KN



IC892 HN58X2564FPIEZ





• IC Pin Function Description

IC801 CXD2681-225GG (SYSTEM CONTROLLER, DIGITAL SIGNAL PROCESSOR)

Pin No.	Pin Name	I/O	Description
1	DVDD1_0	—	Power supply terminal
2	DVSS1_0	—	Ground terminal
3	DVDD1_1	—	Power supply terminal
4	DVSS1_1	—	Ground terminal
5	DVDD1_2	—	Power supply terminal
6	DVSS1_2	—	Ground terminal
7	DVDD1_3	—	Power supply terminal
8	DVSS1_3	—	Ground terminal
9	DVDD1_4	—	Power supply terminal
10	DVSS1_4	—	Ground terminal
11	DVDD1_5	—	Power supply terminal
12	DVSS1_5	—	Ground terminal
13	DVDD1_6	—	Power supply terminal
14	DVSS1_6	—	Ground terminal
15	DVDD1_7	—	Power supply terminal
16	DVSS1_7	—	Ground terminal
17	DVDD1_8	—	Power supply terminal
18	DVSS1_8	—	Ground terminal
19	DVDD1_9	—	Power supply terminal
20	DVSS1_9	—	Ground terminal
21	DVDD3	—	Power supply terminal
22	VSS_3	—	Ground terminal
23	DVDD1_10	—	Power supply terminal
24	DVSS1_10	—	Ground terminal
25	DVDD1_11	—	Power supply terminal
26	DVSS1_11	—	Ground terminal
27	AVDD1A	—	Power supply terminal (for PLL)
28	AVSS1A	—	Ground terminal (for PLL)
29	AVDD1B	—	Power supply terminal
30	AVSS1B	—	Ground terminal
31	AVDD1C	—	Power supply terminal
32	AVDD2	—	Power supply terminal (for A/D converter)
33	DVDD25SVADC	—	Power supply terminal (for A/D converter)
34	AVSS2	—	Ground terminal (for A/D converter)
35	AVDD3	—	Power supply terminal (for A/D converter)
36	AVSS3	—	Ground terminal (for A/D converter)
37	AVDD4A	—	Power supply terminal (for PLL)
38	AVSS4A	—	Ground terminal (for PLL)
39	AVDD4B	—	Power supply terminal (for PLL)
40	AVSS4B	—	Ground terminal (for PLL)
41	AVDD4C	—	Power supply terminal (for D/A converter)
42	AVSS4C	—	Ground terminal (for D/A converter)
43	AVDD5	—	Power supply terminal (for PLL)
44	AVSS5	—	Ground terminal (for PLL)
45	AVDD6	—	Power supply terminal (for A/D converter)
46	AVSS6	—	Ground terminal (for A/D converter)

Pin No.	Pin Name	I/O	Description
47	DAVDD	—	Power supply terminal (for D/A converter)
48	DVDD25LPF	—	Power supply terminal (for D/A converter)
49	DAVSS	—	Ground terminal (for D/A converter)
50	OSCVDD	—	Power supply terminal (for 22 MHz OSC)
51	USBOSCVDD	—	Power supply terminal (for the USB 48 MHz OSC)
52	TSMVDD	—	Power supply terminal (for the TSB master communication)
53	MAIFVDD	—	Power supply terminal (for MA interface)
54	MSJTAGVDD	—	Power supply terminal (for AUX)
55	USBIFVDD	—	Power supply terminal (for USB interface)
56 to 58	VSS_0 to VSS_2	—	Ground terminal
59 to 62	IFVDD_1 to IFVDD_4	—	Power supply terminal (for interface)
63	IFVSS_1	—	Ground terminal (for interface)
64	IFVSS_2	—	Ground terminal (for interface)
65 to 69	DRAMVDD0 to DRAMVDD4	—	Power supply terminal (for D-RAM/DSP interface)
70 to 72	DRAMVSS0 to DRAMVSS2	—	Ground terminal (for D-RAM/DSP interface)
73	FCRAMVDD0	—	Power supply terminal (for D-RAM)
74	FCRAMVSS0	—	Ground terminal (for D-RAM)
75	FCRAMVDD1	—	Power supply terminal (for D-RAM)
76	FCRAMVSS1	—	Ground terminal (for D-RAM)
77	FVDD0	—	Power supply terminal (for AUX)
78	FVSS0	—	Ground terminal (for AUX)
79	SRAMVDD0	—	Power supply terminal (for AUX)
80	SRAMVSS0	—	Ground terminal (for AUX)
81	SRAMVDD1	—	Power supply terminal (for AUX)
82	SRAMVSS1	—	Ground terminal (for AUX)
83	EBIFVDD0	—	Power supply terminal (for interface circuit)
84	EBIFVSS0	—	Ground terminal (for interface circuit)
85	EBIFVDD1	—	Power supply terminal (for interface circuit)
86	EBIFVSS1	—	Ground terminal (for interface circuit)
87	EBIFVDD2	—	Power supply terminal (for interface circuit)
88	EBIFVSS2	—	Ground terminal (for interface circuit)
89	EBIFVDD3	—	Power supply terminal (for interface circuit)
90	EBIFVSS3	—	Ground terminal (for interface circuit)
91	EBIFVDD4	—	Power supply terminal (for interface circuit)
92	EBIFVSS4	—	Ground terminal (for interface circuit)
93	EBIFVDD5	—	Power supply terminal (for interface circuit)
94	EBIFVSS5	—	Ground terminal (for interface circuit)
95	EBIFVDD6	—	Power supply terminal (for interface circuit)
96	EBIFVSS6	—	Ground terminal (for interface circuit)
97	EBIFVDD7	—	Power supply terminal (for interface circuit)
98	EBIFVSS7	—	Ground terminal (for interface circuit)
99	ASYO	O	Playback EFM duplex signal output
100	ASYI	I	Playback EFM comparator slice level input
101	RFI	I	Playback EFM RF signal input from the RF amplifier

Pin No.	Pin Name	I/O	Description
102	PCO	O	Phase comparison output terminal for the playback EFM system master PLL
103	FILI	I	Filter input terminal for the playback EFM system master PLL
104	FILO	O	Filter output terminal for the playback EFM system master PLL
105	CLTV	I	Internal VCO control voltage input terminal for the playback EFM system master PLL
106	PEAK	I	Peak hold signal input of the light amount signal (RF/ABCD) the RF amplifier
107	BOTM	I	Bottom hold signal input of the light amount signal (RF/ABCD) the RF amplifier
108	ABCD	I	Light amount signal (ABCD) input from the RF amplifier
109	FE	I	Focus error signal input from the RF amplifier
110	VC	I	Middle point voltage input from the RF amplifier
111	ADIO	I	Monitor output terminal of A/D converter input signal Not used
112	ADRB	I	A/D converter the lower limit voltage input terminal
113	SE	I	Sled error signal input from the RF amplifier
114	TE	I	Tracking error signal input from the RF amplifier
115	AUX1	I	Auxiliary A/D input terminal
116	ADRT	I	The upper limit voltage of A/D converter input terminal Not used
117	DCHG	—	Connecting terminal with the analog power supply of low impedance
118	APC	I	Error signal input for the laser automatic power control
119	ADC1EXTC	—	Connection terminal for an external capacitor
120	D_VREGO	I	Voltage sensibility of regulator for class-D amplifier Not used
121	VB_MON	I	Unregulated power supply voltage monitoring terminal
122	CHG_MON	I	Charge or discharge current monitoring terminal Not used
123	VREF_MON	O	Reference voltage output terminal
124	SET_KEY_1	I	Front panel key input terminal
125	SET_KEY_2	I	Front panel key input terminal
126	DCIN_DET	I	DC input voltage for battery charge monitoring terminal Not used
127	HIDC_MON	I	High DC voltage monitoring terminal Not used
128	WK_DET	I	Panel key input for wake-up
129	VBUS_MON	I	USB power supply voltage monitoring terminal
130	BATT_MINUS_MON	I	Voltage monitoring terminal for the minus terminal of rechargeable battery
131	RMC_KEY	I	Remote commander key input terminal
132	RST_CONT	O	System reset signal output to the power control IC
133	REC_KEY /DOWNLOAD	I	DOWNLOAD key input terminal
134	RADIO_ON	I	Radio on detection input from the remote commander jack Not used
135	HALF_LOCK_SW /OPEN_SW	I	Front panel open switch detection terminal
136	XRST	I	System reset signal input from the power control IC
137	PLL2EXTCI	I	Connection terminal for an external capacitor
138	PLL2EXTCO	O	Connection terminal for an external capacitor
139	PLL3EXTCI	I	Connection terminal for an external capacitor
140	PLL3EXTCO	O	Connection terminal for an external capacitor
141	DACVREFH	I	Reference voltage input terminal
142	APCREF_DA	O	Reference voltage output terminal
143	ADC3VREFH	I	Reference voltage input terminal
144	ADC3EXTC	—	Connection terminal for an external capacitor
145	VIN	I	RF signal input from the RF amplifier

Pin No.	Pin Name	I/O	Description
146	VREFL	I	Reference voltage terminal connected to the capacitor (for the built-in D/A converter L-CH)
147	AOUTL	O	Built-in D/A converter L-CH signal output
148	AOUTR	O	Built-in D/A converter R-CH signal output
149	VREFR	I	Reference voltage terminal connected to the capacitor (for the built-in D/A converter R-CH)
150	DCLSOUTR	O	PWM modulator signal output for the class-D headphone amplifier Not used
151	DCLSOUTL	O	PWM modulator signal output for the class-D headphone amplifier Not used
152	RTCK	—	Not used
153	ADFG	I	ADIP duplex FM signal (22.05±1kHz) input from the RF amplifier
154	TRDR	O	Tracking servo drive PWM signal output (–) to the coil driver
155	TFDR	O	Tracking servo drive PWM signal output (+) to the coil driver
156	FFDR	O	Focus servo drive PWM signal output (+) to the coil driver
157	FRDR	O	Focus servo drive PWM signal output (–) to the coil driver
158	FS4	O	176.4 kHz clock signal output
159	SFDR	O	Sled servo drive PWM signal output to the motor driver
160	SPRD	O	Spindle motor drive control signal output (U) to the motor driver
161	SPFD	O	Spindle servo drive PWM signal output to the motor driver
162	SPDV	O	Spindle motor drive control signal output (V) to the motor driver
163	SPDW	O	Spindle motor drive control signal output (W) to the motor driver
164	SPCU	I	Spindle motor drive comparison signal input (U) from the motor driver
165	SPCV	I	Spindle motor drive comparison signal input (V) from the motor driver
166	SPCW	I	Spindle motor drive comparison signal input (W) from the motor driver
167	SLDV	O	Sled motor drive control signal output (V) to the motor driver
168	SLDW	O	Sled motor drive control signal output (W) to the motor driver
169	SLCU	I	Sled motor drive comparison signal input (U) from the motor driver
170	SLCV	I	Sled motor drive comparison signal input (V) from the motor driver
171	SLCW	I	Sled motor drive comparison signal input (W) from the motor driver
172	SRDR	O	Sled motor drive control signal output (U) to the motor driver
173	DIN	I	Digital audio signal input terminal Not used
174	FS256_OUT	O	11.2896 MHz clock output
175	CHOPPERCLK	O	Clock signal output for chopper
176 to 179	MNT0 to MNT3	O	Monitor output for DSP
180	OFTRK	I/O	Tracking signal input/output for MD3
181	RECP	O	Laser power changeover signal output
182	EFMO	O	EFM encode data output for the record
183	PAUSE_KEY	I	Pause key input terminal
184	PROTECT	I	Recording protector detection input for normal disc
185	OPT_DET	I	Optical digital input plug detection input terminal “H”: plug in Not used
186	XJACK_DET	I	Line input plug detection input terminal “L”: plug in Not used
187	XMIC_DET	I	Microphone input plug detection input terminal “L”: plug in Not used
188	OPEN_CLOSE_SW	I	Open switch input terminal
189	XCS_ADC	O	Chip select signal output for A/D converter Not used
190	XPD_ADC	O	Power control signal output for A/D converter Not used
191	NC	—	Not used
192	XRST_LCD	O	Reset signal output for the LCD module
193	USB_WAKE	I	System wake up signal input by USB connect
194	A7CAL_SW	I/O	Current sense amplifier input, and short switch control output terminal Not used

Pin No.	Pin Name	I/O	Description
195	SI0	I	Serial data input from the EEPROM
196	SO0	O	Serial data output to the EEPROM
197	SCK0	O	Serial clock output to the EEPROM
198	XGUM_ON	I	Rechargeable battery detection signal terminal Not used
199	BEEP	O	Beep sound control signal output to the headphone amplifier
200	XOPT_CTL	O	Power supply ON/OFF control signal output for the DIN PD drive Not used
201	LAM_REQCHK	I	LAM power check terminal Not used
202	LAM_SPREQ	O	LAM force stop request signal output Not used
203	REC_LED /ACCESS_LED	O	REC or Access LED drive signal output terminal Not used
204	MDVCC_CTL	O	Power supply control signal output for the OP modulation
205	VBUS_VB_CTL	O	USB power supply control signal output terminal
206	LAM_NAME	O	LAM name data request signal output terminal Not used
207	PE7	—	Not used
208	PF0	—	Not used
209	PF1/S0DO	O	Connect to the optical pick-up block
210	PF2/S1DO	O	Connect to the optical pick-up block
211	PF3/RTG3	O	Connect to the headphone amplifier
212	XMUTE /MUTE	O	Muting on/off control signal output terminal
213	SI1	I	Serial data input from the LCD module
214	SO1	O	Serial data output to the LCD module
215	SCK1	I/O	Serial data transfer clock signal input/output terminal with the LCD module
216	SLD_MON	I	Sled servo monitoring terminal
217	AOUT_SEL	O	Headphone/line output switching terminal Not used
218	YUZU_SLEEP	O	Chip enable output to the power control IC
219	FFCLR	O	Input latch output for the start switching to the power control Not used
220	CHGI_CTL1	O	Charge current limiter control signal output at the time of DC adaptor use “L”: charge Not used
221	CHGI_CTL2	O	Charge current control signal output terminal “L”: low current charge Not used
222	CHGI_CTL3	O	Charge current control signal output terminal “L”: low current charge Not used
223	SLBUSY	I	Receive signal monitoring terminal for sled command
224	XTEST	I	Terminal for the test mode setting (normally open) “L”: test mode
225	XRF_RST	O	Reset signal output to the RF amplifier
226	VREC_SEL	O	VREC start-up timing control signal output terminal
227	XHOLD_SW	I	HOLD switch detection input terminal
228	T_MARK_SW	I	Track mark switch input terminal Not used
229	XRST2_DET	I	Reset signal input from the power control IC
230	CHGI_SEL	O	Charge/discharge control signal output for current sense amplifier Not used
231	RECP_MON	I	Laser power changeover signal monitoring terminal
232	SPDL_MON	I	Spindle servo monitoring terminal
233	XCS_PWR_IC	O	Chip select signal output to the power control IC
234	RXD	I	Not used
235	TXD	O	Not used
236	XCS_LCD	O	Chip select signal output to the LCD module
237	CC_CTL /VI_CTL	O	Constant current circuit control signal output terminal Not used

Pin No.	Pin Name	I/O	Description
238	XRST_MTR_DRV	O	Reset signal output to the motor driver
239	XCS_NV	O	Chip select signal output to the EEPROM
240	CHG_PWM	O	Charge current or voltage control signal output terminal Not used
241	IAMP_CAL	O	Offset signal output of current sense amplifier Not used
242	NC	—	Not used
243	D_VCONT_PWM	I	Power supply voltage setting terminal for only class-D amplifier Not used
244	CHG_OPR_LED	O	Charge indication LED drive signal output terminal Not used
245	XCS_REC_DRV	O	Chip select signal output to the over write head driver
246	GND_SW	O	Ground line switching signal output terminal
247	CS_RTC	O	Chip select signal output for real time clock Not used
248	JOG_A	I	Jog dial pulse input terminal
249	JOG_B	I	Jog dial pulse input terminal
250	VBUS_DET	I	USB power supply voltage detection terminal
251	SSB_DATA	I/O	SSB data input/output with the RF amplifier
252	SSB_CLK	O	SSB clock output to the RF amplifier
253	HIMD_PROTECT	I	Recording protector detection input for Hi-MD disc
254	LDPEN	O	Pulse/DC light-emit switching signal output terminal
255	CHG_TYPE2	O	Battery charge control signal output terminal “H”: charging Not used
256	DRAM_HOLD_DET	I	Detection terminal for D-RAM power supply information keeping Not used
257	DRAM_VDD_CLR	O	D-RAM power latch clear signal output for quick mode sleep Not used
258	AD2ENDF	I	Monitoring terminal for flag of servo signal A/D measuring finish
259	TEST	—	Not used
260	SRAM_MODE	I	Not used
261	HSALF	I	Not used
262 to 271	TIGER_MON0 to TIGER_MON9	O	Trigger monitoring terminal output clock=18.5 MHz
272	XLSRCK	O	Pulse output for laser strobe recording
273	TAT	—	Not used
274	TAN	—	Not used
275	NAR	—	Not used
276	IDO	—	Not used
277	SAK	—	Not used
278	LRCKI	I	L/R sampling clock signal input terminal for PCM data interface Not used
279	XBCKI	I	Bit clock signal input terminal for the PCM data interface Not used
280	DATAI	I	Serial clock signal input terminal for the PCM data interface Not used
281	SI3	I	Serial data input for LAM microcomputer communication Not used
282	SO3	O	Serial data output for LAM microcomputer communication Not used
283	SCK3	O	Serial data transfer clock signal output for LAM microcomputer communication Not used
284	SI4	I	Data input from ATRAC3 plus encoder communication Not used
285	SO4	O	Data output for ATRAC3 plus encoder communication Not used
286	SCK4	O	Clock signal output for ATRAC3 plus encoder communication Not used
287	SCS3	O	Chip select signal output for LAM microcomputer communication Not used

Pin No.	Pin Name	I/O	Description
288	SCS4	O	Chip select signal output for ATRAC3 plus encoder communication Not used
289	HI_Z_SLD	O	Standby signal output terminal for the sled motor
290	HI_Z_SPDL	O	Standby signal output terminal for the spindle motor
291 to 294	SET_CODE0 to SET_CODE3	I	Setting terminal for the destination
295	D_EN1	O	Control signal output for class-D amplifier Not used
296	D_EN2	O	Control signal output for class-D amplifier Not used
297	D_ENVG	O	Enable/disable switching control terminal for class-D amplifier booster circuit Not used
298	DADT	O	Audio data output terminal Not used
299	PWM_L1	O	LC drive PWM output terminal Not used
300	PWM_L2	O	LC drive PWM output terminal Not used
301	I2C 1	—	Open drain for IIC
302	I2C 2	—	Open drain for IIC
303	TEST	—	Not used
304	TEST	—	Not used
305	CLKIN2	I	Clock signal input terminal (13.5 MHz or 27 MHz) Not used
306	FS256	O	Master clock signal (256Fs=11.2896 MHz) output to external A/D, D/A converter Not used
307	ADDT	I	Data input from external A/D converter Not used
308	LRCK	O	L/R sampling clock signal (44.1kHz) output to external A/D, D/A converter Not used
309	XBCK	O	Bit clock (2.8224 MHz) output to the external A/D, D/A converter Not used
310	OSCI	I	Main system clock input terminal (22.5792 MHz)
311	OSCO	O	Main system clock output terminal (22.5792 MHz)
312	FS512	O	Clock signal output for class-D amplifier Not used
313	DTCK	I/O	TSB master data clock input/output or SSB data input/output
314	UDP	I/O	USB data (+) input/output terminal
315	UDM	I/O	USB data (–) input/output terminal
316	USBHOLD	I	USB hold signal input terminal
317	SUSPEND	O	USB suspend signal output
318	UPUEN	O	USB pull-up resistor connection control output terminal
319	UOSCI	I	Resonator (48MHz) connection terminal for the USB oscillation circuit
320	UOSCO	O	Resonator (48MHz) connection terminal for the USB oscillation circuit
321 to 325	NC	—	Not used

SECTION 7
EXPLODED VIEWS

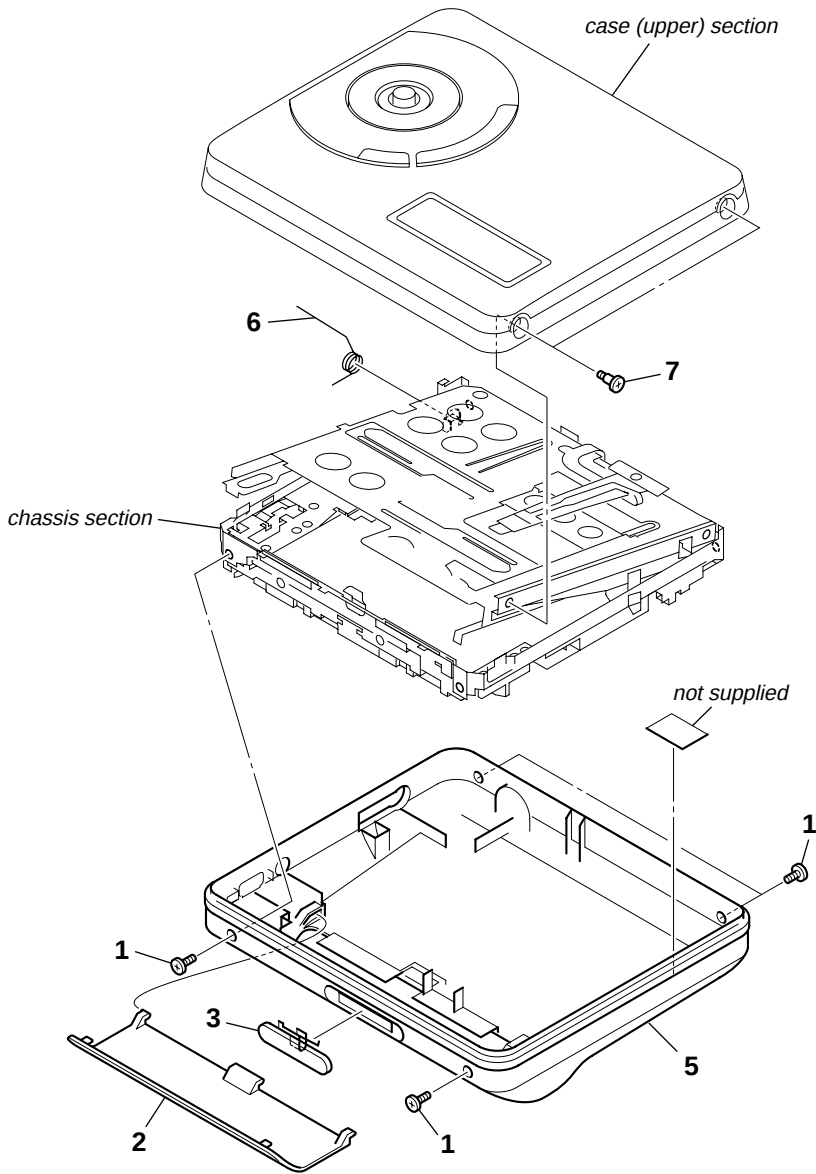
- NOTE:
- XX and -X mean standardized parts, so they may have some difference from the original one.
 - Color Indication of Appearance Parts
Example:
KNOB, BALANCE (WHITE) . . . (RED)
 ↑ ↑
 Parts Color Cabinet's Color

- Items marked “*” are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- The mechanical parts with no reference number in the exploded views are not supplied.
- Accessories are given in the last of the electrical parts list.

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

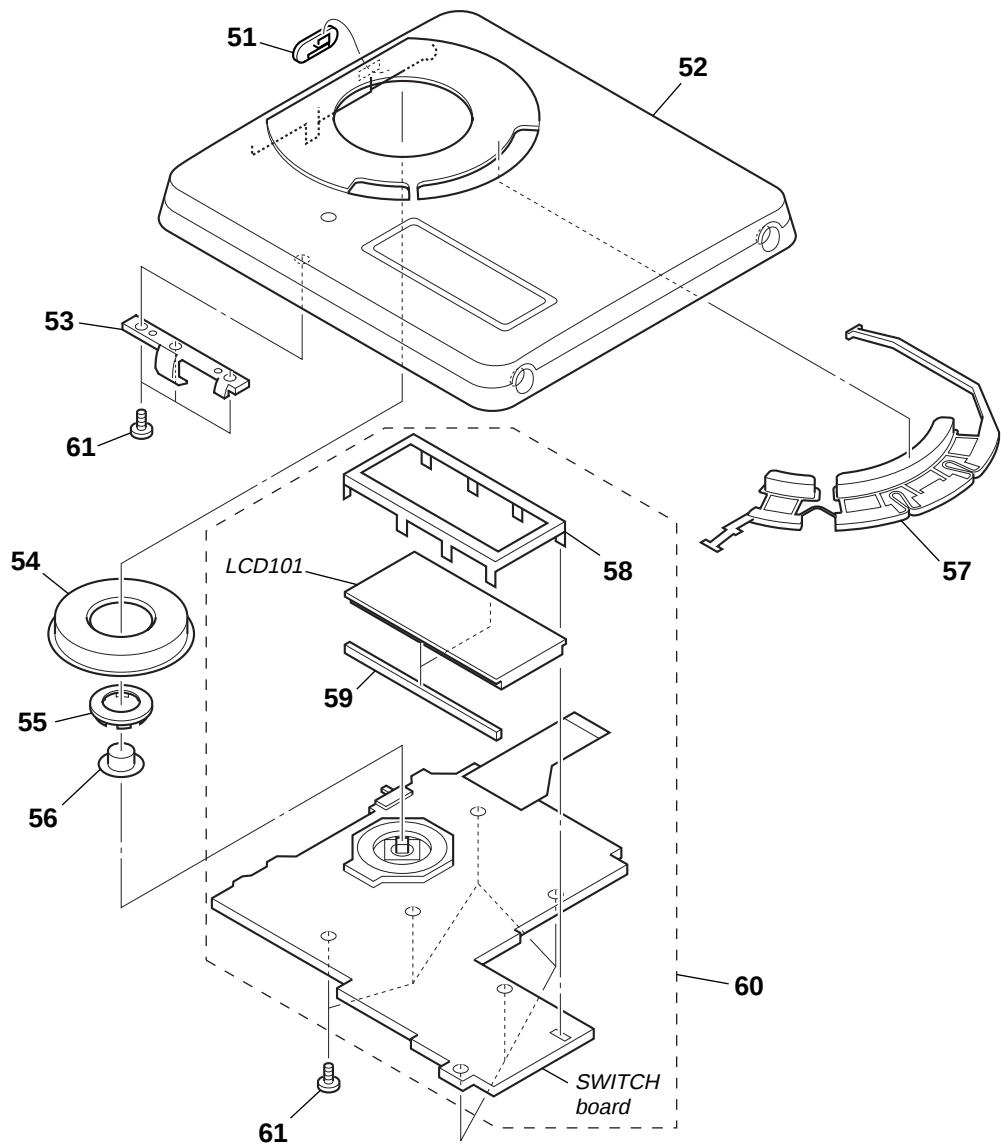
Les composants identifiés par une marque  sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

7-1. CASE (LOWER) SECTION



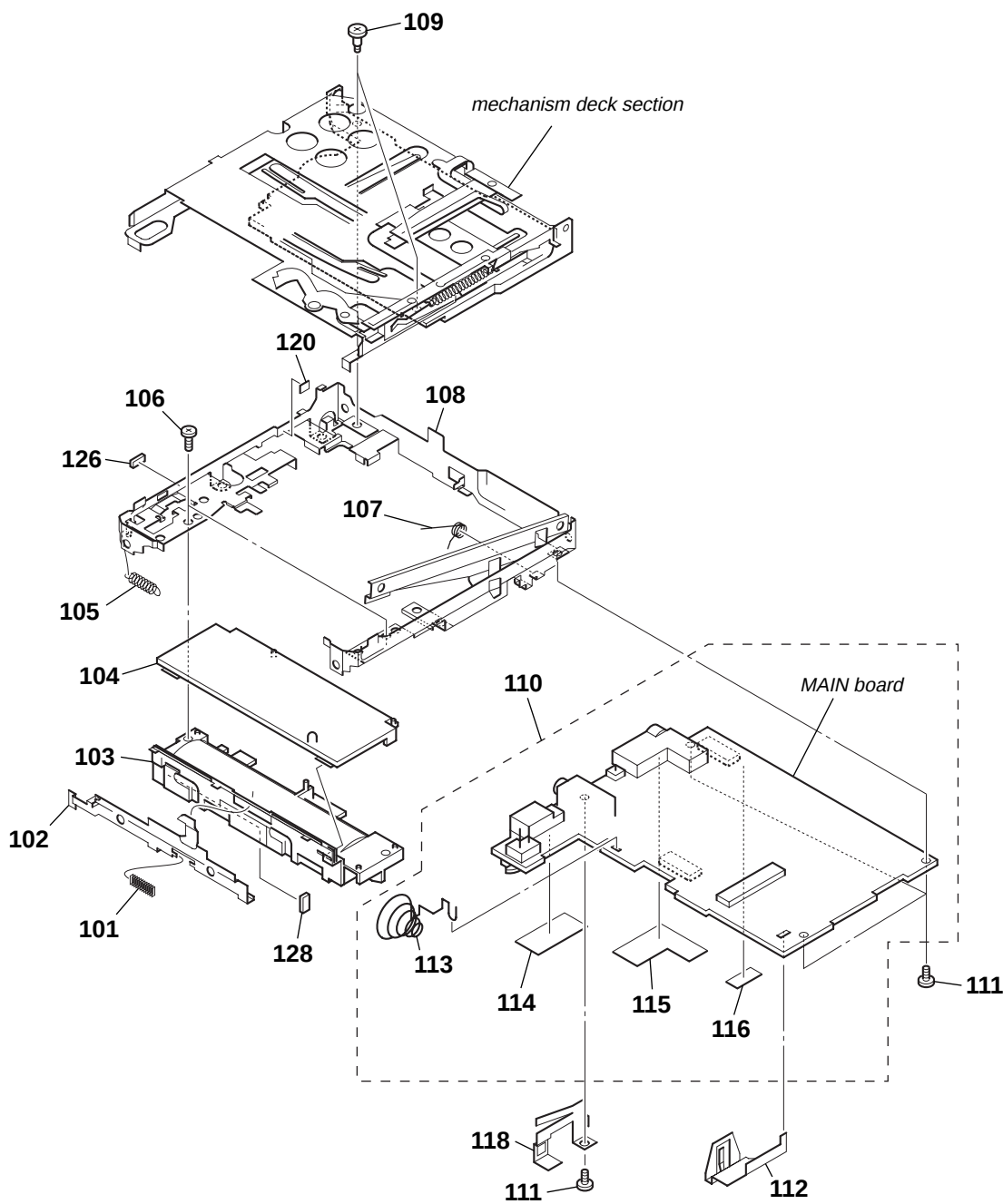
Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
1	3-234-449-17	SCREW (M1.4)		6	3-266-359-01	SPRING (POP UP L), TORSION	
2	3-266-208-71	LID, BATTERY CASE		7	3-241-529-01	SCREW, STEP	
3	3-266-206-81	KNOB (OPEN)					
5	X-2059-839-1	CASE LOWER ASSY, SVX					

7-2. CASE (UPPER) SECTION



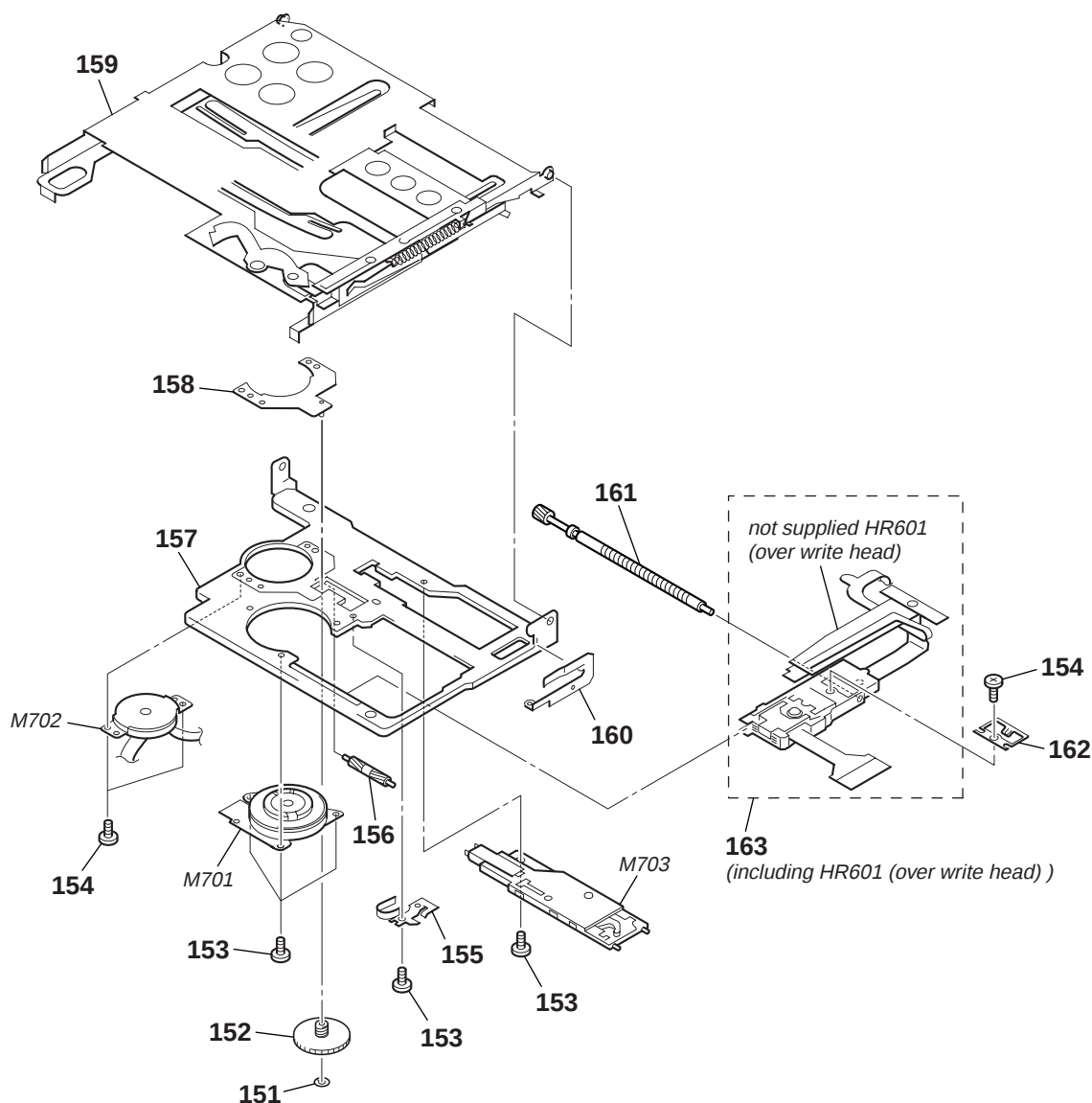
Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
51	3-249-687-91	KNOB (HOLD)		57	2-541-972-01	BUTTON (CONTROL) (DOWNLOAD. ■■. SEARCH/MENU. CANCEL)	
52	X-2055-992-1	CASE UPPER ASSY, SVX		58	2-541-969-01	HOLDER (LCD)	
53	3-266-189-01	LOCKER, OPEN		59	2-022-247-01	RUBBER, CONDUCTIVE	
54	2-541-973-01	KNOB (ROTARY)		60	A-1104-958-A	SWITCH BOARD, COMPLETE	
55	3-266-192-01	ESCUTCHEON (5 DIRECTION) (VOL+ ►►► VOL- ◀◀◀)		61	3-254-014-01	SCREW	
56	3-266-191-01	KNOB (5 DIRECTION) (► ENT)		LCD101	1-805-632-11	LCD	

7-3. CHASSIS SECTION



Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
101	3-266-202-01	SPRING (LIMITTER), COMPRESSION COIL		111	3-238-876-04	SCREW (M1.4), TOOTHED LOCK	
102	3-266-197-01	OPEN SLIDER		112	3-266-204-01	TERMINAL (+), BATTERY	
103	3-266-196-01	CASE, BATTERY		113	3-266-203-02	TERMINAL (-), BATTERY	
104	3-266-194-01	PIN, MD STANDARD		114	2-109-025-02	SHEET (PWB LINE)	
105	3-266-201-01	SPRING (R), EXTENSION		115	2-109-021-01	SHEET (PWB HP)	
106	3-254-003-01	SCREW		116	2-109-024-01	SHEET (PWB DC)	
107	3-266-199-01	SPRING (R), TORSION COIL		118	2-541-975-01	SPRING (USB), LEAF	
108	X-3385-057-3	CHASSIS ASSY, SET		120	2-176-386-01	SHEET (SET CHASSIS L)	
109	3-246-996-01	SCREW (MD), STEP		126	2-149-797-01	CUSHION (USB SPRING)	
110	X-2059-302-1	MAIN BOARD, COMPLETE (for SERVICE)	(Canadian)	128	2-149-335-01	SHEET (BATT CASE)	
110	X-2059-303-1	MAIN BOARD, COMPLETE (for SERVICE) (US)					

7-4. MECHANISM DECK SECTION (MT-MZNH900-181)



Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
151	3-338-645-31	WASHER (0.8-2.5)		161	X-2023-272-1	SERVICE ASSY, LEAD SCREW	
152	3-263-454-01	GEAR (BSA)		162	3-244-879-01	SPRING, RACK	
153	3-248-370-01	SCREW, SELF TAP		△ 163	X-2055-997-1	OP SERVICE ASSY (ABX-U) (including HR601(OVER WRITE HEAD))	
154	3-225-996-17	SCREW (M1.4) (EG), PRECISION PAN		M701	8-835-782-12	MOTOR, DC SSM18D/C-NP (SPINDLE)	
155	3-244-880-01	SPRING, THRUST RETAINER		M702	1-787-143-11	MOTOR, DC (SLED)	
156	3-263-455-01	GEAR (SB)		M703	1-477-519-21	MOTOR UNIT, DC (OVER WRITE HEAD UP/DOWN)	
157	3-259-972-24	CHASSIS (REC)					
158	X-3384-651-2	BASE ASSY, MOTOR					
159	X-3384-650-3	HOLDER ASSY					
160	3-263-453-01	PLATE, RATCHET					

SECTION 8
ELECTRICAL PARTS LIST

NOTE:

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

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

Les composants identifiés par une marque $\triangle$ sont critiques pour la sécurité.
Ne les remplacer que par une pièce portant le numéro spécifié.

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

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
	X-2059-302-1	MAIN BOARD, COMPLETE (for SERVICE) (Canadian)		C478	1-164-943-11	CERAMIC CHIP 0.01uF 10%	16V
	X-2059-303-1	MAIN BOARD, COMPLETE (for SERVICE) (US) *****		C479	1-125-777-11	CERAMIC CHIP 0.1uF 10%	10V
				C480	1-165-884-11	CERAMIC CHIP 2.2uF 10%	6.3V
	2-109-021-01	SHEET (PWB HP)		C481	1-125-837-11	CERAMIC CHIP 1uF 10%	6.3V
	2-109-024-01	SHEET (PWB DC)		C511	1-125-777-11	CERAMIC CHIP 0.1uF 10%	10V
	2-109-025-02	SHEET (PWB LINE)		C513	1-164-943-11	CERAMIC CHIP 0.01uF 10%	16V
	3-266-203-02	TERMINAL (-), BATTERY					
		< CAPACITOR >		C515	1-125-777-11	CERAMIC CHIP 0.1uF 10%	10V
C151	1-164-941-11	CERAMIC CHIP 0.0047uF 10%	16V	C516	1-125-777-11	CERAMIC CHIP 0.1uF 10%	10V
C152	1-164-939-11	CERAMIC CHIP 0.0022uF 10%	50V	C517	1-125-777-11	CERAMIC CHIP 0.1uF 10%	10V
C153	1-165-884-11	CERAMIC CHIP 2.2uF 10%	6.3V	C518	1-135-210-11	TANTALUM CHIP 4.7uF 20%	10V
C154	1-115-467-11	CERAMIC CHIP 0.22uF 10%	10V	C519	1-125-777-11	CERAMIC CHIP 0.1uF 10%	10V
C160	1-137-859-11	TANTALUM CHIP 220uF 20%	4V				
				C520	1-125-777-11	CERAMIC CHIP 0.1uF 10%	10V
C251	1-164-941-11	CERAMIC CHIP 0.0047uF 10%	16V	C521	1-164-850-11	CERAMIC CHIP 10PF 0.5PF	50V
C252	1-164-939-11	CERAMIC CHIP 0.0022uF 10%	50V	C522	1-164-850-11	CERAMIC CHIP 10PF 0.5PF	50V
C253	1-165-884-11	CERAMIC CHIP 2.2uF 10%	6.3V	C523	1-125-777-11	CERAMIC CHIP 0.1uF 10%	10V
C254	1-115-467-11	CERAMIC CHIP 0.22uF 10%	10V	C524	1-162-970-11	CERAMIC CHIP 0.01uF 10%	25V
C260	1-137-859-11	TANTALUM CHIP 220uF 20%	4V				
				C525	1-164-941-11	CERAMIC CHIP 0.0047uF 10%	16V
C351	1-125-837-11	CERAMIC CHIP 1uF 10%	6.3V	C526	1-164-874-11	CERAMIC CHIP 100PF 5%	50V
C352	1-135-259-11	TANTALUM CHIP 10uF 20%	6.3V	C527	1-125-777-11	CERAMIC CHIP 0.1uF 10%	10V
C353	1-125-777-11	CERAMIC CHIP 0.1uF 10%	10V	C528	1-125-777-11	CERAMIC CHIP 0.1uF 10%	10V
C354	1-135-151-21	TANTALUM CHIP 4.7uF 20%	4V	C529	1-125-777-11	CERAMIC CHIP 0.1uF 10%	10V
C355	1-165-884-11	CERAMIC CHIP 2.2uF 10%	6.3V				
				C530	1-125-837-11	CERAMIC CHIP 1uF 10%	6.3V
C356	1-135-201-11	TANTALUM CHIP 10uF 20%	4V	C531	1-164-943-11	CERAMIC CHIP 0.01uF 10%	16V
C361	1-164-943-11	CERAMIC CHIP 0.01uF 10%	16V	C533	1-164-943-11	CERAMIC CHIP 0.01uF 10%	16V
C364	1-125-777-11	CERAMIC CHIP 0.1uF 10%	10V	C536	1-107-819-11	CERAMIC CHIP 0.022uF 10%	16V
C402	1-100-609-11	TANTALUM CHIP 220uF	5V	C537	1-125-837-11	CERAMIC CHIP 1uF 10%	6.3V
C403	1-100-609-11	TANTALUM CHIP 220uF	5V				
				C538	1-164-941-11	CERAMIC CHIP 0.0047uF 10%	16V
C423	1-100-609-11	TANTALUM CHIP 220uF	5V	C539	1-125-837-11	CERAMIC CHIP 1uF 10%	6.3V
C424	1-100-609-11	TANTALUM CHIP 220uF	5V	C545	1-125-777-11	CERAMIC CHIP 0.1uF 10%	10V
C425	1-125-777-11	CERAMIC CHIP 0.1uF 10%	10V	C547	1-119-923-11	CERAMIC CHIP 0.047uF 10%	10V
C427	1-125-777-11	CERAMIC CHIP 0.1uF 10%	10V	C550	1-119-923-11	CERAMIC CHIP 0.047uF 10%	10V
C429	1-125-777-11	CERAMIC CHIP 0.1uF 10%	10V				
				C552	1-164-943-11	CERAMIC CHIP 0.01uF 10%	16V
C430	1-164-937-11	CERAMIC CHIP 0.001uF 10%	50V	C553	1-135-210-11	TANTALUM CHIP 4.7uF 20%	10V
C452	1-107-826-11	CERAMIC CHIP 0.1uF 10%	16V	C554	1-125-777-11	CERAMIC CHIP 0.1uF 10%	10V
C453	1-165-176-11	CERAMIC CHIP 0.047uF 10%	16V	C555	1-164-941-11	CERAMIC CHIP 0.0047uF 10%	16V
C455	1-164-939-11	CERAMIC CHIP 0.0022uF 10%	50V	C556	1-135-210-11	TANTALUM CHIP 4.7uF 20%	10V
C456	1-164-939-11	CERAMIC CHIP 0.0022uF 10%	50V				
				C557	1-125-777-11	CERAMIC CHIP 0.1uF 10%	10V
C457	1-107-826-11	CERAMIC CHIP 0.1uF 10%	16V	C558	1-164-937-11	CERAMIC CHIP 0.001uF 10%	50V
C458	1-125-777-11	CERAMIC CHIP 0.1uF 10%	10V	C559	1-164-941-11	CERAMIC CHIP 0.0047uF 10%	16V
C459	1-125-777-11	CERAMIC CHIP 0.1uF 10%	10V	C560	1-125-777-11	CERAMIC CHIP 0.1uF 10%	10V
C476	1-164-937-11	CERAMIC CHIP 0.001uF 10%	50V	C564	1-135-210-11	TANTALUM CHIP 4.7uF 20%	10V
				C565	1-125-777-11	CERAMIC CHIP 0.1uF 10%	10V
				C566	1-125-777-11	CERAMIC CHIP 0.1uF 10%	10V

Ref. No.	Part No.	Description			Remark	Ref. No.	Part No.	Description			Remark
C567	1-135-210-11	TANTALUM CHIP	4.7uF	20%	10V	C708	1-107-819-11	CERAMIC CHIP	0.022uF	10%	16V
C570	1-165-847-91	TANTALUM CHIP	4.7uF	20%	10V	C709	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C573	1-164-937-11	CERAMIC CHIP	0.001uF	10%	50V	C710	1-107-819-11	CERAMIC CHIP	0.022uF	10%	16V
C574	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V	C712	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C601	1-125-837-11	CERAMIC CHIP	1uF	10%	6.3V	C713	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C602	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V	C714	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C604	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V	C715	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C607	1-125-837-11	CERAMIC CHIP	1uF	10%	6.3V	C716	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C609	1-125-837-11	CERAMIC CHIP	1uF	10%	6.3V	C717	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C611	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V	C801	1-164-847-11	CERAMIC CHIP	7PF	0.5PF	50V
C612	1-119-750-11	TANTALUM CHIP	22uF	20%	6.3V	C802	1-164-847-11	CERAMIC CHIP	7PF	0.5PF	50V
C613	1-119-750-11	TANTALUM CHIP	22uF	20%	6.3V	C803	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C614	1-119-750-11	TANTALUM CHIP	22uF	20%	6.3V	C804	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C616	1-165-897-11	TANTALUM CHIP	22uF	20%	10V	C805	1-125-891-11	CERAMIC CHIP	0.47uF	10%	10V
C619	1-125-837-11	CERAMIC CHIP	1uF	10%	6.3V	C808	1-125-837-11	CERAMIC CHIP	1uF	10%	6.3V
C620	1-119-923-11	CERAMIC CHIP	0.047uF	10%	10V	C809	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C621	1-135-201-11	TANTALUM CHIP	10uF	20%	4V	C810	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C622	1-100-539-11	TANTALUM CHIP	47uF	20%	6.3V	C811	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C625	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V	C812	1-125-837-11	CERAMIC CHIP	1uF	10%	6.3V
C627	1-100-539-11	TANTALUM CHIP	47uF	20%	6.3V	C814	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C628	1-125-837-11	CERAMIC CHIP	1uF	10%	6.3V	C816	1-100-539-11	TANTALUM CHIP	47uF	20%	6.3V
C630	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V	C817	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C633	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V	C818	1-165-851-91	TANTALUM CHIP	10uF	20%	6.3V
C634	1-125-837-11	CERAMIC CHIP	1uF	10%	6.3V	C819	1-100-539-11	TANTALUM CHIP	47uF	20%	6.3V
C635	1-100-539-11	TANTALUM CHIP	47uF	20%	6.3V	C820	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C636	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V	C821	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C637	1-165-851-91	TANTALUM CHIP	10uF	20%	6.3V	C822	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C638	1-164-939-11	CERAMIC CHIP	0.0022uF	10%	50V	C823	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C641	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V	C828	1-164-937-11	CERAMIC CHIP	0.001uF	10%	50V
C642	1-119-923-11	CERAMIC CHIP	0.047uF	10%	10V	C832	1-125-837-11	CERAMIC CHIP	1uF	10%	6.3V
C643	1-100-743-91	CERAMIC CHIP	2.2uF	20%	16V	C833	1-125-837-11	CERAMIC CHIP	1uF	10%	6.3V
C644	1-164-941-11	CERAMIC CHIP	0.0047uF	10%	16V	C835	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C645	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V	C836	1-165-851-91	TANTALUM CHIP	10uF	20%	6.3V
C646	1-119-923-11	CERAMIC CHIP	0.047uF	10%	10V	C838	1-165-851-91	TANTALUM CHIP	10uF	20%	6.3V
C648	1-119-923-11	CERAMIC CHIP	0.047uF	10%	10V	C839	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C649	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V	C843	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C650	1-165-851-91	TANTALUM CHIP	10uF	20%	6.3V	C845	1-100-539-11	TANTALUM CHIP	47uF	20%	6.3V
C652	1-135-259-11	TANTALUM CHIP	10uF	20%	6.3V	C846	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C653	1-135-259-11	TANTALUM CHIP	10uF	20%	6.3V	C847	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C658	1-100-539-11	TANTALUM CHIP	47uF	20%	6.3V	C850	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C660	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V	C853	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C661	1-165-884-11	CERAMIC CHIP	2.2uF	10%	6.3V	C856	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C666	1-127-820-11	CERAMIC CHIP	4.7uF	10%	16V	C857	1-164-858-11	CERAMIC CHIP	22PF	5%	50V
C668	1-125-837-11	CERAMIC CHIP	1uF	10%	6.3V	C858	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C669	1-125-837-11	CERAMIC CHIP	1uF	10%	6.3V	C859	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C671	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V	C860	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C672	1-127-820-11	CERAMIC CHIP	4.7uF	10%	16V	C861	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C673	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V	C864	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C674	1-112-010-11	CAP-CHIP	33PF	5%	100V	C892	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C675	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V	C901	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C676	1-164-937-11	CERAMIC CHIP	0.001uF	10%	50V	C902	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C677	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V	C903	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C701	1-119-923-11	CERAMIC CHIP	0.047uF	10%	10V	C906	1-100-352-11	CERAMIC CHIP	1uF	20%	16V
C702	1-119-923-11	CERAMIC CHIP	0.047uF	10%	10V	C908	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C703	1-119-923-11	CERAMIC CHIP	0.047uF	10%	10V	C909	1-119-751-11	TANTALUM CHIP	22uF	20%	16V
C705	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V	C915	1-165-851-91	TANTALUM CHIP	10uF	20%	6.3V
C706	1-107-819-11	CERAMIC CHIP	0.022uF	10%	16V	C916	1-165-851-91	TANTALUM CHIP	10uF	20%	6.3V
C707	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V						

MAIN

Ref. No.	Part No.	Description	Remark
C918	1-165-176-11	CERAMIC CHIP 0.047uF 10%	16V
C919	1-164-227-11	CERAMIC CHIP 0.022uF 10%	25V
C920	1-125-777-11	CERAMIC CHIP 0.1uF 10%	10V
C922	1-128-964-11	TANTALUM CHIP 100uF 20%	6.3V
C923	1-100-539-11	TANTALUM CHIP 47uF 20%	6.3V
C924	1-100-539-11	TANTALUM CHIP 47uF 20%	6.3V
C926	1-164-937-11	CERAMIC CHIP 0.001uF 10%	50V
C927	1-164-874-11	CERAMIC CHIP 100PF 5%	50V
C928	1-164-874-11	CERAMIC CHIP 100PF 5%	50V
C929	1-164-937-11	CERAMIC CHIP 0.001uF 10%	50V
C931	1-165-884-11	CERAMIC CHIP 2.2uF 10%	6.3V
C932	1-164-943-11	CERAMIC CHIP 0.01uF 10%	16V
C933	1-165-884-11	CERAMIC CHIP 2.2uF 10%	6.3V
C935	1-165-884-11	CERAMIC CHIP 2.2uF 10%	6.3V
C936	1-165-884-11	CERAMIC CHIP 2.2uF 10%	6.3V
C937	1-165-884-11	CERAMIC CHIP 2.2uF 10%	6.3V
C939	1-119-750-11	TANTALUM CHIP 22uF 20%	6.3V
C940	1-119-750-11	TANTALUM CHIP 22uF 20%	6.3V
C948	1-119-750-11	TANTALUM CHIP 22uF 20%	6.3V
C954	1-164-937-11	CERAMIC CHIP 0.001uF 10%	50V
C958	1-125-837-11	CERAMIC CHIP 1uF 10%	6.3V
C959	1-125-777-11	CERAMIC CHIP 0.1uF 10%	10V
C960	1-125-777-11	CERAMIC CHIP 0.1uF 10%	10V
C961	1-125-777-11	CERAMIC CHIP 0.1uF 10%	10V
< CONNECTOR >			
CN451	1-818-190-21	CONNECTOR, SQUARE TYPE 7P (USB)	
CN471	1-818-543-21	CONNECTOR, FFC/FPC (ZIF) 16P	
CN501	1-818-545-21	CONNECTOR, FFC/FPC (ZIF) 26P	
CN701	1-818-540-21	CONNECTOR, FFC/FPC (ZIF) 10P	
< DIODE >			
D151	8-719-056-72	DIODE UDZ-TE-17-2.4B	
D251	8-719-056-72	DIODE UDZ-TE-17-2.4B	
D352	6-500-116-01	DIODE NNCD6.8H-T1	
D435	8-719-056-58	DIODE MAZS027008S0	
D440	6-500-483-01	DIODE MA22D2800LS0	
D441	8-719-056-29	DIODE 015AZ4.7-TPL3	
D457	6-500-483-01	DIODE MA22D2800LS0	
D458	8-719-422-49	DIODE MA8056-L	
D471	8-719-072-27	DIODE MA2Z748001S0	
D601	6-500-813-01	DIODE MA2SD32008S0	
D602	8-719-072-27	DIODE MA2Z748001S0	
D603	8-719-072-27	DIODE MA2Z748001S0	
D604	6-500-483-01	DIODE MA22D2800LS0	
D605	6-500-910-01	DIODE MA2SD3000LS0	
D606	6-500-909-01	DIODE MA22D1700LS0	
D607	6-500-909-01	DIODE MA22D1700LS0	
D608	6-500-910-01	DIODE MA2SD3000LS0	
D609	8-719-072-27	DIODE MA2Z748001S0	
D610	8-719-072-27	DIODE MA2Z748001S0	
D611	8-719-072-27	DIODE MA2Z748001S0	
D613	6-500-813-01	DIODE MA2SD32008S0	
D614	6-500-813-01	DIODE MA2SD32008S0	
D615	6-500-909-01	DIODE MA22D1700LS0	
D616	6-500-909-01	DIODE MA22D1700LS0	
D801	8-719-072-27	DIODE MA2Z748001S0	

Ref. No.	Part No.	Description	Remark
D803	6-500-813-01	DIODE MA2SD32008S0	
D902	8-719-072-27	DIODE MA2Z748001S0	
D904	8-719-072-27	DIODE MA2Z748001S0	
D905	8-719-072-27	DIODE MA2Z748001S0	
D906	6-500-483-01	DIODE MA22D2800LS0	
< FUSE >			
△ F351	1-576-439-41	FUSE (0.25A/125V)	
< FERRITE BEAD/SHORT >			
FB353	1-414-594-11	INDUCTOR, FERRITE BEAD	
FB354	1-216-864-11	SHORT CHIP 0	
FB355	1-414-594-11	INDUCTOR, FERRITE BEAD	
FB357	1-414-594-11	INDUCTOR, FERRITE BEAD	
FB451	1-469-869-21	INDUCTOR (EMI FERRITE) (2012)	
FB452	1-469-869-21	INDUCTOR (EMI FERRITE) (2012)	
FB471	1-216-864-11	SHORT CHIP 0	
FB501	1-400-620-21	INDUCTOR, FERRITE BEAD (1005)	
FB502	1-216-864-11	SHORT CHIP 0	
FB503	1-216-864-11	SHORT CHIP 0	
FB801	1-216-864-11	SHORT CHIP 0	
FB802	1-216-864-11	SHORT CHIP 0	
FB803	1-414-760-21	INDUCTOR, FERRITE BEAD	
FB807	1-216-864-11	SHORT CHIP 0	
FB809	1-216-864-11	SHORT CHIP 0	
FB810	1-414-760-21	INDUCTOR, FERRITE BEAD	
< IC >			
IC352	6-705-942-01	IC TA2131FLG (EL)	
IC471	6-705-715-01	IC XC6219B242MR	
@ IC501	6-705-012-11	IC SN761059AZQLR	
@ IC601	6-705-000-01	IC SC901585VAR2	
IC602	6-703-317-01	IC R1160N121B-TR-FA	
* IC603	6-706-038-01	IC XC6209B322MR	
IC604	6-706-079-01	IC R1180Q121C-TR-FA	
IC605	6-706-214-01	IC TC7SL32FU (TE85R)	
IC606	6-702-590-01	IC XC61CN1702NR	
IC607	8-759-690-72	IC XC61CN0902NR	
IC701	6-704-999-01	IC BD6607KN	
@ IC801	8-753-239-65	IC CXD2681-225GG	
IC804	6-706-089-01	IC XC61CC2502NR	
IC892	(Not supplied)	IC HN58X2564FPIEZ	
IC901	6-704-997-01	IC SC901584EPR2	
IC902	6-704-245-01	IC XC61CC1702NR	
< JACK >			
J352	1-817-447-12	JACK (♂)	
< COIL/JUMPER RESISTOR >			
L351	1-216-295-00	SHORT CHIP 0	
L502	1-400-397-11	INDUCTOR 10uH	
L503	1-400-397-11	INDUCTOR 10uH	
L504	1-400-397-11	INDUCTOR 10uH	
L505	1-400-397-11	INDUCTOR 10uH	
L506	1-400-397-11	INDUCTOR 10uH	
L507	1-400-397-11	INDUCTOR 10uH	
L601	1-414-398-11	INDUCTOR 10uH	

@ Replacement of IC501, IC601 and IC801 used in this set requires a special tool.

Ref. No.	Part No.	Description	Remark				Ref. No.	Part No.	Description	Remark			
L603	1-414-398-11	INDUCTOR	10uH				R152	1-218-957-11	RES-CHIP	2.2K	5%	1/16W	
L605	1-416-669-11	INDUCTOR	22uH				R153	1-218-965-11	RES-CHIP	10K	5%	1/16W	
L606	1-400-626-11	INDUCTOR	10uH				R154	1-218-965-11	RES-CHIP	10K	5%	1/16W	
L607	1-419-881-11	INDUCTOR	47uH				R155	1-218-929-11	RES-CHIP	10	5%	1/16W	
L608	1-400-402-21	INDUCTOR	4.7uH				R156	1-218-961-11	RES-CHIP	4.7K	5%	1/16W	
L701	1-216-295-00	SHORT CHIP	0				R157	1-208-683-11	METAL CHIP	1K	0.5%	1/16W	
L702	1-216-295-00	SHORT CHIP	0				R158	1-208-691-11	METAL CHIP	2.2K	0.5%	1/16W	
L801	1-400-397-11	INDUCTOR	10uH				R160	1-218-990-11	SHORT CHIP	0			
L802	1-400-343-21	INDUCTOR	22uH				R251	1-218-965-11	RES-CHIP	10K	5%	1/16W	
L803	1-216-001-00	RES-CHIP	10	5%	1/10W		R252	1-218-957-11	RES-CHIP	2.2K	5%	1/16W	
L804	1-216-001-00	RES-CHIP	10	5%	1/10W		R253	1-218-965-11	RES-CHIP	10K	5%	1/16W	
L805	1-216-295-00	SHORT CHIP	0				R254	1-218-965-11	RES-CHIP	10K	5%	1/16W	
L901	1-456-711-21	INDUCTOR	100uH				R255	1-218-929-11	RES-CHIP	10	5%	1/16W	
L903	1-400-397-11	INDUCTOR	10uH				R256	1-218-961-11	RES-CHIP	4.7K	5%	1/16W	
L904	1-400-397-11	INDUCTOR	10uH				R257	1-208-683-11	METAL CHIP	1K	0.5%	1/16W	
L906	1-456-677-21	INDUCTOR	47uH				R258	1-208-691-11	METAL CHIP	2.2K	0.5%	1/16W	
L907	1-456-677-21	INDUCTOR	47uH				R260	1-218-990-11	SHORT CHIP	0			
L9001	1-414-398-11	INDUCTOR	10uH				R351	1-218-937-11	RES-CHIP	47	5%	1/16W	
< LINE FILTER >							R352	1-218-981-11	RES-CHIP	220K	5%	1/16W	
LF301	1-456-827-11	COIL, COMMON MODE CHOKE					R353	1-218-969-11	RES-CHIP	22K	5%	1/16W	
LF451	1-456-111-11	COIL, COMMON MODE CHOKE					R354	1-218-965-11	RES-CHIP	10K	5%	1/16W	
< TRANSISTOR >							R355	1-218-989-11	RES-CHIP	1M	5%	1/16W	
Q351	8-729-037-52	TRANSISTOR	2SD2216J-QR (TX).SO				R356	1-218-977-11	RES-CHIP	100K	5%	1/16W	
Q352	8-729-030-46	TRANSISTOR	XP4314-TX				R358	1-220-804-11	RES-CHIP	2.2M	5%	1/16W	
Q353	6-550-353-01	FET	SI1410EDH-T1				R421	1-218-977-11	RES-CHIP	100K	5%	1/16W	
Q403	6-550-353-01	FET	SI1410EDH-T1				R422	1-218-989-11	RES-CHIP	1M	5%	1/16W	
Q406	8-729-427-74	TRANSISTOR	XP4601				R423	1-218-981-11	RES-CHIP	220K	5%	1/16W	
Q451	6-550-354-01	FET	RTQ035P02TR				R424	1-218-985-11	RES-CHIP	470K	5%	1/16W	
Q452	8-729-427-74	TRANSISTOR	XP4601				R454	1-216-864-11	SHORT CHIP	0			
Q471	8-729-429-44	TRANSISTOR	XP1501				R455	1-218-989-11	RES-CHIP	1M	5%	1/16W	
Q502	8-729-051-23	TRANSISTOR	2SA2018TL				R456	1-218-985-11	RES-CHIP	470K	5%	1/16W	
Q503	8-729-037-52	TRANSISTOR	2SD2216J-QR (TX).SO				R460	1-216-864-11	SHORT CHIP	0			
Q504	8-729-037-89	TRANSISTOR	2SC4627J-C (TX).SO				R462	1-218-981-11	RES-CHIP	220K	5%	1/16W	
Q601	6-550-357-01	FET	CPH5614-TL-E				R463	1-218-945-11	RES-CHIP	220	5%	1/16W	
Q602	6-550-740-01	FET	MCH6617-TL-E				R464	1-208-935-11	METAL CHIP	100K	0.5%	1/16W	
Q603	8-729-053-71	FET	TS8K1TB				R466	1-220-804-11	RES-CHIP	2.2M	5%	1/16W	
Q607	8-729-037-52	TRANSISTOR	2SD2216J-QR (TX).SO				R467	1-218-965-11	RES-CHIP	10K	5%	1/16W	
Q608	8-729-030-46	TRANSISTOR	XP4314-TX				R471	1-218-990-11	SHORT CHIP	0			
Q609	6-550-859-01	FET	NTHD4508NT1G				R472	1-218-990-11	SHORT CHIP	0			
Q611	6-550-353-01	FET	SI1410EDH-T1				R473	1-218-990-11	SHORT CHIP	0			
Q612	6-551-273-01	FET	RTR025N03TL				R474	1-218-953-11	RES-CHIP	1K	5%	1/16W	
Q613	8-729-047-68	FET	SSM3K03FE (TPL3)				R475	1-218-990-11	SHORT CHIP	0			
Q614	8-729-427-74	TRANSISTOR	XP4601				R476	1-208-699-11	METAL CHIP	4.7K	0.5%	1/16W	
Q615	6-550-353-01	FET	SI1410EDH-T1				R477	1-208-699-11	METAL CHIP	4.7K	0.5%	1/16W	
Q616	6-550-353-01	FET	SI1410EDH-T1				R478	1-218-961-11	RES-CHIP	4.7K	5%	1/16W	
Q617	8-729-427-74	TRANSISTOR	XP4601				R480	1-218-977-11	RES-CHIP	100K	5%	1/16W	
Q618	8-729-427-74	TRANSISTOR	XP4601				R483	1-218-985-11	RES-CHIP	470K	5%	1/16W	
Q801	8-729-047-68	FET	SSM3K03FE (TPL3)				R484	1-218-981-11	RES-CHIP	220K	5%	1/16W	
Q802	8-729-051-50	FET	XP152A12C0MR				R485	1-218-985-11	RES-CHIP	470K	5%	1/16W	
Q803	8-729-037-52	TRANSISTOR	2SD2216J-QR (TX).SO				R486	1-218-990-11	SHORT CHIP	0			
Q901	8-729-053-71	FET	TS8K1TB				R489	1-218-941-11	RES-CHIP	100	5%	1/16W	
Q902	8-729-427-74	TRANSISTOR	XP4601				R490	1-218-941-11	RES-CHIP	100	5%	1/16W	
< RESISTOR >							R491	1-218-941-11	RES-CHIP	100	5%	1/16W	
R151	1-218-965-11	RES-CHIP	10K	5%	1/16W		R501	1-218-957-11	RES-CHIP	2.2K	5%	1/16W	
							R502	1-218-953-11	RES-CHIP	1K	5%	1/16W	
							R505	1-218-929-11	RES-CHIP	10	5%	1/16W	
							R509	1-218-990-11	SHORT CHIP	0			
							R511	1-218-990-11	SHORT CHIP	0			

MZ-DH710

MAIN

Ref. No.	Part No.	Description	Remark			Ref. No.	Part No.	Description	Remark		
R512	1-218-990-11	SHORT CHIP	0			R673	1-218-990-11	SHORT CHIP	0		
R513	1-218-965-11	RES-CHIP	10K	5%	1/16W	R675	1-220-804-11	RES-CHIP	2.2M	5%	1/16W
R514	1-218-973-11	RES-CHIP	47K	5%	1/16W	R677	1-216-864-11	SHORT CHIP	0		
R515	1-218-965-11	RES-CHIP	10K	5%	1/16W	R679	1-218-945-11	RES-CHIP	220	5%	1/16W
R516	1-218-973-11	RES-CHIP	47K	5%	1/16W	R680	1-216-864-11	SHORT CHIP	0		
R517	1-218-965-11	RES-CHIP	10K	5%	1/16W	R681	1-218-989-11	RES-CHIP	1M	5%	1/16W
R518	1-218-973-11	RES-CHIP	47K	5%	1/16W	R682	1-218-989-11	RES-CHIP	1M	5%	1/16W
R519	1-218-953-11	RES-CHIP	1K	5%	1/16W	R683	1-218-989-11	RES-CHIP	1M	5%	1/16W
R520	1-218-949-11	RES-CHIP	470	5%	1/16W	R684	1-218-965-11	RES-CHIP	10K	5%	1/16W
R524	1-218-945-11	RES-CHIP	220	5%	1/16W	R685	1-218-965-11	RES-CHIP	10K	5%	1/16W
R525	1-216-864-11	SHORT CHIP	0			R706	1-218-957-11	RES-CHIP	2.2K	5%	1/16W
R526	1-216-864-11	SHORT CHIP	0			R707	1-218-957-11	RES-CHIP	2.2K	5%	1/16W
R601	1-218-981-11	RES-CHIP	220K	5%	1/16W	R708	1-218-957-11	RES-CHIP	2.2K	5%	1/16W
R605	1-218-953-11	RES-CHIP	1K	5%	1/16W	R709	1-218-965-11	RES-CHIP	10K	5%	1/16W
R608	1-218-446-11	METAL CHIP	1	5%	1/10W	R710	1-218-965-11	RES-CHIP	10K	5%	1/16W
R609	1-218-977-11	RES-CHIP	100K	5%	1/16W	R711	1-218-965-11	RES-CHIP	10K	5%	1/16W
R612	1-220-804-11	RES-CHIP	2.2M	5%	1/16W	R712	1-218-990-11	SHORT CHIP	0		
R616	1-218-953-11	RES-CHIP	1K	5%	1/16W	R713	1-218-953-11	RES-CHIP	1K	5%	1/16W
R617	1-218-953-11	RES-CHIP	1K	5%	1/16W	R801	1-218-961-11	RES-CHIP	4.7K	5%	1/16W
R618	1-218-977-11	RES-CHIP	100K	5%	1/16W	R802	1-218-990-11	SHORT CHIP	0		
R619	1-218-977-11	RES-CHIP	100K	5%	1/16W	R804	1-218-933-11	RES-CHIP	22	5%	1/16W
R620	1-218-990-11	SHORT CHIP	0			R805	1-218-933-11	RES-CHIP	22	5%	1/16W
R621	1-218-990-11	SHORT CHIP	0			R806	1-218-961-11	RES-CHIP	4.7K	5%	1/16W
R622	1-218-990-11	SHORT CHIP	0			R807	1-218-957-11	RES-CHIP	2.2K	5%	1/16W
R623	1-218-990-11	SHORT CHIP	0			R808	1-218-961-11	RES-CHIP	4.7K	5%	1/16W
R624	1-218-985-11	RES-CHIP	470K	5%	1/16W	R809	1-218-990-11	SHORT CHIP	0		
R625	1-218-985-11	RES-CHIP	470K	5%	1/16W	R810	1-218-990-11	SHORT CHIP	0		
R628	1-218-933-11	RES-CHIP	22	5%	1/16W	R811	1-218-965-11	RES-CHIP	10K	5%	1/16W
R629	1-220-804-11	RES-CHIP	2.2M	5%	1/16W	R812	1-218-977-11	RES-CHIP	100K	5%	1/16W
R635	1-216-864-11	SHORT CHIP	0			R813	1-218-945-11	RES-CHIP	220	5%	1/16W
R636	1-218-985-11	RES-CHIP	470K	5%	1/16W	R815	1-218-981-11	RES-CHIP	220K	5%	1/16W
R638	1-218-981-11	RES-CHIP	220K	5%	1/16W	R817	1-218-953-11	RES-CHIP	1K	5%	1/16W
R639	1-218-989-11	RES-CHIP	1M	5%	1/16W	R818	1-218-957-11	RES-CHIP	2.2K	5%	1/16W
R640	1-218-981-11	RES-CHIP	220K	5%	1/16W	R819	1-218-953-11	RES-CHIP	1K	5%	1/16W
R641	1-218-989-11	RES-CHIP	1M	5%	1/16W	R820	1-218-945-11	RES-CHIP	220	5%	1/16W
R642	1-218-977-11	RES-CHIP	100K	5%	1/16W	R821	1-220-804-11	RES-CHIP	2.2M	5%	1/16W
R643	1-218-990-11	SHORT CHIP	0			R822	1-218-989-11	RES-CHIP	1M	5%	1/16W
R645	1-218-985-11	RES-CHIP	470K	5%	1/16W	R823	1-218-965-11	RES-CHIP	10K	5%	1/16W
R646	1-218-973-11	RES-CHIP	47K	5%	1/16W	R824	1-218-990-11	SHORT CHIP	0		
R647	1-218-989-11	RES-CHIP	1M	5%	1/16W	R825	1-218-990-11	SHORT CHIP	0		
R648	1-245-456-21	METAL CHIP	1	1%	1/5W	R826	1-218-990-11	SHORT CHIP	0		
R649	1-245-456-21	METAL CHIP	1	1%	1/5W	R827	1-218-990-11	SHORT CHIP	0		
R650	1-216-793-11	METAL CHIP	4.7	5%	1/10W	R828	1-218-990-11	SHORT CHIP	0		
R652	1-218-990-11	SHORT CHIP	0			R832	1-218-965-11	RES-CHIP	10K	5%	1/16W
R653	1-218-969-11	RES-CHIP	22K	5%	1/16W	R833	1-218-990-11	SHORT CHIP	0		
R654	1-218-989-11	RES-CHIP	1M	5%	1/16W	R839	1-218-990-11	SHORT CHIP	0		
R657	1-218-990-11	SHORT CHIP	0			R840	1-218-990-11	SHORT CHIP	0		
R659	1-218-977-11	RES-CHIP	100K	5%	1/16W	R841	1-218-929-11	RES-CHIP	10	5%	1/16W
R660	1-218-985-11	RES-CHIP	470K	5%	1/16W	R842	1-218-973-11	RES-CHIP	47K	5%	1/16W
R661	1-218-985-11	RES-CHIP	470K	5%	1/16W	R843	1-218-957-11	RES-CHIP	2.2K	5%	1/16W
R662	1-218-985-11	RES-CHIP	470K	5%	1/16W	R844	1-218-990-11	SHORT CHIP	0		
R663	1-218-981-11	RES-CHIP	220K	5%	1/16W	R845	1-216-864-11	SHORT CHIP	0		
R664	1-216-789-11	METAL CHIP	2.2	5%	1/10W	R853	1-218-990-11	SHORT CHIP	0		
R665	1-218-990-11	SHORT CHIP	0			R854	1-218-990-11	SHORT CHIP	0		
R668	1-216-864-11	SHORT CHIP	0			R855	1-218-990-11	SHORT CHIP	0		
R670	1-218-990-11	SHORT CHIP	0			R856	1-218-990-11	SHORT CHIP	0		
R671	1-218-990-11	SHORT CHIP	0			R857	1-218-985-11	RES-CHIP	470K	5%	1/16W
						R858	1-208-927-11	METAL CHIP	47K	0.5%	1/16W

Ref. No.	Part No.	Description			Remark
R860	1-218-929-11	RES-CHIP	10	5%	1/16W
R861	1-218-990-11	SHORT CHIP	0		
R862	1-218-989-11	RES-CHIP	1M	5%	1/16W
R863	1-218-990-11	SHORT CHIP	0		
R864	1-218-945-11	RES-CHIP	220	5%	1/16W
R865	1-218-985-11	RES-CHIP	470K	5%	1/16W
R866	1-218-990-11	SHORT CHIP	0		
R867	1-218-989-11	RES-CHIP	1M	5%	1/16W
R868	1-218-990-11	SHORT CHIP	0		
R869	1-218-990-11	SHORT CHIP	0		
R876	1-218-990-11	SHORT CHIP	0		
R878	1-218-937-11	RES-CHIP	47	5%	1/16W
R879	1-218-937-11	RES-CHIP	47	5%	1/16W
R880	1-218-937-11	RES-CHIP	47	5%	1/16W
R888	1-218-981-11	RES-CHIP	220K	5%	1/16W
R894	1-218-977-11	RES-CHIP	100K	5%	1/16W
R895	1-218-977-11	RES-CHIP	100K	5%	1/16W
R897	1-218-990-11	SHORT CHIP	0		
R899	1-218-990-11	SHORT CHIP	0		
R903	1-218-989-11	RES-CHIP	1M	5%	1/16W
R904	1-218-989-11	RES-CHIP	1M	5%	1/16W
R906	1-218-973-11	RES-CHIP	47K	5%	1/16W
R907	1-218-965-11	RES-CHIP	10K	5%	1/16W
R908	1-218-969-11	RES-CHIP	22K	5%	1/16W
R910	1-218-969-11	RES-CHIP	22K	5%	1/16W
R912	1-218-981-11	RES-CHIP	220K	5%	1/16W
R914	1-208-911-11	METAL CHIP	10K	0.5%	1/16W
R917	1-218-981-11	RES-CHIP	220K	5%	1/16W
R918	1-218-985-11	RES-CHIP	470K	5%	1/16W
R920	1-218-985-11	RES-CHIP	470K	5%	1/16W
R922	1-218-977-11	RES-CHIP	100K	5%	1/16W
R924	1-218-985-11	RES-CHIP	470K	5%	1/16W
R925	1-208-927-11	METAL CHIP	47K	0.5%	1/16W
R926	1-208-935-11	METAL CHIP	100K	0.5%	1/16W
R927	1-208-683-11	METAL CHIP	1K	0.5%	1/16W
R929	1-208-935-11	METAL CHIP	100K	0.5%	1/16W
R930	1-208-927-11	METAL CHIP	47K	0.5%	1/16W
R931	1-218-990-11	SHORT CHIP	0		
R933	1-208-943-11	METAL CHIP	220K	0.5%	1/16W
R934	1-208-715-11	METAL CHIP	22K	0.5%	1/16W
R935	1-208-935-11	METAL CHIP	100K	0.5%	1/16W
R936	1-208-927-11	METAL CHIP	47K	0.5%	1/16W
R937	1-208-715-11	METAL CHIP	22K	0.5%	1/16W
R938	1-208-927-11	METAL CHIP	47K	0.5%	1/16W
R951	1-218-990-11	SHORT CHIP	0		
R952	1-218-990-11	SHORT CHIP	0		
R953	1-220-803-81	RES-CHIP	4.7	5%	1/16W
R954	1-218-985-11	RES-CHIP	470K	5%	1/16W
R955	1-218-957-11	RES-CHIP	2.2K	5%	1/16W
R958	1-218-973-11	RES-CHIP	47K	5%	1/16W
R959	1-218-985-11	RES-CHIP	470K	5%	1/16W
R960	1-218-990-11	SHORT CHIP	0		
R964	1-218-977-11	RES-CHIP	100K	5%	1/16W
< SWITCH >					
S892	1-771-339-41	SWITCH, PUSH (HALF LOCK)			
S893	1-762-805-21	SWITCH, PUSH (1 KEY) (OPEN/COLSE DETECT)			

Ref. No.	Part No.	Description	Remark
S894	1-786-703-21	SWITCH, PUSH (2 KEY) (PROTECT DETECT, Hi-MD PROTECT DETECT)	
< VIBRATOR >			
X801	1-813-353-21	VIBRATOR, CERAMIC (48MHz)	
X802	1-813-314-11	VIBRATOR, CRYSTAL (22.5792MHz)	

A-1104-958-A SWITCH BOARD			

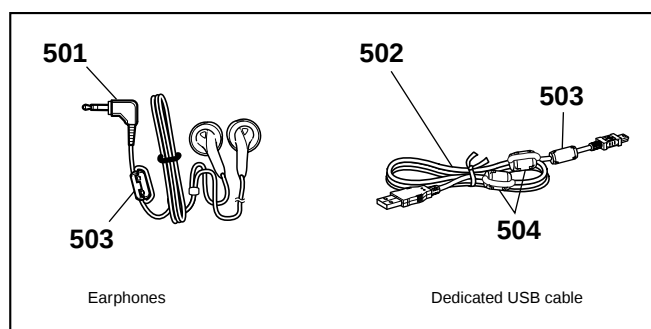
Parts other than the following on the SWITCH board cannot be exchanged. Replace the entire mounted board.			
2-022-247-01 RUBBER CONDUCTIVE			
2-541-969-01 HOLDER (LCD)			
< LIQUID CRYSTAL DISPLAY >			
LCD101	1-805-632-11	LCD	

MISCELLANEOUS			

△ 163	X-2055-997-1	OP SERVICE ASSY (ABX-U) (including HR601(OVER WRITE HEAD))	
M701	8-835-782-12	MOTOR, DC SSM18D/C-NP (SPINDLE)	
M702	1-787-143-11	MOTOR, DC (SLED)	
M703	1-477-519-21	MOTOR UNIT, DC (OVER WRITE HEAD UP/DOWN)	

ACCESSORIES			

2-593-570-11 MANUAL, INSTRUCTION (ENGLISH)			
2-593-570-21 MANUAL, INSTRUCTION (FRENCH) (Canadian)			
X-2050-995-2 CD-ROM (APPLICATION) ASSY (SonicStage/MD Simple Burner)			
501	8-912-744-94	EARPHONES MDR-E808LPB29 SET	
502	1-830-472-11	CORD, CONNECTION (USB)	
503	1-400-877-11	FILTER, CLAMP (FERRITE CORE) (for USB cable & earphone)	
504	1-400-878-11	FILTER, CLAMP (FERRITE CORE) (for USB cable)	



REVISION HISTORY

Clicking the version allows you to jump to the revised page.

Also, clicking the version at the top of the revised page allows you to jump to the next revised page.

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