

AM-NX9

SERVICE MANUAL

Ver 1.1 2003.08

Canadian Model
AEP Model
UK Model
E Model
Australian Model



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Model Name Using Similar Mechanism	MZ-N710
Mechanism Type	MT-MZN710-177
Optical Pick-up Name	LCX-5R

SPECIFICATIONS

MD recorder

Audio playing system

MiniDisc digital audio system

Laser diode properties

Material: GaAlAs

Wavelength: $\lambda = 790 \text{ nm}$

Emission duration: continuous

Laser output: less than $44.6 \mu\text{W}$

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

Recording and playback time (when using MDW-80)

Maximum 160 min. in monaural

Maximum 320 min. in LP4 stereo

Revolutions

Approx. 380 rpm to 2,700 rpm

Error correction

ACIRC (Advanced Cross Interleave Reed Solomon Code)

Sampling frequency

44.1 kHz

Coding

ATRAC (Adaptive TRansform Acoustic Coding)

ATRAC3 — LP2/LP4

Modulation system

EFM (Eight to Fourteen Modulation)

Number of channels

2 stereo channels

1 monaural channel

Frequency response

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

Outputs

⌚: stereo mini-jack, maximum output level

2 mW + 2 mW, load impedance 16 Ω

(European models)

5 mW + 5 mW, load impedance 16 Ω (other models)

General

Power requirements

AC Power Adaptor connected at the DC IN 3V jack:

120 V AC, 60 Hz (Model for Canada)

230 V AC, 50/60 Hz (Model for continental Europe)

240 V AC, 50 Hz (Model for Australia)

230 V AC, 50 Hz (Model for U.K. and Hong Kong)

220 V AC, 60 Hz (Model for Korea)

100 – 240 V AC, 50/60 Hz (Other models)

The recorder:

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

The recorder:

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

Recommended temperature for check-in/check-out

+5 °C (+41 °F) or higher

Battery operation time

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

Unit: approx.hours (JEITA²⁾)

When	SP stereo	LP2 stereo	LP4 stereo
playing	42	48	56

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

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

Note

The battery life may be shorter than that specified, depending on the operating conditions, the temperature of the location, and varieties of a battery.

– Continued on next page –

PORTABLE MINIDISC RECORDER

9-877-460-02

2003H05-1

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Sony Corporation

Personal Audio Company

Published by Sony Engineering Corporation



Dimensions

Approx. 81.6 × 29.9 × 75.0 mm (w/h/d) (3¹/₄ × 1³/₁₆ × 3 in.) without projections.

Mass

Approx. 104 g (3.7 oz) the recorder only

Supplied accessories

AC power adaptor (1)
Headphones/earphones (1)
Dedicated USB cable (1)
CD-ROM (SonicStage Ver. 1.5
and Net MD Simple Burner Ver. 1.2) (1)*

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

Design and specifications are subject to change without notice.

Your dealer may not handle some of the above listed accessories. Please ask the dealer for detailed information about the accessories in your country.

Notes

- For use in your house: Use the AC power adaptor. Do not use an AC power adaptor other than the recommended one since it may cause the recorder to malfunction.



- There are regional differences in the supplied AC power adaptor specifications. For this reason, you should verify that the power requirements and plug configuration are appropriate for your area before you purchase the recorder.
- Connect the AC power adaptor to an easily accessible AC outlet. Should you notice an abnormality in the AC power adaptor, disconnect it from the AC outlet immediately.

CAUTION

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

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.

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)



: 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.

SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY MARK  OR DOTTED LINE WITH MARK  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  SUR LES DIAGRAMMES SCHÉMATIQUES ET LA LISTE DES PIÈCES SONT CRITIQUES POUR LA SÉCURITÉ DE FONCTIONNEMENT. NE REMPLACER CES COMPOSANTS QUE PAR DES PIÈCES SONY DONT LES NUMÉROS SONT DONNÉS DANS CE MANUEL OU DANS LES SUPPLÉMENTS PUBLIÉS PAR SONY.

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SECTION 1

SERVICING NOTES

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

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

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

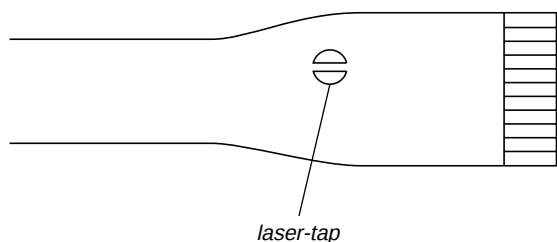
The flexible board is easily damaged and should be handled with care.

NOTES ON LASER DIODE EMISSION CHECK

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

NOTES ON HANDLING THE OPTICAL PICK-UP BLOCK (LCX-5R)

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



OPTICAL PICK-UP FLEXIBLE BOARD

- In performing the repair with the power supplied to the set, removing the MAIN board causes the set to be disabled. In such a case, make a solder bridge to short SL802 (OPEN/CLOSE) on the MAIN board in advance.

– MAIN Board (Conductor Side) –



- The shipment data will be cleared when the NV is reset. Therefore, change the NV adjusted values following the Change of NV Adjusted Values immediately after the NV was reset. (See page 18)
- This set requires the patch data in the nonvolatile memory (IC802) to be rewritten using the application, when the MAIN board or nonvolatile memory (IC852) was replaced. (See page 28)
- Replacement of SN761058AZQLR (IC501) and CXD2680-207GA (IC801) used in this set requires a special tool.

System requirements

The hardware and software requirements for the Net MD Simple Burner software are as follows.

Computer	IBM PC/AT or Compatible • CPU: Pentium II 400 MHz or higher (Pentium III 450 MHz or higher is recommended.) • Hard disk drive space: 120 MB or more (Requires additional drive space depending on the Windows version or audio file sizes.) • RAM: 64 MB or more (128 MB or more is recommended) Others • CD-ROM drive (capable of digital playback by WDM) • Sound Board • USB port (supports USB (conventionally called USB 1.1))
Operating System	Factory installed: Windows XP Home Edition/Windows XP Professional/Windows Millennium Edition/Windows 2000 Professional/Windows 98 Second Edition
Display	High Color (16bit) or higher, 800 × 480 dots or better (800 × 600 dots or better is recommended)
Others	• Internet access: For CDDb service

This software is not supported by the following environments:

- Macintosh
- Windows XP versions other than Home Edition or Professional
- Windows 2000 versions other than Professional
- Windows 98 versions other than Second Edition
- Windows NT
- Windows 95
- 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

Notes

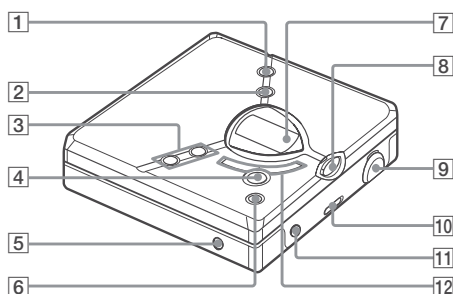
- We do not ensure trouble-free operation on all computers that satisfy the system requirements.
- We do not ensure trouble-free operation of the system suspend, sleep, or hibernation function on all computers.

SECTION 2 GENERAL

This section is extracted from instruction manual.

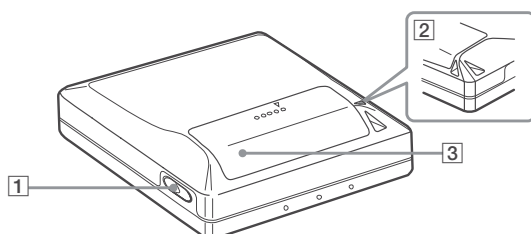
Looking at the controls

Front of the recorder



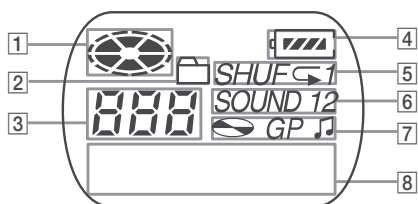
- | | |
|--|--|
| 1 GROUP button | 6 ■STOP/CANCEL (stop/cancel) button |
| 2 MENU button | 7 Display window |
| 3 VOL +* and – buttons
* The VOL + button has a tactile dot. | 8 DOWNLOAD button |
| 4 ► /ENTER (play/pause/enter) button*
* The ► /ENTER button has a tactile dot. | 9 USB jack
When connecting to your computer, connect the dedicated USB cable to this jack. |
| 5 DC IN 3V jack | 10 HOLD switch |
| | 11 Ⓜ (headphones/earphones) jack |
| | 12 ◀◀ and ▶▶ (skip/search) buttons |

Back of the recorder



- | | |
|--|----------------------------------|
| 1 OPEN button | 3 Battery compartment lid |
| 2 Hand strap hole
Use the hole to attach your own strap. | |

The display window of the recorder



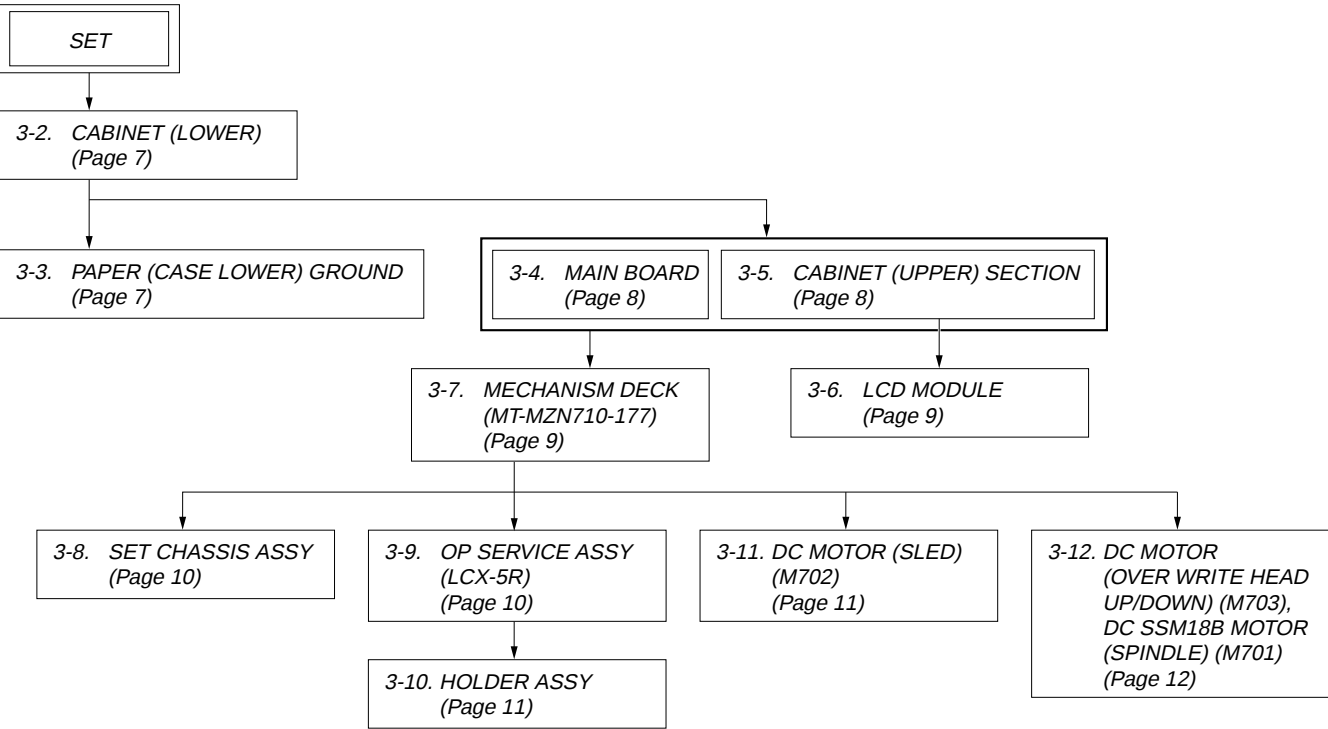
- | | |
|---|--|
| 1 Disc indication | 5 Play mode indication
Shows play mode of the MD. |
| 2 Group mode indication
Lights up when group mode is on. | 6 SOUND indication |
| 3 Track number display | 7 Disc, group, track indication |
| 4 Battery level indication
Shows approximate battery condition. | 8 Character information display
Displays the track names, elapsed time, etc. |

SECTION 3
DISASSEMBLY

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

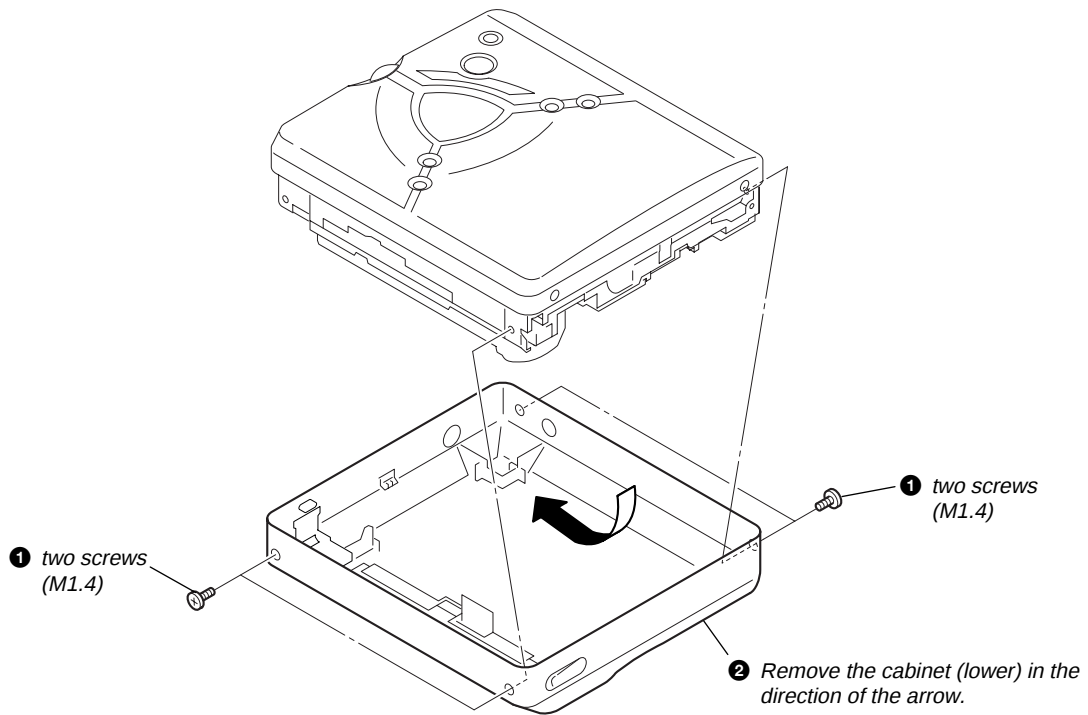
3-1. DISASSEMBLY FLOW

Note 1: The process described in [icon] can be performed in any order.
Note 2: Without completing the process described in [icon], the next process can not be performed.

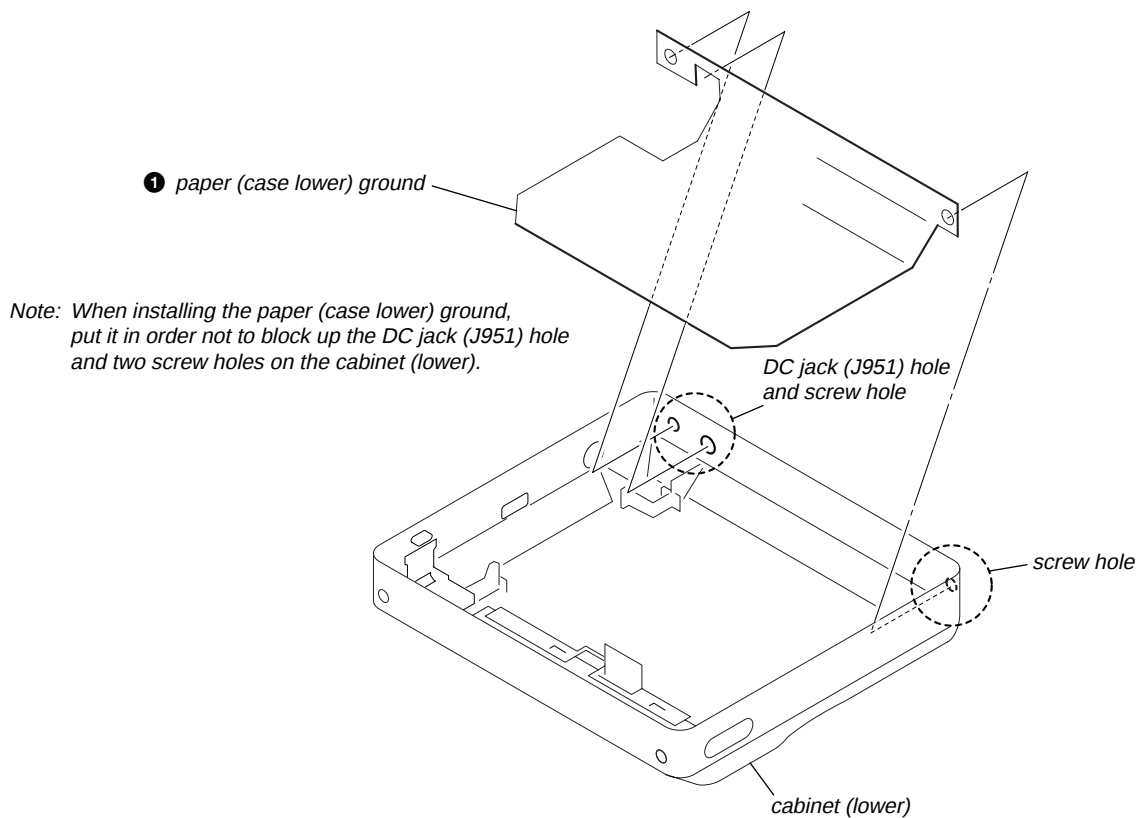


Note: Follow the disassembly procedure in the numerical order given.

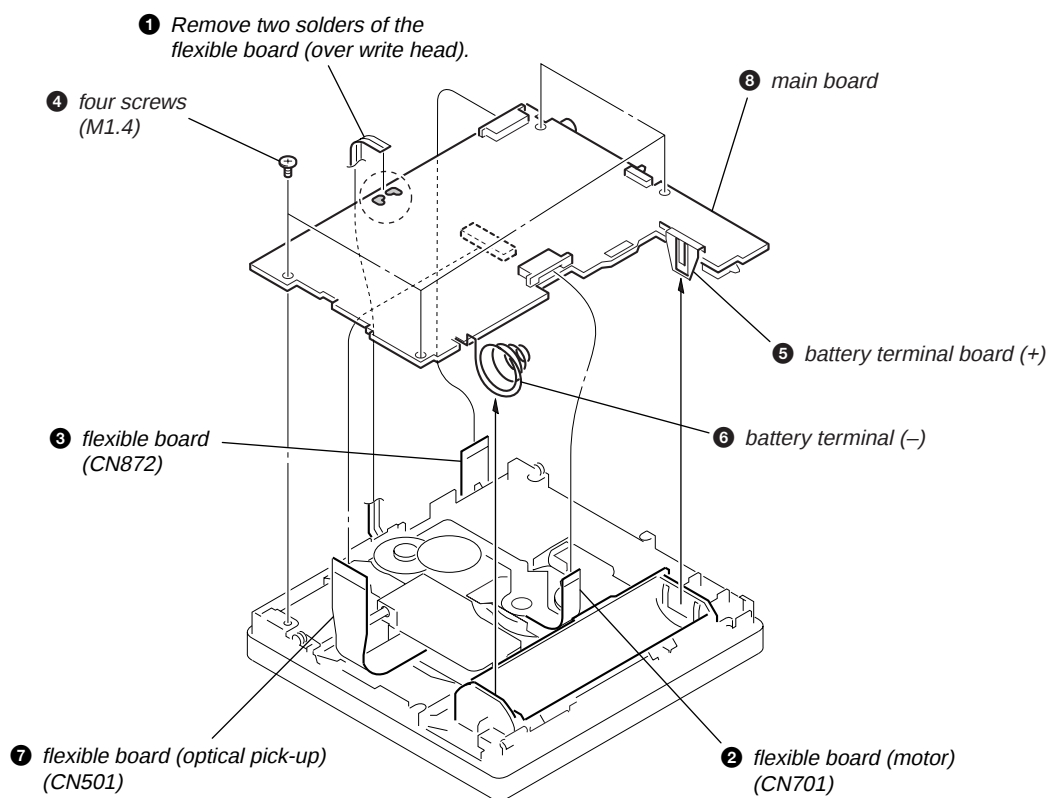
3-2. CABINET (LOWER)



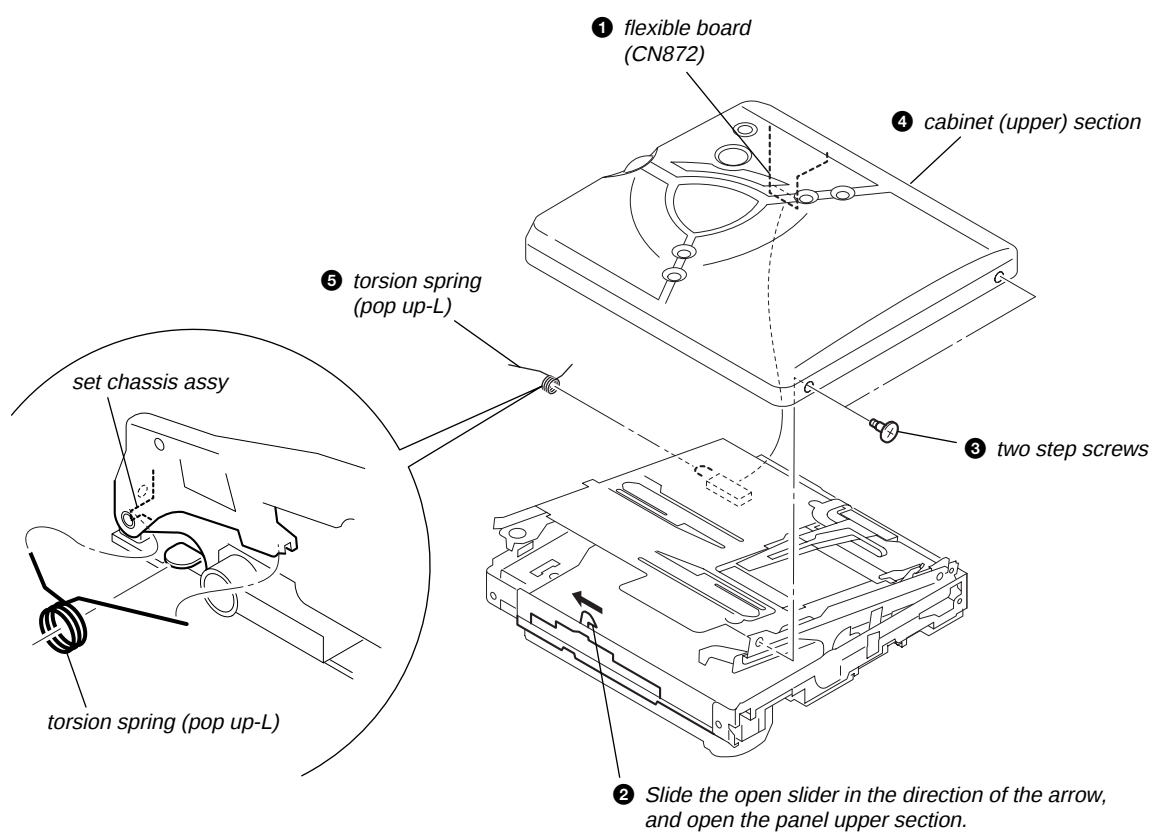
3-3. PAPER (CASE LOWER) GROUND



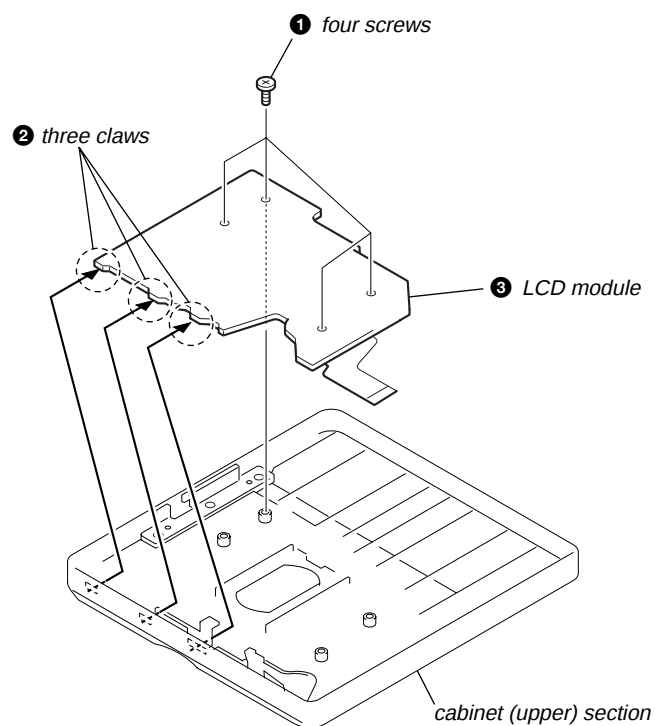
3-4. MAIN BOARD



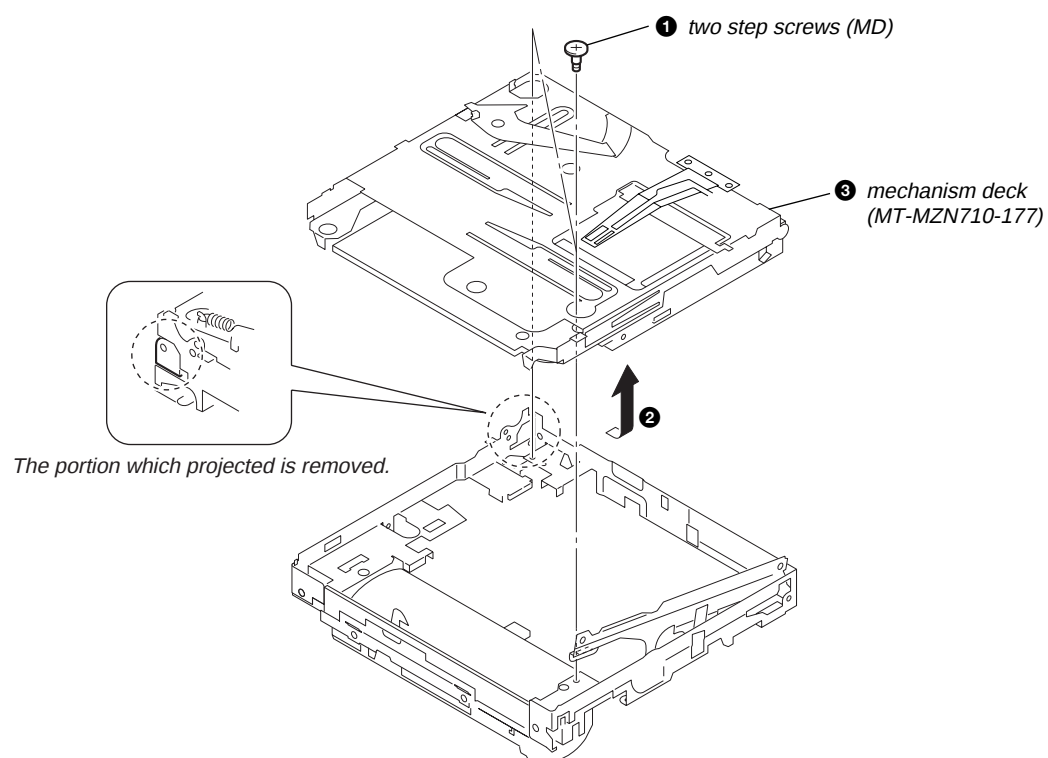
3-5. CABINET (UPPER) SECTION



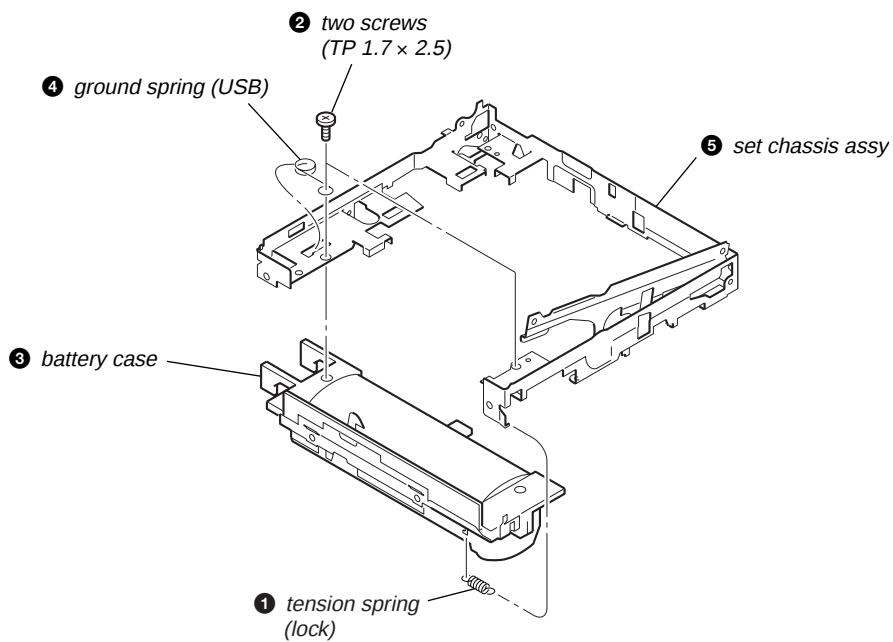
3-6. LCD MODULE



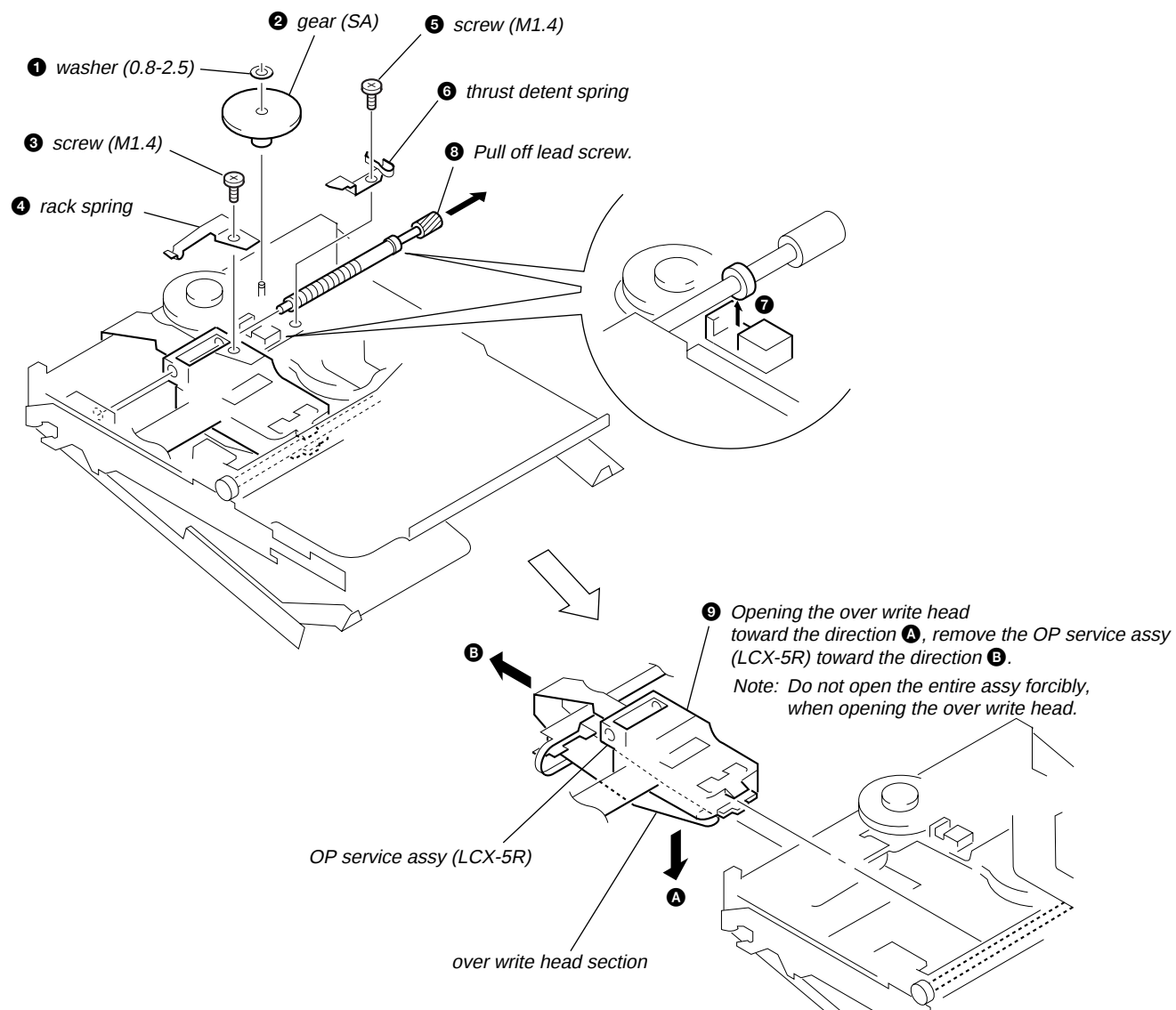
3-7. MECHANISM DECK (MT-MZN710-177)



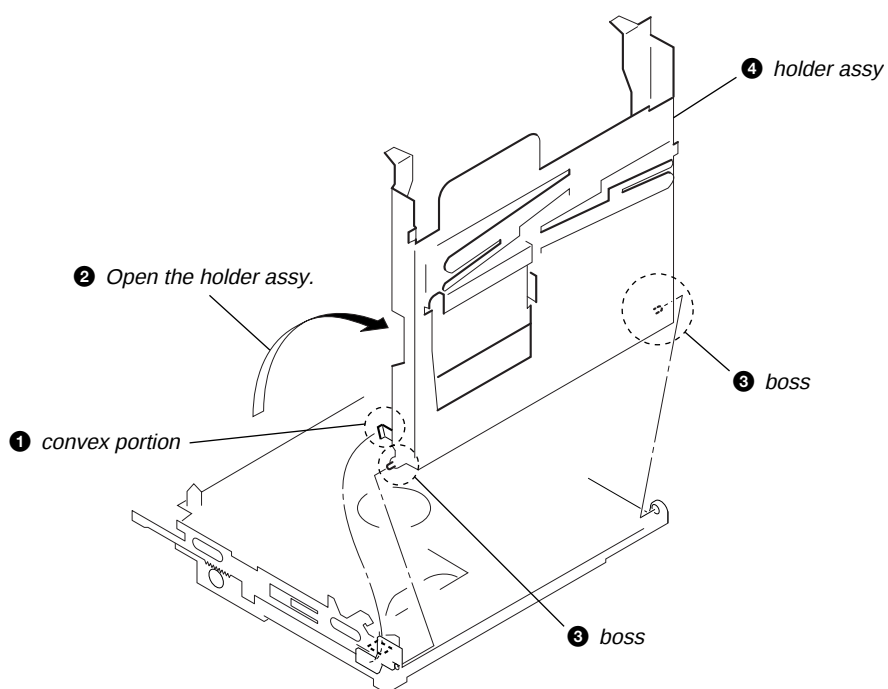
3-8. SET CHASSIS ASSY



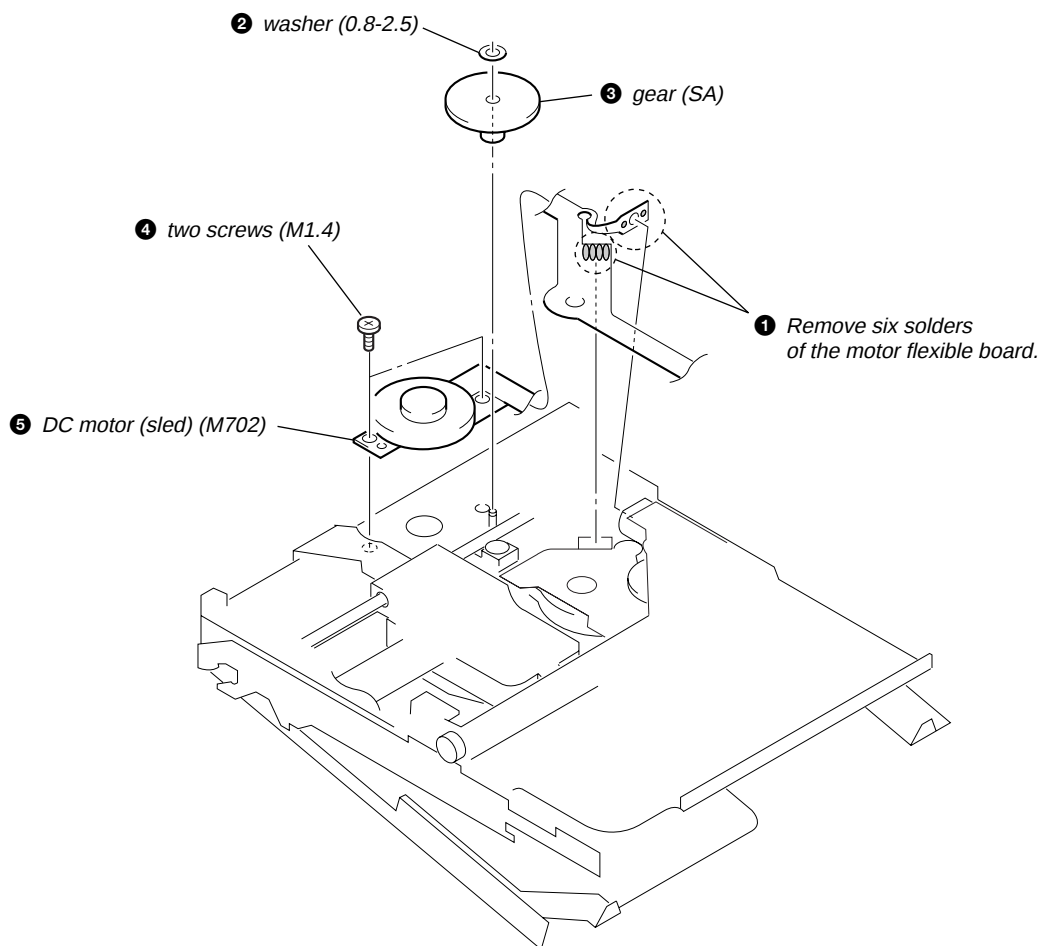
3-9. OP SERVICE ASSY (LCX-5R)



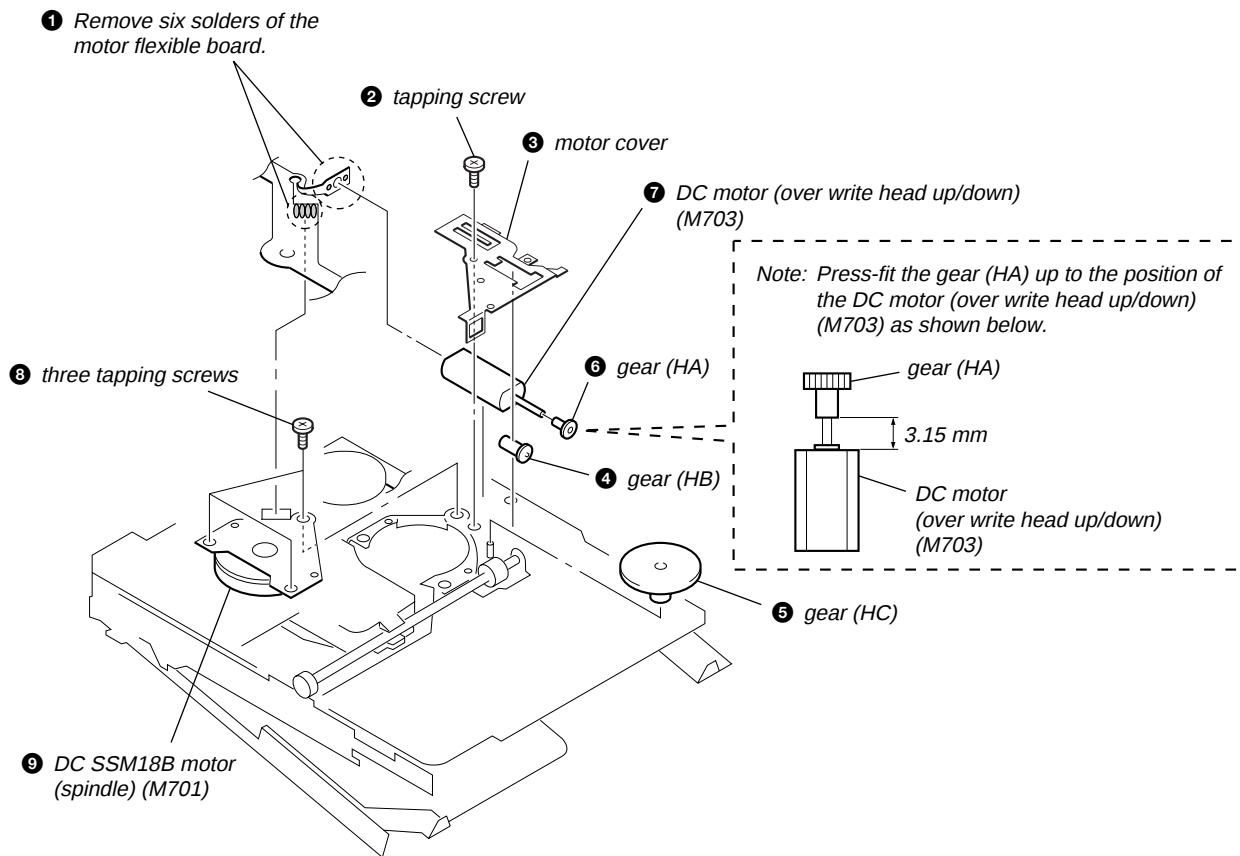
3-10. HOLDER ASSY



3-11. DC MOTOR (SLED) (M702)



3-12. DC MOTOR (OVER WRITE HEAD UP/DOWN) (M703), DC SSM18B MOTOR (SPINDLE) (M701)



SECTION 4 TEST MODE

Outline

- This set provides the Overall adjustment mode that allows CD and MO discs to be automatically adjusted when in the test mode. In this overall adjustment mode, the disc is discriminated between CD and MO, and each adjustment is automatically executed in order. If a fault is found, the system displays its location. Also, the manual mode allows each individual adjustment to be automatically adjusted.
- Operation in the test mode is performed with the set.

Setting Method of Test Mode

Short SL803 (TEST) on the MAIN board with a solder bridge (connect pin ⑭ of IC801 to the ground). Then, turn on the power.

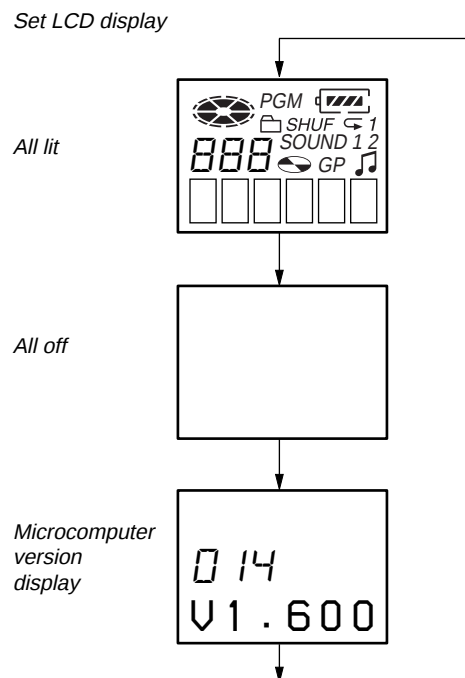
– MAIN Board (Conductor Side) –



Note: If electrical adjustment (CD and MO overall adjustment) has not been finished completely, "ERROR" is displayed on LCD of the set.

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.



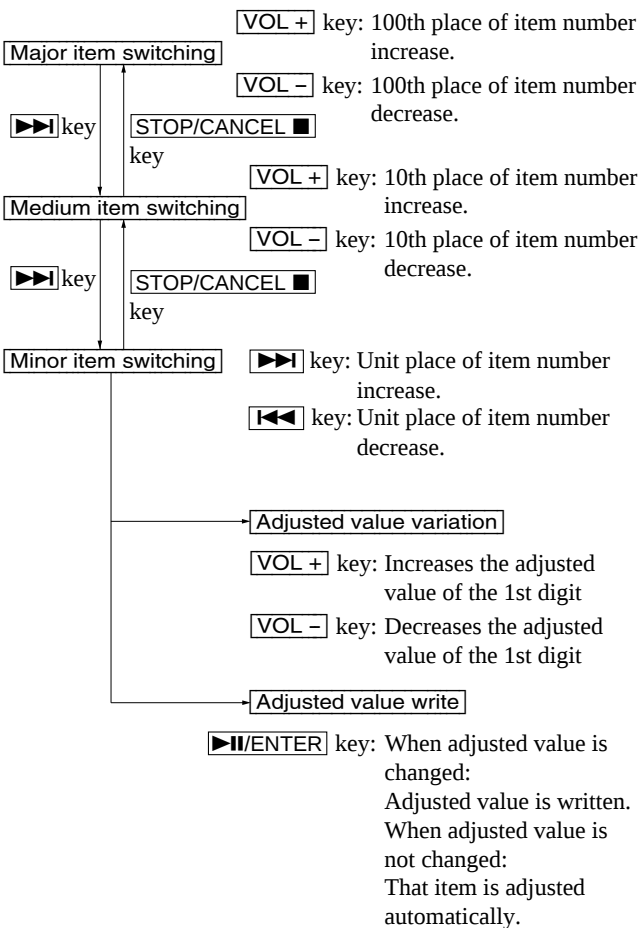
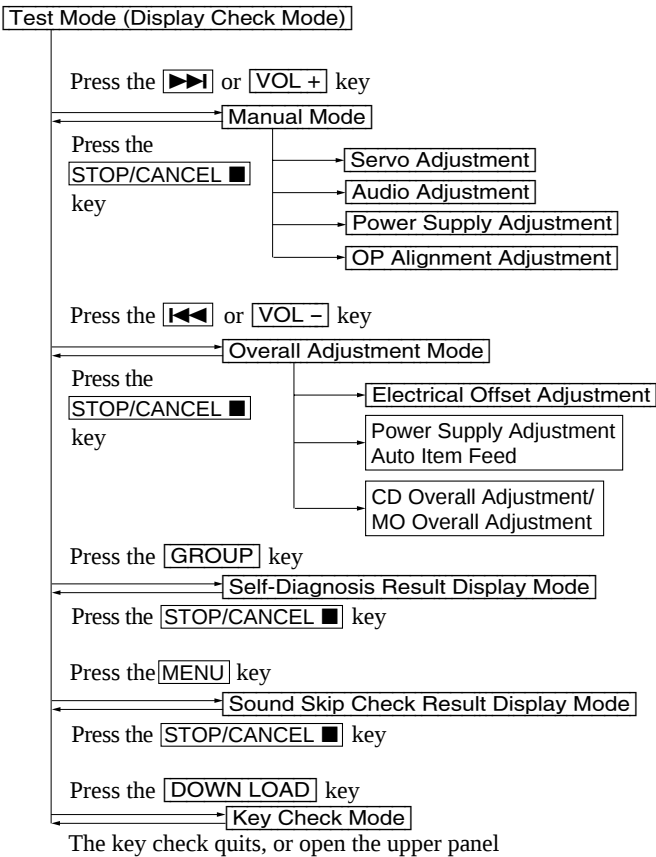
- When the **▶/ENTER** key is pressed and held down, the display at that time is held so that display can be checked.

Releasing the Test Mode

Turn off the power and open the solder bridge on SL803 (TEST) on the MAIN board.

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

Configuration of Test Mode

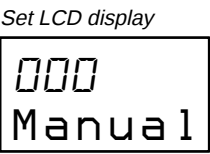


Manual Mode

Mode to adjust or check the operation of the set by function. Normally, the adjustment in this mode is not executed. However, the Manual mode is used to clear the memory, power supply adjustment, and laser power check before performing automatic adjustments in the Overall Adjustment mode.

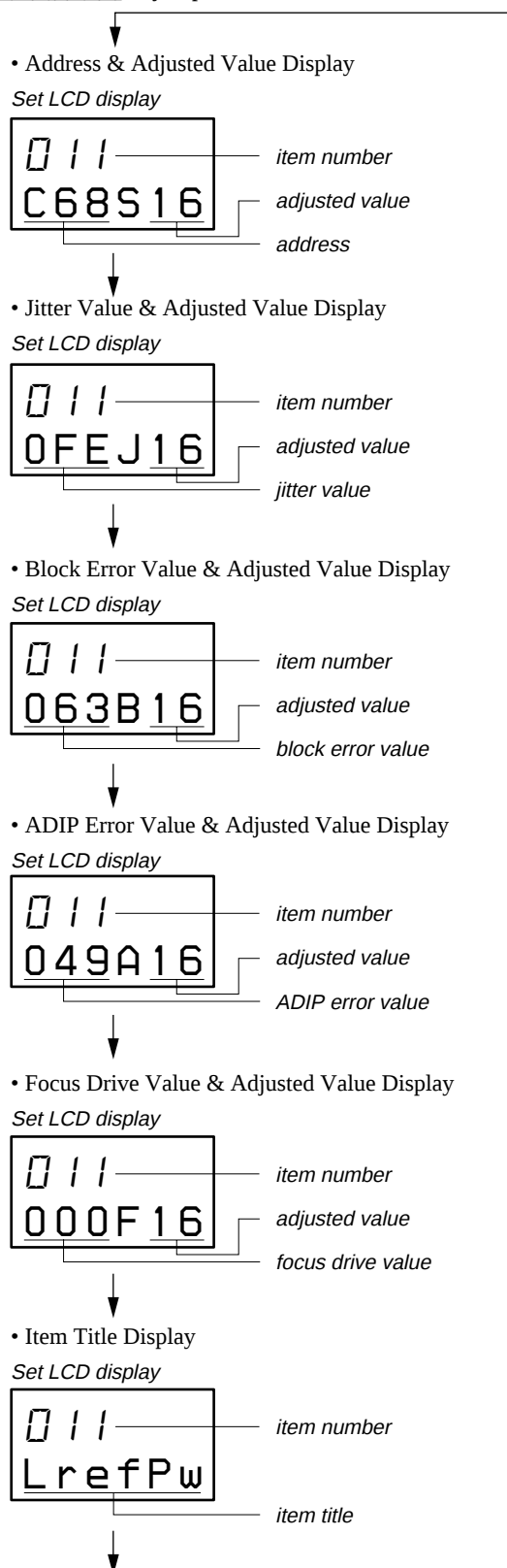
• Transition Method in Manual Mode

- 1. Set the test mode (see page 13).
- 2. Press the **▶▶** to activate the manual mode where the LCD display as shown below.



- 3. During each test, the optical pick-up moves outward or inward while the **▶▶** or **◀◀** key is pressed for several seconds respectively.
- 4. Each test item is assigned with a 3-digit item number; 100th place is a major item, 10th place is a medium item, and unit place is a minor item. The values adjusted in the test mode are written to the non-volatile memory (for the items where adjustment was made).

5. The display changes as shown below each time the **DOWN LOAD** key is pressed.



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

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

Overall Adjustment Mode

Mode to adjust the servo automatically in all items.

Normally, automatic adjustment is executed in this mode at the repair.

For further information, refer to "SECTION 5 ELECTRICAL ADJUSTMENTS" (see page 18).

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 micro-computer detect it and record its cause as history in the nonvolatile memory.

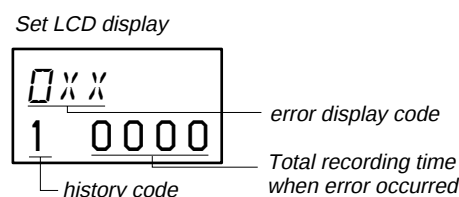
By checking this history in the test mode, you can analyze a fault and determine its location.

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.

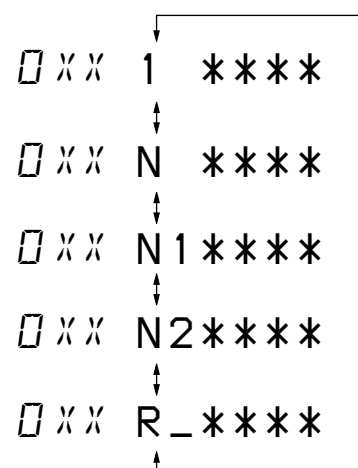
Clear both self-diagnosis history data and total recording time, if the optical pick-up was replaced.

• Self-Diagnosis Result Display Mode Setting Method

1. Set the test mode (see page 13).
2. In the display check mode, press the **GROUP** key activates the self-diagnosis result display mode where the LCD display as shown below.



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



XX : Error code
**** : Total recording time

If the **GROUP** key is pressed with this display, the LCD switches to the simple display mode.

4. Quit the self-diagnosis result display mode, and press the **STOP/CANCEL** key to return to the test mode (display check mode).

• Description of Error Indication Codes

Problem	Indication code	Meaning of code	Simple display	Description
No error	00	No error	---	No error
Servo system error	01	Illegal access target address was specified	Adrs	Attempt to access an abnormal address
	02	High temperature	Temp	High temperature detected
	03	Focus error	Fcus	Disordered focus or can not read an address
	04	Spindle error	Spdl	Abnormal rotation of disc
TOC error	11	TOC error	TOC	Faulty TOC contents
	12	Data reading error	Data	Data could not be read at SYNC
	13	TOC address error	Tadr	TOC address data error
Power supply system error	22	Low battery	LBat	Momentary interruption detected
Offset system error	31	Offset error	Ofst	Offset error
	32	Focus error ABCD offset error	ABCD	Focus error ABCD offset error
	33	Tracking error Offset error	TE	Tracking error Offset error
	34	X1 tracking error Offset error	X1TE	X1 tracking error Offset error
	35	MD DATA 2 disc error	MD2	MD DATA 2 disc error
	36	Mirror error	Mirr	Mirror retry over

• Description of Indication History

History code number	Description
1	The first error
N	The last error
N1	One error before the last.
N2	Two errors before the last.
R_	Total recording time

Reset the Error Display Code

After servicing, reset the error display code.

• Setting Method of Reset the Error Display Code

1. Set the test mode (see page 13).
2. Press the **[GROUP]** key activates the self-diagnosis result display mode.
3. To reset the error display code, press the **[▶II/ENTER]** key (twice) when the code is displayed (except “R_****”).
(All the data on the 1, N, N1, and N2 will be reset)

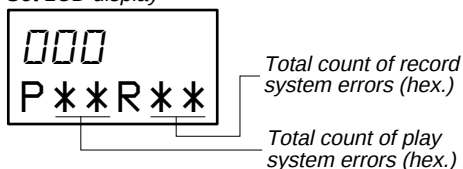
Sound Skip Check Result Display Mode

This set can display the count of errors that occurred during the recording/playing for checking.

• Setting Method of Sound Skip Check Result Display Mode

1. Set the test mode (see page 13).
2. Press the **[MENU]** key and the playing or recording sound skip result display mode becomes active respectively where the LCD displays the following.

Set LCD display



3. When the **[MENU]** key is pressed, total error count is displayed on the LCD, and each time the **[▶▶]** key is pressed, the display item moves down by one as shown below. Also, if the **[◀◀]** key is pressed, the display item moves up by one.

Playing sound skip result display



P**R** : Total play/record errors (hex.)
 ** : Counter of sound skip check each item (hex.)
 ##### : 6-digit address where sound was skipped last (hex.)

• Cause of Sound Skip Error

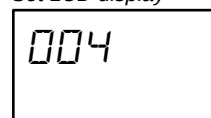
	Cause of error	Description of error
Play	EIB	Sound error correction error
	Stat	Decoder status error
	Adrs	Address access error
	BEmp	Buffer is empty

4. To quit the sound skip check result display mode and to return to the test mode (display check mode), press the **[STOP/CANCEL ■]** key.

• Setting Method of Key Check Mode

1. Set the test mode (see page 13).
2. Press the **[DOWN LOAD]** key activates the key check mode.

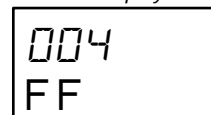
Set LCD display



3. When each key on the set is pressed, its name is displayed on the set LCD. (Operated position is displayed for 4 seconds after the slide switch is operated.

Example1: When the **[▶▶]** key on the set is pressed:

Set LCD display



4. When all keys were checked or if the upper panel is opened, the key check mode quits and the test mode (display check mode) comes back.

SECTION 5
ELECTRICAL ADJUSTMENTS

Outline

- In this set, automatic adjustment of CD and MO can be performed by entering the test mode.
However, before starting automatic adjustment, the memory clear, power supply adjustment and laser power check must be performed in the manual mode.

Precautions for Adjustment

1. Adjustment must be done in the test mode only.
After adjusting, release the test mode.
2. Use the following tools and measuring instruments.
 - Test CD disc TDYS-1
(Part No. : 4-963-646-01)
 - SONY MO disc available on the market
 - Digital voltmeter
 - Laser power meter LPM-8001
(Part No. : J-2501-046-A)
 - Thermometer (using the Temperature Correction)
 - Personal computer
 - USB cable
3. Unless specified otherwise, supply DC 1.5V from battery terminals.
4. Switch position
HOLD switch ON

Adjustment Sequence

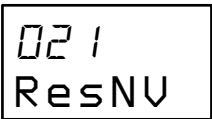
1. NV Reset (item number: 021)
(EEPROM clear)
 2. Temperature Correction (item number: 015)
 3. Power Supply Manual Adjustment
 4. Laser Power Check
 5. CD Overall Adjustment (item number: 031)
 6. MO Overall Adjustment (item number: 034)
 7. RESUME Clear (item number 043)
 8. Rewriting the Patch Data
(at replacement of the MAIN board)
 9. Rewriting the NV values
- Manual Mode: 1, 2, 3, 4
Overall Mode: 5, 6
Manual Mode: 7, 8, 9

NV Reset

• Setting Method of NV Reset

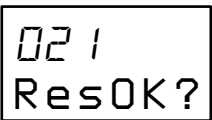
1. Select the manual mode of the test mode, and set item number 021 NV Reset (see page 14).

Set LCD display



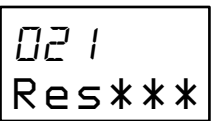
2. Press the **▶||/ENTER** key.

Set LCD display

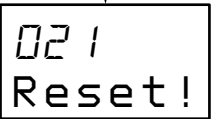


3. Press the **▶||/ENTER** key once more.

Set LCD display



NV reset (after several seconds)



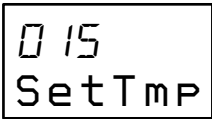
4. Press the **STOP/CANCEL** key to quit the manual mode, and return to the test mode (display check mode).

Temperature Correction

• Adjustment Method of Temperature Correction

1. Select the manual mode of the test mode, and set the item number 015 (see page 14).

Set LCD display



2. Measure the ambient temperature.
3. Adjust with **[VOL +]** or **[VOL -]** key so that the adjusted value (hexadecimal value) becomes the ambient temperature.
(Initial value : 19h = 25°C, Adjusting range : 80h to 7fh
(-128°C to +127°C))
4. Press the **▶||/ENTER** key to write the adjusted value.

Power Supply Manual Adjustment

• Adjustment sequence

Adjustment must be done with the following steps.

1. VC1_LOW (PB) adjustment (item number : 741)
2. VC1_HIGH (REC) adjustment (item number : 742)
3. VC2_LOW adjustment (item number : 743)
4. VC2_HIGH adjustment (item number : 744)
5. REG1 adjustment (item number : 745)
6. REG3_LOW1 adjustment (item number : 747)
7. REG3_LOW2 adjustment (item number : 748)
8. REG3_HIGH adjustment (item number : 749)
9. VREC_LOW (X2 speed) adjustment (item number : 751)
10. VREC_MIDDLE (X4 speed) adjustment (item number : 752)
11. VREC_HIGH (HEAD MOTOR) adjustment (item number : 753)

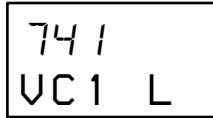
• Setting Method of Power Supply Manual Adjustment

1. Make sure that the power supply voltage is 1.5V.
2. Select the manual mode of the test mode (see page 14).
3. Set item number.

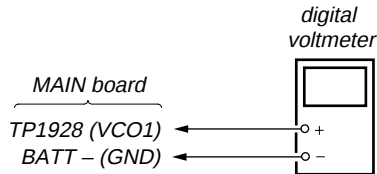
Note: Power supply adjustment auto item feed mode (page 23) is available to perform the temperature Correction and Power Supply Adjustment without entering the manual mode.

• **Adjustment Method of VC1_LOW (PB)**
(item number: 741)

Set LCD display



1. Connect a digital voltmeter to the TP1928 (VCO1) on the MAIN board, and adjust **[VOL +]** key (voltage up) or **[VOL -]** key (voltage down) so that the voltage becomes $2.35 \pm 0.05V$.

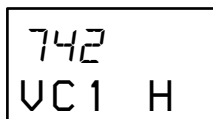


2. Press the **[▶II/ENTER]** key to write the adjusted value.

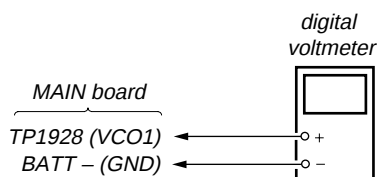
Adjustment and Connection Location: MAIN board
(see page 22)

• **Adjustment Method of VC1_HIGH (REC)**
(item number: 742)

Set LCD display



1. Connect a digital voltmeter to the TP1928 (VCO1) on the MAIN board, and adjust **[VOL +]** key (voltage up) or **[VOL -]** key (voltage down) so that the voltage becomes $2.50 \pm 0.05V$.

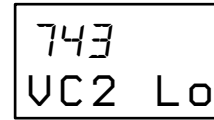


2. Press the **[▶II/ENTER]** key to write the adjusted value.

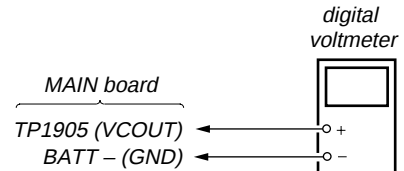
Adjustment and Connection Location: MAIN board
(see page 22)

• **Adjustment Method of VC2_LOW**
(item number: 743)

Set LCD display



1. Connect a digital voltmeter to the TP1905 (VCOUT) on the MAIN board, and adjust **[VOL +]** key (voltage up) or **[VOL -]** key (voltage down) so that the voltage becomes $2.30 \pm 0.01V$.

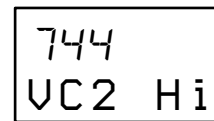


2. Press the **[▶II/ENTER]** key to write the adjusted value.

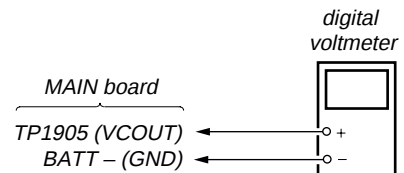
Adjustment and Connection Location: MAIN board
(see page 22)

• **Adjustment Method of VC2_HIGH**
(item number: 744)

Set LCD display



1. Connect a digital voltmeter to the TP1905 (VCOUT) on the MAIN board, and adjust **[VOL +]** key (voltage up) or **[VOL -]** key (voltage down) so that the voltage becomes $2.55 \pm 0.01V$.

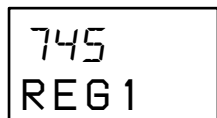


2. Press the **[▶II/ENTER]** key to write the adjusted value.

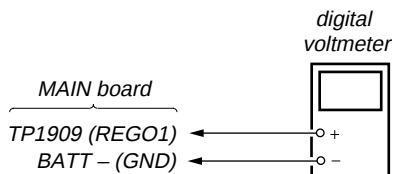
Adjustment and Connection Location: MAIN board
(see page 22)

• Adjustment Method of REG1 (item number: 745)

Set LCD display



1. Connect a digital voltmeter to the TP1909 (REGO1) on the MAIN board, and adjust **[VOL +]** key (voltage up) or **[VOL -]** key (voltage down) so that the voltage becomes $2.05 \pm 0.01V$.

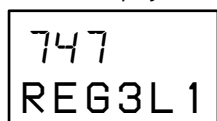


2. Press the **[▶II/ENTER]** key to write the adjusted value.

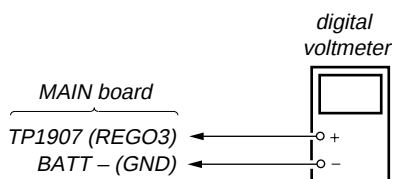
Adjustment and Connection Location: MAIN board
(see page 22)

• Adjustment Method of REG3_LOW1 (item number: 747)

Set LCD display



1. Connect a digital voltmeter to the TP1907 (REGO3) on the MAIN board, and adjust **[VOL +]** key (voltage up) or **[VOL -]** key (voltage down) so that the voltage becomes $1.25 \pm 0.01V$.

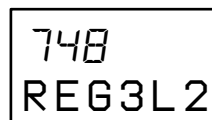


2. Press the **[▶II/ENTER]** key to write the adjusted value.

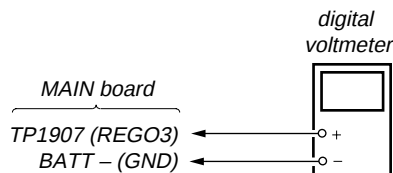
Adjustment and Connection Location: MAIN board
(see page 22)

• Adjustment Method of REG3_LOW2 (item number: 748)

Set LCD display



1. Connect a digital voltmeter to the TP1907 (REGO3) on the MAIN board, and adjust **[VOL +]** key (voltage up) or **[VOL -]** key (voltage down) so that the voltage becomes $1.25 \pm 0.01V$.

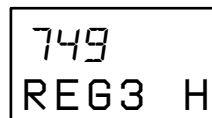


2. Press the **[▶II/ENTER]** key to write the adjusted value.

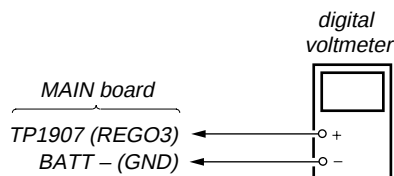
Adjustment and Connection Location: MAIN board
(see page 22)

• Adjustment Method of REG3_HIGH (item number: 749)

Set LCD display



1. Connect a digital voltmeter to the TP1907 (REGO3) on the MAIN board, and adjust **[VOL +]** key (voltage up) or **[VOL -]** key (voltage down) so that the voltage becomes $1.25 \pm 0.01V$.



2. Press the **[▶II/ENTER]** key to write the adjusted value.

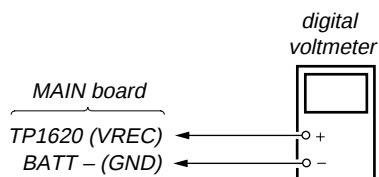
Adjustment and Connection Location: MAIN board
(see page 22)

• **Adjustment Method of VREC_LOW (X2 speed)**
(item number: 751)

Set LCD display



1. Connect a digital voltmeter to the TP1620 (VREC) on the MAIN board, and adjust **[VOL +]** key (voltage up) or **[VOL -]** key (voltage down) so that the voltage becomes $1.20 \pm 0.02V$.



2. Press the **[▶II/ENTER]** key to write the adjusted value.

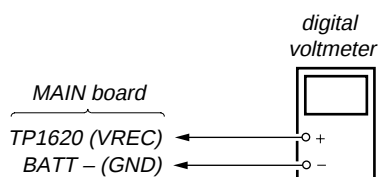
Adjustment and Connection Location: MAIN board
(see page 22)

• **Adjustment Method of VREC_MIDDLE (X4 speed)**
(item number: 752)

Set LCD display



1. Connect a digital voltmeter to the TP1620 (VREC) on the MAIN board, and adjust **[VOL +]** key (voltage up) or **[VOL -]** key (voltage down) so that the voltage becomes $1.20 \pm 0.02V$.



2. Press the **[▶II/ENTER]** key to write the adjusted value.

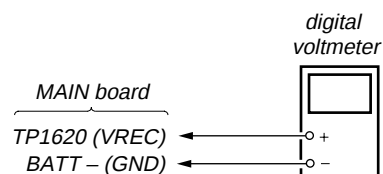
Adjustment and Connection Location: MAIN board
(see page 22)

• **Adjustment Method of VREC_HIGH (HEAD MOTOR)**
(item number: 753)

Set LCD display



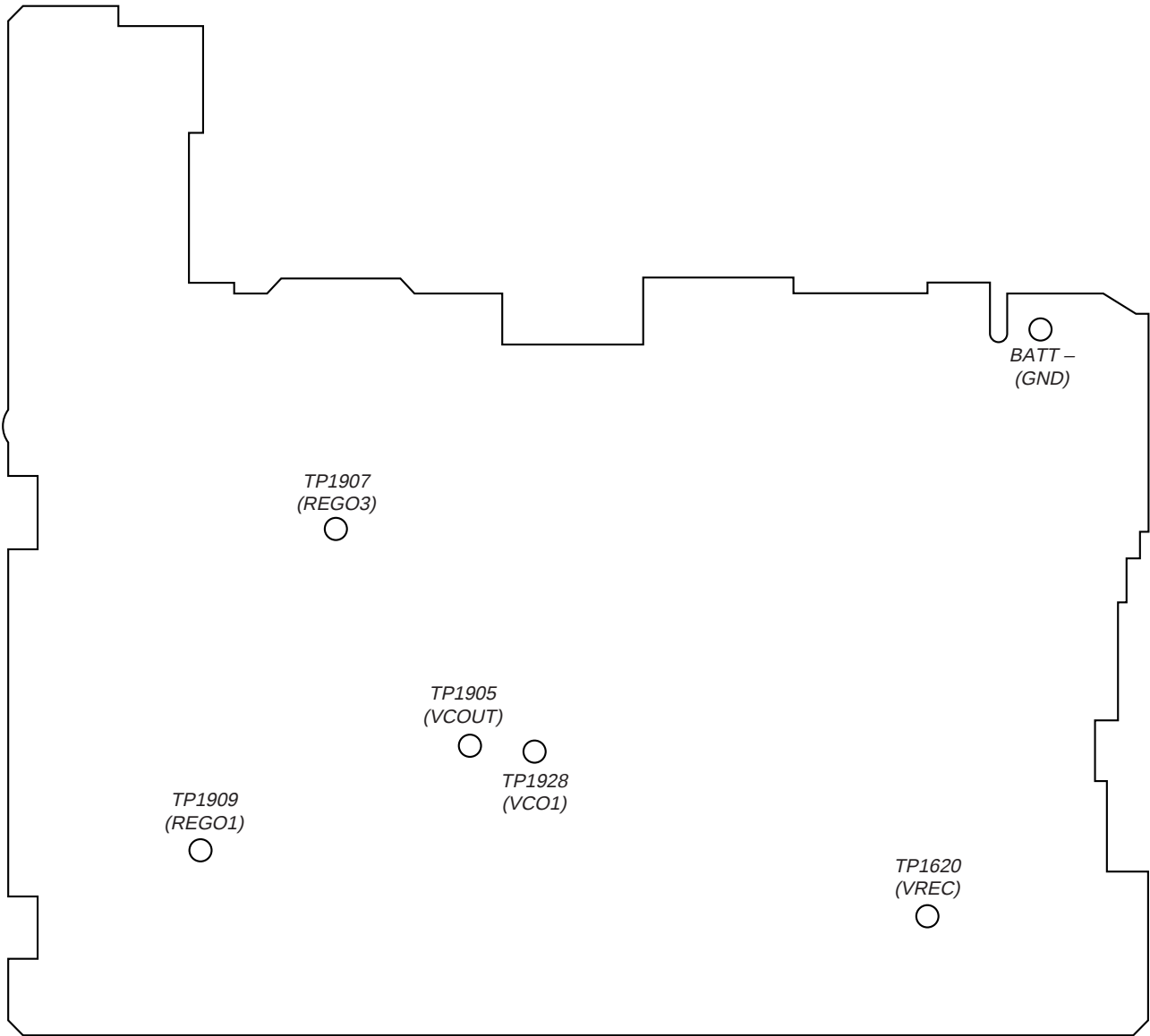
1. Connect a digital voltmeter to the TP1620 (VREC) on the MAIN board, and adjust **[VOL +]** key (voltage up) or **[VOL -]** key (voltage down) so that the voltage becomes between 1.65V and 1.75V.



2. Press the **[▶II/ENTER]** key to write the adjusted value.

Adjustment and Connection Location: MAIN board
(see page 22)

Adjustment and Connection Location:
– MAIN Board (Conductor Side) –



Power Supply Adjustment Auto Item Feed

Note: This mode is available to perform the temperature correction and power supply adjustment without entering the manual mode.

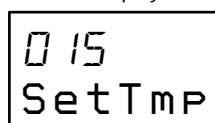
- Setting method of power supply adjustment auto item feed mode.
- Set the test mode (see page 13)
 - Press the  key to activate the overall adjustment mode.

Set LCD display



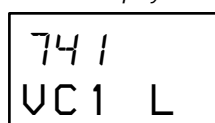
- Press the  key to set the temperature correction mode.

Set LCD display



- To change the initial value adjust with the  or  key.
Press the  key to write the adjusted value, and the item number increases automatically.
When not writing the adjusted value, press the  key to move

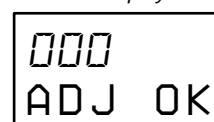
Set LCD display



to the next item.

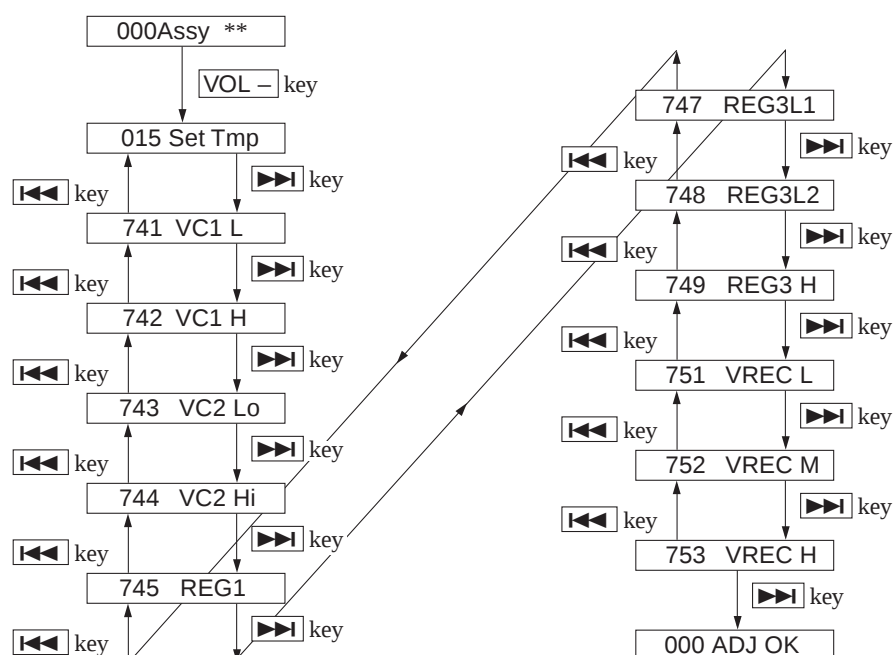
- Connect a digital voltmeter to the measuring points on the MAIN board, and adjust the voltage with the  or  key. (see page 18 to 21)
Press the  key to write the adjusted value, and the item number increases automatically.
- When not writing the adjusted value, press the  key to move to the next item. The  key is available to back to the last item.
- The following message is displayed after all power supply adjustments finish.

Set LCD display



- Press the  key to return the test mode (display check mode).

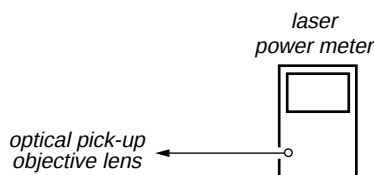
Configuration of power supply adjustment auto item feed



Laser Power Check

Note: If result of measurement of the laser power does not satisfy the specification, either replace the OP (optical pick-up unit) or check whether the laser circuit block is working correctly.
When the result of laser power measurement does not satisfy the specification even though the laser circuit block is confirmed to be working correctly, replace the OP (optical pick-up unit).

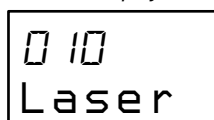
• Connection



• Checking and adjusting method

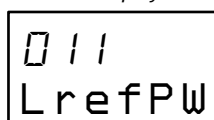
1. Select the manual mode of test mode (see page 13), and set the laser power checking mode (item number 010).

Set LCD display



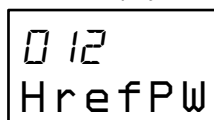
2. Press the key continuously until the optical pick-up moves to the most inward track.
3. Open the cover and set the laser power meter on the objective lens of the optical pick-up.
4. Press the key, and set the laser MO read check mode (item number 011).

Set LCD display



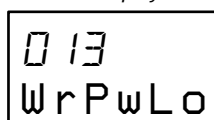
5. Check that the laser power meter reading is 0.800 ± 0.10 mW.
6. Press the key, and set the laser CD read check mode (item number 012).

Set LCD display



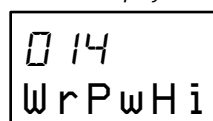
7. Check that the laser power meter reading is 0.910 ± 0.11 mW.
8. Press the key, and set the laser MO (X2 speed) write check mode (item number 013).

Set LCD display



9. Check that the laser power meter reading is 4.95 ± 0.59 mW.
10. Press the key, and set the laser MO (X4 speed) write check mode (item number 014).

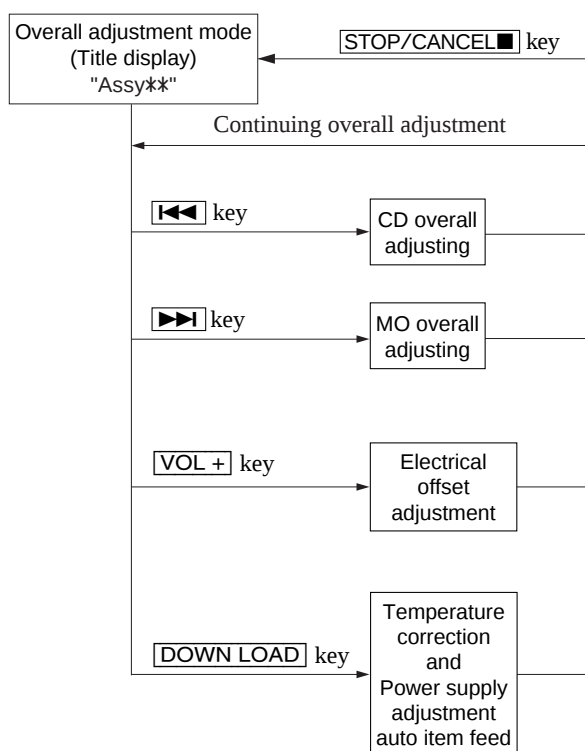
Set LCD display



11. Check that the laser power meter reading is 5.93 ± 0.71 mW.
12. Press the key to quit the manual mode, and activate the test mode (display check mode).

Overall Adjustment Mode

• Configuration of Overall Adjustment Mode



• Overall Adjustment Mode (Title Display)

Set LCD display



: (Disc mark) At end of power supply adjustment: Outside lit
 **: Left side = MO overall adjustment information
 F*: MO overall adjustment completed
 1*: Manual adjustment exists (overall adj. not completed)
 0*: Not adjusted
 Right side = CD overall adjustment information
 F*: CD overall adjustment completed
 1*: Manual adjustment exists (overall adj. not completed)
 0*: Not adjusted

Note: Adjust the CD first, when performing adjustment.

• Adjustment Method of CD and MO Overall Adjustment Mode

1. Set the test mode (see page 13).
2. Press the  key to activate the overall adjustment mode.

Set LCD display



3. Insert CD disc in the set, and press the  key to set the CD overall adjustment mode. Automatic adjustments are made.

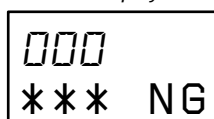
Set LCD display



XXX: Item number for which an adjustment is being executed.

4. In case of CD overall adjustment NG, readjust from the NV reset (see page 18). The temperature correction (see page 18) may be omitted.

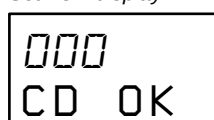
Set LCD display



***: NG item number.

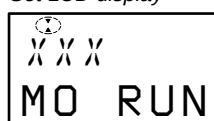
5. If OK through the CD overall adjustments, then perform MO overall adjustments.

Set LCD display



6. Insert MO disc in the set, and press the  key to set the MO overall adjustment mode. Automatic adjustments are made.

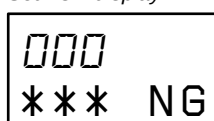
Set LCD display



XXX: Item number for which an adjustment is being executed.

7. In case of MO overall adjustment NG, readjust from the NV reset (see page 18). The temperature correction (see page 18) may be omitted.

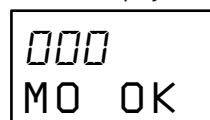
Set LCD display



***: NG item number.

8. If OK through the MO overall adjustments, press the  key to return to the test mode and terminate the overall adjustment mode.

Set LCD display



• Overall Adjustment error message

The following message will be displayed if adjustment procedure is mistaken in the CD and MO overall adjustment.

Message	Display timing	Description
CLOSE!	During CD/MO/DISC automatic distinction overall adjustment	DISC is not inserted.
Set CD!	During MO/DISC automatic distinction overall adjustment During offset adjustment	• CD overall adjustment is not completed in the MO overall adjustment. • CD and MO overall adjustment is not completed in the offset adjustment.
Set MO!	During offset adjustment	MO overall adjustment is not completed in the offset adjustment
NoTmp!	During CD/MO/DISC automatic distinction overall adjustment	Temperature correction (item number 015) is not finished.

• CD and MO Overall Adjustment Items

1. CD overall adjustment items

Item No.	Description
761	VC,VR power supply H/L selection
300	HPIT setting . servo OFF
561	SLED inward movement
562	SLED outward movement
High reflection electrical offset adjustment	
312	Laser ON . Focus UP . vc correction
ALFA offset adjustment	
313	IJ offset adjustment
314	FE offset adjustment
HPIT adjustment	
320	Focus servo ON
324	TE offset adjustment 1
321	TE gain adjustment
328	TWPP gain adjustment
324	TE offset adjustment 1
332	TE offset adjustment 2
330	Tracking servo ON
336	ABCD gain adjustment
337	KF gain correction
338	RF gain adjustment
344	FCS gain adjustment
345	TRK gain adjustment
521	Two-axis sensitivity (outer position)
522	Two-axis sensitivity (outer position)
300	HPIT setting . servo OFF

2. MO overall adjustment items

Item No.	Description
716	VC,VR power supply H/L selection
100	R_GRV setting . servo OFF
Low reflection electrical offset adjustment	
112	Laser ON . Focus UP vc correction
ALFA offset adjustment	
113	IJ offset adjustment
114	FE offset adjustment
118	Wpp denominator offset adjustment
LPIT adjustment	
200	LPIT setting . servo OFF
561	SLED inward movement
220	Focus servo ON
224	TE offset adjustment 1
221	TE gain adjustment
224	TE offset adjustment 1
232	TE offset adjustment 2
230	Tracking servo ON
236	ABCD gain adjustment
237	KF gain correction
238	RF gain adjustment
244	Focus gain adjustment
245	Tracking gain adjustment
READ GRV adjustment 1	
100	R_GRV setting . servo OFF
562	SLED outward movement
120	Focus servo ON
122	TON offset adjustment
121	TE gain adjustment
122	TON offset adjustment
123	TEIN offset adjustment
124	TWPP offset adjustment 1
130	Tracking servo ON
131	TWPP offset adjustment 1
136	ABCD gain adjustment
137	KF gain correction
139	ADIP BPF f0 adjustment
144	Focus gain adjustment
145	Tracking gain adjustment
134	TWPP gain adjustment
131	TWPP offset adjustment 1
132	TWPP offset adjustment 2
149	TWPP OP offset adjustment
WRITE GRV adjustment	
410	HEAD DOWN . GRV servo ON
420	READ → WRITE selection
421	TE gain adjustment
423	TEIN offset adjustment
430	Tracking servo ON
431	TWPP offset adjustment 1
436	ABCD gain adjustment

Item No.	Description
444	Focus gain adjustment
445	Tracking gain adjustment
434	TWPP gain adjustment
431	TWPP offset adjustment 1
432	TE offset adjustment 2
449	TWPP OP offset adjustment
410	WRITE → READ selection
411	TWPP offset adjustment 1
412	TE offset adjustment 2
418	TWPP OP offset adjustment
490	HCLV LCLV selection process
450	HEAD DOWN . GRV servo ON
460	READ → WRITE selection
461	TE gain adjustment
463	TEIN offset adjustment
470	Tracking servo ON
471	TWPP offset adjustment 1
476	ABCD gain adjustment
484	Focus gain adjustment
485	Tracking gain adjustment
451	TWPP offset adjustment 1
452	TE offset adjustment 2
460	READ → WRITE selection
470	Tracking servo ON
474	TWPP gain adjustment
471	TWPP offset adjustment 1
472	TE offset adjustment 2
489	TWPP OP offset adjustment
450	WRITE → READ selection
451	TWPP offset adjustment 1
452	TE offset adjustment 2
458	TWPP OP offset adjustment
448	30 sec continuous REC
400	GRV setting . servo OFF . HEAD UP
READ GRV adjustment 2	
120	Focus servo ON
130	Tracking servo ON
138	RF gain adjustment
141	FOCUS_BIAS
035	Stray light offset measurement
100	R_GRV setting . servo OFF

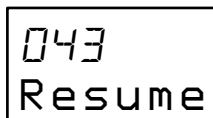
Remuse Clear

Perform the Resume clear when all adjustments completed.

• Resume Clear Setting Method

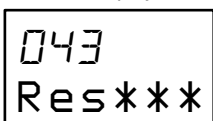
1. Select the manual mode of the test mode, and set item number 043 (see page 14).

Set LCD display

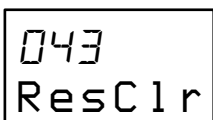


2. Press the  key.

Set LCD display



↓ *Resume clear complete*



3. Press the  key to return to the test mode (display check mode).

Rewriting the Patch Data and NV values at Replacement of Main Board

This set requires the patch data in the nonvolatile memory (IC852) to be rewritten using the application, when the MAIN board was replaced.

Caution: The application that meets the microcomputer version in this set must be used when rewriting the patch data. Rewriting the patch data using the application not suitable for the microcomputer version could cause the set to malfunction.
For a checking method of the microcomputer version, see “SECTION 4 TEST MODE” (page 13).

• Preparation

1. USB cable (attached to the set)
2. Personal computer in which the Net MD Driver has been installed. (For further information, see “System requirements” (page 4) in “SECTION 1 SERVICING NOTES”)
3. Application “PatchWriter” for the patch data and NV values rewriting

• How to Get the Application “PatchWriter” for Patch Data Rewriting

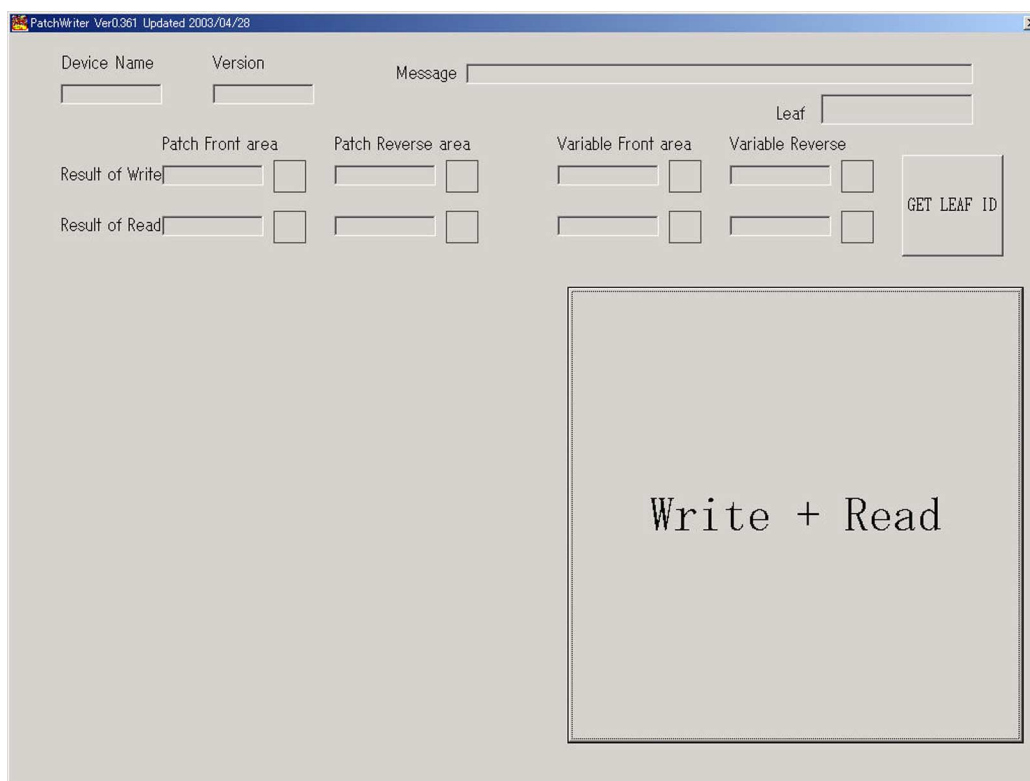
Contact our service technical support section for PA products to get the application.

• Pre-check

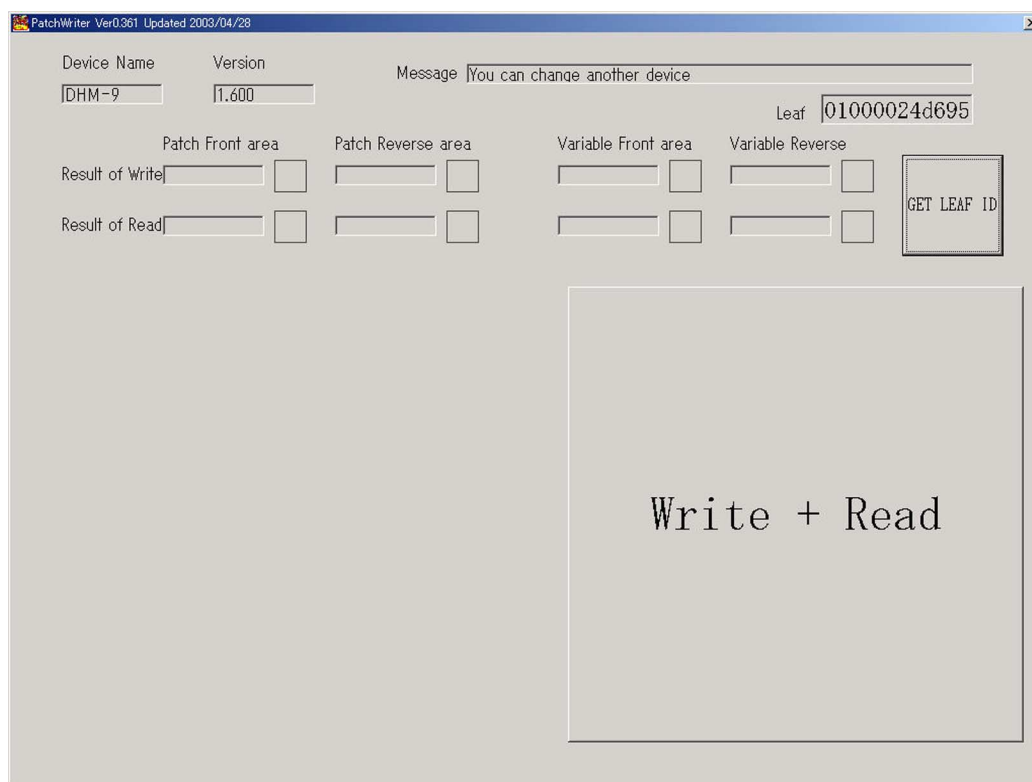
1. Check the microcomputer version in this set. (For a checking method of the microcomputer version, see “SECTION 4 TEST MODE” (page 13).)
2. Check that the Net MD Driver has been installed in the personal computer.
3. Make sure that the set is in the Normal mode.
Note: Do not rewrite the patch data in the Test mode.

• Rewriting the Patch Data

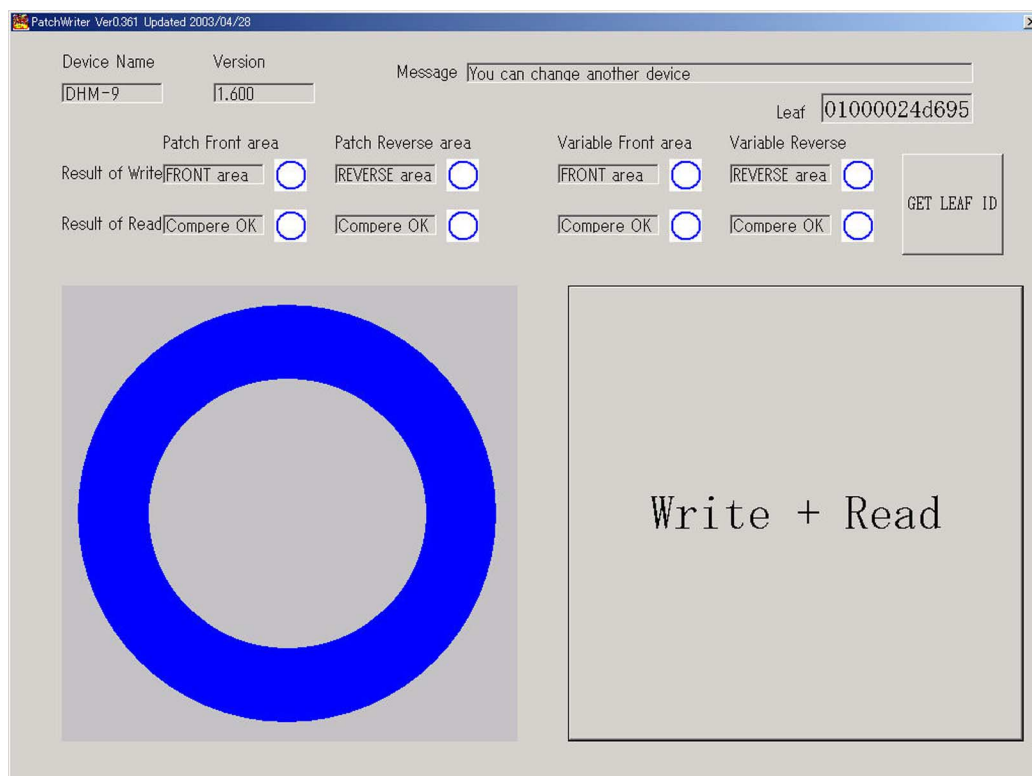
1. Connect the set to the personal computer with the USB cable.
2. Start the application “PatchWriter”.
3. Make sure that the following window opens.
4. Click the [GET LEAF ID] button.



- Confirm that the model and version indicated on the title bar coincide with the codes displayed in the Device Name block and the Version block in the window.



- Click the [Write + Read] button.
The patch data and NV values writing and the verify processing will be executed automatically.
- The operation will terminate with the ○ (blue) mark given to all areas.
If the × (red) mark is given to any area, the nonvolatile memory will be faulty.



- Disconnect the USB cable from the personal computer and the set.

MEMO

• SIGNAL PATH
 : PLAYBACK
 : REC
 : USB

A (Page 32)

(Page 31) **A** CLK

(Page 31) **D** SDO



6-3. NOTE FOR PRINTED WIRING BOARDS AND SCHEMATIC DIAGRAMS

Note on Printed Wiring Board:

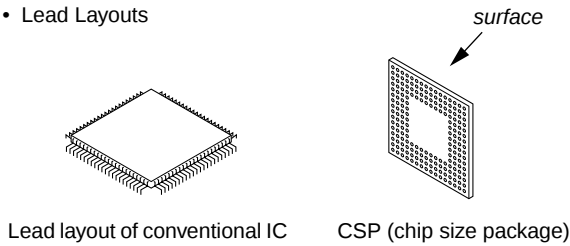
- : parts extracted from the component side.
- : parts extracted from the conductor side.
- △ : internal component.
- : Pattern from the side which enables seeing.
(The other layers' patterns are not indicated.)

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

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

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

Lead Layouts



Note on Schematic Diagram:

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

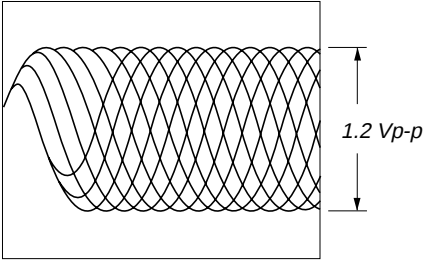
- : B+ Line.
- Total current is measured with MD installed.
- Power voltage is dc 3 V and fed with regulated dc power supply from DC IN 3 V jack (JK951).
- Voltages and waveforms are dc with respect to ground in playback mode.
no mark : PLAYBACK
() : REC
<< >> : USB
* : Impossible to measure
- Voltages are taken with a VOM (Input impedance 10 M Ω).
Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken with a oscilloscope.
Voltage variations may be noted due to normal production tolerances.
- Circled numbers refer to waveforms.
- Signal path.
⇒ : PLAYBACK
⇒ : REC
⇒ : USB
- Abbreviation
EE : East European model

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

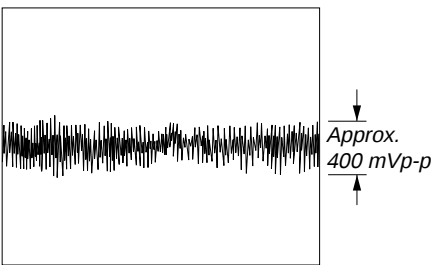
- The voltage and waveform of CSP (chip size package) cannot be measured, because its lead layout is different form that of conventional IC.

Waveforms

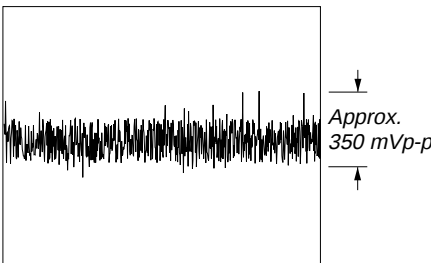
1 IC501 ⑨ (RFO)



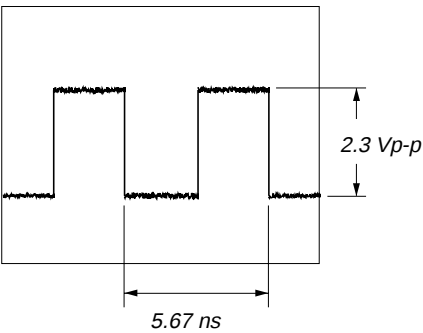
2 IC501 ⑬ (TE)



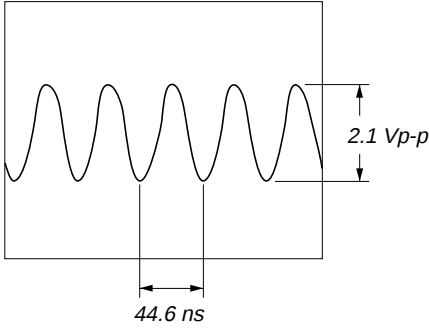
3 IC501 ⑭ (FE)



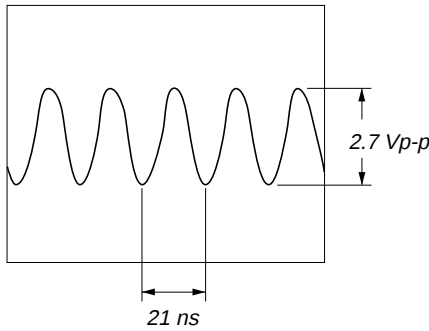
4 IC601 ④ (CLK)



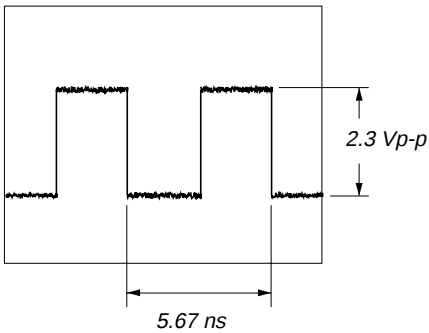
5 IC801 ② (OSCO)



6 IC801 ⑩ (UOSCO) (USB mode)



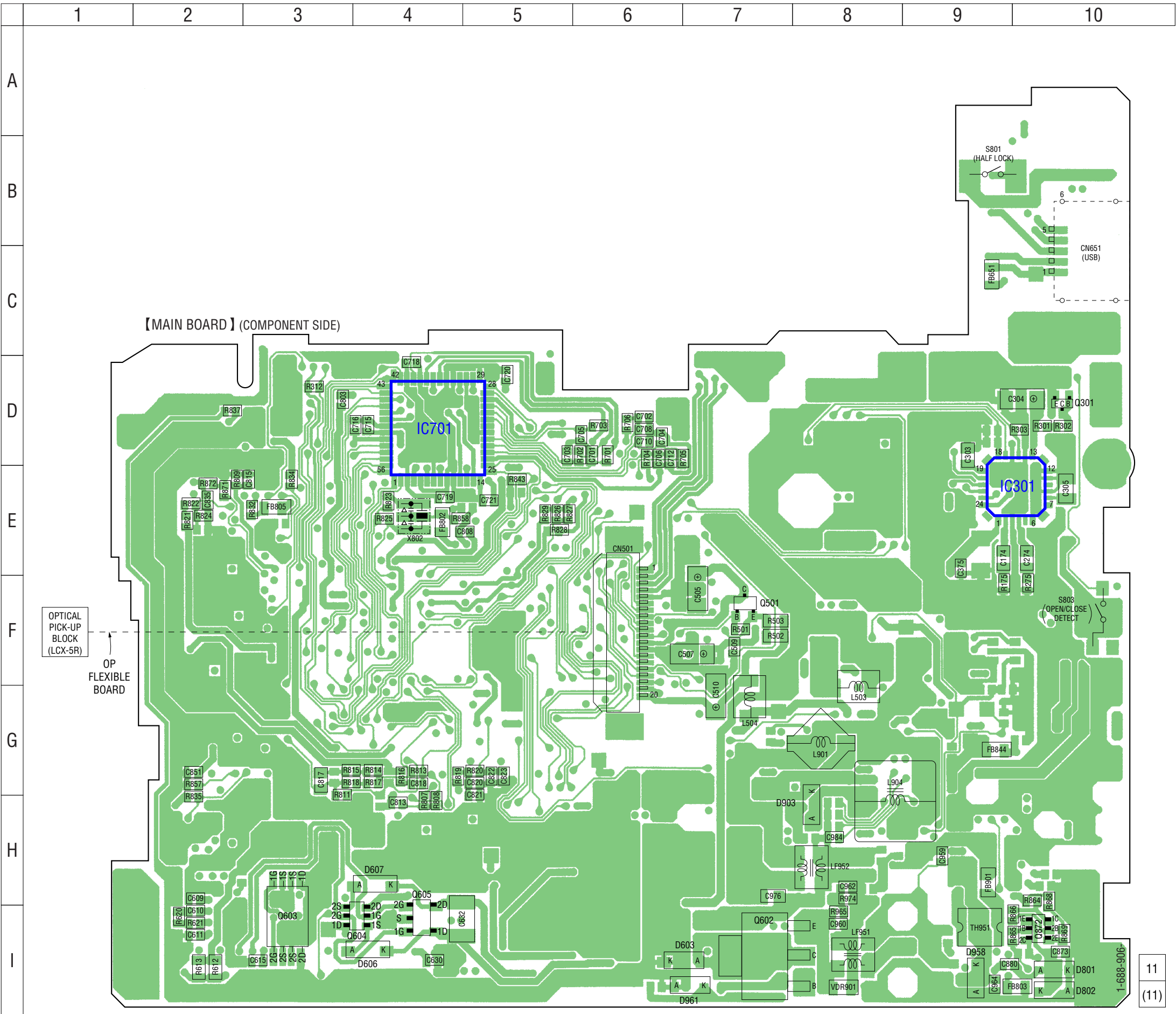
7 IC901 ⑥ (CLK)



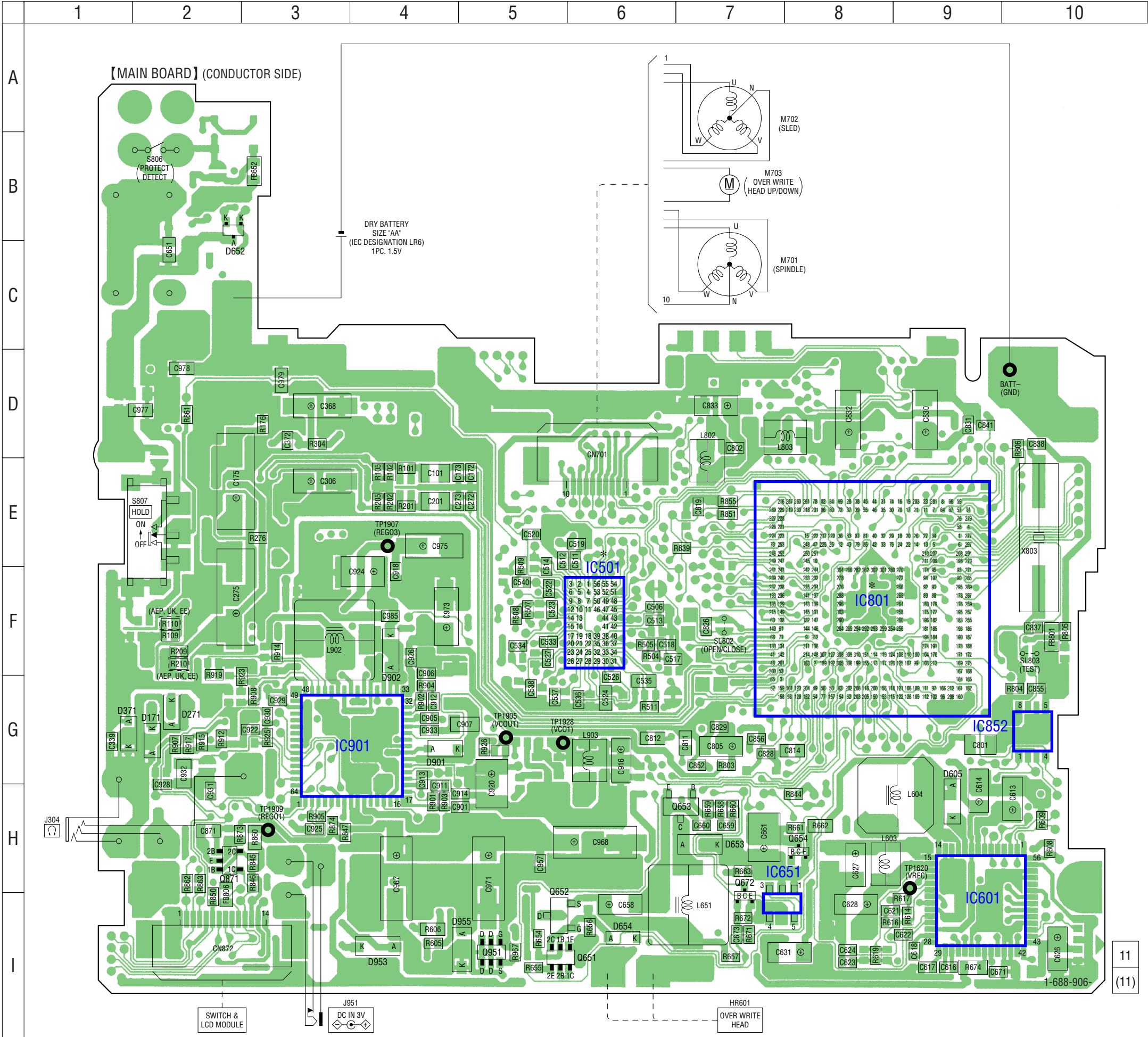
6-4. PRINTED WIRING BOARD – MAIN Board (Component Side) –  :Uses unleaded solder.

• Semiconductor Location

Ref. No.	Location
D603	I-6
D606	I-4
D607	H-4
D801	I-10
D802	I-10
D903	H-8
D958	I-9
D961	I-7
IC301	E-10
IC701	D-4
Q301	D-10
Q501	F-7
Q602	I-6
Q603	I-3
Q604	I-4
Q605	I-4
Q872	I-10



6-5. PRINTED WIRING BOARD – MAIN Board (Conductor Side) –  :Uses unleaded solder.

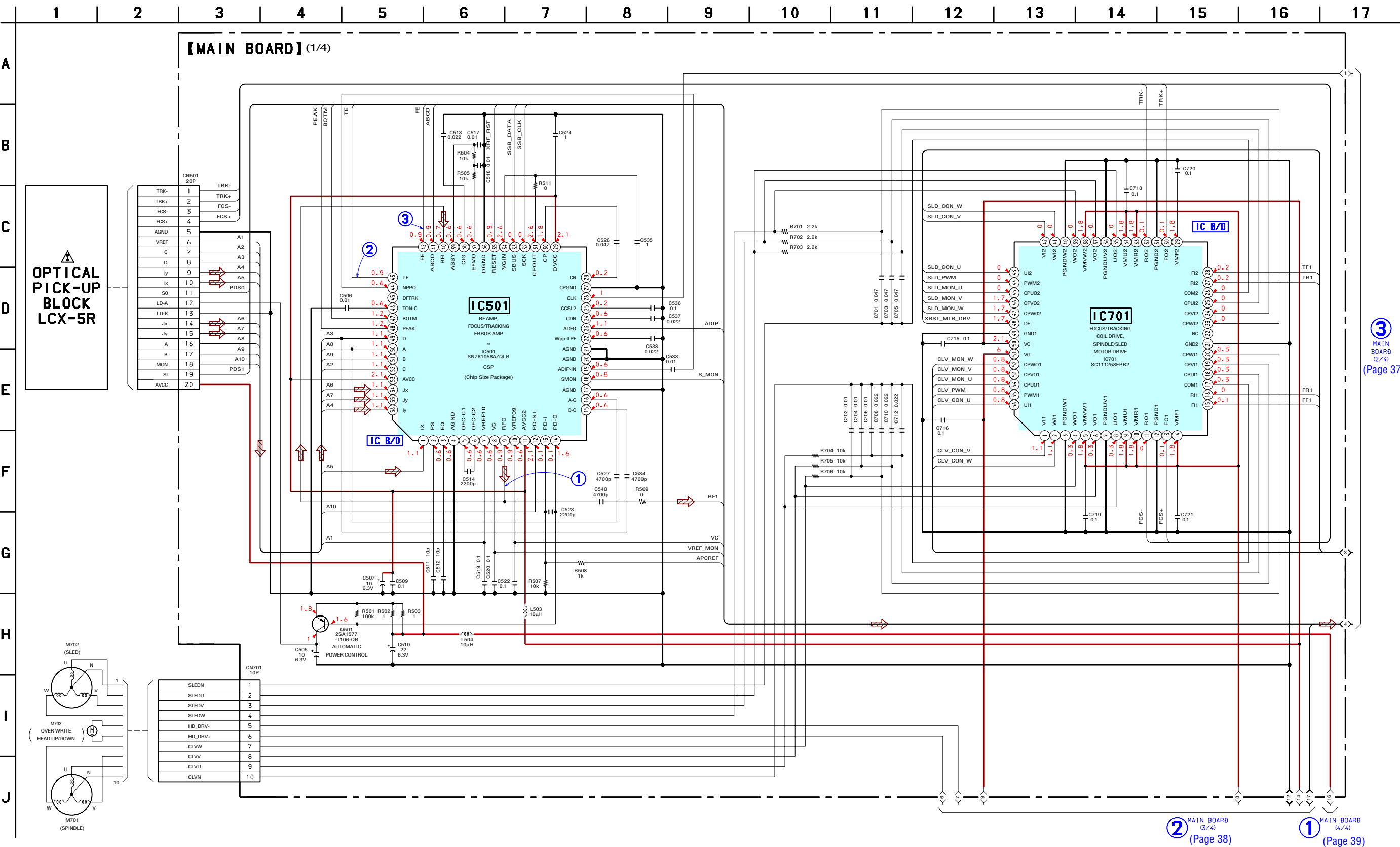


• Semiconductor Location

Ref. No.	Location
D171	G-2
D271	G-2
D371	G-1
D605	H-9
D652	B-2
D653	H-7
D654	I-6
D901	G-4
D902	F-4
D953	I-4
D955	I-5
IC501	F-6
IC601	I-9
IC651	I-7
IC801	F-8
IC852	G-10
IC901	G-4
Q651	I-5
Q652	I-5
Q653	H-7
Q654	H-8
Q672	I-7
Q871	H-2
Q951	I-5

When IC852 is damaged, replace the MAIN board.

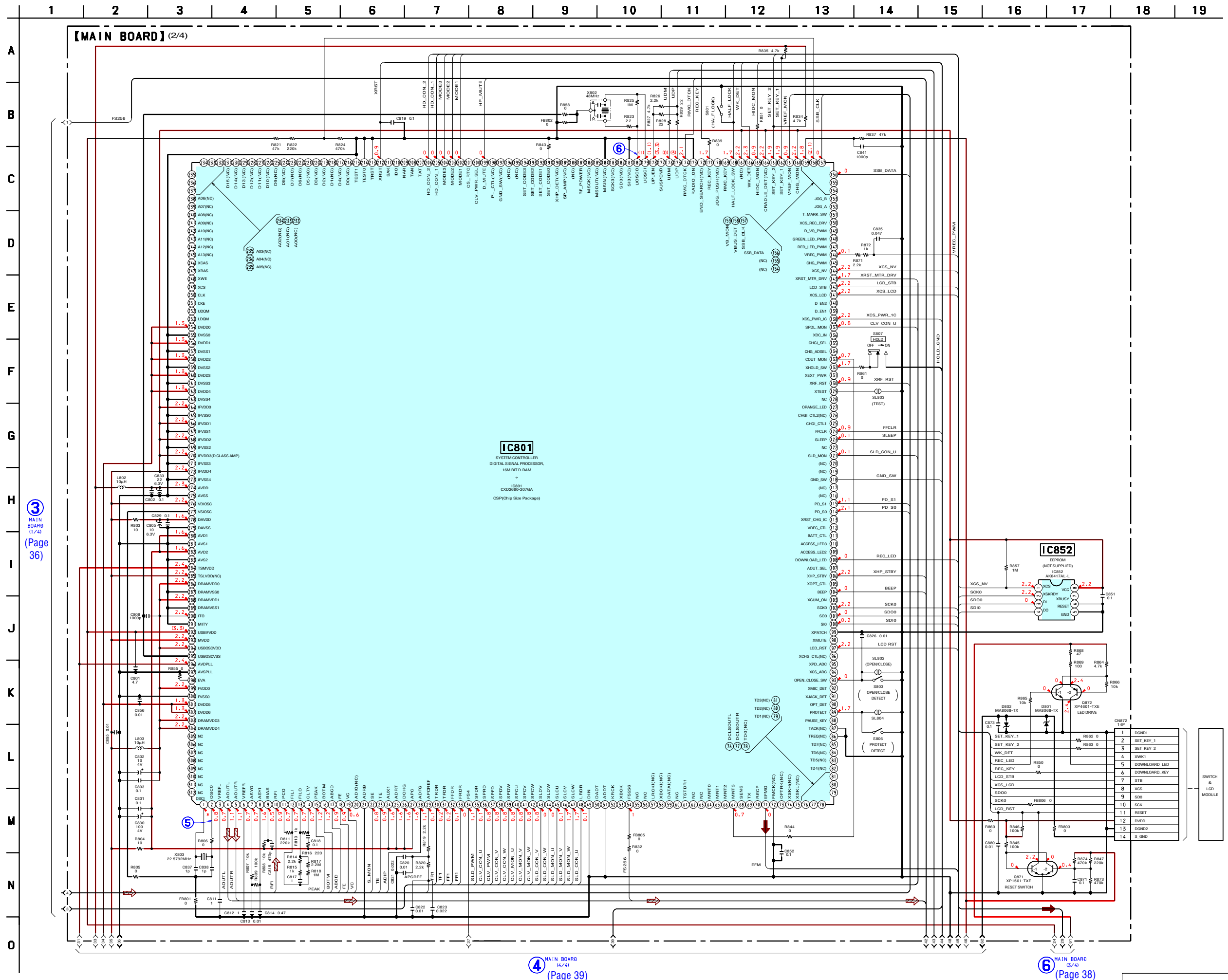
6-6. SCHEMATIC DIAGRAM – MAIN Board (1/4) – • See page 33 for Waveforms. • See page 40 for IC Block Diagrams.



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

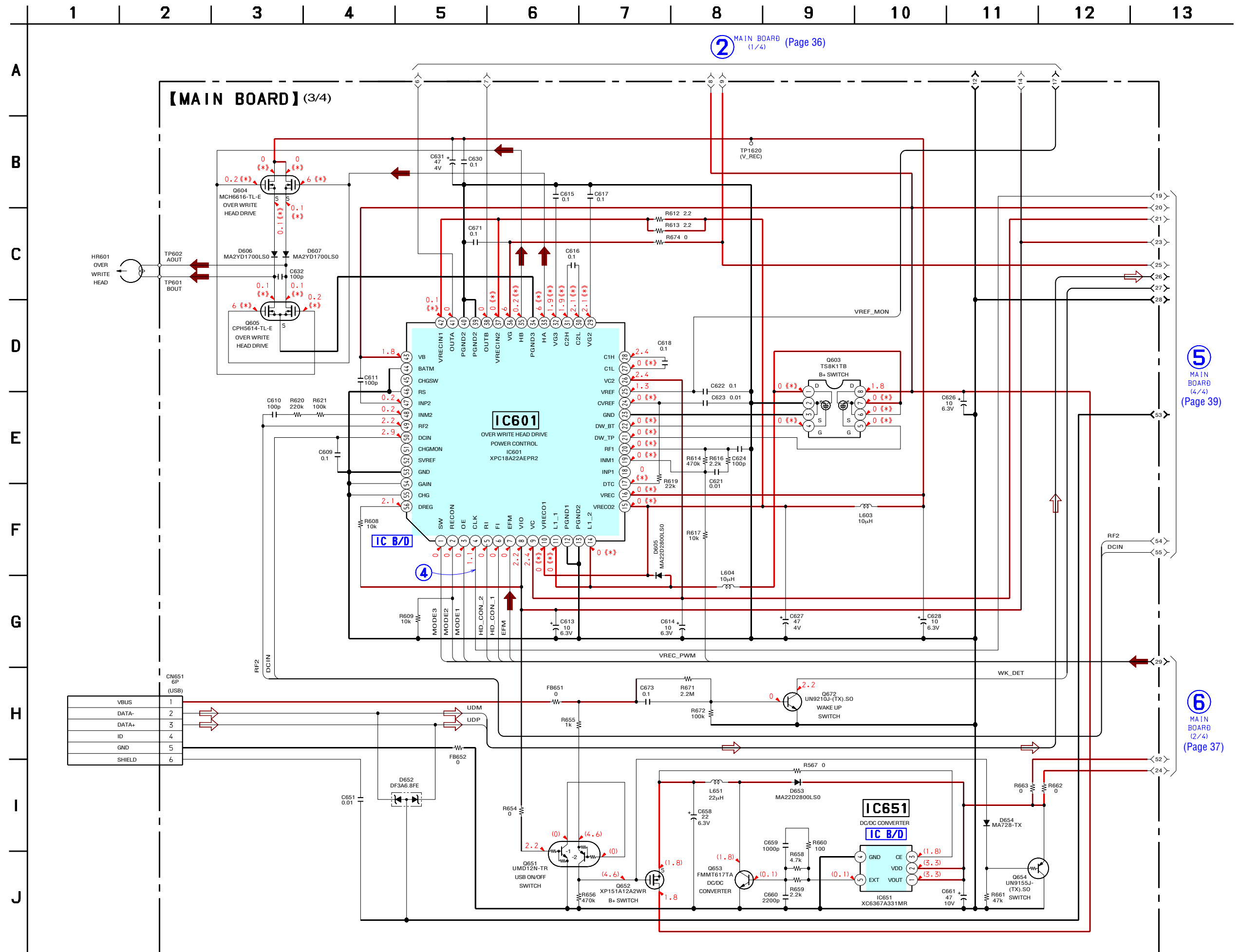
Les composants identifiés par une marque  sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

6-7. SCHEMATIC DIAGRAM – MAIN Board (2/4) – • See page 33 for Waveforms.



When IC852 is damaged, replace the MAIN board.

6-8. SCHEMATIC DIAGRAM – MAIN Board (3/4) – • See page 33 for Waveform. • See page 40 for IC Block Diagrams.

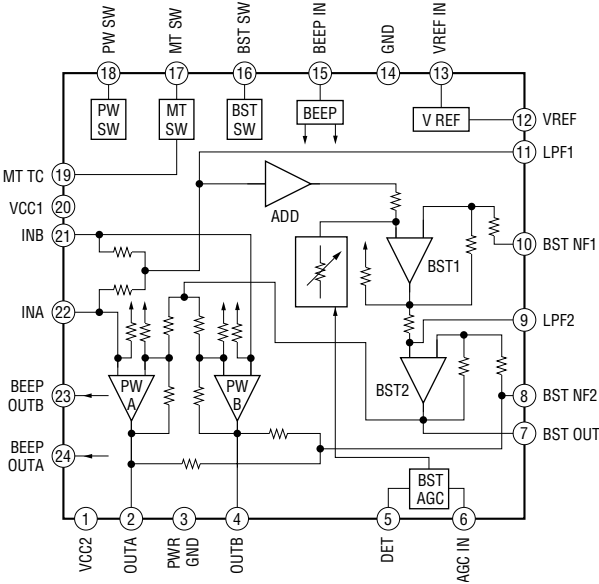




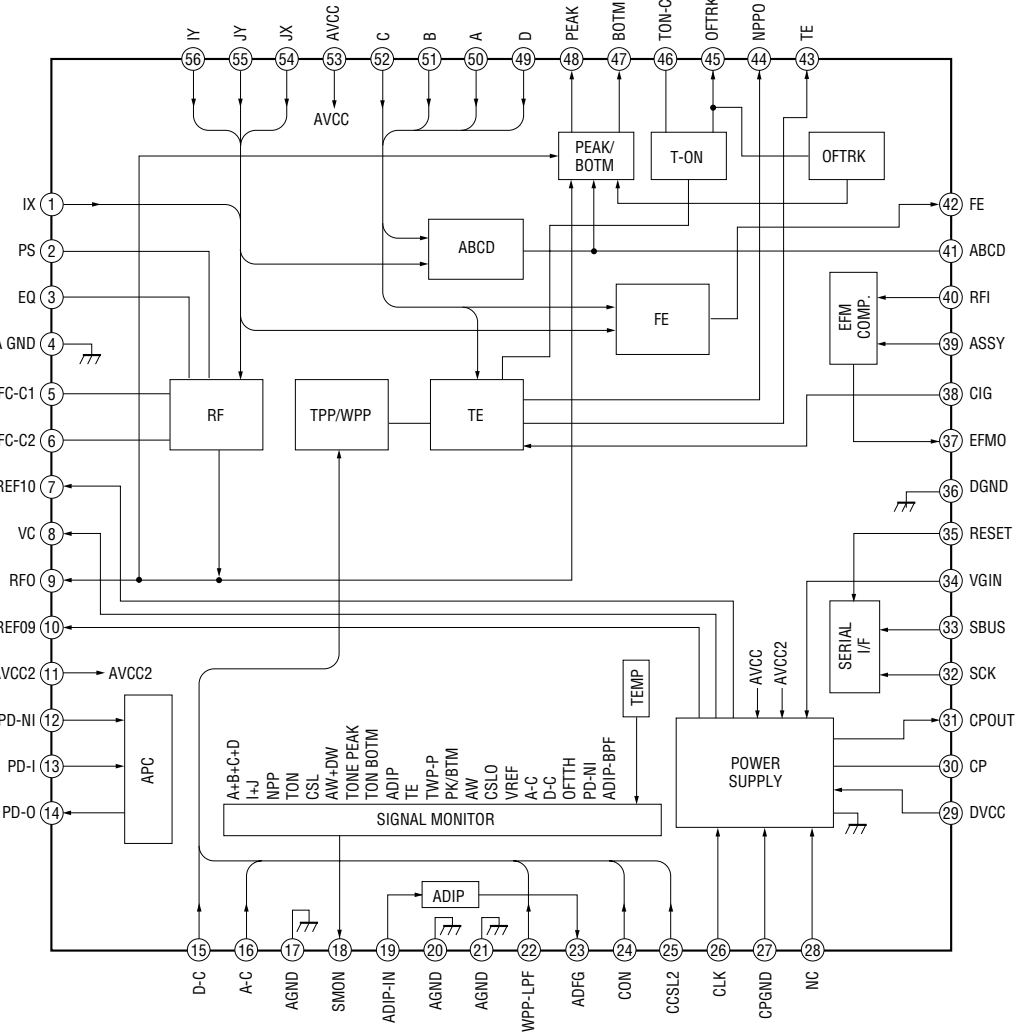
AM-NX9

• IC Block Diagrams

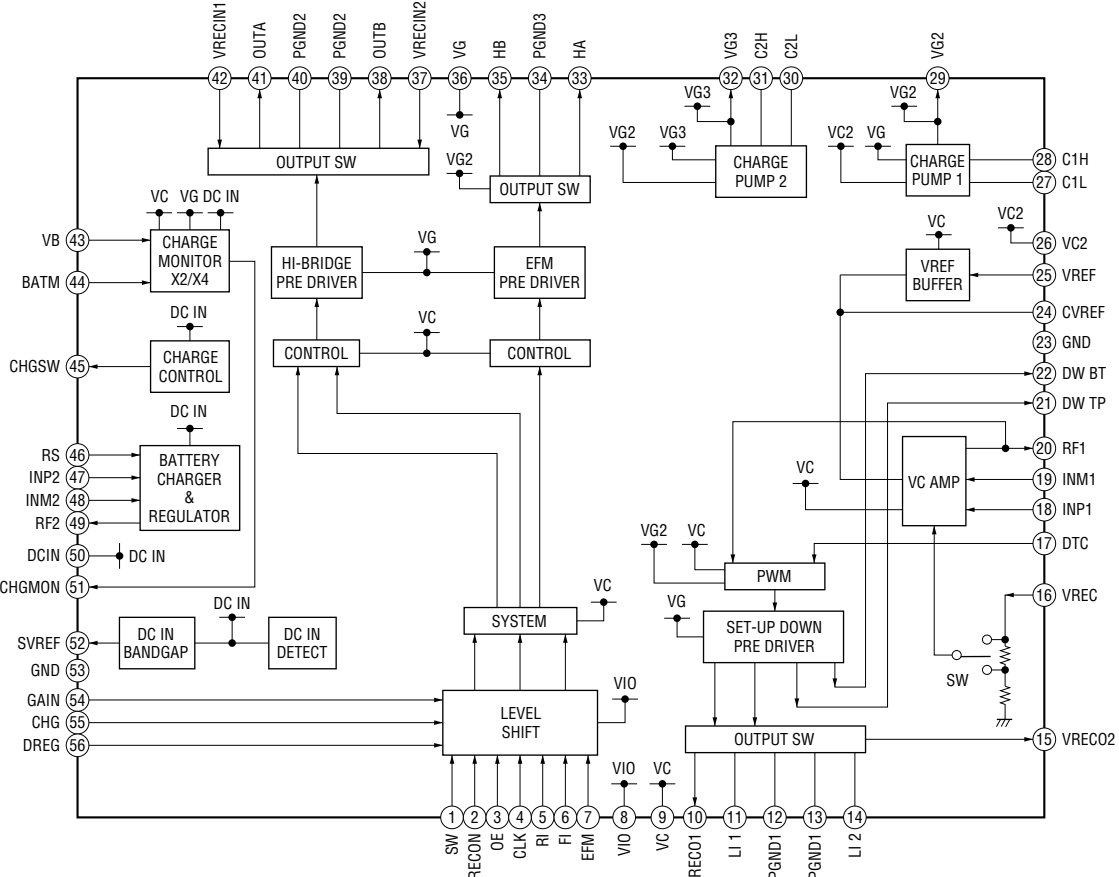
IC301 TA2131FL (EL)



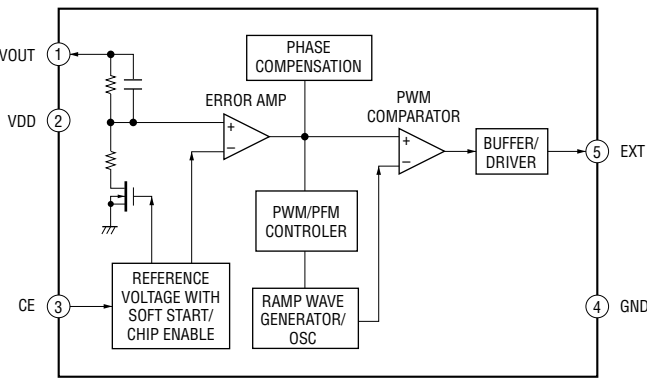
IC501 SN761058AZQLR



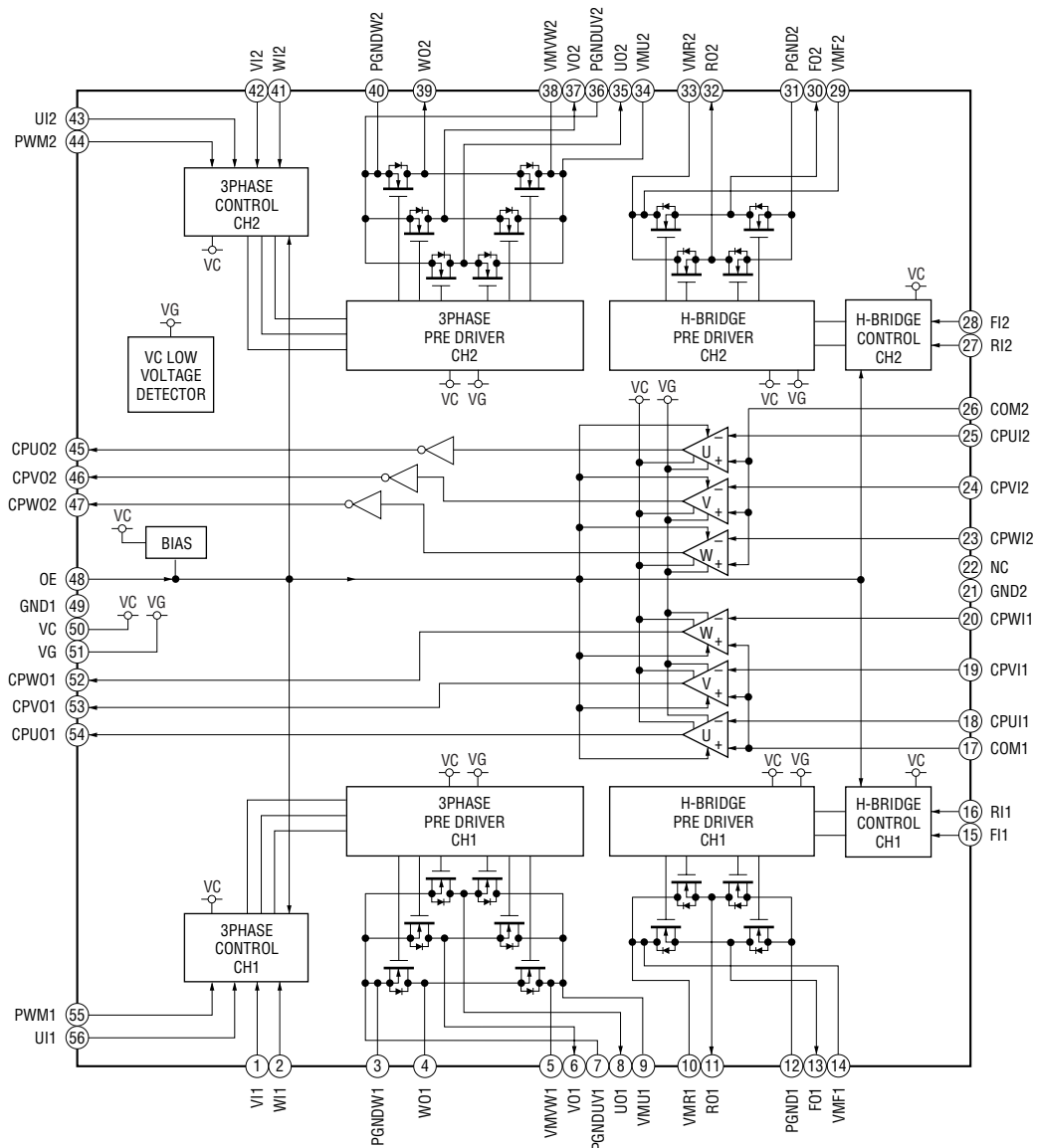
IC601 XPC18A22AEPR2



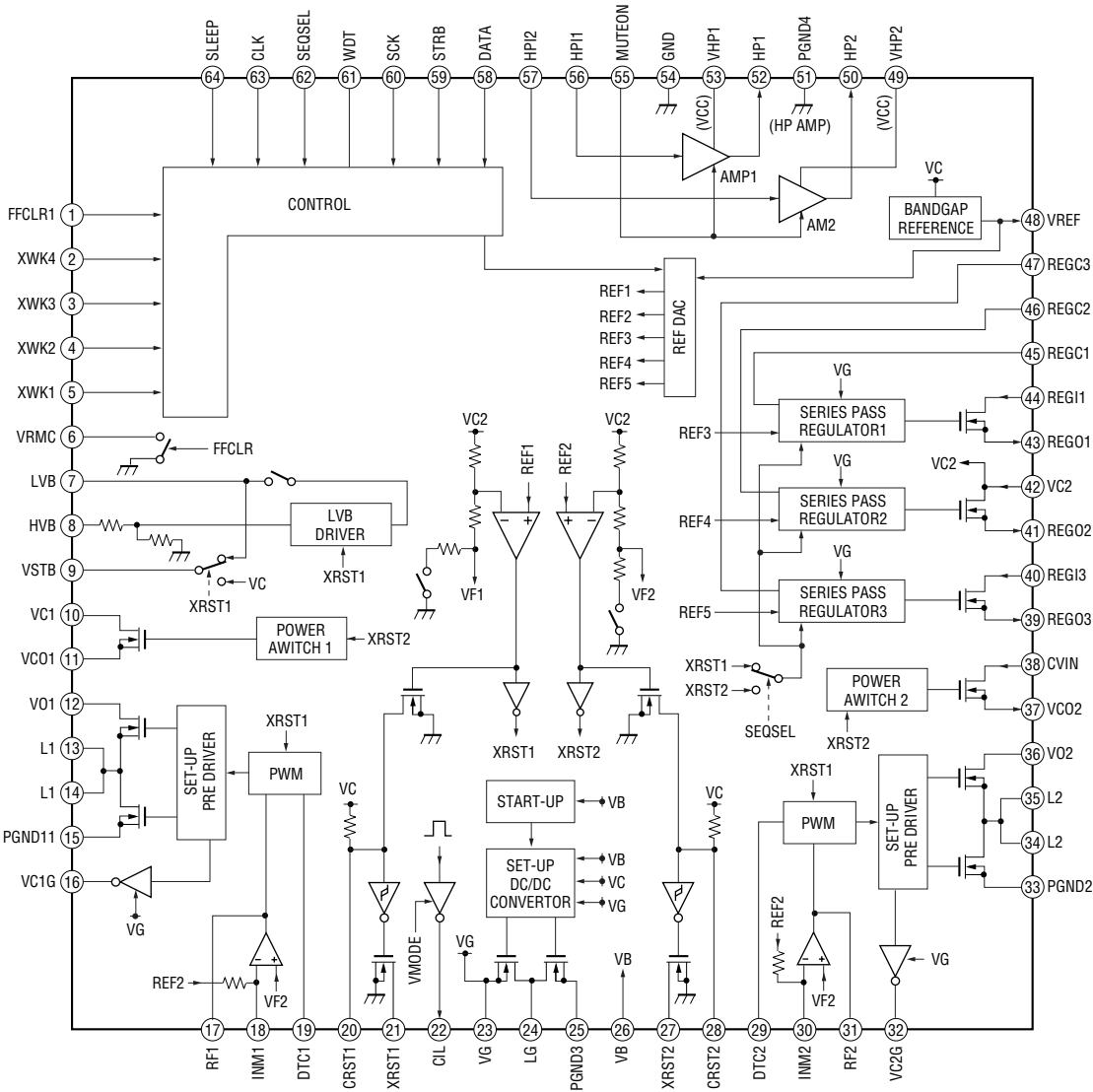
IC651 XC6367A331MR



IC701 SC111258EPR2



IC901 SC901580EPR2



6-10. IC PIN FUNCTION DESCRIPTION

• IC501 SN761058AZQLR (RF AMP, FOCUS/TRACKING ERROR AMP)

Pin No.	Pin Name	I/O	Description
1	IX	I	I-V converted RF signal (IX) input from the optical pickup detector
2, 3	PS, EQ	—	Connected to the external capacitor for the RF and EQ
4	AGND	—	Ground terminal (analog system)
5, 6	OFC-C1, OFC-C2	—	Connect terminal to the external capacitor for the RF AC coupling
7	VREF10	O	Reference voltage output terminal
8	VC	O	Middle point voltage (+1.1V) generation output terminal
9	RFO	O	Playback EFM RF signal output to the system controller
10	VREF09	O	Connect terminal to the external capacitor for the internal reference voltage
11	AVCC2	—	Power supply terminal (+2.1V) (analog system)
12	PD-NI	I	Light amount monitor input terminal (non-invert input)
13	PD-I	I	Reference PWM signal input for the laser automatic power control from the system controller
14	PD-O	O	Light amount monitor output terminal
15	D-C	I	Signal (D) input from the optical pickup detector (AC input)
16	A-C	I	Signal (A) input from the optical pickup detector (AC input)
17	AGND	—	Ground terminal (analog system)
18	SMON	O	Servo signal monitor output to the system controller
19	ADIP-IN	I	ADIP duplex FM signal (22.05kHz + 1kHz) input terminal Not used
20, 21	AGND	—	Ground terminal (analog system)
22	WPP-LPF	—	Connect terminal to the external capacitor for the TPP/WPP low-pass filter
23	ADFG	O	ADIP duplex FM signal (22.05kHz + 1kHz) output to the system controller
24	CDN	—	Connect terminal to the external capacitor for the low-pass filter of CSL divider denominator
25	CCSL2	—	Connect terminal to the external capacitor for the TPP/WPP low-pass filter
26	CLK	I	System clock signal (256Fs=11.2896MHz) input from the system controller
27	CPGND	—	Ground terminal (charge pump)
28	CN	—	Connected to the external capacitor for the charge pump
29	DVCC	—	Power supply terminal (+2.1V) (digital system)
30	CP	—	Connected to the external capacitor for the charge pump
31	CPOUT	O	power supply voltage output terminal for the charge pump
32	SCK	I	SSB serial clock signal input from the system controller
33	SBUS	I	SSB serial data input/output with the system controller
34	VGIN	I	Analog switch and OP amplifier power supply voltage input terminal
35	RESET	I	Reset signal input from the system controller $\overline{\text{RESET}}$: reset
36	DGND	—	Ground terminal (digital system)
37	EFMO	O	EFM signal output terminal
38	CIG	—	Connect terminal to the external capacitor for the low-pass filter of NPP divider denominator
39	ASSY	—	Asymmetry input terminal Not used
40	RFI	I	Playback EFM RF signal input terminal
41	ABCD	O	Light amount signal (ABCD) output to the system controller
42	FE	O	Focus error signal output to the system controller
43	TE	O	Tracking error signal output to the system controller
44	NPPO	O	NPP signal output terminal
45	OFTRK	I/O	Off track signal input terminal Not used
46	TON-C	—	Connect terminal to the external capacitor for TON hold
47	BOTM	O	Bottom hold signal output of the light amount signal (RF/ABCD) to the system controller

Pin No.	Pin Name	I/O	Description
48	PEAK	O	Peak hold signal output of the light amount signal (RF/ABCD) to the system controller
49	D	I	Signal (D) input from the optical pickup detector
50	A	I	Signal (A) input from the optical pickup detector
51	B	I	Signal (B) input from the optical pickup detector
52	C	I	Signal (C) input from the optical pickup detector
53	AVCC	—	Power supply terminal (+2.1V) (analog system)
54	JX	I	I-V converted RF signal (JX) input from the optical pickup detector
55	JY	I	I-V converted RF signal (JY) input from the optical pickup detector
56	IY	I	I-V converted RF signal (IY) input from the optical pickup detector

• IC801 CXD2680-207GA (SYSTEM CONTROLLER, DIGITAL SIGNAL PROCESSOR, 16M BIT D-RAM)

Pin No.	Pin Name	I/O	Description
1	OSCI	I	Resonator connection terminal for the system clock (22.5792MHz)
2	OSCO	O	Resonator connection terminal for the system clock (22.5792MHz)
3	VREFL	O	Reference voltage terminal connected to the capacitor (for the built-in D/A converter L-CH)
4	AOUTL	O	Built-in D/A converter L-CH signal output
5	AOUTR	O	Built-in D/A converter R-CH signal output
6	VREFR	O	Reference voltage terminal connected to the capacitor (for the built-in D/A converter R-CH)
7	ASYO	O	Playback EFM duplex signal output
8	ASYI	I	Playback EFM comparator slice level input
9	BIAS	I	Bias current input terminal for the playback EFM comparator
10	RFI	I	Playback EFM RF signal input from the RF amplifier
11	PCO	O	Phase comparison output terminal for the playback EFM system master PLL
12	FILI	I	Filter input terminal for the playback EFM system master PLL
13	FILO	O	Filter output terminal for the playback EFM system master PLL
14	CLTV	I	Internal VCO control voltage input terminal for the playback EFM system master PLL
15	PEAK	I	Peak hold signal input of the light amount signal (RF/ABCD) from the RF amplifier
16	BOTM	I	Bottom hold signal input of the light amount signal (RF/ABCD) from the RF amplifier
17	ABCD	I	Light amount signal (ABCD) input from the RF amplifier
18	FE	I	Focus error signal input from the RF amplifier
19	VC	I	Middle point voltage input from the RF amplifier
20	ADIO	O	Monitor output terminal of A/D converter input signal Not used
21	ADRB	I	The lower limit voltage of A/D converter input terminal (connected to the ground)
22	SE	I	Sled error signal input from the RF amplifier
23	TE	I	Tracking error signal input from the RF amplifier
24	AUX1	I	Auxiliary A/D input (fixed at "H" in this set)
25	ADRT	I	The upper limit voltage of A/D converter input terminal (fixed at "H" in this set)
26	DCHG	I	Connecting terminal with the analog power supply of low impedance (fixed at "H" in this set)
27	APC	I	Error signal input for the laser automatic power control (fixed at "H" in this set)
28	ADFG	I	ADIP duplex FM signal (22.05±1kHz) input from the RF amplifier
29	APCREF	O	Reference PWM signal output for the laser automatic power control to the RF amplifier
30	TRDR	O	Tracking servo drive PWM signal output (–) to the coil driver
31	TFDR	O	Tracking servo drive PWM signal output (+) to the coil driver
32	FFDR	O	Focus servo drive PWM signal output (+) to the coil driver
33	FRDR	O	Focus servo drive PWM signal output (–) to the coil driver
34	FS4	O	176.4kHz clock signal output
35	SFDR	O	Sled servo drive PWM signal output to the motor driver
36	SPRD	O	Spindle motor drive control signal output (U) to the motor driver
37	SPFD	O	Spindle servo drive PWM signal output to the motor driver
38	SPDV	O	Spindle motor drive control signal output (V) to the motor driver
39	SPDW	O	Spindle motor drive control signal output (W) to the motor driver
40	SPCU	I	Spindle motor drive comparison signal input (U) from the motor driver
41	SPCV	I	Spindle motor drive comparison signal input (V) from the motor driver
42	SPCW	I	Spindle motor drive comparison signal input (W) from the motor driver
43	SLDV	O	Sled motor drive control signal output (V) to the motor driver
44	SLDW	O	Sled motor drive control signal output (W) to the motor driver
45	SLCU	I	Sled motor drive comparison signal input (U) from the motor driver

Pin No.	Pin Name	I/O	Description
46	SLCV	I	Sled motor drive comparison signal input (V) from the motor driver
47	SLCW	I	Sled motor drive comparison signal input (W) from the motor driver
48	SRDR	O	Sled motor drive control signal output (U) to the motor driver
49	DIN	I	Digital audio signal input (fixed at “L” in this set)
50	DADT	O	Audio data output terminal Not used
51	ADDT	I	Data input from the external A/D converter (fixed at “L” in this set)
52	KRCK	O	L/R sampling clock (44.1KHz) output to the external A/D converter Not used
53	XBCK	O	Bit clock (2.8224MHz) output to the external A/D converter Not used
54	FS256	O	11.2896MHz clock output
55	NC	O	Filter cutoff control signal output Not used
56	NC	I	Clock input from the external VCO Not used
57	LRCKI	I	Input terminal for the PCM data I/F/ ATRAC data I/F Not used
58	XBCKI	I	Input terminal for the PCM data I/F/ ATRAC data I/F Not used
59	DATAI	I	Input terminal for the PCM data I/F/ ATRAC data I/F Not used
60	NC	—	Not used
61	EXCS	O	Chip select signal output terminal for the external SDRAM Not used
62, 63	NC	—	Not used
64 to 66	MNT0 to 2	O	DSP monitor (0) to (2) output terminal Not used
67	MNT3	O	DSP monitor (3) output terminal
68	SENS	O	DSP internal status (DSP SENS monitor) signal output terminal Not used
69	TX	O	Record data output enable signal output Not used
70	RECP	O	Laser power changeover signal output Not used
71	EFMO	O	EFM encode data output for the record to the REC driver
72	TFMCK	I	FMCK signal input Not used
73	OFTRK	I/O	Tracking signal input/output Not used
74	XSKH	O	L circuit signal output Not used
75	XSKL	O	K-SHOCK circuit signal output Not used
76	DCLSOUTL	O	PWM modulator signal output for the D class headphone amplifier Not used
77	DCLSOUTR	O	PWM modulator signal output for the D class headphone amplifier Not used
78 to 85	TD0 to 7	—	TigerI/F data 0 to 7 terminal Not used
86	TREQ	—	TigerI/F REQUEST terminal Not used
87	TACK	—	TigerI/F ACK terminal Not used
88	PAUSE_KEY	I	Stop key detection input terminal from the switch & liquid crystal display module Not used
89	PROTECT	I	Detection signal input terminal of the record check claw from the protect detection switch “H”: protect
90	OPT_DET	I	DIN plug detection signal input “H”: DIN plug detect Not used
91	XJACK_DET	I	LINE IN plug detection signal input “L”: LINE or OPT plug detect Not used
92	XMIC_DET	I	Microphone plug detection signal input “L”: microphone plug detect Not used
93	OPEN_CLOSE_SW	I	Open/close detection switch of the upper panel input terminal “L”: when upper panel close
94	XCS_ADC	O	Chip select signal output to the A/D converter Not used
95	XPD_ADC	O	Power supply control signal output to the A/D converter Not used
96	CHG_CTL	O	Charge ON/OFF control signal output Not used
97	LCD_RST	O	Reset control signal output to the liquid crystal display module
98	XMUTE	O	Analog muting control signal output to the headphone amplifier “L”: muting ON Not used
99	XPATCH	I	Patch function detection terminal “L”: patch function (fixed at “L” in this set)

Pin No.	Pin Name	I/O	Description
100	SI0	I	Serial data input from the nonvolatile memory
101	SO0	O	Serial data output to the nonvolatile memory, liquid crystal display module and power control
102	SCK0	O	Serial clock output to the nonvolatile memory, liquid crystal display module and power control
103	XGUM_ON	I	Rechargeable battery detection switch input terminal “L”: rechargeable battery in detect Not used
104	BEEP	O	Beep sound control signal output to the headphone amplifier Not used
105	XOPT_CTL	O	Power supply ON/OFF control signal output for the DIN PD drive Not used
106	XHP_STBY	O	Power supply control signal output to the headphone amplifier Not used
107	AOUT_SEL	O	HP/LINE changeover signal output to the headphone amplifier Not used
108	REC_OPR_LED	O	DOWNLOAD LED ON/OFF control signal output terminal
109	MDVCC_CTL	O	Power supply control signal output for the OP modulation Not used
110	OPVCC_CTL	O	Power supply control signal output for the OP laser Not used
111	BATT_CTL	O	Control signal output for the voltage step up circuit in the external battery case Not used
112	VREC_CTL	O	VREC voltage control signal output Not used
113	XRST_CHG_IC	O	Reset signal output to the battery charge control IC Not used
114, 115	PD_S0, 1	O	PD IC mode changeover signal output to the optical pick up
116	LINK_MON	O	Linking area monitor signal output Not used
117	PL_CTL	O	Plunger control signal output Not used
118	GND_SW	O	Ground changeover switch control signal output terminal
119, 120	NC	O	Not used
121	SLD_MON	I	Sled servo monitor signal input
122	NC	O	Not used
123	SLEEP	O	System sleep control signal output to the power control
124	FFCLR	O	Input latch output for the start switching to the power control
125	CHGI_CTL1	O	Charge current limit ON/OFF control signal output at the time of adaptor use Not used
126	CHGI_CTL2	O	Charge current limit value changeover control signal output at the time of adaptor use Not used
127	ORANGE_LED	O	Orange LED ON/OFF control signal output Not used
128	CHG_LED	O	LED ON/OFF control signal output for CHG (charge display) Not used
129	XTEST	I	Terminal for the test mode setting (normally open) “L”: test mode
130	XRF_RST	O	Reset control signal output to the RF amplifier “L”: reset
131	XEXT_PWR	I	External power supply (AC adaptor/charging stand) detection signal input Not used
132	XHOLD_SW	I	HOLD switch input terminal “L”: hold ON
133	COUT_MON	I	Traverse count measurement monitor input
134	CHG_ADSEL	O	A/D terminal of the battery charge control IC output selection signal output Not used
135	CHGI_SEL	O	Charge/discharge changeover control signal output for the current sense amplifier Not used
136	XDC_IN	I	DC plug detection signal input Not used
137	SPDL_MON	I	Spindle servo monitor signal input
138	XCS_PWR_IC	O	Chip select signal output to the power control
139, 140	NC	O	Control signal output for the D class headphone amplifier Not used
141	XCS_LCD	O	Chip select signal output to the liquid crystal display module
142	LCD_STB	O	Strobe signal output to the liquid crystal display module
143	XRST_MTR_DRV	O	Reset control signal output to the motor driver “L”: reset
144	XCS_NV	O	Chip select signal output to the nonvolatile memory
145	CHG_PWM	O	Output voltage control signal output to the battery charge control Not used

Pin No.	Pin Name	I/O	Description
146	VREC_PWM	O	PWM signal output for the power supply voltage control to the REC driver
147	VL_PWM	O	PWM signal output for the laser power supply voltage control to the power control Not used
148	NJM_XMUTE	O	Muting control signal terminal (NJM type made by JRC) Not used
149	D_VO_PWM	O	Power supply control signal output for the D class headphone amplifier Not used
150	XCS_REC_DRV	O	Chip select signal output to the REC driver Not used
151	T_MARK_SW	I	T MARK (track mark) switch input terminal “L”: track mark detection Not used
152	JOG_A	I	Jog dial pulse input from the switch & liquid crystal display module Not used
153	JOG_B	I	Jog dial pulse input from the switch & liquid crystal display module Not used
154, 155	NC	O	Not used
156	SSB_DATA	I/O	SSB data input/output with the RF amplifier
157	SSB_CLK	O	SSB clock output to the RF amplifier
158	VBUS_DET	I	USB power supply voltage detection terminal
159	VB_MON	I	Voltage monitor input terminal (A/D input) of the UNREG power supply
160	CHG_MON	I	Not used
161	VREF_MON	I	Reference voltage monitor input (A/D input) from the RF amplifier
162	SET_KEY_1	I	Key input (A/D input) from the switch & liquid crystal display module
163	SET_KEY_2	I	Key input (A/D input) from the switch & liquid crystal display module
164	CRADLE_DET	I	USB cradle or battery case detection signal input Not used
165	HIDC_MON	I	HIGH DC voltage monitor input terminal (A/D input)
166	WK_DET	I	Set key WAKE detection signal input
167	BATT_MON	I	External battery voltage monitor input Not used
168	HALF_LOCK_SW	I	Open button detection switch input (A/D input) “L” : the open button is pressed
169	RMC_KEY	I	Key input (A/D input) from the remote commander
170	JOG_PUSH	I	Jog dial push detection signal input Not used
171	REC_KEY	I	PLAY_PAUSE_ENTER key input (A/D input)
172	END_SEARCH	I	DOWNLOAD key input (A/D input) Not used
173	RADIO_ON	I	RADIO ON detection signal input Not used
174	RMC_DTCK	I/O	TSB master data clock input/output or SSB data input/output
175	UDP	I/O	USB data (+) input terminal
176	UDM	I/O	USB data (–) input terminal
177	SUSPEND	O	USB suspend signal output Not used
178	UPUEN	O	USB pull-up resistor connection control output terminal
179	UOSCI	I	Resonator (48MHz) connection terminal for the USB oscillation circuit
180	UOSCO	O	Resonator (48MHz) connection terminal for the USB oscillation circuit
181	SI3	I	Not used
182	SO3	O	Not used
183	SCK3	I/O	Not used
184	MSIN	I	Not used
185	MSOUT	O	Not used
186	MSCK	I/O	Not used
187	RF_PWR	O	Not used
188	LCD_PWR	O	Not used
189	SP_AMP	O	Built-in speaker control signal output “H”: activate Not used
190	XHP_DET	I	Headphone jack detection signal input Not used
191	SET_CODE0	I	Input terminal for the set (fixed at “L” in this set)
192	SET_CODE1	I	Input terminal for the set (open in this set)

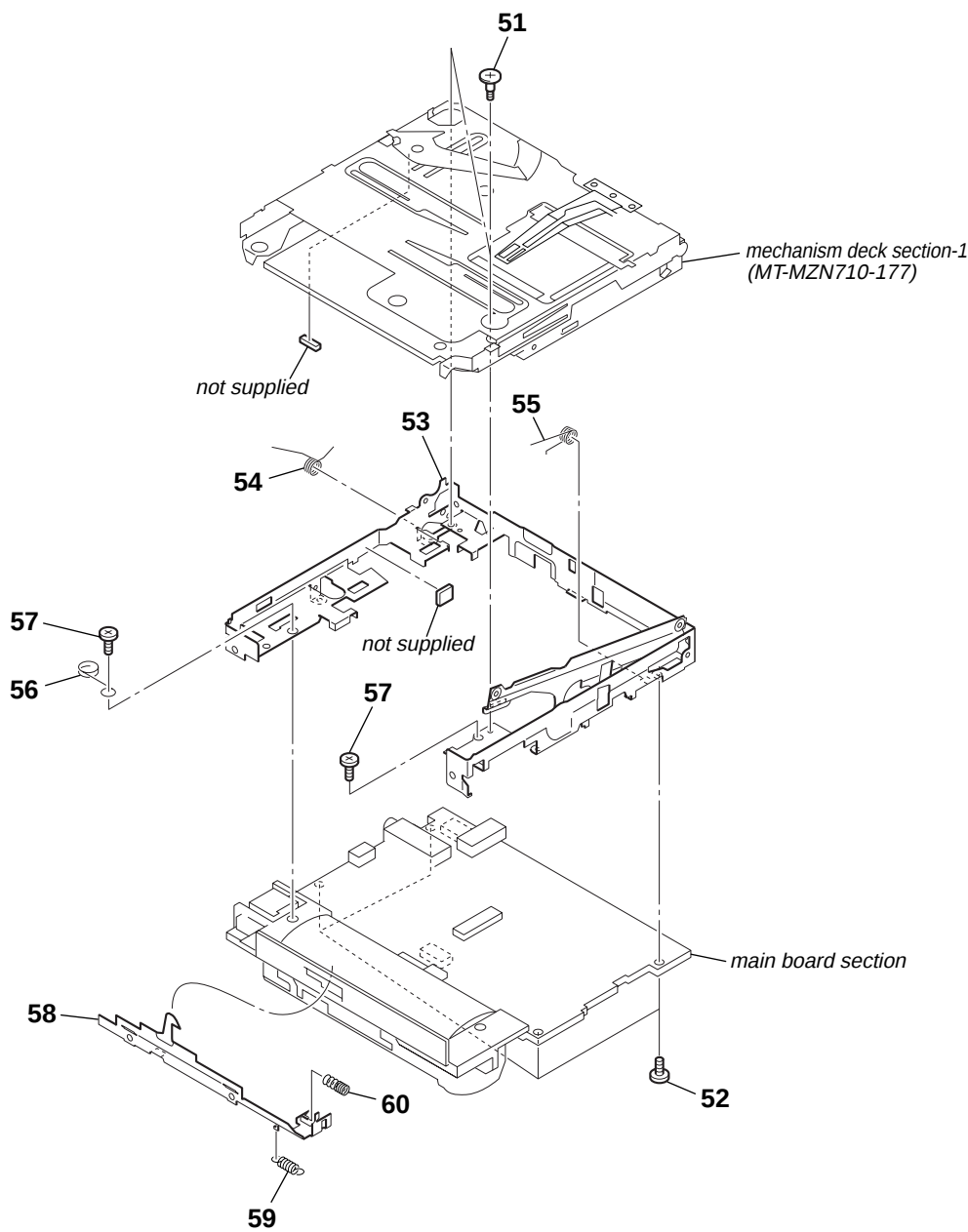
Pin No.	Pin Name	I/O	Description
193	SET_CODE2	I	Input terminal for the set (open in this set)
194	SET_CODE3	I	Input terminal for the set (open in this set)
195, 196	NC	O	Not used
197	VBUS5V_DET	I	Not used
198	LG_DCR_CTL	O	Not used
199	MUTE	O	Analog muting control signal output to the headphone amplifier “H”: muting ON Not used
200	CLV_PWR_SEL	O	CLV motor power supply selection control signal output Not used
201	CS_RTC	O	Chip select signal output to the real time clock Not used
202 to 204	MODE1 to 3	O	Power supply control signal output for the over write head to the REC driver
205, 206	HD_CON_1, 2	O	Over write head control signal output to the REC driver
207	TAT	I	Not used
208	TAN	I	Not used
209	NAR	I	Not used
210	IDO	I	Not used
211	SAK	O	Not used
212	XRST	I	System reset signal input from the power control “L”: reset
213	TRST	I	Terminal for the test mode setting (normally fixed at “L”)
214, 215	TEST0, 1	I	Input terminal for the main test (normally fixed at “L”)
216 to 231	D0 to 15	—	DRAM data0 to 15 terminal Not used
232 to 245	A00 to 13	—	DRAM address0 to 13 terminal Not used
246	XCAS	—	DRAM CAS terminal Not used
247	XRAS	—	DRAM RAS terminal Not used
248	XWE	—	DRAM write enable terminal Not used
249	XCS	—	DRAM chip select terminal Not used
250	CLK	—	DRAM clock terminal Not used
251	CKE	—	DRAM clock enable terminal Not used
252	UDQM	—	DRAM byte mask terminal Not used
253	LDQM	—	DRAM byte mask terminal Not used
254	DVDD0	—	Power supply terminal
255	DVSS0	—	Ground terminal
256	DVDD1	—	Power supply terminal
257	DVSS1	—	Ground terminal
258	DVDD2	—	Power supply terminal
259	DVSS2	—	Ground terminal
260	DVDD3	—	Power supply terminal
261	DVSS3	—	Ground terminal
262	DVDD4	—	Power supply terminal
263	DVSS4	—	Ground terminal
264	IFVDD0	—	Power supply terminal (for the microcomputer I/F block)
265	IFVSS0	—	Ground terminal (for the microcomputer I/F block)
266	IFVDD1	—	Power supply terminal (for the microcomputer I/F block)
267	IFVSS1	—	Ground terminal (for the microcomputer I/F block)
268	IFVDD2	—	Power supply terminal (for the microcomputer I/F block)
269	IFVSS2	—	Ground terminal (for the microcomputer I/F block)
270	IFVDD3	—	Power supply terminal (for the microcomputer I/F block)
271	IFVSS3	—	Ground terminal (for the microcomputer I/F block)

Pin No.	Pin Name	I/O	Description
272	IFVDD4	—	Power supply terminal (for the microcomputer I/F block)
273	IFVSS4	—	Ground terminal (for the microcomputer I/F block)
274	AVDD	—	Power supply terminal (for the microcomputer analog)
275	AVSS	—	Ground terminal (for the microcomputer analog)
276	VDIOSC	—	Power supply terminal (for the OSC cell)
277	VSIOSC	—	Ground terminal (for the OSC cell)
278	DAVDD	—	Power supply terminal (for the built-in D/A converter)
279	DAVSS	—	Ground terminal (for the built-in D/A converter)
280	AVD1	—	Power supply terminal (for the DSP asymmetry system analog)
281	AVS1	—	Ground terminal (for the DSP asymmetry system analog)
282	AVD2	—	Power supply terminal (for the DSP servo system analog)
283	AVS2	—	Ground terminal (for the DSP servo system analog)
284	TSMVDD	—	Power supply terminal (for the TSB master communication)
285	TSLVDD	—	Power supply terminal (for the TSB slave I/F)
286	DRAMVDD1	—	Power supply terminal (for DRAM)
287	DRAMVSS1	—	Ground terminal (for DRAM)
288	DRAMVDD2	—	Power supply terminal (for DRAM)
289	DRAMVSS2	—	Ground terminal (for DRAM)
290	ITO	—	Power supply terminal (for writing the flash memory)
291	MITY	—	Ground terminal (for writing the flash memory)
292	USBIFVDD	—	Power supply terminal (for USB I/F)
293	MVDD	—	Power supply terminal (for the microcomputer I/F block)
294	USBOSCVDD	—	Power supply terminal (for the USB oscillation circuit)
295	USBOSCVSS	—	Ground terminal (for the USB oscillation circuit)
296	AVDPLL	—	Power supply terminal (for PLL)
297	AVSPLL	—	Ground terminal (for PLL)
298	EVA	I	EVA terminal (fixed at “L” in this set)
299	FVDD0	—	Power supply terminal (for the built-in flash memory)
300	FVSS0	—	Ground terminal (for the built-in flash memory)
301, 302	DVDD5, 6	—	Power supply terminal
303, 304	DRAMVDD3, 4	—	Power supply terminal (for DRAM)
305 to 312	MSAK	—	Not used

SECTION 7

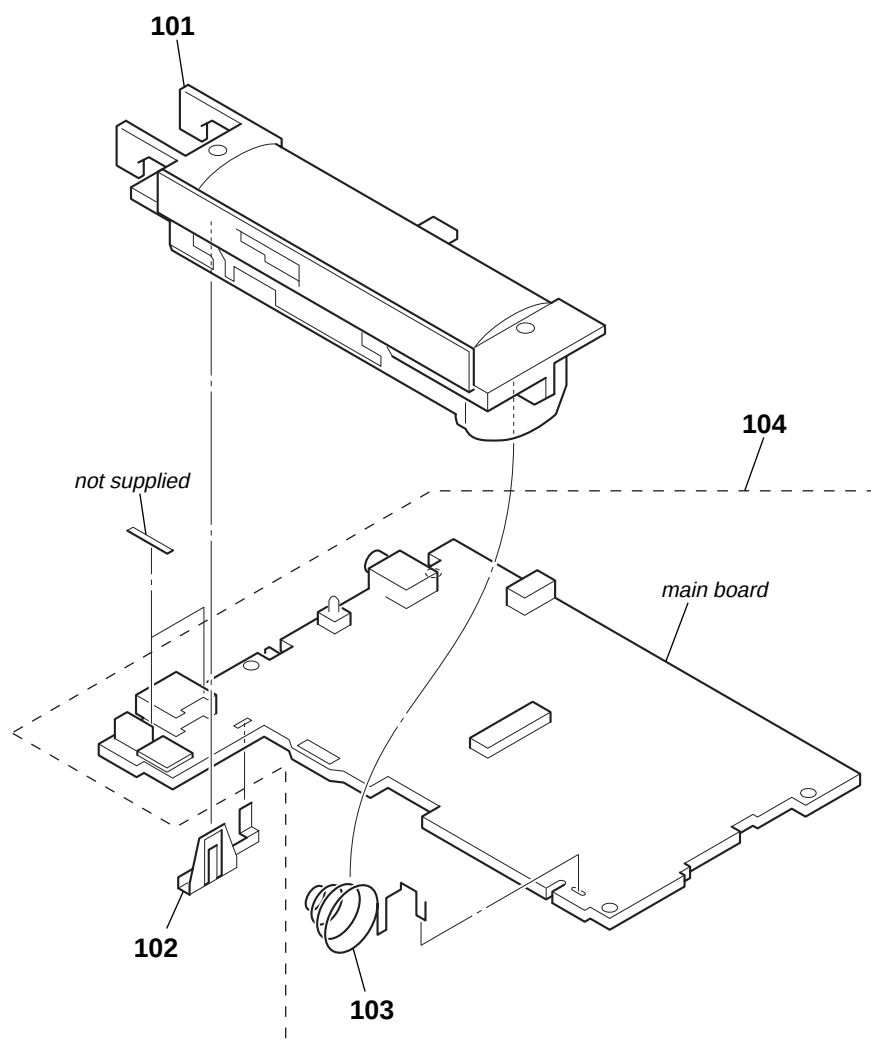
EXPLODED VIEWS

7-2. CHASSIS SECTION



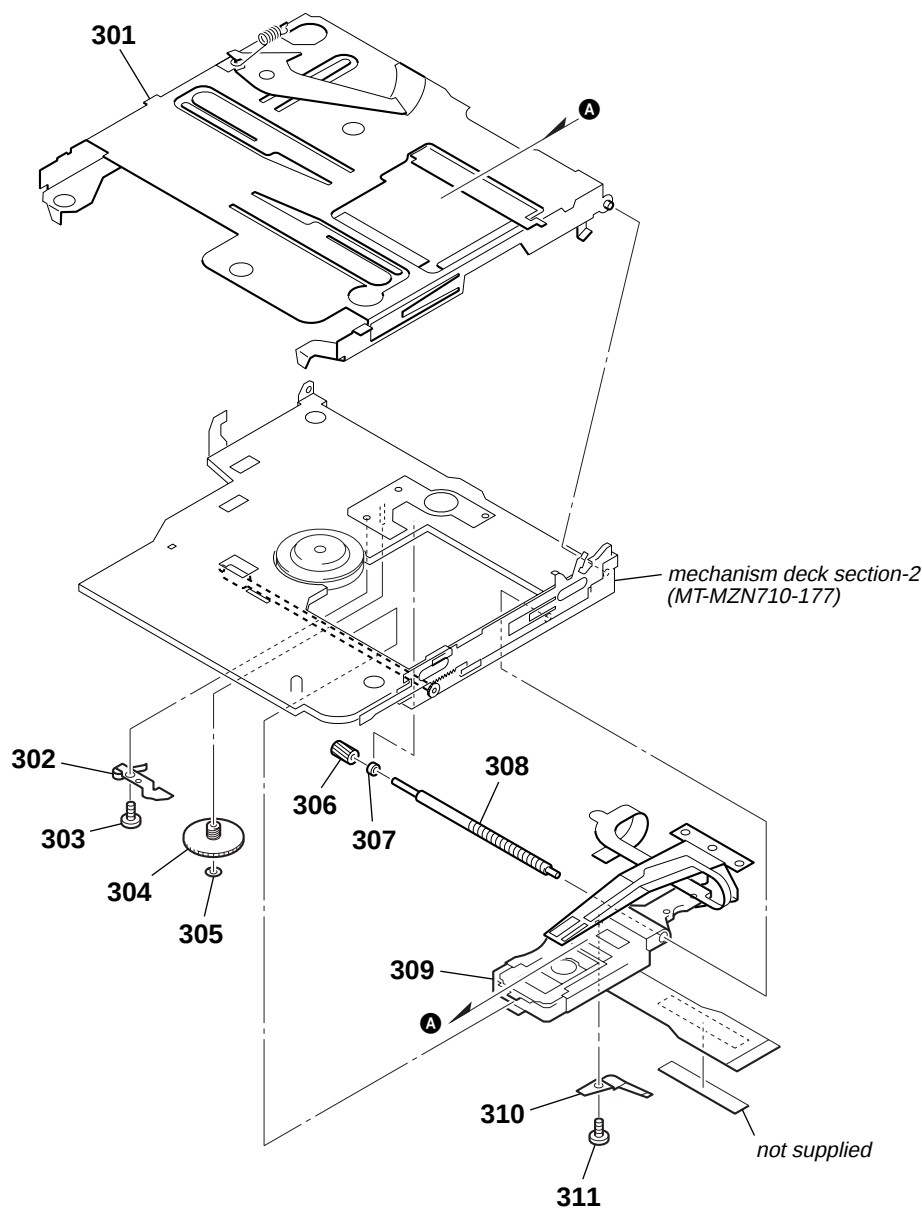
Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
51	3-237-072-02	SCREW (MD), STEP		56	3-250-692-01	SPRING (USB), GROUND	
52	3-238-876-07	SCREW (M1.4), TOOTHED LOCK		57	3-318-382-91	SCREW (1.7X2.5), TAPPING	
53	X-3382-642-2	CHASSIS (5207) ASSY, SET		58	3-246-245-01	SLIDER, OPEN	
54	3-249-532-01	SPRING (POP UP-L), TORSION		59	3-237-082-01	SPRING (LOCK), TENSION	
55	3-237-083-01	SPRING (POP UP-R), TORSION		60	3-237-081-01	SPRING (LIMITTER), COMPRESSION	

7-3. MAIN BOARD SECTION



Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
101	3-246-247-03	CASE, BATTERY		* 104	X-3383-984-1	MAIN BOARD, COMPLETE (AEP, UK, EE)	
102	3-237-073-01	TERMINAL BOARD (+), BATTERY		* 104	X-3383-988-1	MAIN BOARD, COMPLETE	
103	3-237-074-11	TERMINAL (-), BATTERY				(EXCEPT AEP, UK, EE)	

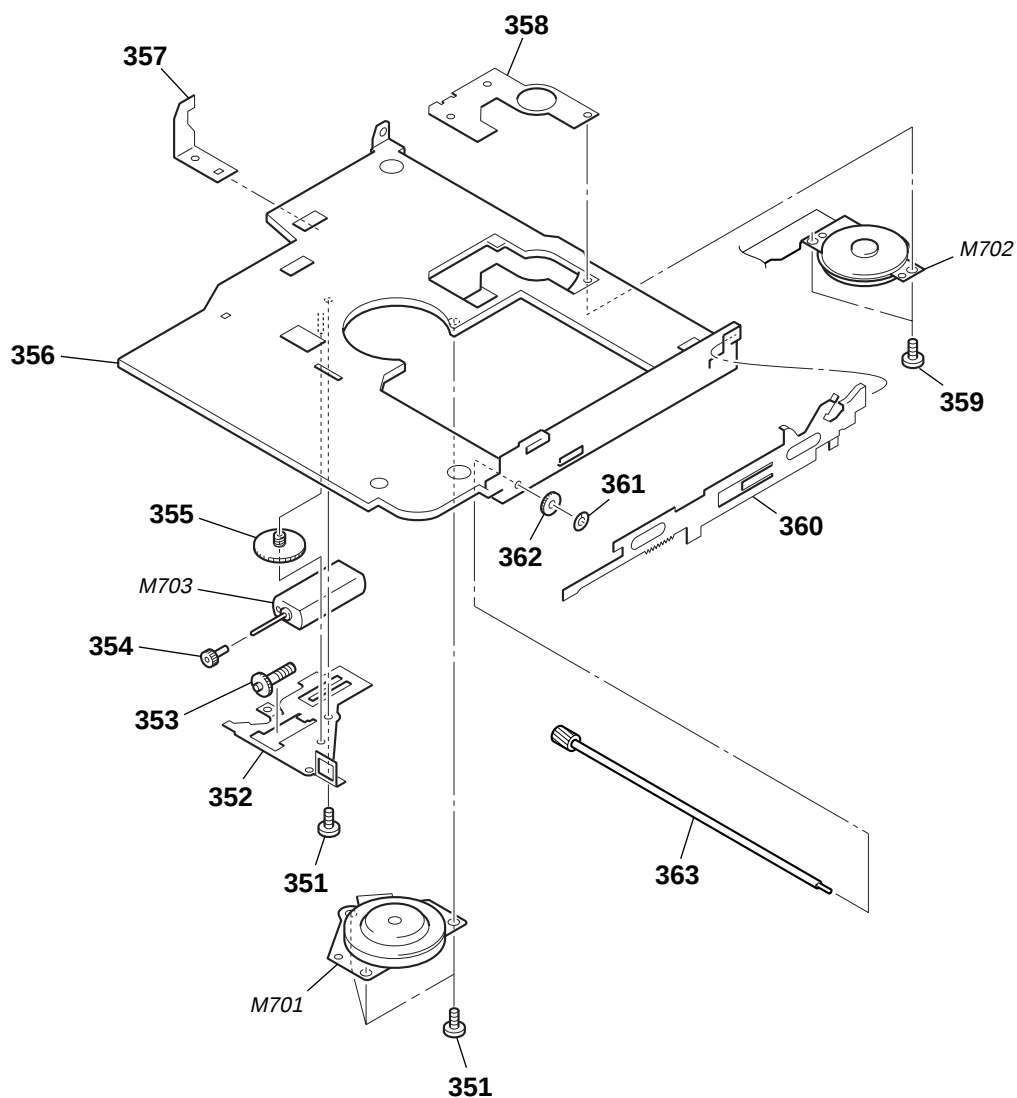
7-4. MECHANISM DECK SECTION-1
(MT-MZN710-177)



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.
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Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
301	X-3381-219-3	HOLDER ASSY		307	3-043-237-02	BEARING (N)	
302	3-224-779-02	SPRING, THRUST DETENT		308	4-222-203-02	SCREW, LEAD	
303	3-225-996-01	SCREW (M1.4) (EG), PRECISION PAN		$\triangle$ 309	X-3382-953-1	OP SERVICE ASSY (LCX-5R)	
304	3-244-823-01	GEAR (SA)		310	3-049-336-03	SPRING (S), RACK	
305	3-338-645-31	WASHER (0.8-2.5)		311	3-225-996-06	SCREW (M1.4) (EG), PRECISION PAN	
306	4-222-208-01	GEAR (SB)					

7-5. MECHANISM DECK SECTION-2 (MT-MZN710-177)



Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
351	3-225-278-12	SCREW, TAPPING		359	3-225-996-07	SCREW (M1.4) (EG), PRECISION PAN	
352	3-235-838-02	COVER, MOTOR		360	3-235-839-02	LEVER (RACK)	
353	3-235-836-01	GEAR (HB)		361	3-338-645-31	WASHER (0.8-2.5)	
354	3-222-544-01	GEAR (HA)		362	4-222-222-01	GEAR (RACK)	
355	3-235-835-01	GEAR (HC)		363	A-3174-089-A	SHAFT BLOCK ASSY, SUB	
356	3-235-834-11	CHASSIS		M701	8-835-744-21	MOTOR, DC SSM18B/C-NP (SPINDLE)	
357	3-235-830-02	PLATE, RATCHET		M702	1-763-727-11	MOTOR, DC (SLED)	
358	X-3379-529-4	BASE ASSY, MOTOR		M703	1-763-400-21	MOTOR, DC (OVER WRITE HEAD UP/DOWN)	

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
- Abbreviation
AUS : Australian model HK : Hong Kong model
CND : Canadian model KR : Korean model
EE : East European model

- Items marked “*” are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- SEMICONDUCTORS
In each case, u: μ , for example:
uA. . : μ A. . uPA. . : μ PA. .
uPB. . : μ PB. . uPC. . : μ PC. .
uPD. . : μ PD. .
- CAPACITORS
uF: μ F
- COILS
uH: μ H

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

Les composants identifiés par une marque Δ 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-3383-984-1	MAIN BOARD, COMPLETE (AEP, UK, EE)		C533	1-164-943-11	CERAMIC CHIP 0.01uF 10%	16V
*	X-3383-988-1	MAIN BOARD, COMPLETE (EXCEPT AEP, UK, EE)		C534	1-164-941-11	CERAMIC CHIP 0.0047uF 10%	16V
		*****		C535	1-125-837-11	CERAMIC CHIP 1uF 10%	6.3V
				C536	1-125-777-11	CERAMIC CHIP 0.1uF 10%	10V
	3-237-074-11	TERMINAL (-) , BATTERY		C537	1-107-819-11	CERAMIC CHIP 0.022uF 10%	16V
		< CAPACITOR >		C538	1-107-819-11	CERAMIC CHIP 0.022uF 10%	16V
C101	1-125-838-11	CERAMIC CHIP 2.2uF 10%	6.3V	C540	1-164-941-11	CERAMIC CHIP 0.0047uF 10%	16V
C172	1-164-941-11	CERAMIC CHIP 0.0047uF 10%	16V	C609	1-125-777-11	CERAMIC CHIP 0.1uF 10%	10V
C173	1-164-939-11	CERAMIC CHIP 0.0022uF 10%	50V	C610	1-164-874-11	CERAMIC CHIP 100PF 5%	50V
C174	1-115-467-11	CERAMIC CHIP 0.22uF 10%	10V	C611	1-164-874-11	CERAMIC CHIP 100PF 5%	50V
C175	1-126-246-11	ELECT CHIP 220uF 20%	4V	C613	1-135-259-11	TANTALUM CHIP 10uF 20%	6.3V
C201	1-125-838-11	CERAMIC CHIP 2.2uF 10%	6.3V	C614	1-135-259-11	TANTALUM CHIP 10uF 20%	6.3V
C272	1-164-941-11	CERAMIC CHIP 0.0047uF 10%	16V	C615	1-125-777-11	CERAMIC CHIP 0.1uF 10%	10V
C273	1-164-939-11	CERAMIC CHIP 0.0022uF 10%	50V	C616	1-125-777-11	CERAMIC CHIP 0.1uF 10%	10V
C274	1-115-467-11	CERAMIC CHIP 0.22uF 10%	10V	C617	1-125-777-11	CERAMIC CHIP 0.1uF 10%	10V
C275	1-126-246-11	ELECT CHIP 220uF 20%	4V	C618	1-125-777-11	CERAMIC CHIP 0.1uF 10%	10V
C303	1-125-837-11	CERAMIC CHIP 1uF 10%	6.3V	C621	1-164-943-11	CERAMIC CHIP 0.01uF 10%	16V
C304	1-135-210-11	TANTALUM CHIP 4.7uF 20%	10V	C622	1-125-777-11	CERAMIC CHIP 0.1uF 10%	10V
C305	1-125-838-11	CERAMIC CHIP 2.2uF 10%	6.3V	C623	1-164-943-11	CERAMIC CHIP 0.01uF 10%	16V
C306	1-124-778-00	ELECT CHIP 22uF 20%	6.3V	C624	1-164-874-11	CERAMIC CHIP 100PF 5%	50V
C339	1-107-820-11	CERAMIC CHIP 0.1uF 16V		C626	1-135-259-11	TANTALUM CHIP 10uF 20%	6.3V
C368	1-124-779-00	ELECT CHIP 10uF 20%	16V	C627	1-131-862-11	TANTALUM CHIP 47uF 20%	4V
C372	1-107-820-11	CERAMIC CHIP 0.1uF 16V		C628	1-165-851-11	TANTALUM CHIP 10uF 20%	6.3V
C375	1-107-820-11	CERAMIC CHIP 0.1uF 16V		C630	1-125-777-11	CERAMIC CHIP 0.1uF 10%	10V
C505	1-165-851-11	TANTALUM CHIP 10uF 20%	6.3V	C631	1-131-862-11	TANTALUM CHIP 47uF 20%	4V
C506	1-164-943-11	CERAMIC CHIP 0.01uF 10%	16V	C632	1-137-760-11	CAP-CHIP 100PF 5%	100V
C507	1-135-259-11	TANTALUM CHIP 10uF 20%	6.3V	C651	1-162-970-11	CERAMIC CHIP 0.01uF 10%	25V
C509	1-107-820-11	CERAMIC CHIP 0.1uF 16V		C658	1-137-739-11	TANTALUM CHIP 22uF 20%	6.3V
C510	1-119-750-11	TANTALUM CHIP 22uF 20%	6.3V	C659	1-164-937-11	CERAMIC CHIP 0.001uF 10%	50V
C511	1-164-850-11	CERAMIC CHIP 10PF 0.5PF	50V	C660	1-164-939-11	CERAMIC CHIP 0.0022uF 10%	50V
C512	1-164-850-11	CERAMIC CHIP 10PF 0.5PF	50V	C661	1-137-934-11	TANTALUM CHIP 47uF 20%	10V
C513	1-107-819-11	CERAMIC CHIP 0.022uF 10%	16V	C671	1-125-777-11	CERAMIC CHIP 0.1uF 10%	10V
C514	1-164-939-11	CERAMIC CHIP 0.0022uF 10%	50V	C673	1-125-777-11	CERAMIC CHIP 0.1uF 10%	10V
C517	1-164-943-11	CERAMIC CHIP 0.01uF 10%	16V	C701	1-119-923-11	CERAMIC CHIP 0.047uF 10%	10V
C518	1-164-943-11	CERAMIC CHIP 0.01uF 10%	16V	C702	1-164-943-11	CERAMIC CHIP 0.01uF 10%	16V
C519	1-107-820-11	CERAMIC CHIP 0.1uF 16V		C703	1-119-923-11	CERAMIC CHIP 0.047uF 10%	10V
C520	1-107-820-11	CERAMIC CHIP 0.1uF 16V		C704	1-164-943-11	CERAMIC CHIP 0.01uF 10%	16V
C522	1-107-820-11	CERAMIC CHIP 0.1uF 16V		C705	1-119-923-11	CERAMIC CHIP 0.047uF 10%	10V
C523	1-164-939-11	CERAMIC CHIP 0.0022uF 10%	50V	C706	1-164-943-11	CERAMIC CHIP 0.01uF 10%	16V
C524	1-125-837-11	CERAMIC CHIP 1uF 10%	6.3V	C708	1-107-819-11	CERAMIC CHIP 0.022uF 10%	16V
C526	1-119-923-11	CERAMIC CHIP 0.047uF 10%	10V	C710	1-107-819-11	CERAMIC CHIP 0.022uF 10%	16V
C527	1-164-941-11	CERAMIC CHIP 0.0047uF 10%	16V	C712	1-107-819-11	CERAMIC CHIP 0.022uF 10%	16V
				C715	1-107-820-11	CERAMIC CHIP 0.1uF 16V	
				C716	1-107-820-11	CERAMIC CHIP 0.1uF 16V	

Ref. No.	Part No.	Description	Remark			Ref. No.	Part No.	Description	Remark		
C718	1-107-820-11	CERAMIC CHIP	0.1uF		16V	C932	1-125-838-11	CERAMIC CHIP	2.2uF	10%	6.3V
C719	1-107-820-11	CERAMIC CHIP	0.1uF		16V	C933	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C720	1-107-820-11	CERAMIC CHIP	0.1uF		16V	C957	1-107-820-11	CERAMIC CHIP	0.1uF		16V
C721	1-107-820-11	CERAMIC CHIP	0.1uF		16V	C959	1-107-820-11	CERAMIC CHIP	0.1uF		16V
C801	1-117-720-11	CERAMIC CHIP	4.7uF		10V	C960	1-107-820-11	CERAMIC CHIP	0.1uF		16V
C802	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V	C962	1-107-820-11	CERAMIC CHIP	0.1uF		16V
C803	1-107-820-11	CERAMIC CHIP	0.1uF		16V	C962	1-164-937-11	CERAMIC CHIP	0.001uF	10%	50V
C805	1-165-851-11	TANTALUM CHIP	10uF	20%	6.3V						(AEP, UK, EE)
C808	1-164-937-11	CERAMIC CHIP	0.001uF	10%	50V	C964	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C811	1-125-837-11	CERAMIC CHIP	1uF	10%	6.3V						(EXCEPT AEP, UK, EE)
C812	1-125-837-11	CERAMIC CHIP	1uF	10%	6.3V	C967	1-126-246-11	ELECT CHIP	220uF	20%	4V
C813	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V	C968	1-126-246-11	ELECT CHIP	220uF	20%	4V
C814	1-125-891-11	CERAMIC CHIP	0.47uF	10%	10V	C971	1-126-246-11	ELECT CHIP	220uF	20%	4V
C815	1-164-935-11	CERAMIC CHIP	470PF	10%	50V	C973	1-124-778-00	ELECT CHIP	22uF	20%	6.3V
C817	1-125-837-11	CERAMIC CHIP	1uF	10%	6.3V	C975	1-126-607-11	ELECT CHIP	47uF	20%	4V
C818	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V	C976	1-125-837-11	CERAMIC CHIP	1uF	10%	6.3V
C819	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V	C977	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C820	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V	C978	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C821	1-107-819-11	CERAMIC CHIP	0.022uF	10%	16V	C979	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C822	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V	C984	1-164-937-11	CERAMIC CHIP	0.001uF	10%	50V
C823	1-107-819-11	CERAMIC CHIP	0.022uF	10%	16V	C985	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C826	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V			< CONNECTOR >			
C829	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V	CN501	1-573-360-21	CONNECTOR, FFC/FPC 20P			
C830	1-126-209-11	ELECT CHIP	100uF	20%	4V	CN651	1-816-947-21	CONNECTOR (SQUARE TYPE) (USB)			
C831	1-107-820-11	CERAMIC CHIP	0.1uF		16V	CN701	1-573-350-11	CONNECTOR, FFC/FPC 10P			
C832	1-126-209-11	ELECT CHIP	100uF	20%	4V	CN872	1-573-354-11	CONNECTOR, FFC/FPC 14P			
C833	1-124-778-00	ELECT CHIP	22uF	20%	6.3V			< DIODE >			
C835	1-119-923-11	CERAMIC CHIP	0.047uF	10%	10V	D171	8-719-056-72	DIODE 02DZ2.4-Z (TPH3)			
C837	1-164-840-11	CERAMIC CHIP	1PF	0.25PF	50V	D271	8-719-056-72	DIODE 02DZ2.4-Z (TPH3)			
C838	1-164-840-11	CERAMIC CHIP	1PF	0.25PF	50V	D371	8-719-056-72	DIODE 02DZ2.4-Z (TPH3)			
C841	1-164-937-11	CERAMIC CHIP	0.001uF	10%	50V	D603	8-719-081-33	DIODE MA2YD1500LS0			
C851	1-107-820-11	CERAMIC CHIP	0.1uF		16V	D605	6-500-483-01	DIODE MA22D2800LS0			
C852	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V	D606	8-719-081-35	DIODE MA2YD1700LS0			
C855	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V	D607	8-719-081-35	DIODE MA2YD1700LS0			
C856	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V	D652	8-719-081-73	DIODE DF3A6.8FE (TPL3)			
C871	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V	D653	6-500-483-01	DIODE MA22D2800LS0			
C873	1-107-820-11	CERAMIC CHIP	0.1uF		16V	D654	8-719-421-27	DIODE MA728-TX			
C880	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V	D801	8-719-017-58	DIODE MA8068-TX			
C901	1-164-937-11	CERAMIC CHIP	0.001uF	10%	50V	D802	8-719-017-58	DIODE MA8068-TX			
C905	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V	D901	8-719-420-51	DIODE MA729-TX			
C906	1-164-937-11	CERAMIC CHIP	0.001uF	10%	50V	D902	6-500-483-01	DIODE MA22D2800LS0			
C907	1-125-889-11	CERAMIC CHIP	2.2uF	10%	10V	D903	6-500-483-01	DIODE MA22D2800LS0			
C911	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V	D953	8-719-081-33	DIODE MA2YD1500LS0			
C912	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V	D955	8-719-081-33	DIODE MA2YD1500LS0			
C913	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V	D958	8-719-017-58	DIODE MA8068-TX			
C914	1-164-937-11	CERAMIC CHIP	0.001uF	10%	50V	D961	8-719-017-58	DIODE MA8068-TX			
C916	1-137-739-11	TANTALUM CHIP	22uF	20%	6.3V			< SHORT/FERRITE BEAD >			
C918	1-107-820-11	CERAMIC CHIP	0.1uF		16V	FB651	1-216-864-11	SHORT CHIP	0		
C920	1-128-964-11	TANTALUM CHIP	100uF	20%	6.3V	FB652	1-216-864-11	SHORT CHIP	0		
C922	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V	FB801	1-216-864-11	SHORT CHIP	0		
C924	1-128-964-11	TANTALUM CHIP	100uF	20%	6.3V	FB802	1-216-864-11	SHORT CHIP	0		
C925	1-164-941-11	CERAMIC CHIP	0.0047uF	10%	16V	FB803	1-216-864-11	SHORT CHIP	0		
C926	1-107-820-11	CERAMIC CHIP	0.1uF		16V	FB805	1-216-864-11	SHORT CHIP	0		
C928	1-164-939-11	CERAMIC CHIP	0.0022uF	10%	50V	FB806	1-216-864-11	SHORT CHIP	0		
C929	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V	FB844	1-216-864-11	SHORT CHIP	0		
C930	1-164-939-11	CERAMIC CHIP	0.0022uF	10%	50V						
C931	1-164-939-11	CERAMIC CHIP	0.0022uF	10%	50V						

MAIN

Ref. No.	Part No.	Description	Remark
FB901	1-400-050-11	FERRITE	0uH
< IC >			
IC301	8-759-598-15	IC TA2131FL (EL)	
@ IC501	6-703-946-01	IC SN761058AZQLR	
IC601	6-702-782-01	IC XPC18A22AEPR2	
IC651	8-759-569-80	IC XC6367A331MR	
IC701	6-702-786-01	IC SC111258EPR2	
@ IC801	8-753-001-00	IC CXD2680-207GA	
IC852	(not supplied)	IC AK6417AL-L	
IC901	6-702-865-01	IC SC901580EPR2	
< JACK >			
J304	1-794-084-31	JACK (○)	
J951	1-785-383-21	JACK, DC (POLARITY UNIFIED TYPE)	(DC IN 3V)
< COIL >			
L503	1-414-398-11	INDUCTOR	10uH
L504	1-414-398-11	INDUCTOR	10uH
L603	1-414-398-11	INDUCTOR	10uH
L604	1-424-979-21	INDUCTOR	10uH
L651	1-416-669-11	INDUCTOR	22uH
L802	1-414-398-11	INDUCTOR	10uH
L803	1-414-398-11	INDUCTOR	10uH
L901	1-456-219-21	INDUCTOR	220uH
L902	1-419-881-11	INDUCTOR	47uH
L903	1-414-398-11	INDUCTOR	10uH
L904	1-416-669-11	INDUCTOR	22uH
< LINE FILTER >			
LF951	1-416-405-21	FERRITE	0uH
LF952	1-416-405-21	FERRITE	0uH
< TRANSISTOR >			
Q301	8-729-037-52	TRANSISTOR	2SC4738F-Y/GR (TPL3)
Q501	8-729-922-10	TRANSISTOR	2SA1577-T106-QR
Q602	6-550-510-01	TRANSISTOR	MMJT9435T1
Q603	8-729-053-71	FET	TS8K1TB
Q604	6-550-356-01	FET	MCH6616-TL-E
Q605	6-550-357-01	FET	CPH5614-TL-E
Q651	8-729-047-48	TRANSISTOR	UMD12N-TR
Q652	8-729-053-03	FET	XP151A12A2MR
Q653	8-729-041-51	TRANSISTOR	FMMT617TA
Q654	8-729-037-63	TRANSISTOR	UN9115J-(TX).SO
Q672	8-729-037-71	TRANSISTOR	UN9210J-(TX).SO
Q871	8-729-429-44	TRANSISTOR	XP1501-TXE
Q872	8-729-427-74	TRANSISTOR	XP4601-TXE
Q951	6-550-353-01	FET	SI1410EDH-T1
< RESISTOR >			
R101	1-218-965-11	RES-CHIP	10K 5% 1/16W
R102	1-218-965-11	RES-CHIP	10K 5% 1/16W
R105	1-218-965-11	RES-CHIP	10K 5% 1/16W
R109	1-218-990-11	SHORT CHIP	0 (EXCEPT AEP, UK, EE)
R109	1-218-933-11	RES-CHIP	22 5% 1/16W (AEP, UK, EE)

Ref. No.	Part No.	Description	Remark
R110	1-218-937-11	RES-CHIP	47 5% 1/16W (AEP, UK, EE)
R175	1-208-635-11	RES-CHIP	10 5% 1/16W
R176	1-218-961-11	RES-CHIP	4.7K 5% 1/16W
R201	1-218-965-11	RES-CHIP	10K 5% 1/16W
R202	1-218-965-11	RES-CHIP	10K 5% 1/16W
R205	1-218-965-11	RES-CHIP	10K 5% 1/16W
R209	1-218-990-11	SHORT CHIP	0 (EXCEPT AEP, UK, EE)
R209	1-218-933-11	RES-CHIP	22 5% 1/16W (AEP, UK, EE)
R210	1-218-937-11	RES-CHIP	47 5% 1/16W (AEP, UK, EE)
R275	1-208-635-11	RES-CHIP	10 5% 1/16W
R276	1-218-961-11	RES-CHIP	4.7K 5% 1/16W
R301	1-218-957-11	RES-CHIP	2.2K 5% 1/16W
R302	1-218-961-11	RES-CHIP	4.7K 5% 1/16W
R303	1-218-981-11	RES-CHIP	220K 5% 1/16W
R304	1-218-937-11	RES-CHIP	47 5% 1/16W
R312	1-218-989-11	RES-CHIP	1M 5% 1/16W
R501	1-218-977-11	RES-CHIP	100K 5% 1/16W
R502	1-218-446-11	METAL CHIP	1 5% 1/10W
R503	1-218-446-11	METAL CHIP	1 5% 1/10W
R504	1-218-965-11	RES-CHIP	10K 5% 1/16W
R505	1-218-965-11	RES-CHIP	10K 5% 1/16W
R507	1-208-707-11	METAL CHIP	10K 0.5% 1/16W
R508	1-208-683-11	METAL CHIP	1K 0.5% 1/16W
R509	1-218-990-11	SHORT CHIP	0
R511	1-218-990-11	SHORT CHIP	0
R605	1-218-945-11	RES-CHIP	220 5% 1/16W
R606	1-216-797-11	METAL CHIP	10 5% 1/10W
R608	1-218-965-11	RES-CHIP	10K 5% 1/16W
R609	1-218-965-11	RES-CHIP	10K 5% 1/16W
R612	1-216-789-11	METAL CHIP	2.2 5% 1/10W
R613	1-216-789-11	METAL CHIP	2.2 5% 1/10W
R614	1-218-985-11	RES-CHIP	470K 5% 1/16W
R616	1-218-957-11	RES-CHIP	2.2K 5% 1/16W
R617	1-218-965-11	RES-CHIP	10K 5% 1/16W
R619	1-218-969-11	RES-CHIP	22K 5% 1/16W
R620	1-218-981-11	RES-CHIP	220K 5% 1/16W
R621	1-218-977-11	RES-CHIP	100K 5% 1/16W
R654	1-218-990-11	SHORT CHIP	0
R655	1-218-953-11	RES-CHIP	1K 5% 1/16W
R656	1-218-985-11	RES-CHIP	470K 5% 1/16W
R657	1-218-990-11	SHORT CHIP	0
R658	1-218-961-11	RES-CHIP	4.7K 5% 1/16W
R659	1-218-957-11	RES-CHIP	2.2K 5% 1/16W
R660	1-218-941-11	RES-CHIP	100 5% 1/16W
R661	1-218-973-11	RES-CHIP	47K 5% 1/16W
R662	1-216-864-11	SHORT CHIP	0
R663	1-218-990-11	SHORT CHIP	0
R671	1-220-804-11	RES-CHIP	2.2M 5% 1/16W
R672	1-218-977-11	RES-CHIP	100K 5% 1/16W
R674	1-216-864-11	SHORT CHIP	0
R701	1-218-957-11	RES-CHIP	2.2K 5% 1/16W
R702	1-218-957-11	RES-CHIP	2.2K 5% 1/16W
R703	1-218-957-11	RES-CHIP	2.2K 5% 1/16W
R704	1-218-965-11	RES-CHIP	10K 5% 1/16W
R705	1-218-965-11	RES-CHIP	10K 5% 1/16W

@ Replacement of IC501 (SN761058AZQLR) and IC801 (CXD2680-207GA) used in this set requires a special tool.

When IC852 is damaged, replace the MAIN board.

Ref. No.	Part No.	Description	Remark			Ref. No.	Part No.	Description	Remark		
R706	1-218-965-11	RES-CHIP	10K	5%	1/16W	R905	1-208-707-11	METAL CHIP	10K	0.5%	1/16W
R803	1-208-635-11	RES-CHIP	10	5%	1/16W	R907	1-218-985-11	RES-CHIP	470K	5%	1/16W
R804	1-208-635-11	RES-CHIP	10	5%	1/16W						
R805	1-218-990-11	SHORT CHIP	0			R908	1-218-969-11	RES-CHIP	22K	5%	1/16W
R806	1-218-990-11	SHORT CHIP	0			R912	1-218-977-11	RES-CHIP	100K	5%	1/16W
						R914	1-218-973-11	RES-CHIP	47K	5%	1/16W
R807	1-218-965-11	RES-CHIP	10K	5%	1/16W	R915	1-218-981-11	RES-CHIP	220K	5%	1/16W
R808	1-218-965-11	RES-CHIP	10K	5%	1/16W	R917	1-218-985-11	RES-CHIP	470K	5%	1/16W
R809	1-218-977-11	RES-CHIP	100K	5%	1/16W						
R811	1-218-981-11	RES-CHIP	220K	5%	1/16W	R919	1-218-973-11	RES-CHIP	47K	5%	1/16W
R813	1-218-953-11	RES-CHIP	1K	5%	1/16W	R923	1-218-977-11	RES-CHIP	100K	5%	1/16W
						R925	1-218-990-11	SHORT CHIP	0		
R814	1-218-957-11	RES-CHIP	2.2K	5%	1/16W	R926	1-218-969-11	RES-CHIP	22K	5%	1/16W
R815	1-218-953-11	RES-CHIP	1K	5%	1/16W	R965	1-218-969-11	RES-CHIP	22K	5%	1/16W
R816	1-218-945-11	RES-CHIP	220	5%	1/16W						(EXCEPT AEP, UK, EE)
R817	1-220-804-11	RES-CHIP	2.2M	5%	1/16W						
R818	1-218-989-11	RES-CHIP	1M	5%	1/16W	R965	1-218-977-11	RES-CHIP	100K	5%	1/16W
											(AEP, UK, EE)
R819	1-208-691-11	METAL CHIP	2.2K	0.5%	1/16W	R967	1-218-989-11	RES-CHIP	1M	5%	1/16W
R820	1-208-691-11	METAL CHIP	2.2K	0.5%	1/16W	R974	1-218-961-11	RES-CHIP	4.7K	5%	1/16W
R821	1-218-973-11	RES-CHIP	47K	5%	1/16W						(EXCEPT AEP, UK, EE)
R822	1-218-981-11	RES-CHIP	220K	5%	1/16W	R974	1-218-969-11	RES-CHIP	22K	5%	1/16W
R823	1-218-933-11	RES-CHIP	22	5%	1/16W						(AEP, UK, EE)
								< SWITCH >			
R824	1-218-985-11	RES-CHIP	470K	5%	1/16W						
R825	1-218-989-11	RES-CHIP	1M	5%	1/16W	S801	1-786-313-11	SWITCH, PUSH (1 KEY) (HALF LOCK)			
R826	1-218-957-11	RES-CHIP	2.2K	5%	1/16W	S803	1-762-805-21	SWITCH, PUSH (1 KEY)			
R827	1-218-961-11	RES-CHIP	4.7K	5%	1/16W						(OPEN/CLOSE DETECT)
R828	1-218-933-11	RES-CHIP	22	5%	1/16W	S806	1-786-437-11	SWITCH, PUSH (2 KEY) (PROTECT DETECT)			
						S807	1-762-078-11	SWITCH, SLIDE (HOLD)			
R829	1-218-933-11	RES-CHIP	22	5%	1/16W			< THERMISTOR >			
R832	1-218-990-11	SHORT CHIP	0			TH951	1-804-616-21	THERMISTOR, POSITIVE			
R834	1-208-699-11	METAL CHIP	4.7K	0.5%	1/16W			< VARISTOR >			
R835	1-208-699-11	METAL CHIP	4.7K	0.5%	1/16W						
R837	1-218-973-11	RES-CHIP	47K	5%	1/16W	VDR901	1-801-864-21	VARISTOR, CHIP (1608)			
								< VIBRATOR >			
R839	1-218-990-11	SHORT CHIP	0			X802	1-795-727-21	VIBRATOR, CERAMIC (48MHz)			
R843	1-218-990-11	SHORT CHIP	0			X803	1-795-778-11	VIBRATOR, CRYSTAL (22.5792MHz)			
R844	1-218-990-11	SHORT CHIP	0					*****			
R845	1-218-977-11	RES-CHIP	100K	5%	1/16W			MISCELLANEOUS			
R846	1-218-977-11	RES-CHIP	100K	5%	1/16W			*****			
R847	1-218-981-11	RES-CHIP	220K	5%	1/16W	6	1-805-273-11	LCD MODULE			
R850	1-218-990-11	SHORT CHIP	0			△309	X-3382-953-1	OP SERVICE ASSY (LCX-5R)			
R851	1-218-990-11	SHORT CHIP	0			M701	8-835-744-21	MOTOR, DC SSM18B/C-NP (SPINDLE)			
R855	1-218-990-11	SHORT CHIP	0			M702	1-763-727-11	MOTOR, DC (SLED)			
R857	1-218-989-11	RES-CHIP	1M	5%	1/16W	M703	1-763-400-21	MOTOR, DC (OVER WRITE HEAD UP/DOWN)			

R858	1-218-990-11	SHORT CHIP	0								
R860	1-216-864-11	SHORT CHIP	0								
R861	1-218-990-11	SHORT CHIP	0								
R862	1-218-990-11	SHORT CHIP	0								
R863	1-218-990-11	SHORT CHIP	0								
R864	1-218-961-11	RES-CHIP	4.7K	5%	1/16W						
R865	1-218-965-11	RES-CHIP	10K	5%	1/16W						
R866	1-218-965-11	RES-CHIP	10K	5%	1/16W						
R868	1-218-937-11	RES-CHIP	47	5%	1/16W						
R869	1-218-941-11	RES-CHIP	100	5%	1/16W						
R871	1-218-957-11	RES-CHIP	2.2K	5%	1/16W						
R872	1-218-953-11	RES-CHIP	1K	5%	1/16W						
R873	1-218-985-11	RES-CHIP	470K	5%	1/16W						
R874	1-218-985-11	RES-CHIP	470K	5%	1/16W						
R901	1-218-989-11	RES-CHIP	1M	5%	1/16W						
R902	1-218-989-11	RES-CHIP	1M	5%	1/16W						
R903	1-218-957-11	RES-CHIP	2.2K	5%	1/16W						
R904	1-218-957-11	RES-CHIP	2.2K	5%	1/16W						

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.

Ref. No.	Part No.	Description	Remark
		ACCESSORIES	

△	1-477-563-41	ADAPTOR, AC (AC-ES305K) (KR)	
△	1-477-565-41	ADAPTOR, AC (AC-ES305K) (AEP, EE)	
△	1-477-566-41	ADAPTOR, AC (AC-ES305K) (UK, HK)	
△	1-477-568-31	ADAPTOR, AC (AC-ES305K) (AUS)	
△	1-477-570-31	ADAPTOR, AC (AC-ES305K) (E)	
△	1-477-737-11	ADAPTOR, AC (AC-ET305K) (CND)	
	1-542-514-12	HEADPHONE (HP-M070)	
	1-823-519-11	CORD, CONNECTION (DEDICATED USB CABLE) (CND, AEP, UK, EE)	
	1-823-519-31	CORD, CONNECTION (DEDICATED USB CABLE) (E, AUS, HK, KR)	
	3-257-259-12	MANUAL, INSTRUCTION (ENGLISH)	
	3-257-259-21	MANUAL, INSTRUCTION (FRENCH) (CND, AEP)	
	3-257-259-31	MANUAL, INSTRUCTION (GERMAN) (AEP)	
	3-257-259-42	MANUAL, INSTRUCTION (SPANISH) (AEP)	
	3-257-259-51	MANUAL, INSTRUCTION (ITALIAN) (AEP)	
	3-257-259-61	MANUAL, INSTRUCTION (RUSSIAN) (EE)	
	3-257-259-71	MANUAL, INSTRUCTION (HUNGARIAN) (EE)	
	3-257-259-81	MANUAL, INSTRUCTION (POLISH) (EE)	
	3-257-259-91	MANUAL, INSTRUCTION (CZECH) (EE)	
	3-257-334-11	MANUAL, INSTRUCTION (NetMD Simple Burner v1.2) (ENGLISH)	
	3-257-334-22	MANUAL, INSTRUCTION (NetMD Simple Burner v1.2) (FRENCH) (CND, AEP)	
	3-257-334-32	MANUAL, INSTRUCTION (NetMD Simple Burner v1.2) (GERMAN) (AEP)	
	3-257-334-42	MANUAL, INSTRUCTION (NetMD Simple Burner v1.2) (SPANISH) (AEP)	
	3-257-334-52	MANUAL, INSTRUCTION (NetMD Simple Burner v1.2) (ITALIAN) (AEP)	
	3-257-334-61	MANUAL, INSTRUCTION (NetMD Simple Burner v1.2) (RUSSIAN) (EE)	
	3-257-334-71	MANUAL, INSTRUCTION (NetMD Simple Burner v1.2) (HUNGARIAN) (EE)	
	3-257-334-81	MANUAL, INSTRUCTION (NetMD Simple Burner v1.2) (POLISH) (EE)	
	3-257-334-91	MANUAL, INSTRUCTION (NetMD Simple Burner v1.2) (CZECH) (EE)	
	X-3384-006-1	CD-ROM (APPLICATION) ASSY (AEP, UK, EE)	
	X-3384-007-1	CD-ROM (APPLICATION) ASSY (CND)	
	X-3384-084-1	CD-ROM (APPLICATION) ASSY (E, HK, KR, AUS)	

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.

MEMO

REVISION HISTORY

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

Also, clicking the version at the upper right on the revised page allows you to jump to the next revised page.

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