

# **COPY BOARD**

**M-125**

**SERVICE MANUAL**

**PLUS**

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# 1. COMPLIANCE OF SAFE REPAIR

Be sure to read this Service Manual before providing services. In the PLUS Copyboard, full consideration is taken to ensure the safety for a fire, electric shock, injury, harmful radiation, and substance. Therefore, observe the notice described in this Service Manual so that the safety is kept when providing services. Moreover, be sure to observe the notice described in the User's Manual.

Pay attention to the following during service inspection.

## 1-1. Cautions during Product Displacement

- It is necessary to remove the products when making the service of products put on the wall. At that time, hold the products by two or more persons to prevent the products from dropping or a person from falling down.

## 1-2. Cautions during Disassembling and Assembling

1. This equipment contains parts under high voltage. When doing repairs, make sure that power plug is pulled out to insure safety.
2. Make sure that parts, screws and wiring, etc. are returned to their original positions. Tube, tape and other insulation materials have been used for safety reasons. The internal wiring has been designed to avoid direct contact with hot parts or parts under high voltage when using clamps or other tools.
3. The parts used in this device have special safety features such as flame-resistance and anti-voltage properties. When replacing parts, always use parts supplied from the factory.
4. After finishing operations make sure that all parts and wires have been returned to their original position and that there has been no deterioration of the area around the portion that was worked on.
5. Pay attention to static electricity when handling electronic parts on a board.

## 2. SPECIFICATIONS

### 2-1. Product Specifications

BOARD TYPE (Model name)		5-surface (M-125)
Form	Installation method	Self-standing (T-shaped legs), or wall mounting
	External dimensions (T-shaped legs*1)	W1470 X D700 X H1970 (Max) mm
	Main unit weight	35 kg (excluding printer)
	T-shaped legs weight	9.6 kg
Board	Panel Size	H920 X W1300 mm
	Effective reading size	H900 X W1280 mm
	Number of Pages	5 (4 sheet surfaces + 1 screen surface)
	Paging	Wind-up type
	Drive method	Sheet movement
	Reading method	CCD sensor reduction optical system
	Reading illumination Light source	RGB LED
	Reading resolution	Main scanning direction (vertical sheet surface) 2.4 dots/mm (60 dpi or equivalent) Sub scanning direction (horizontal sheet surface) 2.4 dots/mm (60 dpi or equivalent)
	Reading time	Black & white: approx. 15 s Color: approx. 23 s
Memory	Type	USB Flash memory*2
	Compatible FAT types	FAT 12, 16, 32
	File format	PNG, JPEG and PDF format
	Interface	USB1.1 or USB2.0 full-speed mode*3
Control panel	Control buttons	ON/Standby, +, -, Print, Save, Reprint, Color, Density, (Page Change), Screen
	LED Indicators	Density, Color, Page LEDs
	Display	7-Segment (Page, Error #),
Added functions	Clock	Used for the timestamp and for file dating properties (Includes backup battery for when there is a loss of power)
	PC connection	Transfer of sheet surface image data via USB (TWAIN supported)
Power supply	AC power adapter	Input : AC100 - 240V/50 - 60 Hz, Max 1.5A Output : DC24 V, 2.71 A
Operating conditions	Temperature	10 - 35°C
	Humidity	30 - 85% (No condensation)
Recording section	Printer interface	USB1.1 or USB2.0 full-speed mode*3 compliant printers are supported
Miscellaneous	Ruled lines	50 mm cross-ruled squares
	Miscellaneous	Special markers (black, red, blue, and green)

#### Remarks

\*1: The height is adjustable at 1770, 1870 and 1970 mm.

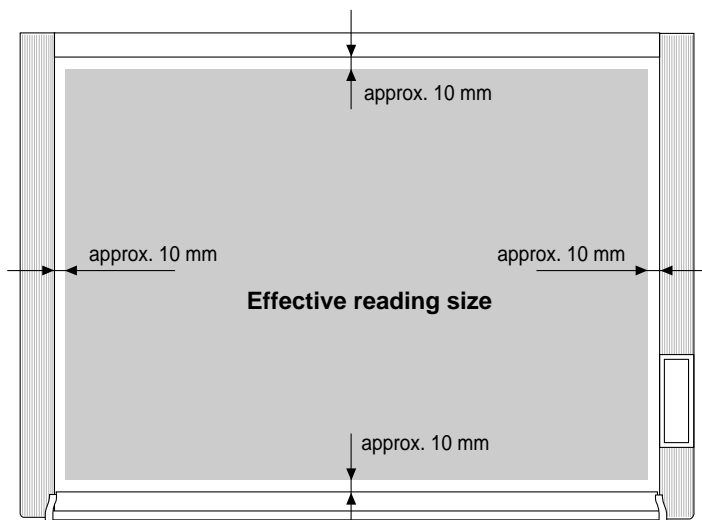
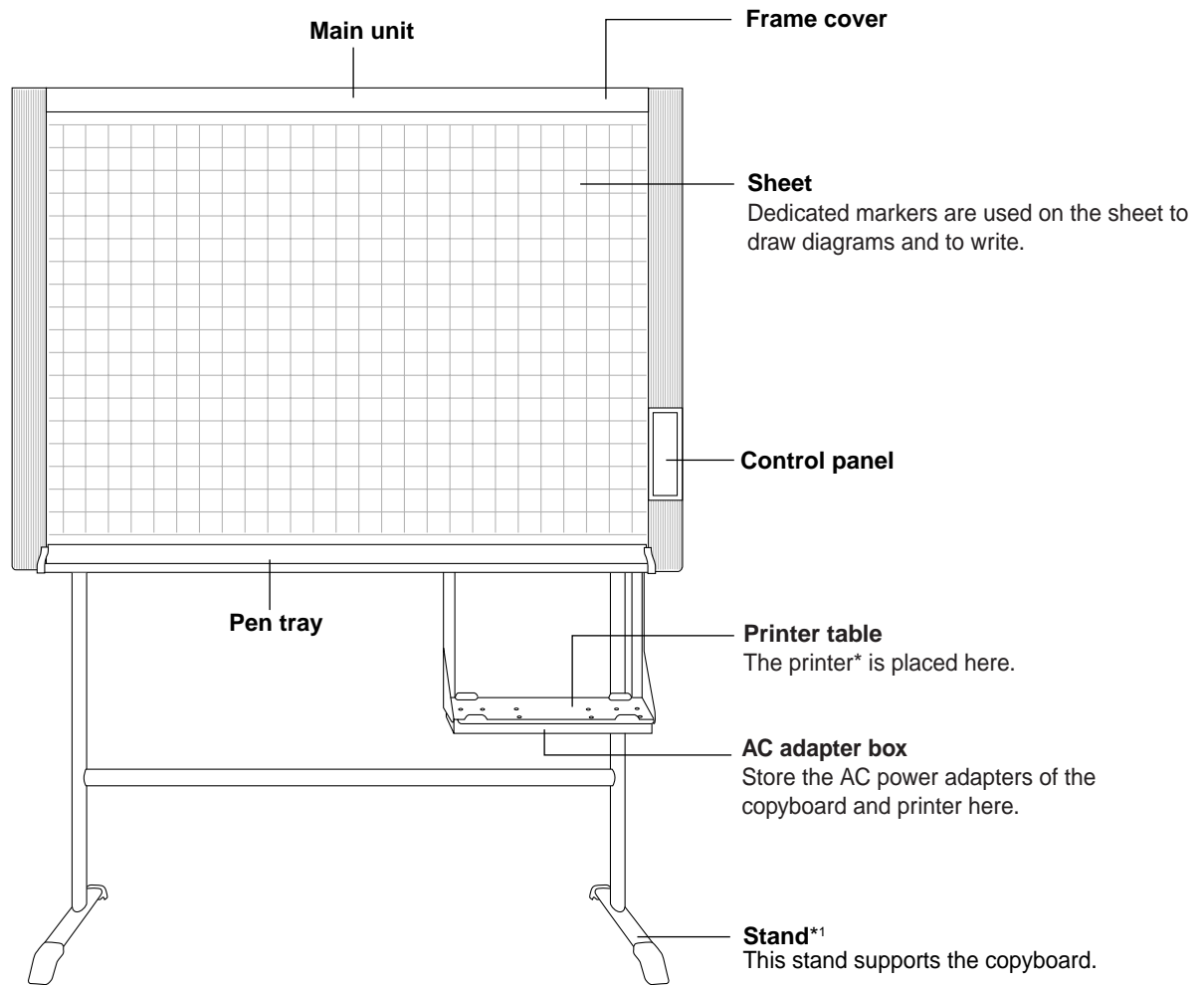
\*2: A USB memory is not included in the package.

\*3: Does not correspond with, High-speed mode.

- Please note that for quality improvement purposes, specifications and design subject to change without prior notice.
- This machine contains eParts of the eSOL, Co.,Ltd.
- Depending on the product, the printer and T-shaped legs (stand) will be available separately.

## 2-2. Location of Parts and Controls

### Front panel of main unit

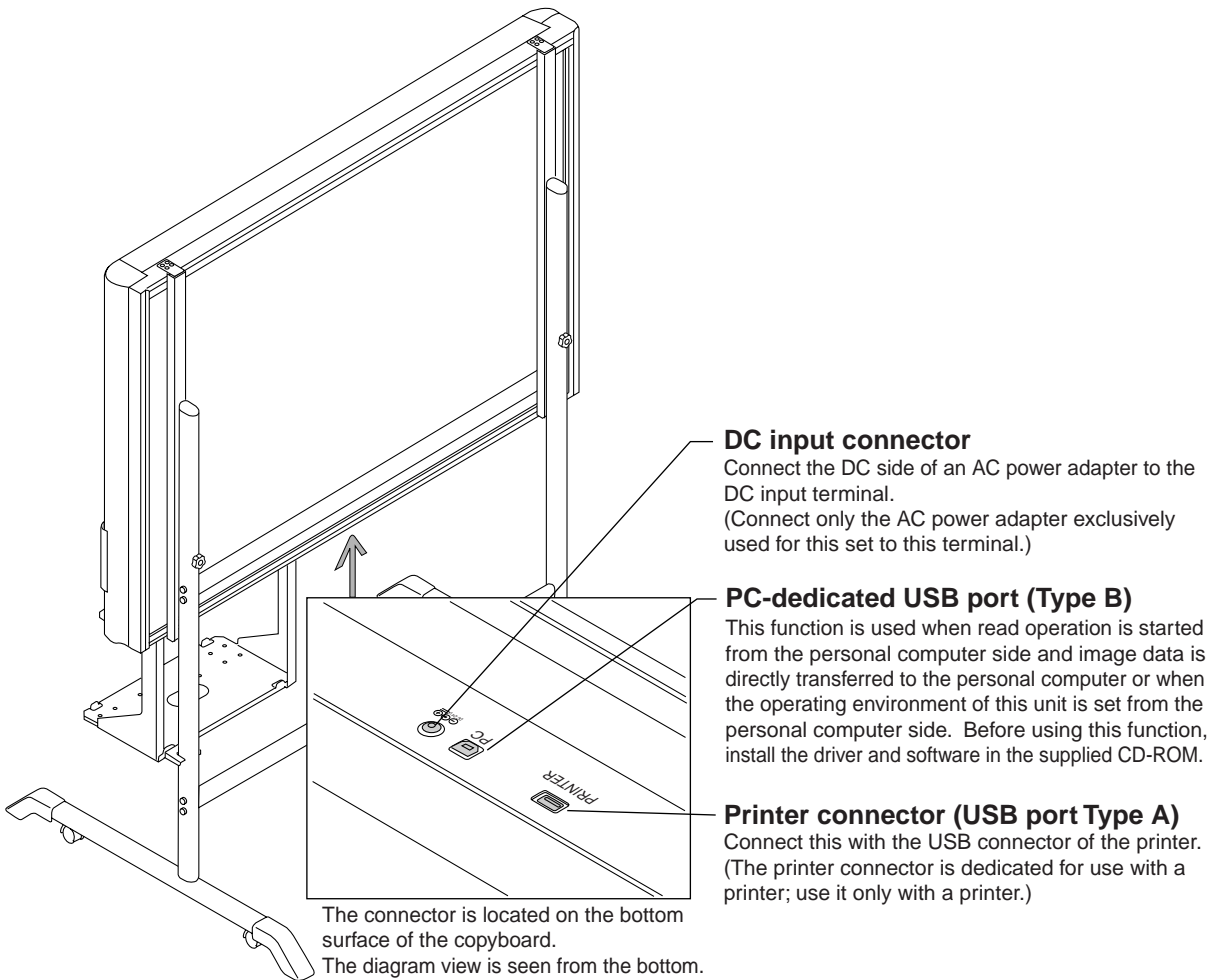


**Effective Reading Size**  
The area that can be copied is the gray area of the diagram.

**Note:**

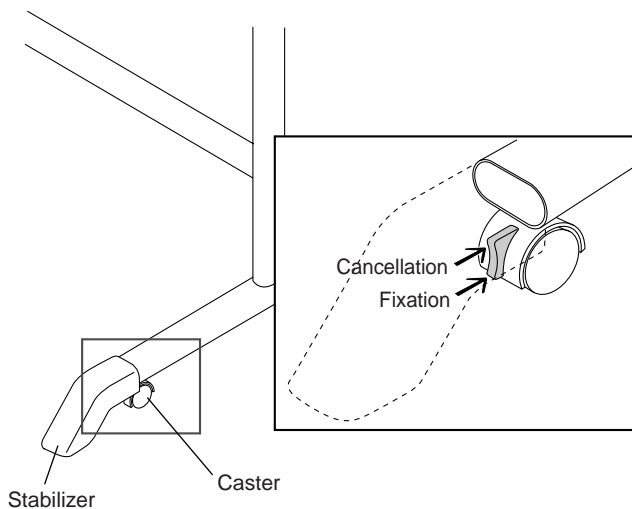
- It might not be possible to print or copy when storing to USB memory or personal computer any portions that are drawn outside of this range.

## Back panel of main unit



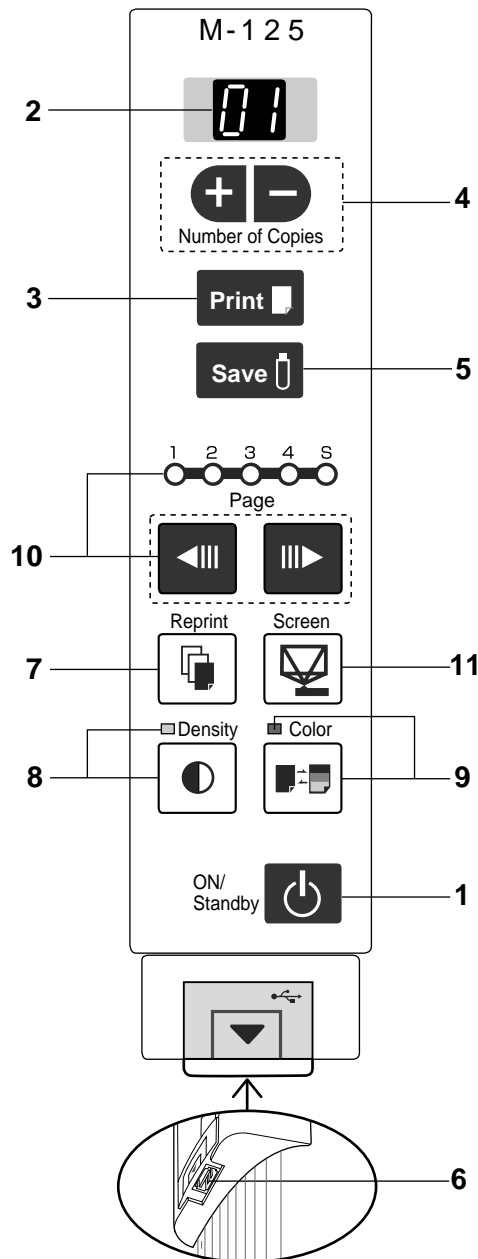
### Locking and unlocking the caster of a stand\*

After installation, fix the caster using a stopper. Remove a stabilizer during moving the copyboard and unlock the stopper of a caster. To fix a stopper, push the lower position of the stopper. To unlock a stopper, push the upper position of it.



\* A stand may be available optionally.

**2-3. Operation Panel of Main Unit**



When pressing a button, please press the center area (i.e., the round and protruding portion). The button may not work if it is pressed on a corner.

**1 ON/Standby button**

Turns the copyboard's power on and off (standby mode). The function settings can be made by pressing the Density and ON/Standby buttons simultaneously.

**Note:**

If the Erase Reminder function has been set, the sheet moves to the surface that has not yet been erased before the power turns off \*1.

\*1 Depending on the usage method, the Erase Reminder function may not operate properly.

**2 Display window**

This 7-segment LED displays the number of copies to be printed, the USB memory storage operating condition, and error information.

**3 Print button**

Moves a one-screen portion of sheet and reads it, then prints the number of copies displayed in the display window.

**4 + / - buttons (Number of copies)**

Pressing the + button or the - button sets the number of copies to be printed (to a maximum of 20 sheets). The number of copies appears in the display window.

**5 Save button (USB memory storage)**

Moves a one-screen portion of sheet and reads it, then stores the data on a USB memory.

**6 Memory port (USB port Type A)**

Saves in commercially-available USB memory images that have been read by the copyboard.

**7 Reprint button**

Prints the previously printed sheet surface one more time. (The sheet does not move.)

The number of copies can be changed, but the density and the color/monochrome selection cannot be changed.

**8 Density button**

Selects the copying density, either "standard" or "dark". This function will be effective at time of printing, USB memory storage, and personal computer storage.

Density mode lamp

The density mode indicator lights green when "dark" is selected.

**9 Color button**

Selects whether to print (or store in memory) in "color" or "black & white".

Color mode lamp

The color mode indicator lights green when "color" is selected.

\*When a black & white printer is connected, the printout will be in black & white even when "Color" is selected.

**10 Page change buttons**

Use these to switch pages.

- Each press of the page change button moves the page indicator one step in the sequence of 1 → 2 → 3 → 4 making it flash, and scrolls the copyboard to the specified page.

- Each press of the page change button moves the page indicator one step in the sequence of S → 4 → 3 → 2 → 1 making it flash, and scrolls the copyboard to the specified page.

**Note:**

Scrolling to the screen (S page) is not possible with the page change button.

**Page indicators**

The indicator for the currently displayed page lights (green).

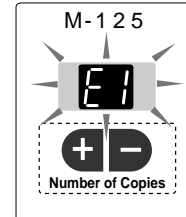
When scrolling, the indicator for the specified page flashes while the page is scrolling, then stops flashing, remaining lit, once scrolling stops.


















**11 Screen button**

When pressed, the sheet scrolls to the screen (the S page).

**2-4. Error Display**

If any of the following flashing indications appear in the display window of the control panel, please check the matters described below.



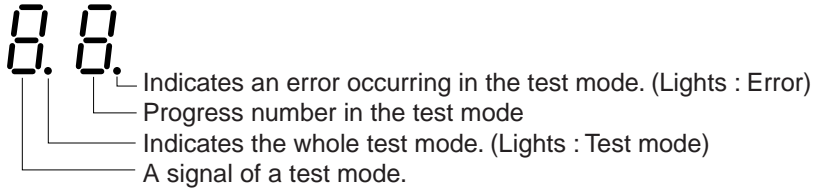
Error display number	Problem and Solution	
 Printer not connected No printing paper Printer problem	<ul style="list-style-type: none"> <li>• Is the printer cable connected?</li> <li>• Is power being supplied to the printer?</li> <li>• When the printer uses an AC power adapter, is the cable disconnected somewhere?</li> </ul>	<ul style="list-style-type: none"> <li>• Connect the printer properly and switch on the printer power.</li> </ul>
 USB Memory not recognized	<ul style="list-style-type: none"> <li>• Is the printer error indicator flashing (or lit)?</li> <li>• Is the USB memory unformatted?</li> <li>• Is a USB memory that is not supported by the copyboard being used?</li> <li>• Is the USB memory device plugged in fully?</li> <li>• Is the USB memory damaged?</li> </ul>	<ul style="list-style-type: none"> <li>• Turn the power of the printer off and then on again, and load the printer with A4 paper.</li> <li>• Read the printer instruction manual.</li> <li>• This unit supports the FAT and FAT 32 formats. Perform the formatting with the personal computer.</li> <li>• Please see our home page for information about USB memories that can be used with the copyboard. ( <a href="http://www.plus-vision.com">http://www.plus-vision.com</a> )</li> <li>• Please check the operation with a personal computer.</li> </ul>
 USB Memory storage problem	<ul style="list-style-type: none"> <li>• An error occurred during USB memory storage.</li> </ul>	<ul style="list-style-type: none"> <li>• Please perform USB memory storage again.</li> <li>• Do not insert or remove the USB memory during processing.</li> </ul>
 Reading problem	<ul style="list-style-type: none"> <li>• There is a lighting fault of the reading light source, or a read signal error.</li> </ul>	<ul style="list-style-type: none"> <li>• Unplug the power plug from the power outlet and then plug it in again.</li> </ul>
 System error	<ul style="list-style-type: none"> <li>• There is a memory or internal fault.</li> </ul>	<ul style="list-style-type: none"> <li>• Unplug the power plug from the power outlet and then plug it in again.</li> </ul>
 Page detection error	<ul style="list-style-type: none"> <li>• The pages are not being properly detected.</li> </ul>	<ul style="list-style-type: none"> <li>• Unplug the power plug from the power outlet and then plug it in again.</li> </ul>
 Security protection	<ul style="list-style-type: none"> <li>• You have attempted to use a function disabled by the security settings.</li> </ul>	<ul style="list-style-type: none"> <li>• The settings can be changed using the exclusive software. For details, contact your nearby PLUS Vision sales office, dealer or store.</li> </ul>
 Restrict color mode	<ul style="list-style-type: none"> <li>• Setting for disabling printing/storing in the color mode.</li> </ul>	<ul style="list-style-type: none"> <li>• Can be changed in the copyboard's "Function Settings".</li> </ul>
 USB memory not connected	<ul style="list-style-type: none"> <li>• USB memory device is not plugged into the main unit.</li> </ul>	<ul style="list-style-type: none"> <li>• Plug the USB memory device into the USB port.</li> </ul>
When the "USB" letter is flowing... Warning that disconnection of USB memory has been forgotten 	<ul style="list-style-type: none"> <li>• Did you press the ON/Standby  button while the USB memory device was plugged into the main unit?</li> </ul>	<ul style="list-style-type: none"> <li>• A USB memory device is plugged into the main unit. When the USB memory device is disconnected, the power will be switched off and the unit will enter the standby mode.</li> </ul>
 No Calibration data	<ul style="list-style-type: none"> <li>• This is the state in which calibration data is not written.</li> </ul>	<ul style="list-style-type: none"> <li>• Perform calibration.</li> </ul>
 USB Memory is full	<ul style="list-style-type: none"> <li>• There is no available space.</li> </ul>	<ul style="list-style-type: none"> <li>• Please delete unnecessary data using a personal computer.</li> </ul>
 An unsupported printer is connected	<ul style="list-style-type: none"> <li>• A printer that is not supported by the copyboard has been connected.</li> </ul>	<ul style="list-style-type: none"> <li>• Press the ON/Standby  button and switch off the power. When a record is required, switch on the power and save to USB memory.</li> </ul>
 Time setting error	<ul style="list-style-type: none"> <li>• An error has arisen when setting the time.</li> </ul>	<ul style="list-style-type: none"> <li>• When the ON/Standby  button is pressed, the display switches to "c1". Start the setting over from the year.</li> </ul>



## 2-5. Test and Adjustment Functions

The specifications for inspection and the calibration program are described below.

### 1) Seven-segment display specifications.



### 2) To shift to the test/adjustment mode, press the “+” and “-” buttons simultaneously in the sleep mode and then press the Power button.

The numeric LED display is <AP>.

### 3) Shift to each test mode by the button operation below.

#### ① Printer test mode <4. SPC> (\*1)

A test print is made from the printer connected to a copy board when you press the Feed/Stop button and then the print button during button operation. (During connection of a color ink jet printer, press the color button, select the color mode, and then press the print button.)

#### ② Calibration mode start <2. SPC> (\*1)

Calibration is executed when you press the Print button during button operation.

#### ③ CCD adjustment mode <6. SPC> (\*1)

An RGB adjustment mode sequence is performed (LED lights in red during CCD adjustment) when you press the additional Reprint button during button operation.

#### ④ Program version display & Internal Information write. <1.SPC>

The major version of a program is displayed when you press the “-” button once.

The minor version of a program is displayed when you press the “-” button second.

#### ⑤ Five-plane extended test mode <8. SPC>

The current state is shifted to the five-plane extended test mode when you press the screen button during button operation.

The current state is shifted to the solenoid forced ON mode when you press the “+” button. In this case, the sheet latch is freed. (Free) <8.0>

The current state is shifted to the solenoid forced OFF mode when you press the “-” button. In this case, the sheet latch is locked. (Lock) <8.1>

Initial processing is performed when you press the color button. <8.7>

Initial processing: Moves to page 1 and sets page number 1.

\* 1. SPC indicates the state in which no LEDs light.

# 3. SOFTWARE PLUS TOOLBOX

## 3-1. Installation of the Software

When “Install Software” on the included CD-ROM’s menu is clicked, the “PLUS TOOLBOX”, TWAIN driver and USB driver are installed.

### Check Prior to Installation

1. Check whether your personal computer satisfies the operating environment.
2. Check that your personal computer is not currently connected to this machine via USB.
3. At the time of installation, install with Administrator rights (i.e., a user having administrator rights) for Windows 2000, or with a Computer Administrator rights (account) for Windows XP/Vista.
4. Close all other applications that are running.

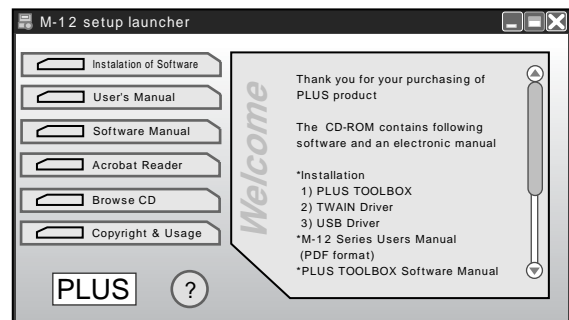
### Installation of the PLUS TOOLBOX

#### 1 Insert the supplied CD-ROM into the CD-ROM drive of the personal computer.

The menu screen will be displayed automatically.  
If the menu screen is not displayed automatically, double click CD-ROM icon and double click “autorun.exe”.

#### 2 Click “Installation of Software”.

The installer will start.



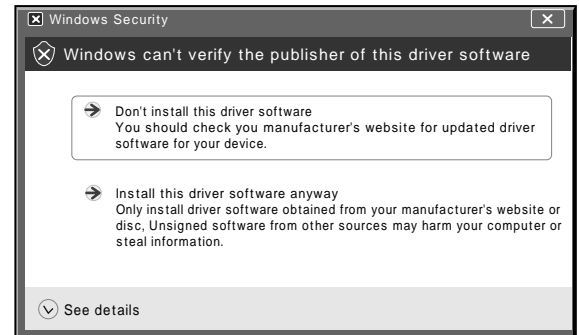
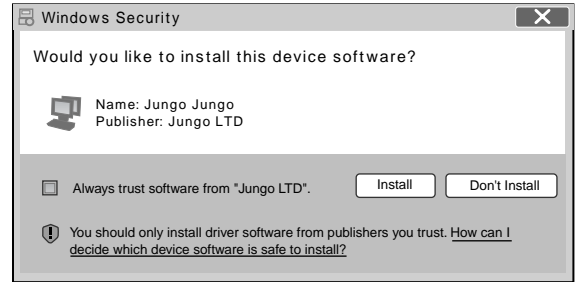
#### 3 Follow the instructions of the installer and start the installation.

The PLUS TOOLBOX, the TWAIN driver, the USB driver will be installed at the same time.



**Note:**

- \* The Windows Security dialog box will be displayed with Windows Vista.  
Select "Install this driver software (I)".
- \* When using Windows Vista, each time the installer is started, the User Account Control dialog box is displayed.  
Select "Continue" and continue with the installation.



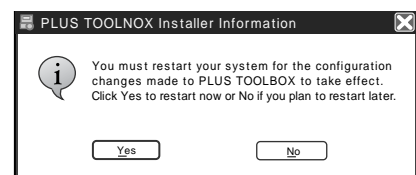
**4 Click "Finish".**

The "Installer Information Dialog Box" will be displayed.



Click "Yes (Y)" and restart the personal computer.

When this software is installed in the personal computer for the first time, continue to make the following connections and operations.



**■ Installing the USB Driver**

The USB driver is installed in the computer with the installer, but this does not complete association with the USB port. In order to use PLUS TOOLBOX, install using the procedure described below with the copyboard connected.

- Preparation**
1. Press the ON/Standby button of the Copyboard to turn on the power.
  2. Use a USB cable to connect the USB port of the personal computer with the PC dedicated USB port of the Copyboard.

The New Hardware Search Wizard will be displayed.

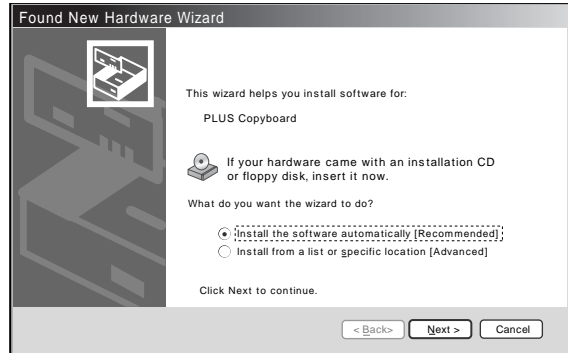
**Install according to the New Hardware Search Wizard.**

- 1 Select “Install Software Automatically (Recommended) (T)” and click “Next (N)” (when using Windows XP).**

Start the installation of the USB driver.

**Note:**

- \* Installation will be completed automatically with Windows 2000/Windows Vista.



- 2 Click “Finish”.**

This software can now be used.



## Uninstallation of the PLUS TOOLBOX

- 1 Selecting [Start] → [Control Panel] will display the Control Panel screen.**

Check that your personal computer and the Copyboard are not currently connected by USB.

- 2 Double click “Add or Remove Programs or Applications” (this will differ depending on the OS) to display the “Add or Remove Programs Properties” screen.**

- 3 Select PLUS TOOLBOX from among the list displayed and click [Change / Remove] to display the Add or Remove wizard screen.**

- 4 Selecting the [Remove] radio button of the wizard and clicking [Next] will start the uninstallation.**

**Note:**

- \* “Add or Remove Programs” will be displayed for Windows XP/Vista.
- \* When using Windows Vista, each time the uninstaller is started, the User Account Control dialog box is displayed.  
Select “Continue” and continue with the uninstallation.

# 4. TROUBLE SHOOTING

By checking operations normal usage time, it is possible to carry out judgments on malfunction to a certain extent. Carry out the following checks before disassembling the equipment.

## 1. Press the ON/Standby button and turn on the power.

Is the power turned on?

- No →
- The power cord is disconnected from the wall outlet.
  - The AC Adapter is defective.
  - The Main Board Assy is defective.
  - The Switch Box Unit is defective.
  - The connector of the Switch Harness is disconnected.

Yes

Does the error display appear?

- Yes → The error display (E4) appears.
- The connectors of the CCD Harness Assy is disconnected.
  - The CCD Unit is out of adjustment.
  - The CCD Unit is defective.
  - The Main Board Assy is defective.
- The error display appears.
- The Main Board Assy is defective.
- The error display (E.E.) appears.
- Damaged Calibration data. → Start Calibration.

No

## 2. Press the Page change button.

Does the sheet operate normally?

- No → The error display (E6) appears.
- The connectors of the Solenoid Harness are disconnected.
  - The connectors of the Sensor Harness are disconnected.
  - The Solenoid Assy is defective.
  - The Sensor Assy is defective.

Yes

## 3. Press the Print button (when a printer is used).

Does the error display (E1) appear?

- Yes → Printer failure
- The printer is defective. (See the Instruction Manual of a printer.)
  - The power of a printer is not turned on.
  - The paper of a printer is exhausted.
  - The printer is not connected.
  - The Main Board Assy is defective.

No

Is the object written in the board printed normally?

- No → A black line is put in printing.
- Out-of-adjustment of CCD Unit: Slight (It is improved by calibration.)
  - Out-of-adjustment of CCD Unit: Severe (Perform the CCD adjustment again.)
  - Dust adheres to the mirror of the board body.
- Printing becomes blurred.
- The marker (written character) becomes blurred
  - The ink (toner) of a printer is exhausted.
- A specific color is not printed or the printed color is improper (when a color printer is used).
- The ink of a printer is exhausted.
  - The ink cartridge of a printer is defective.

Yes

## 4. Press the Save button (when a USB memory is used).

Do the error displays (E2 and E3) appear?

- Yes → Error display: E2 is displayed.
- A USB memory is not formatted.
  - An incompatible USB memory is used.
  - A USB memory is defective.
- Error display: E3 is displayed.
- Memory storage error: Repeat storage again.
  - The Main Board Assy is defective.

No

Is the object written in the board stored normally?

- No → A black line is put in a picture.
- Out-of-adjustment of CCD Unit: Slight (It is improved by calibration. See section 9-2.)
  - Out-of-adjustment of CCD Unit: Severe (Perform the CCD adjustment again. See section 9-1.)
  - Dust adheres to the mirror of the board body.
- A picture becomes blurred.
- Out-of-installation of CCD Unit. (It is improved by calibration.)
  - The marker (written character) becomes blurred.

Yes

Normal operation

# 5. DISASSEMBLY AND ASSEMBLY

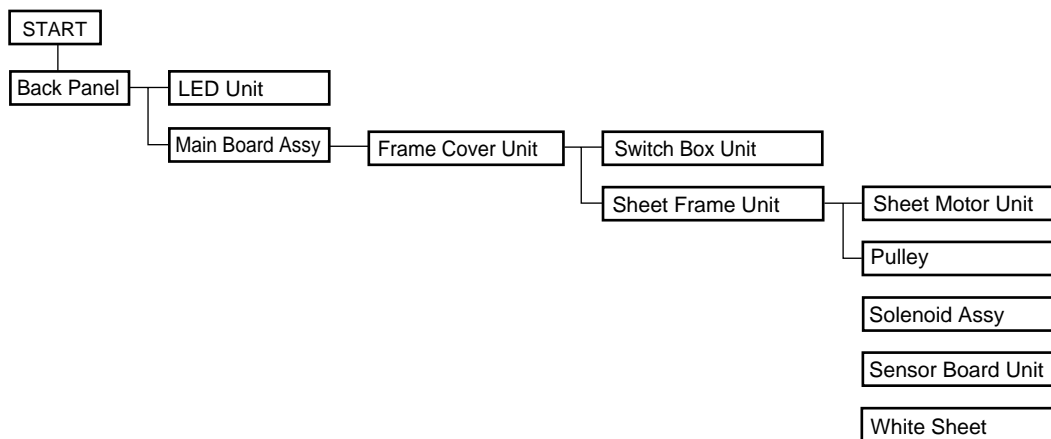
## 5-1. Tools Required

- Phillips screwdriver (+) No. 2
- Cutting pliers
- Locking tie (Cable tie)

## 5-2. Caution

- See “1. Compliance of Safety Repair and Safety Inspection” before disassembling and assembling.
- Put on gloves so that you do not cut your hand at the sharp edge of a frame during disassembly and assembly.
- See “10. Wiring Diagram” and “11. Parts List” for the parts name or wiring.
- The point especially requiring attention when handling parts or performing disassembly and assembly contains a caution. Be sure to follow this caution.

## 5-3. Disassembly and Assembly Procedures



## 5-4. Disassembly and Assembly

This section describes one example of disassembly and assembly procedures. For the actual operation, disassemble and assemble the required parts with reference to “5-3. Disassembly and Assembly Procedures”.

### 1) Remove the Back Panel. (See Figs. 1 and 2.)

1. Remove the “S-7” screws shown in Fig. 1 and then remove the Back Panel Corner.
2. Remove the Back Panel as shown in Fig. 2.

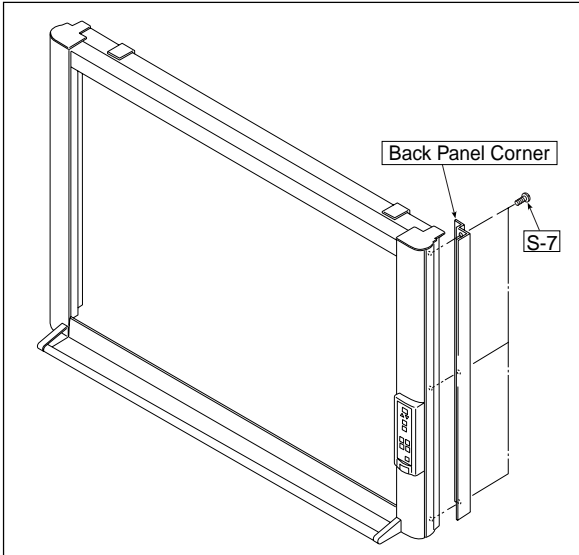


Fig. 1

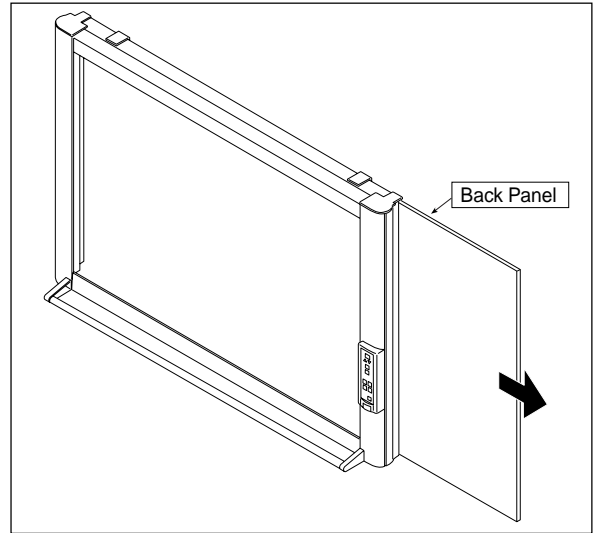


Fig. 2

### 2) Remove the Main Board Assy. (See Figs. 3 and 4.)

1. Disconnect the connectors connected to the Main Board Assy shown in Fig. 3.
2. Remove the “S-3” screws shown in Fig. 4 and then remove the Main Board Assy.

#### Note:

Be careful when the screws are removed and installed. It is recommended to use a stubby driver. (No.2 Phillips screwdriver length : 45 mm)

\* The battery installed in the Main Board Assy can be used without any functional problem for ten years or more.

\* When disconnecting the connector of the Main Board Assy, identify (for example, mark) it in advance because the connector size is located in the same place.

\* For a new Main Board Assy of M-125 type, volume control R82 is not installed because of automatic adjustment. (Calibration is required)

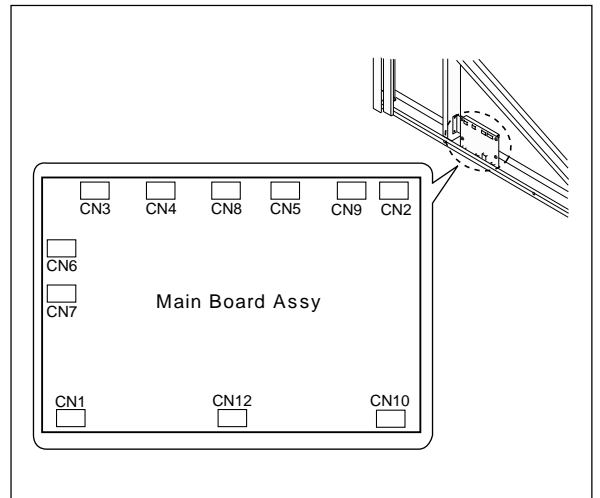


Fig. 3

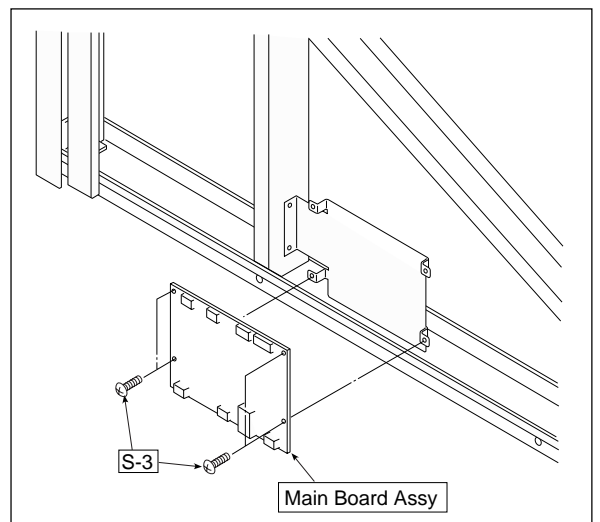


Fig. 4

## DISASSEMBLY AND ASSEMBLY

3) Remove the CCD Unit. (See Fig. 5.)

1. Remove the "S-3" screws shown in Fig. 5.
2. Remove the "S-4" screws shown in Fig. 5 and then remove the CCD Unit.

**Note:**

The CCD Unit requires adjustment when it is replaced and removed. (See 9. Adjustment.)

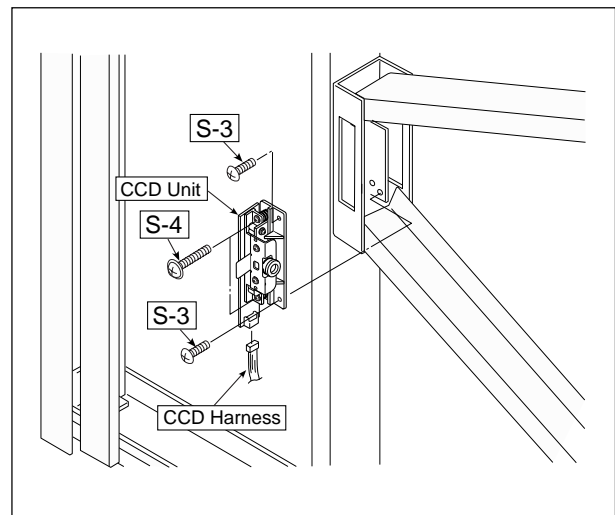


Fig. 5

4) Remove the Frame Cover Section. (See Fig. 6.)

1. Remove the "S-2" and "S-9" screws shown in Fig. 6.
2. Disconnect the Switch Harness of the Main Board Assy from the square hole of the Sheet Frame.

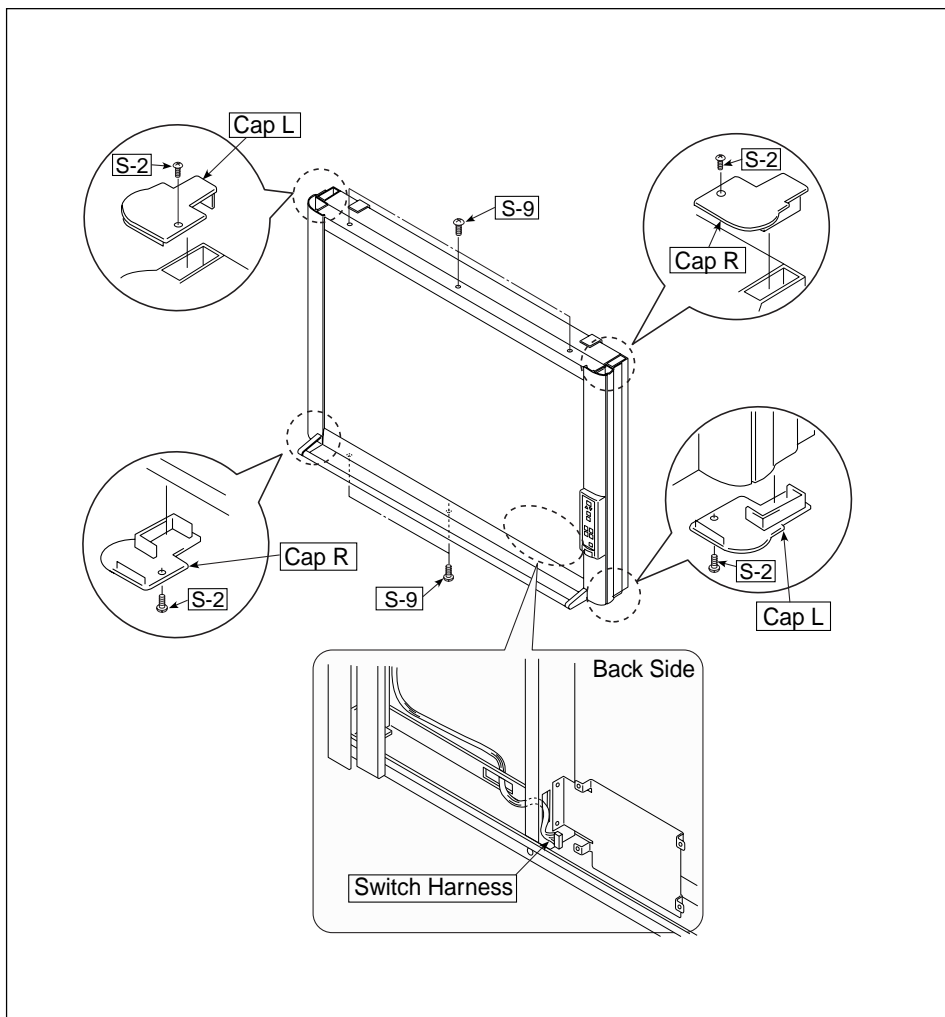


Fig. 6



5) Remove the Switch Box Unit. (See Fig. 7.)

1. Remove the "S-8" and "S-10" screws shown in Fig. 7.
2. Remove the "S-5" screws shown in Fig. 7 and then remove the Switch Box Unit.

**Notes:**

- Be careful not to mistake the hole through which the Switch Harness is passed. (See Fig. 8.)
- Pay attention to a kind of screw.

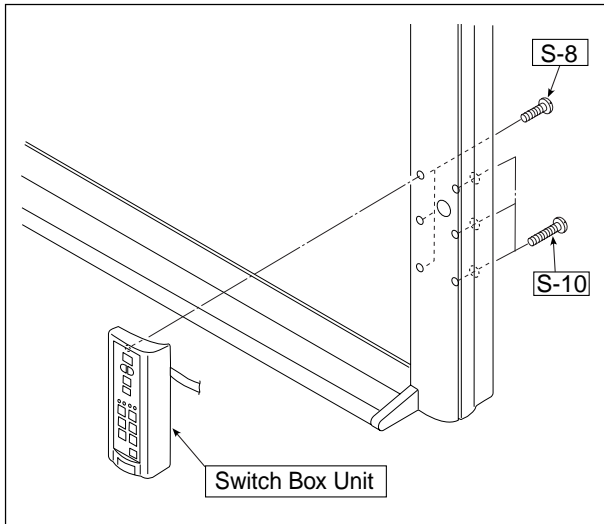


Fig. 7

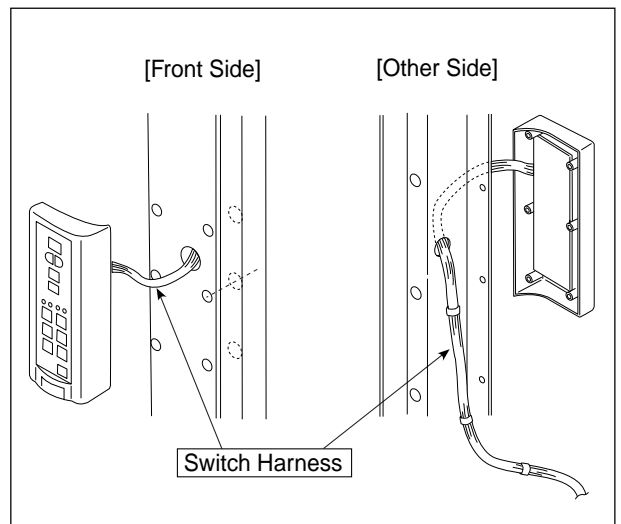


Fig. 8

6) Disassemble the Frame Cover Section. (See Fig. 9.)

Remove the "S-1" and "S-2", "S-6", "S-20" screws shown in Fig. 9 and disassemble the Frame Cover.

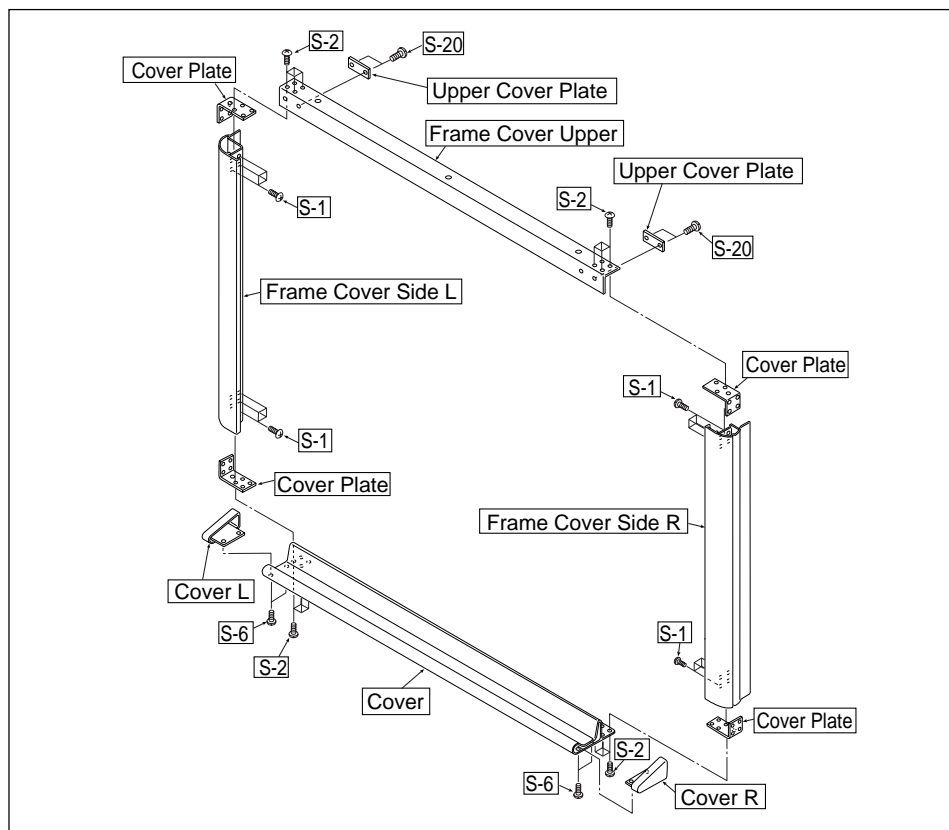


Fig. 9

## DISASSEMBLY AND ASSEMBLY

- 7) Remove the Sheet Frame Unit. (See Figs. 10 and 11.)
1. Remove the "S-1" screws shown in Fig. 10.
  2. As shown in Figure 11, loosen the "S-11" (two) screws to the frame surface and remove the Sheet Frame Unit.

**Notes:**

- The Sheet Frame Unit is caught on a hook as shown in the portion A of Fig. 10.
- \* Remove the Motor, the Sensor Board and the Solenoid earlier when the Sheet frame Unit is removed.

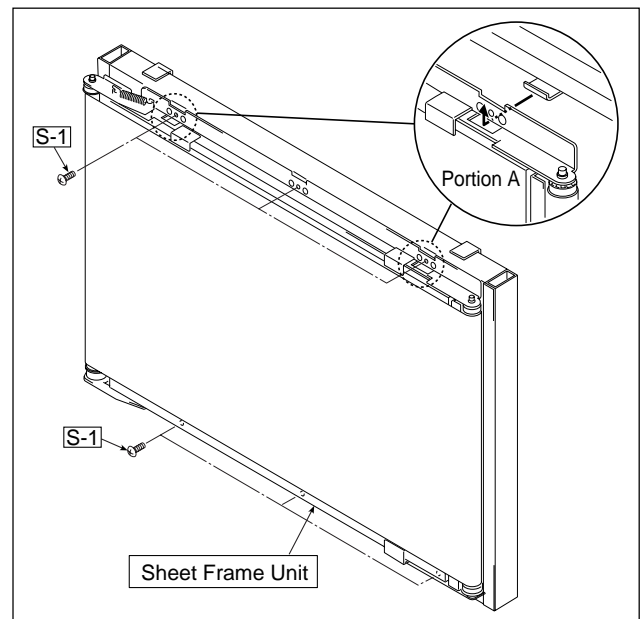


Fig. 10

- \* The operation in Figures 11 to 14 is performed with the Sheet Frame Unit put upside down.

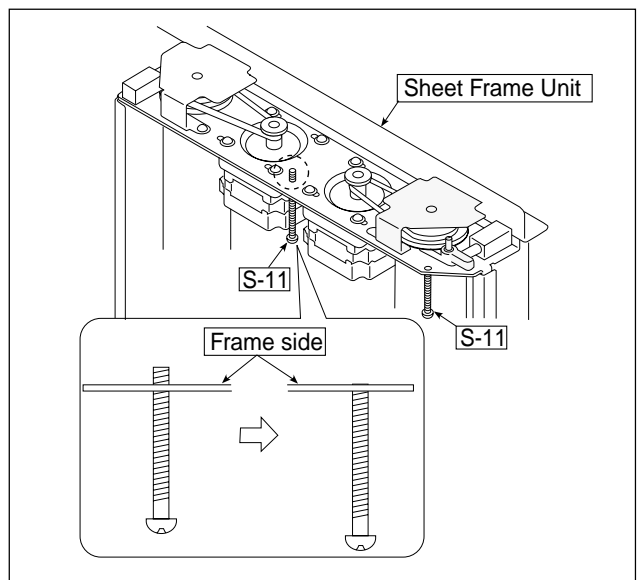


Fig. 11

- 8) Remove the Sheet Motor Unit. (See Fig. 12.)
1. Remove the "S-12" screws shown in Fig. 12 and then remove the Sheet Motor Unit.

**Note:**

- Remove the Motor harness earlier when remove the Sheet Motor Unit.
- Adjust the tension of a Timing Belt when installing the Sheet Motor Unit. (See Fig. 9-3. Adjustment)

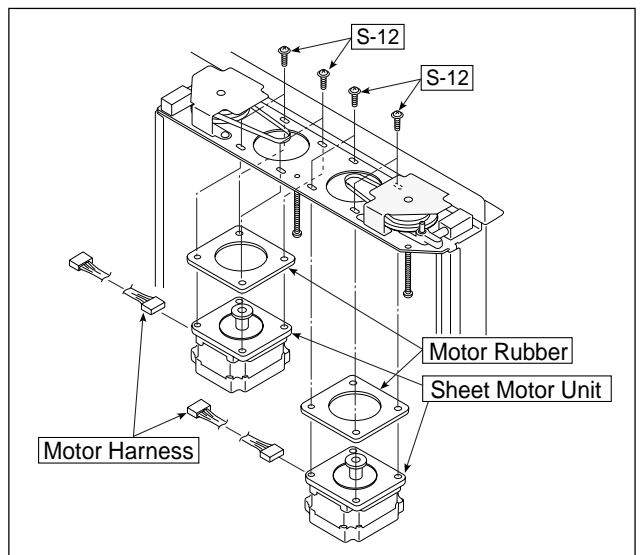


Fig. 12

## DISASSEMBLY AND ASSEMBLY

9) Remove the Pulley, Belt. (See Fig. 13.)

1. Remove the "S-13" screws shown in Fig. 13 and then remove the Gear Plate.
2. Remove the "S-18" E-rings shown in Fig. 13 and then remove the Pulley, Belt.

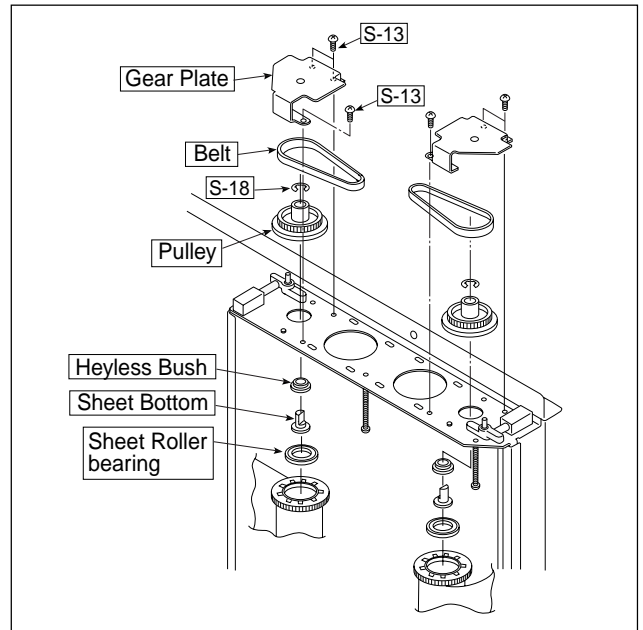


Fig. 13

10) Remove the Solenoid Assy. (See Fig. 14.)

1. Remove the "S-19" screws shown in Fig. 14 and then remove the Solenoid Assy.
2. Remove the "S-17" E-rings shown in Fig. 14 and then remove the Stopper.  
\* Replace it in units of "Solenoid Unit" when replacing the Solenoid Assy.

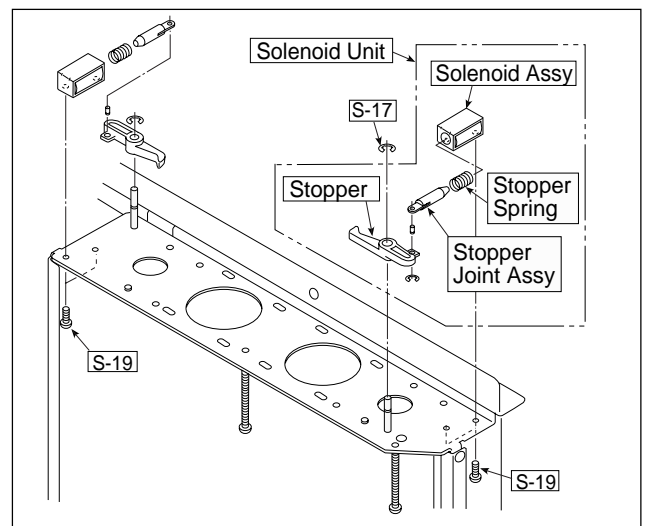


Fig. 14

11) Remove the Sensor Board Unit. (See Fig. 15.)

1. Remove the "S-5" screws shown in figure and then remove the Sensor Board Unit.

**Note:**

Be careful not to damage the White Sheet when the Sensor Board Unit removed and installed.

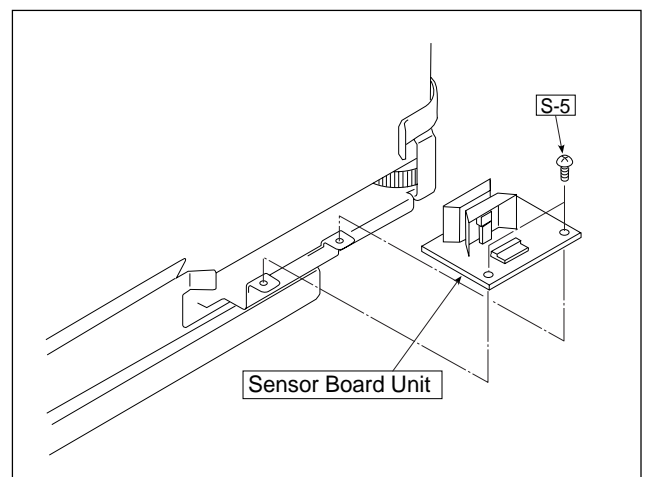


Fig. 15

12) Remove the White Sheet. (See Fig.16.)

1. As shown in portion A in the auxiliary drawing of Figure 16, remove the "S-7" screws and then remove the two Sheet Guides (at the top and bottom).
2. As shown in portion A in the auxiliary drawing of Figure 16, remove the "S-5" screws and then remove the two Sheet Frame L Guides (at the top and bottom).
3. Remove the "S-5" screws shown in Fig. 16 and then remove the Angle.
4. Loosen the "S-15" screw shown in portion B in the auxiliary drawing of Figure 16 as far as it will go.
5. As shown in portion B in the auxiliary drawing of Figure 16, loosen the Lever Plate and push the top of the Sheet Bearing upward.
6. As shown in Figure 16, remove the bottom of the White Sheet and then remove the top of it.
7. As shown in Figure 16, wind the White Sheet.

**Note:**

Be careful not to damage or fold it when handling the White Sheet.

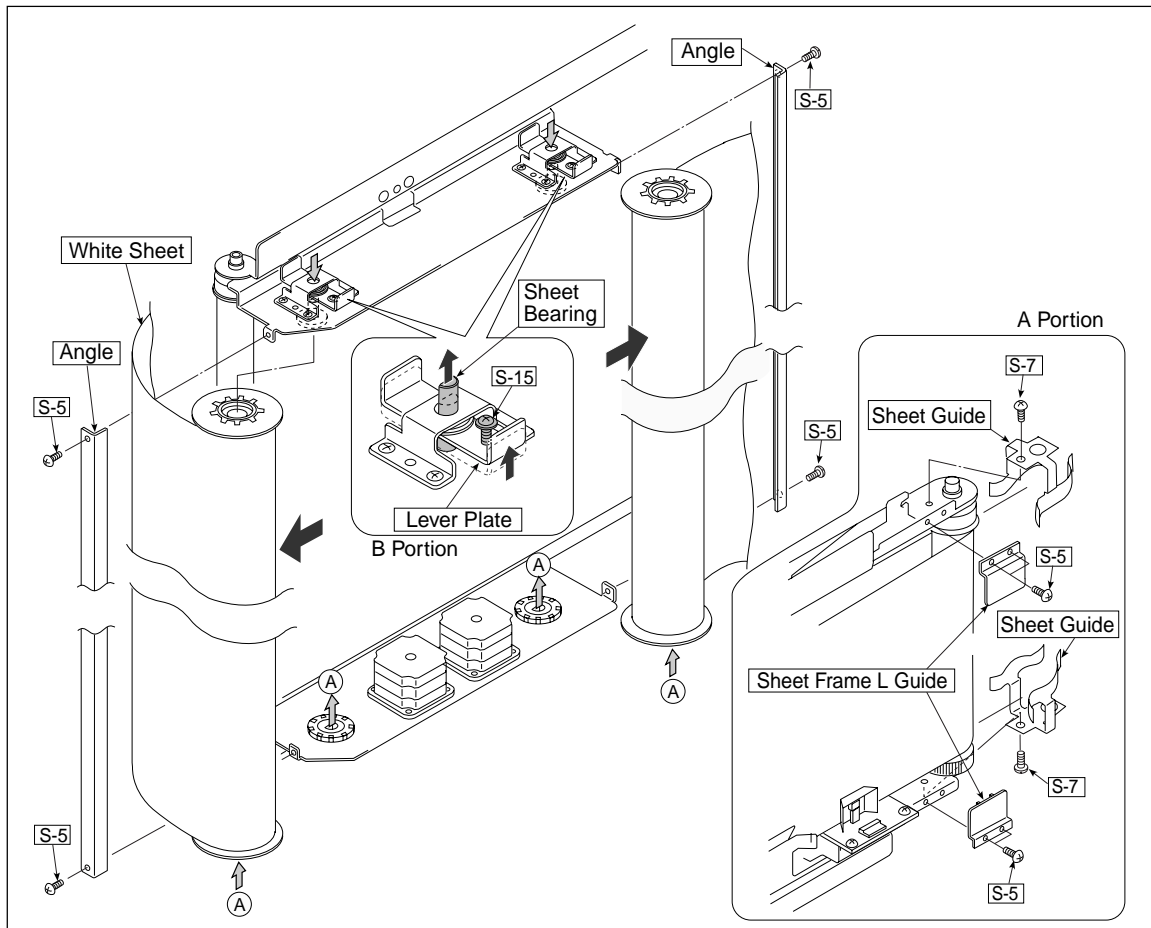


Fig. 16

13) Remove the LED Unit. (See Fig. 17.)

1. Remove the LED Harness as shown in Fig. 17.
2. Remove the "S-3" screws as shown in Fig. 17.
3. Remove the LED Unit as shown in Fig. 17.

**Note:**

Use the parts assembled in a factory during replacement of an LED unit.

\* Calibration is required after replaced.

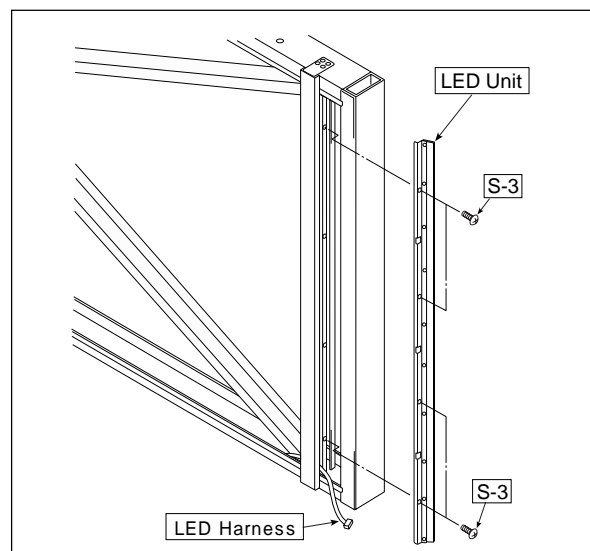
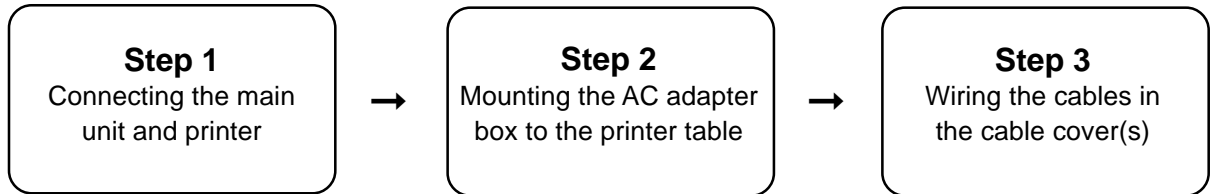


Fig. 17

## 6. CONNECTION TO THE SET

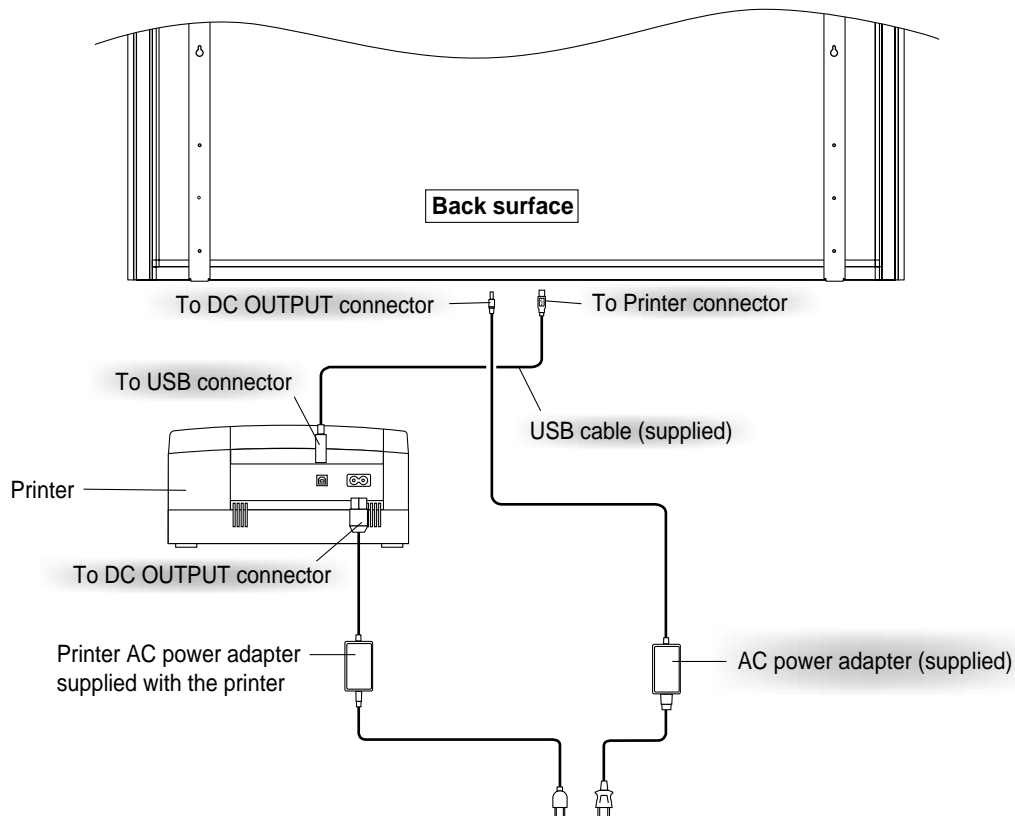
After connecting the main unit and printer, place the AC power adapters in the AC adapter box.

### • Flow of connection operations



### 6-1. Connecting the main unit and printer

Connect as shown on the diagram below. Do not yet connect the AC power plugs of the AC power adapters to wall power outlets.



#### Note:

When an AC power adapter is used with a printer that has been verified to be operational, although the printer type may differ from that of the connection diagrams (e.g., a built-in type, or assembled type), the connections should be performed based on the same main points. (In accordance with the printer specifications)

\* Appearance of printer is for illustration purposes.

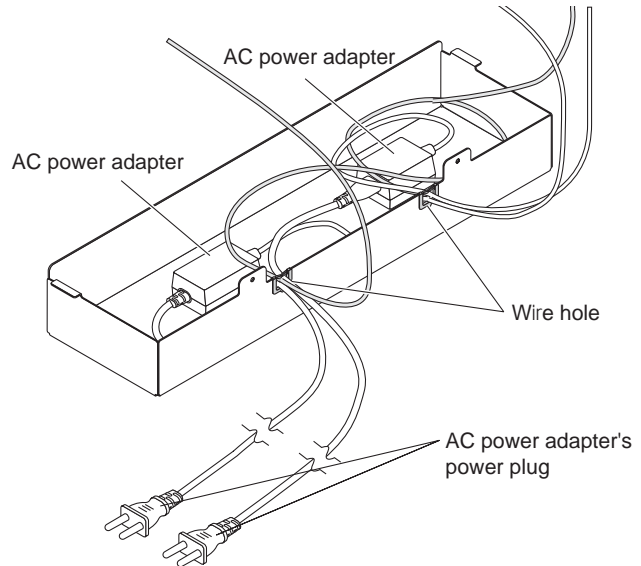
### 6-2. Mounting the AC adapter box to the printer table

After placing the AC power adapters of the main unit and printer in the AC adapter box, mount the AC adapter box to the printer table.

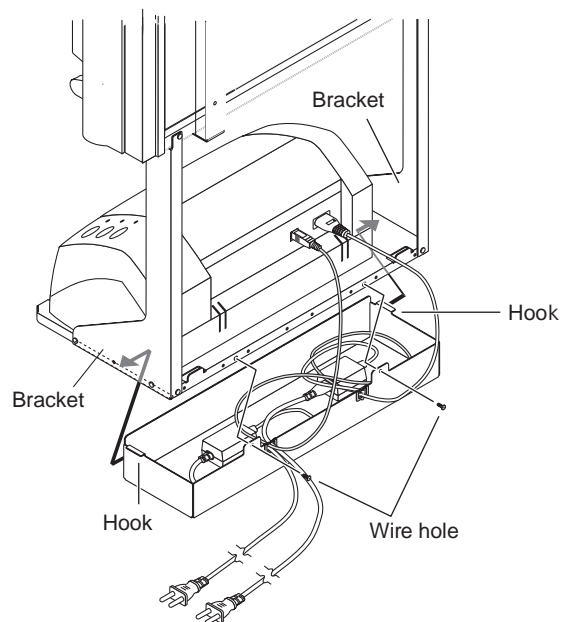
#### WARNING

- The AC power adapters and the power cords generate heat. Be sure to wire them in such a way that they keep apart. Do not bundle the cables together. Doing so could cause them to heat up, leading to fire.

- (1) Place the AC power adapters of the main unit and printer in the AC adapter box.
- Place the AC power adapter's DC and AC side cords in the AC adapter box's wire holes (push them in).
  - The USB cable connecting the main unit and printer should not hang down. Place any extra cable inside the AC adapter box.



- (2) Place the AC power adapters of the main unit and printer in the AC adapter box.
- Catch the hooks on the ends of the AC adapter box onto the bottom of the left and right brackets (the L-shaped part).  
To catch the hooks, insert the AC adapter box from the front of the printer table and pull to the rear. This catches the left and right hooks.
  - After adjusting the length of the AC power adapter's cords, fasten the AC power adapter to the printer table using the two masking screws.



#### WARNING

- Be sure the power cords and USB cable do not get caught when mounting the AC adapter box. Doing so could damage the cords, leading to fire or electric shock.

### 6-3. Wiring the cables in the cable cover(s)

The place of installation of the cable covers included with the main unit differs for the standard type and wide type. (Note that they cannot be attached to the stand.) Also, the cable cover included with the stand and designed specifically for the stand cannot be attached to the main unit.

Standard type: One cable cover specifically for the main unit

Wide type: Two cable covers specifically for the main unit

Stand: Two cable covers specifically for the stand (Narrow type x 1, Broad type x 1)

Narrow type: Use this for a 100V power cord

Broad type: Use this for a 200V power cord

(1) Attach the cable cover(s) according to the type you have purchased.

- Peel off the backing paper from the cable cover and attach the cable cover firmly to the bracket.

[When the main unit is installed on a wall]

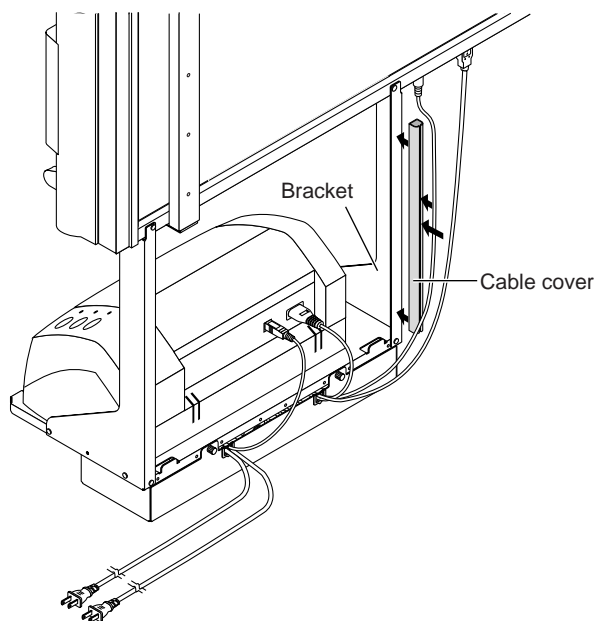
Attach the cable cover to the side of the bracket.

- For the wide type, also attach one of the cable covers specifically for the main unit to the bottom of the main unit.
- Insert the cable/cord into the slit in the cable cover.
  - \* If the cable/cord is too short or too long, remove the screws from the AC adapter box and adjust the length.

#### Notice

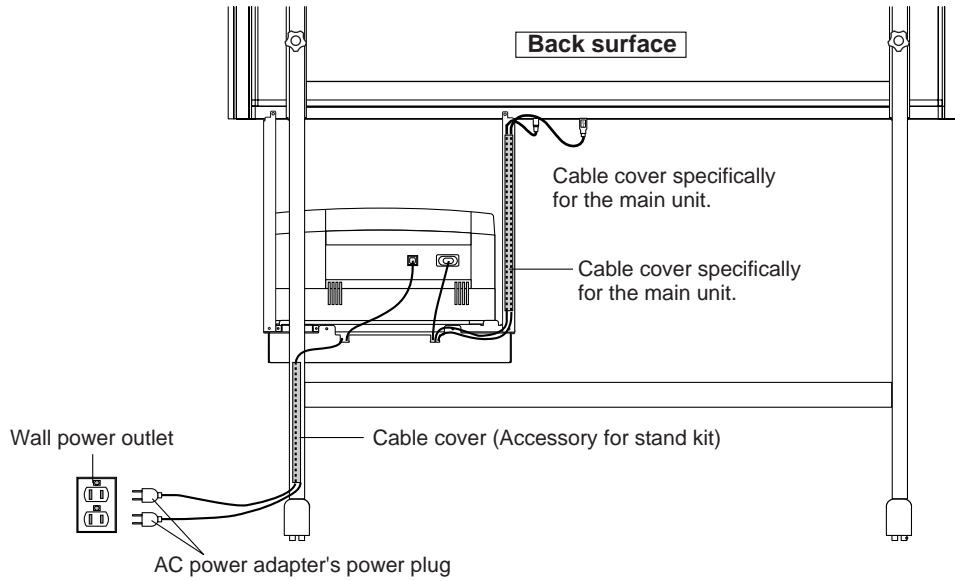
- The included cable covers use a powerful adhesive seal.

The cable cover may be damaged or deformed if you try to remove it and attach it in a different position. Check the position of installation of the printer table before attaching the cable cover.

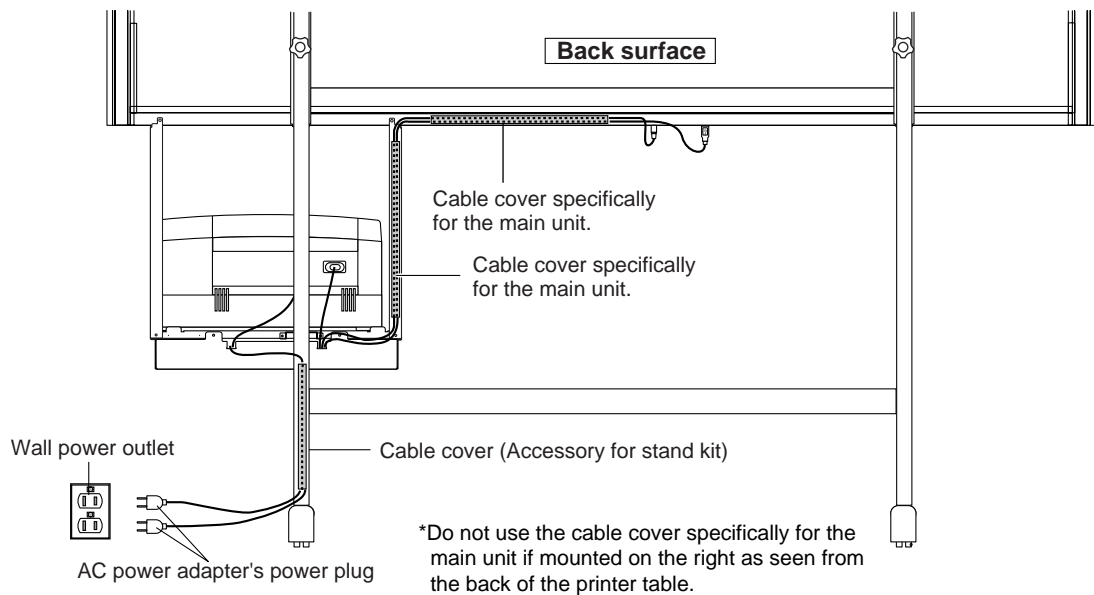


## ● Example of connection cable wiring

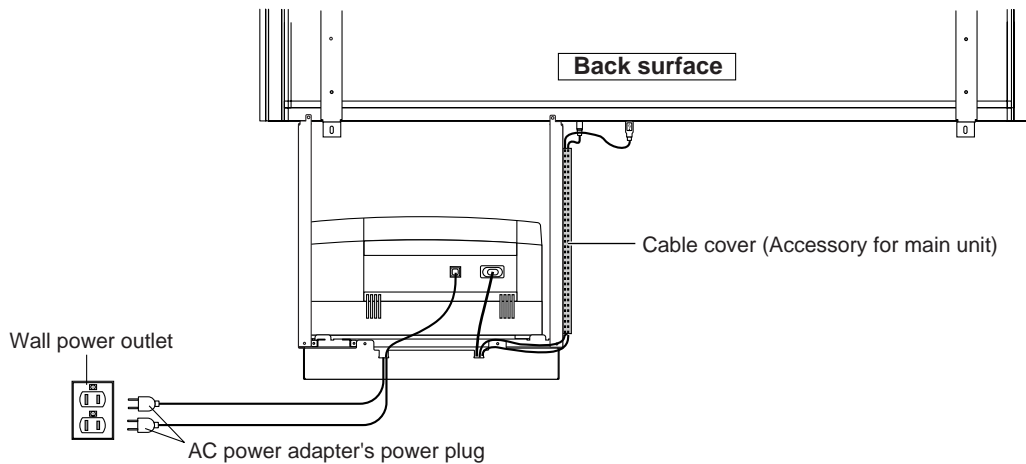
### Standard type + stand installation



### Wide type + stand installation



### Standard type + wall installation

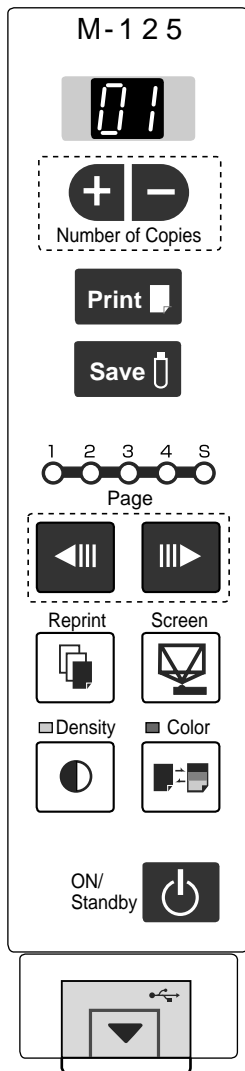




# 7. SETTING THE TIME

Set the copyboard's clock properly. The date and time are printed in the header/footer when printing and recorded in the file data when saving the file.

## Overview of the Operation



### 1 Switch to the function settings.

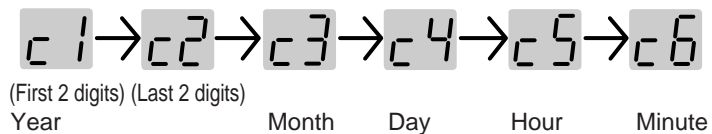
With the power turned on, press and hold in the Density button, then press the ON/Standby button.



### 2 Press the Print button to switch to the time setting.

### 3 Display the day and hour setting mode

Setting mode information indicated in the display window



### 4 Set the date and time of the setting mode

One press of the + or the - button will enable the settings to be made. Press the + or - button and make the adjustment.

### 5 Press the Print button to confirm

There is a change to the next setting mode.

Repeat steps 4 and 5 to set the current time.

- Pressing the ON/Standby button during operations 3 to 5 will cancel the incomplete settings and return to the time prior to starting the settings.

### 6 Completion

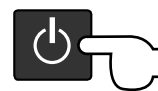
When the Print button is pressed after setting the minutes setting mode ("c.6" is displayed), the display returns to "F1" (function settings), then after 10 seconds automatically returns to the normal mode ("01" is displayed).

**Preparation:** Connect the copyboard's AC power plug to a wall power outlet.

**Example:** Set the time to 2:16 pm, November 8, 2008 (2008.11.08 14:16).

### 1 Press the ON/Standby button to switch on the power.

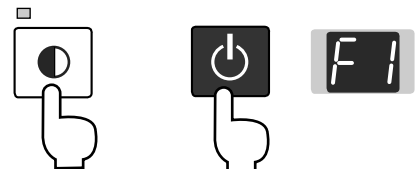
The LED of the display window will light and the power will be switched on.



### 2 Press the ON/Standby button while holding down the Density button to switch to "Function Settings"

The LEDs on the display window display "F1".

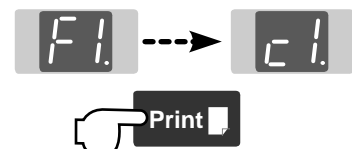
If no button is operated for 10 seconds, the set returns to the normal mode.



### 3 Press the Print button while "F1" is displayed to finalize.

The mode switches to the time setting mode (c1).

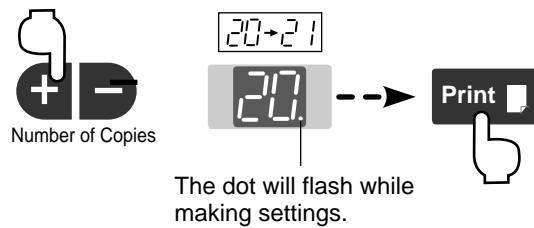
If no button is operated for 10 seconds while in the time setting mode, the mode switches to the function settings mode.



**4 Press the + button or the - button, select 20 (the first 2 digits of the year), and press the Print button to finalize.**

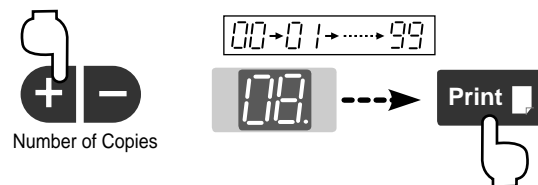
There will be a change to the "last 2 digits of the year" setting mode (C2 display).

- The factory default setting is 20. Pressing the Print button in this condition will result in a change to the "last 2 digits of the year" setting mode.



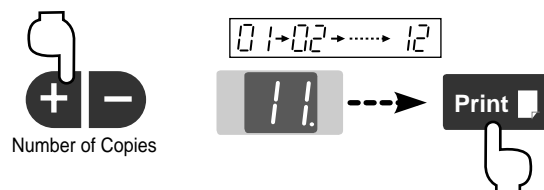
**5 Press the + button or the - button, select 08 (the last 2 digits of the year), and press the Print button to finalize.**

There will be a change to the "month" setting mode (C3 display).



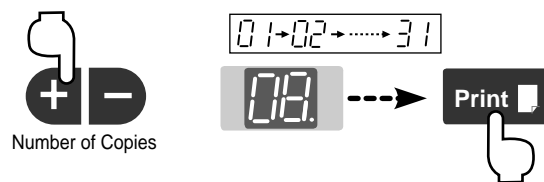
**6 Press the + button or the - button, select 11 (the month), and press the Print button to finalize.**

There will be a change to the "day" setting mode (C4 display).



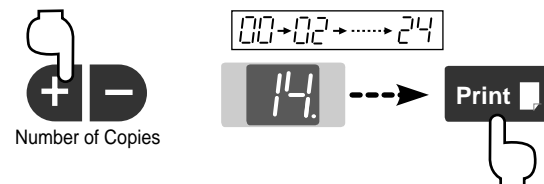
**7 Press the + button or the - button, select 08 (the day), and press the Print button to finalize.**

There will be a change to the "hour" setting mode (C5 display).



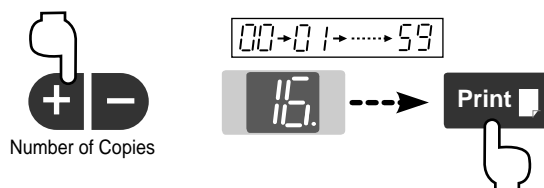
**8 Press the + button or the - button, select 14 (the hour of the 24-hour display), and press the Print button to finalize.**

There will be a change to the "minute" setting mode (C6 display).

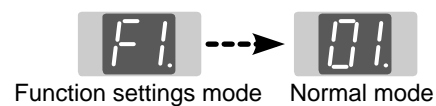


**9 Press the + button or the - button, select 16 (the minutes), and press the Print button to finalize.**

The display returns to "F1" (function settings mode).



The display returns to the normal mode (the number of copies ("01") is displayed) if you wait 10 seconds or press the ON/Standby button.



**This completes the time setting.**



# 8. FUNCTION SETTING

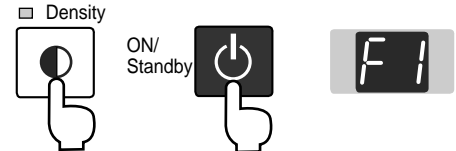
The copyboard includes such advanced functions as the Erase Reminder function that can be set directly using the operation buttons on the copyboard. The advanced functions can also be set from the function settings in the "TOOLBOX" menu installed in a computer (See the separate "Software Operation Manual".)

## 8-1. Basic Setting Operations


- Check that the power is turned on (that the display window is lit).
- When in the Function Settings mode, the copyboard returns to the normal mode if no button is operated for 10 seconds.

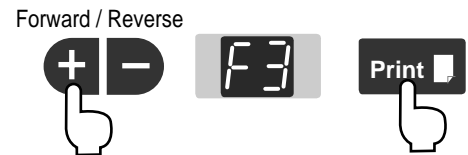
### 1 Switching to the function settings mode

Press and hold in the Density  button, then press the ON/Standby  button. "F1" appears on the display window.



### 2 Selecting the function number



Press the + or - button to display the desired function number (the number changes each time one of the buttons is pressed), then press the Print  button to finalize.

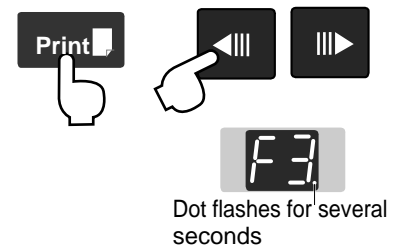


### 3 Selecting the function's setting

Press the Page change  /  button to select the function's setting, then press the Print  button to finalize.

When finalized, the dot next to the function number ("F3." for example) flashes for several seconds.

- When the Page change  /  button is pressed, the selected mode is indicated by whether the Density mode and Color mode lamps are on or off. For details, see the "Table of Function Numbers, Selected Modes and Lamp Statuses".



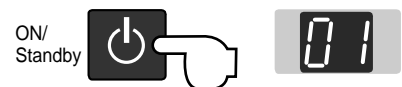
Ex.: Lamp statuses when selecting the Erase Reminder function's mode



- Use the + and - buttons to select the date and time when setting the clock.

### 4 Quitting the function settings mode Press the ON/Standby button to return to the normal mode.

The number of copies reappears on the display window.



### 8-2. Table of Function Numbers, Selected Modes and Lamp Status

When at step 2 under "Basic Setting Operations" on the previous page, display the number of the function you want to set on the display window.

At step 3, check whether the lamps are lit or off as indicated for the desired mode.

Function number (Display window)	Function name	Description of function	Selected mode	Density mode lamp	Color mode lamp
F1	Time setting	Setting of the date and time for the time stamp	See page 23		
F2	Header/footer	Setting of the time stamp written when saving: By factory default Header/footer data output: Original editing *1	Disable	<input type="checkbox"/> Density Unlit	<input checked="" type="checkbox"/> Color Lit
			Enable	<input checked="" type="checkbox"/> Density Lit	<input type="checkbox"/> Color Unlit
F3	Erase reminder	Sheet rear surface erase reminder function	Disable	<input type="checkbox"/> Density Unlit	<input checked="" type="checkbox"/> Color Lit
			Enable	<input checked="" type="checkbox"/> Density Lit	<input type="checkbox"/> Color Unlit
F6	Paper size	Setting of printing paper size	A4	<input type="checkbox"/> Density Unlit	<input checked="" type="checkbox"/> Color Lit
			Letter	<input checked="" type="checkbox"/> Density Lit	<input type="checkbox"/> Color Unlit
F7	Resolution	Setting of resolution for images stored in the memory and images transferred to the computer	Standard	<input type="checkbox"/> Density Unlit	<input checked="" type="checkbox"/> Color Lit
			High	<input checked="" type="checkbox"/> Density Lit	<input type="checkbox"/> Color Unlit
F8	Image format	Setting of format of images stored on the USB memory device	JPEG	<input checked="" type="checkbox"/> Density Lit	<input type="checkbox"/> Color Unlit
			PNG	<input type="checkbox"/> Density Unlit	<input checked="" type="checkbox"/> Color Lit
			PDF	<input checked="" type="checkbox"/> Density Lit	<input checked="" type="checkbox"/> Color Lit
F9	Test print	Print copyboard's pre-stored test pattern	_____		
Fb	Restrict color mode	Setting for disabling printing/storing in the color mode	Enable	<input type="checkbox"/> Density Unlit	<input checked="" type="checkbox"/> Color Lit
			Disable	<input checked="" type="checkbox"/> Density Lit	<input type="checkbox"/> Color Unlit
Fc	Factory reset	Reset all the settings to their factory defaults	_____		

: Factory defaults.

\*1) For instructions on editing the header/footer, see the "Software Operation Manual".

## 8-3. Factory Defaults

The "Settings" menu of the "PLUS TOOLBOX" software in the included CD-ROM can be used to change the copyboard's settings.

For setting instructions, see the separate "Software Operating Instructions". Below are the setting items and factory defaults.

Setting item	Description	Factory default
Date/time setting	Set of the date and time for the time stamp	Japan Standard Time
File Format	Sets the format of the images stored on the USB memory device. JPEG/PNG/DF	PNG
Paper Size	A4/Letter	A4
Aspect Ratio	Sets the aspect ratio for printed images. Original Image/Match Paper Size	Match Paper Size
Erase Reminder	Sheet rear surface erase reminder function: Disable/Enable	Disable
Restrict color mode	Setting for disabling printing/storing in the color mode	Disable
Resolution	Selection of resolution for images stored in the memory and images transferred to the computer : Standard Standard : 1/2 the vertical/horizontal size of the scanned image High : 1/1 the vertical/horizontal size of the scanned image	Standard
Header/footer (date/time stamp)	Upon shipment from factory : Writing of date/time when printing/storing : Enabled/Disabled Original editing : Header/footer data output *	Enabled

\* The date/time stamp can be displayed at the user's discretion as part of the header/footer data.  
Upon shipment from the factory, only the time stamp is displayed.

## 8-4. Updating the Internal Program of a Main Set

Update an internal program from PC using software PLUS TOOLBOX or update a program using USB memory. Rewrite a program in the procedure below using PC or USB flash memory (hereinafter referred to as USB memory).

m125XX\_XX.mot. Major version: XX/Minor version: XX

Example: m125\_01\_00.mot

- Connect PC, in which software PLUS TOOLBOX was installed, using a USB cable when updating the internal program of this set from PC.

### [Program updating during use of PC]

Equipment required (including software)

- Program file for M-125
  - PC main set (USB terminal 1.1 or more: Software M-125 series PLUS TOOLBOX has been installed.)
  - USB cable
1. Save a program file (example: m125\_01\_00) for M-125 in PC.
  2. Display the main menu of software "PLUS TOOLBOX" in PC.
  3. Pull out the power plug when the power plug of the main set is connected to the wall outlet.
  4. Connect the power plug of the main set to the wall outlet while pressing and holding the "Save" button.
  5. "UP" blinks on the display window.
  6. Click [Open file] and display the screen for opening a file.
  7. Display an update file for M-125, select a file (example: C:XXXX.m125\_01\_00.mot), and click the [Open] button.
  8. Click the [Update] button and start the updating of an internal program.  
During program rewrite: The display window rotates during display. (Time required: Approx. two minutes)
  9. Updating is completed when "AA" blinks on the display window. Click [Close] on the PC screen display for termination.
  10. Pull out the AC adaptor of the M-125 main set once, insert the AC adaptor again, and press the "Power" button of the M-125 main set.

\* Do not turn off the power during write operation.

\* The indication on the display window may vary depending on the program version or IPL version of the main set.

### [Program updating during use of USB memory]

Equipment required (including software)

- Program file for M-125
- USB memory

1. Save a program (m125\_01\_00) in the route of USB memory.
2. Press the "Power" button of the M-125 main set to turn on the power and insert the USB memory into the USB memory port.
3. The USB memory is recognized, a file is automatically detected, and the current software version shown on the display blinks during updated. Display example: "01" ...
4. A program is updated when you press the "Save" button of the M-125 main set. (During program rewrite: The display window blinks during display.)
5. A new program version is shown on the display when update is completed. Display example: "01"
6. Remove the USB memory and press the "Power" button of the M-125 main set to turn off the power.
7. Pull out the AC adaptor of the M-125 main set once, insert the AC adaptor again, and press the "Power" button of the M-125 main set.

\* Do not turn off the power during updating operation.

- Segment display "E.E.": Indicates the state in which no sheet length and white level data exist. In this case, perform calibration.

# 9. ADJUSTMENT

## 9-1. CCD Adjustment

### Tools Required

- Phillips screwdriver (+) No.2
- Oscilloscope

**Adjustment is required in the following cases. (Calibration operation is also required after adjustment.)**

- When a CCD Board Assy is replaced
- When adjustment got out of order due to the failure during arrival of products
- When the picture quality deteriorates remarkably

### Preparation

Turn ON the power of an oscilloscope. Clean the plate surface.

\* Insufficient cleaning influences the subsequent calibration. Color irregularity may sometimes occur in this case.

### CCD adjustment procedure

- 1) Shift the rear panel to the right side (LED side) so that the Main Board Assy can be viewed.
  - \* At that time, put a Back Panel completely to the end of the main board Assy so that the outer light does not influence the CCD waveform.
- 2) Connect the probe of an oscilloscope to the Main Board Assy. (See Figure 1.)
  - Connect GND in Ch1 to J2, connect the measurement pin in Ch1 to J1.
  - Connect GND in trigger (or Ch2 ) to J4.
  - Connect the measurement pin in trigger (or Ch2 ) to J3.
  - Set the Ch1 mode to 1.0 V/DIV AC.
  - Set the trigger to 2 V/DIV DC.
  - Set the sweep to 400 ~ 500 $\mu$ sec/DIV.
  - \* Set the trigger to EXT or Ch2. Only Ch1 is displayed.
  - \* For a new Main Board Assy volume control R82 is not installed because of automatic adjustment.

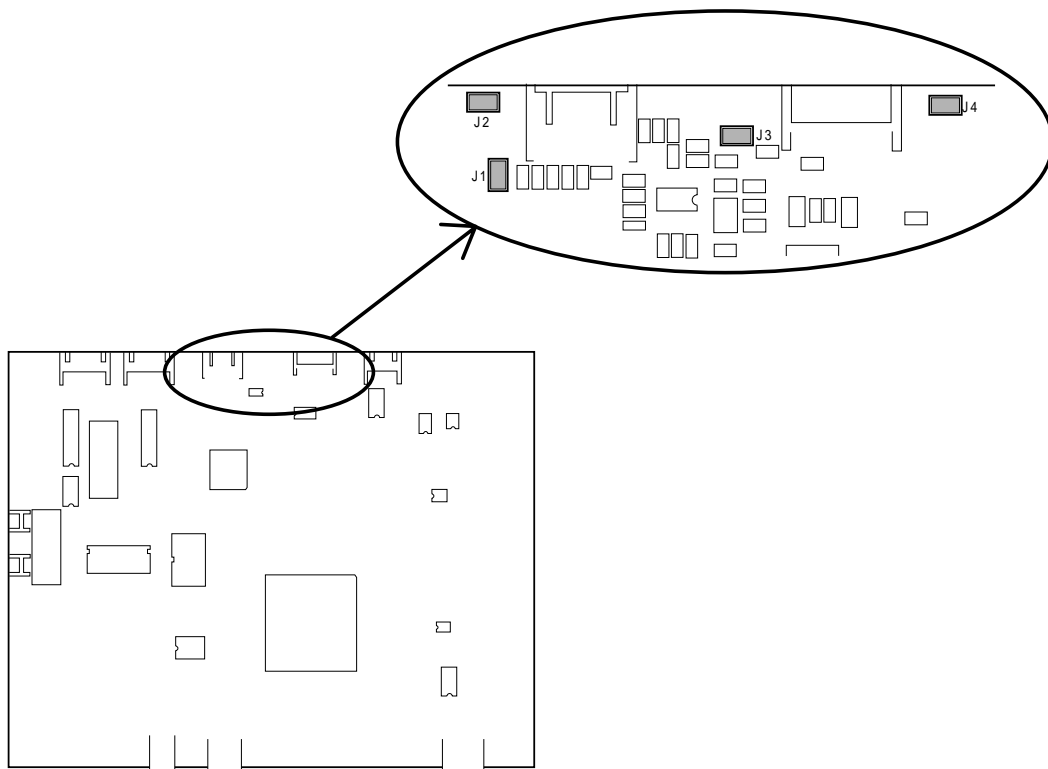


Fig. 1 Main Board Assy

### 3) Temporary focus adjustment

Adjust the lens to the reference position and fix the two lens fixing screws temporarily. (See Figure 2.)

\* Install the lens so that the lens marking is located horizontally and toward you.

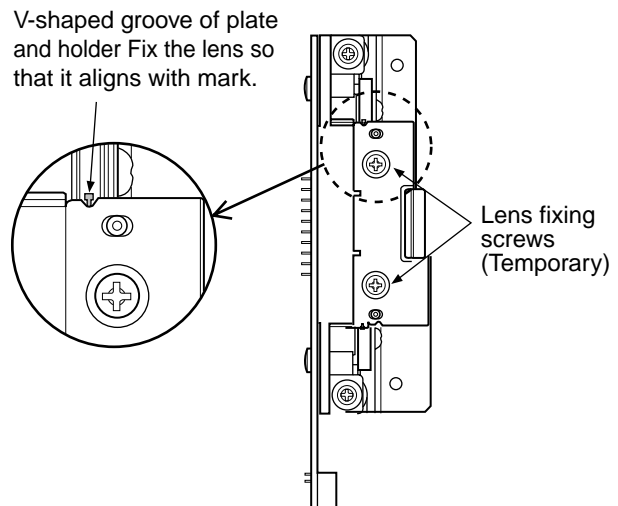


Fig. 2 Temporary focus adjustment

### 4) ① Clean the plate surface and then write a CCD adjustment pattern.

#### From power OFF condition

1. Press the Power button to enter the AP mode while pressing and holding the + and - buttons. ("AP" is displayed on LED.)
2. Press the Screen button to enter the five-plane extended test mode. ("8" displayed on LED.)
3. Press the Color button to execute the page position initial processing. (A sheet moves to page 1.) ("8.7" is displayed on LED.)
4. Draw three horizontal lines (of 100 mm) in the ruled lines (uppermost, center, and lowermost parts) of a sheet in black for each page.
  - \* Ninth ruled line including the center and uppermost parts
5. Draw a vertical line (of 4 to 5 mm thick) for the horizontal line in the center part at intervals of two scales (100 mm) and then draw a vertical line of one scale (50 mm) on the upper and lower ends.
6. Turn off the power.

#### Note:

1. Draw so that three vertical lines are perpendicular to the same line.
2. Draw the vertical lines more thickly and perform tentative adjustment when it is difficult to perform adjustment. After that, return the vertical lines to the former state and perform accurate adjustment.
3. In the sheet position, a page sensor must exist between B and G during page initial processing. (The sheet cannot properly move to page 1 when the page sensor does not exist between B and G.)

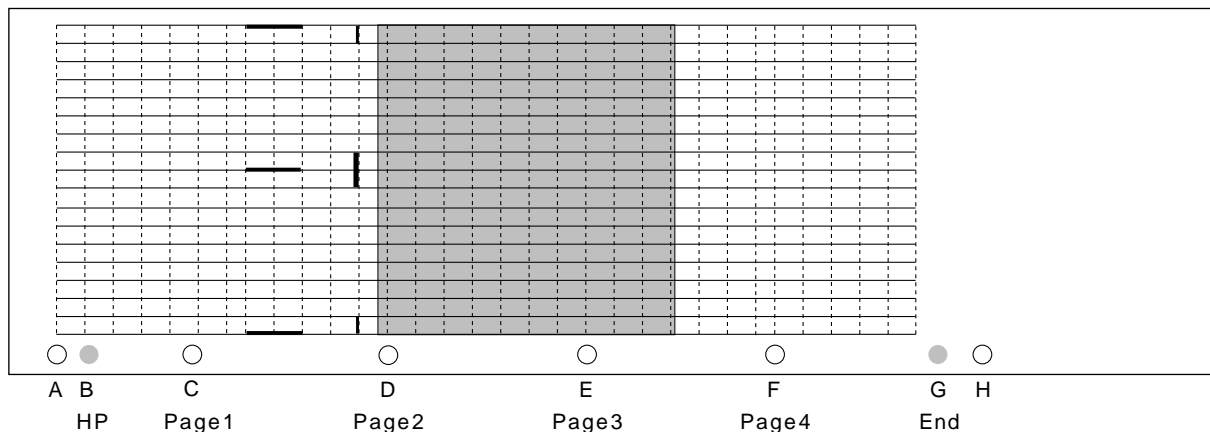


Fig. 3 CCD Adjustment pattern



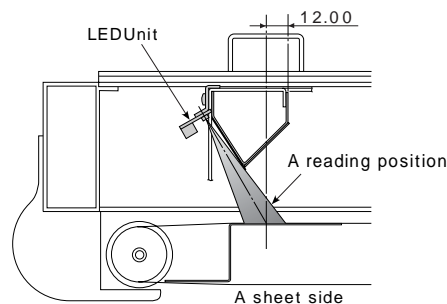
- ② Move an adjustment pattern to the CCD read position.

**From power OFF condition**

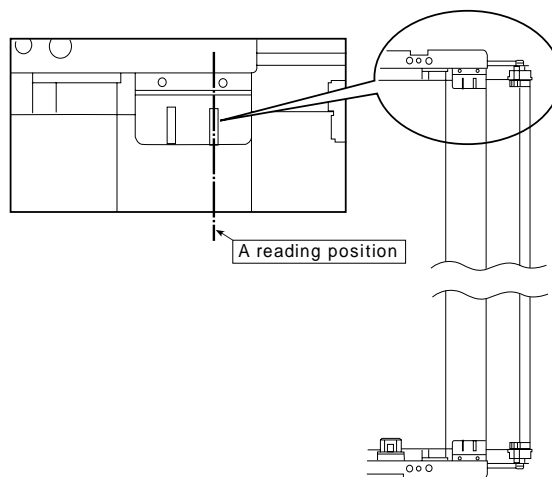
1. Press the Power button to enter the AP mode while pressing and holding the + and - buttons. ("AP" is displayed on LED.)
2. Press the Additional print button to enter the CCD adjustment mode. ("6" is displayed on LED.)
3. Press the Print button to turn on LED. ("6" is displayed on LED.)
4. Press the page selection button and move the three vertical lines at the top and bottom and in the center near the center of LED irradiation on the sheet surface. ("6.1" or "6.2" is displayed on LED.)
5. Press the + and - buttons to release or fix the sheet latch and move the paper tube manually. Then, perform fine-adjustment and move the paper tube to the read mark position (see the figure) of a sheet frame L guide. At that time, tension is applied to tighten the sheet. ("6.3" or "6.4" is displayed on LED.)
6. Turn off the power.

**Note:**

A current continuously flows through the solenoid for the latch during the operation. Therefore, be sure to turn off the power immediately after fine-adjustment is performed.



Reading position-1



Reading position-2

- 5) Put the set into the CCD adjustment mode.

Turn OFF the POWER.

1. Turn ON the ON/Standby button while pressing and holding the "+" and "-" buttons, so the LED display is "AP".
2. Press the "Reprint" button, so the set is put into the CCD adjustment mode. (LED display is "6".)
3. The light-source LED lights in red when you press the Reprint button. After that, LED repeatedly lights in green, blue, and red during "additional print". The numeric LED displays the saturation amount (%) of a waveform at that time. (See Figure 4.)

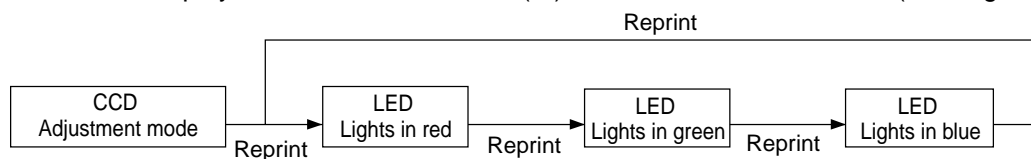


Fig. 4 Adjustment mode sequence

- 6) Adjustment of oscilloscope

Adjust the trigger level and Ch1 vertical position so that a CCD waveform appears on the oscilloscope display with the light-source LED turned on in red. Adjust the horizontal position, luminance, and focus. (See Figure 5.)

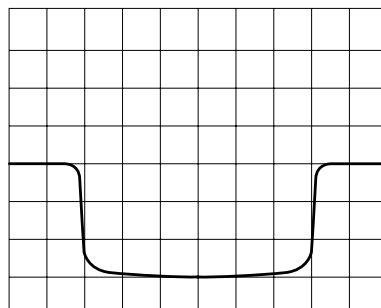


Fig. 5 CCD waveform (Adjustment of oscilloscope)

## 7) CCD monitoring angle adjustment

Turn the CCD position adjustment screws (see Figure 6.) so that the waveform on the oscilloscope is symmetric on the right and left and so that the three vertical lines at the upper, middle, and lower positions can be read in the same level. Then, fix the screws. (See Figure 6.)

### Note:

Fix the CCD fixing screw tentatively so that the CCD Holder smoothly moves and does not float from the Lens Holder.

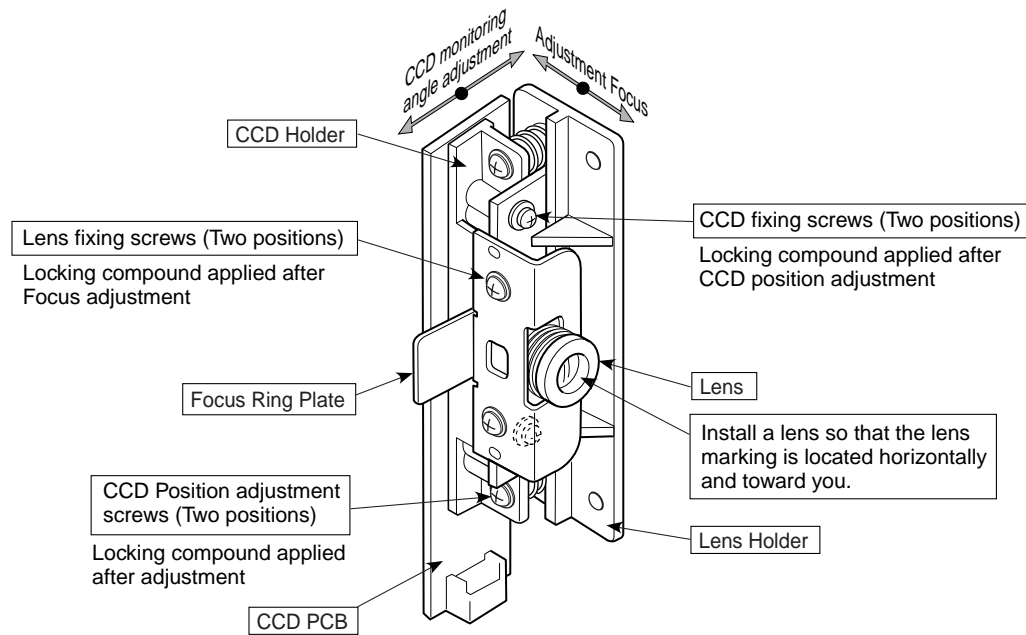


Fig. 6 CCD adjustment screws

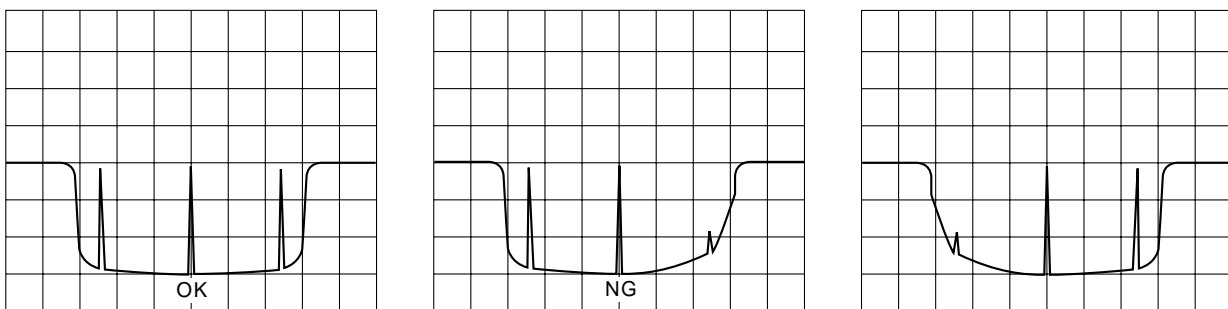


Fig.7 CCD waveform (Monitoring angle adjustment)

### 8) Focus adjustment

Move the sheet so that an adjustment pattern is displayed on the oscilloscope.

Move the sheet so that three horizontal adjustment patterns are displayed on the oscilloscope.

Monitor the display on the oscilloscope and move the lens so that the displayed waveform is sharp. Adjust the focus and fix the lens fixing screws (see Figure 2). (See Figure 8.)

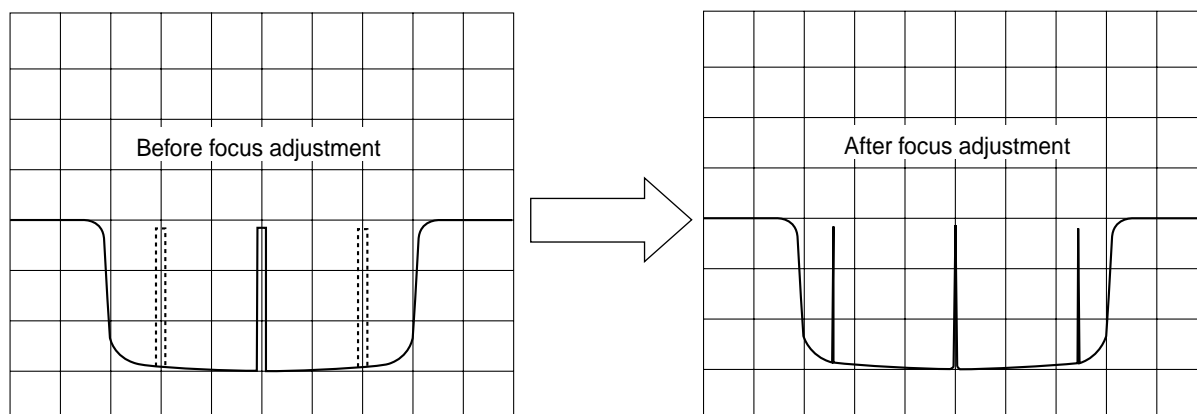


Fig.8 CCD waveform (Focus adjustment)

### 9) Waveform confirmation

The brightness of the light-source LED is automatically adjusted by CPU when you press the Screen button in the CCD adjustment mode.

Confirm that the shape of the waveform automatically adjusted for each color (R.G.B) is equal on the right and left.

### 10) Page initial processing

#### **Power OFF**

1. Press the Power button to enter the AP mode while pressing and holding the + and - buttons. ("AP" is displayed on LED.)
2. Press the Screen button to enter the five-plane extended test mode. ("8" is displayed on LED.)
3. Press the Color button to execute the page position initial processing. (A sheet moves to page 1.) ("8.7" is displayed on LED.)
4. Turn off the power.

#### **Note:**

Be sure to perform the page initial processing after CCD adjustment is completed. The actual page differs from the page display LED if the page initial processing is not performed.

**9-2. Calibration procedure**

- 1) Write a calibration pattern on the left end of page 1.
  - Draw three horizontal lines (100mm) of two scales in the ruled lines (uppermost, center, and lowermost parts) of a sheet in black. (See Figure 10. )
  - Draw one vertical line for the horizontal line in the center part at intervals of two scales (100mm).

\*1 Clean the sheet surface on pages 1 and 2 sufficiently. (Clean the diagonally striped portion in the figure below well.)

\*2 When performing calibration, close the back panel completely and take care that any external light is not put.

\*3 Shift to the five-plane extended test mode and CCD adjustment mode before moving the sheet when a sheet cannot be moved using a page change-over button because of the damaged calibration data. (For more details, see P.30, 31.)
- 2) Press the Page selection button on the operation panel of this set and move to page 2.  
 Note: Do not perform calibration from the first page.
- 3) Start calibration.(Calibration time required: Approximately 4 minutes)
  - Press the ON/Standby button and turn off the power.
  - Turn ON the ON/Standby button while pressing and holding the “+” and “-” keys.
  - LED display is “AP”.
  - Press the Print button, so calibration starts. (LED display “2.”)

Display

**Start Calibration**

1. When Calibration is started. ....<2.SPC>\*
2. Rewind a sheet to the start position. ....<2.A>
3. Measure the interval of a hole. ....<2.b>
4. LED for light quantity adjustment. ....<2.c>
5. Search the place where a vertical line is written. ....<2.d>
6. Move the sheet to the position where reference data is gotten. ....<2.E>
7. Get the reference data. ....<2.F>
8. Move the sheet so that the center of a horizontal line is almost put in the image pickup range of CCD. ....<2.G>
9. Write the following data into flash ROM. ....<2.H>

Operation is normally terminated when <A A> display appears. Turn off the power in this case.

- \* SPC indicates the non-lighting state.
- \* <0.0.> is displayed respectively when an error occurred.
- \* If an error is displayed, confirm the dirt on the sheet surface and a calibration pattern and perform calibration again.

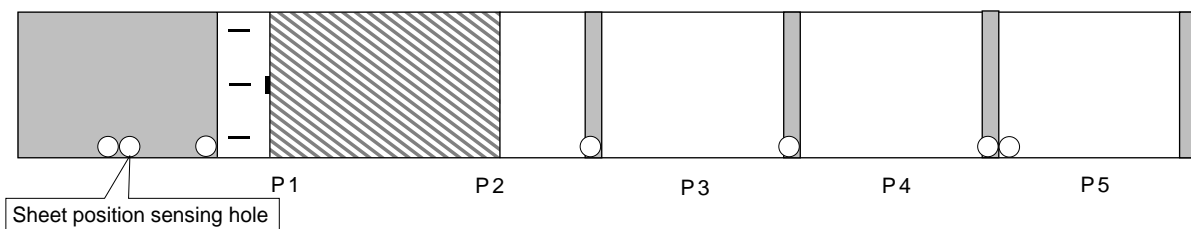
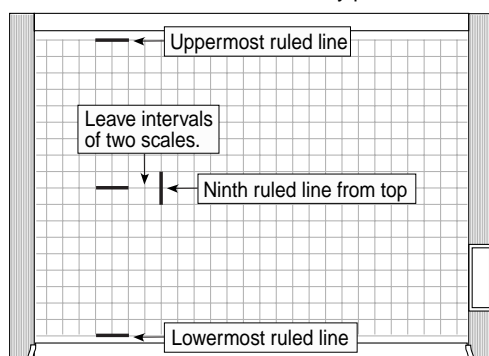


Fig.10 Calibration pattern

Draw the lines below in the arbitrary position on the plate surface using a marker.



- a. Draw three horizontal lines (of 100 mm) in the ruled lines of a sheet. Draw one horizontal line in the uppermost ruled line, draw one line in the lowermost ruled line, and then draw one line in the center (the ninth ruled line from the upper part).
- b. Draw a vertical line of 100 mm (corresponding to the ruled line of two scales) at intervals of 100mm.

## 4) Confirmation of printing

Make a copy using four-color markers.

At that time, confirm that the data written in the inner position about 10 mm away from the portion where the upper and lower sheets can be viewed is printed.

\* The outside range (about 30 mm) of a ruled line is also valid.

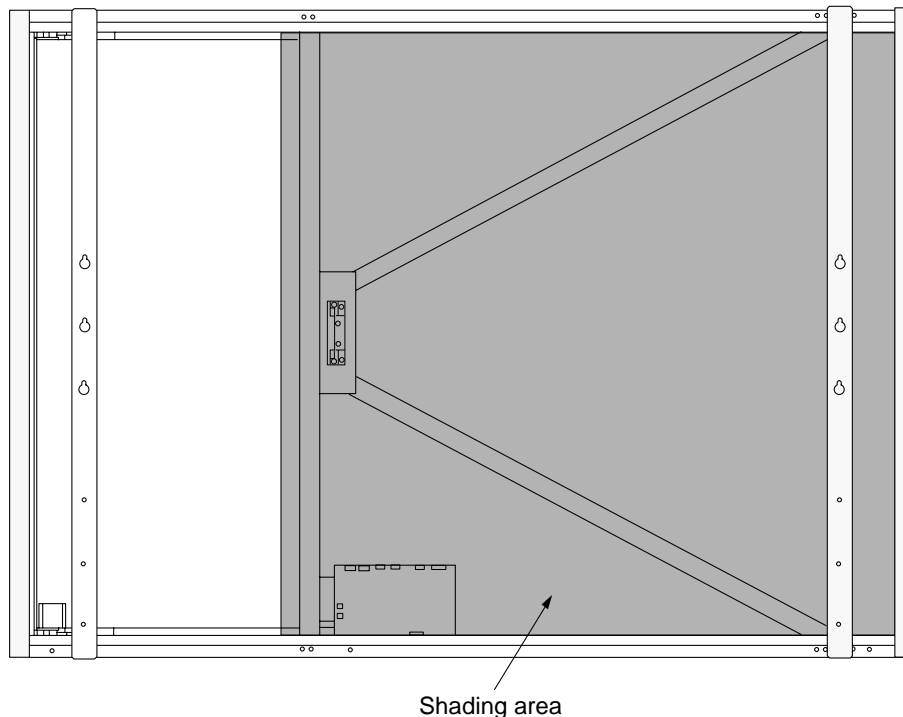


Fig.11 Shading area

## 9-3. Tension Adjustment of Timing Belt

The tension of a timing belt must be adjusted when the Sheet Motor Assy is replaced and removed.

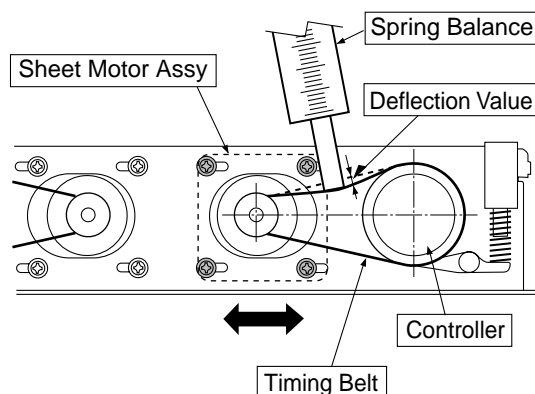
### Tool required

- Spring balance

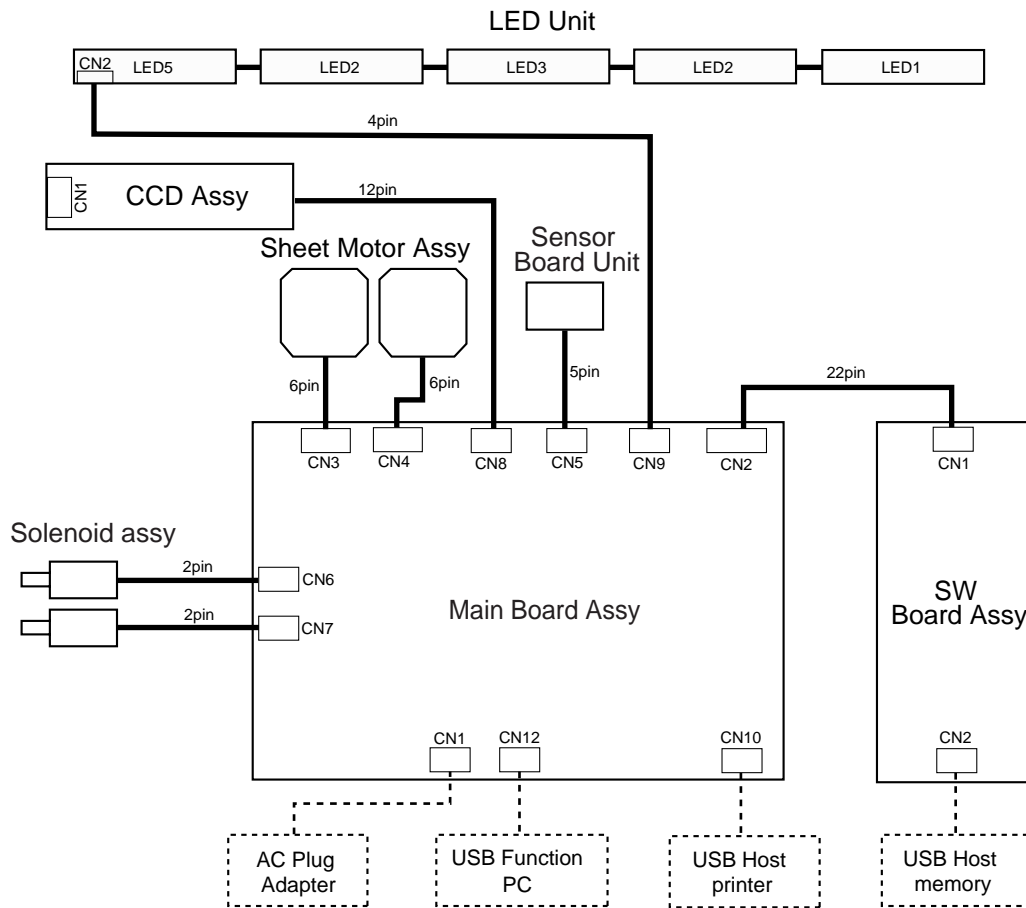
\* Tension is adjusted so that the belt does not slip and get out of position at all times when there is not a spring balance.

**Adjustment** (See the illustration shown below.)

- Fix the Sheet Motor Assy tentatively and measure the tension of a timing belt using a spring balance. (Used as reference during assembling at a factory.)
- Move the Sheet Motor Assy and fix it in the position where proper load is obtained.
- The proper load is 7.9N 500g with the timing belt bent by approximately 5mm ~ 7mm.

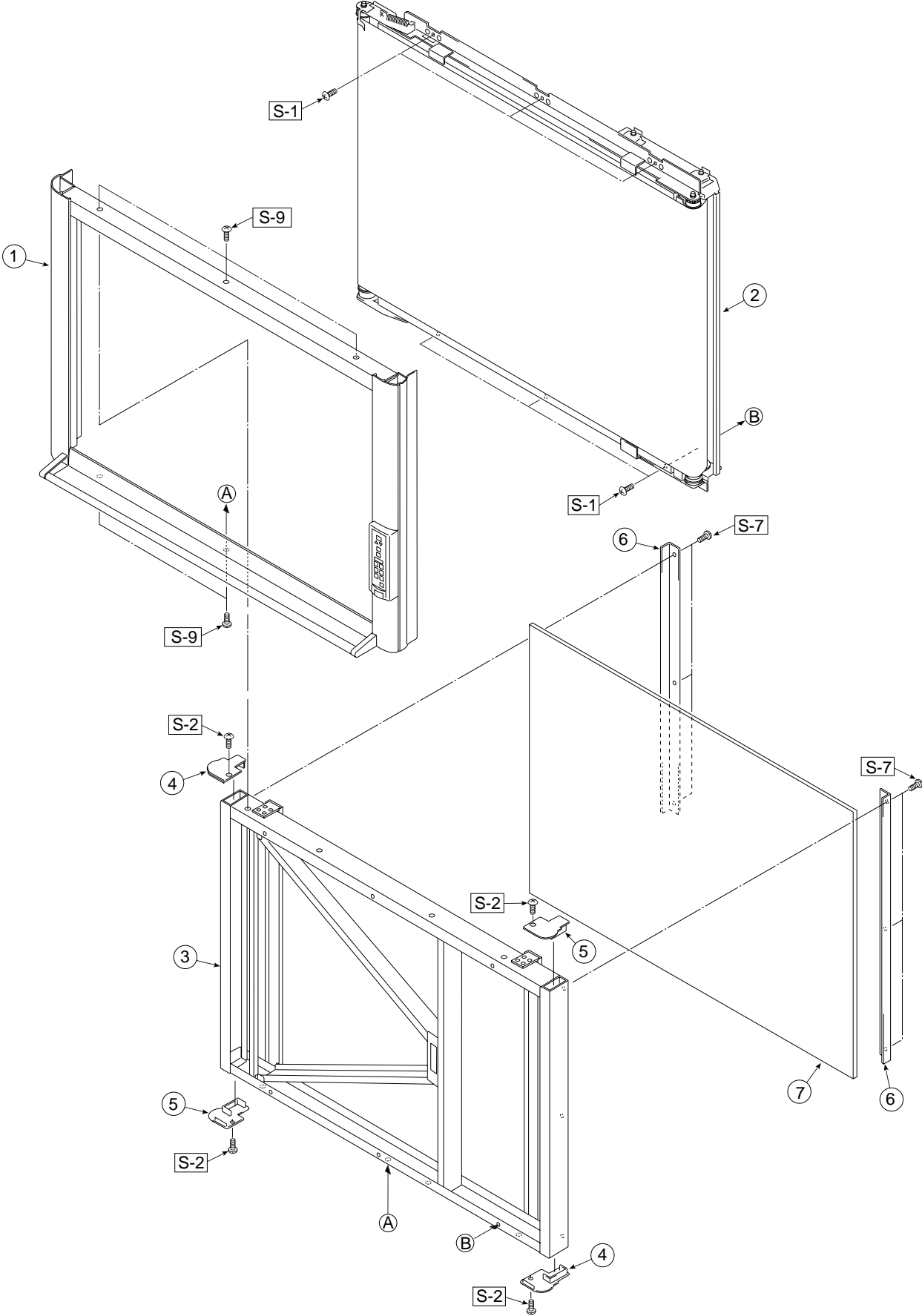


# 10. CABLE AND CABLE CONNECTION



# 11. PARTS LIST

## 1. Overall configuration

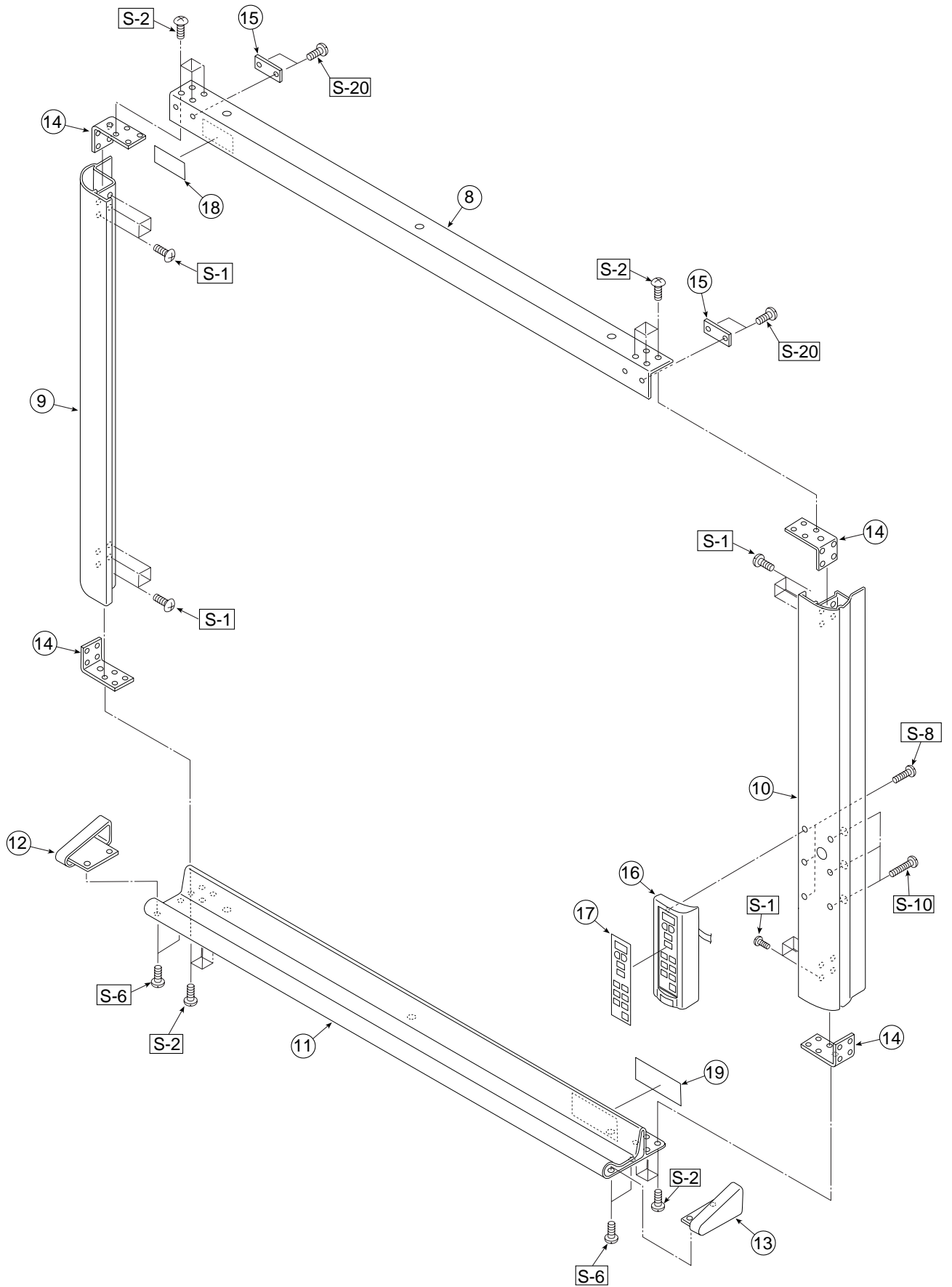


## PARTS LIST

<b>1. Overall configuration</b>				
<b>No</b>	<b>PARTS NAME</b>	<b>PARTS No.</b>	<b>Q' ty</b>	<b>REMARK</b>
1	Frame Cover Unit	-	1	
2	Sheet Frame	-	1	
3	Board Frame	-	1	
4	Cap L	723122100	2	
5	Cap R	723122200	2	
6	Back Panel Corner	-	2	
7	Back Panel S	301101	1	



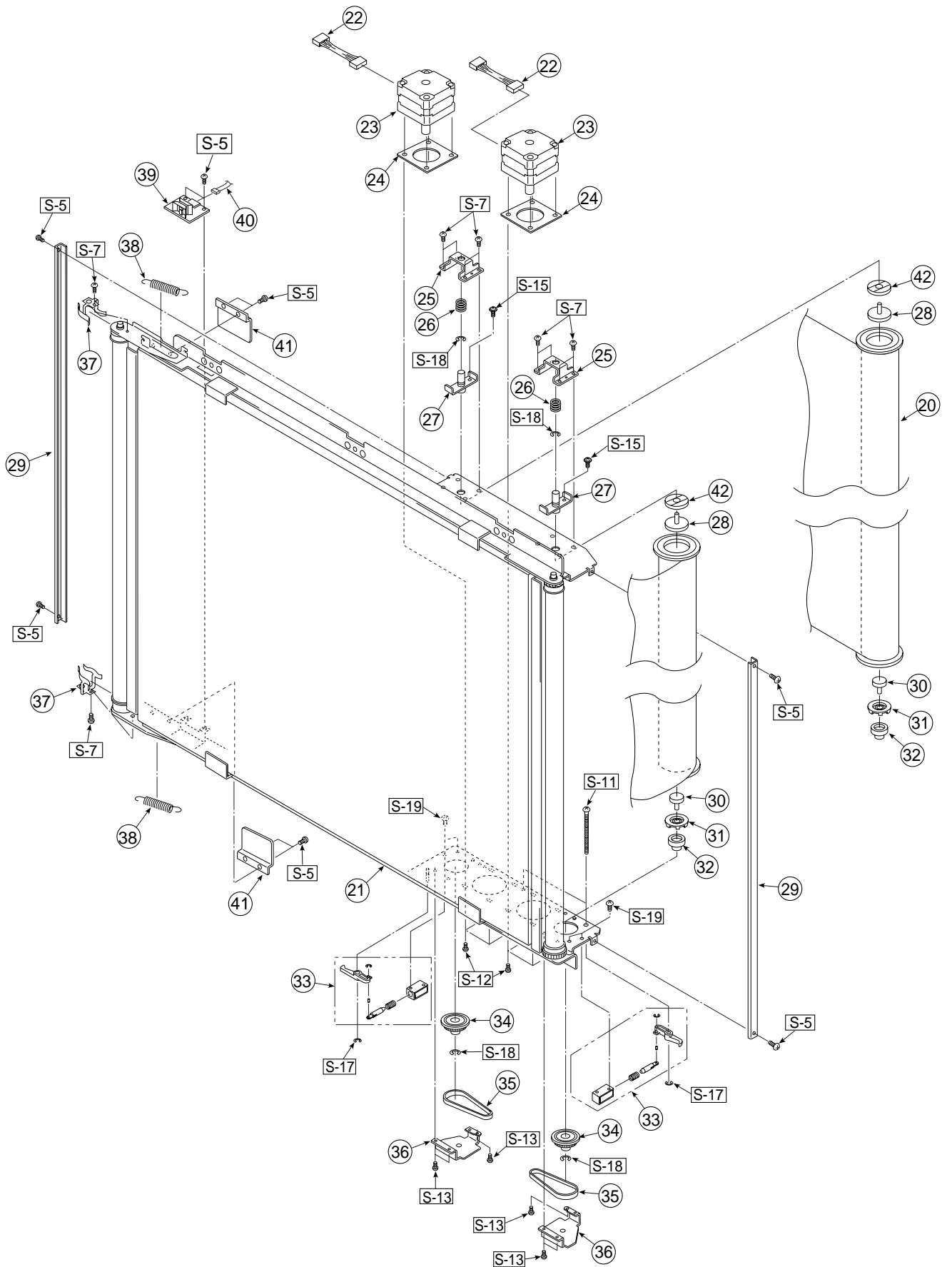
2. Frame Cover Section



## PARTS LIST

<b>2. Frame Cover Section</b>				
<b>No</b>	<b>PARTS NAME</b>	<b>PARTS No.</b>	<b>Q' ty</b>	<b>REMARK</b>
-	Frame Cover UNIT (S)	301203	1	
8	Frame Cover Upper S	-	1	
9	Frame Cover Side L	-	1	
10	Frame Cover Side R	-	1	
11	Frame Cover Lower Unit S	-	1	
12	Cover L	723120700	1	
13	Cover R	723120800	1	
14	Cover Plate	715201000	4	
15	Upper Cover Plate	723131300	2	
16	Switch Box Unit M-125 JPN	-	1	Japan Only
	Switch Box Unit M-125 O/S	723090032	1	
17	Switch Panel M-125 JPN	-	1	Japan Only
	Switch Panel M-125 O/S	723156800	1	
18	Name Plate	723150100	1	
19	Sheet Maintenance Caution Label JPN	-	1	Japan Only
	Sheet Maintenance Caution Label O/S	723153200	1	

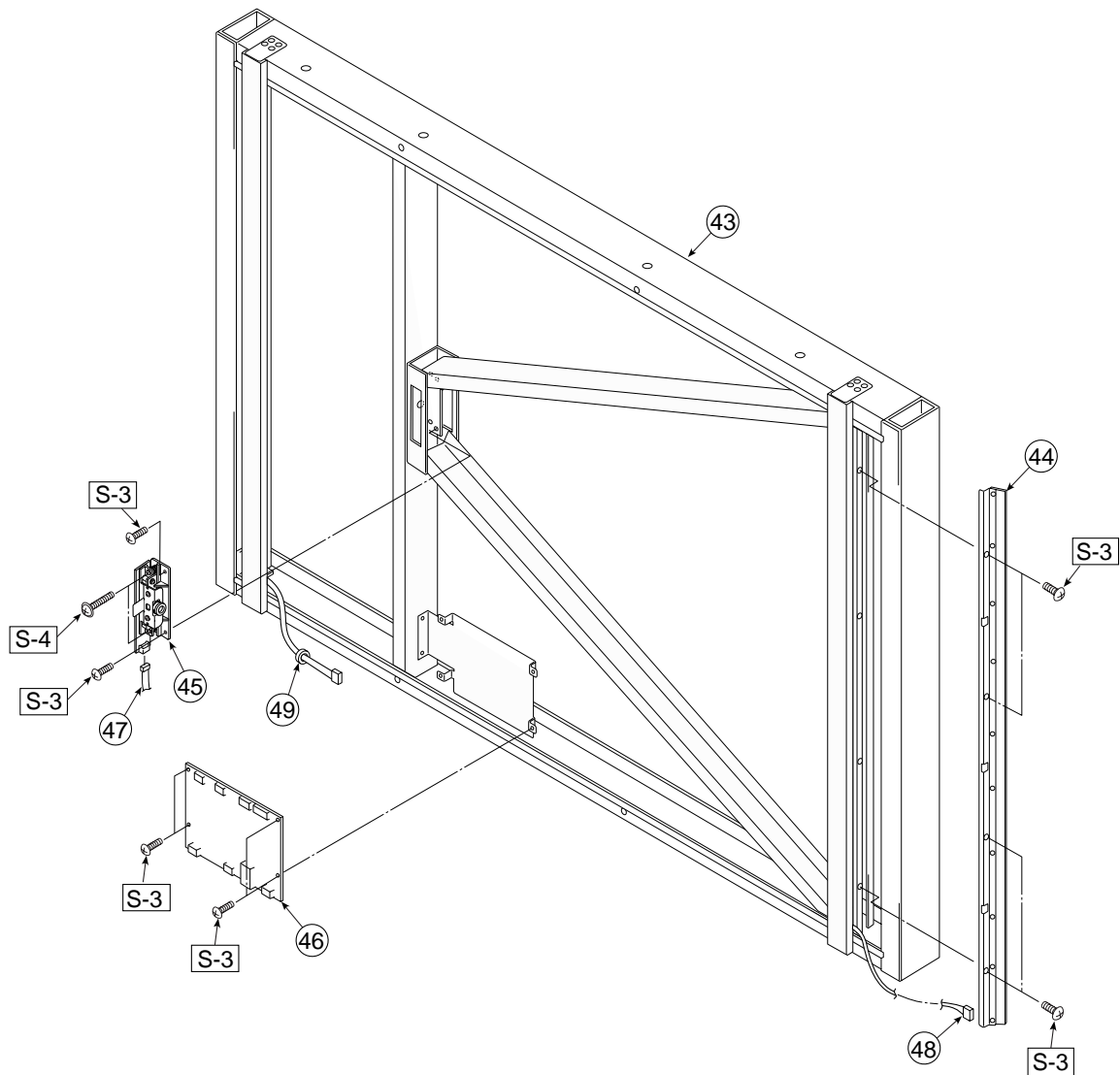
3. Sheet Frame Section



## PARTS LIST

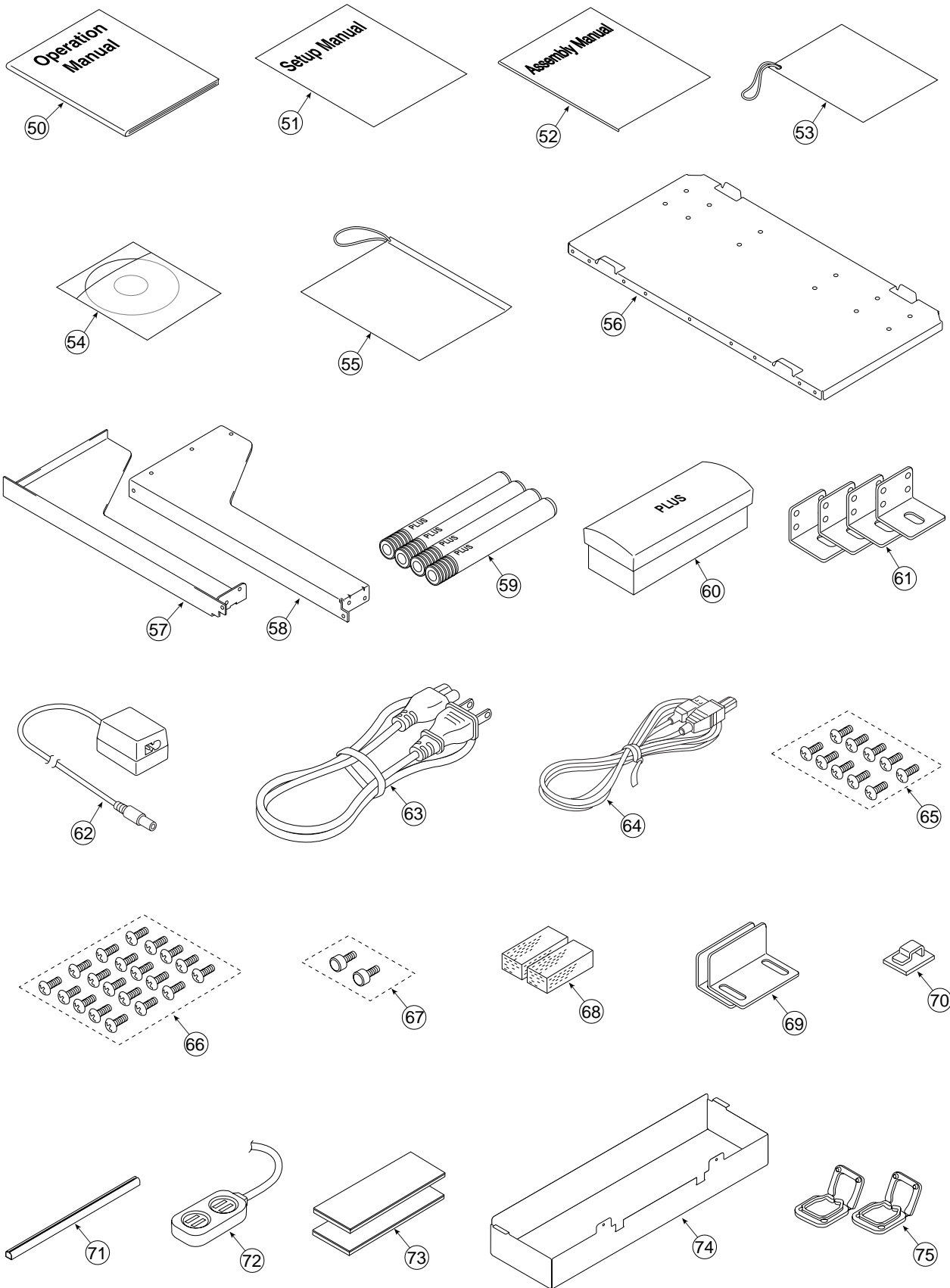
<b>3. Sheet Frame Section</b>				
<b>No</b>	<b>PARTS NAME</b>	<b>PARTS No.</b>	<b>Q' ty</b>	<b>REMARK</b>
20	White Sheet M-115	301116	1	
21	Sheet Frame Unit M-115	301115	1	
22	Motor Harness M-115	715260000	2	
23	Sheet Motor Unit M-115	715090043	2	
24	Motor Rubber	716759300	2	
25	Spring Plate	716758000	2	
26	Sheet Spring	716758400	2	
27	Lever Plate	716758200	2	
28	Sheet Bearing	716758500	2	
29	Angle	714902503	2	
30	Sheet Axis Lower	716758600	2	
31	Sheet Roller Bearing	714200100	2	
32	Oilless Bush	716760500	2	
33	Solenoid Unit M-115	715090049	2	
34	Pulley XL28	714202100	2	
35	Belt 94XL	716754300	2	
36	Gear Plate	714902305	2	
37	Sheet Guide	715352800	2	
38	Sheet Frame Spring	715366000	2	
39	Sensor Board Unit	715260900	1	
40	Sensor Harness	715260600	1	
41	Sheet Frame L Guide	715350900	2	
42	Bearing SP Plate	715363600	2	

**4. Board Frame Section**



<b>4. Board Frame Section</b>				
<b>No</b>	<b>PARTS NAME</b>	<b>PARTS No.</b>	<b>Q' ty</b>	<b>REMARK</b>
43	Board Frame Unit M-115	-	1	No Parts Supply
44	LED UNIT	301109	1	
45	CCD UNIT	715090013	1	
46	Main Board ASSY M-125	723511600	1	
47	CCD Harness	715257700	1	
48	LED Harness	715257900	1	
49	DK Core	714890100	1	

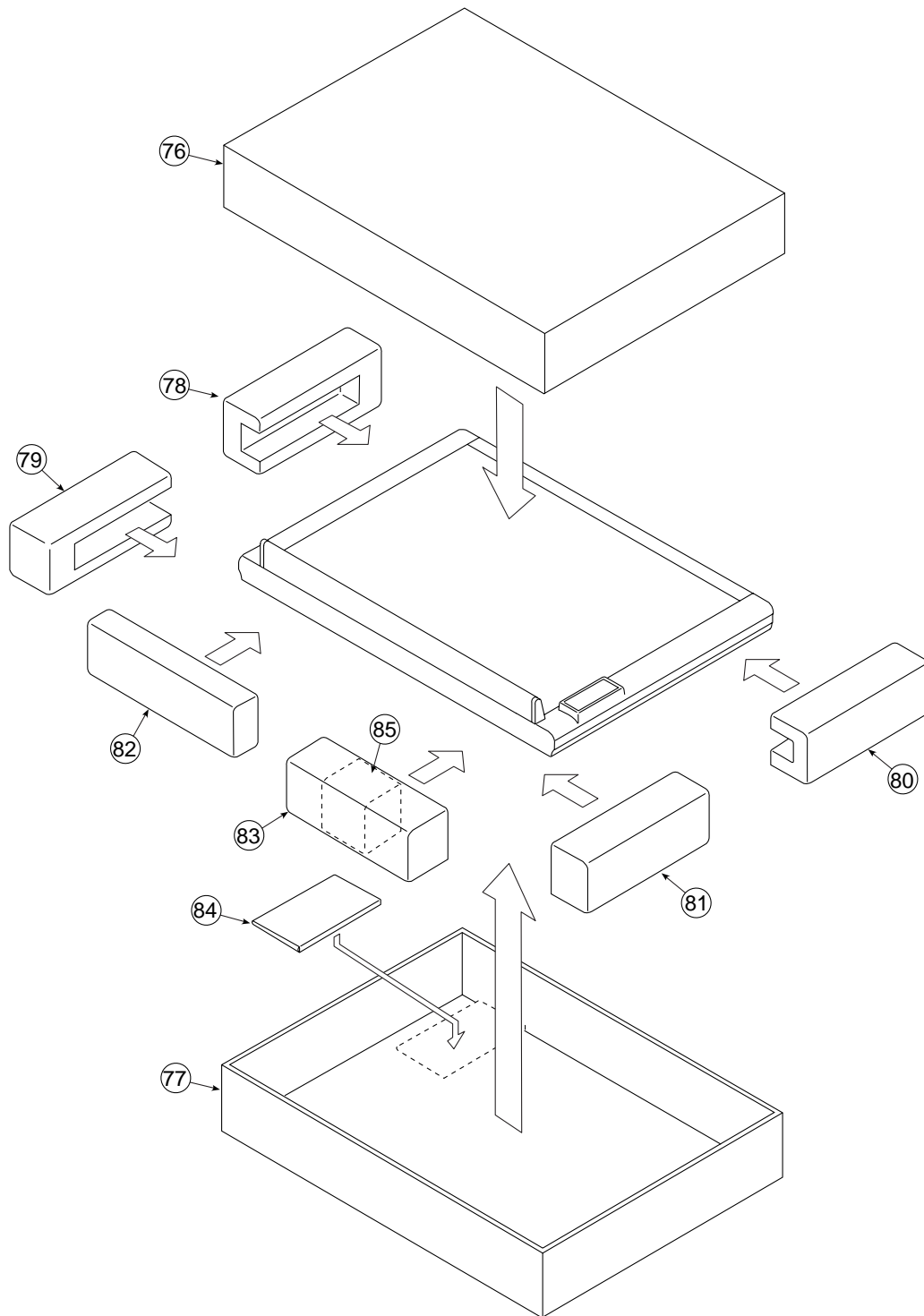
5. Accessories Section



## PARTS LIST

<b>5. Accessories Section</b>				
<b>No</b>	<b>PARTS NAME</b>	<b>PARTS No.</b>	<b>Q' ty</b>	<b>REMARK</b>
50	Operation Manual M-12/125 (J)	-	1	Japan Only
	Operation Manual M-12/125 (O/S)	723460300	1	
51	Software Manual M-12/125 (J)	-	1	Japan Only
	Software Manual M-11/125 (O/S)	723463800	1	
52	Assembly Manual M-12/125 (J)	-	1	Japan Only
	Assembly Manual M-12/125 (O/S)	723460400	1	
53	Quick Guide M-125 (J)	-	1	Japan Only
	Quick Guide M-125 (O/S)	723463500	1	
54	CD-ROM	723555100	1	
55	Manual Case	-	1	Japan Only
56	Printer Platform	715353600	1	
57	Printer Bracket L	715358200	1	
58	Printer Bracket R	715358100	1	
59	Marker Set	-	1	No Parts Supply
60	Dry Eraser	44369	1	
61	Wall Mount Plate	715359900	4	
62	AC Adapter	715259000	1	
	AC Adapter	723582100	1	USA, Oceania Only
63	Power Cable (0.5m) JP	723581100	1	
	Power Cable (2.5m) EU	715259200	1	
	Power Cable (2.5m) UK	715259300	1	
	Power Cable (2.5m) US	715259400	1	
	Power Cable (2.5m) AU	715259500	1	
	Power Cable (2.5m) CH	-	1	
64	USB Cable	715258900	1	
65	M3-6 B-Tight Cross Recessed Binding Head	953430650	10	
66	M4-8 Cross Recessed Binding Head	951240850	20	
67	Hand Screw M4X10	723171100	2	
68	Printer Bracket Spacer	715217700	2	
69	Printer Guide Unit	715090025	2	
70	Quick Guide Hang	715354600	1	
71	Cable Cover (330mm)	723129100	1	
72	Power Strip	-	1	Japan Only
73	Fastener Layer Set 50 X 100	722090012	2	
74	Adapter Box	723131201	1	
75	Edge Folder	723191100	2	

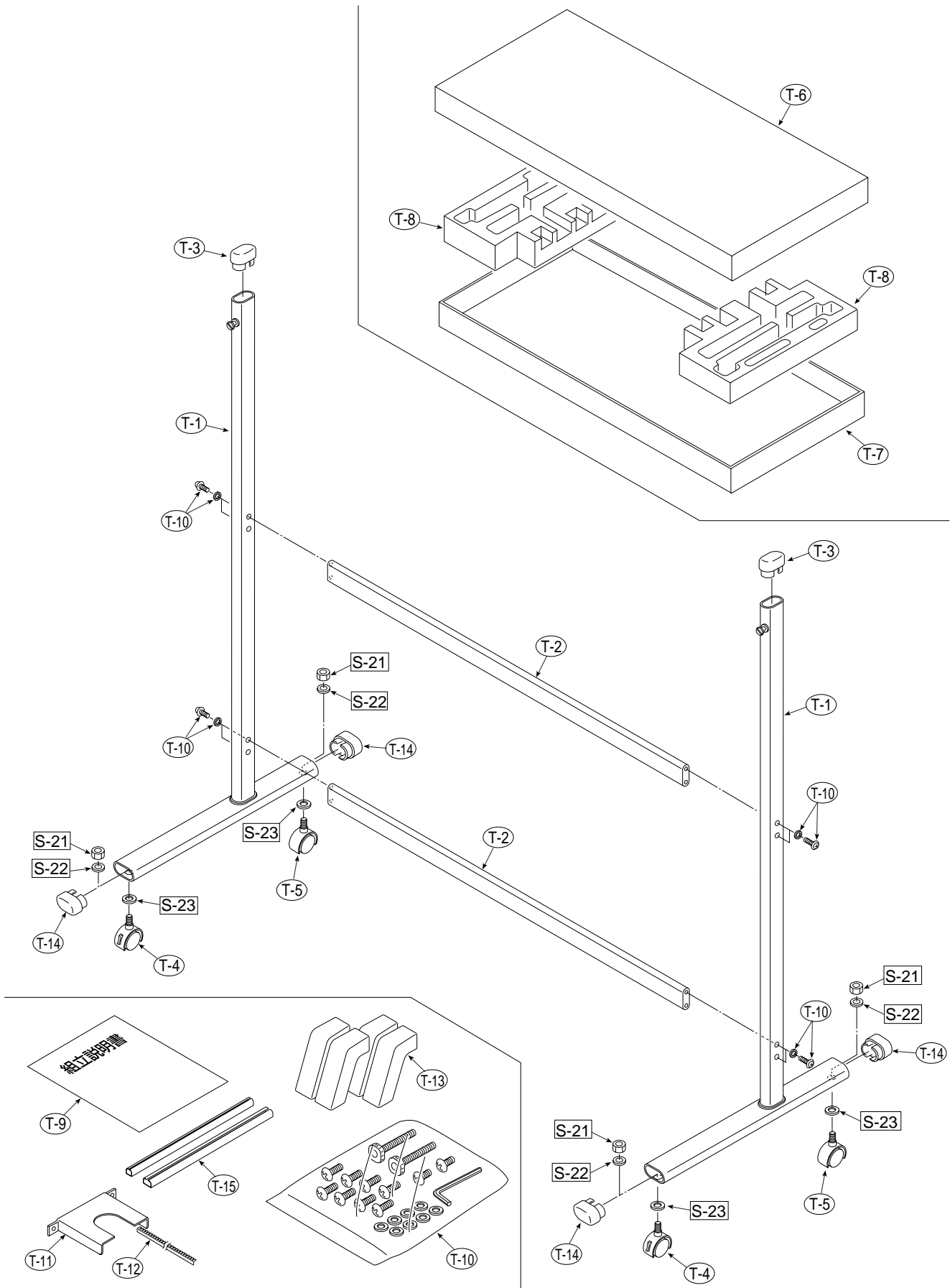
6. Carton & Packing





<b>6. Carton &amp; Packing</b>				
<b>No</b>	<b>PARTS NAME</b>	<b>PARTS No.</b>	<b>Q' ty</b>	<b>REMARK</b>
-	Carton UNIT M-12S	301205	1	
76	Carton Upper M-12S	-	1	
77	Carton Lower M-12S	-	1	
78	Corner Packing Upper (L)	-	1	
79	Corner Packing Lower (L)	-	1	
80	Corner Packing Upper (R)	-	1	
81	Corner Packing Lower (R)	-	1	
82	Accessory Box	-	1	
83	Push Box Accessory S	-	1	
84	Printer Platform Pad A	-	1	
85	Adapter Box Pad	-	1	

7. M-11-T/M-12-T



## PARTS LIST

<b>7. M-11-T/M-12-T</b>				
<b>No</b>	<b>PARTS NAME</b>	<b>PARTS No.</b>	<b>Q' ty</b>	<b>REMARK</b>
T-1	T-Shaped Stand Assy	-	2	No Parts Supply
T-2	Side Bar Assy	-	2	No Parts Supply
T-3	Pipe Frame Cap	723321200	2	
T-4	Front Caster	714660400	2	
T-5	Back Caster	714660500	2	
-	Carton UNIT (Stand)	301207	1	
T-6	Carton Upper (Stand)	-	1	
T-7	Carton Lower (Stand)	-	1	
T-8	Packing Set (Stand)	-	2	
T-9	Assembly Manual (Stand) JPN	-	1	No Parts Supply
T-10	Screw Unit	723090012	1	
T-11	Printer Steady (Stand)	715353700	1	
T-12	Edge Bush	715353800	1	
T-13	Stabilizer UNIT (M-12)	301208	1	
T-14	Pipe Cap	723321100	4	
T-15	Cable Cover UNIT M-12 (Stand)	723090014	1	

## PARTS LIST

<b>8. Screws &amp; Washers</b>				
<b>No</b>	<b>PARTS NAME</b>	<b>PARTS No.</b>	<b>Q' ty</b>	<b>REMARK</b>
S-1	M4-8 Cross Recessed Binding Head	951240850	42	
S-2	M4-8 Cross Recessed Binding Head (Low Profile)	961540850	20	
S-3	M3-8 Cross Recessed 3-Point Type	952530810	20	
S-4	M3-25 Cross Recessed 3-Point Type	952532510	2	
S-5	M3-6 P-Tight Cross Recessed Binding Head	953230610	10	
S-6	M3-8 P-Tight Cross Recessed Binding Head	953230850	6	
S-7	M3-6 Cross Recessed Binding Head	951230650	28	
S-8	M4-10 P-Tight Cross Recessed Binding Head	953241010	3	
S-9	M4-12 Cross Recessed Binding Head	951241250	6	
S-10	M4-15 P-Tight Cross Recessed Binding Head	953241510	3	
S-11	M4-45 Cross Recessed Binding Head	951244510	2	
S-12	M4-15 Three Points	952541510	8	
S-13	M3-6 Binding Head	951230610	6	
S-14	M2.6-5 Cross Recessed Binding Head	951126510	4	
S-15	M3-12 Two Points Binding Head	952331010	2	
S-17	E Ring Ø3	958130020	2	
S-18	E Ring Ø6	958160020	4	
S-19	M3-6 Cross Recessed Binding Head	953630650	4	
S-20	M4-6 Cross Recessed Binding Head	961240610	4	
S-21	W3-8 Hexagonal Stop Bolt	955217610	4	
S-22	No, 2-10 Spring Washer	957410210	4	
S-23	No, 2-10 Flat Washer	957210210	4	

## 12. REVISION HISTORY

No	Revision History	Revision page	Date
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