

Captureboard

C-12S/C-12W

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 captureboard, 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 Instruction Manual.

Pay attention to the following during service inspection.

1-1. Cautions during Product Movement

- 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 location that was worked on.

2. SPECIFICATIONS

2-1. Product Specifications

BOARD TYPE (Model name)		Standard (C-12S)	Wide (C-12W)
Form	Installation method	Self-standing (T-shaped legs), or wall mounting	
	External dimensions (T-shaped legs*1)	W1470 X D700 X H1970 (Max) mm	W1970 X D700 X H1970 (Max) mm
	Main unit weight	31 kg (excluding printer)	35 kg (excluding printer)
	T-shaped legs weight	9.6 kg	
Board	Panel Size	H920 X W1300 mm	H920 X W1800 mm
	Effective reading size	H900 X W1280 mm	H900 X W1780 mm
	Number of Pages	2	
	Paging	Endless in one direction (Horizontal scrolling)	
	Drive method	Sheet movement	
	Reading method	CCD sensor reduction optical system	
	Reading illumination	RGB LED	
	Light source		
	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	Black & white: approx. 20 s Color: approx. 31 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, Feed/Stop	
	LED Indicators	Density, Color	
	Display	7-Segment (Status of PC connection, 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	None	
	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.

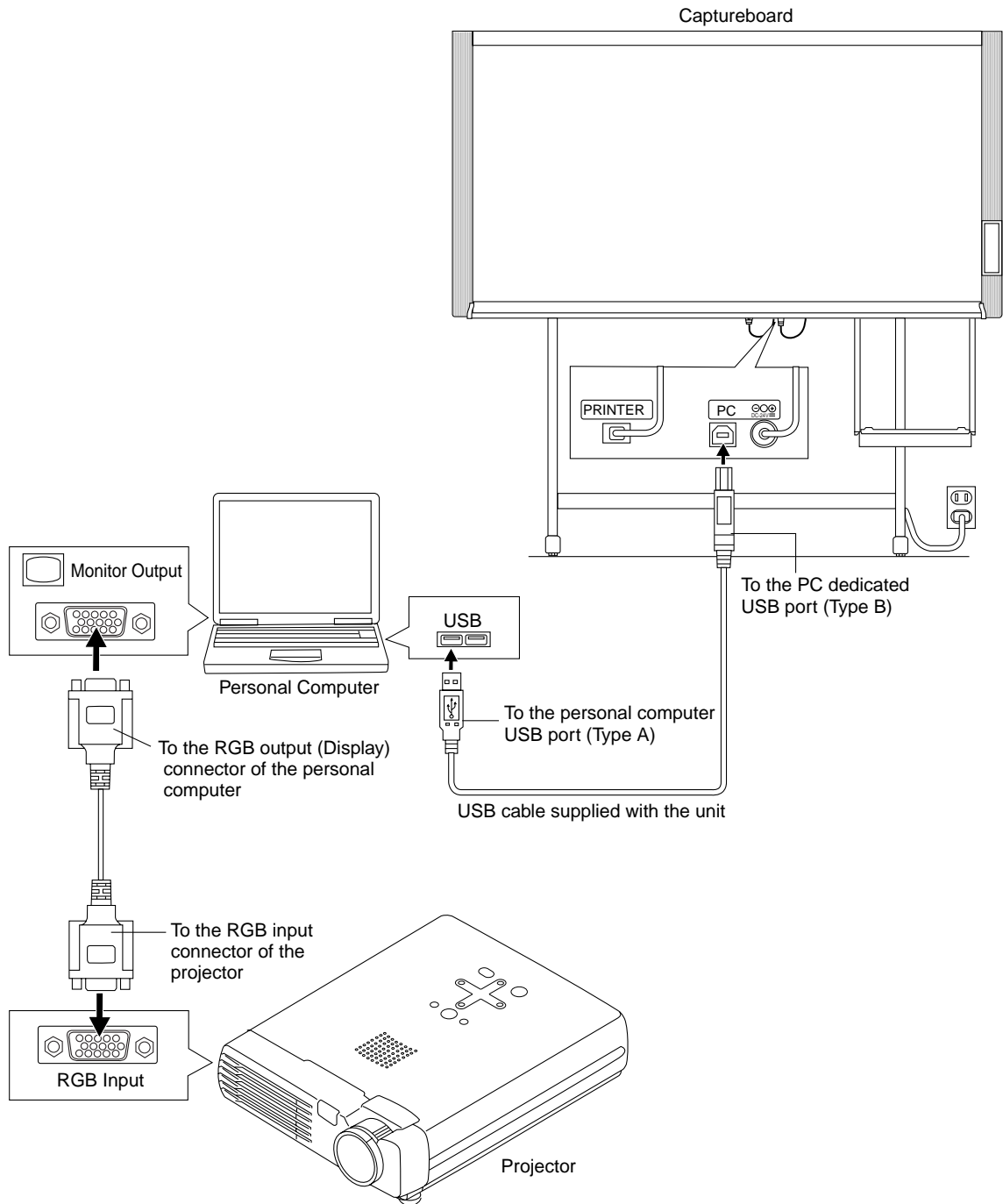
*3: Does not correspond with, High-speed mode.

- 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.

3. CONNECTION TO THE COMPUTER

Note:

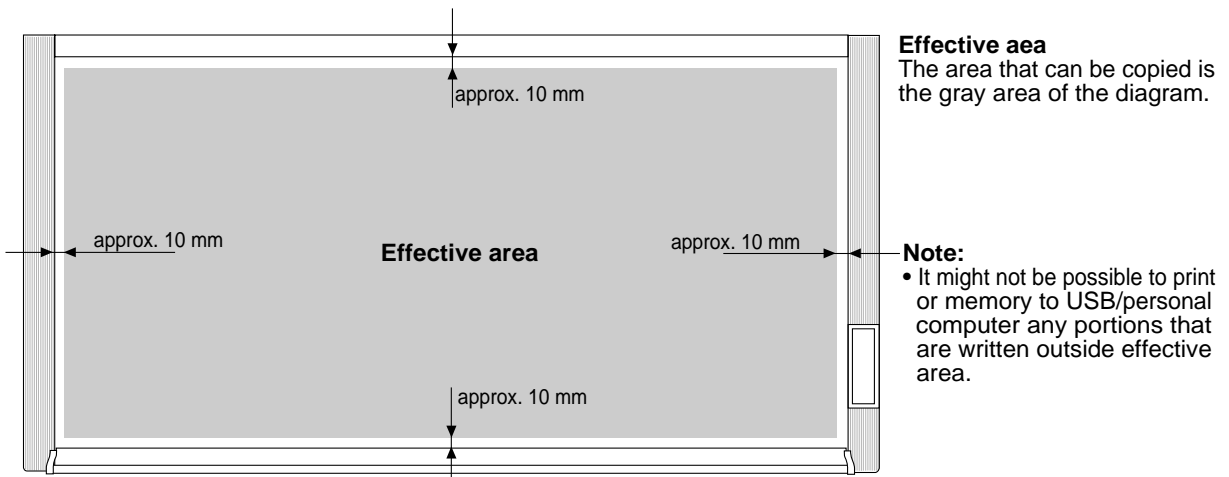
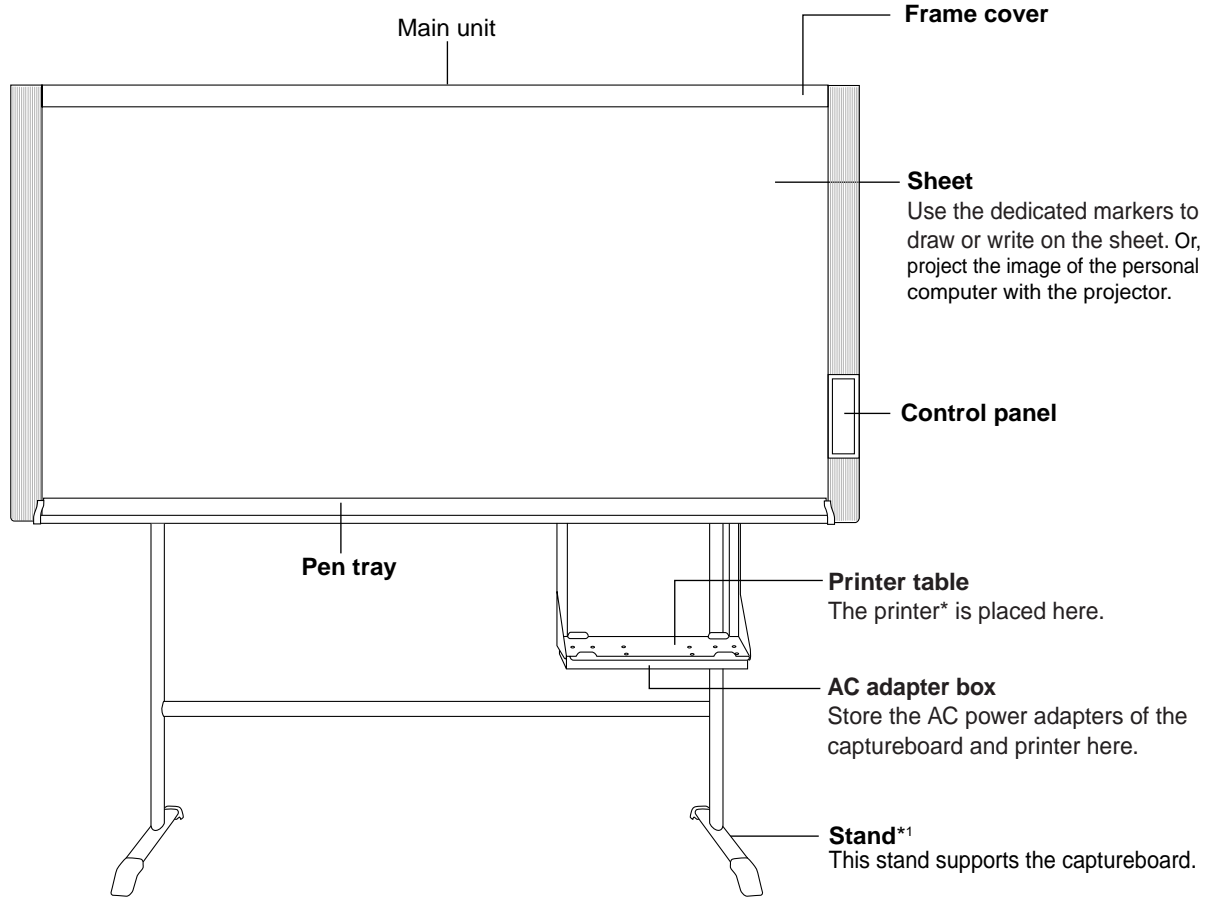
- * Do not connect this machine to the personal computer before installing the software.
- * Do not connect more than one Captureboard to one personal computer.



4. NAMES OF THE PARTS AND SPECIFICATIONS

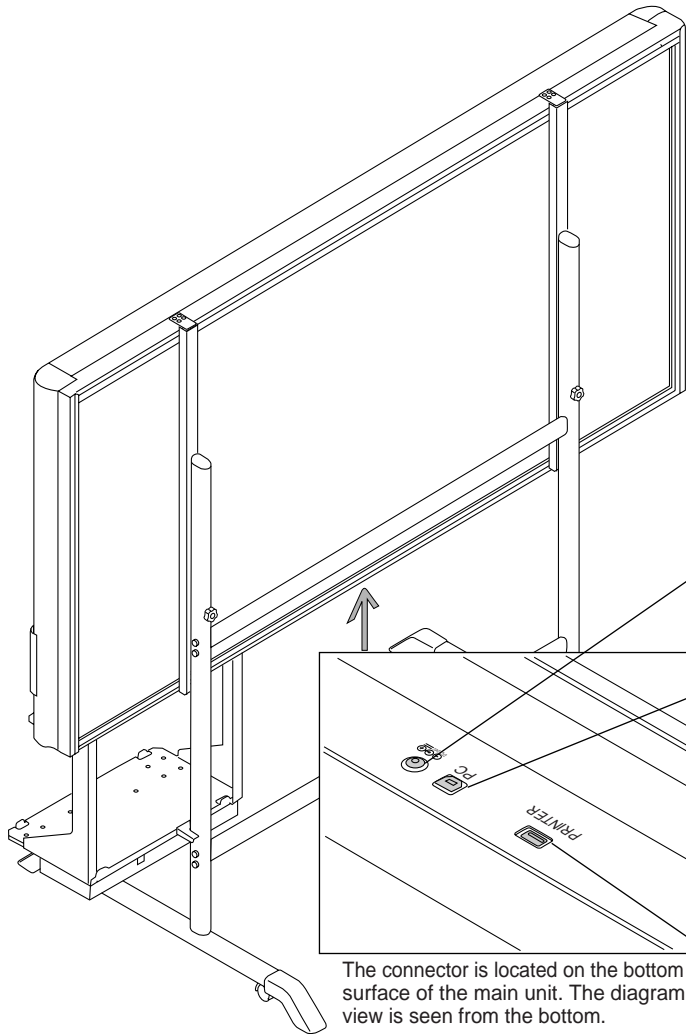
4-1. Names of the Parts

Front panel of main unit



NAME OF THE PARTS AND SPECIFICATIONS

Back panel of main unit



DC input connector

Connect this with the DC plug end of the AC power adapter. (Only connect the supplied AC power adapter; nothing else.)

Personal computer (PC) dedicated USB port (Type B)

Connect this with the USB port (type A) of the PC.

Special software can be used to transfer image data directly to the computer and set the copyboard's operating environment. To use these functions, first install the drivers and software on the included CD-ROM onto the computer.

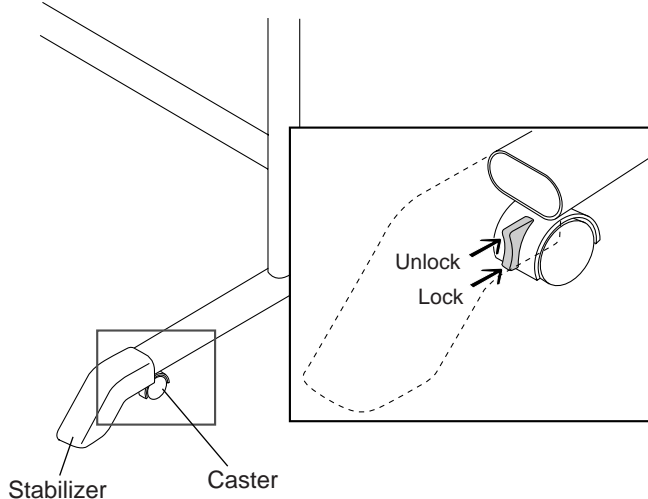
Printer connector (USB port Type A)

Connect this with the USB connector of the printer. (The printer connector is dedicated for use with a printer; use it only with a printer.)

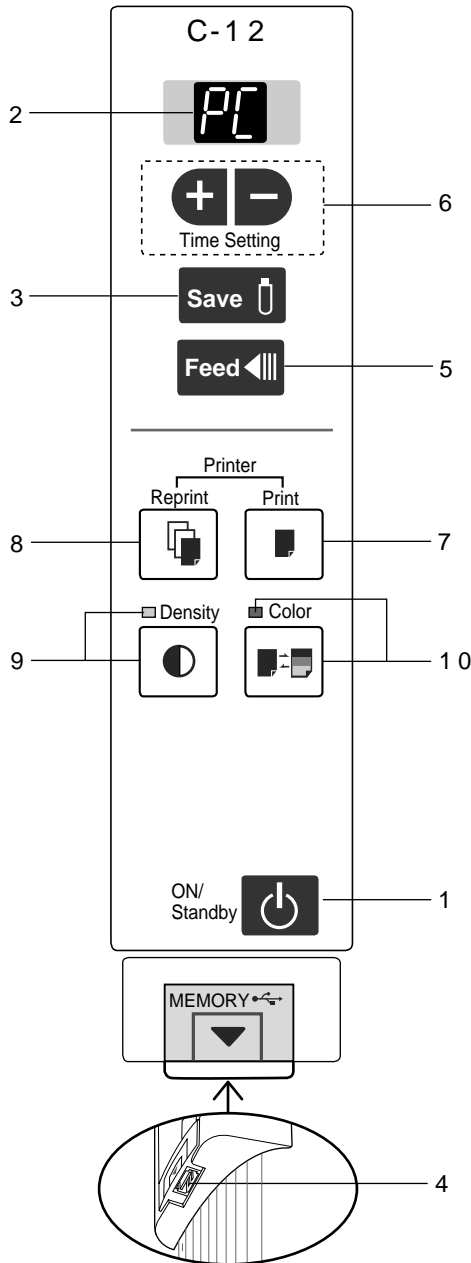
The connector is located on the bottom surface of the main unit. The diagram view is seen from the bottom.

Locking and unlocking the casters of the stand

Lock the casters with the stopper after setup. To move the unit, remove the stabilizers and release the caster stopper. Press the bottom of the stopper to lock. Press the top to unlock.



4-2. 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 captureboard'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

Displays the connection status between the Captureboard and the computer, the operational status of USB memory storage, and error information on a 7-segment LED.

"PC" is displayed when the Captureboard is connected with a personal computer. Note that "OP" is displayed when the Captureboard is not connected with a personal computer.

3 Save button (USB memory storage)

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

4 Memory port (USB port Type A)

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

5 Feed button

Scrolls the sheet one screen portion left, then stops automatically.

6+ / - buttons (Time Setting)

Press the + button or the - button and perform the setting of the date/time.

7 Print button

Moves the sheet one screen portion and reads it, and prints the image.

* Used only when there is a printer connection.

8 Reprint button

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

The density and the color/monochrome selection cannot be changed.

* Used only when there is a printer connection.

9 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

When "dark" is selected, the density mode display indicator will light green. This is enabled during USB memory storage, personal computer storage, or printing.

10 Color button

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

Color mode lamp

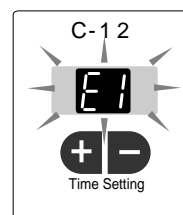
The color mode indicator lights green when "color" is selected.


















* In accordance with the printer function when a printer is connected.

NAME OF THE PARTS AND SPECIFICATIONS

4-3. 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"> Is the printer cable connected? Is power being supplied to the printer? When the printer uses an AC power adapter, is the cable disconnected somewhere? 	<ul style="list-style-type: none"> Connect the printer properly and switch on the printer power.
	<ul style="list-style-type: none"> Has paper been set in the printer? 	<ul style="list-style-type: none"> Turn the power of the printer off and then on again, and load the printer with A4 paper.
	<ul style="list-style-type: none"> Is the printer error indicator flashing (or lit)? 	<ul style="list-style-type: none"> Read the printer instruction manual.
 USB Memory not recognized	<ul style="list-style-type: none"> Is the USB memory unformatted. 	<ul style="list-style-type: none"> This unit supports the FAT and FAT 32 formats. Perform the formatting with the personal computer.
	<ul style="list-style-type: none"> Is a USB memory that is not supported by the captureboard being used? 	<ul style="list-style-type: none"> Please see our home page for information about USB memories that can be used with the captureboard. (http://www.plus-vision.com)
	<ul style="list-style-type: none"> Is the USB memory device plugged in fully? Is the USB memory damaged? 	<ul style="list-style-type: none"> Please check the operation with a personal computer.
 USB Memory storage problem	<ul style="list-style-type: none"> An error occurred during USB memory storage. 	<ul style="list-style-type: none"> Please perform USB memory storage again. Do not insert or remove the USB memory during processing.
 Reading problem	<ul style="list-style-type: none"> There is a lighting fault of the reading light source, or a read signal error. 	<ul style="list-style-type: none"> Unplug the power plug from the power outlet and then plug it in again.
 System error	<ul style="list-style-type: none"> There is a memory or internal fault. 	<ul style="list-style-type: none"> Unplug the power plug from the power outlet and then plug it in again.
 Page detection error	<ul style="list-style-type: none"> The pages are not being properly detected. 	<ul style="list-style-type: none"> Unplug the power plug from the power outlet and then plug it in again.
 Security protection	<ul style="list-style-type: none"> You have attempted to use a function disabled by the security settings. 	<ul style="list-style-type: none"> The settings can be changed using the exclusive software. For details, contact your nearby PLUS Vision sales office, dealer or store.
 Restrict color mode	<ul style="list-style-type: none"> Setting for disabling printing/storing in the color mode. 	<ul style="list-style-type: none"> Can be changed in the captureboard's "Function Settings".
 USB memory not connected	<ul style="list-style-type: none"> USB memory device is not plugged into the main unit. 	<ul style="list-style-type: none"> Plug the USB memory device into the USB port.
When the "USB" letter is flowing... Warning that disconnection of USB memory has been forgotten 	<ul style="list-style-type: none"> Did you press the ON/Standby  button while the USB memory device was plugged into the main unit? 	<ul style="list-style-type: none"> 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.
 USB Memory is full	<ul style="list-style-type: none"> There is no available space. 	<ul style="list-style-type: none"> Please delete unnecessary data using a personal computer.
 An unsupported printer is connected	<ul style="list-style-type: none"> A printer that is not supported by the captureboard has been connected. 	<ul style="list-style-type: none"> Press the ON/Standby  button and switch off the power. When a record is required, switch on the power and save to USB memory.
 No Calibration data	<ul style="list-style-type: none"> This is the state in which calibration data is not written. 	<ul style="list-style-type: none"> Perform calibration.
 Time setting error	<ul style="list-style-type: none"> An error has arisen when setting the time. 	<ul style="list-style-type: none"> When the ON/Standby  button is pressed, the display switches to "c1". Start the setting over from the year.

Printing in the same ratio as the sheet surface (Model C-12W)


Model C-12W is the wide type Captureboard which will compress printing in the horizontal direction resulting in crowded printing of the A4 or LETTER size sheet; for example, a circle will become an ellipse. To print in the same aspect ratio as a drawn diagram, the compression mode will be changed (to suit the paper size according to the sheet surface image). The factory default setting is the horizontal compression mode.

Check that the power is turned on (that the display window is lit).

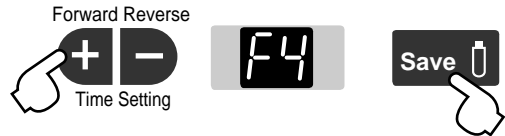
1. While pressing in the **Density**  button, press the **ON/Standby**  button to switch to the function settings mode.

"F1" appears on the display window.



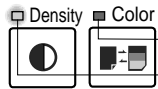
2. Press the **+** or **-** button (the display switches each time one of the buttons is pressed) to display "F4", then press the **Save**  button to finalize.

When "F4" is displayed, the captureboard is in the printing ratio setting mode.



3. Press the **Feed**  button to select the equal ratio mode.

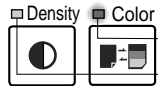
Lamps when the captureboard is set to condense the image in the horizontal direction:



Color mode lamp: Off

Density mode lamp: Lit


Lamps when the captureboard is set to print in equal ratio:



Color mode lamp: Lit


Density mode lamp: Off




Check that the lamps are lit or off as indicated at "Lamps when the captureboard is set to print in equal ratio" above, then press the **Save**  button to finalize. The dot next to the "F4" dot flashes for several seconds.



Dot flashes for several seconds

•To restore the captureboard to print with the image condensed in the horizontal direction, switch the mode so that the lamps are as indicated at "Lamps when the captureboard is set to condense the image in the horizontal direction", then press the **Save**  button.

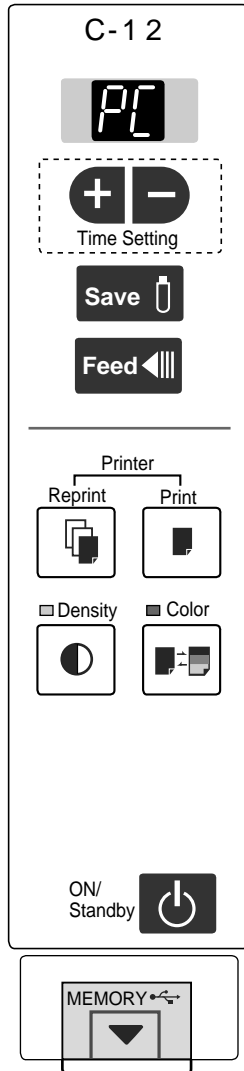
This completes the setting. Press the **ON/Standby**  button to return to the normal mode.



5. 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

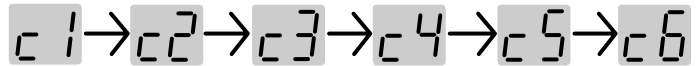


1 Switch to "Time setting"

Press the + or - button.

2 Display the day and hour setting mode

Setting mode information indicated in the display window



(First 2 digits) (Last 2 digits)
Year Month Day Hour Minute

3 Set the date and time of the setting mode

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

4 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.

5 Completion

To quit the time setting mode, press the Print button.

* Pressing the ON/Standby button during operations 2 to 4 will cancel the incomplete settings and return to the time prior to starting the settings.

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 + or - button and change to "Time Setting"

The LED of the display window will light and display "c 1".

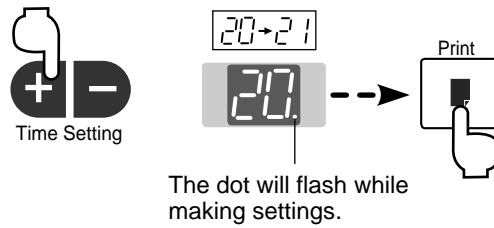


SETTING THE TIME

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

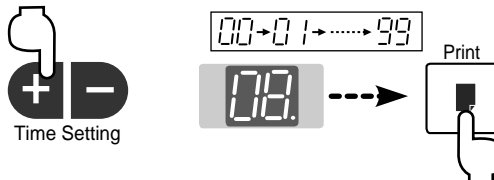
There will be a change to the “last 2 digits of the year” setting mode (20 display).

- 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.



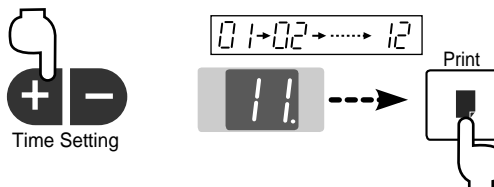
4 Press the + button or the - button, select 08 (the last 2 digits of the year), and press the Print button to finalize.

There will be a change to the “month” setting mode (08 display).



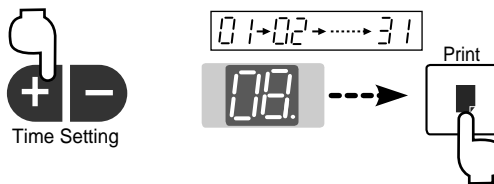
5 Press the + button or the - button, select 11 (the month), and press the Print button to finalize.

There will be a change to the “day” setting mode (11 display).



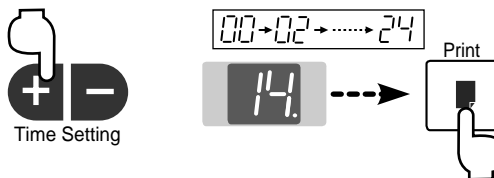
6 Press the + button or the - button, select 08 (the day), and press the Print button to finalize.

There will be a change to the “hour” setting mode (08 display).



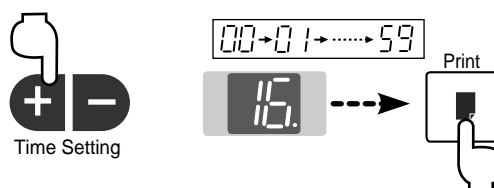
7 Press the + button or the - button, select 14 (the hour of the 24-hour display), and press the Print button to finalize.

There will be a change to the “minute” setting mode (14 display).



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

The display will change to being lit steadily.



This completes the time setting.



6. FUNCTION SETTING

The captureboard includes such advanced functions as the Erase Reminder function that can be set directly using the operation buttons on the captureboard. 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".)

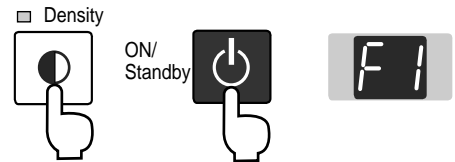
6-1. Basic Setting Operations

- Check that the power is turned on (that the display window is lit).
- When in the Function Settings mode, the captureboard 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 Save  button to finalize.


See the "Table of Function Numbers, Selected Modes and Lamp Statuses" on the following page.

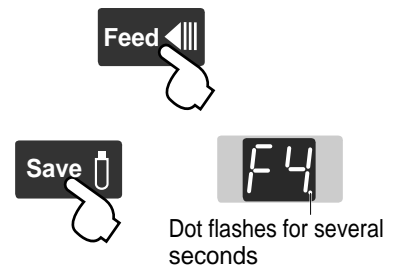


3 Selecting the function's setting

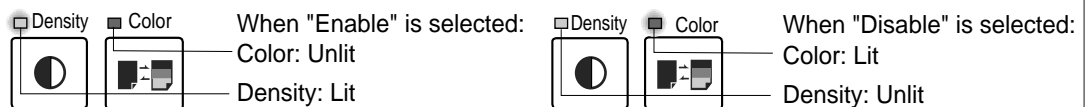
Press the Feed  button to select the function's setting, then press the Save  button to finalize.


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

- When the Feed  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".




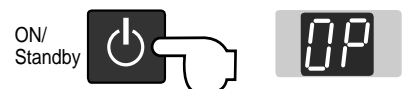
Ex.: Lamp statuses when selecting the Erase Reminder function's mode



- Function number "F1" is not used. Nothing will happen when the Feed  button is pressed.

4 Quitting the function settings mode

Press the ON/Standby  button to return to the normal mode. The display window returns to the normal mode ("OP" or "PC").



FUNCTION SETTING

6-2. 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 9		
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
F4	Printing ratio	Setting of images aspect ratio when printing (Model M-12W)	Compressed horizontally	<input type="checkbox"/> Density Unlit	<input checked="" type="checkbox"/> Color Lit
			Equal ratio	<input checked="" type="checkbox"/> Density Lit	<input type="checkbox"/> Color Unlit
F5	Data rate	Setting of rate for images stored in the memory and images transferred to the computer (Model M-12W)	Compressed horizontally	<input type="checkbox"/> Density Unlit	<input checked="" type="checkbox"/> Color Lit
			Equal ratio	<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".

6-3. 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
Color	Scanning color mode Color/Black & White	Black & White
Density	Scanning density Standard/Dark	Standard
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.

6-4. 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).

c12XX_XX.mot. Major version: XX/Minor version: XX

Example: c12_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 C-12
 - PC main set (USB terminal 1.1 or more: Software C-12 series PLUS TOOLBOX has been installed.)
 - USB cable
1. Save a program file (example: c12_01_00) for C-12 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 "Feed" 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 C-12, select a file (example: C:XXXX.c12_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 C-12 main set once, insert the AC adaptor again, and press the "Power" button of the C-12 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 C-12
 - USB memory
1. Save a program (c12_01_00) in the route of USB memory.
 2. Press the “Power” button of the C-12 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 updating. Display example: “01” ...
 4. A program is updated when you press the “Save” button of the C-12 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 C-12 main set to turn off the power.
 7. Pull out the AC adaptor of the C-12 main set once, insert the AC adaptor again, and press the “Power” button of the C-12 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.

7. 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.

7-1. 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.

7-2. Installation of the PLUS TOOLBOX

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

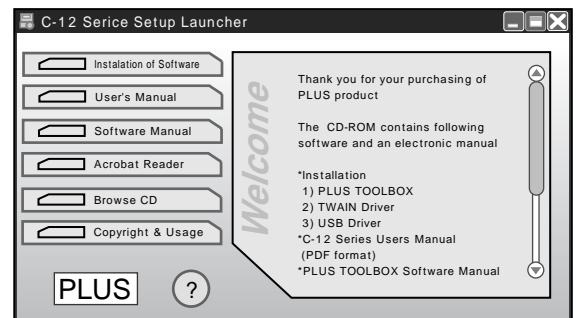
The menu screen will be displayed automatically.
If the menu screen is not displayed automatically, double click CD-ROM icon and double click “autorun.exe”.

2 Click “Installation of Software”.

The installer will start.

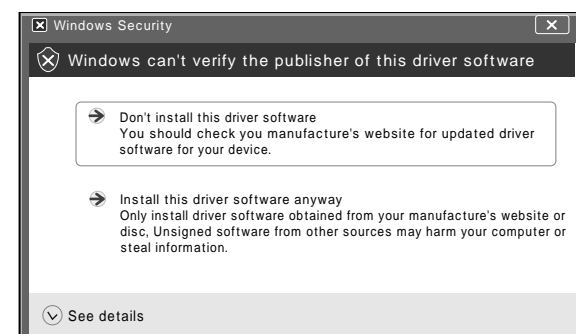
3 Follow the instructions of the installer and start the installation.

The PLUS TOOLBOX, the TWAIN driver, the USB driver, and the Setup Utility 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.



INSTALLATION OF THE SOFTWARE

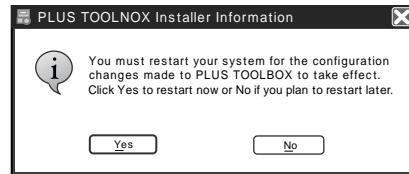
4 Click "Finish".

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 Captureboard connected.

- Preparation**
1. Press the ON/Standby button of the captureboard 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 captureboard.

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.



7-3. Uninstallation of the PLUS TOOLBOX

- 1 Selecting [Start] → [Control Panel] will display the Control Panel screen.**
Check that your personal computer and the captureboard 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:

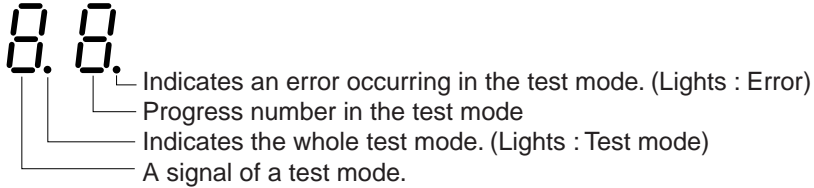
- * “Add or Remove Programs” will be displayed for Windows XP/Vista.
- * When using Windows Vista, each time the uninstaller is started, the User Account Control dialog box is displayed.
Select “Continue” and continue with the uninstallation.

8. TEST AND ADJUSTMENT FUNCTIONS

8-1. 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.

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>

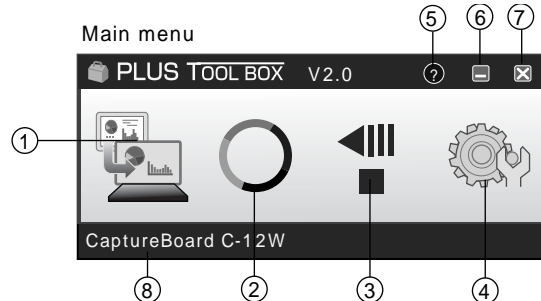
The major version of a program is displayed when you press the “-” button once.

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

9. NAMES AND FUNCTIONS OF THE MENU AND THE SUPERIMPOSED IMAGE DISPLAY SCREEN

9-1. Menu

Main Menu



Scan button

Displays Obtain annotated image dialogue box.

Yes: Starts the capture of the image (projected by the projector) that is displayed on the personal computer screen, and the hand drawn image of the sheet surface.

No: Starts the capture of only the hand written and drawn image of the sheet surface. There will not be superimposing with the image projected by the projector.

(Close): Closes the projection image superimposed screen.

Mark button

Switches the display of the positioning O marks of the projection image.

Each click switches between “Display” and “Hide”.

The default setting is “Display”.

Feed/Stop button

Scrolls the sheet one page to the left. When pressed while scrolling, the sheet returns to the start position.

Setup button

Click this to display the settings screen.

The settings screen consists of the “Hardware Setup”, “Capture Setup”, “Header/footer”, “Copyboard Firmware Update” and “Security” tabs.

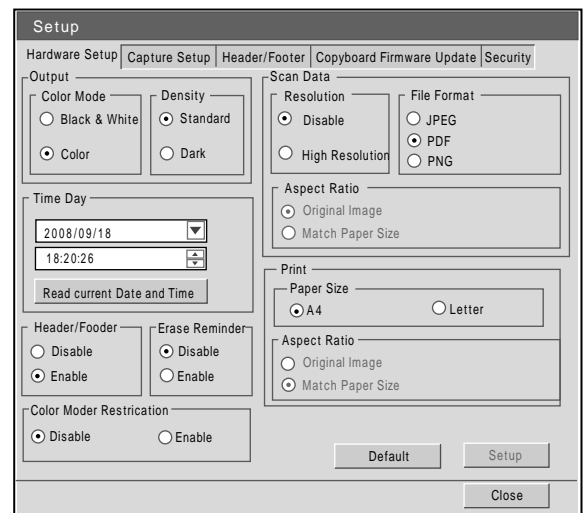
Click a tab to switch to the corresponding screen.

Note:

To set the “Security” settings, contact you nearest PLUS Vision sales office, dealer or store.

Hardware Setup:

Set the Captureboard’s operating environment here.



NAMES AND FUNCTIONS OF THE MENU AND THE SUPERIMPOSED IMAGE DISPLAY SCREEN

Capture Settings:

These settings are used when creating superimposed images. See page E-18.

Select image for projection:

Selects the number of the monitor that is connected to the projector.

The default setting is "Display 1". This software automatically searches for the number of connected monitors.

Select color for positioning:

Selects the color of the %A mark that detects the position of the projection image of the projector.

Select from among No specific color selected, Red, Green, Blue, Black. The default setting is "No specific color selected".

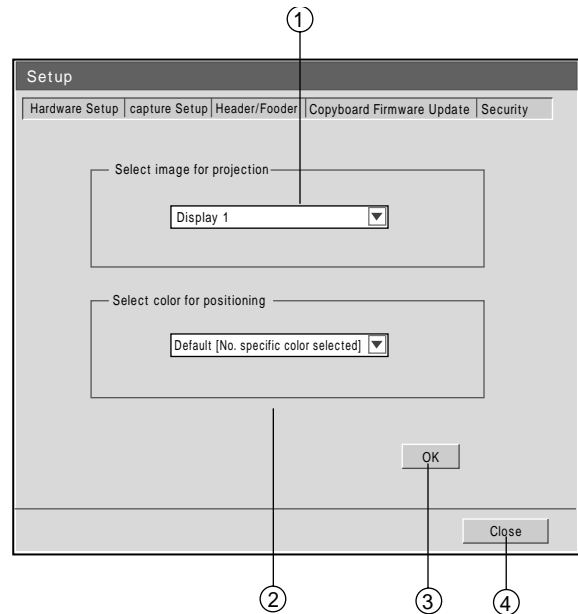
The setting contents will not be stored unless the screen is closed by clicking the [OK] button.

OK

Enters the setting.

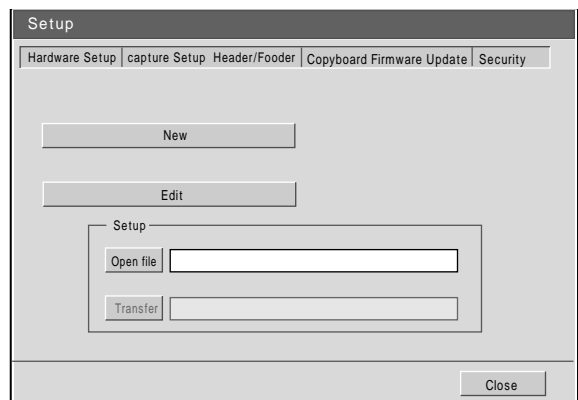
Close:

Closes the settings screen.



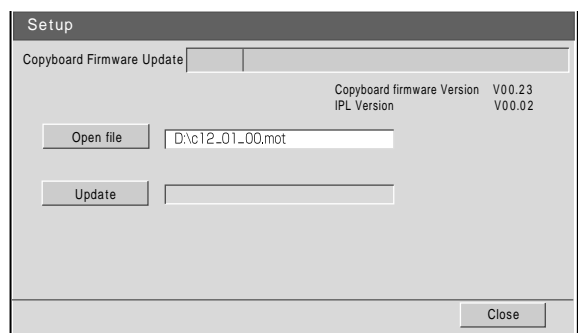
Header/Footer:

This is used for the creation or editing of headers and footers.



Copyboard Firmware Update:

Use this to update the Captureboard's internal program.



(Help) Click this to display the operating instructions.

(Minimize)

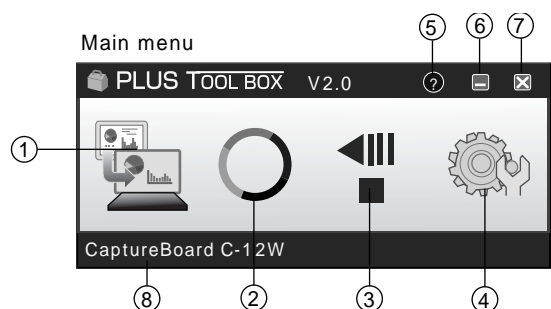
Click this to minimize the menu screen, displaying it as an icon on the task bar.

(Close)

Click this to exit the program.

Device indication

This displays the model that is currently connected.

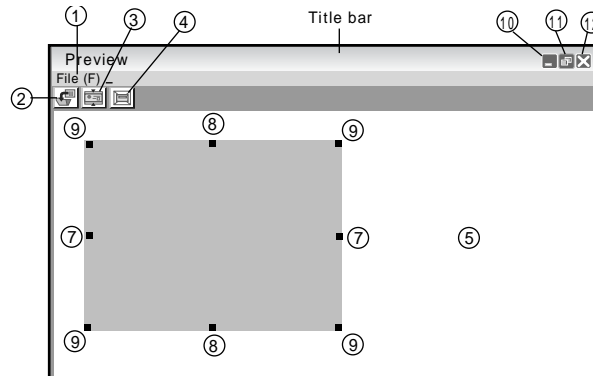


NAMES AND FUNCTIONS OF THE MENU AND THE SUPERIMPOSED IMAGE DISPLAY SCREEN

9-2. Superimposed Image Display Screen

The superimposed image display screen is displayed when “Yes” is clicked on the “SCAN” button and screen and the hand written and drawn image of the sheet surface is captured by the personal computer.

File Menu



Save (S): Overwrites and saves using the current name.

Save as (A): Saves with a different name or to a different location.

Print (P): Prints using the printer that is connected to the personal computer.

Save Button

Saves when there is save data. Opens the save screen when there is no save data.

Aspect Button

Switches the aspect ratio of the superimposed image. Each press switches between “Image having same ratio as the sheet surface” and “Image that is 3/4 size horizontally”(Available only with Model C-12W.)

At time of saving, the image will be saved at the selected ratio.

The default setting is “Image having same ratio as the sheet surface”.

Full Screen Display Button

Provides a full screen display of the superimposed image. Clicking on the screen will result in a return to the original window size.

*Using the full screen display is convenient when projecting a superimposed image with the projector.

The default setting is “Window size”.

Captureboard Capture Screen

Execution of the scan operation displays the handwritten image data of the captured sheet surface.

Personal Computer Capture Screen

Pointers (to) of the projected image are displayed by left clicking on the personal computer capture screen and hidden by right clicking.

Drag the pointers to finely adjust the size and distortion.

To move the position, drag a part other than the pointers.

Horizontal Size Pointer

Corrects the size in the horizontal direction.

Vertical Size Pointer

Corrects the size in the vertical direction.

Affine Pointer

Corrects images that are diagonally distorted.

(Minimize)

Minimizes the superimposed image display screen, and the short title bar is displayed at the upper left of the task bar. In addition, clicking the minimize icon of the main menu when it is displayed with window size also results in the superimposed image display screen being displayed as an icon on the task bar.

(Maximize)

Each click switches the image display screen (window) between a maximized display or a display at the original size.

(Close)

Closes the superimposed image display screen.

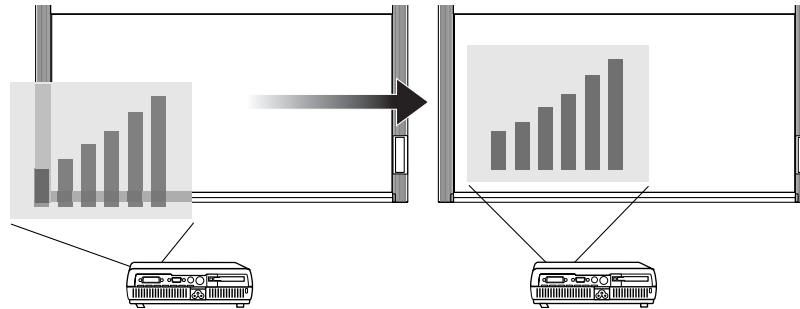
Closing the superimposed image without saving it will cause the superimposed image to be lost.

NAMES AND FUNCTIONS OF THE MENU AND THE SUPERIMPOSED IMAGE DISPLAY SCREEN

9-3. Superimposing captured images

1 Project the image of the personal computer from the projector

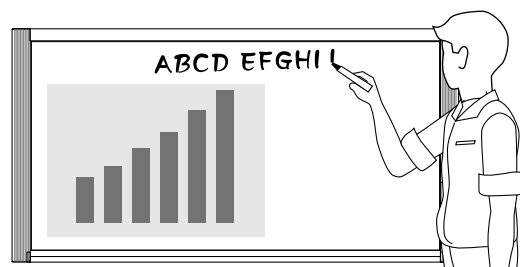
Operate the personal computer and prepare the documents that will be projected with the projector.
Adjust the size, display position, and other factors of the projector image.



- * A full screen display (in which the image is displayed to fill the screen without the display of tool bars, etc.) is recommended for the projection image from the personal computer. When not in a full screen display, tool bars and other items are superimposed. Please see the manual for your personal computer or the application software that you are using for details.
- * When the screen of a personal computer is not projected from the projector, or the screen of a personal computer has disappeared, change the settings of the external output of the personal computer.
In Windows, the switchover can usually be accomplished by holding down the [Fn] function key and pressing one of the [F1] to [F12] keys. The [F1] to [F12] keys will differ depending on the manufacturer of the personal computer.
Please see the Help menu of your personal computer for details.
- * An attempt to superimpose with a projection image that has used the digital enlargement function of the projector will not result in an enlarged image.
- * Set up the projector so that it is level to prevent a projection image that is on an angle. When the projection image is on an angle, the size or position of the superimposed image might be improper. (Adjustment will be possible with this software.)
- * Project the image so that it falls within the capture range of the captureboard.
- * Please project the image at a size that is 2/3 of the vertical size of the board surface or larger.
- * The size and position of the superimposed image may be off if the projector's auto keystone (auto trapezoidal distortion correction) value is high.

2 Making a Presentation

Use the dedicated markers to write or draw diagrams on the sheet surface (including the projected area).
When saving the superimposed image as meeting records, do not write or draw diagrams in the four corners of the projection screen. The four corners will later be used for drawing position detection marks.

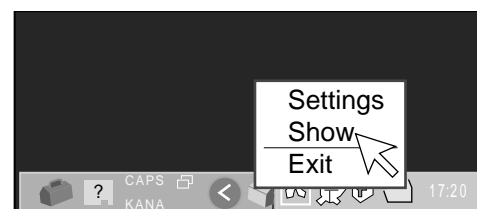


NAMES AND FUNCTIONS OF THE MENU AND THE SUPERIMPOSED IMAGE DISPLAY SCREEN

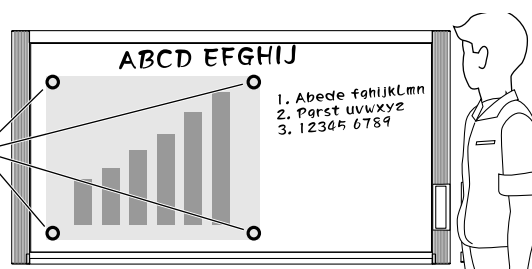
- 3 Save the Superimposed Image of the Projection Image** and the Sheet Surface on the Personal Computer
 Connect the captureboard with the computer on which "PLUS TOOLBOX" is installed using a USB cable. The "PLUS TOOLBOX" main menu appears on the computer's screen.

* PLUS TOOLBOX is resident in the system tray. The main menu appears automatically when the computer is connected to the captureboard.

* The main menu can also be displayed by right-clicking the PLUS TOOLBOX icon in the system tray and choosing "Menu".



○ marks (by default: positioning marks with no specified color) appear in the four corners of the projector's projected image. Positioning Marks



To change the colors of the ○ marks, click the Settings icon on the main menu, then click the "Capture Settings" tag.

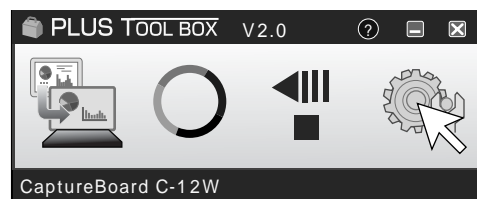
From "Select position detection color", select a marker color that is not used to draw on the sheet surface.

When the ○ marks are not displayed, click the [○] button of the menu.

Each click of the [○] button toggles between display and hide.

Note:

Check whether this machine and the personal computer are properly connected. "PC" is displayed in the display window of the main unit control panel when the equipments are properly connected.



- 4 Trace with a marker having the same color as the ○ marks of the Projected four corners**

Properly draw the ○ marks in the color of the projected marks.

* This software uses the ○ marks drawn on the sheet surface to position the projection image and the sheet surface. Blurry or broken ○ marks might not be recognized.

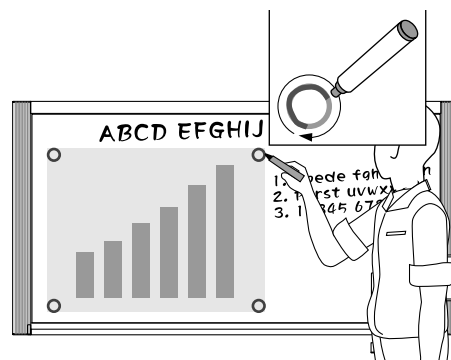
* Do not write or draw diagrams near the ○ marks.

* When an image with extreme keystone distortion is projected as is, it may not be possible to recognize the ○ marks.

* When the ○ marks are not drawn, the projection image will be superimposed at the upper left.

* Content that has been drawn at the periphery of the sheet might not be captured. Please see "Effective Reading Size" in your Captureboard manual for details.

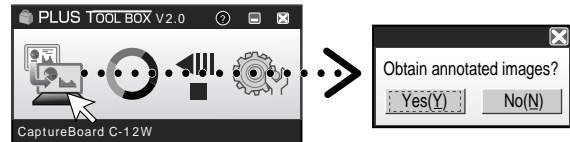
* Animation cannot be captured as a personal computer capture image.



NAMES AND FUNCTIONS OF THE MENU AND THE SUPERIMPOSED IMAGE DISPLAY SCREEN

5 Click the (Scan) Button of the Menu

Displays "The Projection Image Superimposed" screen.



6 Click "Yes"

The sheet surface of the captureboard will be scrolled, the capture will start and be completed.

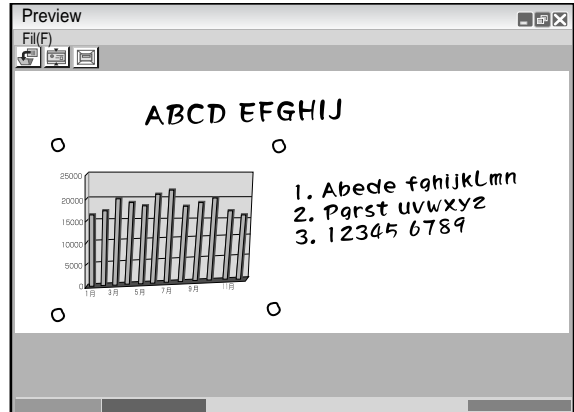
Then the hand written and drawn image will be transferred to the personal computer.

In a little while the superimposed image display screen will open.

When the personal computer capture image and the captureboard capture image are shifted on the superimposed image display screen, see "Fine Adjustment of the captured Image" on Page 26.

If you do not want to combine the hand-drawn image on the sheet surface with the projector's projected image, click "No".

When "No" is clicked, the captureboard capture image preview is displayed.



Note:

- * Black and white is set if "Prohibit Color Mode" is set to "On" in "Machine Settings".
- * Use the Density button on the main unit's control panel to set the scanning density.
- * When "Header/Footer" is set to "On" in "Hardware Setup", the header/footer information is displayed on the combined image. In this case, this information is saved and printed.

7 Click (Save) to Save

* When saving for the first time, clicking will display the personal computer "Save as" box.

Select "Save location" "File type", enter the file name, then click the "Save" button.

* Select the file type "PNG", "JPG" or "PDF" using the ▼ button.

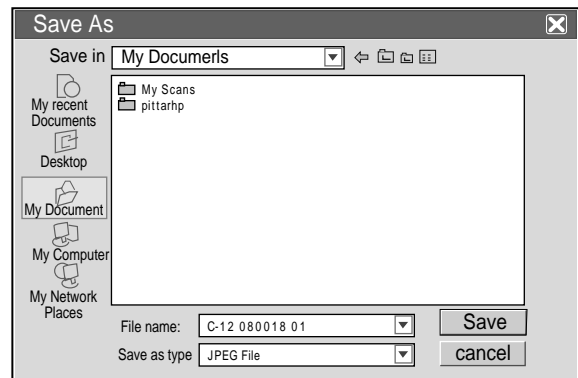
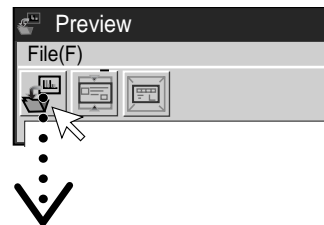
* A file name consisting of the model name, date and serial number (ex.C-12_081021_01) is displayed automatically. Change it if necessary.

* If a file with the same name already exists, the old file is overwritten.

* To create a new folder, click "Create new folder" or click the icon, enter the folder name in the newly created folder, then click "Open".

Next, select the file type, enter the file name, then click "Save"

* "Save" or "Save as" can be selected from "File" of the menu bar.



NAMES AND FUNCTIONS OF THE MENU AND THE SUPERIMPOSED IMAGE DISPLAY SCREEN

8 Printing

Printing is performed by the printer that is connected to the personal computer.

Select "Print (P)" from "File (F)" of pull-down menu.

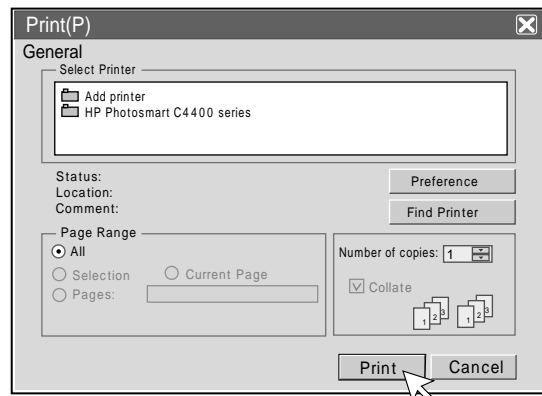
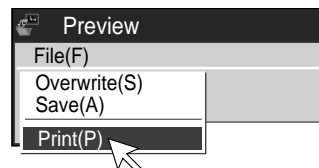
The printing settings screen will open.

Clicking the "Print" button will print the selected image.

Clicking the "Detailed Settings" button for settings.

This screen will differ depending on the printer.

* The superimposed image cannot be printed directly using the captureboard and the printer connected to it (which is sold separately).

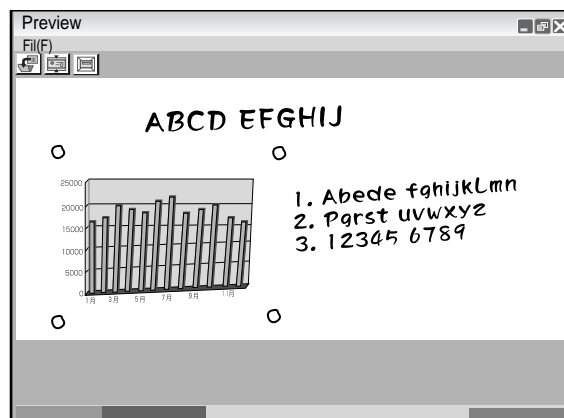


9 Closing

Clicking (Close) will close the superimposed image display screen.

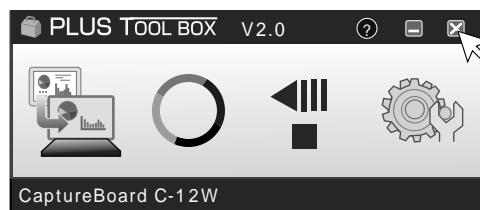
Closing the superimposed image without saving it will result in the loss of the image.

To capture with the next sheet surface, proceed from Step 4.



Closing this Software

Clicking (Close) of the main menu will close this software.

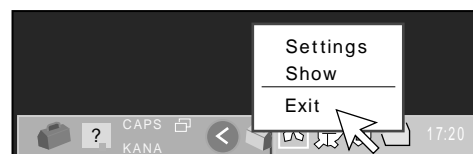


Note:

When other TWAIN compatible applications are used to capture the picture data, while PLUS TOOLBOX software is running, following procedure should be taken. When PLUS TOOLBOX is running or its icon appears on the Windows task bar, and the picture data is attempted to be captured using other TWAIN compatible application software, below error message may pop up.

In this case, right-click the PLUS TOOLBOX icon on the task bar to quit the program and start capturing procedure using other TWAIN compatible software.

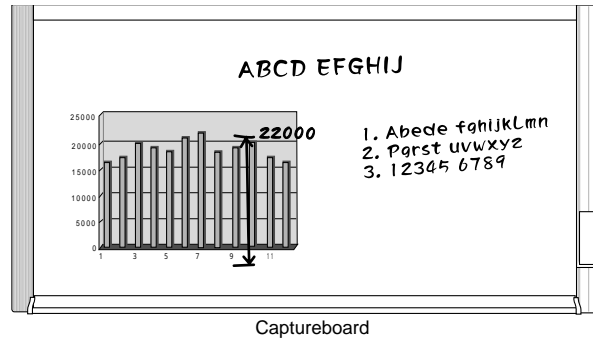
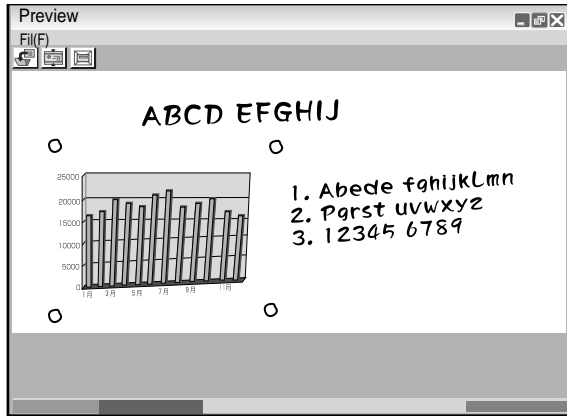
When other TWAIN compatible applications are used to capture the picture data, while PLUS TOOLBOX software is running, following procedure should be taken.



NAMES AND FUNCTIONS OF THE MENU AND THE SUPERIMPOSED IMAGE DISPLAY SCREEN

9-4. Fine Adjustment of the Captured Image

When the positions of the projection image and the Captureboard image (such as writings and drawn on the board surface) differ on the Superimposed Image Display Screen, this function changes the position or size of the personal computer capture image on the Superimposed Image Display Screen.



Adjusting the Display Position of the Image

Drag the personal computer capture image to the target position.

Adjusting the Image Size or Distortion

A left click on the personal computer capture image will display the pointers (in 8 locations).

Drag the pointers and adjust.

Right click to delete the pointers.

To stretch vertically

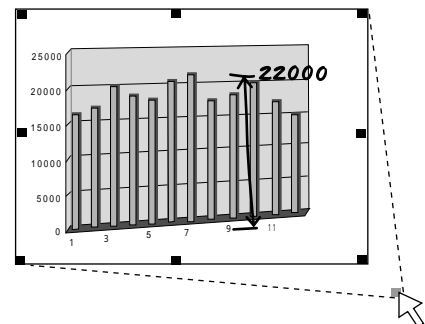
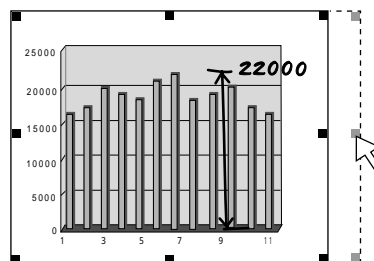
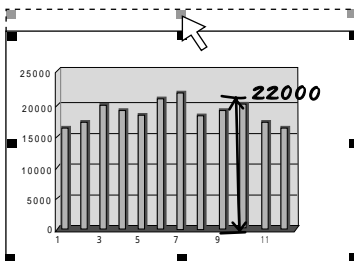
Drag the center top or bottom pointer.

To stretch horizontally

Drag the center left or right pointer.

To stretch diagonally

Drag the pointers of the four corners. Superimposed Image Display Screen Captureboard



Note:

This software creates on the personal computer a superimposed image of the image transferred to the personal computer (that was hand written and drawn on the sheet surface of the captureboard) and the personal computer screen (which is the screen output for projection by the projector).

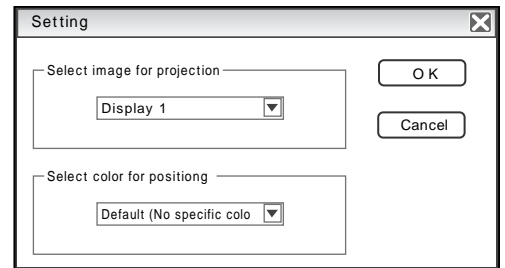
When the keystone distortion (horizontal distortion/vertical distortion) of the projection image is adjusted, it will be slightly smaller than the output screen from the personal computer screen. (The size of the image changes depending on the degree of distortion compensation.) This is a result of the compensation characteristics of the projector.

As a result, the position matching or image size will differ slightly. The position move adjustment or the image size adjustment are used to correct this condition.

9-5. Settings

These settings perform the selection of the monitor that is connected to the projector and the selection of the O mark color used for position detection.

1. Click the (Settings) Icon of the Menu
The settings screen will open.



2. Select the Number of the Monitor that Is Connected to the Projector that Projects to the captureboard.

This is set when a personal computer that can accept the connection of multiple monitors and a projector are connected. There is no need for this setting when there is only one monitor.

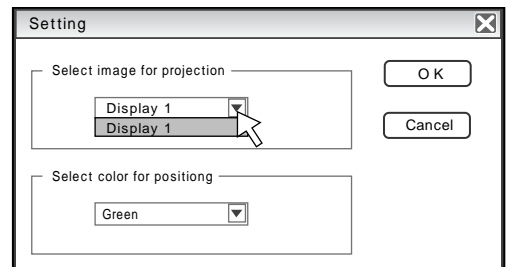
Clicking [] of the [Projector Monitor Selection] column will display a list.

Click the desired monitor number from this list.

This software automatically searches for the number of connected monitors.

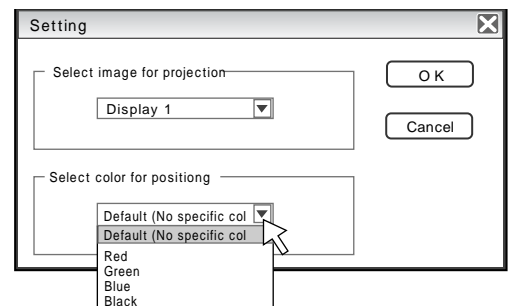
Note:

* When the number of the monitor is not known, click "Screen Properties" "Settings" "Identification" on the personal computer and check the number of the monitor that is connected to the projector.



3. Change the Setting of the O Mark Color Used for Display Position Detection of the Projected Image of the Projector
Clicking [] of the [Position Detection Specification Color Selection] column will display a list.

Click the target color from among No specific color selected, Red, Green, Blue, and Black.



Note:

* When "No specific color selected" has been selected, an arbitrary marker color from among the four colors of red, green, blue, and black can be used for drawing the positioning mark. Recognition is judged solely by the shape of the O mark that has been drawn with the marker.

Writing or drawing a diagram that resembles the O mark may result in a position of the projection image cannot be properly recognized.

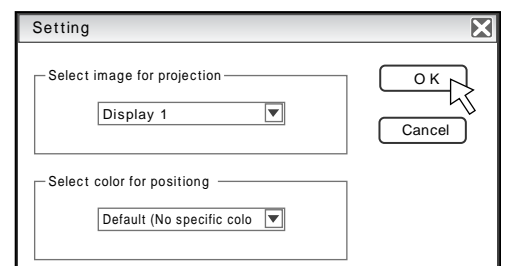
* When one color has been selected from among "Red, Green, Blue, and Black", the same marker color as the selected color can be used for drawing the positioning marks. Recognition is judged by the color and shape of the O mark that has been drawn with the marker.

Using the same color marker for writing or drawing a diagram that resembles the O mark may result in a position of the projection image cannot be properly recognized.

4. Finalizing

The selection will be finalized by clicking [OK], and the settings screen will close.

To cancel the selected settings, click [Cancel]. The settings screen will close without the settings being finalized.



9-6. Hardware Setup

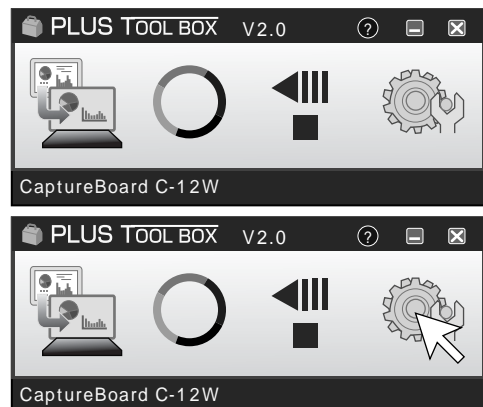
Use this procedure to set the captureboard's operating environment from the computer. The factory defaults are Shown below.

1 Turn on the captureboard's power, start up the computer, then make the USB connections.

The "PLUS TOOLBOX" main menu appears on the computer.

2 Click the "Setup" button.

The "Hardware Setup" screen appears.



3 Click the desired item to select it.

For the radio buttons, when is clicked, it switches to (only one radio button can be selected within each item).

* 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.

Output setting

Color Mode

This sets the color of the output image.

Color: Four colors (red, green, blue and black)

Black & White: Black only

Density

This sets the density of the output image.

If the output image is too light with the standard setting, set to "Dark".

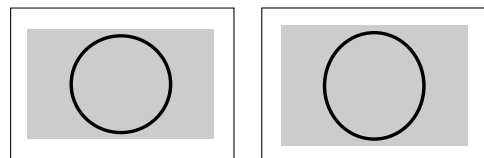
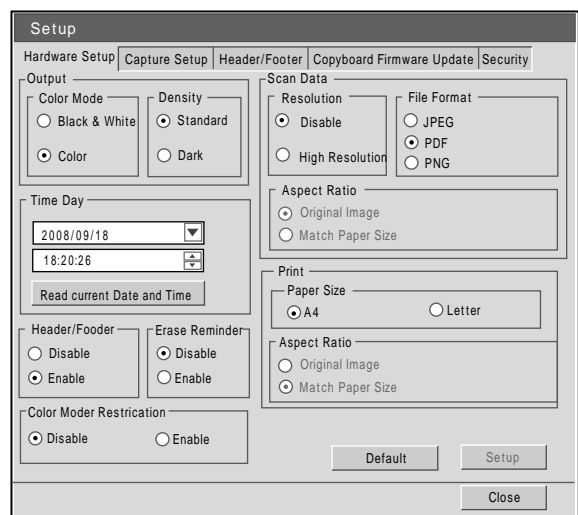
Aspect Ratio setting

Selection is permitted only with a captureboard of the wide type.

Select the vertical/horizontal aspect ratio for printing.

When "Original Image" is selected, the image is printed with the same aspect ratio as on the captureboard's sheet surface.

When "Match Paper Size" is selected, the image is compressed in the horizontal direction to the same aspect as the A4 or letter size printing paper (for example, a circle will become an oval).

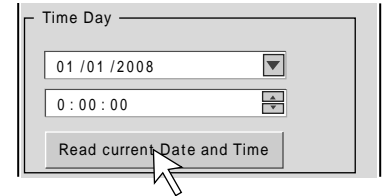


Time Day

This sets the current date and time.

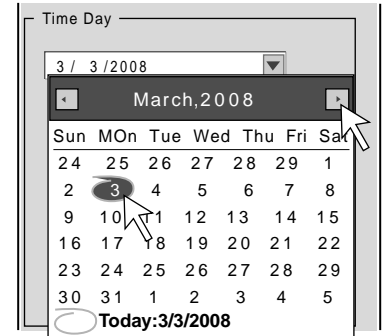
Loading the current time

When “Read current Date and Time” button is clicked, the display switches to the computer’s current time. This eliminates the need to set the current time on the captureboard.



Setting the date

1. Click [▼] at the Time Day section to display a calendar.
2. Click [◀] or [▶] on the calendar to choose the calendar for the current date (year and month).
 - * When [▶] is clicked while December is displayed, the calendar switches to the next year.
 - * When [◀] is clicked while January is displayed, the calendar switches to the previous year.
3. Click today's date.
 - * When clicked, the calendar closes and the current day is changed.

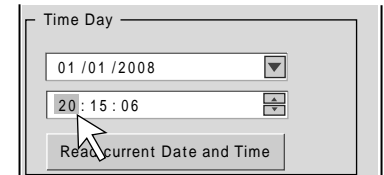


Setting the time

By factory default, the time is set to Japan Standard Time.

PLUS TOOLBOX uses a 24-hour time display. Click to [▲] return, to [▼] advance.

1. When the hours (18 in this example) in the time section is clicked, a gray cursor is displayed over the hours.
2. Click [▲] or [▼] in the time section to choose the current hour.
3. Now click the minutes (09 in this example) to display a gray cursor over the minutes.
4. Click [▲] or [▼] to choose the current minutes.
5. Now click the seconds (18 in this example) to display a gray cursor over the seconds.
6. Click [▲] or [▼] to choose the current seconds.



Note

* The clock starts when the [Setup] button is clicked.

Color Mode Restriction

This sets whether to read in color or black and white when reading the sheet surface. Setting Color Mode Restriction to “Enable” will result in black and white (gray scale) printing, USB memory saving, and the transfer image to the personal computer.

Disable: Reading will be in the color mode.

Enable: Reading will be in the black and white mode.

Scan Data

Resolution

This is the selection of the resolution of the images saved in USB memory, and the transfer images when there is a PC connection.

Standard: Vertical and horizontal dimensions of the read image will be one-half size. This will be one-quarter the amount of image data as compared to the selection of High Resolution.

High Resolution: Vertical and horizontal dimensions of the read image will be 1:1 size. This will result in an image that appears better than with the standard selection.

File Format

Select the format of the images stored on the USB memory device, JPEG (".jpg" extension), PNG (".png" extension) or PDF (".pdf" extension).

Images scanned when a computer is connected can be selected when storing acquired data.

Aspect Ratio

Selection is permitted only with a captureboard of the wide type.

This is the selection of the aspect ratio of the images saved in USB memory, and the transfer images when there is a PC connection.

The "Original Image" will be the same ratio as the captureboard sheet surface. "Match Paper Size" will compress the ratio of A4 size or letter size in the horizontal direction (e.g.a circle will become an ellipse).

Header / Footer

This setting determines whether or not to write the date/time stamp (the factory default), or output the header/footer information stored in the captureboard.

Disable: No output of header/footer information (including date/time stamp).

Enable: Outputs the header/footer information to each of printing, USB saving, and transfer images when there is a PC connection.

* This inserts a title or company name, a date or other text or an image into the margin at the top and bottom of the sheet, and the same information will be printed on any page. This is called a header (when the information is at the top) or a footer (when the information is at the bottom). The header/footer is created with this software and stored in the captureboard. See "Creation and Editing of Headers / Footers" for details.

* The actual printout color may differ from the original image depending on the printer models.

Erase Reminder

This setting issues a remind of the Erase Reminder for text or diagrams drawn on the captureboard sheet rear surface. This is effective for confidential meetings, etc.

Disable: The Erase Reminder function will not operate. (Factory default)

Enable: Pressing the power button and turning off the power will result in the simultaneous flashing of the display window of the captureboard control panel and all of the indicators. The sheet will automatically move up to a surface that has not been erased, and then the power will be turned off.

* Soiling of the sheet weld portion, or marker residue may result in improper operation of the Erase Reminder function. Set the selected data.

4 Setting

Check the settings of the items you have changed, and if they are OK click the "Setup" button.

* Click [Close] if you do not want to change the settings. The changes are canceled.

* Click [Default] to return all the settings to the factory defaults.

The screenshot shows a 'Setup' dialog box with several tabs: Hardware Setup, Capture Setup, Header/Footer, Copyboard Firmware Update, and Security. The 'Header/Footer' tab is selected. The dialog is divided into several sections:

- Output:** Color Mode (Black & White, Color), Density (Standard, Dark).
- Scan Data:** Resolution (Disable, High Resolution), File Format (JPEG, PDF, PNG), Aspect Ratio (Original Image, Match Paper Size).
- Time Day:** Date (2008/09/18), Time (18:20:26), and a 'Read current Date and Time' button.
- Header/Footer:** Enable/Disable radio buttons.
- Erase Reminder:** Enable/Disable radio buttons.
- Color Moder Restriction:** Enable/Disable radio buttons.
- Print:** Paper Size (A4, Letter), Aspect Ratio (Original Image, Match Paper Size).

At the bottom, there are buttons for 'Default', 'Setup', and 'Close'.

10. 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 Feed button.

Does the sheet operate normally?

- No → The error display (E6) appears.
- The connectors of the Sensor Harness are disconnected.
 - 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 13-2.)
 - Out-of-adjustment of CCD Unit: Severe (Perform the CCD adjustment again. See section 13-1.)
 - 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

11. DISASSEMBLY AND ASSEMBLY

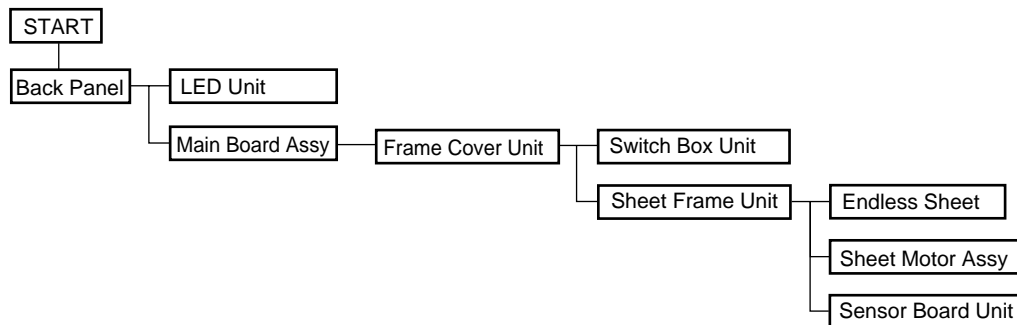
11-1. Tools Required

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

11-2. 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 “14. Wiring Diagram” and “15. 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.

11-3. Disassembly and Assembly Procedures



11-4. 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 “11-3. 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.

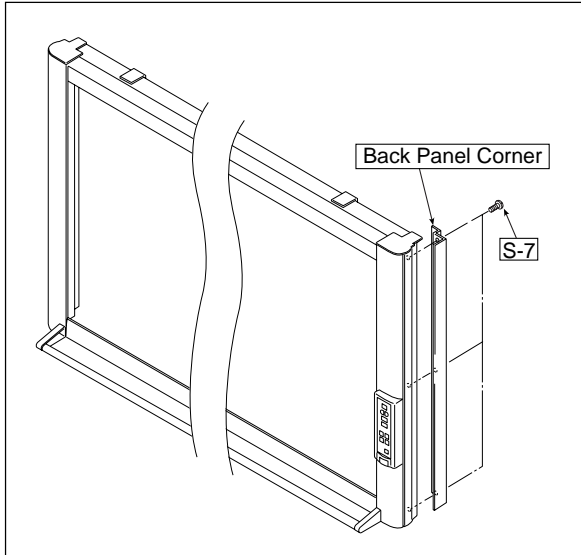


Fig. 1

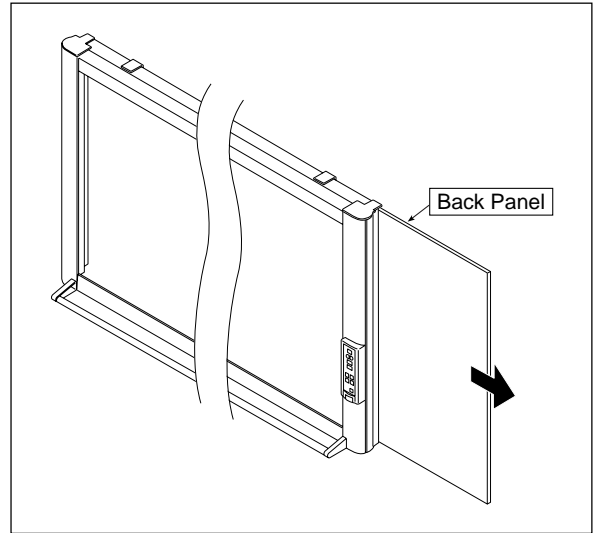


Fig. 2

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.

* For a new Main Board Assy of C-12 type, volume control R82 is not installed because of automatic adjustment.

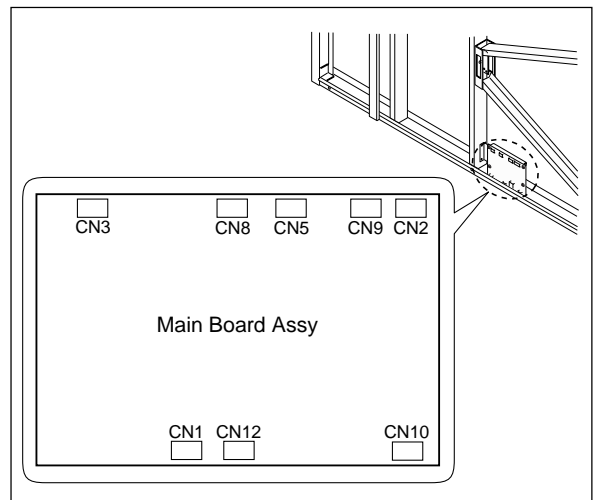


Fig. 3

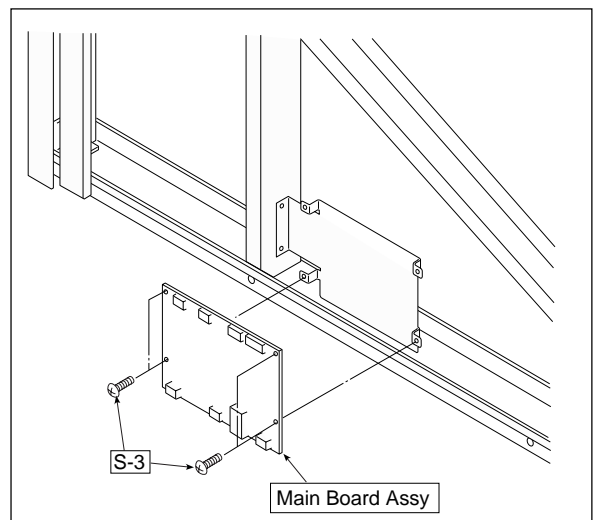


Fig. 4

- 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 13. Adjustment.)

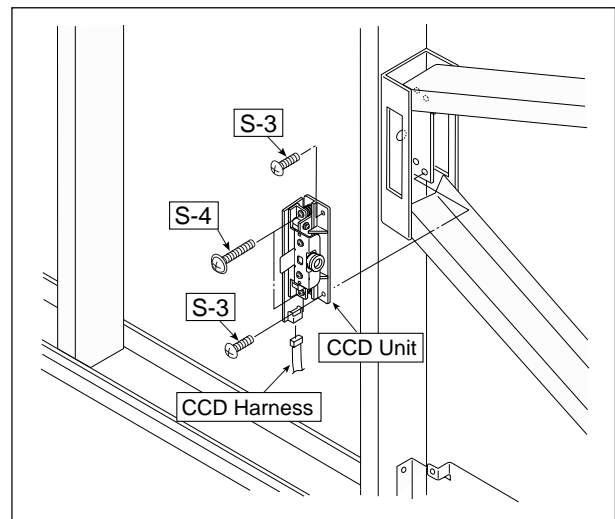
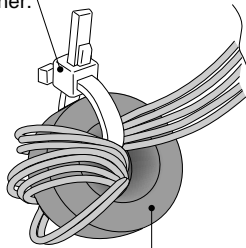


Fig. 5

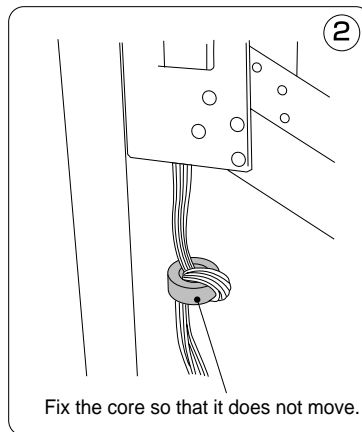
Core installation

■ Ferrite core (Wide only)

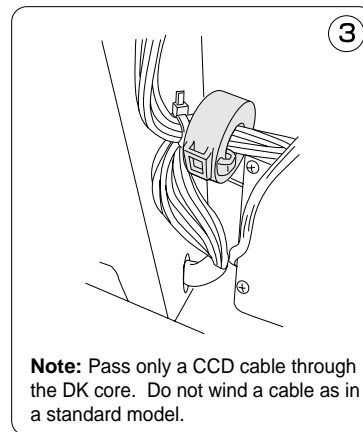
1 Pass the CCD harness securely through the core using a cable tie (SG-SP100) and fix them to the stiffener.



Core (TR-25-12)



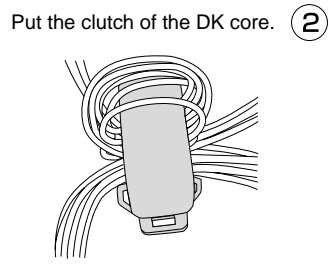
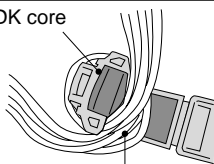
Fix the core so that it does not move.



Note: Pass only a CCD cable through the DK core. Do not wind a cable as in a standard model.

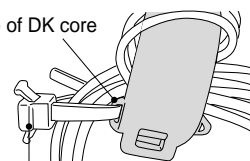
■ DK core installation and wiring

1 DK core
CCD harness
Wind the CCD harness onto the DK core by one turn.
* Pay attention to the winding direction of a cable.

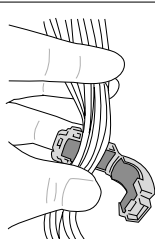


2 Put the clutch of the DK core.

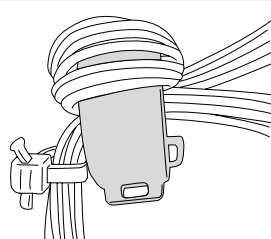
3 Hole of DK core
Pass the SW harness (S) or SW harness (W) through the hole of a DK core using a cable tie (SG-SP100) and fix it to the stiffener.



4 Put the SW harness (S) or SW harness (W) upon a CCD harness and pass it through the DK core.



5 Fix the DK core and SW harness (S) or SW harness (W) securely so that they are put as shown in the figure.



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

1. Remove the "S-2" and "S-9" screws shown in Fig. 6.

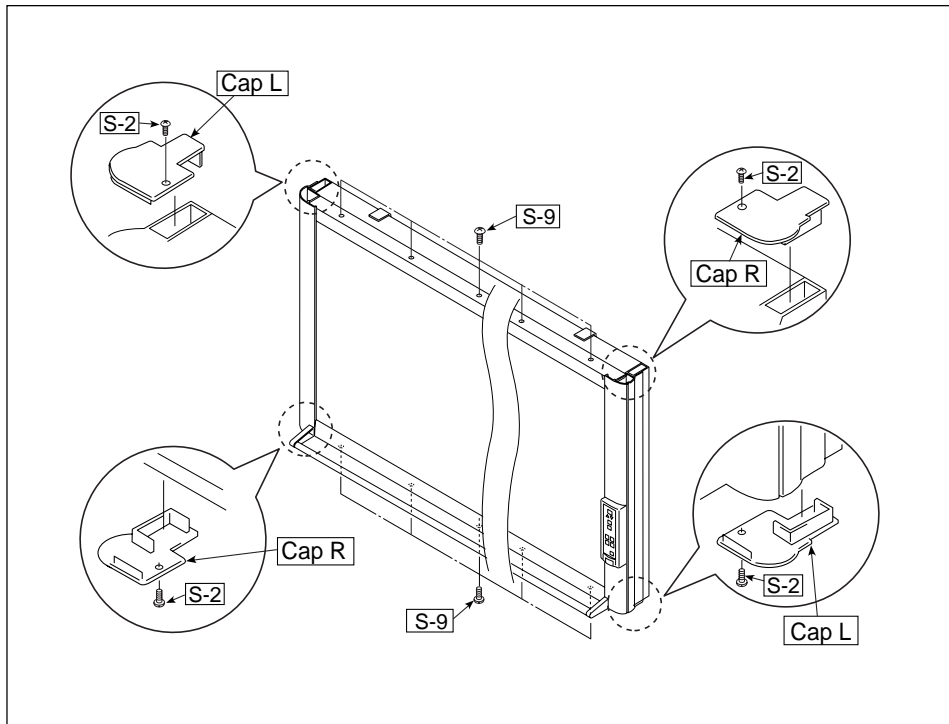


Fig. 6

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.
- Pay attention to a kind of screw. (See Fig. 8.)

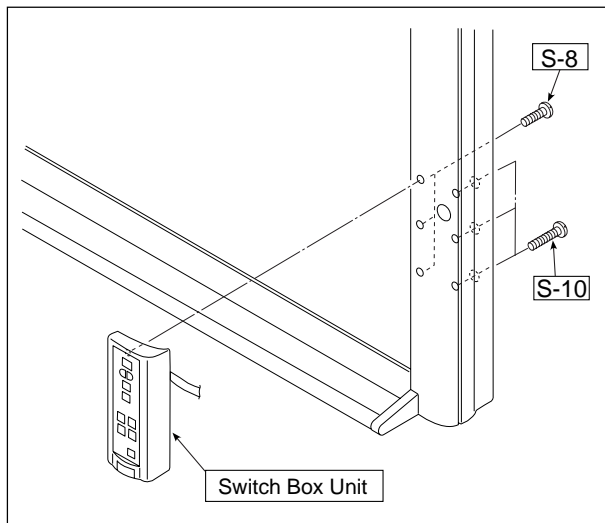


Fig. 7

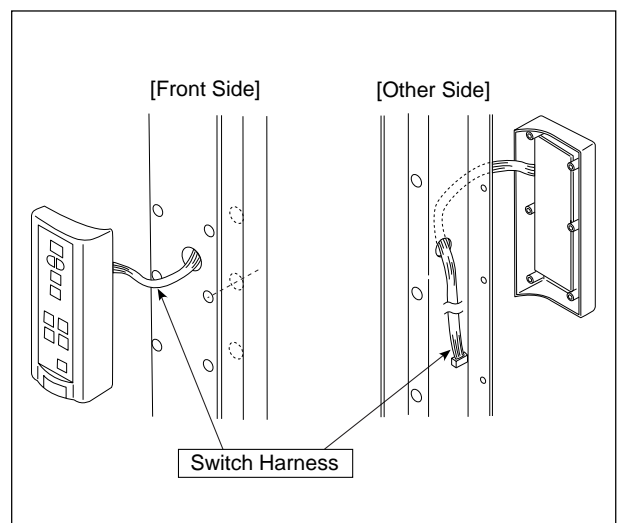


Fig. 8

DISASSEMBLY AND ASSEMBLY

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

Remove the "S-1", "S-2", "S-6" and "S-11" screws shown in Fig. 9 and disassemble the Frame Cover.

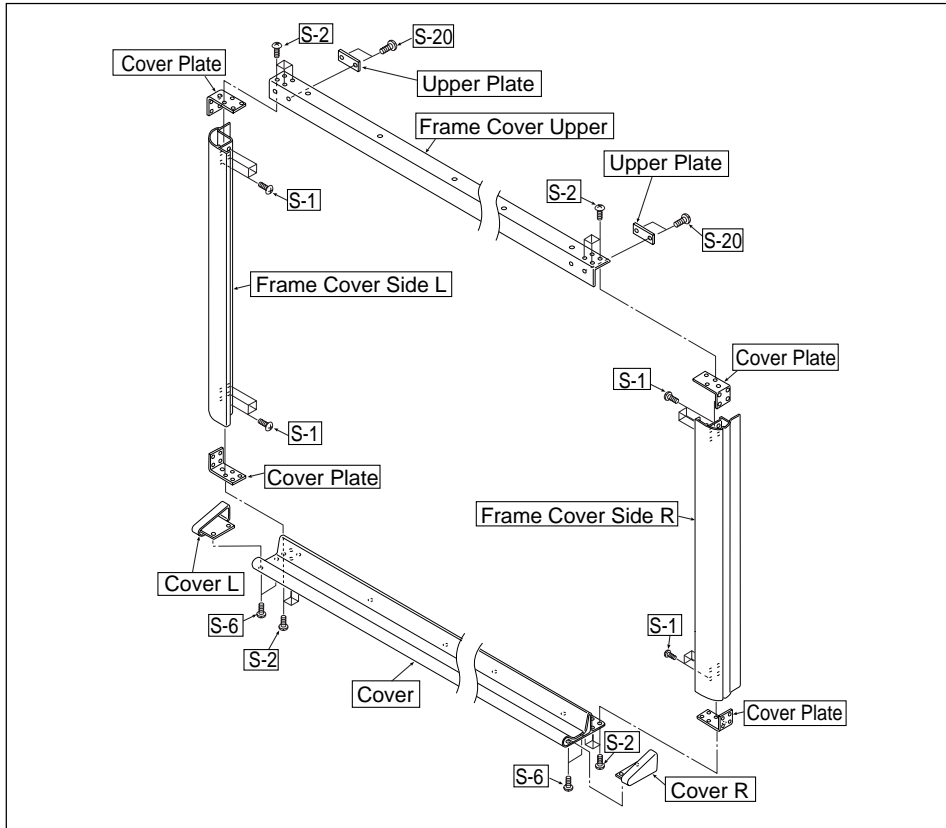


Fig. 9

7) Remove the Sheet Frame Unit. (See Figs. 10.)

1. Remove the "S-1" screws shown in Fig. 10, 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 Harness earlier when the Sheet Frame Unit is removed.

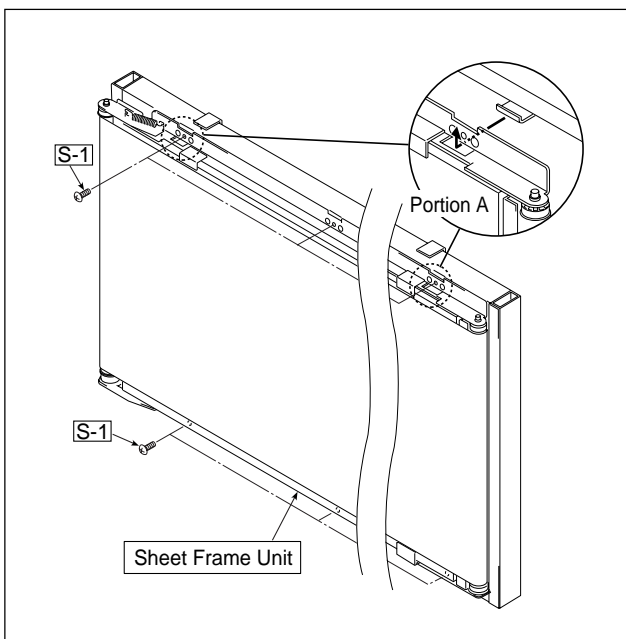


Fig. 10

8) Remove the Sheet Motor Assy. (See Fig. 11.)

1. Remove the "S-3" screws shown in Fig. 11.

Note:

Adjust the tension of the Timing Belt when the Sheet Motor Assy is installed. (See 13. Adjustment.)

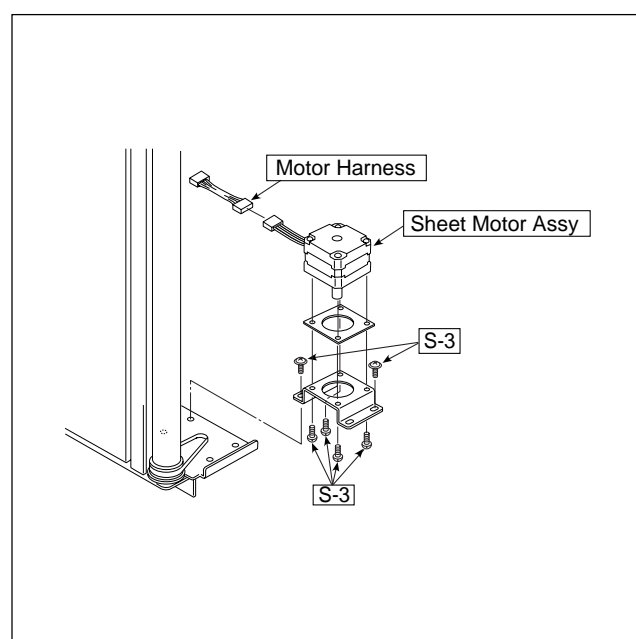


Fig. 11

DISASSEMBLY AND ASSEMBLY

9) Remove the Sensor Board Unit. (See Fig. 12.)

1. Remove the "S-3" screws shown in Fig. 12 and then remove the Sensor Board Unit.

Note:

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

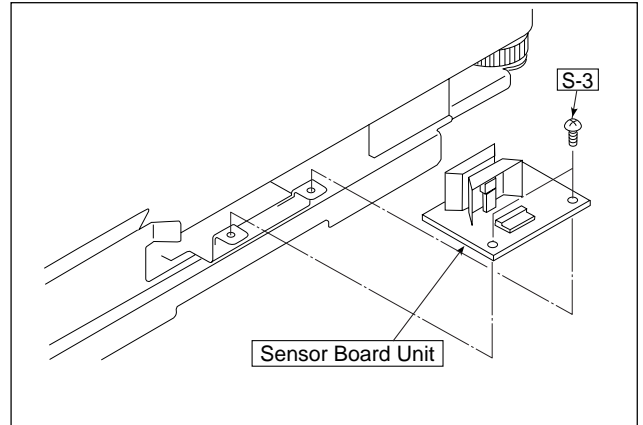


Fig. 12

10) Remove the Endless Sheet. (See Figs. 13, 14, and 15.)

1. Push the sheet roller section inside as shown in Figs. 13 and 14.
2. Remove the Endless Sheet as shown in Fig. 15.

Note:

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

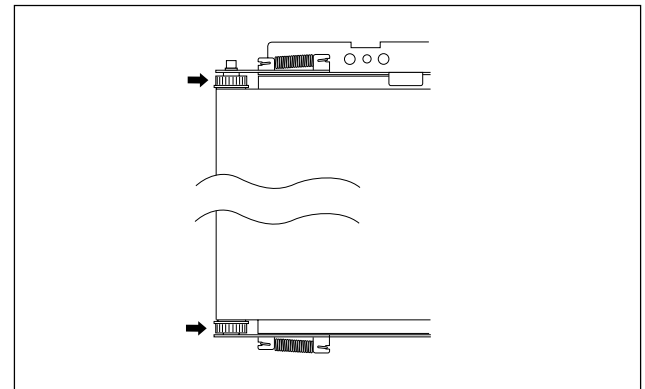


Fig. 13

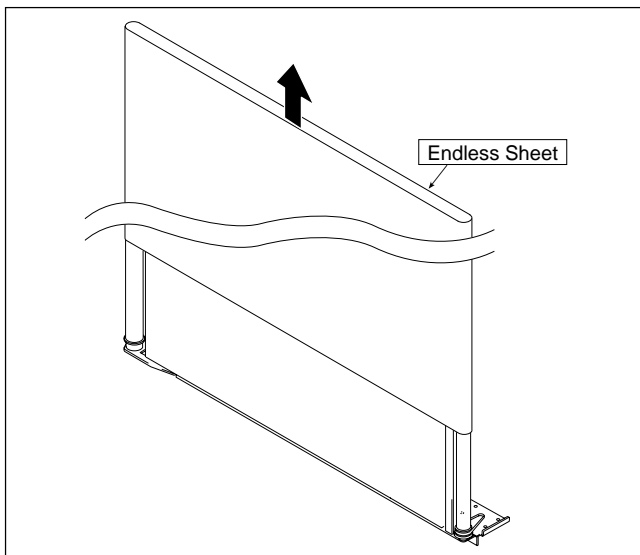


Fig. 15

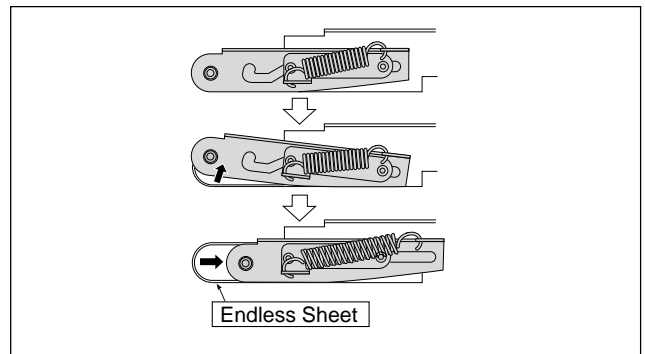


Fig. 14

11) Remove the LED Unit. (See Fig. 16.)

1. Remove the LED Harness as shown in Fig. 16.
2. Remove the "S-3" screws as shown in Fig. 16.
3. Remove the LED Unit as shown in Fig. 16.

Note:

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

* Calibration is required after replaced.

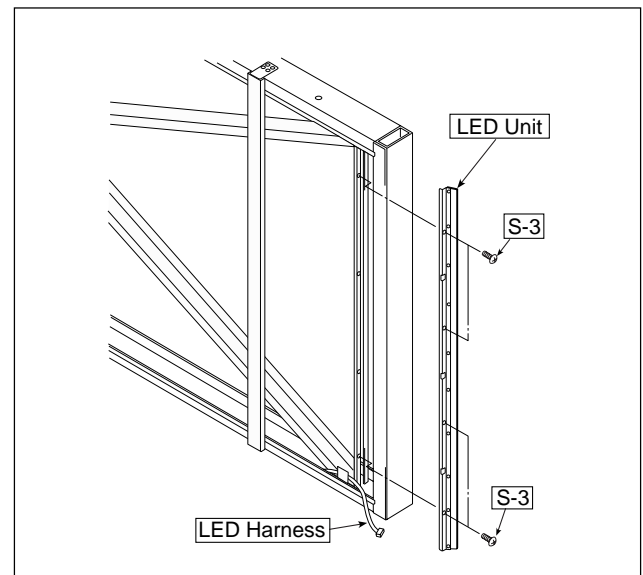
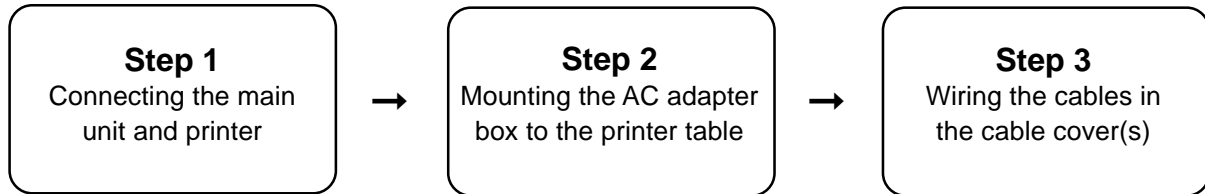


Fig. 16

12. CONNECTION TO THE SET

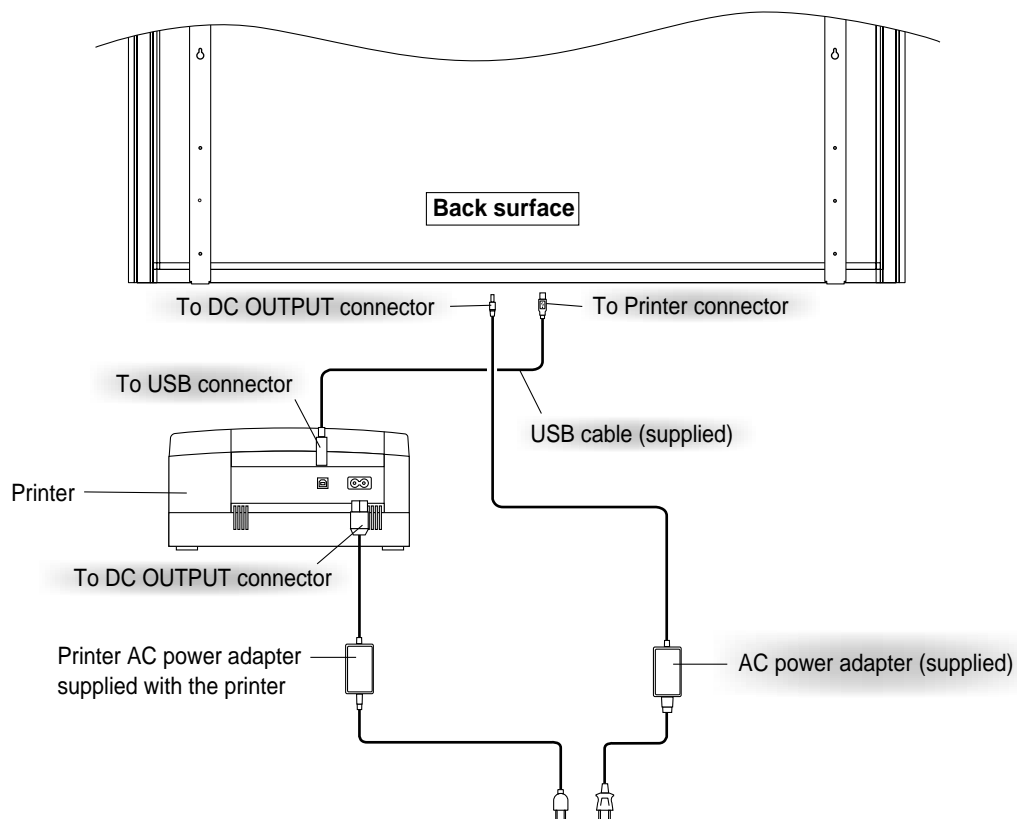
After connecting the main unit and printer, place the AC power adapters in the AC adapter box.

• Flow of connection operations



12-1. 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.

12-2. Mounting the AC adapter box to the printer table

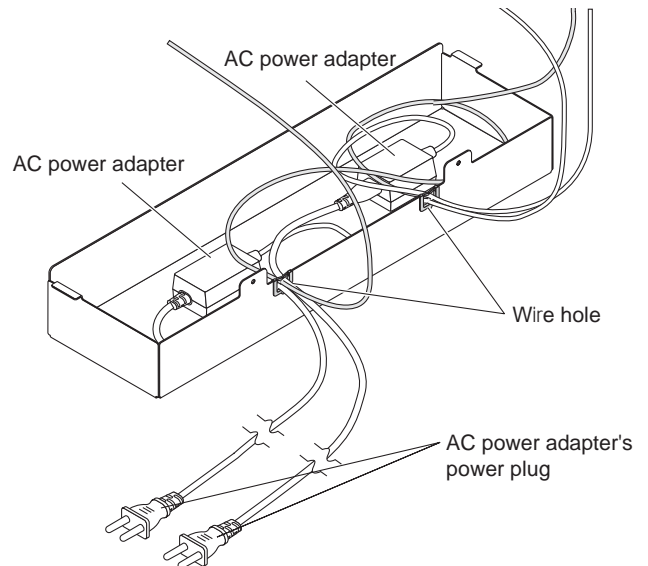
After placing the AC power adapters of the main unit and printer in the AC adapter box, mount the AC adapter box to the printer table.

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.

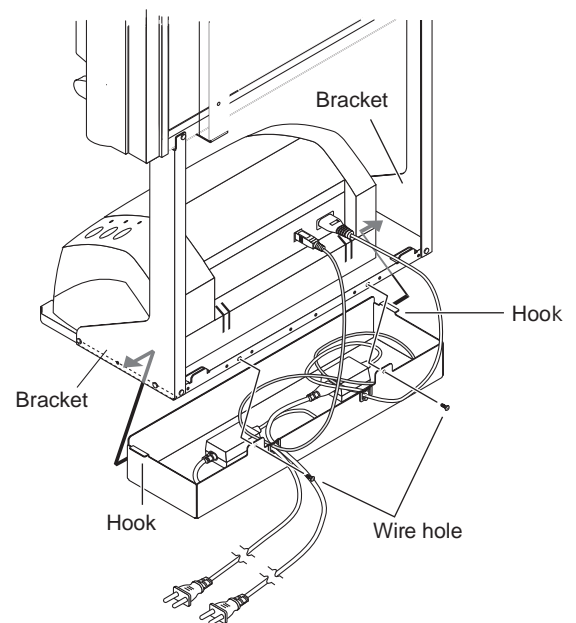
(1) Place the AC power adapters of the main unit and printer in the AC adapter box.

- 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.

12-3. 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

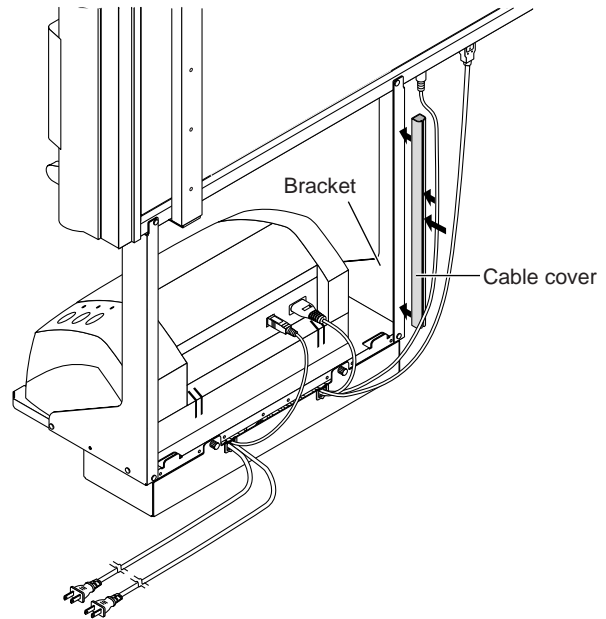
Broad type: Use this for a 200V power cord

(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.

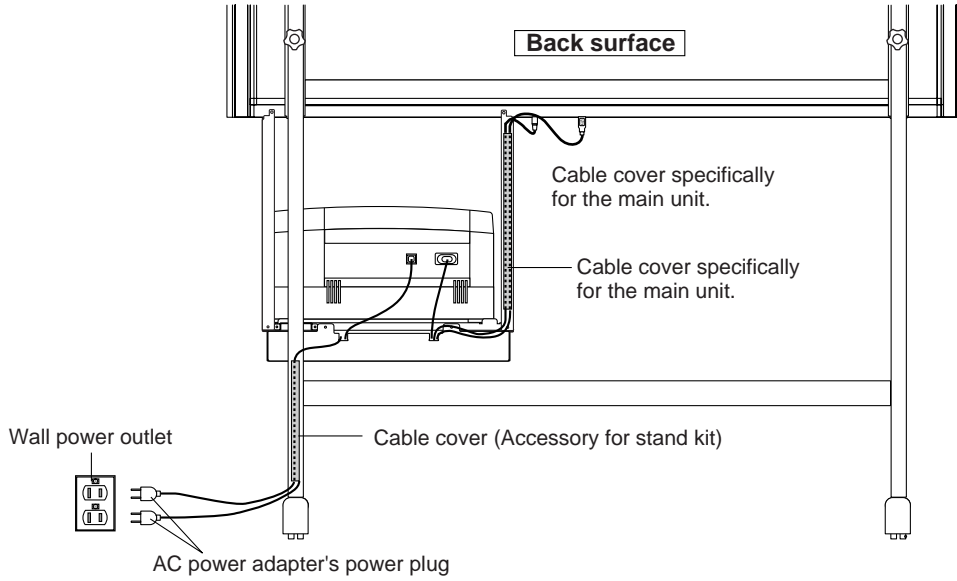
Notice

- 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.

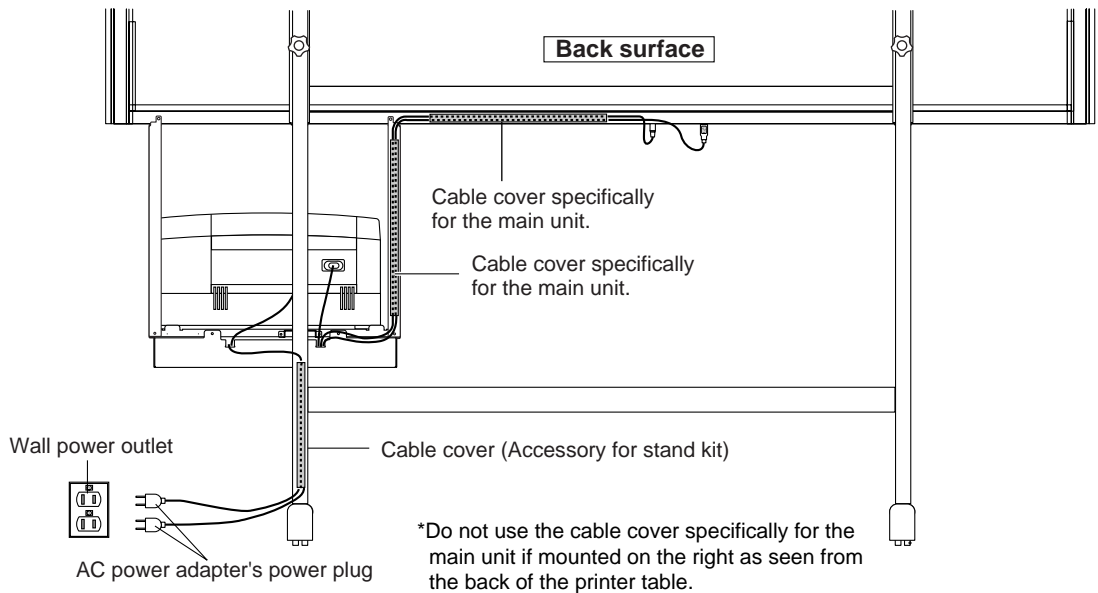


● Example of connection cable wiring

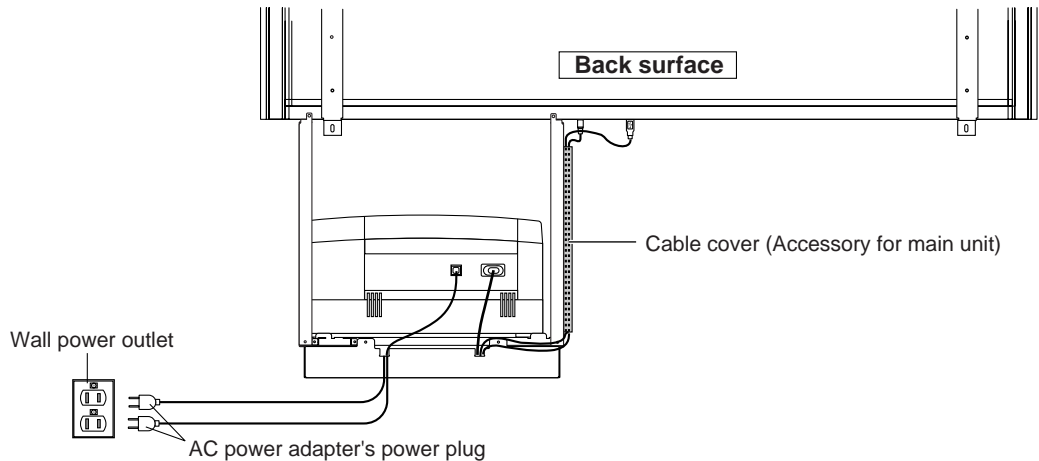
Standard type + stand installation



Wide type + stand installation



Standard type + wall installation



13. ADJUSTMENT

13-1. CCD Adjustment

Tools Required

- Phillips screwdriver (+) No.2
- Oscilloscope
- C-11 Calibration Scale

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.

Entering the adjustment pattern

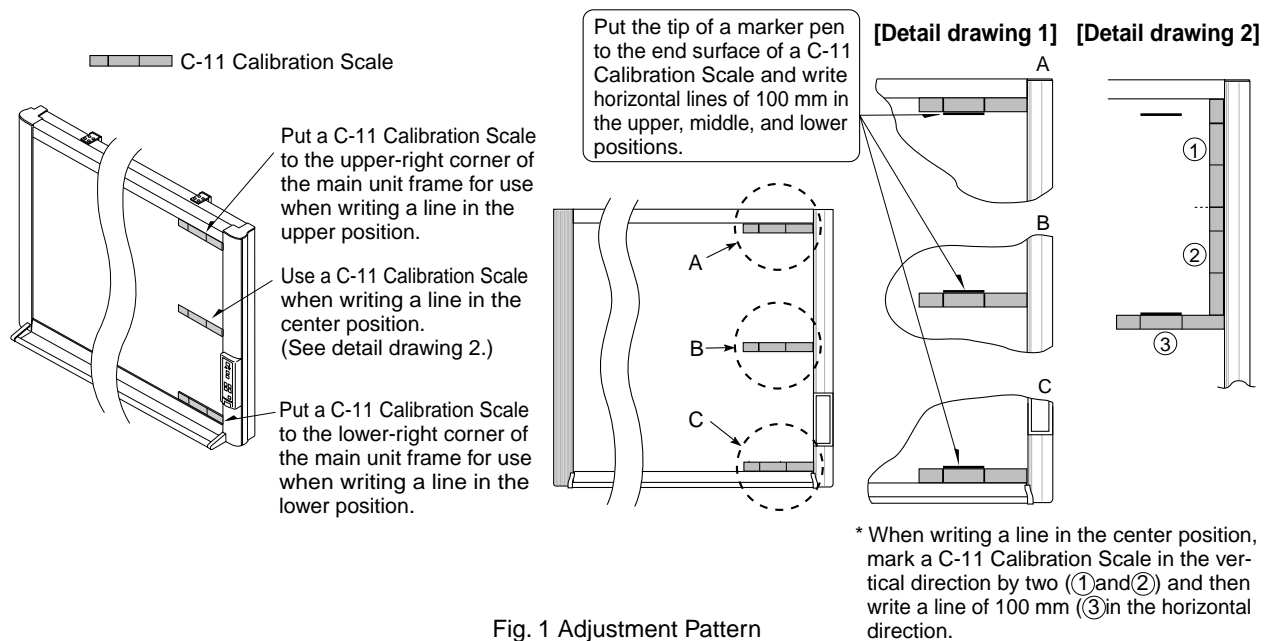


Fig. 1 Adjustment Pattern

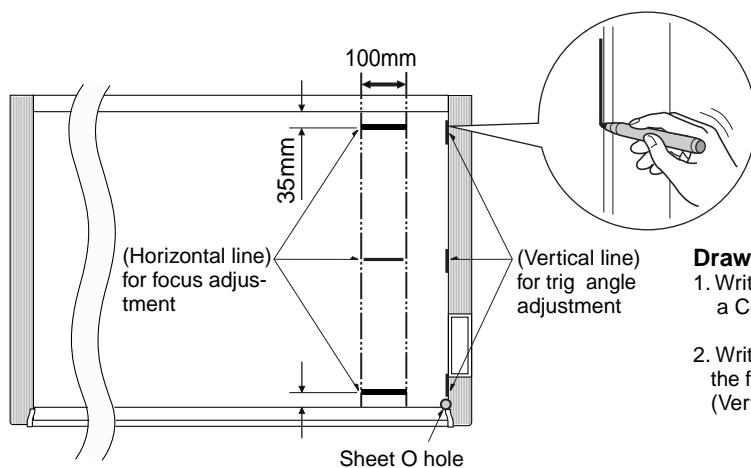


Fig. 2 CCD Adjustment Pattern

Drawing the CCD adjustment pattern

1. Write the (horizontal line) for focus adjustment using a C-11 Calibration Scale. (See detail drawing 1.)
2. Write the (vertical line) for trig angle adjustment using the frame cover side (R) edge of the C-11W main unit. (Vertical line of 50 mm to 100 mm)

- 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 3.)
 - 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 μ 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.

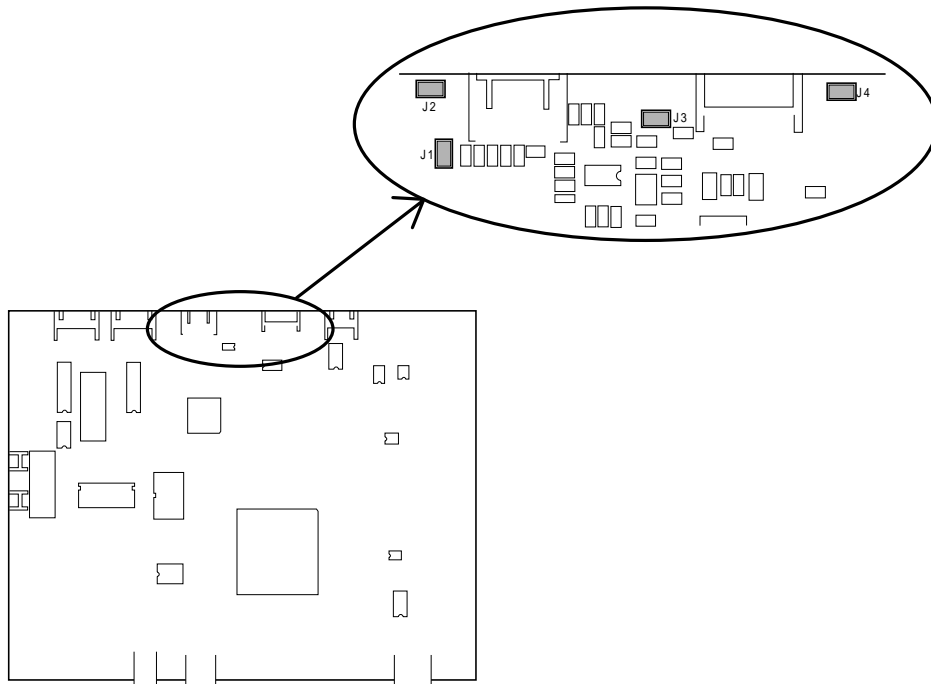


Fig. 3 Main Board Assy

- 3) Temporary focus adjustment
Adjust the lens to the reference position and fix the two lens fixing screws temporarily. (See Figure 4.)
 - * Install the lens so that the lens marking is located horizontally and toward you.

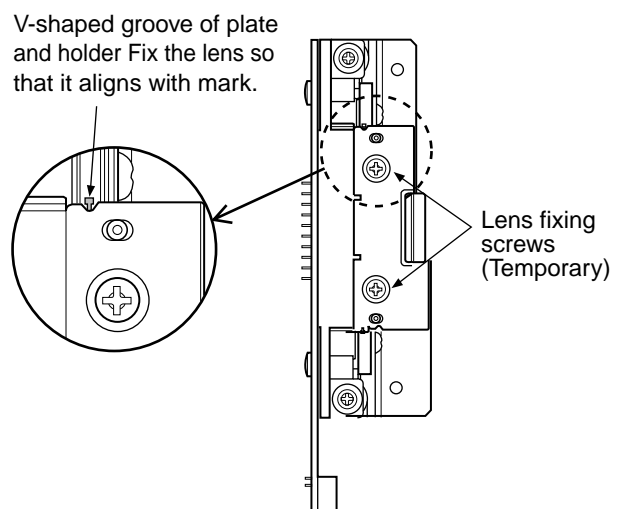


Fig. 4 Temporary focus adjustment

4) Put the set into the CCD adjustment mode.

Turn OFF the POWER.

- Turn ON the ON/Standby button while pressing and holding the “+” and “-” buttons, so the LED display is “AP”.
- Press the “Reprint” button, so the set is put into the CCD adjustment mode. (LED display is “6”.)
- The light-source LED lights in red when you press the Reprint button.
- The LED repeatedly lights in green, blue, and red when you press the Reprint button. (See Figure 5.)

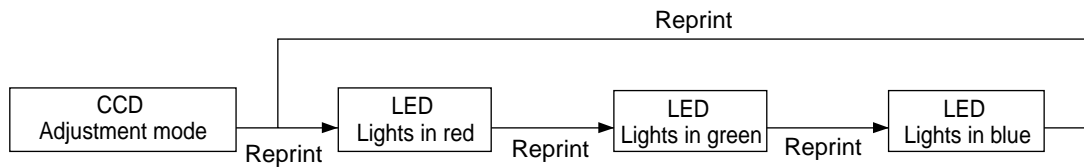


Fig. 5 Adjustment mode sequence

5) 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 6.)

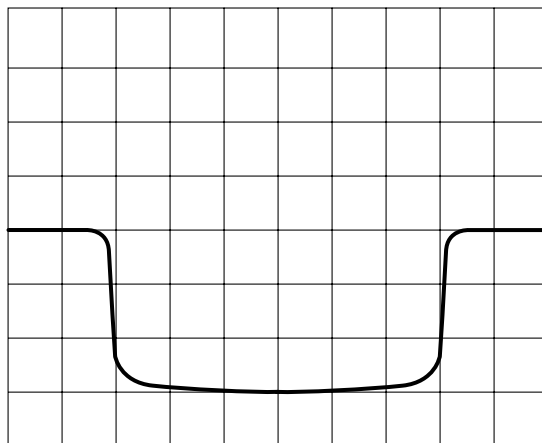


Fig. 6 CCD waveform (Adjustment of oscilloscope)

6) CCD monitoring angle adjustment

Turn the CCD position adjustment screws (see Figure 7.) 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 7.)

Note:

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

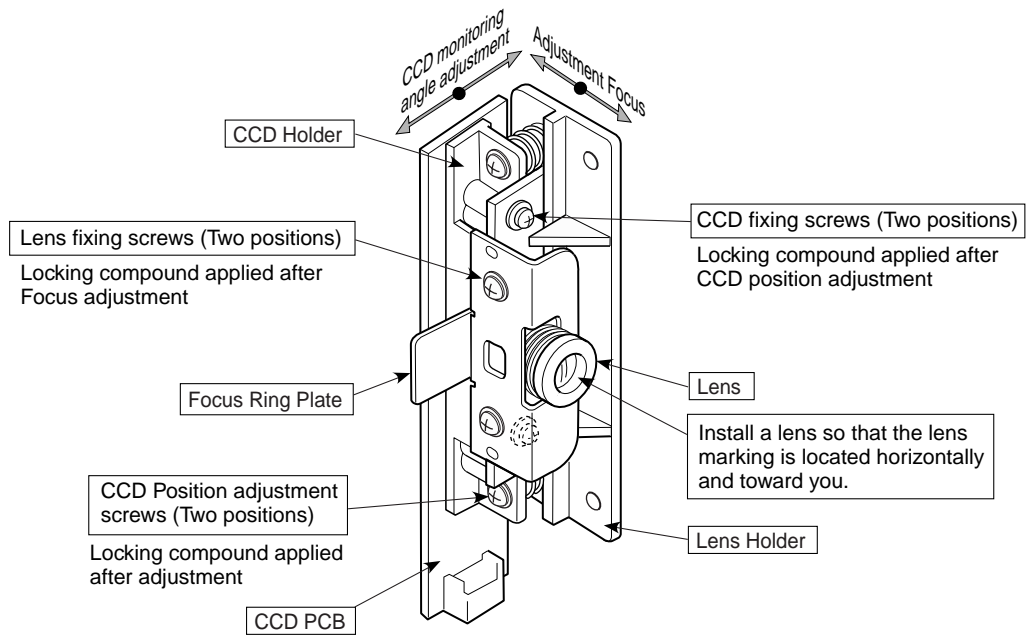


Fig. 7 CCD adjustment screws

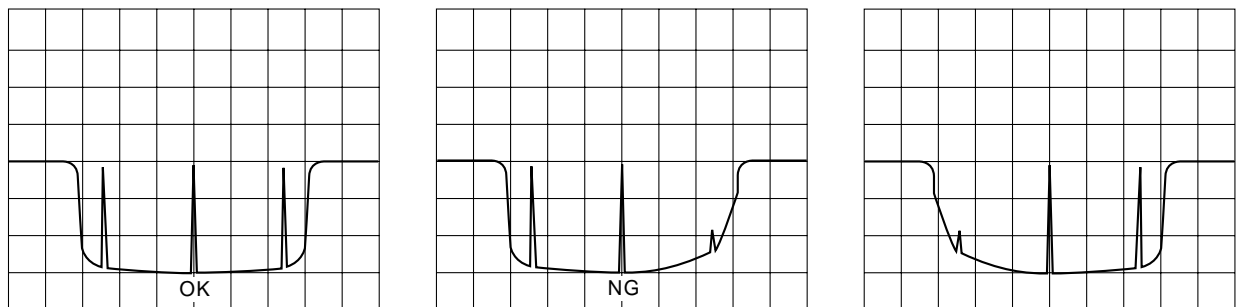


Fig.8 CCD waveform (Monitoring angle adjustment)

7) 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 4). (See Figure 9.)

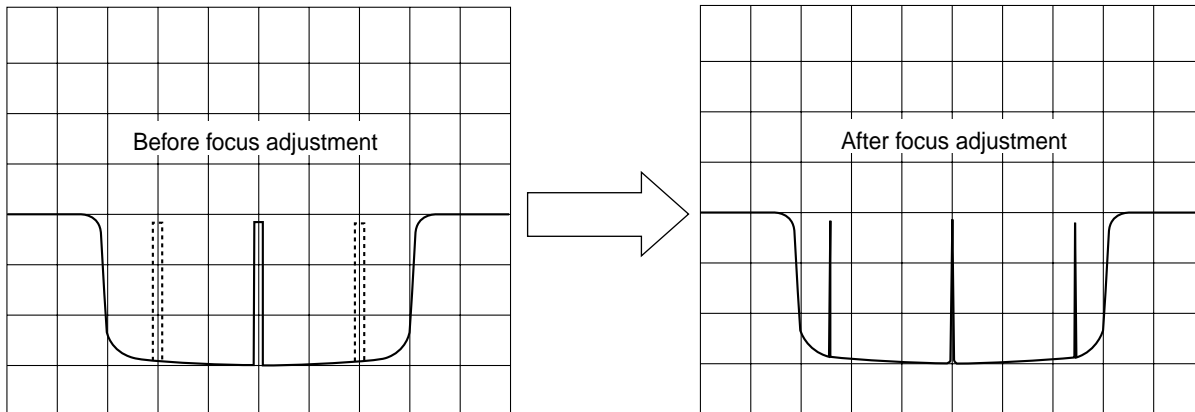


Fig.9 CCD waveform (Focus adjustment)

8) Waveform confirmation

The brightness of the light-source LED is automatically adjusted by CPU when you press the Feed 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.

13-2. Calibration Procedure

Preparation

- C-11 Calibration Scale
- Dedicated board marker (black)

1) Write a calibration pattern. (See Figure 11.)

Clean the sheet (on two planes) before performing calibration, and be sure to return the back panel to the prescribed position.

* Take care that outer light is not put with the back panel completely closed when performing calibration.

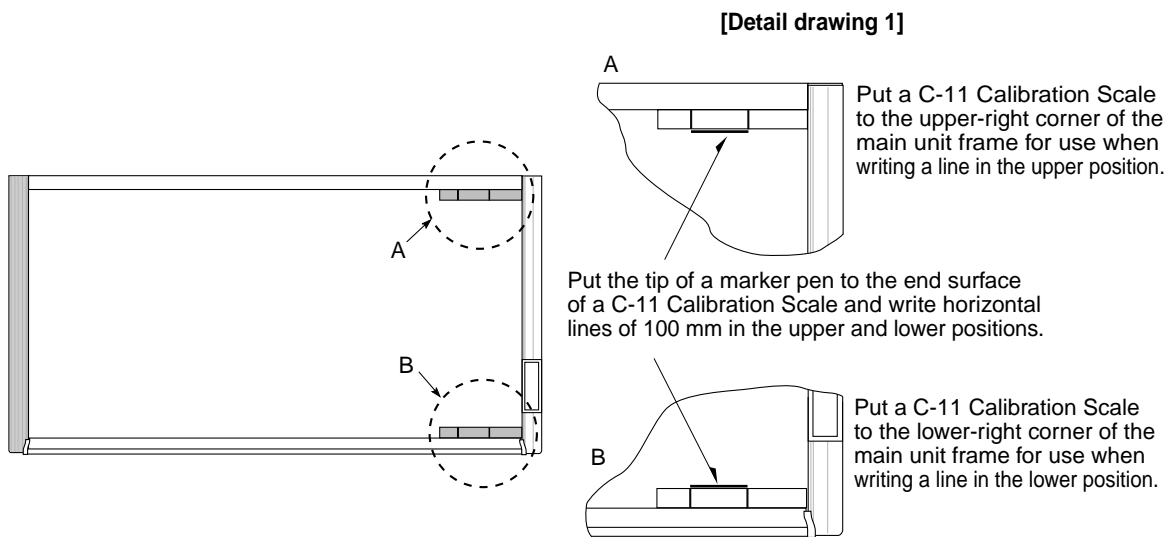
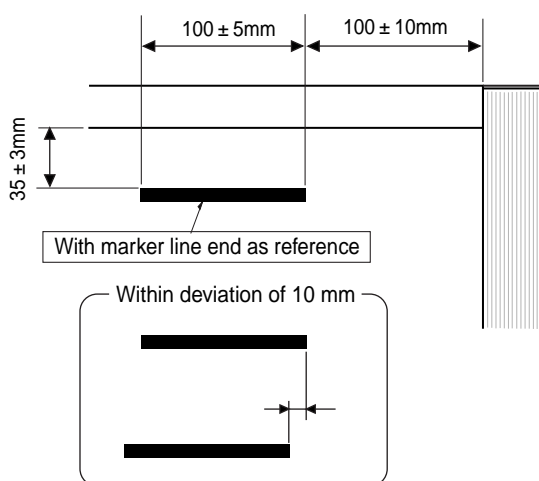


Fig. 11 Use of C-11 Calibration Scale



Cautions during calibration

1. Confirm that sheet O hole for page management of a sheet exists at the lower-right corner.
There are two holes Use a hole far from seam portion of the sheet.
 2. Write a line using a black marker.
 3. Write only upper and lower horizontal lines. Do not write a vertical line.
(A C-11 Calibration Scale is used in this case.)
 4. The Hole located below a Sheet is used as reference.
 5. Visually check the position of the hole located below a sheet and write a line with position about 100 mm away from the right as reference.
 6. Write two lines of about 100 mm long in the upper and lower positions.
 7. Write an upper line in the lower position about 35 mm away from the inside of a frame (upper).
 8. Write an upper line in the position about 35 mm away from the frame side of a frame (lower).
- * Align horizontal lines according to the upper and lower length.
(Deviation is within 10 mm.)

Fig.12 Calibration Pattern Error

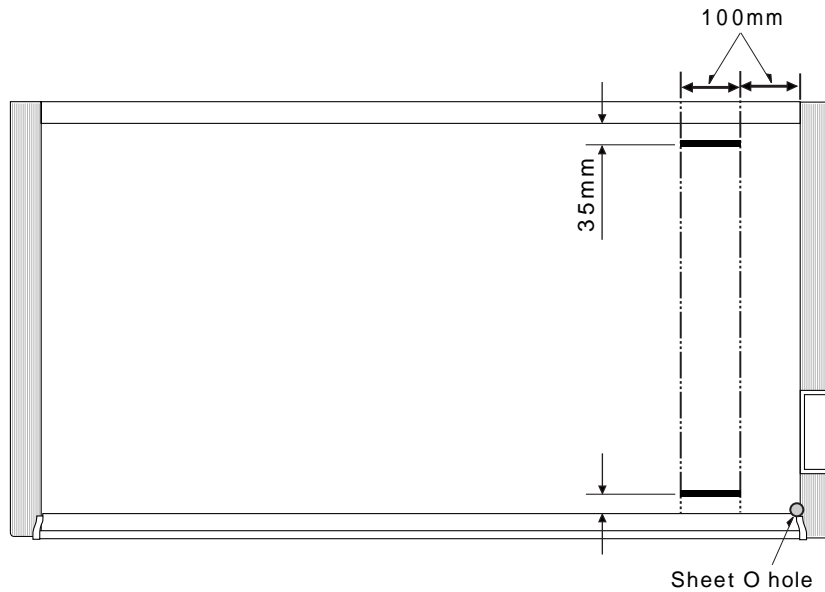


Fig. 13 Calibration Pattern

2) Start calibration.

- 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
a. When calibration is started.	<2.SPC>*
b. Adjust the light level of LED.	<2.0>
c. Detect the first hole (sheet O hole).	<2.1>
d. Turn the sheet by one cycle to detect the hole and calculate the distance.	<2.2>
e. Move the sheet to the position where reference data is gotten.	<2.3>
f. Adjust the light level of LED again in the position where reference data is gotten.	<2.4>
g. Get the reference data.	<2.5>
h. Move the sheet so that the center of a horizontal line is almost positioned in the image pickup range of CCD.	<2.6>
i. Write data into flash ROM.	<2.7>

Operation is normally terminated when <AA.> is displayed. Turn off the power in this case.

- * SPC indicates the non-lighting state.
- * <O.O.> is displayed respectively when an error occurred.
- * <2.H.> is displayed when data cannot be written into flash ROM.

Draw something on a sheet using four-color makers and confirm the image data.

At that time, confirm that the data written in the inner position about 10 mm away from the upper and lower end of the sheet can be read correctly.

13-3. Tension Adjustment of Timing Belt

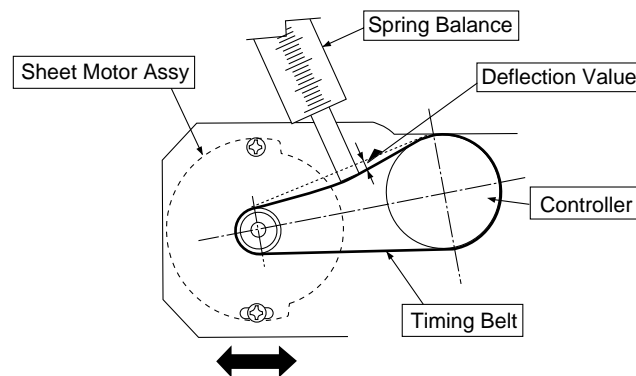
The tension of a timing belt must be adjusted when the Sheet Motor Assy is replaced and removed.

Tool required

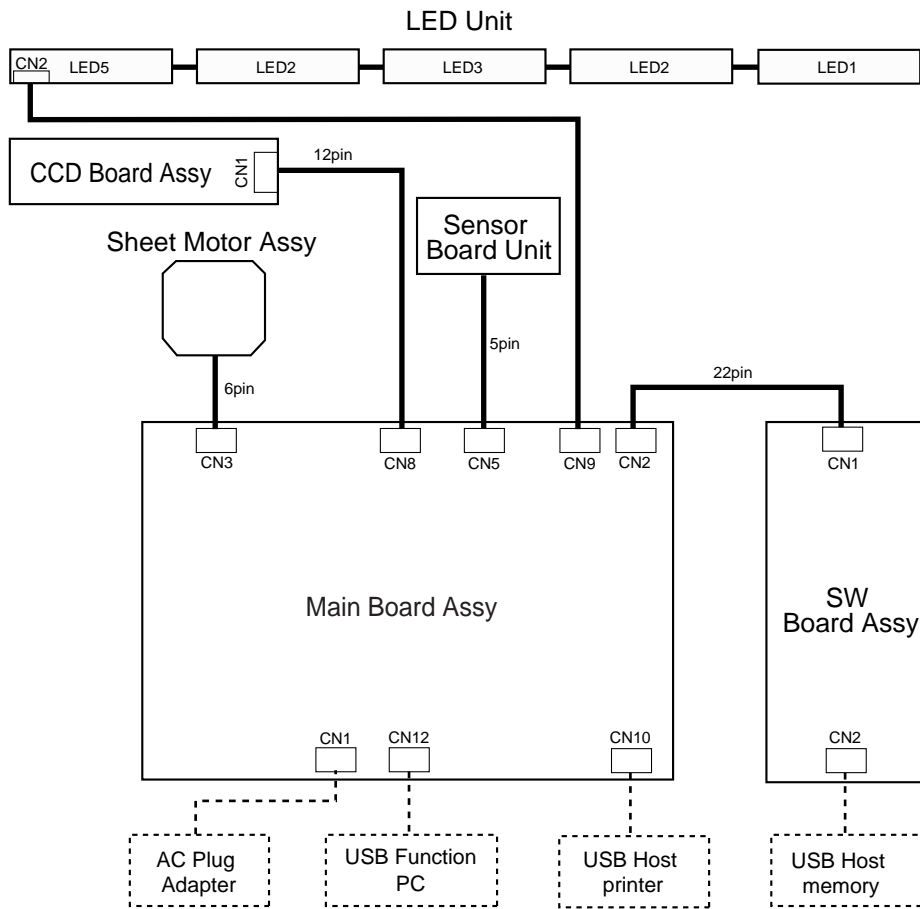
- Spring balance

Adjustment (See the illustration shown below.)

- Fix the Sheet Motor Assy tentatively and measure the tension of a timing belt using a spring balance.
- Move the Sheet Motor Assy and fix it in the position where proper load is obtained.
- The proper load is 0.3 to 0.6 kgf with the timing belt bent by approximately 1 mm.

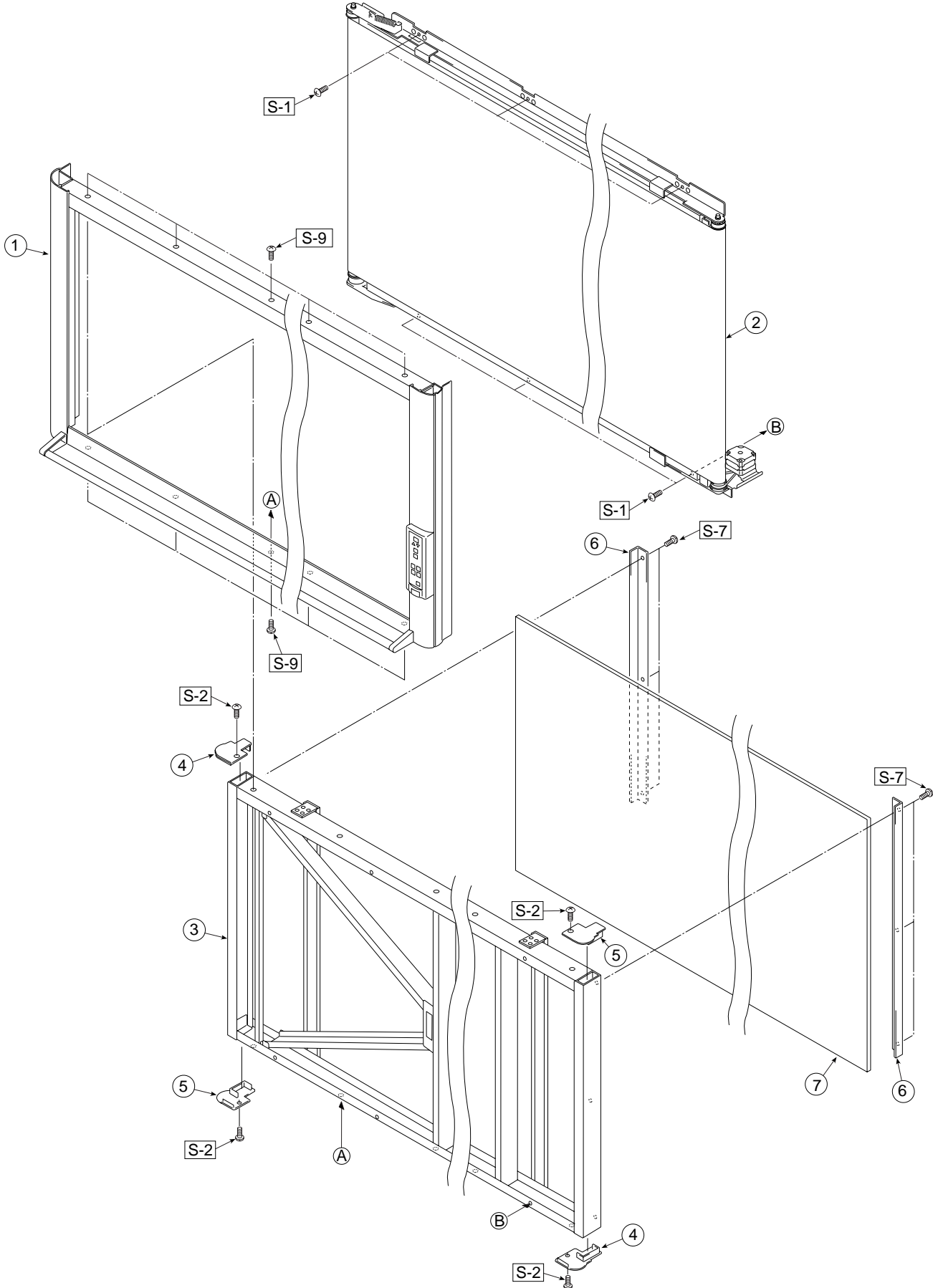


14. CABLE AND CABLE CONNECTION



11. PARTS LIST

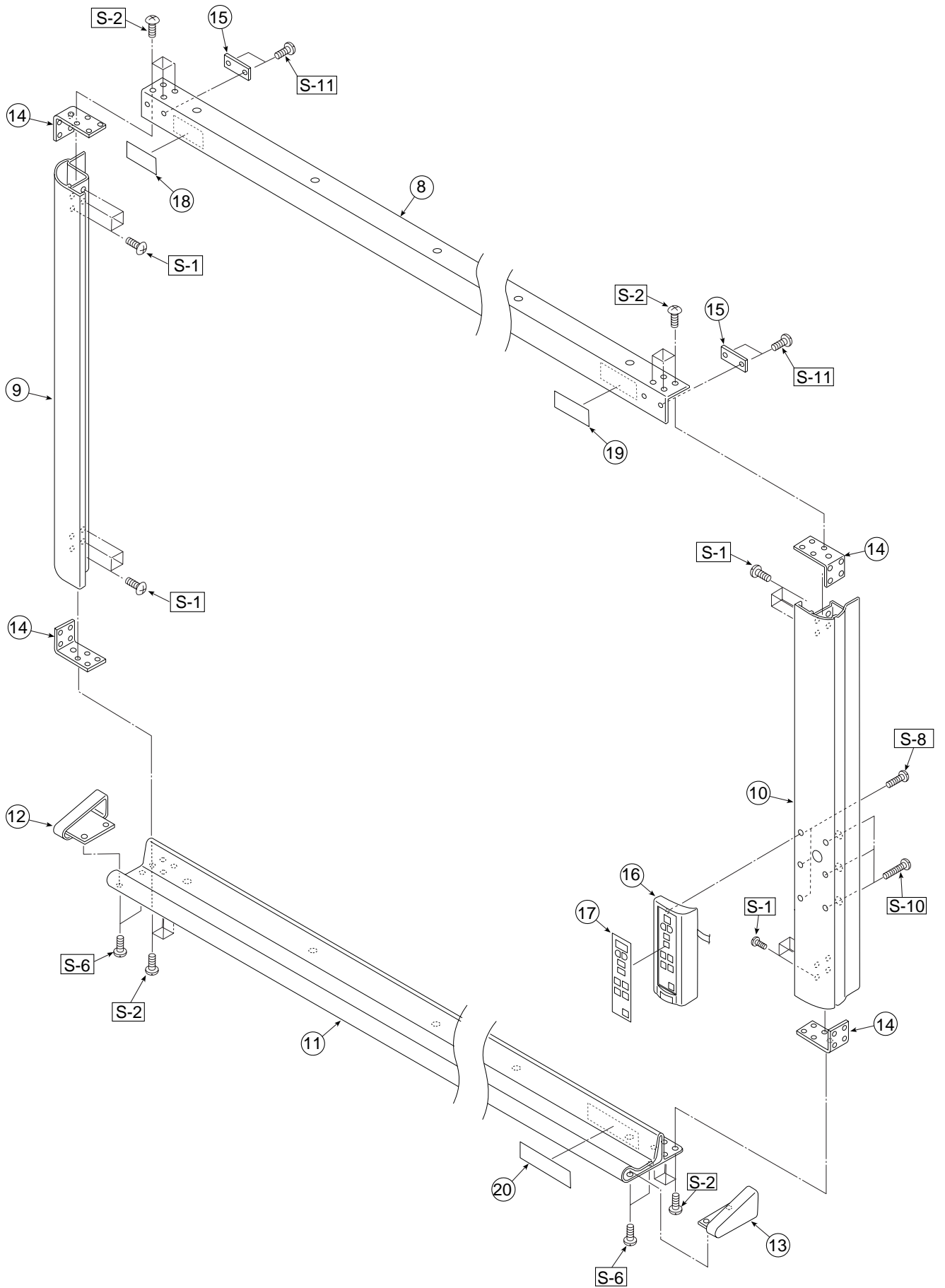
1. Overall configuration



PARTS LIST

1. Overall configuration					
No	PARTS NAME	PARTS No.		Q' ty	REMARK
		S	W		
1	Frame Cover	-	-	1	
2	Sheet Unit	-	-	1	
3	Board Unit	-	-	1	
4	Cap L	723122100	723122100	2	
5	Cap R	723122200	723122200	2	
6	Back Panel Corner	-	-	2	
7	Back Panel (S)	301101	-	1	
	Back Panel (W)	-	301102	1	

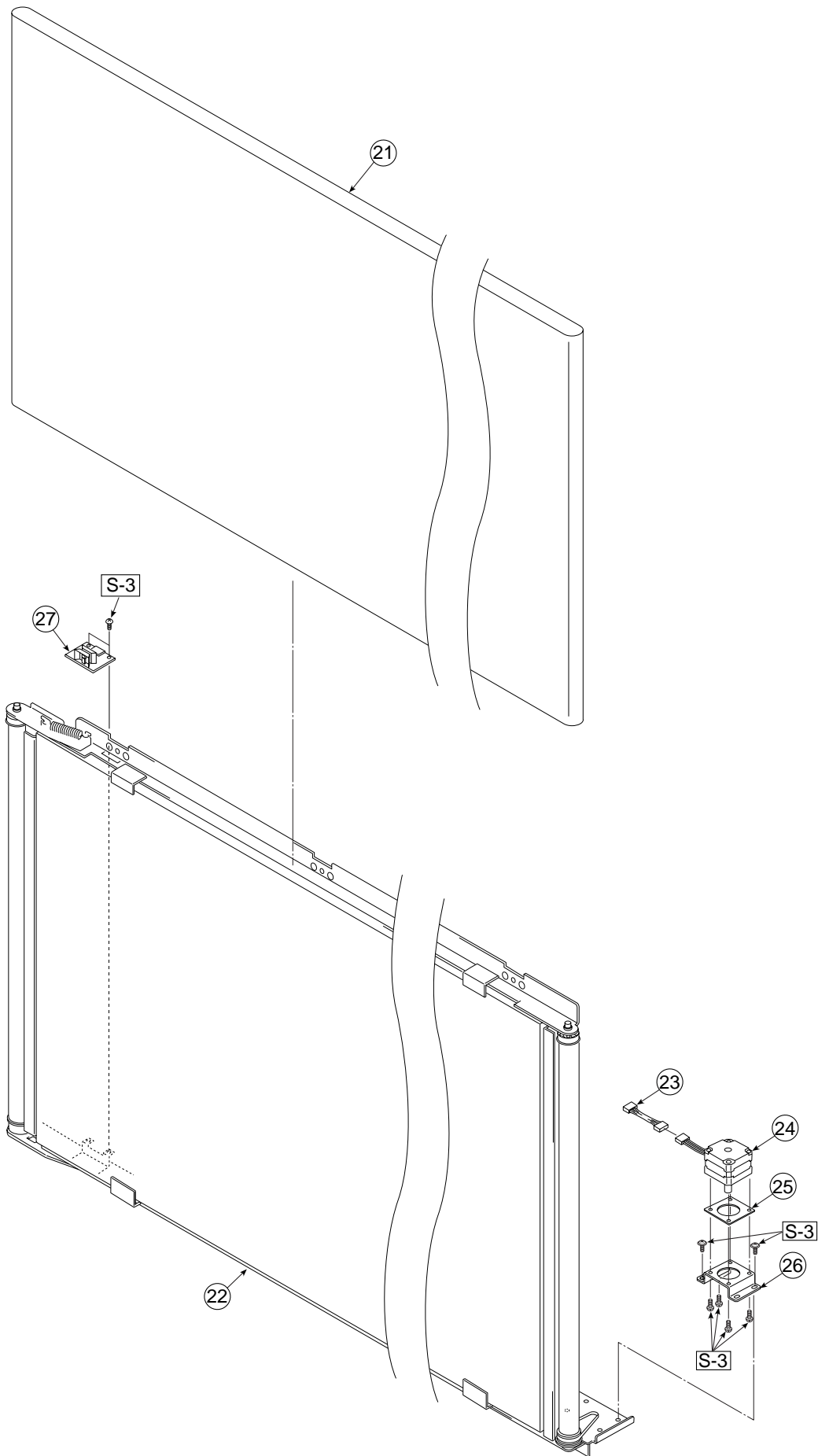
2. Frame Cover Section



PARTS LIST

2. Frame Cover Section					
No	PARTS NAME	PARTS No.		Q' ty	REMARK
		S	W		
-	Frame Cover UNIT (S)	301203	-	1	
	Frame Cover UNIT (W)	-	301204	1	
8	Frame Cover Upper (S)	-	-	1	
	Frame Cover Upper (W)	-	-	1	
9	Frame Cover Side L	-	-	1	
10	Frame Cover Side R	-	-	1	
11	Frame Cover Lower Unit (S)	-	-	1	
	Frame Cover Lower Unit (W)	-	-	1	
12	Cover L	723120700	723120700	1	
13	Cover R	723120800	723120800	1	
14	Cover Plate	715201000	715201000	4	
15	Upper Cover Plate	723131300	723131300	2	
16	Switch Box Unit C-12S (J)	-	-	1	Japan Only
	Switch Box Unit C-12W (J)	-	-	1	Japan Only
	Switch Box Unit C-12S (O/S)	723090053	-	1	
	Switch Box Unit C-12W (O/S)	-	723090054	1	
17	Switch Panel C-12 (J)	-	-	1	Japan Only
	Switch Panel C-12 (O/S)	723156400	723156400	1	
18	Name Plate	723150100	723150100	1	
19	Captureboard Label	723150200	723150200	1	
20	Maintenance Label CW (J)	-	-	1	Japan Only
	Maintenance Label CW (O/S)	723157000	723157000	1	

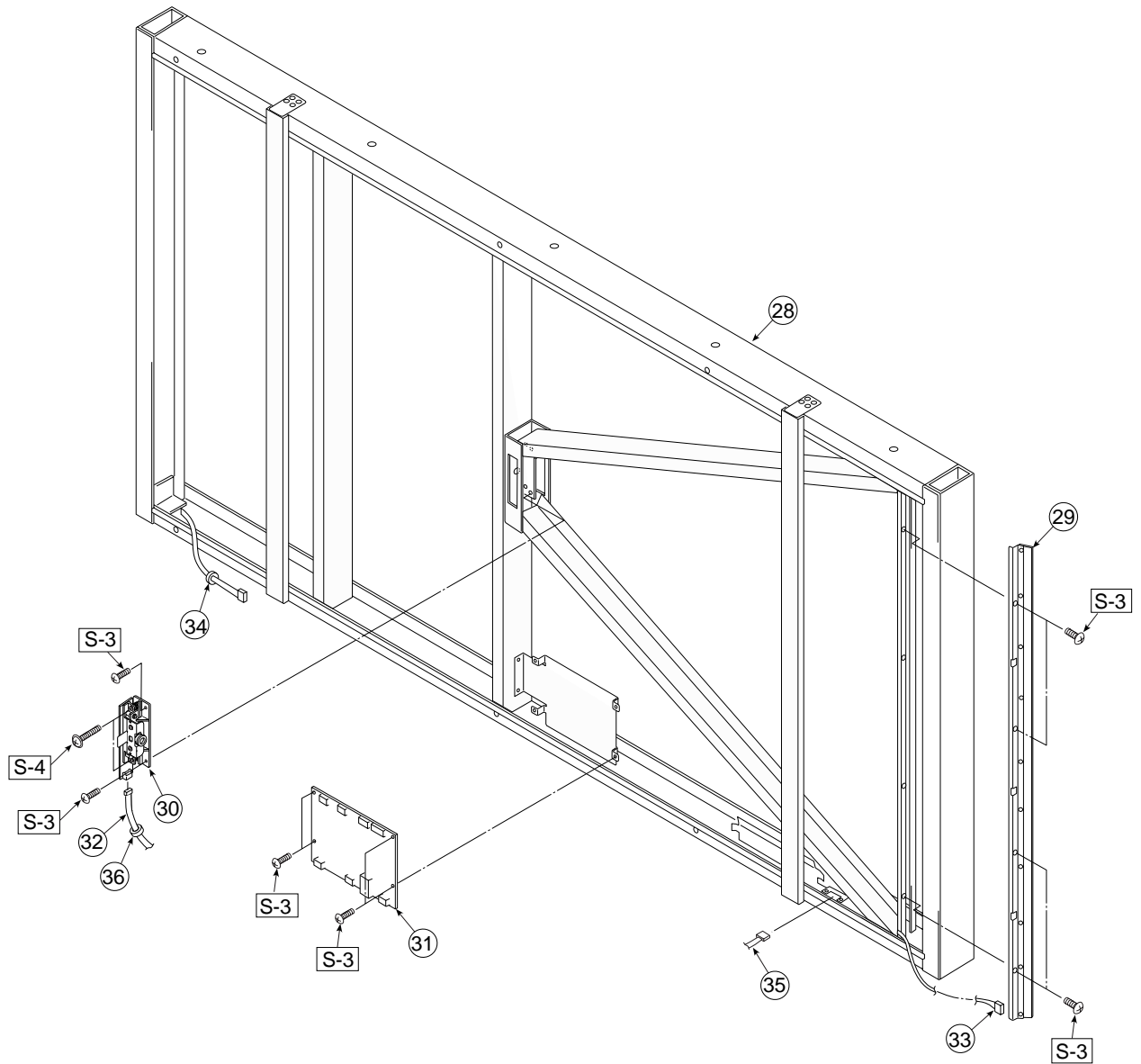
3. Sheet Frame Section



PARTS LIST

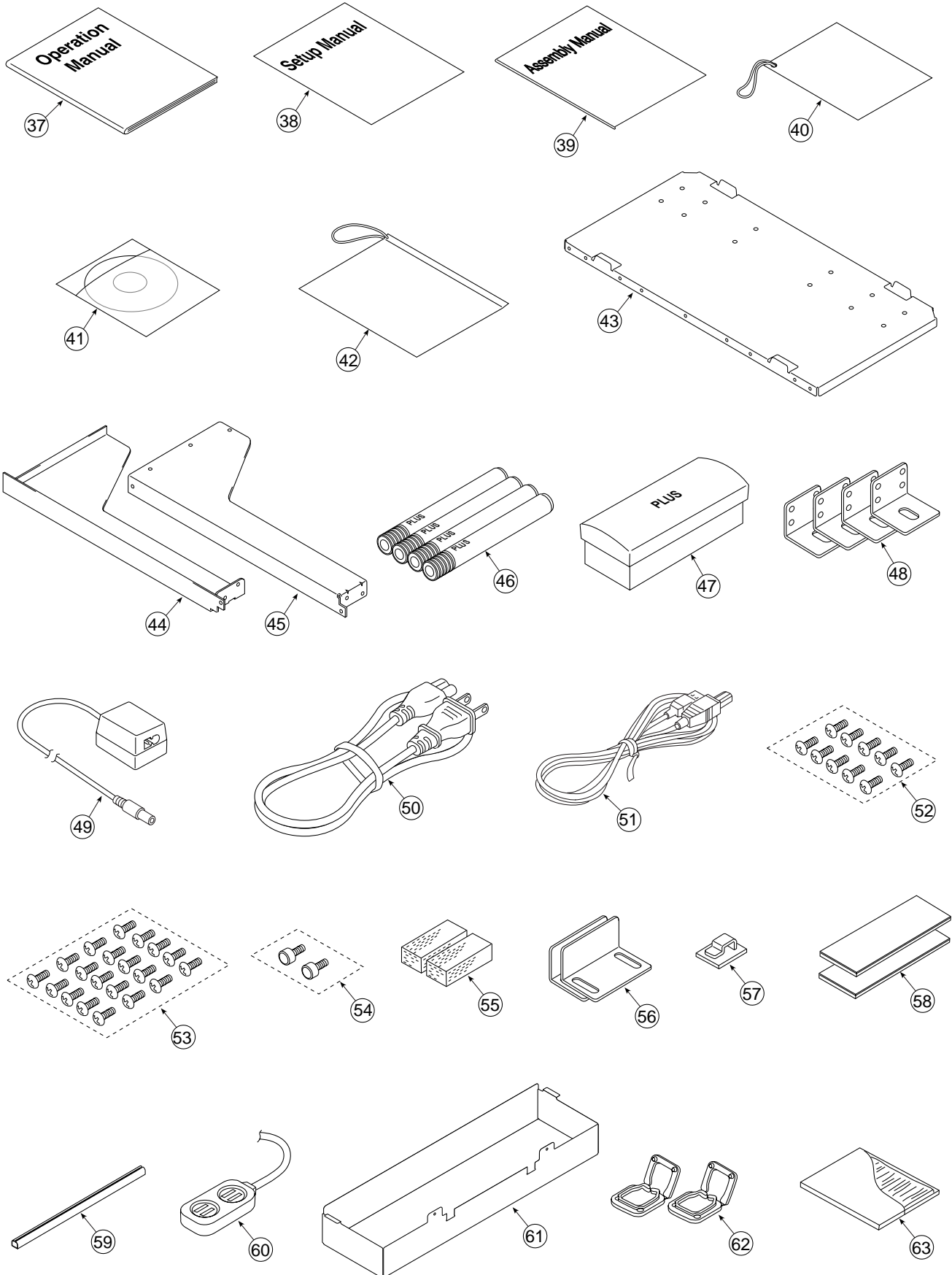
3. Sheet Frame Section					
No	PARTS NAME	PARTS No.		Q' ty	REMARK
		S	W		
21	Endless Sheet C-12S	301201	-	1	
	Endless Sheet C-12W	-	301202	1	
22	Sheet Frame C-12S	-	-	1	
	Sheet Frame C-12W	-	-	1	
-	Sheet Frame Unit C-12S	301209	-	1	
	Sheet Frame Unit C-12W	-	301210	1	
23	Motor Harness (S)	715257800	-	1	
	Motor Harness (W)	-	715258300	1	
24	Sheet Motor Assy	718501200	718501200	1	
25	Vibration Proof Rubber	718209300	718209300	1	
26	Motor Bracket	715353300	715353300	1	
27	Sensor Board Unit	715260900	715260900	1	

4. Board Frame Section



4. Board Frame Section					
No	PARTS NAME	PARTS No.		Q' ty	REMARK
		S	W		
28	Board Frame Unit (S)	-	-	-	No Parts Supply
	Board Frame Unit (W)	-	-	-	No Parts Supply
29	LED Unit	301109	301109	1	
30	CCD Unit	715090013	715090013	1	
31	Main Board Assy C-12	723511500	723511500	1	
32	CCD Harness	715257700	715257700	1	
33	LED Harness	715257900	715257900	1	
34	DK Core	714890100	714890100	1	
35	Sensor Harness	715260600	715260600	1	
36	Ferrite Core	-	715251512	1	Wide Only

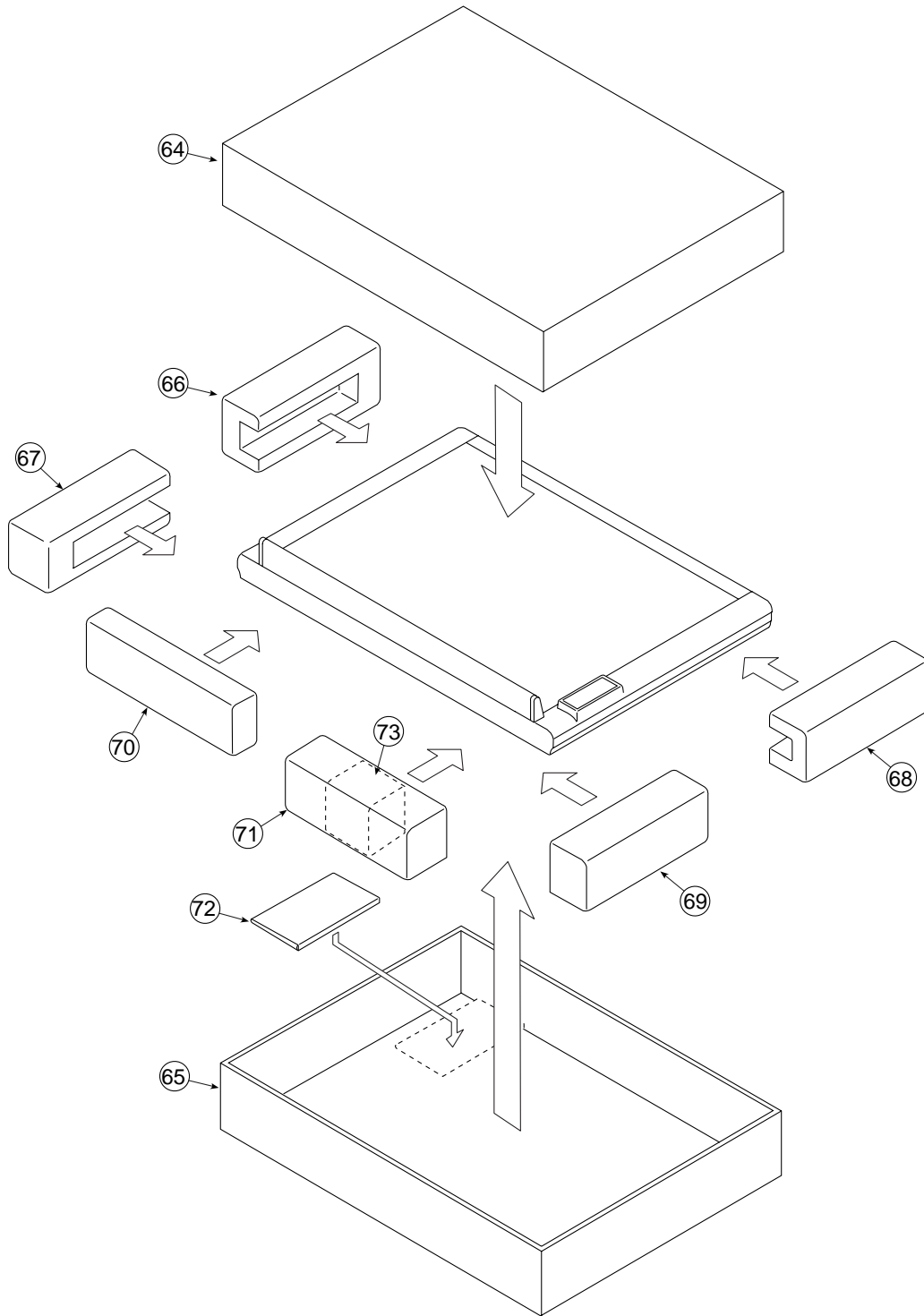
5. Accessories Section



PARTS LIST

5. Accessories Section					
No	PARTS NAME	PARTS No.		Q' ty	REMARK
		S	W		
37	Operation Manual C-12 (J)	-	-	1	Japan Only
	Operation Manual C-12 (O/S)	723461400	723461400	1	
38	Assembly Manual C-12 (J)	-	-	1	Japan Only
	Assembly Manual C-12 (O/S)	723460400	723460400	1	
39	Quick Guide C-12 (J)	-	-	1	Japan Only
	Quick Guide C-12 (O/S)	723461600	723461600	1	
40	CD-ROM C-12	723555200	723555200	1	
41	Software Manual C-12 (J)	-	-	1	Japan Only
	Software Manual C-12 (O/S)	723461900	723461900	1	
42	Manual Case	-	-	1	Japan Only
43	Printer Platform	715353600	715353600	1	
44	Printer Bracket L	715358200	715358200	1	
45	Printer Bracket R	715358100	715358100	1	
46	Marker Set	-	-	1	No Parts Supply
-	Drywipe Marker (Black)	-	-	1	Japan Only
-	Drywipe Marker (Red)	-	-	1	Japan Only
-	Drywipe Marker (Blue)	-	-	1	Japan Only
-	Drywipe Marker (Green)	-	-	1	Japan Only
-	Drywipe Marker (Black)	44572	44572	1	
-	Drywipe Marker (Red)	44573	44573	1	
-	Drywipe Marker (Blue)	44574	44574	1	
-	Drywipe Marker (Green)	44575	44575	1	
47	Eraser ER-44369	44369	44369	1	
48	Wall Mount Plate	715359900	715359900	4	
49	AC Adapter	715259000	715259000	1	
	AC Adapter	723582100	723582100	1	"USA,Oceania Only"
50	Power Cable (2.5m) EU	715259200	715259200	1	
	Power Cable (2.5m) UK	715259300	715259300	1	
	Power Cable (2.5m) US	715259400	715259400	1	
	Power Cable (2.5m) AU	715259500	715259500	1	
	Power Cable (0.5m) JP	-	-	1	Japan Only
	Power Cable (2.5m) CH	-	-	1	No Parts Supply
51	USB Cable	715258900	715258900	1	
52	M3-6 B-Tight Cross Recessed Binding Head	953430650	953430650	10	
53	M4-8 Cross Recessed Binding Head	951240850	951240850	20	
54	Hand Screw M4 X 10	723171100	723171100	2	
55	Printer Bracket Spacer	715217700	715217700	2	
56	Printer Guide Unit	715090025	715090025	2	
57	Quick Guide Hang	715354600	715354600	1	
58	Fastener Layer Set 50 X 100	722090012	722090012	1	
59	Cable Cover (330mm)	723129100	723129100	1/2	Standard : 1 Wide : 2
60	Power Strip	-	-	1	Japan Only
61	Adapter Box	723131201	723131201	1	
62	Edge Folder	723191100	723191100	2	
63	Cleaning Cloth	-	-	1	No Parts Supply

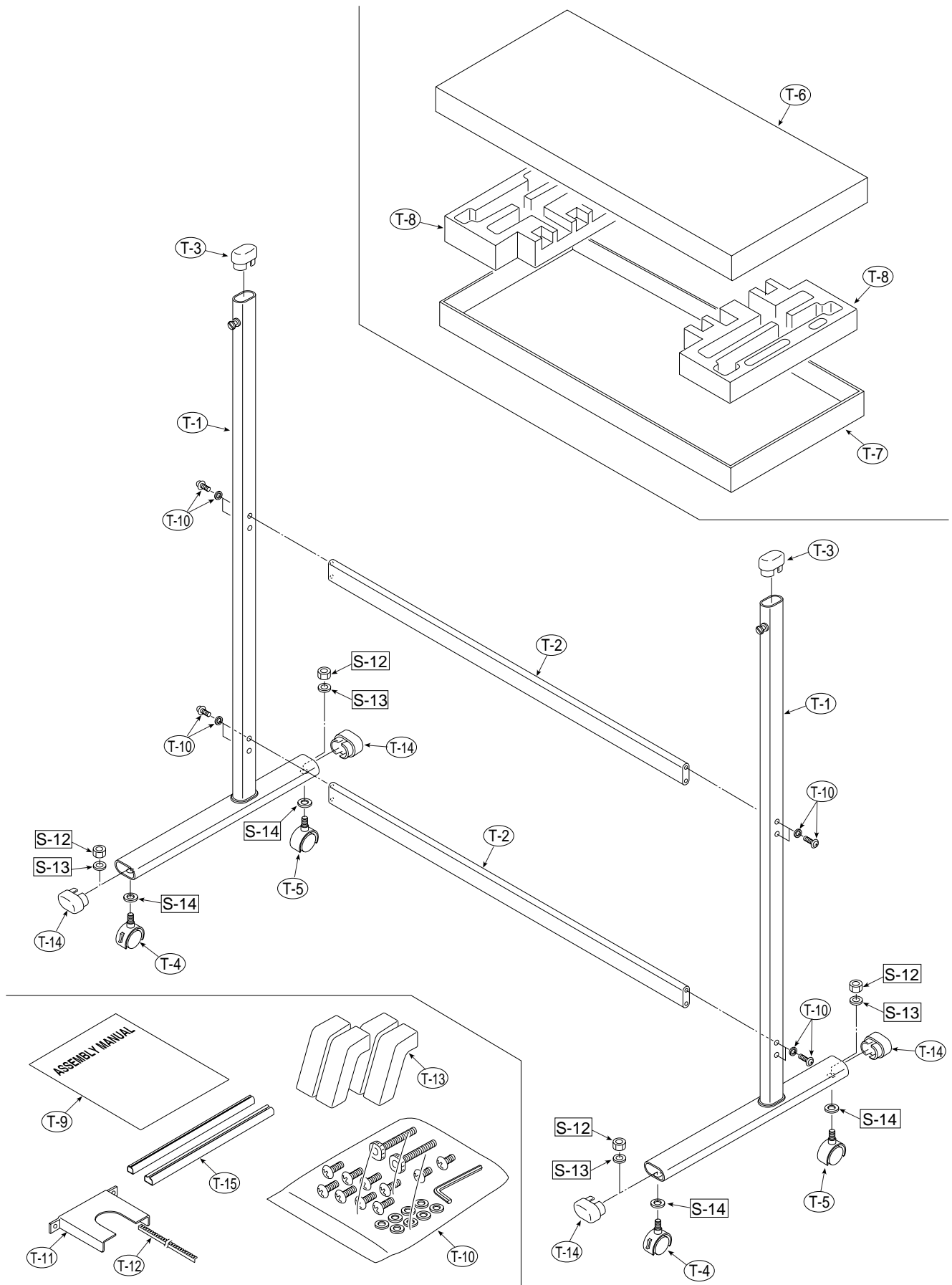
6. Carton & Packing



PARTS LIST

6. Carton & Packing					
No	PARTS NAME	PARTS No.		Q' ty	REMARK
		S	W		
-	Carton UNIT M-12S	301205	-	1	
	Carton UNIT M-12W	-	301206	1	
64	Carton Upper M-12S	-	-	1	
	Carton Upper M-12W	-	-	1	
65	Carton Lower M-12S	-	-	1	
	Carton Lower M-12W	-	-	1	
66	Corner Packing Upper (L)	-	-	1	
67	Corner Packing Lower (L)	-	-	1	
68	Corner Packing Upper (R)	-	-	1	
69	Corner Packing Lower (R)	-	-	1	
70	Accessory Box	-	-	1	
71	Push Accessory Box (S)	-	-	1	
	Push Accessory Box (W)	-	-	1	
72	Printer Platform Pad A	-	-	1	
73	Push Adapter Box	-	-	1	

7. M-12-T



PARTS LIST

7. M-12-T					
No	PARTS NAME	PARTS No.		Q' ty	REMARK
		S	W		
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	723321200	2	
T-4	Front Caster	714660400	714660400	2	
T-5	Back Caster	714660500	714660500	2	
-	Carton UNIT (Stand)	301207	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) O/S	-	-	1	No Parts Supply
	Assembly Manual (Stand) JPN	-	-	1	No Parts Supply
T-10	Screw Unit	723090012	723090012	1	
T-11	Printer Steady (Stand)	715353700	715353700	1	
T-12	Edge Bush	715353800	715353800	1	
T-13	Stabilizer UNIT (M-12)	301208	301208	1	
T-14	Pipe Cap	723321100	723321100	4	
T-15	Cable Cover UNIT M-12 (Stand)	723090014	723090014	1	

PARTS LIST

8. Screws & Washers					
No	PARTS NAME	PARTS No.		Q' ty	REMARK
		S	W		
S-1	M4-8 Cross Recessed Binding Head	951240850	951240850	42	
S-2	M4-8 Cross Recessed Binding Head (Low Profile)	961540850	961540850	20	
S-3	M3-8 Cross Recessed 3-Point Type	952530810	952530810	20	
S-4	M3-25 Cross Recessed 3-Point Type	952532510	952532510	2	
S-5	M3-6 P-Tight Cross Recessed Binding Head	953230610	953230610	8	
S-6	M3-8 P-Tight Cross Recessed Binding Head	953230850	953230850	6	
S-7	M3-6 Cross Recessed Binding Head	951230650	951230650	28	
S-8	M4-10 P-Tight Cross Recessed Binding Head	953241010	953241010	3	
S-9	M4-12 Cross Recessed Binding Head	951241250	951241250	6/10	Standard : 6 Wide : 10
S-10	M4-15 P-Tight Cross Recessed Binding Head	953241510	953241510	3	
S-11	M4-6 Cross Recessed Binding Head	961240610	961240610	4	
S-12	W3-8 Hexagonal Stop Bolt	955217610	955217610	4	
S-13	"No, 2-10 Spring Washer"	957410210	957410210	4	
S-14	"No, 2-10 Flat Washer"	957210210	957210210	4	

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