COPY BOARD
BF-030S
BF-030W
BF-035

SERVICE MANUAL

PLUS

CONTENTS

FEATURES

BF-030S

- The board size is W1300mm × H920mm-large enough to show all the ideas that you discuss during your meetings, without any omissions.
- Information on the large screen can be copied immediately onto a sheet of A4/Letter paper. Those who attend a meeting can concentrate on the subject, as there is no need to waste time jotting down notes.
- The board screen can be slid easily, and it is a simple user-friendly unit with a power cord storage hook that comes in handy when moving the unit, a powder tray enabling easy disposal of powder, etc.
- The BF-030S can be easily upgraded for use with your PC (with optional PC interface board)

BF-030W

- The board size is W1800mm × H920mm-large enough to show all the ideas that you discuss during your meetings, without any omissions.
- Information on the large screen can be copied immediately onto a sheet of A4/Letter paper. Those who attend a meeting can concentrate on the subject, as there is no need to waste time jotting down notes.
- The board screen can be slid easily, and, the powder tray is designed for easy disposal of powder.
- The BF-030W can be easily upgraded for use with your PC (with optional PC interface board)

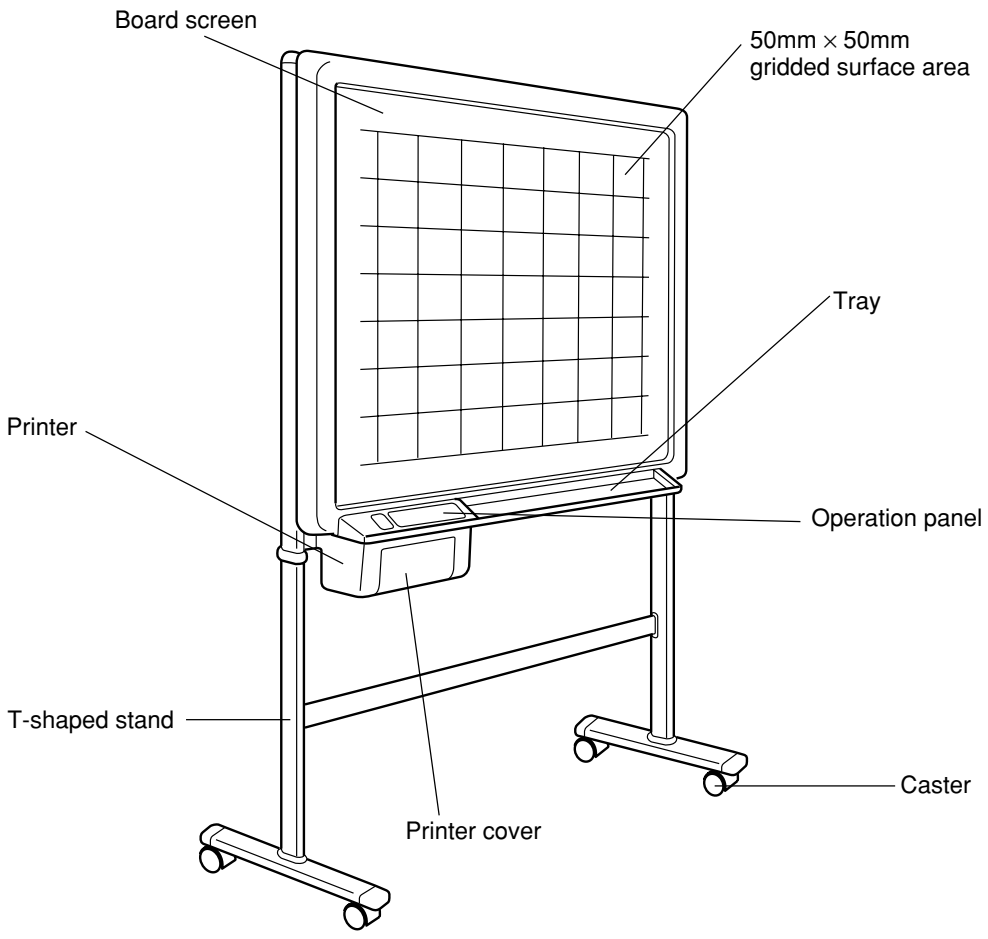
BF-035

- The 1300mm(51")W × 920mm(36")H writing surface provides ample space to record all information discussed during meetings.
- Since the unit can instantly print an A4/Letter sized copy of what is on the panel, your audience is freed from distracting note taking and can fully concentrate on the subject at hand.
- This unit has been designed with 4 writing panels (page 1-4) which can be printed out. The 5th panel is designed for use as a projection screen only.
- The BF-035 can be easily upgraded for use with your PC (with optional PC interface board)

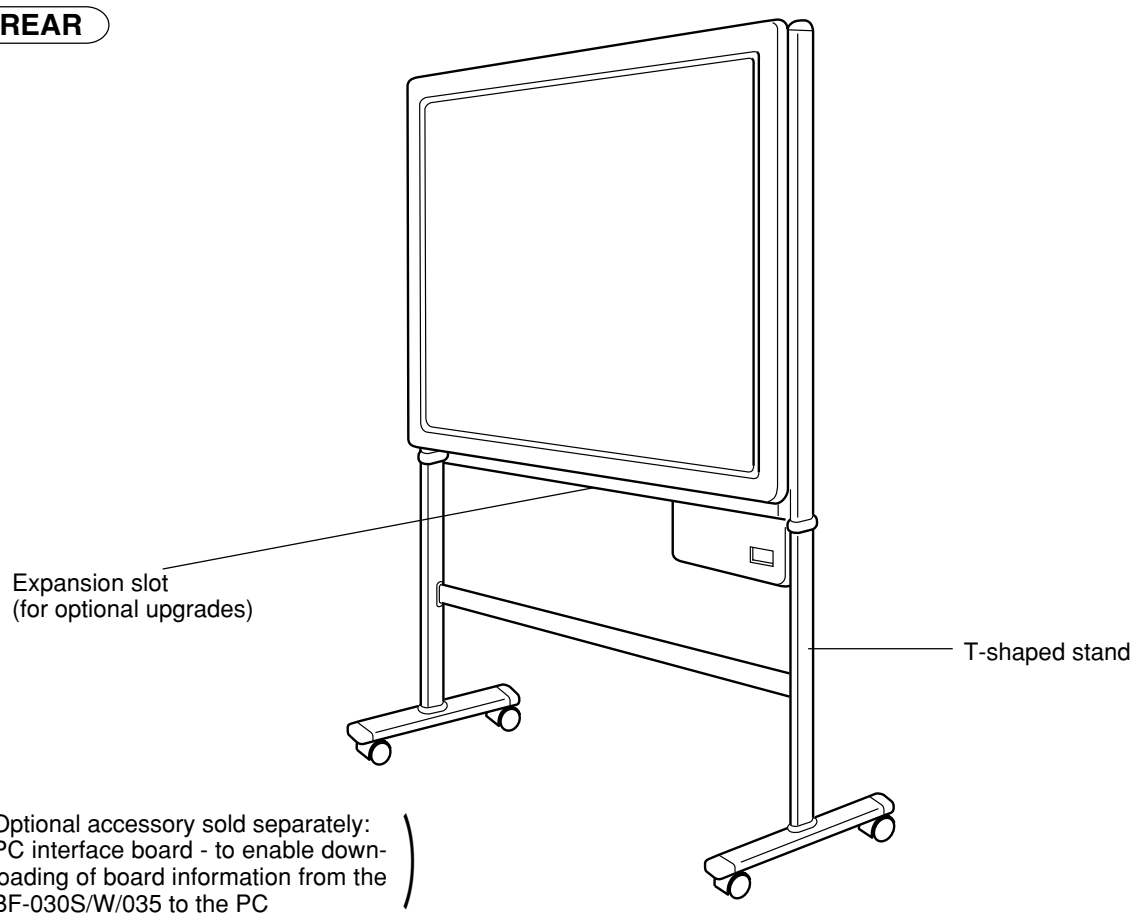
CAUTION: Please do not write on the 5th panel (projection screen) as it is non-erasable and will stain.

PRODUCT FEATURES

FRONT



REAR



(Optional accessory sold separately:
PC interface board - to enable down-loading of board information from the BF-030S/W/035 to the PC)

SPECIFICATIONS

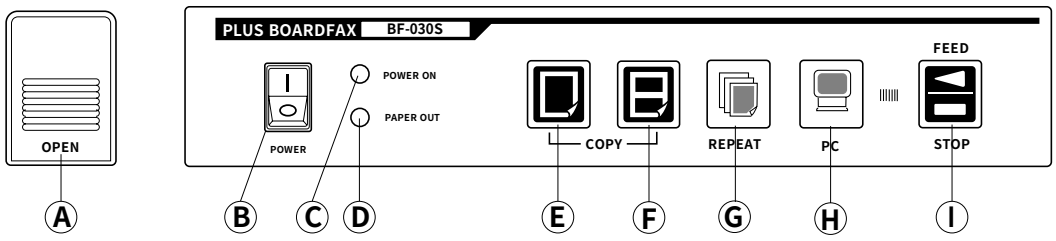
Item		BF-030S	BF-030W	BF-035
Board surface size		W1300 × H920 mm (51-3/16 × 36 inch)	W1800 × H920 mm (71 × 36 inch)	W1300 × H920 mm (51-3/16 × 36 inch)
Effective reading size		W1240 × H880 mm (48-7/8 × 34-3/4 inch)	W1740 × H880 mm (68-1/2 × 34-3/4 inch)	W1240 × H800 mm (48-7/8 × 34-3/4 inch)
Number of pages		2 pages		5 pages (4 pages can be copied)
Screen driving method		One direction endless drive		The 5th page is a projection screen 1240 (50") × 880 (35")
Panel driving method		———		Bi-directional scrolling method
Grid		50mm squares		50mm sq./2" sq.
Writing instruments		Special markers (black/red/blue)		
Reading method		CCD sensor, plane scanning		
Recording method		Thermal printing with thermal head		
Recording density		8 dot/mm		
Recording paper		Special thermal sensitive paper (30 m roll)		
Size of recording paper		A4 size (210 × 297mm) Letter size (8-1/2 × 11 inch)		
Recording color		Black		
Recording speed		1-surface copy: 11 sec/copy 2-surfaces reduced copy: 22 sec/copy	1-surface copy: 15 sec/copy	1-surface copy: 11 sec/copy
Operating conditions		Temperature: 5-35˚C Humidity: 30-85% (Without dew condensation)		
Power source		North America 120V AC 60Hz Europe 230V AC 50Hz Asia/Oceania 220-240V AC 50Hz Central South America Middle/Near East Respective rated local voltage/frequency (110V, 120V, 220-240V)		
Power consumption		60W at stand-by, 120W at operation		
Outer dimensions		W1470 × D600 × H1885 mm (57-7/8 × 23-5/8 × 74-2/8 inch)	W1970 × D600 × H1885 mm (77-4/8 × 23-5/8 × 74-2/8 inch)	W1470 × D600 × H1885 mm (57-7/8 × 23-5/8 × 74-2/8 inch)
Weight		41 kg	46 kg	45 kg
Others	**Consumables**	Special thermal recording paper (30-m roll/98FT) Special markers Special eraser		
	Optional Accessory	PC interface kit		

*Specifications are subject to change without notice for improvement.

Placing this unit next to equipment or buildings (such as broadcasting stations) where strong RF interference is generated may sometimes cause printing to become blurred or disordered when copies are made. This does not indicate a breakdown or problem in this unit.

CONTROL FUNCTIONS

BF-030S OPERATION PANEL



Ⓐ **Opening button .....** Press this button to open the printer hatch when replacing the thermal paper.

Ⓑ **Power switch .....** Press "I" to turn ON the power when starting machine operation.

Ⓒ **Power lamp .....** Press the switch, and the green lamp will blink on and off. The lamp will stay lit (green) when the read sensor inside the machine is ready for operation.

Ⓓ **Paper warning lamp ...** When the thermal paper has run out, the red lamp will light. Load new recording paper.

Ⓔ **One-surface copy key ..** This is used when one page of the screen is copied onto A4 paper. The machine produces a copy at a reduced scale of the same length and breadth.

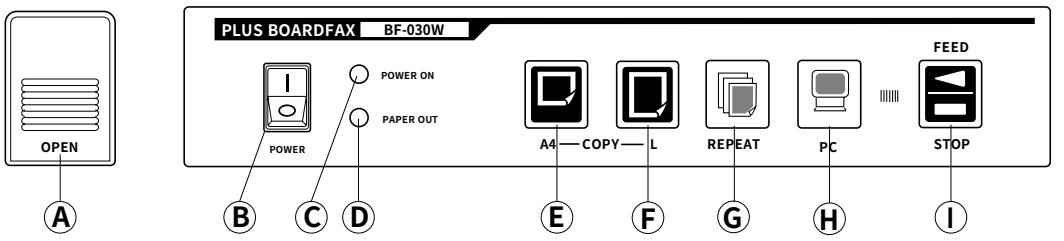
Ⓕ **Two-surface reduction .. copy key** This is used when copying two pages of the screen at a reduced size onto A4 paper. At this time, the copy is reduced horizontally.

Ⓖ **Repeat key .....** For use with optional PC interface kit.

Ⓗ **PC COPY key .....** For use with optional PC interface kit.

Ⓘ **Feed/stop key .....** This is used when the screen slides to the left. Pressing this key advances the screen by one page and then automatically stops.
Pressing the key while the board screen is being moved stops it immediately. This can also be used when paper has run out and must be refilled.
If this key is pressed during the copying operation, the copying performance ends and the printer stops.

BF-030W OPERATION PANEL



Ⓐ **Opening button .....** Press this button to open the printer hatch when replacing the thermal paper.

Ⓑ **Power switch .....** Press "I" to turn ON the power when starting machine operation.

Ⓒ **Power lamp .....** Press the switch, and the green lamp will blink on and off. The lamp will stay lit (green) when the read sensor inside the machine is ready for operation.

Ⓓ **Paper warning lamp ...** When the thermal paper has run out, the red lamp will light. Load new recording paper.

Ⓔ **A4 reduction copy key ..** This is used when copying one page of the screen at a reduced size onto A4 paper. At this time, the copy is reduced horizontally.

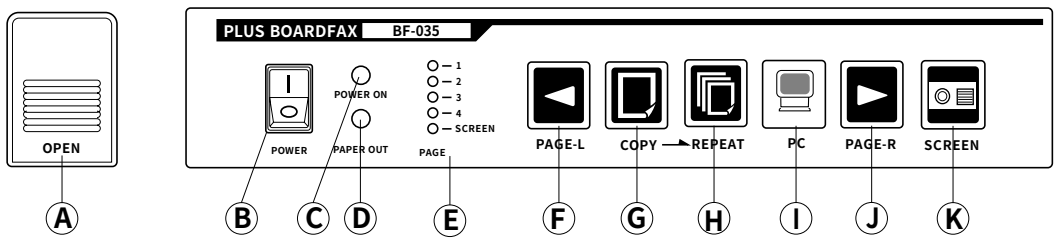
Ⓕ **A4-L copy key .....** This is used when one page of the screen is copied onto A4-L paper. The machine produces a copy at a reduced scale of the same length and breadth.

Ⓖ **Repeat key .....** For use with optional PC interface kit.

Ⓗ **PC COPY key .....** For use with optional PC interface kit.

Ⓘ **Feed/stop key .....** This is used when the screen slides to the left. Pressing this key advances the screen by one page and then automatically stops.
Pressing the key while the board screen is being moved stops it immediately. This can also be used when paper has run out and must be refilled.
If this key is pressed during the copying operation, the copying performance ends and the printer stops.

BF-035 OPERATION PANEL



Ⓐ **Opening button .....** Press this button to open the printer hatch when replacing the thermal paper.

Ⓑ **Power switch .....** Press "I" to turn ON the power when starting machine operation.

Ⓒ **Power lamp .....** Press the switch, and the green lamp will blink on and off. The lamp will stay lit (green) when the read sensor inside the machine is ready for operation.

Ⓓ **Paper warning lamp ...** When the thermal paper has run out, the red lamp will light. Load new recording paper.

Ⓔ **Page lamp .....** These lamps indicate which panel is on display presently. The blinking green lamp indicates the page to which the unit is turning to. (The SCREEN is indicated by an orange lamp.)

Ⓕ **PAGE-L key .....** Press this key to slide the panel to the left. (Press once for each panel you wish to turn to.)

Ⓖ **Copy key .....** The panel displayed will be printed out on A4/Letter sized thermal paper. The print out will be reduced proportionally to the original information on the panel.

Ⓗ **Repeat key .....** You can make another copy of the last panel by pressing this key. The panel will not move while the unit is reprinting.

Ⓘ **PC COPY key .....** For use with optional PC interface kit.

Ⓙ **PAGE-R key .....** Press this key to slide the panel to the right. (Press once for each panel you wish to turn to.)

Ⓚ **Screen key .....** Press this key to move to the fifth panel. The unit will not move to the fifth panel with the PAGE-L key. Press the SCREEN key again to return to page 1.

MAINTENANCE/HOW TO STORE

Carry out the following maintenance procedures periodically to ensure high quality copying performance at all times.

(1) Cleaning of the surface ..... (BF-030S/W only)

When the surface gets stained, wipe it off with a slightly damp cloth. Also, if the stain is particularly stubborn, use a solution of water-thinned neutral detergent to wipe it off. Do not start using the machine until the sheet has completely dried.

(2) Cleaning of pages 1-4 ..... (BF-035 only)

When the surface gets stained, wipe it off with a slightly damp cloth. Also, if the stain is particularly stubborn, use a solution of water-thinned neutral detergent to clean. Do not start using the machine until the panel has completely dried.

(3) Cleaning of projection screen (page 5) ..... (BF-035 only)

Wipe ordinary stains in the same manner as shown in (1).

If something is written on this screen by accident, wipe it off with a cloth dampened with a neutral detergent.

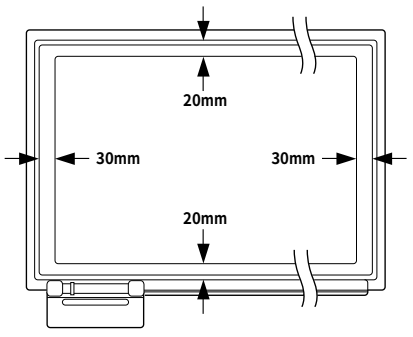
(4) Cleaning of tray and decorative frame

Wipe away any dirt or residue left by the markers in the tray and the decorative frame with a slightly damp cloth.

HANDLING PRECAUTIONS

<FOR SAFE USE>

1. Avoid placing the machine in hot spots where it is exposed to direct sunlight or where an air conditioning duct.
2. When using sticky tape on the surface of the board screen, do not leave it on for a long time. Moreover, after removing it, wipe the screen clean. Do not hit or pierce the board screen with any hard or sharp objects.
3. Do not leave writing or marks on the board screen for a long time since it sometimes become difficult to erase (BF-030S/W only).
4. Be careful not to stain the joints of the board screen as there have been very rare cases where such stains have been copied. ..... (BF-030S/W only)
5. Do not leave writing or marks on pages 1-4 for a long time since it may become difficult to erase. ..... (BF-035 only)
6. As thinner, benzine, alcohol, etc., may discolor or mark the main unit and the board screen, never use such chemicals when cleaning. (BF-030S/W only)
7. As thinner, benzine, alcohol, etc., may discolor or mark the main unit and the panels, (1-4 page) never use such chemicals when cleaning. ..... (BF-035 only)
8. Use only the correct type of thermal paper.
9. When replacing recording paper, do not place any objects on the open printer cover or do not put your elbows on it.
10. After use, make sure to turn OFF the power switch. In addition, when it is not to be used for a long time, make certain that the plug of the power cord is pulled out form the outlet.
11. Always use the correct type of marker. Be careful not to use other markers as the sheet may be damaged or, in some cases, the ink may be difficult to remove.
12. Write within an area of a size that can be easily read.



13. When moving this machine, turn OFF the caster lock switches, hold both the right and the left sides of the main unit firmly, and avoid any sudden jolts or shocks.

When storing thermal recording paper, avoid the following places. This is important because storage in such places may cause color development or discoloration.
(1) Places where the paper is exposed to direct sunlight.
(2) Places where the paper is exposed to temperatures of more than 35˚C (95˚F) and humidity of 85% or over.
(3) Places adjacent to alcohol, thinner, benzine, ammonia, etc.

CHECK LIST OF SIMPLE FAILURES

<BEFORE ASKING FOR A REPAIR SERVICE>

CONDITIONS	CHECKPOINTS
When the power fails	**Check if power cord is pulled out of outlet.**
When pressing copy key does not result in copying	**Check if paper warning lamp (red) is lit.**
Although printer is functioning, nothing is copied on recording paper	**Check if winding direction of recording paper is set on reverse. (No copying is made on back of recording paper)**
When characters written on board screen cannot be rubbed out even by the use of an eraser	**Check if any marker except the correct type has been used. Wipe off with a damp cloth or neutral detergent.**
When characters written on the panel cannot be erased even using an eraser	**If something is written on page 5 by accident, wipe it off with a cloth dampened with neutral detergent. Check if any marker except the correct type has been used to write on pages 1-4. Wipe off with a damp cloth or neutral detergent.**
When copy is dirty	**Check for ink residue on the screen. If it is stained, wipe off carefully with a soft damp cloth.**

∗ If no satisfactory result can be achieved even after the above, contact the suppliers or our company.

MAIN-BOARD SETTING TABLE

1. MAIN-board ①

Sections marked # are set with shorting pins.

Model	Type	Switch panel	Jumper setting J3	J4	J5	J6	Remarks
BF-030S	2 surfaces/standard/A4	1)					
	2 surfaces/standard/letter		#				
BF-030W	2 surfaces/wide/A4	3)			#		
	2 surfaces/wide/letter		#		#		
BF-035S	5 surfaces/standard/A4	5)				#	
	5 surfaces/standard/letter		#			#	

2. MAIN-board ②

✻ Set with solder shorts.

J7: BF-030/035 (PC) series

3. PC board (reference)

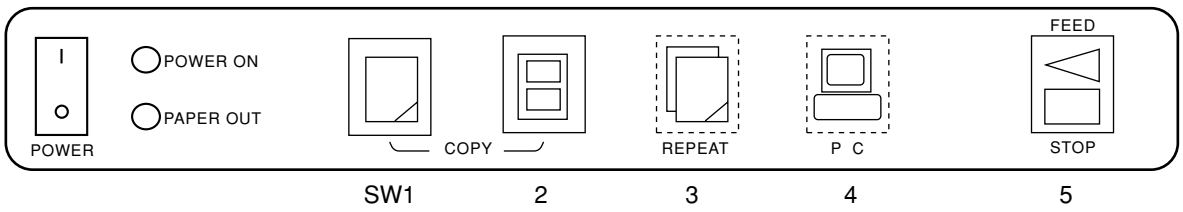
✻ Set on the BF main unit the PC board is connected to

J1: BF-030S/W (PC)

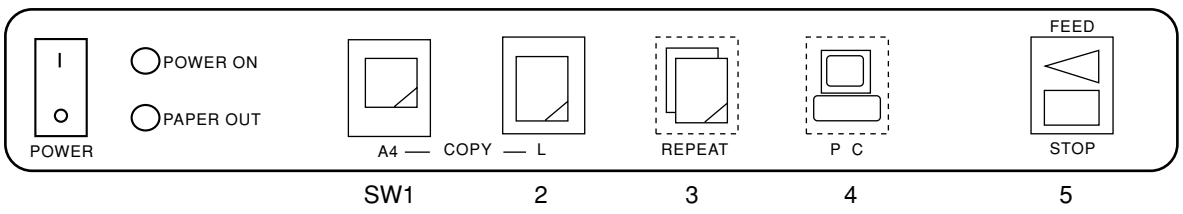
J2: BF-035S (PC)

OPERATION PANEL VIEWS

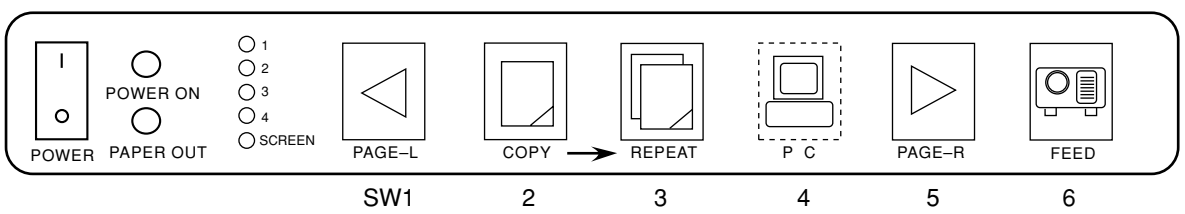
1. SWITCH PANEL VIEW (BF-030S)



2. SWITCH PANEL VIEW (BF-030W)



3. SWITCH PANEL VIEW (BF-035)



ADJUSTMENT MODES

There are the following methods for entering each mode.
(1) Adjustment 1: Switch on the power while holding down SW5.
(2) Adjustment 2: Switch on the power while holding down SW1 and SW4.
To end an adjustment mode, switch off the power and switch it back on without holding down any of the keys. (Test mode continues until the power is switched off.)

Adjustment mode specifications

No.	Function summary	Operation method	Adjustment 1/2/3	Remarks
1	Test pattern printing	Press SW3.	1	Both 2-surface/5-surface
2	Arbitrary sheet feed	Press SW1/SWS5.	1	5-surface only
3	Continuous sheet feed (1 surface ↔ 5 surface)	Press SW1.	2	Both 2-surface/5-surface
4	12.5% continuous printing	Press SW2.	2	Both 2-surface/5-surface
5	20% continuous printing	Press SW3.	2	Both 2-surface/5-surface
6	Test pattern printing	Press SW4.	2	Both 2-surface/5-surface
7	Continuous copying	Press SW5.	2	Both 2-surface/5-surface

✻ From the left side of the operation panel, the switches are SW1 - SW6.
✻ For the 5-surface model, in Adjustment 1 mode, the COPY/STOP key is for normal copy/copy stop processing, but sheet stretching/rewinding is not carried out.

1. Test pattern printing

Pressing SW3 prints the test pattern shown in the print sample (same as for BF-030).
Each time SW3 is pressed, the printing is repeated. The STOP key is enabled.

2. Arbitrary sheet feed (5-surface only)

(1) Pressing the L-FEED/R-FEED key alone feeds the sheet about 1 cm left/right (with the motor driven at low speed).
If you hold the key down for longer than 0.5 second, the sheet is fed continuously left/right until you release the key.
(2) If you press the R-FEED key while holding down the STOP key the sheet latch is released/set. When the sheet latch is set, all the LEDs except the paper end LED lights up (to show that the paper tube can be turned manually).
<Notes>
. These modes do not manage the pages with the CPU, so be careful when working near the edge of the sheet.
. The sheet is not stretched after the sheet feed operations.
. When the sheet latch is set, the sheet is not fed other than for 1-cm feeds (Item 1).
. When the sheet is fed at positions where the paper tube is thick, the movement distance decreases due to insufficient torque.
. The fluorescent lamp is always lit. (It is not extinguished even if the gain check result is NG.)

3. Continuous sheet feed

After a power-on reset, pressing SW1 feeds the sheet continuously.
The interval between surfaces is about 2 seconds. For the 5-surface model, the sheet is stretched each time a surface is fed.
Continuous feed is an unending loop that continues until the power is switched off. (The STOP key is disabled.)

4. 12.5% continuous printing

Pressing SW2 continuously prints a black belt (about 10 mm) diagonal line at intervals about 12.5% of the paper width.
The interval for each sheet is about 2 seconds.

5. Pressing SW2 continuously prints the same as for Item 4, but with intervals of 20%.

6. Test pattern printing

Pressing SW4 prints the test pattern. The STOP key is disabled.

7. Continuous copying

Switching on the power in Adjustment Mode 2 and pressing SW5 automatically starts continuous copying operations.
The interval between surfaces is 3 seconds.
For a 5-surface model, from Surface 1 to Surface 4 is copied and after these four surfaces have been copied, the sheet is returned non-stop to Surface 1 and consecutive copying resumes.
Continuous feed is an unending loop that continues until the power is switched off. (The STOP key is disabled.)

Hidden mode

For a 5-surface model, if the power is switched on with SW5 and SW6 held down, the sheet latch is released.

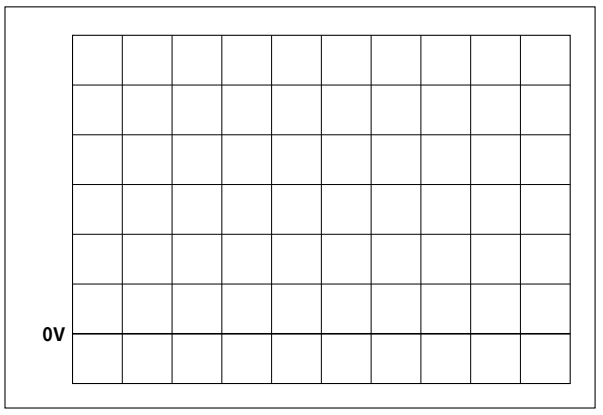
CCD BOARD ADJUSTMENT

1. Initialization

1) Range setting of oscilloscope
   CH1 100 mV/div. (for 10:1 probe)
   CH2 20 mV/div. (for 10:1 probe)
   Time base 0.5 ms
   Coupling DC

2) Connect the probe to the test pin on the main board.
   CH1 J9
   CH2 J1
   CH3 J10
   GND J2
   The trigger source for Channel 3 coupling is AC.

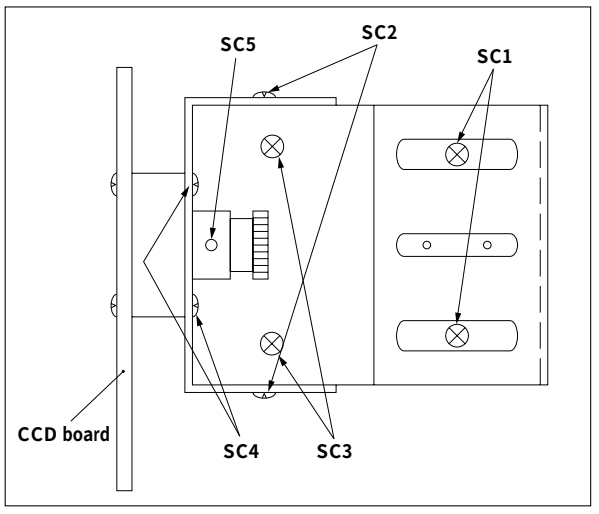
3) GND position adjustment (See the figure on the right.)
   Immediately after the oscilloscope power is switched on, the ground position fluctuates easily, so occasionally check that the Channel 1 coupling is aligned to ground.



2. Temporarily Fixing of Lens Unit

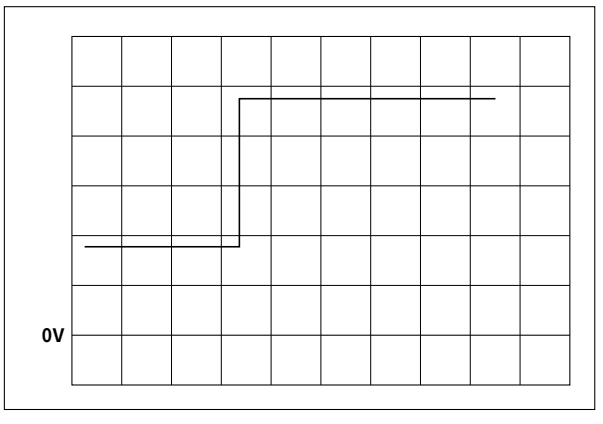
- Fix SC(1) temporarily by the adjustment of the back plate and end face.
- Fix SC(2) temporarily in the horizontal state.
- Fix SC(3) temporarily in the center position.
- Fix SC(4) temporarily with the CCD board put in the vertical state.
- Fix SC(5) (square screw) temporarily in the position where the lens barrel is 2 mm forward from the holder.
- Fix the shade temporarily in the position where it was brought near the sheet.

✻ Adjustment mode
Switch on the power while holding down the STOP key (BF030S/W) or the PAGE-R key (BF-035).



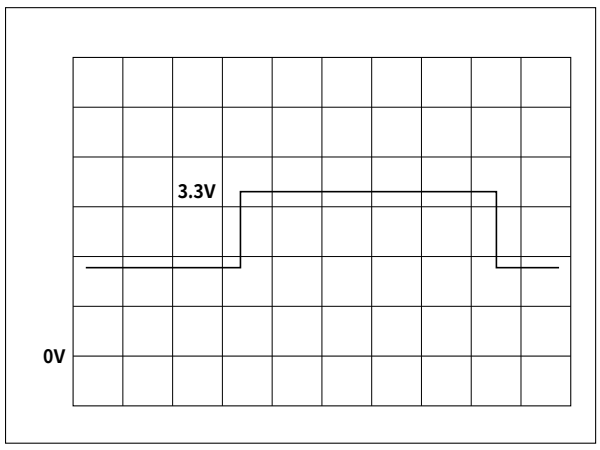
3. Optical Axis Alignment

1) Loosen SC(2) and shake the board forward and backward until the waveform on the oscilloscope is as shown in the figure. (Saturation)
   3.8 V or more
   3 ms or more (6 divisions)



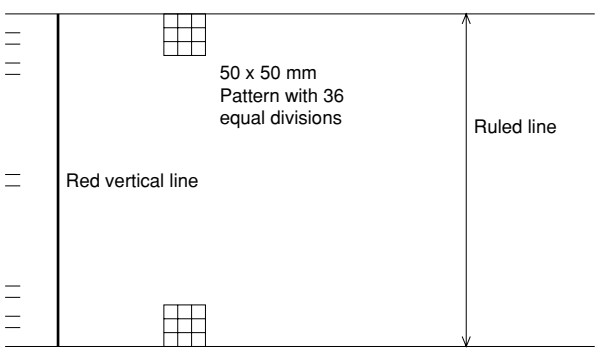
2) Slide the lens shade to adjust the amount of light so that the aperture peak waveform is flat, then secure the lens shade in place. (See the figure on the right.)

Adjustment range (limit values)	2.6-3.4 V
Adjustment standard	3.3 V
Be careful not to exceed the top	limit of 3.8 V.

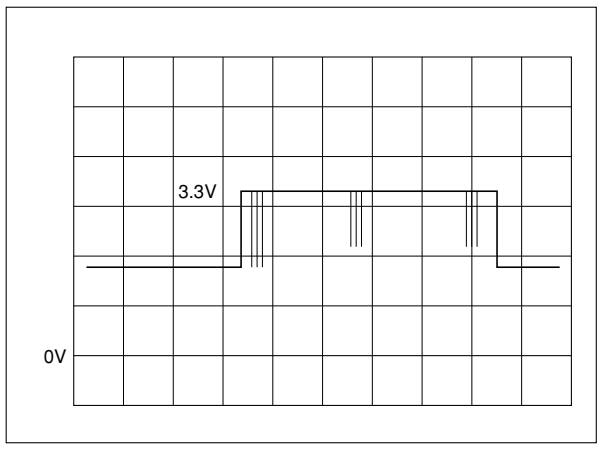


4. Focus Adjustment

1) As shown in the figure, enter a pattern, obtained when 50 mm square was divided into 36 equal parts, in the red vertical line and the upper and lower ruled lines of two lines of 3 mm in width.

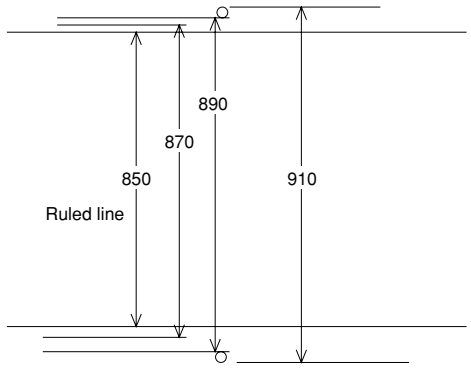


2) Confirm that the CCD waveform is 2.6 V or more.
   - •Search the lowest falling position of the waveform while moving the lens barrel from the fluorescent lamp to the CCD board and fix the lens barrel in the corresponding position.
   - •The falling value of the black level should be less than 2.3 V from the GND level as the reference value.

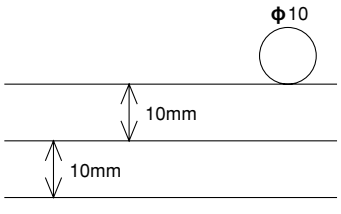


5. Reading Width Adjustment

1) Adjustment reference value: 890 to 910 mm

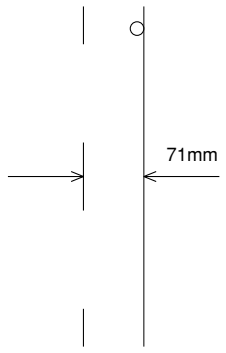


2) Reading width adjustment
   - • Loosen SC(3) and adjust so that the reference line in the figure is uniformly copied in the vertical direction while shaking the lens unit upward and downward. After that, fix SC(3).
   - • If the reading value is higher than the reference value, loosen SC(1) and move the whole lens unit to the right. If it is lower than the reference value, mode the whole lens unit to the left.

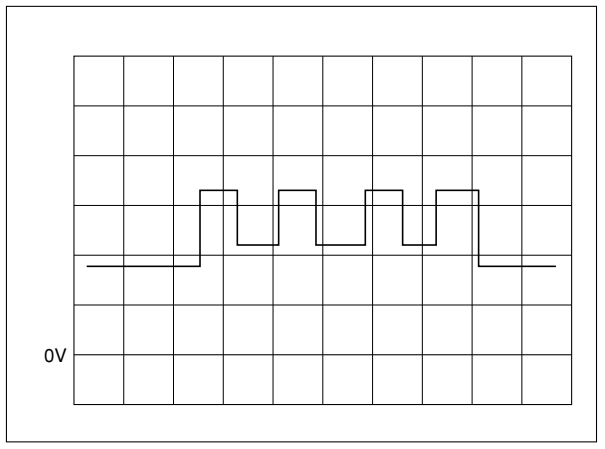


6. Optical axis alignment

- As shown in the figure, enter a mark on the block vertical line and at a point 71 mm away from the black line.
- Move the sheet until the mark moves to the left edge. (The vertical line is reflected in the center of the mirror.)



- Move SCs 2 and 4 to make the waveform shown in the figure.

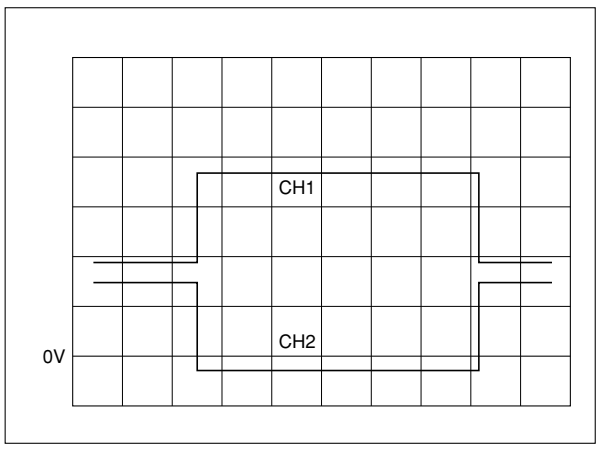


7. Shade adjustment

- Switch the power off, then switch it back on in normal mode.
- Make two waveforms appear on the oscilloscope.
- Set the oscilloscope mode to Chop.

● Channel 1 The gain is automatically adjusted and the waveform amplitude becomes larger.

● Channel 2 The actual waveform (The waveform in the figure has a different ground level from Channel 1.)



8. Print check

- If the waveform is tilted, flatten it with the shade. (Align to 3.0-3.5 V.)
- Tighten the SCs.
- Check that the print patterns are copied within the standards.

Reading width: 890-910 mm

Focus: 2 lines with widths of 3 mm must be printed.
Also, the measurement grid must not be broken.

Others: After copying one surface, check that there are no dark lines on the copy.

Cautions for Maintenance

- In principle, when lens units and CCD boards are replaced in the field, use a factory-adjusted unit (lens unit + CCD board).
- Procedure for adjustment after replacement

(1) Temporarily secure the adjusted unit with SC1.
(2) Check the light shaft alignment.
(3) After adjusting the reading width, secure the unit with SC1.
(4) Check printing.

TROUBLESHOOTING

Item	Trouble	Cause	Correction
1	The power will not turn on and no operation is available. (POWER-ON LED will not light.)	1. Power is not reaching the outlet. 2. Power cable defect 3. Blown fuse 4. Disconnection of each harness and poor connector contact 5. Main switch defect 6. POWER-BOARD defect 7. MAIN-BOARD defect 8. SUB-BOARD defect	1. Check the breaker. 2. Change the power cable. 3. After checking the cause of fuse blowing, change the fuse. 4. Change the harness and insert the connector again. 5. Change the main switch assy. 6. Change POWER-BOARD. 7. Change MAIN-BOARD. 8. Change SUB-BOARD.
2	BOARDFAX operates but POWER-ON LED will not light.	1. POWER-ON LED defect	1. Change the switchboard assy.
3	POWER-ON LED lights, but operation is unavailable.	1. POWER-BOARD defect 2. MAIN-BOARD defect 3. SUB-BOARD defect 4. Switchboard defect 5. Disconnection of each harness and poor connector contact	1. Change POWER-BOARD. 2. Change MAIN-BOARD. 3. Change SUB-BOARD0 4. Change switchboard assy. 5. Change the harness and insert the connector again.
4	POWER-ON LED continuously blinks on and off.	1. The fluorescent lamp will not light. 2. Disconnection of CCD and lamp harness, as well as poor connector contact 3. POWER-BOARD defect 4. MAIN-BOARD defect	1. Insert the fluorescent lamp again or change the fluorescent lamp. 2. Change the harness and insert the connector again. 3. Change POWER-BOARD. 4. Change MAIN-BOARD.
5	PAPER-OUT LED will not light.	1. PAPER-OUT LED defect 2. Paper switch defect 3. SUB-BOARD defect 4. Disconnection of harness and poor connector contact 5. Slipped mounting position	1. Change the switchboard assy. 2. Change the paper switch assy. 3. Change SUB-BOARD. 4. Change the switchboard assy, or insert the connector again. 5. Adjust the mounting position.
6	PAPER-OUT LED continuously lights.	1. Paper switch defect 2. SUB-BOARD defect 3. Slipped mounting position	1. Change the paper switch assy. 2. Change SUB-BOARD. 3. Adjust the mounting position.
7	Abnormal paper feeding to printer <Incorrect paper feeding/abnormal sound>	1. Printer motor defect 2. Poor engagement between the motor gear, intermediate gear, and platen gear, or broken gear teeth 3. Disconnection of harness or poor connector contact 4. SUB-BOARD defect 5. MAIN-BOARD defect 6. Change of platen roller dia. With the passage of time 7. Excessive play between the thermal head and platen roller 8. Peeling of PET tape 9. Paper is not the specified paper.	1. Change the printer motor. 2. Adjust the motor mounting position, and change respective gears. 3. Change the harness, and insert the connector again. 4. Change SUB-BOARD. 5. Change MAIN-BOARD. 6. Change the platen roller. 7. Mount them again for adjustment. 8. Change/stick again the PET tape. 9. Replace the paper with the specified paper.

Item	Trouble	Cause	Correction
8	Sheet sliding anomaly <Poor sliding operation/abnormal sound>	1. Sheet motor defect 2. Poor adjustment of timing belt tension 3. Disconnection of harness and poor connector contact 4. Insufficient grease in sliding section (tension/bearing section) 5. SUB-BOARD defect 6. MAIN-BOARD defect 7. Plunger defect 8. Sensor board soiled, defect	1. Change the sheet motor. 2. Adjust the motor mounting position and change the belt. 3. Change the harness, and insert the connedtor again. 4. Apply grease to respective sliding sections. 5. Change SUB-BOARD. 6. Change MAIN-BOARD. 7. Change the plunger. 8. Clean the sensor board and replace if necessary.
9	Copying color is too light.	1. Poor lighting of fluorescent lamp 2. Poor head contact as a whole 3. Saturation of CCD waveforms 4. MAIN-BOARD defect	1. Change the fluorescent lamp. 2. Adjust the head contact. 3. Adjust the lens shade. 4. Change MAIN-BOARD.
10	Color is light as a whole.	1. Poor lighting of fluorescent lamp 2. Poor head contact as a whole 3. Saturation of CCD waveforms 4. MAIN-BOARD defect	1. Change the fluorescent lamp. 2. Adjust the head contact. 3. Adjust the lens shade. 4. Change MAIN-BOARD.
11	Dots missing for all-white copy	1. Harness cut line or connector contact defect 2. CCD waveform saturated 3. Thermal head defect 4. MAIN-BOARD defect 5. SUB-BOARD defect 6. CCD lens condensation	1. Re-insert the connector; replace the harness if necessary. 2. Adjust the lens shade. 3. Change the thermal head. 4. Change the MAIN-BOARD. 5. Change the SUB-BOARD. 6. Switch on the power and wait 30 minutes.
12	Totally black copy & black lines/points	1. Poor CCD waveform adjustment 2. Slipped optical axis 3. Out-of-focus 4. Deformation of slit stiffener 5. Dirty mirror surface 6. Dirty CCD lens surface 7. Dirty fluorescent lamp 8. MAIN-BOARD defect 9. SUB-BOARD defect 10. CCD-BOARD detect	1. Readjust the CCD waveform. 2. Readjust the elevation angle of the lens. Readjust the lens shade. 3. Readjust the focus. 4. Correct the shape. 5. Clean and change defective parts. 6. Clean the CCD lens and replace if necessary. 7. Clean the fluorescent lamp and replace if necessary. 8. Change MAIN-BOARD. 9. Change SUB-BOARD. 10. Change CCD-BOARD.
13	Copy printing horizontal jam	1. Printer paper feed abnormality	1. Follow the preceding item 7.
14	Laterally elongated copied characters	1. Sheet feeding defect	1. Follow the preceding item 8.
15	Repeat printing not possible BF-030S/W (when PC interface board mounted) BF-035	1. PC interface board jumper setting incorrect 2. Connector contact defect 3. PC interface board defect 1. MAIN-BOARD defect 2. PC interface board jumper setting incorrect (only when interface board mounted)	1. Adjust and reset the PC interface board jumper setting (J1). 2. Re-insert the PC interface board. 3. Change the PC interface board. 1. Change the MAIN-BOARD. 2. Adjust and reset the PC interface board jumper setting (J2).

DISASSEMBLY

1. Board Main Unit Disassembly

1) Remove the frame cover unit.

- Remove the two screws [M] and two screws [U] (three screws for 030).
- Remove the main harness and the power relay harness.
- Remove the frame cover unit.

2) Remove the back panel.

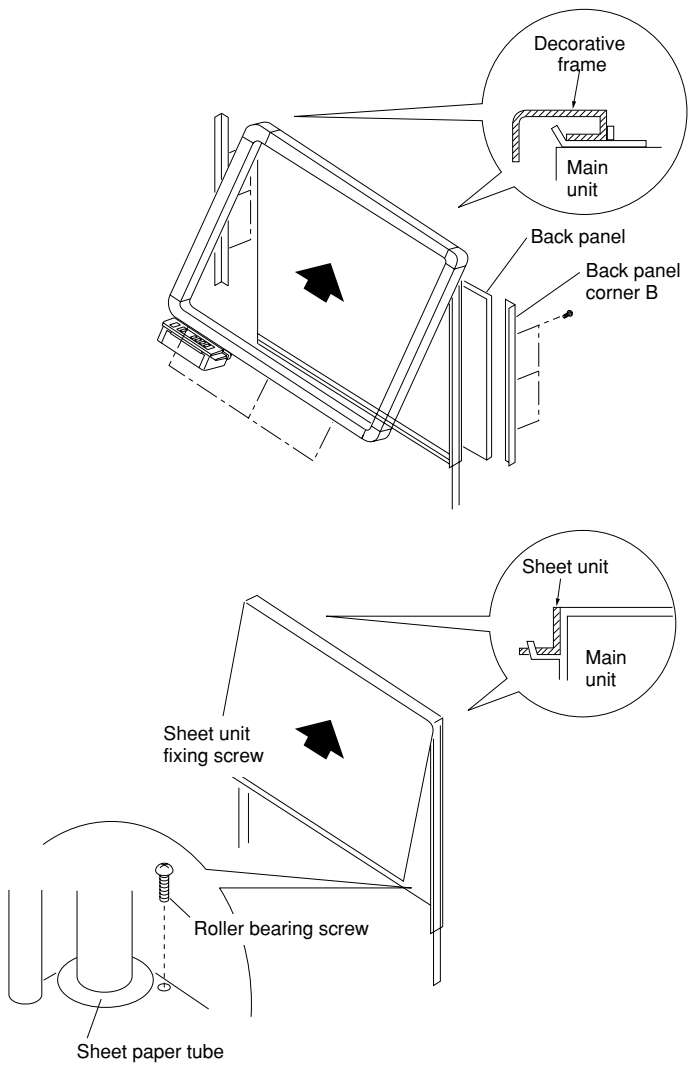
- Remove the ten screws [T] and remove back panel corner B.
- Slide the back panel and remove it.

3) Remove the sheet frame unit (BF-030S/W)

- Remove the four screws [U].
- Remove the sheet motor connector.
- Remove the sheet unit from the sheet from hangar.

4) Remove the sheet frame unit (BF-035)

- Remove the rear side screw [D].
- Remove the board motor solenoid harness from the main board and remove the cable.
- Remove the four screws [U].
- Remove the sheet unit from the sheet from hangar.



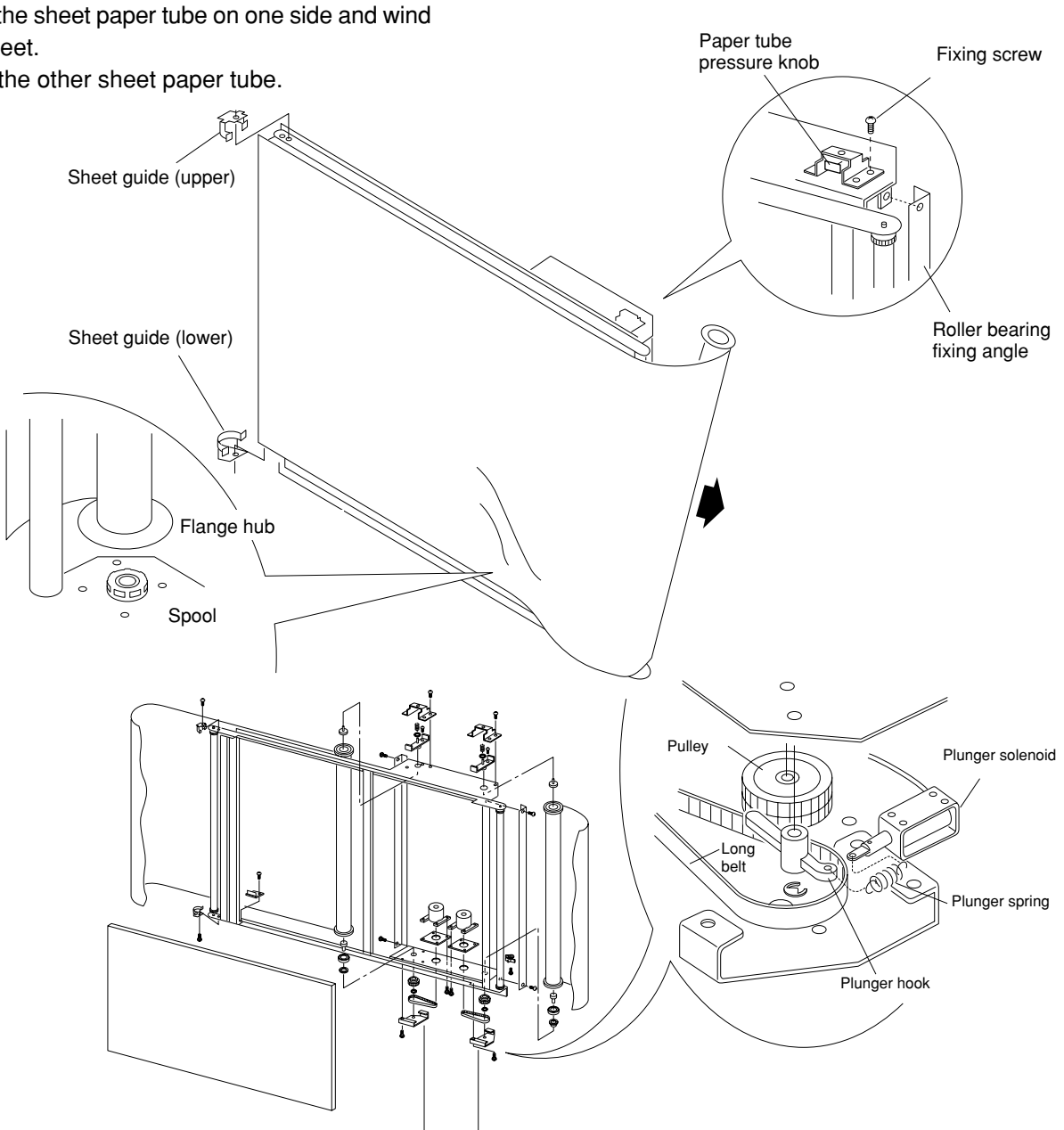
2. Removing the Sheet

BF-030S/W

- Lock the top and bottom slide bases.
- Move the sheet to the top and remove it from the sheet frame.
- When mounting the sheet, place it against the roller flange and mount slowly.
  (Be careful not to scratch the sheet.)

BF-035

- Remove the two screws [T] and remove both the top and bottom sheet guides.
- Remove the four screws [B] and remove both angles.
- Remove the two screws [G] and release the lever plate.
- Remove the sheet paper tube on one side and wind up the sheet.
- Remove the other sheet paper tube.



3. Removing Parts from the Sheet Unit

BF-030S/W

- Remove the two sheets [H] and remove the sheet motor.

BF-035

Solenoid

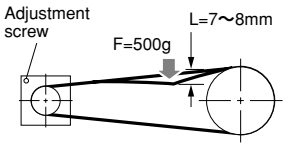
- Remove the harness wire bundle.
- Remove the two screws [A] and remove the solenoid.

Servo motor

- Remove the harness wire bundle.
- Remove the four screws [N] and remove the motor.

*During installation, be careful about the motor belt tension.

Board motor belt adjustment



4. Removing Internal Parts

Remove the main board.

- Remove the harnesses connected to the main board.
- Restrain the locking card spacer and remove the main board.

Remove the power board.

- Remove the power supply relay harness, the secondary side power supply harness, and the lamp harness.
- Remove the four screws [H].

Remove the CCD board.

- Remove the cable ties around the CCD board.
- Remove the two screws [I] and remove the CCD board together with the lens holder.

Remove the fluorescent lamp.

- Loosen the two screws [J] and remove both the top and bottom auxiliary mirror plates.
- Turn the fluorescent lamp and remove it to the front.

5. Printer Disassembly

1) Remove the printer unit from the frame cover.

- Remove the four screws [O] and remove the printer unit from the frame cover.

2) Remove the printer rear cover.

- Remove the four screws [C] and the nine screws [S].
- Remove the power supply cord from the main switch and remove the rear cover.

3) Remove the switch panel and switch board.

- Remove the switch board harness from the sub-board.
- Remove the cable tie.
- Remove the four hooks from the printer cover and remove the switch panel.
- Remove the four screws [Q] and remove the switch board.

4) Remove the sub-board paper switch

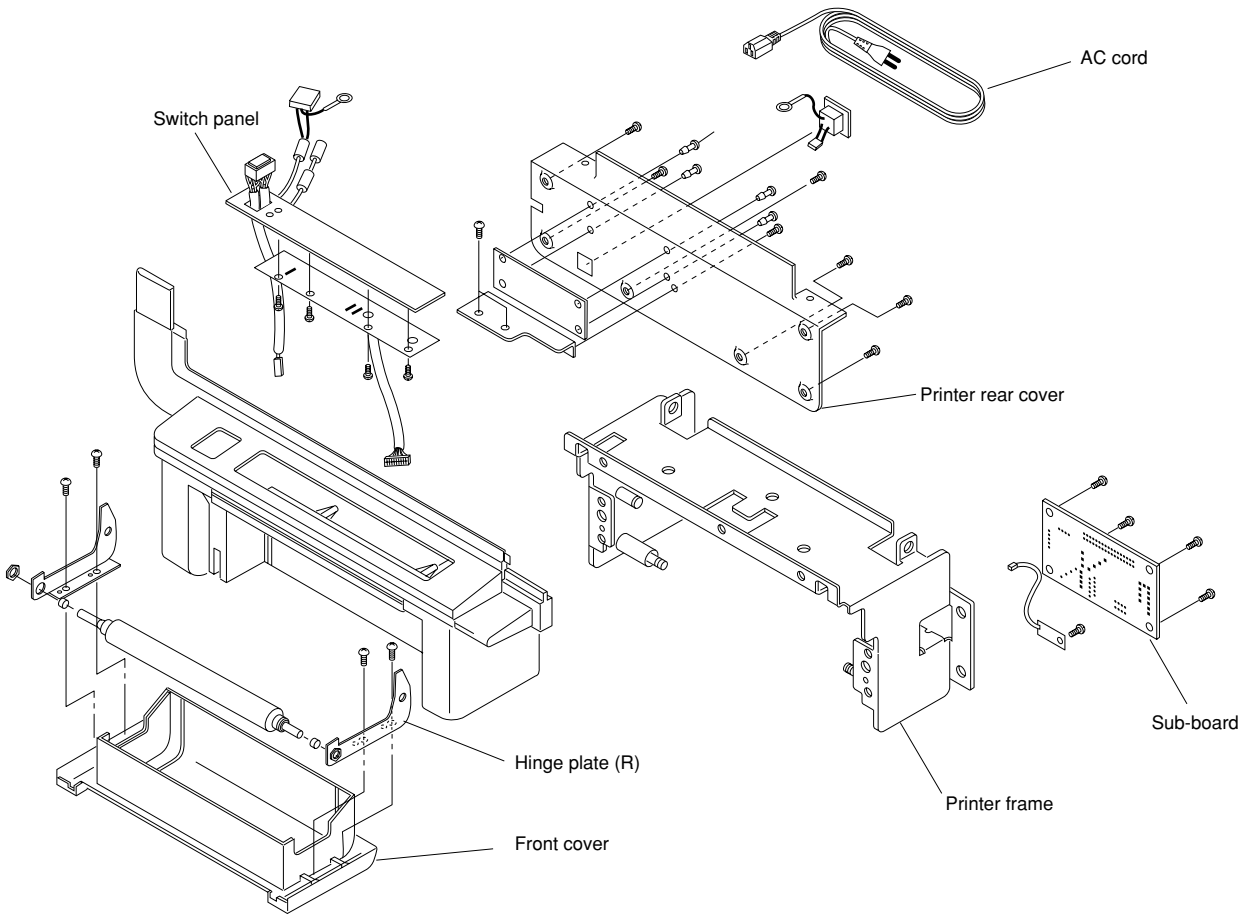
- Remove the harnesses connected to the sub-board.
- Remove the four screws [Q] and remove the sub-board.
- Remove the two screws [P] and remove the paper switch.

5) Remove the front cover and platen roller.

- Remove the two front cover springs.
- Remove the two hinge plate L and R E rings [c].
- Remove the four screws [R] and remove the front cover.
- Remove the platen roller from the hinge plate.

6) Remove the printer frame.

- Remove the two screws [R].
- Remove the printer frame from the printer cover.



7) Remove the printer motor.

- Remove the two screws [B] and remove the printer motor.

8) Remove the thermal head.

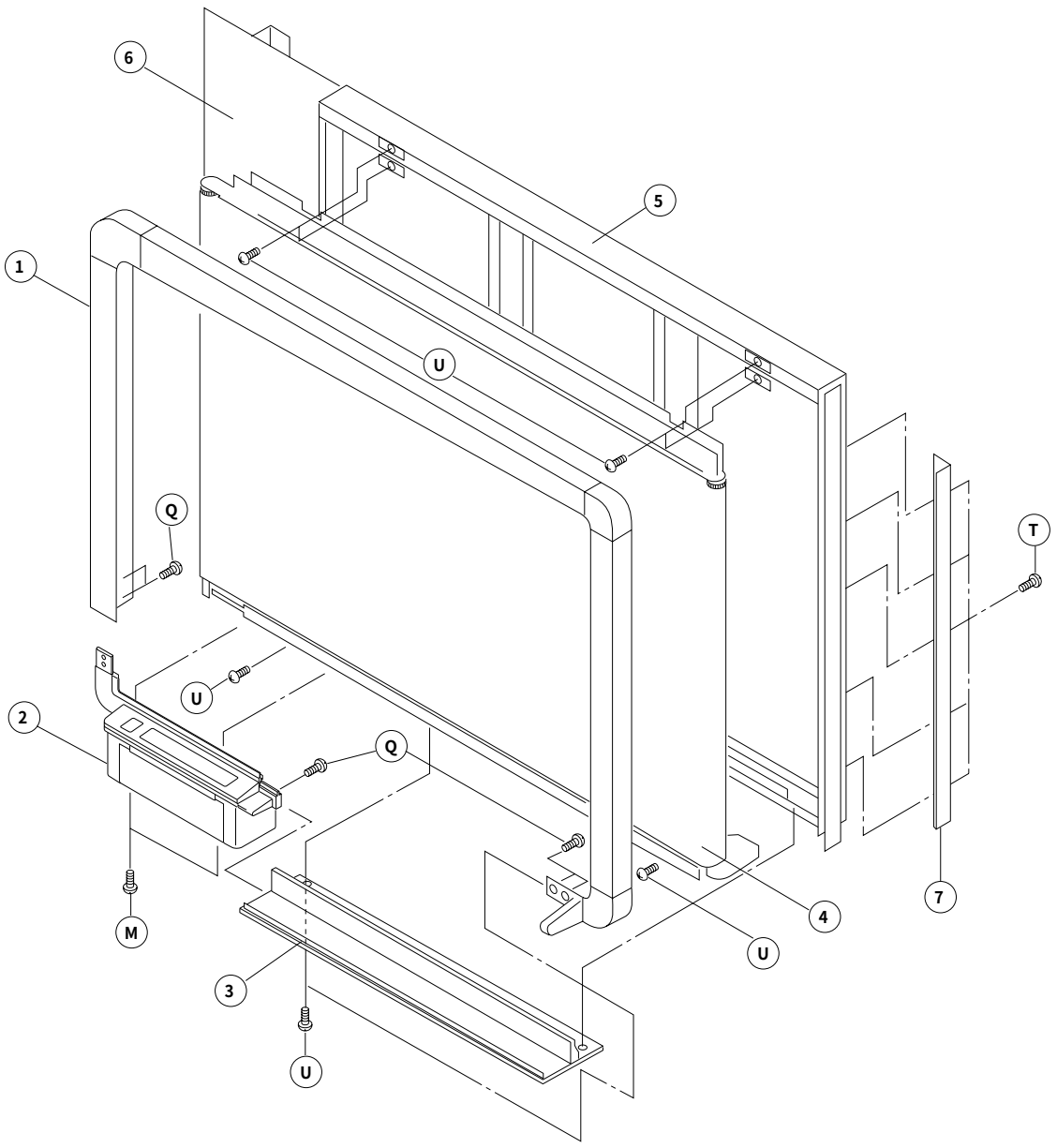
- Remove the two control harnesses for the thermal head.
- Remove the screw [K] and the head fastening collar.
- Remove the head fastening screw and remove the thermal head installation base.
- Remove the two screws [F] and remove the thermal head from the installation base.

Binding

	Type	PARTS NO.	Specifications	Surface Processing	NOTES
SCREW	A	951126510	M2.6 × 5 Round head	MFZn I-C	035 only
SCREW	B	951230610	M3 × 6 Bind	MFZn I-C	
SCREW	C	951240620	M4 × 6 Bind	MFZn I-C	
SCREW	D	951244510	M4 × 45 Bind	MFZn I-C	035 only
SCREW	E	951430630	M3 × 6 Slotted head	MFNi- I	
SCREW	F	952130510	M3 × 5 2-point type	MFZn I-C	
SCREW	G	952331010	M3 × 12 2-point type Round head	MFZn I-C	035 only
SCREW	H	952530610	M3 × 6 3-point type	MFZn I-C	
SCREW	I	952530810	M3 × 8 3-point type	MFZn I-C	
SCREW	J	952531010	M3 × 10 3-point type	MFZn I-C	
SCREW	K	952532510	M3 × 25 3-point type	MFZn I-C	
SCREW	L	952540610	M4 × 6 3-point type	MFZn I-C	
SCREW	M	952541210	M4 × 12 3-point type	MFZn I-C	
SCREW	N	952541510	M4 × 15 3-point type	MFZn I-C	035 only
SCREW	O	953141010	M4 × 10 P Tapping Round hesd	MFZn I-C	
SCREW	P	953226610	M2.6 × 6 P Tapping Bind	MFZn I-C	
SCREW	Q	953230610	M3 × 6 P Tapping Bind	MFZn I-C	
SCREW	R	953230810	M3 × 8 P Tapping Bind	MFZn I-C	
SCREW	S	953240820	M4 × 8 P Tapping Bind	MFZn	
SCREW	T	953630820	M3 × 8 S Tapping Bind	MFZn I-C	
SCREW	U	953640810	M4 × 8 S Tapping Bind	MFZn I-C	
SCREW	V	954430880	M3 × 8 Allen stop bolt	Black	
E RING	a	958120020	ME-RING ø2	MFZn I-C	035 only
E RING	b	958130020	ME-RING ø3	MFZn I-C	035 only
E RING	c	958140020	ME-RING ø4	MFZn I-C	
E RING	d	958160020	ME-RING ø6	MFZn I-C	035 only
SPRING PIN	e	956625600	Spring pin ø2.5 × 6		035 only
SPRING PIN	f	956625900	Spring pin ø2.5 × 12		035 only
SCREW	g	954382010	M8 × 20 Allen button bolt	Black	Foot T only
F WASHER	h	957281210	No.2-8 Flat washer	MFZn I-C	Foot T only
S WASHER	i	957380010	No.2-8 Spring washer	MFZn I-C	Foot T only
SCREW	j	953641530	M4 × 15 S Tapping Bind	MFNi- I	Wall mounting
	k				
SCREW	l	952161530	M6 × 15 2-point type	MFNi- I	Wall mounting
	m	714599100	Lookinkg card spacer		KGLS-6RF

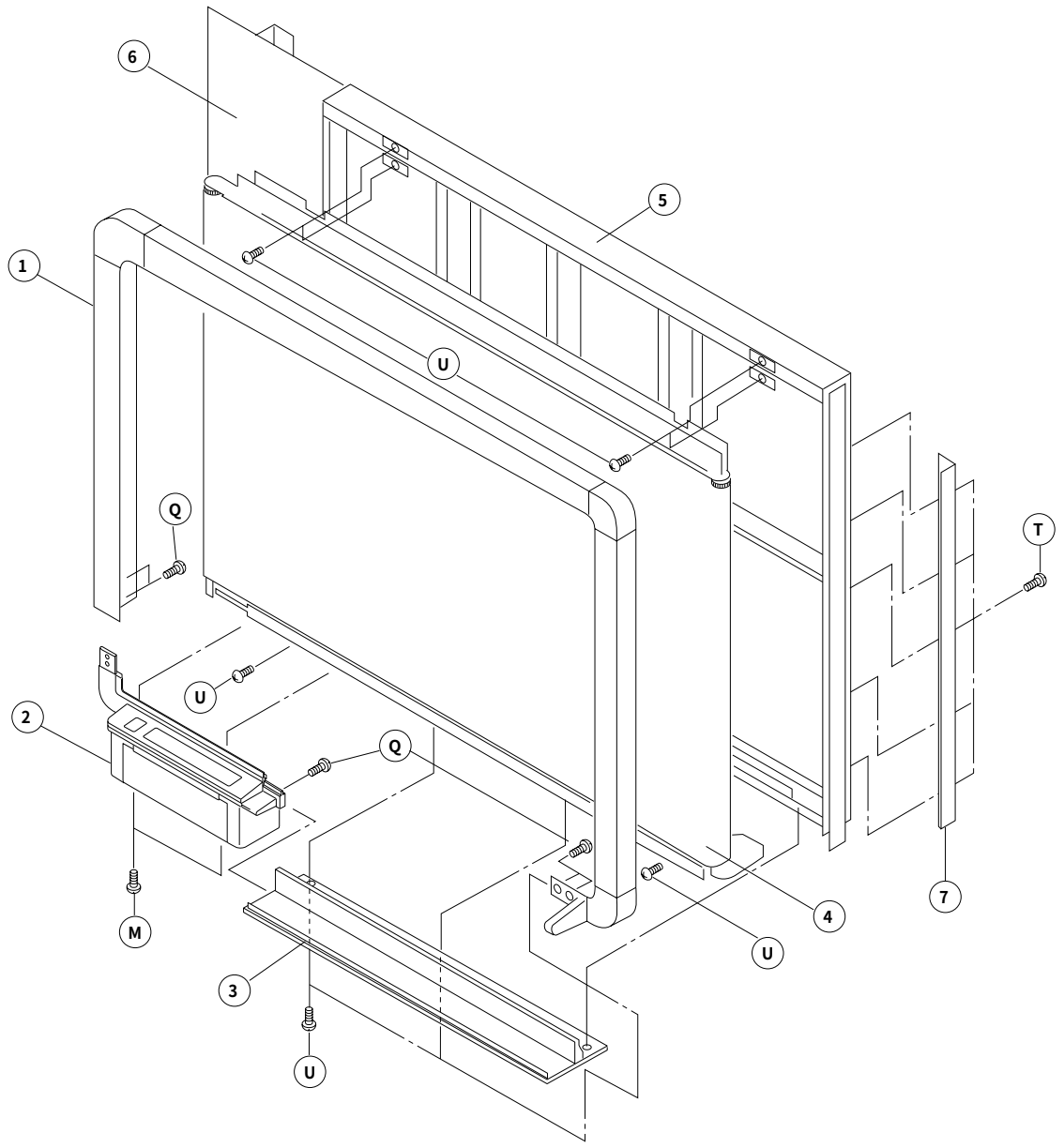
PARTS LIST

Board unit BF-030S



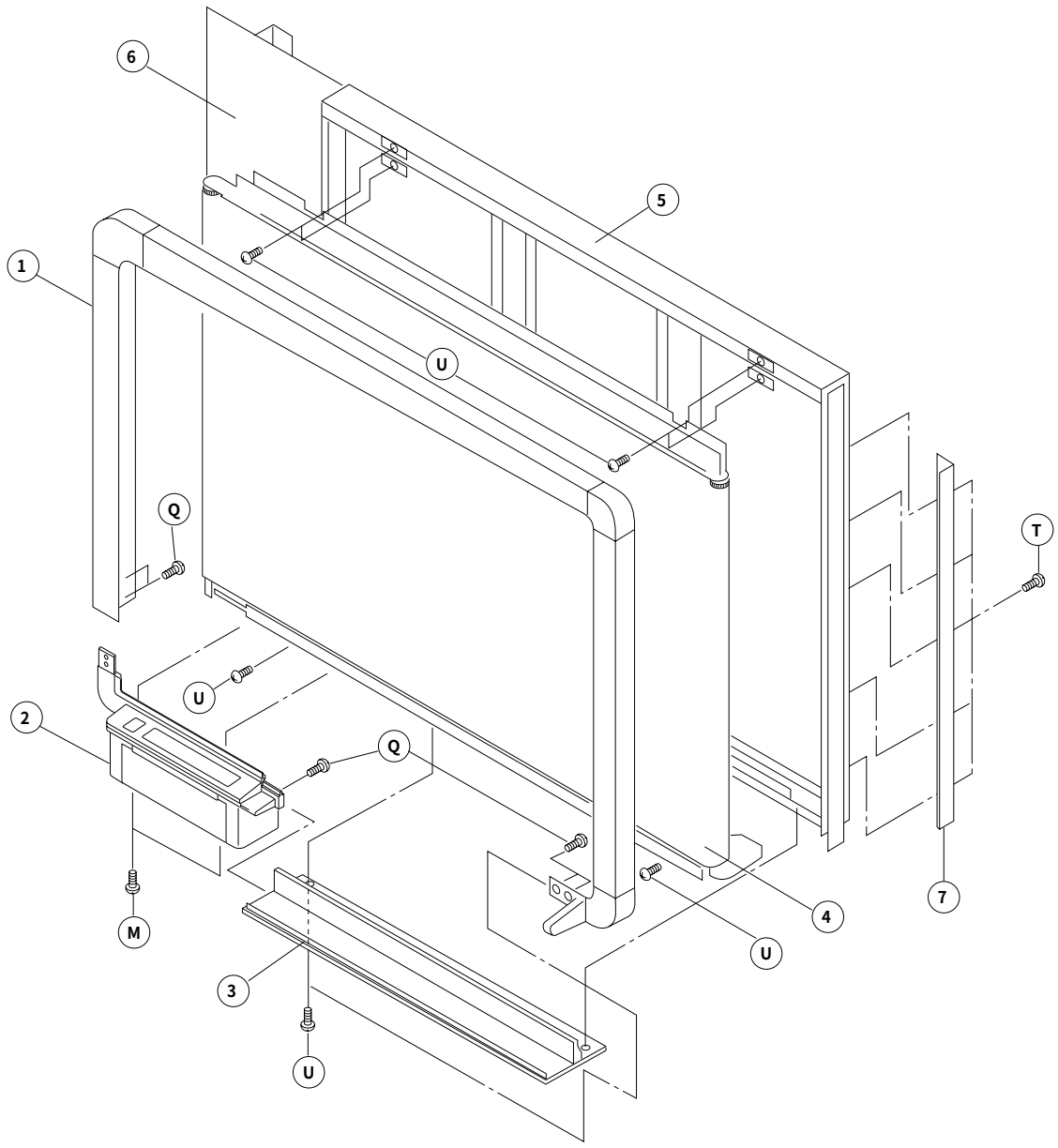
NO	PARTS NO.	PARTS NAME	Q'TY	NOTES	AREA	PRICE
1	714091390	Frame cover unit	1			
2	————	Printer unit	1	No parts supply		
3	714150500	Frame cover/lower	1			
4	————	Draves & Sheet unit	1	No parts supply		
5	————	Board frame unit	1	No parts supply		
6	714512500	Back panel	1			
7	714111600	Back panel corner B(vertical)	2			
M	952541210	M4 × 12 3–point type	2			
O	953141010	M4 × 10 P Tapping & Round head	6			
T	953630820	M3 × 8 S Tapping Bind	10			
U	953640810	M4 × 8 S Tapping Bind	6			

Board unit BF-030W



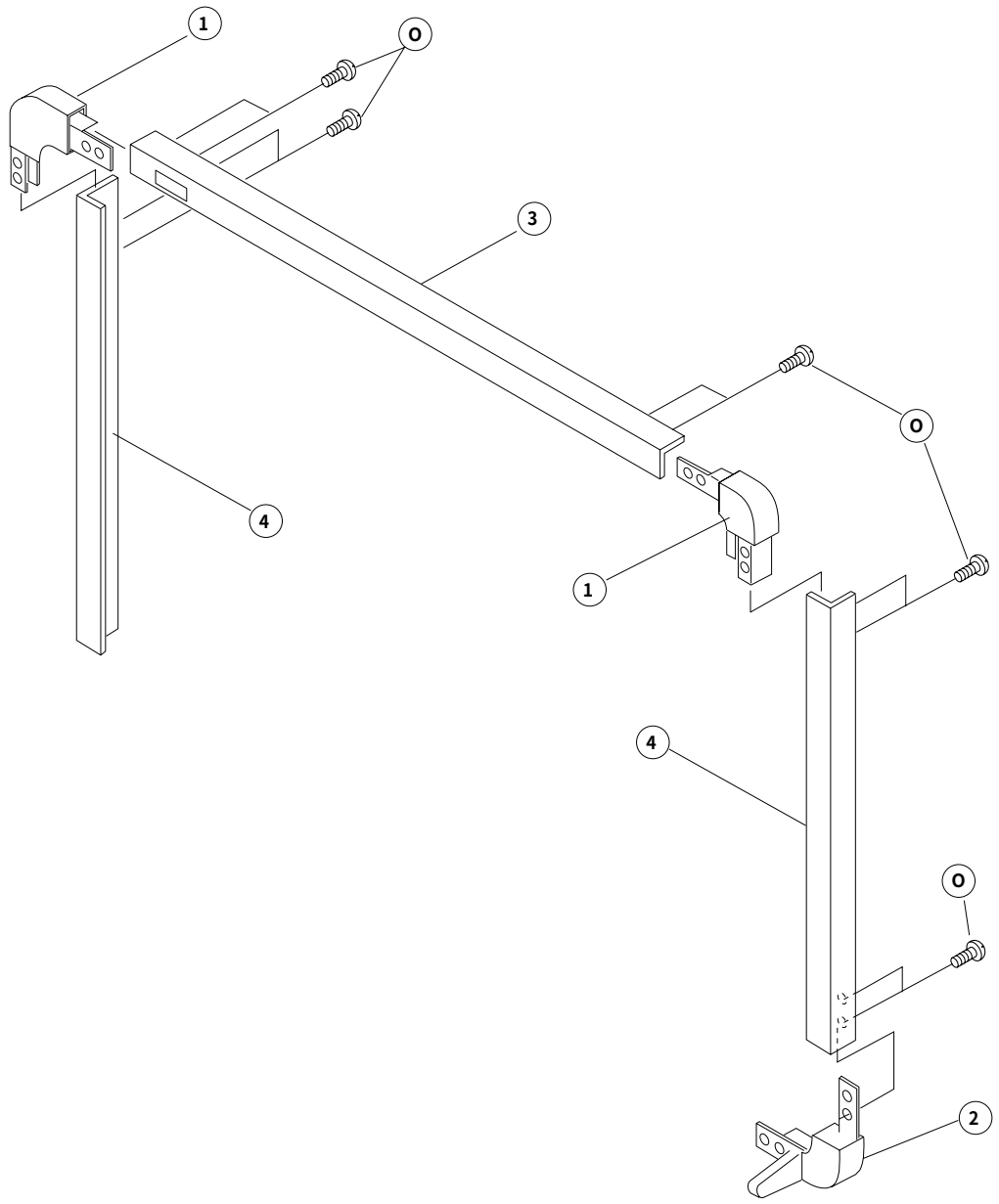
NO	PARTS NO.	PARTS NAME	Q'TY	NOTES	AREA	PRICE
1	714092390	Frame cover unit	1			
2	————	Printer unit	1	No parts supply		
3	714650500	Frame cover/lower	1			
4	————	Draves & Sheet unit	1	No parts supply		
5	————	Board frame unit	1	No parts supply		
6	714912500	Back panel W	1			
7	714111600	Back panel corner B(vertical)	2			
M	952541210	M4 × 12 3–point type	2			
O	953141010	M4 × 10 P Tapping & Round head	6			
T	953630820	M3 × 8 S Tapping Bind	10			
U	953640810	M4 × 8 S Tapping Bind	9			

Board unit BF-035



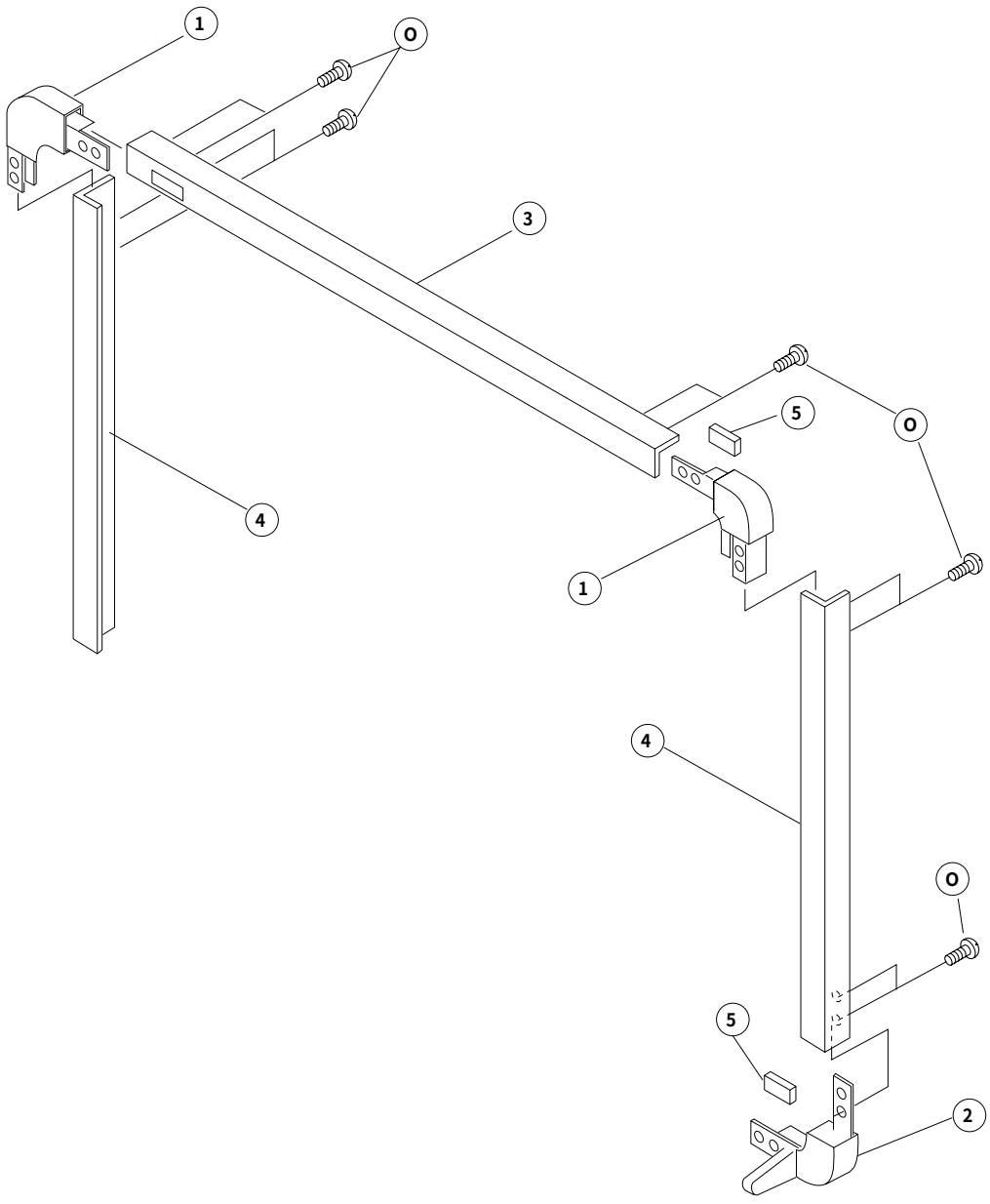
NO	PARTS NO.	PARTS NAME	Q'TY	NOTES	AREA	PRICE
1	714093390	Frame cover unit	1			
2	————	Printer unit	1	No parts supply		
3	714150500	Frame cover/lower	1			
4	————	Draves & Sheet unit	1	No parts supply		
5	————	Board frame unit	1	No parts supply		
6	714512500	Back panel	1			
7	714111600	Back panel corner B(vertical)	2			
M	952541210	M4 × 12 3–point type	2			
O	953141010	M4 × 10 P Tapping & Round head	6			
T	953630820	M3 × 8 S Tapping Bind	10			
U	953640810	M4 × 8 S Tapping Bind	6			

Frame cover unit BF-030S/W



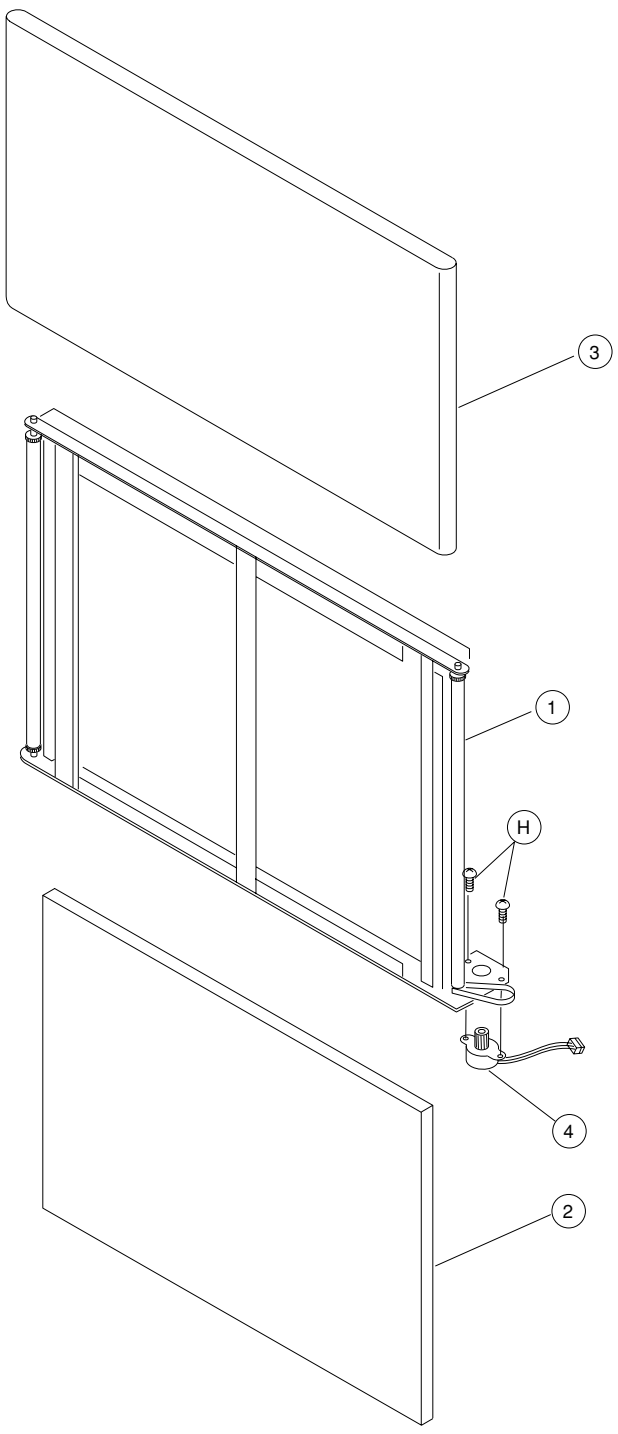
NO	PARTS NO.	PARTS NAME	Q'TY	NOTES	AREA	PRICE
1	714150100	Corner cover/uppre	2			
2	714150200	Corner cover/R	1			
3	714150300	Frame cover/upper	1	Standard-type		
3	714650300	Frame cover/upper	1	Wide-type		
4	714150400	Frame cover/side	2			
O	953141010	M4 × 10 P Tapping & Round head	10			

Frame cover unit BF-035



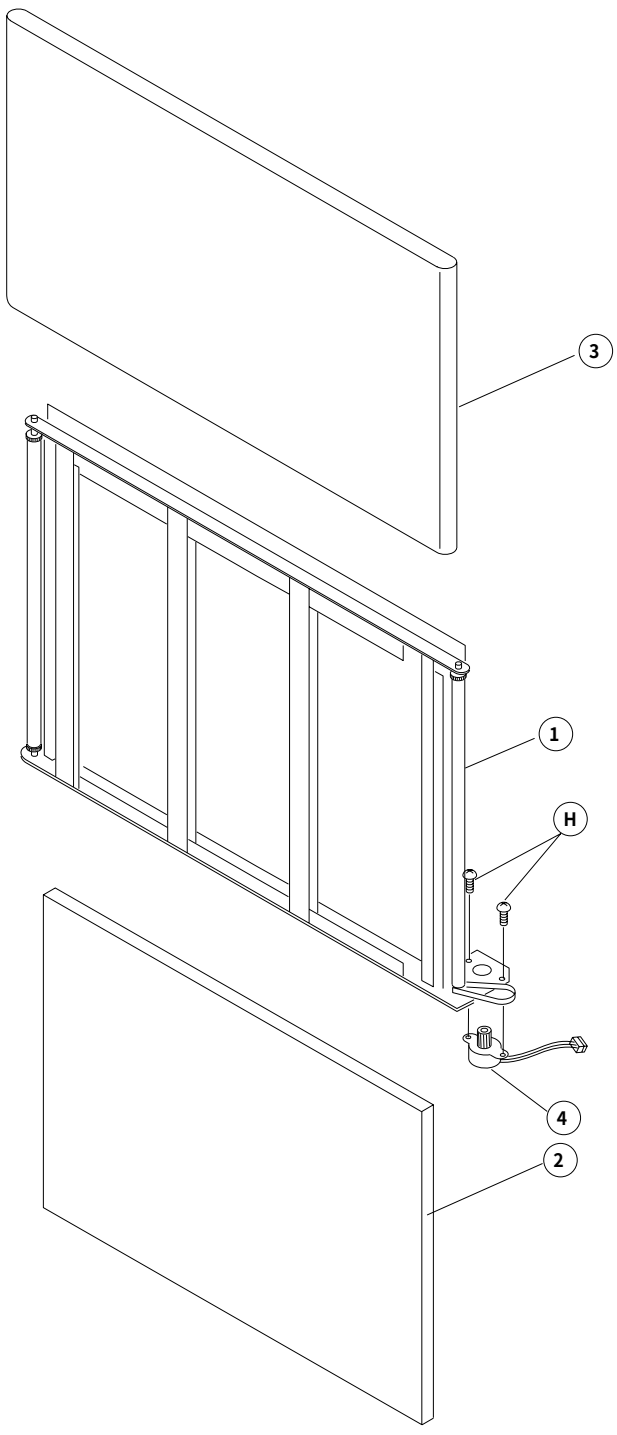
NO	PARTS NO.	PARTS NAME	Q'TY	NOTES	AREA	PRICE
1	714150100	Corner cover/uppre	2			
2	714150200	Corner cover/R	1			
3	714150300	Frame cover/upper	1			
4	714204400	Frame cover/side	2			
5	714203300	Urethene sponge	2			
O	953141010	M4 × 10 P Tapping & Round head	10			

Draves & Sheet unit BF-030S



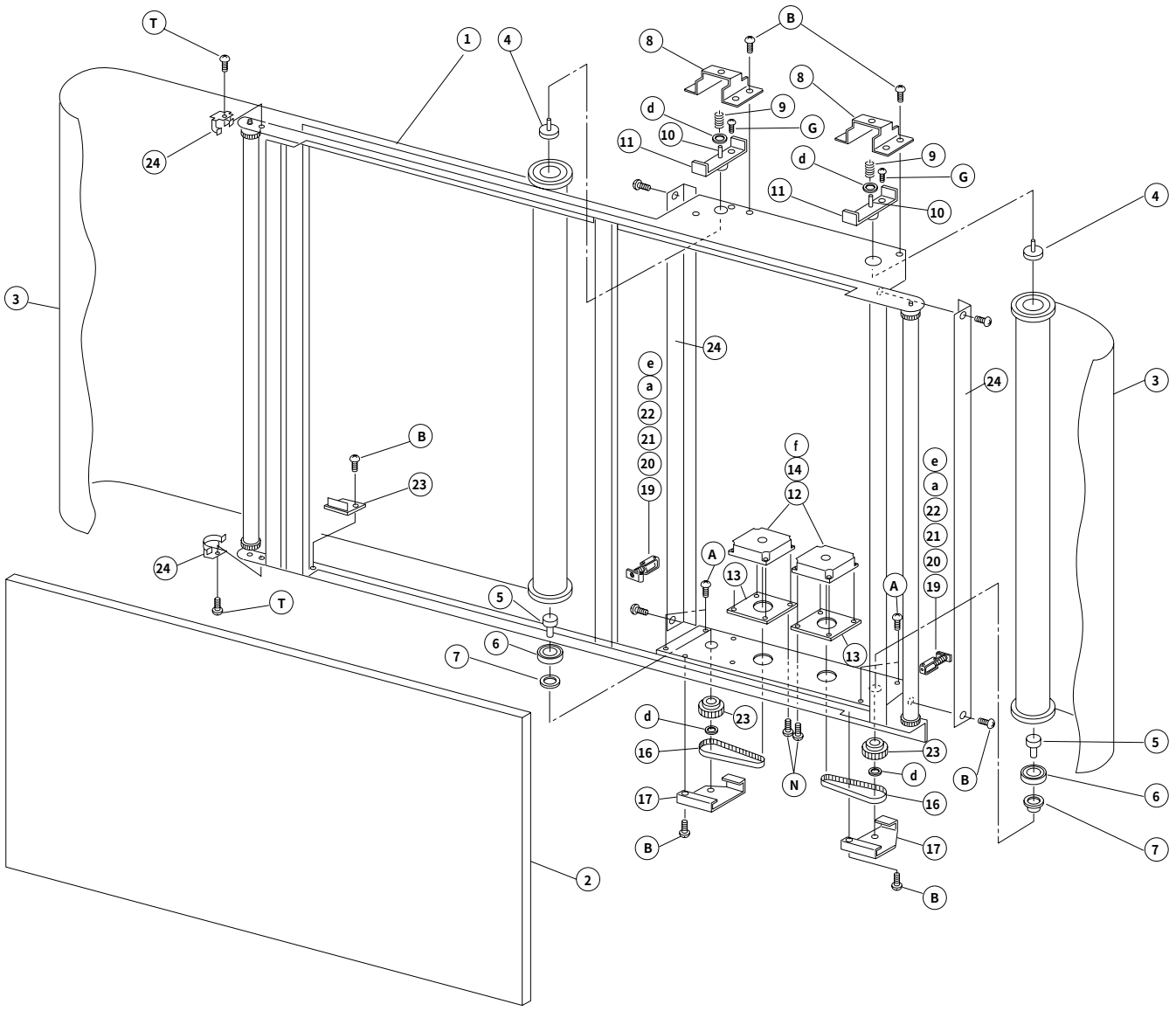
NO	PARTS NO.	PARTS NAME	Q'TY	NOTES	AREA	PRICE
1	714091190	Sheet frame assy	1			
2	714520900	Sheet panel	1	No parts supply		
3	714722400	Endless sheet	1			
3	714122000	Endless sheet	1	UL only	NORTH AMERICA	
4	714180800	Sheet motor assy	1			
H	952530610	M3 × 6 3–point type	2			

Draves & Sheet unit BF-030W



NO	PARTS NO.	PARTS NAME	Q'TY	NOTES	AREA	PRICE
1	714092190	Sheet frame assy W	1			
2	714620900	Sheet panel	1	No parts supply		
3	714622400	Endless sheet	1			
3	714122000	Endless sheet	1	UL only	NORTH AMERICA	
4	714180800	Sheet motor assy	1			
H	952530610	M3 × 6 3–point type	2			

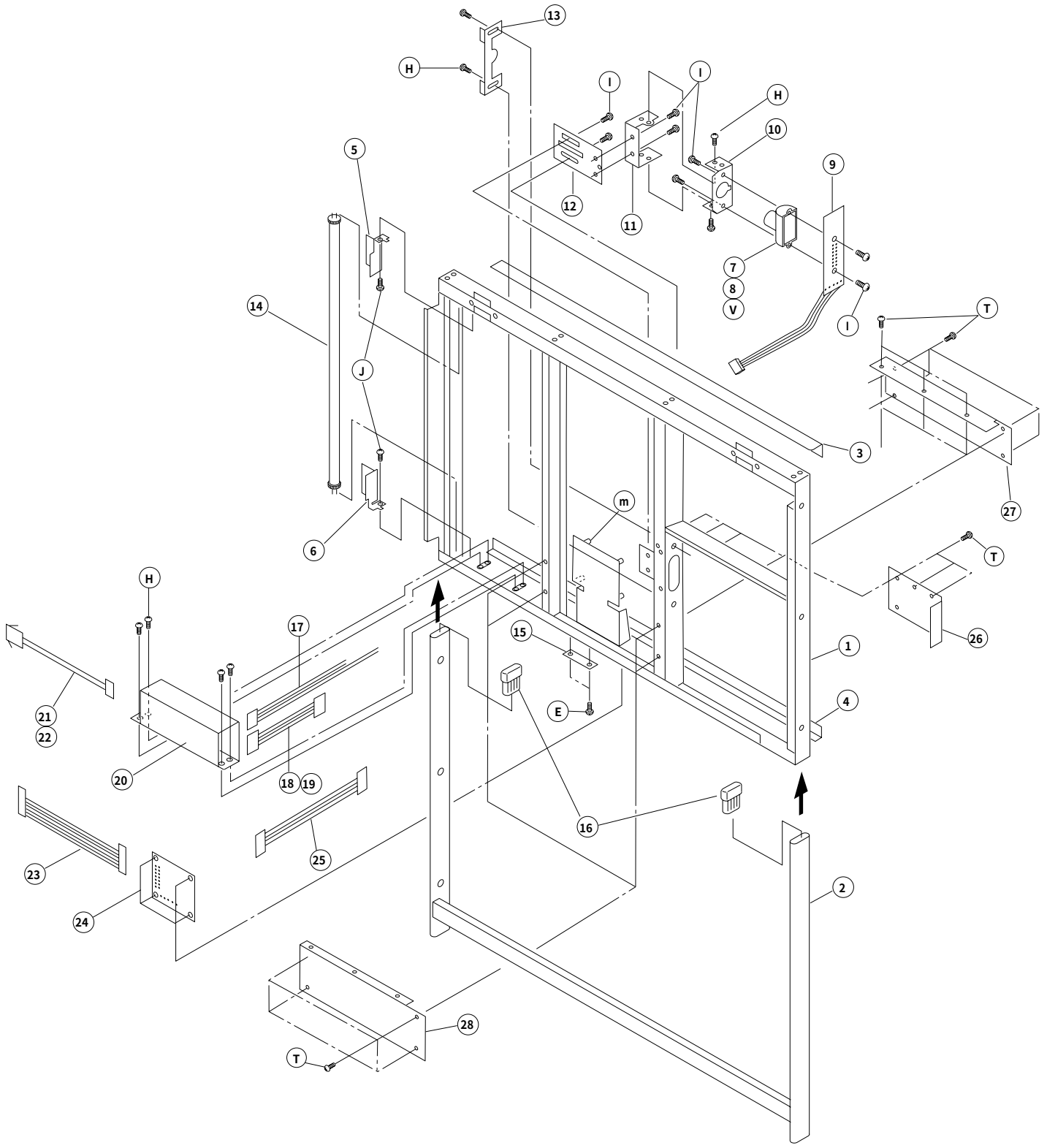
Draves & Sheet unit BF-035



Draves & Sheet unit BF-035

NO	PARTS NO.	PARTS NAME	Q'TY	NOTES	AREA	PRICE
1	714093190	Sheet frame assy	1			
2	714520900	Sheet panel	1	No parts supply		
3	714093290	White sheet assy	1			
4	716758500	Sheet bearing	2			
5	716758600	Sheet axis lower	2			
6	714200100	Sheet roller bearing	2			
7	716760500	Oilless bush	2			
8	716758000	Spring plate	2			
9	716758400	Sheet spring	2			
10	716758300	Sheet axis upper	2			
11	716758200	Lever plate	2			
12	714212500	Board motor assy	2			
13	716759300	Motor rubber	2			
14	716761700	Motor pulley	2			
15	714202100	Pulley XL28	2			
16	716754300	Belt 94XL	2			
17	714902305	Gear plate	2			
18	714902503	Angle	2			
19	714202200	Stopper	2			
20	716760100	Stopper joint assy	2			
21	714206700	Stopper spring	2			
22	714213000	Solenoid assy	2			
23	714211300	Cencor board	1			
24	714903605	Sheet guide	2			
A	951126510	M2.6 × 5 Round head	4			
B	851230610	M3 × 6 Bind	22			
G	952331010	M3 × 12 2–point type Round head	2			
N	952541510	M4 × 15 3–point type	8			
T	953630820	M3 × 8 S Tapping Bind	2			
a	958120020	E–RING ø2	2			
b	958130020	E–RING ø3	2			
d	958160020	E–RING ø6	4			
e	956625600	Spring pin ø2.5 × 6	2			
f	956625900	Spring pin ø2.5 × 12	2			

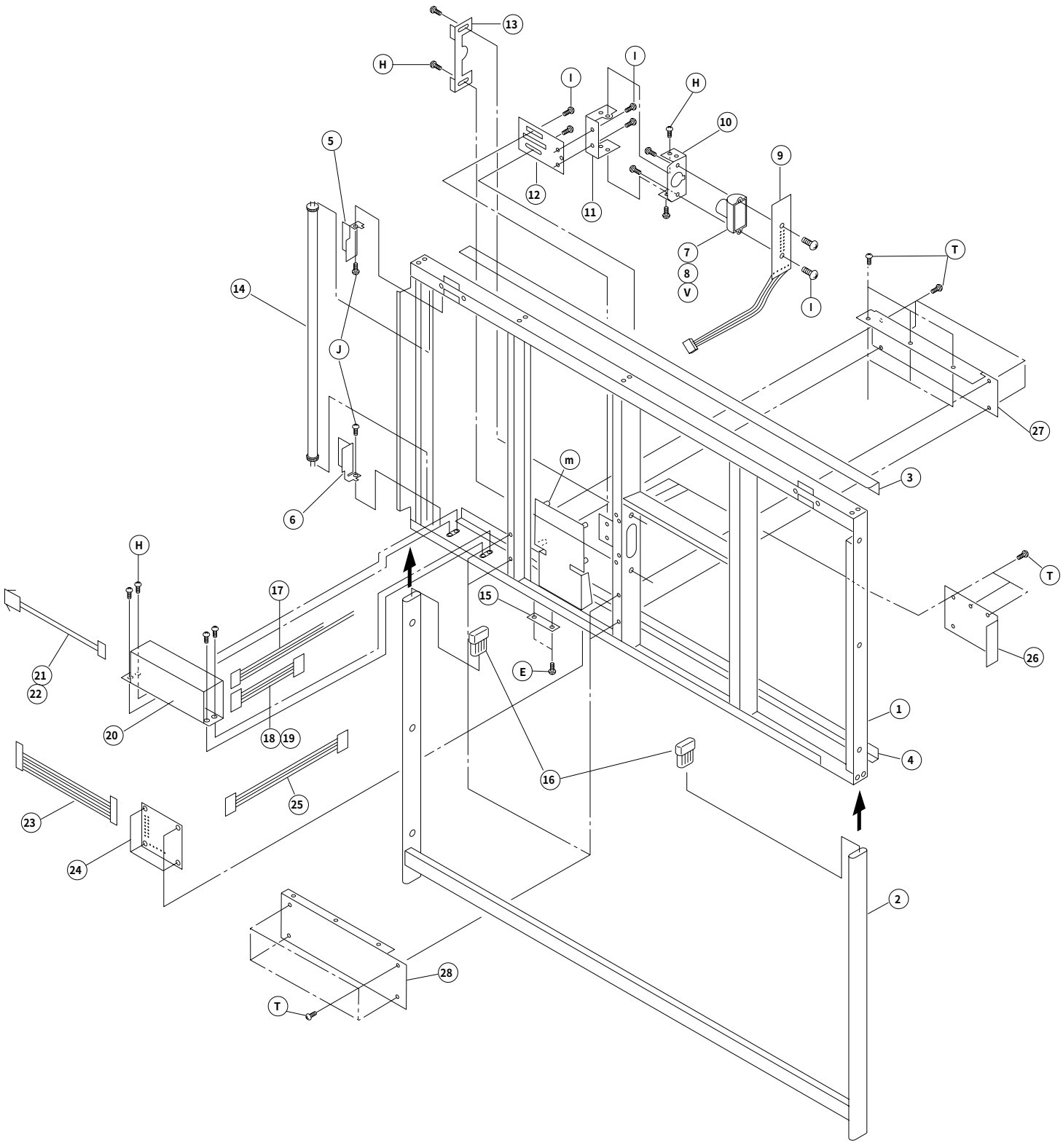
Board frame unit BF-030S



Board frame unit BF-030S

NO	PARTS NO.	PARTS NAME	Q'TY	NOTES	AREA	PRICE
1	714510100	Board frame unit	1			
2	714110306	Pipe frame	1	No parts supply		
3	714511500	Back panel corner A(horizontal)	1	No parts supply		
4	714410500	Back panel corner A(horizontal)	1	No parts supply		
5	714311705	Psition mirror plate/upper	1			
6	714311806	Psition mirror plate/lower	1			
7	714111900	Lens assy	1			
8	714112000	Lens Holder	1			
9	714091490	CCD board assy	1			
10	714312104	Lens bracket A	1			
11	714312204	Lens bracket B	1			
12	714312303	Lens bracket C	1			
13	714312403	Lens shade Re	1			
14	714180700	Fluorescent lamp	1			
15	172130232	Bottom Plate	1			
16	714112600	Pipe frame cap	2			
17	714580630	Lamp socket assy	1			
18	714181200	Secondary side power harness	1			
19	714890100	Core DK	1	UL only	NORTH AMERICA	
20	714580300	Power board assy TUV	1	TUV only	EU	
20	714580400	Power board assy CE	1	CE only	EU	
20	714880300	Power board assy UL	1	UL only	NORTH AMERICA	
21	714585300	Power relay harness	1			
22	714589200	Ferrite (E2130MRC)	1			
23	714451300	Main harness	1			
24	714091590	Main board S assy	1			
25	714181300	Sheet motor relay harness	1			
26	714515203	CCD board cover	1			
27	714410802	Main board cover A	1			
28	714411002	Main board cover B	1			
E	951430630	M3 × 6 Slotted head	2			
H	952530610	M3 × 6 3–point type	8			
I	952530810	M3 × 8 3–point type	8			
J	952531010	M3 × 10 3–point type	4			
T	953630820	M3 × 8 S Tapping Bind	15			
V	954430880	M3 × 8 Hexagonal stop bolt	1			
m	714599100	Looking card spacer	4			

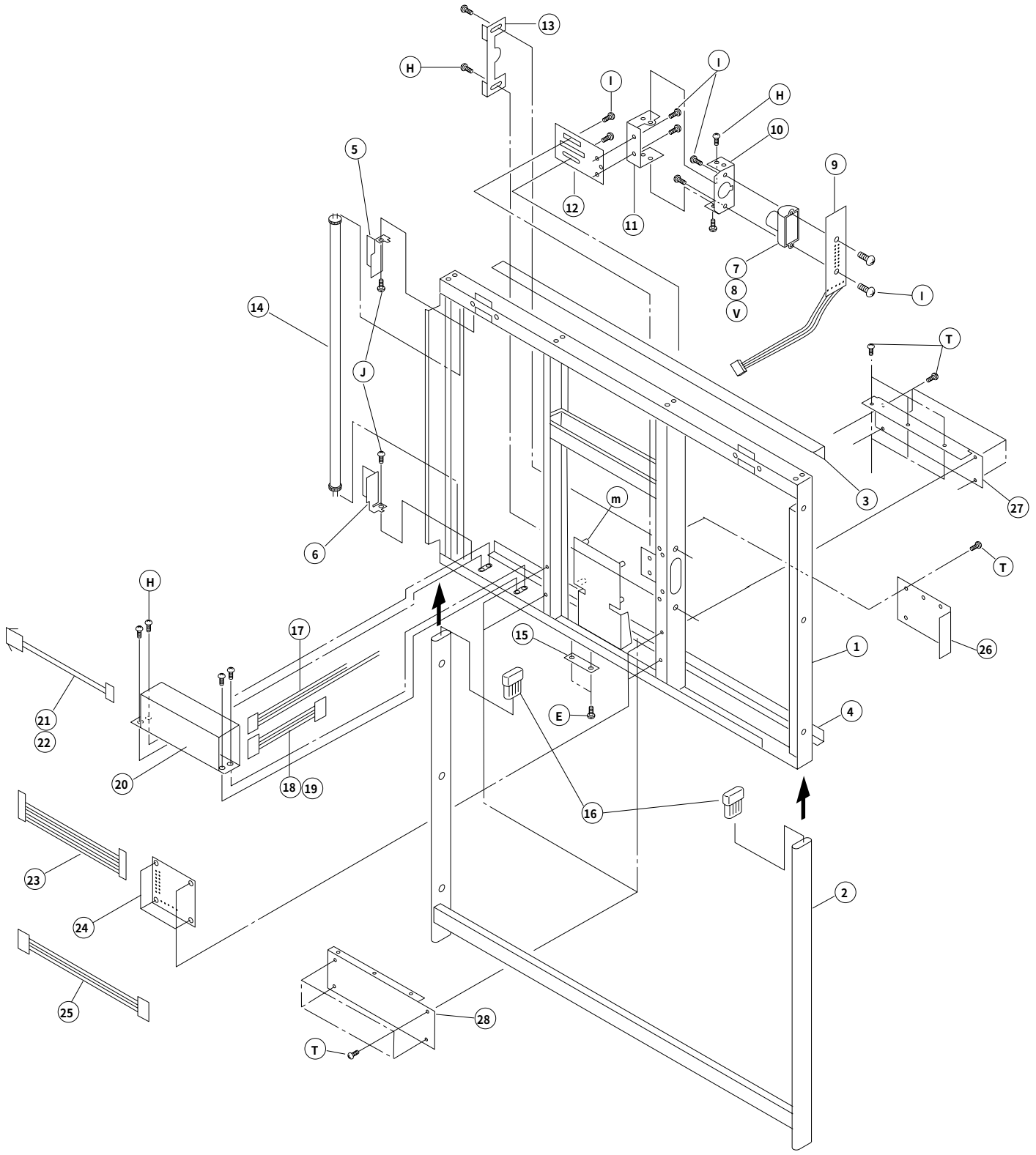
Board frame unit BF-030W



Board frame unit BF-030W

NO	PARTS NO.	PARTS NAME	Q'TY	NOTES	AREA	PRICE
1	714910100	Board frame unit				
2	714610306	Pipe frame W	1	No parts supply		
3	714613300	Back panel corner AW(horizontal)	1	No parts supply		
4	714410600	Back panel corner AW(horizontal)	1	No parts supply		
5	714311705	Psition mirror plate/upper	1			
6	714311806	Psition mirror plate/lower	1			
7	714111900	Lens assy	1			
8	714112000	Lens Holder	1			
9	714091490	CCD board assy	1			
10	714312104	Lens bracket A	1			
11	714312204	Lens bracket B	1			
12	714312303	Lens bracket C	1			
13	714312403	Lens shade	1			
14	714180700	Fluorescent lamp	1			
15	172130232	Bottom Plate	2			
16	714112600	Pipe frame cap	2			
17	714580630	Lamp socket assy	1			
18	714181200	Secondary side power harness	1			
19	714890100	Core DK	1	UL only	NORTH AMERICA	
20	714580300	Power board assy TUV	1	TUV only	EU	
20	714580400	Power board assy CE	1	CE only	EU	
20	714880300	Power board assy UL	1	UL only	NORTH AMERICA	
21	714585300	Power relay harness	1			
22	714589200	Ferrite (E2130MRC)	1			
23	714451300	Main harness	1			
24	714091590	Main board S assy	1			
25	714681300	Sheet motor relay harness W	1			
26	714515203	CCD board cover	1			
27	714410802	Main board cover A	1			
28	714411002	Main board cover B	1			
E	951430630	M3 × 6 Slotted head	1			
H	952530610	M3 × 6 3–point type	8			
I	952530810	M3 × 8 3–point type	8			
J	952531010	M3 × 10 3–point type	4			
T	953630820	M3 × 8 S Tapping Bind	15			
V	954430880	M3 × 8 Hexagonal stop bolt	1			
m	714599100	Looking card spacer	4			

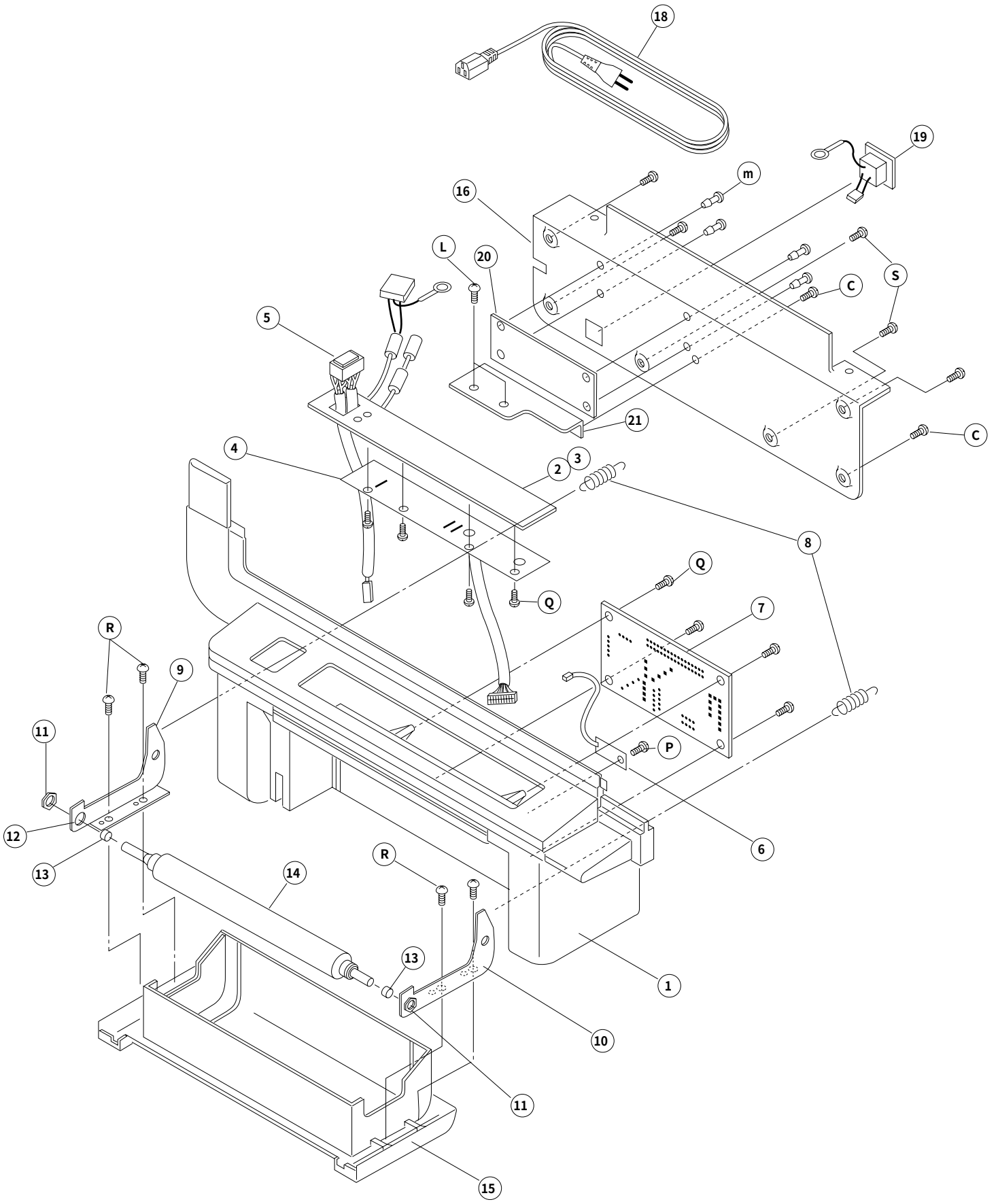
Board frame unit BF-035



Board frame unit BF-035

NO	PARTS NO.	PARTS NAME	Q'TY	NOTES	AREA	PRICE
1		Board frame unit	1			
2	714110306	Pipe frame	1	No parts supply		
3	714511500	Back panel corner A(horizontal)	1	No parts supply		
4	714410500	Back panel corner A(horizontal)	1	No parts supply		
5	714311705	Psition mirror plate/upper	1			
6	714311806	Psition mirror plate/lower	1			
7	714111900	Lens assy	1			
8	714112000	Lens Holder	1			
9	714091490	CCD board assy	1			
10	714312104	Lens bracket A	1			
11	714312204	Lens bracket B	1			
12	714312303	Lens bracket C	1			
13	714312403	Lens shade	1			
14	714180700	Fluorescent lamp	1			
15	172130232	Bottom Plate	1			
16	714112600	Pipe frame cap	2			
17	714580630	Lamp socket assy	1			
18	714181200	Secondary side power harness	1			
19	714890100	Core DK	1	UL only	NORTH AMERICA	
20	714580300	Power board assy TUV	1	TUV only	EU	
20	714580400	Power board assy CE	1	CE only	EU	
20	714880300	Power board assy UL	1	UL only	NORTH AMERICA	
21	714585300	Power relay harness	1			
22	714589200	Ferrite (E2130MRC)	1			
23	714451300	Main harness	1			
24	714093590	Main board 035 assy	1			
25	714181300	Sheet motor relay harness W	1			
26	714515203	CCD board cover	1			
27	714410802	Main board cover A	1			
28	714411002	Main board cover B	1			
E	951430630	M3 × 6 Slotted head	2			
H	952530610	M3 × 6 3–point type	8			
I	952530810	M3 × 8 3–point type	8			
J	952531010	M3 × 10 3–point type	4			
T	953630820	M3 × 8 S Tapping Bind	13			
V	954430880	M3 × 8 Hexagonal stop bolt	1			
m	714599100	Looking card spacer	4			

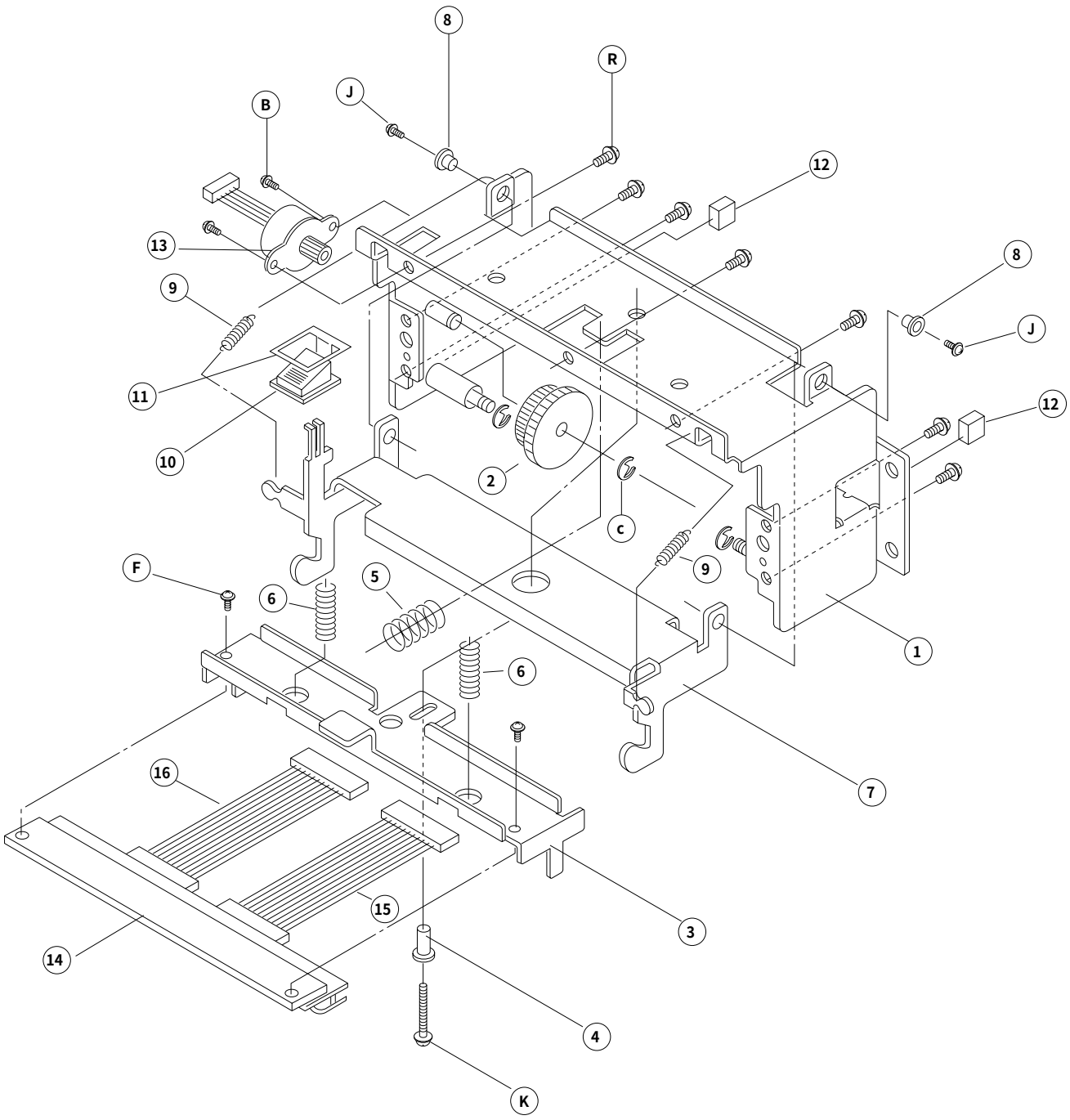
Printer unit I BF-030/-035



Printer unit I BF-030/-035

NO	PARTS NO.	PARTS NAME	Q'TY	NOTES	AREA	PRICE
1	714130200	Printer cover	1			
1	714830200	Printer cover	1	UL only	NORTH AMERICA	
2	714131800	Swich panel	1	BF-030S/W		
2	714831800	Swich panel	1	BF-030S/W UL only	NORTH AMERICA	
2	714410100	Swich panel	1	BF-035		
2	714410200	Swich panel	1	BF-035 UL only	NORTH AMERICA	
3	714411300	Swich sheet (BF-030S)	1			
3	714411600	Swich sheet (BF-030W)	1			
3	714411900	Swich sheet (BF-035)	1			
4	714451800	Swichboard assy	1	BF-030S/W		
4	714450900	Swichboard 035 assy	1	BF-035		
5	714583000	Main switch assy	1			
6	714182700	Paper switch assy	1			
7	714450700	Sub-board assy	1			
8	714141700	Front cover spring	2			
9	714341104	Hinge plate R	1			
10	714341404	Hinge plate L	1			
11	714140800	Platen gear	1			
12	716100200	Oilless bush	2			
13	714140700	Positioning coller	2			
14	714140600	Platen roller	1			
15	714140300	Front cover	1	A4		
15	714840300	Front cover	1	UL only	NORTH AMERICA	
15	714840310	Front cover	1	letter		
16	714532005	Printer rear cover	1			
18	753670000	Power cord assy	1	UL	NORTH AMERICA	
18	753671000	Power cord assy	1	TUV	EU	
18	753673000	Power cord assy	1	BS	ENGLAND	
18	717853400	Power cord assy	1	SAA	AS	
18	753675000	Power cord assy	1	BS (3PIN)	ENDO	
18	753676000	Power cord assy	1	GB	CHINA	
19	714585100	Inlet assy	1			
20	714585200	Noise filter assy	1			
21	714535103	Noise filter boerd plate	1			
C	951240620	M4 × 6 Bind	6			
L	952540610	M4 × 6 3–point type	2			
P	953226610	M2.6 × 6 P Tapping Bind	2			
Q	953230610	M3 × 6 P Taping Bind	8			
R	953230810	M3 × 8 P Taping Bind	4			
S	953240820	M4 × 8 P Taping Bind	2			
m	714599100	Looking card spacer	4			

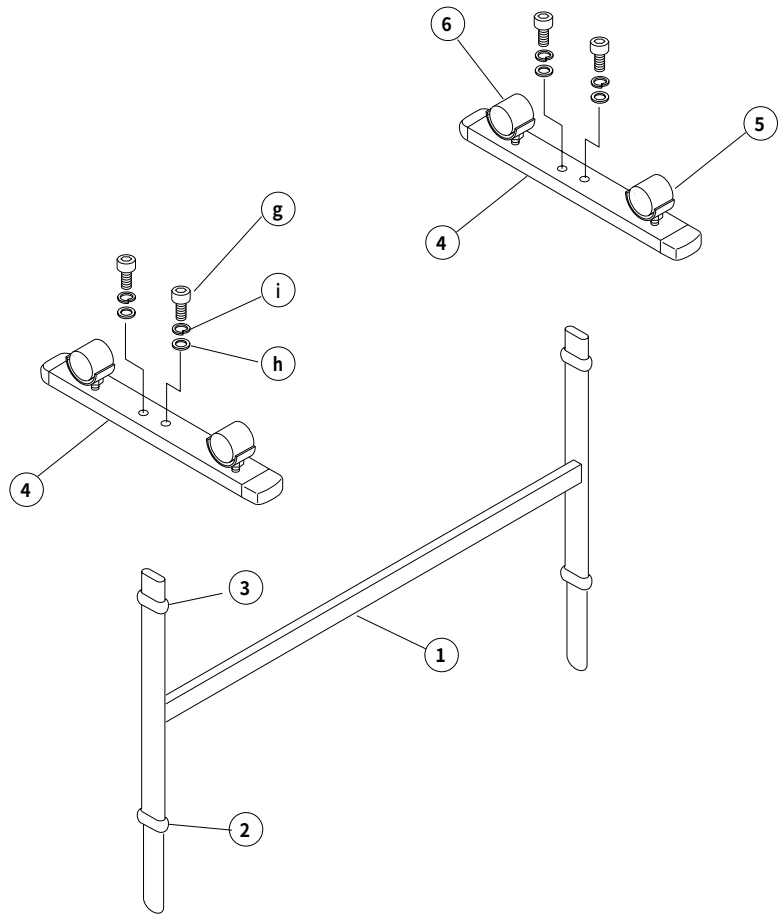
Printer unit II BF-030/-035



Printer unit II BF-030/-035

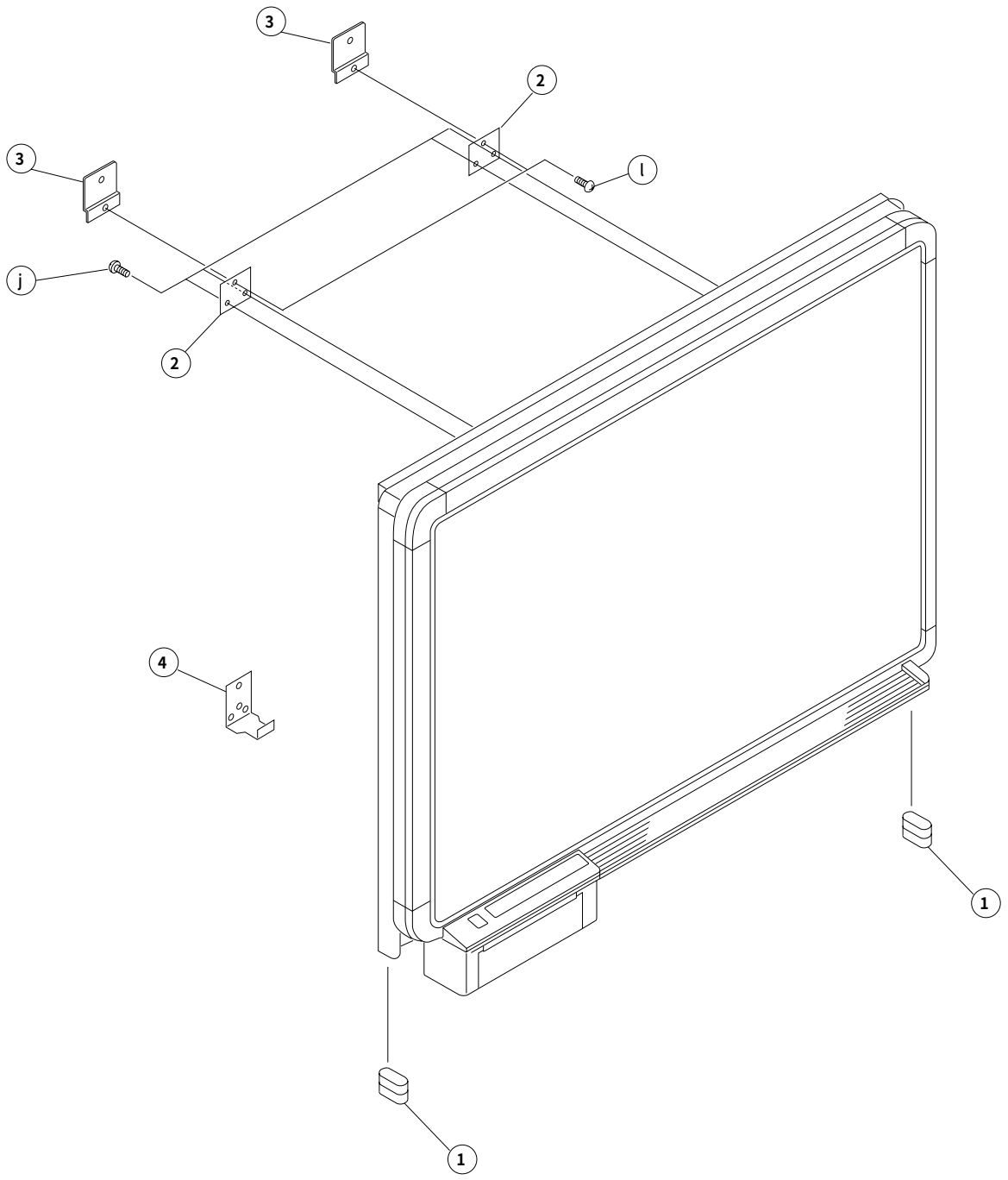
NO	PARTS NO.	PARTS NAME	Q'TY	NOTES	AREA	PRICE
1	714330509	Printer frame	1			
2	714130800	Intermediate gear	1			
3	714330904	Thermal head mounting base	1			
4	714131000	Head fixing collar	1			
5	714131100	Head fixing spring	1			
6	714131200	Thermal head spring	2			
7	714331305	Lock base	1			
8	714131400	Lock base collar	2			
9	714131500	Lock spring	2			
10	714131600	Lock button	1			
11	714132300	Look button plate	1			
12	714132400	Neo-spring	2			
13	714182100	Printer motoer assy	1			
14	714182300	Thermal head	1			
15	714183100	Head power harness (10P)	1			
16	714183200	Head power harness (9P)	1			
B	951230610	M3 × 6 Bind	2			
F	952130510	M3 × 5 2–point type	2			
J	952531010	M3 × 10 3–point type	2			
K	952532510	M3 × 25 3–point type	1			
R	953230810	M3 × 8 P Tapping Bind	7			
c	958140020	E–RING ø4	3			

T–shaped



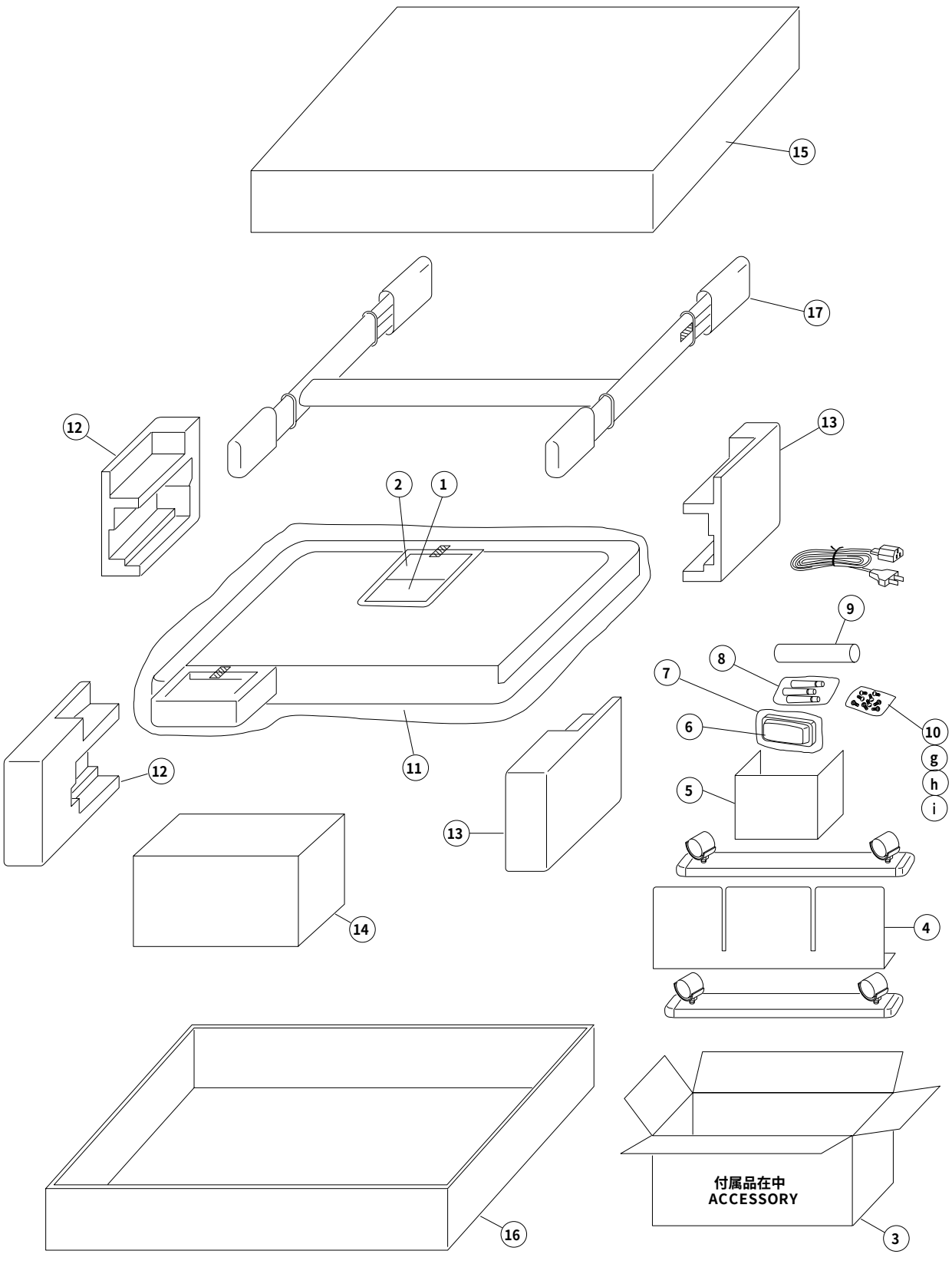
NO	PARTS NO.	PARTS NAME	Q'TY	NOTES	AREA	PRICE
1	714160109	Stand pipe	1	Standart-type		
1	714660109	Stand pipe W	1	Wide-type		
2	714160700	Joint cap/upper	2			
3	714160800	Joint cap/lower	2			
4	714091290	Caster pipe assy	2			
5	714660400	Front caster	2			
6	714660500	Back caster	2			
g	954382010	Hexagonal button bolt	4			
h	957281210	Flat washer	4			
i	957380010	Spring washer	4			

Wall mounting



NO	PARTS NO.	PARTS NAME	Q'TY	NOTES	AREA	PRICE
1	714112600	Pipe frame cap	2			
2	714559302	Board plate	2			
3	714559104	Upper bracket	2			
4	714559203	Lower bracket	2			
j	953641530	M4 × 15 S Tapping Bind	4			
l	952161530	M6 × 15 2–point type	2			

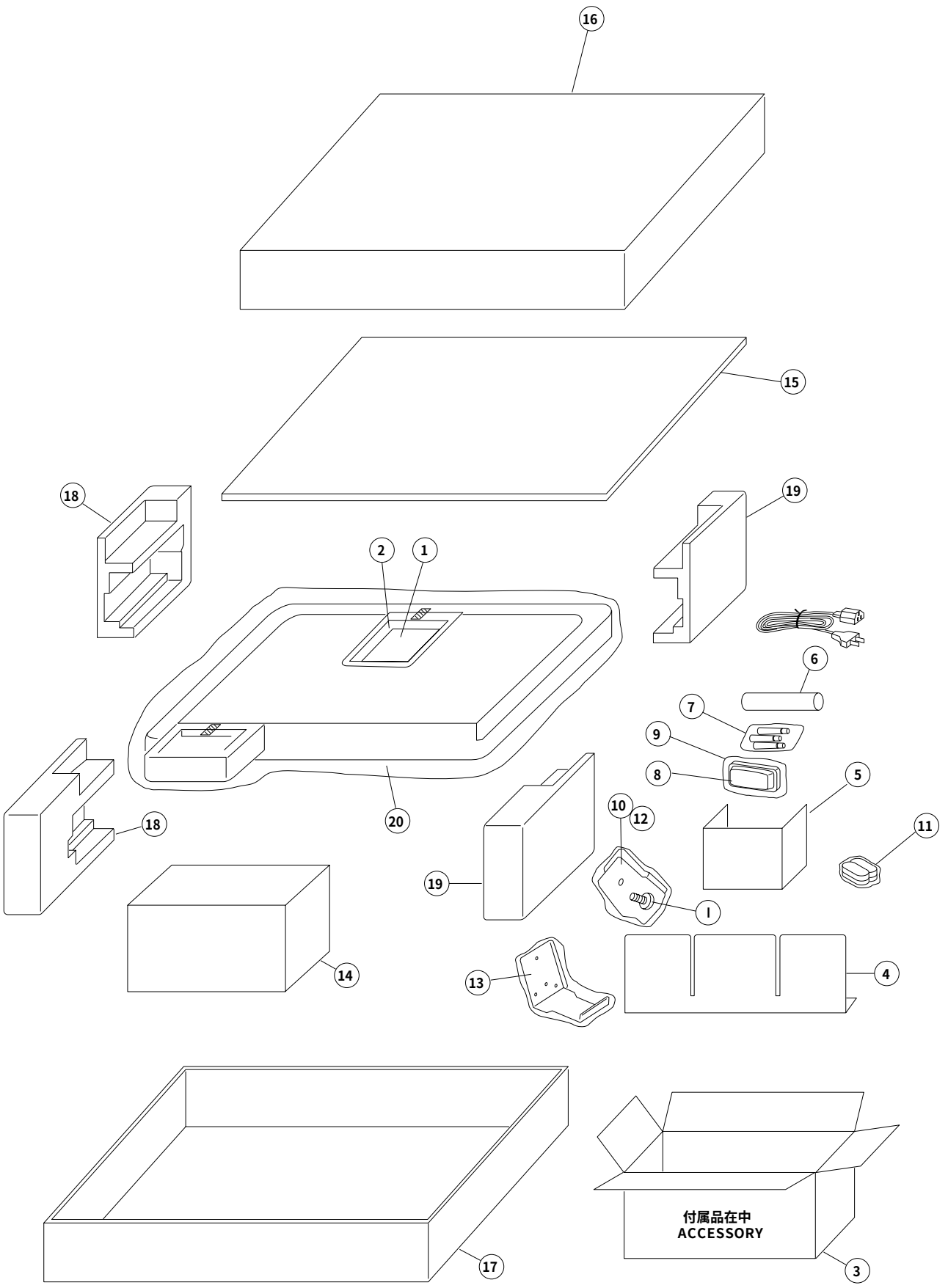
Packing　BF-030/035(T-shaped stand type)



Packing BF-030/035(T-shaped stand type)

NO	PARTS NO.	PARTS NAME	Q'TY	NOTES	AREA	PRICE
1	714412400	Operation manual	1	030S only		
1	714414500	Operation manual	1	030W only		
1	714414600	Operation manual	1	035 only		
2	714570700	Assembly intruction manual	1			
3	714171300	Carton accessory	1			
4	714171800	A Pad accessory	1			
5	714171900	B Pad accessory	1			
6	714173005	Dry–Eraser	1			
7	714173900	Polyethylene bag eraser	1			
8	714103100	Marker set	1			
9	714170100	Fax paper(A4)	1	A4 size		
9	714870100	Fax paper(letter)	1	letter size		
10	714170500	Hex wrench	1			
11	714171600	Polyethylen bag	1	Standard-type		
11	714671600	Polyethylen bag min	1	Wide-type		
12	714171500	L Packing corner	1			
13	714171400	R Packing corner	1			
14	714171700	Push box accessory	1	Standard-type		
14	714671700	Push box accessory	1	Wide-type		
15	714571100	Upper carton	1	030S only		
15	714203900	Upper carton	1	035 only		
15	714971100	Upper carton	1	030W only		
16	714171200	Lower carton	1	Standard-type		
16	714671200	Lower carton		Wide-type		
17	753321000	Mat miller	4			
g	954382010	Hexagonal button bolt	4			
h	957281210	No.2-8 Flat washer	4			
i	957380010	No.2-8 Spring washer	4			

Packing　BF-030/035(Wall mounting type)

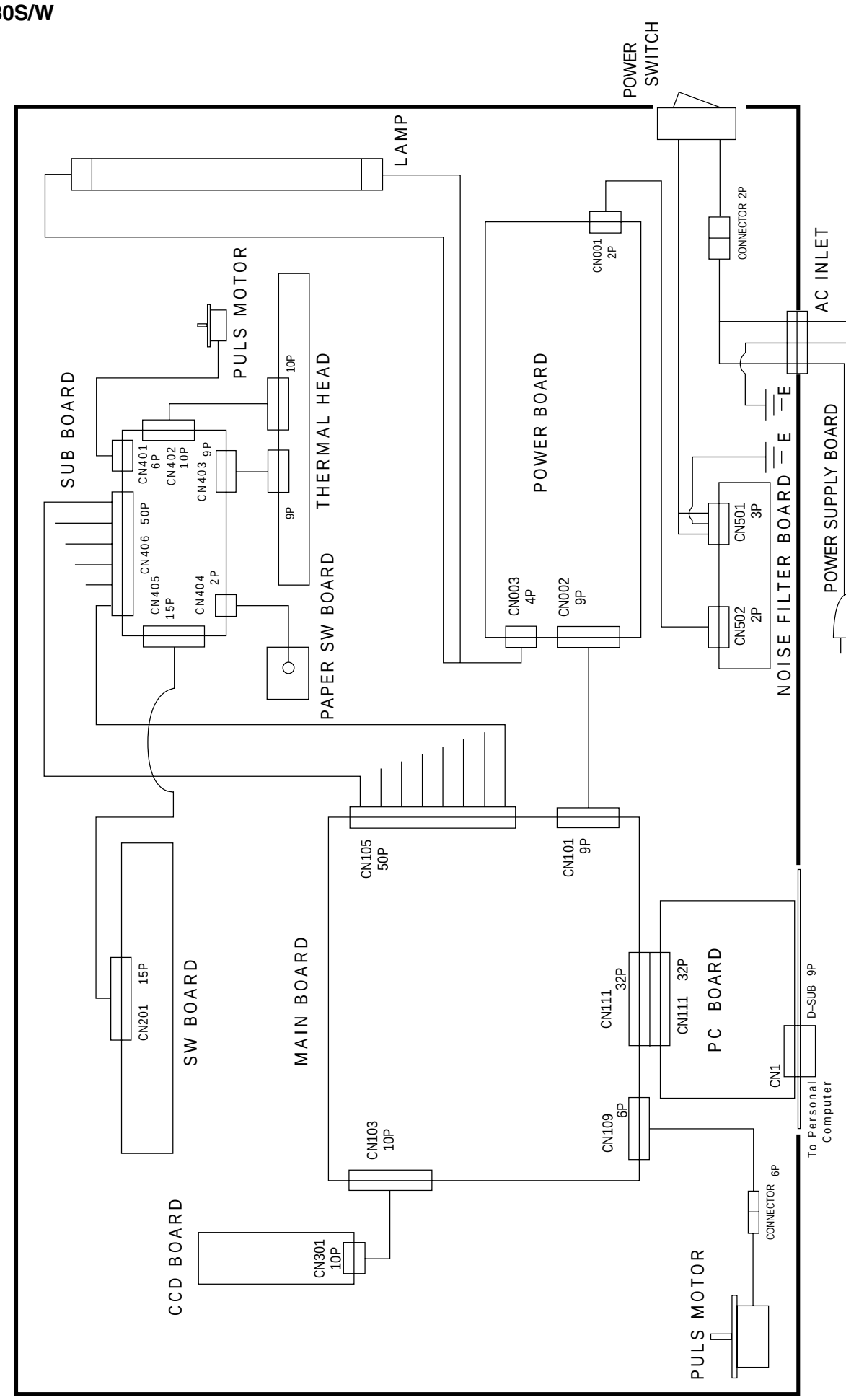


Packing BF-030/035(Wall mounting type)

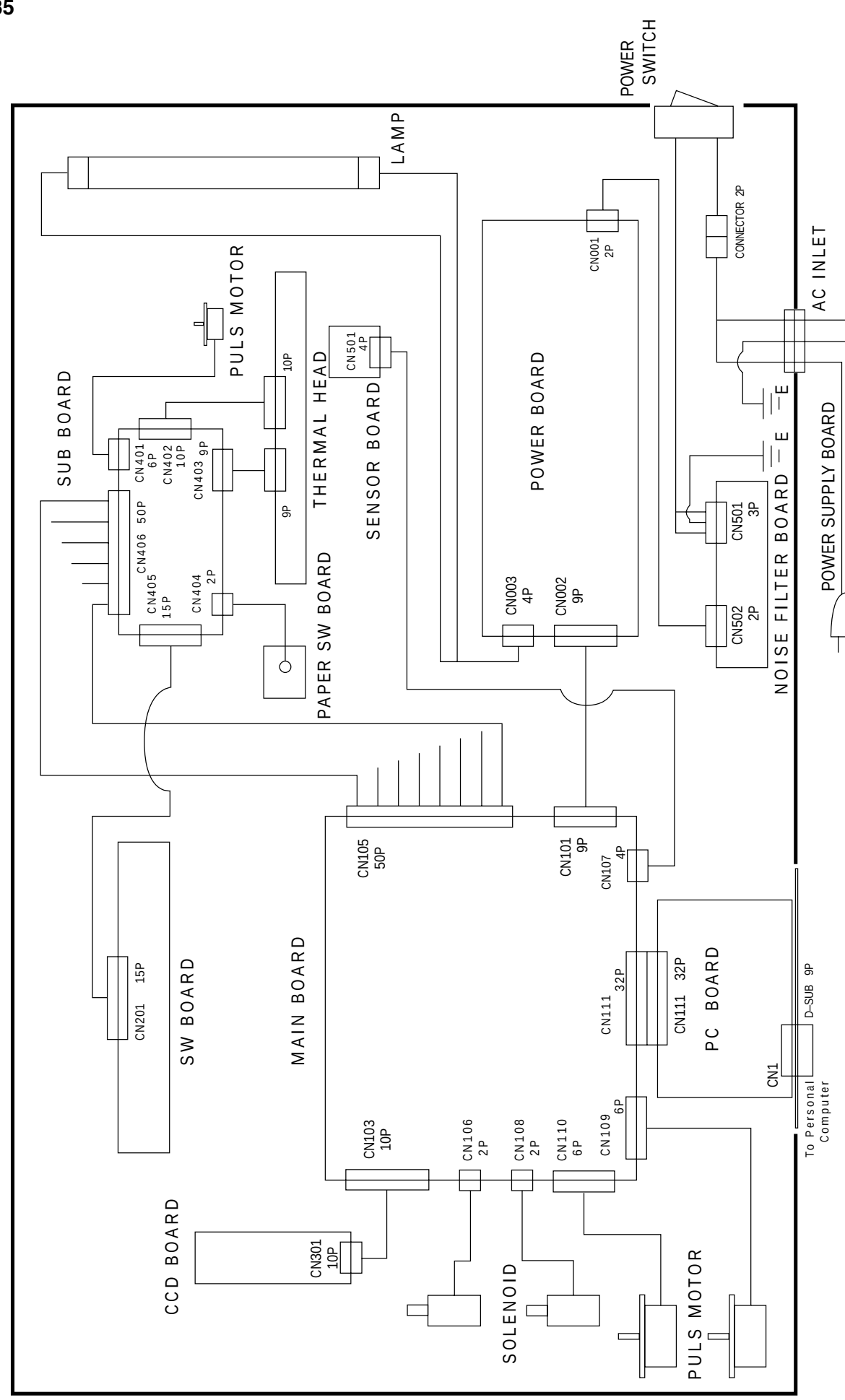
NO	PARTS NO.	PARTS NAME	Q'TY	NOTES	AREA	PRICE
1	714412400	Operation manual	1	030S only		
1	714414500	Operation manual	1	030W only		
1	714414600	Operation manual	1	035 only		
2	714870700	Installation manual	1			
3	714171300	Carton accessory	1			
4	714171800	A Pad accessory	1			
5	714171900	B Pad accessory	1			
6	714170100	Fax paper(A4)	1	A4 size		
6	714870100	Fax paper(letter)	1	letter size		
7	714103100	Marker set	1			
8	714173005	Dry–Eraser	1			
9	714173900	Polyethylene bag eraser	1			
10	714559302	Board plate	2			
11	714112600	Pipe frame cap	2			
12	714559104	Upper bracket	2			
13	714559203	Lower bracket	2			
14	714171700	Push box accessory	1	Standard-type		
14	714671700	Push box accessory	1	Wide-type		
15	714873100	S Pad gard sheet	1	Standard-type		
15	714973100	W Pad gard sheet	1	Wide-type		
16	714571100	Upper carton	1	030S only		
16	714203900	Upper carton	1	035 only		
16	714971100	Upper carton	1	030W only		
17	714171200	Lower carton	1	Standard-type		
17	714671200	Lower carton	1	Wide-type		
18	714171400	R Packing corner	1			
19	714171500	L Packing corner	1			
20	714171600	Polyethylen bag	1	Standard-type		
20	714671600	Polyethylen bag min	1	Wide-type		
l	952161530	M6 × 15 2–point type	2			

WIRING DIAGRAM

BF-030S/W



BF-035


POWER SWITCH
LAMP
CONNECTOR 2P
AC INLET
CN001 2P
PULS MOTOR
SUB BOARD
THERMAL HEAD
SENSOR BOARD
POWER BOARD
CN401 6P
CN402 10P
CN403 9P
CN404 2P
CN405 15P
CN406 50P
10P
9P
CN501 4P
CN003 4P
CN002 9P
CN501 3P
CN502 2P
NOISE FILTER BOARD
POWER SUPPLY BOARD
PAPER SW BOARD
CN105 50P
CN101 9P
CN107 4P
SW BOARD
CN201 15P
MAIN BOARD
CN111 32P
CN111 32P
PC BOARD
D-SUB 9P
CN1
To Personal Computer
CN103 10P
CN106 2P
CN108 2P
CN110 6P
CN109 6P
CCD BOARD
CN301 10P
SOLENOID
PULS MOTOR

INTERNAL CONNECTING FUNCTION

Main board VS POWER SUPPLY

CN101	1	CN002	1	+24V
	2		2	+0V
	3		3	+12V
	4		4	VCC(+5V)
	5		5	-12V
	6		6	+0V
	7		7	/Pre Heat(Lamp)
	8		8	/On(Lamp)
	9		9	+0V

Main board VS CCD Board

CN103	1	CN301	1	SH(CCD)
	2		2	CK2(CCD)
	3		3	CK1(CCD)
	4		4	RS(CCD)
	5		5	+0V
	6		6	CCD data
	7		7	No Connection
	8		8	+5V or -12V
	9		9	+0V
	10		10	+12V

Main board VS Solenoid

CN106	1	1	Plunger
	2	2	Plunger

Main board VS Sheet Sensor

CN107	1	CN501	1	LED Power(Sheet Sensor)
	2		2	+0V
	3		3	Sheet Sensor
	4		4	+0V

Main board VS Solenoid

CN108	1	1	+24V
	2	2	Plunger

Main board VS Puls motor

CN109	1	1	Sheet Motor left
	2	2	Sheet Motor left
	3	3	Sheet Motor left
	4	4	Sheet Motor left
	5	5	+24V
	6	6	+24V

Main board VS Plus motor

CN110	1	1	Sheet Motor right
	2	2	Sheet Motor right
	3	3	Sheet Motor right
	4	4	Sheet Motor right
	5	5	+24V
	6	6	+24V

Main board VS Sub board

CN105	1	CN406	1	LED Power(SW panel)
	2		2	SW1
	3		3	SW2
	4		4	SW3
	5		5	SW4
	6		6	SW5
	7		7	LED2(ON)
	8		8	LED1(Paper Empty)
	9		9	SW panel(GND)
	10		10	LED3
	11		11	LED4
	12		12	LED5
	13		13	LED6
	14		14	LED7
	15		15	SW6
	16		16	No Connection
	17		17	Paper SW
	18		18	Paper SW(GND)
	19		19	Paper SW(Power)
	20		20	No Connection
	21		21	No Connection
	22		22	THERMISTOR(Priner Head)
	23		23	THERMISTOR(Priner Head)
	24		24	STB1(Priner Head)
	25		25	STB2(Priner Head)
	26		26	STB3(Priner Head)
	27		27	STB4(Priner Head)
	28		28	Head Clock
	29		29	Head Latch
	30		30	Head Data
	31		31	Print Motor
	32		32	Print Motor
	33		33	Print Motor
	34		34	Print Motor
	35		35	+0V
	36		36	+0V
	37		37	VCC
	38		38	VCC
	39		39	+0V
	40		40	+0V
	41		41	+0V
	42		42	+0V
	43		43	+0V
	44		44	+0V
	45		45	+24V
	46		46	+24V
	47		47	+24V
	48		48	+24V
	49		49	+24V
	50		50	+24V

Main board VS PC board

CN111	1	CN111	1	VCC
	2		2	VCC
	3		3	VCC
	4		4	VCC
	5		5	G1
	6		6	CLK1
	7		7	G2
	8		8	WE
	9		9	CLK2
	10		10	RAS
	11		11	CLR
	12		12	CAS
	13		13	NC
	14		14	OE
	15		15	D7
	16		16	D6
	17		17	D5
	18		18	D4
	19		19	D3
	20		20	D2
	21		21	D1
	22		22	D0
	23		23	NC
	24		24	NC
	25		25	RDX
	26		26	NC
	27		27	TXD
	28		28	P46/SCLK1
	29		29	+0V
	30		30	+0V
	31		31	+0V
	32		32	+0V

Sub board VS Print Motor

CN401	1	1	Print Motor
	2	2	Print Motor
	3	3	Print Motor
	4	4	Print Motor
	5	5	+24V
	6	6	+24V

Sub board VS Thermal Head

CN402	1	1	+24V
	2	2	+24V
	3	3	+24V
	4	4	+24V
	5	5	+0V
	6	6	+0V
	7	7	+0V
	8	8	+0V
	9	9	+0V
	10	10	VCC

Sub board VS Themal Head

CN403	1	1	THERMISTOR(Priner Head)
	2	2	THERMISTOR(Priner Head)
	3	3	STB1(Priner Head)
	4	4	STB2(Priner Head)
	5	5	STB3(Priner Head)
	6	6	STB4(Priner Head)
	7	7	Head Clock
	8	8	Head Latch
	9	9	Head Data

Sub board VS Paper SW board

CN404	1	1	Paper SW
	2	2	Paper SW

Sub board VS SW board

CN405	1	CN201	1	LED4
	2		2	LED5
	3		3	LED6
	4		4	LED7
	5		5	LED Power(SW panel)
	6		6	SW1
	7		7	SW2
	8		8	SW3
	9		9	SW4
	10		10	SW5
	11		11	LED2(ON)
	12		12	LED1(Paper Empty)
	13		13	SW panel(GND)
	14		14	LED3
	15		15	SW6

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Certificate No. Q1001219118017.

NKKKQA
ISO 14001

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