

Digital Graphic Printer

Instructions for Use



UP-D897

Owner's Record

The model and serial numbers are located at the rear. Record these numbers in the space provided below. Refer to these numbers whenever you call upon your Sony dealer regarding this product.

Model No. _____

Serial No. _____

WARNING

To reduce the risk of fire or electric shock, do not expose this apparatus to rain or moisture.

To avoid electrical shock, do not open the cabinet. Refer servicing to qualified personnel only.

THIS APPARATUS MUST BE EARTHED.

To disconnect the main power, unplug the AC IN connector.



This symbol indicates the equipotential terminal which brings the various parts of a system to the same potential.

For the customers in the U.S.A.

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

You are cautioned that any changes or modifications not expressly approved in this manual could void your authority to operate this equipment.

All interface cables used to connect peripherals must be shielded in order to comply with the limits for a digital device pursuant to Subpart B of Part 15 of FCC Rules.

For the customers in Canada

This unit has been certified according to Standard CSA C22.2 No.601.1.

For the customers in the U.S.A and Canada

When you use this product connected to 240 V single phase, be sure to connect this product to a center tapped circuit.

Important safeguards/notices for use in the medical environments

1. All the equipments connected to this unit shall be certified according to Standard IEC60601-1, IEC60950-1, IEC60065 or other IEC/ISO Standards applicable to the equipments.
2. Furthermore all configurations shall comply with the system standard IEC60601-1-1. Everybody who connects additional equipment to the signal input part or signal output part configures a medical system, and is therefore, responsible that the system complies with the requirements of the system standard IEC60601-1-1. If in doubt, consult the qualified service personnel.
3. The leakage current could increase when connected to other equipment.
4. For this particular equipment, all accessory equipment connected as noted above, must be connected to mains via an additional isolation transformer conforming with the construction requirements of IEC60601-1 and providing at least Basic Insulation.
5. This equipment generates, uses, and can radiate radio frequency energy. If it is not installed and used in accordance with the instruction manual, it may cause interference to other equipment. If this unit causes interference (which can be determined by unplugging the power cord from the unit), try these measures: Relocate the unit with respect to the susceptible equipment. Plug this unit and the susceptible equipment into different branch circuit.

Consult your dealer. (According to standard EN60601-1-2 and CISPR11, Class B, Group 1)

Important EMC notices for use in the medical environments

- The UP-D897 needs special precautions regarding EMC and needs to be installed and put into service according to the EMC information provided in this instructions for use.
- The portable and mobile RF communications equipment such as cellular phones can affect the UP-D897.

Warning

The use of accessories and cables other than those specified, with the exception of replacement parts sold by Sony Corporation, may result in increased emissions or decreased immunity of the UP-D897.

Guidance and manufacturer's declaration-electromagnetic emissions		
The UP-D897 is intended for use in the electromagnetic environment specified below. The customer or the user of the UP-D897 should assure that it is used in such an environment.		
Emission test	Compliance	Electromagnetic environment-guidance
RF emissions CISPR 11	Group 1	The UP-D897 uses RF energy only for its internal function. Therefore, its RF emissions are very low and are not likely to cause any interference in nearby electronic equipment.
RF emissions CISPR 11	Class B	The UP-D897 is suitable for use in all establishments, including domestic establishments and those directly connected to the public low-voltage power supply network that supplies buildings used for domestic purposes.
Harmonic emissions IEC 61000-3-2	Class A	
Voltage fluctuations/ flicker emissions IEC 61000-3-3	Complies	

Warning

If the UP-D897 should be used adjacent to or stacked with other equipment, it should be observed to verify normal operation in the configuration in which it will be used.

Guidance and manufacturer's declaration - electromagnetic immunity



The UP-D897 is intended for use in the electromagnetic environment specified below. The customer or the user of the UP-D897 should assure that it is used in such as environment.

Immunity test	IEC 60601 test level	Compliance level	Electromagnetic environment-guidance
Electrostatic discharge (ESD) IEC 61000-4-2	±6 kV contact ±8 kV air	±6 kV contact ±8 kV air	Floors should be wood, concrete or ceramic tile. If floors are covered with synthetic material, the relative humidity should be at least 30%.
Electrical fast transient/burst IEC 61000-4-4	±2 kV for power supply lines ±1 kV for input/output lines	±2 kV for power supply lines ±1 kV for input/output lines	Mains power quality should be that of a typical commercial or hospital environment.
Surge IEC 61000-4-5	±1 kV differential mode ±2 kV common mode	±1 kV differential mode ±2 kV common mode	Mains power quality should be that of a typical commercial or hospital environment.
Voltage dips, short interruptions and voltage variations on power supply input lines IEC 61000-4-11	< 5% U_T (> 95% dip in U_T) for 0.5 cycle 40% U_T (60% dip in U_T) for 5 cycles 70% U_T (30% dip in U_T) for 25 cycles < 5% U_T (> 95% dip in U_T) for 5 sec	< 5% U_T (> 95% dip in U_T) for 0.5 cycle 40% U_T (60% dip in U_T) for 5 cycles 70% U_T (30% dip in U_T) for 25 cycles < 5% U_T (> 95% dip in U_T) for 5 sec	Mains power quality should be that of a typical commercial or hospital environment. If the user of the UP-D897 requires continued operation during power mains interruptions, it is recommended that the UP-D897 be powered from an uninterruptible power supply or a battery.
Power frequency (50/60 Hz) magnetic field IEC 61000-4-8	3 A/m	3 A/m	Power frequency magnetic fields should be at least characteristic of a typical location in a typical commercial or hospital environment.

NOTE: U_T is the a.c. mains voltage prior to application of the test level.

Guidance and manufacturer's declaration - electromagnetic immunity

The UP-D897 is intended for use in the electromagnetic environment specified below. The customer or the user of the UP-D897 should assure that it is used in such as environment.

Immunity test	IEC 60601 test level	Compliance level	Electromagnetic environment-guidance
<p>Conducted RF IEC 61000-4-6</p>	<p>3 Vrms 150 kHz to 80 MHz</p>	<p>3 Vrms</p>	<p>Portable and mobile RF communications equipment should be used no closer to any part of the UP-D897, including cables, than the recommended separation distance calculated from the equation appliance to the frequency of the transmitter.</p> <p>Recommended separation distance</p> <p>$d = 1.2 \sqrt{P}$ 80 MHz to 800 MHz</p> <p>$d = 2.3 \sqrt{P}$ 800 MHz to 2.5 GHz</p> <p>Where P is the maximum output power rating of the transmitter in watts (W) according to the transmitter manufacturer and d is the recommended separation distance in meters (m).</p> <p>Field strengths from fixed RF transmitters, as determined by an electromagnetic site survey, ^a should be less than the compliance level in each frequency range. ^b</p> <p>Interference may occur in the vicinity of equipment marked with following symbol:</p> 
<p>Radiated RF IEC 61000-4-3</p>	<p>3 V/m 80 MHz to 2.5 GHz</p>	<p>3 V/m</p>	<p>Field strengths from fixed RF transmitters, as determined by an electromagnetic site survey, ^a should be less than the compliance level in each frequency range. ^b</p> <p>Interference may occur in the vicinity of equipment marked with following symbol:</p> 

NOTE 1: At 80 MHz and 800 MHz, the higher frequency range applies.

NOTE 2: These guidelines may not apply in all situations. Electromagnetic propagation is affected by absorption and reflection from structures, objects and people.

a Field strengths from fixed transmitters, such as base stations for radio (cellular/cordless) telephones and land mobile radios, amateur radio, AM and FM radio broadcast and TV broadcast cannot be predicted theoretically with accuracy. To assess the electromagnetic environment due to fixed RF transmitters, an electromagnetic site survey should be considered. If the measured field strength in the location in which the UP-D897 is used exceeds the applicable RF compliance level above, the UP-D897 should be observed to verify normal operation. If abnormal performance is observed, additional measures may be necessary, such as reorienting or relocating the UP-D897.

b Over the frequency range 150 kHz to 80 MHz, field strengths should be less than 3 V/m.

Recommended separation distances between portable and mobile RF communications equipment and the UP-D897

The UP-D897 is intended for use in an electromagnetic environment in which radiated RF disturbances are controlled. The customer or the user of the UP-D897 can help prevent electromagnetic interference by maintaining a minimum distance between portable and mobile RF communications equipment (Transmitters) and the UP-D897 as recommended below, according to the maximum output power of the communications equipment.

Rated maximum output power of transmitter W	Separation distance according to frequency of transmitter m		
	150 kHz to 80 MHz $d = 1.2 \sqrt{P}$	80 MHz to 800 MHz $d = 1.2 \sqrt{P}$	800 MHz to 2.5 GHz $d = 2.3 \sqrt{P}$
0.01	0.12	0.12	0.23
0.1	0.38	0.38	0.73
1	1.2	1.2	2.3
10	3.8	3.8	7.3
100	12	12	23

For transmitters rated a maximum output power not listed above, the recommended separation distance d in meters (m) can be estimated using the equation applicable to the frequency of the transmitter, where P is the maximum output power rating of the transmitter in watts (W) according to the transmitter manufacturer.

NOTE 1: At 80 MHz and 800 MHz, the separation distance for the higher frequency range applies.

NOTE 2: These guidelines may not apply in all situations. Electromagnetic propagation is affected by absorption and reflection from structures, objects and people.

Caution

When you dispose of the unit or accessories, you must obey the law in the relative area or country and the regulation in the relative hospital.

Warning on power connection

Use a proper power cord for your local power supply.

1. Use the approved Power Cord (3-core mains lead) / Appliance Connector / Plug with earthing-contacts that conforms to the safety regulations of each country if applicable.
2. Use the Power Cord (3-core mains lead) / Appliance Connector / Plug conforming to the proper ratings (Voltage, Ampere).

If you have questions on the use of the above Power Cord / Appliance Connector / Plug, please consult a qualified service personnel.

Warning on power connection for medical use

Please use the following power supply cord. With connectors (plug or female) and cord types other than those indicated in this table, use the power supply cord that is approved for use in your area.

	United States and Canada
Plug Type	HOSPITAL GRADE*
Cord Type	Min.Type SJT Min.18 AWG
Minimum Rating for Plug and Appliance Couplers	10 A/125 V
Safety Approval	UL Listed and CSA

*Note: Grounding reliability can only be achieved when the equipment is connected to an equivalent receptacle marked 'Hospital Only' or 'Hospital Grade'.

For the customers in Europe

The manufacturer of this product is Sony Corporation, 1-7-1 Konan, Minato-ku, Tokyo, Japan. The Authorized Representative for EMC, medical devices, and product safety is Sony Deutschland GmbH, Hedelfinger Strasse 61, 70327 Stuttgart, Germany; TEL: (0)711 5858 0; FAX: (0)711 5858 235.

For any service or guarantee matters, please refer to the addresses given in separate service or guarantee documents.

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Overview

Quiet, High Quality, Fast Printing

- Employs a thin thermal head with a built-in high speed drive IC, capable of high resolution images of 12.8 dots/mm.
- Print speeds of approximately 1 high quality image (960 × 1280 dots) every 2 seconds when printing at high speed.
- Standard image memory capable of handling and printing images up to 4096 × 1280 dots (approx. 320 × 100mm).
- Monochrome printing with up to 256 shades of gradation.
- Built-in temperature correction circuits prevent temperature changes which could cause blurred prints.

USB interface

The unit is equipped with a USB connector which complies with the Hi-Speed USB (USB 2.0).

Easy printer settings using a menu

You can make up the settings to meet your requirements using a menu. You can store up to three settings as a set of user settings.

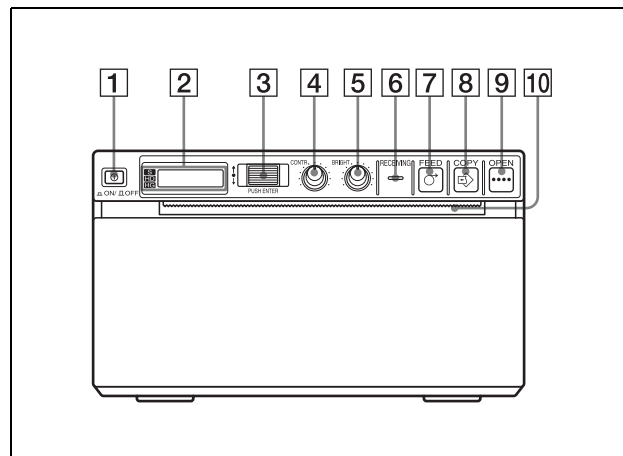
Easy Paper Loading

Free access to the door panel allows you to drop paper into the unit for easy loading.




Location and Function of Parts and Controls

For more details, see the referenced page numbers enclosed in parentheses ().

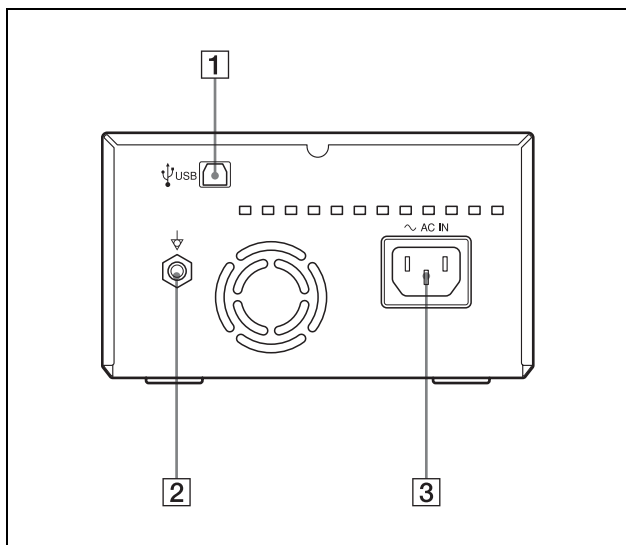
Front Panel






- 1** **① Power ON/OFF Switch (10, 14, 17, 20)**
Press to switch to ON to turn the power on. The back light on the LCD lights in green.
- 2** **Printer window display (LCD: liquid crystal display) (12, 17)**
The back light lights in green when the unit operates normally. Also, in normal operation, the paper currently selected is indicated by the pointer on the LCD.
For detailed information on the paper, see “Paper” on page 10 and “Paper currently selected” on page 17.
If an error occurs, a corresponding alarm message is displayed.
During menu operations, menu items and settings are displayed
- 3** **Jog dial (14, 20)**
Used to make menu operations.
- 4** **CONTR (contrast) control (18)**
Adjusts the contrast of the printouts.
- 5** **BRIGHT (brightness) control (18)**
Adjusts the brightness of the printouts.
- 6** **RECEIVING indicator**
Lights while the unit is receiving print data from the computer.

- 7**  **FEED button (11, 17)**
Hold down to feed paper. While a print job is in progress, press to cancel the print job.
- 8**  **COPY button (17)**
Prints another copy of the previous printout. You can make only one copy each time you press this button regardless of the print quantity set using the menu.
- 9**  **OPEN button (11, 17)**
Press to open the paper door. While a print job is in progress, press to cancel the print job.
- 10** **Paper cutter**
Cuts the paper as each image is printed.

Rear Panel



- 1**  **USB connector (9)**
Connects to a computer equipped with the USB interface (which conforms to USB 2.0), using the supplied USB cable.
- 2**  **Equipotential ground terminal connector**
Used to connect to the equipotential plug to bring the various parts of a system to the same potential. Refer to “Important safeguards/notices for use in the medical environments” on page 2.
- 3**  **~ AC IN connector**
Use a proper power cord for your local power supply (not supplied). Refer to “Warning on power connection” on page 6 and “Warning on power connection for medical use” on page 6.

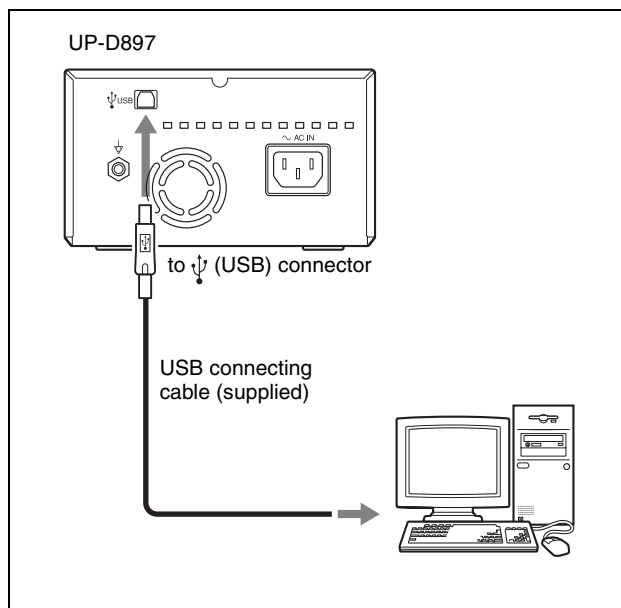
Connections

After connecting the USB connecting cable (supplied) to the unit and the computer, connect the power cord. For details about the unit connection, refer to the manuals for the computer or other peripheral devices.

Notes

- Before connecting the unit to the computer, turn off the unit, computer, monitor, and all peripheral devices connected to the computer.
- Before connecting the unit to the computer, disconnect the power cord from the unit. Connect the power cord to the unit only after connecting the unit and the computer.
- Follow the connection procedures described in the computer manual.
- Make sure that the cables are connected securely at both ends.
- The unit drive software provided with the unit is not suitable for using the unit connected to a network.
- Printer operation is not guaranteed when connecting to the computer using the USB cable via a hub.

Connecting to the USB Connector



Installing the Printer Driver

Install the printer driver provided with the printer. For detailed instructions about how to install the unit driver, refer to the Readme.txt file included on the supplied CD-ROM disc.

Paper

Use only Sony UPP-110S/110HD/110HG paper designed for use with this unit. High print quality cannot be guaranteed if any other paper is used with this unit, and such paper could damage the unit.

You cannot use the UPP-110HA as specified for the UP-D890/890 series printer.

Paper You Can Use

Print paper characteristics are as follows.

Print Characteristics	Paper Type
TYPE I (Normal)	UPP-110S
TYPE II (High Density)	UPP-110HD
TYPE V (High Glossy)	UPP-110HG

Notes on storing and handling paper

Storing unused paper

- Store unused paper at a temperature below 30°C (86°F) in a dry location that is not exposed to direct sunlight.
- Do not store unused paper near volatile liquids or allow the paper to contact any organic volatile liquid, cellophane tape, or any compound of vinyl chloride.

Loading paper

- Handle the paper carefully when loading to avoid touching the printing surface with your fingers. Perspiration or oil from your hands could cause pictures to blur.
- After removing the label from the leading edge of the paper, pull the paper out 15~20 cm (about 6~8 in.) before printing. Label adhesive remaining on the paper could spoil a picture.

Storing printouts

- To prevent printouts from fading or changing color, store them in a cool, dry location where the temperature is not higher than 30°C (86°F).
- Store printouts in a polypropylene pouch or between sheets of paper that contain no plastic.
- Do not store printouts where they will be exposed to direct sunlight or high humidity.
- Do not store printouts near volatile liquids or allow the prints to contact any organic volatile liquid, cellophane tape, or any compound of vinyl chloride.
- To prevent fading, do not stack printouts on or under a diazo copy sheet.
- To mount printouts on another sheet of paper, use double-sided tape or a water base adhesive.
- Do not incinerate waste printer paper.

Loading Paper in the Unit

Notes

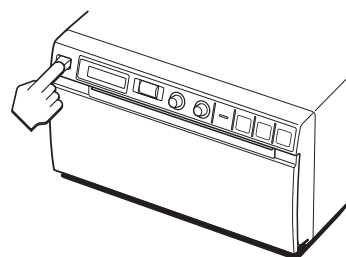
- Before loading paper in the unit, see “Notes on storing and handling paper” (page 10).
- Always handle paper carefully when loading to avoid adversely affecting the quality of the printouts. Never bend or crease the paper and never touch the printing surface with your fingers. Fingerprints perspiration can blur printing.
- Do not use any paper other than UPP-110S/110HD/110HG paper. (page 10)
- Be sure to set the “MEDIA” of the menu to the paper to be used. (page 13) You can confirm the media currently selected on the LCD. For detailed information on how to confirm, see “Paper currently selected” on page 17.

Loading Paper

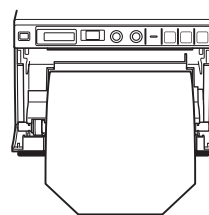
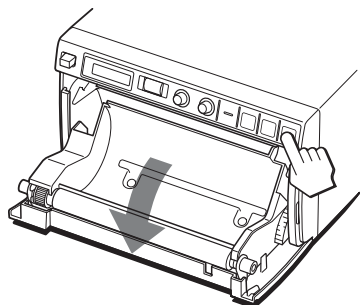
Caution

A paper cutter is mounted with the unit. When loading paper, be careful not to touch the paper cutter. Touching the paper cutter may cause injury.

- 1 Press the power ON/OFF switch to turn the unit on. When paper is not loaded yet, the back light on the LCD lights in amber and the message “EMPTY” is displayed.



2 Press the OPEN button to open the paper door.

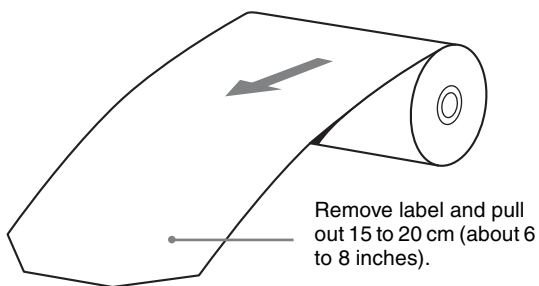


Make sure that the paper is set straight.

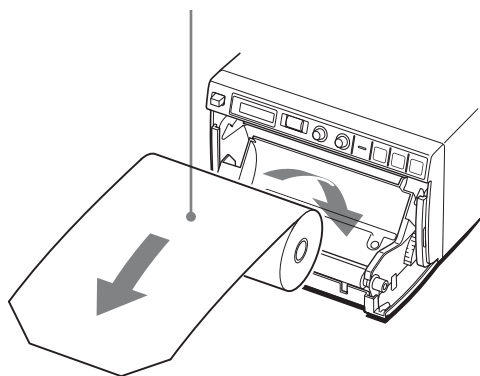
3 Remove the label from the leading edge of the paper, pull out about 15~20 cm (about 6~8 in.) of the paper, and then set the paper roll in the paper tray.

Note

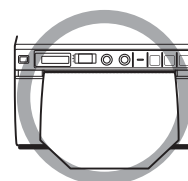
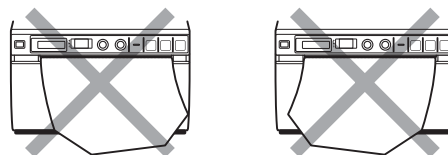
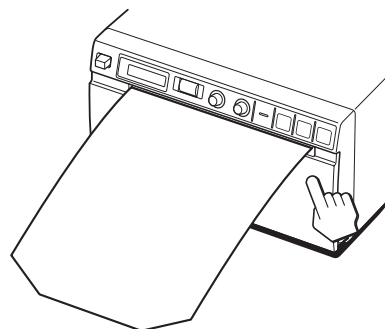
To avoid exposing the paper to dust, dirt, etc. always handle it carefully when removing from its package and loading in the unit. Paper exposed to dirt or dust cannot be used for printing.



Load the paper with the printing side (heat sensitive side) up. Printing is not possible if the paper is reversed.



4 Close the paper door and press on it to shut it.



Notes

- Make sure that the paper is loaded straight. If it is skewed, this could cause the paper to jam.
- If you did not pull out enough paper in step 3, press the FEED button on the operation panel to feed some more paper out of the unit without pulling out the paper.

You can set up the unit according to its intended purpose, connected equipments or your individual preferences.

You can store up to three settings as a set of user settings.

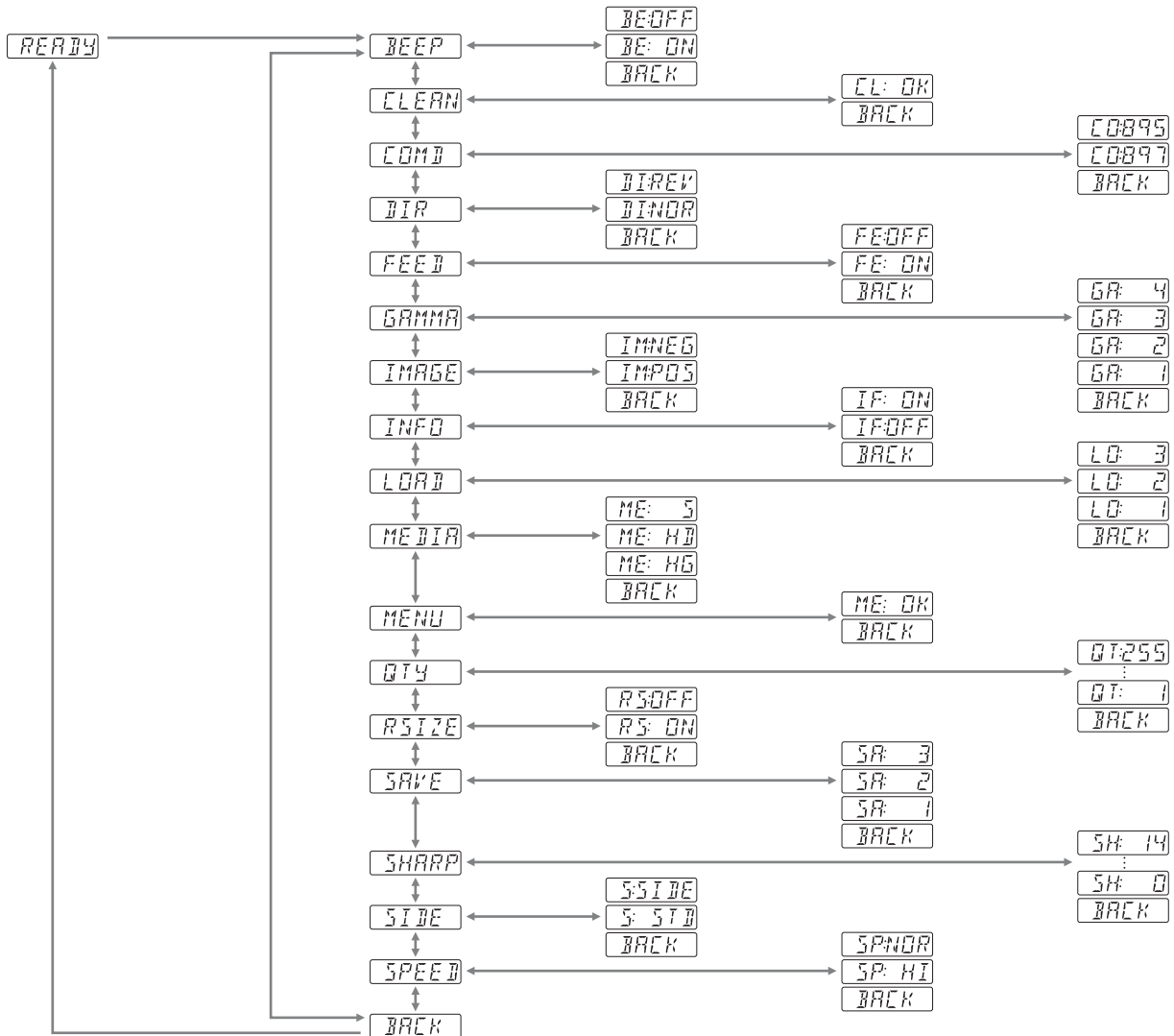
Adjustments and Settings Using the Menu

You can carry out adjustments and settings to meet your requirements. Those settings and adjustments are retained even if the unit is turned off.

Menu Flow

The contents displayed on the LCD changes in sequence as you turn the jog dial as shown in the following menu

flow chart, and you can make the settings for each menu item.



Menu List

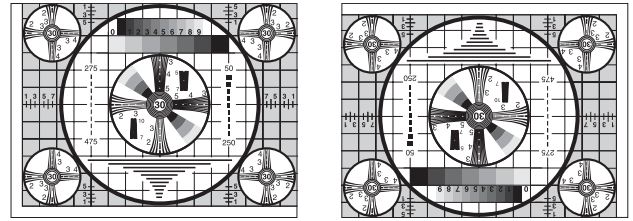
This section describes the menus displayed as you turn the jog dial. The setting surrounded by indicates the factory setting.

Item	Function	Settings
BEEP	To select whether the operation and error tones sound	BE: OFF: The operation tone does not sound. [BE: ON]: The operation and error tones sound. BACK: Cancels the setting change and returns to the item selection column.
CLEAN	To start head cleaning	[CL: OK]: Starts the head cleaning. Be sure to use the supplied cleaning sheet. BACK: Cancels the head cleaning and returns to the item selection column.
COMD	To select the printer driver to be used	CO:895: UP-D895 driver conversion mode. Uses the printer driver for the UP-D895. [CO:897]: Uses the printer driver for the UP-D897. BACK: Cancels the setting change and returns to the item selection column.
DIR ^{a)}	To select whether the top or bottom of the screen is to be printed first	DI: REV: Starts to print in the reverse direction (from the top of the screen). [DI: NOR]: Starts to print in the normal direction (from the bottom of the screen). BACK: Cancels the setting change and returns to the item selection column.
FEED	To select the paper feed method to be used after printing	FE: OFF: Feeds less paper between prints to conserve paper, or when printing multiple pictures on the same sheet. More pictures can be printed on one sheet, but because there is so little space between printed picture, feed the desired length of the paper to leave a margin using the FEED button, before cutting the paper. [FE: ON]: Feeds extra blank paper between prints. BACK: Cancels the setting change and returns to the item selection column.

Item	Function	Settings
GAMMA ^{b)} (When “ME:S” is selected in “MEDIA,” GAMMA is fixed to TONE 1.)	To select the tone (density gradation)	GA:4: TONE 4 Softest gradation GA:3: TONE 3 Hard gradation [GA:2]: TONE 2 Standard GA:1: TONE 1 Soft gradation BACK: Cancels the setting change and returns to the item selection column.
IMAGE	To set the printout to either positive printout or negative printout	IM:NEG: Makes negative printouts. [IM:POS]: Makes normal printouts. BACK: Cancels the setting change and returns to the item selection column.
INFO	To select whether or not the print conditions (such as contrast, bright, gammas and sharpness information) are printed under the image	IF:ON: Prints the information. [IF:OFF]: Does not print the information. BACK: Cancels the setting change and returns to the item selection column.
LOAD	To load the registered settings	LO:3: Loads the “SA:3” settings registered using the “SAVE” menu item. LO:2: Loads the “SA:2” settings registered using the “SAVE” menu item. [LO:1]: Loads the “SA:1” settings registered using the “SAVE” menu item BACK: Cancels the setting change and returns to the item selection column.
MEDIA	To select the type of paper	ME:S: Uses the UPP-110S. ME:HD: Uses the UPP-110HD. [ME:HG]: Uses the UPP-110HG BACK: Cancels the setting change and returns to the item selection column.
MENU	To print the menu settings currently selected	[ME:OK]: Prints the menu list currently set. BACK: Cancels printing and goes back to its item column.
QTY ^{b)}	To set the print quantity between 1 and 255	You can make one to 255 copies of the same printout. [QT: 1]: Makes one sheet of the printout. BACK: Cancels the setting change and returns to the item selection column.

Item	Function	Settings
RSIZE ^{b)}	To select whether or not the image is enlarged	<p>[RS:OFF]: Prints the image at the original size.</p> <p>RS:ON: Prints the image at a larger size, according to the paper size set by the printer driver.</p> <p>BACK: Cancels the setting change and returns to the item selection column.</p>
SAVE	To register up to three kinds of settings	<p>SA:3: Registers the menu settings as No.3.</p> <p>SA:2: Registers the menu settings as No.2.</p> <p>[SA:1]: Registers the menu settings as No.1.</p> <p>BACK: Cancels the setting change and returns to the item selection column.</p>
SHARP ^{b)}	To adjust the sharpness of the printout	<p>You can set the sharpness to any of 15 steps, from 0 to 14.</p> <p>At a setting of 0, the outline of the printout is not emphasized.</p> <p>A setting of step 2 is the factory setting.</p> <p>BACK: Cancels the setting change and returns to the item selection column.</p>
SIDE ^{c)}	To select the direction in which the image is to be printed	<p>S:SIDE: Prints the image rotated by 90 degrees counterclockwise.</p> <p>[S:STD]: Prints the image in the same direction as that displayed on the monitor.</p> <p>BACK: Cancels the setting change and returns to the item selection column.</p>
SPEED (When "ME:HD" is selected in "MEDIA," the printing speed is fixed to "SP:NOR" and this item is not displayed.)	To select the printing speed	<p>SP:NOR: Prints at the normal speed.</p> <p>[SP:HI]: Prints at high speed.</p> <p>BACK: Cancels the setting change and returns to the item selection column.</p>
<p>Note</p> <p>When "SP:HI" is selected, the power consumption is a little higher, compared with printing at the normal speed.</p>		
BACK	To exit menu mode	Display this item and then press the jog dial. The unit exits the menu mode and "READY" is displayed on the LCD.

a) The printing direction is as follows.



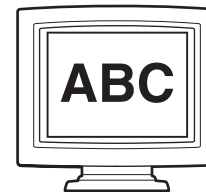
When DI:NOR is selected

When DI:REV is selected

b) These items can also be set on the printer driver side. When you place a check mark in a checkbox on the "Settings" tab of the printer driver, the settings made on the printer side are enabled. When "CO:895" is selected in "COMD," these items are not displayed and can not be set. When "CO:897" is selected, these items are disabled since the computer sends the print command to the printer until the printer completes printing.

c) The print direction of the images printed is as follows.

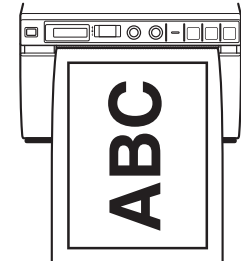
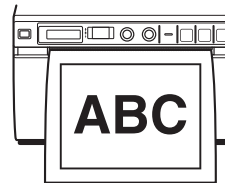
Image displayed on the monitor



Printouts

When S:STD is selected.

When S:SIDE is selected

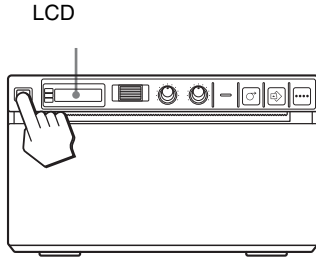


Basic Menu Operations

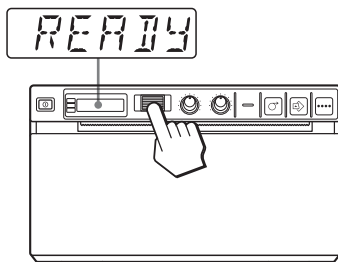
This section describes the basic menu operation which are common to each menu, taking "How to set the printing direction" as an example.

- 1 Press the power ON/OFF switch to ON to turn the unit on.

The back light on the LCD lights in green.

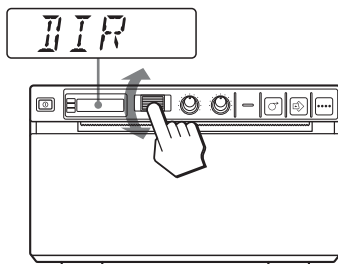


- 2** Confirm that “READY” is displayed on the LCD, and press the jog dial.

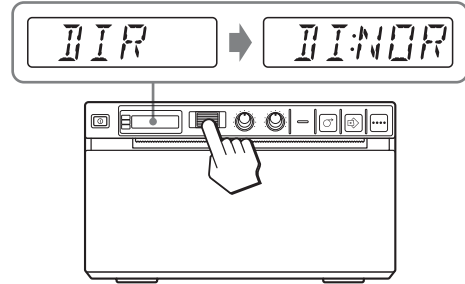


The unit enters the menu mode.
When you perform a menu operation for the first time after you purchase the unit, the top item of the “BEEP” menu is displayed.
If you have performed a menu operation already, the item that you set last is displayed.

- 3** Display “DIR” by turning the jog dial up or down.

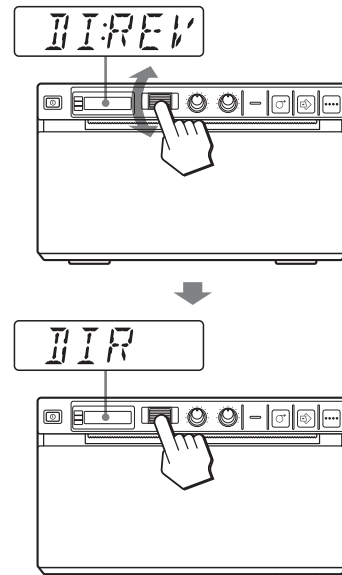


- 4** Press the jog dial.



The unit enters the mode in which you can select the printing direction.
“DI:NOR,” which is the factory setting, is displayed on the LCD. “DI:NOR” is the currently selected setting.
In this menu operation, you will change the setting to “DI:REV.”

- 5** Display “DI:REV” in the LCD by turning the jog dial up or down, and then press the jog dial.



“DI:REV” is registered as the printing direction.

Note

If about 20 seconds elapse without making any menu operation after you have displayed the menu item or setting, the display returns to “READY” on the LCD and the unit exits the menu mode. In such a case, the setting of “DIR” is not changed.

To cancel the setting

- ① Display “BACK” by turning the jog dial in step 5.
- ② Press the jog dial.
The display on the LCD returns to “DIR.”

To continue menu operations

Make settings by repeating steps 3 to 5.

To end the menu operation

- 1 Display “BACK” by turning the jog dial after performing the operation of step 5.
- 2 Press the jog dial.
The display returns to “READY.”
The unit exits the menu mode.

Menu lock function

If the message “LOCK” is displayed and you hear the alarm sound when you press the jog dial, the jog dial is disabled because the menu operation function is locked. If you want to perform a menu operation, contact the nearest authorized dealer.

Registering Menu Settings

You can store up to three sets of settings made using the menu, and you can load the desired setting when needed. The unit retains these settings even if you turn off the power.

Note

When you use the unit for the first time after you purchase it, factory settings are registered in all three of the stored selections.

Registering new settings

- 1 Make all of the required settings.
- 2 Display “SAVE” by turning the jog dial, and then press the jog dial.
- 3 Display the desired number by turning the jog dial, and then press the jog dial, again.
The settings made in step 1 are registered in the number selected in step 3.

Loading the desired settings

You can load the desired settings and make printouts with the loaded settings.

- 1 Confirm that “READY” is displayed on the LCD, and press the jog dial.

- 2 Display “LOAD” by turning the jog dial, and then press the jog dial again.
- 3 Display the number corresponding to the desired settings, and then press the jog dial.
Settings corresponding to the number selected in step 3 are loaded.

When you change the loaded settings

The unit operates according to the changed settings. In this case, the unit operates according to these settings until you load another set of settings, even if you turn off the unit. When you load another group of settings, the settings loaded previously are cleared.

To retain previously loaded settings

Example: Settings registered as “SA:1” are loaded and settings are to be changed. To retain the original settings of “SA:1” and to register the new settings as “SA:2,” proceed as follows.

- 1 Load the settings of “LO:1” following the procedure for loading the desired settings.
- 2 Change the loaded settings as required.
- 3 Select “SA:2” following procedure for registering the settings.
- 4 Press the jog dial.
The settings, changed in step 2, are registered as “SA:2” (No.2).

Printing the Menu List

You can make a printout of the current menu settings.

- 1 Press the jog dial.
The menu item you changed last is displayed.
- 2 Display “MENU” by turning the jog dial, and then press the jog dial.
- 3 Display “ME:OK” by turning the jog dial and then press the jog dial.
The unit starts printing the current menu settings. “MENU” is displayed on the LCD.
- 4 Display “BACK” by turning the jog dial, and then press the jog dial.
The message “READY” is displayed on the LCD, and the unit returns to the normal printing mode.

Printing

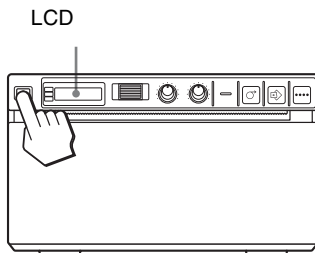
Before Starting a Print Job

Always check the following points:

- unit connected correctly? (page 9)
- Printer driver installed? (page 9)
- Paper loaded correctly? (page 10)
- Menu settings and menu adjustments done correctly? (page 12)

Starting a Print Job

- 1 Press the power ON/OFF switch to turn the unit on. The back light on the LCD lights in green, and “READY” is displayed on the LCD.



- 2 Execute the print job with the software application.

When the message is displayed on the LCD

If a problem occurs, the back light on the LCD lights in amber and the error message stating the problem is displayed on the LCD.

Message	Cause and remedy
EMPTY	Paper is not loaded. Load paper.
DOOR	The door is open. Close the door.

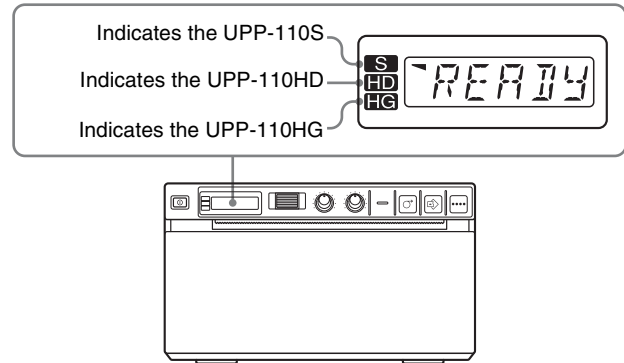
When the unit stops printing during printing

When printing almost black images continuously, the thermal head protection circuit may shut down the unit to prevent the thermal head from overheating. In such a case, the message “COOL” is displayed on the LCD. Leave the unit until the head cools down and this message disappears.

Paper currently selected

You can confirm the paper currently selected on the LCD. The pointer points to the paper currently selected.

In the following figure, the currently selected paper is the UPP-110S paper.



Cancelling a Print Job

To cancel a print job in progress, press the OPEN button or the FEED button.

Making Copies of the Last Printout

Press the COPY button. The unit makes a copy of the last printout. The image of the last printout is retained in the unit's memory until you make a printout of another image or turn the power off. You can make only one copy regardless of the print quantity set using the menu.

Note

If you press the COPY button immediately after turning the power on, the alarm buzzer will sound as nothing is stored in memory.

To make multiple copies of the same printout

Press the COPY button as many times as necessary (maximum 20 copies including the first printout) while copying the first printout. Each time you press the COPY button, a short buzzer sounds.

To interrupt copying

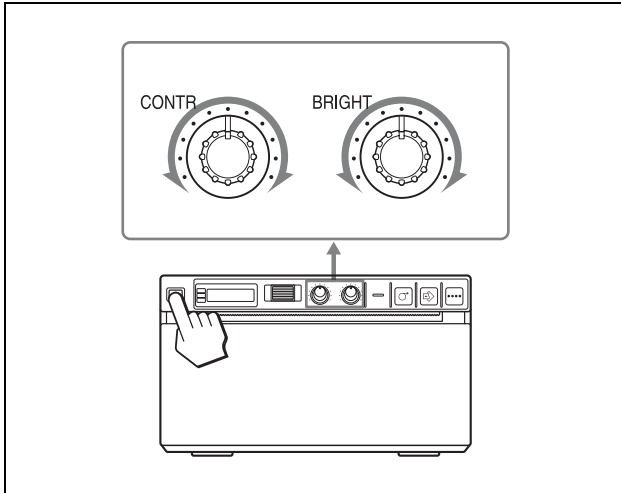
Press the OPEN or FEED button while copying.

Feeding Paper

To feed paper, press the FEED button. The unit will continue to feed paper as long as you hold down the FEED button. Do not attempt to pull paper out of the unit with your hand.

Adjusting the Contrast and Brightness

You can adjust the contrast and brightness of the unit using the CONTR control and BRIGHT control on the front panel.



To adjust the contrast

You can adjust the contrast of printouts using the CONTR control.

To make the contrast stronger: Turn the CONTR control clockwise.

To make the contrast weaker: Turn the CONTR control counterclockwise.

Note

The contrast adjusting function is equivalent to “Light” of the density control provided with the printer driver. The value adjusted by using this CONTR control is added to the value already set as “Light.”

To adjust the brightness

You can adjust the brightness of printouts using the BRIGHT control.

To make the image brighter: Turn the BRIGHT control clockwise.

To make the image darker: Turn the BRIGHT control counterclockwise.

Note

When the menu operation function is locked, CONTR and BRIGHT controls are also disabled in addition to the jog dial. If you want to use the CONTR and BRIGHT controls, contact the nearest authorized dealer.

Precautions

On Safety

- Check the operating voltage before operation. Operate the unit only with a power source specified in “Specifications”.
- Stop operation immediately if any liquid or solid object falls into the cabinet. Unplug the unit and have it checked by qualified personnel.
- Unplug the unit from the wall outlet if you will not be using it for a long time. Disconnect the power cord by grasping the plug. Never pull the cord itself.
- Do not disassemble the cabinet. Refer servicing to qualified personnel only.
- Connect the power plug of the unit to a wall outlet with a protective earth terminal. The safety earth should be properly established.

Caution on the paper cutter

A paper cutter is mounted with the unit. When loading a paper or cleaning the unit, be careful not to touch the paper cutter. Touching the paper cutter may cause injury.

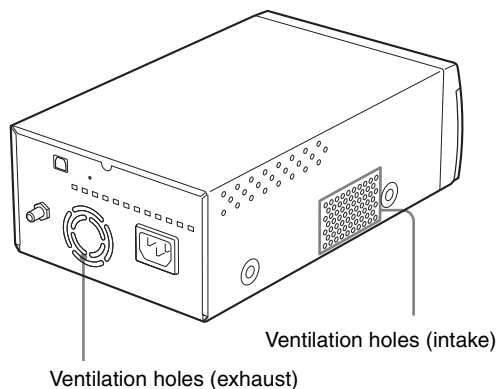
On the Printer Carriage

Do not carry or move the unit when the paper roll is placed in the unit. Doing so may cause a malfunction.

On Installation

- Place the unit on a level and stable surface. If you use the unit with placed on an uneven surface, malfunction of the unit is likely to occur.
- Do not install the unit near heat sources. Avoid locations near radiators or air ducts, or places subject to direct sunlight or excessive dust, humidity, mechanical shock or vibration.
- Provide adequate air circulation to prevent heat build-up. Do not place the unit on surfaces such as rugs, blankets, etc., or near materials such as curtains and draperies.
- To prevent internal heat built-up, leave enough room around the printer for air to circulate through the

ventilation holes (intake) on the left hand side and the ventilation holes (exhaust) on the rear of the cabinet.



- If the unit is subjected to wide and sudden changes in temperature, such as when it is moved from a cold room to a warm room or when it is left in a room with a heater that tends to produce large amounts of moisture, condensation may form inside the unit. In such cases the unit will probably not work properly, and may even develop a fault if you persist in using it. If moisture or condensation forms, turn off the power and allow the unit to stand for at least one hour.

Maintenance

Cleaning the Cabinet

Use a wrung out damp cloth, or a damp cloth soaked in water and a mild detergent, to clean the cabinet surface. To avoid damaging the cabinet of the unit, never use alcohol, thinner, or any other type of organic solvent, or any type of abrasive cleaner, to clean the cabinet.

Cleaning the Thermal Head

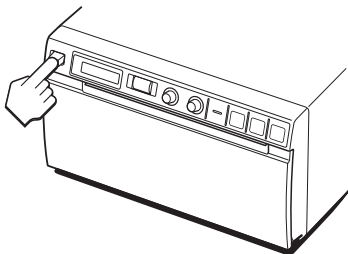
If the printout is dirty or white stripes appear on the printouts, clean the thermal head using the cleaning sheet supplied.

Carry out the head cleaning operation using the menu.

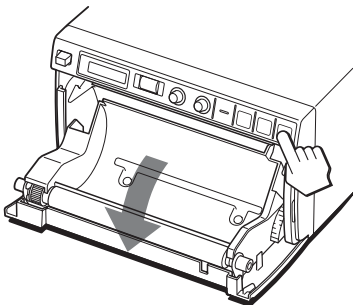
Note

A paper cutter is mounted with the unit. When cleaning the thermal head, be careful not to touch the paper cutter. Touching the paper cutter may cause injury.

- 1 Press the power ON/OFF switch to ON to turn the unit on.

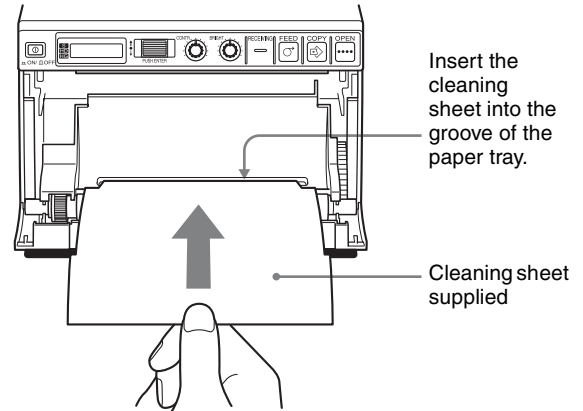


- 2 Press the OPEN button to open the door.



If the paper is loaded in the paper tray, remove it.

- 3 Insert the cleaning sheet, with the black surface facing down, into the groove of the paper tray.



- 4 Close the door by pushing it.
- 5 Press the jog dial. The menu item changed last is displayed.
- 6 Display "CLEAN" by turning the jog dial, and then press the jog dial.
- 7 Confirm that "CL:OK" is displayed, and then press the jog dial. The unit starts cleaning the thermal head. "CLEAN" is displayed on the LCD. When the cleaning sheet stops and the alarm sounds, the cleaning is completed.
- 8 Press the OPEN button to open the door and remove the cleaning sheet.
- 9 Close the door by pushing it.

Note

Clean the thermal head only when necessary. If you clean the thermal head too frequently, it may cause a malfunction.

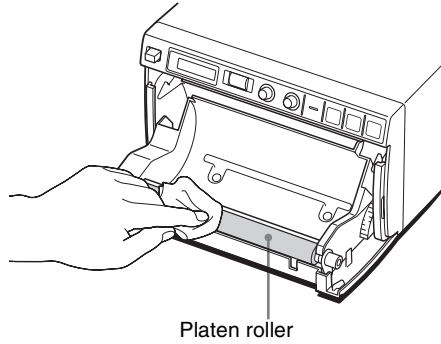
Cleaning the Platen Roller

If the paper cannot be ejected smoothly after printing, the platen roller may be dirty.

In such a case, clean the platen roller with a soft cloth moistened with a damp cloth soaked in water and a mild detergent.

- 1 Press the power ON/OFF switch to ON to turn the unit on.
- 2 Press the OPEN button to open the door. If the paper is loaded in the paper tray, remove it.

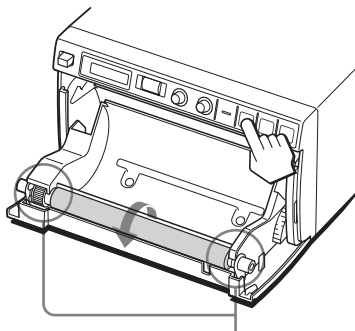
- Clean the platen roller gently with a damp cloth soaked in water and a mild detergent.



Notes

- After the surface of the platen roller wiped has been dried completely, turn the platen roller to clean another portion.
- Do not turn the platen roller with hands. Use the FEED button to turn it. To clean another part of the surface of the platen roller, go to the next step.

- Press and hold down the FEED button so that the platen roller turns automatically. Release the FEED button when the surface of the platen roller to be cleaned appears.



Be careful so that you have your fingers caught in the turning platen roller.

Notes

- The platen roller is turning while you are pressing the FEED button. Be careful so that you have your fingers caught in the turning platen roller.
- Be sure to start cleaning only after the platen roller has stopped completely.

- Repeat steps 3 and 4 until the platen roller becomes clean.

- After the platen roller has been dried completely, close the door by pushing it.

Specifications

Power requirement

100 to 240 V AC, 50/60 Hz

Input current 1.5 A to 0.8 A

Operating temperature

5 °C to 35 °C (41 °F to 95 °F)

Operating humidity

20% to 80%

Operating pressure

700 hPa to 1,060 hPa

Storage and transport temperature

-20 °C to +60 °C (-4 °F to +140 °F)

Storage and transport humidity

20% to 80%

Storage and transport pressure

700 hPa to 1,060 hPa

Dimensions 154 × 88 × 240 mm (w/h/d)

(6 1/6 × 3 1/2 × 9 1/2 inches)

Mass

2.6 kg (5 lb 11 oz) (printer only)

Thermal head

Thin-film thermal head, 1280 dots

Gradation

256-level gradation (8-bit)

Memory capacity

4096 × 1280 × 8 (bit)

Picture size

320 × 100 mm (max.)

Printing speed

About 2 sec./image (960 × 1280 dots)
(printing at the high speed)

About 3.3 sec./image (960 ×
1280 dots) (printing at the normal
speed)

Picture elements

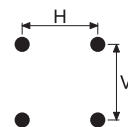
4096 × 1280 dots (max.)

Dot density

H: 100 mm/1280 dots = 0.078

V: 100 mm/1280 dots = 0.078

Square dots



Interface

Hi-Speed USB (USB 2.0)

Accessories provided

Thermal head cleaning sheet (1)

CD-ROM (including multi-lingual
operating instructions, Readme and
printer driver) (1)

Media label (1)

USB cable 1-824-211-41 (Sony) (1)

Before Using this Printer (1)

Service Contact List (1)

Software License (1)

Medical Specifications

Protection against electric shock:

Class I

Protection against harmful ingress of water:

Ordinary

Degree of safety in the presence of a flammable anesthetic mixture with air or with oxygen or nitrous oxide:
Not suitable for use in the presence of a flammable anesthetic mixture with air or with oxygen or nitrous oxide

Mode of operation:

Continuous

The design and these specifications are subject to change without prior notification.

Others

Troubleshooting

Before you call for service, please check the problems and solutions described below. If you cannot solve the problem, contact the nearest authorized dealer.

Symptom	Causes/remedies
First few prints spotted with small dots.	New paper roll just installed? →If a new roll of paper has just been loaded, paper dust may cause white spots in printed images. Press the FEED button and hold it down to feed about 15~20 cm (6~8 in.) and then release. (page 11)
Print job does not start.	<ul style="list-style-type: none">• Paper does not feed. →Power switched on? →Unit connected correctly? →Paper roll loosen?• Alarm sounds. →Paper loaded correctly? (page 11)• Paper feeds but printing does not start. →Printer paper loaded with the wrong side up? (page 11)
Paper Jams	<ul style="list-style-type: none">• Jammed paper visible? →Press the OPEN button to open the paper door, remove the printout or the paper roll, and then gently pull the jammed paper out of the unit.• Condensation collected in unit? →If the unit has just been brought into a warm room from a cold location, condensation may have formed inside the unit. Switch the unit off and let it set for 1 - 2 hours (until it warms to room temperature), then try printing again.
Printouts dirty.	Thermal head dirty? →Use the head cleaning sheet provided with the unit to clean the thermal head. (page 20)
The unit stops printing while printing almost black images continuously and the message "COOL" is displayed on the LCD.	When printing almost black images continuously, the thermal head protection circuit may shut down the unit to prevent the thermal head from overheating. →Wait for the message to disappear.
Paper is not fed smoothly.	Platen roller dirty? →Clean the platen roller. (page 20)

Error Messages

Messages appear on the LCD under the following conditions. Take the remedial actions shown next to the messages to correct the problem.

Messages	Description and remedy
DOOR	The paper door is open. →Close the paper door until it is locked securely.
EMPTY	<ul style="list-style-type: none">• There is no paper loaded.• Paper has been used up. →Load some paper. (page 10)
COOL	The protection circuit that prevents the thermal head from overheating has been activated. →Wait for the message to disappear. Printing will then resume automatically.
LOCK	The menu operation function is locked. The jog dial, CONTR control and BRIGHT control are disabled. →If you want to perform menu operations or use those controls, contact the nearest authorized dealer.
WAIT	The unit is under internal processing. →Wait for a while.

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