

Digital Graphic Printer

Instructions for Use

Before operating the unit, please read this manual thoroughly and retain it for future reference.

UP-D711MD



Indications for Use/Intended Use

The Sony UP-D711MD printer is a compact, medical grade black and white digital printer. It is designed to be integrated into digital radiology imaging systems such as mobile c-arm, ultrasound, cardiac cath lab and other compatible medical imaging systems and produce hard copy prints of still images captured by these systems for the patient record or for referrals.

Notes

- Output images from this equipment cannot be used for diagnostic use.
- This equipment is for medical professionals.
- This equipment is intended for use in medical environments, such as clinics, examination rooms, and operating rooms.

WARNING

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

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

No modification of this equipment is allowed.

Symbols on the product



Safety sign

Follow the warnings in the instructions for use for parts of the unit on which this symbol appears.

NOTE Background color: Blue
Symbol: White



Consult the instructions for use

Follow the directions in the instructions for use for parts of the unit on which this symbol appears.



This symbol indicates the manufacturer, and appears next to the manufacturer's name and address.



This symbol indicates the Importer, and appears next to the Importer's name and registered office address.



This symbol indicates the European Community representative, and appears next to the European Community representative's name and address.



This symbol indicates the UK Responsible Person, and appears next to the UK Responsible Person's name and address.



This symbol indicates the Swiss authorized representative, and appears next to the Swiss authorized representative's name and address.



This symbol indicates the medical device in the European Community.



This symbol indicates the date of manufacture.



This symbol indicates the serial number.



This symbol indicates the Unique Device Identifier (UDI), and appears next to the bar code representation of the Unique Device Identification.



Storage and transport temperature

This symbol indicates the acceptable temperature range for storage and transport environments.



Storage and transport humidity

This symbol indicates the acceptable humidity range for storage and transport environments.



Storage and transport pressure

This symbol indicates the acceptable atmospheric pressure range for storage and transport environments.



This symbol indicates sharp edges.

For accessories



This symbol indicates the batch code.



This symbol indicates “Do not reuse”.

For 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 customers in the U.S.A.

Caution

Federal law (United States of America) restricts this device to sale by or on the order of a licensed healthcare practitioner.

Rx
ONLY

For customers in Canada

This unit has been certified according to Standard CAN/CSA-C22.2 No.60601-1.

Important safeguards and notices for use in the medical environments

1. All devices connected to the unit must be certified or compliant according to IEC 60601-1, IEC 60950-1, IEC 62368-1 and IEC 60065 standards and other IEC/ISO standards applicable to the devices.
2. Furthermore, the system as a whole must comply with IEC 60601-1 standards. All peripheral devices connected to the signal input/output sections of the unit constitute the medical-use system, and therefore, the user is responsible for ensuring that the system as a whole complies with IEC 60601-1 standards. If in doubt, consult qualified Sony service personnel.
3. Connecting the unit to other devices may increase the leakage current.
4. For all peripheral devices connected to the unit that operate on commercial power supplies and do not comply with IEC 60601-1 standards, incorporate an isolation transformer that complies with IEC 60601-1 standards and connect to the commercial power supply via the transformer.
5. The unit generates, uses, and may radiate radio frequency energy. If it is not installed and used in accordance with the instruction manual, it may cause interference on other devices. If the unit causes interference (which can be determined by disconnecting the power cord from the unit), try the following.
 - Relocate the unit with respect to the affected devices.
 - Connect the unit and the affected devices to different branch circuits.For more information, consult qualified Sony service personnel.
(Applicable standard: IEC 60601-1-2)

Important EMC notices for use in medical environments

- The UP-D711MD needs special precautions regarding EMC and needs to be installed and put into service according to the EMC information provided in the instructions for use.
- The UP-D711MD is intended for use in a professional healthcare facility environment.
- Portable and mobile RF communications equipment, such as cellular phones, can affect the UP-D711MD.

Warning

- Portable RF communications equipment should be used no closer than 30 cm (12 inches) to any part of the UP-D711MD. Otherwise, degradation of the performance of this equipment could result.
- If the UP-D711MD will be used adjacent to or stacked with other equipment, normal operation of the UP-D711MD under such configurations should be verified via observation.
- 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-D711MD.

Guidance and manufacturer's declaration – electromagnetic emissions		
The UP-D711MD is intended for use in the electromagnetic environment specified below. The customer or the user of the UP-D711MD should assure that it is used in such an environment.		
Emission test	Compliance	Electromagnetic environment – guidance
RF emissions CISPR 11	Group 1	The UP-D711MD 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. The UP-D711MD 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.
RF emissions CISPR 11 CISPR 32	Class B	
Harmonic emissions IEC 61000-3-2	Not applicable	
Voltage fluctuations/ flicker emissions IEC 61000-3-3	Not applicable	

Guidance and manufacturer's declaration – electromagnetic immunity

The UP-D711MD is intended for use in the electromagnetic environment specified below. The customer or the user of the UP-D711MD should assure that it is used in such an environment.


Immunity test	IEC 60601 test level	Compliance level	Electromagnetic environment – guidance
Electrostatic discharge (ESD) IEC 61000-4-2	±8 kV contact ±15 kV air	±8 kV contact ±15 kV air	Floors should be wood, concrete or ceramic tile. If floors are covered with synthetic material, a relative humidity of at least 30% is recommended.
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	
Surge IEC 61000-4-5	±1 kV line(s) to line(s) ±2 kV line(s) to earth	±1 kV differential mode ±2 kV common mode	
Voltage dips, short interruptions and voltage variations on power supply input lines IEC 61000-4-11	0% U_T (100% dip in U_T) for 0.5/1 cycles ^a 40% U_T (60% dip in U_T) for 5 cycles 70% U_T (30% dip in U_T) for 25/30 cycles ^a (for 0.5 sec) 0% U_T (100% dip in U_T) for 250/300 cycles ^a (for 5 sec)	Not applicable	Mains power quality should be that of a typical commercial or hospital environment. If the user of the UP-D711MD requires continued operation during power mains interruptions, it is recommended that the UP-D711MD be powered from an uninterruptible power supply or a battery.
Power frequency (50/60 Hz) magnetic field IEC 61000-4-8	30 A/m	30 A/m	Power frequency magnetic fields should be at levels characteristic of a typical location in a typical commercial or hospital environment.
Proximity magnetic fields IEC 61000-4-39	65 A/m 134.2 kHz Pulse modulation 2.1 kHz 7.5 A/m 13.56 MHz Pulse modulation 50 kHz	65 A/m 134.2 kHz Pulse modulation 2.1 kHz 7.5 A/m 13.56 MHz Pulse modulation 50 kHz	Proximity magnetic fields of the UP-D711MD should be at levels 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.

^a For example, 10/12 means 10 cycles at 50 Hz or 12 cycles at 60 Hz.

Guidance and manufacturer's declaration – electromagnetic immunity

The UP-D711MD is intended for use in the electromagnetic environment specified below. The customer or the user of the UP-D711MD should assure that it is used in such an environment.

Immunity test	IEC 60601 test level	Compliance level	Electromagnetic environment – guidance
Conducted RF IEC 61000-4-6	3 Vrms 150 kHz to 80 MHz outside ISM bands ^c	3 Vrms	Portable and mobile RF communications equipment should be used no closer to any part of the UP-D711MD, including cables, than the recommended separation distance calculated from the equation appliance to the frequency of the transmitter. Recommended separation distance $d = 1.2 \sqrt{P}$
	6 Vrms 150 kHz to 80 MHz in ISM bands ^c	6 Vrms	
Radiated RF IEC 61000-4-3	3 V/m 80 MHz to 2.7 GHz	3 V/m	IEC 60601-1-2: 2007 $d = 1.2 \sqrt{P}$ 80 MHz to 800 MHz $d = 2.3 \sqrt{P}$ 800 MHz to 2.5 GHz IEC 60601-1-2: 2014 + A1: 2020 $d = 2.0 \sqrt{P}$ 80 MHz to 2.7 GHz 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). 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 Interference may occur in the vicinity of equipment marked with following symbol: 

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-D711MD is used exceeds the applicable RF compliance level above, the UP-D711MD should be observed to verify normal operation. If abnormal performance is observed, additional measures may be necessary, such as reorienting or relocating the UP-D711MD.
- b Over the frequency range 150 kHz to 80 MHz, field strengths should be less than 3 V/m.
- c The ISM (industrial, scientific and medical) bands between 150 kHz and 80 MHz are 6.765 MHz to 6.795 MHz; 13.553 MHz to 13.567 MHz; 26.957 MHz to 27.283 MHz; and 40.66 MHz to 40.70 MHz.

Recommended separation distances between portable and mobile RF communications equipment and the UP-D711MD

The UP-D711MD is intended for use in an electromagnetic environment in which radiated RF disturbances are controlled. The customer or the user of the UP-D711MD can help prevent electromagnetic interference by maintaining a minimum distance between portable and mobile RF communications equipment (transmitters) and the UP-D711MD 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				
	IEC 60601-1-2 : 2007			IEC 60601-1-2 : 2014 + A1: 2020	
	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 $d = 2.3 \sqrt{P}$	150 kHz to 80 MHz $d = 1.2 \sqrt{P}$	80 MHz to 2.7 GHz $d = 2.0 \sqrt{P}$
0.01	0.12	0.12	0.23	0.12	0.20
0.1	0.38	0.38	0.73	0.38	0.63
1	1.2	1.2	2.3	1.2	2.0
10	3.8	3.8	7.3	3.8	6.3
100	12	12	23	12	20

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.

Guidance and manufacturer's declaration – electromagnetic immunity

The UP-D711MD is intended for use in an electromagnetic environment in which radiated RF disturbances are controlled. Portable RF communications equipment should be used no closer than 30 cm (12 inches) to any part of the UP-D711MD. Otherwise, degradation of the performance of this equipment could result.

Immunity test	Band ^a	Service ^a	Modulation	IEC 60601 test level	Compliance level
Proximity fields from RF wireless communications equipment IEC 61000-4-3	380 – 390 MHz	TETRA 400	Pulse modulation 18 Hz	27 V/m	27 V/m
	430 – 470 MHz	GMRS 460 FRS 460	FM ±5 kHz deviation 1 kHz sine	28 V/m	28 V/m
	704 – 787 MHz	LTE Band 13, 17	Pulse modulation 217 Hz	9 V/m	9 V/m
	800 – 960 MHz	GSM 800/900 TETRA 800 iDEN 820 CDMA 850 LTE Band 5	Pulse modulation 18 Hz	28 V/m	28 V/m
	1,700 – 1,990 MHz	GSM 1800 CDMA 1900 GSM 1900 DECT LTE Band 1, 3, 4, 25 UMTS	Pulse modulation 217 Hz	28 V/m	28 V/m
	2,400 – 2,570 MHz	Bluetooth WLAN 802.11 b/g/n RFID 2450 LTE Band 7	Pulse modulation 217 Hz	28 V/m	28 V/m
	5,100 – 5,800 MHz	WLAN 802.11 a/n	Pulse modulation 217 Hz	9 V/m	9 V/m

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

^a For some services, only the uplink frequencies are included.

Caution

When you dispose of the unit or accessories, you must obey the laws in the relative area or country and the regulations in the relative hospital regarding environmental pollution.



Caution

Do not use the device in a MR (Magnetic Resonance) environment.
It may cause a malfunction, fire, and unwanted movement.

For the customers in the U.S.A.

SONY LIMITED WARRANTY - Please visit www.sony.com/psa/warranty for important information and complete terms and conditions of Sony's limited warranty applicable to this product.

For the customers in Canada

SONY LIMITED WARRANTY - Please visit www.sony.com/psa/warranty for important information and complete terms and conditions of Sony's limited warranty applicable to this product.

For the customers in Europe

Sony Europe B.V. - Standard Warranty and Exceptions on Standard Warranty. Please visit <https://pro.sony/support-services/primesupport/support-professional-solutions-europe-standard-product-warranty> for important information and complete terms and conditions.

For the customers in Korea

SONY LIMITED WARRANTY - Please visit https://pro.sony/ko_KR/support-services for important information and complete terms and conditions of Sony's limited warranty applicable to this product.

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Overview

This unit is a printer that prints images by heating a thermal head, according to the input image data, and pressing the head against special thermal printing paper to print the image on the paper. It features the following characteristics.

Quiet, High Quality, Fast Printing

- Employs a thin thermal head with a built-in high speed drive IC, capable of high resolution images of 11.8 dots/mm.
- Print speeds of approximately 1 high quality image (896 × 1196 dots (approx. 76 × 101 mm)) every 5 seconds when the “High Speed Print Mode” checkbox is on.
- Standard image memory capable of handling and printing images up to 896 × 2688 dots (approx. 76 × 227 mm).
- Monochrome printing with up to 256 shades of gradation.

USB interface

The unit is equipped with a USB connector which complies with the USB specification.

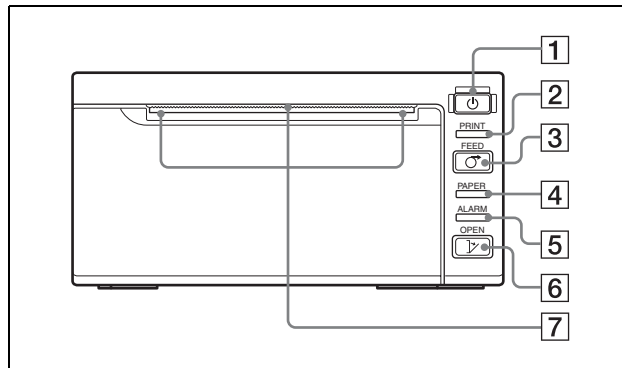
Easy Paper Loading






Free access to the door 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



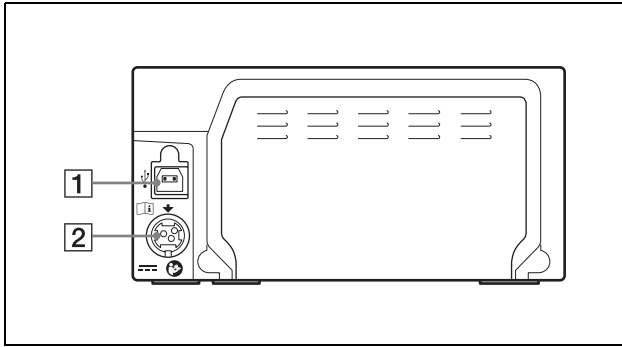
- 1**  **On/standby switch**
 **On/standby lamp**
(16, 17, 19)
Press to turn the unit on ( On/standby lamp lights).
- 2** **PRINT lamp**
Lights while printing.
- 3**  **FEED button (16, 17)**
Hold down to feed paper.
The paper will only feed when the button remains pressed.
If insufficient paper has been fed after printing, press the button for a short time to feed extra paper.
For details on feeding paper after printing, see “Setup Guide.”
Press to cancel a print job that is currently in progress.
- 4** **PAPER lamp**
Lights when the paper is not set in the tray correctly or if the tray is empty.
- 5** **ALARM lamp**
Lights when the door is open or if a problem occurs in the printer.
- 6**  **OPEN button (16)**
Press to open the door.
Press and hold down this button all the way, to open the door.


- 7**  **Paper cutter**
Cuts the paper as each image is printed.

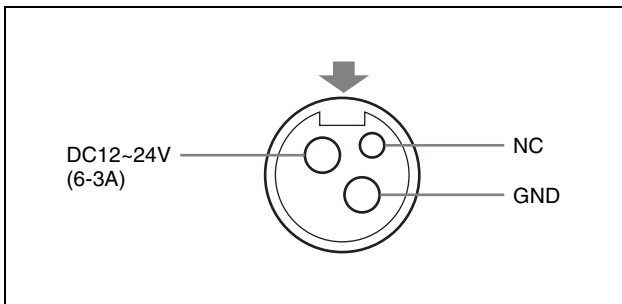
About the lamp indicators

The lamp lights or blinks to show the state of the printer. For details, see “Lamp Indicators” (page 23)

Rear Panel



- 1**  **USB connector (14)**
Connects to a computer equipped with a USB interface.
Do not use a USB cable longer than 3 meters.
- 2** **DC connector**
Use a Hosiden–manufactured connector to connect.
Part no: TCP8927-53
Wire rod: For voltages above 60V at max. The wire rod’s rating must be more than 7A.



Warning on power supply devices

For the DC power supply, be sure to use the AC adapter that is supplied or one that is recommended, or a device that complies with the IEC 60601-1 standard and is protected by double insulation or reinforced insulation. Be sure to use a power supply device capable of supplying a voltage of 12 V to 24 V and a current of 6 A (at 12 V) to 3 A (at 24 V) or more. However, the device should not be capable of supplying 240 VA for 60 seconds or more (20 A or less at 12 V, 10 A or less at 24 V).

Use of power supply devices other than the above may result in fire or electric shock.

Class I devices should only be connected to a power outlet that is properly earthed to avoid the risk of electric shock.

For information on how to shut off the main power supply, refer to the instructions for use supplied with the power supply device.

If the information is not available for whatever reason, obey the following.

- To shut off the main power, disconnect the power plug from the outlet.
- When installing the unit, incorporate a readily accessible shutoff device in the fixed wiring, or connect the power plug to a power outlet near the unit that can be easily accessed during use.
- Do not install the ME unit in a position that will make unplugging the power plug difficult.
- If a malfunction occurs, cut power via the shutoff device, or disconnect the power plug from the outlet.



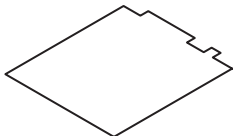
Caution

Connect the DC connector to the unit, then supply the power source to the unit.
To remove the DC connector, disconnect the power source first, then remove the DC connector.
Do not touch the DC connector pin and a patient at the same time.
A voltage of 12 to 24 V is applied to the DC connector pin and may have a harmful effect on the patient.

Checking the accessories

Check the accessories.

Thermal head cleaning sheet (1)



Before Using this Printer (1)

CD-ROM (1)

Service Contact List (1)

Information for Customers in Europe (1)

Connections

With the DC cable disconnected from the external power supply, connect the USB connecting cable between the unit and computer, then connect the DC cable. For details about the unit connection, refer to the manuals for the computer or other peripheral devices.



WARNING

Using this unit for medical purposes

The connectors on this unit are not isolated.

Do not connect any device other than one which conforms to IEC 60601-1 standards.

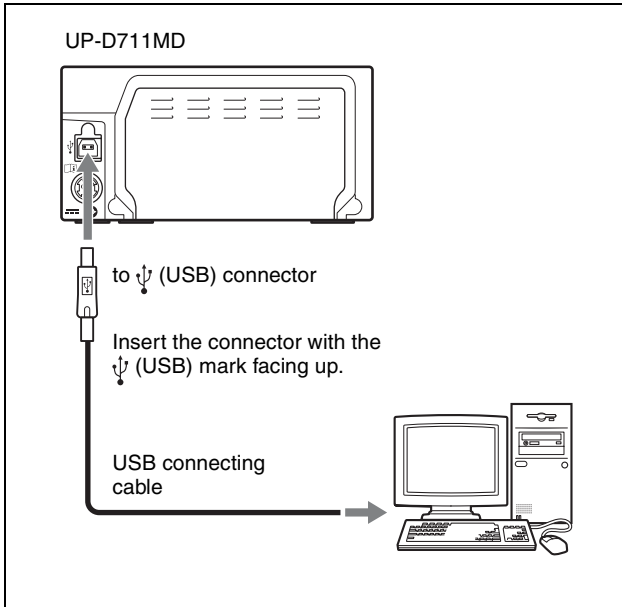
When an information technology device or AV device that uses an alternating current is connected, current leakage may result in an electric shock to the patient or operator.

If use of such a device is unavoidable, isolate its power supply by connecting an isolation transformer, or by connecting an isolator between the connecting cables. After implementing these measures, confirm that the reduced risk now conforms to IEC 60601-1 standards.

Notes

- Make sure that the USB cable is connected securely at both ends.
- Make sure that the DC cable is connected securely until it is locked.
- 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 USB hub.
- Use a DC 12 V – DC 24 V power supply with at least 72 W, for the unit.
(DC12V 6A or greater, DC24V 3A or greater)
- Before connecting or disconnecting the DC cable, be sure to turn the external power supply off. Otherwise damage to the unit may result.

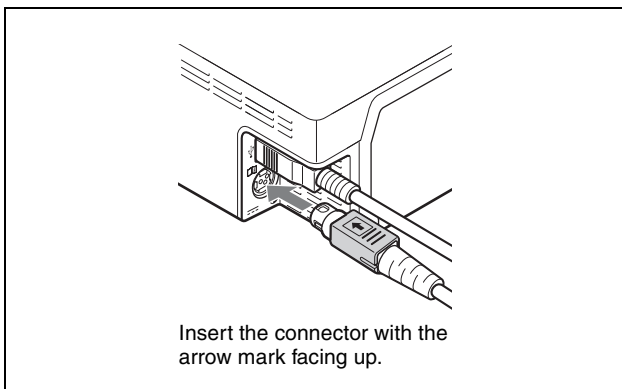
Connecting to the USB Connector



Note

Do not allow the connected computer to enter Standby (Suspend) or Sleep mode while the printer is turned on, as this may cause the printer to stop operating properly.

Connecting the DC Cable



Installing the Printer Driver

For computers running on Windows XP/Windows Vista

After connecting the printer to your computer, turn on the printer. For details on installation, refer to the installation guide and Readme file included on the supplied CD-ROM.

For computers running on Windows 7

Before connecting the printer, install the supplied printer driver onto your computer. For details on installation, refer to the installation guide and Readme file included on the supplied CD-ROM.

Paper

Use only Sony UPP-84S/84HG 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.

Paper You Can Use

Paper characteristics are as follows.

Print Characteristics	Paper Type
Normal	UPP-84S
High Glossy	UPP-84HG

Notes on storing and handling paper



Do not re-use

Doing so may result in malfunction and negatively affect printing results.

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

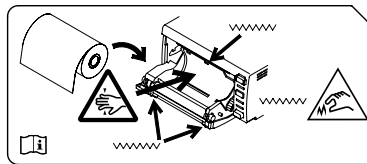
- Handle the paper carefully when loading to avoid touching the printing surface with your fingers. Perspiration or oil from your hands could cause pictures to blur.
- After removing the sheet from the leading edge of the paper, pull the paper out about 15 cm (6 in.) before printing. Sheet adhesive remaining 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.

Loading Paper in the Unit

When loading paper in the unit, be sure to note the caution graphic symbols on the unit.



Caution

Paper cutters are mounted in the unit. When loading paper, be careful not to touch the paper cutters. Touching the paper cutters may cause injury.



Caution

Do not insert your finger into the back of the paper tray. Your finger may become stuck in an internal gap, which may lead to injury.



Caution



Do not touch any unit circuitry and the patient at the same time.

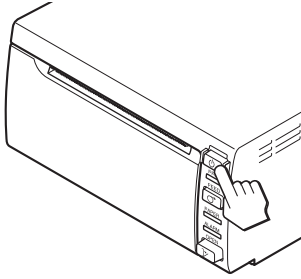
If the unit malfunctions, it may generate voltage that could be harmful to the patient.

Notes

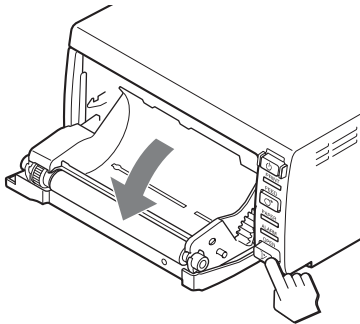
- Before loading paper in the unit, see “Paper” (page 15).
- Always handle paper carefully when loading to avoid adversely affecting the quality of the printouts. Never bend or crease the paper and never touch the printing surface with your fingers. Fingerprints perspiration can blur printing.
- Do not use any paper other than UPP-84S/84HG paper. (page 15)
- Confirm that the printer driver paper type settings are suitable for the paper to be used.
- You can check the currently selected paper on the printer driver display.
For more details, see “Setup Guide.”

Loading Paper

- 1 Press the  On/standby switch to turn the unit on. The  On/standby lamp lights green. The PAPER lamp lights orange if no paper is loaded.



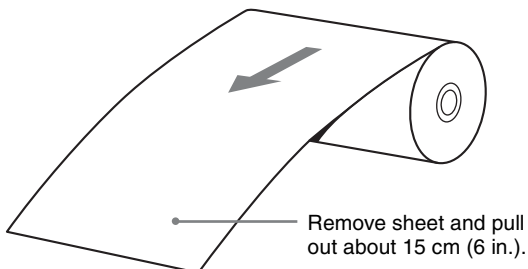
- 2 Press the OPEN button to open the door.



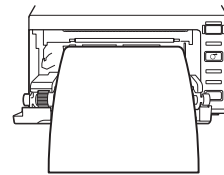
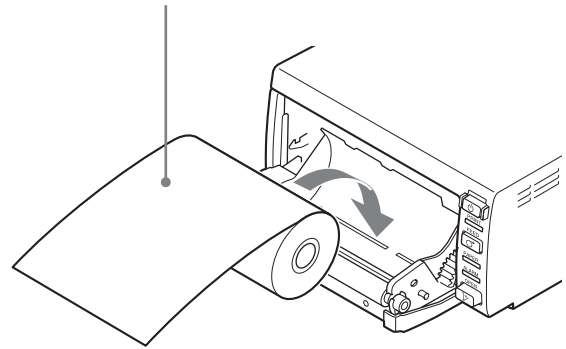
- 3 Remove the sheet from the leading edge of the paper, pull out about 15 cm (6 in.) of the paper, and then set the paper roll in the paper tray.

Note

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

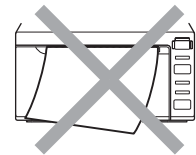
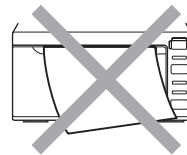
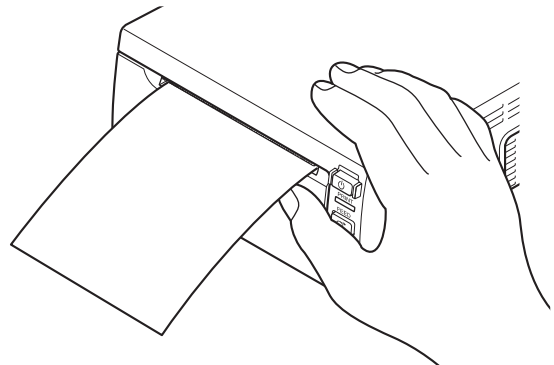


Load the paper in the orientation shown in the diagram. Printing is not possible if the paper is reversed.



Make sure that the paper is set straight.

- 4 Close the 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.

Operation



Printing

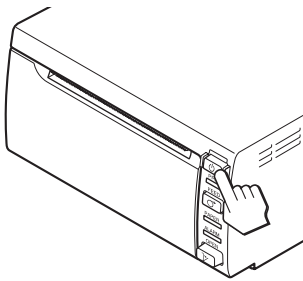
Before Starting a Print Job

Always check the following points:

- Unit connected correctly? (page 14)
- Printer driver installed? (page 14)
- Paper loaded correctly? (page 16)
- Printer driver settings done correctly? (Setup Guide)

Starting a Print Job

- 1 Press the  On/standby switch to turn the unit on. The  On/standby lamp lights green.



- 2 Execute the print job with the application software.

If the unit stops printing during prolonged 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 PRINT lamp blinks slowly.

Leave the unit until the head cools down and the PRINT lamp lights.

Canceling a Print Job

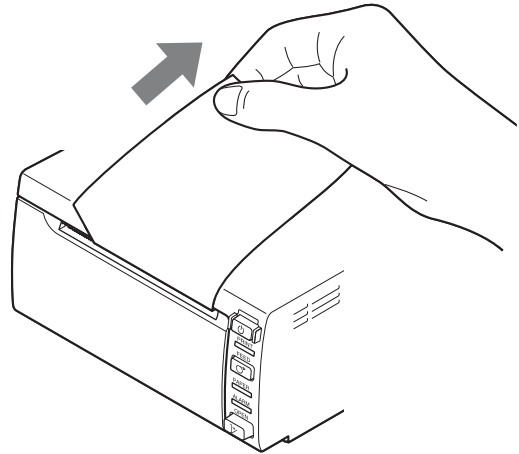
To cancel a print job in progress, press the FEED button.

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.

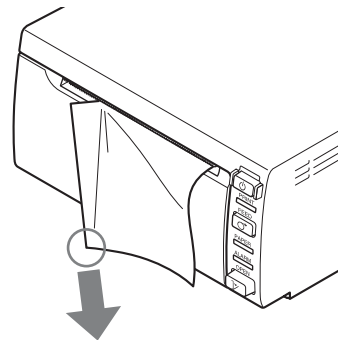
Cutting Paper

Hold the printer firmly, then pull the paper diagonally upwards and cut it as shown in the figure.



When the paper cutter on the bottom is used

Hold the bottom of the paper you want to cut and pull diagonally downwards to cut.




Note

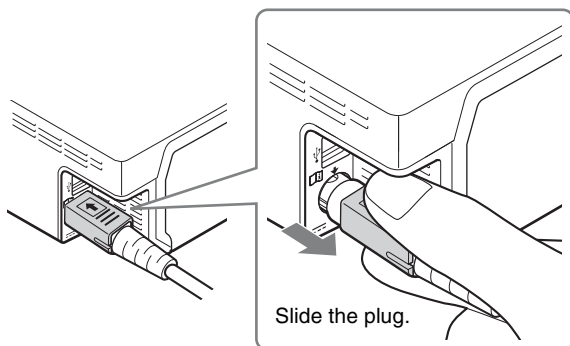
The paper cutter on the bottom is positioned at the left and right edges. If you attempt to cut the paper by holding the paper at its center, it may not be cut well.

Precautions

Notes on use

If the printer is not going to be used for a long time

- Press the  On/standby switch to turn off the printer and the external power supply, then disconnect the DC cable.
- After disconnecting the USB cable, disconnect the DC cable.
- 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.
- The DC cable has a lock. To disconnect, grasp the DC plug, then pull it.



- Do not damage the DC power cable.

On Safety

- Do not disassemble the cabinet. Refer servicing to qualified personnel only.

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.

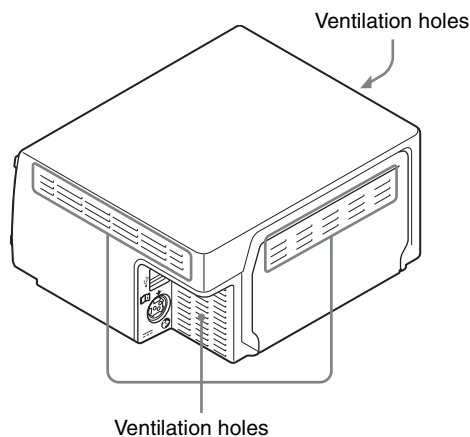
On Installation

- 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 place the unit in a location subject to strong light, such as a halogen lamp.
- Do not place the unit in an excessively hot or humid place. Avoid locations near radiators or air ducts, or places subject to direct sunlight or excessive dust, humidity, mechanical shock or vibration.
- In winter, humidity tends to be lower. It is recommended to use the unit in a place of at least 35% humidity.
- 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.
- 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.

Caution

To prevent internal heat built-up, maintain sufficient space around the printer (at least 10 mm (0.4 inches)). Do not obstruct the ventilation holes on the right and left sides of the printer and on the rear panel.



On the Printer Carriage

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

Cleaning the Cabinet

Note

Before cleaning the printer, be sure to turn off the power and disconnect the power cord.

When the cabinet becomes dirty

When solvents such as benzene or thinner, or acid, alkaline or abrasive detergent, or chemical cleaning cloths are used on the printer surface, the surface finish may be damaged. Take care with respect to the following:


- Clean the printer surface with a 50 to 70 v/v% concentration of isopropyl alcohol or a 76.9 to 81.4 v/v% concentration of ethanol.
- Stubborn stains may be removed with a soft cloth such as a cleaning cloth lightly dampened with mild detergent solution and then cleaned using the above chemical.
- Do not use unnecessary force to rub the printer surface with a stained cloth. The printer surface may be scratched.
- Do not keep the printer surface in contact with a rubber or vinyl resin product for a long period of time. The surface finish may deteriorate or the coating may come off.

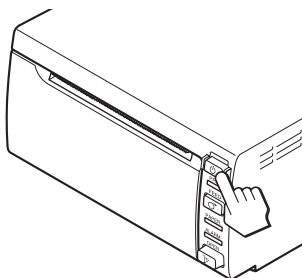
Cleaning the Thermal Head

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

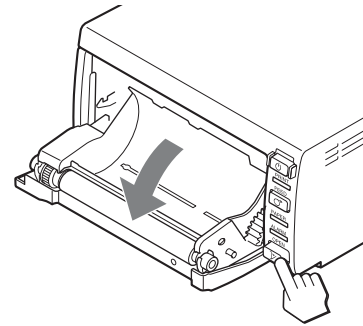
Note

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

- 1 Press the  On/standby switch to turn the unit on.

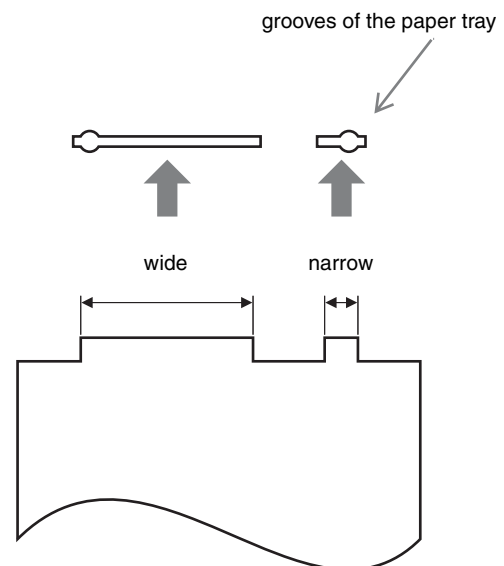
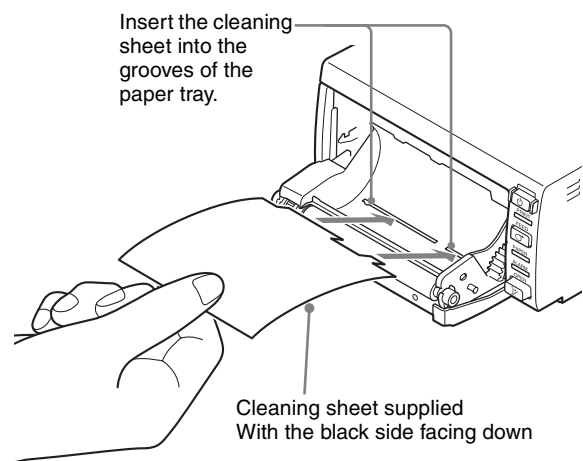


- 2 Press the OPEN button to open the door.



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.

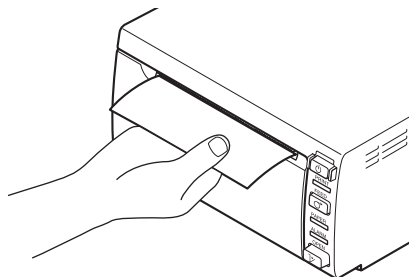
- 5 Press and hold the FEED button until the PAPER lamp lights.
The unit starts cleaning the thermal head.
When the cleaning sheet stops and the alarm sounds, the cleaning is completed.
- 6 Press the OPEN button to open the door and remove the cleaning sheet.
- 7 Close the door by pushing it.

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

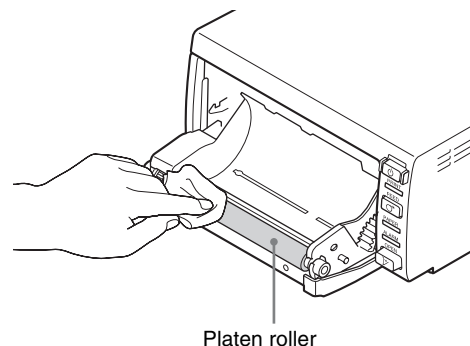
When the surface of the platen roller gets dirty, paper will not be ejected smoothly after printing, resulting in paper jams and inconsistent print quality. The surface of the platen roller also may get dirty, which may make it difficult to cut paper with the cutter. Press the  On/standby switch to ON to turn the unit on, and then press the FEED button for a second or so to feed some more paper out of the unit. It is likely that the roller is getting dirty if paper is easily pulled out by hand.



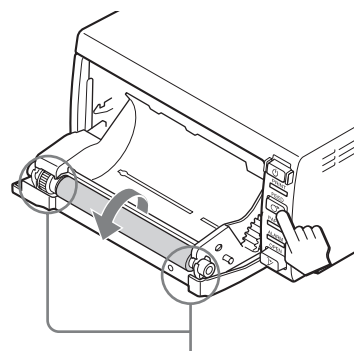
Clean the platen roller using a soft cloth moistened with ethyl alcohol when it becomes dirty.

- 1 Press the  On/standby switch 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 Clean the platen roller gently using a soft cloth moistened with ethyl alcohol.



- 4 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 not to get your hand caught in the turning platen roller.

Caution

- Do not put your hand close to the platen roller while it is rotating. Your hand may become caught and suffer injury.

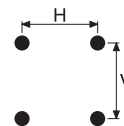
Notes

- 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.
- 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.
- 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.

- 5 Repeat steps 3 and 4 until the platen roller becomes clean.
- 6 After the platen roller has been dried completely, close the door by pushing it.

Specifications

Power Requirements	12 V to 24 V $\overline{\text{---}}$
Input Current	6 A to 3 A
Operating Temperature	5 °C to 35 °C (41 °F to 95 °F)
Operating Humidity	20% to 80% (no condensation allowed)
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% (no condensation allowed)
Storage and Transport Pressure	700 hPa to 1,060 hPa
Dimensions	140 × 70 × 125 mm (w/h/d) (5 5/8 × 2 7/8 × 5 inches) Not incl. projecting parts
Mass	1 kg (2 lb 3.3 oz) (printer only)
Thermal head	Thin-film thermal head, 896 dots
Gradation	256-level gradation (8-bit)
Memory capacity	896 × 2688 × 8 (bit)
Picture size	75.7 × 227.1 mm (max.)
Printing speed	About 5 sec./image (896 × 1196 dots) (High speed print mode) About 8 sec./image (896 × 1196 dots) (Normal speed print mode)
Picture elements	896 × 2688 dots (max.)
Dot density	H: 75.7 mm/896 dots = 0.085 V: 75.7 mm/896 dots = 0.085 Square dots



Interface	USB(full-speed)
Accessories provided	Thermal head cleaning sheet (4-419-859-) (1) CD-ROM (including multi-lingual instructions for use, Readme and printer driver) (1) Before Using this Printer (1) Service Contact List (1) Information for Customers in Europe (1)
Optional accessories	Thermal Print Media: UPP-84S/84HG

Medical Specifications

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.

Notes

- Always verify that the unit is operating properly before use.
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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 cm (6 in.) and then release. (page 16)
Print job does not start.	<ul style="list-style-type: none">• Paper does not feed. →Power switched on? →Unit connected correctly? →Paper roll loosen?• The PRINT lamp blinks slowly. →Thermal head temperature rising? When printing almost black images continuously, the temperature of the thermal head may rise. Leave the unit idle until the head cools down.• Paper feeds but printing does not start. →Paper loaded with the wrong side up? (page 16)
Paper Jams	<ul style="list-style-type: none">• Jammed paper visible? →Press the OPEN button to open the 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.	<ul style="list-style-type: none">• Thermal head dirty? →Use the head cleaning sheet provided with the unit to clean the thermal head. (page 19)• Platen roller dirty? →Clean the platen roller using a soft cloth moistened with ethyl alcohol. (page 20)• Has print paper been installed at a slant? →Reload the print paper correctly, as a paper jam may result. (page 16)
The unit stops printing while printing almost black images continuously and the PRINT lamp blinks slowly.	When printing almost black images continuously, the printer may stop. This is the thermal head pauses to cool down. →Wait until the PRINT lamp lights.

Symptom	Causes/remedies
Paper is not fed smoothly.	Platen roller dirty? →Clean the platen roller. (page 20)

Lamp Indicators

Lamp	Status	Cause/remedies
⏻ (green)	On	Startup status
PRINT (green)	On	Printing.
	Blinks	Receiving image data.
	Blinks slowly	Standing by until the thermal head is ready for printing. →Wait until the PRINT lamp lights. Printing resumes automatically.
PAPER (orange)	On	<ul style="list-style-type: none"> No paper is set. →Set paper into the printer. Paper finished. →Set new paper into the printer.
ALARM (orange)	On	<ul style="list-style-type: none"> Door open. →Close the door until it locks. Printer malfunction. →Press the ⏻ On/standby switch to turn the printer off, then press to turn it on again. If the error persists, press ⏻ On/standby switch to turn the unit off, then turn the external device off, disconnect the USB cable and the DC cable, then consult your Sony dealer.

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