

Video Graphic Printer

# UP-910

Operating Instructions page 2

Mode d'emploi page 22

Bedienungsanleitung Seite 42

Istruzioni per l'uso pagina 62




# Owner's Record

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

Model No. UP-910                      Serial No. \_\_\_\_\_

 This symbol attached to the equipment indicates that the unit is classified as Type B equipment in accordance with the definition specified by IEC publication 601-1. (Safety of Medical Electrical Equipment)  
This unit provides an adequate degree of protection against electric shock particularly regarding  
— allowable leakage currents;  
— reliability of the protective earth connection

# Warning

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To prevent fire or shock hazard, do not expose the unit to rain or moisture.

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

## For the customers in the U.S.A.

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

## For the customers in Canada

This apparatus complies with the Class A limits for radio noise emissions set out in Radio Interference Regulations.

## For the Customers in the United Kingdom

### WARNING

THIS APPARATUS MUST BE EARTHED

### IMPORTANT

The wires in this mains lead are coloured in accordance with the following code:

Green-and-yellow	: Earth
Blue	: Neutral
Brown	: Live

As the colours of the wires in the mains lead of this apparatus may not correspond with the coloured markings identifying the terminals in your plug proceed as follows:  
The wire which is coloured green-and-yellow must be connected to the terminal in the plug which is marked by the letter E or by the safety earth symbol  $\perp$  or coloured green or green-and-yellow.

The wire which is coloured blue must be connected to the terminal which is marked with the letter N or coloured black.  
The wire which is coloured brown must be connected to the terminal which is marked with the letter L or coloured red.

# Overview

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The UP-910 is a black-and-white video graphic printer that prints pictures from video equipment. Large size pictures can be printed out quickly and easily with the following features:

## **Clear and stable print quality**

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- High definition printing of 3.8 dots/mm
- 128 graduations of black and white
- Stable print-out by the temperature compensation technology
- High density print-outs by using the UPP-216HD printing paper.

## **Various output modes**

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- Print-outs can be made with bottom end first or upper part of the screen first by using the DIRECTION DIP switch.
- Aspect ratio of print-outs can be set to 4:3 or 1:1 by using the ASPECT DIP switch.
- Range to be printed out can be changed by using the SCAN MODE DIP switch.

## **Fast printing**

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A single print-out can be made within approximately 20 seconds.

## **Automatic video signal discriminator**

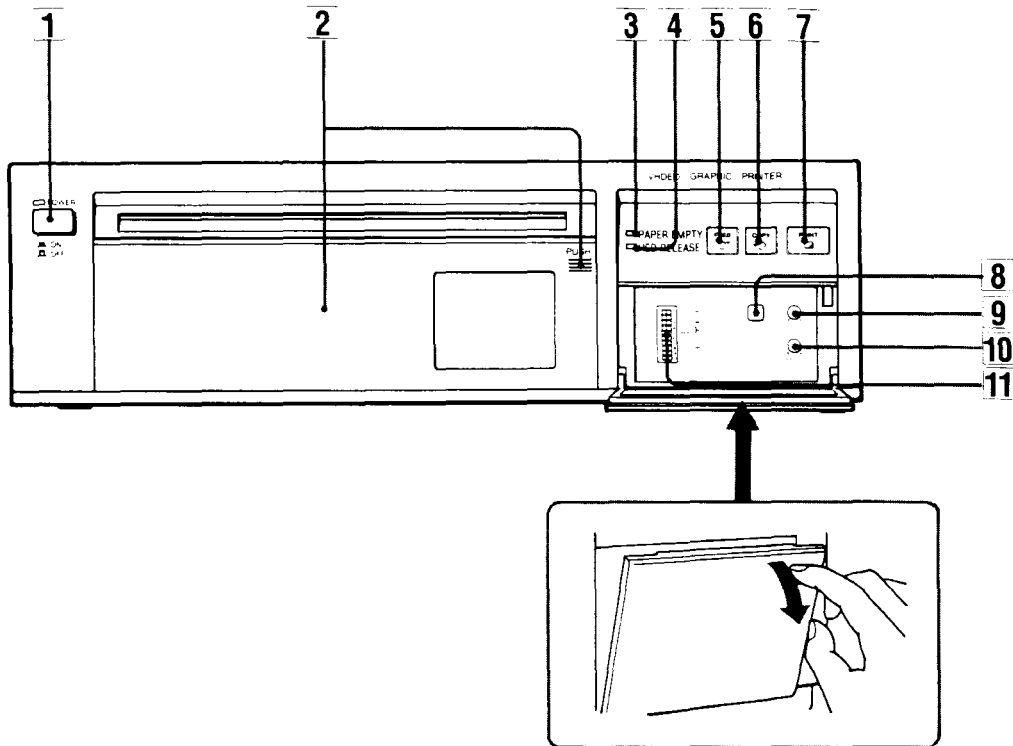
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








The type of input video signal (EIA or CCIR) is automatically discriminated and printed adequately; there is no need to change any switch manually.

# Location and Function of Parts and Controls

Refer to the pages indicated in the circles for details.

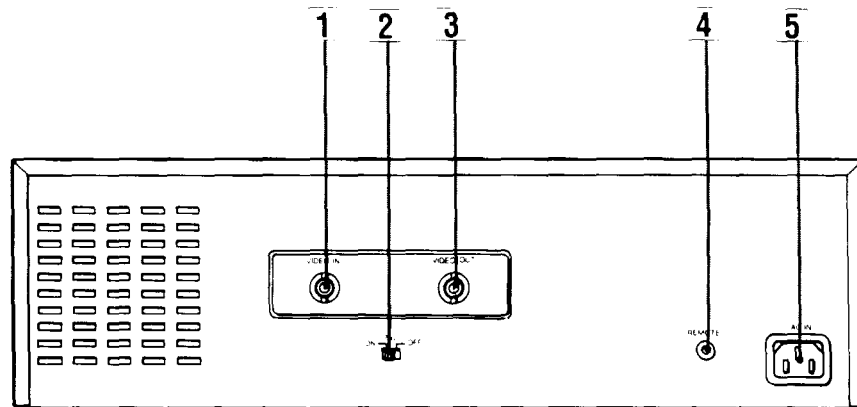
## Front Panel



- 1 POWER**  **switch and indicator**  
Press to turn on the power. The indicator lights up when the power is turned on.
- 2 Paper lid**  
Press the "PUSH" position to open.
- 3 PAPER EMPTY**  **indicator**   
Lights up when the printer is out of paper.
- 4 HEAD RELEASE**  **indicator**   
Lights up when the thermal head is released (up).
- 5 FEED**  **button**   
Feeds paper, or stops printing.
- 6 COPY**  **button**   
Copies the previous print-out.
- 7 PRINT**  **button**   
Prints the picture currently displayed on the monitor screen.
- 8 HEADSET/RELEASE**  **button**   
Sets or releases the thermal head. The HEAD RELEASE indicator lights up when the thermal head is released, or goes off when set. The head is automatically set when the FEED , COPY , or PRINT  button is pressed.
- 9 CONTRAST**  **control**   
Adjusts the contrast of the print-outs.
- 10 BRIGHT (brightness)**  **control**   
Adjusts the brightness of the print-outs.
- 11 DIP switches**  
Sets various print modes and functions. See page 9 for setting the switches.

## Location and Function of Parts and Controls

### Rear Panel



- 1 VIDEO IN (video input) connector (BNC type)**  
Inputs the composite video signal to be printed out.
- 2 75Ω (impedance) ON/OFF switch**  
Set this switch to ON when no equipment is connected to VIDEO OUT, or to OFF when the equipment, such as a monitor or a VCR, is connected to VIDEO OUT.
- 3 VIDEO OUT (video output) connector (BNC type)**  
Loop-through output of the VIDEO IN connector.
- 4 REMOTE control jack (stereo minijack)**  
Connect to the optional foot switch FS-20 for controlling print operation from a distance.
- 5 ~ AC IN (AC power input) connector**  
Connect to a wall outlet, using the supplied AC power cord.

# Precautions

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## On safety

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**Check the operating voltage before operation.**

It must be identical to that of your local power supply (100 to 120V AC, 50/60 Hz in the U.S.A. and Canada; 200 to 240V AC, 50/60 Hz in Europe).

**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 cord by grasping the plug. Never pull the cord itself.

**Do not disassemble the cabinet.**

Refer servicing to qualified personnel only.

**Do not touch the cutting blade of the printer.**

**Connect the power plug of the printer to the wall outlet having protective earth terminal.**

The safety earth should be properly established.

**Do not use the FS-20 foot switch (not supplied) in the operating room.**

## On operation

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**Do not turn the power off while the printer is printing.**

Otherwise, the thermal head may be damaged.

## On installation

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**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.

**Place the printer on a level, stable surface during operation.**

Do not install the printer near heat sources. Avoid locations near radiators or air ducts, or places subject to direct sunlight or excessive dust, humidity, mechanical shock or vibration.

**Note:**

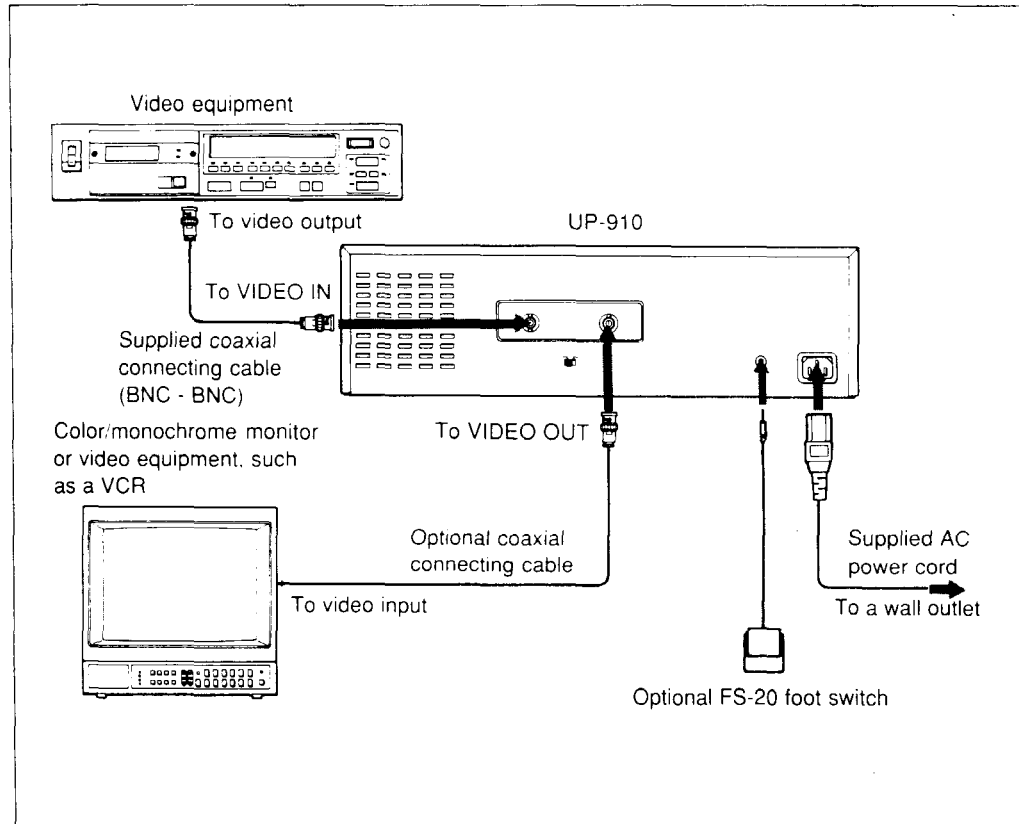
It is our responsibility for the effects on safety, reliability and performance of the equipment only if:

- re-adjustments, modification or repairs are carried out by authorized personnel and
- the equipment is used in accordance with the instructions for use.

# Connection

## Notes on connection

- Turn off the power of each device before making connections.
- Connect the AC power cord last.



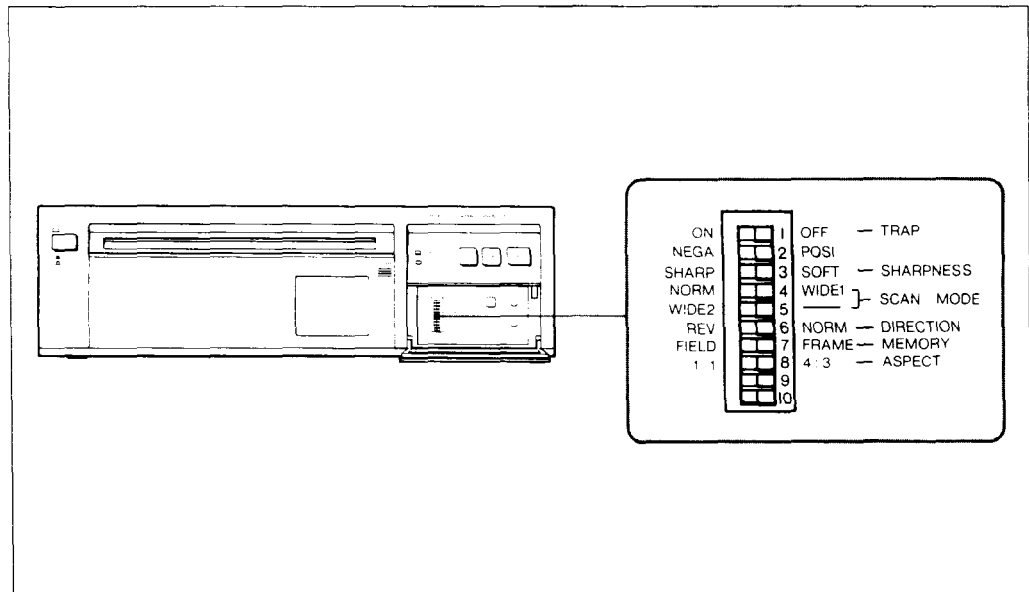
Do not use the FS-20 foot switch (not supplied) in the operating room.

# Setting of the DIP Switches

Set the DIP switches according to the print mode required and the type of video equipment connected to the printer.

Before setting the DIP switches, turn the printer off. Then change the setting with a small pointed tool such as a ball point pen.

The default setting of the DIP switches is shown below.



- 1 TRAP (color) switch**  
Set this switch to ON when the input video signal to be printed out is in color and to OFF when it is in black and white.
- 2 NEGA/POSI (negative/positive print) switch**  
Set this switch to NEGA to make negative print-outs and to POSI to make positive print-outs.
- 3 SHARPNESS switch**  
Set this switch to SHARP to obtain greater sharpness of the print-outs.



# Loading Paper

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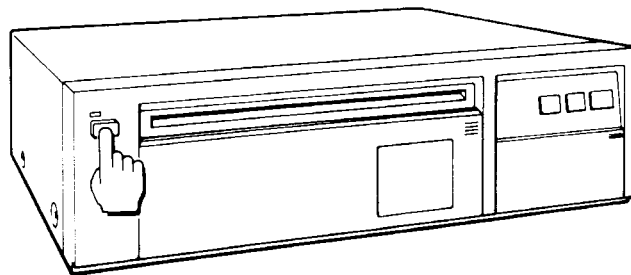
## Loading Paper

### Before loading paper

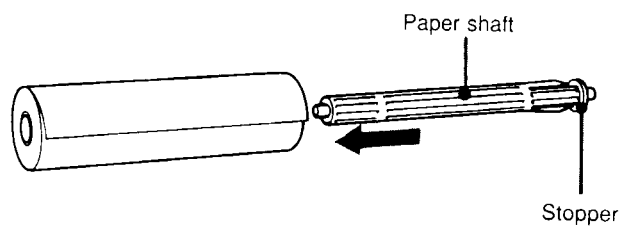
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- Do not fold the paper or rub or touch the printing surface.  
Dust on the printing surface will also result in poor print quality.
- When loading the paper roll, pull out and cut the first 20 to 25 cm (8 to 10 inches) of the paper.  
Otherwise the print quality will not be satisfactory and the printer may malfunction.

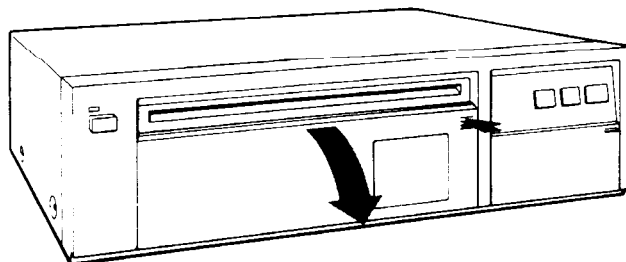
### 1 Turn the power on.



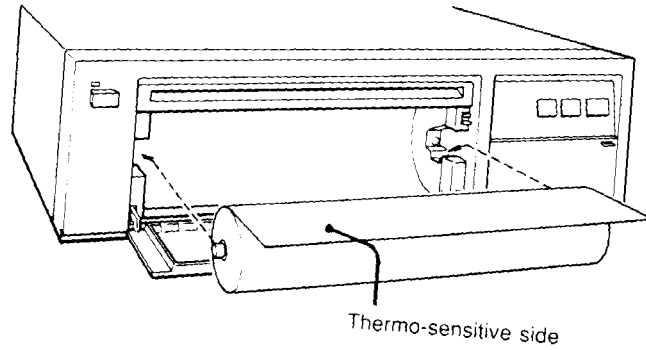
### 2 Put the supplied paper shaft through the paper roll.



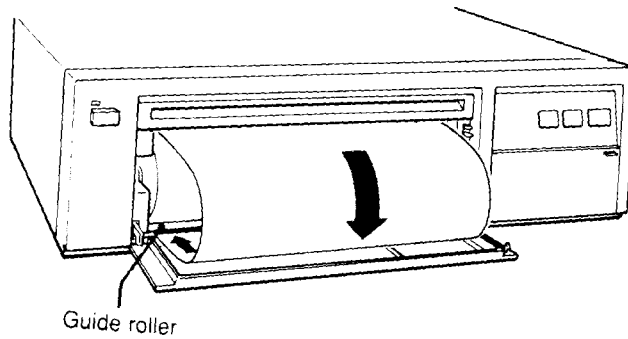
### 3 Press "PUSH" to open the paper lid.



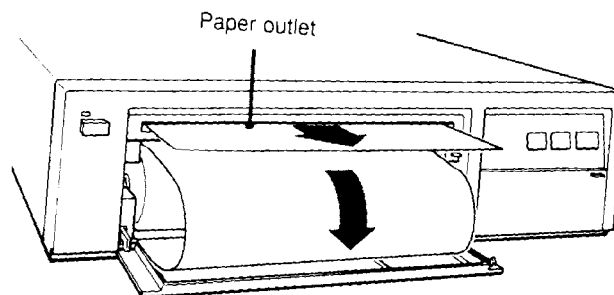
- 4 Put the paper shaft into the printer.**  
Place the paper with the thermo-sensitive side up.



- 5 Insert the paper end into the paper insertion slot.**  
The paper insertion slot is under the guide roller.



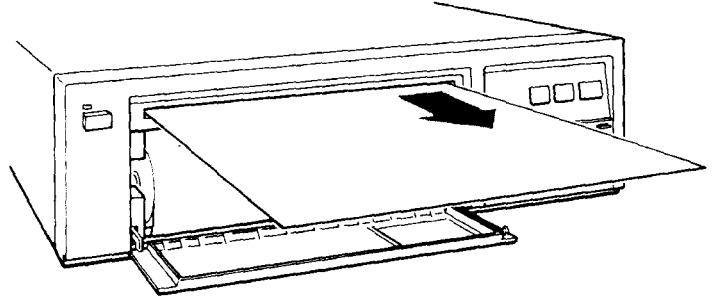
- 6 Feed the paper with your hands until its end comes out from the paper outlet.**



## Loading Paper

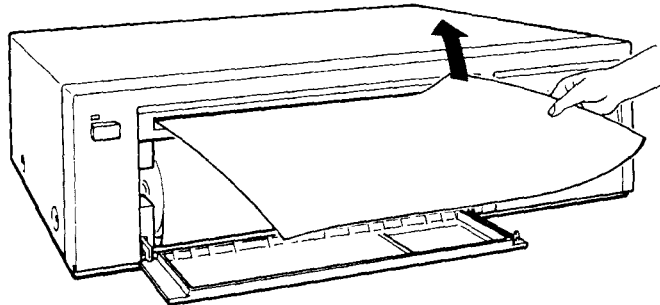
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- 7** Pull out the paper to remove any slack of the roll.  
Pull out 20 to 25 cm (8 to 10 inches) of the paper.



- 8** Press the **HEAD SET/RELEASE** button to set the thermal head.  
The **HEAD RELEASE** indicator goes off.

- 9** Tear the first end of the paper off with your hands.



- 10** Close the paper lid.

# Making Print-Outs

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## Before making print-outs

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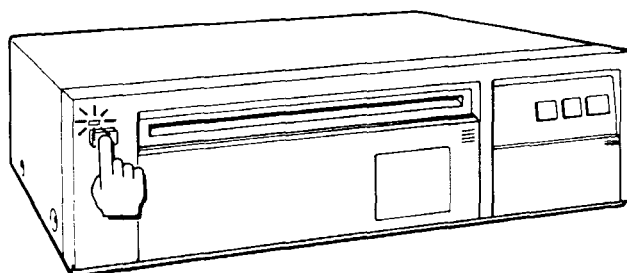
- Be sure that the setting of the DIP switches are correct (see page 9).
- Be sure that the connections are correct and that the print source is input to the VIDEO IN connector of the printer.
- Be sure that the paper roll is loaded properly and the PAPER EMPTY indicator is off (see page 12).


## Printing a picture

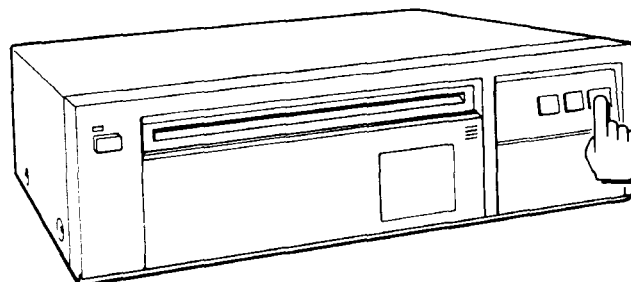
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Follow the step below to print a picture.

- 1** Turn the power on.



- 2** Make sure that the PAPER EMPTY indicator is off.
- 3** Press the PRINT  button when the monitor screen displays the picture you want to print.



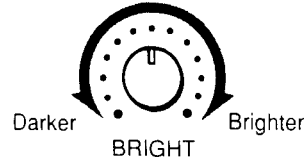
# Making Print-Outs

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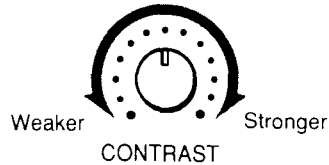
## To adjust the contrast and brightness of the picture

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### Adjusting the brightness





### Adjusting the contrast




## To stop printing

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Press the FEED  button. Printing will stop and the paper will continue to feed while FEED  is pressed.




## To stop printing and print another picture displayed on the screen

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Press the PRINT  button. Printing will stop and the picture displayed on the monitor screen will be printed out.

## To print the previous print-out again

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Press the COPY  button. The last print-out will be copied. This last print-out is retained in the memory of the printer and can be copied with the COPY  button as many times as you want, until the PRINT  button is pressed again or power is turned off and the memory is erased.

The COPY  button will not function while a print-out is being made.

## When you are not using the unit for an extended period of time

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If you are not using the unit for more than 2 weeks, release the thermal head by pressing the HEAD SET/RELEASE button and remove the paper roll out of the unit.

# Maintenance

## Cleaning the Cabinet

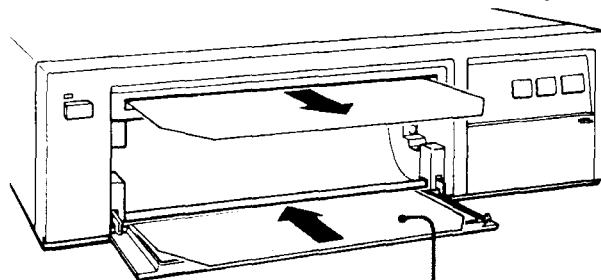
Do not use strong solvents for cleaning the printer.  
Thinner or abrasive cleansers will damage the cabinet.

## Cleaning the Thermal Head


Use the supplied cleaning sheet to clean the thermal head when the print-out is dirty.

### How to use the supplied cleaning sheet

- 1 Turn the power on and open the paper lid.
- 2 Make sure that the **HEAD RELEASE** indicator is lit.  
Otherwise, press the **HEAD SET/RELEASE** button.
- 3 Remove the printing paper.
- 4 Insert the cleaning sheet in the same way as the printing paper.



Supplied cleaning sheet

- 5 Press the **FEED**  button until the cleaning sheet is fed out completely.
- 6 Load the printing paper.
- 7 Close the paper lid.

#### Caution

Never press the **PRINT**  nor **COPY**  button while the cleaning sheet is inserted.

## Checking for Earth Continuity

Earth continuity test of the AC power supply cord should be conducted periodically at least every six months as follows:

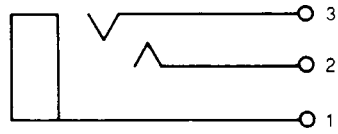
1. Connect the AC power cord to the printer.
2. Check the continuity of the safety feature between earth terminal of the plug and chassis (rear panel) by utilizing ohm meter, a battery and buzzer combination or the like.

# Specifications

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Thermal head	Thin-film thermal head (with built-in drive IC)	
Gradations	768-dot drive 128 (black and white)	
Print size (at aspect ratio 4:3)	EIA	CCIR
	NORM: 182 x 140 mm (7 1/4 x 5 5/8 inches) (w/h)	182 x 140 mm (7 1/4 x 5 5/8 inches) (w/h)
	WIDE 1: 192 x 146 mm (7 5/8 x 5 3/4 inches) (w/h)	192 x 146 mm (7 5/8 x 5 3/4 inches) (w/h)
	WIDE 2: 200 x 150 mm (7 7/8 x 6 inches) (w/h)	200 x 150 mm (7 7/8 x 6 inches) (w/h)
Effective pixels	EIA	CCIR
	NORM: 700 lines x 472 dots (w/h)	700 lines x 560 dots (w/h)
	WIDE 1: 736 lines x 490 dots (w/h)	736 lines x 582 dots (w/h)
	WIDE 2: 768 lines x 508 dots (w/h)	768 lines x 608 dots (w/h)
Printing speed	Approx. 20 seconds/screen (at aspect ratio 4:3)	
Input/Output terminals	VIDEO IN (BNC) EIA or CCIR Composite video signals 1.0 V p-p 75 ohms/high-impedance VIDEO OUT (BNC) Loop-through REMOTE (stereo minijack)* Connect optional foot switch FS-20	
Power requirements	For the U.S.A. and Canada model 100 - 120 V AC, 50/60 Hz For the European model 200 - 240 V AC, 50/60 Hz	
Power consumption	For the U.S.A. and Canada model Max. 2.5 A For the European model Max. 1.3 A	
Dimensions	Approx. 424 x 130 x 380 mm (w/h/d) (16 3/4 x 5 1/8 x 15 inches) Not including projecting parts and controls	
Weight	Approx. 9.1 kg (20 lb. 1 oz.) Main unit only	
Accessories supplied	AC power cord (1) Paper roll (UPP-216HD) (1) Paper shaft (1) Head cleaning sheet (1) BNC-BNC connecting cable (1)	
<b>Recommended periodic check items on safety based on IEC 601-1</b>		
Earth leakage current	Less than 0.5 mA at normal condition Less than 1.0 mA at single fault condition	
Protective impedance	Less than 0.1 ohm at 25 A	
Checking interval	At least once a year	
<b>Maximum allowable voltages for INPUT/OUTPUT terminals are as follows:</b>		
VIDEO IN/OUT	1.0 V p-p	
REMOTE	+5 V peak	

\* Technical specifications



1. GND
2. PRINT SIGNAL (TTL)  
Input of LOW pulse over 100 msec. initiate print.
3. PRINT BUSY (TTL)  
Goes HIGH during printing.

Design and specifications subject to change without notice.



# Troubleshooting

Symptom	Cause/remedy Refer also to the pages indicated in ●.
White specks on the first few print-outs.	Feed the paper until clean portion appears. When printing with a newly-inserted fine dust on the surface of the paper may cause white specks on the print-outs.
Print-out is dirty.	Clean the thermal head with the supplied head cleaning sheet (page 17).
Black borders or missing portions around the print-out	Change the setting of the SCAN MODE switch of the DIP switches (page 9).
Printing does not start when the PRINT button is pressed.	<ul style="list-style-type: none"> <li>• Is the power turned on ?</li> <li>• Are the connections made correctly ? (page 8)</li> <li>• Is the paper set properly ?</li> <li>• Is video signal input to the unit ?</li> </ul>
No image on the paper	Load the paper with its thermo- sensitive side up. (page 12) If the paper is loaded with its thermo-sensitive side down, printing cannot be made.
Paper jam	Press the HEAD RELEASE button to release the thermal head, and then remove jammed paper by slowly pulling it from the paper insertion slot. Paper jam is like occur when there is moisture condensation within the unit. (Moving the unit suddenly from a cold place to a warm place often results in moisture condensation.) In case of moisture condensation, remove the paper, turn off and leave the unit for about an hour or two.
Whitish print-out after a number of continuous black print-outs	Stop printing for a while. Print-out may suddenly become light when the printer continually prints 15 or more totally black pictures, which results from the protection program against heat build-up of the thermal head.
White portions printed dark after a number of continuous black print-outs	Stop printing for a while. Dark print-outs often result from heat build-up of the thermal head.
White lines and small letters on the screen are obscure.	Is the TRAP switch of the DIP switches set to ON when the input signal is in black and white ? (page 9)
Small squares appear on the whole screen.	Is the TRAP switch of the DIP switches set to OFF when the input signal is in color ? (page 9)
The screen is too dark or too light to adjust.	Is the 75 ON/OFF switch set correctly ? (page 6)
The print-out seems vertically long.	Is the ASPECT switch of the DIP switches set to 1:1 ?