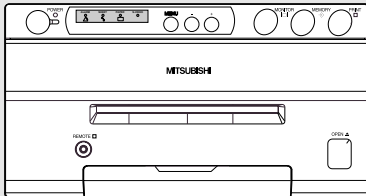# MITSUBISHI

COLOUR VIDEO COPY PROCESSOR
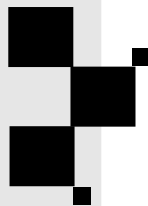MODEL

CP910E(ID)

OPERATION MANUAL

THIS OPERATION MANUAL IS IMPORTANT
TO YOU.
PLEASE READ IT BEFORE USING YOUR
COLOUR VIDEO COPY PROCESSOR.

COLOUR VIDEO COPY PROCESSOR

This video copy processor complies with the requirements of the EC Directive 89/336/EEC, 73/23/EEC and 93/68/EEC.
The electro-magnetic susceptibility has been chosen at a level that gains proper operation in residential areas, on business and light industrial premises and on small-scale enterprises, inside as well as outside of the buildings. All places of operation are characterised by their connection to the public low voltage power supply system.

INFORMATION

This Class A digital apparatus complies with Canadian ICES-003.
Cet appareil numérique de la classe A est conforme à la norme NMB-003 du Canada.

WARNING :

TO PREVENT FIRE OR SHOCK HAZARD, DO NOT EXPOSE THIS APPLIANCE TO
RAIN OR MOISTURE.

WARNING:

**Use the AC power cord according to the recommendations as below so as not to interfere
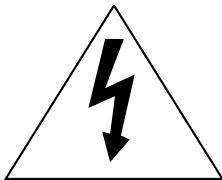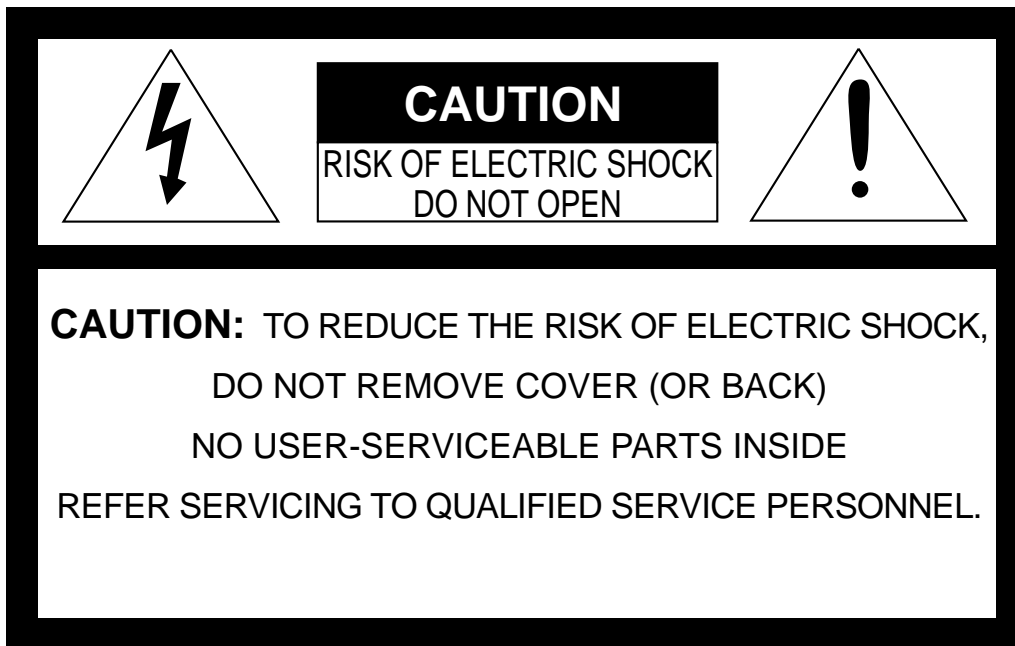with radio and television reception.**
If you use other cables, it may cause interference with radio and television reception.

Case 1. Connect to the 120V receptacle of the room or the host equipment, in order to comply
with UL1950 and CAN/CSA C22.2 No. 950.
The AC power cord should be UL and CSA approved and consist of type SVT, size
18AWG, shielded, length 1.8m or shorter cord with IEC320/C13 type, 125V 10A or
higher rating connector and NEMA 5-15 type, 125V 10A or higher rating.

Case 2. Connect to the 230V receptacle of the room or the host equipment, in order to comply
with EN60950.
Use the included AC power cord.

CAUTION

RISK OF ELECTRIC SHOCK
DO NOT OPEN

CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK,

DO NOT REMOVE COVER (OR BACK)

NO USER-SERVICEABLE PARTS INSIDE

REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute the risk of electric shock.
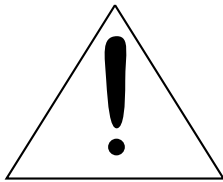
The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

NOTE:

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 or her own expense.

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SAFETY PRECAUTIONS

In the interest of safety, please observe the following precautions:

POWER REQUIREMENT

This Colour Video Copy Processor is designed to operate on 100V-120V AC 50/60Hz in U.S.A. and Canada, 220V-240V AC 50/60Hz in Europe. Never connect to any outlet or power supply having a different voltage or frequency.

WARNING: THIS APPARATUS MUST BE EARTHED.

AVERTISSEMENT: CET APPAREIL DOIT ETRE MIS A LA TERRE.

PROTECTIVE MEASURES

IF ABNORMALITIES ARISE, ...

Use of the unit during emission of smoke or abnormal sounds (without adopting countermeasures) is dangerous. In such a case, unplug the power cord from the source outlet immediately, and request maintenance service from the sales dealer.

NEVER INSERT ANY OBJECT INTO THE UNIT

Foreign objects of any kind inserted into this unit constitute a safety hazard and can cause extensive damage.

DO NOT PLACE ANYTHING ON THE COLOUR VIDEO COPY PROCESSOR

Heavy objects placed on the Colour Video Copy Processor can cause damage or obstruct proper ventilation.

PROTECT THE POWER CORD

Damage to the power cord may cause fire or shock hazard. When unplugging, hold by the plug only and remove carefully.

DO NOT PLACE WATER CONTAINERS ON THE UNIT

Do not place flower vases, and other water-holding containers on the device. If, for some reason, water seeps to the inside of the unit, unplug the power cord from the source outlet, and contact the sales dealer. If used without corrective measures, the unit may be damaged.

"In the interest of safety, avoid handling of liquids near the unit."

DO NOT REMOVE THE CABINET

Touching internal parts is dangerous, besides, it may lead to malfunction. Contact the sales dealer to carry out internal checks and adjustments. Before opening the cover for eliminating a jammed paper, etc., be sure to disconnect the power cord plug.

UNPLUG THE POWER CORD DURING A LONG ABSENCE

Turn off the MAIN power switch and unplug the power cord during a long absence.

WHEN TRANSPORTING THE UNIT

When transporting the unit, remove the ink cassette and paper. Make sure to slide the printing unit lock switch to the lock position.

BE CAREFUL AROUND PRINT PAPER EXIT SLOT

Do not insert your hand or any material into the paper exit slot during printing.
Do not touch the cutter blade inside the paper exit slot.
Otherwise, your finger will be injured.

DO NOT TOUCH THE THERMAL HEAD

Do not touch your hand to the thermal head (located inside the unit).
The thermal head is heated to high temperature.
This may cause injury.

BE CAREFUL WITH THE PRINTING UNIT

Do not move the unit while the printing unit is sliding out. This may cause injury.
Be careful not to catch your finger in the printing unit while the printing unit is being retracted into the unit.

CONNECTION CABLES

Use the provided power cord.

INSTALLATION LOCATIONS

MAINTAIN GOOD VENTILATION
Ventilation slots and holes are provided on the sides of this unit. Place the unit on a hard and level surface and locate at least 4 inches (10cm) from walls to insure proper ventilation. When putting the unit on the system rack, take a space between the unit and the back of the rack.

UNSUITABLE LOCATIONS
Avoid shaky places or hot-springs areas where hydrogen sulfide and acidic ions are likely to be generated.

PLACES WITH HIGH HUMIDITY AND DUST
Do not place the unit locations with high humidity and dust. They can cause extensive damage. Avoid places where unit is likely to be exposed to oily fumes and vapors.

PLACES NOT LIKELY TO BE EXTREMELY HOT
Places exposed to direct sunlight, or near heating appliances can attain extremely high temperatures, which may deform the cabinet, or can become a prime cause of damage.

PLACE THE UNIT ON A HORIZONTAL LEVEL
The unit is likely to be affected if it is placed in slanted conditions or in unstable places.

PROTECT AGAINST DEW FORMATION
In extremely cold regions, if the unit is moved quickly from an extremely cold place to warmer one, dew is likely to be formed. If dew is formed, printing is not possible.

OPERATING AMBIENT TEMPERATURE RANGE
The operating ambient temperature range is 41°F - 104°F (5°C to 40°C), and humidity of 20% - 80%. When using the unit on the system rack, be sure to keep this ambient temperature inside the rack.

FOR LONG OPERATING LIFE

UNSUITABLE MATERIALS FOR THE COLOUR VIDEO COPY PROCESSOR
Coat flaking and deformation are likely to occur if the unit is wiped with chemical dusters, benzine, thinner or any other solvent, if rubber or PVC items are left in contact with the unit for extended duration, or if the unit is sprayed with insecticide.

CARE OF THE CABINET
Unplug and clean with a soft cloth slightly moistened with a mild soap and water solution. Allow to dry completely before operating. Never use petroleum base solutions or abrasive cleaners.

HEAD ABRASION
The thermal head, like the video head, wears out. When it is abraded, it becomes hard to print out fine details of the picture. In such a case, it is necessary to replace the thermal head. Consult with the sales dealer for replacing the head.

CONNECTING DEVICES
Read thoroughly "Operating Precautions" of the instruction booklets for the devices connected with the Colour Video Copy Processor.
The power cord must be disconnected after printing is over.

CAUTION ON RELOCATING
When transporting this unit, make sure it is not likely to be subjected to impacts. They can be a prime cause for damage.
Further, make sure to disconnect the power cord from the power outlet, and the cables from the connected devices.

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OTHER CAUTIONS

Dust or other foreign matter adhering to the print paper or the ink cassette, or deformation resulting from exposure to extremely low or high temperatures could cause loss of colour, uneven colour or lines, or wrinkles in the print images.

NOTE:
YOUR UNDERSTANDING IS REQUESTED FOR THE LOSS OF IMAGES IN MEMORY DUE TO THE SUDDEN OCCURRENCE OF A MALFUNCTION.

SPECIAL FEATURES

SPECIAL FEATURES

2 PRINT SIZES ARE AVAILABLE ACCORDING TO THE PURPOSE
2 printing sizes, L size (max.110 x 160 mm) and S size (max.110 x 105 mm), are selectable.

HIGH SPEED PRINTING
Printing speed is approx. 44 seconds (in S size print). Using a rollpaper shortens the time for installing and removing.

LARGE CAPACITY OF PRINTING
Maximum number of printing (S size) is 130 printings per a roll paper. The large capacity of rollpaper printing reduces a time of exchanges.

POSSIBLE OF A6 SIZE PRINTING IN HIGH QUALITY
High quality print is available in sublimation dye thermal method which is superior in repeatability of images. It also employs 256 gradients and about 16,700,000 colors in each YMC. A6 size printing helps its uses widely.

MULTI PRINT FOR VARIOUS DEMANDINGS
2, 4, 6 and 16 images of multi print are available. Several multi print modes are selectable according to demanding.

UNIQUE COLOR IMAGE CONTROL SYSTEM WITH THE IC CHIP BUILT IN INK SHEET ROLLS
By setting the supplied IC chip to ink cassette, the remaining of ink sheet can be displayed. It also controls the colors of the printing images.

SUITABLE FOR PHOTO SYSTEM
(1)   Input and output control signals from CAMERA-IN/Rear remote interfaces
(2)   Image adjusting function such as contrast, brightness, depth etc. of printing image
(3)   Capable of storing 3 kinds of setting and adjustment according to each using condition.

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UNPACKING

Take the unit out of the box by the following procedures. Make sure to check the contents.

1 **Open the top of the box.**
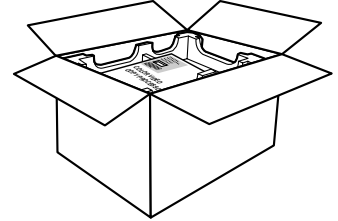
2 **Remove the accessory box.**
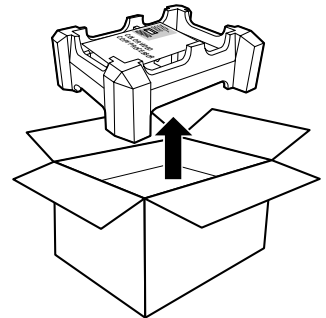
3 **Remove the cushion above the unit.**

4 **Take the unit out of the box carefully.**
Make sure to keep the unit horizontally.
Then, unwrap the packing.

■ **ACCESSORY BOX CONTENTS**

Power cord
(CE cable)

COLOUR VIDEO
COPY PROCESSOR

Ink cassette
Wired remote control unit
Operation manual

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FRONT PANEL

① POWER BUTTON (INDICATOR)
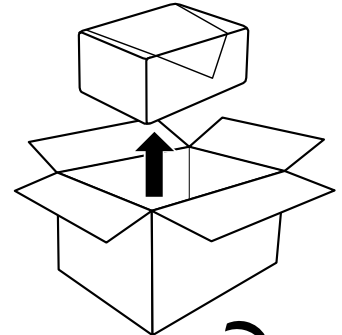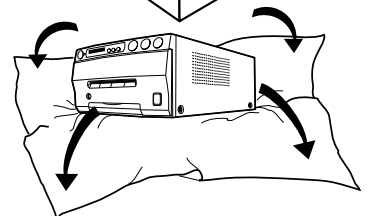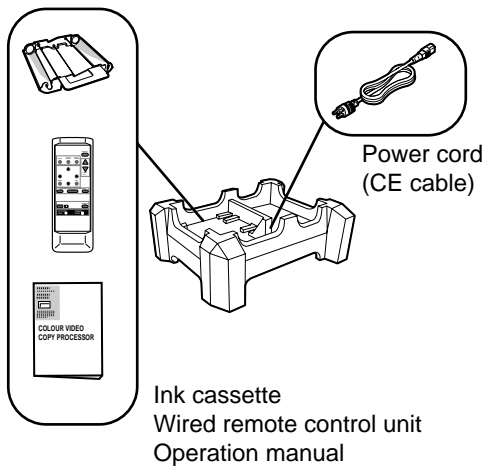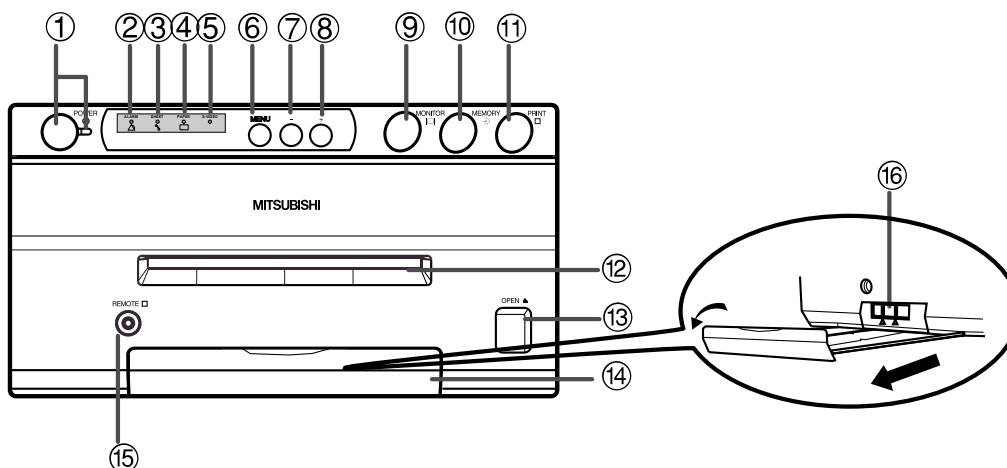Press to turn on power. Press again to turn off power. When the power is turned on, the indicator illuminates.

② ALARM INDICATOR
When this unit is overheated, this indicator goes on and off. When other error occurs, it lights up.

③ SHEET ERROR INDICATOR
When an error concerning ink sheet occurs, this indicator lights up.

④ PAPER ERROR INDICATOR
When an error concerning print paper occurs, this indicator lights up.

⑤ INPUT SIGNAL INDICATOR
This lamp always lights up.

⑥ MENU BUTTON
Press for color adjustment. The item will be switched in order of;
SELECT COLOR/B&W →BRT → CONT → R-SUB → G-SUB → B-SUB→ CENTER → CANCEL → SET → SELECT COLOR/B&W. (When selecting B&W, R-SUB, G-SUB, B-SUB change to Y-SUB, M-SUB, C-SUB.)
To go back to the normal screen, press ⑧PLUS (+) button while CANCEL or SET is selected.
See page 26.

⑦ MINUS (-) BUTTON
Press to decrease the value of each setting item. To set the value, select SET with ⑥ MENU button and press ⑧PLUS (+) button.

⑧ PLUS (+) BUTTON
Press to increase the value of each setting item. To set the value, select SET with ⑥ MENU button and press this button.

⑨ MONITOR BUTTON
Switches the display on the monitor. When this button is pressed, the picture on the monitor screen switches between the picture of the input signal (source image) and the memorized image.
When pressing MEMORY button while holding this button, print paper will be fed and cut automatically, and the mechanism will be initialized. Make sure to press MONITOR button first, or a new image will be memorized.

⑩ MEMORY BUTTON
Press to memorize the image to be printed.

⑪ PRINT BUTTON
Press to print the image memorized by the MEMORY button. The image on the monitor screen switches to the picture of the input signal.

⑫ PRINT OUTLET
The printed paper comes out here.
Do not put any objects in front of the outlet.

⑬ OPEN BUTTON
Press to slide out the printing mechanism. Open the mechanism to load paper and ink cassette or to clear a paper jam.

⑭ TRAY
Holds the printed paper which was come out from the print outlet. Press down the knob to pull out the tray. Make sure to pull it out before using this unit.

⑮ REMOTE TERMINAL
Connects the remote control unit supplied.

⑯ PRINTING UNIT LOCK SWITCH
Locks the printing unit.
Shift the switch to the left (LOCK side) to lock and to the right (UNLOCK side) to unlock.
This unit is locked when shipping. When transporting this unit, make sure to lock the unit.

REAR PANEL
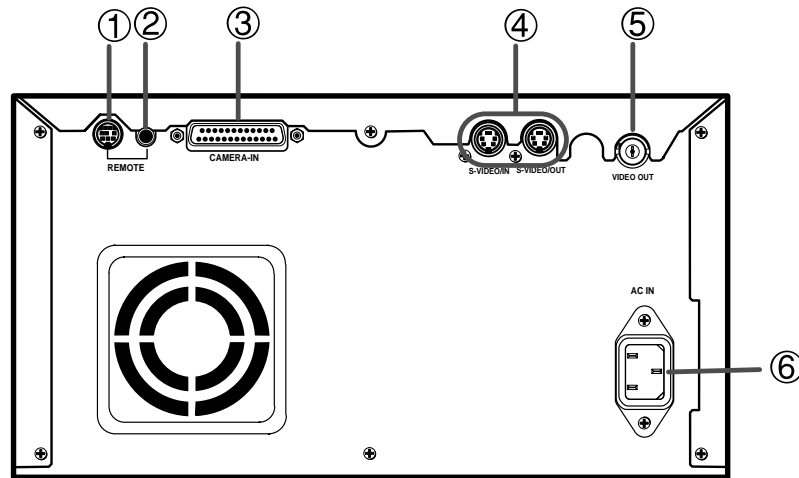
① **REMOTE TERMINAL 2 (MINI DIN 8 PIN)**

Memorizing images and printing is available by the remote signal inputted through this terminal. It is necessary to make a circuit for remote control unit to use the function. See pages 20-21.

② **REMOTE TERMINAL 1 (STEREO JACK)**

Memorizing images is available by the remote signal inputted through this terminal. It is necessary to make a circuit for remote control unit to use the function. See page 20.

③ **CAMERA-IN TERMINAL (25 PIN)**

Use this terminal to connect this unit to a camera.
Do not connect with a personal computer.
This terminal can not be used when ④ S-VIDEO IN terminal is used. See page 10 for connection.

④ **S-VIDEO INPUT/OUTPUT TERMINAL**

Use these terminals to connect to S-VIDEO signal equipment. This terminal can not be used when ③ CAMERA-IN terminal is used. See page 10.

⑤ **VIDEO SIGNAL OUTPUT TERMINAL**

Use this terminal to connect this unit to VIDEO signal equipment. See page 10.

⑥ **AC LINE SOCKET**

Connects to the provided power cord. Insert the cord firmly.

REMOTE CONTROL UNIT

⑤ **SET BUTTON**

Press to display the items of the MENU. Repress to memorize the values and exit the MENU mode. See pages 22-23.

⑥ **STOP BUTTONS**

Press to cancel the printing process and start mechanical initializing. When pressing these buttons during displaying the main menu, the service menu will be displayed. When pressing these buttons during stand-by status, the print quantity is set to 1.

⑦ **MEMORY PAGE BUTTON**

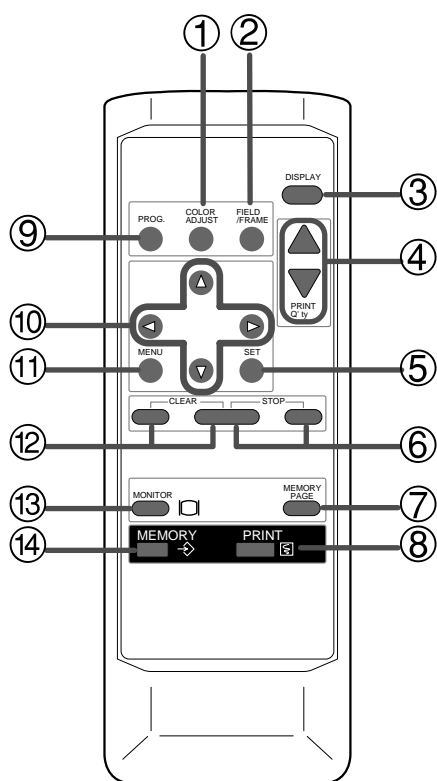Use to select the image memorized . The memory page is switched every time this button is pressed. The selected memory page mark illuminates.

⑧ **PRINT BUTTON**

Press to print the image memorized with the MEMORY button.

⑨ **PROGRAM BUTTON**

Press the PROG. button to select between 3 types of user presets. Functions previously set with the MENU can be stored into one of 3 memories and recalled. Programs cannot be changed during printing. The selected program number is displayed for 3 seconds after pressing this button. It may take longer to change the program.

⑩ **▲, ▼, ◀, ▶ BUTTONS**

Use to set the MENU display. Values are increased/decreased and the cursor position is changed with these four buttons. See page 24 and 28.

⑪ **MENU BUTTON**

Press to display MAIN MENU used for various settings. See pages 22-23.

⑫ **CLEAR BUTTONS**

Press to eliminate all or a part of memorized images.

⑬ **MONITOR BUTTON**

Press to switch the image of the input signal and the memorized image being displayed.

⑭ **MEMORY BUTTON**

Use to memorize the image to be printed. The memorized image is displayed on the monitor screen, and then the image of the input signal is displayed.

① **COLOR ADJUST BUTTON**

Press to switch black and white / color print.

② **FIELD/FRAME BUTTON (LINE ON/OFF)**

Press to switch on/off of the frame showing the print area on the display. This button is available when LINE of MEMORY POSITION menu in MAIN MENU is set to ON.

③ **DISPLAY BUTTON**

Press to display the set condition on the monitor screen. Press again to switch off the display.

④ **PRINT QUANTITY ▲, ▼ BUTTONS**

Use to set the number of copies to be printed. Press ▲ to increase the number and ▼ to decrease the number. The set number of copies is displayed on the monitor screen for 3 seconds after pressing these buttons. See page 18. When pressing ▲ or ▼ button during printing, the counter becomes "1" and continuous printing is cancelled.

CONNECTIONS

The functions of this unit can be set by the menu screens displayed on the monitor.

Connect this unit with a monitor to check the images to be printed and the images stored in memory.
The following example shows the connection with monitor and camera.
Connect with the necessary signal equipment.

Make sure to turn off the power of the unit and connecting equipment before connection.

CONNECTION WITH MONITOR AND CAMERA

- Make sure to turn off the power before setting.
- Never connect CAMERA-IN terminal to a personal computer.

(EXAMPLE)

BEFORE OPERATION

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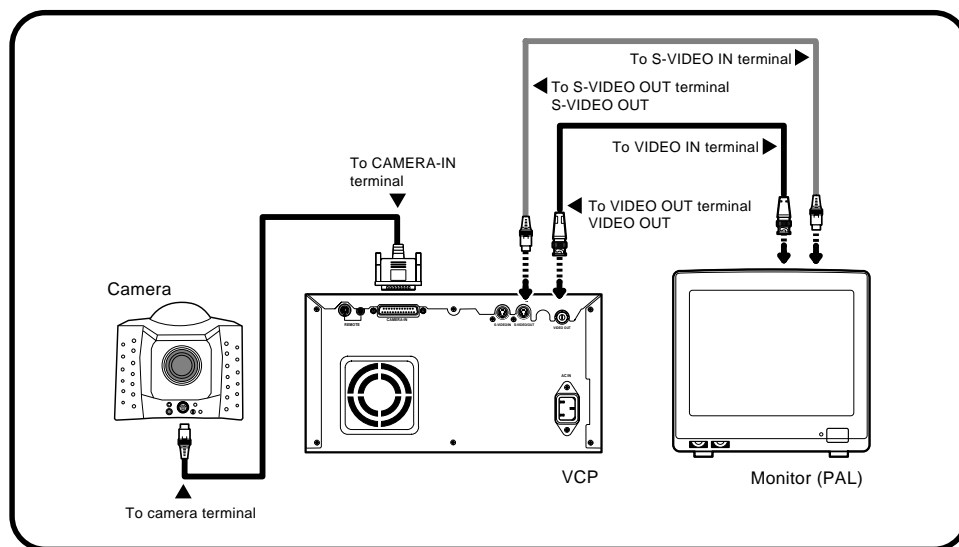
Before printing,
1. **Unlock the printing unit. (See below)**
2. **Install the print paper and ink cassette. (pages 11-14)**

PAPER SHEET SET

When using this unit for printing, make sure to use the following types of paper and ink sheet set.

■ PAPER SHEET SET

Product name	Ink sheet size	No. of prints	Usage
CK900S4P(HX)EU	S size	130	Surface-laminated color print
CK900L4P(HX)EU	L size	90	Surface-laminated color print

UNLOCK THE PRINTING UNIT

■ RELEASING THE PRINTING UNIT LOCK

1. **Press down the knob to pull out the tray.**
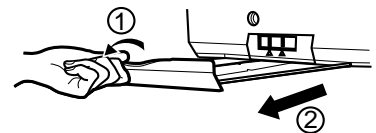
2. **Shift the printing unit lock switch to the right (UNLOCK). (See page 7.)**

LOCK   UNLOCK
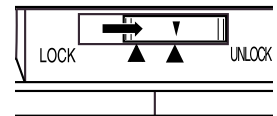
INSTALLATION OF PRINT PAPER

Do not remove the seal on the print paper yet.

Gear   Seal

1. **Insert the print paper roller with gear on the left.**
   Press the folder ① as shown right, and set the print paper roller.
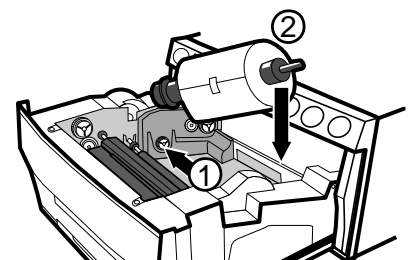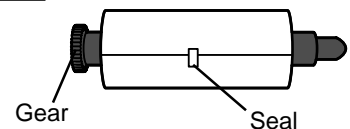
Front side

2. **Set the other side of roller without gear.**
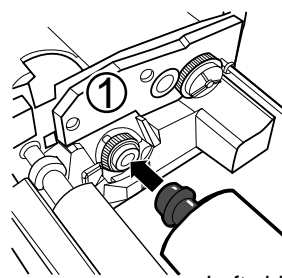
Left side   Right side
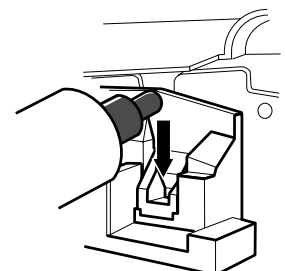
11

arrow marks

3 **Remove the seal, and insert the edge of the print paper right below the roller cover with arrow marks towards the front panel.**
Make sure to insert the paper straight.
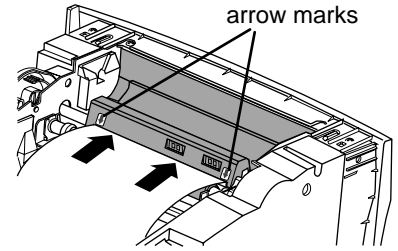
4 **Feed the print paper through the paper outlet with your hand.**
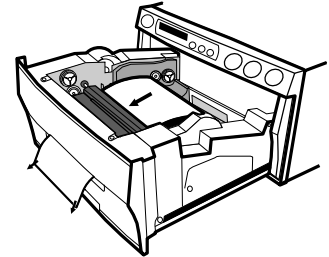
5 **Pull the both side of the print paper to eliminate slack.**
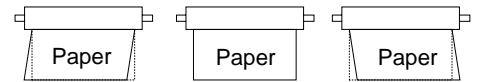
Paper	Paper	Paper
INCORRECT	**CORRECT**	**INCORRECT**

INSTALLATION OF INK SHEET

■ INSTALLING THE INK SHEET

Load the ink cassette with the ink sheet roll before inserting the ink cassette into the printer.

colored roller   white roller

1 **Put the ink sheet rollers with flat tops into the holes of ink cassette.**
Put the white roller (rolled with ink sheet) to the ink cassette first.
Then, put the colored roller (without ink sheet) to the ink cassette.
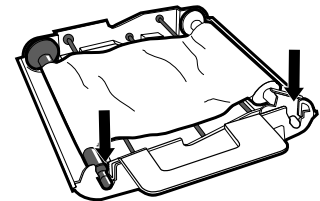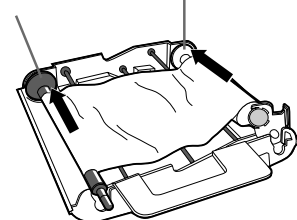
2 **Put the other sides of rollers. Set IC at this time.**
IC chip with the IC holder is attached to the ink sheet.
Set the IC holder to the ink cassette as shown right.
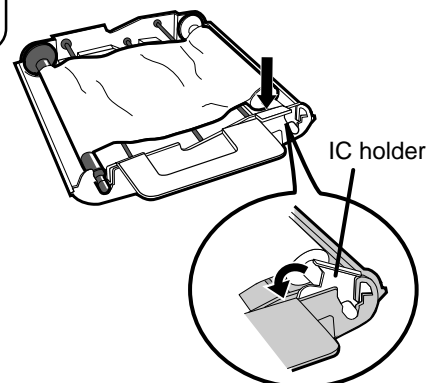
─── **NOTE** ───
- Do not remove the IC chip or IC holder from the ink sheet. Removal of the IC will stop the printer from functioning correctly.
- Set the projected part of the IC holder to the correct position as shown below.

IC holder

Projected part

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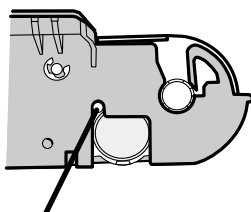
■ **INSTALLING THE INK CASSETTE**

1 **Eliminate any slack of the ink sheet.**
Hold the colored roller and turn the white roller.

2 **Insert the ink cassette with the ink sheet into its compartment.**
Put the ink cassette of the ink sheet with flat top side to each ①. Then, set the other side (with handle) as shown right. When exchanging the ink cassette and so on, remove it by holding the handle.(See page 37.)
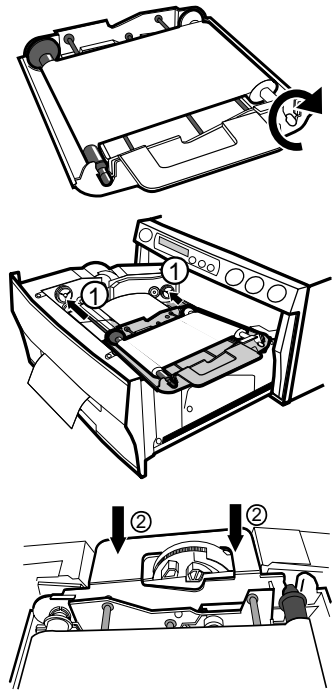
■ **INSERT THE PRINTING UNIT**

1 **Push the printing unit until it is locked into place.**

2 **After plugging the power cord, press POWER button on the front panel.**

3 **After the set conditions are displayed on the monitor, press MEMORY button about 1 second with holding MONITOR button on the front panel.**
The print paper is automatically cut after feeding about 10 cm (4 inches).

4 **Repeat the above step 3 once or twice.**
Fingerprints and dust can be removed by feeding the print paper. The printing unit is initialized.
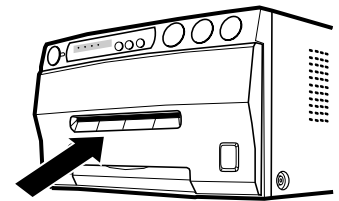
--- **NOTE** ---
- Make sure to press MONITOR button first for operating 3 and 4.
  Pressing MEMORY button first operates to memorize the images. When exchanging the printing paper or ink cassette during using the unit, the recorded images may be erased by pressing MEMORY button first.
- Do not feed the print paper more than 2 times. Doing so will not allow the number of prints indicated on page 11 to be printed.

The installation of print paper and ink cassette is completed.

--- **NOTE** ---
An IC is built in the ink sheet. This is the IC chip, not a battery.
This IC can be thrown away as normal waste.

── NOTE ──

If the power is turned on and AUTO FEED&CUT on SYSTEM SETUP menu is set to ON, "SET PAPER" disappears when print paper is set. (For AUTO FEED&CUT setting refer to page 29.) After inserting ink sheet and closing the printing unit, the print paper is automatically fed and cut twice.

── NOTE ──

Take the print paper one by one after completing printing. Pull out the tray completely when using it. If you fail to do so, paper jamming may occur.

Put the tray back when finishing printing.

USAGE AND KEEPING OF PAPER SHEET SET

■ BEFORE PRINTING

- Fingerprints or dust on the paper's surface may degrade print quality and cause paper jams. Immediately after the paper is replaced, 2 images may be printed with a blank part due to hand's dust or oil. Refer to Pages 11-12.

- When print paper is rapidly transferred from a cool place to a hot place, vapor or dew will be generated on the paper's surface causing paper jams or degraded print quality. Leave the print paper in the room to stabilize its temperature before using it.

- When print paper and ink sheet run out during printing, the printing operation stops and the error messages such as "CHANGE PAPER" and "CHANGE INK" is displayed on the monitor. Set new ink sheet or print paper. Refer to Page 34.

■ AFTER PRINTING

- When the printed paper is touched by a wet hand, the print may be discolored.
- Fading may occur if the print-face is exposed to organic chemical agents which may affect print paper (e.g. alcohol, ester, ketone based).
- Fading will be accelerated upon contact with PVC-based materials (e.g. adhesive tapes, rubber erasers, etc.).

■ STORAGE

- Avoid storing prints in direct sunlight or places with high humidity.
- Leaving the print paper in contact with PVC-based materials causes color of print paper to come off and to be stained.
- Never store print paper in places that are close to heater, hot, humid or dusty.
  Keep print paper in a place where;

$$\text{Temperature} : 5°C - 30 °C$$
$$\text{Humidity} \quad : 20 \% - 60 \%RH$$

PRINTING (BASIC)

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BEFORE PRINTING

■ SELECTING PRINT SIZE AUTO/S

- AUTO is selected for initial setting.
- Select "AUTO" or "S" according to the print size.

  AUTO :   Selects print size automatically according to the installed ink sheet.

  S :   Selects S size regardless of the installed ink sheet.
- The print size can be set on the menu displayed on the monitor screen.
- Unless the ink sheet size is changed, it is not necessary to select the print size every time.
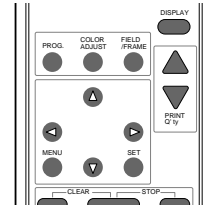
1 **Press MENU button and MAIN MENU is displayed.**
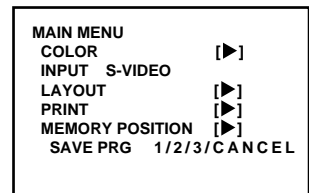
2 **Press ▲, ▼ button to select "LAYOUT".**

3 **Press ▶ button.**
- LAYOUT is displayed.
- Normally, "MODE" is selected when opening LAYOUT. When other item is selected, press ▲ or ▼ button to select "MODE".
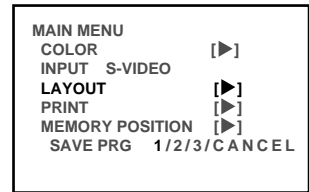
4 **Press ◀, ▶ button to select "AUTO" or "S".**
- Select "AUTO" for normal setting. Select "S" to print S size with L size ink sheet.
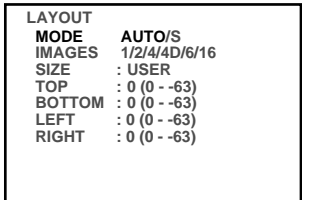
5 **Press SET button.**
- MAIN MENU is displayed.
- "SAVE PRG 1/2/3/CANCEL" is selected.
- This menu lets you select a user program memory (1-3) to store your new settings.

6 **Press ◀, ▶ button to select one of the user memory (1-3) to memorize the setting.**

The program is replaced. In case of keeping the stored program, do not select the user memory number in which the setting is stored.

When CANCEL is selected, the settings are not memorized.
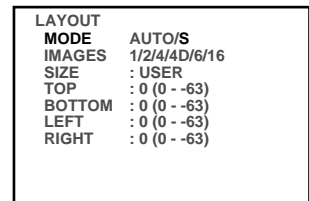
7 **Press SET button.**

The source image is displayed.
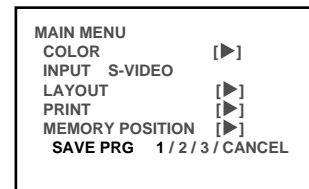
The print size setting is completed.

MAIN MENU
```
COLOR              [▶]
INPUT   S-VIDEO
LAYOUT             [▶]
PRINT              [▶]
MEMORY POSITION    [▶]
  SAVE PRG  1/2/3/CANCEL
```

MAIN MENU
```
COLOR              [▶]
INPUT   S-VIDEO
LAYOUT             [▶]
PRINT              [▶]
MEMORY POSITION    [▶]
  SAVE PRG   1/2/3/CANCEL
```

LAYOUT
```
MODE        AUTO/S
IMAGES      1/2/4/4D/6/16
SIZE      : USER
TOP       : 0 (0 - -63)
BOTTOM    : 0 (0 - -63)
LEFT      : 0 (0 - -63)
RIGHT     : 0 (0 - -63)
```

LAYOUT
```
MODE        AUTO/S
IMAGES      1/2/4/4D/6/16
SIZE      : USER
TOP       : 0 (0 - -63)
BOTTOM    : 0 (0 - -63)
LEFT      : 0 (0 - -63)
RIGHT     : 0 (0 - -63)
```

MAIN MENU
```
COLOR              [▶]
INPUT   S-VIDEO
LAYOUT             [▶]
PRINT              [▶]
MEMORY POSITION    [▶]
  SAVE PRG   1 / 2 / 3 / CANCEL
```

MAIN MENU
```
COLOR              [▶]
INPUT   S-VIDEO
LAYOUT             [▶]
PRINT              [▶]
MEMORY POSITION    [▶]
  SAVE PRG   1/2/3/CANCEL
```

PRINTING

■ DISPLAY ON THE MONITOR SCREEN

The setting will be displayed on the monitor screen as shown below.

(example)
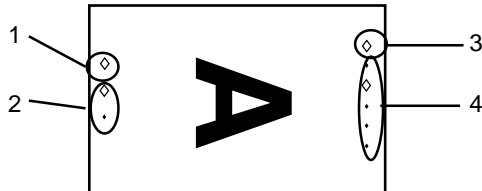
1   This mark illuminates when the memorized image is displayed on the monitor.
    When an image from the input signal is displayed, this mark does not illuminate. To
    switch the mode, press MONITOR button.
2   These marks show the pages, A and B.
    The upper mark shows page A and lower shows B. The mark of the selected page
    illuminates. To switch the page, press MEMORY PAGE button.
3   This mark shows color print or black and white print. When black and white print is
    selected by the B&W of COLOR in MAIN MENU, the mark illuminates.
4   These marks show the multi image print mode.
    From the top to bottom, the mark indicates 1, 2, 4, 6, 16-multi image print.
    When 4D mode is selected, the third mark and the marks No. 2 (page numbers)
    illuminate. The replacing page illuminates in red.

■ MEMORIZING AND PRINTING AN IMAGE
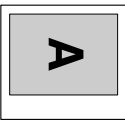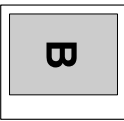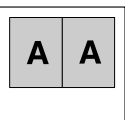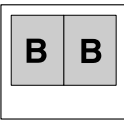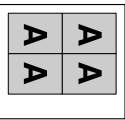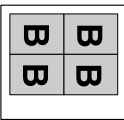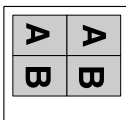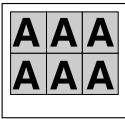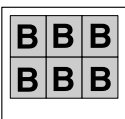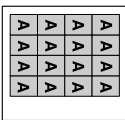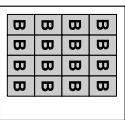
(When Page Increment is set OFF in the INCREMENT menu)

⃞1 **Press MONITOR button to select "MEMORY" on the display.**
   • The contents of the current memory page will be displayed.
   • If you do not want to write over the current image, press MEMORY PAGE button to
     select another page.

⃞2 **Press MONITOR button to select "LIVE ".**

⃞3 **When the desired image is shown on screen, press MEMORY
   button.**
   • The image will be captured and displayed on the screen.

⃞4 **Press PRINT button.**

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■ SELECTING MEMORIZED IMAGE TO PRINT

1 Press MONITOR button to select "MEMORY" on the display.
- The contents of the current memory page will be displayed.

2 Press the MEMORY PAGE button to select page A or B.

3 Press the PRINT button.

■ IMAGE SIZE AND LAYOUT OF MEMORY PAGES

MULTI	PRINT EXAMPLE	
1	A	B
2	A A	B B
4	A A / A A	B B / B B
4D	A A / B B	
6	A A A / A A A	B B B / B B B
16	A (×16)	B (×16)

■ **MULTIPLE COPY OR CONTINUOUS PRINTING**

Multiple copies of a memorized image can be made by setting the number of prints to more than one. The print quantity can be set for up to 200 prints or for continuous printing until the paper or ink sheet is used up. Multiple quantity printing can be cancelled if needed.

NOTE

The number of prints is displayed on the monitor for 3 seconds after pressing ▲, ▼ buttons.

---

1 **Press PRINT Q'ty ▲,▼ button to set the number of sheets to be printed.**
   • The number will increase by pressing ▲ and decrease by pressing ▼.
   • The number switches in the order of;
     1←→2←•••→9 ←→ 10 ←→ 20 ←→ 30 ←→ 40 ←→ 50 ←→ 100 ←→ 200 ←→ C ←→ 1
     When you set "C", continuous printing will be done until the paper or ink sheet is used up.

2 **Press PRINT button.**
   • The number of prints you set is printed.
   • During continuous printing (except for selecting "C"), the set number will be counted down every time one sheet is printed. When printing is completed, the counter will be reset to the original set number. This will not reset when turning off the power (It will not be reset to "1".)
   • If you wish to reset the number of prints to 1;
       • If you wish to reset the number of prints to 1, press STOP buttons.
   • If you wish to stop printing;
       • Press PRINT Q'ty ▲ or ▼ button. After printing the current page, the counter will be reset to "1". Pressing PRINT Q'ty ▲ or ▼ button is also available to cancel the reserved printing.
       • If you wish to stop printing without completing the current page, press STOP button. The incomplete image will be printed out.

NOTE

• If a blackish image is continuously printed, the internal temperature may rise and cause the unit to switch to a stand-by condition during printing. In this case, an error message "OVER HEAT" will be displayed on the monitor. Wait until the error message goes off. When temperature drops and the message goes off, printing resumes.

PRINTING (SPECIAL)

Various types of printing are available by setting on the menu screen (MAIN MENU and SERVICE MENU).
In this section, some examples of special prints are given.
For each setting, see pages 22-23.

MULTI PRINT

MULTI PRINT is the function which 2, 4, 6 or 16 images can be printed on a sheet.
Use LAYOUT of MAIN MENU for setting. See page 26.

SEPARATE PRINT

- The SEPARATE print function inserts a white frame between 2 or more images.
- Use LAYOUT2 of SERVICE MENU for setting. See page 30.

--- NOTE ---

The distance between images in multi print is different between on the monitor and the printed image.
The image size changes according to the "SIZE" in LAYOUT menu.

- The prints shown below are available.

Setting of the No. of images	S size prints	L size prints	When SEPARATE : ON	
			S size prints	L size prints
1				
2				
4				
4D				
6				
16				

(EXAMPLE)   "A" shows the print image direction.

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EXTERNAL REMOTE TERMINAL 1

The image can be stored in memory by sending the remote signal through the external remote terminal on the rear panel. When the MEM&PRN(MEMORY & PRINT) function is set to ON, the image will be printed after being stored in memory.
• Make out the necessary circuit to use this function by referring to the following.

Circuit inside and pin No.

Plug pin No.

■ EXTERNAL REMOTE TERMINAL SIGNAL ALLOCATION (STEREO JACK)

Pin No.	Function	Description
❶	Ground	Earth
❷	MEMORY	Memory : When the signal becomes "LOW" from "HIGH", the image is stored in memory. (When the signal has been "LOW" for 60ms or more, the image is stored in memory.) See page 31.
❸	BUSY1	Refer to the BUSY LEVEL setting of REMOTE SET in SERVICE MENU. See page 32.

• When the signal from BUSY terminal is received with TTL level, keep the following.
  $|I_{OL}|$ = 2mA or less, $|I_{OH}|$ = 1mA or less
  $|I_{OL}|$ means the current flowing into the unit at Low output, $|I_{OH}|$ means the current flowing out of the unit at High output.

Circuit inside the VCP

EXTERNAL REMOTE TERMINAL 2

The image can be stored in memory and printed by sending the remote signal through the external remote terminal on the rear panel.
• Make out the necessary circuit to use this function by referring to the following.

Pin No.

■ EXTERNAL REMOTE TERMINAL SIGNAL ALLOCATION (MINI DIN8PIN)

Pin No.	Function	Description
❶	Ground	Earth
❷	MEMORY	Memory : When the signal becomes "LOW" from "HIGH", the image is stored in memory. (When the signal has been "LOW" for 60ms or more, the image is stored in memory.) See page 31.
❸	BUSY2	Refer to the BUSY LEVEL setting of REMOTE SET in SERVICE MENU. See page 32.
❹	BUSY1	Refer to the BUSY LEVEL setting of REMOTE SET in SERVICE MENU. See page 32.
❺	PRINT	When the signal becomes "LOW" from "HIGH", the image is stored in memory. (When the signal has been "LOW" for 60ms or more, the image is stored in memory.
❻	REMOTE	The same functions as the supplied remote control unit can be controlled.
❼	Unused	
❽	DC3V	Power supply for the remote control unit DC 1mA Max.

• When the signal from BUSY terminal is received with TTL level, keep the following.
  $|I_{OL}|$ = 2mA or less, $|I_{OH}|$ = 1mA or less
  $|I_{OL}|$ means the current flowing into the unit at Low output, $|I_{OH}|$ means the current flowing out of the unit at High output.
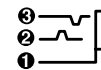
Circuit inside the VCP
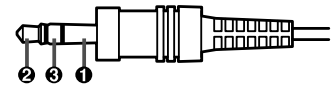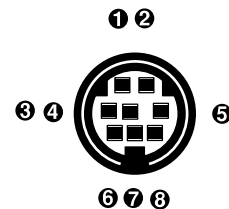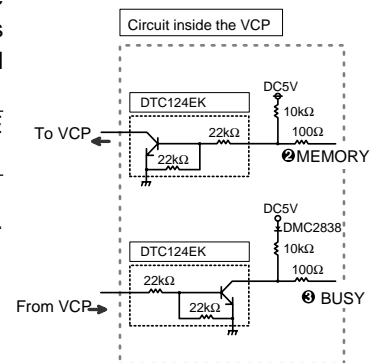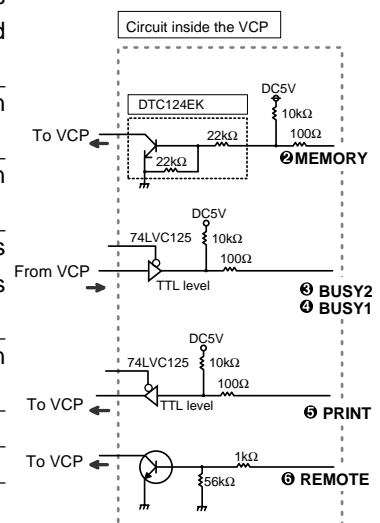
■ PIN NO. ❻ REMOTE TERMINAL

By sending the following remote control codes from pin No.6, the same functions as the wired remote control unit supplied can be controlled.

01: ◀ button　　02: ▶ button　　03: ▼ button　　04: ▲ button
08: PRINT Q'ty ▲ button　　　　09*
0A*: MENU button　　0B*: CLEAR button　　0C: PRINT Q'ty ▼ button
0D*　　　　　　　0E*: SET button　　0F*: STOP button
12*: PROGRAM button　13*: PRINT button　　15*: FIELD/FRAME button
16*: COLOR ADJ button 17*: MEMORY button　　18*: DISPLAY button
1C*: MEMORY PAGE button　　　　1D*: MONITOR button

In case of the codes with * mark, 5 words are sent.

1.6 ms

0.4 ms

3.2 ms

0.4 ms
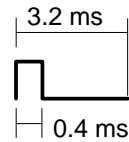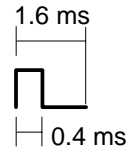
■ TIMING CHART

Input signal level　　:　　TTL
Input timing　　　　:　　1 word 38.4 ms

1　1　0　0　1　0

1 word = 38.4 msec.

(EXAMPLE)　Print code
　　　　　　= 13 = 0 1 0 0 1 1
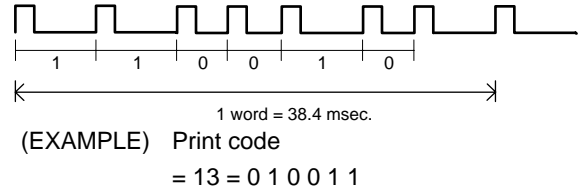
CAMERA-IN TERMINAL

■ CAMERA-IN TERMINAL SIGNAL ALLOCATION (25 PIN)

Pin No.	Signal line name	Pin No.	Signal line name
1	GND	14	+12V (Max. 1A)
2	TXD	15	GND
3	RXD	16	GND
4	RTS	17	GND
5	CTS	18	GND
6	DSR	19	GND
7	GND	20	DTR
8	NC	21	GND
9	GND	22	GND
10	Comp.Video OUT	23	GND
11	GND	24	GND
12	S-video (C) IN	25	REMOCON
13	S-Video (Y) IN		

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SETTING THE FUNCTIONS (MENU CHART)

MONITOR DISPLAY CHART

OPERATION

```
COLOR ADJ
 SELECT   COLOR/B&W
 BRT    : 0
 CONT   : 0
 R-SUB  : 0  C              R
 G-SUB  : 0  M              G
 B-SUB  : 0  Y              B
 CENTER     [▶]
 CANCEL     [▶]
```

Press ◀ , ▶ button to change the value, select the mode or switch the item.

Select an item with ▲ ,▼ button.

Monitor display

p is reference page.

○ is the name of button on remote control unit.

▢ is the name of button on front panel.

Front panel

POWER

ON

STOP

Set conditions display

MENU

SET

DISPLAY

Source image

DISPLAY

p24 **MAIN MENU display**

```
MAIN MENU
 COLOR ADJ        [▶]
 INPUT   S-VIDEO
 LAYOUT           [▶]
 PRINT            [▶]
 MEMORY POSITION  [▶]

 SAVE PRG   1 / 2 / 3 / C A N C E L
```

▶

MENU
*1

SET

p26 **Color adjustment display**

```
COLOR ADJ
 SELECT   COLOR/B&W
 BRT    : 0
 CONT   : 0
 R-SUB  : 0  C              R
 G-SUB  : 0  M              G
 B-SUB  : 0  Y              B
 CENTER     [▶]
 CANCEL     [▶]
```

Changes to Y-SUB, M-SUB, C-SUB when selecting SELECT : B&W

p26 **Layout setting display 1**

```
LAYOUT
 MODE       AUTO/S
 IMAGES     1/2/4/4D/6/16
 SIZE     : USER
 TOP      : 0 (0 ~ -63)
 BOTTOM   : 0 (0 ~ -63)
 LEFT     : 0 (0 ~ -63)
 RIGHT    : 0 (0 ~ -63)
```

p27 **Print setting display1**

```
PRINT
 APT       S/N/H1/H2
 DIR       NOR/REV
 MIRROR    OFF/ON
```

p27 **Memory/Position setting display**

```
MEMORY POSITION
 LINE       OFF/ON
 H-POSI     0
 V-POSI     0
```

*1 When going back to MAIN MENU or SERVICE MENU without saving the setting, press MENU button.

To Set Conditions display

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p29 **System setting display**

```
SYSTEM SETUP
 INCREMENT  OFF/PAGE
 BUZZER        OFF/T1/T2
 REMAINING BUZZER    OFF/0
 REMAINING SCREEN    OFF/ON
 AUTO FEED&CUT       OFF/ON
 PAPER HOLD          OFF/ON
 INIT PROG   ALL/MAIN/SERVICE
 INITIALIZE  OFF/GO
```

p29 **Gamma level setting display**

```
GAMMA ADJ  INIT:[CLEAR]
 COLOR      ALL/EACH
 SELECT     R/G/B
Hi                    0
Mid              0
Low      0
POINT  64    128  192
```

Displays only when
selecting COLOR : EACH

p30 **Layout setting display 2**

```
LAYOUT2
 SEPARATE    OFF/ON
 MARGIN CUT  OFF/ON
```

p28 **SERVICE MENU display**

```
SERVICE MENU
 SYSTEM            [▶]
 GAMMA ADJ         [▶]
 LAYOUT2           [▶]
 ANALOG COLOR ADJ  [▶]
 INPUT             [▶]
 OUTPUT            [▶]
 KEY SET           [▶]
 RS232C            [▶]
 REMOTE            [▶]
 PREVIOUS ERROR    [▶]
  SAVE PRG 1/2/3/CANCEL
```

(▶)

(MENU *1)

(SET)

(SET)

p30 **Analog color adjustment display**

```
ANALOG COLOR ADJ
 INPUT      COLOR/B&W
 BRT      : 0
 CONT     : 0
 R-SUB    : 0 C———————R
 G-SUB    : 0 M———————G
 B-SUB    : 0 Y———————B
 COLOR    : 0
  CENTER      [▶]
  CANCEL      [▶]
```

p30 **Input signal setting display**

```
INPUT
 FIELD      NOR/REV
 AFC        OFF/ON
 AGC        OFF/ON
```

p31 **Output signal setting display**

```
OUTPUT
 MONI R-SUB   0
 MONI B-SUB   0
```

p31 **Button function setting display**

```
KEY SET
 KEY LOCK   OFF/ON
 MEM&PRN   OFF/ON/R1/R2
 MEM&STOP OFF/PAGE
 MEM&MONI  OFF/ON
 KEEP MONI  OFF/ON
 AUTO CLEAR   OFF/AFTER PRN
 CLEAR KEY PAGE/ALL
```

p32 **RS-232C setting display**

```
RS232C SET
 BAUD RATE  1200/2400/4800/9600
```

p32 **Remote signal setting display**

```
REMOTE SET
 BUSY LEVEL      LOW/HIGH
 BUSY1,2 SELECT
  PRINTING      OFF/1/2/1&2
  MECHA ERR     OFF/1/2/1&2
  MEDIA ERR     OFF/1/2/1&2
  MEMORY STOP OFF/1/2/1&2
  STROBE 1V     OFF/1/2/1&2
  STROBE 2V     OFF/1/2/1&2
  REMAINING     OFF/1/2/1&2
```

When either one of them is set to OFF,
the other is available for setting.

p33 **Previous error display**

```
PREVIOUS ERROR

NO ERROR
NO ERROR
NO ERROR
NO ERROR
```

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ADJUSTMENTS & SETTINGS (MAIN MENU)

MAIN MENU ITEMS

MAIN MENU is used to open sub-menus. The functions are set with the following 5 menus. The settings can be saved by SAVE PRG.

COLOR ADJ   Adjusts color of printing image
INPUT   Selects the input signal
LAYOUT   Adjusts the image layout setting
PRINT   Adjusts image outline, selects print direction and mirror print (left/right inversed)
MEMORY POSITION   Selects print position
   SAVE PRG   Stores the above settings in 1 of 3 user memories

```
MAIN MENU
  COLOR ADJ          [▶]
  INPUT   S-VIDEO
  LAYOUT             [▶]
  PRINT              [▶]
  MEMORY POSITION    [▶]
   SAVE PRG    1 / 2 / 3 / CANCEL
```

Monitor display

OPERATING MAIN MENU

Use buttons on the remote control unit to display MAIN MENU and select and set functions.
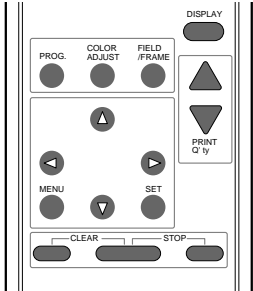
1 **Press MENU button to display MAIN MENU.**

2 **Select your desired item by pressing ▲ or ▼.**

```
MAIN MENU
  COLOR ADJ          [▶]
  INPUT   S-VIDEO
  LAYOUT             [▶]
  PRINT              [▶]
  MEMORY POSITION    [▶]
   SAVE PRG    1 / 2 / 3 / CANCEL
```
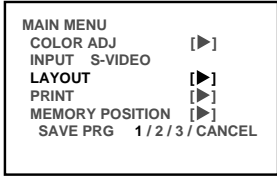
(EXAMPLE) Selecting LAYOUT display

3 **Press ▶ button to open a sub menu.**

```
LAYOUT
  MODE      AUTO/S
  IMAGES    1/2/4/4D/6/16
  SIZE      : USER
  TOP       : 0 (0 ~ -63)
  BOTTOM  : 0 (0 ~ -63)
  LEFT      : 0 (0 ~ -63)
  RIGHT     : 0 (0 ~ -63)
```
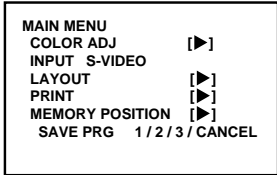
4 **Select an item you wish to adjust by pressing ▲ or ▼.**

```
LAYOUT
  MODE      AUTO/S
  IMAGES    1/2/4/4D/6/16
  SIZE      : USER
  TOP       : 0 (0 ~ -63)
  BOTTOM  : 0 (0 ~ -63)
  LEFT      : 0 (0 ~ -63)
  RIGHT     : 0 (0 ~ -63)
```
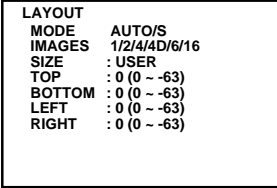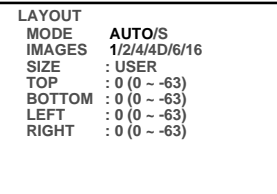
5 **Press ◀ or ▶ button to select an item or change value.**
   If you press MENU button, the settings will be canceled and MAIN MENU is displayed.
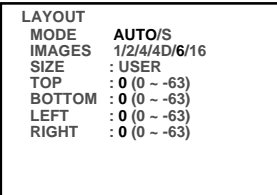
```
LAYOUT
  MODE      AUTO/S
  IMAGES    1/2/4/4D/6/16
  SIZE      : USER
  TOP       : 0 (0 ~ -63)
  BOTTOM  : 0 (0 ~ -63)
  LEFT      : 0 (0 ~ -63)
  RIGHT     : 0 (0 ~ -63)
```

6 **Press SET button.**

MAIN MENU is displayed.

"SAVE PRG 1/2/3/CANCEL" is selected.

This menu lets you select a user program memory (1-3) to store your new settings.

```
MAIN MENU
  COLOR ADJ          [▶]
  INPUT   S-VIDEO
  LAYOUT             [▶]
  PRINT              [▶]
  MEMORY POSITION    [▶]
  SAVE PRG   1 / 2 / 3 / CANCEL
```

7 **Press ◀ or ▶ button to select the user memory numbers of 1, 2 or 3 to store the setting.**

The program is replaced. In case of keeping the stored program, do not select the user memory number in which the setting is stored.

If you wish to cancel the setting, select CANCEL and press SET button.
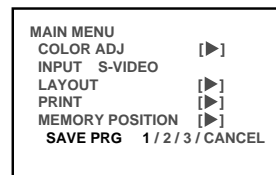
8 **Press SET button.**

When selecting PRG1 to set, "1" is chosen. When memorizing in a different user memory number, select the number of the program.

- As the program is replaced, it is recommended that the previous program number is not selected in the step 7.
- The memorized program will be selected by pressing PROG button so that you can adjust the program as you wish. However, you cannot change the setting of selected program during printing.
- The image will be printed according to the selected memory program.

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COLOR ADJ Color adjustment display

- The color of the source image and memorized image can be adjusted.

```
COLOR ADJ
  SELECT  COLOR/B&W
  BRT    : 0
  CONT   : 0
  R-SUB  : 0   C━━━━━R
  G-SUB  : 0   M━━━━━G
  B-SUB  : 0   Y━━━━━B
  CENTER     [▶]
  CANCEL     [▶]
```

|	
SELECT	Selects color print or black and white print.
COLOR	Color print
B&W	Black and white print (The monitor shows in colors.)
BRT (Bright)	Adjusts brightness of the printing image.
CONT (Contrast)	Adjusts contrast of the printing image.
R-SUB	Adjusts red-subcontrast of the printing image. Red is added with ▶ and blue is added with ◀.
G-SUB	Adjusts green-subcontrast of the printing image. Green is added with ▶ and pink is added with ◀.
B-SUB	Adjusts blue-subcontrast of the printing image. Blue is added with ▶ and yellow is added with ◀.
CENTER	When pressing ▶, the values of BRT, CONT, R-SUB G-SUB and B-SUB will be reset to 0.
CANCEL	Initializes each setting in COLOR ADJ.

- When selecting B&W, R-SUB, G-SUB and B-SUB change to Y-SUB, M-SUB, C-SUB. By changing each value, adjustment of gray color is available.
- When SELECT is changed from COLOR to B&W, the set values of R-SUB, G-SUB and B-SUB function as the density of gray color.
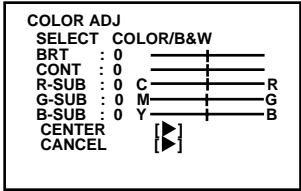
LAYOUT Layout setting display

```
LAYOUT
  MODE      AUTO/S
  IMAGES    1/2/4/4D/6/16
  SIZE    : USER
  TOP     : 0 (0 ~ -63)
  BOTTOM  : 0 (0 ~ -63)
  LEFT    : 0 (0 ~ -63)
  RIGHT   : 0 (0 ~ -63)
```

MODE	Selects the print size. Normally select the ink sheet size which installed in this unit. (See page 11 for the print paper.)
AUTO	L size ink sheet. When S size ink sheet is installed, S size is automatically set.
S	S size ink sheet or S size printing with L size ink sheet.
IMAGES	Selects the number of images on a sheet.
1	1-image on a sheet.
2	2-images on a sheet.
4	4-images on a sheet (4 same images)
4D	4-images on a sheet (2 different images)
6	6-images on a sheet
16	16-images on a sheet (When printing on a L size paper, the right and left side of the image will be clipped.)
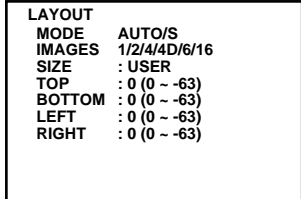
SIZE : **USER**

TOP/BOTTOM/LEFT/RIGHT

	Sets the printing area of the image. Adjust the size with ◀ or ▶ button. See the examples on the next page.
TOP	Shifts the upper end of the image (setting area : 0 to -63)
BOTTOM	Shifts the lower end of the image (setting area : 0 to -63)
LEFT	Shifts the left end of the image (setting area : 0 to -63)
RIGHT	Shifts the right end of the image (setting area : -0 to -63)

		MAX. SIZE	dots/ mm	
			Left, Right	Top, Bottom
	1	100 x 75	2.844 x	1.778
	2	70 x 50	4.096 x	2.560
S	4/4D	50 x 37.5	5.689 x	3.556
	6	37.5 x 30	6.827 x	4.267
	16	25 x 18.7	11.378 x	7.111

		MAX. SIZE	dots/ mm	
			Left, Right	Top, Bottom
	1	130 x 100	2.275 x	1.422
	2	100 x 65	2.844 x	1.778
L	4/4D	65 x 49.5	4.551 x	2.844
	6	50 x 42.8	5.120 x	3.200
	16	32.5 x 24.8	9.102 x	5.689

Example

To change 50mm x 37.5mm (S size 4-multi image) to 45mm x 35mm;

Change LEFT or RIGHT value to -28   (5.689x(50-45)=28.445)

Change TOP or BOTTOM value to -9   (3.556x(37.5-35)=8.89)

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## PRINT   Print setting display

APT (Aperture)   Controls apertures and reinforces or softens the contour of image.
   S (SOFT)   Softens the contour.
   N (NORMAL)   Does not reinforce the contour.
   H1 (HARD 1)   Reinforces the contour.
   H2 (HARD 2)   Reinforces the contour more.

```
PRINT
  APT      S/N/H1/H2
  DIR      NOR/REV
  MIRROR   OFF/ON
```

DIR (Print direction) Selects printing direction.
   NOR   The margin is made on the lower position.
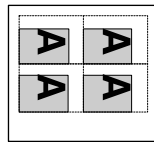   **REV**   The margin is made on the upper position.

MIRROR   Selects the mirror (left/right inversed) prints.
   OFF   Normal print
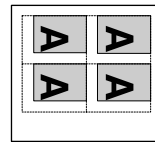   **ON**   Mirror print

Examples of SIZE, DIR and MIRROR setting
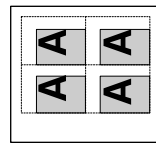(The image is limited in printing with white by SIZE setting.)
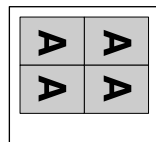
Standard print

When the values of TOP and RIGHT are small

When the values of BOTTOM and LEFT are small

When the values of TOP and RIGHT are small and MIRROR is ON
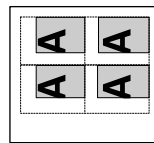
When the values of TOP and RIGHT are small and DIR is ON
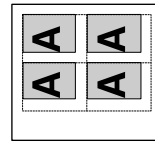
When the values of TOP and RIGHT are small and MIRROR and DIR are ON

MEMORY POSITION Memory and Position setting display

• The print area settings made with this menu can be memorized as a user program setting.

```
MEMORY POSITION
  LINE     OFF/ON
  H-POSI   0
  V-POSI   0
```

LINE   Selects whether showing a frame of print area or not.
   OFF   A frame of print area is not shown.
   ON   A frame of print area is shown.
• When this menu is set to OFF, FIELD/FRAME button on the remote control unit is not available.

H-POSI   Changes the horizontal start position of input signal
   The whole data image can be moved horizontally by changing the setting number.
   Setting area   -10 ~ +15
• Setting below -11 may cause disabilities of memory, or switching memory display and monitor display during printing.

V-POSI   Changes the vertical start position of input signal
   The whole data image can be moved vertically by changing the setting number.
   Setting area   -10 ~ +3
• Setting below -11 may cause disabilities of memory, or switching memory display and monitor display during printing.

ADJUSTMENTS & SETTINGS (SERVICE MENU)

SERVICE MENU ITEMS

SYSTEM   Sets page increment, buzzer and remaining of ink sheet.
GAMMA ADJ   Sets gamma curve level.
LAYOUT2   Adjusts print layout setting.
ANALOG COLOR ADJ   Adjusts analog input signal image.
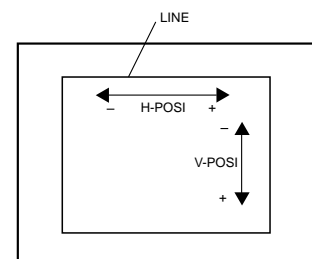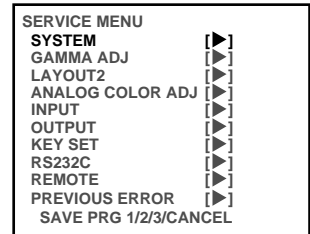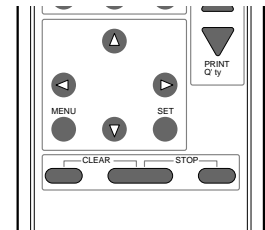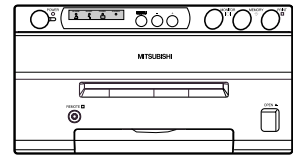INPUT   Sets even/odd number of FIELD, adjusts display, etc.
OUTPUT   Sets sub-contrast of the monitor.
KEY SET   Selects the functions of the buttons and function of remote
                    terminal.
RS232C   Selects baud rate.
REMOTE   Selects remote signal.
PREVIOUS ERROR   Shows error history.

```
SERVICE MENU
 SYSTEM              [▶]
 GAMMA ADJ           [▶]
 LAYOUT2             [▶]
 ANALOG COLOR ADJ    [▶]
 INPUT               [▶]
 OUTPUT              [▶]
 KEY SET             [▶]
 RS232C              [▶]
 REMOTE              [▶]
 PREVIOUS ERROR      [▶]
   SAVE PRG 1/2/3/CANCEL
```
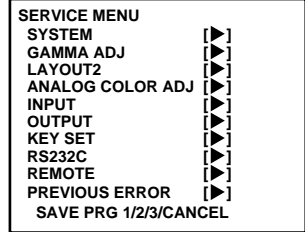
OPERATING SERVICE MENU

1 **Press MENU button on the remote control unit.**
   The MAIN MENU is displayed.

2 **Press STOP buttons on the remote control unit at the same time.**
   The SERVICE MENU is displayed.

3 **Select your desired item by pressing ▲ or ▼ on the remote control unit.**

4 **Press ▶ button to open a sub menu.**

5 **Select an item you wish to adjust by pressing ▲ or ▼.**

6 **Press ◀ or ▶ button to select an item or change value.**

7 **Press SET button.**
   SERVICE MENU is displayed.
   "SAVE PRG 1/2/3/CANCEL" is selected.
   This menu lets you select a user program memory (1-3) to store your new settings.

8 **Press ◀ or ▶ button to select the user memory numbers of 1, 2 or 3 to store the setting.**
   The program is replaced. In case of keeping the stored program, do not select the user memory number in which the setting is stored.
   If you wish to cancel the setting, select CANCEL.

9 **Press SET button.**
   When selecting PRG1 to set, "1" is chosen. When memorizing in a different user memory number, select the number of the program.
   The setting is completed and the normal screen is displayed.

```
SERVICE MENU
 SYSTEM              [▶]
 GAMMA ADJ           [▶]
 LAYOUT2             [▶]
 ANALOG COLOR ADJ    [▶]
 INPUT               [▶]
 OUTPUT              [▶]
 KEY SET             [▶]
 RS232C              [▶]
 REMOTE              [▶]
 PREVIOUS ERROR      [▶]
   SAVE PRG 1/2/3/CANCEL
```

(EXAMPLE) Selecting SYSTEM SETUP display

```
SYSTEM SETUP
 INCREMENT    OFF/PAGE
 BUZZER       OFF/T1/T2
 REMAINING BUZZER    OFF/0
 REMAINING SCREEN    OFF/ON
 AUTO FEED&CUT       OFF/ON
 PAPER HOLD          OFF/ON
 INIT PROG   ALL/MAIN/SERVICE
 INITIALIZE  OFF/GO
```
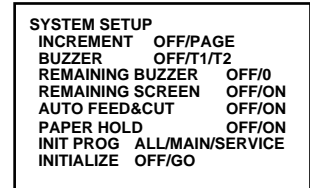
SYSTEM SETUP System setting display

INCREMENT
> **OFF**   Page increment is not available.
> **PAGE**   Every time pressing MEMORY button, memory page goes to the next page and image will be memorized on it.

BUZZER   Selects sounds the buzzer when pressing the buttons on the VCP and remote control unit.
> **OFF**   Does not sound the buzzer
> **T1**   Sounds the buzzer (Tone 1)
> **T2**   Sounds the buzzer (Tone 2)

REMAINING BUZZER   Informs the number of remaining ink sheet by a buzzer tone.
> **OFF**   Does not sound the buzzer.
> **0 ~ 10**   The buzzer sounds three times when 0 ~ 10 ink sheet are left (available to set 1 sheet each).
> When the number of remaining ink sheet reaches to the set value, the buzzer starts sounding at printing each time.

- If a paper jam occurs, the remaining ink sheet may not be informed correctly.

- Make sure to replace the print paper and ink sheet at the same time.

REMAINING SCREEN   Selects displaying the remains of ink sheet on the monitor or not.
> **OFF**   Does not display the remains of ink sheet on the monitor.
> **ON**   Displays the remains of ink sheet on the monitor.

- If a paper jam occurs, the remains of the ink sheet may be different from the indication on the monitor.

AUTO FEED&CUT   Selects automatically feeding and cutting the print paper or not.
> **OFF**   Does not feed and cut the print paper.
> **ON**   When setting the print paper, this unit automatically feeds and cuts it twice after closing the front door.

PAPER HOLD   Sets to hold the printed paper or not.
> **OFF**   PAPER HOLD is not available.
> **ON**   Printed paper is held at the print outlet after cut. Pull the paper out when necessary.
> It is recommended not to leave the printed paper holding at the print outlet.
> Do not turn off the power while holding paper or some malfunction may occur.
> You can not use remote control unit with holding paper.

INIT PROG (Initialize program)
> **ALL**   Mode to initialize the programs in MAIN MENU and SERVICE MENU.
> **MAIN**   Mode to initialize the programs in MAIN MENU.
> **SERVICE** Mode to initialize the programs in SERVICE MENU.

INITIALIZE
> **OFF**
> **GO**   Starts initializing. When SET button is pressed, initializing starts.

```
SYSTEM SETUP
 INCREMENT   OFF/PAGE
 BUZZER        OFF/T1/T2
 REMAINING BUZZER     OFF/0
 REMAINING SCREEN    OFF/ON
 AUTO FEED&CUT        OFF/ON
 PAPER HOLD              OFF/ON
 INIT PROG   ALL/MAIN/SERVICE
 INITIALIZE  OFF/GO
```

GAMMA ADJ   Adjusting gamma curve display

INIT :[CLEAR]   Initializes each setting
COLOR   Selects the adjusting gamma level.
> **ALL**   Adjusting gamma level for all colors.
> **EACH**   Adjusting gamma level for each color of R, G, B.

```
GAMMA ADJ   INIT: [CLEAR]
  COLOR        ALL/EACH
  SELECT      R/G/B
Hi                        0
Mid             0
Low     0
POINT  64   128  192
```

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SELECT   Is displayed when selecting EACH in COLOR.
    R   Adjusting gamma level for red.
    G   Adjusting gamma level for green.
    B   Adjusting gamma level for blue.

Changing gamma curve:
    Use the ▲, ▼ buttons on the remote control unit to select the Hi/Mid/Low gamma point to set.
   Also use ◄, ► buttons to input setting level.

--- **NOTE** ---
It takes time to set the gamma value by CPU. Wait until the normal display is shown after pressing SET button.

LAYOUT2 Layout setting display 2

SEPARATE   Selects whether a white frame is added to each print or not.
    OFF   Prints without white frame. (A white frame appears according to the settings of LAYOUT)
    ON   Prints with white frame.

MARGIN CUT   Cuts the margin of the printed paper.
    • This function is very convenient to stick the printed image on the card. The figure shows S size print paper setting.
    OFF   Margin is not cut.
    ON   Margin is cut.

```
LAYOUT2
  SEPARATE    OFF/ON
  MARGIN CUT  OFF/ON
```
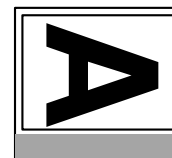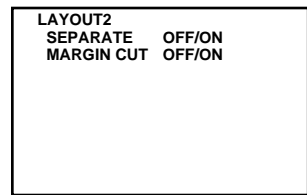
Gray part is cut when MARGIN CUT is ON.

ANALOG COLOR ADJ   Analog color adjustment display

• This menu is used to adjust the image of analog input signal before storing in the memory.

```
ANALOG COLOR ADJ
  INPUT      COLOR/B&W
  BRT      : 0
  CONT     : 0
  R-SUB    : 0 C         R
  G-SUB    : 0 M         G
  B-SUB    : 0 Y         B
  COLOR    : 0
    CENTER    [►]
    CANCEL    [►]
```

INPUT   Selects black and white image or color image.
    B&W   The image on the display becomes black and white.
    COLOR   Color image
BRT (Bright)   Adjusts the brightness of the printing image.
CONT (Contrast)   Adjusts the contrast of the printing image.
R-SUB   Adjusts red-subcontrast of the printing image. Red is added with ► and blue is added with ◄.
G-SUB   Adjusts green-subcontrast of the printing image. Green is added with ► and pink is added with ◄.
B-SUB   Adjusts blue-subcontrast of the printing image. Blue is added with ► and yellow is added with ◄.
COLOR   Adjusts density of the printing image. The color of the image gets deeper with ► and lighter with ◄.
CENTER   Initializes each setting. When pressing ►, the values of BRT, CONT, R-SUB, G-SUB, B-SUB and COLOR will be reset to 0.
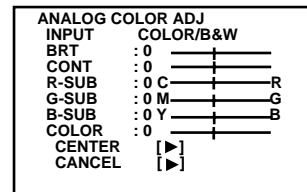
INPUT Input signal setting display

• Set this menu before memorizing image.
FIELD   The odd and even field lines will be reversed depending on the input interlaced signal. Printing image is not clear so that the odd and even field lines may be reversed depending on the input interlaced signal. In this case, FIELD is set to "REV." (The image disorder cannot be seen in monitor display.)
    NOR(Normal)   Not reversed
    REV(Reverse)   Reverse the even and odd numbers of FIELD

```
INPUT
  FIELD      NOR/REV
  AFC        OFF/ON
  AGC        OFF/ON
```

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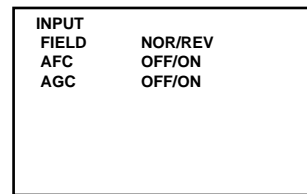
AFC(Automatic frequency control)

The image distortion on the top may occur when the VCR image is special input such as in pause, field-by-field playback, or FF playback mode. Also, the image is not printed correctly because of a weak TV signal. In this case, set the AFC function to "ON."

• The image distortion on the top may occur by the special signals when AFC is set to "ON". In this case, set it to "OFF."

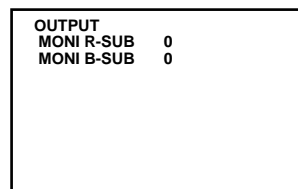**OFF**   AFC is invalid
ON   AFC is available

AGC(Automatic gain control)

This function is to automatically adjust a dark picture in brightness and prints with sharp contrast. Peak level of an input signal is detected and signals width is standardized to the appropriate value.

**OFF**   AGC is invalid
ON   AGC is available

OUTPUT Output signal setting display

```
OUTPUT
MONI R-SUB    0
MONI B-SUB    0
```

MONI R-SUB   Adjusts red-subcontrast on the monitor. Red is added with ▶ and blue is added with ◀.
MONI B-SUB   Adjusts blue-subcontrast on the monitor. Blue is added with ▶ and yellow is added with ◀.

KEY SET Button function setting display

```
KEY SET
KEY LOCK   OFF/ON
MEM&PRN   OFF/ON/R1/R2
MEM&STOP OFF/PAGE
MEM&MONI OFF/ON
KEEP MONI OFF/ON
AUTO CLEAR   OFF/AFTER PRN
CLEAR KEY   PAGE/ALL
```

KEY LOCK   Makes the function on the remote control unit buttons invalid.
    OFF   All buttons on the remote control unit are available.
    ON   The function on the remote control unit buttons, except MEMORY, PRINT, MONITOR and MEMORY PAGE are not available.
When pressing MENU button, KEY SET menu is displayed.
When pressing MENU button, only selecting OFF/ON of KEY LOCK is available.
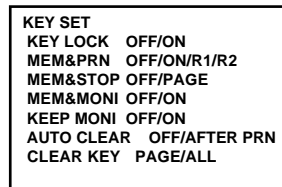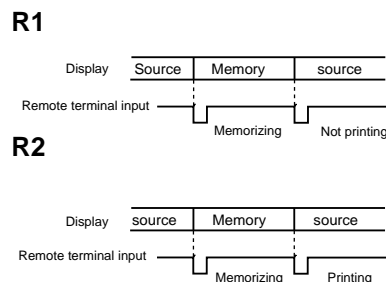
MEM&PRN (Memory and Print)

When pressing MEMORY button, the image is automatically printed after the image is stored in the memory. When selecting 4D at IMAGES, printing will be done after the last image is stored in memory.

    OFF   MEMORY button functions individually. The image is memorized without printing.
    ON   Automatically prints after memorizing.
    R1   When a signal inputted through a memory key (pin No. 2) of the remote terminal on the rear panel is switched to "low" level from "high" for the first time, a memory image is displayed. Then at the second time, a source image is displayed without printing the memory image.
    R2   On the KEEP MONI OFF status, when a signal inputted through a memory key (pin No. 2) of the remote terminal is switched to "low" level from "high" for the first time, a memory image is displayed. Then at the second time, a source image is displayed and the memory image is printed.

R1

Display	Source	Memory	source

Remote terminal input

Memorizing   Not printing

R2

Display	source	Memory	source

Remote terminal input

Memorizing   Printing

MEM&STOP (Memory and Stop)
    OFF   The next image is overlaid in the memory.
    PAGE   Automatic increment stops when all pages become full. To overlay a new image, print or clear the memorized image.

MEM&MONI (Memory and Monitor)
                       Switches the monitor display between the source image and memory image after memorizing.
    OFF   Displays the source image.
    ON   Displays the memory image. (Initial setting)
                    • When KEEP MONI is set to OFF, the source image will be displayed when starting printing.

KEEP MONI   Selects the image displayed on the monitor during printing
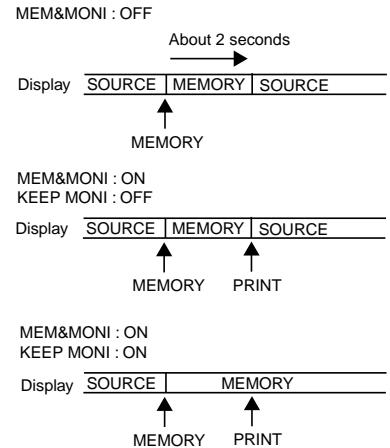   **OFF**   Displays the source image after starting printing.
    ON   Displays the source image after starting printing, when indicating it before printing. Displays the memory image after starting printing, when indicating it before printing.

AUTO CLEAR
    OFF   The printed memory image is not cleared.
    AFTER PRN   The printed memory image is cleared after completing printing.

CLEAR KEY
    PAGE   Pressing CLEAR button on the remote control unit, images of the memorized page being selected are cleared.
    ALL   Pressing CLEAR button on the remote control unit, all of the stored images are cleared.

MEM&MONI : OFF
             → About 2 seconds →
Display | SOURCE | MEMORY | SOURCE |
          ↑
        MEMORY

MEM&MONI : ON
KEEP MONI : OFF
Display | SOURCE | MEMORY | SOURCE |
        ↑   ↑
     MEMORY   PRINT

MEM&MONI : ON
KEEP MONI : ON
Display | SOURCE | MEMORY |
        ↑   ↑
     MEMORY   PRINT

RS232C SET   RS-232C setting display

BAUD RATE   Sets the baud rate of RS-232C.
                           Set the baud rate according to the connecting device.

```
RS-232C SET
  BAUD RATE :1200/2400/4800/9600
```
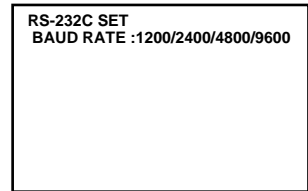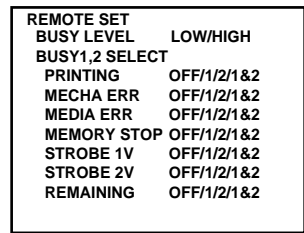
REMOTE SET   Remote signal setting display

BUSY LEVEL   Selects how to output the BUSY signal of the remote terminals 1 and 2 on the rear panel.
    Low   The VCP cannot accept the remote input signal when the signal is "LOW".
    High   The VCP cannot accept the remote input signal when the signal is "HIGH".

BUSY 1,2 SELECT   Selects when the BUSY signal of the remote terminals 1 and 2 output on the rear panel.
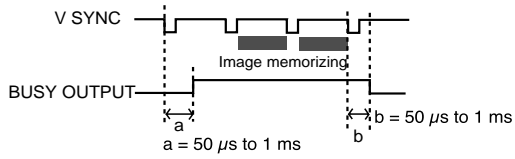   **PRINTING**   Outputs BUSY signal during printing.
    MECHA ERR   Outputs BUSY signal when a mechanical error occurs in this unit or IC chip is not installed.
    MEDIA ERR   Outputs BUSY signal when an error for paper or ink sheet occurs.
    MEMORY STOP Outputs BUSY signal when MEMORY button is not functioning.
    STROBE 1V   After outputting BUSY signal, memory is taken in by waiting to 1 vertical period.
    STROBE 2V   After outputting BUSY signal, memory is taken in by waiting to 2 vertical periods.
    REMAINING   Outputs BUSY signal while the remains of ink sheet becomes the value set in REMAINING BUZZER.
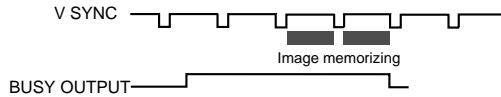• When either STROBE 1V or STROBE 2V is set to OFF, the other is available for setting.

```
REMOTE SET
  BUSY LEVEL        LOW/HIGH
BUSY1,2 SELECT
  PRINTING          OFF/1/2/1&2
  MECHA ERR         OFF/1/2/1&2
  MEDIA ERR         OFF/1/2/1&2
  MEMORY STOP  OFF/1/2/1&2
  STROBE 1V         OFF/1/2/1&2
  STROBE 2V         OFF/1/2/1&2
  REMAINING         OFF/1/2/1&2
```

PRECAUTIONS

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■ SYNCHRONOUS SETTING FOR MEMORY
STROBE : 1V, BUSY LEVEL : HIGH in REMOTE SET of SERVICE MENU

V SYNC

Image memorizing

BUSY OUTPUT

a

a = 50 μs to 1 ms

b = 50 μs to 1 ms

b

STROBE : 2V, BUSY LEVEL : HIGH in REMOTE SET of SERVICE MENU

V SYNC

Image memorizing

BUSY OUTPUT

The numbers in the above figures are just references. The timing may be different according to the setting.

PREVIOUS ERROR Error display

This function displays the most recent types of error.
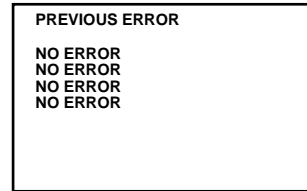
PREVIOUS ERROR

NO ERROR
NO ERROR
NO ERROR
NO ERROR

ERROR MESSAGES & COUNTERMEASURES

ERROR MESSAGES

If for some reason printing is not possible or error occurs during printing, the error message will be displayed on the monitor screen.

In this case, follow the procedure described below.

Error messages	Causes	Countermeasures
DOOR OPEN	The printing unit door opens.	• Insert the printing unit until it is locked in the unit.
CHANGE PAPER	Paper is used up.	• Set a new roll of paper. Refer to pages 11-12. *Note : 1
CHANGE INK	The ink sheet is used up.	• Replace the ink sheet with a new one. Refer to pages 12-13.
SET CASSETTE	The ink cassette is not installed.	• Install the ink cassette. Refer to pages 12-13.
SET PAPER	Paper is not installed.	• Set paper correctly.
OVER HEAT	The temperature of the thermal head becomes too high.	• Wait until the message goes off. *Note : 2
CHECK INK 1∗ (∗ : 1 to 7)	IC chip is not installed. IC chip cannot be read. The cord or S/N cannot be read.	• Use an ink sheet with the attached IC chip. • Set the attached IC chip on an ink sheet. • Use the correct ink sheet with IC chip.
CHECK INK 4	IC chip and the ink mark are not the same. A wrong media type is set.	• Use correct IC chip and ink sheet.
REMOVE PAPER 11 REMOVE PAPER 12	Paper jam occurs.	• Refer to page 37 "Overcoming paper jams".
CHECK EXIT	Paper is left in the paper outlet.	• Remove the paper.
MECHA ERROR 20 MECHA ERROR 30 MECHA ERROR 40	Other defects.	• Press MEMORY button for more 1 second while pressing the MONITOR button. *Note : 3 If the status is not improved by carrying out this measure, consult your dealer. See page 37.
OTHERS	Other defects	• Consult your dealer.

*Note : 1   The image may not be printed completely.

*Note : 2   When setting the continuous printing, the continuous printing is carried out after the error message goes off.

*Note : 3   This is an operation for initialization. **Make sure to press the MONITOR button first.** If MEMORY button is pressed first, a new image will be stored in memory erasing any previously stored image.

Other messages

Messages	Causes and countermeasures
PUSH FEED&CUT	Indicated when the power is turned on after turning off during printing. Press MEMORY button for more than one second while pressing MONITOR button. This is initializing. **Make sure to press MONITOR button first.**
MECHA INITIALIZE	Indicated during initializing.
PRINT STOP	In the case of pressing STOP button on the remote control unit during printing, this unit is initialized. This message is indicated during initializing.

NOTE

FEED&CUT (paper feeding and cutting) may not work when "PUSH FEED&CUT∗" or "MECHA ERROR∗∗" is displayed. In this case, pull the printing unit out to remove the print paper and re-install it. Then, close the printing unit and press MEMORY button while pressing MONITOR button again.

BEFORE CALLING FOR SERVICE

■ Use the following troubleshooting chart to try to resolve any apparent defect in operation. If you are unable to resolve the problem, unplug the power cord and contact your dealer.

Symptom	Check and Remedy
No power (when POWER lamp does not illuminate)	Is the power cord plug disconnected from the outlet? →Connect the power cord plug to the outlet firmly. After turning the power off, wait for approx. 2 minutes. Then turn on the power.
No image appears on the monitor.	Is the monitor and this unit connected correctly? →Connect the monitor and this unit correctly. Are the S-video signal or CAMERA IN signal inputted to this unit? →Check the connection. Refer to pages 10. Is the image stored in memory displayed on the monitor screen? →Press MONITOR button to display the source image (LIVE).

The image is not stored in memory.	Are the images being printed with full memorized memory page?
	→Press the CLEAR button on the remote control unit after printing.
	  Then, store the image in the memory again.
	Is the memory full in the status of "INCREMENT : OFF" or "CLEAR : OFF"?
	→Store the image in the memory after pressing the CLEAR button on the remote control unit.
	  (According to the setting conditions, the image can be stored in the memory by setting INCREMENT to "PAGE", CLEAR to "AFTER PRN" or pressing the PRINT button.)
	Is the memory full in the status of "MEM & STOP : ON"?
	→Press CLEAR button on the remote control unit, and store the image again.

The image is not printed.	Is the image stored in memory? →Confirm that the image is stored in memory. Is the print paper or ink sheet used up? →Check the status. Is the printing unit set correctly? →Set the printing unit correctly.
The stored image in the memory cannot be enlarged to fill the maximum print area.	Is the S size ink sheet installed when selecting "S" in "MODE : AUTO/S"? Or is the L size ink sheet installed when selecting "AUTO" in "MODE : AUTO/S"? →Check the current setting. Refer to page 15.
The color of picture quality is different between the memorized image and the printed image.	Is the color of the image stored in the memory adjusted? → Adjust the color of the image stored in the memory with the image adjustment display (COLOR ADJ). Refer to page 30.
The color or picture quality is different between the image on the monitor screen and the printed image. (When the color and picture quality are same between the image stored in the memory and the printed image.)	Is the image on the monitor screen adjusted? → Adjust the image on the monitor screen with "MONI R-SUB" and "MONI B-SUB" in the OUTPUT menu. Refer to page 31.

| Symptom	Check and Remedy
Wired remote control unit cannot be operated.	Is the plug of the remote control unit disconnected from its terminal on the unit? → Connect the plug of the remote control unit to the REMOTE terminal on the unit. Is the wired remote control unit for this unit (accessory) used? → Use the remote control unit for this unit. Is the KEY LOCK set to ON? → Set the KEY LOCK to OFF.

OVERCOMING PAPER JAMS

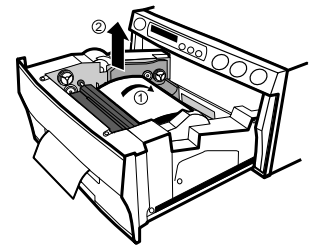1️⃣ **Press OPEN button to pull out the printing unit.**
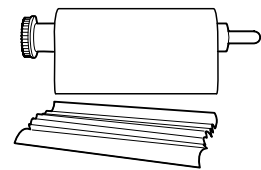When it is not working, turn off the power once. Then try to press OPEN button again.
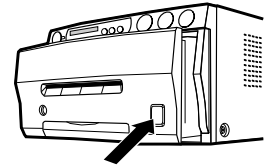
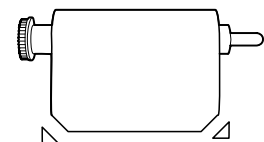2️⃣ **Remove the ink cassette with ink sheet.**
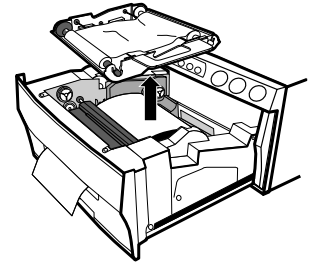
3️⃣ **Remove the print paper as shown right.**

4️⃣ **Cut the defective part of the print paper with scissors.**

5️⃣ **Cut both edges of the print paper.**

6️⃣ **Install the print paper. (Refer to pages 11-12.)**

NOTE

To feed the print paper, press MEMORY button while pressing MONITOR button.
When carrying out this procedure, make sure to press MONITOR button first.
If MEMORY button is pressed first, a new image will be stored in memory and the previously
memorized image will be erased. When using the remain warning functions (except
SERVICE MENU REMAINING BUZZER: 0), feed and cut by pressing MEMORY and
MONITOR buttons initializes the remaining counter. Press MEMORY and PRINT buttons
to feed and cut so that the counter is not initialized.

CLEANING

Cleaning as indicated below will help maintain stable printer operation and extend the printer's life.

A small amount of alcohol

Cleaning part

How to fold tissue paper

Preparations

Alcohol (isopropyl alcohol)

Tissue paper (Fold in half about 4 times, and use the folded side to clean.)

Cotton buds

Cleaning kit (Option)*

Other : Cleaner pen (Option)*

*Please ask the dealer about options.

Cleaner pen (Option)

Make sure to turn off the power before cleaning.

[1] **Press OPEN button to pull the printing unit out.**

[2] **Remove the ink cassette and print paper.**

[3] **Wipe the ink sheet sensor.**

Clean the parts circled in the right figure.

Wipe dust with cotton buds etc. which is soaked in a small amount of alcohol.

Ink sheet sensor

Front panel

[4] **Wipe the ink sheet sensor reflection plate.**

Clean the metal reflection plate.

Wipe with tissue paper etc. which is soaked in a small amount of alcohol carefully.

Ink sheet sensor reflection plate

Thermal head

[5] **Wipe the head.**

Cleaning the part under the thermal head which develops heat.

Wipe the head cleaning part carefully with tissue paper etc. which is soaked in a small amount of alcohol.
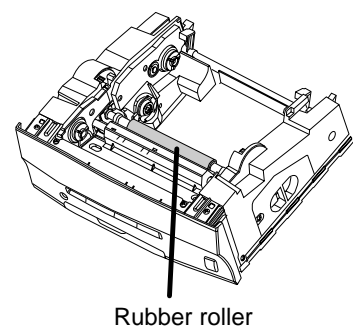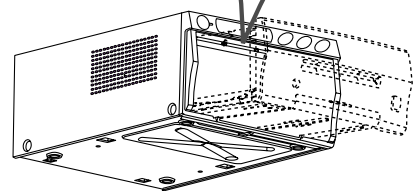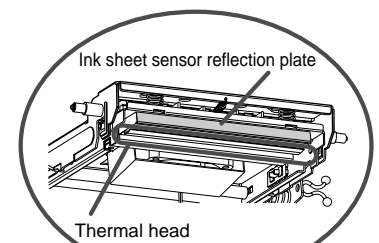

NOTE

- Do not damage the thermal head.
- When the symptom of the poor print quality is not corrected even if the head is cleaned, replacing the thermal head is required. Contact your dealer.
- Thermal head is hot right after printing. Wait until the head temperature is low when cleaning the thermal head.
---

[6] **Clean the rubber roller.**

The seal paste and dust etc. are stuck on the rubber roller if you use it for a long time.

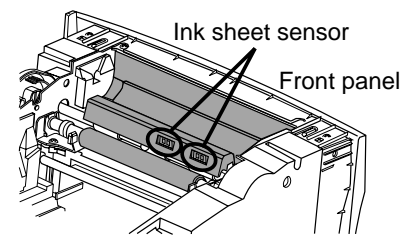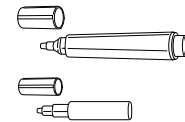Wipe with tissue paper etc. which is soaked in a small amount of alcohol carefully.

Rubber roller
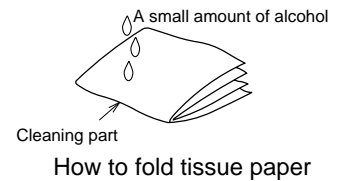
SPEC & OPTIONS

SPECIFICATIONS

Class	Colour Video Copy Processor	
Model	CP910E(ID)	
Printing method	Sublimation Dye Thermal	
	3 color faces progressive printing (yellow, magenta and cyan) and surface lamination	
Print quality	Dot resolution	Max. 1280x 600 pixels (S size)
	Number of grades	256 (8 bits) for each color (About 16.7 million colors)
Printing time*	L size	Approx. 64 sec./sheet
	S size	Approx. 44 sec./sheet
Ink sheet	Special cartridge method	
Print paper	Special roll paper	L size 160 x 110mm
(1 image mode)	Printing area	130 x 100mm
		S size 110 x 105mm
	Printing area	100 x 75mm
Paper feed system	Automatic (roll paper)	
Input terminal	S-VIDEO (1 S-VIDEO terminal)	
Output terminal	Composite video (1 BNC type connectors)	
	S-VIDEO (1 S-VIDEO terminal)	
Input/Output terminal	CAMERA-IN (D-SUB 25 pin)	
	Remote terminal (Mini Din 8 pin, stereo mini jack)	
Input frequency	H frequency 15.625 kHz	
	V frequency 50 Hz	
Power supply	AC 100-120V, 50/60Hz AC220-240V, 50/60Hz	
Power consumption	1.4A (AC100-120V, 50/60Hz) during printing (0.4A when not printing)	
	0.7A (AC220-240V, 50/60Hz) during printing (0.2A when not printing)	
Installation conditions	Temperature : 5°C - 40°C (41°F - 104°F)	
	Humidity : 20 - 80% (No dewing)	
Operation altitude	Within Horizontal ±5°	
Outside dimensions	280(W) x 150(H) x 400(D) mm	
Weight	11kg	
Accessories	Power cord (1), Ink cassette (1), Operation manual (1), Remote control unit (1)	

*Printing time : time between pressing PRINT button and sounding buzzer which informs the print end

OPTIONS

■ PAPER SHEET SET

Product name	Ink sheet size	No. of prints	Usage
CK900S4P(HX)EU	S size	130	Surface-laminated color print
CK900L4P(HX)EU	L size	90	Surface-laminated color print

PRECAUTIONS
FEATURES
CONNECTIONS
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PRINTING
FUNCTIONS
TROUBLE-SHOOTING
OTHERS

▲ MITSUBISHI

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