

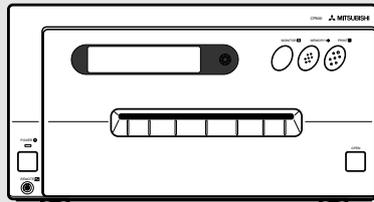


COLOUR VIDEO COPY PROCESSOR

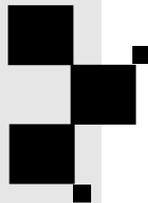
MODEL

CP800E

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, 93/42/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.

CONTENTS

Contents	
Safety precautions	1-3
Special features	4
Features and functions	5-7
Front panel	5
Rear panel	6
Remote control	7
Connections	8-13
Connection with a monitor	8-10
Connection with video or S-video signal equipment	10
Connection with RGB analog signal equipment	11
Connection with RS-232C equipment	12-13
Before operation	14-18
Paper sheet set and ink sheet	14
Removing transport screw and protective cushion	14-15
Installation of print paper	15-16
Installation of ink sheet	16-17
Usage and keeping of paper sheet set	18
Printing (Basic)	19-25
Before printing	19-21
Memory print	22-25
Memorizing and printing an image	22
Selecting memorized image to print	23
Image memorizing with page increment set on	23
Image size and number of memory pages	24
Multiple copy or continuous printing	25
Printing (Special)	26-31
Multi print	26-27
Separate print	28
External remote terminal 1	29
External remote terminal 2	30-31
Setting the functions (Menu chart)	32-35
Monitor display chart	32-33
LCD display chart	34-35
Adjustments & settings (MAIN MENU)	36-44
MAIN MENU items	36
Operating MAIN MENU	36-37
COLOR ADJ (Colour adjustment)	38
ANALOG ADJ (Analog image adjustment)	38
INPUT (Signal selection)	38
ADDITIONAL (Special print setting)	39
PRINT (Print setting)	40-41
COMMENT (Making a comment)	42-43
SIZE/TIMING (Setting size and timing)	43-44
Adjustments & settings (SERVICE MENU)	45-50
SERVICE MENU items	45
Operating SERVICE MENU	45
KEY SET (Setting functions of buttons)	46-47
SIGNAL SET1(Signal setting display)	47-48
SIGNAL SET2(Signal setting display)	48
PRINT SET (Print setting display)	48-49
SYSTEM SET(System setting display)	49
REMOTE SET(Remote signal setting display)	49-50
PREVIOUS ERROR(Error display)	50
Adjusting image without using remote control	50
Error messages	51
Before calling for service	52-53
Overcoming paper jams	54
Cleaning	55-56
Spec & options	57

SAFETY PRECAUTIONS

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

POWER REQUIREMENT

This Colour Video Copy Processor is designed for operation on 220-240V, 50Hz AC. 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 sheet cartridge and paper from the paper cassette, and insert the protective cushion into its compartment. Make sure to screw the printing unit down.

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 and the composite video signal cable. When connecting the unit with an equipment with RS-232C interface, use the RS-232C crossover cable.

PRECAUTIONS

FEATURES

CONNECTIONS

PREPARATION

PRINTING

ADJUSTMENTS

TROUBLE-SHOOTING

OTHERS

SAFETY PRECAUTIONS

INSTALLATION LOCATIONS

MAINTAIN GOOD VENTILATION

Ventilation slots and holes are provided on the top, sides and bottom of this unit. Place the unit on a hard and level surface and locate at least 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 vapours.

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, benzene, 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.

SAFETY CHECKS

Periods: According to the recommendations of the manufacturer of the medical device.

Scope: a) Visual inspection

Housing, leads, controls, displays, labels/markings, accessories, operation manual.

b) Functionality test

Testing of functions (according to operation manual) as well as compatibility and usability of device and accessories.

c) Electrical test

Testing of electrical safety of the system according to EN60601-1.

High humidity or dust

Avoid locations with high humidity and dust in order to avoid malfunctioning of the device.

Also avoid locations subject to corrosive gasses and smoke.

Heat

Direct sunlight, heaters or other heat sources may deform the housing and subsequently cause malfunctioning.

TECHNICAL DESCRIPTIONS

The supplier will make available on request such circuit diagrams, component part lists, descriptions, calibration instructions or other information which will assist the USER's appropriately qualified technical personnel to repair those parts of the EQUIPMENT which are classified by the manufacturer as repairable.

The use of ACCESSORY equipment not complying with the equivalent safety requirements of this equipment may lead to a reduced level of the resulting system.

Consideration relating to the choice shall include:

- use of the accessory in the PATIENT VICINITY.

- evidence that the safety certification of the ACCESSORY has been performed in accordance to the appropriate EN60601-1 and/or EN60601-1-1 harmonized national standard.

The transportation and storage environmental conditions are:

Temperature : -20°C - +60°C (-4°F - +140°F)

Humidity : 90% RH or less at 40°C (104°F)

Note: The above transportation environmental conditions indicate the storage environmental conditions during transport.

OTHER CAUTIONS

Dust or other foreign matter adhering to the print paper or the sheet cartridge, 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.

If there is noise or vibration in the VCR still-image or playback picture, the print image may be distorted or the upper part may be crooked.

NOTE:

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

As for paper sheet set, refer to Page 14, "Paper sheet set and ink sheet".

This product is to be employed with medical equipment, just for reference purpose, not for medical diagnostic purpose.

PRECAUTIONS

FEATURES

CONNECTIONS

PREPARATION

PRINTING

ADJUSTMENTS

TROUBLE-SHOOTING

OTHERS

SPECIAL FEATURES

SPECIAL FEATURES

AVAILABLE IN VARIOUS MEDICAL FIELDS, INCLUDING ENDOSCOPY DIAGNOSIS

3 kinds of colouring characteristics (gamma curve) are employed, which are the best for medical diagnostic devices, including endoscope requiring precise images and ultrasound diagnostic equipment etc. The colour is reproducible for each diagnostic equipment with easy operation. Each gamma curve is adjustable for each user flexibly.

2 PRINT SIZES ARE AVAILABLE ACCORDING TO THE PURPOSE

2 printing sizes, L size (A5 size or equivalent : max.117 x 155 mm (4.61 x 6.1 inches)) and S size (A6 size or equivalent: max.117 x 88 mm(4.61 x 3.47 inches)), are selectable.

MULTI PRINT FUNCTION BY THE CAPACIOUS FRAME MEMORY

Large capacity of frame memory can store max.16 images (in 4 sheets) in multi-4-image mode. CP800E can store an image during its printing, so the time of diagnosis will be shorten remarkably.

HIGH SPEED PRINTING

Printing speed is approx. 26 seconds (in S size print). Using a roll paper shortens the time for installing and removing.

LARGE CAPACITY OF PRINTING

Maximum number of printing (S size) is 160 printings per a roll paper. The large capacity of roll paper printing reduces a time of exchanges.

POSSIBLE OF A5 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 colours in each YMC. A5 size printing helps its uses widely.

MULTI PRINT FOR VARIOUS DEMANDINGS

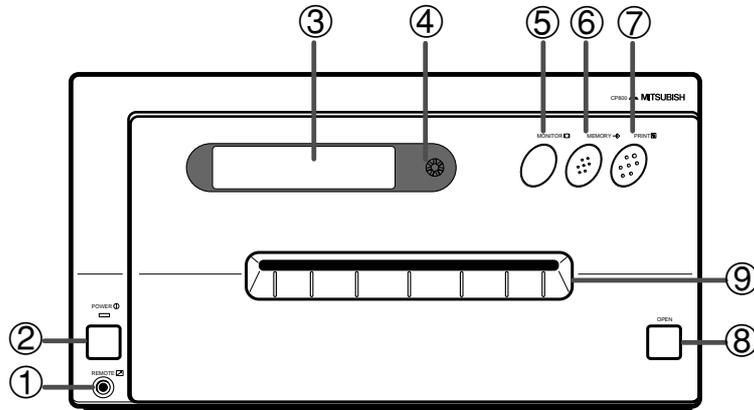
2, 4, and 6 images of multi print are available. Several multi print modes are selectable according to demanding.

WIDE COMPATIBILITY WITH A VARIETY OF INTERFACE AND SYSTEMS

- (1) 3 types (RGB/S-Video/Composite-Video) of input and output image signals
- (2) Input and output control signals from RS-232C/Rear remote interfaces
- (3) 2 mode operation function responding to foot switch input
- (4) Fixing function to internal sync. signal avoiding the loop phenomena of sync. signal
- (5) Stroboscope sync. function responding to retinal camera system
- (6) Image adjusting function such as contrast, brightness, depth etc. of printing image
- (7) Letters printing function printing max.48 characters
- (8) Capable of storing 4 kinds of setting and adjustment according to each using condition

FEATURES & FUNCTIONS

FRONT PANEL



① REMOTE TERMINAL

Connects the remote control supplied.

② POWER BUTTON

Press to turn on power. Press again to turn off power. When the power is turned on, the indicator above this button illuminates.

③ LCD (LIQUID CRYSTAL DISPLAY)

Indicates various function modes and settings. Use Menu on the monitor or LCD for setting functions. See pages 34 - 35.

④ LCD CONTRAST CONTROL

Adjusts the contrast of the LCD. Turn this control by pressing with a finger. Adjust the contrast so that you can see the displayed characters clearly.

⑤ 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.

⑥ MEMORY BUTTON

Press to memorize the image to be printed.

⑦ PRINT BUTTON

Press to print the image memorized by the MEMORY button. The green lamp will light during printing. The image on the monitor screen switches to the picture of the input signal.

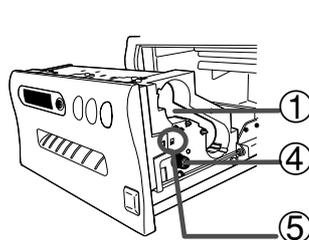
⑧ OPEN BUTTON

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

⑨ PRINT OUTLET

The printed paper comes out here.

INSIDE OF PRINTING UNIT



① INK CASSETTE COMPARTMENT

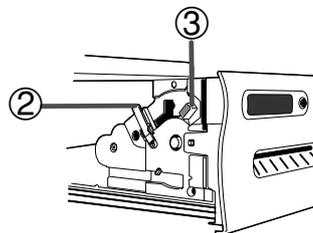
Load the cassette with ink sheet.

② INK CASSETTE LOCKING LEVER

Push this lever to take the ink cassette out.

③ PAPER RELEASE LEVER

Move this lever up or down when inserting print paper.



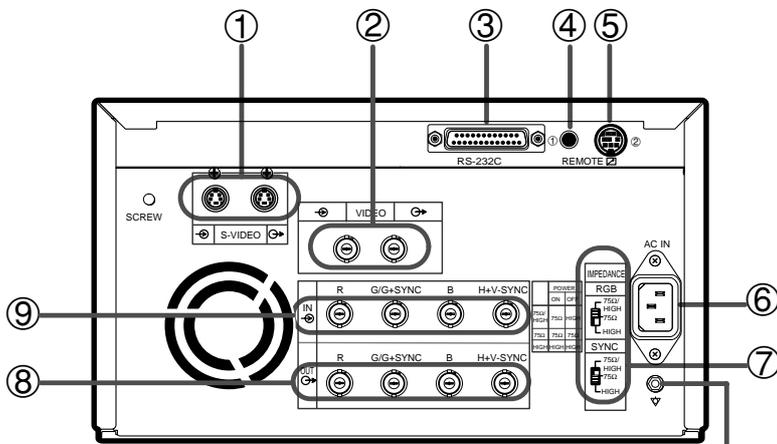
④ PAPER SENDING CONTROL

Turn this control clockwise to rewind the print paper.

⑤ COLOR ADJ SLIDE SWITCH

See page 50 for the detail.

REAR PANEL



Potential equalization connector

This is used to equalize the potential of the equipment connected to the unit. For details, refer to the installation instruction of the equipment to be connected.

① S-VIDEO INPUT/OUTPUT TERMINAL

Use these terminals to connect to S-VIDEO signal equipment. See pages 10.

② VIDEO SIGNAL INPUT/OUTPUT TERMINAL

Use these terminals to connect this unit to VIDEO signal equipment. See pages 10.

③ RS-232C PORT

Use these terminals to connect this unit to a device equipped with RS-232C interface. See pages 12 for connection.

④ EXTERNAL REMOTE TERMINAL 1

This connection is for use by system integrators to memorize and print. Set the button function MEM & PRN to ON for memory and print images. It is necessary to make a circuit for remote control to use this input. See page 29.

⑤ EXTERNAL REMOTE TERMINAL 2

This terminal is for use by system intergrators for custom control. It is necessary to make a circuit for remote control to use the functions. See page 30.

⑥ AC LINE SOCKET

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

⑦ IMPEDANCE SWITCH

[IMPEDANCE RGB SYNC.]

This is a 75ΩHIGH/75Ω/HIGH impedance selection switch for RGB or Sync. signal.

⑧ RGB ANALOG OUTPUT TERMINALS

[R G/G+SYNC B H+V-SYNC]

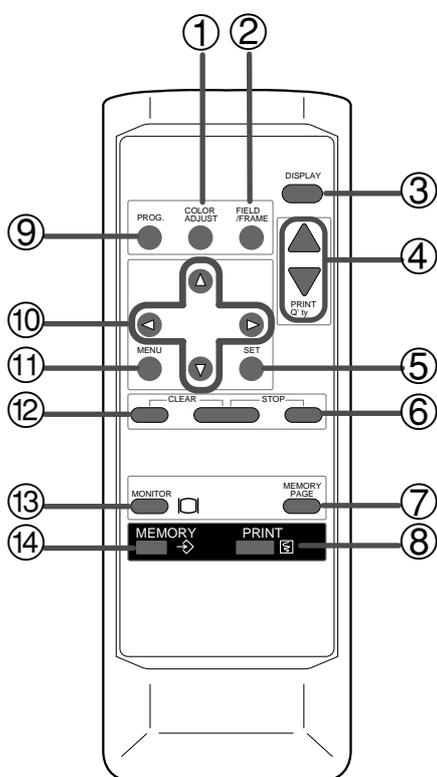
This is a monitor output terminal for a RGB analog signal. The sync. signal can be selected between 0.3V (H+V-SYNC) and TTL (H+V-SYNC) signals. See page 11.

⑨ RGB ANALOG INPUT TERMINALS

[R G/G+SYNC B H+V-SYNC]

This is a BNC type input terminal for a RGB analog signal. The sync. signal can be automatically selected between H/V composite and SYNC. ON GREEN (sync. signal imposed on the green video signal) signals. See page 11 for switch setting.

REMOTE CONTROL



① COLOR ADJUST BUTTON

Press to display the COLOR ADJUST menu. See page 38.

② FIELD/FRAME BUTTON

Press to switch FRAME and FIELD mode of input signals. The selected mode is displayed on the monitor screen and LCD. FRAME is good for high quality printing of still images, and FIELD is good for printing fast movement images. Only FIELD is set for non-interlace signals. See page 19.

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. The set number of copies is displayed on the front LCD. Press ▲ to increase the number and ▼ to decrease the number. See page 25.

⑤ SET BUTTON

Press to display the items of the MENU. Re-press to memorize the values and exit the MENU mode. See page 37.

⑥ STOP BUTTON

Press with the left side button at the same time to cancel the printing process. The image will be printed out in the state when the printing was cancelled.

⑦ MEMORY PAGE BUTTON

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

⑧ 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. A green lamp on the button will light during printing.

⑨ PROGRAM BUTTON

Press the PROG. button to select between 4 types of user presets. Functions previously set with the MENU can be stored into 1 of 4 memories and recalled. Programs cannot be changed during printing.

⑩ ▲, ▼, ◀, ▶ BUTTONS

Use to set the MENU display. Values are increased/decreased and the cursor position is changed with these four buttons. These buttons are also used to select one of memorized images. See page 36 and 45.

⑪ MENU BUTTON

Press to display MAIN MENU used for various settings. See pages 36-37.

⑫ CLEAR BUTTON

Press with the right side button at the same time 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.

⑭ MEMORY BUTTON

Use to memorize the image to be printed. The image is displayed on the monitor screen.

CONNECTIONS

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

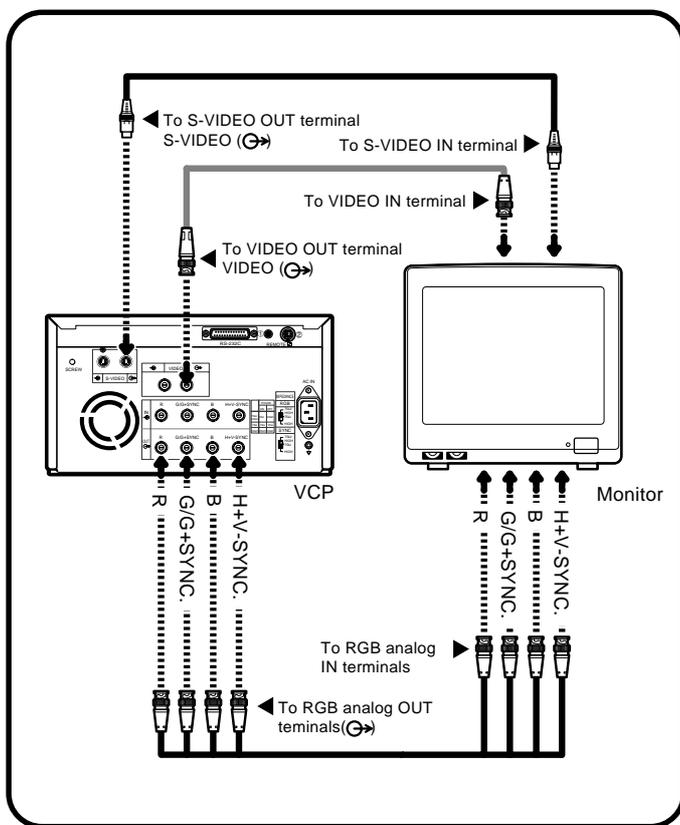
- Connection with a monitor
- Connection with VIDEO/S-VIDEO signal equipment
- Connection with RGB analog signal equipment
- Connection with RS-232C equipment

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 a video signal, S-video signal and RGB analog signal equipment. Connect with the necessary signal equipment.

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

CONNECTION WITH A MONITOR

(EXAMPLE)



NOTE

When the sync. polarity or sync. signal of a monitor to be connected is not adjusted to the initial setting of this unit, the image may not be displayed correctly. In this case, adjust the sync. polarity and sync. signal output to the monitor. When the image is displayed correctly, the setting is not required. (Refer to the operation manual of the monitor as for the sync. polarity and sync. signal of the monitor.)

- The sync. polarity and sync. signal is set by the menu displayed on LCD.
- Make sure to turn off the power before setting.

1 Press **POWER** button while pressing **MEMORY** button on the front panel.

SERVICE MENU is displayed.

```
SERVICE MENU
KEY SET : PUSH [ > ]
```

2 Press **▼** button to select **SIGNAL SET2** menu.

```
SERVICE MENU
SIGNAL SET2 : PUSH [ > ]
```

3 Press **▶** button.

SIGNAL SET2 is displayed. On this menu, the monitor polarity "SYNC" and output sync. signals, "OUT SYNC", "RGB SOG OUT" can be set.

4 Press ▲ or ▼ button to select “IN SYNC”.

The sync. signal level being selected, for example, “TTL,SOG” is displayed.

```
SIGNAL SET2 MENU
IN SYNC : TTL,SOG
```

5 Set the sync. signal level according to the equipment to be connected. Press ◀ or ▶ button to select “0.3V” or “TTL,SOG”.

0.3V Inputs the 0.3Vp-p sync signal

TTL,SOG Inputs the TTL,SOG level sync signal

```
SIGNAL SET2 MENU
OUT SYNC : TTL
```

6 Press ▲ or ▼ button to select “OUT SYNC”.

The sync. signal level being selected, for example, TTL is displayed.

7 Set the sync. signal level according to the equipment to be connected. Press ◀ or ▶ button to select “0.3V” or “TTL”.

0.3V Outputs the 0.3Vp-p sync signal

TTL Outputs the TTL level sync signal

```
SIGNAL SET2 MENU
SYNC : NEGA
```

8 Press ▲ or ▼ button to select “SYNC”.

The default setting of SIGNAL SET2 is “SYNC”.

9 Set the monitor’s polarity according to the equipment to be connected.

Press ◀ or ▶ button to select “NEGA” or “POSI”.

10 Press ▲ or ▼ button to select “RGB SOG OUT”.

```
SIGNAL SET2 MENU
RGB SOG OUT : OFF
```

11 Press ◀ or ▶ button to select “ON” or “OFF”.

You can select whether Sync. ON Green signal is added to the output signal or not. When “ON” is selected, Sync. ON Green and Composite Sync. signal are output and when “OFF” is selected, only Composite Sync. signal is output. Select “ON” or “OFF” according to the monitor to be connected.

ON Only Composite Sync. signal is output.

OFF Sync. On Green + Composite Sync. signal is output.

CONNECTIONS

12 Press SET button.

"CHANGE : OK/CANCEL" is selected.

Press ◀ or ▶ button to select "OK" or "CANCEL".

SIGNAL SET2 MENU
CHANGE : OK

13 Select "OK", then press SET button.

SERVICE MENU is displayed.

14 Press SET button.

"SAVE : OK" is selected.

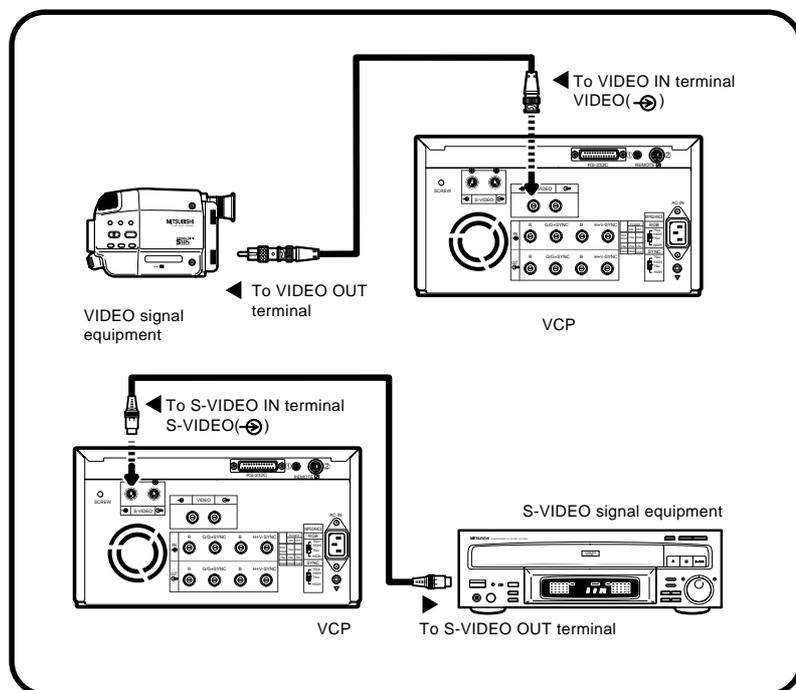
15 Select "OK", then press SET button.

The source image (input signal from the equipment) is displayed.

The setting of the sync. polarity and signal is completed.

CONNECTION WITH VIDEO OR S-VIDEO SIGNAL EQUIPMENT

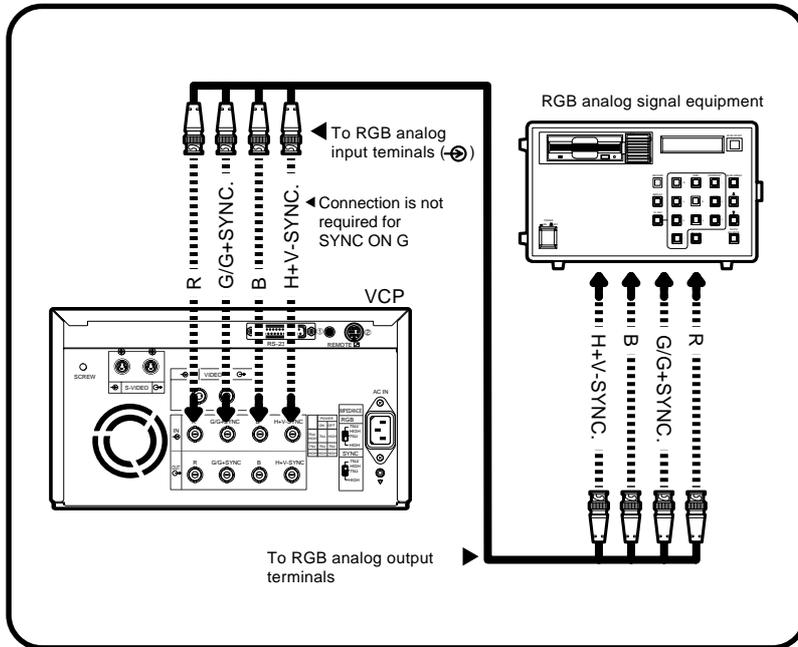
Make sure to turn off the power before setting.



CONNECTION WITH RGB ANALOG SIGNAL EQUIPMENT

Make sure to turn off the power before setting.

(EXAMPLE)



This unit is designed to accept RGB video at the PAL frame rate, nominally 15.625kHz horizontal and 50Hz at vertical.

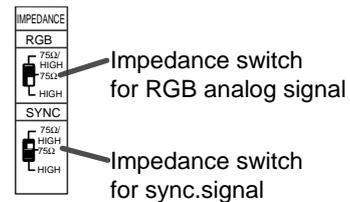
- 1 Connect this unit and RGB analog signal equipment with a BNC cable.
- 2 Set the RGB IMPEDANCE switch to “75Ω/HIGH”. Set the sync. signal IMPEDANCE switch to “HIGH”.

IMPEDANCE SWITCH

RGB	75Ω/HIGH	Power ON: 75Ω termination Power OFF: No Termination
	75Ω	Power ON/OFF: 75Ω termination
	HIGH	Power ON/OFF: High impedance - No Termination
SYNC	75Ω/HIGH	Power ON: 75Ω termination Power OFF: No Termination
	75Ω	Power ON/OFF: 75Ω termination
	HIGH	Power ON/OFF: High impedance - NoTermination

The normal settings are: RGB 75Ω/HIGH and SYNC : HIGH

When the printer is between the RGB video source and the monitor the normal settings should be used. If the 75Ω termination is not set correctly, the video will be either too dark or too bright.

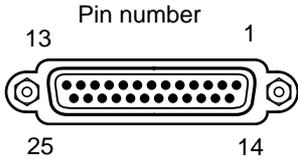
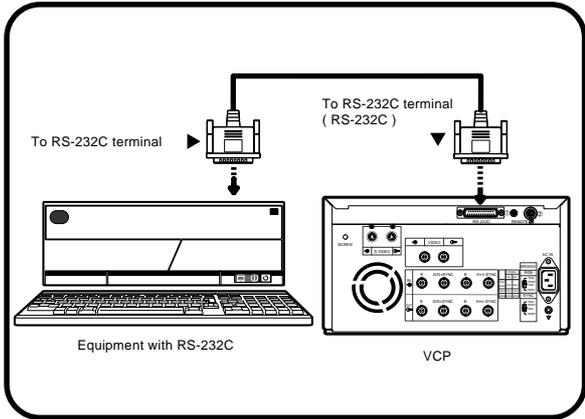


CONNECTION WITH RS-232C EQUIPMENT

This unit can be controlled through a RS-232C port with custom software. (Image data can not be input.)
For the protocol, consult your dealer.

Make sure to turn off the power before setting.

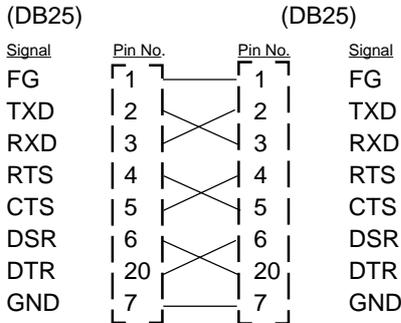
■ RS-232C TERMINAL SIGNAL



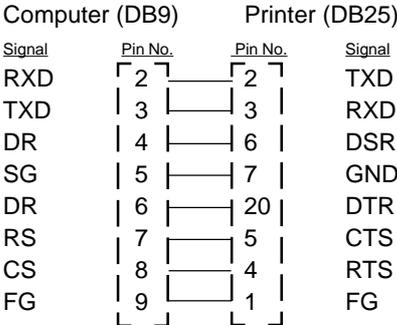
Pin No.	Signal line name	Description	Directions
1	FG	Protective	---
2	TXD	Transmitted data	Output
3	RXD	Received data	Input
4	RTS	Request to send	Output
5	CTS	Clear to send	Input
6	DSR	Data set ready	Input
7	GND	Signal ground	---
20	DTR	Data terminal ready	Output

1 Connect this unit and RS-232C equipment with a crossover cable.

RS-232 Connection Cable (Crossover cable)



RS-232 Connection Cable



- #9 on the 9 Pin end of the cable is typically tied to the Shield.
- This is just an example. Make sure to check the connection type for the using equipment.

2 Set the baud rate according to the equipment to be connected.

First, press the **POWER** button while holding down the **MEMORY** button.

SERVICE MENU is displayed.

SERVICE MENU
KEY SET : PUSH [>]

3 Press **▼** button to select "REMOTE SET".

SERVICE MENU
REMOTE SET : PUSH [>]

4 Press ► button.

REMOTE SET MENU is displayed.
Set BAUD RATE on this menu.

```
REMOTE SET MENU
BAUD RATE : 9600
```

5 Press ▲ or ▼ button to select “BAUD RATE”.

The setting BAUD RATE (e.g. 9600) will be displayed.

6 Press ◀ or ▶ button to select “1200”, “2400”, “4800” or “9600” (bit/sec.).

7 Press ▲ or ▼ button to select “COMMAND TYPE”.

```
REMOTE SET MENU
COMMAND TYPE : A
```

8 Press ◀ or ▶ button to select “A”, “B” or “C”.

Select A for normal setting. Depending on the connected equipment, select B or C.

9 Press SET button.

“CHANGE : OK” is selected.

```
REMOTE SET MENU
CHANGE : OK
```

10 Press ◀ or ▶ button to select “OK” or “CANCEL”.

11 Select “OK”, then press SET button.

SERVICE MENU is displayed.

```
SERVICE MENU
KEY SET : PUSH [ > ]
```

12 Press SET button.

“SAVE : OK” is selected.

13 Select “OK”, then press SET button.

The source image (input signal from the equipment) is displayed.

The setting of BAUD RATE and COMMAND TYPE is completed.

14 Set the communication format of the computer with a computer connected.

Synchronizing system : Asynchronous communication
Data bit length : 8 bits
Parity bit : Nothing
Stop bit length : 1
Transmission order : Sent from LSB
Baud rate (bit/sec.) : 1200, 2400, 4800, 9600

BEFORE OPERATION

Before printing,

1. Remove the transport screw on the bottom of printing mechanism and the protective cushion. (See below)
2. Install the print paper and ink cassette. (pages 15-17)

PAPER SHEET SET AND INK SHEET

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

PRINT PAPER AND INK SHEET

Product name	Ink sheet size	No. of prints	Usage
CK800S	S size	160	For 3 colour use
CK800L	L size	100	For 3 colour use
CK800FS4P	S size	100	For 3 colour use (surface-coated paper)
CK800FL4P	L size	60	For 3 colour use (surface-coated paper)

REMOVING TRANSPORT SCREW AND PROTECTIVE CUSHION

To prevent damage during transportation/shipping, a protective cushion is inserted into the mechanism, and the printing mechanism is locked into position from the bottom with a transport screw.

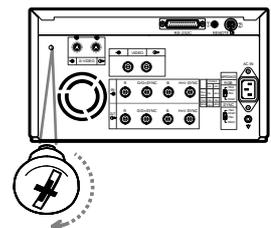
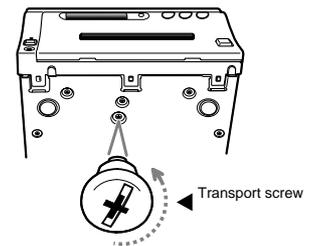
Remove the screw by the following procedures before using this unit.

REMOVING THE TRANSPORT SCREW ON THE BOTTOM OF PRINTING MECHANISM

- 1 Turn the printer carefully onto one side and remove the transport locking screw with a coin or screwdriver.

- 2 Attach the transport screw to the storage location on the rear panel of the printer.

The transport screw and protective cushion must always be used during shipping or transport to avoid damage.



REMOVING THE PROTECTIVE CUSHION

Unplug the power cord from outlet for safety.

1 Press OPEN button.

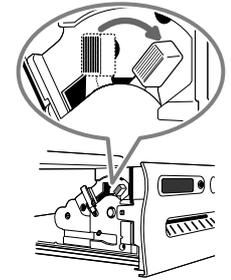
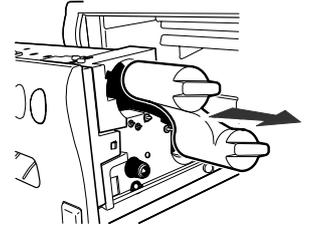
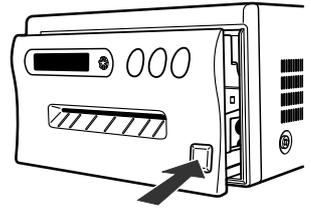
The printing unit advances to the front.

NOTE

Do not touch the thermal head.
Fingerprints or dust on the thermal head will degrade the print quality.

2 Remove the protective cushion from the right side of the unit.

Save the protective cushion for transporting the unit.

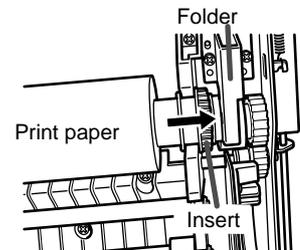


INSTALLATION OF PRINT PAPER

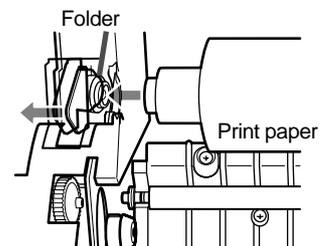
1 Move the paper release lever toward the front of the printer as shown by the arrow.

2 Insert the print paper in the position as shown right.

Place the gear to the right side.



To set the left side, press the folder in the unit to the left and insert the print paper roller.



PRECAUTIONS

FEATURES

CONNECTIONS

PREPARATION

PRINTING

ADJUSTMENTS

TROUBLE-SHOOTING

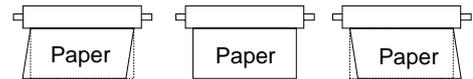
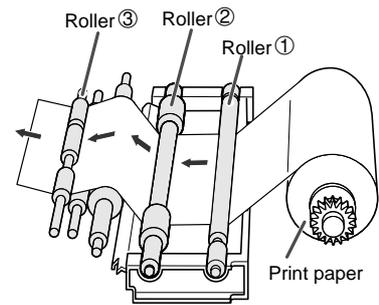
OTHERS

BEFORE OPERATION

3 Insert the print paper under Roller 1 and 2 in order.

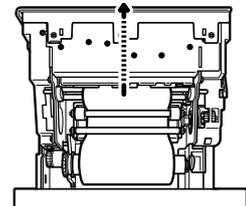
4 Insert the edge of the print paper under Roller 3.

Be sure to insert the paper straight.

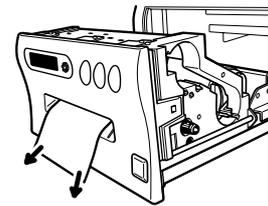


INCORRECT CORRECT INCORRECT

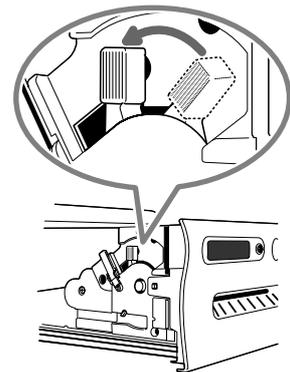
5 Feed the print paper through the paper outlet with your hand.



6 Pull the print paper to eliminate slack.



7 Move the knob on the side of the printing unit to the direction as indicated by the arrow.



NOTE

"PAPER JAM 12" is displayed and error occurs. In this case, operate **3** in next page "■ INSERT THE PRINTING UNIT."

INSTALLATION OF INK SHEET

■ INSTALLING THE INK SHEET

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

1 Put the coloured roller of the ink sheet to the ink cassette. (A)(B)

2 Put the thin stick of white roller to the ink cassette. (C)

3 Put the thick stick of white roller to the ink cassette. (D)(E)

On the (D) position, turn the roller and set the notch of the roller side to the hole of the cassette.

The roller can be installed when the notch is put through the hole.

■ INSTALLING THE INK CASSETTE

1 Eliminate any slack of the ink sheet.

Hold the coloured roller and turn the white roller.

2 Insert the ink cassette with the ink sheet into its compartment.

Insert the ink cassette with the knob side toward you until it is locked into place. When taking the ink cassette out of the compartment, press the ink cassette locking holder to release the lock. Refer to page 5.

■ 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 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).

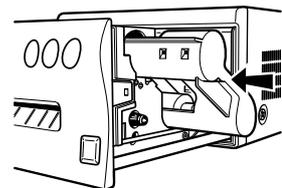
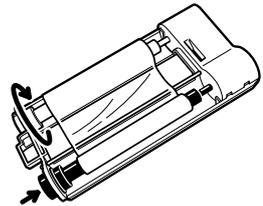
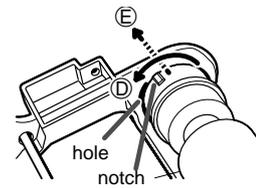
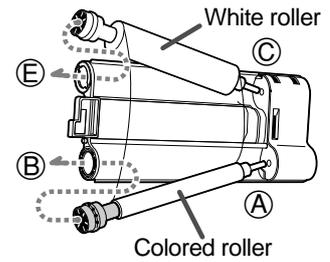
4 Repeat the above step 3 once or twice.

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 14 to be printed.

The installation of print paper and ink cassette is completed.



PRECAUTIONS

FEATURES

CONNECTIONS

PREPARATION

PRINTING

ADJUSTMENTS

TROUBLE-SHOOTING

OTHERS

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, 2-3 images may be printed with a blank part due to hand's dust or oil. Refer to Pages 15 - 16.
- When print paper is rapidly transferred from a cool place to a hot place, vapour 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 "PAPER EMPTY" and "SHEET/PAPER" lamp on the monitor and LCD display are lit. Set new ink sheet or print paper. Refer to Page 51.
- If paper feeding is repeated while installing the print paper, the indicated number of prints may not be done.

■ AFTER PRINTING

- When the printed paper is touched by a wet hand, the print may be discoloured.
- 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 colour of print paper to come off and to be stained.
- Never store print paper in places that are close to heater, hot (5°C-40°C) , or humid (20-80%RH).

NOTE

If the print paper is installed for two or more days, the prints may be rolled after printing. There is no cause for alarm because the print paper is rolled on the inside of the printing unit.

BEFORE PRINTING

■ SELECTING FIELD/FRAME

Press **FIELD/FRAME** button on the remote control to select “FIELD” or “FRAME”.

- Select “FRAME” for a high resolution still image printing.
Select “FIELD” for a picture of quickly moving objects.
- When “FIELD” is selected, the print image will be lower in resolution.
The selected mode is displayed on the monitor screen and LCD of this unit.
- A video picture is normally composed of two slightly lower resolution images (FIELD images) to form a single image (FRAME image).

■ SELECTING INPUT SIGNAL

- Select VIDEO, S-VIDEO or RGB according to the input signal.
- The appropriate input signal may already be selected through the RS-232C control software.
- The input signal can be set on the menu displayed on the monitor screen and LCD.
- Unless the input signal is changed, it is not necessary to select the input signal everytime.

1 Press **MENU** button.

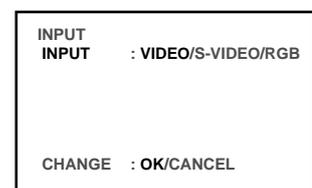
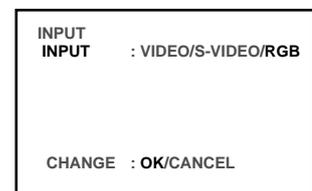
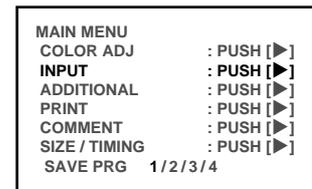
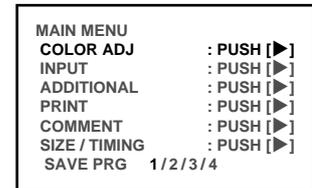
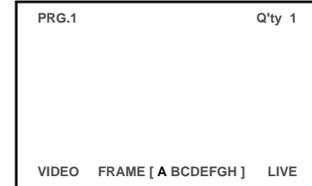
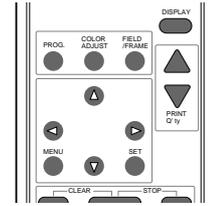
MAIN MENU is displayed.

2 Press **▲, ▼** button to select “INPUT”.

3 Press **▶** button.

- INPUT menu is displayed.

4 Press **▶** button to select “VIDEO”, “S-VIDEO” or “RGB”.



PRINTING (BASIC)

5 Press SET button.

- "CHANGE : OK" is selected.
- "OK" is selected.
- When changing the selected input signal, press ► button to select "CANCEL". Press SET button to select "INPUT."

```
INPUT
INPUT      : VIDEO/S-VIDEO/RGB

CHANGE    : OK/CANCEL
```

6 Press SET button.

- MAIN MENU is displayed.

```
MAIN MENU
COLOR ADJ      : PUSH [▶]
INPUT          : PUSH [▶]
ADDITIONAL     : PUSH [▶]
PRINT          : PUSH [▶]
COMMENT       : PUSH [▶]
SIZE / TIMING  : PUSH [▶]
SAVE PRG      1/2/3/4
```

7 Press SET button.

- "SAVE PRG 1/2/3/4" is selected.
- This menu lets you select a user program memory (1-4) to store your new settings.

```
MAIN MENU
COLOR ADJ      : PUSH [▶]
INPUT          : PUSH [▶]
ADDITIONAL     : PUSH [▶]
PRINT          : PUSH [▶]
COMMENT       : PUSH [▶]
SIZE / TIMING  : PUSH [▶]
SAVE PRG      1/2/3/4
```

8 Press ◀, ▶ button to select one of the user memory (1-4) 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.

9 Press SET button.

The source image is displayed.

The selecting of input signal is completed.

SELECTING PRINT SIZE AUTO/S

- 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 and LCD.
- 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.

```
MAIN MENU
COLOR ADJ      : PUSH [▶]
INPUT          : PUSH [▶]
ADDITIONAL     : PUSH [▶]
PRINT          : PUSH [▶]
COMMENT       : PUSH [▶]
SIZE / TIMING  : PUSH [▶]
SAVE PRG      1/2/3/4
```

2 Press ▲, ▼ button to select "PRINT".

```
MAIN MENU
COLOR ADJ      : PUSH [▶]
INPUT          : PUSH [▶]
ADDITIONAL     : PUSH [▶]
PRINT          : PUSH [▶]
COMMENT       : PUSH [▶]
SIZE / TIMING  : PUSH [▶]
SAVE PRG      1/2/3/4
```

3] Press ► button.

- PRINT MENU is displayed.
- Normally, "MODE" is selected when opening PRINT MENU. When other item is selected, press ▲ or ▼ button to select "MODE".

```
PRINT MENU
MODE : AUTO/S
GRAD : ES/ECHO/NOR
GAMMA MENU: PUSH[►]
APT : S/N/H1/H2/H3
COM : OFF/ON/ADJ/DATA
MIRROR : OFF/ON

CHANGE : OK/CANCEL
```

4] Press ◀, ► button to select "MODE : AUTO" or "S".

- Select "AUTO" for normal setting. Select "S" to print S size with L size ink sheet.

```
PRINT MENU
MODE : AUTO/S
GRAD : ES/ECHO/NOR
GAMMA MENU: PUSH[►]
APT : S/N/H1/H2/H3
COM : OFF/ON/ADJ/DATA
MIRROR : OFF/ON

CHANGE : OK/CANCEL
```

5] Press SET button.

- "CHANGE : OK/CANCEL" is selected.
- "OK" is selected.
- When changing the size selected at step 4], press ► button to select "CANCEL". Press SET button to select "MODE" in PRINT MENU again.

```
PRINT MENU
MODE : AUTO/S
GRAD : ES/ECHO/NOR
GAMMA MENU: PUSH[►]
APT : S/N/H1/H2/H3
COM : OFF/ON/ADJ/DATA
MIRROR : OFF/ON

CHANGE : OK/CANCEL
```

6] Press SET button.

MAIN MENU is displayed.

```
MAIN MENU
COLOR ADJ : PUSH [►]
INPUT : PUSH [►]
ADDITIONAL : PUSH [►]
PRINT : PUSH [►]
COMMENT : PUSH [►]
SIZE / TIMING : PUSH [►]
SAVE PRG 1/2/3/4
```

7] Press SET button.

- "SAVE PRG 1/2/3/4" is selected.
- This menu lets you select a user program memory (1-4) to store your new settings.

8] Press ◀, ► button to select one of the user memory (1-4) 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.

```
MAIN MENU
COLOR ADJ : PUSH [►]
INPUT : PUSH [►]
ADDITIONAL : PUSH [►]
PRINT : PUSH [►]
COMMENT : PUSH [►]
SIZE / TIMING : PUSH [►]
SAVE PRG 1/2/3/4
```

9] Press SET button.

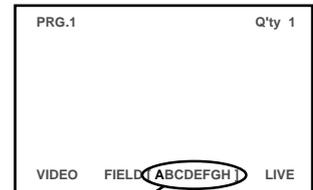
The source image is displayed.

The print size setting is completed.

MEMORY PRINT

In the single image mode, this unit has 8 FRAMES of image memory and can memorize 8 images in the FRAME mode or 16 images in the Field mode. The following functions are available.

- Each time the FIELD/FRAME button is pressed, the display changes to show the Field or Frame mode. The memory page is one Field in the FIELD mode or one Frame in the FRAME mode.
- Frames are shown as [ABCDEFGH], and since one Frame consists of two Fields, the Frame letter is shown (in green) along with the Field display as "1" or "2" (in green) as FIELD12 [ABCDEFGH].
- Press MEMORY PAGE button to advance the Memory Page to the next Field or Frame.
- The image will be stored in the selected memory page when MEMORY button is pressed, except when PAGE INC (in SERVICE MENU) is set ON. When ON, the image is stored into the next memory after the currently selected memory.
- When pressing MONITOR button is pressed during "LIVE" mode, the image stored in the current memory page is displayed and "MEMORY" is shown. Pressing MEMORY PAGE button repeatedly will sequence through and allow viewing of all memorized images. Pressing MONITOR button repeatedly will alternate the image between the "LIVE" and "MEMORY" modes. "LIVE" mode shows the input signal which can be memorized when MEMORY button is pressed.
- An image can be stored into memory while printing, but not in the memory currently being printed, When memory is set for PAGE INC, up to 7 additional Frame images, or 15 Field images can be stored while the first image is printing. When the first image finishes printing, that memory can accept a new image.



Available memory page (A is chosen).
12[ABCDEFGH] is displayed for FIELD. [ABCDEFGH] is displayed for FRAME. (FIELD = 1/2 FRAME)

■ MEMORIZING AND PRINTING AN IMAGE

(When Page Increment is set OFF in the System Set 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.

4 To check the memorized image, press MONITOR button to show "MEMORY".

- The memorized image will be displayed.
- If the image is not satisfactory, repeat steps 2-4.

5] Press PRINT button.

- The image memory being printed will be indicated on screen.

6] After printing starts, repeat steps 1-5 to store and print other images.

- If you wait until printing is finished, just repeat steps 2-5.

■ 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.

3] Press the PRINT button.

NOTE

- If a Image Memorized in the Frame mode is blurry in parts because of movement, select FIELD mode with FIELD/FRAME button, and select Field 1 or 2 (whichever is clearer) to print.
- If you select FRAME mode with two different Field images, the images will appear to flicker on screen, and be interleaved like Venetian blinds in the print.

■ IMAGE MEMORIZING WITH PAGE INCREMENT SET ON

- When PAGE INC (Page increment) is set ON, (see page 49), the memory page is automatically advanced each time MEMORY button is pressed.
- To write over a previously stored image, select the image just prior to the image to be erased. Then press MEMORY button.

EXAMPLE: You want to replace image “C” with a new image. Set the page memory to show “B” and when the desired image shows in the “LIVE” mode, press MEMORY button. The new image will be stored in memory “C”.

NOTE

An image may not be printed correctly when a VCR plays back in special effects mode (such as speed search) during printing. In this event, use the normal play mode, not the special effects mode during printing.

To memorize and print the images of special playback mode, memorize the desired image first. Then, stop the special playback and start printing. Do not use the special playback mode after starting printing.

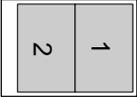
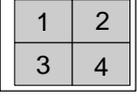
PRECAUTIONS
FEATURES
CONNECTIONS
PREPARATION
PRINTING
ADJUSTMENTS
TROUBLE-SHOOTING
OTHERS

PRINTING (BASIC)

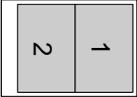
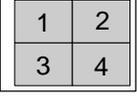
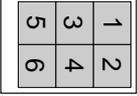
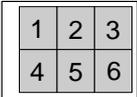
■ IMAGE SIZE AND NUMBER OF MEMORY PAGES

As this unit has 1216 pixel x 600 lines x 8 frames of memory, the following memory operations are available.

MODE : DIFF (Multi printing the different images)

MULTI \	FRAME	FIELD	PRINT EXAMPLE
OFF	Memory 1216 pixel x 600 lines x 8 images Print 1 image x 8 pages	Memory 1216 pixel x 300 lines x 16 images Print 1 images x 16 pages	
2 2s	Memory 1216 pixel x 542 lines x 8 images Print 2 images x 4 pages	Memory 1216 pixel x 271 lines x 16 images Print 2 images x 8 pages	
4	Memory 608 pixel x 600 lines x 16 images Print 4 images x 4 pages	Memory 608 pixel x 300 lines x 32 images Print 4 images x 8 pages	
6	Memory 608 pixel x 300 lines x 30 images Print 6 images x 5 pages	Memory 608 pixel x 300 lines x 30 images Print 6 images x 5 pages	 S size is not available to print.
6s	Memory 404 pixel x 600 lines x 24 images Print 6 images x 4 pages	Memory 404 pixel x 300 lines x 48 images Print 6 images x 8 pages	 S size is not available to print.

MODE : SAME (Multi printing the same images)

MULTI \	FRAME	FIELD	PRINT EXAMPLE
OFF	Same as MODE : DIFF setting		
2 2s	Memory 1216 pixel x 600 lines x 8 images Print 2 images x 8 pages	Memory 1216 pixel x 300 lines x 16 images Print 2 images x 16 pages	
4	Memory 1216 pixel x 600 lines x 8 images Print 4 images x 8 pages	Memory 1216 pixel x 300 lines x 16 images Print 4 images x 16 pages	
6	Memory 1216 pixel x 600 lines x 8 images Print 6 images x 8 pages	Memory 1216 pixel x 300 lines x 16 images Print 6 images x 16 pages	 S size is not available to print.
6s	Memory 1216 pixel x 600 lines x 8 images Print 6 images x 8 pages	Memory 1216 pixel x 300 lines x 16 images Print 6 images x 16 pages	 S size is not available to print.

- Because the FIELD MODE has half the vertical resolution of the FRAME MODE, the printed image may be low in quality.

■ 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 100 prints or for continuous printing until the paper or ink is used up. Multiple quantity printing can be cancelled if needed.

1 Press PRINT Q'ty ▲, ▼ button to set the number of sheets to be printed.

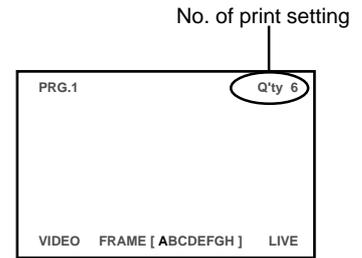
- The number of prints is displayed on the LCD.
- The number will increase by pressing ▲ and decrease by pressing ▼.
- The number switches in the order of;
1 ↔ 2 ↔ ••• → 9 ↔ 10 ↔ 20 ↔ 30 ↔ 40 ↔ 50 ↔ 100 ↔ C ↔ 1
When you set "C", continuous printing will be done until the paper or ink sheet is used up.

2 Press PRINT button.

- The number of prints you set is printed.
- During continuous printing (except for electing "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 stop printing;
 - Press PRINT Q'ty ▲ and ▼ buttons. After printing the current page, the counter will be reset to "1." Pressing PRINT Q'ty ▲ and ▼ buttons are 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.
- If you wish to change the number during printing;
 - First, cancel the continuous printing by pressing PRINT Q'ty ▲ and ▼ buttons. Then, press PRINT Q'ty ▲ and ▼ buttons again and reset the desired number.

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 and LCD. Wait until the error message goes off. When temperature drops and the message goes off, printing resumes.



PRECAUTIONS

FEATURES

CONNECTIONS

PREPARATION

PRINTING

ADJUSTMENTS

TROUBLE-SHOOTING

OTHERS

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 32-35.

MULTI PRINT

MULTI PRINT is the function which 2, 4 or 6 images can be printed on a sheet. Use ADDITIONAL of MAIN MENU for setting. See page 39.

Setting of the No. fo images	S size prints	L size prints
1		
2		
2s		
4		
6	Prints are not available.	
6s		

- **MODE : DIFF**
When setting IMAGES to “2 (2s),” 2 images are available to be stored in each FRAME: Page A-D, or each FIELD: Page A1-D2.
- **MODE :DIFF**
When setting IMAGES to “4,” 4 images are available to be stored each FRAME: Page A-D, or each FIELD: Page A1-D2.
- **MODE :DIFF**
When setting IMAGES to “6,” memory is not available in FRAME. 6 images are available to be stored in each FIELD: Page A-D.
- **MODE :DIFF**
When setting IMAGES to “6s,” 6 images are available to be stored in each FRAME: Page A-D. 6 images are available to be stored in each FIELD: Page A1-D2.
- **MODE : SAME**
1 image is available to be stored in each FRAME: Page A-H or in each FIELD: A1-H2.

NOTE

- When printing 2 images on S size sheet, the last 11 characters of the comment will be clipped. If the printer is set to print adjustment or data instead of the comment, they will be clipped also.
- When printing 2 images on L size sheet, the images may be partially clipped. In this case, adjust the image position by PRN V AREA of ADDITIONAL in MAIN MENU so that the image moves to the proper position, or use 2s mode. See page 39.

■ TWO IMAGE MULTI IMAGE OPERATIONS

- Only one image is shown on screen when the multi mode is set to 2 same or different images.
- To view the screen display to know which memory is being used, press DISPLAY button on the remote. Pressing DISPLAY while the screen display is active will toggle it off again.

Same Image: When the multi mode is set for tow of the same image, MEMORY PAGE button is used to select one of the 8(A-H) memories for image memory or printing.

Different Images: When the multi mode is set for two different images, MEMORY PAGE button and ▲ or ▼ button are used to select the memory for the first or second image. There are image 1 and image 2 memories for A, B, C, D. Each pair of A-1 and A-2, B-1 and B-2, etc., images are printed on one print.

■ WHEN SETTING TO MODE : DIFF, IMAGES :4;

Repeat the following procedure to store the set number of images in memory.

- 1 Press DISPLAY button to display the set condition.**
- 2 Press MONITOR button and select the source image (“LIVE” is displayed on the monitor.) to display the image to be stored.**
- 3 Press MEMORY button to store the image to be printed.**
 - When the image is stored, the source image (LIVE image) is displayed about 1 second after displaying the stored image.
- 4 When selecting the position to store the image, press MEMORY PAGE button to select the memory page.**
 - Press ▲, ▼, ◀, ▶ button to determine the position to store the image.
 - The image is stored in the selected memory page.
 - The position number where the image can be stored is indicated in green.

■ WHEN SETTING TO MODE : SAME, IMAGES : 4;

Only one image will be displayed on the monitor screen.

- 1 Press DISPLAY button to display the set condition.**
- 2 Press MONITOR button and select the source image (“LIVE” is displayed on the monitor.) to display the image to be stored.**
- 3 Press MEMORY button to store the image to be printed.**
 - Select the just previous character of the page where the image is to be stored. (Select A to store the image into B, if PAGE INC is set to ON)
- 4 When selecting the memorizing page (A, B, C, D), press MEMORY PAGE button to select .**
 - The position number where the image can be stored is indicated in green.

SEPARATE PRINT

- The SEPARATE print function inserts a white frame between 2 or more images.
- Use ADDITIONAL of MAIN MENU for setting. See page 39.

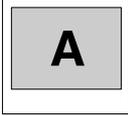
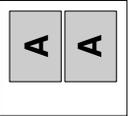
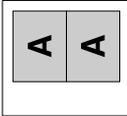
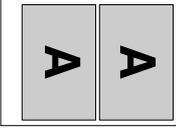
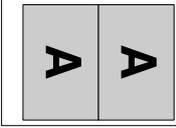
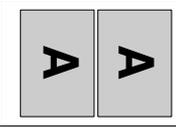
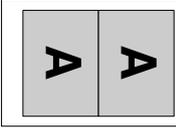
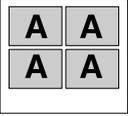
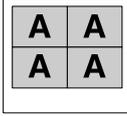
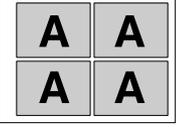
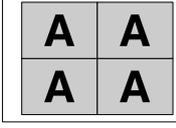
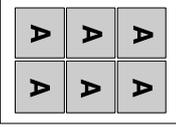
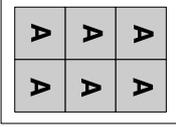
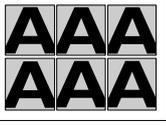
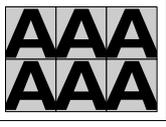
NOTE

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 SIZE/TIMING menu.

When the images of different size are stored in one page, the margin is determined according to the largest width of the image in the page.

- The prints shown below are available.

No. of images	S size prints		L size prints	
	Separate ON	Separate OFF	Separate ON	Separate OFF
1				
2				
2s				
4				
6	Prints are not available.			
6s				

(EXAMPLE) "SIZE : W" is set in SIZE/TIMING menu. "A" shows the print image direction.

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.

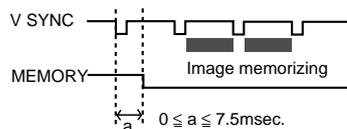
EXTERNAL REMOTE TERMINAL SIGNAL ALLOCATION (STEREO JACK)

Pin No.	Function	Description
①	Ground	Earth
②	MEMORY	Memory : When the signal becomes "LOW" from "HIGH", the image is stored in memory. (When the signal has been "LOW" for 60msec. or more, the image is stored in memory.)
③	BUSY	<p>HIGH : The VCP cannot accept the remote signal. LOW : The VCP can accept the remote signal.</p> <ul style="list-style-type: none"> • This signal becomes "HIGH" in the following cases; <ul style="list-style-type: none"> • During initialization after the VCP has been switched on • For about 1 sec. after the INPUT SELECT switch has been set • During displaying the menu screen • When the image cannot be stored in memory(BUSY MODE :MEM) • If BUSY LEVEL of SYSTEM SET menu is set to L, the above HIGH and LOW setting gets to be reversed.

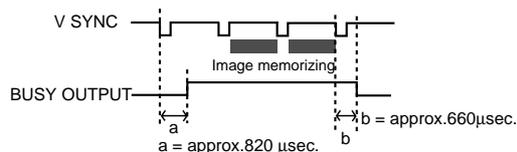
- When the signal from BUSY terminal is received with TTL level, keep the following.
 $|1_{OL}| = 2\text{mA}$ or less, $|1_{OH}| = 1\text{mA}$ or less
 $|1_{OL}|$ means the current flowing into the unit at Low output, $|1_{OH}|$ means the current flowing out of the unit at High output.

SYNCHRONOUS SETTING FOR MEMORY, BUSY TIMING

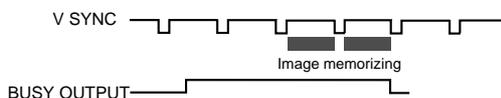
BUSY MODE : PRN or MEM, V SYNC MEM : ON in REMOTE SET of SERVICE MENU



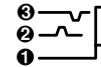
BUSY MODE : TIM, BUSY TIMING : 1V in REMOTE SET of SERVICE MENU



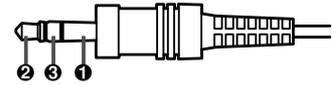
BUSY MODE : TIM, BUSY TIMING : 2V in REMOTE SET of SERVICE MENU



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



Circuit inside and pin No.



Plug pin No.

PRECAUTIONS

FEATURES

CONNECTIONS

PREPARATION

PRINTING

ADJUSTMENTS

TROUBLE-SHOOTING

OTHERS

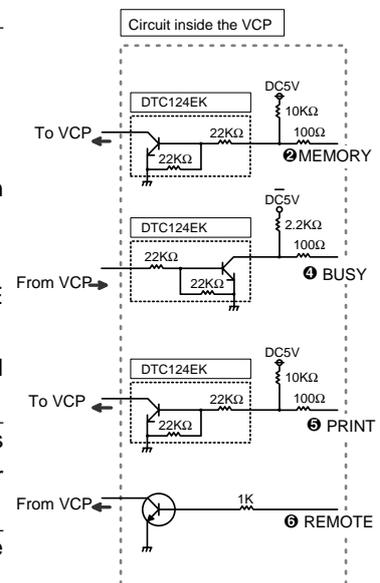
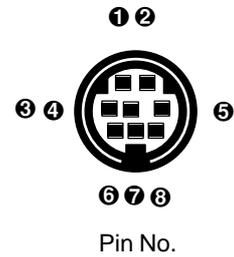
EXTERNAL REMOTE TERMINAL 2

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.

EXTERNAL REMOTE TERMINAL SIGNAL ALLOCATION (MINI DIN8PIN)

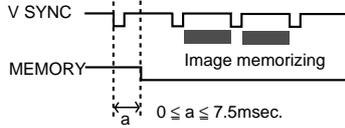
Pin No.	Function	Description
①	Ground	Earth
②	MEMORY	Memory : When the signal becomes "LOW" from "HIGH", the image is stored in memory. (When the signal has been "LOW" for 60msec. or more, the image is stored in memory.
③	Unused	
④	BUSY	HIGH : The VCP cannot accept the remote signal. LOW : The VCP can accept the remote signal. • This signal becomes "HIGH" in the following cases; <ul style="list-style-type: none"> • During initialization after the VCP has been switched on • For about 1 sec. after the INPUT SELECT switch has been set • During displaying the menu screen • When the image cannot be stored in memory(BUSY MODE :MEM) • If BUSY LEVEL of SYSTEM SET menu is set to L, the above HIGH and LOW setting gets to be reversed.
⑤	PRINT	When the signal becomes "LOW" from "HIGH", the image is stored in memory. (When the signal has been "LOW" for 60msec. or more, the image is stored in memory.
⑥	REMOTE	The same functions as the supplied remote control can be controlled.
⑦	Unused	
⑧	DC3V	Power supply for the remote control DC 1mA Max.



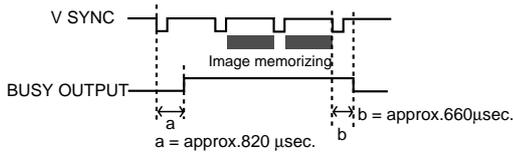
- When the signal from BUSY terminal is received with TTL level, keep the following.
 $| I_{OL} | = 2\text{mA}$ or less, $| I_{OH} | = 1\text{mA}$ or less
 $| I_{OL} |$ means the current flowing into the unit at Low output, $| I_{OH} |$ means the current flowing out of the unit at High output.

■ SYNCHRONOUS SETTING FOR MENU, BUSY TIMING

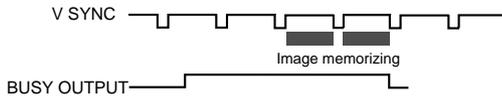
BUSY MODE : PRN or MEM, V SYNC MEM : ON in REMOTE SET of SERVICE MENU



BUSY MODE : TIM, BUSY TIMING : 1V in REMOTE SET of SERVICE MENU



BUSY MODE : TIM, BUSY TIMING : 2V in REMOTE SET of SERVICE MENU



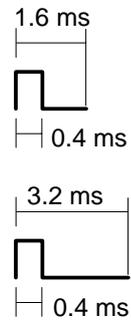
The numbers in the above figures are just references. The timing may be different according to the setting.

■ PIN NO. ⑥ REMOTE TERMINAL

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

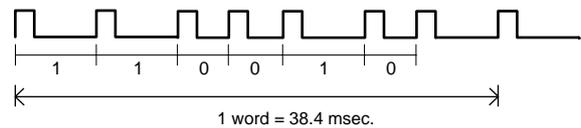
- | | | | |
|-------------------------|--------------------|-------------------------|--------------|
| 01: ◀ button | 02: ▶ button | 03: ▼ button | 04: ▲ button |
| 08: PRINT Q'ty ▲ button | 09* | | |
| 0A*: MENU button | 0B*: CLEAR button | 0C: PRINT Q'ty ▼ button | |
| 0D* | 0E*: SET button | 0F*: 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.



■ TIMING CHART

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



(EXAMPLE) Print code
= 13 = 0 1 0 0 1 1

PRECAUTIONS

FEATURES

CONNECTIONS

PREPARATION

PRINTING

ADJUSTMENTS

TROUBLE-SHOOTING

OTHERS

SETTING THE FUNCTIONS (MENU CHART)

MONITOR DISPLAY CHART

OPERATION

```

PRINT MENU
MODE : AUTO/S
GRAD : ES/ECHO/NOR
GAMMA MENU : PUSH [▶]
APT : S/N/H1/H2/H3
COM : OFF/ON/ADJ/DATA
MIRROR : OFF/ON

CHANGE: OK/CANCEL
    
```

Monitor display

Select MENU with ▲, ▼ button.

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

is reference page.

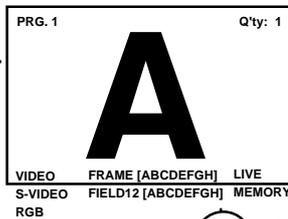
is the name of button on remote control.

is the name of button on front panel.

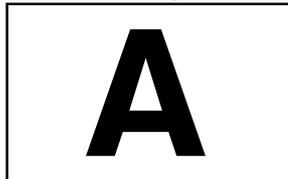
Front panel



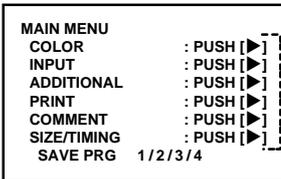
Set conditions display



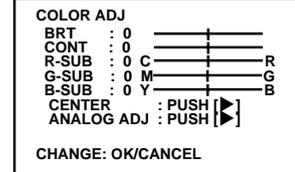
Source image



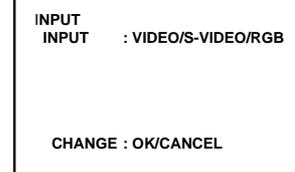
MAIN MENU display



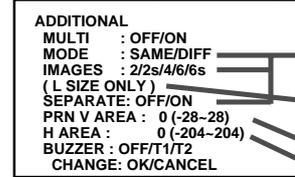
p38 Image adjustment display



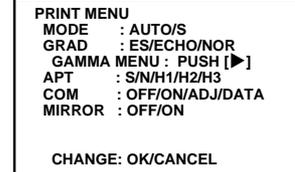
p38 Signal selection display



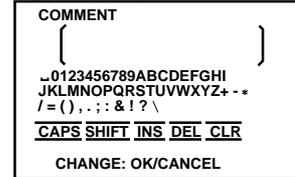
p39 Special print setting display



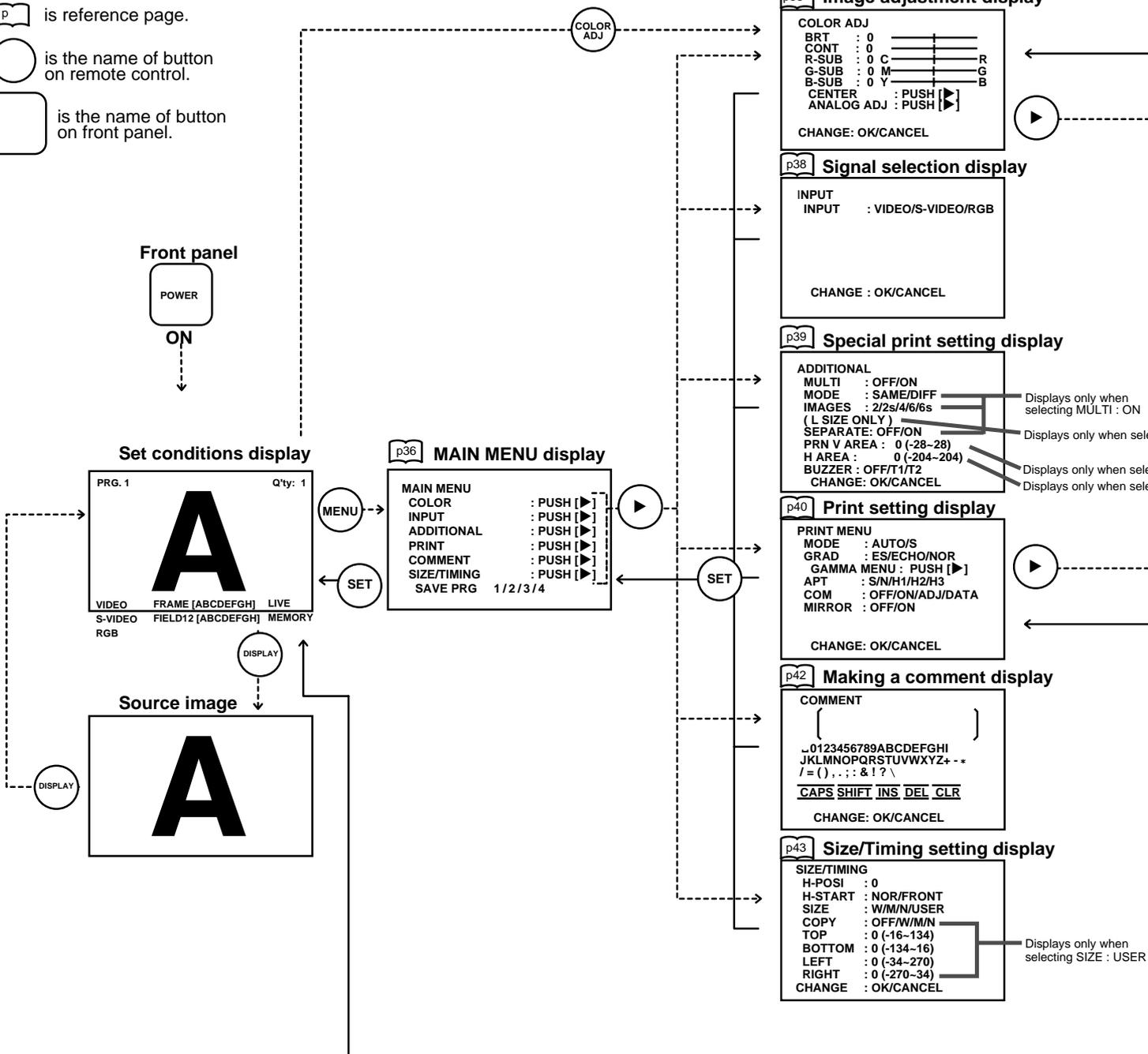
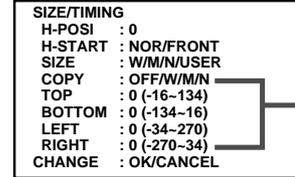
p40 Print setting display



p42 Making a comment display



p43 Size/Timing setting display



p38 Analog image adjustment display

ANALOG ADJ

BRT	:	0	_____		
CONT	:	0	_____		
R-SUB	:	0	_____	R	
B-SUB	:	0	_____	B	
COLOR	:	0	_____		
CENTER	:	PUSH [▶]			

CHANGE : OK/CANCEL

Displays only when selecting INPUT : VIDEO or S-VIDEO

p46 Button function setting display

KEY SET

KEY LOCK	:	OFF/ON
MEM&PRN	:	OFF/ON/R1/R2
MEM&STOP	:	OFF/ON
MEM&MONI	:	OFF/ON
PRN&CLR	:	OFF/PRN/MEM
CLEAR KEY	:	MLT/PAGE/ALL
KEEP MONI	:	OFF/ON

CHANGE : OK/CANCEL

Displays only when selecting INPUT : VIDEO or S-VIDEO

p47 Signal setting display1

SIGNAL SET 1

FIELD	:	NOR/REV
AFC	:	OFF/ON
AGC	:	OFF/ON
DCF	:	OFF/ON
SYNC	:	EXT/INT
R-SUB	:	0 C _____ R
B-SUB	:	0 Y _____ B

CHANGE : OK/CANCEL

Displays only when selecting INPUT : VIDEO

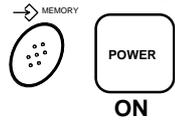
p48 Signal setting display2

SIGNAL SET 2

IN SYNC	:	0.3V/TTL, SOG
OUT SYNC	:	0.3V / TTL
SYNC	:	POS/NEGA
RGB SOG OUT	:	OFF/ON
SPCL TIMING	:	OFF/ON

CHANGE : OK/CANCEL

Front panel Press at the same time



p40 Gamma level setting display

GAMMA INIT: PUSH [CLEAR]

COLOR: ALL/EACH

SELECT : R/G/B

Hi		0	_____
Mid		0	_____
Low		0	_____

POINT: 64 128 192

CHANGE : OK/CANCEL

Displays only when selecting COLOR : EACH

p45 SERVICE MENU display

SERVICE MENU

KEY SET	:	PUSH	▶
SIGNAL SET1	:	PUSH	▶
SIGNAL SET2	:	PUSH	▶
PRINT SET	:	PUSH	▶
SYSTEM SET	:	PUSH	▶
REMOTE SET	:	PUSH	▶
PREVIOUS ERROR	:	PUSH	▶
PRG ALL INIT	:	OFF/ON	
SAVE	:	OK/CANCEL/INIT	

After selecting OK

p48 Print setting display

PRINT SET

DIR	:	NOR/REV
MARGIN CUT	:	OFF/ON
AUTO CUT	:	OFF/ON
OP MODE	:	4P/3P

CHANGE : OK/CANCEL

p49 System setting display

SYSTEM SET

PAGE INC	:	OFF/ON
LIVE SEL	:	ANA/DIG
CONV	:	OFF/ON
REMAINING	:	OFF/0

CHANGE : OK/CANCEL

p49 Remote signal setting display

REMOTE SET

BAUD RATE	:	1200/2400/4800/9600
COMMAND TYPE	:	A/B/C
RESPONSE	:	RET/NO
BUSY LEVEL	:	H/L
BUSY MODE	:	PRN/MEM/TIM
BUSY TIMING	:	1V/2V
V SYNC MEM	:	OFF/ON

CHANGE : OK/CANCEL

Displays only when selecting BUSY MODE : TIM

p50 Previous error display

PREVIOUS ERROR

MECHA ERROR NOTHING

To Set Conditions display (Left side of previous page)

ecting IMAGES : 6/6s
ecting IMAGES : 2
ecting IMAGES : 6s

SETTING THE FUNCTIONS (MENU CHART)

LCD DISPLAY CHART

OPERATION

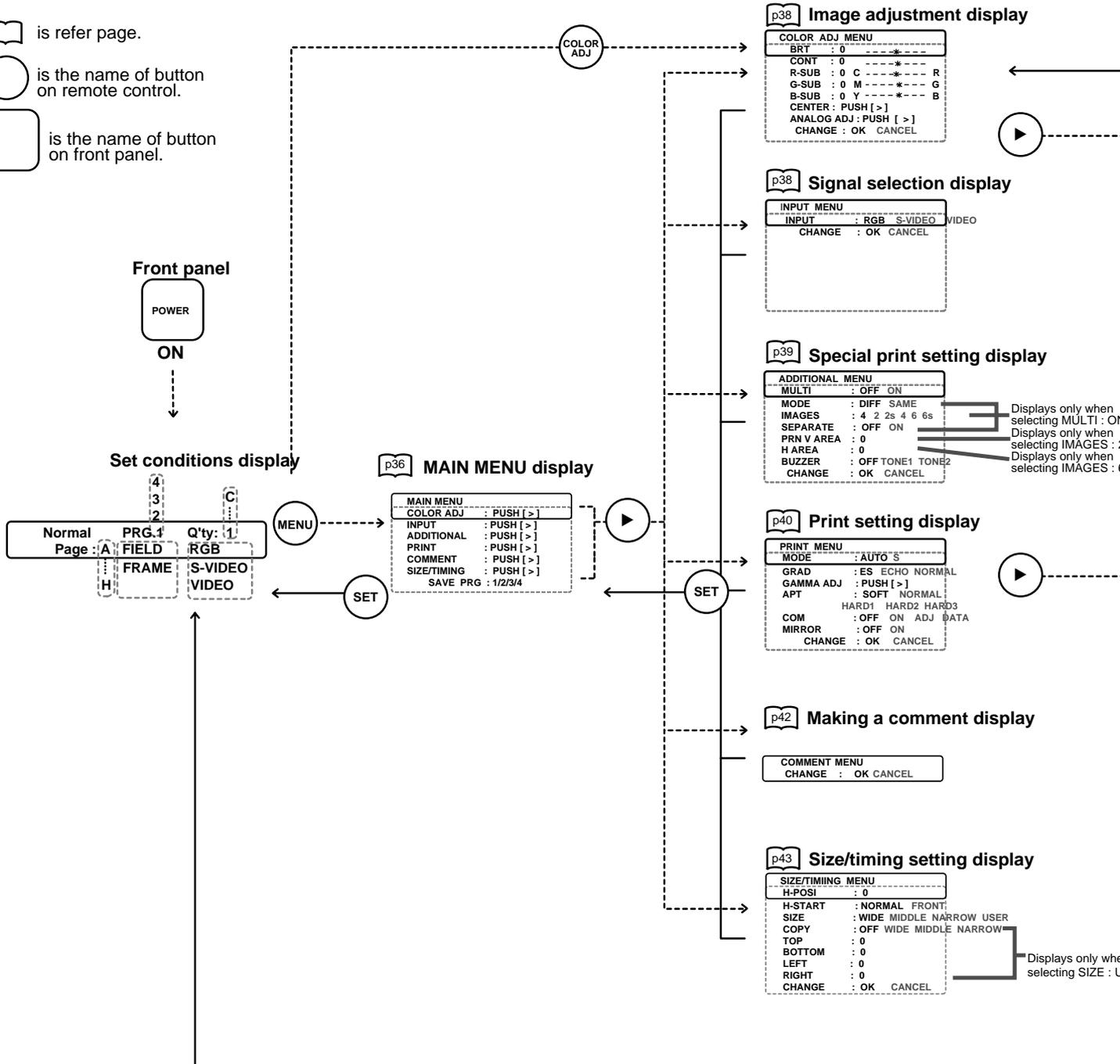
COLOR ADJ MENU	
BRT :	0
CONT :	0
R-SUB :	0 C
G-SUB :	0 M
B-SUB :	0 Y
CENTER :	PUSH [>]
ANALOG ADJ :	PUSH [>]
CHANGE :	OK CANCEL

LCD display

The menus in the broken lines are indicated by ▲, ▼ button.

Press ◀, ▶ buttons to change the value, select mode or switch the item. (The item indicated by switching is shown in light character in this chart.)

- is refer page.
- is the name of button on remote control.
- is the name of button on front panel.



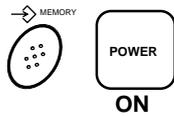
p38 Analog image adjustment display

ANALOG ADJ MENU	
BRT	: 0
CONT	: 0
R-SUB	: 0 C
B-SUB	: 0 Y
COLOR	: 0
CENTER	: PUSH [>]
CHANGE : OK CANCEL	

Displays only when selecting INPUT:VIDEO or S-VIDEO

SET

Front panel Press at the same time



p40 Gamma level setting display

GAMMA CENTER: PUSH [CLEAR]	
COLOR	: ALL EACH
SELECT	: R G B
Hi	: 0
Mid	: 0
Low	: 0
Low POINT	: 64
Mid POINT	: 128
Hi POINT	: 192
CHANGE : OK CANCEL	

Displays only when selecting COLOR : EACH

p45 SERVICE MENU display

SERVICE MENU	
KEY SET	: PUSH [>]
SIGNAL SET1	: PUSH [>]
SIGNAL SET2	: PUSH [>]
PRINT SET	: PUSH [>]
SYSTEM SET	: PUSH [>]
REMOTE SET	: PUSH [>]
PREVIOUS ERROR	: PUSH [>]
PRG ALL INIT	: OFF ON
SAVE	: OK CANCEL INIT

After selecting OK

SET

To Set conditions display (Left side of previous page)

p46 Button function setting display

KEY SET MENU	
KEY LOCK	: OFF ON
MEM & PRN	: OFF ON R1 R2
MEM & STOP	: OFF ON
MEM & MONI	: OFF ON
PRN & CLR	: OFF PRN MEM
CLEAR KEY	: PAGE MLT PAGE ALL
KEEP MONI	: OFF ON
CHANGE	: OK CANCEL

Displays only when selecting INPUT : VIDEO or S-VIDEO

p47 Signal setting display1

SIGNAL SET 1 MENU	
FIELD	: NORMAL REVERSE
AFC	: OFF ON
AGC	: OFF ON
DCF	: OFF ON
SYNC	: EXT INT
R-SUB	: 0 C
B-SUB	: 0 Y
CHANGE	: OK CANCEL

Displays only when selecting INPUT : VIDEO

p48 Signal setting display2

SIGNAL SET 2 MENU	
IN SYNC	: TTL SOG 0.3V
OUT SYNC	: TTL 0.3V
SYNC	: NEGA POSI
RGB SOG OUT	: OFF ON
SPCL TIMING	: OFF ON
CHANGE	: OK CANCEL

p48 Print setting display

PRINT SET MENU	
DIR	: NORMAL REVERSE
MARGIN CUT	: OFF ON
AUTO CUT	: ON OFF
OP MODE	: 4P 3P
CHANGE	: OK CANCEL

p49 System setting display

SYSTEM SET MENU	
PAGE INC	: ON OFF
LIVE SEL	: DIGITAL ANALOG
CONVERT	: ON OFF
REMAINING	: OFF 0
CHANGE	: OK CANCEL

p49 Remote signal setting display

REMOTE SET MENU	
BAUD RATE	: 9600 1200
2400 4800 9600	
COMMAND TYPE	: A B/C
RESPONSE	: RETURN NO
BUSY LEVEL	: H L
BUSY MODE	: NOT PRINT NOT MEMORY MEM TIMING
V SYNC MEM	: OFF ON
BUSY TIMING	: 1V 2V
CHANGE	: OK CANCEL

Displays only when selecting BUSY MODE : MEM TIMING

p50 Previous error display

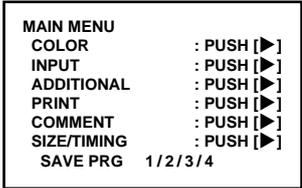
PREVIOUS ERROR	
MECHA ERROR	: NOTHING

ADJUSTMENTS & SETTINGS (MAIN MENU)

MAIN MENU ITEMS

MAIN MENU is used to open sub-menus. The functions are set with the following 6 menus. The settings can be saved by SAVE PRG.

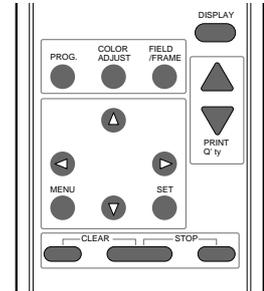
- COLOR ADJ Adjusts colour of printing image
- INPUT Selects the input signal
- ADDITIONAL Selects multi image print, print mode, buzzer
- PRINT MENU Selects paper size, gamma characteristic, adjusts image outline, selects comment printing method and mirror print (left/right inverted)
- COMMENT Making a comment
- SIZE/TIMING Selects print size, print area, sets the horizontal start of the input image
- SAVE PRG Stores the above settings in 1 of 4 user memories



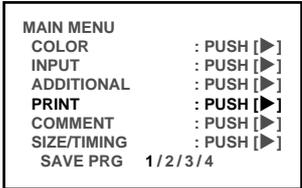
Monitor display

OPERATING MAIN MENU

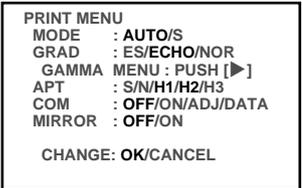
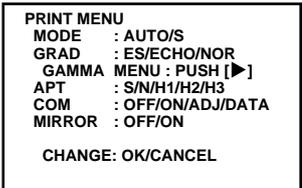
Use buttons on the remote control to display MAIN MENU and select and set functions.



- 1 Press MENU button to display MAIN MENU.
- 2 Select your desired item by pressing ▲ or ▼.
- 3 Press ► button to open a sub menu.
- 4 Select an item you wish to adjust by pressing ▲ or ▼.



(EXAMPLE) Selecting PRINT display



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

```
PRINT MENU
MODE      : AUTO/S
GRAD      : ES/ECHO/NOR
           GAMMA MENU : PUSH [▶]
APT       : S/N/H1/H2/H3
COM       : OFF/ON/ADJ/DATA
MIRROR    : OFF/ON

CHANGE : OK/CANCEL
```

6 Press SET button.

“CHANGE : OK/CANCEL” will be selected.

If you wish to cancel the setting, press ▶ and select “CANCEL”.

```
PRINT MENU
MODE      : AUTO/S
GRAD      : ES/ECHO/NOR
           GAMMA MENU : PUSH [▶]
APT       : S/N/H1/H2
COM       : OFF/COM/ADJ/DATA
MIRROR    : OFF/ON

CHANGE : OK/CANCEL
```

7 Select OK and press SET button.

The program is set and the MAIN MENU is displayed.

```
MAIN MENU
COLOR          : PUSH [▶]
INPUT          : PUSH [▶]
ADDITIONAL     : PUSH [▶]
PRINT          : PUSH [▶]
COMMENT        : PUSH [▶]
SIZE/TIMING    : PUSH [▶]
SAVE PRG      1/2/3/4
```

8 Press SET button again.

“SAVE PRG” will be indicated in green.

```
MAIN MENU
COLOR          : PUSH [▶]
INPUT          : PUSH [▶]
ADDITIONAL     : PUSH [▶]
PRINT          : PUSH [▶]
COMMENT        : PUSH [▶]
SIZE/TIMING    : PUSH [▶]
SAVE PRG      1/2/3/4
```

9 Press ◀ or ▶ button to select the user memory numbers of 1, 2, 3 or 4 to store the setting.

When PRG 1 is already used and the input signal is different from that of PRG 1, PRG 2 is selected automatically.

10 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 **9**.
- 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. You can store only 1 kind of program set in COMMENT menu and SIZE/TIMING menu.
- The image will be printed according to the selected memory program.

PRECAUTIONS

FEATURES

CONNECTIONS

PREPARATION

PRINTING

ADJUSTMENTS

TROUBLE-
SHOOTING

OTHERS

COLOR ADJ Colour adjustment

- The colour of the source image and memorized image can be adjusted.
- Open this menu also by pressing the COLOR ADJ button on the remote control.

BRT (Bright) Adjusts brightness of the printing image.

CONT (Contrast) Adjusts contrast of the printing image.

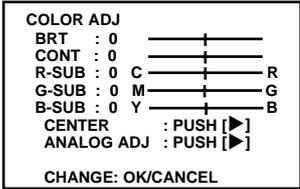
R-SUB Adjusts red-subcontrast of the printing image. Red is added with ► and blue is added with ◀.

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 Initializes each setting in COLOR ADJ. When pressing ►, the values of BRT, CONT, R-SUB G-SUB and B-SUB will be reset to 0.

ANALOG ADJ. (Analog Adjust)
Displays the adjusting menu of analog input signal image before storing in the memory. ANALOG ADJ menu will be displayed with ►.



ANALOG ADJ Analog image adjustment

- This menu is used to adjust the image of analog input signal before storing in the memory.
- Open the menu with the ► button from ANALOG ADJ on the COLOR ADJ menu.

BRT (Bright) Adjust the brightness of the printing image.

CONT (Contrast) Adjust the contrast of the printing image.

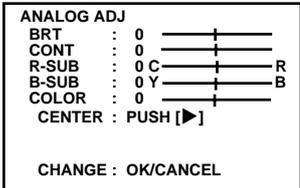
R-SUB Adjusts red-subcontrast of the printing image. Red is added with ► and blue is added with ◀.

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 colour of the image gets deeper with ► and lighter with ◀.

CENTER Initializes each setting. When pressing ►, the values of BRT, CONT, R-SUB, B-SUB, and COLOR will be reset to 0.

- When selecting RGB input signal, and COLOR can not be adjusted, nor displayed on the menu.
- Select OK on "CHANGE : OK/CANCEL" and press SET button to exit to the ANALOG ADJ menu and move back onto COLOR ADJ menu.



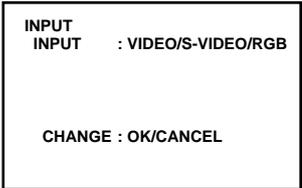
INPUT Signal selection

INPUT Selects the signal input through the terminal on the rear panel.

VIDEO Signal from video signal input terminal

S-VIDEO Signal from S-video signal input terminal

RGB Signal from RGB signal input terminal



ADDITIONAL Special print setting

MULTI Selects ON or OFF for printing 2, 4, or 6 images on a sheet.
ON Multi-image print is available.
OFF Multi-image print is not available.

MODE Selects print mode
SAME Prints images of the same scenes on a sheet.
DIFF (Different) Prints images of different scenes on a sheet.

- This menu is displayed only when MULTI : ON is selected.

IMAGES Is displayed when setting MULTI: ON.

2 2-images on a sheet. (When printing on a L size paper, the image can be printed fully in width. However, the top and bottom of the image will be clipped.)

2s 2-images on a sheet. (When printing on a L size paper, the image can be printed without clipping. However, each of the images printed is smaller.)

4 4-images on a sheet

6 6-images on a sheet

6s 6-images on a sheet (When printing on a L size paper, the right and left side of the image will be clipped.)

- 6 and 6s are available to set only when printing on L size paper. The print is not available when selecting MODE: S in PRINT menu or S size ink sheet is installed.
- When selecting 2s for printing L size paper, switching monitor displays or memorizing images are not available during printing.

SEPARATE Is displayed when MULTI is ON
OFF Prints without white frame.
ON Prints with white frame.

PRN V AREA Adjusts the vertical position of memory image
 Setting area -28 ~ 28 (adjusts 2 lines each)

- When "2" of IMAGE in ADDITIONAL is selected, printing on a L size paper may cause some parts of the image to be clipped, or the top and bottom parts of the image.
- PRN V AREA permits adjustment of the vertical position of the image so that the clipped part of the image can be moved higher and lower.
- This menu is displayed only when IMAGES is set for 2.

H AREA Adjusts the horizontal position of memory image
 Setting area -204 ~ 204

- When IMAGE is set to "6s", the left and right parts of the image may be clipped.
- H AREA permits adjustment of the position of the image so that the clipped part of the image can be moved left or right.
- This menu is displayed only when IMAGES is set for "6s".

BUZZER Selects sounds the buzzer when pressing the buttons on the VCP and remote control.

OFF Do not sound the buzzer
T1 Sound the buzzer (Tone 1)
T2 Sound the buzzer (Tone 2)

ADDITIONAL
 MULTI : OFF/ON
 MODE : SAME/DIFF
 IMAGES : 2/2s/4/6/6s
 SEPARATE : OFF/ON

BUZZER : OFF/T1/T2
CHANGE : OK/CANCEL

PRECAUTIONS
FEATURES
CONNECTIONS
PREPARATION
PRINTING
ADJUSTMENTS
TROUBLE-SHOOTING
OTHERS

PRINT Print setting

- MODE** Selects the print size. Normally select the ink sheet size which installed in this unit. (See pages 14 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
- GRAD (Gradation)** Adjust the gamma curve of images.
Selects the gamma curve among 3 kinds of the settings.
- ES** Mainly when connecting to endoscope
 - ECHO** Mainly when connecting to ultrasound diagnostic equipment
 - NOR** Mainly when connecting to other medical equipment
- If changing gamma curve value, adjust it on GAMMA MENU.

```

PRINT MENU
MODE      : AUTO/S
GRAD      : ES/ECHO/NOR
GAMMA MENU : PUSH [▶]
APT       : S/N/H1/H2/H3
COM       : OFF/ON/ADJ/DATA
MIRROR    : OFF/ON

CHANGE: OK/CANCEL
    
```

GAMMA MENU Adjusting gamma curve

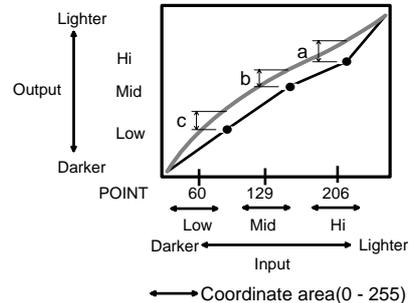
- COLOR** Selects the adjusting gamma level.
- ALL** Adjusting gamma level for all colours.
 - EACH** Adjusting gamma level for each colour of R, G, B.
- SELECT** Is displayed when selecting EACH in COLOR.
- R** Adjusting gamma level for red.
 - G** Adjusting gamma level for green.
 - B** Adjusting gamma level for blue.

Changing gamma curve:

Use the ▲, ▼ buttons on the remote control to select the Hi/Mid/Low gamma point to set.
Also use ◀, ▶ buttons to input setting level.
Set the 3 points level for input first. After setting the level for input, set the level (a, b, c) for output.

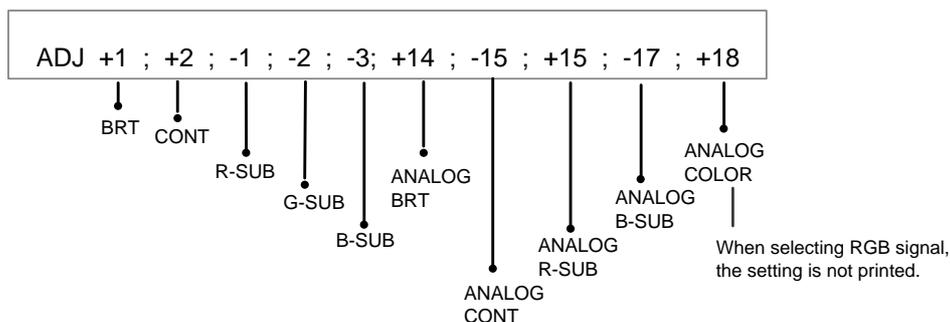
- Hi/Mid/Low** Adjusts the colour depth of image by selected point.
POINT(Hi/Mid/Low) Selects the point to adjust the colour depth.
(EXAMPLE) Pointing lighter colour much lighter;
Set the setting level for POINT(Hi) and Hi higher.

- APT (Aperture)** Controls apertures and reinforces or softens the contour of image.
- S (SOFT)** Softens the contour.
 - N (NORMAL)** Does not perform APT.
 - H1 (HARD 1)** Reinforces the contour.
 - H2 (HARD 2)** Reinforces more the contour.
 - H3 (HARD 3)** Reinforces more than the H2 contour.



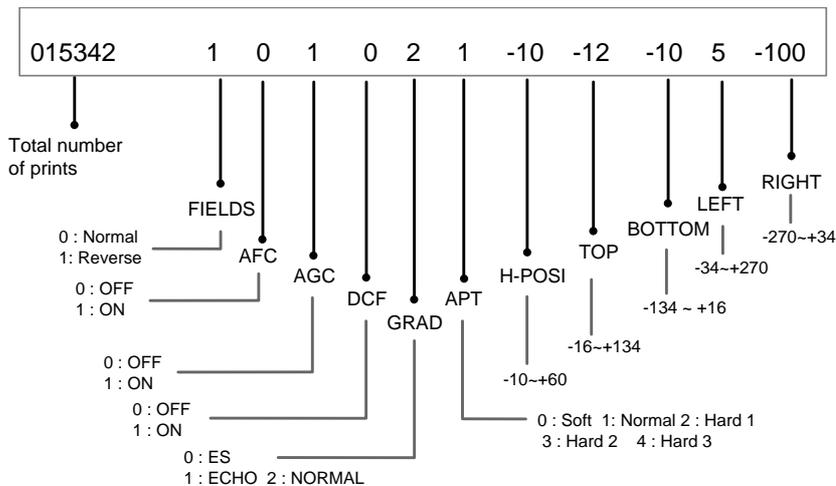
COM (Comment) Selects the comment on printing.
OFF Does not print comments.
ON Prints the comment you made.
ADJ Prints the set value made on the ANALOG ADJ menu.

- The following information is printed.



DATA Prints total number of prints, FIELD, filter, image size, etc.

- The following information is printed.



- When selecting MULTI : ON and IMAGE : 2, 4 or 6 on ADDITIONAL menu, ADJ and DATA of the last memorized image will be printed.

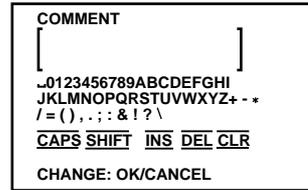
MIRROR Selects the mirror (left/right inverted) prints.
OFF Normal print
ON Mirror print

COMMENT Making a comment

This menu is used to enter a comment. The comment is 48 characters long. When the 2 image mode is used in the small media, the printed comment is the first 37 characters.

The comment entry display has 4 sections, the Comment display section, the Character table section, the Edit mode section, and the Change OK/CANCEL section. The comment entry section changes between the 4 sections each time the MENU button is pressed.

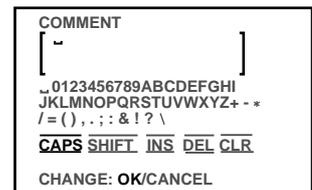
- ① **Comment display** Displays the comment letters entered and the current entry position within the comment. When selected, the entry position can be changed with the ▲, ▼, ◀ or ▶ buttons.
- ② **Character table** Selects the character to input. To select the desired character within the table move through the table with the ▲, ▼, ◀ or ▶ buttons. Press SET button to input the selected character.
- ③ **Edit mode** Selects the capital or alternate character type, inset/delete/clear comment mode. Select the edit mode with the ◀ or ▶ buttons.
 - CAPS** When selected, press SET button to switch uppercase to lowercase.
 - SHIFT** When selected, press SET button to switch between alpha/numerical to symbol characters.
 - INS (Insert)** Set to insert a character at the comment position.
 - DEL (Delete)** Set to delete a character at the comment position.
 - CLR (Clear)** Use to clear the entire comment. (if accidentally cleared, choose CANCEL in CHANGE:OK/CANCEL)
- You can change the edit mode also during making a comment.
- ④ **CHANGE : OK/CANCEL** Sets the input comment.
 - OK** Sets the entered comment.
 - CANCEL** Continue editing the comment.



MAKING A COMMENT

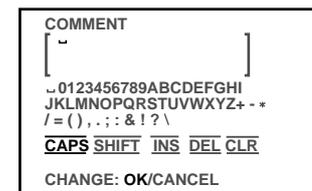
- 1 **Press MENU button to select the comment display block.**

The block being selected is displayed in green.



- 2 **Adjust the position for character entry.**

Select the comment display block with MENU button and move the cursor to the desired position using ▲, ▼, ◀ or ▶ button. The selected letter position will blink in red.

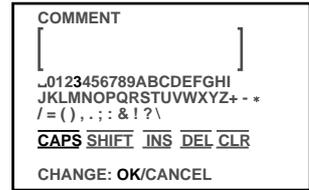


- 3 **Select the character table block with MENU button.**

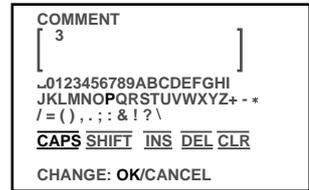
The block being selected is displayed in green. The selected letter will blink in red.



- 4 Select a desired letter with ▲, ▼, ◀ or ▶ button.
The selected letter will blink in red.



- 5 Press SET button.
The selected letter is inputted into the comment display block.
The cursor in the comment display block will move to right.



- 6 Repeat steps 1 to 5 to complete a comment.
- Skip 1 to 2 if you do not change the cursor position.
 - Select DEL or CLR on the edit command block to delete a letter or the whole comment.
 - Only one comment can be stored regardless of the program number you chose in SAVE PRG. Same comment will be stored in PRG. 1 through PRG.4. Different comments cannot be stored in each program.

SIZE/TIMING Setting size and timing

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

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 ~ +60

- H-POSI setting area becomes +60 ~ -65 when SPCL TIMING (See page 48) sets ON of SIGNAL SET2 in SERVICE MENU.
- Setting below -11 may cause disabilities of memory, or switching memory display and monitor display during printing.

H-START (H-Position)
Sets H-Position to special signal timing. Select FRONT when the image is unbalanced and cannot be corrected by H-POSI on basic printing. When selecting FRONT, AFC in SIGNAL SET1, it does not work and the top part of the printing image may curved during VTR special play back.

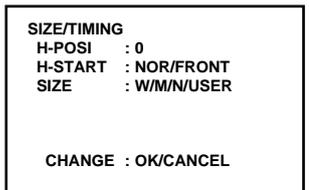
NOR (Normal) When inputting PAL input signal
FRONT When inputting special input signal

SIZE Sets the print area of the image. Choose from 3 preset print areas or a user selectable area. The widest area is for under scanned images such as medical. Other video images should use the medium or narrow settings, use the narrow setting if images from a camera or tape has a black area at the top/bottom/sides or if areas not shown on the monitor are being printed.

Printed image size of 1 image mode(mm)

Picture element	(S size)	(L size)
W 1216X600 dot	117X88	154X116
M 1148X568 dot	111X83	145X109
N 1104X544 dot	106X80	140X105
USER	Optional size by user	

- Part of the video image shown on the monitor may be clipped from the print when the image size is set to N or M.



ADJUSTMENTS & SETTINGS (MAIN MENU)

COPY Copy a printed image size which is set W, M, or N in size. The selected setting level is displayed as TOP, BOTTOM, LEFT and RIGHT. These levels become the changing base.

TOP/BOTTOM/LEFT/RIGHT

Sets the printing area of the image. Adjust the size with ◀ or ▶ button.

TOP Shifts the upper end of the image (setting area : -16 to +134)
BOTTOM Shifts the lower end of the image (setting area : -134 to +16)
LEFT Shifts the left end of the image (setting area : -34 to +270)
RIGHT Shifts the right end of the image (setting area : -270 to +34)

SIZE/TIMING
H-POSI : 0
H-START : NOR/FRONT
SIZE : W/M/N/USER
COPY : OFF/W/M/N
TOP : 0 (-16 ~ 134)
BOTTOM : 0 (-134 ~ 16)
LEFT : 0 (-34 ~ 270)
RIGHT : 0 (-270 ~ 34)
CHANGE : OK/CANCEL

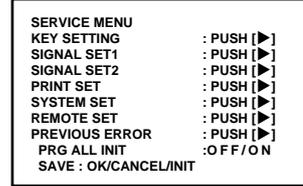
NOTE

- When monochrome signal is input, colours may not be added to the characters displayed on the monitor.
- When SIZE is set to W or the minus value is increased on H-POSI, the monitor screen may get darker according to the monitor connected. However, the image will be printed correctly.

ADJUSTMENTS & SETTINGS (SERVICE MENU)

SERVICE MENU ITEMS

KEY SET	Selects the functions of the buttons and function of remote terminal.
SIGNAL SET1	Sets even/odd number of FIELD, adjusts display, input signals etc.
SIGNAL SET2	Sets sync. signal, signal timing.
PRINT SET	Selects printing direction, paper cutting position, and auto cut.
SYSTEM SET	Page increment, switches outputs of input signal
REMOTE SET	Selects baud rate and RS-232C switches response command, and selects remote signal.
PREVIOUS ERROR	Shows error history.
PRG ALL INIT	Initializes the settings.
CHANGE : OK/CANCEL/INIT	Saves, cancels or initializes the setting of the above functions.

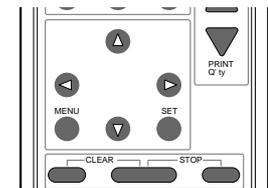
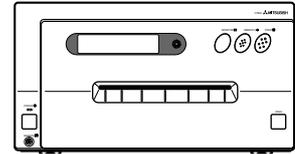


OPERATING SERVICE MENU

1 With the power of the unit turned off, press **POWER** button while pressing **MEMORY** button to display **SERVICE MENU** on the monitor.

Keep pressing the buttons until the menu is displayed. The time to display the menu depends on the memorized setting level.

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



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

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

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

6 Press **SET** button.

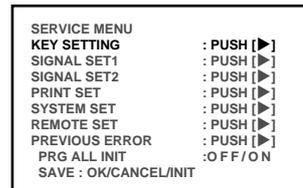
"SAVE : OK/CANCEL/INIT" will be selected.

7 Press **◀** or **▶** button to select **OK**, **CANCEL** or **INIT**.

OK	Saves the setting and exits to the MENU display.
CANCEL	Cancels the setting and exits to the MENU display.
INIT	Initializes all the settings of SERVICE MAIN MENU and exits the MENU display.

8 Select **OK** and press **SET** button.

The setting is saved and the normal display is shown.



(EXAMPLE) Selecting KEY SET display



PRECAUTIONS

FEATURES

CONNECTIONS

PREPARATION

PRINTING

ADJUSTMENTS

TROUBLE-SHOOTING

OTHERS

KEY SET Setting functions of buttons

KEY LOCK
ON Makes the function on the remote control buttons invalid. The function on the remote control buttons, except MEMORY, PRINT, MONITOR and MEMORY PAGE are not available.
OFF All buttons on the remote control are available.

MEM&PRN (Memory and Print)
 When pressing MEMORY button, the image is automatically printed after the image is stored in the memory. In case of multi-image of different scenes, printing will be done after the last image is stored in memory.

ON Automatically prints after memorizing.
OFF MEMORY button functions individually. The image is memorized without printing.
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 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.

MEM&STOP (Memory and Stop)
ON The image is not overlaid in the memory. When pressing PRINT or CLEAR button, an image can be overlaid on the first memory page.
OFF The next image is overlaid in the memory.

MEM&MONI (Memory and Monitor)
 Switches the monitor display between the source image and memory image after memorizing.
ON Displays the memory image.
OFF Displays the source image.

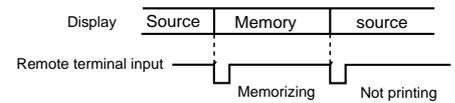
PRN&CLR (Print and Clear)
OFF The printed memory image is not cleared.
PRN The printed memory image is cleared. At continuous printing the memory will be cleared after completing all the continuous images.
MEM For multi display setting, when memorizing over the printed page, the previous image is cleared.

CLEAR KEY
MLT Pressing CLEAR button on the remote control, the memorized image being selected is cleared.
PAGE Pressing CLEAR button on the remote control, images of the memorized page being selected are cleared.
ALL Pressing CLEAR button on the remote control, all of the stored images are cleared.
 • At continuous printing, the memorized images will be cleared according to the setting of CLEAR KEY after completing printing.

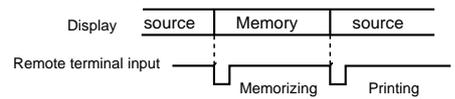
KEEP MONI
ON Selects the monitor display during printing. Displays the source image after starting printing, when indicating it before printing. Displays the memory image after starting printing, when indicating it before printing.
OFF Displays the source image after starting printing.

KEY SET	
KEY LOCK	: OFF/ON
MEM & PRN	: OFF/ON/R1/R2
MEM & STOP	: OFF/ON
MEM & MONI	: OFF/ON
PRN & CLR	: OFF/PRN/MEM
CLEAR KEY	: MLT/PAGE/ALL
KEEP MONI	: OFF/ON
CHANGE : OK/CANCEL	

R1



R2



- In the following cases, the monitor display is automatically switched to the source image even if ON is selected.
 - “MULTI : 2s” is selected on ADDITIONAL menu of MAIN MENU.
 - “SPCL TIMING : ON” and “H-POSI : -10 to -65” are selected on SIGNAL SET2 menu of SERVICE MENU.
 - When selecting “ON,” memory for printing images is not available.

SIGNAL SET1 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

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.”
- This function menu is not displayed and invalid when selecting “FRONT” on H-START of SIZE/TIMING in MAIN MENU.

ON AFC is available
OFF AFC is invalid

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.

ON AGC is available
OFF AGC is invalid

- This function is not displayed when selecting RGB signal.

DCF

This function selects whether separating the composite video signal or not. When inputting the monochrome signal, this function is set to OFF, and the input signal is through DCF circuit. It is for high quality of monochrome image. When inputting the colour signal, this function is set to “ON.” Input signal is through DCF circuit and the composite video signal is separated.

ON When inputting colour signal
OFF When inputting monochrome signal

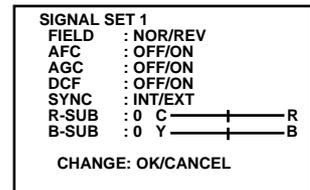
- This function is displayed when selecting VIDEO.

SYNC

Selects the Sync. signal for displaying memory image.

EXT Selects Sync. output signal, and displays memory image.
INT Selects Sync. input signal, and displays memory image.

- Selecting Sync. output signal may not display monitor image correctly depending on the connection. In this case, set SYNC to “INT.”



ADJUSTMENTS & SETTINGS (SERVICE MENU)

- R-SUB** Adjusts the red colour of the image on the monitor screen.
When pressing ◀ button, colour will be bluish and pressing ▶ button, colour will be reddish.
- This function does not reflect to print image.
- B-SUB** Adjusts the blue colour of the image on the monitor screen.
When pressing ◀ button, colour will be yellowish and pressing ▶ button, colour will be bluish.
- This function does not reflect to print image.

SIGNAL SET2 Signal setting display

- IN SYNC** Selects the level of input sync. signal
0.3V Composite Sync. of 0.3Vp-p level
TTL,SOG Composite Sync. of TTL level or Sync. on Green
- OUT SYNC** Selects the output level of H+V Sync signal of RGB signal.
0.3V 0.3Vp-p
TTL TTL level
- SYNC** Selects the polarity of H+V Sync. output signal of RGB signal. Set the polarity according to the monitor connected. See the operation manual of the monitor for the polarity.
POSI Positive polarity
NEGA Negative polarity
- RGB SOG OUT** Selects the sync.signal output from RGB analog output terminal on the rear panel.
OFF Outputs Composite sync. signal only.
ON Outputs Sync. On Green + Composite sync. signal.
- SPCL TIMING (Special Timing)**
 Make the setting range of H-POSI (on SIZE/TIMING of MAIN MENU) larger. Refer to Page 43.
ON Makes the setting range larger.
OFF Initial setting
- When this menu is set to ON, the next image may not be stored in the memory during printing.

```
SIGNAL SET 2
IN SYNC      : 0.3V/TTL, SOG
OUT SYNC     : 0.3V/TTL
SYNC         : POSI/NEGA
RGB SOG OUT  : OFF/ON
SPCL TIMING  : OFF/ON

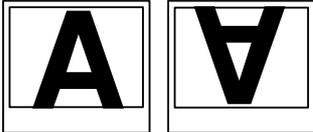
CHANGE: OK/CANCEL
```

PRINT SET Print setting display

- DIR (Print Direction)** Selects printing direction.
- This menu is available on S size paper.
- NOR** The margin is made on the lower position.
REV The margin is made on the upper position.
- MARGIN CUT** Cuts the margin of the printed paper.
- This function is very convenient to put the data in order such as sticking the image on the card. The figures show S size print paper setting.
- ON** Margin is cut.
OFF Margin is not cut.

```
PRINT SET
DIR       : NOR/REV
MARGIN CUT : OFF/ON
AUTO CUT  : OFF/ON
OP MODE   : 4P/3P

CHANGE: OK/CANCEL
```



NOR REV
DIR

AUTO CUT
ON
OFF

Sets to cut the printed paper automatically or not.
AUTO CUT is available.
Cuts the printed paper automatically when starting next print. Pressing MONITOR button and MEMORY button at the same time is also available to cut the printed paper.



Gray part is cut when MARGIN CUT is ON.

OP MODE
4P
3P

Sets print type automatically.
Surface coated print is available.
YMC print is available.
To set this mode allows only YMC prints, even when setting print paper with surface coat.

SYSTEM SET System setting display

SYSTEM SET	
PAGE INC	: OFF/ON
LIVE SEL	: ANA/DIG
CONV	: OFF/ON
REMAINING	: OFF/0

CHANGE : OK/CANCEL

PAGE INC (Page increment)

Every time pressing MEMORY button, memory page goes to the next page and image will be memorized on it.

LIVE SEL(Live select)

Switches the monitor display routes of input signal. Selects to display input signal, or the reflection of image and adjustment on the monitor.

ANA(Analog)

Displays on the monitor.

DIG(Digital)

Display the reflection of image and adjustment

CONV (Convert)

This function is to output the signals which selected at INPUT in MAIN MENU to Video output terminal/RGB output terminal/S-video output terminal.

ON

Outputs to Video output terminal/RGB output terminal/S-video output terminal.

OFF

Outputs to the same output terminal as the input terminal

REMAINING

Informs the number of remaining paper by a buzzer tone.

OFF

Does not sound the buzzer.

0 ~ 10

The buzzer sounds when 0 ~ 10 sheets of paper are left (available to set 1 sheet each).

- If a paper jam occurs, the remaining paper may not be informed correctly. Please observe the following precautions when you use this function.
 - Do not change the ink sheet size in the middle of using ink sheet.
 - Make sure to replace the print paper and ink sheet at the same time. (Press MEMORY button for at least 1 second with pressing MONITOR button for initializing after changing them. It resets the remaining counter.)
 - Make sure to use the new one when you set the ink sheet and print paper.

REMOTE SET Remote signal setting display

BAUD RATE

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

COMMAND TYPE

Sets the command type of RS-232C.
Select the command type of RS-232C to control this unit.

- Select A for normal setting. Depending on the connected equipment, select B or C.

REMOTE SET	
BAUD RATE	: 1200/2400/ 4800/9600
COMMAND TYPE	: A/B/C
RESPONSE	: RET/NO
BUSY LEVEL	: H/L
BUSY MODE	: PRN/MEM/TIM
V SYNC MEM	: OFF/ON
CHANGE	: OK/CANCEL

PRECAUTIONS

FEATURES

CONNECTIONS

PREPARATION

PRINTING

ADJUSTMENTS

TROUBLE-SHOOTING

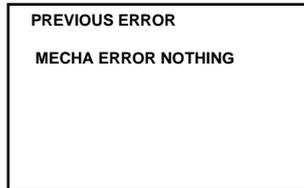
OTHERS

ADJUSTMENTS & SETTINGS (SERVICE MENU)

RESPONSE	Selects whether this unit sends RS-232C response to the host computer or not.
RET (Return)	Sends response.
NO	Not send response.
BUSY LEVEL	Selects how to output the BUSY signal of the remote terminals 1 and 2 on the rear panel.
H (High)	The VCP cannot accept the remote input signal when the signal is "HIGH".
L (Low)	The VCP cannot accept the remote input signal when the signal is "LOW".
•	The default setting is "H".
BUSY MODE	Selects when the BUSY signal of the remote terminals 1 and 2 output on the rear panel.
PRN	Outputs when printing is not available.
MEM	Outputs when memory is not available.
TIM	Outputs when memory timing is set in next item.
BUSY TIMING	Displays only when BUSY MODE is set to TIM. Use to set BUSY output timing.
1V	After outputting BUSY signal, memory is taken in by waiting to 1 vertical period.
2V	After outputting BUSY signal, memory is taken in by waiting to 2 vertical periods. See pages 29 and 31.
V SYNC MEM	Displays only when BUSY MODE is set to PRN or MEM. The timing from inputting the memory signal by the rear remote terminal till taking in image synchronizes with V SYNC.
OFF	The timing does not synchronize with V SYNC.
ON	The timing synchronize S with V SYNC.

PREVIOUS ERROR Error display

This function displays the most recent type of error.



Adjusting image without using remote control

COLOR ADJ slide switch is available to adjust images without using the accessory remote control. See page 5.

1 Press OPEN button to pull the printing unit.

2 Set the slide switch upward.

The same display as the adjusting display is indicated. See page 38.

3 Adjust the colour of images.

Use the buttons in front panel to adjust.

- MEMORY button : Selects items.
- MONITOR button : Set the setting level smaller. (-)
- PRINT button : Set the setting level larger.(+)

4 Set the slide switch down, and set the printing unit back to the original position.

NOTE

- When closing the printing unit, menu is closed and printing becomes available. However, make sure to set the slide switch down to close menu after adjusting.

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 or LCD.

In this case, follow the procedure described below.

Error messages	Causes	Countermeasures
DOOR OPEN	The printing unit is not inserted correctly.	<ul style="list-style-type: none"> • Insert the printing unit until it is locked in the unit.
PAPER EMPTY	Paper is not set. Paper is not set correctly. Paper runs out during printing. *Note : 1	<ul style="list-style-type: none"> • Set the print paper correctly. Refer to pages 15 - 16.
SHEET CARTRIDGE EMPTY	The sheet cartridge is not installed.	<ul style="list-style-type: none"> • Install the sheet cartridge. Refer to page 16 - 17.
OVER HEAT	The temperature of the thermal head becomes too high.	<ul style="list-style-type: none"> • Wait until the message goes off. *Note : 2
SHEET END	The ink sheet is used up.	<ul style="list-style-type: none"> • Replace the ink sheet with a new one. Refer to page 16 - 17.
PAPER JAM J11 PAPER JAM J12 PAPER JAM J13 PAPER JAM J14	Paper jamming occurs.	<ul style="list-style-type: none"> • Refer to page 54 "Overcoming paper jams"
TECHNICAL ERROR J22 TECHNICAL ERROR J23 TECHNICAL ERROR J24	Other defects.	<ul style="list-style-type: none"> • 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.
SHEET ERROR	When installing S size ink sheet, selecting IMAGES : 6 or 6s, or MODE : DIFF.	<ul style="list-style-type: none"> • Change to L size ink sheet or stop 6(6s) printing.

*Note : 1 In case of L-size printing, the image is not 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

Error messages	Causes and countermeasures
MECHA INITIALIZE REQUEST	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 during printing, this unit is initialized. This message is indicated during initializing.

PRECAUTIONS

FEATURES

CONNECTIONS

PREPARATION

PRINTING

ADJUSTMENTS

TROUBLE-SHOOTING

OTHERS

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	Is the power cord plug disconnected from the outlet: →Connect the power cord plug to the outlet firmly. After tuning the power off, wait for approx. 2 minutes. Then turn on the power.
No image appears on the monitor.	Are the SYNC, the OUT SYNC and the RGB SOG OUT set correctly? →Check the current setting. Refer to pages 8-13. Are the video signal and sync. signal inputted to this unit? →Check the connection. Refer to pages 8-13. Is the input signal on the menu screen (INPUT : VIDEO, S-VIDEO, RGB) selected correctly? →Check the current setting. Refer to pages 19-20. Is the image stored in memory displayed on the monitor screen? →Press MONITOR button to display the source image (LIVE).
The image on the monitor screen vibrates when characters are indicated on the monitor screen or LIVE SEL is set to "DIG". Refer to page 49.	Are the sync. polarity of the monitor (SYNC: NEGA POSI), the output level of the sync. signal (OUTPUT SYNC) and the RGB output sync. signal (RGB OUT) set correctly? →Check the current setting. Refer to pages 8 - 13.
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 after printing. Then, store the image in the memory again. Is the memory full in the status of "PAGE INC : OFF" or "PRINT CLR : OFF"? →Store the image in the memory after pressing the CLEAR button on the remote control. (According to the setting conditions, the image can be stored in the memory by setting PAGE INC to "ON", PRINT&CLR to "ON" or pressing the PRINT button.) Is the memory full in the status of "MEM & STOP : ON"? →Press CLEAR button on the remote control, 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.

Symptom

Check and Remedy

The stored image in the memory cannot be enlarged to fill the maxim 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 pages 20-21.
Is the paper size set to "N" in the size setting in SIZE/TIMING menu?
→ Set the size to "M" or "W". Refer to pages 32, 43.
Is the print area set correctly in SIZE/TIMING menu?
→ Check the setting of the print area. Refer to pages 43-44.

The colour of picture quality is different between the memorized image and the printed image.

Is the colour of the image stored in the memory adjusted?
→ Adjust the colour of the image stored in the memory with the image adjustment display (COLOR ADJ). Refer to pages 38.

When the video signal (e.g. without colour burst signal) is inputted to the unit, the image on the monitor screen or printed image becomes monochrome or rainbow-like coloured image.

Is the DCF set to OFF?
→ Set the DCF to OFF. Refer to page 47.

The colour or picture quality is different between the image on the monitor screen and the printed image. (When the colour 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 "R-SUB" and "B-SUB" in the SIGNAL SET1 menu.
Refer to page 48.

The set comments do not appear on the print paper.

Is the COM set to OFF?
→ Set the COM to ON. Refer to page 41.
Is the comment inputted?
→ Input the comment on the menu. Refer to page 42-43.

Wired remote control cannot be operated.

Is the plug of the remote control disconnected from its terminal on the unit?
→ Connect the plug of the remote control to the REMOTE terminal on the unit.
Is the wired remote control for this unit (accessory) used?
→ Use the remote control for this unit.
Is this unit operated through RS-232C interface?
→ Use the remote control when inputting RGB, VIDEO, or S-VIDEO signal.

PRECAUTIONS

FEATURES

CONNECTIONS

PREPARATION

PRINTING

ADJUSTMENTS

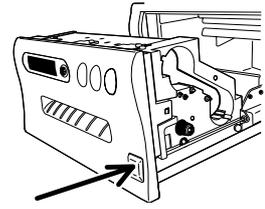
TROUBLE-SHOOTING

OTHERS

OVERCOMING PAPER JAMS

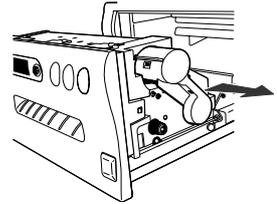
1 Press OPEN button to pull out the printing unit.

When it is not working, turn off the power once. Then try to press OPEN button again.



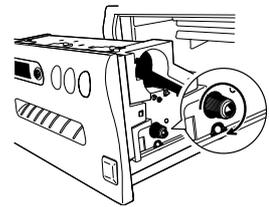
2 Remove the ink cassette.

Unlock the ink cassette by pushing the cassette locking lever to inside.



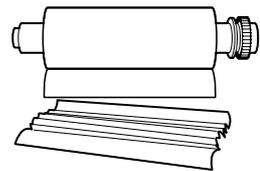
3 Turn the knob on the right side of the printing unit clockwise.

Roll up the print paper completely.

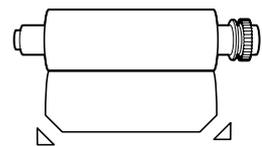


4 Remove the print paper.

5 Cut the defective part of the print paper with scissors.



6 Cut both edges of the print paper.



7 Install the print paper. (Refer to pages 15-16.)

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: 0), feed and cut the print paper by pressing MEMORY and MONITOR buttons initializes the remaining counter. Press MEMORY and PRINT buttons to feed and cut the print paper so that the counter is not initialized.

CLEANING

Cleaning as the following shows helps the stable use of this unit for a longer term.

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.

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 which the arrows show.

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

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.

NOTE

Reflection plate transport screw is fixed with bonding agent. Do not wipe this bonding agent.

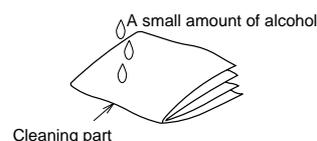
5 Wipe the head.

Cleaning the part under the thermal head which develops heat.

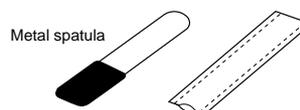
Wipe the head cleaning part carefully with tissue paper etc. which is soaked in a small amount of alcohol.

NOTE

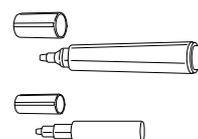
- Do not damage the thermal head.
- When the symptom of the poor print quality is not corrected even if the head is cleaned, replacing the thermal head is required. Contact your dealer.
- Thermal head is hot right after printing. Wait until the head temperature is low when cleaning the thermal head.



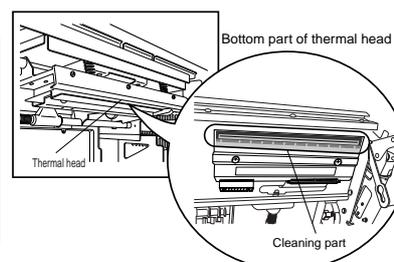
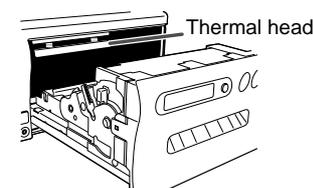
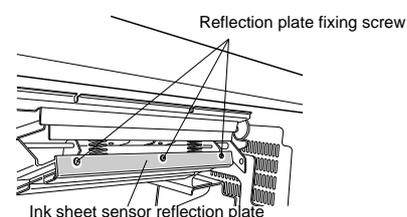
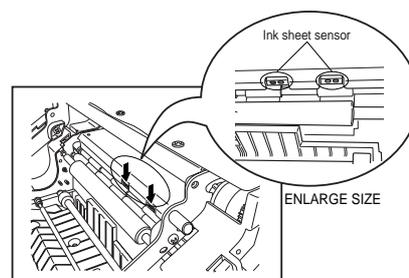
How to fold tissue paper



Cleaning kit (Option)



Cleaner pen



PRECAUTIONS

FEATURES

CONNECTIONS

PREPARATION

PRINTING

ADJUSTMENTS

TROUBLE-SHOOTING

OTHERS

ERROR MESSAGES & COUNTERMEASURES

Clean this unit as following steps every 10 roles of sheet.
Make sure to turn OFF the power first.

1 Cleaning paper guide shaft.

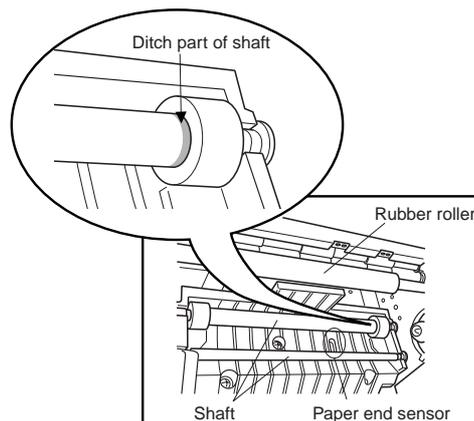
The seal paste is stuck on the ditch part of the shaft if you use it for a long time.
Wipe with tissue paper etc. which is soaked in a small amount of alcohol carefully.

NOTE

- The black surface is coated with Teflon. Do not touch it with metals.

2 Cleaning paper end sensor.

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



3 Cleaning rubber roller.

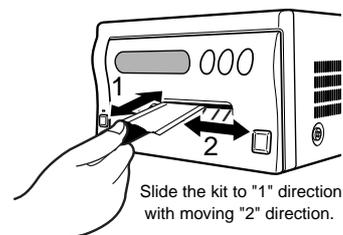
The seal paste and dust etc. are stuck on the rubber roller if you use it for a long time.
Wipe with tissue paper etc. which is soaked in a small amount of alcohol carefully.

4 Cleaning print outlet.

The seal paste may be stuck on the paper guide inside or dust may comes from the print outlet.
Use the optional cleaning kit to clean inside as the picture shows.

NOTE

- Do not use alcohol etc. when cleaning the print outlet.



SPEC & OPTIONS

SPECIFICATIONS

Class	Colour Video Copy Processor		
Model	CP800E		
Printing method	Dye Sublimation Thermal Transfer 3 colour faces progressive printing (yellow, magenta and cyan)		
Print quality	Dot resolution	Max. 1216x 600 pixels (S size)	
	Number of grades	256 (8 bits) for each colour (About 16.7 million colours)	
Printing time	L size	Approx. 42 sec./sheet	
	S size	Approx. 26 sec./sheet	
Ink sheet	Special cartridge method		
Print paper (1 image mode)	<u>Special roll paper</u>		<u>L size 187 x 127mm</u>
	Printing area	Wide mode	154 x 116mm
		Middle mode	145 x 109mm
		Narrow mode	140 x 105mm
	<u>Special roll paper</u>		<u>S size 127 x 116mm</u>
	Printing area	Wide mode	117 x 88mm
Middle mode		111 x 83mm	
Narrow mode		106 x 80mm	
Supply method	Automatic		
Input terminal	RGB analog (4 BNC type connectors) Composite video (1 BNC type connectors) S-VIDEO (1 S-VIDEO terminal)		
Output terminal	RGB analog (4 BNC type connectors) Composite video (1 BNC type connectors) S-VIDEO (1 S-VIDEO terminal)		
Input/Output terminal	RS-232C (D-SUB 25 pin) Remote terminal (Mini Din 8 pin, stereo mini jack)		
Input frequency	H frequency 15.625 kHz V frequency 50Hz		
Power supply	AC 220-240V, 50Hz		
Power consumption	1.1A (AC220-240V, 50Hz) at 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 399(D) mm		
Weight	14.5kg		
Accessories	Power cord (1), Ink cassette (1), Operation manual (1), Remote control (1), Spacer (4), Sheet "Installing print paper and ink sheet" (1)		

OPTIONS

■ PRINT PAPER + INK SHEET

Product name	Ink sheet size	The number of prints	Usage
CK800S	S size	160	Colour print
CK800L	L size	100	Colour print
CK800FS4P	S size	100	Colour print (Surface-coated)
CK800FL4P	L size	60	Colour print (Surface-coated)

PRECAUTIONS

FEATURES

CONNECTIONS

PREPARATION

PRINTING

FUNCTIONS

TROUBLE-SHOOTING

OTHERS

Mitsubishi Electric Europe B.V.

UK Branch

Travellers Lane, Hatfield, Herts. AL10 8XB, England, U.K.
Phone (1) 707 276100 FAX (1) 707 278755

German Branch

Gothaer Strasse 8, Postfach 1548, 40880 Ratingen 1, Germany
Phone (2102) 4860 FAX (2102) 486-732

French Branch

25, Boulevard des Bouvets - 92741 NANTERRE cedex
Phone (01) 55.68.55.00 FAX (01) 55.68.57.31

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