

OLYMPUS[®]

INSTRUCTIONS

ADVANCED

COLOR VIDEO PRINTER

OEP-5

Table of Contents

Labels and Symbols

Important Information –
Please Read Before Use

Instrument Nomenclature
and Functions **1**

Installation and
Connection **2**

Inspection Before Use **3**

Operation **4**

System Setup **5**

Care, Storage and
Disposal **6**

Troubleshooting **7**

Appendix

USA: CAUTION: Federal law restricts this device to sale by or on the order of a physician.

Table of Contents

Labels and Symbols

Important Information – Please Read Before Use

FCC Rule	6
Intended Use	6
Instruction Manual	6
Instrument Compatibility	7
Repair and Modification	8
Signal Words	8
Dangers, Warnings and Cautions	8

Chapter 1 Instrument Nomenclature and Functions

1.1 Symbols	10
1.2 Front Panel	11
1.3 Rear Panel	13
1.4 Ancillary Equipment	14
1.5 Remote Control Unit (MAJ-898) (Optional)	15

Chapter 2 Installation and Connection

2.1 Before Installation and Connection	17
2.2 Connection of the EVIS EXERA Video System Center (CV-160)	18
2.3 Connection of the VISERA Pro Video System Center (OTV-S7Pro)	19
2.4 Connection of the VISERA Video System Center (OTV-S7V)	20
2.5 Connection of the Video System (OTV-SI)	21
2.6 Connection of the Universal Endoscopic Ultrasound Center (EU-ME1)	22
2.7 Connection of the Endoscopic Ultrasound Center (EU-M30S)	23
2.8 Connection of the EUS EXERA Endoscopic Ultrasound Center (EU-M60)	24
2.9 Connection of the EUS EXERA Compact Endoscopic Ultrasound Center (EU-C60)	25
2.10 Connection of the Image Management Hub (IMH-20, IMH-10)	26

2.11 Connection of the Medical Control Unit For Endosurgery (UCES-3)	27
2.12 Connection of the Control Unit For Endosurgery (UCES-2)	28
2.13 Preparation of the Remote Control Unit (MAJ-898) (Optional)	29
2.14 When no Mobile Workstation is Used	30

Chapter 3 Inspection Before Use

3.1 Setup of Connected Equipment	32
3.2 Setup of this Instrument	35

Chapter 4 Operation

4.1 Control from the Connected Equipment	37
4.2 Control From the Front Panel	38
Displaying Setting Values on the Monitor	38
Selecting the User Setup	39
Setting the Print Quantity	40
Setting the Multi-Picture Printing	40
Capturing the Image	42
Checking a Captured Image	42
Moving the Pointer	42
Printing	42
Selecting the Memory Page	43
Stop Printing	44
Clearing the Captured Image	44
4.3 Control From the Remote Control Unit (MAJ-898) (Optional)	45

Chapter 5 System Setup

5.1 Items That can be Set on Menus	46
5.2 Menu Tree	51
5.3 Setup of the “USER PRESET” Menu	53
5.4 Setup of the “Color tone adjustment” Menu	54
5.5 Setup of the “PRINTER SETUP” Menu	55
5.6 Setup of the “SYSTEM SETUP” Menu	56
5.7 Setup of the “FUNCTION SETUP” Menu	57
5.8 Setup of the “COLOR BALANCE” Menu	59
5.9 Setup of the “INPUT SETUP” Menu	60
5.10 Setup of the “OUTPUT SETUP” Menu	62
5.11 Setup of the “HDTV SETUP” Menu	63
5.12 Setup of the “LAYOUT SETUP” Menu	64
5.13 Setup of the “COLOR ADJUST” Menu	66
5.14 Setup of the “WINDOW SETUP” Menu	68
5.15 Setup of the “ZOOM MODE” Menu	69
5.16 Setup of the “ZM ADJ(S)” “ZM ADJ(L)” Menu	70

Chapter 6 Care, Storage and Disposal

6.1 Care	72
6.2 Displacement	72
6.3 Storage	73
6.4 Disposal	73

Chapter 7 Troubleshooting

7.1 Troubleshooting Guide	74
Countermeasures Against Messages	79
7.2 Sending this Instrument for Repair	82

Appendix

Index	83
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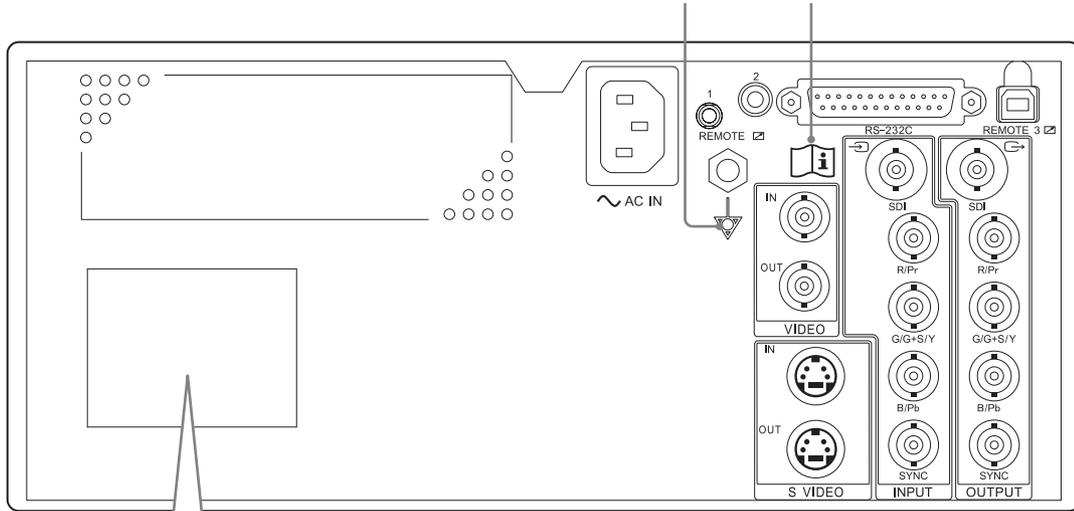
Labels and Symbols

Safety-related labels and symbols are attached to this instrument (OEP-5 color video printer) at the locations shown below.

If labels or symbols are missing or illegible, contact Olympus.

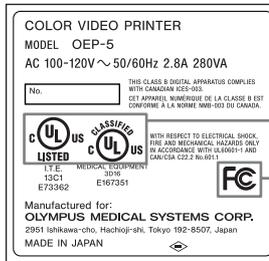
Color video printer (OEP-5)

Equipotential terminal Instruction manual reference mark



Electrical rating

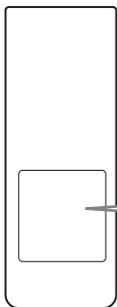
The product name, rated voltage and frequency are shown.



C-UL mark

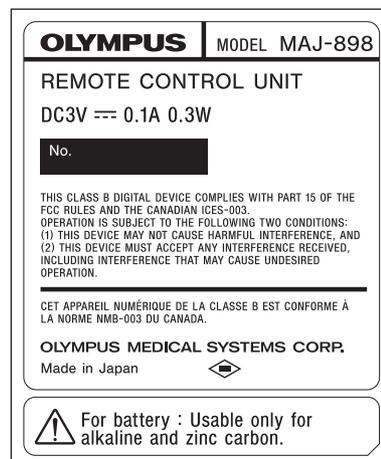
FCC mark

Remote control unit (MAJ-898) (optional)



Electrical rating

The product name, rated voltage and product number are shown.



Important Information – Please Read Before Use

FCC Rule

This equipment has been tested and found to comply with the limits for a class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

FCC WARNING

Change or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

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

Declaration of Conformity

Trade Name : OLYMPUS MEDICAL SYSTEMS

Model : OEP-5

Responsible Party : OLYMPUS AMERICA INC.

Address :3500 Corporate Parkway, P.O. Box 610
Center Valley, PA 18034-0610, U.S.A.

Telephone Number : (484)896-5000

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Intended Use

The OEP-5 color video printer has been designed to be used with Olympus endoscopes for recording and printing endoscopic documentation.

Do not use this instrument for any purpose other than its intended use.

Instruction Manual

This instruction manual contains essential information on using this instrument safely and effectively. Before use, thoroughly review this manual and the manuals of all equipment that will be used during the procedure and use the equipment as instructed.

In addition, the "INSTRUCTIONS" for this instrument are incorporated by "BASIC" and "ADVANCED."

This document, "INSTRUCTIONS," is "ADVANCED," and provides the more detailed information about this instrument.

Most basic information is described in "BASIC," at first, you must read "BASIC." Keep this and all related instruction manuals in a safe, accessible location. If you have any questions or comments about any information in this manual, please contact Olympus.

Terms used in this manual

Wall mains outlet

An electrical outlet that has a terminal used exclusively for grounding.

Isolation transformer

The isolation transformer is a safety device that is used to isolate non insulated equipment with potentially high leakage currents to decrease the possibility of electric shock.

Freeze

The freeze function creates a stationary view of the moving image.

Video system center/Video system

These are the devices used to convert the endoscopic image captured using a videoscope or fiberscope into the signal to be output to the monitor.

Ultrasound center

The ultrasound center converts the ultrasonic signals from an ultrasonic endoscope or probe into monitor images.

SDTV

Standard Definition Television. It is the format used by ordinary television systems.

HDTV

High Definition Television. It is a format featuring higher image definition than the SDTV format.

SDI

Serial Digital Interface. It is a digital interface standard used in video distribution.

Color printing pack

Set of ink ribbon and print sheets used to print pictures on this instrument.

Source image

Live image being input from the video signal input source.

Memory image

Image stored in the memory of this instrument.

Capture

Stores the image, sent from the connected equipment, in the memory of this instrument for printing.

Wireless remote control

Remote control that operates this instrument by radio communications.

Wired remote control

Remote control that operates this instrument by cable connected.

instrument is compatible with the ancillary equipment being used. Using incompatible equipment can result in patient or operator injury and/or equipment damage. It may also impair the functionality of the instrument. This instrument complies the EMC standard for medical electrical equipment edition 2 (IEC 60601-1-2 : 2001) and edition 3 (IEC 60601-1-2 : 2007). However when connecting to an instrument that complies with the EMC standard for medical electrical equipment edition 1 (IEC 60601-1-2 : 1993), the whole system then complies with edition 1. (See, "EMC Information" on page 35 in "INSTRUCTIONS (BASIC)" for EMC compliance level.)

Instrument Compatibility

Refer to the "System Chart" in the Appendix in "INSTRUCTIONS (BASIC)" to confirm that this

Repair and Modification

This instrument does not contain any user-serviceable parts. Do not disassemble, modify or attempt to repair it; patient or operator injury and/or equipment damage can result.

Some problems that appear to be malfunctions may be correctable by referring to “Chapter 7 Troubleshooting” on page 74. If the problem cannot be resolved using the information in Chapter 7, contact Olympus.

Signal Words

The following signal words are used throughout this manual:

DANGER

Indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury.

WARNING

Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.

CAUTION

Indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury. It may also be used to alert against unsafe practices or potential equipment damage.

NOTE

Indicates additional helpful information.

Dangers, Warnings and Cautions

Follow the dangers, warnings and cautions given below when handling this instrument. This information is to be supplemented by the dangers, warnings and cautions given in each chapter.

Especially, about a power supply, refer to “2.4 Connection to the AC Mains Power Supply” in “INSTRUCTIONS (BASIC).”

DANGER

- Strictly observe the following precautions. Failure to do so may place the patient and medical personnel in danger of an electric shock:
 - Keep fluids away from all electrical equipment. If fluids are spilled on or into the monitor, immediately stop operating it and contact Olympus.
 - Do not prepare, inspect or use this instrument with wet hands.

- Never install and operate this instrument in locations where:
 - The concentration of oxygen is high.
 - Oxidizing agents (such as nitrous oxide (N₂O)) are present in the atmosphere.
 - Flammable anesthetics are present in the atmosphere.Otherwise, explosion or fire may result because this instrument is not explosion-proof.

WARNING

- Be sure to turn this instrument OFF and unplug the power cord before proceeding to care and maintenance of this instrument. If the power cord is left plugged in, an electric shock may result.
- Never insert metal and/or thing that are easy to burn, or do not drop it into this instrument inside from the ventilation grills. Electric shock and/or fire may result. Moreover, if something goes into the inside of this instrument, turn OFF the power immediately and stop use, then disconnect the power cord and connected cables. Contact Olympus.
- When there are abnormally sound, smell and/or heat from this instrument, stop use immediately and contact Olympus.

CAUTION

- Do not use a pointed or hard object to press the switches on the front panel and/or optional remote control unit (MAJ-898). This may damage the switches.
- Do not use this instrument roughly. Otherwise, equipment damage, patient and operator injury can occur.
- Strictly observe the following precautions. Otherwise, damage and/or malfunction can occur.
 - Do not touch the electrical contacts inside this instrument’s connectors.
 - Do not apply excessive force to the connectors of this instrument.
- When using spray-type medical agents such as lubricate, anesthetic, or alcohol, use them away from this instrument so that the medical agents will not fall on this instrument. The medical agents possibly may come into this instrument from its ventilation grills and cause the failure.
- Do not use a humidifier by this instrument as dew condensation possibly might occur and it may cause the failure.
- Be sure that this instrument is not used adjacent to or stacked with other equipment (other than the components of this instrument or system) to avoid electromagnetic interference.

- Electromagnetic interference may occur to this instrument near equipment marked with the following symbol or other portable and mobile radio telecommunications equipment such as cellular phones. If radio interference occurs, mitigation measures may be necessary, such as reorienting or relocating this instrument or shielding the location.

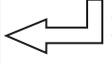


For the State of California, USA only

Perchlorate Material - special handling may apply, See www.dtsc.ca.gov/hazardouswaste/perchlorate
Perchlorate Material : Lithium battery contains perchlorate.

1.1 Symbols

Front Panel

 Power ON/OFF	 Capture
 Print	 Alarm
 Menu	 Clear
 Display	 Enter
 Move Up	 Move Down
 Move Left	 Move Right
 User Setup	 Multi Picture
 Print Quantity	 Memory Page
 Source/Memory	 Stop
 Remote Sensor	

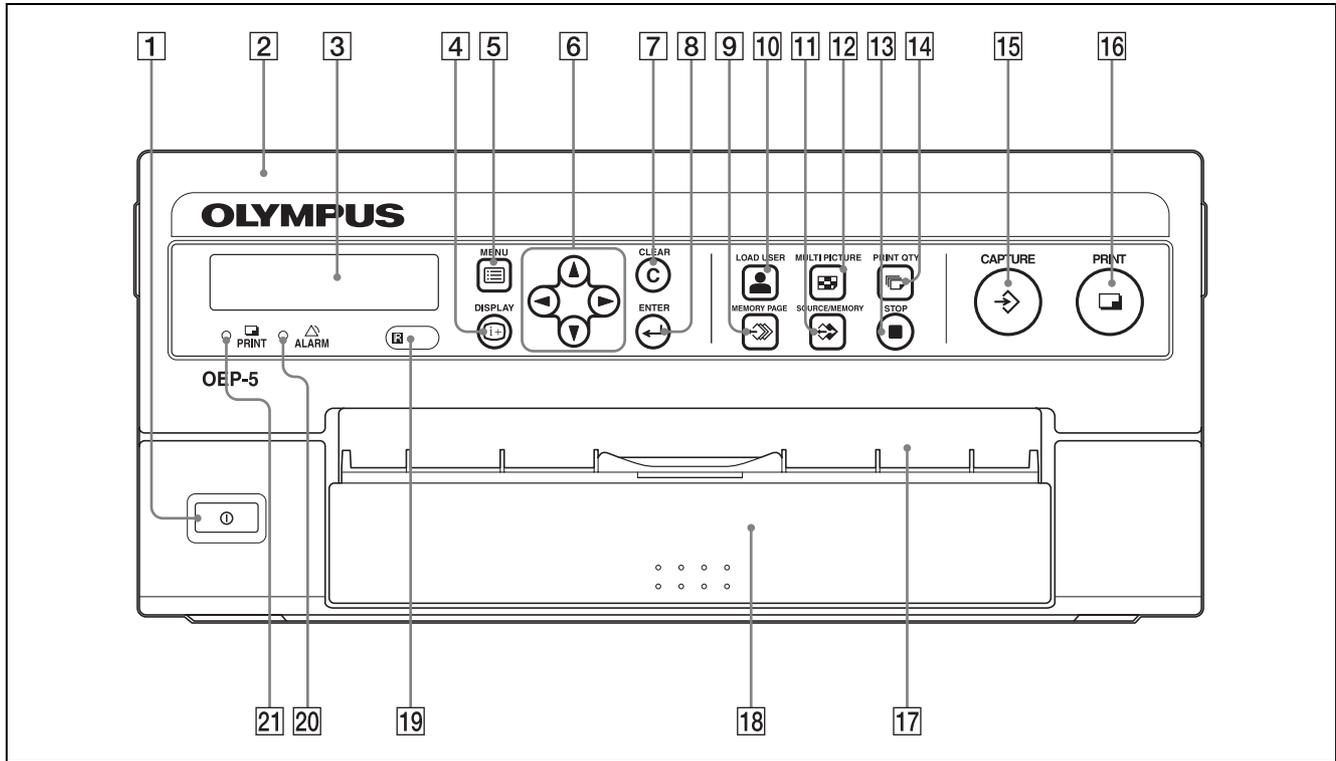
Rear Panel

 Input signal
 Output signal
 Remote Control
 Equipotential terminal
 Consult instruction manual

Remote Control Unit (MAJ-898) (optional)

 Move Up	 Move Down
 Move Left	 Move Right
 Backspace	 Capture
 Print	 Clear
 Memory Page	 Source/Memory

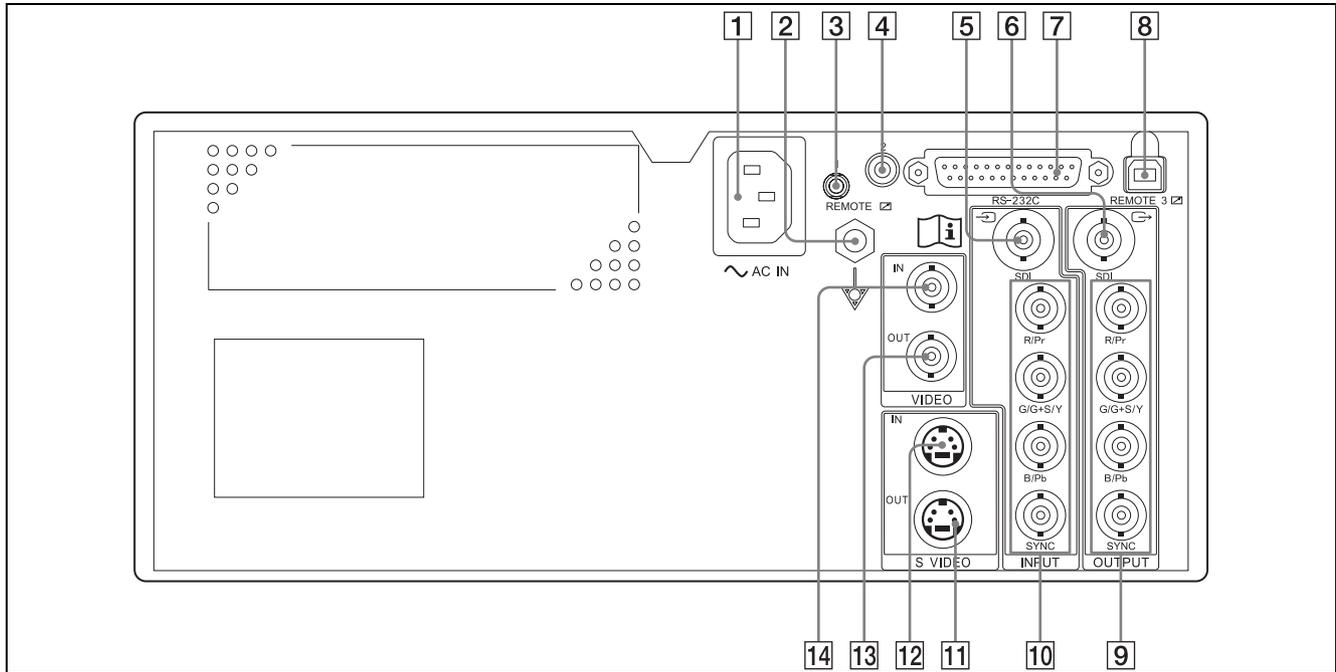
1.2 Front Panel



- 1** **Ⓞ Power switch**
Press to turn this instrument ON, and press again to turn it OFF.
- 2** **Front door**
To open the door, place a finger on its top edge and flip it forwards. The ink ribbon holder is located inside.
- 3** **LCD panel**
Current settings are displayed here. During the menu operation, this displays the menu item in which the cursor is present. If an error occurs, an error message will appear in this window.
- 4** **Ⓢ DISPLAY button**
When a normal image is displayed, press to display or hide the on-screen display (Print quantity, Memory page, Operation mode, Source/Memory). Pressing the button displays the current setup for a few seconds, and each further press switches the display ON and OFF alternately.
- 5** **☰ MENU button**
Press to display the menu. This button is also used to exit from the menu and return to the normal image.
- 6** **Cursor (▲/▼/◀/▶) keys**
When the normal image is displayed : Move the pointer in the arrow direction.
When the menu is displayed : Move the cursor in the arrow direction.
- 7** **C CLEAR button**
Press to clear an image from the memory. The type of image that can be cleared with this button depends on the setting of the “CLEAR” item in the “FUNCTION SETUP” menu.
- 8** **↵ ENTER button**
When “ENTER” is displayed in the menu, press this button to execute the setup item. Press this button to input characters or execute the selected function in the “CAPTION” menu and the “USER NAME” menu.
- 9** **↔ MEMORY PAGE button**
Press to select the memory page to be used.
- 10** **👤 LOAD USER button**
Press to load a previously registered user setup.
- 11** **↔ SOURCE/MEMORY button**
Press to switch the image to be displayed on the monitor. Each press switches the memory image and the source image alternately.

- 12**  **MULTI PICTURE button**
In the normal display, press to select the number of images to be stored in a memory page for multi-picture printing. After the first press, the current setup is displayed for a few seconds. Further presses vary the setup in the cycle of 1, 2, 3, 4, 1,....
- 13**  **STOP button**
Press to stop continuation printing. Printing stops when the present printing is completed.
- 14**  **PRINT QTY button**
Press to set the number of prints up to 10. After the first press, the current setup is displayed for a few seconds. The print quantity can also be changed in the middle of printing by pressing this button.
- 15**  **CAPTURE button**
Press to store the image in memory.
- 16**  **PRINT button**
Press to start printing.
- 17** **Paper exit**
Printed sheets are output here.
- 18** **Paper tray**
Print sheets are kept in this tray.
- 19**  **Remote sensor**
When using the optional remote control unit (MAJ-898) for wireless remote control of this instrument, point the remote transmitter (top of remote control unit) at the remote sensor.
- 20**  **ALARM lamp**
Lights in amber in case of an error, such as paper jam.
- 21**  **PRINT lamp**
Lights during printing.

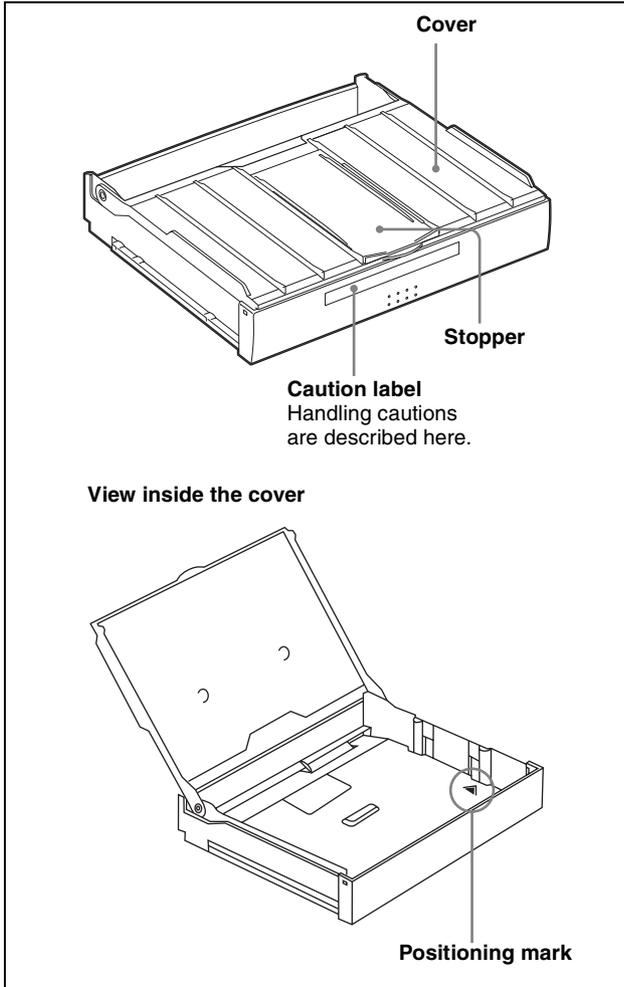
1.3 Rear Panel



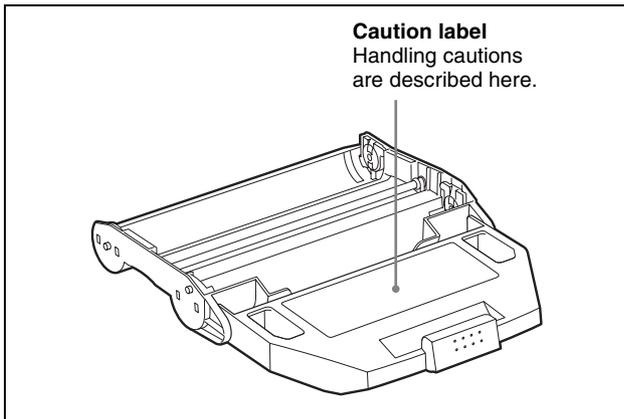
- 1 Power inlet**
Connect the power cord for AC power supply.
- 2 Equipotential terminal**
For safety, connect this terminal to the equipotential bus bar of the hospital.
- 3 REMOTE 1 terminal**
When using the optional remote control unit (MAJ-898) for wired remote control of this instrument, connect the remote control unit here.
- 4 REMOTE 2 terminal**
When communication with the video system center is required, connect the OEP cable (MH-987) or remote cable (MH-907) here.
- 5 SDI video input terminal**
Input the SDI video signals from connected equipment, such as a video system center or monitor. Either SDTV or HDTV signals can be input.
- 6 SDI video output terminal**
Output the SDI video signals to connected equipment, such as a video system center or monitor. Either SDTV or HDTV signals can be output.
- 7 RS-232C terminal**
When communication with the video system center is required, connect the remote cable (MH-995 or MH-877) here.
- 8 REMOTE 3 terminal**
This terminal is for future expansion. Not used.
- 9 OUTPUT (RGB video output) terminals**
Output the RGB video signals to connected equipment, such as a monitor. Either SDTV or HDTV signals can be output.
- 10 INPUT (RGB video input) terminals**
Input the RGB video signals from connected equipment, such as a video system center or monitor. Either SDTV or HDTV signals can be input.
- 11 S VIDEO OUT (output) terminal**
Outputs S-Video signal to connected equipment, such as a monitor.
- 12 S VIDEO IN (input) terminal**
Inputs the S-Video signal from connected equipment, such as a video system center or monitor.
- 13 VIDEO OUT (Composite video output) terminal**
Outputs the composite video signal to connected equipment, such as a monitor.
- 14 VIDEO IN (Composite video input) terminal**
Inputs the composite video signal from connected equipment, such as a video system center or monitor.

1.4 Ancillary Equipment

Paper tray



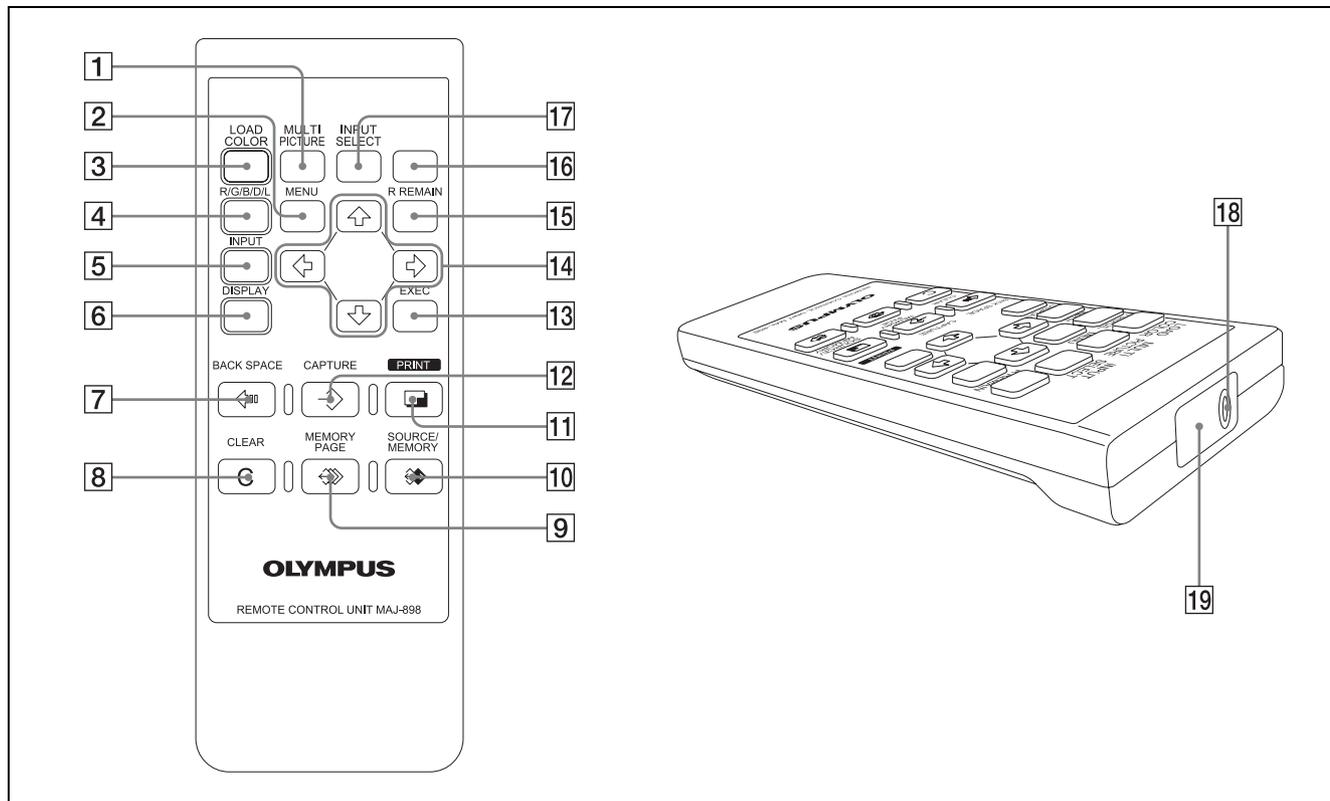
Ink ribbon holder



Trial pack

Print sheets and ink ribbon for checking the operation of this instrument. The trial pack is not covered by the warranty.

1.5 Remote Control Unit (MAJ-898) (Optional)



- 1 MULTI PICTURE key**
Same function as the “MULTI PICTURE” button on the front panel.
- 2 MENU key**
Same function as the “MENU” button on the front panel.
- 3 LOAD COLOR key**
Press during normal display to open the “COLOR ADJUST” menu, and set/change the values for “LOAD COLOR.”
Each further press of the key switches the menu key.
- 4 R/G/B/D/L key**
Press during normal display to open the “COLOR ADJUST” menu.
While the “COLOR ADJUST” menu is being displayed, press the key to return to the normal display.
- 5 INPUT key**
Press during normal display to open the “INPUT SETUP” menu.
While the “INPUT SETUP” menu is being displayed, press the key to return to the normal display.

- 6 DISPLAY key**
Same function as the “DISPLAY” button on the front panel.
- 7 <⏪ BACK SPACE key**
Press to move the pointer backwards.
- 8 C CLEAR key**
Same function as the “CLEAR” button on the front panel.
- 9 <⏩ MEMORY PAGE key**
Same function as the “MEMORY PAGE” button on the front panel.
- 10 ⇄ SOURCE/MEMORY key**
Same function as the “SOURCE/MEMORY” button on the front panel.
- 11 🖨️ PRINT key**
Same function as the “PRINT” button on the front panel.
- 12 ⇄ CAPTURE key**
Same function as the “CAPTURE” button on the front panel.

- 13 EXEC key**
Same function as the “ENTER” button on the front panel.
- 14 Arrow keys**
Same function as the cursor keys on the front panel.
- 15 R REMAIN key**
Press to display the ribbon remaining information. Each subsequent press of this key toggles between ON or OFF.
- 16 Option key**
This key is for future expansion. Not used.
- 17 INPUT SELECT key**
Press to display the current setup/options of “INPUT SEL” in the INPUT SETUP menu on the monitor and LCD panel.
While the setup is being displayed, each further press of the key switches the setting.
When no key has been pressed for a few seconds after this key is pressed, the display returns to the previous display.
- 18 Cable connector**
When the remote control unit (MAJ-898) is used as a wired remote, connect the remote cable here.
- 19 Remote transmitter**
When the remote control unit (MAJ-898) is used as a wireless remote, the remote control signals are output here.

2.1 Before Installation and Connection

This document, “INSTRUCTIONS (ADVANCED),” explains equipment other than that described in “INSTRUCTIONS (BASIC).”

Prepare this instrument and compatible equipment, referring to the instruction manuals of each system component. Install and connect the equipment as follows:

WARNING

Review “INSTRUCTIONS (BASIC)” and fully understand the contents before use. If the equipment is not properly prepared before each use, equipment damage, patient and operator injury and/or fire can occur.

About connection of a power supply, refer to “2.4 Connection to the AC Mains Power Supply” in “INSTRUCTIONS (BASIC).”

CAUTION

When you connect another piece of video equipment between this instrument and a video system center, video system or endoscopic ultrasound center, be sure not to turn off the power of the video equipment, etc., while this instrument is being used. If you turn off the power of the video equipment, etc., the video signal may not be input to this instrument properly, and it may not work correctly.

2.2 Connection of the EVIS EXERA Video System Center (CV-160)

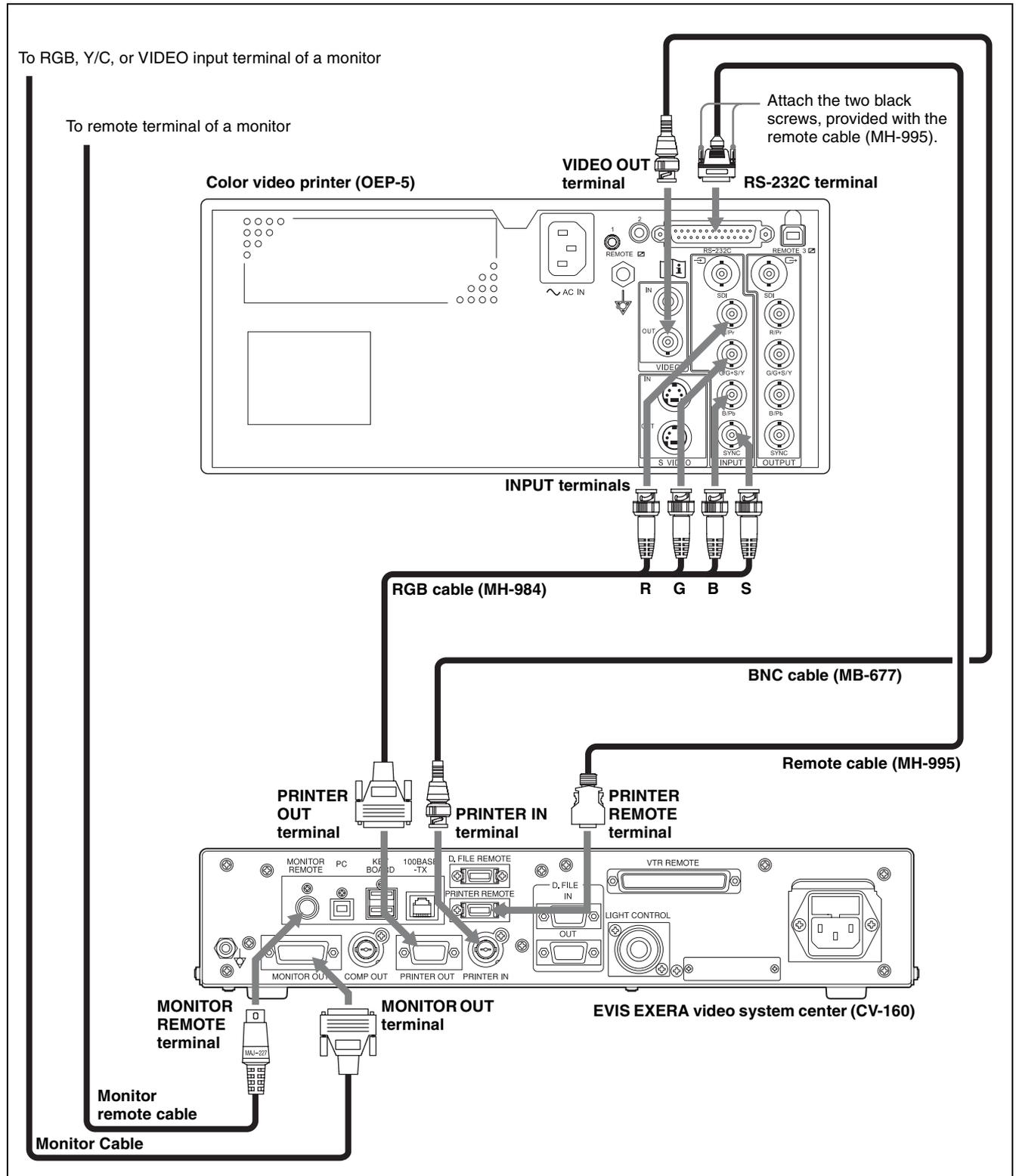


Figure 2.1

2.3 Connection of the VISERA Pro Video System Center (OTV-S7Pro)

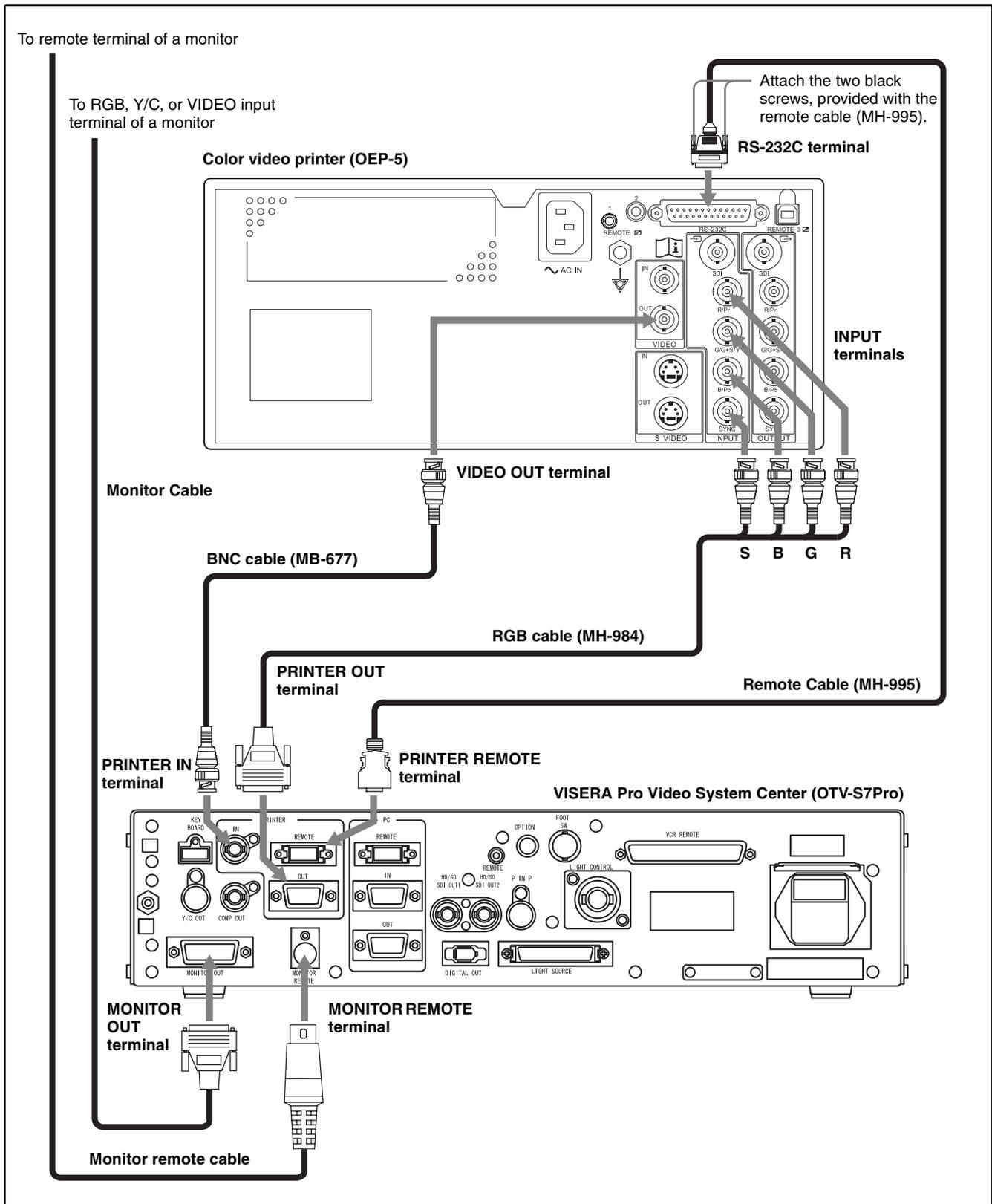


Figure 2.2

2.4 Connection of the VISERA Video System Center (OTV-S7V)

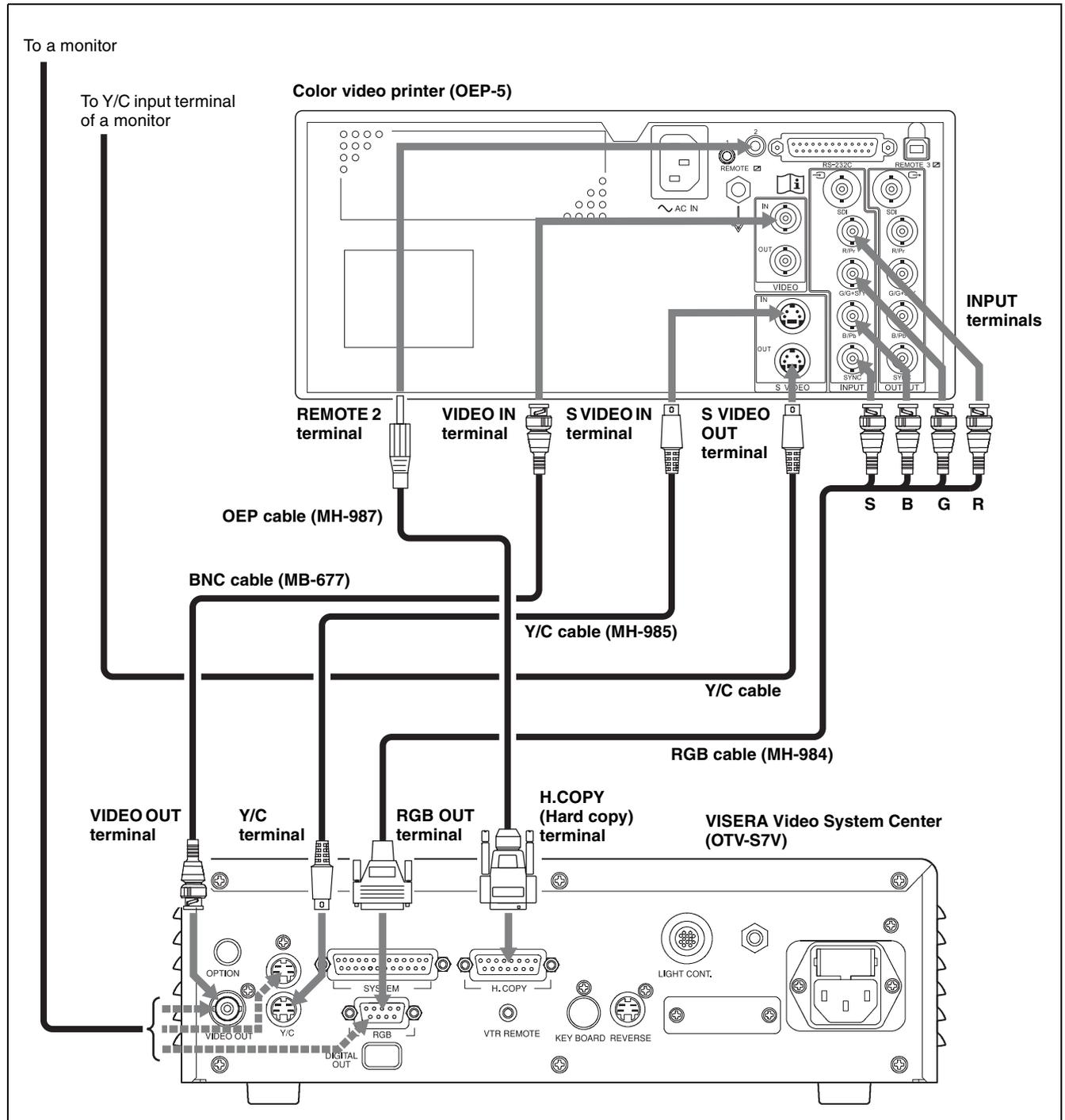


Figure 2.3

NOTES

- This instrument can be used by connecting any one of the following cables: RGB, Y/C, or BNC cable.
- Refer to the instruction manual for the VISERA video system center (OTV-S7V) for connection to a monitor.

2.5 Connection of the Video System (OTV-SI)

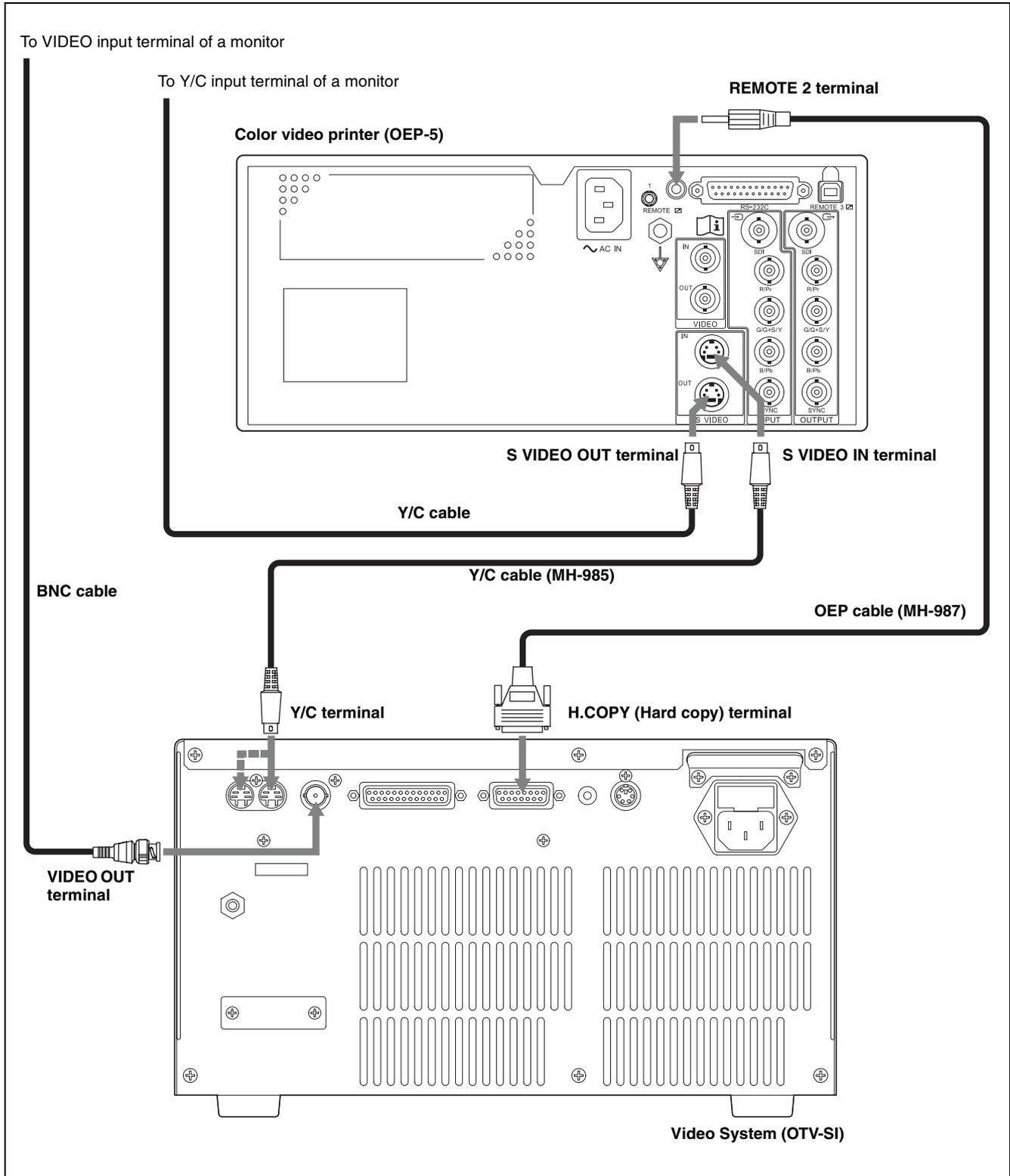


Figure 2.4

2.6 Connection of the Universal Endoscopic Ultrasound Center (EU-ME1)

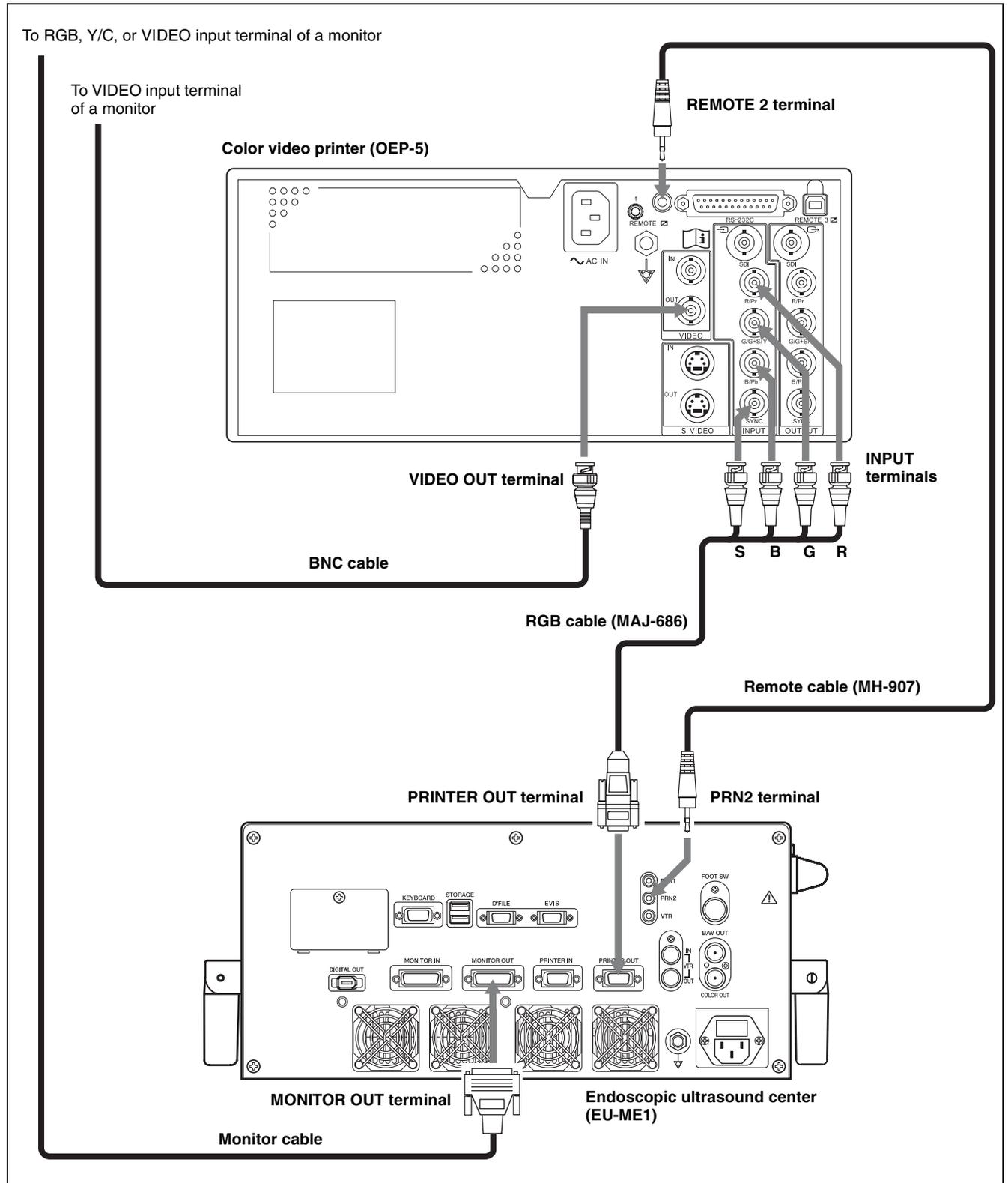


Figure 2.5

2.7 Connection of the Endoscopic Ultrasound Center (EU-M30S)

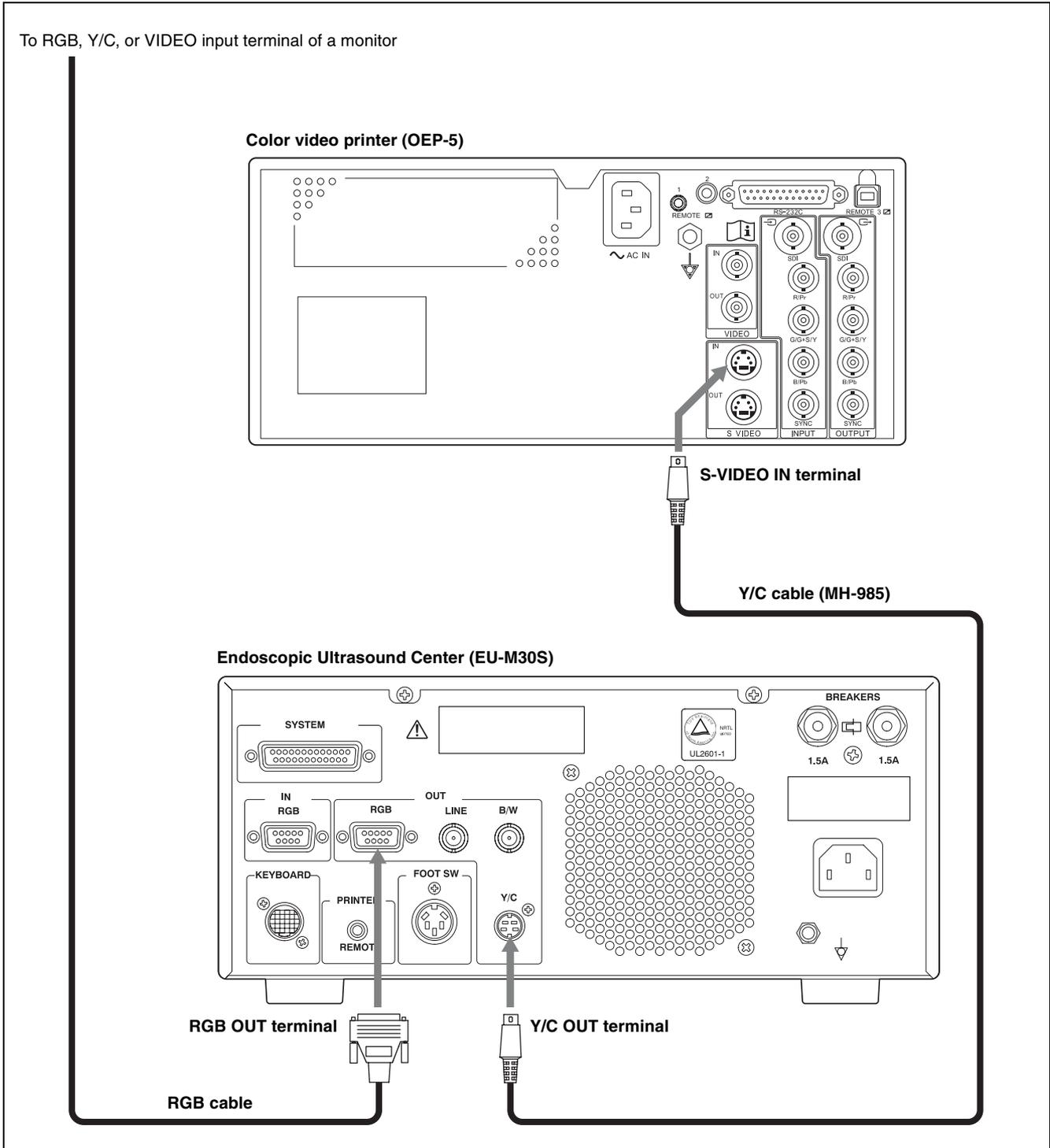


Figure 2.6

2.8 Connection of the EUS EXERA Endoscopic Ultrasound Center (EU-M60)

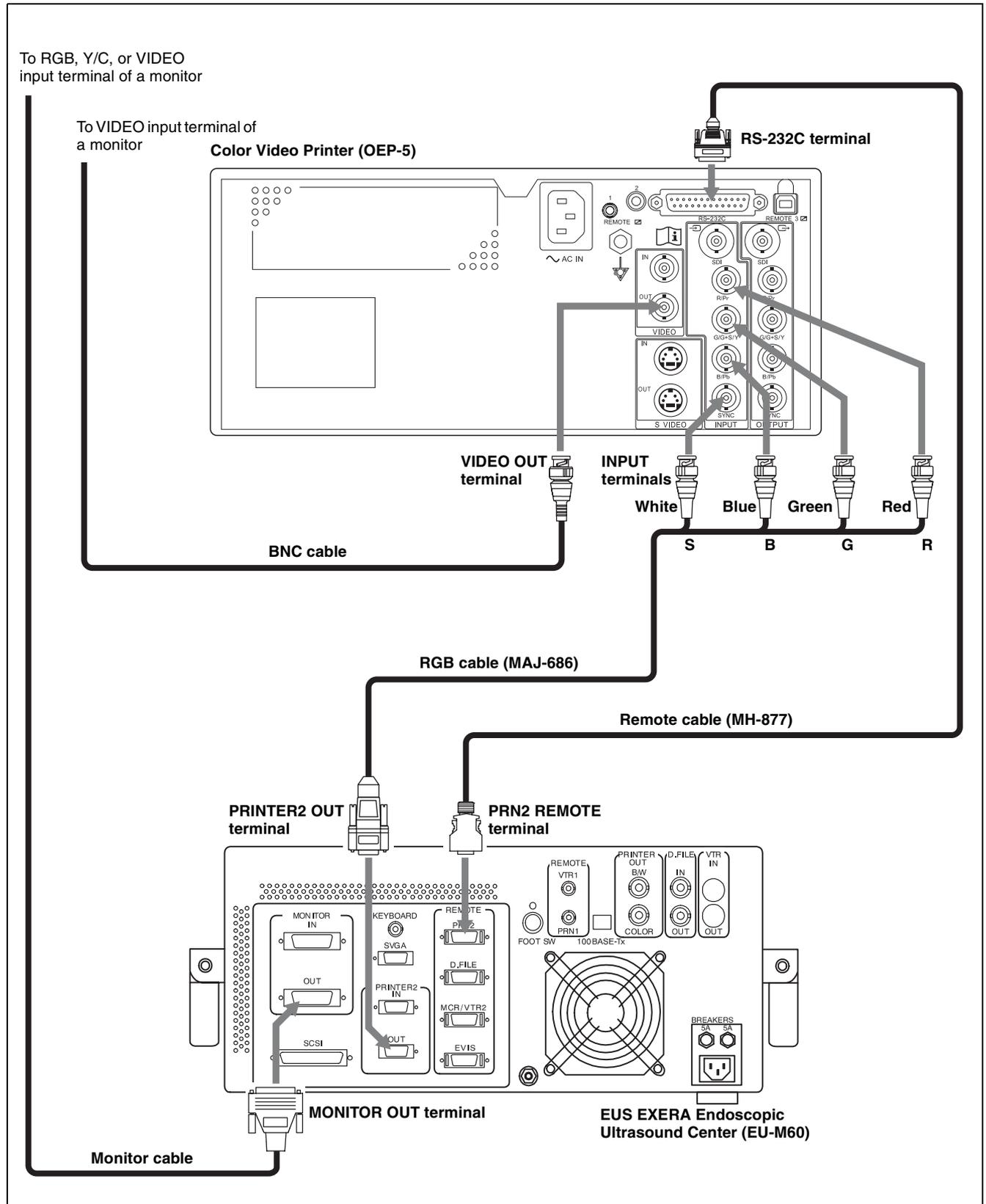


Figure 2.7

2.9 Connection of the EUS EXERA Compact Endoscopic Ultrasound Center (EU-C60)

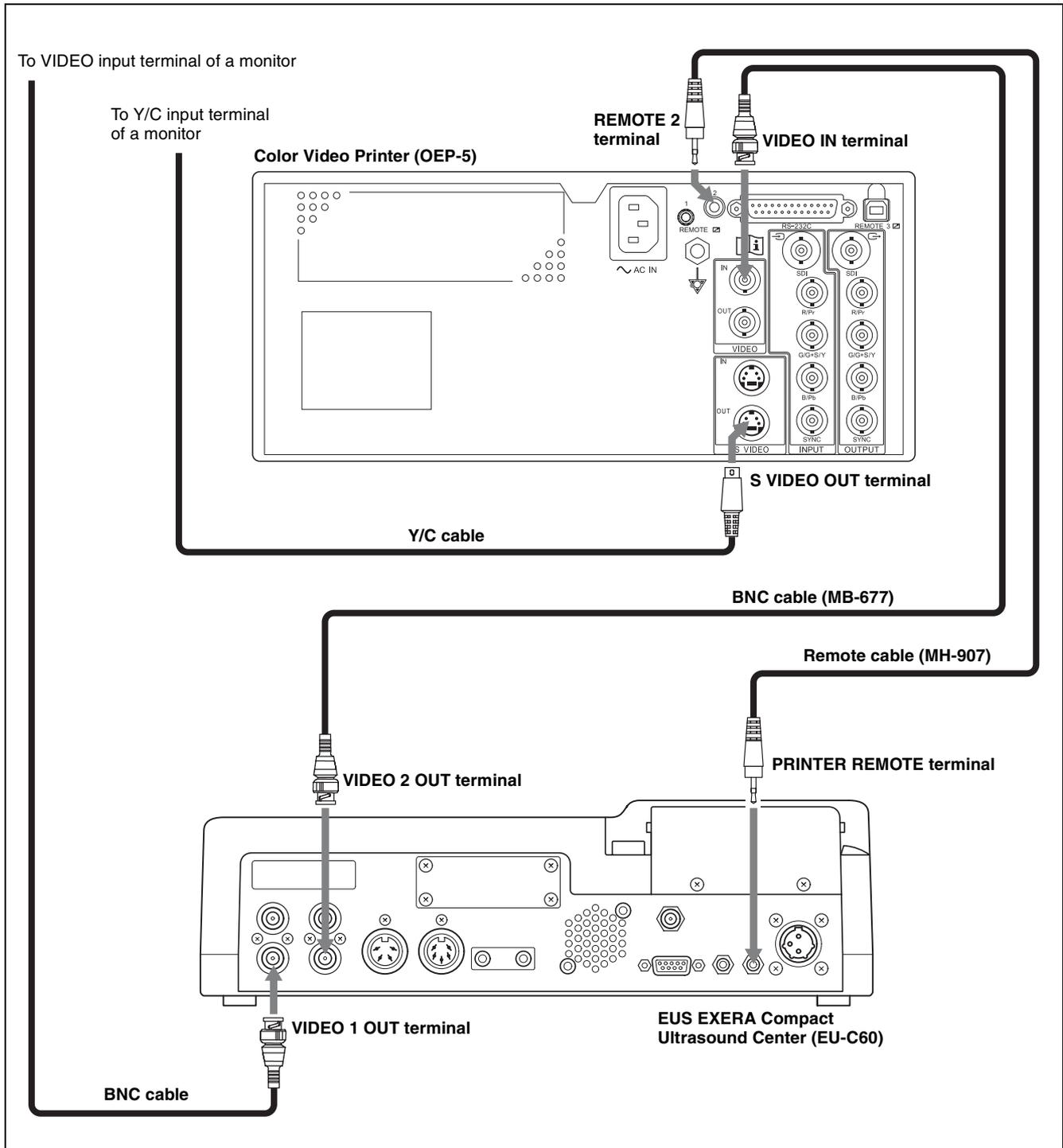


Figure 2.8

2.10 Connection of the Image Management Hub (IMH-20, IMH-10)

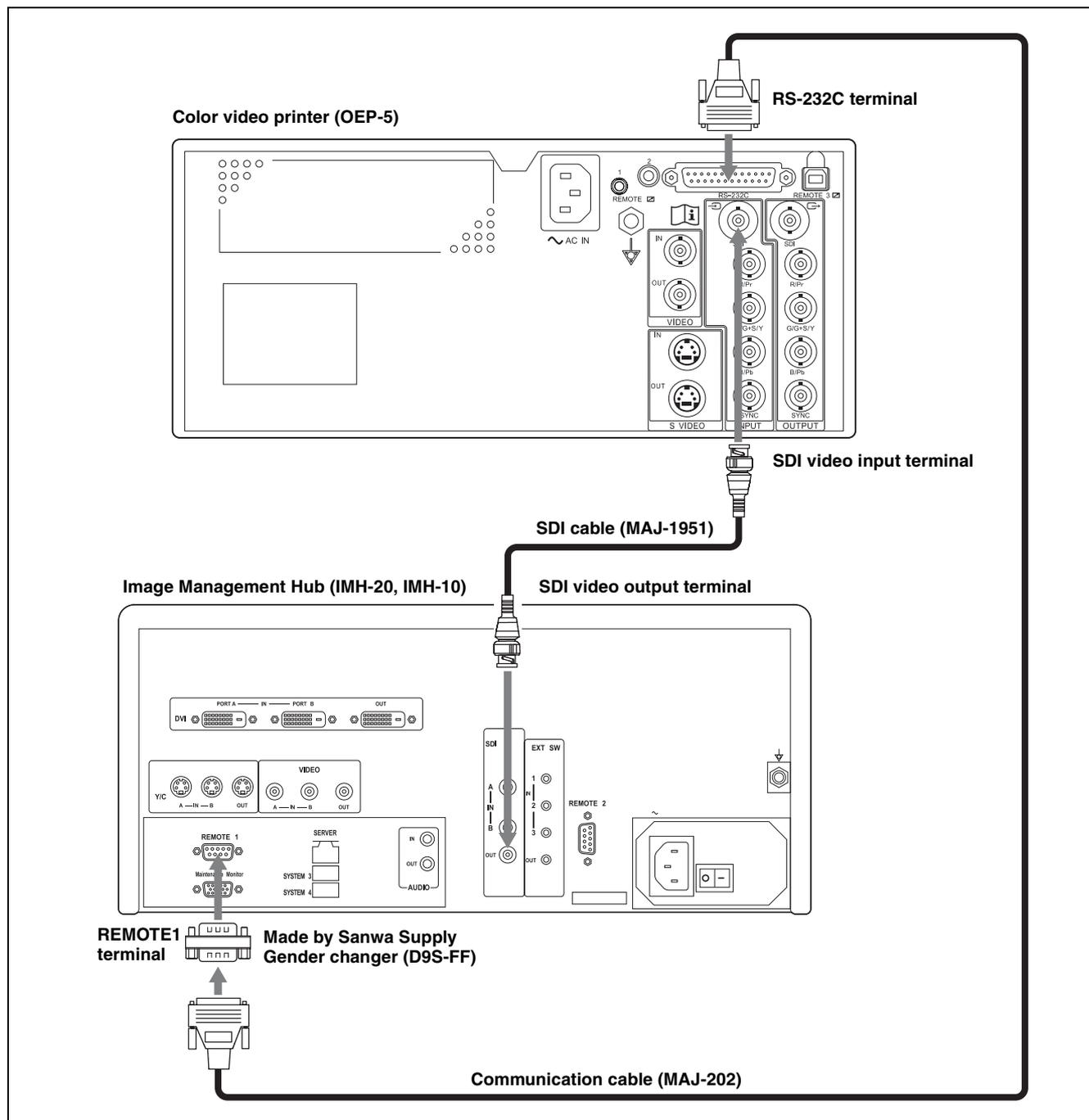


Figure 2.9

NOTES

- D9S-FF (gender changer made by SANWA SUPPLY INC., not supplied) must be connected between REMOTE 1 terminal of Image Management Hub (IMH-20, IMH-10) and RS-232C terminal of this instrument. Refer to the instruction manual for the Image Management Hub (IMH-20, IMH-10).

- To connect the Image Management Hub (IMH-20, IMH-10) to the video system center, refer to the instruction manual supplied with the Image Management Hub (IMH-20, IMH-10).

2.11 Connection of the Medical Control Unit For Endosurgery (UCES-3)

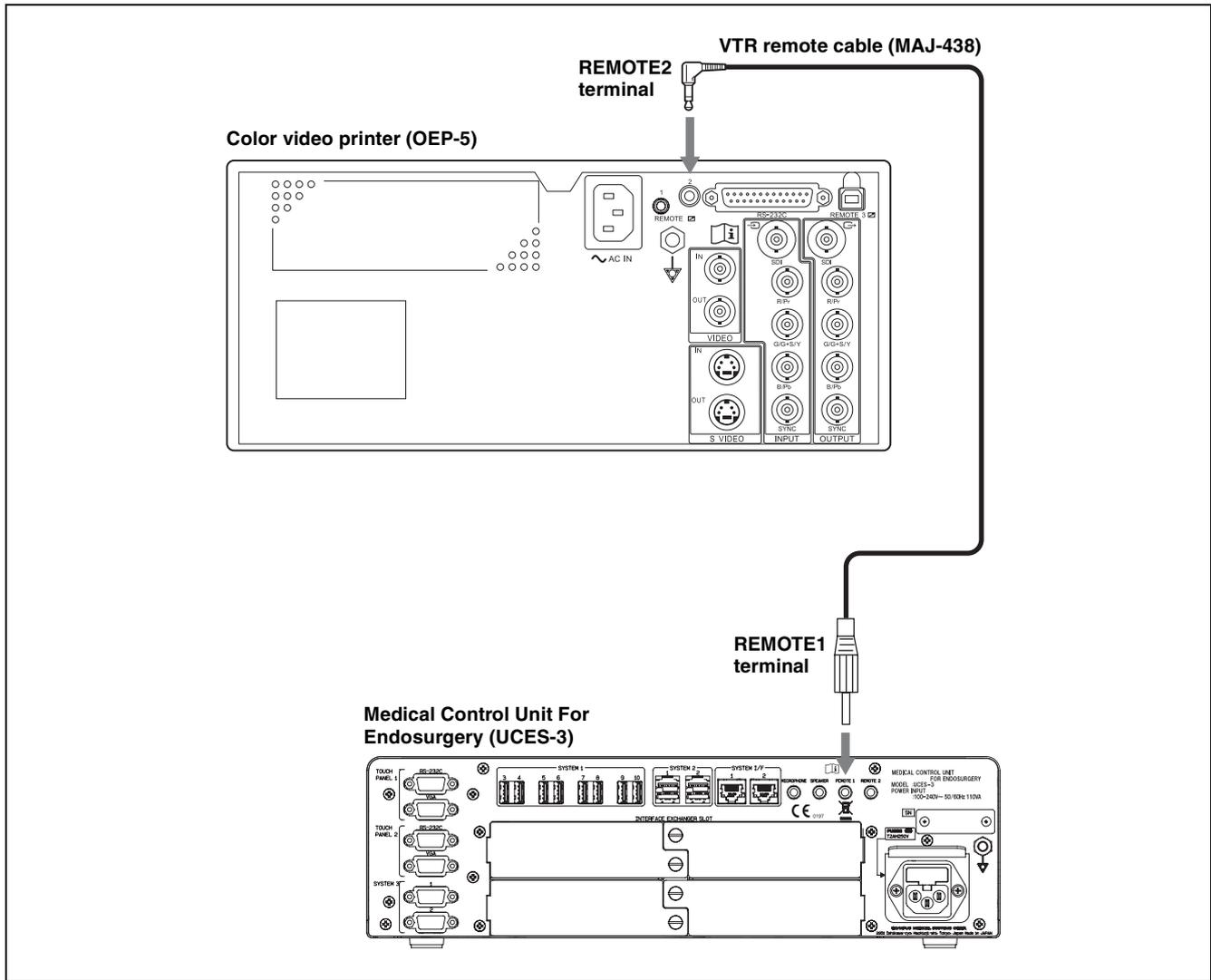


Figure 2.10

NOTE

To connect to the Medical Control Unit For Endosurgery (UCES-3), also refer to the instruction manual supplied with the Medical Control Unit For Endosurgery (UCES-3).

2.13 Preparation of the Remote Control Unit (MAJ-898) (Optional)

CAUTION

- Use size AA (R6) manganese or alkaline batteries. Danger of explosion if battery is incorrectly replaced. Replace only with the same or equivalent type recommended by the manufacturer. When you dispose of the battery, you must obey the law in the relative area or country.
- To protect the remote control unit (MAJ-898) against damage, keep it away from liquids including water.
- If the remote control unit (MAJ-898) is not to be used for an extended period, be sure to remove its batteries. Otherwise, battery fluid leakage may damage the remote control unit (MAJ-898).
- Should battery fluid leak, remove the leaked batteries, wipe remaining fluid away from the battery compartment and insert new batteries.
- Insert the batteries, observing the polarity indicated in the battery compartment. Otherwise, the remote control unit (MAJ-898) may not only malfunction but may also be damaged due to battery fluid leakage.
- When replacing batteries, be always sure to replace both batteries. Do not mix new and old batteries or batteries of different types together. Otherwise, the remote control unit (MAJ-898) may be damaged due to battery fluid leakage.

Remote control unit (MAJ-898)

The remote control unit (MAJ-898) can be used either as a wireless remote or wired remote.

Table 2.1

Use as a wireless remote	To remote control this instrument, point the remote transmitter of the remote control unit (MAJ-898) at the remote sensor of this instrument. The control range is about 3 meters, provided that there is no obstacle between the remote and this instrument.
Use as a wired remote	The wired remote control features secure operation because control data is transmitted to the instrument through the remote cable. The wired control is possible only from within the reach of the remote cable.

Preparation for use as a wireless remote

- 1 Slide open the cover on the back of the remote control unit (MAJ-898).

- 2 Insert two “AA”-size batteries as shown in remote control unit (MAJ-898).
- 3 Attach the cover by sliding it.

Preparation for use as a wired remote

- 1 Insert batteries in the remote control unit (MAJ-898) as described in “Preparation for use as a wireless remote.”
- 2 Connect a remote cable between the REMOTE 1 terminal of the color video printer (OEP-5) and the cable connector of the remote control unit (MAJ-898).

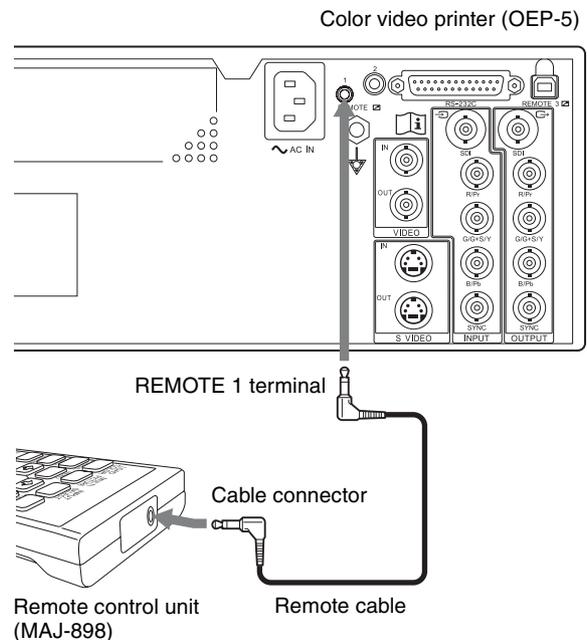


Figure 2.12

NOTE

If the remote cable is connected to either the REMOTE 1 terminal of this instrument or the cable connector of the remote control unit (MAJ-898), the remote control unit (MAJ-898) will not function wirelessly.

2.14 When no Mobile Workstation is Used

- 1 Confirm that the color video printer (OEP-5) is turned OFF.
- 2 Connect the power cord of the color video printer (OEP-5) to its AC mains power outlet first, then to a wall mains outlet.
- 3 The following ancillary equipment can be connected directly to wall mains outlets (see Figure 2.13).

EVIS EXERA II video system center	CV-180
EVIS EXERA video system center	CV-160
VISERA Pro video system center	OTV-S7Pro
VISERA video system center	OTV-S7V
Video system	OTV-SI
EVIS EXERA xenon light source	CLV-160
EVIS universal light source	CLV-U40
Xenon light source	CLV-S40, CLV-S30
Universal endoscopic ultrasound center	EU-ME1
Endoscopic ultrasound center	EU-M30S
EUS EXERA endoscopic ultrasound center	EU-M60
EUS EXERA compact endoscopic ultrasound center	EU-C60
Image Management Hub	IMH-20, IMH-10
Medical control unit for endosurgery	UCES-3
Control unit for endosurgery	UCES-2
High definition LCD monitor	OEV261H, OEV191H
LCD monitor	OEV191
Color video printer	OEP-5

- 4 The following ancillary equipment should be connected through an isolation transformer (see Figure 2.13).

Monitor	Monitor except OEV
---------	--------------------

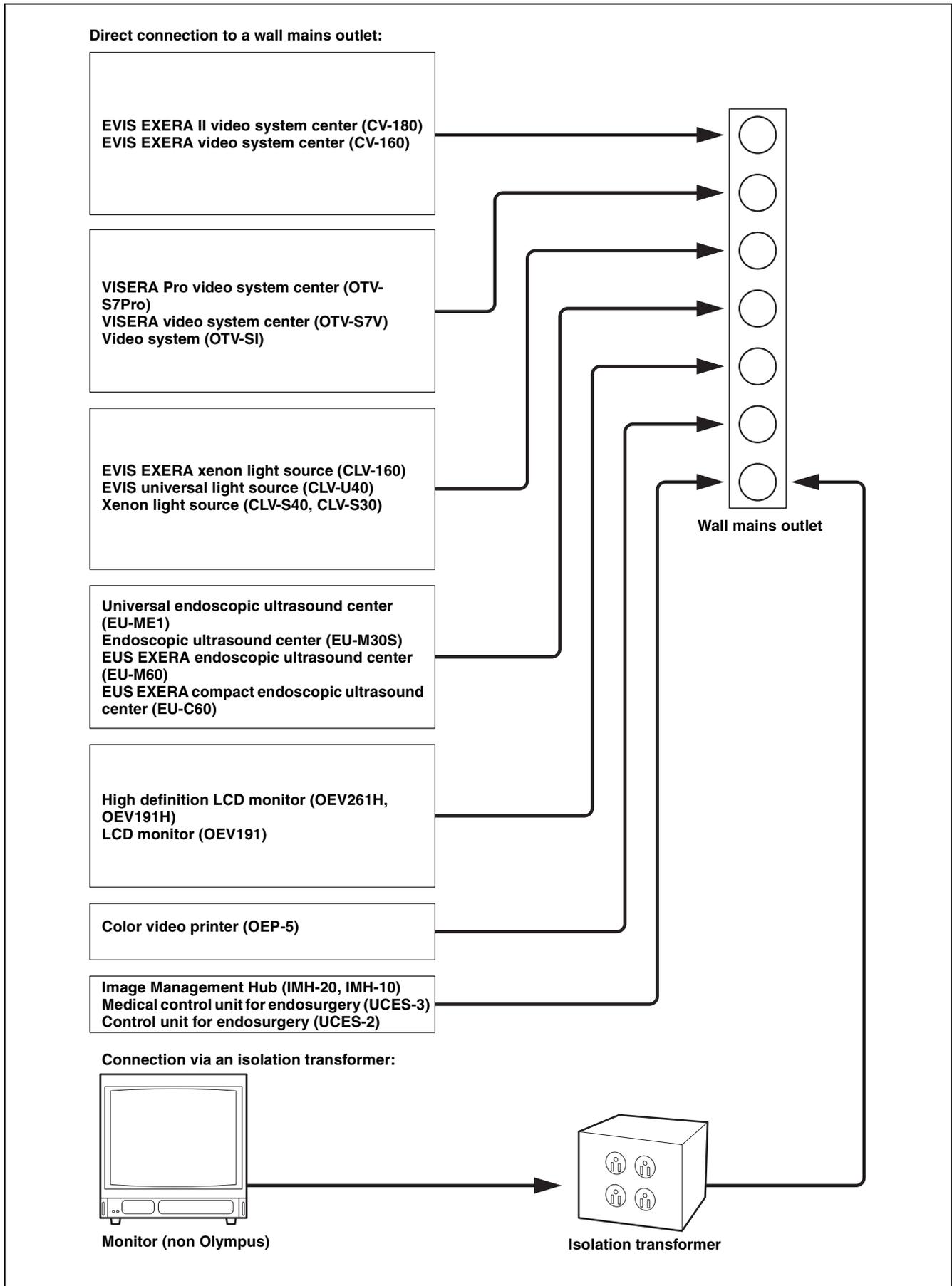


Figure 2.13

This document, “INSTRUCTIONS (ADVANCED),” explains equipment other than described in “INSTRUCTIONS (BASIC).”

Refer to the instruction manuals of the connected equipment, which must be set up as required for use with this instrument.

Be sure to refer to “Chapter 3 Inspection Before Use” in “INSTRUCTIONS (BASIC),” which has a description of non setting-related inspections for the connected equipment and this instrument.

3.1 Setup of Connected Equipment

Table 3.1

Connected equipment	Instruction Manual references	Setup Item	Setup	Note
CV-160	“6.9 Image recording and playback” “Using a video printer” “Operation from the keyboard”	“#PER PAGE” switch on the keyboard.	From “1,” “2,” “4,” “N”	Select the number of multi-picture images. Select any one except “8” and “16.”
		“PRINT QTY.” switch on the keyboard.	From “1,” “2,” “3,” “N”	Set the number of print quantity. Print quantity is set up from a menu when it is set as “N,” according to “Printer settings” in “5.3 System setup.” Select any setting.
	“5.3 System setup” “Printer settings”	“Type”	“OEP3”	Select the printer type. Be sure to set “Type” to “OEP3” when using this instrument.
		“Qty. “N””	“4” – “9”	Select the print quantity when the “Print quantity indicator” on the keyboard is set to “N.” Select any setting, as required.
	“Caption”	Max. 40 characters.	Input the characters to be printed in the margin of the print sheet.	
“5.4 User presets” “Setting [User Preset – Edit Data] menu” “Setting endoscope remote switch functions”	“Scope remote switches” “Switch 1” “Switch 2” “Switch 3” “Switch 4”	“Printer” “P.Back”	Select the functions to be controlled from the scope switches on the videoscope or OES video converter. Select any setting, as required.	

Table 3.1

Connected equipment	Instruction Manual references	Setup Item	Setup	Note	
OTV-S7Pro	“9.2 System setup” “Printer”	“Type”	“OEP4”	Select the printer type. Be sure to set “Type” to “OEP4” when using this instrument.	
		“Qty. “N””	“4” – “9”	Select the print quantity when the “Print quantity indicator” on the keyboard is set to “N.” Select any setting, as required.	
		“Caption”	Max. 32 characters.	Input the characters to be printed in the margin of print sheet.	
		“Release Time”	“0.5sec” “1sec” “1.5sec” “2sec”	Before the images are read by the printer, set the time while still images from the endoscope are captured.	
		“OEP4 mode”	“Mode1” “Mode2”	Select the output signal format for the endoscope image. Select “Mode1” when HDTV signals are input.	
OTV-S7V	“9.3 User preset” “Scope switch and Foot switch”	“Scope switch” “Switch1” “Switch2” “Switch3” “Switch4” “Foot switch” “Switch1” “Switch2”	“Release1” “Release2”	Select the function to be controlled from the scope switch and foot switch on the camera head. Select any setting, as required.	
		“9.3 User preset” “Release function”	“Release” “Release1” “Release2”	“CVP”	Select the instrument to be controlled from “Release1” and “Release2” that are assigned to the scope switch and foot switch on the camera head. Be sure to set this item to “CVP” when using this instrument. The RELEASE key of the keyboard performs the same function as “Release1.”
		“5.12 Remote control switches”	Remote control switch on the videoscope or camera head	“REL.+DIG. CAP.” “RELEASE”	Select the function to be controlled from the remote control switch on the videoscope or camera head. Select any setting, as required.
	“5.13 Setting a function to the keyboard”	“F4” key	“REL.+DIG. CAP.” “RELEASE”	Select the function to be activated with the “F4” key on the keyboard. Select any setting. Input them, as required.	
OTV-SI	“5.9 Remote control switches”	Remote control switch on the videoscope or camera head	“RELES”	Select the function to be controlled from the remote control switch on the videoscope or camera head. Select any setting, as required.	
EU-ME1	“9.2 System setup” “Scope switches”	“U1 (F) Switch” “U2 (R) Switch” “U3 (S) Switch”	“Release”	Select the function to be controlled from the scope switch of the ultrasound endoscope. Select any setting, as required.	
EU-M30S	No setup required.				
EU-M60	“6.3. Setup”: “System setup – Scope switch”	Scope switches “U1(F) switch” “U2(R) switch” “U3(S) switch”	“Release” “Save & release”	Select the functions to be controlled from the scope switches on the ultrasound endoscope. Select any setting, as required.	
	“6.3. Setup”: “System setup – Remote control”	“REMOTE PRN2”	“Color video printer”	Select the type of the storage device to be remote controlled. Be sure to set this item to “Color video printer” when using this instrument.	
EU-C60	“6.3. Setup”: “Setting up a video printer”	“printer”	“on”	Select whether or not the video printer is used. Be sure to set this item to “on” when using this instrument.	

Table 3.1

Connected equipment	Instruction Manual references	Setup Item	Setup	Note
IMH-20, 10	"4.2 Recording setting (User settings)"	"REMOTE1"	"OEP-5"	Select the model of printer to connect. Be sure to set this item to "OEP-5" when using this instrument.
		"Layout"	"1 image (1 × 1)" "2 images (1 × 2)" "4 images (2 × 2)"	Select the number of multi-pictures to be printed. Select one of listed setup items. "8 images (4 × 2)" is not supported.
		"Caption"	"Print" "Not print"	Select the information to be printed in the margin of print sheet.
	"4.3 Setting about recording (System settings)" "Setting the functions" "Devices"	"REMOTE1"	"OEP-5"	Select the model of printer to connect. Be sure to set this item to "OEP-5" when using this instrument.
UCES-3	No setup required.			
UCES-2	"5.14 Operating the system installation screen"	"Video printer"	"OEP-4"	Select the model of printer to connect. The settings required may vary depending on the software version. For details, refer to the instruction manual supplied with this instrument.

3.2 Setup of this Instrument

This section explains the items to be confirmed and other setup items required to use the instruments other than the devices described in “INSTRUCTIONS (BASIC).”

For detailed information on other setup items, see “Chapter 5 System Setup” on page 46.

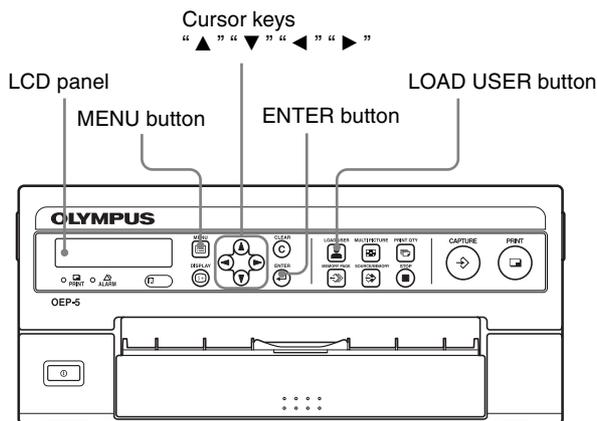


Figure 3.1

- 1 Press the “MENU” button.
- 2 Depending on the connected equipment, perform setup of the color video printer (OEP-5) by following the procedures below.

Table 3.2

Connected Instrument	Procedure
CV-160	<ol style="list-style-type: none"> 1 Press “▲” or “▼” until the LCD panel shows “SIGNAL SETUP,” and press the “ENTER” button. 2 When “INPUT SETUP” appears, press “▲” or “▼” to display “INPUT SEL,” and press the “ENTER” button. 3 Press “▲” or “▼” until “COMPONENT” appears below “INPUT SEL,” and press the “ENTER” button.

Table 3.2

Connected Instrument	Procedure
OTV-S7Pro	<ol style="list-style-type: none"> 1 Press “▲” or “▼” until the LCD panel shows “SIGNAL SETUP,” and press the “ENTER” button. 2 When “INPUT SETUP” appears, press “▲” or “▼” to display “INPUT SEL,” and press the “ENTER” button. 3 Press “▲” or “▼” until “COMPONENT” appears below “INPUT SEL,” and press the “ENTER” button. 4 Press the “MENU” button. And then press “▲” or “▼” until the LCD panel shows “SIGNAL SETUP,” and press the “ENTER” button. 5 When “INPUT SETUP” appears, press “▲” or “▼” to display “SD/HD SEL,” and press the “ENTER” button. 6 Press “▲” or “▼” until “AUTO” appears below “SD/HD SEL,” and press the “ENTER” button.
OTV-S7V	<ol style="list-style-type: none"> 1 Press “▲” or “▼” until the LCD display shows “SIGNAL SETUP,” and press the “ENTER” button. 2 When “INPUT SETUP” appears, press “▲” or “▼” to display “INPUT SEL,” and press the “ENTER” button. 3 Press “▲” or “▼” until the format of the video signal being input appears below “INPUT SEL,” press the “ENTER” button. VIDEO : Input the signal in composite signal formats. S-VIDEO : Inputs the signal in Y/C signal format. COMPONENT : Inputs the signal in the component signal format.
OTV-SI EU-M30S UCES-2	<ol style="list-style-type: none"> 1 Press “▲” or “▼” until the LCD panel shows “SIGNAL SETUP,” and press the “ENTER” button. 2 When “INPUT SETUP” appears, press “▲” or “▼” to display “INPUT SEL,” and the “ENTER” button. 3 Press “▲” or “▼” until “S-VIDEO” appears below “INPUT SEL,” and press the “ENTER” button.
EU-ME1	<ol style="list-style-type: none"> 1 Press “▲” or “▼” until the LCD panel shows “SIGNAL SETUP,” and press the “ENTER” button. 2 When “INPUT SETUP” appears, press “▲” or “▼” to display “INPUT SEL,” and press the “ENTER” button. 3 Press “▲” or “▼” until “COMPONENT” appears below “INPUT SEL,” and press the “ENTER” button.

Table 3.2

Connected Instrument	Procedure
EU-M60	You can use these devices at the factory settings.
EU-C60	<ol style="list-style-type: none"> <li data-bbox="400 300 756 376">1 Press “▲” or “▼” until the LCD panel shows “SIGNAL SETUP;” and press the “ENTER” button. <li data-bbox="400 376 756 483">2 When “INPUT SETUP” appears, press “▲” or “▼” to display “INPUT SEL;” and press the “ENTER” button. <li data-bbox="400 483 756 568">3 Press “▲” or “▼” until “VIDEO” appears below “INPUT SEL;” and press the “ENTER” button.
IMH-20, 10 UCES-3	You can use these devices at the factory settings.

- 3 Press the “MENU” button.
The LCD panel should return to the previous display.

4.1 Control from the Connected Equipment

This document, “INSTRUCTIONS (ADVANCED),” explains the use of equipment except the EVIS EXERA II video system center (CV-180) described in “INSTRUCTIONS (BASIC).”

Refer to “INSTRUCTIONS (BASIC)” when you use the EVIS EXERA II video system center (CV-180) with this instrument.

CAUTION

- When this instrument is controlled from the EVIS EXERA video system center (CV-160) or VISERA Pro video system center (OTV-S7Pro), do not perform the following tasks from this instrument or optional remote control unit (MAJ-898).
 - Setting up the print quantity
 - Setting up the number of multi-pictures
 - Changing memory page
 - Clearing a captured image
 - Moving the pointer

Because of the difference between settings of the EVIS EXERA video system center (CV-160)/VISERA Pro video system center (OTV-S7Pro) and settings of this instrument, desired operation may not be carried out, or image data may disappear.
- Do not set the number of multi-picture to “8” or “16” from the EVIS EXERA video system center (CV-160) or VISERA Pro video system center (OTV-S7Pro). If it is set as “8” or “16,” it will be set as “1.”
- Do not turn OFF or take out the paper tray while printing is in progress. Otherwise, paper jam and/or malfunction may result.
- Do not open the front door or take out the paper tray while printing is in progress. Otherwise, paper jam and/or malfunction may result.
- Do not leave 10 or more print sheets on the paper exit. Otherwise, paper jam may result. Also, even when the number of print sheets is less than 10, message “REMOVE PRINTS” may be displayed on the monitor and LCD panel and printing is interrupted depending on the print sheet conditions. If this occurs, remove the print sheets from the paper exit. Printing will resume automatically.
- If you turn this instrument OFF while the “PRINT” lamp is lit, the ink ribbon quantity displayed on the remaining ink ribbon display on the LCD panel and/or the monitor may not match the actual ink ribbon

quantity remaining.

Be sure to turn this instrument OFF after printing is completed and the “PRINT” lamp turns off.

NOTES

- Refer to the instruction manuals supplied with the connected equipment.
- If print sheets jam during printing, take the measures recommended in to “4.3 In the Case of a Paper Jam” in “INSTRUCTIONS (BASIC).”
- An image cannot be stored in a memory page that is currently printing, or is reserved for printing. Wait until the printing completes.
- If you open the front door during printing, printing is interrupted. If you close the front door, the print sheet being printed is ejected. To print again, press the “PRINT” button.
- If the remaining print sheets in the paper tray decreases, a rattling sound may be heard during printing. This is not a malfunction.
- Depending on the environment in which this instrument is used, or the condition of the print sheets, printed sheets output from the paper exit may go over the stopper and drop from the paper exit. Printed sheets may slide between previously ejected print sheets, and may not stack up in the printed order.
- The illustration of the monitor has not indicated the endoscopic image for legibility.

- 1 Set up the connected instrument as shown in Table 3.1 in “3.1 Setup of Connected Equipment” on page 32.
- 2 Set up the color video printer (OEP-5) as described in “3.2 Setup of this Instrument” on page 35.
- 3 Control as described in the instruction manuals for connected equipment.

Connected Instrument	Description in instructions
CV-160	Section 6.9, “Image recording and playback” “Using a video printer”
OTV-S7Pro	Section 5.5, “Printing images”
OTV-S7V	Section 5.21, “Photography and display with color video printer OEP-3/OEP (not available in some countries)”
OTV-SI	Section 5.15, “Photography with the color video printer (OEP-3/OEP-not available in some countries)”
EU-ME1	Section 5.7, “Operation of ancillary equipment (printer, VCR, etc.)” “Image printing using the color video printer”

Connected Instrument	Description in instructions
EU-M30S	Section 6.9, "Recording" "Image recording using OEP"
EU-M60	Section 6.13, "Operation of ancillary equipment (printer, VTR, etc.)" "Image recording using the color video printer"
EU-C60	Section 6.8, "Recording" "Image recording using the video printer"
IMH-20, IMH-10	Section 5.7, "Recorded data operations" "Printing"
UCES-3	You cannot control from the connected equipment.
UCES-2	Section 5.6, "Operating the ancillary equipment screen" "Operating the connected equipment" "Operating the printer"

4.2 Control From the Front Panel

NOTE

To check the setup values on the monitor, connect the video output signal from this instrument to the monitor in advance.

Displaying Setting Values on the Monitor

The setting value of this instrument can be displayed on the monitor.

- 1 Press the "DISPLAY" button.
Each press of the "DISPLAY" button displays and hides the setting value (print quantity, memory page, operation mode, source/memory) of this instrument alternately (see Figure 4.1).

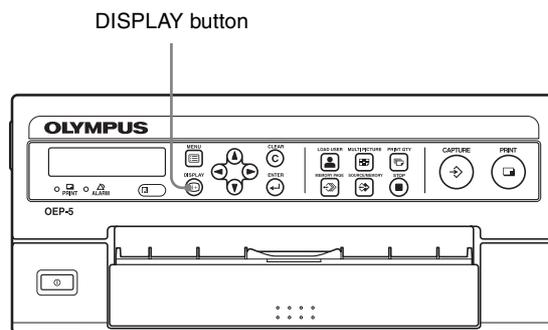


Figure 4.1

NOTE

The setup display can also be controlled in the menu. The setup made using the above procedure is also applied to the setup using the menu. For details on menus, see "Setting "DISPLAY"" on page 62.

Selecting the User Setup

Select the user setup registered in “Save” in USER PRESET menu.

Table 4.1

User numbers	Settings
1	Suitable for printing a normal/ultrasonic endoscope image
2	Suitable for printing a normal/surgical endoscope image
3	Suitable for printing a normal/ultrasonic endoscope image

- 1 Press the “LOAD USER” button on the front panel (see Figure 4.2).

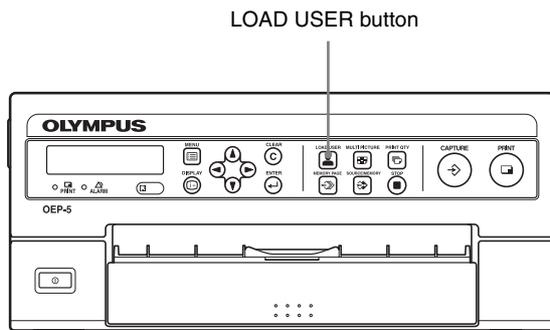
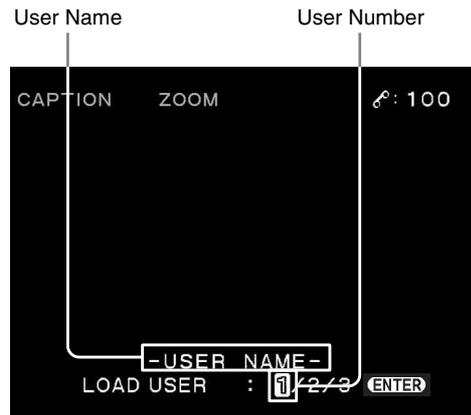


Figure 4.2

The monitor and LCD panel display the current setup for a few seconds. On the monitor, the user number currently selected is displayed in green (see Figure 4.3).

Monitor



LCD panel



Figure 4.3

- 2 While the monitor or LCD panel is as shown in Figure 4.3, press the “LOAD USER” button, “◀” or “▶” until the desired user number is displayed. Each press of the “LOAD USER” button or “▶” changes the user number by one as “1” “2” “3” “1” Each press of “◀” changes the user number by one as “1” “3” “2” “1”

NOTE

The user setup can also be selected in the menu. The setup made using the above procedure is also applied to the setup using the menu. For details on menus, see “Setting “Select”” on page 53.

Setting the Print Quantity

The number of printing the same picture can be set up.

- 1 Press the “PRINT QTY” button on the front panel (see Figure 4.4).

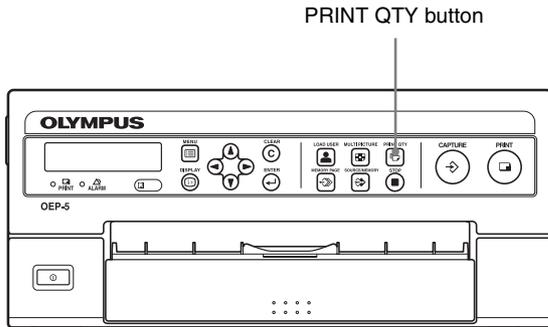


Figure 4.4

The monitor and LCD panel display the current setup for a few seconds (see Figure 4.5).

Monitor



Print quantity display

LCD panel

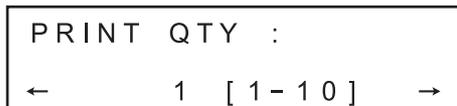


Figure 4.5

- 2 While the monitor or LCD panel is as shown in Figure 4.5, press the “PRINT QTY” button, “◀” or “▶” until the desired print quantity is displayed. Each press of the “PRINT QTY” button or “▶” increments the print quantity by one as “1” “2” “3” ... “9” “10” “1” The print quantity after “10” is “1.” Each press of “◀” decrements the print quantity by one as “1” “10” “9” ... “2” “1” “10” The print quantity after “1” is “10.”

NOTE

The print quantity can also be controlled in a menu. The setup made using the above procedure is also applied to the setup using the menu. For details on menus, see “Setting “PRINT QTY”” on page 55.

Setting the Multi-Picture Printing

The number of multi-picture images printed per print sheet can be set up.

- 1 Press the “MULTI PICTURE” button on the front panel (see Figure 4.6).

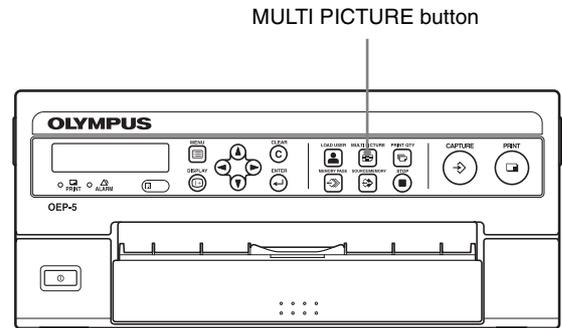
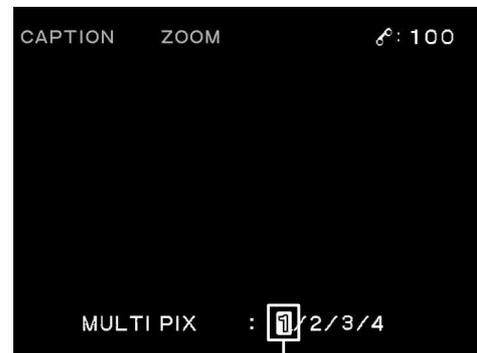


Figure 4.6

The monitor and LCD panel show the current setup for a few seconds. On the monitor, the number of multi-pictures currently selected is displayed in green (see Figure 4.7).

Monitor



Number of multi-picture display

LCD panel



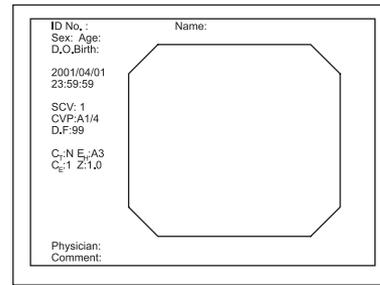
Figure 4.7

Table 4.2

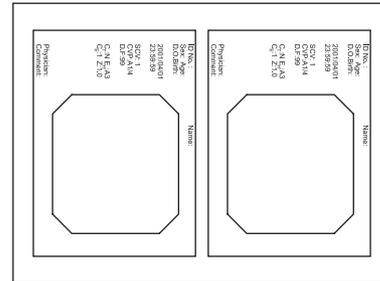
Monitor Screen Display	LCD Panel Display	Number of Multi-Picture Images
	1	Single picture without screen splitting
	2	2
	3	3
	4	4

- 2** While the monitor or LCD panel is as shown in Figure 4.7, press the “MULTI PICTURE” button, “◀” or “▶” until the desired number of multi-pictures are displayed.
 Each press of the “MULTI PICTURE” button or “▶” changes the number of multi-pictures by one as “1” “2” “3” “4” “1”
 Each press of “◀” changes the number of multi-pictures by one as “1” “4” “3” “2” “1”

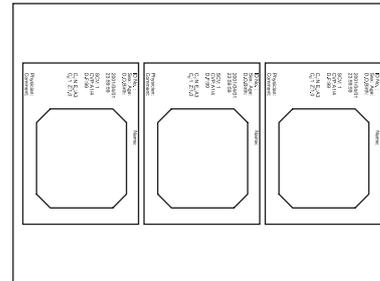
The monitor and LCD panel display correspond with the number of multi-pictures as shown in Figure 4.7 and Table 4.2. The printed picture becomes as shown in Figure 4.8. The memory mode image is also displayed similarly on the monitor.



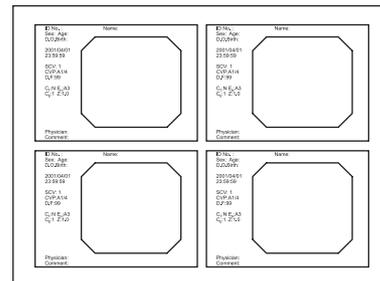
Single picture without screen splitting



Screen split into 2



Screen split into 3



Screen split into 4

Figure 4.8

NOTE

The multi-picture printing also be controlled in a menu. The setup made using the above procedure is also applied to the setup using the menu. For details on menus, see “Setting “MULTI PIX”” on page 64.

Capturing the Image

Images to be printed on print sheets can be captured in this instrument as described below.

- 1 Display the image from the input source on the monitor.
- 2 When the desired image is displayed, press the “CAPTURE” button (see Figure 4.9).

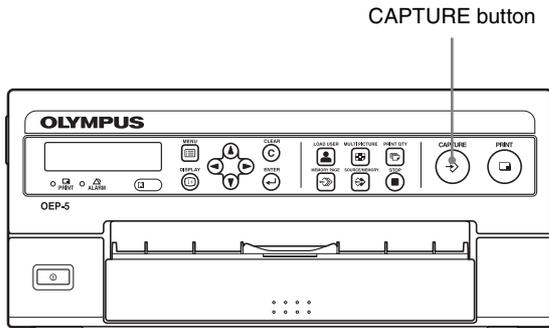


Figure 4.9

NOTE

When the desired image is displayed, it is recommended to turn it into a still image using the freeze function to capture and print the image without blur. For how to freeze an image, refer to the instruction manual for the connected equipment.

Checking a Captured Image

You can check a captured image on the monitor.

- 1 Press the “SOURCE/MEMORY” button (see Figure 4.10).

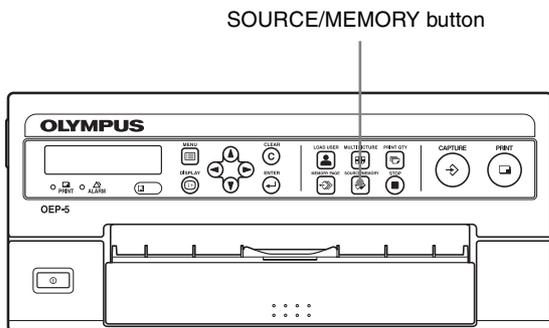


Figure 4.10

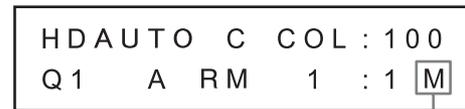
- 2 Confirm that the Source/Memory display shows “M.” If not, press the “SOURCE/MEMORY” button until “M” is displayed. “M” indicates that a memory image is being displayed (see Figure 4.11). “S” indicates that a source image is being displayed.

Monitor



Source/Memory display

LCD panel



Source/Memory display

Figure 4.11

Moving the Pointer

The pointer in which the memory position storing a picture is movable.

- 1 Press “▲,” “▼,” “◀,” or “▶” while the normal screen is displayed to move the cursor. Pressing “▲,” “▼,” “◀,” or “▶” while the normal screen is displayed moves a pointer in the same direction as the direction that a cursor keys shows.

Printing

Print the images captured as follows.

CAUTION

- Do not turn OFF or take out the paper tray while printing is in progress. Otherwise, paper jam and/or malfunction may result.
- Do not open the front door or take out the paper tray while printing is in progress. Otherwise, paper jam and/or malfunction may result.

- Do not leave 10 or more print sheets on the paper exit. Otherwise, paper jam may result. Also, even when the number of print sheets is less than 10, message “REMOVE PRINTS” may be displayed on the monitor and LCD panel and printing is interrupted depending on the print sheet conditions. If this occurs, remove the print sheets from the paper exit. Printing will resume automatically.
- If you turn OFF this instrument while the “PRINT” lamp is lit, the ink ribbon quantity displayed on the remaining ink ribbon display on the LCD display and/or the monitor may not match the actual ink ribbon quantity remaining.
Be sure to turn this instrument OFF after printing is completed and the “PRINT” lamp turns off.

NOTES

- If a paper jam occurs while printing is in progress, refer to “4.3 In the Case of a Paper Jam” in “INSTRUCTIONS (BASIC).”
- You cannot store an image in a memory page that is currently printing, or is reserved for printing. Wait until the printing completes.
- If you open the front door during printing, printing is interrupted. If you close the front door, the print sheet being printed is ejected. To print again, press the “PRINT” button.
- If the remaining print sheets in the paper tray decreases, a rattling sound may be heard during printing. This is not a malfunction.
- Depending on the environment in which this instrument is used, or the condition of the print sheets, printed sheets output from the paper exit may go over the stopper and drop from the paper exit. Printed sheets may slide between previously ejected print sheets, and may not stack up in the printed order.

- 1 Press the “PRINT” button.
The image(s) in the currently selected memory page will be printed out (see Figure 4.12).

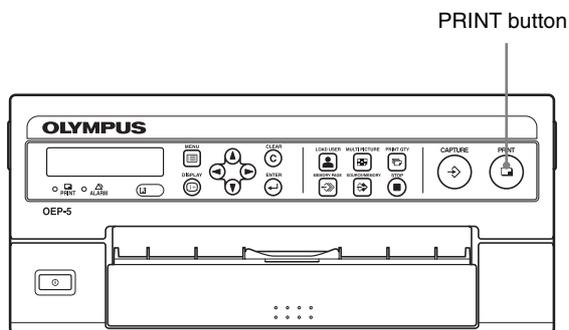


Figure 4.12

Capturing an image and reserving its printing during printing of another image

- 1 Select the memory page as described in “Selecting the Memory Page” on page 43.
- 2 When the desired image is displayed, press the “CAPTURE” button to store it in the memory of color video printer (OEP-5).
- 3 If the captured image is to be printed, press the “PRINT” button.
Printing of that image is reserved and it starts to be printed as soon as the current image printing has completed.

If the print sheets run out during printing

Printing is terminated. If, for example, the print quantity is set to 5 and the print sheets run after 3 prints, 5 prints will be made if the “PRINT” button is pressed simply after refilling the paper tray with print sheets and confirming the memory image. To print only the unprinted 2 sheets, the print quantity should be reset before pressing the “PRINT” button again.

Selecting the Memory Page

The memory pages refer to the pages in memory where images are stored. The number of available memory pages varies depending on the number of multi-picture images and connected equipment (see Table 4.3). For details, see “Setting “MULTI PIX”” on page 64.

Table 4.3

Number of multi-picture images	Available memory pages
1 (without screen splitting)	A, B, C, D, E, F, G, H
2	A, B, C, D
3	A, B
4	A, B

- 1 Press the “MEMORY PAGE” button repeatedly until the memory page to be used is displayed (see Figure 4.13 and Figure 4.14). Each press of the “MEMORY PAGE” button switches the memory page.

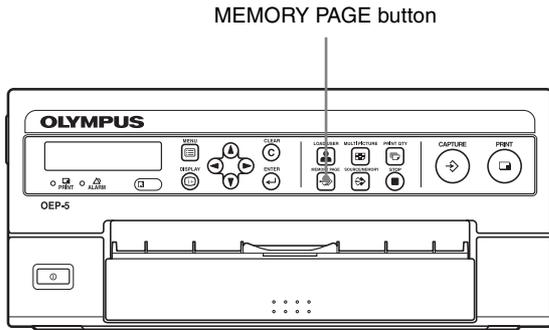
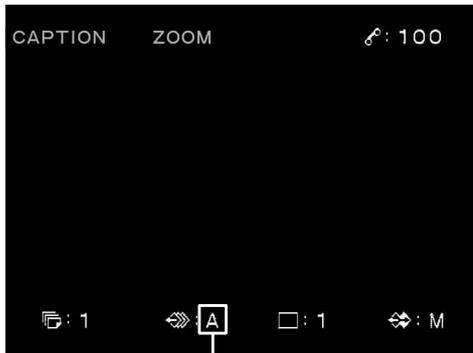


Figure 4.13

Monitor screen



Memory page display

LCD panel



Memory page display

Figure 4.14

Stop Printing

Printing can be stopped when the print quantity is set to 2 or more.

- 1 Press the “STOP” button (see Figure 4.15). Printing stops after completing printing of the current sheet.

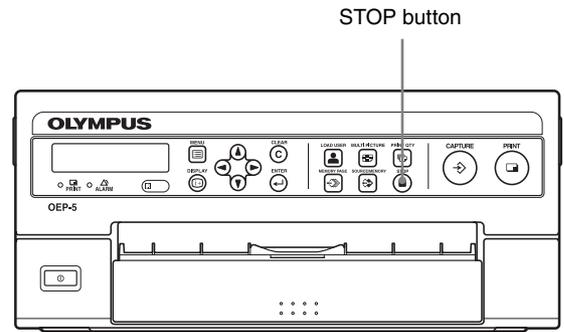


Figure 4.15

Clearing the Captured Image

Images stored in memory can be cleared.

CAUTION

- Images cannot be restored once they have been cleared.
- An image being printed cannot be cleared.

- 1 While the memory image is being displayed, press the “CLEAR” button (see Figure 4.16). The images stored in the memory are cleared.

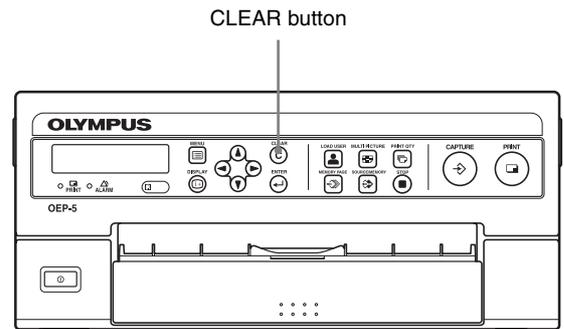


Figure 4.16

While the source image is being displayed, press the “CLEAR” button. It will change to the memory image display. Then, press the “CLEAR” button again. The images stored in the memory are cleared.

NOTE

The operation activated by the “CLEAR” button varies depending on the setup. For details, see “Setting “CLEAR”” on page 57.

4.3 Control From the Remote Control Unit (MAJ-898) (Optional)

The optional remote control unit (MAJ-898) can be used to control almost the same functions as those described in “4.2 Control From the Front Panel” on page 38 from a position apart from this instrument.

Table 4.4 shows the correspondence between the switches on the front panel of this instrument and the keys on the remote control unit (MAJ-898).

Table 4.4

Remote control unit keys	Front panel switches
INPUT SELECT key	No corresponding switch. This function should be selected from a menu.
R REMAIN key	No corresponding switch. This function should be selected from a menu.
Arrow (↕, ↘, ↙, ⇄) keys	Cursor (▲, ▼, ◀, ▶) keys
EXEC key	ENTER (↵) button
CAPTURE (⇄) key	CAPTURE (⇄) button
PRINT (🖨) key	PRINT (🖨) button
SOURCE/MEMORY (↔) key	SOURCE/MEMORY (↔) button
MEMORY PAGE (↔) key	MEMORY PAGE (↔) button
CLEAR (C) key	CLEAR (C) button
BACK SPACE (⌫) key	No corresponding switch. This function should be controlled using the cursor (◀) key.
DISPLAY key	DISPLAY (Ⓜ) button
INPUT key	No corresponding switch. This function should be selected from a menu.
R/G/B/D/L key	No corresponding switch. This function should be selected from a menu.
LOAD COLOR key	No corresponding switch. This function should be selected from a menu.
MENU key	MENU (☰) button
MULTI PICTURE key	MULTI PICTURE (🖼) button
No corresponding key. This function should be selected from a menu.	LOAD USER (👤) button
No corresponding key. This function should be selected from a menu.	PRINT QTY (🖨) button
No corresponding key. This function should always be controlled from the front panel.	STOP (■) button

5.1 Items That can be Set on Menus

The system setups of this instrument can be modified as desired by the user or according to the operations applied from the factory default. This instrument may malfunction if the system setups are made incorrectly. Moreover, in the case of an item that cannot be set up, its setting value will be displayed as “_” and cannot be selected.

If “◀” and “▶” are pressed simultaneously while selecting the setting values, the factory default value will be selected automatically.

Table 5.1 shows the available system setup items.

Table 5.1

Menu	Item	Setting values	Details	Factory default
USER PRESET	Select	“1” “2” “3”	Load the user setup saved in “Save” in “USER PRESET” menu. Same as “LOAD USER” button on the front panel.	“1”
	Save	“1” “2” “3”	Save the setups in memory.	“1”
	Edit	16 characters	Register the user name of the setup saved in “Save” in “USER PRESET” menu.	“-USER NAME-”
Color tone adjustment	C-R	“-14” to “14”	Adjust the image on the monitor. (Cyan ↔ Red)	“0”
	M-G	“-14” to “14”	Adjust the image on the monitor. (Magenta ↔ Green)	“0”
	Y-B	“-14” to “14”	Adjust the image on the monitor. (Yellow ↔ Blue)	“0”
PRINTER SETUP - PRINTER SETUP	PRINT QTY	“1” to “10”	Set the number of print. Same as the “PRINT QTY” button on the front panel.	“1”
	SD GAMMA	“SOFT” “NORMAL” “HARD”	Adjust the black or white area in the image when the SDTV signal is input.	“NORMAL”
	HD GAMMA	“SOFT” “NORMAL” “HARD”	Adjust the black or white area in the image when the HDTV signal is input. Same as “HD GAMMA” in “HDTV SETUP.”	“NORMAL”
	PRN SPEED	“NORMAL” “HIGH”	Set the printing speed.	“HIGH”
PRINTER SETUP - SYSTEM SETUP	CLOCK ADJUSTMENT	Set the clock.		
	LCD-CNTR.	“0” to “14”	Set the background contrast of the LCD panel.	“7”
	BAUDRATE	“1200” “2400” “4800” “9600”	Set the RS-232C communication rate.	“4800”
	BEEP	“OFF” “ON”	Set whether the buzzer beep is generated when a front panel button is pressed.	“ON”
	IRE	“100” “110” “120” “130”	Set the contrast of the input video signal.	“110”

Table 5.1

Menu	Item	Setting values	Details	Factory default
PRINTER SETUP - FUNCTION SETUP	AUTO LIVE	“OFF” “ON”	Switch the output image at capturing between the memory and source image.	“OFF”
	RM2 FUNC	(See Table 5.3. on page 57)	Set the function of the “REMOTE2” terminal.	“C&PRINT”
	CLEAR	“ALL” “PAGE” “PART” “OFF”	Set the operation activated with the CLEAR button on the front panel.	“ALL”
	STORE MODE	“OEP-4 MODE” “OEP-5 MODE” “OFF”	Set a mode in which image and setting data is saved or loaded when a paper jam occurs.	“OEP-4 MODE”
	STORE IMAGE	“STORE” “RESTORE” “CLEAR”	Store, load or clear image and setting data using the built-in memory.	“RESTORE”
PRINTER SETUP - COLOR BALANCE	BAL X	“1” to “99”	Set the reference range for color tone adjustment in printed picture.	“50”
	BAL Y	“1” to “99”	Set the reference range for color tone adjustment in printed picture.	LOAD USER 1, 3: “50” LOAD USER 2: “30”
	BAL STEP	“1” to “20”	Set the adjustment steps for color tone adjustment in printed picture.	“5”
	TEST PRINT	Start test print.		
SIGNAL SETUP - INPUT SETUP	INPUT SEL	“VIDEO” “S-VIDEO” “COMPONENT” “SDI”	Set the input video signal format.	“SDI”
	SD/HD SEL	“SD” “HD” “AUTO”	Set whether the HDTV or SDTV signal is input.	“AUTO”
	SD FORMAT	“RGB” “YCbCr”	Set the input SDTV signal format.	“RGB”
	SD SYNC (IN)	“G-ON” “EXT”	Set the input SDTV signal sync format.	“EXT”
	HUE	“-14” to “14”	Adjust the hue when the composite video or S-video signal is input.	“0”
	COLOR	“OFF” “-13” to “14”	Adjust the color depth.	“0”
	GAIN	“-14” to “14”	Adjust the contrast.	“0”
OFFSET	“-14” to “14”	Adjust the brightness.	“-2”	
SIGNAL SETUP - OUTPUT SETUP	DISPLAY	“OFF” “ON”	Set whether the setups are displayed. Same as the DISPLAY button on the front panel.	“ON”
	RBN REMAIN	“OFF” “ON”	Set whether the remaining ink ribbon information is displayed.	“ON”
	SOURCE	“THRU” “EE”	Set whether the color tones in the output image to a monitor are adjusted.	“EE”
	SD OUTPUT SYNC	“EXT” “EXT & G-ON”	Set the SDTV video signal sync format that outputs an image to a monitor.	“EXT”

Table 5.1

Menu	Item	Setting values	Details	Factory default
SIGNAL SETUP - HDTV SETUP	HD FORMAT	“RGB” “YPbPr”	Set the input HDTV signal format.	“RGB”
	HD ASPECT	“4 : 3” “5 : 4” “16 : 9” “16 : 10”	Set the input HDTV signal aspect ratio.	“5:4”
	OUTPUT SIG	“AUTO” “SD LETTER” “SD CROP”	Set the output video signal format when the HDTV signal is input.	“SD CROP”
	HD OUTPUT SYNC	“EXT” “EXT&G-ON”	Set the sync signal when the HDTV signal is used as the input video signal to this instrument.	“EXT&G-ON”
	HD SHARPNESS	“1” to “15”	Set the edge enhancement level of the printed picture when the HDTV signal is input. Same as “HD SHARPNESS” in “COLOR ADJUST.”	“12”
	HD GAMMA	“SOFT” “NORMAL” “HARD”	Adjust the black or white area in the image when the HDTV signal is input. Same as “HD GAMMA” in “PRINTER SETUP.”	“NORMAL”
	AUTO PRINT	“OFF” “ON” “ON&CLEAR”	Set the operation for changing the input video signal from HDTV to SDTV or from SDTV to HDTV.	“ON”
PICTURE SETUP - LAYOUT SETUP	MULTI PIX	“1” “2” “3” “4”	Set the number of multi-picture images. Same as “MULTI PICTURE” button on the front panel.	“1”
	SEPARATE	“OFF” “ON”	Set whether white frames are placed in the multi-picture images.	“ON”
	CAPTION	80 characters	Input a comment (caption) at the bottom of the print picture.	“OLYMPUS COLOR VIDEO PRINTER”
PICTURE SETUP - COLOR ADJUST	LOAD COLOR	“1” “2” “3”	Load the saved color setup.	“1”
	CYN-RED	“-7” to “7”	Adjust the color tone of printed picture or the image on the monitor. (Cyan ↔ Red)	“0”
	MAG-GRN	“-7” to “7”	Adjust the color tone of printed picture or the image on the monitor. (Magenta ↔ Green)	“0”
	YEL-BLU	“-7” to “7”	Adjust the color tone of printed picture or the image on the monitor. (Yellow ↔ Blue)	“0”
	DARK	“-7” to “7”	Adjust the dark area in the image of printed picture.	“-4”
	LIGHT	“-7” to “7”	Adjust the bright area in the image.	“0”
	SD SHARPNESS	“1” to “15”	Set the edge enhancement level of the printed picture when the SDTV signal is input.	“12”
	HD SHARPNESS	“1” to “15”	Set the edge enhancement level of the printed picture when the HDTV signal is input.	“12”
	SAVE COLOR	“1” “2” “3”	Save the setups set in “COLOR ADJUST.”	“1”

Table 5.1

Menu	Item	Setting values	Details	Factory default
PICTURE SETUP - WINDOW SETUP	WINDOW	“SD” “SD-SDI” “4 : 3” “5 : 4” “16 : 9” “16 : 10”	For SDTV, display the input video signal of the image capture. For HDTV, display the aspect ratios.	Depending on “INPUT SEL” in “INPUT SETUP” and “HD ASPECT” in “HDTV SETUP.”
	H START	SD : “-36” to “36” SD-SDI : “0” to “72” 4 : 3 : “0” to “960” 5 : 4 : “0” to “960” 16 : 9 : “0” to “960” 16 : 10 : “0” to “960”	Set the image capture start position. (Horizontal direction)	SD : “0” SD-SDI : “0” 4 : 3 : “240” 5 : 4 : “320” 16 : 9 : “0” 16 : 10 : “96”
	V START	SD : “-24” to “24” SD-SDI : “0” to “48” 4 : 3 : “0” to “540” 5 : 4 : “0” to “540” 16 : 9 : “0” to “540” 16 : 10 : “0” to “540”	Set the image capture start position. (Vertical direction)	SD : “0” SD-SDI : “0” 4 : 3 : “0” 5 : 4 : “27” 16 : 9 : “0” 16 : 10 : “0”
	H WIDTH	SD : “560” to “736” SD-SDI : “560” to “720” 4 : 3 : “720” to “1440” 5 : 4 : “720” to “1440” 16 : 9 : “960” to “1920” 16 : 10 : “960” to “1920”	Set the image capture width. (Horizontal direction)	SD : “680” SD-SDI : “720” 4 : 3 : “1440” 5 : 4 : “1280” 16 : 9 : “1920” 16 : 10 : “1728”
	V WIDTH	SD : “400” to “488” SD-SDI : “400” to “480” 4 : 3 : “540” to “1080” 5 : 4 : “540” to “1080” 16 : 9 : “540” to “1080” 16 : 10 : “540” to “1080”	Set the image capture width. (Vertical direction)	SD : “464” SD-SDI : “480” 4 : 3 : “1080” 5 : 4 : “1026” 16 : 9 : “1080” 16 : 10 : “1080”
	RESIZE TO FIT	“OFF” “ON”	Set whether the captured image is resized to fit the max. print area.	“OFF”
ZOOM SETUP - ZOOM MODE	ZOOM PART	“OFF” “PART” “ALL” “REMOTE”	Set the print layout.	“OFF”
ZOOM SETUP - ZM ADJ(S)	H START(RS)	“240” to “1000”	Set the image capture start position. (Horizontal direction)	“544”
	V START(RS)	“0” to “200”	Set the image capture start position. (Vertical direction)	“0”
	H START(NR)	“240” to “1000”	This function is for future expansion. Not used.	“496”
	V START(NR)	“0” to “200”	This function is for future expansion. Not used.	“96”
	H START(WD)	“240” to “1000”	This function is for future expansion. Not used.	“668”
	V START(WD)	“0” to “200”	This function is for future expansion. Not used.	“96”
	H WIDTH	“600” to “1400”	Set the image capture width.(Horizontal direction)	“1184”
	V WIDTH	“600” to “1000”	Set the image capture width.(Vertical direction)	“888”

Table 5.1

Menu	Item	Setting values	Details	Factory default
ZOOM SETUP - ZM ADJ(L)	H START(NR)	“0” to “1000”	This function is for future expansion. Not used.	“240”
	V START(NR)	“0” to “200”	This function is for future expansion. Not used.	“0”
	H START(W1)	“0” to “1000”	This function is for future expansion. Not used.	“384”
	V START(W1)	“0” to “200”	This function is for future expansion. Not used.	“0”
	H START(W2)	“0” to “1000”	This function is for future expansion. Not used.	“480”
	V START(W2)	“0” to “200”	This function is for future expansion. Not used.	“0”
	H WIDTH	“1000” to “1920”	This function is for future expansion. Not used.	“1440”
	V WIDTH	“800” to “1080”	This function is for future expansion. Not used.	“1080”

NOTE

If you press “◀” and “▶” simultaneously while selecting each setting value, the factory default value will be selected automatically (The factory default value will not be restored if “Edit” in the “USER PRESET” menu is selected).

5.2 Menu Tree

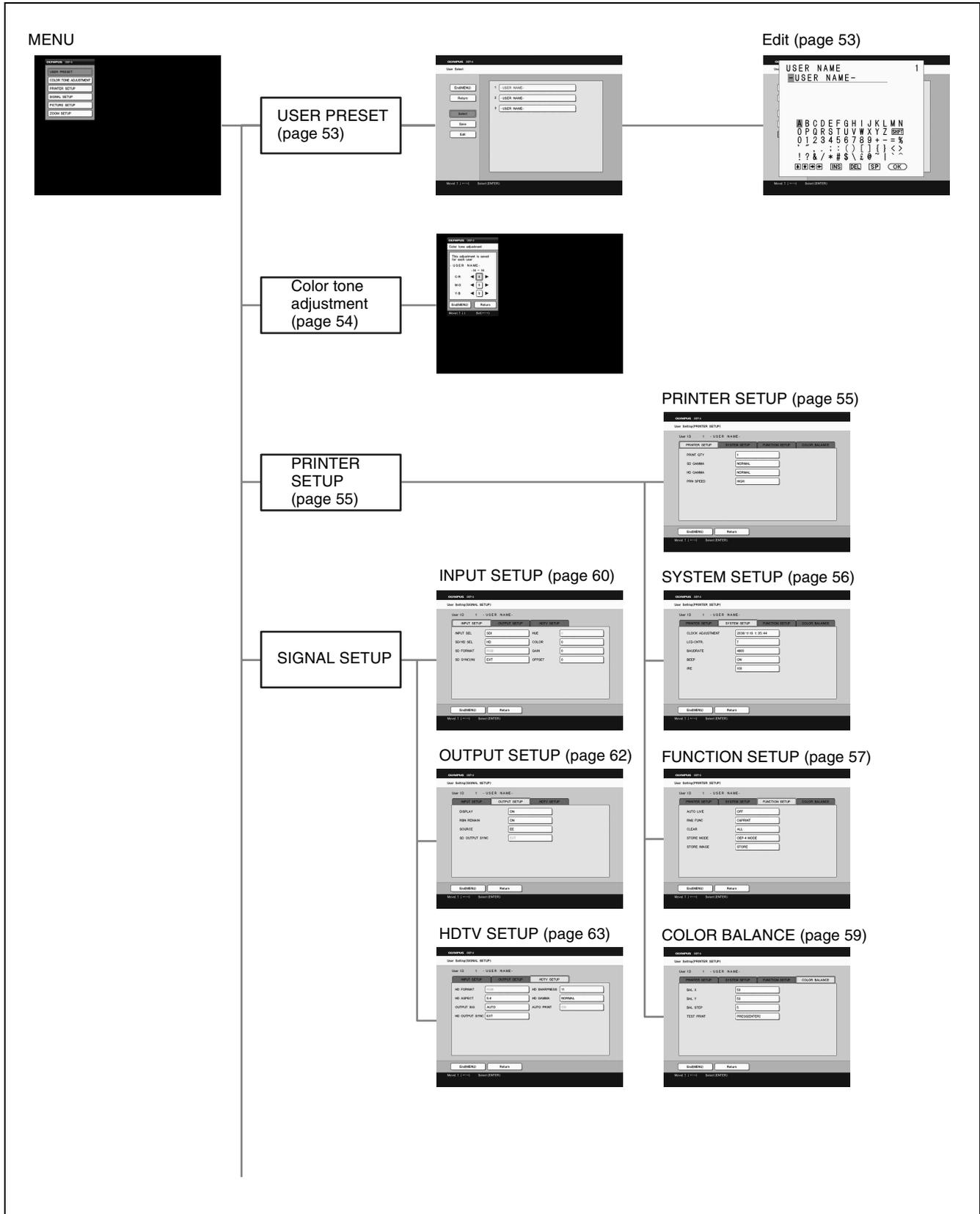


Figure 5.1

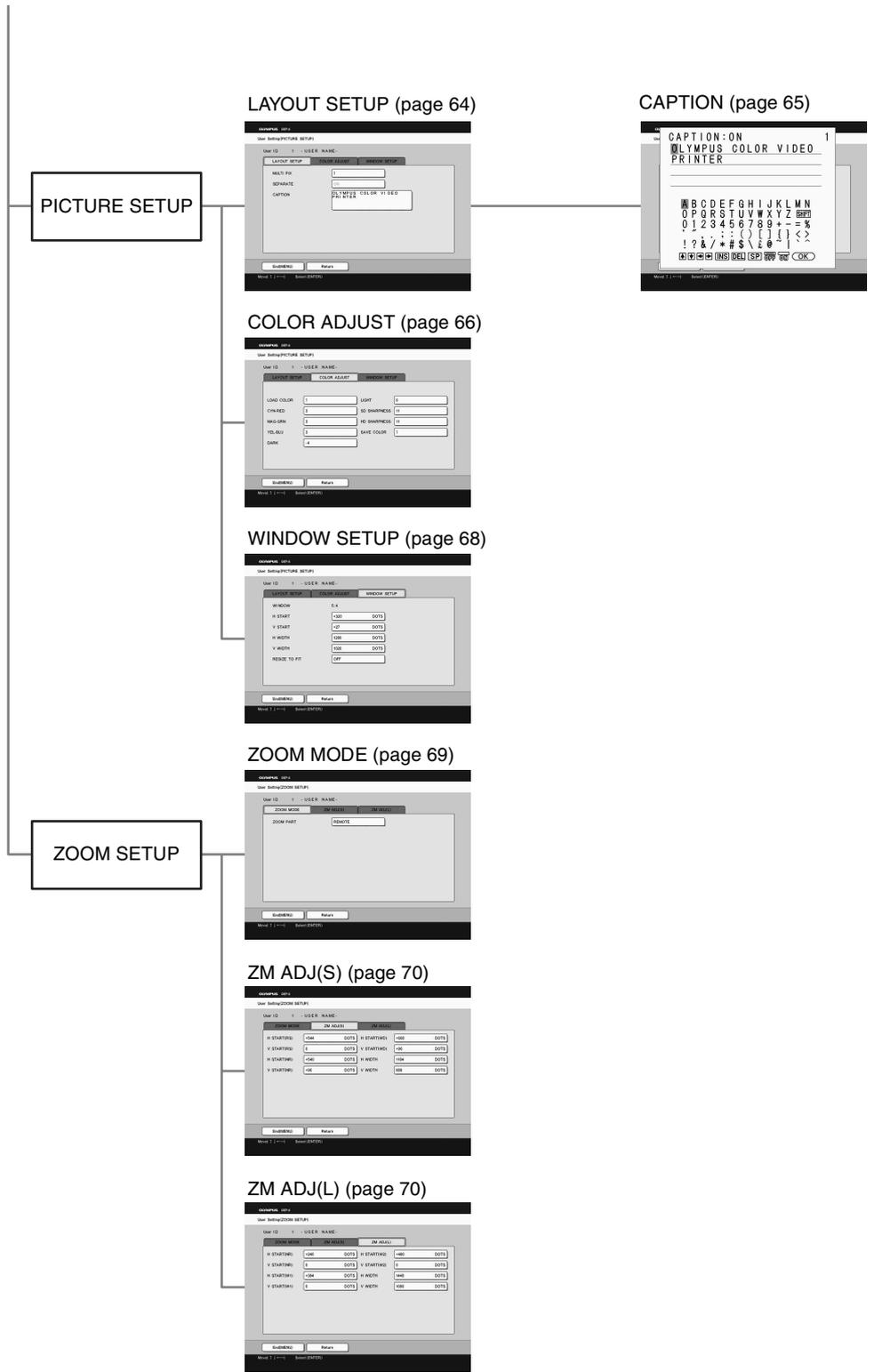


Figure 5.1

5.3 Setup of the “USER PRESET” Menu

This menu is used to store/select the setups of this instrument or edit the user name for every user.

To display the “USER PRESET” menu

- 1 Press the “MENU” button to display the menu.
- 2 Be sure the cursor points to “USER PRESET.” Press the “ENTER” button to display the “USER PRESET” menu (see Figure 5.2).

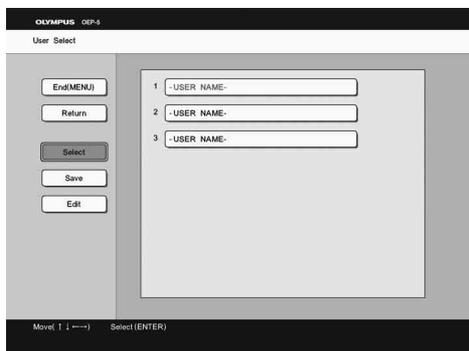


Figure 5.2

Setting “Select”

This item is used to select the setups saved for every user. (For saving setups, see “Setting “Save”” on page 53.) “Select” can also be set by pressing the “LOAD USER” button on the front panel. Changing the setup by either item or button affects the setups of both this item and the button.

- 1 Press “▲” or “▼” to select “Select,” and press the “ENTER” button.
- 2 Press “▲” or “▼” to select from among “1,” “2” and “3,” and press the “ENTER” button. The user name of the selected setup (see “Setting “Edit”” on page 53) is displayed next to the setting value.
 - 1: Suitable for printing a normal/ultrasonic endoscope image
 - 2: Suitable for printing a normal/surgical endoscope image
 - 3: Suitable for printing a normal/ultrasonic endoscope image
- 3 Press “◀” or “▶” to select “YES,” and press the “ENTER” button. The user name will be colored in purple and the setting will be completed.

Setting “Save”

This item is used to save all of the current system setups in all menus.

- 1 Press “▲” or “▼” to select “Save,” and press the “ENTER” button.
- 2 Press “▲” or “▼” to select the number to which to save the setups from among “1,” “2” and “3,” and press the “ENTER” button. Setups are saved.

NOTE

You can enter the user name. See “Setting “Edit”” on page 53.

Setting “Edit”

This item is used to enter the user name for the saved setups in “Setting “Save”” on page 53.

- 1 Press “▲” or “▼” to select “Edit,” and press the “ENTER” button.
- 2 Press “▲” or “▼” to select the number for entering the user name from among “1,” “2” and “3,” and press the “ENTER” button. The entry screen appears (see Figure 5.3).

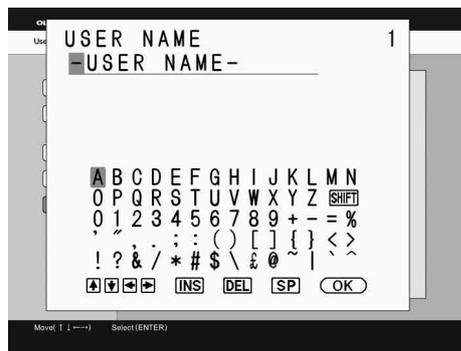


Figure 5.3

- 3 Press “▲,” “▼,” “◀” or “▶” to move the cursor on the character to be entered.
- 4 Press the “ENTER” button.
- 5 Enter the user name by repeating steps 3 and 4 for each character.

To change the position in which a character is entered

- ① Press “▲,” “▼,” “◀” or “▶” to move the cursor on “↑,” “↓,” “←” or “→.”
- ② Press the “ENTER” button. The character entry position moves in the direction of the arrow.

To switch the uppercase and lowercase letters

- ① Press “▲,” “▼,” “◀” or “▶” to move the cursor on “SHIFT.”
- ② Press the “ENTER” button.
When uppercase letters are displayed, they are switched to lowercase letters.
When lowercase letters are displayed, they are switched to uppercase letters.

To delete a character

- ① Press “▲,” “▼,” “◀” or “▶” to move the cursor on “DEL.”
- ② Press the “ENTER” button.

To insert a character in the middle of a comment

- ① Press “▲,” “▼,” “◀” or “▶” to move the cursor on “INS.”
- ② Press the “ENTER” button. Now characters can be inserted by repeating steps 3 and 4.

To input a space

- ① Press “▲,” “▼,” “◀” or “▶” to move the cursor on “SP.”
- ② Press the “ENTER” button.

To return to the menu

Move the cursor on “OK,” and press the “ENTER” button.

To close the menu

Select “MENU,” and press the “ENTER” button.

5.4 Setup of the “Color tone adjustment” Menu

This item is used to adjust the color tones in the video signal output from this instrument to the monitor. It does not affect the color tones in the printed picture.

To display the “Color tone adjustment” menu

- 1 Press the “MENU” button to display the menu.
- 2 Press “▲” or “▼” to move the cursor on “Color tone adjustment.”
Press the “ENTER” button to display the “Color tone adjustment” menu (see Figure 5.4).

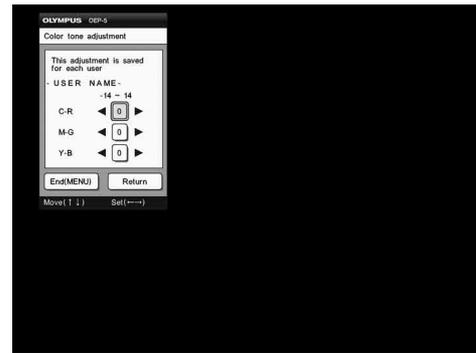


Figure 5.4

Setting “C-R,” “M-G,” “Y-B”

According to the change of the setting value, the color tone in the video signal output is changed as shown in the Table 5.2.

Table 5.2

Setting Item	Setting Value	
	decrease	increase
C-R	Enhanced cyan	Enhanced red
M-G	Enhanced magenta	Enhanced green
Y-B	Enhanced yellow	Enhanced blue

- 1 Press “▲” or “▼” to move the cursor on “C-R,” “M-G” or “Y-B.”
- 2 Press “◀” or “▶” to select between “-14” and “14.”
- 3 Adjust any other items by repeating steps 1 and 2.
- 4 Check the image on the monitor for the desired color tone.

5.5 Setup of the “PRINTER SETUP” Menu

This menu is used in the overall setups of this instrument.

To display the “PRINTER SETUP” menu

- 1 Press the “MENU” button to display the menu.
- 2 Press “▲” or “▼” to select “PRINTER SETUP;” and press the “ENTER” button.
- 3 Press “◀” or “▶” to display the “PRINTER SETUP” menu (see Figure 5.5).

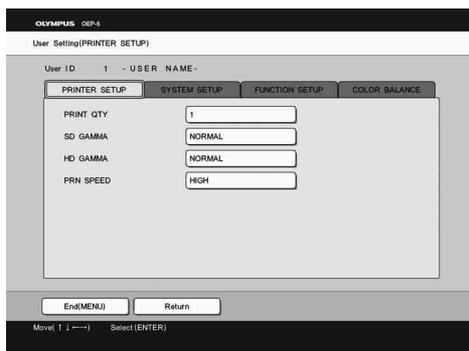


Figure 5.5

Setting “PRINT QTY”

This item is used to set the number of prints. “PRINT QTY” can also be set by pressing “PRINT QTY” on the front panel (see on page 40). Changing either setup affects the setups of both this item and the button.

- 1 Press “▲” or “▼” to select “PRINT QTY;” and press the “ENTER” button.
- 2 Press “▲” or “▼” to select between “1” to “10;” and press the “ENTER” button.

Setting “SD GAMMA”

When the SDTV signal is used as the input video signal to this instrument and the picture to be printed contains a large black or white area, this item is used to adjust the black or white area so that it can be printed in details.

- 1 Press “▲” or “▼” to select “SD GAMMA;” and press the “ENTER” button.
- 2 Press “▲” or “▼” to select from among “SOFT,” “NORMAL” and “HARD;” and press the “ENTER” button.

SOFT : The picture to be printed contains a large white area.

NORMAL : Printing an ordinary picture.

HARD : The picture to be printed contains a large black area.

Setting “HD GAMMA”

If an HDTV signal is input to this instrument and the printed picture contains a large black or white area, this item is used to adjust the black or white area so that it can be printed in details.

“HD GAMMA” can also be set in the “HDTV SETUP” menu (see page 63). Changing the setup of either item affects the setups of both items.

- 1 Press “▲” or “▼” to select “HD GAMMA;” and press the “ENTER” button.
- 2 Press “▲” or “▼” to select from among “SOFT,” “NORMAL” and “HARD;” and press the “ENTER” button.

SOFT : The picture to be printed contains a large white area.

NORMAL : Printing an ordinary picture.

HARD : The picture to be printed contains a large black area.

Setting “PRN SPEED”

This item is used to set the print speed.

- 1 Press “▲” or “▼” to select “PRN SPEED;” and press the “ENTER” button.
- 2 Press “▲” or “▼” to select either “NORMAL” or “HIGH;” and press the “ENTER” button.

NORMAL : Prints at normal speed. (Printing takes approximately 10 seconds longer than when “HIGH” print speed is selected.)

HIGH : Prints at high speed.

5.6 Setup of the “SYSTEM SETUP” Menu

This item is used in detailed system-related setups of this instrument.

To display the “SYSTEM SETUP” menu

- 1 Press the “MENU” button to initiate the menu display.
- 2 Press “▲” or “▼” to select “PRINTER SETUP,” and press the “ENTER” button.
- 3 Press “◀” or “▶” to display the “SYSTEM SETUP” menu (see Figure 5.6).

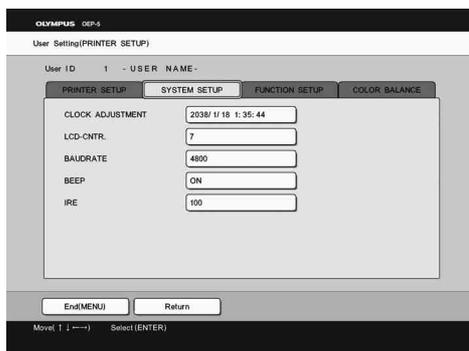


Figure 5.6

Setting “CLOCK ADJUSTMENT”

This item is used to set the clock.

- 1 Press “▲” or “▼” to select “CLOCK ADJUSTMENT,” and press the “ENTER” button.
- 2 Press “◀” or “▶” to select the item you want to set from among “Y,” “M,” “D,” “H,” “M” or “S.”
- 3 Press “▲” or “▼” to set the clock for the desired time, and press the “ENTER” button.

Setting “LCD-CNTR.”

This item is used to adjust the contrast of the background of the LCD panel.

- 1 Press “▲” or “▼” to select “LCD-CNTR.,” and press the “ENTER” button.
- 2 Press “▲” or “▼” to select between “0” and “14,” and press the “ENTER” button. Increasing the setting value darkens the background of the LCD panel.

Setting “BAUDRATE”

This item is used to set the RS-232C communication rate. “4800” is selected when this instrument is connected to the video system center or the endoscopic ultrasound center.

- 1 Press “▲” or “▼” to select “BAUDRATE,” and press the “ENTER” button.
- 2 Press “▲” or “▼” to select from among “1200,” “2400,” “4800” or “9600,” and press the “ENTER” button. Usually select “4800.”

Setting “BEEP”

This item is used to set whether the buzzer beep is generated when a front panel button is pressed. The buzzer beep for caution always sounds and cannot change the setup.

- 1 Press “▲” or “▼” to select “BEEP,” and press the “ENTER” button.
- 2 Press “▲” or “▼” to select either “OFF” or “ON,” and press the “ENTER” button.

OFF : Buzzer beep is not generated.

ON : Buzzer beep is generated.

Setting “IRE”

This item is used to set the contrast of the input video signal.

- 1 Press “▲” or “▼” to select “IRE,” and press the “ENTER” button.
- 2 Press “▲” or “▼” to select from among “100,” “110,” “120” or “130,” and press the “ENTER” button.

100 : Prints the input image slightly brightly.

110 : Prints the input image at the standard brightness.

120 : Prints the input image slightly darkly.

130 : Prints the input image darkly.

5.7 Setup of the “FUNCTION SETUP” Menu

This menu is used to set details of the functions of this instrument.

To display the “FUNCTION SETUP” menu

- 1 Press the “MENU” button to initiate the menu display.
- 2 Press “▲” or “▼” to select “PRINTER SETUP,” and press the “ENTER” button.
- 3 Press “◀” or “▶” to display the “FUNCTION SETUP” menu (see Figure 5.7).



Figure 5.7

Setting “AUTO LIVE”

This item is used to select whether to output the source or memory image after capture.

- 1 Press “▲” or “▼” to select “AUTO LIVE,” and press the “ENTER” button.
- 2 Press “▲” or “▼” to select either “OFF” or “ON,” and press the “ENTER” button.

OFF : Outputs the memory image after image capturing.

ON : Outputs the memory image for 2 seconds after image capturing and then output the source image.

Setting “RM2 FUNC”

This item is used to set the function of “REMOTE 2” terminal.

- 1 Press “▲” or “▼” to select “RM2 FUNC,” and press the “ENTER” button.
- 2 Press “▲” or “▼” to select from among the settings shown in Table 5.3, and press the “ENTER” button.

Table 5.3

Setting	Function
CAPTURE	Captures an image.
PRINT	Prints the picture.
C&PRINT	Captures and prints a picture.
CYCLIC-C	Stores images cyclically in the memory, and feeds the page after capturing the image of the final pointer.
CAP-STOP	Stores images cyclically in the memory, feeds the page after capturing the image of the final pointer, and stops at the final pointer of the last page.
BACK-SP	Moves the pointer by one space backward.
POINTER+	Moves the pointer by one space forward.
STOP	Stops printing.
CAP/SRC	When displaying the source image on the monitor, the source image is captured. When displaying the memory image on the monitor, display is switched into the source image.
CAP/S PAGE	When displaying the source image on the monitor, the source image is captured, and the page is fed in the case of the final pointer. When displaying the memory image on the monitor, the display is switched to the source image.
PRINT&PAGE	Prints and feeds the page.
SRC&CAP	While pressing the switch, the source image is displayed on the monitor. An image will be captured by releasing the switch. An image might be captured even when the switch is pressed, depending on the equipment connected to this instrument.
SRC&C PAGE	While pressing the switch, the source image is displayed on the monitor. An image will be captured by releasing the switch. An image might be captured even when the switch is pressed, depending on the equipment connected to this instrument. The page is fed after capturing the image of the final pointer.

Setting “CLEAR”

This item is used to set the operation activated with the “CLEAR” button on the front panel.

- 1 Press “▲” or “▼” to select “CLEAR,” and press the “ENTER” button.
- 2 Press “▲” or “▼” to select from “ALL,” “PAGE,” “PART” and “OFF,” and press the “ENTER” button.

- ALL** : Clears all stored images.
- PAGE** : Clears images as each memory page.
- PART** : Clears an image in the pointer position.
- OFF** : No operation.

Setting “STORE MODE”

This item is used to select a mode in which all image data stored in the memory pages and all current settings of this instrument can be stored or loaded if a paper jam occurs during printing.

- 1 Press “▲” or “▼” to select “STORE MODE,” and press the “ENTER” button.
- 2 Press “▲” or “▼” to select a mode from among “OEP-4 MODE,” “OEP-5 MODE” and “OFF,” and then press the “ENTER” button.

OEP-4 MODE : Loads and prints the data stored by following the steps in section 4.3 “In the Case of a Paper Jam” of “INSTRUCTIONS (BASIC).”

OEP-5 MODE : Sets not to display a message when the power of this instrument is turned on after a paper jam is cleared. (The saved data can be loaded.)

OFF : Sets not to save the image data stored in the memory pages and all current settings of this instrument if a paper jam occurs.

Table 5.4

	Storing the data if a paper jam occurs	Displaying message after a paper jam is cleared and the power turned on	Loading the stored data
OEP-4 MODE	○	○	○
OEP-5 MODE	○	×	○
OFF	×	×	○

Setting “STORE IMAGE”

This item is used to save or load all image data stored in the memory pages and all current settings of this instrument.

- 1 Press “▲” or “▼” to select “STORE IMAGE,” and press the “ENTER” button.
- 2 Press “▲” or “▼” to select a mode from among “STORE,” “RESTORE” and “CLEAR,” and then press the “ENTER” button.

STORE : Saves all image data stored in the memory pages and the current settings of this instrument into the built-in memory.

RESTORE : Loads all image data and settings of this instrument from the built-in memory.

CLEAR : Deletes all image data and settings of this instrument from the built-in memory.

CAUTION

All image data stored in the built-in memory will be overwritten when images are newly saved as a result of a paper jam during printing or using the “STORE IMAGE” menu.

5.8 Setup of the “COLOR BALANCE” Menu

This menu is used to adjust the color balance in the printed picture. After installing a new ink ribbon and print sheets on this instrument, it is recommended to perform this setup in order to correct alteration of color tones due to the combination of the ink ribbon and print sheets.

To display the “COLOR BALANCE” menu

- 1 Press the “MENU” button to initiate the menu display.
- 2 Press “▲” or “▼” to select “PRINTER SETUP;” and press the “ENTER” button.
- 3 Press “◀” or “▶” to display the “COLOR BALANCE” menu (see Figure 5.8). The highlighted area in the display shows the current range that will be printed out for color balance adjustment.

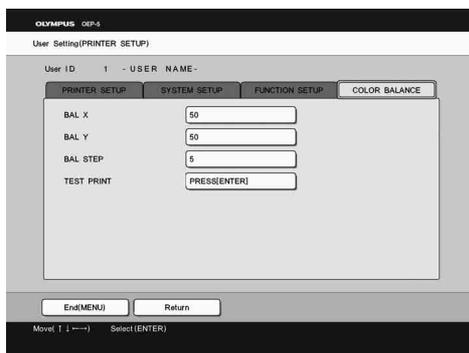


Figure 5.8

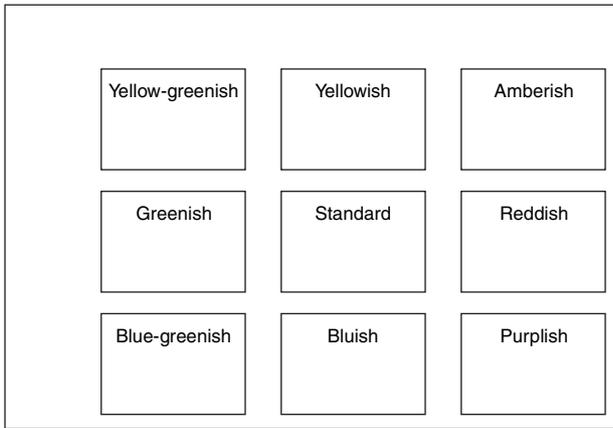
Setting “BAL X,” “BAL Y,” “BAL STEP,” and “TEST PRINT”

- 1 Set the range to be printed out for color balance adjustment. While holding the “DISPLAY” button on the front panel, press “▲,” “▼,” “◀” and “▶” to set the range.
 - ▲ : Moves the highlighted area upward.
 - ▼ : Moves the highlighted area downward.
 - ◀ : Moves the highlighted area leftward.
 - ▶ : Moves the highlighted area rightward.
 The “COLOR BALANCE” menu disappears temporarily during the setting. Note that it is only possible to move the position of the printed range and that its size cannot be varied.

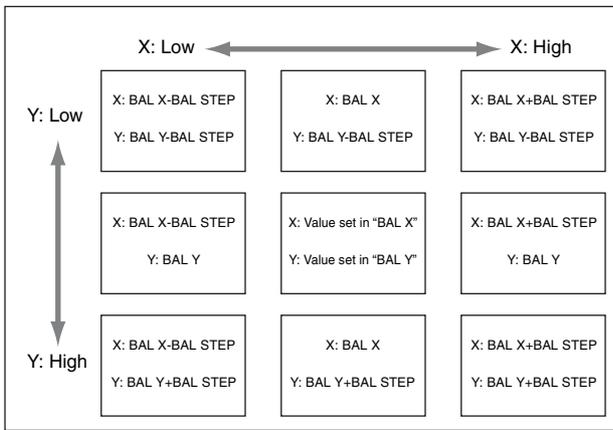
- 2 Press “▲” or “▼” to select “BAL X,” and press the “ENTER” button.
- 3 Press “▲” or “▼” to select between “1” to “99,” and press the “ENTER” button.
- 4 Press “▲” or “▼” to select “BAL Y,” and press the “ENTER” button.
- 5 Press “▲” or “▼” to select between “1” to “99,” and press the “ENTER” button.
- 6 Press “▲” or “▼” to select “BAL STEP,” and press the “ENTER” button.
- 7 Press “▲” or “▼” to select between “1” to “20,” and press the “ENTER” button.
- 8 Press the “CAPTURE” button.
- 9 Press “▲” or “▼” to select “TEST PRINT,” and press the “ENTER” button.
- 10 Press “◀” or “▶” to select “YES,” and press the “ENTER” button.

The picture for use in the color balance adjustment will be printed out as shown in Figure 5.9. The values of “X” and “Y” are printed below each image.

Color tones in test printed pictures



X and Y values in test printed pictures



Examples of X and Y in test printed pictures

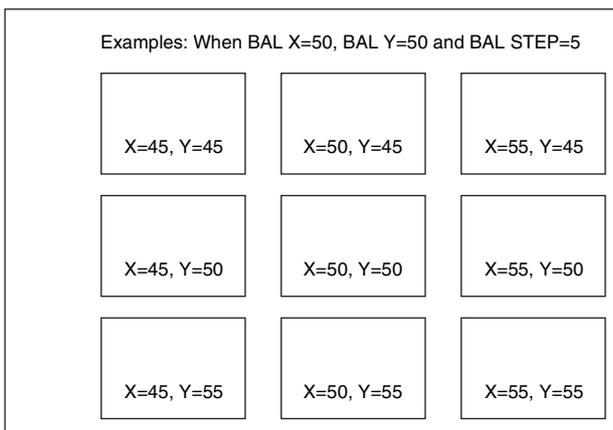


Figure 5.9

- 11 Select the printed image that seems to have the optimum color balance.
- 12 Repeat steps 2 and 5 to set the setting values of “BAL X” and “BAL Y” of the image selected in step 11. In doing this, coarse and fine adjustments are possible by varying the setting value of “BAL STEP.”

5.9 Setup of the “INPUT SETUP” Menu

This menu is used to set up the input signal. When the setup of the “INPUT SEL,” “SD/HD SEL,” “SD FORMAT,” or “SD SYNC(IN)” is changed, the display switching takes several seconds. You cannot capture during the switch.

To display the “INPUT SETUP” menu

- 1 Press the “MENU” button to initiate the menu display.
- 2 Press “▲” or “▼” to select “SIGNAL SETUP,” and press the “ENTER” button.
- 3 Press “◀” or “▶” to display the “INPUT SETUP” menu (see Figure 5.10).

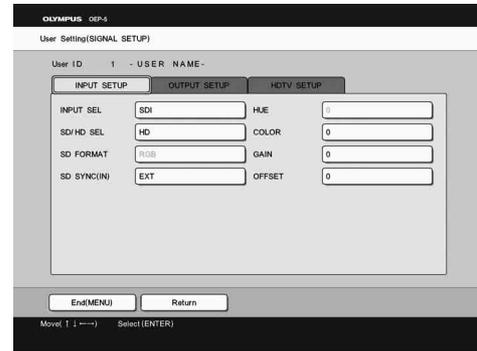


Figure 5.10

Setting “INPUT SEL”

This item is used to select the format of the video signal input to this instrument.

- 1 Press “▲” or “▼” to select “INPUT SEL,” and press the “ENTER” button.
- 2 Press “▲” or “▼” to select from among “VIDEO,” “S-VIDEO,” “COMPONENT” and “SDI,” and press the “ENTER” button.

VIDEO : Inputs a composite video signal

S-VIDEO : Inputs an S-video signal.

COMPONENT : Inputs a component SDTV signal or component HDTV signal.

SDI : Inputs an SDTV signal or HDTV signal.

Setting “SD/HD SEL”

This item is used to select either the SDTV or the HDTV signal as the input video signal.

This setup is valid only when “COMPONENT” or “SDI” is selected in the “Setting “INPUT SEL”” menu (see on page 60).

In addition, the HDTV image and the SDTV image cannot be printed together on one print sheet. Moreover, the HDTV image and the SDTV image cannot be captured and displayed together in the same memory page.

CAUTION

When a new image is captured after the input signal is switched, any previous images stored in memory that have not been printed are overwritten and erased. This may result in the loss of images. Capture after confirming whether there is any image that is not printed.

1 Press “▲” or “▼” to select “SD/HD SEL,” and press the “ENTER” button.

2 Press “▲” or “▼” to select from among “SD,” “HD” and “AUTO,” and press the “ENTER” button.

SD: Uses the SDTV signal as the input video signal.

HD : Uses the HDTV signal as the input video signal.

AUTO : Switches this instrument according to the result of automatic detection of the input video signal.

Setting “SD FORMAT”

This item is used to select the format of the SDTV signal when it is used as the input video signal to this instrument.

1 Press “▲” or “▼” to select “SD FORMAT,” and press the “ENTER” button.

2 Press “▲” or “▼” to select either “RGB” or “YCbCr,” and press the “ENTER” button.

RGB : The RGB component video signals

YCbCr : The color-difference video signals

Setting “SD SYNC(IN)”

This item is used to select the sync signal when the SDTV signal is used as the input video signal to this instrument.

1 Press “▲” or “▼” to select “SD SYNC(IN),” and press the “ENTER” button.

2 Press “▲” or “▼” to select either “G-ON” or “EXT,” and press the “ENTER” button.

G-ON : The sync-on-green type video signals

EXT : The sync separation type video signals

Setting “HUE”

This item is used to adjust the hue of the printed picture when a composite video or S-Video signal is used as the input video signal to this instrument.

Setting a positive value makes the image purplish and setting a negative value makes it greenish.

Setup will not be possible, if “COMPONENT” is selected in “Setting “INPUT SEL”” on page 60.

1 Press “▲” or “▼” to select “HUE,” and press the “ENTER” button.

2 Press “▲” or “▼” to select between “-14” to “14,” and press the “ENTER” button.

Setting “COLOR”

This item is used to adjust the color depth of the printed picture.

Setting a positive value makes the image colors dense and setting a negative value makes them less dense.

Setting “OFF” reproduces the images in black and white.

1 Press “▲” or “▼” to select “COLOR,” and press the “ENTER” button.

2 Press “▲” or “▼” to select between “-13” and “14” or “OFF,” and press the “ENTER” button.

Setting “GAIN”

This item is used to adjust the contrast of the printed picture.

Setting a positive value enhances the contrast and setting a negative value attenuates it.

1 Press “▲” or “▼” to select “GAIN,” and press the “ENTER” button.

2 Press “▲” or “▼” to select between “-14” and “14,” and press the “ENTER” button.

Setting “OFFSET”

This item is used to adjust the brightness of the printed image. Setting a positive value makes the image brighter and setting a negative value makes it darker.

1 Press “▲” or “▼” to select “OFFSET,” and press the “ENTER” button.

2 Press “▲” or “▼” to select between “-14” and “14,” and press the “ENTER” button.

5.10 Setup of the “OUTPUT SETUP” Menu

This menu is used to set up the output signal of this instrument.

To display the “OUTPUT SETUP” menu

- 1 Press the “MENU” button to initiate the menu display.
- 2 Press “▲” or “▼” to select “SIGNAL SETUP,” and press the “ENTER” button.
- 3 Press “◀” or “▶” to display the “OUTPUT SETUP” menu (see Figure 5.11).



Figure 5.11

Setting “DISPLAY”

This item is used to set whether setting values of this instrument (print quantity, memory page, operation mode and source/memory) are displayed on the monitor. “DISPLAY” can also be set by pressing the “DISPLAY” button on the front panel (see page 38). Changing the setup of one of these buttons or items affects all other setups.

- 1 Press “▲” or “▼” to select “DISPLAY,” and press the “ENTER” button.
- 2 Press “▲” or “▼” to select either “OFF” or “ON,” and press the “ENTER” button.
OFF : Setting values are not displayed.
ON : Setting values are displayed.

Setting “RBN REMAIN”

This item is used to set whether the remaining ink ribbon information is displayed on the monitor.

- 1 Press “▲” or “▼” to select “RBN REMAIN,” and press the “ENTER” button.

- 2 Press “▲” or “▼” to select either “OFF” or “ON,” and press the “ENTER” button.

OFF : Remaining ink ribbon information is not displayed.

ON : Remaining ink ribbon information is displayed.

Setting “SOURCE”

This item is used to set whether to correct the color tones in the video signal output from this instrument to the monitor.

- 1 Press “▲” or “▼” to select “SOURCE,” and press the “ENTER” button.
- 2 Press “▲” or “▼” to select either “THRU” or “EE,” and press the “ENTER” button.

THRU : Without correcting the color tones.

EE : With correcting the color tones.

Setting “SD OUTPUT SYNC”

This item is used to select the sync signal for the video signal output (SDTV video signal) from this instrument to the monitor.

- 1 Press “▲” or “▼” to select “SD OUTPUT SYNC,” and press the “ENTER” button.
- 2 Press “▲” or “▼” to select either “EXT” or “EXT&G-ON,” and press the “ENTER” button.

EXT : The sync separation type video signals

EXT&G-ON : The sync-on-green type and sync separation type video signals

5.11 Setup of the “HDTV SETUP” Menu

This menu is used in the basic setups of this instrument when the HDTV signal is used as the input signal as well as setups of its frequently used functions.

To display the “HDTV SETUP” menu

- 1 Press the “MENU” button to initiate the menu display.
- 2 Press “▲” or “▼” to select “SIGNAL SETUP,” and press the “ENTER” button.
- 3 Press “◀” or “▶” to display the “HDTV SETUP” menu (see Figure 5.12).

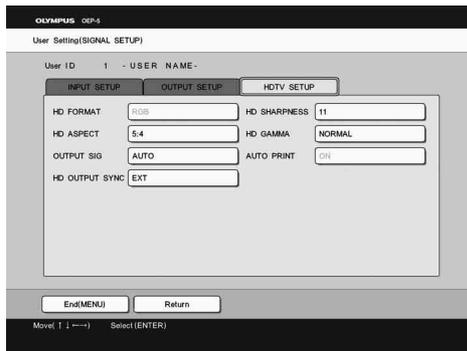


Figure 5.12

Setting “HD FORMAT”

This item is used to select the HDTV signal format when the HDTV signal is input to this instrument.

- 1 Press “▲” or “▼” to select “HD FORMAT,” and press the “ENTER” button.
- 2 Press “▲” or “▼” to select either “RGB” or “YPbPr,” and press the “ENTER” button.

RGB : The RGB component video signals

YPbPr : The color-difference video signals

Setting “HD ASPECT”

This item is used to select the ratio between the width and height (aspect ratio) when the HDTV signal is input to this instrument.

- 1 Press “▲” or “▼” to select “HD ASPECT,” and press the “ENTER” button.
- 2 Press “▲” or “▼” to select one of settings “4 : 3,” “5 : 4,” “16 : 9” and “16 : 10,” and press the “ENTER” button.

Setting “OUTPUT SIG”

This item is used to select the format of the output video signal from this instrument when the HDTV video signal is input to this instrument.

- 1 Press “▲” or “▼” to select “OUTPUT SIG,” and press the “ENTER” button.
- 2 Press “▲” or “▼” to select from among “AUTO,” “SD LETTER” and “SD CROP,” and press the “ENTER” button.

AUTO : Same video signal output as “Setting “SD/HD SEL”” on page 60.

SD LETTER : HDTV video signal (when “HD ASPECT” is set to “16 : 9” or “16 : 10”) down convert into SDTV video signal.

SD CROP : HDTV video signal (when “HD ASPECT” is set to “4 : 3” or “5 : 4”) down convert into SDTV video signal.

Setting “HD OUTPUT SYNC”

This item is used to select the sync signal when the HDTV signal is used as the input video signal to this instrument.

- 1 Press “▲” or “▼” to select “HD OUTPUT SYNC,” and press the “ENTER” button.
- 2 Press “▲” or “▼” to select either “EXT” or “EXT&G-ON,” and press the “ENTER” button. Usually select “EXT&G-ON.”

EXT : The sync separation type video signals

EXT&G-ON : The sync-on-green type and sync separation type video signals

Setting “HD SHARPNESS”

This item is used to set the level of the edge enhancement in the printed picture when the HDTV signal is input to this instrument. Increasing this setup increases the enhancement level.

If the enhancement level is too high, the printed picture may look rough. If it is too low, the printed picture may look blurred.

“HD SHARPNESS” can also be set in “COLOR ADJUST” menu. Changing the setup of either item affects the setups of both items.

This setup is valid only for the printed picture and is not applied to the signal output to the monitor.

- 1 Press “▲” or “▼” to select “HD SHARPNESS,” and press the “ENTER” button.
- 2 Press “▲” or “▼” to select between “1” and “15,” and press the “ENTER” button.

Setting “HD GAMMA”

See “Setting “HD GAMMA”” on page 55.

Setting “AUTO PRINT”

This item is used to select the operation to be initiated when the input video signal to this instrument is switched from the HDTV signal to the SDTV signal or vice versa.

In addition, the HDTV image and the SDTV image cannot be printed together on one print sheet.

This setup is valid only when “AUTO” is selected in “Setting “SD/HD SEL”” on page 60.

- 1 Press “▲” or “▼” to select “AUTO PRINT,” and press the “ENTER” button.
- 2 Press “▲” or “▼” to select from among “ON,” “OFF” and “ON&CLEAR,” and press the “ENTER” button.

ON : Prints the selected memory page when the input video signal is switched.

Does not print, if the memory page has already been printed or no image in the memory has been captured.

After printing, the image in the memory page is switched to the next page.

OFF : Does not print even when the input video signal is switched. The memory page is also not switched.

ON&CLEAR : Prints the selected memory page when the input video signal is switched.

Does not print, if the memory page has already been printed or no image in the memory has been captured.

After printing, the memory page is switched to the next page and the image stored in that page is cleared.

CAUTION

When a new image is captured after the input signal is switched while “AUTO PRINT” is set to “OFF,” any previous images stored in memory that have not been printed are overwritten and erased. This may result in the loss of images.

Capture after confirming whether there is any image that is not printed.

5.12 Setup of the “LAYOUT SETUP” Menu

This menu is used in the setup of the printed picture layout.

To display the “LAYOUT SETUP” menu

- 1 Press the “MENU” button to initiate the menu display.
- 2 Press “▲” or “▼” to select “PICTURE SETUP,” and press the “ENTER” button.
- 3 Press “◀” or “▶” to display the “LAYOUT SETUP” menu (see Figure 5.13).

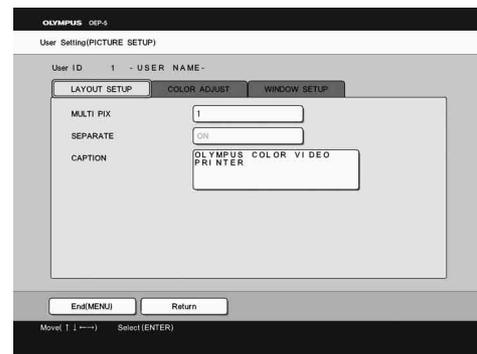


Figure 5.13

Setting “MULTI PIX”

This item is used to set the number of images to be printed (or the number of splitting of the print sheet). “MULTI PIX” can also be set by the “MULTI PICTURE” button on the front panel (see on page 40). Changing either setup affects the setups of both this item and the button.

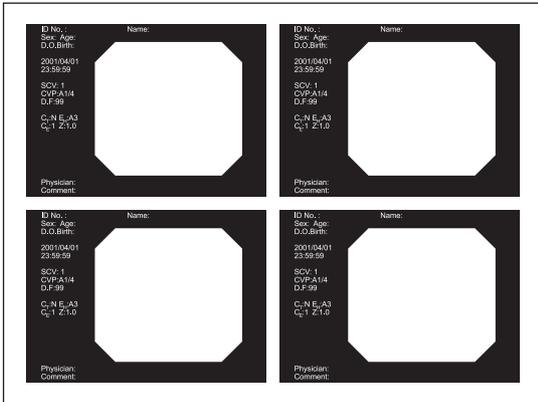
- 1 Press “▲” or “▼” to select “MULTI PIX,” and press the “ENTER” button.
- 2 Press “▲” or “▼” to select from among “1,” “2,” “3” and “4,” and press the “ENTER” button.

Setting “SEPARATE”

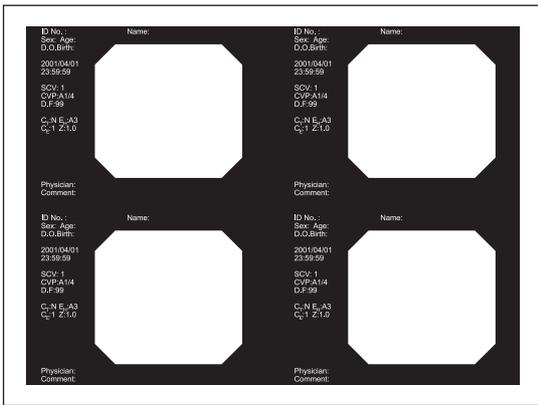
This item is used to select whether white frames are placed around the multi-picture images on the printed picture and the monitor display (memory image) (see Figure 5.14). It cannot be set up, if “1” is selected in “Setting “MULTI PIX”” on page 64.

- 1 Press “▲” or “▼” to select “SEPARATE,” and press the “ENTER” button.

- Press “▲” or “▼” to select either “ON” or “OFF,” and press the “ENTER” button.



“ON” (With white frames)



“OFF” (Without white frames)

Figure 5.14

Setting “CAPTION”

This screen is used to print a comment (caption) at the bottom of the print picture (see Figure 5.15). You can input up to 80 characters.

Printed picture

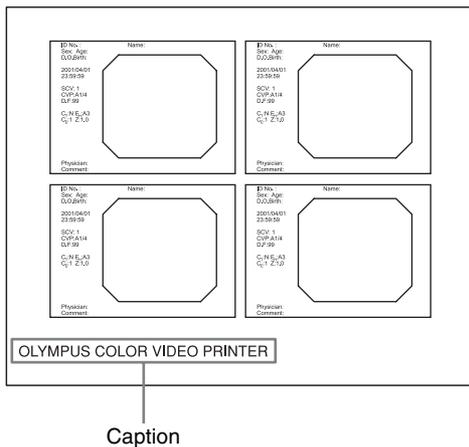


Figure 5.15

NOTE

When this instrument is controlled from the EVIS EXERA Video System Center (CV-160), enter captions from the connected equipment. Entering from this instrument when the EVIS EXERA Video System Center (CV-160) is connected may fail to enter the desired caption.

- Press “▲” or “▼” to select “CAPTION,” and press the “ENTER” button to display the “CAPTION” entry screen. “CAPTION : ON” appears on the top left of the screen (see Figure 5.16).

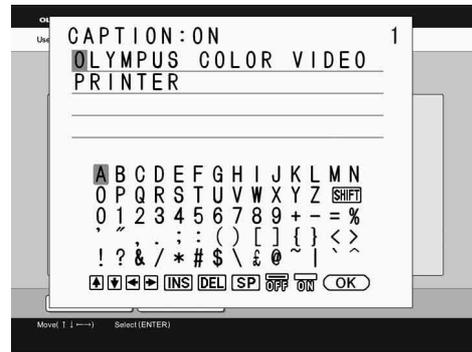


Figure 5.16

- Press “▲,” “▼,” “◀” or “▶” to move the cursor on the character to be entered.
- Press the “ENTER” button.
- Enter the caption by repeating steps 2 and 3 for each character.

To change the position in which a character is entered

- Press “▲,” “▼,” “◀” or “▶” to move the cursor on “↑,” “↓,” “←” or “→.”
- Press the “ENTER” button. The character entry position moves in the direction of the arrow.

To switch the uppercase and lowercase letters

- Press “▲,” “▼,” “◀” or “▶” to move the cursor on “SHIFT.”
- Press the “ENTER” button. When uppercase letters are displayed, they are switched to lowercase letters. When lowercase letters are displayed, they are switched to uppercase letters.

To delete a character

- Press “▲,” “▼,” “◀” or “▶” to move the cursor on “DEL.”
- Press the “ENTER” button.

To insert a character in the middle of a comment

- ① Press “▲” “▼,” “◀” or “▶” to move the cursor on “INS.”
- ② Press the “ENTER” button. Now characters can be inserted by repeating steps 3 and 4.

To input a space

- ① Press “▲” “▼,” “◀” or “▶” to move the cursor on “SP.”
- ② Press the “ENTER” button.

- 5** Select whether the entered caption is printed on the printed picture.

To print caption : Press “▲,” “▼,” “◀” or “▶” to move the cursor on “ON” and press the “ENTER” button.

To not print caption : Press “▲,” “▼,” “◀” or “▶” to move the cursor on “OFF” and press the “ENTER” button.

5.13 Setup of the “COLOR ADJUST” Menu

This menu is used for adjustments to color and brightness of the printed picture.

When the setup of any item is changed in the “COLOR ADJUST” menu, the “TEMP” indicator is displayed on the menu screen, indicating that at least one setup has been changed from the current value. If this instrument is turned OFF while the “TEMP” indicator is displayed, the changed setups will not be saved. To save the changed setups, see “Setting “SAVE COLOR”” on page 67.

To display the “COLOR ADJUST” menu

- 1** Press the “MENU” button to initiate the menu display.
- 2** Press “▲” or “▼” to select “PICTURE SETUP,” and press the “ENTER” button.
- 3** Press “◀” or “▶” to display “COLOR ADJUST” (see Figure 5.17).

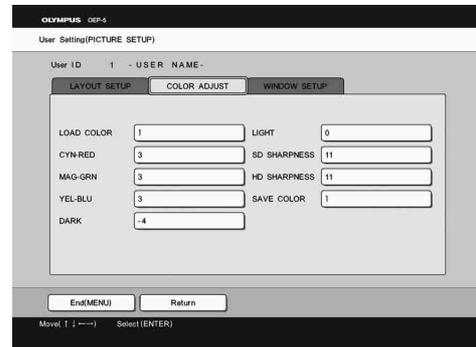


Figure 5.17

Setting “LOAD COLOR”

This item is used to load the color setup saved in “Setting “SAVE COLOR”” in this menu on page 67.

- 1** Press “▲” or “▼” to select “LOAD COLOR,” and press the “ENTER” button.
- 2** Press “▲” or “▼” to select from among “1,” “2” or “3,” and press the “ENTER” button.

Setting “CYN-RED,” “MAG-GRN,” “YEL-BLU”

This item is used to adjust the color tone in 15 steps in the printed picture and the image on the monitor.

The color tone in the printed picture and the image on the monitor is changed as Table 5.5 by changing the setting value.

Table 5.5

Setting Item	Setting Value	
	decrease	increase
CYN-RED	Enhanced cyan	Enhanced red
MAG-GRN	Enhanced magenta	Enhanced green
YEL-BLU	Enhanced yellow	Enhanced blue

1 Press “▲” or “▼” to select from “CYN-RED,” “MAG-GRN” or “YEL-BLU,” and press the “ENTER” button.

2 Press “▲” or “▼” to select between “-7” and “7,” and press the “ENTER” button.

Setting “DARK”

This item is used to adjust the dark area in the printed picture in 15 steps.

1 Press “▲” or “▼” to select “DARK,” and press the “ENTER” button.

2 Press “▲” or “▼” to select between “-7” and “7,” and press the “ENTER” button.

Setting “LIGHT”

This item is used to adjust the bright area in the printed picture in 15 steps.

1 Press “▲” or “▼” to select “LIGHT,” and press the “ENTER” button.

2 Press “▲” or “▼” to select between “-7” and “7,” and press the “ENTER” button.

Setting “SD SHARPNESS”

This item is used to set the level of the edge enhancement in the printed picture when an SDTV signal is input to this instrument. Increasing this value increases the enhancement level.

If the enhancement level is too high, the printed picture may look rough. If it is too low, the printed picture may look blurred.

This setup is valid only for the printed picture and is not applied to the signal output to the monitor.

1 Press “▲” or “▼” to select “SD SHARPNESS,” and press the “ENTER” button.

2 Press “▲” or “▼” to select between “1” and “15,” and press the “ENTER” button.

Setting “HD SHARPNESS”

Refer to the “Setting “HD SHARPNESS”” on page 63.

Setting “SAVE COLOR”

This item is used to save the setups made in “COLOR ADJUST” menu. When the setup of any item is changed in the “COLOR ADJUST” menu, the “TEMP” indicator is displayed on the menu screen, indicating that at least one setup has been changed from the current value. If this instrument is turned OFF while the “TEMP” indicator is displayed, the changed setups will not be saved. To save the changed setups, save them in the following steps.

1 Press “▲” or “▼” to select “SAVE COLOR,” and press the “ENTER” button.

2 Press “▲” or “▼” to select from among “1,” “2” and “3,” and press the “ENTER” button.

3 Press the “ENTER” button to save the setups. Confirm that the “TEMP” indicator disappears.

5.14 Setup of the “WINDOW SETUP” Menu

This menu is used to set the image capturing range. For the relationship between the images capturing positions and the settings, see Figure 5.19.

After setting the image capturing range, “RESIZE TO FIT” can be used to resize the captured image according to the maximum print area (see Figure 5.20).

This setup should be performed while referring to the memory image displayed in the background of the menu.

CAUTION

Depending on the image capturing range, the characters on the endoscopic image (patient data, recording device counter, comment, etc.) may not be printed.

If patient data is not printed, be careful not to mix up printed pictures between different patients.

NOTE

If “RESIZE TO FIT” is set as “ON,” since the image is electronically magnified, depending on the setup of equipments, the printed picture may be blurred.

To display the “WINDOW SETUP” menu

- 1 Press the “MENU” button to initiate the menu display.
- 2 Press “▲” or “▼” to select “PICTURE SETUP,” and press the “ENTER” button.
- 3 Press “◀” or “▶” to display the “WINDOW SETUP” menu (see Figure 5.18).



Figure 5.18

To display “WINDOW”

This item is used to display the input video signal of a captured image as STDV signal, or aspect ratios for HDTV signal.

Setting “H START,” “V START,” “H WIDTH,” “V WIDTH” and “RESIZE TO FIT”

- 1 Press “▲” or “▼” to select from “H START,” “V START,” “H WIDTH” and “V WIDTH,” and press the “ENTER” button.
- 2 Press “▲” or “▼” to select the values as described in Table 5.6, and press the “ENTER” button.

Table 5.6

Setting item		H START	V START
Input SDTV signal	SD	-36 to 36	-24 to 24
	SD - SDI	0 to 72	0 to 48
Input HDTV signal	4 : 3	0 to 960	0 to 540
	5 : 4	0 to 960	0 to 540
	16 : 9	0 to 960	0 to 540
	16 : 10	0 to 960	0 to 540

Setting item		H WIDTH	V WIDTH
Input SDTV signal	SD	560 to 736	400 to 488
	SD - SDI	560 to 720	400 to 480
Input HDTV signal	4 : 3	720 to 1440	540 to 1080
	5 : 4	720 to 1440	540 to 1080
	16 : 9	960 to 1920	540 to 1080
	16 : 10	960 to 1920	540 to 1080

- 3 Set the image capturing range by repeating steps 1 and 2 (see Figure 5.19).

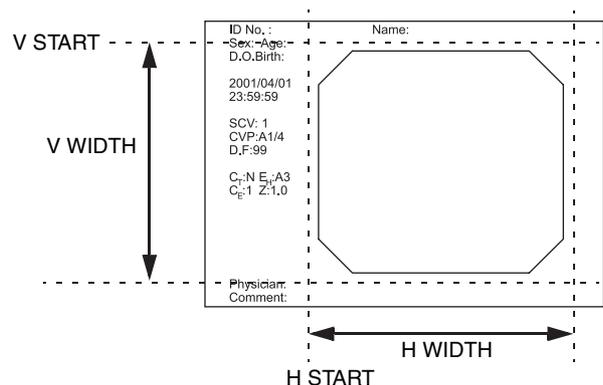


Figure 5.19

- 4 Press “▲” or “▼” to select “RESIZE TO FIT,” and press the “ENTER” button.

- 5 Press “▲” or “▼” to select either “OFF” or “ON,” and press the “ENTER” button (see Figure 5.20).

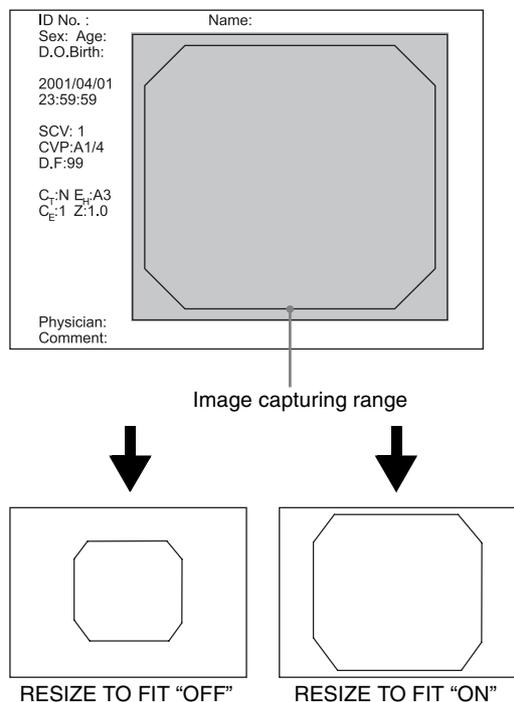


Figure 5.20

5.15 Setup of the “ZOOM MODE” Menu

This item is used to set the print layout when the HDTV signal is input to this instrument and 4 multi-picture images are to be printed.

CAUTION

Depending on the image capturing range, the characters on the endoscopic image (patient data, recording device counter, comment, etc.) may not be printed. If patient data is not printed, be careful not to mix up printed pictures between different patients.

NOTES

- If “ZOOM PART” is set as “PART” or “ALL,” since the image is electronically magnified, depending on the setup of equipment, the printed picture may be blurred.
- The aspect ratio of either “4 : 3” or “5 : 4” is available when “PART” or “ALL” is selected in “ZOOM PART.”

To display the “ZOOM MODE” menu

- 1 Press the “MENU” button to initiate the menu display.
- 2 Press “▲” or “▼” to select “ZOOM SETUP,” and press the “ENTER” button.
- 3 Press “◀” or “▶” to display the “ZOOM MODE” menu (see Figure 5.21).

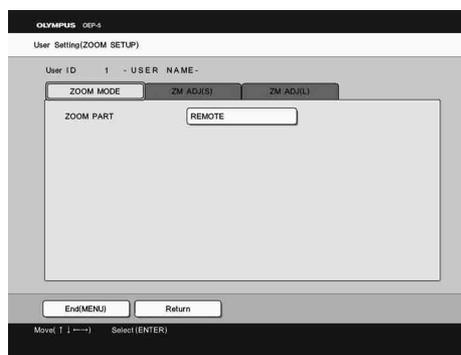


Figure 5.21

Setting “ZOOM PART”

- 1 Press “▲” or “▼” to select “ZOOM PART,” and press the “ENTER” button.

- 2 Press “▲” or “▼” to select from among “OFF,” “PART,” “ALL” and “REMOTE,” and press the “ENTER” button (see Figure 5.22).

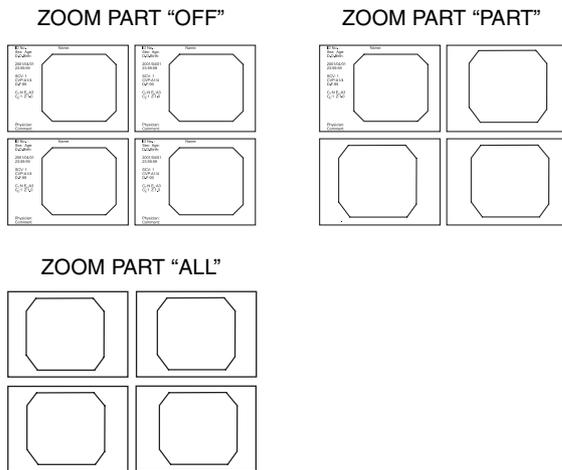


Figure 5.22

- OFF** : Prints normally without zooming into any image.
- PART** : Zooms into three of the four (second, third and forth) multi-picture images.
- ALL** : Zooms into all of the four multi-picture images.
- REMOTE** : This function is for future expansion. Not used.

5.16 Setup of the “ZM ADJ(S)” “ZM ADJ(L)” Menu

When an HDTV signal is input to this instrument and 4 multi-picture images are to be printed, this menu can be used to zoom into one or all of the images by setting the image capturing range. For the relationship between the image capture positions and settings, see Figure 5.24. This setup should be performed while referring to the memory image displayed in the background of the menu.

Setup of “H START (NR),” “V START (NR),” “H START (WD)” and “V START (WD)” in the “ZM ADJ (S)” menu and the “ZM ADJ (L)” menu are for future expansion. Not used.

CAUTION

Depending on the image capturing range, the characters on the endoscopic image (patient data, recording device counter, comment, etc.) may not be printed. If patient data is not printed, be careful not to mix up printed pictures between different patients.

To display the “ZM ADJ (S)” menu

- 1 Press the “MENU” button to initiate the menu display.
- 2 Press “▲” or “▼” to select “ZOOM SETUP,” and press the “ENTER” button.
- 3 Press “◀” or “▶” to display the “ZM ADJ (S)” menu (see Figure 5.23).



Figure 5.23

Setting “H START (RS),” “V START (RS),” “H WIDTH” and “V WIDTH”

- 1 Press “▲” or “▼” to select from “H START (RS),” “V START (RS),” “H WIDTH” and “V WIDTH,” and press the “ENTER” button.

- 2 Press “▲” or “▼” to select the values as described in Table 5.7, and press the “ENTER” button.

Table 5.7

Setting item	Setting value
H START (RS)	240 to 1000
V START (RS)	0 to 200
H WIDTH	600 to 1400
V WIDTH	600 to 1400

- 3 Repeat steps 1 and 2 to set the image capturing range (see Figure 5.24).

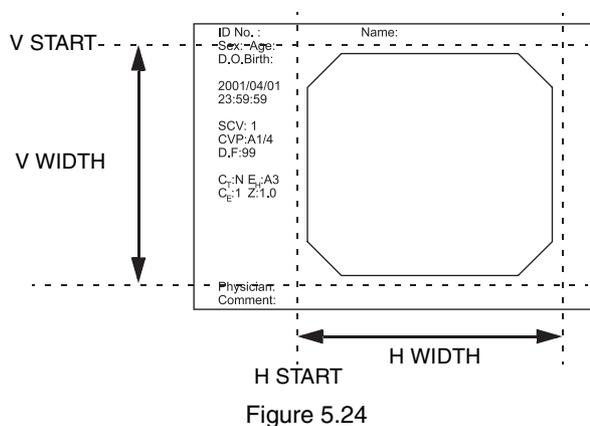


Figure 5.24

6.1 Care

After using this instrument, immediately perform the following cleaning procedure. If cleaning is delayed, residual organic debris will begin to solidify, and it may be difficult to effectively clean this instrument. Cleaning should be carried out routinely.

WARNING

- If this instrument is wiped with a piece of moistened gauze, dry this instrument thoroughly before use. Using it while wet may result in an electric shock.
- During cleaning, always wear appropriate personal protection equipment, such as eye wear, face mask, moisture-resistant clothing and chemical-resistant waterproof gloves that fit properly and long enough so that your skin is not exposed. Blood, mucus and other potentially infectious material adhering to the monitor could pose an infection control risk.

CAUTION

- 1 Do not clean the terminals or the AC power inlet. Otherwise, deformation or corrosion of contacts could occur, which may result in contact failure and/or malfunction of this instrument.
 - 2 Do not soak this instrument in water, autoclave, or attempt to gas sterilize it. Doing so will cause equipment damage.
 - 3 Do not wipe the external surface with hard or abrasive material. The surface will be scratched.
 - 4 Minimize the opportunities of using neutral detergent to clean the instrument. Also do not wipe this instrument with too strong a force, as this may damage the surface finish.
- 1 Turn the color video printer (OEP-5) OFF and disconnect the power cord from the wall mains outlet or mobile workstation.
 - 2 To remove dust, dirt or other non patient debris, wipe color video printer (OEP-5) using a soft, lint-free cloth or piece of gauze moistened with 70% ethyl or isopropyl alcohol.
 - 3 If the color video printer (OEP-5) is soiled with blood or other potentially infectious materials, first wipe off all gross debris using a neutral detergent. Then wipe with a lint-free cloth or gauze moistened with a surface disinfectant.

- 4 Make sure that the color video printer (OEP-5) is completely dry before use.

6.2 Displacement

WARNING

Do not displace this instrument connected with the power cord and/or connected cables. If the power cord and/or connected cables are damaged, electric shock and/or fire may result.

CAUTION

- Move this instrument only after taking out the ink ribbon holder. Otherwise, damage to this instrument may result.
 - Move this instrument only after taking out the paper tray. Otherwise, the paper tray may unlock and fall, causing an injury to the user or damage to this instrument.
 - Do not displace this instrument by grasping the ink ribbon holder insertion part and/or paper exit. Damage to this instrument may result.
- 1 Turn the color video printer (OEP-5) OFF according to the “4.4 Exiting from Examination” in “INSTRUCTIONS (BASIC),” and disconnect the power cord from the wall mains outlet or the power supply socket of the mobile workstation.
 - 2 Take out the ink ribbon holder and the paper tray from main body.
 - 3 Remove connected equipment from the color video printer (OEP-5).
 - 4 Displace the color video printer (OEP-5). Install and connect, referring to “Chapter 2 Installation and Connection.”

6.3 Storage

WARNING

- Do not store this instrument in a location exposed to direct sunlight, X-rays, radioactivity or strong electromagnetic radiation (e.g., near microwave medical treatment equipment, short-wave medical treatment equipment, MRI equipment, radio or mobile phones). Damage to the color video printer may result.
- The cables should not be sharply bent, pulled, twisted or crushed.
- If this instrument is treated roughly or thrown at other things, it will become the cause of failure and/or damage. Treat this instrument carefully.

NOTE

For information on the storage of the color printing pack (UPC-55), refer to the instruction manual for the color printing pack (UPC-55).

- 1** Turn the color video printer (OEP-5) OFF and disconnect the power cord.
- 2** Disconnect all cables connected to the color video printer (OEP-5).
- 3** Disconnect the cables, respectively and bundle it.
- 4** Store the color video printer (OEP-5) at room temperature on a flat, level surface in a clean, dry and stable location.

6.4 Disposal

When disposing of this instrument, or any of its components (such as batteries), follow all applicable national and local laws and guidelines.

If this instrument is visibly damaged, does not function as expected, or is found to have irregularities during the procedures described in “Chapter 2 Installation and Connection” and “Chapter 3 Inspection Before Use” in “INSTRUCTIONS (BASIC)” and “INSTRUCTIONS (ADVANCED),” do not use, and contact Olympus for repair of this instrument according to “7.2 Sending this Instrument for Repair” on page 82.

Some problems that appear to be malfunctions may be correctable by referring to “7.1 Troubleshooting Guide” below. If the problem cannot be resolved by the described remedial action, stop using this instrument and send it to Olympus for repair.

Olympus does not repair accessory parts. If an accessory part becomes damaged, contact Olympus to purchase a replacement.

WARNING

Never use this instrument if an irregularity is observed. Damage or irregularity in the instrument may compromise patient or operator safety and may result in more severe equipment damage.

7.1 Troubleshooting Guide

The following table shows the possible causes of and countermeasures against problems that may occur due to equipment setting errors or deterioration of consumable parts.

Problems or failures due to other causes than those listed below should be serviced. As repair performed by persons who are not qualified by Olympus could cause patient or operator injury and/or equipment damage, be sure to contact Olympus for repair as described in “7.2 Sending this Instrument for Repair”.

WARNING

If any irregularity in this instrument is observed, first turn it OFF, and then ON again.

Irregularity	Possible cause	Solution
The power fails to come on.	The power cord is not connected.	Connect to a wall mains outlet as described in “2.4 Connection to the AC Mains Power Supply” in “INSTRUCTIONS (BASIC).”
	The power cord is connected improperly.	
	The power cord is broken.	Replace the new power cord.
	The mobile workstation is turned OFF.	Turn the mobile workstation ON.
	This instrument is turned OFF.	Turn this instrument ON.
The “PRINT” lamp and “ALARM” lamp stay lit without going off, after setting the power switch of this instrument to ON.	A trouble occurred inside this instrument.	Turn this instrument OFF, then ON again after a while.
The “PRINT” lamp is lit even when the instrument is not printing.	A trouble occurred inside this instrument.	Turn this instrument OFF, then ON again after a while.

Irregularity	Possible cause	Solution
The buzzer keeps sounding.	A trouble occurred inside this instrument.	Turn this instrument OFF, then ON again after a while.
No image is displayed on the monitor.	The switches on the rear and/or front of the monitor are set improperly.	Set the switches properly as described in the instruction manuals for the monitor and other ancillary equipment.
	The connected equipment is set improperly.	Set the connected equipment properly as described in its instruction manual.
	This instrument is connected improperly.	Connect it properly as described in Chapter 2, "Installation and Connection" in "INSTRUCTIONS (BASIC)" or "INSTRUCTIONS (ADVANCED)."
	The connection cable is broken.	Replace the cable with a new one.
	The brightness of the monitor is set improperly.	Set it properly as described in the instruction manual for the monitor.
	The monitor is turned OFF.	Turn the monitor ON.
	The connected equipment is turned OFF.	Turn the connected equipment ON.
	This instrument is turned OFF.	Turn this instrument ON.
	The menu is displayed.	Press the "MENU" button to close the menu display.
	The system setups are inappropriate.	Set the system properly as described in the description on the "5.4 Setup of the "Color tone adjustment" Menu" on page 54 or "5.8 Setup of the "COLOR BALANCE" Menu" on page 59.
Desired color tone is not obtained.	The output signal setups are inappropriate.	Set the system properly as described in the description on the "5.4 Setup of the "Color tone adjustment" Menu" on page 54 or "5.9 Setup of the "INPUT SETUP" Menu" on page 60.
	The video equipment connected between this instrument and the connected equipment is turned OFF.	Turn the video equipment ON.
	The connection cable is broken.	Replace the cable with a new one.
The displayed image remains still.	The color tone setup for the monitor is not properly configured.	Set it properly as described in the instruction manual for the monitor.
	The color tone setup is not properly configured.	Set it properly as described in the section 5.4 "Setup of the "Color tone adjustment" Menu" on page 54.
The displayed image is unstable.	The connected equipment is set to the still (freeze) image mode.	Release it from the still (freeze) image mode to view the moving image.
	The memory image is displayed.	Press the "SOURCE/MEMORY" button to display the source image (see page 42).
The displayed image oscillates.	The cables are connected improperly.	Connect it properly as described in "Chapter 2 Installation and Connection" in "INSTRUCTIONS (BASIC)" or "Chapter 2 Installation and Connection" on page 17 in "INSTRUCTIONS (ADVANCED)."
	The connection cable is broken.	Connect it properly as described in "Chapter 2 Installation and Connection" in "INSTRUCTIONS (BASIC)" or "Chapter 2 Installation and Connection" on page 17 in "INSTRUCTIONS (ADVANCED)."
	The sync signal is set improperly.	Set it properly as described in the description on the "Setting "SD SYNC(IN)"" on page 61 in "INSTRUCTIONS (ADVANCED)."
The displayed image oscillates.	A source of strong magnetic field is present near the monitor.	Install the monitor away from the source of strong magnetic field.
The printed picture is blurred.	The connected equipment is set improperly.	Set it properly as described in "3.3 Setup of Connected Equipment" in "INSTRUCTIONS (BASIC)" or "3.1 Setup of Connected Equipment" on page 32 in "INSTRUCTIONS (ADVANCED)."
	The subject is moving at a high speed.	Freeze the image before capturing it.

Irregularity	Possible cause	Solution
Remote control from the connected equipment is not available.	The remote cable is connected improperly.	Connect it properly as described in “Chapter 2 Installation and Connection” in “INSTRUCTIONS (BASIC)” or “Chapter 2 Installation and Connection” on page 17 in “INSTRUCTIONS (ADVANCED).”
	The remote cable is broken.	Replace the new remote cable.
	The remote cable is being subjected to excessive force.	Change the cable layout to remove the excessive force.
	The endoscope or scope cable is not connected.	Connect the endoscope or scope cable as described in the instruction manual for the connected equipment.
	The connected equipment is turned OFF.	Turn the connected equipment ON as described in its instruction manual.
	This instrument is turned OFF.	Turn this instrument ON.
	The connected equipment is set improperly.	Set the connected equipment properly as described in “3.1 Setup of Connected Equipment” on page 32, or in “3.3 Setup of Connected Equipment” in “INSTRUCTIONS (BASIC).”
	The function of the REMOTE 2 terminal is set improperly.	Set it properly as described in “Setting “RM2 FUNC”” on page 57 and in the instruction manual for the connected equipment.
	The communication speed (BAUDRATE) is set improperly (for RS-232C communication).	Set it properly as described in “Setting “BAUDRATE”” on page 56 and in the instruction manual for the connected equipment.
	A communication problem has occurred between this instrument and the connected equipment.	Turn this instrument OFF, then ON again. Turn the connected equipment OFF, then ON again.
The “CVP counter” is not displayed.	The remote cable is connected improperly.	Connect it properly as described in “Chapter 2 Installation and Connection” in “INSTRUCTIONS (BASIC)” or “Chapter 2 Installation and Connection” on page 17 in “INSTRUCTIONS (ADVANCED).”
	The remote cable is broken.	Replace the new remote cable.
	The remote cable is being subjected to excessive force.	Change the cable layout to avoid any excessive force.
	The connected equipment is turned OFF.	Turn the connected equipment ON, as described in the instruction manual.
	This instrument is turned OFF.	Turn this instrument ON.
	The connected equipment is set improperly.	Set it properly as described in “3.3 Setup of Connected Equipment” in “INSTRUCTIONS (BASIC)” or “3.1 Setup of Connected Equipment” on page 32 in “INSTRUCTIONS (ADVANCED).”
	The communication rate (BAUDRATE) is set improperly.	Set it properly as described in the description on “Setting “BAUDRATE”” on page 56 as well as the instruction manual for the connected equipment.
	A trouble occurred in the communication with the connected equipment.	Turn this instrument OFF, then ON again. Turn the connected equipment OFF, then ON again.
	The video system center is remove data mode.	Remove data mode is cancelled with reference to the instruction manual for the video system center.

Irregularity	Possible cause	Solution
The number displayed on the "CVP counter" does not increase even if an image has been captured.	The communication problem has occurred between this instrument and connected equipment.	Turn this instrument OFF, then ON again. Turn the connected equipment OFF, then ON again.
	The connected equipment is set improperly.	Set the connected equipment properly as described in "3.1 Setup of Connected Equipment" on page 32, or in "3.3 Setup of Connected Equipment" in "INSTRUCTIONS (BASIC)."
	The communication speed (BAUDRATE) is set improperly.	Set it properly as described in "Setting "BAUDRATE"" on page 56 and in the instruction manual for the connected equipment.
	The remote cable is connected improperly.	Connect the remote cable properly as described in "Chapter 2 Installation and Connection" on page 17 or in "Chapter 2 Installation and Connection" in "INSTRUCTION (BASIC)."
	The remote cable is broken.	Replace the new remote cable.
	The remote cable is being subjected to excessive force.	Change the cable layout to remove the excessive force.
	The endoscope or scope cable is connected improperly.	Connect the endoscope or scope cable properly as described in the instruction manual for the connected equipment.
Images cannot be printed.	The video cable is connected improperly.	Connect it properly as described in Chapter 2, "Installation and Connection" in "INSTRUCTIONS (BASIC)" or "INSTRUCTIONS (ADVANCED)."
	The video cable is broken.	Replace the new video cable.
	The video cable is being subjected to excessive force.	Change the cable layout to avoid any excessive force.
	No image has been captured.	Capture an image.
	No ink ribbon is installed.	Install the ink ribbon as described in "Installation of the Ink Ribbon" in "3.2 Installation of the Color Printing Pack (UPC-55)" in "INSTRUCTIONS (BASIC)."
	The ink ribbon is installed improperly.	Install the ink ribbon as described in "Installation of the Ink Ribbon" in "3.2 Installation of the Color Printing Pack (UPC-55)" in "INSTRUCTIONS (BASIC)."
	This ink ribbon has been torn.	Repair the tear as described in "If the ink ribbon is torn in the middle" in "3.2 Installation of the Color Printing Pack (UPC-55)" in "INSTRUCTIONS (BASIC)."
	No print sheets are installed.	Install the print sheets as described in "Installation of the Print Sheets" in "3.2 Installation of the Color Printing Pack (UPC-55)" in "INSTRUCTIONS (BASIC)."
	The print sheets are installed improperly.	Install the print sheets as described in "Installation of the Print Sheets" in "3.2 Installation of the Color Printing Pack (UPC-55)" in "INSTRUCTIONS (BASIC)."
	"AUTO PRINT" is set to "OFF."	Set "AUTO PRINT" to "ON" or "ON&CLEAR," referring to "Setting "AUTO PRINT"" on page 64. Perform printing manually from the front panel of this instrument or by a remote operation from the connected equipment.
The input signal is switched.	Set the signal format of the switched input signal, referring to "5.8 Setup of the "COLOR BALANCE" Menu" on page 59.	
The HDTV image with the 16:9 aspect ratio is printed improperly.	The aspect ratio is incorrectly set. Adjust the aspect ratio properly, referring to "Setting "HD ASPECT"" in "5.11 Setup of the "HDTV SETUP" Menu" on page 63 in "INSTRUCTIONS (ADVANCED)."	
The color tones in the print picture are incorrect.	Some setups are incorrect. Adjust the color tones as described in "5.10 Setup of the "OUTPUT SETUP" Menu" on page 62 in "INSTRUCTIONS (ADVANCED)."	

Irregularity	Possible cause	Solution
The print picture is blurred. The print picture looks rough.	The edge enhancement setup is incorrect.	Adjust the edge enhancement as described in “Setting “HD SHARPNESS”” on page 63 or “Setting “SD SHARPNESS”” on page 67 in “INSTRUCTIONS (ADVANCED).”
A line goes into a print picture.	The thermal head has reached the end of its service life.	Contact Olympus. The thermal head can be exchanged.
There is rattling sound during printing.	There are only a few print sheets in the paper tray.	This is normal for this product, and is not a malfunction.
No buzzer beep is generated.	The system setups are incorrect.	Set properly as described in “Setting “BEEP”” on page 56 in “INSTRUCTIONS (ADVANCED).”
The remote control unit (MAJ-898) cannot be used.	No batteries are loaded.	Load batteries as described in “2.13 Preparation of the Remote Control Unit (MAJ-898) (Optional)” on page 29 in “INSTRUCTIONS (ADVANCED).”
	Batteries are exhausted.	Replace batteries as described in “2.13 Preparation of the Remote Control Unit (MAJ-898) (Optional)” on page 29 in “INSTRUCTIONS (ADVANCED).”
	When it is used as the wireless remote, there is an obstacle between it and the remote sensor on the instrument.	Remove the obstacle. Use it as a wired remote by referring to “2.13 Preparation of the Remote Control Unit (MAJ-898) (Optional)” on page 29 in “INSTRUCTIONS (ADVANCED).”
	When it is used as the wireless remote, it is used from out of the reach of the communication signal.	Control it closer to this instrument.
	When it is used as the wireless remote, its remote transmitter is not pointed toward the remote sensor on this instrument.	Point the remote transmitter on the top of the remote control unit (MAJ-898) at the remote sensor of this instrument.
	When the remote control unit (MAJ-898) is used as a wireless remote, the remote cable is connected to either the REMOTE 1 terminal of this instrument or the cable connector of the remote control unit (MAJ-898).	Remove the remote cable from this instrument or the remote control unit (MAJ-898).
A print sheet jam occurred	Take measures as described in “4.3 In the Case of a Paper Jam” in “INSTRUCTIONS (BASIC).”	
Paper jamming happens frequently.	Print sheets have stuck to each other and these stuck print sheets are double-fed into this instrument.	Flip through the print sheets together with the protective sheet before placing them in the paper tray, referring to the instructions in “3.2 Installation of the Color Printing Pack (UPC-55) in “INSTRUCTIONS (BASIC).” If there is no protective sheet, place other paper, such as copy paper, on the printing surface of the print sheets so that dust will not be accumulated on the printing surface.

Countermeasures Against Messages

Error messages

If an error occurs, the “ALARM” lamp on the front panel lights in amber and an error message is displayed on the monitor screen and LCD panel as shown below. “*nn*” in the following messages represents a number or symbol.

Message		Possible cause	Solution
Monitor	LCD panel		
SET RIBBON	SET RIBBON	The ink ribbon is not installed.	Install the ink ribbon.
SET PAPER RIBBON REMAIN: <i>nn</i>	SET PAPER RIBBON REMAIN <i>nn</i>	The print sheets are not installed.	Install print sheets.
		The paper tray is not installed.	Install the paper tray.
SET RIBBON AND PAPER	SET RIBBON SET PAPER	The ink ribbon and print sheets are not installed.	Install the ink ribbon and print sheets.
REMOVE PRINTS	REMOVE PRINTS	Printed sheets are stuck on the paper tray.	Remove the print sheets.
REMOVE PAPER TRAY	REMOVE PAPER TRAY	Paper jam occurred near the paper tray.	Remove the jammed paper.
RIBBON END	RIBBON END	The ink ribbon has reached the end.	Install a new ink ribbon.
CLOSE FRONT DOOR	CLOSE FRONT DOOR	The front door is open.	Close the front door.
CHECK RIBBON	CHECK RIBBON	The installed ink ribbon is not usable with this instrument.	Install a correct ink ribbon.
CHECK RIBBON <i>nn</i>	CHECK RIBBON <i>nn</i>	The ink ribbon is torn.	Mend the ribbon with plastic tape as described in “3.2 Installation of the Color Printing Pack (UPC-55)” in “INSTRUCTIONS (BASIC).” Replace the new ink ribbon.
		The ink ribbon is slack.	Remove slackness from the ink ribbon, referring to the instructions given in “3.2 Installation of the Color Printing Pack (UPC-55)” in “INSTRUCTIONS (BASIC).”
		If the ink ribbon is not cut, contact Olympus.	
CHECK PAPER: LOAD <i>nn</i>	CHECK PAPER <i>nn</i> LOAD	Paper jam inside this instrument.	Removed the jammed paper as described in “4.3 In the Case of a Paper Jam” in “INSTRUCTIONS (BASIC).”
CHECK PAPER: EJECT <i>nn</i>	CHECK PAPER <i>nn</i> EJECT	Paper jam inside this instrument.	Removed the jammed paper as described in “4.3 In the Case of a Paper Jam” in “INSTRUCTIONS (BASIC).”
MECHA TROUBLE: HEAD <i>nn</i>	MECHA TROUBLE <i>nn</i> HEAD	Paper jam inside this instrument.	Removed the jammed paper as described in “4.3 In the Case of a Paper Jam” in “INSTRUCTIONS (BASIC).”
		A trouble other than paper jam occurred inside this instrument.	Turn this instrument OFF, then ON again.

Message		Possible cause	Solution
Monitor	LCD panel		
MECHA TROUBLE: PROCESS <i>nn</i>	MECHA TROUBLE <i>nn</i> PROCESS	Paper jam inside this instrument.	Removed the jammed paper as described in “4.3 In the Case of a Paper Jam” in “INSTRUCTIONS (BASIC).”
		A trouble other than paper jam occurred inside this instrument.	Turn this instrument OFF, then ON again.
MECHA TROUBLE: SENSOR <i>nn</i>	MECHA TROUBLE <i>nn</i> SENSOR	Paper jam inside this instrument.	Removed the jammed paper as described in “4.3 In the Case of a Paper Jam” in “INSTRUCTIONS (BASIC).”
		A trouble other than paper jam occurred inside this instrument.	Turn this instrument OFF, then ON again.
—	PLEASE POWER OFF POWER ON AGAIN	A trouble occurred inside this instrument.	Turn this instrument OFF, then ON again after a while.

Warning messages

When a warning is required, only the warning message is displayed, and the “ALARM” lamp on the front panel will not light up. Take measures according to the displayed message.

Message		Possible cause	Solution
Monitor	LCD panel		
HIT ANY KEY.	HIT ANY KEY	The “REMOTE 2” terminal is used in the “CAPTURE STOP” mode (CAP-STOP).	Press any key to exit from the “CAPTURE STOP” mode.
INPUT MISMATCH	INPUT MISMATCH	A video signal other than NTSC or HDTV (1080/59.94i) signal is input.	Input the NTSC or HDTV (1080/59.94i) signal.
		This instrument is set up improperly.	Set it properly according to the input video signal.
		A signal other than video signal is input.	Input the NTSC or HDTV (1080/59.94i) signal.
NO INPUT	NO INPUT	No signal is input from the connected video source equipment.	Turn the connected equipment ON. Set the connected equipment so that it outputs the video signal.
		This instrument and connected equipment are connected improperly.	Connect them properly as described in “Chapter 2 Installation and Connection” in “INSTRUCTIONS (BASIC)” or in “INSTRUCTIONS (ADVANCED)” on page 17.”
		This instrument is set up improperly.	Set it properly according to the input video signal.
		The video equipment connected between this instrument and the connected equipment is turned OFF.	Turn the video equipment ON.
NO IMAGE	NO IMAGE	Printing is impossible because no image is stored in the memory page.	Store images as described in “Chapter 4 Operation” in “INSTRUCTIONS (BASIC)” or in “INSTRUCTIONS (ADVANCED)” on page 37.”

Message		Possible cause	Solution
Monitor	LCD panel		
PLEASE WAIT PRINTING MEMORY	PLEASE WAIT PRINTING MEMORY	An operation is performed with a memory page that is being printed or reserved for printing.	Wait until the printing completes.
PLEASE WAIT ADJUSTING HEAD TEMP	PLEASE WAIT ADJUSTING TEMP	The temperature of the thermal head is being adjusted.	Wait until the message disappears. If this message is displayed during printing, printing resumes automatically when the message disappears.
Clock Low Battery PLZ contact service center	CLOCK LOW BATTERY	Contact Olympus.	
Read error in the Flash Memory	FLASH MEMORY READ ERROR		
Write error in the Flash Memory	FLASH MEMORY WRITE ERROR		
The Flash Memory is protected.	FLASH MEMORY PROTECTED		
The Flash Memory is protected. Cancel protect.	FLASH MEMORY PROTECTED		
The Flash Memory is read only.	FLASH MEMORY READ ONLY		
The printer cannot write data on this Flash Memory – R.	FLASH MEMORY READ ONLY		
An incompatible Flash Memory is inserted.	FLASH MEMORY READ ONLY		

7.2 Sending this Instrument for Repair

Before sending this instrument for repair, contact Olympus. With the color video printer, include a description of the malfunction or damage and the name and telephone number of the individual at your location who is most familiar with the problem. Also include a repair purchase order.

WARNING

Olympus is not liable for any injury or damage that occurs as a result of repairs attempted by non Olympus personnel.

Index

- A**
ALARM lamp 12
- C**
Capture 7
CAPTURE button 12, 42
CLEAR button 11, 44
Color printing pack 7
Color Video Printer 5, 30, 31
Connection
 Control Unit For Endosurgery (UCES-2) 28
 Endoscopic Ultrasound Center (EU-M30S) 23
 EUS EXERA Compact Endoscopic Ultrasound Center (EU-C60) 25
 EUS EXERA Endoscopic Ultrasound Center (EU-M60) 24
 EVIS EXERA Video System Center (CV-160) 18
 Image Management Hub (IMH-20, IMH-10) 26
 Medical Control Unit For Endosurgery (UCES-3) 27
 Remote Control Unit (MAJ-898) 29
 Universal Endoscopic Ultrasound Center (EU-ME1) 22
 Video System (OTV-S1) 21
 VISERA Pro Video System Center (OTV-S7Pro) 19
 VISERA Video System Center (OTV-S7V) 20
 When no Mobile Workstation is Used 30
Control unit for endosurgery 30, 31
Cursor keys 11, 35
CVP counter 76
- D**
DISPLAY button 11, 38
- E**
Endoscopic ultrasound center 30, 31
ENTER button 11
Equipotential terminal 5, 10, 13
EUS EXERA compact endoscopic ultrasound center 30, 31
EUS EXERA endoscopic ultrasound center 30, 31
EVIS EXERA video system center 30, 31
- F**
FCC rule 6
Freeze 7
Front panel 10, 11, 38
- H**
HDTV 7
- I**
Image Management Hub 30, 31
Ink ribbon holder 14
INPUT (RGB video input) terminals 13, 20, 22
Inspection before use
 Setup of connected equipment 32
 Setup of this instrument 35
Instruction manual
 ADVANCED 6
 BASIC 6
Isolation transformer 7, 31
- L**
Labels and Symbols related to safety 5
LCD panel 11, 35, 56, 79
LOAD USER button 11, 35, 39
- M**
Medical control unit for endosurgery 30, 31
Memory image 7
MEMORY PAGE button 11, 44
Menu
 COLOR ADJUST menu 66
 COLOR BALANCE menu 59
 Color tone adjustment menu 54
 FUNCTION SETUP menu 57
 HDTV SETUP menu 63
 INPUT SETUP menu 60
 Items 46
 LAYOUT SETUP menu 64
 OUTPUT SETUP menu 62
 PRINTER SETUP menu 55
 SYSTEM SETUP menu 56
 Tree 51
 USER PRESET menu 53
 WINDOW SETUP menu 68
 ZM ADJ(L) menu 70
 ZM ADJ(S) menu 70
 ZOOM MODE menu 69
MENU button 11, 35
Messages
 Error messages 79
 Warning messages 80
Mobile Workstation 30
MULTI PICTURE button 12, 40
- N**
Notice for use 8
- O**
OUTPUT (RGB video output) terminals 13
- P**
Paper exit 12
Paper tray 12, 14
Power inlet 13
Power switch 11
Precautions
 Care 72
 Displacement 72
 Disposal 73
 Storage 73
PRINT button 12, 43
PRINT lamp 12
PRINT QTY button 12, 40
Printed picture
 Adjust the brightness 61
 Adjust the color depth 61
 Adjust the color tone 67
 Adjust the contrast 61
 Adjust the hue 61
 Adjusting the bright area (LIGHT) 67
 Adjusting the dark area (DARK) 67
 Setting the level of the edge enhancement 63, 67
 Setting the printed picture layout 64
 With white frames (SEPARATE) 64

R

Rear panel 10, 13
REMOTE 1 terminal 13
REMOTE 2 terminal 13, 20, 21, 22, 25
REMOTE 3 terminal 13
Remote cable 16, 29
Remote Control Unit (MAJ-898) 5, 10, 15, 29, 45
Remote sensor 12
RS-232C terminal 13, 19, 24, 26

S

S VIDEO IN terminal 13, 20, 21
S VIDEO OUT terminal 13, 20, 21
SDI video input terminal 13, 26
SDI video output terminal 13, 26
SDTV 7
Setup
 Connected equipment 32
 This instrument 35
Signal words 8
Source image 7
SOURCE/MEMORY button 11, 42
STOP button 12, 44
Symbols
 On the front panel 10
 On the rear panel 10
 On the remote control unit (MAJ-898) 10

T

Terms used in this manual 6
Trial pack 14
Troubleshooting
 Countermeasures Against Messages 79
 Troubleshooting guide 74

U

Universal endoscopic ultrasound center 30, 31

V

VIDEO IN terminal 13, 20, 25
VIDEO OUT terminal 13, 22, 24
Video system 30, 31
VISERA Pro video system center 30, 31
VISERA video system center 30, 31

W

Wall mains outlet 6, 31
Wired remote control 7, 29
Wireless remote control 7, 29



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Manufactured for

MANUFACTURER

OLYMPUS MEDICAL SYSTEMS CORP.

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Distributed by

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