

Processor

OPERATION MANUAL

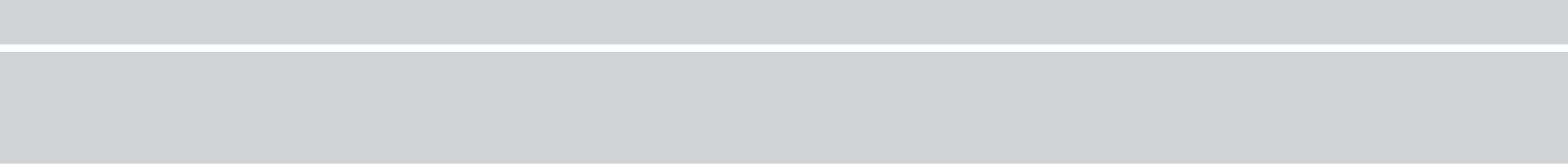
VP-7000

Thank you for purchasing our product. Read this manual carefully before use to avoid unexpected accidents and to take full advantage of the product's capabilities.

Introduction

- 1 Precautions
- 2 System Configuration
- 3 Name and Function of Each Part
- 4 System Installation and Initial Settings
- 5 Function Settings
- 6 Preparation and Inspection of the System
- 7 Method of Use
- 8 Image Recording
- 9 Storage and Maintenance
- 10 Troubleshooting
- 11 Main Specification





Contents at a Glance

Introduction

Read and understand this manual fully before using this product.

Chapter 1 Precautions

This chapter describes the warnings and cautions for safe operation of this product.

Chapter 2 System Configuration

This chapter describes the equipment used in combination with this product.

Chapter 3 Name and Function of Each Part

This chapter describes the name and function of each part of this product.

Chapter 4 System Installation and Initial Settings

This chapter describes the methods of installation and initial settings of this product.

Chapter 5 Function Settings

This chapter describes how to set each function of this product.

Chapter 6 Preparation and Inspection of the System

This chapter describes the inspection and preparation methods to be performed for using this product.

Chapter 7 Method of Use

This chapter describes a series of operations of this product.

Chapter 8 Image Recording

This chapter describes how to record images.

Chapter 9 Storage and Maintenance

This chapter describes the methods of storage and maintenance of this product.

Chapter 10 Troubleshooting

This chapter describes actions should be taken if problems occur in this product.

Chapter 11 Main Specification

This chapter describes the main specification of this product.

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Introduction

Read and understand this manual carefully before operating the equipment.

About This Manual

This manual provides necessary information for using the VP-7000 processor, such as the operation procedures, settings and how to install the system.

If you are a first-time user of this product, be sure to read this manual before actual operation. Also, after reading this manual, store it close to this product for future reference.

For information on how to use the endoscope and peripherals, refer to the respective operation manuals.

The peripherals include: LCD monitor, cart, printer, video recorder, ultrasonic processor and electro-surgical unit.

For details of the connections of the ultrasonic processor and electro-surgical unit, refer to the respective operation manuals.

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◆ Operation Manuals

Manage and store the operation manuals related to this product together as a set.

Processor VP-7000 Operation Manual

This manual provides necessary information for using the processor such as the equipment overview, operation procedures and precautions to observe.

Light Source BL-7000 Operation Manual

This manual provides necessary information for using the light source such as the equipment overview, operation procedures and precautions to observe.

Note This product is used in combination with peripherals. Refer to the operation manual of each peripheral device described in “2.2 Equipment Using in Combination”.

CAUTION

- No part or all of this manual may be reproduced in any form without prior permission.
- The information contained in this manual may be subject to change without prior notice.
- FUJIFILM Corporation shall not be liable for malfunctions or damages caused by installation, relocation, remodeling, maintenance, and repair performed by dealers other than those specified by FUJIFILM Corporation.
- FUJIFILM Corporation shall not be liable for malfunctions or damages of FUJIFILM Corporation products due to products of other manufacturers not supplied by FUJIFILM Corporation.
- FUJIFILM Corporation shall not be liable for malfunctions or damages caused by remodeling, maintenance, and repair using repair parts other than those specified by FUJIFILM Corporation.
- FUJIFILM Corporation shall not be liable for malfunctions or damages resulting from negligence of the precautions and operating methods contained in this manual.
- FUJIFILM Corporation shall not be liable for malfunctions or damages resulting from use under environment conditions outside the range specified for this product, such as the power supply, installation environment, etc., as described in this manual.
- FUJIFILM Corporation shall not be liable for malfunctions or damages resulting from natural disasters, such as fires, earthquakes, floods, lightning, etc.

- This product has heavy metal parts. When disposing of this product, comply with local laws and regulations in your area. Determine whether or not the product is to be treated as a biohazard, then handle and dispose of accordingly.
- Before disposing of this product or an endoscopic accessory, perform cleaning and disinfection (or sterilization) according to the procedure described in the operation manual. There is a risk of being a source of infection.

How to Read This Manual

◆ Terms

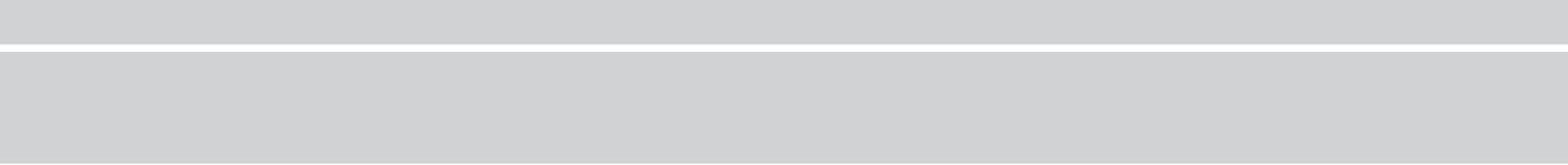
Term	Description
Reprocessing	It refers to disinfection or sterilization performed after the manual cleaning of the endoscope and its accessories.
This product	It refers to the processor.
Standard accessory	It refers to the parts and devices included in the package or supplied with this product.

◆ Conventions Used in This Manual

This manual uses the following conventions for easier understanding.

General Conventions

Convention	Description
WARNING	Explains dangerous situations that may cause death or serious injury if not avoided.
CAUTION	Explains situations that may cause slight or moderate levels of injury if not avoided. Explains situations that may cause damage to equipment if not avoided.
(1), (2), (3), ...	Indicates consecutive numbers in operating procedures for the order in which successive steps in the procedure should be taken.
Note	Indicates a comment or supplementary information.
→	Indicates a reference.



1.1 Safety

Before using this product, read this section carefully so that you can operate it correctly. Whenever you operate this product, be sure to observe those precautions. Failure to do so may cause you to be subject to injuries or property damage to occur.

WARNING

- The institution is responsible for the use and maintenance of this product. In addition, this product should not be used by persons other than doctors or suitably trained staff.
- Be sure to prepare a spare endoscope against unexpected accidents such as the failure of this product. Otherwise, you may not be able to continue the endoscopic procedure. If the spare endoscope is not available, prepare other alternative means such as abdominal surgery. This product is intended for use by medical professionals who have received proper training in endoscopic procedures. This manual does not provide information about clinical procedures or any aspects of endoscopic techniques.

CAUTION

- Do not modify this product or its components, and do not disassemble, repair or in any other way reverse-engineer these products. Even if you find a defect, do not attempt to repair these products yourself. FUJIFILM Corporation shall not be liable for any defects or device failures caused by such modifications, disassembly, repairs or reverse-engineering. If this product is disassembled or modified, it creates a risk of human injury or equipment damage, and is unable to ensure its functionality.

◆ Category of Equipment

<Classification of Medical Electrical Equipment>

1. Type of protection against electric shock: Class I equipment (Power supply: Protective earth plug)
2. Degree of protection against electric shock: Type BF applied part
3. Degree of explosion protection: Use is prohibited in an oxygen-rich environment or in a flammable gas atmosphere.

[Note] Combination with BL-7000

1.1.1 Infection

WARNING

- Replace the cover for a keyboard to which any debris, etc., has adhered. There is a risk of infection.

1.1.2 Direct Harm to Human Body

WARNING

- If any peripherals not described in “2.2 Equipment Using in Combination” are used, this product may not function properly and it may cause damage to the peripherals or injury to patients or physicians.
- This product conforms to the EMC standard. However, the radio waves radiated from this product may cause medical devices such as a pacemaker to malfunction. When this product is used for a patient with an active implantable medical device, consult a cardiovascular specialist and the manufacturer of the active implantable medical device. For the EMC standard that this product complies with, refer to “11.2 Electromagnetic Compatibility (EMC) Information” in this manual.
- To avoid damage to eyes, do not look at the light directly while the light is turned on. Do not look directly at the light from the endoscope.

CAUTION

- Do not touch the light guide prong until it has cooled down (approximately 5 minutes). Touching the light guide prong with hands immediately after use of the endoscope may cause a burn.
- Set a suction pressure at 40 to 53 kPa or less. The endoscope may adhere to the mucous membrane, resulting in damage to the mucous membrane.

1.2 Cautions/Warnings

Observe the following cautions when handling this product. Also, there are same cautions in each chapter.

1.2.1 Intended Use

WARNING

- This product is intended to be used in combination with a FUJIFILM medical endoscope, light source, monitor, recorder and various peripherals for observation, diagnosis, endoscopic treatment, and image recording in medical facilities under the management of physicians. Never use this product for any other purposes.
- Do not rely on the BLI observation mode alone. Perform comprehensive observation and diagnosis including normal observation for all target regions. Not doing so may result in improper observation and diagnosis. Information obtained from the BLI mode image should be regarded as reference information and it does not assure the validity of diagnosis.

1.2.2 Installation

WARNING

- Only service personnel are allowed to install this system. No one except such personnel should install this system.

1.2.3 Clinical Procedures

WARNING

- This manual assumes that the product will be used by medical specialists who have received proper training in endoscopic procedures. This manual does not provide information about clinical procedures. Proper clinical judgment should be exercised for all clinical procedures.

1.2.4 Difference of Color Tone

WARNING

- When using FICE, BLI, BLI-bright or LCI, use it after sufficiently understanding the difference between the color tone and brightness of the usual viewing image and FICE, BLI, BLI-bright or LCI image. Also check the usual viewing image for diagnosis.

1.2.5 Loss of Function

CAUTION

- During an examination, if an abnormality occurs on the endoscopic image (if it disappears, becomes darker or brighter, etc.), the imaging section may be damaged. If an error message appears, follow the displayed instructions. If no error message appears, slowly withdraw the endoscope by following the instructions described in the operation manual of the endoscope in use.

Stop using the equipment immediately, and consult your local dealer. Continued use of the endoscope may cause overheating of the distal end, possibly resulting in burn injury.

[Note] Wait for 5 seconds or more before turning the power back to ON.

[Note] For details on how to operate the endoscope, refer to the operation manual of the endoscope.

1.2.6 Combination of Equipment

WARNING

- This product is used in combination with peripherals. To avoid electric shock, do not use peripherals that are not specified in “2.2 Equipment Using in Combination”.

1.2.7 Installation of equipment

WARNING

- To avoid electric shock and equipment toppling over, observe the following precautions when installing the equipment.

<To avoid electric shock>

- Properly connect and install the devices in “2.2 Equipment Used in Combination” in this manual according to “4.1 System Installation” in the same manual before use.
- Connect the power plugs of the processor and light source directly to the receptacles for the processor/light source on the cart.
- Do not take the power source for the electrosurgical unit from the cart.
- Do not take power from a power strip placed on the floor.
- Do not take power for the second power strip from the first power strip.
- Do not connect any unit other than the equipment composing this system to the power strip.

<To avoid toppling over of equipment>

- Do not stack the peripherals.
- Make sure that the feet of each unit are placed inside of the stoppers.
- Make sure that the feet of each unit are placed inside of the stoppers on the movable shelf of the cart.

<To avoid malfunction due to lightning>

- Connect the equipment to a power source suitable for the structure and facilities of the hospital or clinic.
- When using a network, insert an EN 60601-1-compliant separator between the LAN cable, which connects the devices, and the network system. If such a separator is not used, the enclosure leakage current may increase due to the current being leaked from the connected network system or due to the electric potential difference between grounds. This may pose a risk of injury or electric shock to the patient and/or the physician when he/she comes into contact with the devices.

CAUTION

- Configure the ME system in accordance with the maximum allowable current of the power strip to be used.
- If a peripheral is used, connect it to a receptacle via an insulating transformer. Connect peripherals in accordance with the specification of the insulating transformer.
- Since there are ventilation holes on the bottom surface of the light source take care not to cover the bottom surface with foreign substances.
- When a cable is connected to the PoP connector, lay the cable so as to prevent feet or other devices from being caught.
- Do not attach the electrical connector of the 600 system scope or 500 system scope to the electrical connector socket of the VP-7000 with the 700 system scope inserted into the scope connector of the BL-7000.
- When some models of 530 series scopes and the 590 series scopes are used, place the VP-7000 processor on the lower shelf and the BL-7000 light source on the upper shelf. Otherwise, it may cause malfunction of the endoscope. For the applicable models of 530 series scopes, contact service personnel.

1.2.8 Transferring the equipment

WARNING

- The heavy weight of the light source may cause physical injuries when moving it. Move it using two persons.

1.2.9 Electric Shock

WARNING

- If the power cords of the peripherals are connected without using the insulation transformer on the cart, the enclosure leakage current may increase, posing a risk of injury or electric shock to the patient and/or the physician when he/she comes into contact with those devices.
- Connect the power plug directly to the protective earth receptacle. Use peripherals that are compliant with the medical safety standards. Not doing so may cause an electric shock.
- Do not simultaneously touch the patient and any of the system devices in the patient environment. Doing so may cause electric shock.

CAUTION

- Use the rated voltage only. Not doing so may cause a fire, electric shock or malfunction.

1.2.10 Explosion

WARNING

- Do not use the equipment in atmosphere of flammable gas and oxygen-rich environment. Doing so may cause explosion or fire.

1.2.11 Foreign Matter and Liquid

WARNING

- Foreign matter, water and chemicals entering the equipment may cause a fire or electric shock. In such a case, stop using the equipment immediately, disconnect the power plug from the power outlet, and consult your local FUJIFILM dealer.

1.2.12 High Voltage

CAUTION

- This product has high voltage portions. No one except service personnel should touch the inside.

1.2.13 Maintenance

CAUTION

- The equipment will wear out and deteriorate after repeated use over a long period. The equipment is required to be inspected by specialists once every six months. Also, if any abnormality is found during clinical use, carefully withdraw the endoscope from the patient as per instructions provided in the operation manual of the endoscope. Stop using the equipment immediately after withdrawal and have it inspected.
- This product should not be subjected to any type of repair or maintenance procedure while it is being clinically used on a patient.
- Do not disassemble or modify the equipment. For details on the inspection, consult your local FUJIFILM dealer.

1.2.14 Preparation and inspection before use

CAUTION

- Prior to using this product, prepare a spare one to avoid unexpected accidents such as equipment failure. If a replacement is not available, you may not be able to continue endoscopic procedures.
- Make sure to check the equipment before use according to the procedures provided in this manual, to avoid unexpected accidents, and take full advantage of the equipment's capabilities.
- In particular, errors in images may cause false diagnosis. If the inspection result shows any abnormality, do not use the equipment.

1.2.15 Temperature at distal end

CAUTION

- When the endoscope projects light at high brightness over an extended time, the temperature may exceed 41°C at the distal end. When you hang the endoscope on the cart hanger, turn the light off.

1.2.16 PoP Function (Displaying Images on External Device)

CAUTION

-  is displayed at the upper right side of the images on the external device and input images are displayed with a frame. Use the image with the icon  at the upper right side after understanding that it is not an endoscopic image but the image is stored on the external device.

1.2.17 Disposal

CAUTION

- This product has components that contain a lithium manganese dioxide battery and other materials that may cause environmental pollution. Follow the legal procedures when discarding the product. For details, consult your local FUJIFILM dealer.

1.2.18 Security Function

CAUTION

- Once the user logs in to the security function, all the information can be accessed until the user logs off the security function or turns off the system. When stepping away from the system, be sure to log off the security function or turn off the system.
- If you forgot the login password and cannot log in to the security function, consult your local FUJIFILM dealer.

1.2.19 Potential equalization

- This system is equipped with an equipotential terminal. Use this terminal when equipotential grounding is required at the hospital or clinic.

1.2.20 Handling of Endoscope

- Wear personal protective equipment (such as goggles, facemask, chemical-resistant and waterproof gloves, antifouling protective clothing, cap and shoe covers) when handling the Endoscope to prevent infection and electrostatic discharge.

1.2.21 System Version

- Software is used to control the VP-7000. Therefore, the control method differs depending on the version of the software being used. This instruction manual describes operation of Ver. 1.000 to 1.099. The version is shown under the heading "Software" displayed on the screen by pressing the [Shift] and [Note] keys at the same time.

1.2.22 Electromagnetic interference

This product generates, uses and can radiate electromagnetic energy. To prevent electromagnetic interference within the vicinity of this product, read the following precautions and properly handle this product and other devices in the vicinity.

Install and use this product according to "11.2 Electromagnetic Compatibility (EMC) Information".

WARNING

- Do not use this product adjacent to or stacked with other equipment. If such use is necessary, this product and the other equipment should be observed to verify that they are operating normally. Failure to do so could result in improper operation.
- Do not use portable and mobile RF communications equipment closer than 30 cm to any part of this product. Otherwise, degradation of the performance of this product could result.
- Use the cable specified in the Operation Manual. Use of other cables may cause an increase in electromagnetic emission or decrease in electromagnetic immunity of this product.

CAUTION

- Use this product in the specified environment and with specified methods. Otherwise, unintended images (such as a rotated or inverted observation image or a screen other than the observation screen) may be displayed.
- This equipment has been tested and found to comply with the limits for medical devices defined in EN 60601-1-2:2015^[Note]. These limits are designed to provide reasonable protection against harmful electromagnetic interference in a typical installation at professional healthcare facilities such as hospitals and clinics. However, it is possible that it may cause harmful electromagnetic interference to other devices in the vicinity, if it is installed and used in accordance with the instructions. Also, there is no guarantee that interference will not occur in a particular installation. Therefore, if this equipment does cause harmful electromagnetic interference to other devices, 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:
 - Change the orientation or position of any affected device.
 - Increase the spacing between devices.
 - Consult the manufacturer or dealer of the device.

Noise may appear on the monitor of this equipment due to the effect of electromagnetic waves. In this case, turn off the device emitting the electromagnetic waves or move the device away from this equipment.

[Note] The leftmost alphanumeric character of the serial numbers of this product that complies with the requirements of EN 60601-1-2:2015 is 4 or higher or any of J to Z. If the serial number is other than any of those above, this product complies with the requirements of EN 60601-1-2:2007.

- Do not use this product near devices that generate strong electromagnetic waves, such as MRI systems. Doing so may cause malfunction of this product.
- If this product is used in combination with an electrosurgical unit, follow the instructions provided in the operation manuals of the electrosurgical unit and high-frequency endotherapy device.

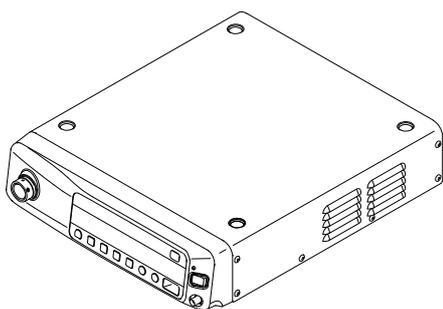
Chapter 2 System Configuration

2.1 Checking Package Components

Check the components in the package against the items shown in the figures below. Inspect each component for damage. If a component is damaged, or if a component is missing, contact your local FUJIFILM dealer.

◆ Package Components

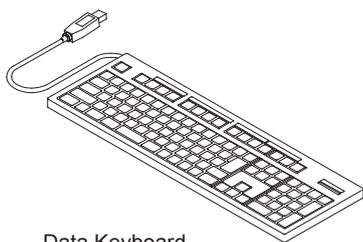
- Note**
- The type of the data keyboard varies depending on the country.
 - The figure in parentheses indicates the quantity.



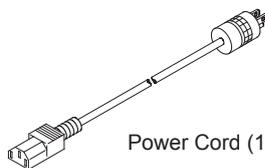
Processor
VP-7000 (1)



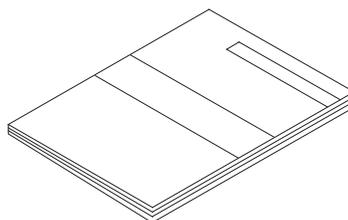
Socket Protection Cap
CC-203 (1)



Data Keyboard
DK-7000U (1) or DK-7000E (1)



Power Cord (1)



Operation Manual (1)

2.2 Equipment Using in Combination

The equipment used in combination with the processor VP-7000 and the light source is shown in the table below.

- Note** • For details on the equipment not described in this manual, such as the endoscopic CO2 regulator and the water pump, refer to the operation manual of the endoscope.

Table 2.1 Equipment configuring the standard system

Type	Model name
Processor	VP-7000
Light Source	BL-7000
Data Keyboard	DK-7000U or DK-7000E ^[Note 1]
Endoscope	700 system scopes ^[Note 2] , 600 system scopes, 500 system scopes ^[Note 2]
Water Tank	WT-4, WT-603
LCD Monitor ^[Note 3]	CL-22, CL-24, CCL220/AR, CCL244/AR

[Note 1] The type of the data keyboard varies depending on the country.

[Note 2] BLI, BLI-bright and LCI are available with EB-580S and 700 system scopes. For details, consult your local FUJIFILM dealer.

[Note 3] CL-22 : Model name

CL22220-FFCL22

CL-24 : Model name

CL24244-FFCL24

CCL220/AR : Model name

CL22220-W1WD0J, CL22220-W1WD0E, CL22220-W1WD0U, CL22220-W1WD0C

CCL244/AR : Model name

CL24244-W1WD0J, CL24244-W1WD0E, CL24244-W1WD0U, CL24244-W1WD0C

Table 2.2 Medical equipment which can be used for expanding the system

Type	Model name
Ultrasonic Processor	SU-1, SP-900
Printer	UP-25MD (SONY) ^[Note 1] , UP-55MD (SONY), UP-D25MD (SONY)
Video Recorder ^[Note 1]	HVO-3300MT ^[Note 2] (SONY), HVO-1000MD ^[Note 2] (SONY), HVO-550MD (SONY)

[Note 1] This equipment cannot use the RS-232C connector or digital printer connector of VP-7000 for the connection.

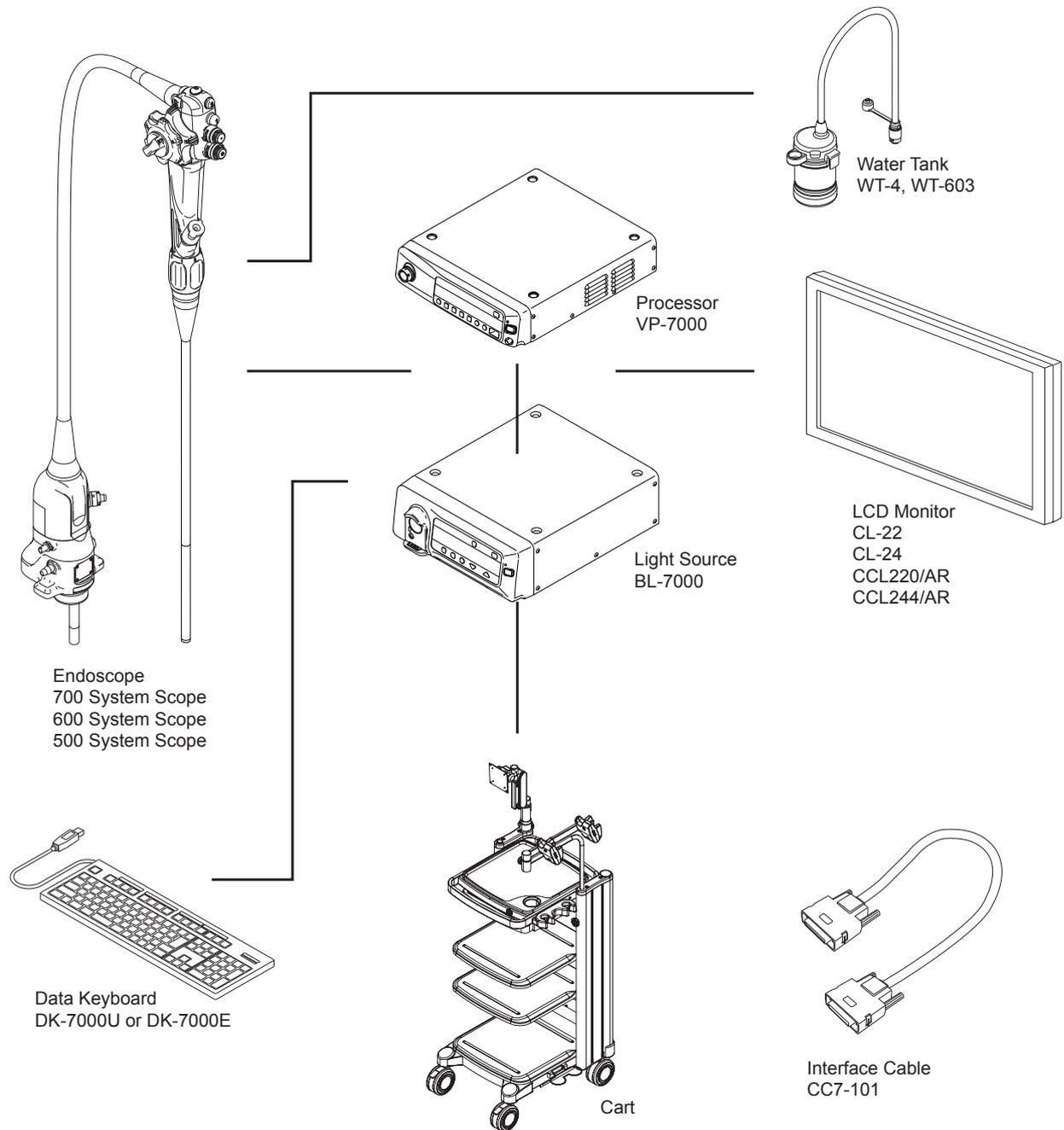
[Note 2] Even if the output from the RGB TV connector on the VP-7000 is connected to the RGB IN connector, video images cannot be recorded.

2.3 Standard System Configuration

The standard system configuration is the minimum configuration required for general endoscopy. Observation (diagnosis) and biopsy can be performed on the monitor.

CAUTION

- When some models of 530 series scopes and the 590 series scopes are used, place the VP-7000 processor on the lower shelf and the BL-7000 light source on the upper shelf. Otherwise, it may cause malfunction of the endoscope. For the applicable models of 530 series scopes, contact service personnel.



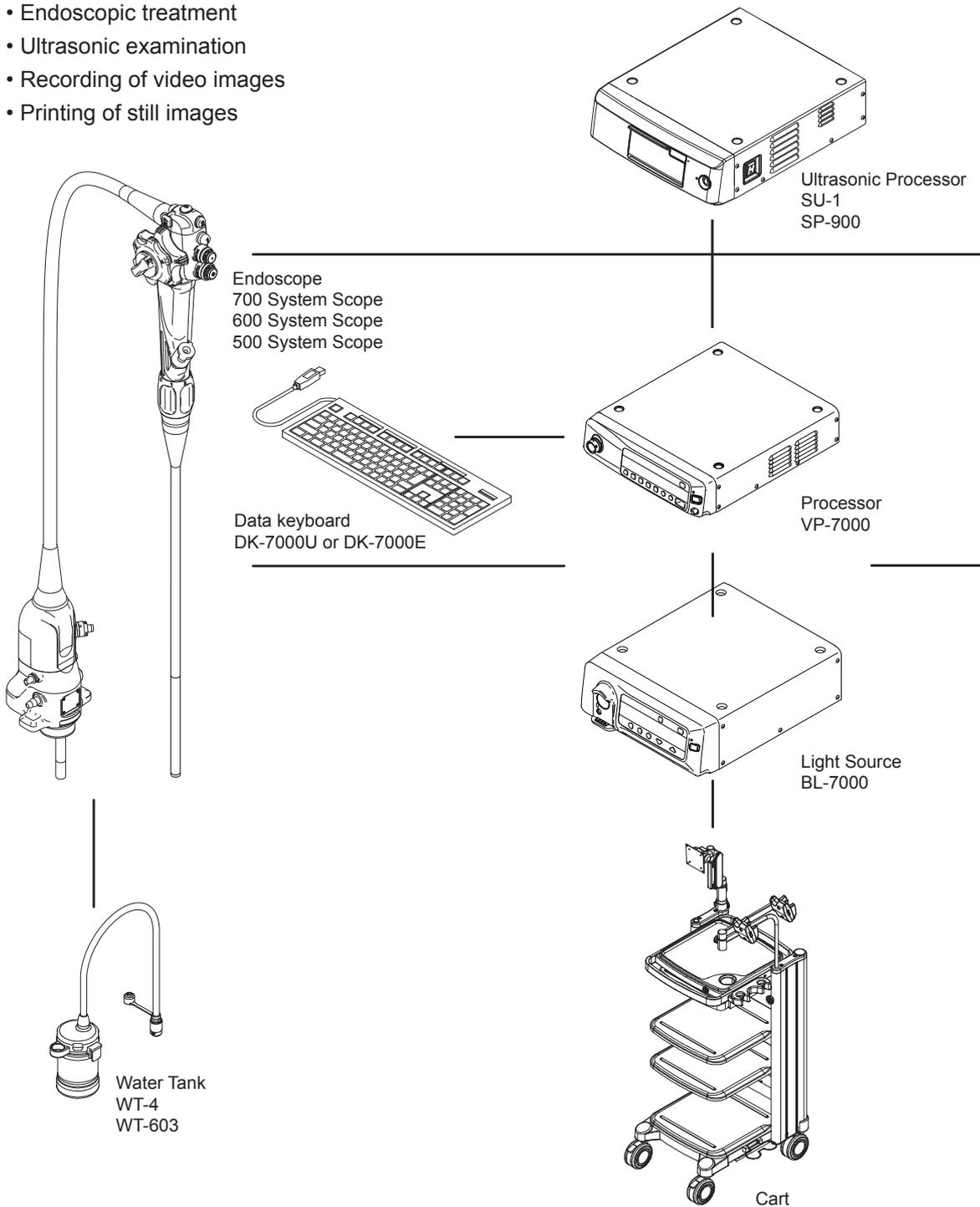
2.4 System Expansion

CAUTION

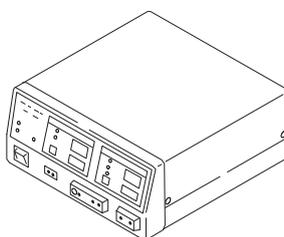
- When some models of 530 series scopes and the 590 series scopes are used, place the VP-7000 processor on the lower shelf and the BL-7000 light source on the upper shelf. Otherwise, it may cause malfunction of the endoscope. For the applicable models of 530 series scopes, contact service personnel.

This system can be extended by connecting various peripherals to the standard system configuration. Extension makes the following possible.

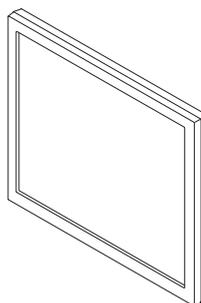
- Endoscopic treatment
- Ultrasonic examination
- Recording of video images
- Printing of still images



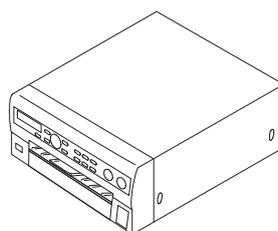
- Note** • For details on the connections of peripherals other than listed here, consult your local FUJIFILM dealer.



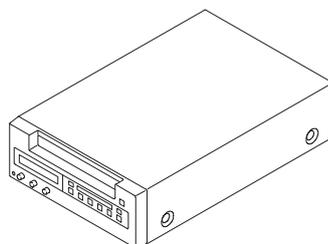
Electrosurgical Unit



LCD Monitor
CL-22 (FUJIFILM)
CL-24 (FUJIFILM)
CCL220/AR (JVC KENWOOD)
CCL244/AR (JVC KENWOOD)

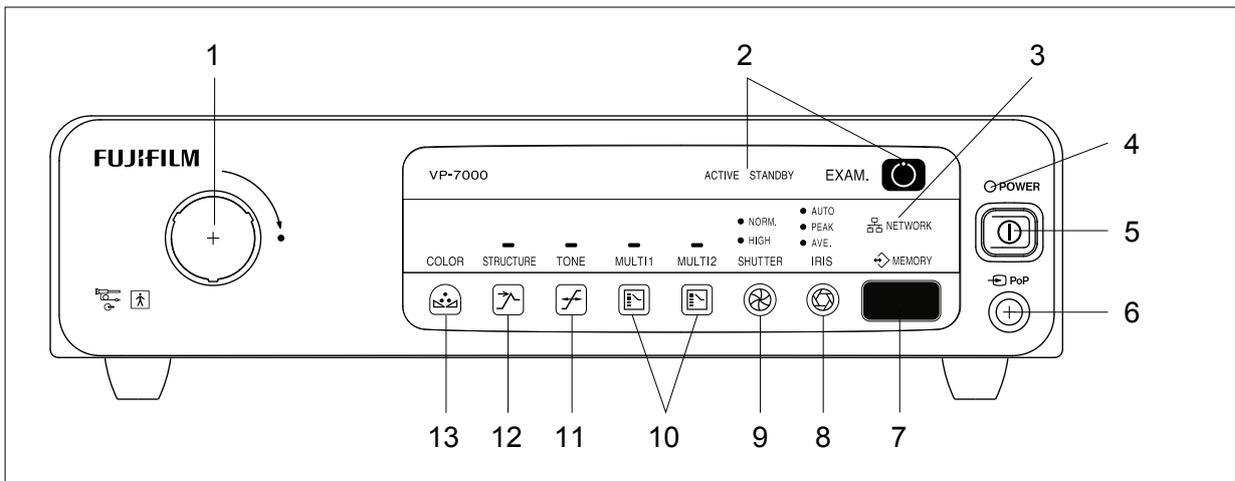


Printer
UP-25MD (SONY)
UP-55MD (SONY)
UP-D25MD (SONY)

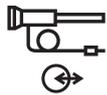


Video Recorder
HVO-3300MT (SONY)
HVO-1000MD (SONY)
HVO-550MD (SONY)

3.1 Front Panel



1. Electrical Connector Socket



Used to connect the electrical connector of the 600 system scope or 500 system scope.

2. EXAM. Button/EXAM. Indicator Lamp



Used to turn the power to the endoscope ON and OFF.

ACTIVE **STANDBY** Power to the Endoscope ON: The ACTIVE indicator lamp lights up in blue.

Power to the Endoscope OFF: Press and hold the EXAM. button for about 2 seconds.

While the STANDBY indicator lamp is flashing in orange, do not remove the endoscope.

When the STANDBY indicator lamp lights up in orange, the endoscope can be removed.

Note In order to turn OFF the endoscope, press and hold the EXAM. button for about 2 seconds. While the STANDBY indicator lamp is flashing in orange, do not remove the endoscope before this lamp lights up.

3. Network Access Indicator Lamp



Displays the connection status of the network.

- During connection: Lights up in green.
- During communication: Flashes in orange.
- When the communication fails: Lights up in orange.

4. Power Indicator Lamp



Lights up when the power is ON.

5. Power Button



Used to turn the power supply ON/OFF.

6. PoP Connector



An input connector for external images.



This connector is used for PoP display.

7. Memory Slot/Memory Access Lamp



Used for connecting the external storage device.



→ “5.4.2 Memory Tab”

→ “8.8 Copying Images to External Storage Device”

8. Iris Mode Button



Used to switch the iris mode between AUTO, PEAK, and AVE.

→ “7.13 Switching the Iris Mode”



9. Shutter Speed Button



Used to switch the shutter speed between NORM. and HIGH.

→ “7.12 Switching the Shutter Speed”



10. Multi 1/Multi 2



The desired function can be assigned to each button.



11. Tone Button



Used to turn the tone function ON/OFF.



→ “7.10 Turning On/Off the Tone”

12. Structure Emphasis Button



Used to turn the structure emphasis function ON/OFF.



→ “7.8 Turning On/Off Structure Emphasis”

13. Color Adjustment Button

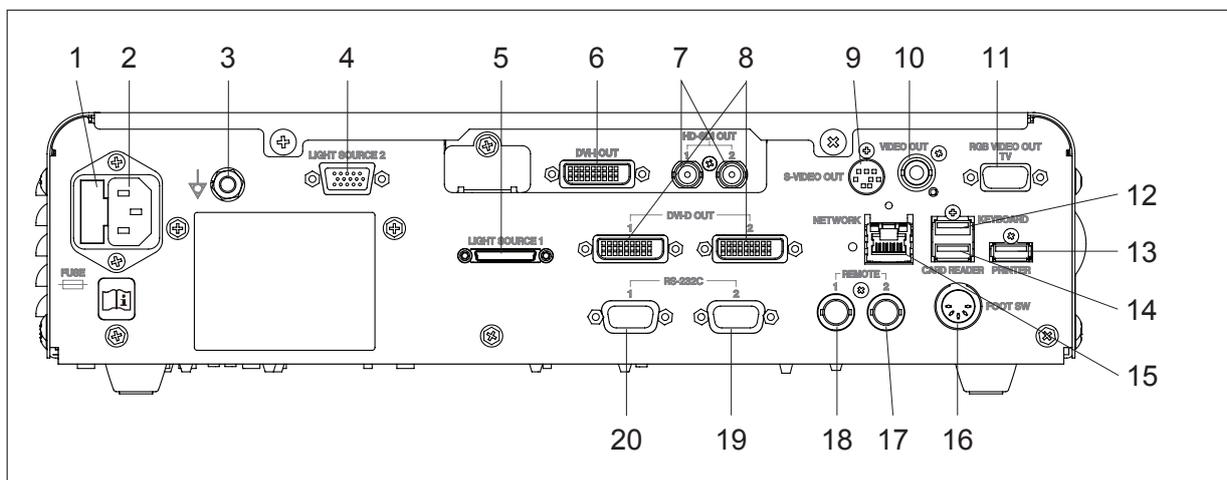
COLOR



Adjusts the color.

→ “5.3.5 Color Adjustment Settings”

3.2 Rear Panel



1. Fuse Holder



Contains two T3.15AH 250V fuses.

2. Power Supply Connector

Used to connect the attached power cord.

3. Potential Equalization Terminal



When necessary for safety, this terminal is connected to a potential equalization terminal on a peripheral device to equalize the potential between this product and the peripheral device.

4. Interface Cable Connector

Connector for system expansion.

5. Interface Cable Connector

Used to connect the BL-7000 light source using the interface cable.

6. DVI-I Connector

Used to connect the LCD monitor via a monitor cable. Digital and analog image signals are output from this connector.

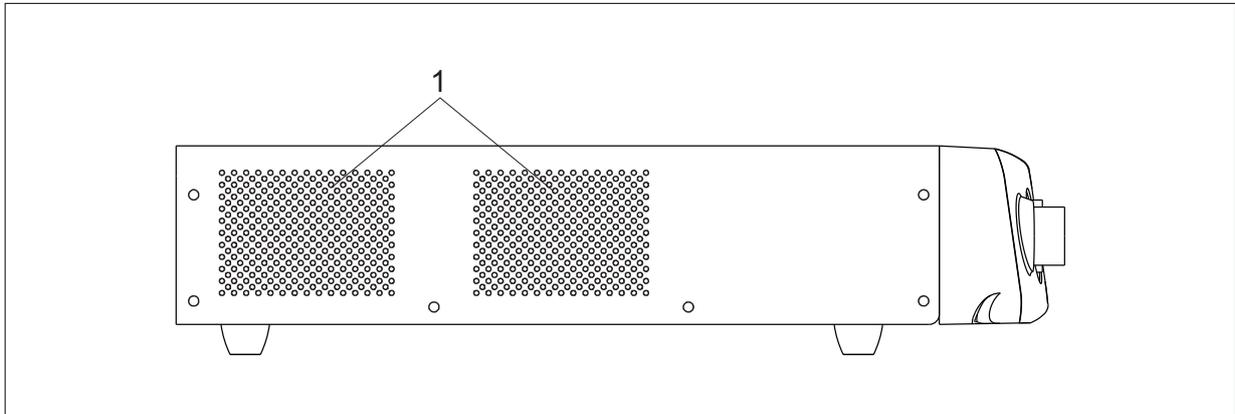
7. HD-SDI Connector

Used to connect the HD-LCD monitor via a monitor cable. Digital image signals are output from this connector by means of a serial interface.

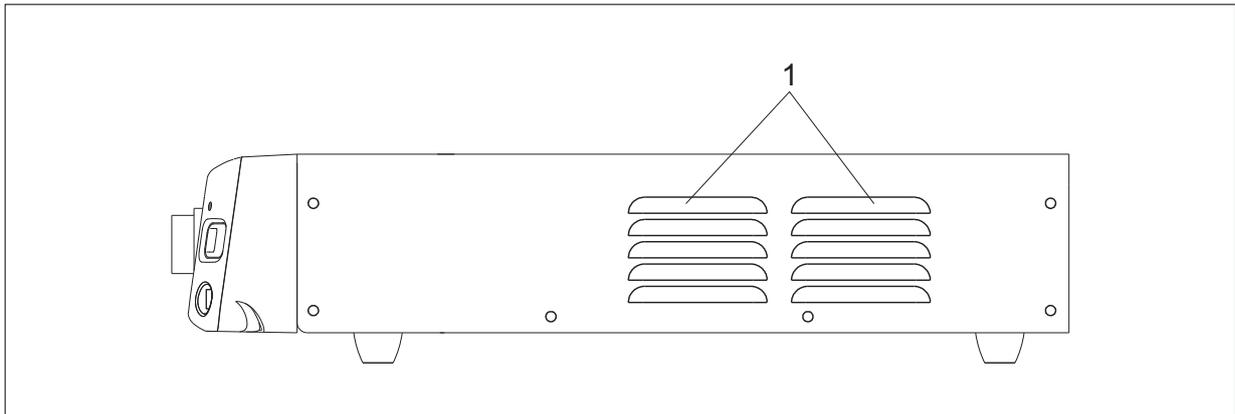
8. DVI-D Connector
Used to connect the LCD monitor via a monitor cable. Digital image signals are output from this connector.
9. S Video Connector
Outputs a component signal separated into a Y signal for brightness and a C signal for color.
10. Video Connector
Outputs a composite video signal.
11. RGB TV Connector
Used to output a NTSC/PAL image in the form of R, G, B and SYNC.
12. Keyboard Connector
Used to connect to the data keyboard DK-7000U or DK-7000E.
13. Digital Printer Connector
Used to connect a digital printer.
14. Card Reader Connector
Used to connect a magnetic card reader. (Not supported)
15. Network Connector
Used to connect to the network.
16. Foot Switch Connector
Used to connect the foot switch FS1.
17. Remote Connector 2
Outputs a trigger signal to control peripherals. When the trigger or recording function is activated with the scope switch or foot switch, the corresponding signal is output.
18. Remote Connector 1
Outputs a trigger signal to control peripherals. When the trigger or recording function is activated with the scope switch or foot switch, the corresponding signal is output.
19. RS-232C Connector 2
Connector used for communication with a peripheral device connected with the RS-232C interface.
20. RS-232C Connector 1
Connector used for communication with a peripheral device connected with the RS-232C interface.

3.3 Side Panel

<Left side>



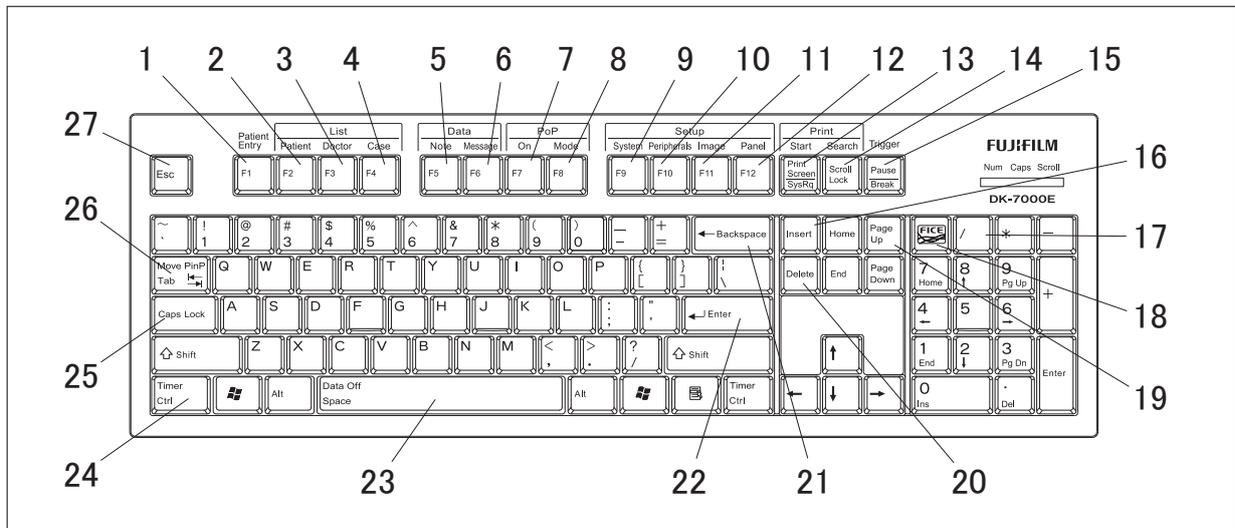
<Right side>



1. Ventilation Holes

Ventilation holes. Keep holes 10mm or more away from any objects.

3.4 Keyboard



<Data control keys>

1. [Patient Entry] key
Displays the Patient Information Entry screen.
2. [Patient] key
Displays the Patient List screen.
3. [Doctor] key
Displays the Doctor List screen.
4. [Case] key
Displays the Procedure List screen.
5. [Note] key
Makes it possible to enter comments on the observation screen.
6. [Message] key
Displays the Message List screen.
7. [On] key
Displays PoP.
8. [Mode] key
Switches the display format of PoP.

<Peripheral device control keys>

9. [System] key
Displays the System Setup screen.
10. [Peripherals] key
Selects and performs the settings for the peripheral devices to be used with this product.
11. [Image] key
Displays the Image Setup Page screen.
12. [Panel] key
Performs the initial settings for the functions assigned to the front panel of this product.
13. [Start] key
Starts printing the data displayed in the print preview screen.
14. [Search] key
You can search for or review images stored in the main unit.
15. [Trigger] key
While a still image is displayed in the normal observation screen, pressing this key captures the image.

Note When a still image is not displayed, no image is captured even if this key is pressed.

<Other keys>

16. [Insert] key
Edits the character or data at the cursor position.
 - (1) When a list of patient data is displayed : Displays the edit screen for the selected patient data.
 - (2) When a list of doctor names is displayed : Edits the selected doctor name.
 - (3) When a list of procedure names is displayed : Edits the selected procedure name.
17. [/] key
Switches between the main screen and sub-screen when FICE is on.

Note The screens can be switched when “Type 2/Dual Mode” is selected for “Mask Type”.
18. [FICE] key
Turns on or off FICE.
19. [PageUp] key
When the observation screen is displayed and FICE is turned “ON”, pressing this key displays the current FICE set.
→ “3.8 Displaying FICE Set”

20. [Delete] key

Deletes the character at the location of the cursor.

- (1) When a list of patient data is displayed : The selected patient data is deleted.
- (2) When a list of doctor names is displayed : The selected doctor name is deleted.
- (3) When a list of procedure names is displayed : The selected procedure name is deleted.

21. [Backspace] key

Deletes the character located immediately before the cursor.

22. [Enter] key

If you press this key after entering data, the entered data is finalized.

Also, if you press this key while a message is displayed in the observation screen, the message disappears.

Also, if you press this key while the thumbnail display screen is displayed, the image at the location of the cursor is enlarged.

23. [Data Off/Space] key

Each time you press this key while the observation screen is displayed, the data on the observation screen switches between a displayed and a non-displayed state. In addition, this key is used for selecting images to be printed in the print preview screen.

- Note**
- When “Data Display Switching” is disabled, the function of this switch is also disabled. (“Data Display Switching” is set by service personnel.)
 - This key is described as the [Space] key in the operation manuals of this product.

24. [Timer Ctrl] key

Starts/stops the timer on the observation screen.

- Note** This key is described as the [Ctrl] key in the operation manuals of this product.

25. [Caps Lock] key

Each time you press this key, the alphabet is toggled between upper and lower case.

26. [Move PinP/Tab] key

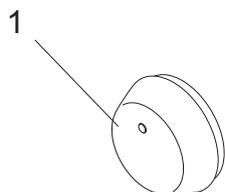
When the output resolution is set to “SXGA”, the mask type is set to “Type 1” and the sub-screen is displayed in the observation screen, the position of the sub-screen is changed in the order of upper left, upper right, lower right and lower left each time this key is pressed.

- Note** This key is described as the [Tab] key in the operation manuals of this product.

27. [Esc] key

If you press this key while entering data, operation returns to the previous screen or observation screen.

3.5 Socket Protection Cap



1. Socket Protection Cap for Electrical Connector

Covers the socket when the 600 system scope or 500 system scope is not connected.

Note Whenever the 700 system scope is used, attach the protection cap.

3.6 Symbols

Symbol	Description
	Serial number
	Date of manufacture
	Manufacturer
	Authorized representative in the European Community
	Consult instructions for use
	Temperature limitation
	Keep dry
	CE marking
	Type BF applied part
	WEEE marking ^[Note]
	Humidity limitation
	Atmospheric pressure limitation
	Alternating current
	Fuse
	Potential equalization terminal
	Electrical Connector Socket

[Note] This product shall not be treated as household waste.

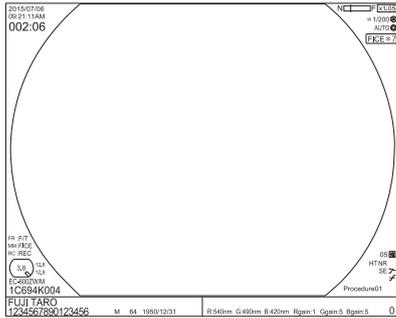
3.7 Data Display on the Observation Screen

When the light source is used, three types of special light can be used for observation in addition to the normal light (“Normal mode”).

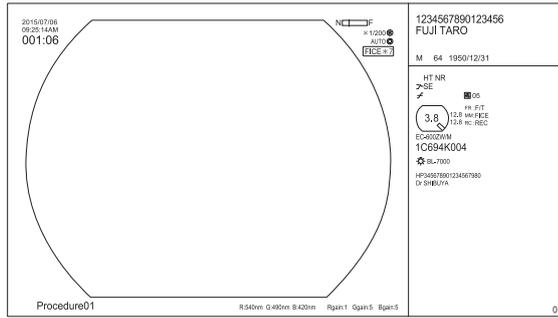
Observation modes using special light are called “BLI”, “BLI-bright” and “LCI”. On the monitor, they are displayed as “BLI”, “BLI-brt” and “LCI”, respectively.

<Type of the observation screen (Mask Type: Type 1)>

• SXGA mode

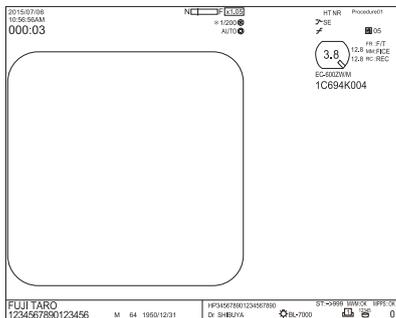


• FullHD mode

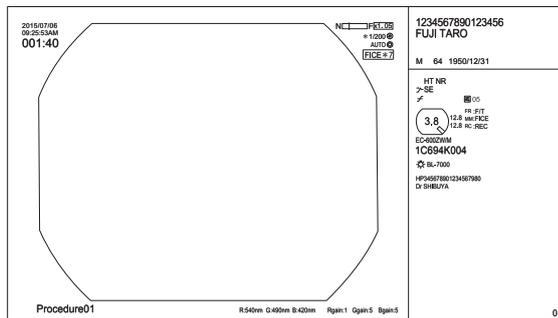


<Type of the observation screen (Mask Type: Type 2)>

• SXGA mode

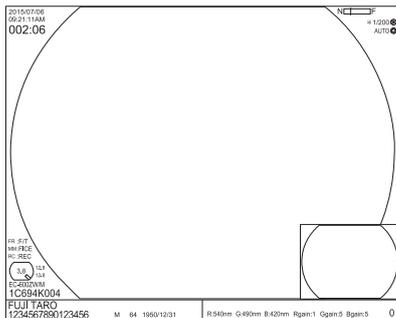


• FullHD mode

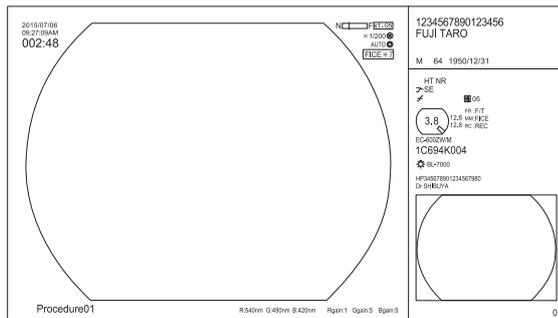


The observation screen is frozen while the scope switch to which the Freeze function is assigned is pressed. While the screen is frozen, the video image is displayed in the sub-screen. When Mask Type: Type 1 is selected in SXGA mode, each pressing of the [Tab] key changes the display position of the sub-screen in order of the upper left → upper right → lower right → lower left.

• SXGA mode



• FullHD mode

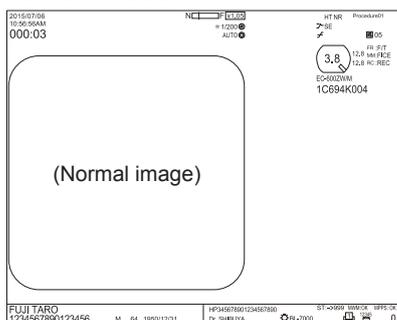


<Type of the observation screen (Mask Type: Type 2/Dual Mode)>

When FICE is on, the FICE image is displayed in the main screen and the normal image is displayed in the sub-screen.

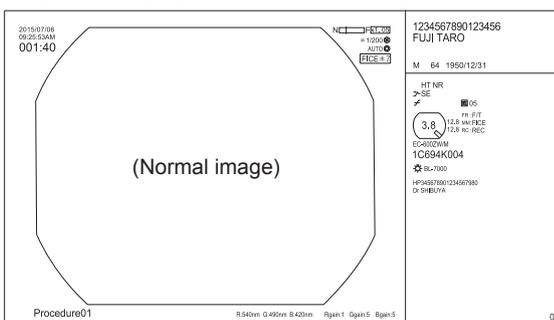
Note When the observation mode is BLI, BLI-bright or LCI, no image is displayed in the sub-screen even if “Type 2/Dual Mode” is selected.

• SXGA mode

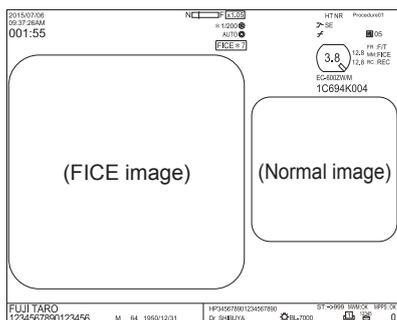


When a normal image is displayed

• FullHD mode

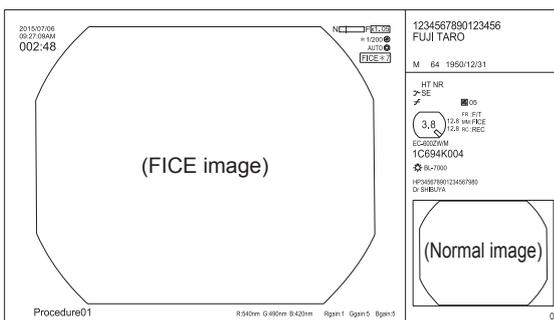


• SXGA mode

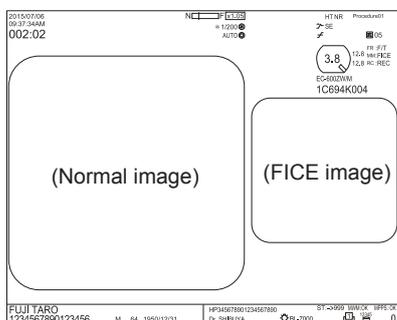


When FICE is on, the FICE image is displayed in the main screen and the normal image is displayed in the sub-screen.

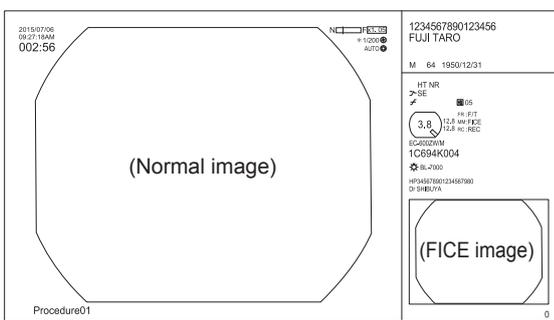
• FullHD mode



• SXGA mode



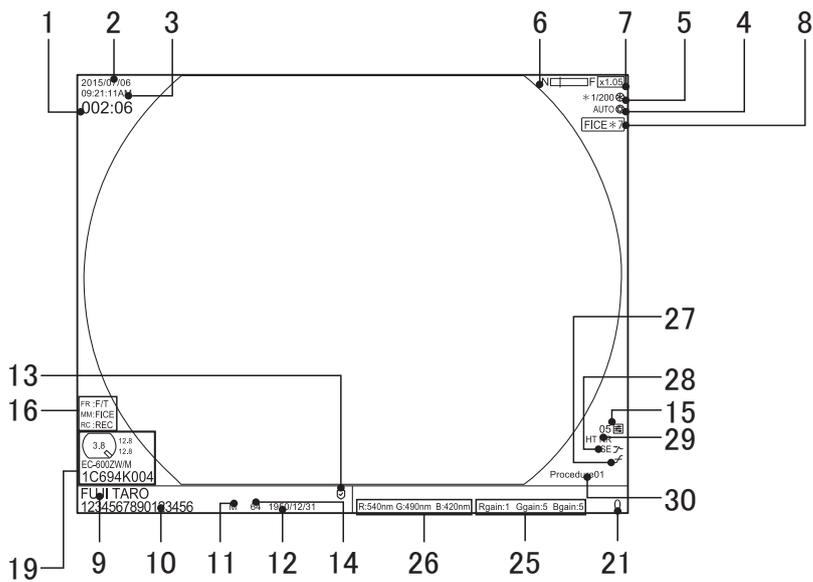
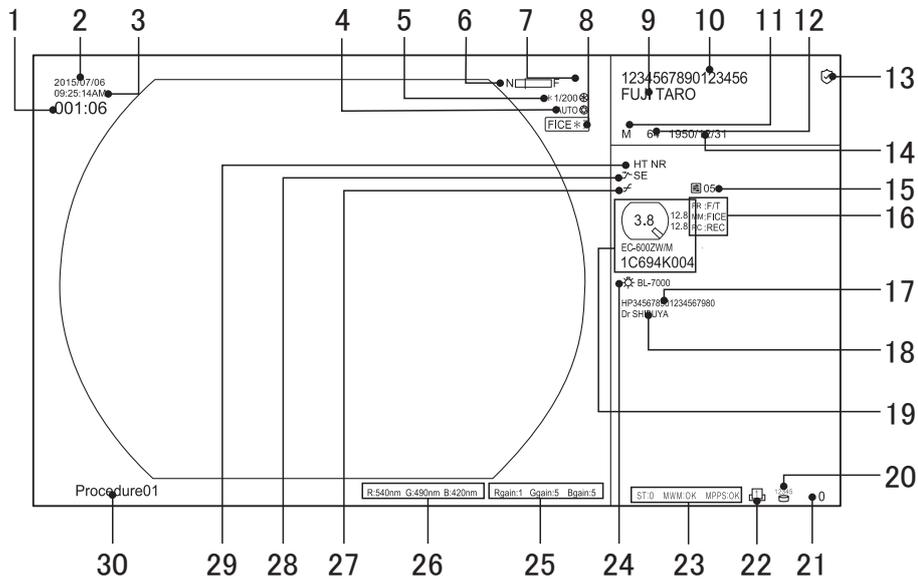
• FullHD mode



Press [/] key to switch between the FICE image and the normal image.

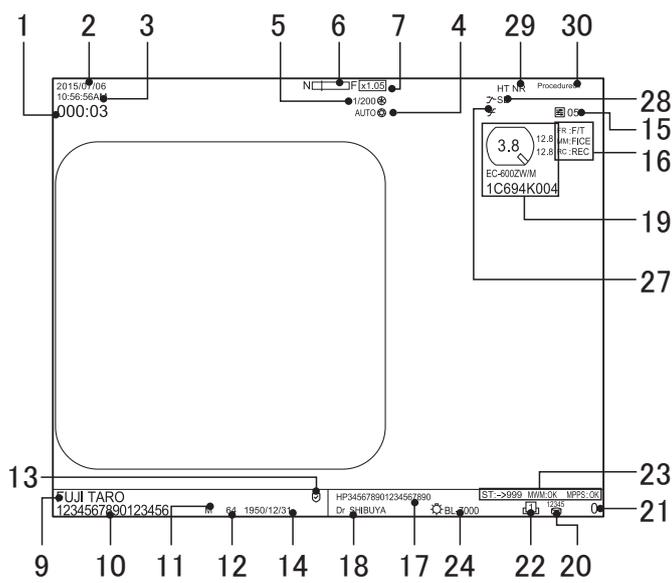
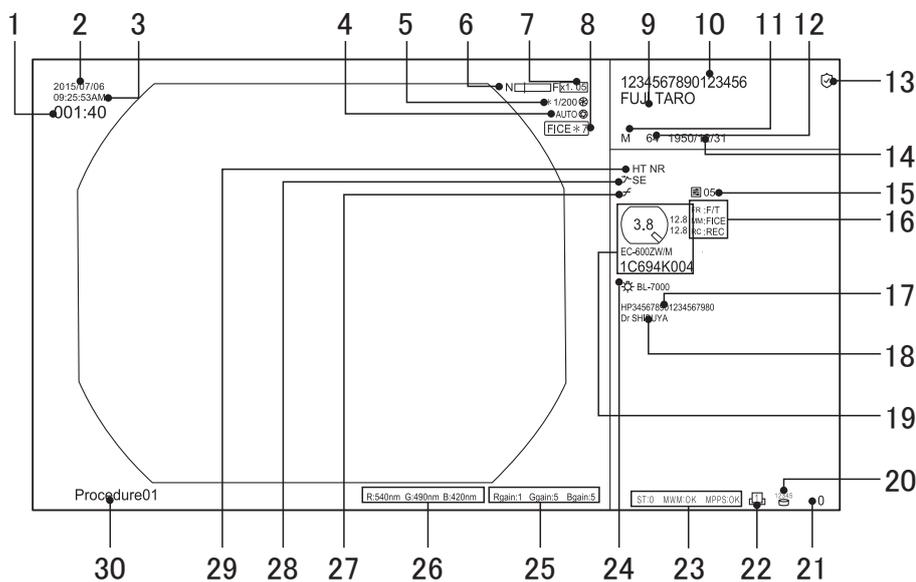
<Information displayed on the observation screen (Mask Type: Type 1)>

Data to be displayed is different depending on the settings. Setting the data to be displayed should be performed by service personnel.



<Information displayed on the observation screen (Mask Type: Type 2)>

Data to be displayed is different depending on the settings. Setting the data to be displayed should be performed by service personnel.



1. Timer
2. Date
3. Time
4. Iris Mode
 - “7.13 Switching the Iris Mode”
5. Shutter Speed
 - “7.12 Switching the Shutter Speed”

6. Focus Indicator

Displayed when an optical zoom scope is connected.

7. Electronic Zoom Ratio

x1.00 to 2.00 or x1.00 to 1.75 (0.05 step)

Note The zoom ratio of some 530 series scopes is x1.00 to 1.95.

8. Special Light Observation Mode or Spectral Image Processing function

In special light observation mode, "BLI", "BLI-bright" or "LCI" is displayed.

With the spectral image processing function, "FICE" is displayed.

9. Patient Name

10. Patient ID or Examination No.

Whether to display the patient ID or the examination No. should be specified by service personnel.

11. Sex

12. Age

13 Login

Displayed when the user logs in to the system.

→ "4.3 Security Function"

14. Date of Birth

15. Image Setup Page

16. Switch Setting

The function assigned to the scope switch is displayed.

→ "4.2.7 Endoscope Tab <Functions to be assigned to the scope switch>"

17. Hospital Name

18. Doctor Name

19. Scope Information

The scope type or scope serial, minimum diameter of instrument channel, outer diameter of distal end, and outer diameter of insertion tube are displayed.

Scope information may not be displayed depending on the connected scope.

→ "3.9 Patient Info. + Scope Info. Dialog"

20. Number of Recordable Images in Internal Storage Device

The display flashes while the internal storage device is accessed. Do not turn off the power while the display flashes.

21. Number of Captured Images

22. Printer Status

The status is displayed as follows (only for digital printer):

When the printer is used: 

Memory status:  ~ 

When the printer is not used: Nothing is displayed.

23. DICOM Server Connection Status

The connection status with the DICOM server is displayed as follows:

S: Storage status of a (stored) image

M: Connection status of the worklist

P: MPPS (progress of an examination)

24. Light Source

The model name of the light source connected to this product is displayed.

When the Light Save function is turned on by pressing the Light Limit button on the front panel of the light source, the model name of the light source is displayed in green.

25. R, G and B Gain Levels

26. R, G and B Components

27. Tone

→ “7.10 Turning On/Off the Tone”

28. Structure Emphasis

→ “7.8 Turning On/Off Structure Emphasis”

29. Hyper-Tone and Noise Reduction

Hyper-tone (HT) and noise reduction (NR) are displayed as follows. (The setting is indicated in parentheses.)

Not displayed (no setting), white (Low), green (Mid), and yellow (Hi)

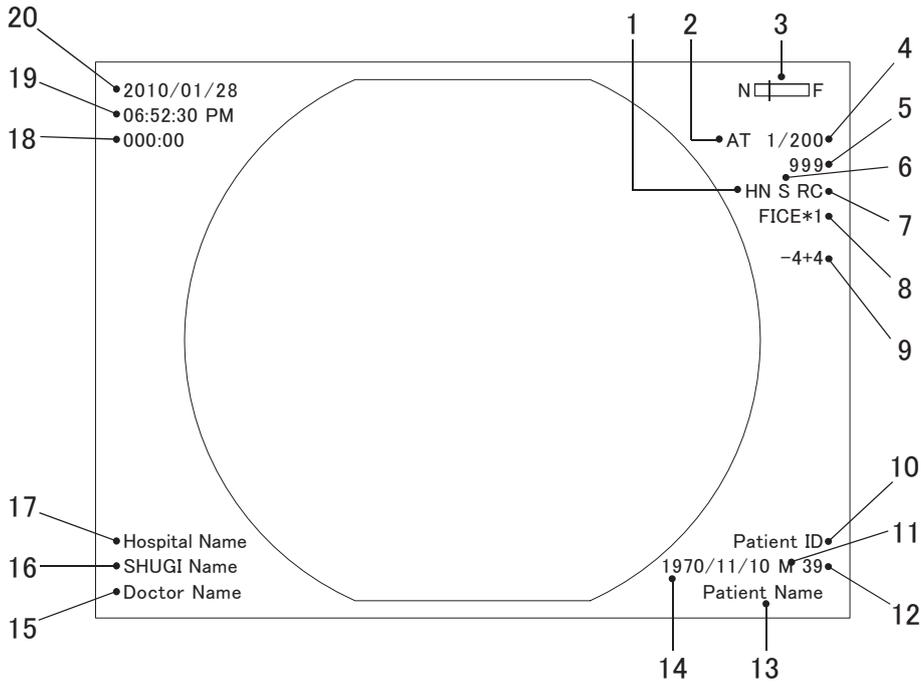
Installation should be performed by service personnel.

30. Procedure or Comment

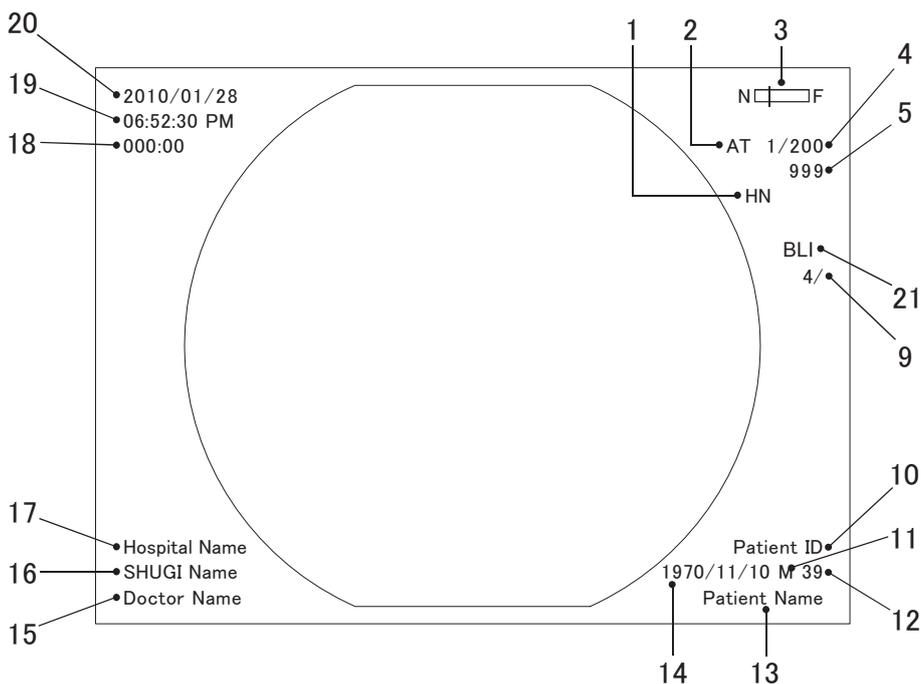
<Example of information displayed on the video output screen>

- Note**
- When the monitor is connected to the RGB TV, Video, or S Video connector, do not use such an image for the main observation.
 - Depending on the monitor type, the periphery of the screen may not be displayed. In this case, set the monitor in the under scan mode.

In the case of Normal mode:



In the case of BLI, BLI-bright or LCI:



1. Hyper-Tone and Noise Reduction

Hyper-tone (HT) and noise reduction (NR) are displayed as follows. (The setting is indicated in parentheses.)

Not displayed (no setting), white (Low), green (Mid), and yellow (Hi)

Installation should be performed by service personnel.

2. Iris Mode

→ “7.13 Switching the Iris Mode”

3. Focus Indicator

Displayed when an optical zoom scope is connected.

4. Shutter Speed

→ “7.12 Switching the Shutter Speed”

5. Shooting Counter

6. Structure Emphasis

→ “7.8 Turning On/Off Structure Emphasis”

7. Tone

→ “7.10 Turning On/Off the Tone”

8. FICE

Spectral image processing function (FICE)

Note In the BLI, BLI-bright or LCI mode, FICE is not available.

→ “7.9 Turning On/Off FICE”

9. Contour Emphasis

→ “7.8 Turning On/Off Structure Emphasis”

10. Patient ID or Examination No.

11. Sex

12. Age

13. Patient Name

14. Date of Birth

15. Doctor Name

16. Procedure or Comment

17. Hospital Name

18. Timer

19. Time

20. Date

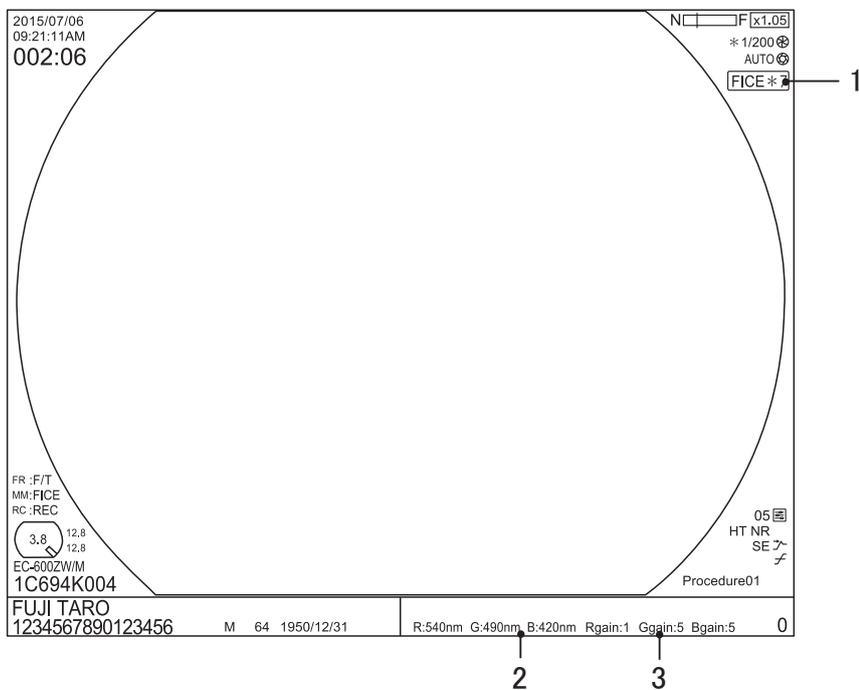
21. Special Light Observation Mode

“BLI”, “BLI-bright” or “LCI” is displayed.

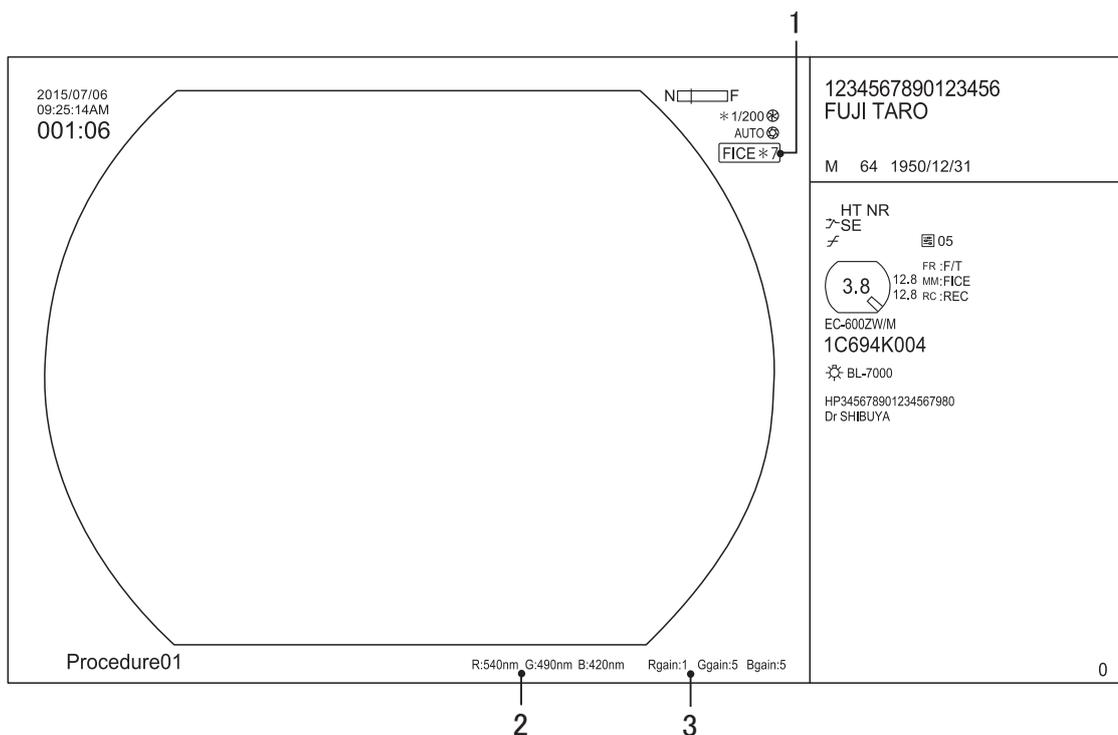
3.8 Displaying FICE Set

When the [PageUp] key is pressed with FICE turned ON, FICE set is displayed on the screen.
 By pressing the [PageUp] key again, FICE set disappears.

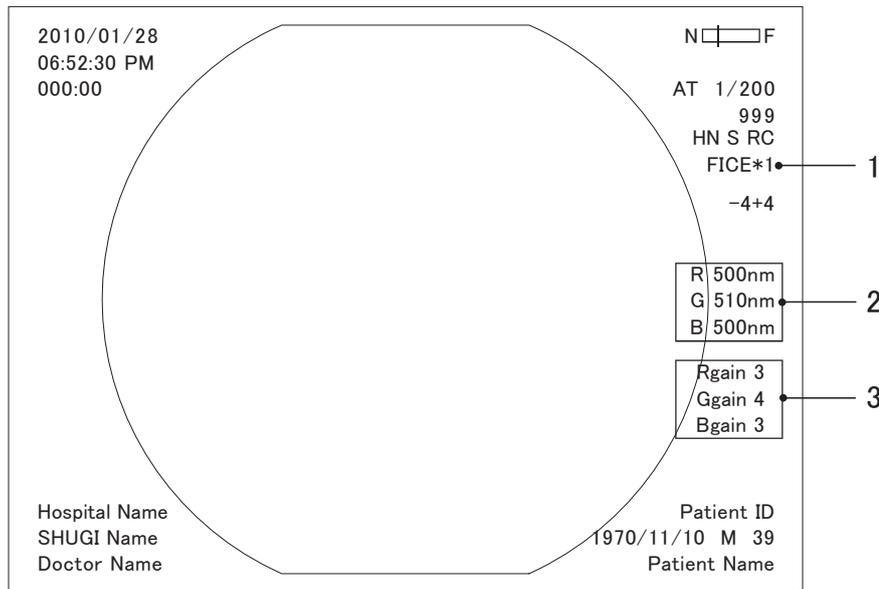
In the case of SXGA mode:



In the case of FullHD mode:



When the monitor is connected to the RGB TV (NTSC/PAL), Video, or S Video connector:



1. FICE set

A FICE set consists of specific wavelengths that are assigned to each R, G and B wavelength and setting values for each gain level (R gain, G gain and B gain).

2. R, G and B Wavelengths

The specific wavelength that is assigned to each R, G and B component can be set between 400 nm and 695 nm in 5-nm increments.

→ “5.3.3 Setting FICE”

3. RGB gain level

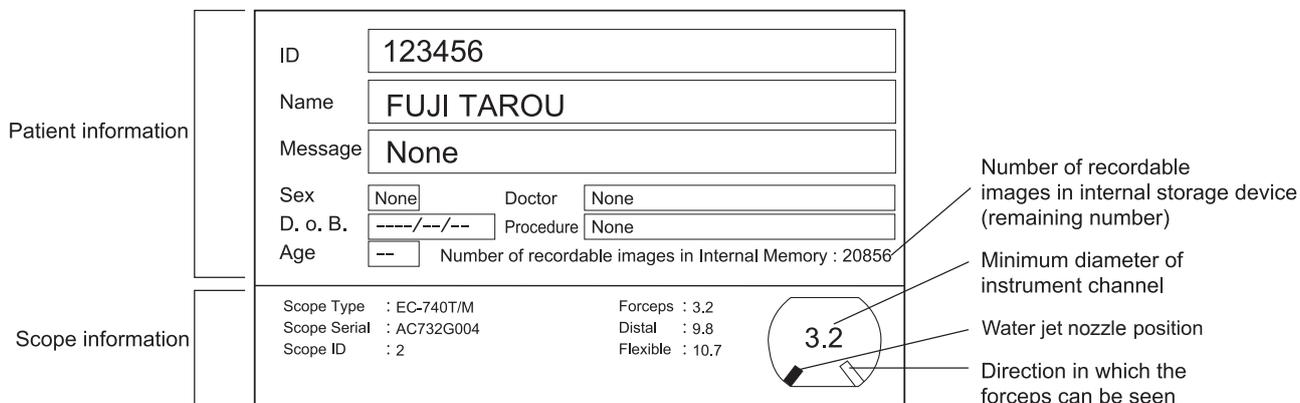
Adjusting the intensity of the R, G and B wavelengths can change the display colors.

Each gain level for R, G and B can be changed from 1 to 5. The higher the level is, the deeper the color tone of an image results.

→ “5.3.3 Setting FICE”

3.9 Patient Info. + Scope Info. Dialog

When registering the new patient information or switching the patient information, the Patient Info. + Scope Info. dialog is displayed.



In the patient information area, the information registered in the Patient Information Entry screen is displayed.

→ “5.2 Registering/Editing Patient Information on Processor”

In the scope information area, the minimum diameter of instrument channel, outer diameter of distal end or outer diameter of insertion tube may not be displayed depending on the date of manufacture when the 600 system scope or 500 system scope is connected.

The water jet nozzle position is displayed only when some models of the 700 system scope are connected.

4.1 System Installation

WARNING

- If any peripherals not described in “2.2 Equipment Using in Combination” are used, this product may not function properly and it may cause damage to the peripherals or injury to patients or physicians.
- When using a network, insert an EN 60601-1-compliant separator between the LAN cable, which connects the devices, and the network system. If such a separator is not used, the enclosure leakage current may increase due to the current being leaked from the connected network system or due to the electric potential difference between grounds. This may pose a risk of injury or electric shock to the patient and/or the physician when he/she comes into contact with the devices.
- This product conforms to the EMC standard. However, the radio waves radiated from this product may cause medical devices such as a pacemaker to malfunction. When this product is used for a patient with an active implantable medical device, consult a cardiovascular specialist and the manufacturer of the active implantable medical device. For the EMC standard that this product complies with, refer to “11.2 Electromagnetic Compatibility (EMC) Information” in this manual.
- Use the rated voltage only. Not doing so may cause a fire or electric shock.
- If the power cords of the peripherals are connected without using the insulation transformer on the cart, the enclosure leakage current may increase, posing a risk of injury or electric shock to the patient and/or the physician when he/she comes into contact with those devices.
- Connect the power plug directly to the protective earth receptacle. Use peripherals that are compliant with the medical safety standards. Not doing so may cause an electric shock.
- Do not use the equipment in atmosphere of flammable gas and oxygen-rich environment. Doing so may cause explosion or fire.
- Do not simultaneously touch the patient and any of the system devices in the patient environment. Doing so may cause electric shock.

CAUTION

- Configure the ME system in accordance with the maximum allowable current of the power strip to be used.
- If a peripheral is used, connect it to a receptacle via an insulating transformer. Connect peripherals in accordance with the specification of the insulating transformer.
- Since there are ventilation holes on the bottom surface of the light source take care not to cover the bottom surface with foreign substances.
- Use the rated voltage only. Not doing so may cause a fire, electric shock or malfunction.
- When some models of 530 series scopes and the 590 series scopes are used, place the VP-7000 processor on the lower shelf and the BL-7000 light source on the upper shelf. Otherwise, it may cause malfunction of the endoscope. For the applicable models of 530 series scopes, contact service personnel.

Note

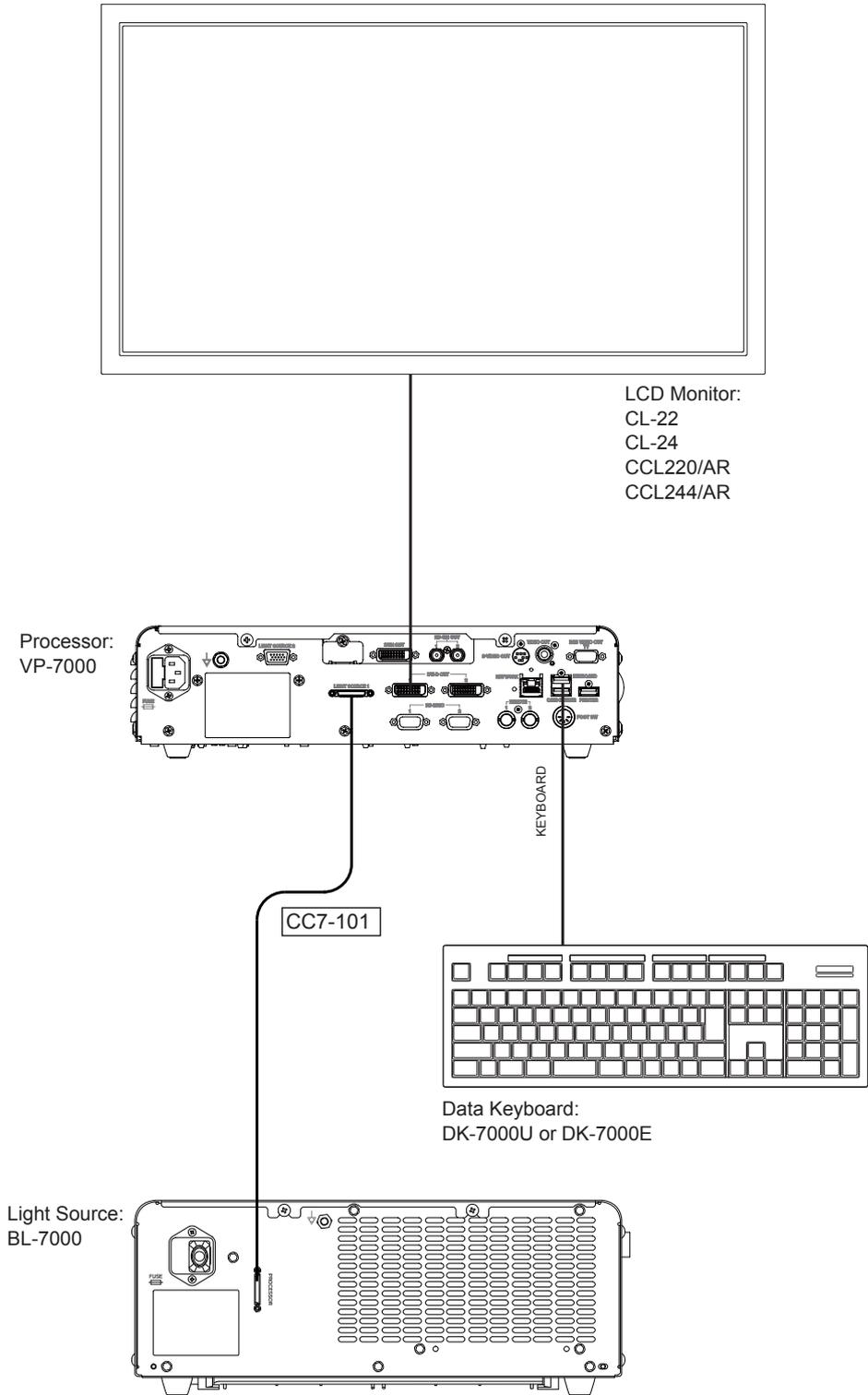
- Adjust the position of the movable shelf of the cart depending on your system.
- Install the equipment on a level location free from vibration and shock. The equipment may tip over and be damaged.
- Secure the LCD monitor to the cart. The LCD monitor may fall off.
- For the DVI cable connecting the LCD monitor to the processor, use either the cable that comes with the monitor or one of 5m or less based on the DVI standards. Otherwise, images may not be displayed properly.
- Do not block ventilation holes. Doing so may cause overheat on equipment.
- Connect the power plug of the VP-7000 processor directly to the receptacles for the processor/light source on the cart.
- When a peripheral for system expansion is installed, restart the VP-7000 processor.
- Do not apply strong impact on the electrical connector of the endoscope by hitting it against other objects, etc. Install the light source so that no strong impact is applied to the scope connector or LG connector of the endoscope connected to the light source. When operating an electric bed, etc., avoid hitting it against the scope connector or LG connector of the endoscope connected to the light source. There is a risk of damaging the endoscope or light source.

4.1.1 Installation Flowchart

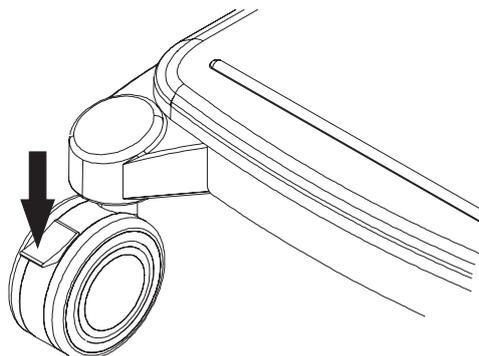
The installation flowchart of this product is shown below. Refer to each section by following this flowchart.

- 1** Installing the processor and the light source onto the cart → “4.1.2 Installation onto the Cart (Standard System Installation Example)”
↓
- 2** Connecting the processor and the light source → “4.1.3 Connecting the Light Source”
↓
- 3** Connecting the processor and the LCD monitor → “4.1.4 Connecting the Monitor”
↓
- 4** Connecting the processor and the keyboard → “4.1.5 Connecting the Keyboard”
↓
- 5** Connecting peripherals when necessary → “4.1.6 Installation for System Expansion”
→ “4.1.7 Printer Connection (Remote System)”
→ “4.1.8 Printer Connection (RS-232C System)”
→ “4.1.9 Digital Printer Connection”
→ “4.1.10 Video Recorder Connection (Remote System)”
↓
- 6** Connecting the equipment to the power supply → “4.1.11 Connecting the Power Source”

4.1.2 Installation onto the Cart (Standard System Installation Example)

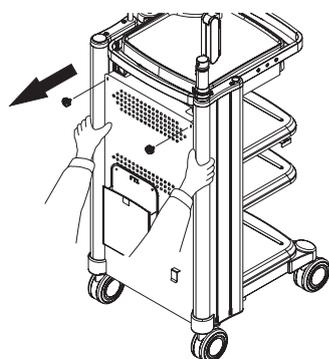


- (1) Lock the casters of the cart.



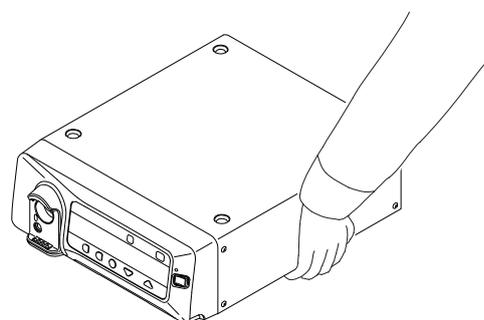
- (2) Remove two screws on the rear panel of the cart to take off the rear cover.

Note When all the installation work is completed, reinstall the rear cover of the cart.

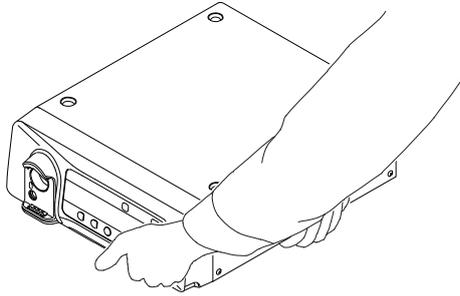


- (3) Place one hand under one side of the bottom of the light source and lift it up.

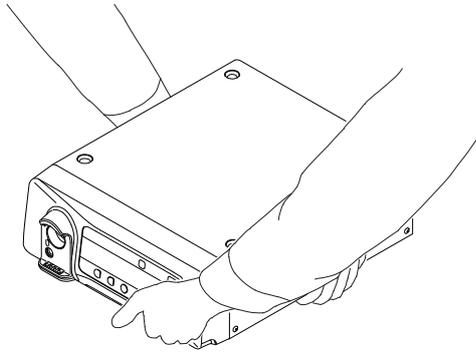
Note When some models of 530 series scopes and the 590 series scopes are used, place the VP-7000 processor on the lower shelf and the BL-7000 light source on the upper shelf. Otherwise, it may cause malfunction of the endoscope. For the applicable models of 530 series scopes, contact service personnel.



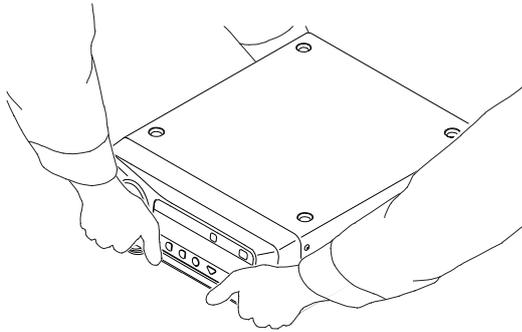
- (4) While lifting the bottom up, place the other hand under the bottom of the front panel.



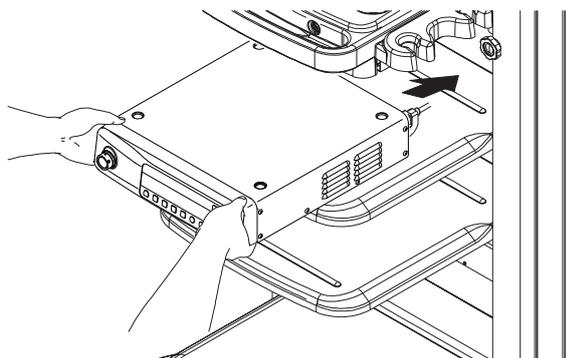
- (5) In the same manner, the other person lifts up the other side of the unit.



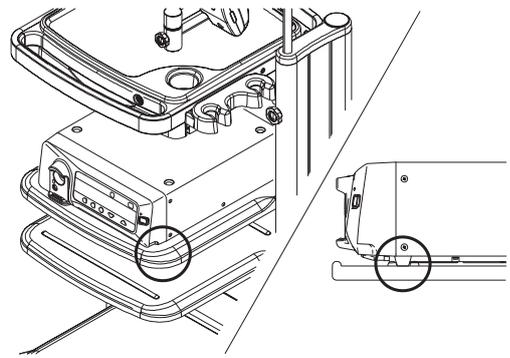
- (6) Hold the unit steadily using two persons.



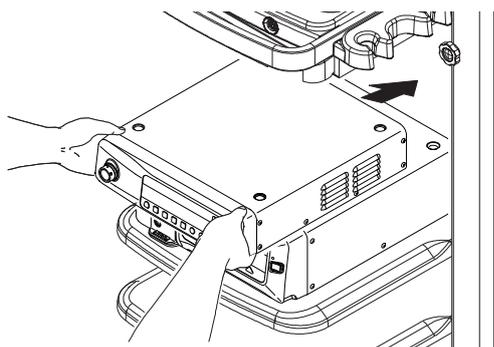
(7) Gently place the light source onto the movable shelf.



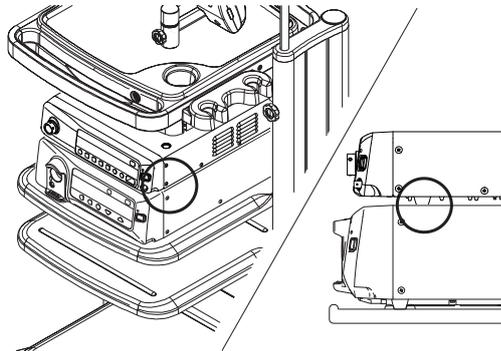
Note To avoid falling off the cart, make sure that the feet of the light source are placed inside the stoppers on the movable shelf.



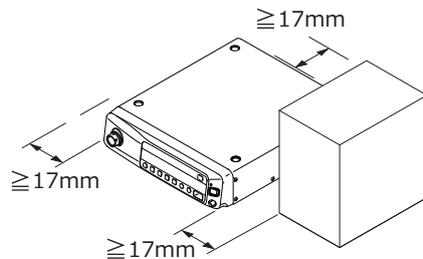
(8) Gently place the light source onto the processor.



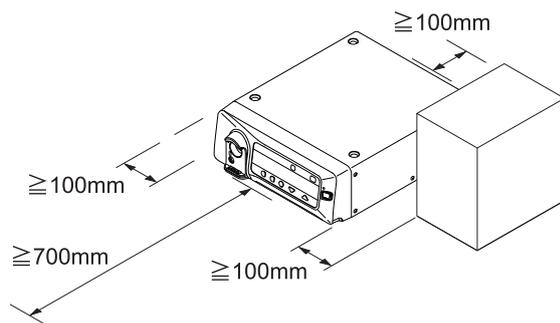
Note To avoid falling off the cart, make sure that the feet of the processor are placed inside the dents on the light source.



(9) When installing the processor, keep the distance more than 17 mm between the side and rear surfaces and the wall.



(10) When installing the light source, keep the distance more than 100 mm between the side and rear surfaces and the wall, and the distance more than 700 mm between the front surface and the wall.



[Note] Use this product in combination with the devices necessary for endoscopic examinations.

Note After all devices are connected, connect the power cord.

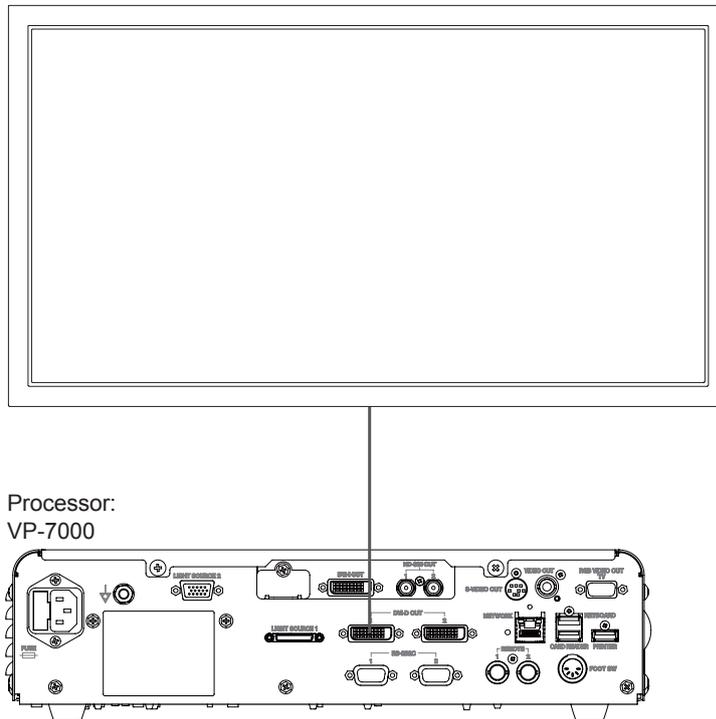
→ “4.1.11 Connecting the Power Source”

4.1.4 Connecting the Monitor

Connect the DVI-D connector on the processor and that of the input connector on the LCD monitor using the cable provided with the LCD monitor.

- Note** • For details on how to install the LCD monitor onto the monitor arm of the cart, refer to the operation manual of the cart.

LCD Monitor:
CL-22
CL-24
CCL220/AR
CCL244/AR



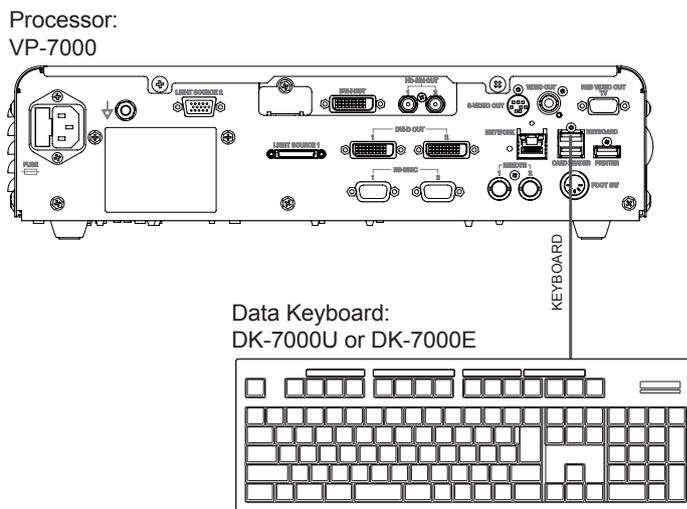
- Note** After all devices are connected, connect the power cord.

→ “4.1.11 Connecting the Power Source”

4.1.5 Connecting the Keyboard

Connect the cable of the data keyboard to the keyboard connector on the processor.

- Note**
- The type of the data keyboard varies depending on the country.
 - For details on how to install the keyboard onto the keyboard tray of the cart, refer to the operation manual of the cart.



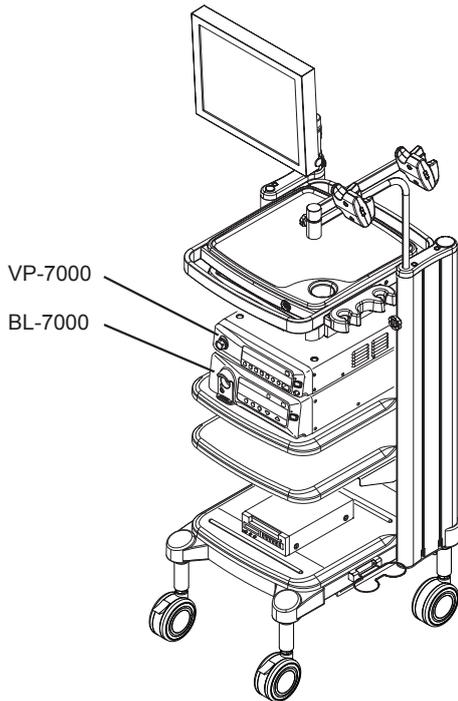
- Note** After all devices are connected, connect the power cord.

→ “4.1.11 Connecting the Power Source”

4.1.6 Installation for System Expansion

This system can be expanded by adding other peripherals to the standard system. The image below is an example of the expanded system in which a printer and video recorder are mounted.

When operating an electric bed, it may hit against the scope connector of the endoscope connected to the light source, causing damage to the devices.



Example of Installation

WARNING

When mounting peripherals on the cart, observe the following precautions.

<To avoid electric shock>

- Connect the power plugs of the processor and light source directly to the receptacles for the processor/light source on the cart.
- Do not take the power source for the electrosurgical unit from the cart.
- Do not take power from a power strip placed on the floor.
- Do not take power for the second power strip from the first power strip.
- Do not connect any unit other than the equipment composing this system to the power strip.

<To avoid toppling over of equipment>

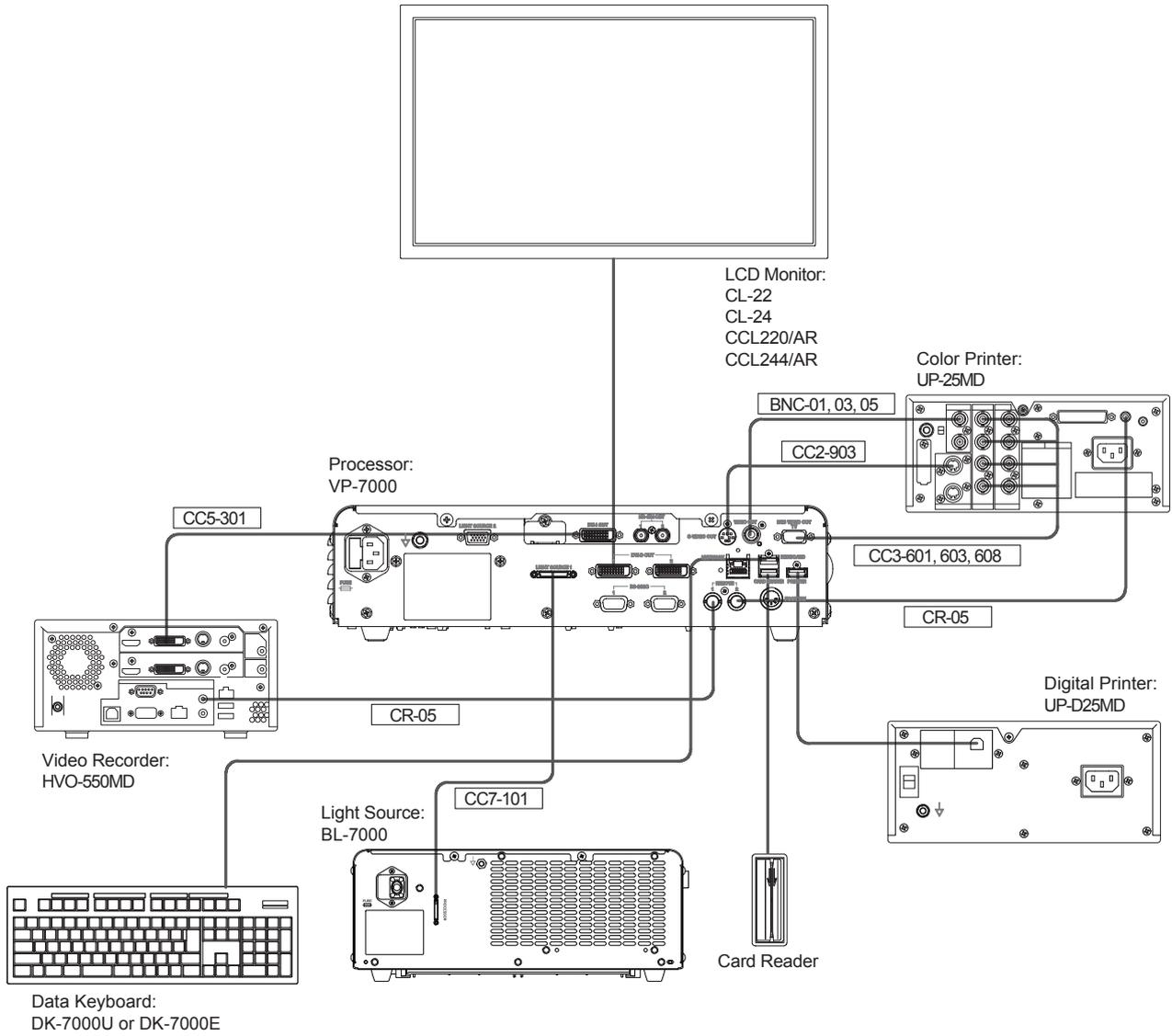
- Do not stack the peripherals.
- Make sure that the feet of each unit are placed inside of the stoppers.
- Make sure that the feet of each unit are placed inside of the stoppers on the movable shelf of the cart.

<To avoid malfunction due to lightning>

- Connect the equipment to a power source suitable for the structure and facilities of the hospital or clinic.

For the installation of the expanded system, follow the contents in the operation and installation manuals of each unit.

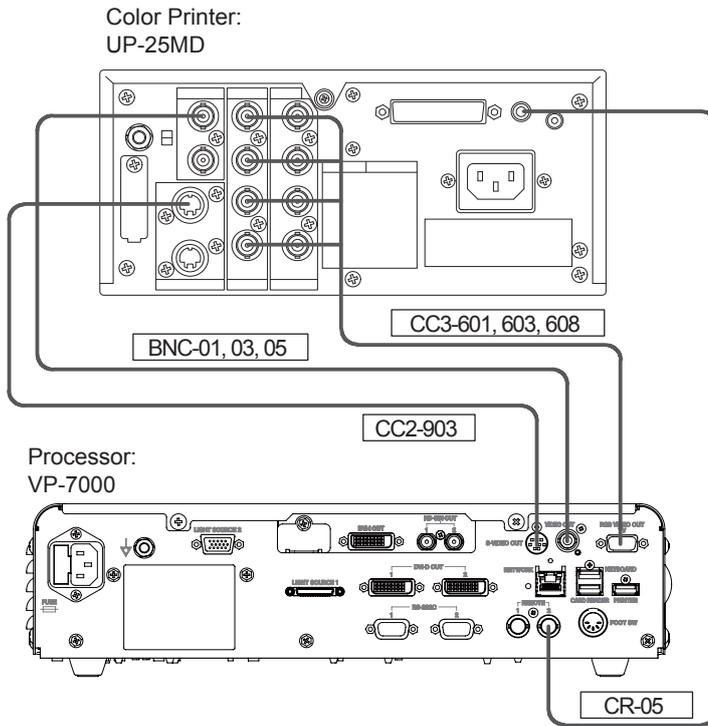
<Example of Expanded System Connections>



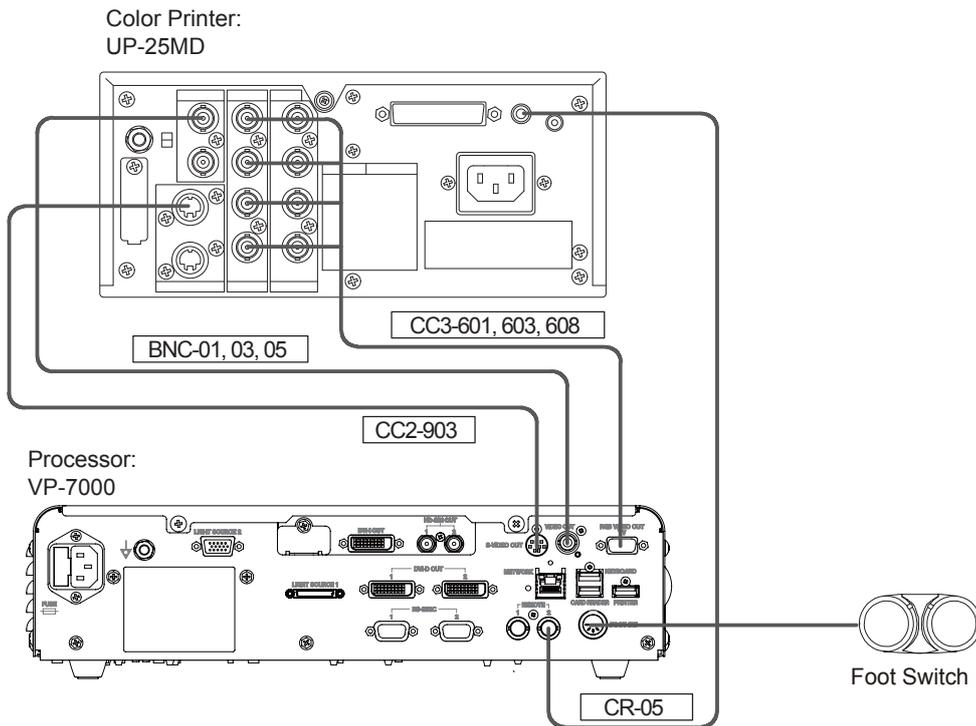
4.1.7 Printer Connection (Remote System)

Note When the image output from the processor is displayed on the monitor via the printer, the image may flicker or disappear. Connect the monitor used as the main observation screen directly to the processor.

<Connection 1> When the image is captured by using the switch of Endoscope



<Connection 2> When the image is captured by the foot switch



- Note**
- Use this product in combination with the devices necessary for endoscopic examinations.
 - After all devices are connected, connect the power cord.

→ “4.1.11 Connecting the Power Source”

4.1.8 Printer Connection (RS-232C System)

- Note** • Check the peripheral device selected in the Peripheral Setup screen to confirm the baud rate of the processor. The baud rate of the processor is automatically selected depending on the selected peripheral device.

One of the following settings applies.

DF60M : 4800baud

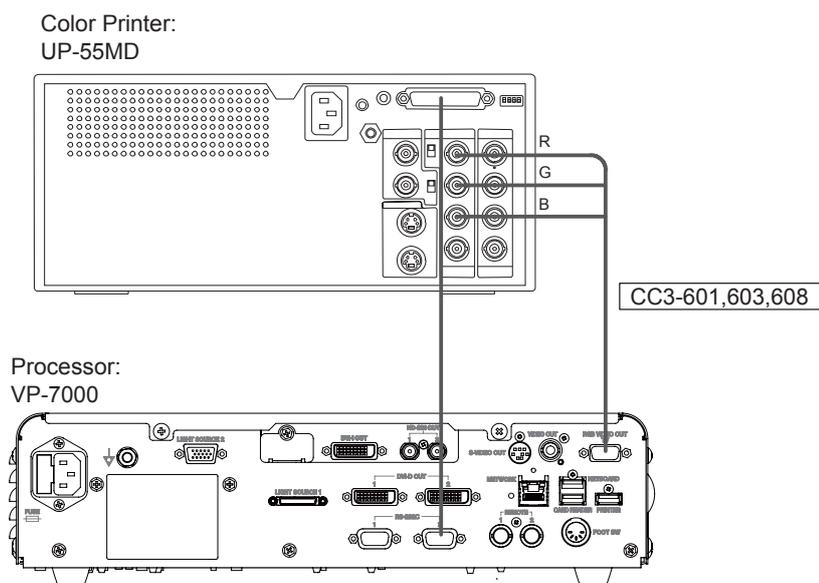
Other peripheral devices : 9600baud

When a peripheral device connected with the RS-232C interface is controlled from the processor, match the communication speed of the peripheral device with the baud rate of the processor. If the baud rate does not match, the peripheral device does not function normally.

For details on how to set the baud rate, refer to the instruction manual for each peripheral device.

- When the image output from the processor is displayed on the monitor via the printer, the image may flicker or disappear momentarily. Connect the monitor used as the main observation screen directly to the processor.

<Connection Example>

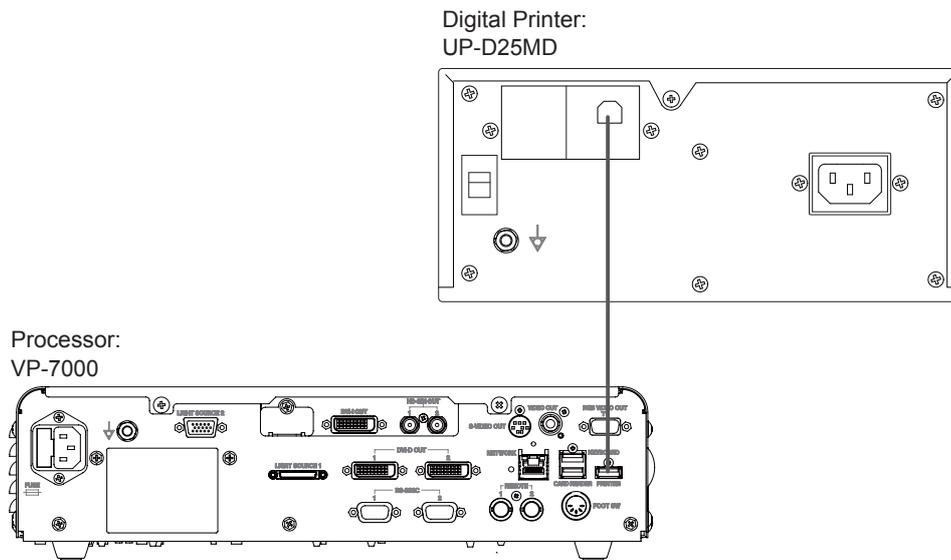


- Note** • Use this product in combination with the devices necessary for endoscopic examinations.

- After all devices are connected, connect the power cord.

→ “4.1.11 Connecting the Power Source”

4.1.9 Digital Printer Connection

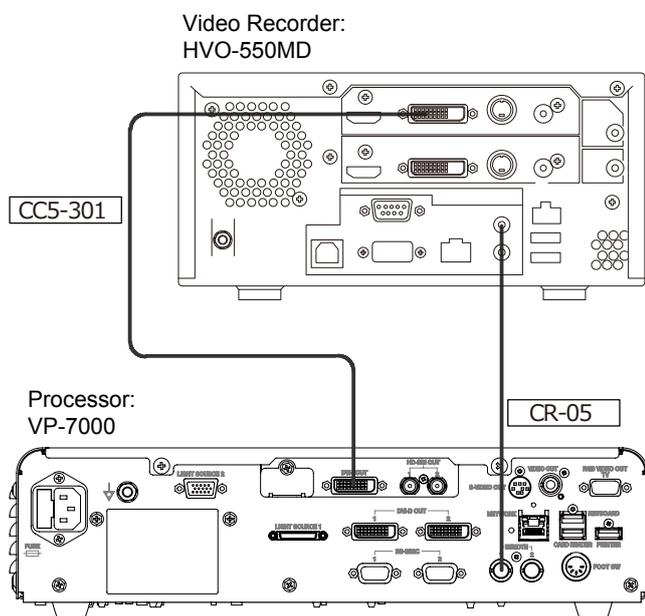


- Note**
- Use this product in combination with the devices necessary for endoscopic examinations.
 - After all devices are connected, connect the power cord.

→ “4.1.11 Connecting the Power Source”

4.1.10 Video Recorder Connection (Remote System)

<Connection Example>



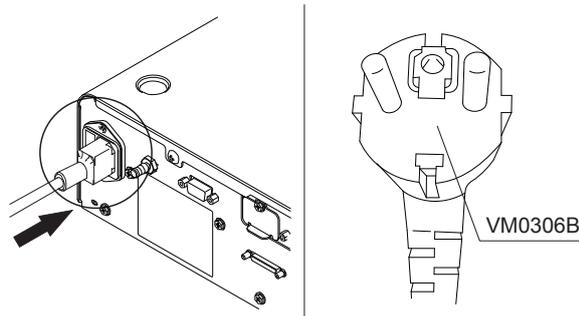
- Note**
- Use this product in combination with the devices necessary for endoscopic examinations.
 - After all devices are connected, connect the power cord.

→ “4.1.11 Connecting the Power Source”

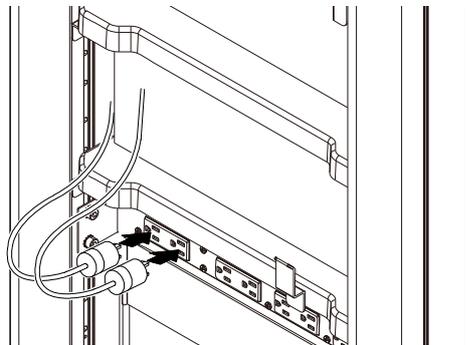
4.1.11 Connecting the Power Source

- (1) Insert the specified power cords into the respective power supply connectors on the processor and the light source, and connect them securely.

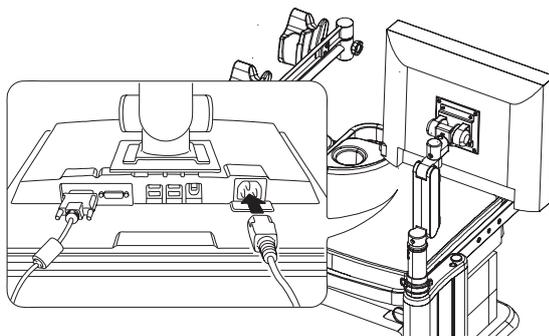
- Note**
- Do not use the power cord other than the attached one. Make sure that the power cord is correct by checking the model number on the power cord.
 - Even when the power cord is already connected, make sure that the power cord is connected securely.



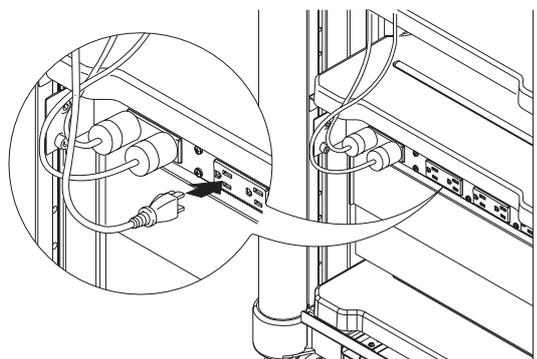
- (2) Insert the power plugs of the processor and light source into the receptacles for the processor/light source on the cart.



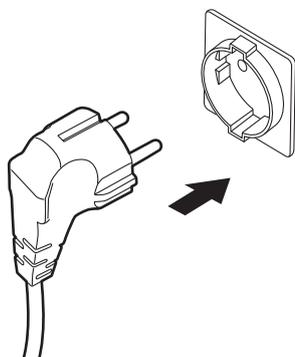
- (3) Connect the power cord provided with the LCD monitor to the power supply connector on the LCD monitor.



- (4) Connect the power plug of the LCD monitor to the receptacle for peripherals on the cart.



- (5) Plug the power cord of the cart into a protective earth receptacle.



4.1.12 Power Source

Installation of this system must be performed according to EN 60601-1. When installing this system, follow the descriptions below.

<Power connection for using equipment in combination>

The equipment which can be used in combination with this system is divided into the following three types according to its power connection.

- (1) Equipment which is directly combined with this system (Applicable to EN 60601-1)
VP-7000, BL-7000 and the equipment configuring this system
Examples of such equipment are shown in Table 4.1.
- (2) Equipment which can be used when its power is supplied from a power source other than the cart in which this system is installed. (Applicable to EN 60601-1)
Examples of such equipment are shown in Table 4.2.
- (3) Peripherals which are used when required power is supplied from an insulated transformer applicable to EN 60601-1 (Applicable or conforming to EN 60601-1 or EN 60950)
Examples of such equipment are shown in Table 4.3.

The equipment other than these three types may not be safe. Do not use such equipment.

In combination with any of the equipment above, all configurations shall comply with the requirement for ME systems of EN 60601-1.

Note These combinations are determined based on the viewpoint of electrical safety. The performance of the equipment depends on the specifications of the manufacturers.

Table 4.1 Equipment configuring the system

Type	Model name
Processor	VP-7000
Data Keyboard	DK-7000U or DK-7000E ^[Note 1]
Light Source	BL-7000
Endoscope	700 system scopes ^[Note 2] , 600 system scopes, 500 system scopes ^[Note 2]

[Note 1] The type of the data keyboard varies depending on the country.

[Note 2] BLI, BLI-bright and LCI are available with EB-580S and 700 system scopes. For details, consult your local FUJIFILM dealer.

Table 4.2 Medical equipment used when its power is supplied from other power source

Type	Model name
Electrosurgical Unit	-

Table 4.3 Peripherals used when its power is supplied from an insulated transformer

Type	Model name
Ultrasonic Processor	SU-1, SP-900
LCD Monitor	CL-22 (FUJIFILM), CL-24 (FUJIFILM), CCL220/AR (JVC KENWOOD), CCL244/AR (JVC KENWOOD)
Printer	UP-25MD (SONY), UP-55MD (SONY), UP-D25MD (SONY)
Video Recorder	HVO-3300MT (SONY), HVO-1000MD (SONY), HVO-550MD (SONY)

4.1.13 Connecting the Power Source When Using the Cart

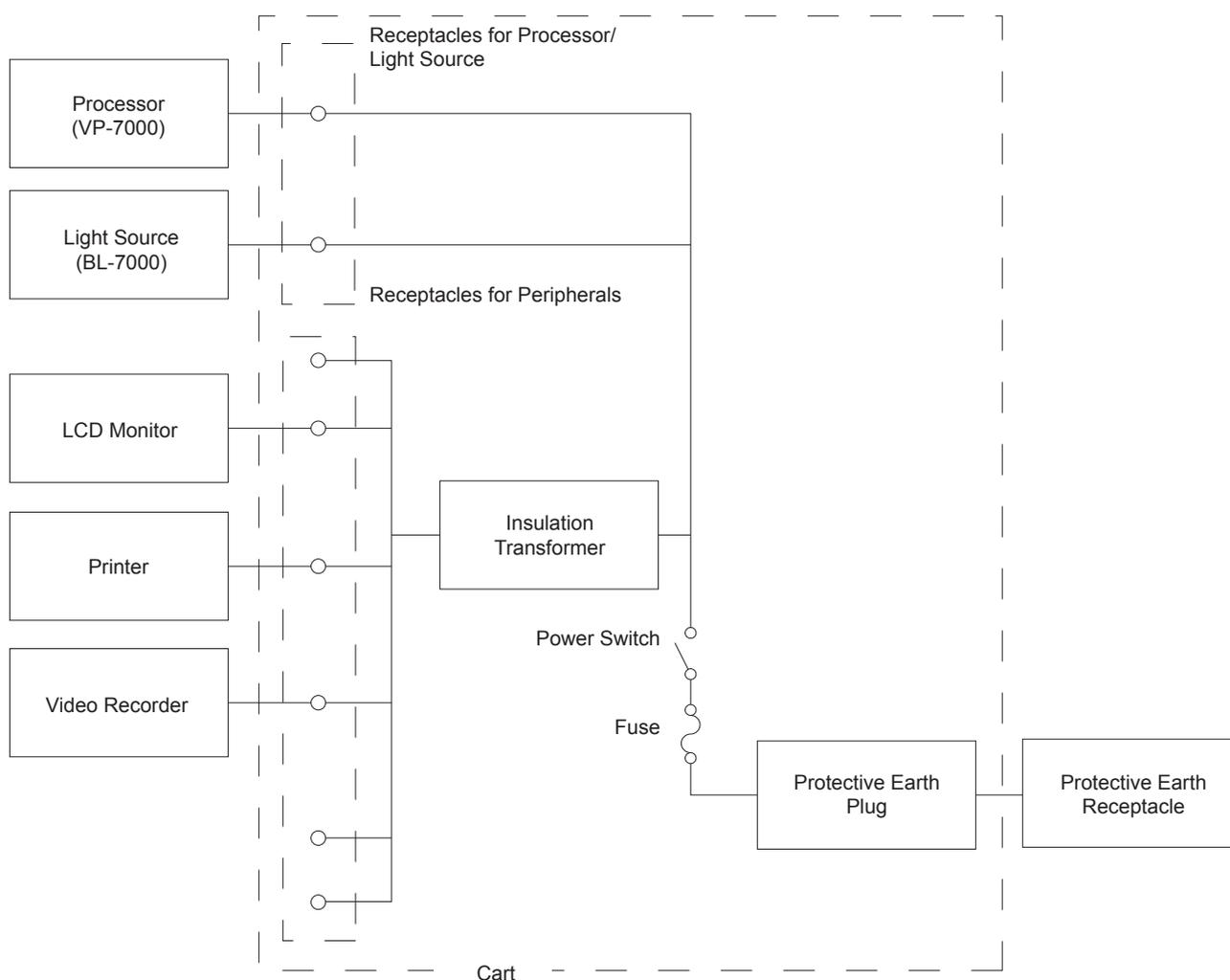
The cart is equipped with two types of receptacles; one is “receptacles for processor/light source” used for connecting the processor, light source and the other is “receptacles for peripherals” used for connecting peripherals.

Before connecting them, turn the main switch of the cart off or unplug the power cord.

Connect the power plug of the cart into a protective earth receptacle. For the electrosurgical unit, use the power source other than the one for the cart.

Do not connect equipment not listed in “2.2 Equipment Using in Combination”

Take care that the total of rated current of each device connected to the receptacles for peripherals or the receptacles for the processor/light source does not exceed the rated current of each set of receptacles.



4.1.14 Basic Information on Power Cord

Device connector	IEC 60320-1 C13
Cross-section area of cable	1.0mm ² or more, 3 wires (200V input) 16AWG or more, 3 wires (USA)
Input voltage	100V to 120V: 125VAC or more More than 120V to 240V: 250VAC or more
Rated current	USA: 13A or more Other areas: 6A or more
Cable length	3m or less
Power plug	3-pin plug that complies with the laws and regulations of each country

4.2 Initial Settings at the Time of Installation

This section explains the initial settings of the system.

Note During the observation, the observation screen is displayed in the sub-screen at the lower right side of the setup screen.

4.2.1 Flowchart of System Settings at the Time of Installation

The flowchart of system settings at the time of installation is described below. Refer to each section by following this flowchart.

Note

- Perform the settings by following the basic operation procedure of system settings. → “4.2.2 Basic System Setup Operations”
- The date and time were set in default at the shipment from the factory. Change them if necessary.
- For the items in the System Setup menu other than those described in this flowchart, perform the settings if necessary.

- 1** Set the items on the “Function” tab. → “4.2.3 Function Tab”

 - Selecting the mask type of the observation screen
 - Assigning a function to the Multi button
- ↓

2 Set the items on the “Display” tab. → “4.2.4 Display Tab”

 - Selecting the exam data to be displayed on the observation screen
 - Assigning a function to the Space key
- ↓

3 Set the items on the “Basic setting” tab. → “4.2.5 Basic Setting Tab”

 - Date and time
 - Screen resolution
 - Speaker volume
- ↓

4 Set the items on the “Endoscope” tab. → “4.2.7 Endoscope Tab”

 - Assigning a function to the scope switch
- ↓

5 Set other functions if necessary.

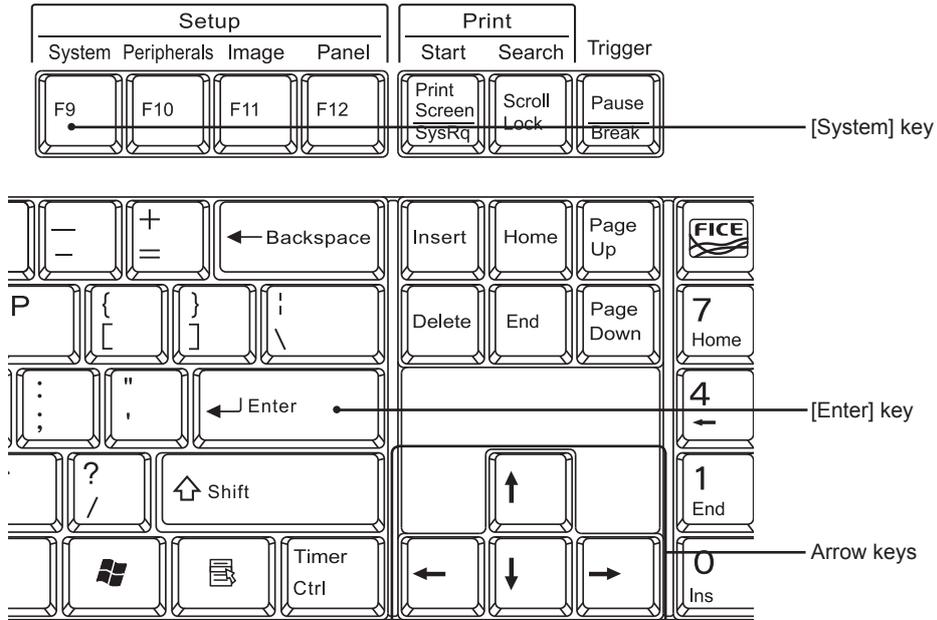
 - Assigning a function to the foot switch ^[Note] → “4.2.8 Setting Foot Switch (FS1)”
 - Switching the shutter speed ^[Note] → “4.2.9 Setup for Switching the Shutter Speed During Optical Zoom”
 - Registering doctor names in the doctor list → “4.2.10 Setting the Doctor's Name”
 - Registering procedure names in the procedure list → “4.2.11 Setting the Procedure Name”
 - Registering messages in the message list → “4.2.12 Setting the Message”

[Note] This setting is performed only by service personnel.

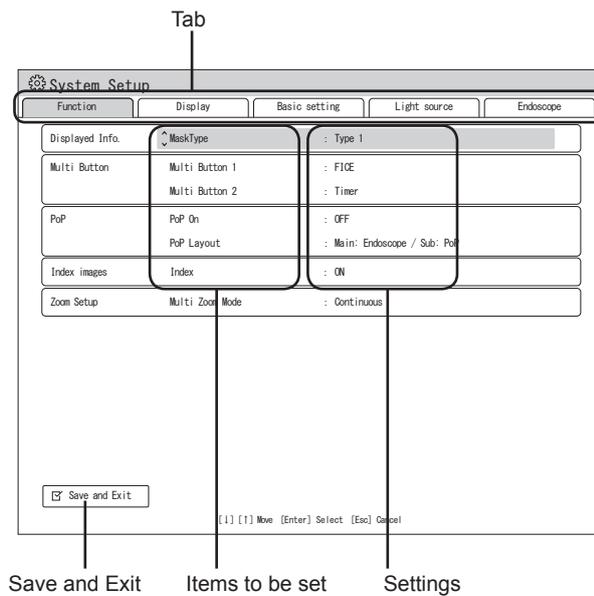
4.2.2 Basic System Setup Operations

- Press the [System] key on the keyboard. The System Setup screen appears.

- Note**
- Essentially the same operation applies to other setup keys.
 - During the observation, the observation screen is displayed in the sub-screen at the lower right side of the setup screen.



- On the setup screen, use the [↑] and [↓] keys to select an item.



- Use the [←] and [→] keys to select a category.

- Note** When a list has multiple pages, use the [←] and [→] keys to toggle between pages.

- (4) To change the value of an item, select the item and press the [Enter] key. This enables you to select a different value or directly enter the desired value.

- Note**
- Use the [↑] and [↓] keys to select a value.
 - For the items with a “↵” mark at the right end, a submenu is displayed.
 - When “[Insert] Edit” is displayed at the bottom of the menu screen, if the [Insert] key is pressed, the desired value can be entered directly by using the keyboard.

- (5) After a value is changed, press the [Enter] key to move the cursor to the next item.

- Note** When a value is entered directly by using the keyboard, the cursor may automatically move to the next item after the input is completed.

- (6) To save the settings, move the cursor to “Save and Exit” and press the [Enter] key.

- Note** Be sure to select “Save and Exit” when a setting is changed. Otherwise, the changed value is not saved.

4.2.3 Function Tab

The screenshot shows the 'System Setup' menu with the following structure:

- System Setup (gear icon)
- Tabs: Function, Display, Basic setting, Light source, Endoscope
- Displayed Info. MaskType : Type 1
- Multi Button: Multi Button 1 : FICE, Multi Button 2 : Timer
- PoP: PoP On : OFF, PoP Layout : Main: Endoscope / Sub: PoP
- Index images: Index : ON
- Zoom Setup: Multi Zoom Mode : Continuous
- Save and Exit button
- Footer: [] [] Move [Enter] Select [Esc] Cancel

Category	Item	Value	Description
Displayed Info.	Mask Type	Type 1	Set the mask type on the observation screen.
		Type 2	
		Type 2/Dual Mode	
Remarks			
When the observation mode is BLI, BLI-bright or LCI, no image is displayed in the sub-screen even if “Type 2/Dual Mode” is selected.			
→ “3.7 Data Display on the Observation Screen”			

Category	Item	Value	Description
Multi Button	Multi Button 1	FICE	Set the function to be assigned to the "Multi 1" or "Multi 2" button on the front panel of the processor. After the setting is completed, press the "Multi 1" or "Multi 2" button to ensure that the selected function works.
	Multi Button 2	Reset	
		Timer	
		Lap Time	
		PoP On	
		PoP Layout	
		Mask Type	
		Multi Zoom Mode	
<p>Remarks</p> <ul style="list-style-type: none"> • FICE → "5.3.3 Setting FICE" • Reset Reset the counter indicating the number of captured images to 0. In addition, when the observation screen is displayed, if this button is held pressed for 2 seconds, the color adjustment vales are reset to the factory defaults. • Timer → "7.15.3 Starting/Stopping the Timer" • Lap Time → "5.5.6 Lap Time Display" • PoP On, PoP Layout → "7.15.1 PoP Function (Displaying Images on External Device)". • Mask Type The mask type is changed as follows each time the button is pressed. Type 1 → Type 2 → Type 2 / Dual Mode → Type 1 → "3.7 Data Display on the Observation Screen" • Multi Zoom Mode The multi zoom mode is changed as follows each time the button is pressed. Continuous → 2 Step → 3 Step → 5 Step → Continuous → "5.5.5 Setting Multi Zoom Mode" 			
PoP	PoP On	OFF	When set to ON, images on an external device connected to the PoP connector can be displayed. When "PoP On" is set to ON, select the layout of the displayed images.
		ON	
	PoP Layout	Main: Endoscope/ Sub: PoP	
		Main: PoP/ Sub: Endoscope	
		Left: PoP/ Right: Endoscope	
Left: Endoscope/ Right: PoP			
<p>Remarks</p> <p>PoP On, PoP Layout → "7.15.1 PoP Function (Displaying Images on External Device)", "5.5.2 Setting PoP Function"</p>			
Index images	Index	ON	When set to ON, the newest four index images stored in the internal storage device are displayed.
		OFF	
<p>Remarks</p> <p>Index images can be displayed only when the screen resolution is set to Full HD. → "5.5.3 Index Image Display"</p>			

Category	Item	Value	Description
Zoom Setup	Multi Zoom Mode	Continuous	Set the type of zoom operation that is applied when an endoscope with the optical zoom function is used in combination with this product.
		5 Step	
		3 Step	
		2 Step	
Remarks This item needs to be set by service personnel. Endoscopes that do not support the multi zoom operating mode operate in the continuous mode, regardless of this setting. → “5.5.5 Setting Multi Zoom Mode”			

Note For the operations on the menu screen, refer to the description of basic system setup operations.

→ “4.2.2 Basic System Setup Operations”

4.2.4 Display Tab

The screenshot shows the 'System Setup' menu with the 'Display' tab selected. The menu items and their values are as follows:

Function	Display	Basic setting	Light source	Endoscope
Displayed Info.	Exam. Data	: Patient ID		
	Exam. Info.	: ON		
Space Key	Screen display switching	: Patient info. OFF		
Lap Time Setup	Lap Time	: OFF		
Hospital Name	Hospital Name	:		
Scope Info.	Priority Scope Information	: Distal End		

At the bottom of the screen, there is a 'Save and Exit' button and a keyboard navigation legend: [] [] Move [Enter] Select [Esc] Cancel.

Category	Item	Value	Description
Displayed Info.	Exam Data	Patient ID	Select exam data to be displayed on the observation screen.
		Exam No.	
	Exam Info.	ON	The Patient Info. + Scope Info. dialog is displayed at the beginning of an examination. → “3.9 Patient Info. + Scope Info. Dialog”
		OFF	
Remarks The Patient Info. + Scope Info. dialog may be displayed at times other than the beginning of an examination. When this item is set to OFF, the Patient Info. + Scope Info. dialog is not displayed at all times.			

Category	Item	Value	Description
Space Key	Screen display switching	Patient info. OFF	Select the type of data that is displayed or hidden on the observation screen each time the [Space] key is pressed.
		Observation mode only	
		All OFF	
<p>Remarks</p> <p>When "Patient info. OFF" is selected, the patient information, date and time are hidden. When "Observation mode only" is selected, the focus meter, electronic zoom ratio, special light observation mode and spectral image processing function are displayed. Even if "All OFF" is selected, the lap time is displayed.</p>			
Lap Time Setup	Lap Time	ON	The lap time can be displayed on the observation screen.
		OFF	
<p>Remarks</p> <p>The lap time can be displayed only when the screen resolution setting is Full HD. It cannot be displayed in the case of the dual mode or PoP display.</p> <p>• Lap Time → "5.5.6 Lap Time Display"</p>			
Hospital Name	Hospital Name	To be entered by using the keyboard	Enter the hospital name.
Scope Info.	Priority Scope Information	Scope Switch	When the output resolution is set to "SXGA" and the mask type is set to "Type 1", scope information to be displayed preferentially (information on scope switches or information on the scope distal end) can be selected.
		Distal End	
<p>Remarks</p> <p>When "Distal End" is selected, information on scope switches 4 and 5 is not displayed.</p> <p>→ "3.7 Data Display on the Observation Screen"</p>			

Note For the operations on the menu screen, refer to the description of basic system setup operations.

→ "4.2.2 Basic System Setup Operations"

4.2.5 Basic Setting Tab

CAUTION

- When a non-Full HD monitor is used, if “Full HD” is selected in “Screen Resolution”, the image is not displayed properly on the monitor. If this happens, press the [Ctrl], [Alt] and [S] keys at the same time. The screen resolution setting changes to “SXGA” and a buzzer sounds. When a buzzer sound is heard, restart the processor. If a buzzer sound is not heard, check whether or not the correct keys are pressed and then try again.

System Setup

Function | Display | **Basic setting** | Light source | Endoscope

Date/Time Set

Date : 2015 / 01 / 01

Date Mode : Y/M/D

Time Setup : 00 : 03 : 25

Time Mode : 12-hour

Time Zone : GMT + 9 Time

Screen Setup

Screen Resolution : SXGA

Volume Setup

Volume : Mid

Optical zoom SW sound : ON

Timer Setup

Timer : Timer Start/Stop

Security

Setup

Save and Exit

[] [] Move [Enter] Select [Esc] Cancel

Category	Item	Value	Description
Date/Time Set	Date ^[Note 1]	To be entered by using the keyboard	Enter the year, month and day. Enter the Christian year.
	Date Mode	Y/M/D	Year/Month/Day
		D/M/Y	Day/Month/Year
		M.D.Y	Month.abbr.Day.Year
	Time Setup ^[Note 1]	To be entered by using the keyboard	Enter the time. When the [Enter] key is pressed, the time set for the equipment starts elapsing.
	Time Mode	24-hour	Set the hour-display format.
		12-hour	
Time Zone ^[Note 2]	+9 hours	The time difference between the local time and Greenwich Mean Time is	
	-9 hours		
Remarks			
[Note 1] The date and time were set in default at the shipment from the factory. Change them if necessary.			
[Note 2] The time difference between the local time and Greenwich Mean Time is set. Change the time zone in accordance with the local time.			

Category	Item	Value	Description
Screen Setup	Screen Resolution	SXGA	Set the screen resolution of the monitor.
		Full HD	
Remarks <ul style="list-style-type: none"> • After the setting is completed, restart the processor. • Do not change this setting during or immediately before an examination. Change this setting when there is sufficient time before the next examination. • When a Full HD wide monitor compatible with this product is used, the screen can be displayed in Full HD. For details on the monitor in use and how to change the setting, consult your local FUJIFILM dealer. • When a non-Full HD monitor is used, if “Full HD” is selected in “Screen Resolution”, the image is not displayed properly on the monitor. If this happens, press the [Ctrl], [Alt] and [S] keys at the same time. The screen resolution setting changes to “SXGA” and a buzzer sounds. When a buzzer sound is heard, restart the processor. If a buzzer sound is not heard, check whether or not the correct keys are pressed and then try again. 			
Volume Setup	Volume	Hi	Set the volume of the speaker.
		Mid	
		Low	
		OFF	
	Optical zoom SW sound	ON	When the optical zoom function is assigned to a scope switch, if the scope switch is pressed, a beep sound is generated.
		OFF	
Remarks A confirmation sound beeps when the speaker volume is set. When “OFF” is selected, the speaker is mute.			
Timer Setup	Timer	Timer Start/Stop	Start/stop the timer by pressing the [Timer] key.
		Auto start at Exam.	The timer starts simultaneously with starting the examination.
Remarks <ul style="list-style-type: none"> • Timer → “7.15.3 Starting/Stopping the Timer” 			
Security	Setup		Perform security settings. → “4.3 Security Function”

Note For the operations on the menu screen, refer to the description of basic system setup operations.

→ “4.2.2 Basic System Setup Operations”

4.2.6 Light Source Tab

The screenshot shows the 'System Setup' window with the 'Light source' tab selected. The settings are as follows:

Function	Display	Basic setting	Light source	Endoscope
Pump	Pump Level	: Hi		
	Pump Off (minute)	: 5		
BL-7000 Light Save function	Linkage	: ON		
	Brightness Level	: -2		

At the bottom, there is a 'Save and Exit' button and a keyboard shortcut legend: [F1] [F2] Move [Enter] Select [Esc] Cancel.

Category	Item	Value	Description
Pump	Pump Level	Hi	Set the pump setting at the beginning of an examination.
		Mid	
		Low	
		OFF	
	Pump Off (minute)	0 to 60 (minutes)	When the period of time specified here has elapsed after an examination is finished, the air supply pump is automatically turned off.
BL-7000 Light Save function	Linkage	ON	When set to ON, if the Light Save function is turned on by pressing the Light Limit button on the front panel of the light source, the shutter speed is fixed to 1/60 and the value set in "Brightness Level" below is applied.
		OFF	
	Brightness Level	-4 to 0	When "Linkage" above is set to ON, if the Light Save function is turned on, the brightness level set here is applied as the standard value of the brightness. This function is the same as the brightness level adjustment function of the light source.

4.2.7 Endoscope Tab

Note BLI, BLI-bright and LCI are available with EB-580S and 700 system scopes. For details, consult your local FUJIFILM dealer.

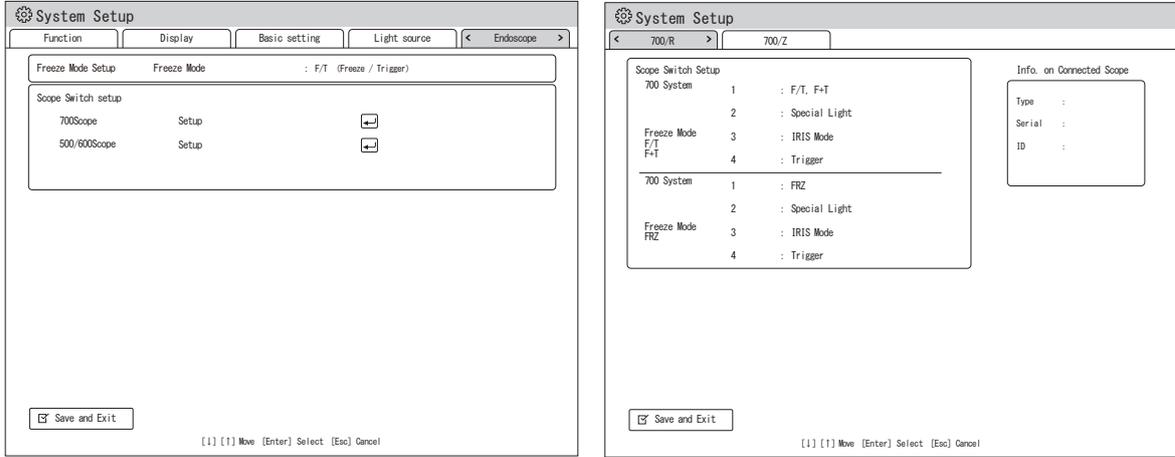


Table 1

Category	Item	Value	Description
Freeze Mode Setup	Freeze Mode	F/T (Freeze/Trigger)	Set the freeze mode to be assigned to the scope switch.
		F+T (Freeze+Trigger)	
		FRZ (Freeze)	
Remarks			
This setting is effective only when no freeze mode is registered in the doctor list. When the setting is changed, the scope switch settings are changed according to the settings in the Scope Switch Setup.			
Scope Switch Setup	700 Scope	Setup	The submenu shown in Table 2 is displayed.
	500/600 Scope	Setup	
Remarks			
<ul style="list-style-type: none"> When the endoscope is connected, press each scope switch to ensure that the desired functions are assigned properly. When scope switch settings are performed again for the same type of endoscope, the previous settings are overwritten even if a different endoscope is connected. 			

Table 2

Category	Item	Value	Description
700 System Freeze Mode F/T F+T	1	→ "<Functions to be assigned to the scope switch>"	The freeze mode "F/T" or "F+T" can be set. → "• Assignments of 700 System (4-Switch) Scope"
	2		
	3		
	4		
700 System Freeze Mode FRZ	1	→ "<Functions to be assigned to the scope switch>"	Only the freeze mode "FRZ" can be set. Assignment of "Trigger" is essential. → "• Assignments of 700 System (4-Switch) Scope"
	2		
	3		
	4		

Category	Item	Value	Description
700 System Opt. Zoom Freeze Mode F/T F+T	1	→ “<Functions to be assigned to the scope switch>”	The freeze mode “F/T” or “F+T” can be set. → “• Assignments of 700 System (5-Switch) Scope”
	2		
	3		
	4		
	5		
	FR+OM (RC)	Not Assigned Trigger Record	
700 System Opt. Zoom Freeze Mode FRZ	1	→ “<Functions to be assigned to the scope switch>”	Only the freeze mode “FRZ” can be set. Assignment of “Trigger” is essential. → “• Assignments of 700 System (5-Switch) Scope”
	2		
	3		
	4		
	5		
	FR+OM (RC)	Not Assigned Trigger Record	
500 System 600 System	FR MM RC	→ “<Functions to be assigned to the scope switch>”	→ “• Assignments of Normal Scope”
500 System 600 System	1 2 3 4	→ “<Functions to be assigned to the scope switch>”	→ “• Assignments of Normal Scope”
500 System Opt. Zoom with SP SW 600 System Opt. Zoom with SP SW	FR MM SP FR+OM (RC)	→ “<Functions to be assigned to the scope switch>”	→ “• Assignments of Optical Zoom Scope”
500 System Opt. Zoom 600 System Opt. Zoom	FR MM FR+OM (RC)	→ “<Functions to be assigned to the scope switch>”	→ “• Assignments of Optical Zoom Scope”
500 System Ultrasonic	FR MM RC	→ “<Functions to be assigned to the scope switch>”	→ “• Assignments of Ultrasonic Endoscope”
500 System Ultrasonic	1 2 3 4 5	→ “<Functions to be assigned to the scope switch>”	→ “• Assignments of Ultrasonic Endoscope”

Note For the operations on the menu screen, refer to the description of basic system setup operations.

→ “4.2.2 Basic System Setup Operations”

<Functions to be assigned to the scope switch>

The functions described in the following chart can be assigned to the scope switches of the endoscope connected to the VP-7000. The setting is performed by service personnel.

Function	Description
F/T (Freeze / Trigger)	<p>When this switch is pressed, the observation screen displays a frozen image while displaying a video image on the sub-screen only during the period of the time set in the “Freeze Time”.</p> <p>When this switch is pressed again while the image is frozen, the image is captured and then, the freeze mode is canceled.</p> <p>[Note] If the image is not frozen when this switch is pressed, the freeze mode is canceled without capturing the image.</p> <p>[Note] The “Freeze Time” is set by service personnel.</p>
F+T (Freeze + Trigger)	<p>When this switch is pressed, the observation screen displays a frozen image while displaying a video image on the sub-screen only during the period of the time set in the “Freeze Time”.</p> <p>The image is captured automatically, and then the freeze mode is canceled. When this switch is pressed again while the image is frozen, the freeze mode is canceled without capturing the image.</p> <p>[Note] The “Freeze Time” is set by service personnel.</p>
FRZ (Freeze)	<p>When this switch is pressed, the observation screen displays a frozen image while displaying a video image on the sub-screen. When this switch is pressed again while the image is frozen, the freeze mode is canceled without capturing the image. To capture it, press the switch assigned to “Trigger”.</p> <p>[Note] Even if the switch to which “Record” is assigned is pressed after pressing the switch to which “Freeze” is assigned, the freeze mode is not canceled.</p>
Trigger	<p>If this switch is pressed when the image on the observation screen is frozen, the image is captured, and then the freeze mode is canceled.</p> <p>[Note] If the image is not frozen, the image is not captured.</p>
Record	<ul style="list-style-type: none"> • If this switch is pressed when a video image is displayed, the observation screen displays the frozen image while displaying the video image on the sub-screen, and then, the frozen image is captured. After it is captured, the freeze mode is canceled. • When the image is frozen by pressing the switch to which “F/T” or “F+T” is assigned, if this switch is pressed, the image is captured and the freeze mode is canceled. When the image is frozen by pressing the switch to which “FRZ” is assigned, if this switch is pressed, the image is captured but the freeze mode is not canceled.
Iris Mode	This switch changes the iris mode “Auto/Peak/Ave”.

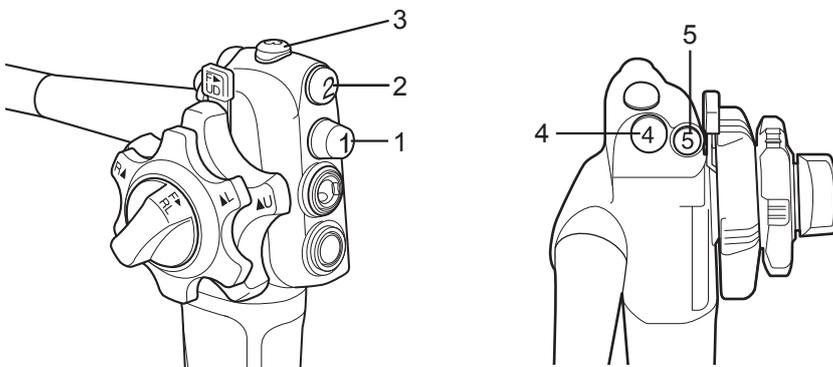
Function	Description
Shutter Speed	This switch changes the shutter speed set on the Shutter Speed Setup screen. → “5.3.6 Setting the Shutter Speed”
Obs. Mode Preset	This switch changes the observation mode in the order specified on the Obs. Mode Preset Setup. → “5.5.1 Registering, Calling Up and Editing and Deleting Image Setup Page - <Registering Image Setup Page> - Scope Common tab - Obs. Mode Preset Setup”
Structure Emphasis	This switch changes the ON/OFF of structure emphasis. → “5.3.2 Structure Emphasis Settings”
FICE	This switch changes the ON/OFF of FICE. When a FICE set number is assigned in the “Simple FICE Setup” and FICE is “OFF”, each pressing of this switch changes the function to be selected in order of FICE “ON” and call up of FICE set number of “Assignment 1” → call up of “Assignment 2” → call up of “Assignment 3” → FICE “OFF”. The “Simple FICE Setup” is set by service personnel. → “5.3.3 Setting FICE”
Color Emphasis	This switch turns the tone function ON/OFF. → “5.3.4 Tone Settings”
Display	This switch is used to display or not to display the information on the observation screen. [Note] When “Data Display Switching” is disabled, the function of this switch is also disabled.
Electronic Zoom	When this switch is pressed, the display size changes to the size specified in “Zoom Ratio of Electronic Zoom”. When it is pressed again, the display size returns to the original size (zoom ratio: x1.0). [Note] The “Zoom Ratio of Electric Zoom” is set by service personnel.
Optical Zoom: Zoom In	When an optical zoom scope is connected, this switch changes the zoom ratio of the optical zoom. This switch performs zoom-in only.
Optical Zoom: Zoom Out	When an optical zoom scope is connected, this switch changes the zoom ratio of the optical zoom. This switch performs zoom-out only.
SU Freeze	When this switch is pressed, a freeze request is sent to the ultrasonic processor. This function is available only when “SU-1” is selected in the peripheral device setup. [Note] This function cannot be assigned to the scope switches on endoscopes other than ultrasonic endoscopes.
SU Store	When this switch is pressed, a store request is sent to the ultrasonic processor. This function is available only when “SU-1” is selected in the peripheral device setup. [Note] This function cannot be assigned to the scope switches on endoscopes other than ultrasonic endoscopes.
Timer	This switch starts or stops the timer. → “7.15.3 Starting/Stopping the Timer”

Function	Description
PoP ON	This switch displays PoP.
PoP Display Format	This switch changes the display format of PoP.
Lap Time	When this switch is pressed, the lap time displayed on the observation screen is started/stopped/reset. → "7.15.4 Lap Time Function"
Not Assigned	Assigns no function.

<Scope Switch Setting>

The functions available for each scope switch are described in the following chart.
The setting is performed by service personnel.

• Assignments of 700 System (5-Switch) Scope



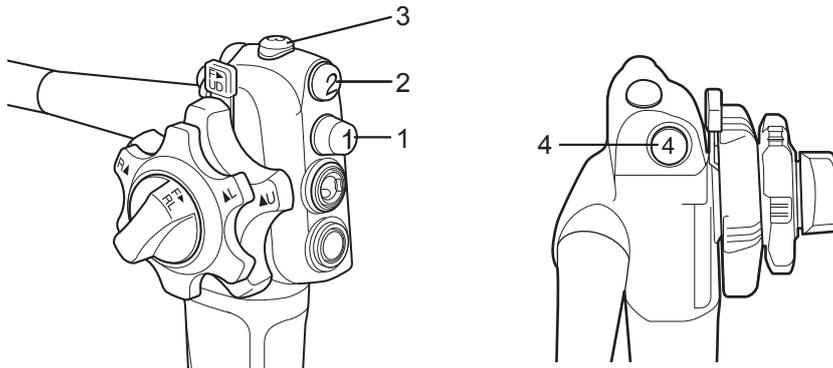
Function	1	2	3	4	5	FR+OM (RC)
F/T (Freeze / Trigger)	Yes	Yes	Yes	Yes	Yes	-
F+T (Freeze + Trigger)	Yes	Yes	Yes	Yes	Yes	-
FRZ (Freeze)	Yes	Yes	Yes	Yes	Yes	-
Trigger ^[Note 1]	Yes	Yes	Yes	Yes	Yes	Yes
Record ^[Note 1]	Yes	Yes	Yes	Yes	Yes	Yes
Iris Mode	Yes	Yes	Yes	Yes	Yes	-
Shutter Speed	Yes	Yes	Yes	Yes	Yes	-
Obs. Mode Preset	Yes	Yes	Yes	Yes	Yes	-
Structure Emphasis	Yes	Yes	Yes	Yes	Yes	-
FICE	Yes	Yes	Yes	Yes	Yes	-
Color Emphasis	Yes	Yes	Yes	Yes	Yes	-
Display	Yes	Yes	Yes	Yes	Yes	-
Electronic Zoom	Yes	Yes	Yes	Yes	Yes	-
Optical Zoom: Zoom In ^[Note 1]	Yes	Yes	Yes	Yes	Yes	-
Optical Zoom: Zoom Out ^[Note 1]	Yes	Yes	Yes	Yes	Yes	-
Timer	Yes	Yes	Yes	Yes	Yes	-
PoP ON	Yes	Yes	Yes	Yes	Yes	-
PoP Display Format	Yes	Yes	Yes	Yes	Yes	-
Lap Time	Yes	Yes	Yes	Yes	Yes	-
Not Assigned	Yes	Yes	Yes	Yes	Yes	-

Yes: Available to assign

[Note 1] The “Trigger” / “Record” and “Optical Zoom” functions can be assigned at the same time.

[Note] If “Freeze / Trigger”, “Freeze + Trigger” or “Freeze” and “Trigger” / “Record” are not assigned, images cannot be captured.

• Assignments of 700 System (4-Switch) Scope

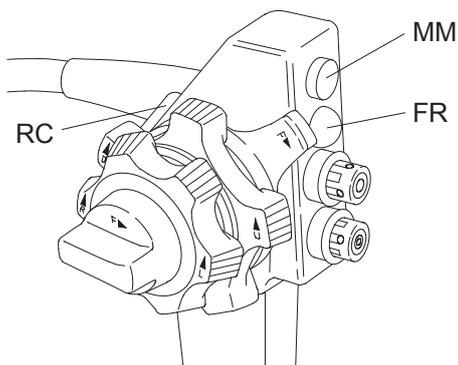


Function	1	2	3	4
F/T (Freeze / Trigger)	Yes	Yes	Yes	Yes
F+T (Freeze + Trigger)	Yes	Yes	Yes	Yes
FRZ (Freeze)	Yes	Yes	Yes	Yes
Trigger	Yes	Yes	Yes	Yes
Record	Yes	Yes	Yes	Yes
Iris Mode	Yes	Yes	Yes	Yes
Shutter Speed	Yes	Yes	Yes	Yes
Obs. Mode Preset	Yes	Yes	Yes	Yes
Structure Emphasis	Yes	Yes	Yes	Yes
FICE	Yes	Yes	Yes	Yes
Color Emphasis	Yes	Yes	Yes	Yes
Display	Yes	Yes	Yes	Yes
Electronic Zoom	Yes	Yes	Yes	Yes
Timer	Yes	Yes	Yes	Yes
PoP ON	Yes	Yes	Yes	Yes
PoP Display Format	Yes	Yes	Yes	Yes
Lap Time	Yes	Yes	Yes	Yes
Not Assigned	Yes	Yes	Yes	Yes

Yes: Available to assign

[Note] If “Freeze / Trigger”, “Freeze + Trigger” or “Freeze” and “Trigger” / “Record” are not assigned, images cannot be captured.

• Assignments of Normal Scope



Function	FR	MM	RC
F/T (Freeze / Trigger)	Yes	-	Yes
F+T (Freeze + Trigger)	Yes	-	Yes
FRZ (Freeze)	Yes	-	Yes
Trigger	Yes	Yes	Yes
Record	-	Yes	Yes
Iris Mode	-	Yes	Yes
Shutter Speed	-	Yes	Yes
Obs. Mode Preset	-	Yes	Yes
Structure Emphasis	-	Yes	Yes
FICE	-	Yes	Yes
Color Emphasis	-	Yes	Yes
Display	-	Yes	Yes
Electronic Zoom	-	Yes	Yes
Timer	-	Yes	Yes
PoP ON	-	Yes	Yes
PoP Display Format	-	Yes	Yes
Lap Time	-	Yes	Yes
Not Assigned	-	Yes	Yes

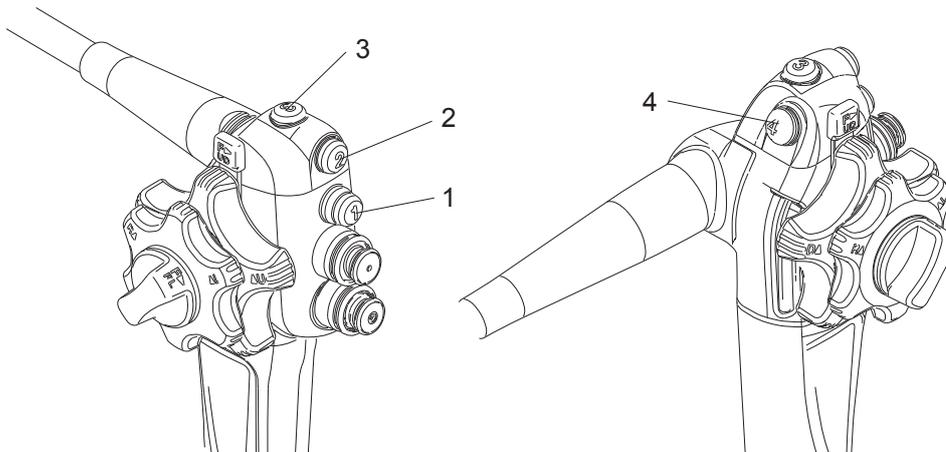
Yes: Available to assign

[Note] For endoscopes without the MM scope switch, the assigned function does not operate, although it is displayed in the switch setting on the observation screen.

[Note] If “Freeze / Trigger”, “Freeze + Trigger” or “Freeze” and “Trigger” / “Record” are not assigned, images cannot be captured.

[Note] When “Freeze” is set for “Freeze Mode” in the doctor list, if the trigger or record function is not assigned to the RC switch, the trigger function is automatically assigned to the RC switch.

• Assignments of Normal Scope (4-Switch Scope)



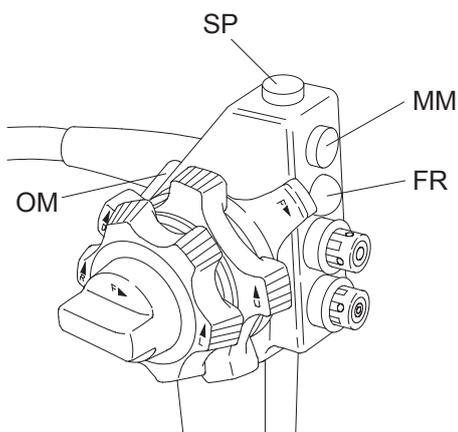
Function	1	2	3	4
F/T (Freeze / Trigger)	Yes	-	-	Yes
F+T (Freeze + Trigger)	Yes	-	-	Yes
FRZ (Freeze)	Yes	-	-	Yes
Trigger	Yes	Yes	Yes	Yes
Record	-	Yes	Yes	Yes
Iris Mode	-	Yes	Yes	Yes
Shutter Speed	-	Yes	Yes	Yes
Obs. Mode Preset	-	Yes	Yes	Yes
Structure Emphasis	-	Yes	Yes	Yes
FICE	-	Yes	Yes	Yes
Color Emphasis	-	Yes	Yes	Yes
Display	-	Yes	Yes	Yes
Electronic Zoom	-	Yes	Yes	Yes
Timer	-	Yes	Yes	Yes
PoP ON	-	Yes	Yes	Yes
PoP Display Format	-	Yes	Yes	Yes
Lap Time	-	Yes	Yes	Yes
Not Assigned	-	Yes	Yes	Yes

Yes: Available to assign

[Note] If “Freeze / Trigger”, “Freeze + Trigger” or “Freeze” and “Trigger” / “Record” are not assigned, images cannot be captured.

[Note] When “Freeze” is set for “Freeze Mode” in the doctor list, if the trigger or record function is not assigned to Switch 4, the trigger function is automatically assigned to Switch 4.

• Assignments of Optical Zoom Scope



Note For the endoscopes without the SP switch, the functions for SP switch cannot be selected.

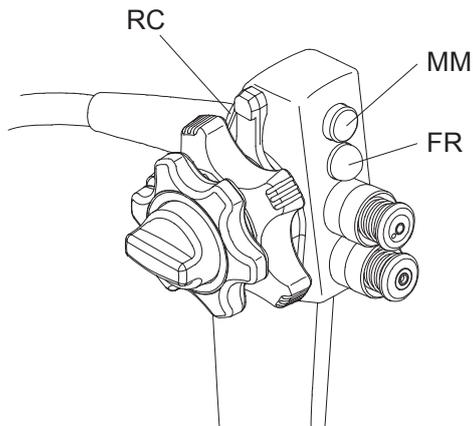
Function	FR	MM	SP	OM	FR+OM
F/T (Freeze / Trigger)	Yes	-	-	-	-
F+T (Freeze + Trigger)	Yes	-	-	-	-
FRZ (Freeze)	Yes	-	-	-	-
Trigger	-	Yes	Yes	-	Yes
Record	-	Yes	Yes	-	Yes
Iris Mode	-	Yes	Yes	-	-
Shutter Speed	-	Yes	Yes	-	-
Obs. Mode Preset	-	Yes	Yes	-	-
Structure Emphasis	-	Yes	Yes	-	-
FICE	-	Yes	Yes	-	-
Color Emphasis	-	Yes	Yes	-	-
Display	-	Yes	Yes	-	-
Electronic Zoom	-	Yes	Yes	-	-
Optical Zoom	-	-	-	Yes (exclusive use)	-
Timer	-	Yes	Yes	-	-
PoP ON	-	Yes	Yes	-	-
PoP Display Format	-	Yes	Yes	-	-
Lap Time	-	Yes	Yes	-	-
Not Assigned	-	Yes	Yes	-	-

Yes: Available to assign

[Note] If “Freeze / Trigger”, “Freeze + Trigger” or “Freeze” and “Trigger” / “Record” are not assigned, images cannot be captured.

[Note] When “Freeze” is set for “Freeze Mode” in the doctor list, if the trigger or record function is not assigned to FR+OM, the trigger function is automatically assigned to FR+OM.

• Assignments of Ultrasonic Endoscope

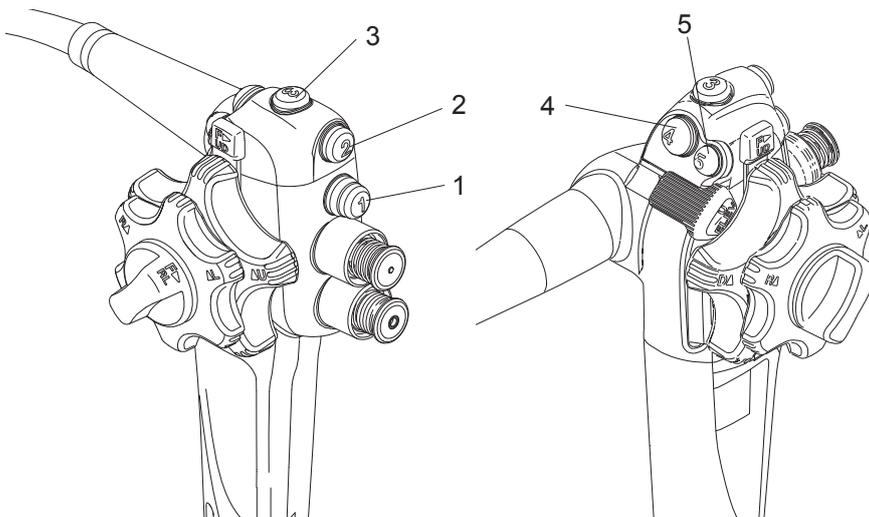


Function	FR	MM	SP
F/T (Freeze / Trigger)	Yes	-	Yes
F+T (Freeze + Trigger)	Yes	-	Yes
FRZ (Freeze)	Yes	-	Yes
Trigger	Yes	Yes	Yes
Record	-	Yes	Yes
Iris Mode	-	Yes	Yes
Shutter Speed	-	Yes	Yes
Structure Emphasis	-	Yes	Yes
FICE	-	Yes	Yes
Color Emphasis	-	Yes	Yes
Display	-	Yes	Yes
Electronic Zoom	-	Yes	Yes
SU Freeze	-	Yes	Yes
SU Store	-	Yes	Yes
Timer	-	Yes	Yes
PoP ON	-	Yes	Yes
PoP Display Format	-	Yes	Yes
Lap Time	-	Yes	Yes
Not Assigned	-	Yes	Yes

Yes: Available to assign

[Note] No ultrasonic endoscope supports the Obs. Mode Preset function.

• Assignments of Ultrasonic Endoscope (5-Switch Scope)



Function	1	2	3	4	5
F/T (Freeze / Trigger)	Yes	-	-	Yes	-
F+T (Freeze + Trigger)	Yes	-	-	Yes	-
FRZ (Freeze)	Yes	-	-	Yes	-
Trigger	Yes	Yes	Yes	Yes	Yes
Record	-	Yes	Yes	Yes	Yes
Iris Mode	-	Yes	Yes	Yes	Yes
Shutter Speed	-	Yes	Yes	Yes	Yes
Structure Emphasis	-	Yes	Yes	Yes	Yes
FICE	-	Yes	Yes	Yes	Yes
Color Emphasis	-	Yes	Yes	Yes	Yes
Display	-	Yes	Yes	Yes	Yes
Electronic Zoom	-	Yes	Yes	Yes	Yes
SU Freeze	-	Yes	Yes	Yes	Yes
SU Store	-	Yes	Yes	Yes	Yes
Timer	-	Yes	Yes	Yes	Yes
PoP ON	-	Yes	Yes	Yes	Yes
PoP Display Format	-	Yes	Yes	Yes	Yes
Lap Time	-	Yes	Yes	Yes	Yes
Not Assigned	-	Yes	Yes	Yes	Yes

Yes: Available to assign

[Note] No ultrasonic endoscope supports the Obs. Mode Preset function.

4.2.8 Setting Foot Switch (FS1)

Note BLI, BLI-bright and LCI are available with EB-580S and 700 system scopes. For details, consult your local FUJIFILM dealer.

<Functions to be assigned to the foot switch (FS1)>

The functions described in the following chart can be assigned to the foot switch of the endoscope connected to the VP-7000. When the function needs to be changed, consult your local FUJIFILM dealer.

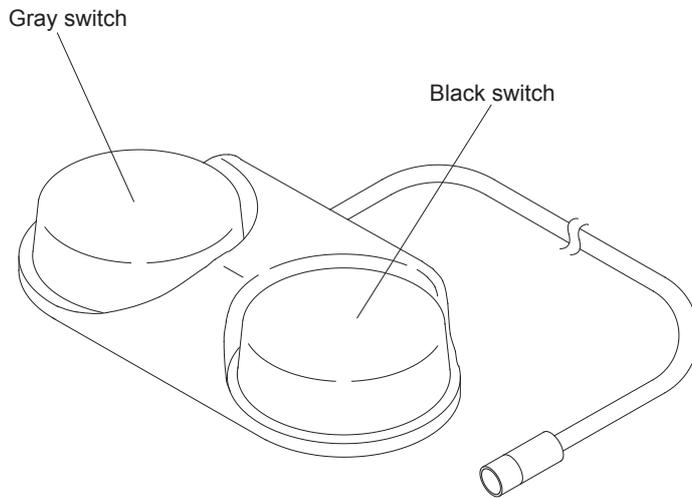
Function	Description
F/T, F+T, FRZ	When this switch is pressed, the same function assigned to the Freeze switch of the scope switch will operate. → “4.2.7 Endoscope Tab”
Trigger	If this switch is pressed when the image on the observation screen is frozen, the image is captured, and then the freeze mode is canceled. [Note] If the image is not frozen, the image is not captured.
Record	If this switch is pressed when the image on the observation screen is frozen, the image is captured, and then the freeze mode is canceled. [Note] If this switch is pressed when a video image is displayed, the observation screen displays the frozen image while displaying the video image on the sub-screen, and then, the frozen image is captured. After the image is captured, the freeze mode is canceled.
Iris Mode	This switch changes the iris mode (Auto/Peak/Ave).
Shutter Speed	This switch changes the shutter speed (Standard/High) set on the Shutter Speed Setup screen. → “5.3.6 Setting the Shutter Speed”
Structure Emphasis	This switch turns the structure emphasis ON/OFF. → “5.3.2 Structure Emphasis Settings”
FICE	When a FICE set number is assigned in the “Simple FICE Setup” and FICE is “OFF”, each press of this switch changes the function to be selected in order of FICE “ON” and call up of FICE set number of “Assignment 1” → call up of “Assignment 2” → call up of “Assignment 3” → FICE “OFF”. → “5.3.3 Setting FICE”
Color Emphasis	This switch turns the tone function ON/OFF. → “5.3.4 Tone Settings”
Display	This switch is used to display or not to display the information on the observation screen. [Note] When “Data Display Switching” is disabled, the function of this switch is also disabled.
Electronic Zoom: Zoom In ^[Note 1]	This switch changes the zoom ratio of the electronic zoom. The ratio changes each 0.05 steps from the range of x1.00 to x2.00. This switch performs zoom-in only.

Function	Description
Electronic Zoom: Zoom Out ^[Note 1]	This switch changes the zoom ratio of the electronic zoom. The ratio changes each 0.05 steps from the range of x1.00 to x2.00. This switch performs zoom-out only.
Optical Zoom: Zoom In	When an optical zoom scope is connected, this switch changes the zoom ratio of the optical zoom. This switch performs zoom-in only.
Optical Zoom: Zoom Out	When an optical zoom scope is connected, this switch changes the zoom ratio of the optical zoom. This switch performs zoom-out only.
PinP Sub-screen Position Switching	If this switch is pressed when the observation screen displays a frozen image while displaying the video image on the sub-screen, the sub-screen changes its display position in order of the upper left → upper right → lower right → lower left.
Hide / Display Sub-screen	When the observation screen displays a frozen image while displaying the video image on the sub-screen, pressing of this switch hides the sub-screen. To re-display the sub-screen, press this switch again.
Obs. Mode Preset	This switch changes the observation mode in the order specified on the Obs. Mode Preset Setup. → “5.5.1 Registering, Calling Up and Editing and Deleting Image Setup Page - <Registering Image Setup Page> - Scope Common tab - Obs. Mode Preset Setup”
Not Assigned	Assigns no function.

[Note 1] The zoom ratio of some 530 series scopes is x1.00 to x1.95.

Setting Foot Switch (FS1)

The functions available for each part of the foot switch are described in the following chart.



Note For the endoscopes without the SP switch, the functions for SP switch cannot be selected.

Function	Gray	Black
F/T, F+T, FRZ	Yes	Yes
Trigger	Yes	Yes
Record	Yes	Yes
Iris Mode	Yes	Yes
Shutter Speed	Yes	Yes
Structure Emphasis	Yes	Yes
FICE	Yes	Yes
Color Emphasis	Yes	Yes
Display	Yes	Yes
Electronic Zoom: Zoom In	Yes	Yes
Electronic Zoom: Zoom Out	Yes	Yes
Optical Zoom: Zoom In	Yes	Yes
Optical Zoom: Zoom Out	Yes	Yes
PinP Sub-screen Position Switching	Yes	Yes
Hide / Display Sub-screen	Yes	Yes
Obs. Mode Preset	Yes	Yes
Not Assigned	Yes	Yes

Yes: Available to assign

4.2.9 Setup for Switching the Shutter Speed During Optical Zoom

When an optical zoom scope is connected, the shutter speed at the optical zoom can be switched automatically.

The switching methods are described below. The switching method (Auto/Auto 2/Manual) and the OM max. value are set by service personnel at the time of installation.

Auto	When the optical zoom is in maximum, the shutter speed is changed to the speed set for the optical zoom.
Auto 2	In a general observation (when not using the optical zoom), the shutter speed is a standard speed. When the position of the optical zoom is placed in "Far Position" of "Optical Zoom Setup", the shutter speed is the speed set for the optical zoom. When the position of the optical zoom is placed in "Near Position" of "Optical Zoom Setup", the shutter speed is the speed according to the OM max. value.
Manual	When using the optical zoom, the shutter speed does not change automatically. The speed changes when the Shutter Speed button is pressed.

Note When the switching method is Auto or Auto 2 and an optical zoom scope is connected, if the zoom switch is pressed while the optical zoom ratio is in maximum, the zoom changes to the electronic zoom automatically.

4.2.10 Setting the Doctor's Name

This section describes the method of registering a doctor's name in the doctor list, and also the method of deleting a registered doctor's name. The registered doctor's name can be selected when registering patient information. For registering patient information, refer to "5.2.1 Registering Patient Information".

<Registering a Doctor's Name>

Up to 20 doctors' names can be registered.

- (1) Press the [Doctor] key.

The Doctor List screen appears.

To turn the pages, move the cursor to "Doctor List 1/2 (or 2/2)" and then press the [←] or [→] key.

The screenshot shows the 'Doctor List' screen. At the top, there is a title bar with a menu icon and the text 'Doctor List'. Below the title bar, there are two buttons: 'Doctor List 1/2' with left and right arrows, and 'Image setting'. The main area contains a table with the following columns: 'No.', 'Doctor Name', 'Freeze Mode', 'Upper GI', 'Lower GI', and 'Others'. The rows are numbered from 01 to 10. Below the table, there is another 'Doctor List 1/2' button with arrows and a 'Delete all listed data' button. At the bottom, there is a status bar with the text: '[] [] Move [Enter] Select [Insert] Edit [Delete] Delete [Esc] Cancel'.

- (2) Move the cursor to the number of the doctor's name to be registered and press the [Insert] key.

Now the system is ready for the doctor's name to be entered.

This screenshot is identical to the previous one, but the cursor is now positioned over the number '01' in the 'No.' column of the table. The status bar at the bottom remains the same: '[] [] Move [Enter] Select [Insert] Edit [Delete] Delete [Esc] Cancel'.

- (3) Enter the doctor's name, using up to 20 characters.

Doctor List 1/2		Image setting			
No.	Doctor Name	Freeze Mode	Upper GI	Lower GI	Others
01	AOYAMA				
02					
03					
04					
05					
06					
07					
08					
09					
10					

Doctor List 1/2

Delete all listed data

[] [] Move [Enter] Select [Insert] Edit [Delete] Delete [Esc] Cancel

- (4) When entry of the doctor name is completed, press the [Enter] key. When a pop-up menu is displayed, select “None” or the function to be assigned to the freeze mode.

- Note**
- The function selected in “Freeze Mode” is regarded as a doctor-specific function giving it a priority over the setting performed by service personnel.
 - When “Freeze” is selected in “Freeze Mode”
If the 600 system scope or 500 system scope, except the ultrasonic endoscope, is connected but the trigger or record function is not assigned to the RC switch or Switch 4 on the endoscope, the trigger function is automatically assigned to the RC switch or Switch 4.
 - If “Freeze / Trigger”, “Freeze + Trigger” or “Freeze” and “Trigger” / “Record” are not assigned, images cannot be captured.

→ “4.2.7 Endoscope Tab”

Doctor List 1/2		Image setting			
No.	Doctor Name	Freeze Mode	Upper GI	Lower GI	Others
01	AOYAMA	None F/T (Freeze/Trigger) F+T (Freeze+Trigger) FRZ (Freeze)			
02					
03					
04					
05					
06					
07					
08					
09					
10					

Doctor List 1/2

Delete all listed data

[] [] Move [Enter] Select [Insert] Edit [Delete] Delete [Esc] Cancel

- (5) Select the image setting. By selecting the image setting according to the target region of endoscopic observation, the appropriate image setting is loaded at the time of starting the examination. When a pop-up menu is displayed, select “* None” or an already registered image setup page name.

Upper GI: Endoscope whose name begins with “EG”

Lower GI: Endoscope whose name begins with “EC”

Others: Other than above

→ “5.5.1 Registering, Calling Up and Editing and Deleting Image Setup Page”

Note Items that can be selected in “Image setting” are image setting page names registered on the Image Setup Page screen.

Doctor List 1/2			Image setting		
No.	Doctor Name	Freeze Mode	Upper GI	Lower GI	Others
01	AOYAMA	F/T (Freeze/Trigger)	* None 01 Upper GI recommend 02 Lower GI recommend 03 Blur Decreast 0.3s 04 NR Medium		
02					
03					
04					
05					
06					
07					
08					
09					
10					

Doctor List 1/2

Delete all listed data

[1] [1] Move [Enter] Select [Insert] Edit [Delete] Delete [Esc] Cancel

- (6) When registering two or more doctor's names, repeat steps (2) to (5).

- (7) Once you have entered all of the doctor's names, select a doctor name and press the [Enter] key.

The settings for the selected doctor are called up and operation returns to the observation screen.

To return to the observation screen without the settings called up, press the [Esc] key.

Doctor List 1/2		Image setting			
No.	Doctor Name	Freeze Mode	Upper GI	Lower GI	Others
01	Aoyama				
02	SHIBUYA	F/T(Freeze/Trigger)			
03	SHINAGAWA	F+T(Freeze+Trigger)			
04					
05					
06					
07					
08					
09					
10					

Doctor List 1/2

Delete all listed data

[] [] Move [Enter] Select [Insert] Edit [Delete] Delete [Esc] Cancel

< Deleting a Doctor's Name >

- (1) Press the [Doctor] key.

The Doctor List screen appears.

To turn the pages, move the cursor to "Doctor List 1/2 (or 2/2)" and then press the [←] or [→] key.

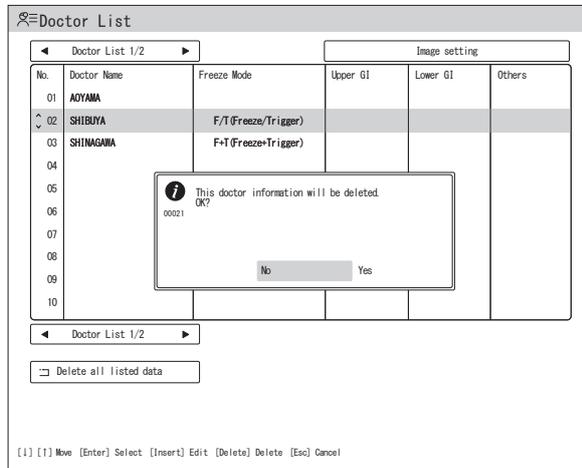
Doctor List 1/2		Image setting			
No.	Doctor Name	Freeze Mode	Upper GI	Lower GI	Others
01	Aoyama				
02	SHIBUYA	F/T(Freeze/Trigger)			
03	SHINAGAWA	F+T(Freeze+Trigger)			
04					
05					
06					
07					
08					
09					
10					

Doctor List 1/2

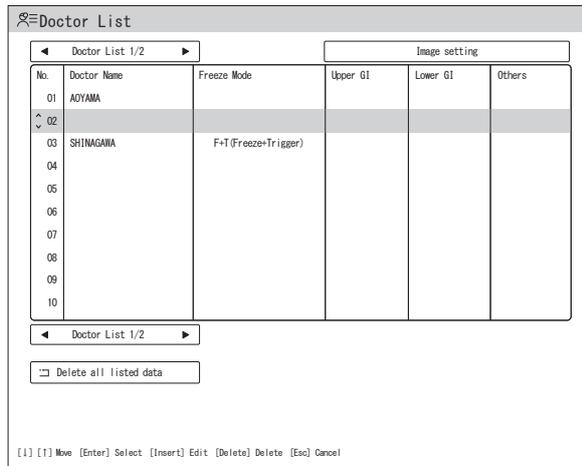
Delete all listed data

[] [] Move [Enter] Select [Insert] Edit [Delete] Delete [Esc] Cancel

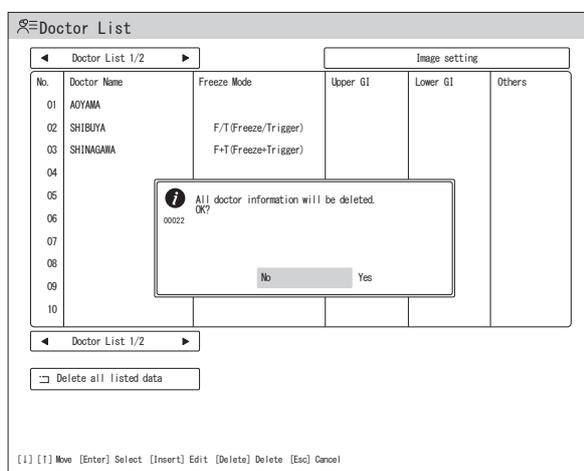
- (2) Move the cursor to the number of the doctor's name to be deleted and press the [Delete] key.
The confirmation message "This doctor information will be deleted. OK?" appears.



- (3) When "Yes" is selected, the selected doctor's name is deleted.
The deleted list is left blank.



Note When deleting all doctors' names, move the cursor to "Delete all listed data" and press the [Enter] key. The confirmation message "All doctor information will be deleted. OK?" appears.



- (4) Press the [Enter] key.
The selected doctor's name is called up and operation returns to the observation screen. To return to the observation screen without the doctor's name called up, press the [Esc] key.

4.2.11 Setting the Procedure Name

This section describes the method of registering a procedure name in the procedure list, and also the method of deleting a registered procedure.

The registered procedure name can be selected when registering patient information.

For registering patient information, refer to “5.2.1 Registering Patient Information”.

<Registering a Procedure Name>

Up to 20 types of procedure names can be registered.

- (1) Press the [Case] key.

The Procedure List screen appears.

To turn the pages, move the cursor to “Procedure List 1/2 (or 2/2)” and then press the [←] or [→] key.

No.	Procedure Name
01	
02	
03	
04	
05	
06	
07	
08	
09	
10	

- (2) Move the cursor to the list number of the procedure name to be registered and press the [Insert] key.

Now the system is ready for the procedure name to be entered.

Note When the [Enter] key is pressed, the selected procedure name is called up and operation returns to the observation screen. If no procedure name is registered, the screen display remains unchanged even when the [Enter] key is pressed.

The screenshot shows a window titled "Procedure List" with a sub-header "Procedure List 1/2". It contains a table with two columns: "No." and "Procedure Name". The "No." column lists numbers 01 through 10. The "Procedure Name" column is currently empty. The first row (01) is highlighted. Below the table, there is a "Delete all listed data" button and a footer with keyboard shortcuts: [1] [1] Move [Enter] Select [Insert] Edit [Delete] Delete [Esc] Cancel.

No.	Procedure Name
01	
02	
03	
04	
05	
06	
07	
08	
09	
10	

- (3) Enter a procedure name using up to 16 characters and press the [Enter] key.

The screenshot shows the same "Procedure List" window. The first row (01) now has "Procedure 1" entered in the "Procedure Name" column. The rest of the list remains empty. The "Delete all listed data" button and footer are still present.

No.	Procedure Name
01	Procedure 1
02	
03	
04	
05	
06	
07	
08	
09	
10	

- (4) When registering two or more procedure names, repeat steps (2) to (3).

- (5) Once you have entered all of the procedure names, select a procedure name and press the [Enter] key.

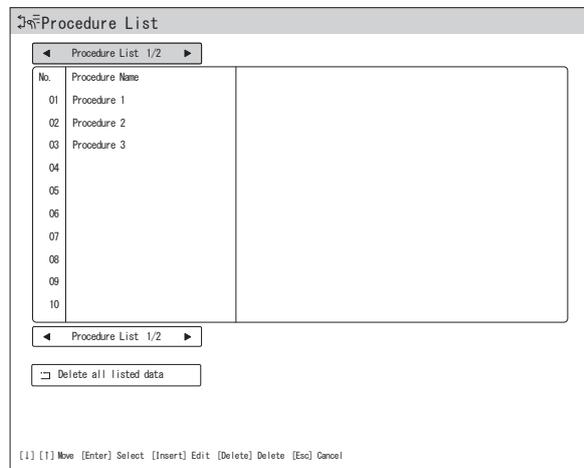
The selected procedure name is called up and operation returns to the observation screen.

To return to the observation screen without the procedure name called up, press the [Esc] key.

<Deleting a Procedure Name>

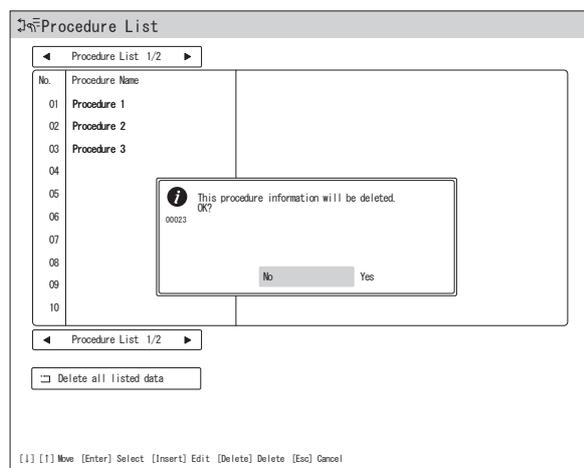
- (1) Press the [Case] key.

The Procedure List screen appears. To turn the pages, move the cursor to “Procedure List 1/2 (or 2/2)” and then press the [←] or [→] key.

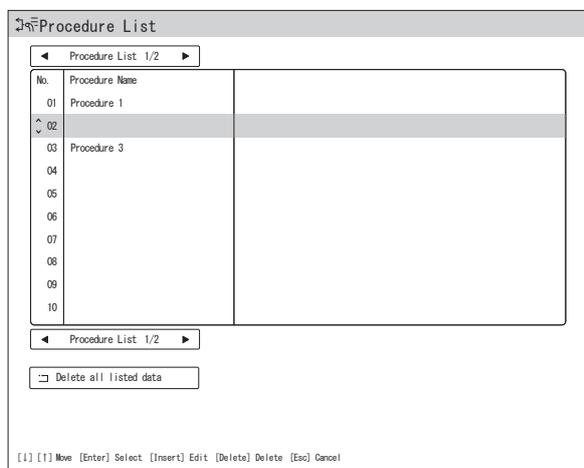


- (2) Move the cursor to the list number of the procedure name to be deleted and press the [Delete] key.

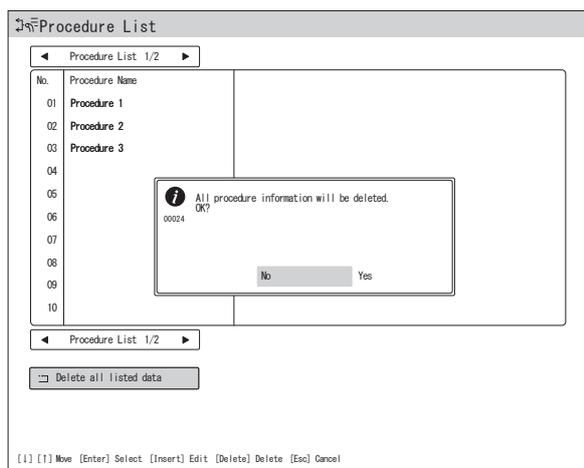
The confirmation message “This procedure information will be deleted. OK?” appears.



- (3) When “Yes” is selected, the selected procedure name is deleted.
“Procedure Name” for the deleted list is left blank.



- Note** When deleting all procedure names, move the cursor to “Delete all listed data” and press the [Enter] key.



- (4) Press the [Esc] key.
Operation returns to the observation screen.

4.2.12 Setting the Message

Messages to be added to patient information can be registered.

<Registering a Message>

Up to 20 types of messages can be registered.

- (1) Press the [Message] key.

The Message List screen appears.

To turn the pages, move the cursor to "Message List 1/2 (or 2/2)" and then press the [←] or [→] key.

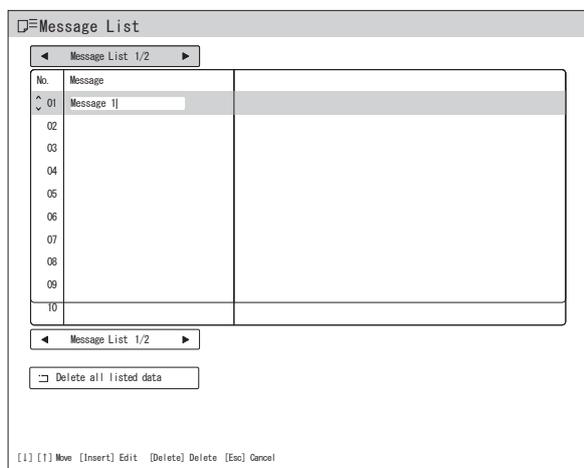
The screenshot shows the 'Message List' window. At the top, there is a title bar 'Message List' and a navigation bar 'Message List 1/2' with left and right arrows. Below this is a table with two columns: 'No.' and 'Message'. The 'No.' column contains numbers 01 through 10. The 'Message' column is empty. Below the table is another navigation bar 'Message List 1/2' with left and right arrows, and a button labeled 'Delete all listed data'. At the bottom, there is a status bar with the text '[] [] Move [Insert] Edit [Delete] Delete [Esc] Cancel'.

- (2) Move the cursor to the list number of the message to be registered and press the [Insert] key.

Now the system is ready for the message to be entered.

The screenshot shows the 'Message List' window. The table has two columns: 'No.' and 'Message'. The 'No.' column contains numbers 01 through 10. The 'Message' column is empty. The row for '01' is highlighted with a grey background, and a cursor is visible in the 'Message' cell of this row. Below the table is a navigation bar 'Message List 1/2' with left and right arrows, and a button labeled 'Delete all listed data'. At the bottom, there is a status bar with the text '[] [] Move [Insert] Edit [Delete] Delete [Esc] Cancel'.

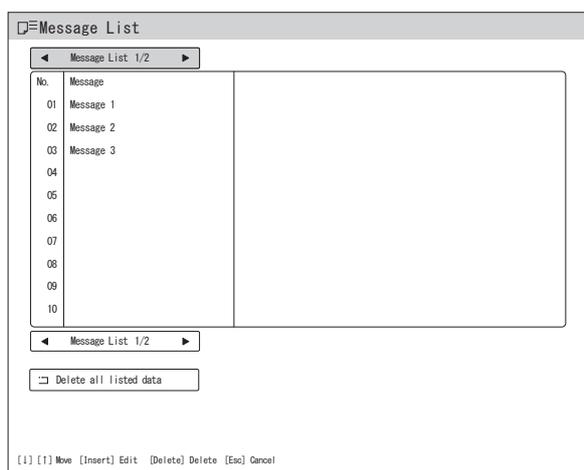
- (3) Enter a message using up to 20 characters and press the [Enter] key.



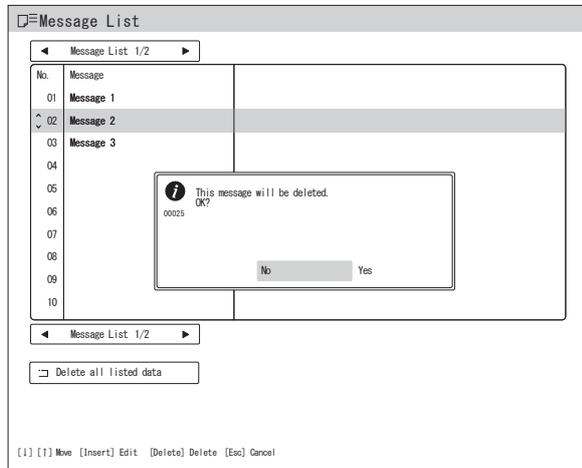
- (4) When registering two or more messages, repeat steps (2) to (3).
- (5) Press the [Esc] key.
Operation returns to the observation screen.

<Deleting a Message>

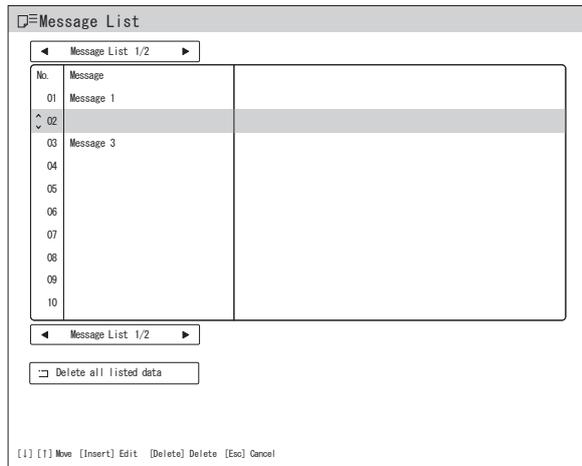
- (1) Press the [Message] key.
The Message List screen appears. To turn the pages, move the cursor to "Message List 1/2 (or 2/2)" and then press the [←] or [→] key.



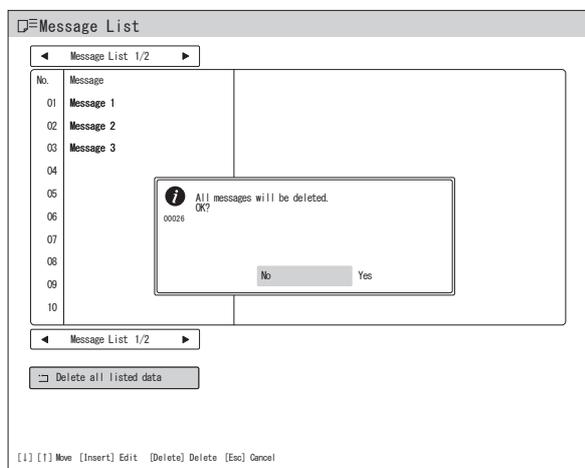
- (2) Move the cursor to the list number of the message to be deleted and press the [Delete] key.
The confirmation message “This message will be deleted. OK?” appears.



- (3) When “Yes” is selected, the selected message is deleted. “Message” for the deleted list is left blank.



Note When deleting all messages, move the cursor to “Delete all listed data” and press the [Enter] key.



- (4) Press the [Esc] key.
Operation returns to the observation screen.

4.3 Security Function

CAUTION

- Once the user logs in to the security function, all the information can be accessed until the user logs off the security function or turns off the system. When stepping away from the system, be sure to log off the security function or turn off the system.
- If you forgot the login password and cannot log in to the security function, consult your local FUJIFILM dealer.

To prevent information leakage to third parties, the login authentication screen requesting the login password can be displayed when accessing personal information of the patient or information on system settings.

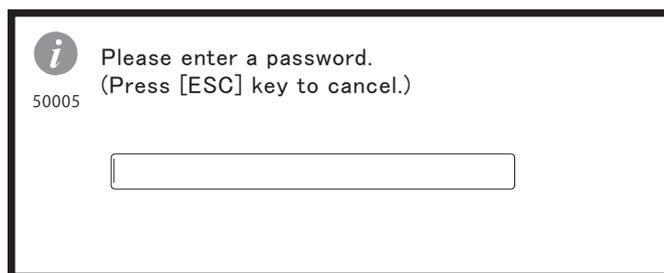
Two kinds of login passwords, the login password for the user, and the one for the administrator can be set. Only the administrator can perform security settings.

→ “4.3.1 Access Control with the Security Function”

The default login password for the user is “user”, and the default login password for the administrator is “user1”. Change each login password when logging in to the VP-7000 for the first time.

→ “4.3.2 Logging in to the Security Function (Changing the Password)”

- Note** • Take care not to forget the changed password. To protect personal information of the patient, change the password regularly.

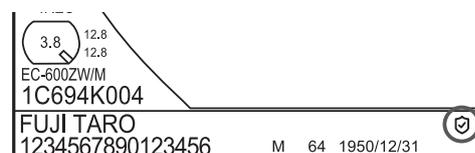


Once the user or administrator logs in to the security function, the icon indicating the login state is displayed on the observation screen.

→ “3.7 Data Display on the Observation Screen”



FullHD mode



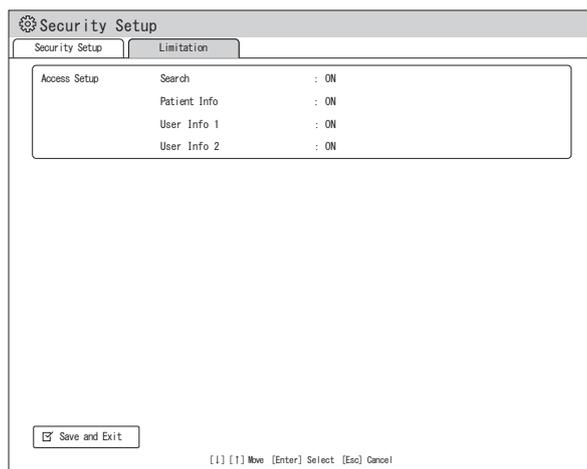
SXGA mode

4.3.1 Access Control with the Security Function

Only the administrator can change the security settings.

When the login authentication screen appears, log in to the security function by entering the login password for the administrator.

Press the [System] key on the keyboard. The System Setup screen appears. Select “Security” on the “Basic Setting” tab and press the [Enter] key. Switch to the “Limitation” tab.



Category	Item	Value	Description
Access Setup	Search	ON	Select ON/OFF of the security function for the items set by using the [Start] or [Search] key, and for the operation described in <How to copy daily exam data>.
		OFF	
	Patient Info	ON	Select ON/OFF of the security function for the items set by using the [Patient] key.
		OFF	
	User Info 1	ON	Select ON/OFF of the security function for the items set by using the [Doctor], [System], [Peripherals] or [Image] key.
		OFF	
	User Info 2	ON	Select ON/OFF of the security function for the items set by using the [Case] or [Message] key.
		OFF	

Note • For the operations on the menu screen, refer to the description of basic system setup operations.

→ “4.2.2 Basic System Setup Operations”

4.3.2 Logging in to the Security Function (Changing the Password)

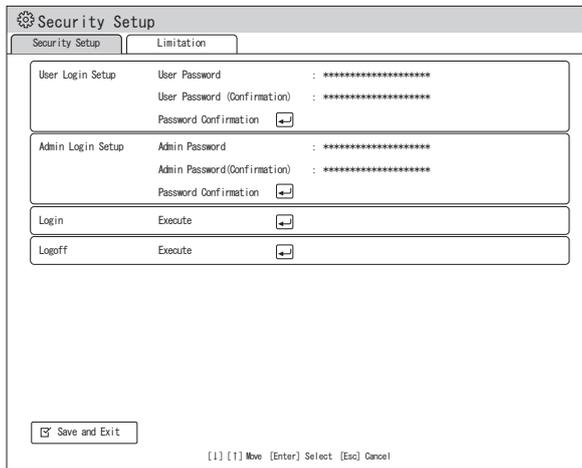
CAUTION

- If you forgot the login password and cannot log in to the security function, consult your local FUJIFILM dealer.

Press the [System] key on the keyboard. The System Setup screen appears. Select “Security” on the “Basic Setting” tab and press the [Enter] key. Switch to the “Security Setup” tab.

When the password for the user is entered at the time of logging in to the security function, only “User Password” can be changed. When the password for the administrator is entered, “User Password” and “Admin Password” can be changed.

The default login password for the user is “user”, and the default login password for the administrator is “user1”.



Category	Item	Description
User Login Setup	User Password	The password must be between 5 to 15 characters in length. Alphanumeric characters and symbols can be used.
	User Password (Confirmation)	Enter the new password again.
	Password Confirmation	After entering the new password in “User Password” and “User Password (Confirmation)”, press the [Enter] key to change the password.
Admin Login Setup	Admin Password	The password must be between 5 to 15 characters in length. Alphanumeric characters and symbols can be used.
	Admin Password (Confirmation)	Enter the new password again.
	Password Confirmation	After entering the new password in “Admin Password” and “Admin Password (Confirmation)”, press the [Enter] key to change the password.

Category	Item	Description
Login	Execute	Select "Login" and press the [Enter] key to log in to the security function. Login enables the security function and allows the change of the login password for the user or the administrator.
Logoff	Execute	→ "4.3.3 Logging off the Security Function"

- Note** • For the operations on the menu screen, refer to the description of basic system setup operations.

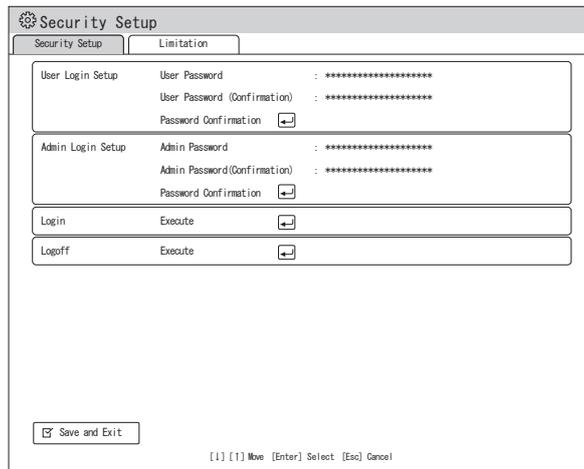
→ "4.2.2 Basic System Setup Operations"

4.3.3 Logging off the Security Function

CAUTION

- Once the user logs in to the security function, all the information can be accessed until the user logs off the security function or turns off the system. When stepping away from the system, be sure to log off the security function or turn off the system.

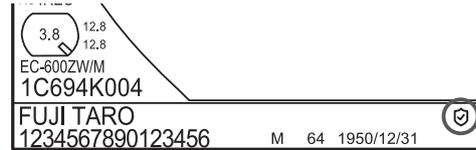
Press the [System] key on the keyboard. The System Setup screen appears. Select “Security” on the “Basic Setting” tab and press the [Enter] key. Switch to the “Security Setup” tab.



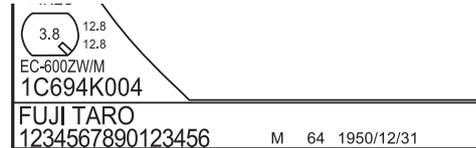
Select “Logoff” and press the [Enter] key. When the logoff sequence is completed, select “Save and Exit” and press the [Enter] key. Ensure that the icon indicating the login state disappears from the observation screen.



FullHD mode



SXGA mode



Note • For the operations on the menu screen, refer to the description of basic system setup operations.

→ “4.2.2 Basic System Setup Operations”

Chapter 5 Function Settings

5.1 Hierarchical Structure of the Setting Screens

- Note**
- Setting screens are displayed on the monitor connected to the DVI-D/DVI-I/HD-SDI connector.
 - While a setting screen is displayed, the message “Displaying menu” appears on the monitor connected to RGB TV, Video or S Video connector.

If you press a function key, the setting screen assigned to the key is displayed. The hierarchy of each key and setting screen is structured as described below.

<[Patient Entry] Key>

Patient Information Entry screen (Patient No. Auto Entry)

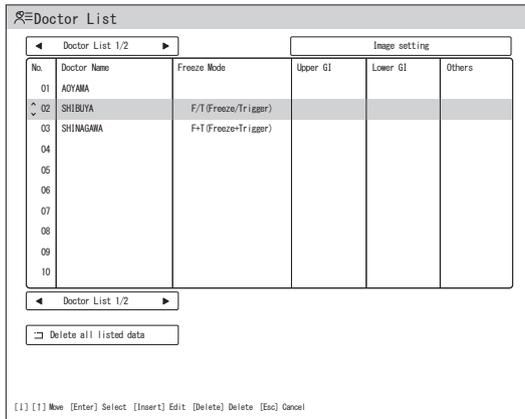
<[Patient] Key>

Patient List screen

No.	Name	ID
01	FLUJI TAROU	123456
02	TANAKA TOHICHI	123457
03	SUZUKI KENICHI	123458
04		
05		
06		
07		
08		
09		
10		
11		
12		
13		
14		
15		

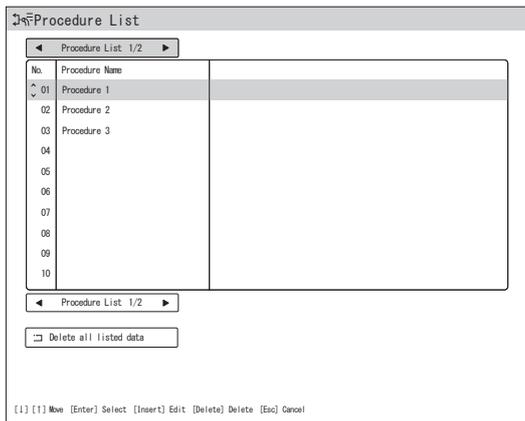
<[Doctor] Key>

Doctor List screen



<[Case] Key>

Procedure List screen

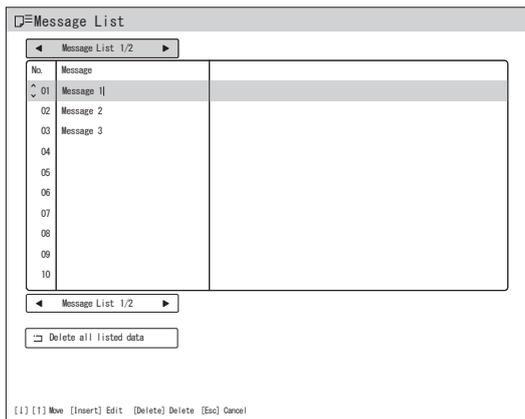


<[Note] Key>

Displays no setting screen.
 (Makes it possible to enter comments on the observation screen.)

<[Message] Key>

Message List screen



<[System] Key>

System Setup screen

System Setup		
Function	Display	Basic setting
Displayed Info.	MaskType	: Type 1
Multi Button	Multi Button 1	: FICE
	Multi Button 2	: Timer
PoP	PoP On	: OFF
	PoP Layout	: Main: Endoscope / Sub: PoP
Index images	Index	: ON
Zoom Setup	Multi Zoom Mode	: Continuous

Save and Exit

[] [] Move [Enter] Select [Esc] Cancel

System Setup		
Function	Display	Basic setting
Displayed Info.	Exam. Data	: Patient ID
	Exam. Info.	: ON
Space Key	Screen display switching	: Patient info. OFF
Lap Time Setup	Lap Time	: OFF
Hospital Name	Hospital Name	:
Scope Info.	Priority Scope Information	: Distal End

Save and Exit

[] [] Move [Enter] Select [Esc] Cancel

System Setup		
Function	Display	Basic setting
Date/Time Set	Date	: 2015 / 01 / 01
	Date Mode	: Y/M/D
	Time Setup	: 00 : 03 : 25
	Time Mode	: 12-hour
	Time Zone	: GMT + 9 Time
Screen Setup	Screen Resolution	: SXGA
Volume Setup	Volume	: Mid
	Optical zoom SW sound	: ON
Timer Setup	Timer	: Timer Start/Stop
Security	Setup	<input type="checkbox"/>

Save and Exit

[] [] Move [Enter] Select [Esc] Cancel

System Setup		
Function	Display	Basic setting
Pump	Pump Level	: Hi
	Pump Off (minute)	: 5
BL-7000 Light Save function	Linkage	: ON
	Brightness Level	: <input type="text" value=""/> -2

Save and Exit

[] [] Move [Enter] Select [Esc] Cancel

System Setup		
Function	Display	Basic setting
Freeze Mode Setup	Freeze Mode	: F/T (Freeze / Trigger)
Scope Switch setup		
700Scope	Setup	<input type="text" value=""/>
500/600Scope	Setup	<input type="text" value=""/>

Save and Exit

[] [] Move [Enter] Select [Esc] Cancel

<[Peripherals] Key>

Memory

Peripheral Setup

Memory

Internal Memory

Compression Rate : 1/10 (.JPEG)

Free Space Warning Message : ON

Screen Display : OFF

Information 1 :

Information 2 :

Int. Mem. Usage : 2% Used 3254MB Free

Delete Backup Images Already Transferred

Delete all copied images

Initialize Internal Memory

External Memory

Auto Copy Mode : OFF

Usage :

Compression Rate :

Ext. Mem. Usage : 11% Used 33384MB Free

Initialize External Memory

Save and Exit

[] [] Move [Enter] Select [Esc] Cancel

Network

Peripheral Setup

Network

Save and Exit

[] [] Move [Enter] Select [Esc] Cancel

Printer

Peripheral Setup

Printer

Printer Setting

Usage : Not used

Number of Prints : 1

Multi Print : 4in1

Save and Exit

[] [] Move [Enter] Select [Esc] Cancel

Storage

Peripheral Setup

Storage

Save and Exit

[] [] Move [Enter] Select [Esc] Cancel

Details

Peripheral Setup

Details

Network Setup

Usage : Not used

Compression Rate : 1/20 (.JPEG)

Internal Memory Storage

Backup to Internal Memory : OFF

When backed up to Internal Memory, its settings are disabled.

Delete Backup Images Already Transferred : Not used

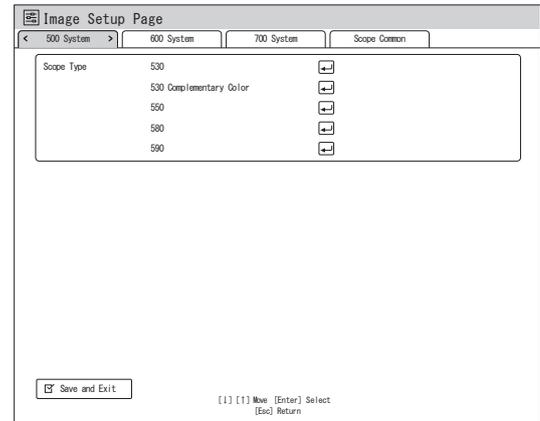
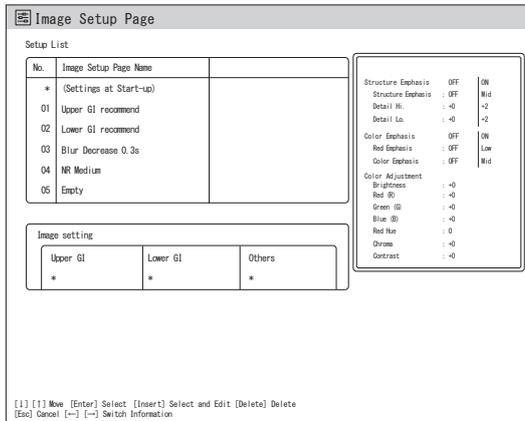
Transfer Backup images Not Yet Transferred : Not used

Save and Exit

[] [] Move [Enter] Select [Esc] Cancel

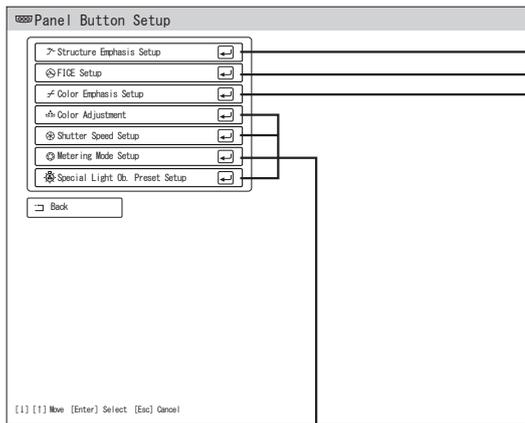
<[Image] Key>

Image Setup Page



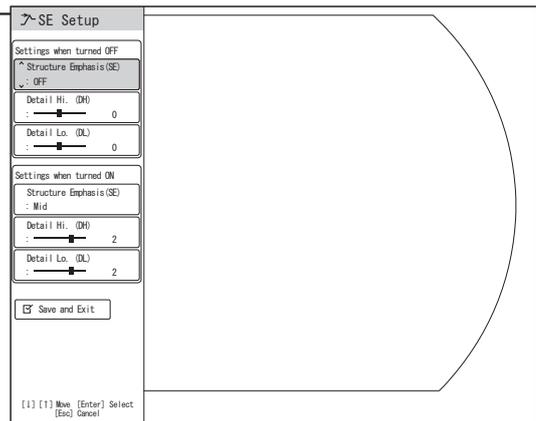
<[Panel] Key>

Panel Button Setup screen

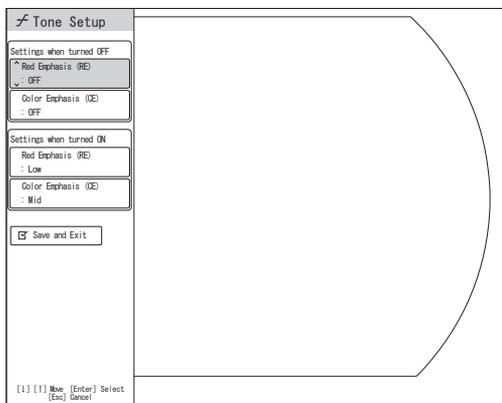


The submenu of each of these four menus is displayed on the next page.

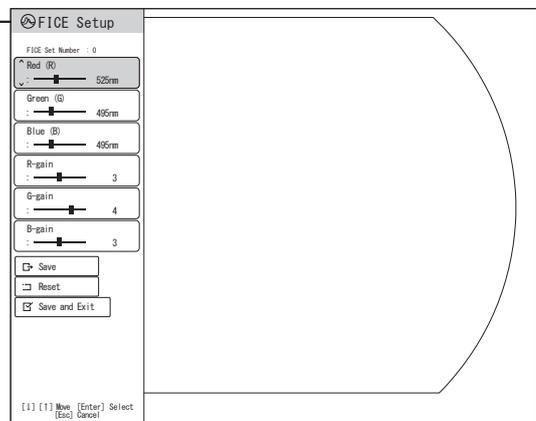
Submenu



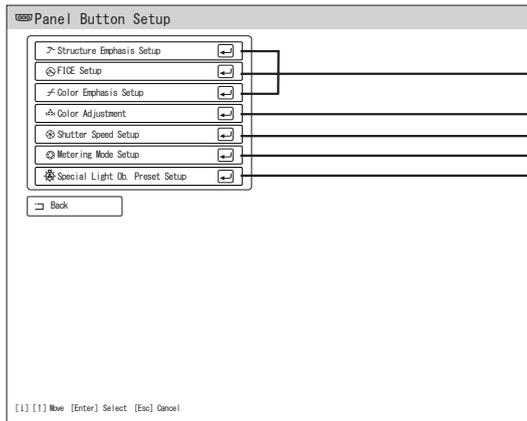
Submenu



Submenu

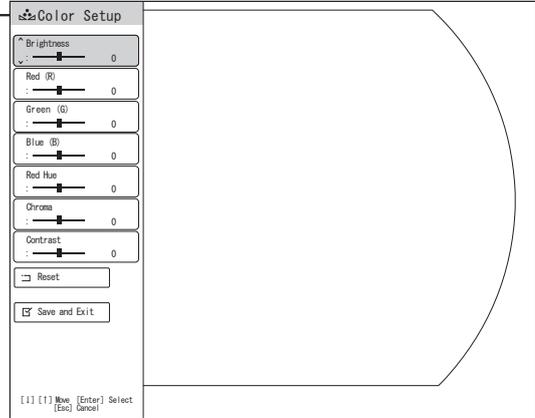


Panel Button Setup Screen

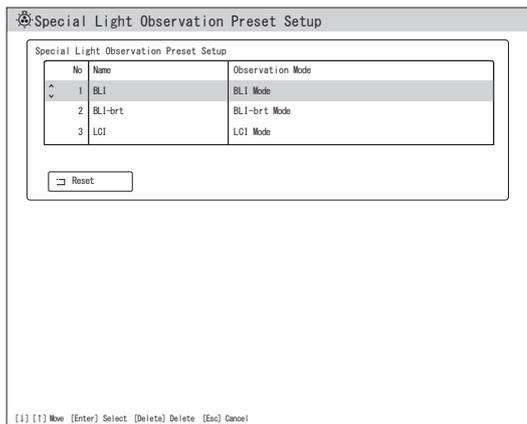


The submenu of each of these three menus is displayed on the previous page.

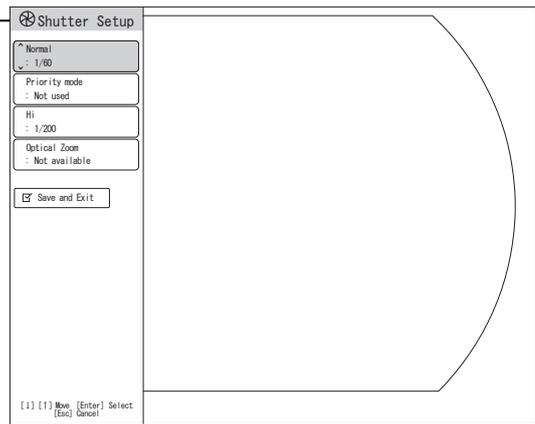
Submenu



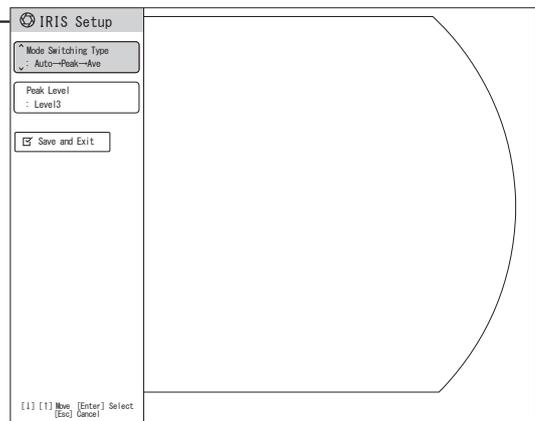
Submenu



Submenu



Submenu



<[Search] Key>

Search screen (for setting search conditions)
When on the network

The screenshot shows the 'Search All' interface. At the top left is a magnifying glass icon and the text 'Search All'. Below this is a 'Search Cond.' section with a list of search criteria and their current settings:

- Exam No. or Patient ID : (empty)
- Date of Exam : / /
- Internal Memory Images : Included
- External Memory Images : Included
- Blocks Not Yet Transferred to FTP : Included
- Blocks Already Transferred to FTP : Included

Below the list is a 'Search' button with a magnifying glass icon. At the bottom of the window, there is a footer with the text: [1] [1] Move [Enter] Select [Esc] Cancel.

Search screen (list)

The screenshot shows the 'Search All' interface displaying search results. At the top left is a magnifying glass icon and the text 'Search All'. Below this is a 'Search Conditions' field with the value 'NA'. Below that is a 'Search Result 1/1' header. The main area contains a table with the following data:

No.	Date of Exam	Patient ID	Patient Name	Exam No.
01	2014/11/27			
02	2014/11/27			
03	2014/11/27			

Below the table is a 'Search Result 1/1' footer. At the bottom of the window, there is a footer with the text: [1] [1] Move [Enter] Select [Esc] Cancel [N] Transfer [D] Delete [A] Copy all [C] Copy.

5.2 Registering/Editing Patient Information on Processor

This section describes the method of registering/editing patient information on the processor.

Note During examination, the observation screen is displayed as a sub-screen at the lower right-hand side of the setting screen.

5.2.1 Registering Patient Information

This section describes the method of registering patient information.

The patient information entry screen has two modes: “Patient number auto entry” and “Fixed patient number”. The mode is set by service personnel.

When “Patient number auto entry” is selected, a maximum of 45 patients can be registered in the patient list.

When “Fixed patient number” is selected, patient information is entered for each examination.

When patient information is entered by pressing the [Patient entry] key, the patient number is fixed to “01” and old patient information is overwritten by new patient information each time patient information is entered.

<Patient Number Auto Entry>

- (1) Press the [Patient Entry] key.
The Patient Information Entry screen appears.
Patient information starts from “Patient 01.”

- (2) Move the cursor to “Exam No.”.

Character entry is enabled. Enter the examination number and press the [Enter] key.
Enter the examination number, using up to 16 characters.

Note With regard to the items not to be registered, do not press the [Enter] key on the item but only move the cursor to the next item.

Patient Information Entry

Patient 01

Exam No.	: 20150214
Patient ID	:
Patient Name	:
Sex	: None Male Female
D.o.B.	: / /
Age	:
Doctor	:
Procedure	:
Message	:

Examine This Patient

End Registration

Enter Next Patient Info.

[1] [1] Move [Enter] Select [Esc] Cancel

- (3) Move the cursor to “Patient ID”.

Enter the patient ID and press the [Enter] key.
Enter the patient ID, using up to 16 characters.

Note Depending on the peripherals, the number of characters available may be less than 16. Accordingly, confirm the number of characters available for each peripheral before entering characters.

Patient Information Entry

Patient 01

Exam No.	: 20150214
Patient ID	: 123456
Patient Name	:
Sex	: None Male Female
D.o.B.	: / /
Age	:
Doctor	:
Procedure	:
Message	:

Examine This Patient

End Registration

Enter Next Patient Info.

[1] [1] Move [Enter] Select [Esc] Cancel

- (4) Move the cursor to “Patient Name”.
Enter the patient name and press the [Enter] key.
Enter the patient name, using up to 20 characters.

The screenshot shows a window titled "Patient Information Entry" with a patient ID of 01. The form contains several fields: Exam No. (20150214), Patient ID (123456), Patient Name (FUJI TAROU), Sex (None, Male, Female), D.o.B. (/ /), Age, Doctor, Procedure, and Message. Below the form are buttons for "Examine This Patient", "End Registration", "Enter Next Patient Info.", and "Clear All". The "Patient Name" field is highlighted, indicating it is the active field.

- (5) Move the cursor to “Sex”.
By using the [←] or [→] keys, select the sex of the patient from among “None”, “Male” and “Female”.

This screenshot is identical to the previous one, but the "Sex" field is now highlighted, indicating it is the active field. The "Patient Name" field is no longer highlighted.

- (6) Move the cursor to “D. o. B.”.
Enter the year, month and day of birth of the patient.

Note Enter the Christian year.

Patient Information Entry

Patient 01

Exam No.	: 20150214
Patient ID	: 123456
Patient Name	: FUJI TAROU
Sex	: <input type="radio"/> None <input type="radio"/> Male <input type="radio"/> Female
D.o.B.	: 1960 / 07 /
Age	:
Doctor	:
Procedure	:
Message	:

Examine This Patient
 End Registration
 Enter Next Patient Info.

[1] [1] Move [Enter] Select [Esc] Cancel

- (7) When the date of birth of the patient is entered, the age of the patient is calculated and displayed automatically.
For changing the age, move the cursor to “Age” and then enter the age of the patient and press the [Enter] key.

Note When moving the cursor to “D. o. B.” again, the age of the patient is returned to the age that is calculated automatically.

Patient Information Entry

Patient 01

Exam No.	: 20150214
Patient ID	: 123456
Patient Name	: FUJI TAROU
Sex	: <input type="radio"/> None <input type="radio"/> Male <input type="radio"/> Female
D.o.B.	: 1960 / 07 / 07
Age	: 54
Doctor	:
Procedure	:
Message	:

Examine This Patient
 End Registration
 Enter Next Patient Info.

[1] [1] Move [Enter] Select [Esc] Cancel

- (8) Move the cursor to “Doctor” and press the [Enter] key.
The doctor names registered in the doctor list are displayed in the pop-up menu.

→ “4.2.10 Setting the Doctor's Name”

Select “None” or a doctor name.

The screenshot shows the 'Patient Information Entry' form for Patient 01. The form contains the following fields and values:

- Exam No. : 20150214
- Patient ID : 123456
- Patient Name : FUJI TAROU
- Sex : None Male Female
- D.o.B. : 1960 / 07 / 07
- Age : 54
- Doctor : None
- Procedure : ADYAMA
- Message : SHUBUYA

A dropdown menu is open for the 'Doctor' field, showing the following options: None, SHINAGAWA, and SHUBUYA. Below the form are buttons for 'Examine This Patient', 'End Registration', 'Enter Next Patient Info.', and 'Clear All'. At the bottom, there is a status bar with the text: [] [] Move [Enter] Select [Esc] Cancel.

- (9) If the doctor name is not found or it is entered manually, move the cursor to “Doctor” and press the [Insert] key.
Character entry is enabled. Enter the doctor name manually and press the [Enter] key.
When “Doctor List Auto Search” is ON, the entered doctor name is automatically searched in the doctor list. When the entered doctor name is found, the settings registered in the doctor list are applied. If the entered doctor name is not found, the confirmation message “Specified doctor not registered” appears.

- Note**
- “Doctor List Auto Search” is case-sensitive.
 - The doctor name entered here will not be registered in the doctor list.

→ “4.2.10 Setting the Doctor's Name”

The screenshot shows the 'Patient Information Entry' form for Patient 01. The form contains the following fields and values:

- Exam No. : 20150214
- Patient ID : 123456
- Patient Name : FUJI TAROU
- Sex : None Male Female
- D.o.B. : 1960 / 07 / 07
- Age : 54
- Doctor : |
- Procedure :
- Message :

Below the form are buttons for 'Examine This Patient', 'End Registration', 'Enter Next Patient Info.', and 'Clear All'. At the bottom, there is a status bar with the text: [] [] Move [Enter] Select [Esc] Cancel.

- (10) Move the cursor to “Procedure” and press the [Enter] key.
The procedure names registered in the procedure list are displayed in the pop-up menu.

→ “4.2.11 Setting the Procedure Name”

Select “None” or a procedure name.

If a procedure name is entered manually, move the cursor to “Procedure” and press the [Insert] key. Character entry is enabled. Enter the procedure name manually and press the [Enter] key. The entered procedure name is automatically searched in the procedure list.

When the entered procedure name is found, the procedure name registered in the procedure list is used.

If the entered procedure name is not found, the confirmation message “Specified procedure not registered” appears.

Note The procedure name entered here will not be registered in the procedure list.

→ “4.2.11 Setting the Procedure Name”

The screenshot shows a software window titled "Patient Information Entry" with a checked checkbox. The window contains several input fields for patient data:

- Patient: 01
- Exam No.: 20150214
- Patient ID: 123456
- Patient Name: FUJI TAROU
- Sex: None (selected), Male, Female
- D.o.B.: 1960 / 07 / 07
- Age: 54
- Doctor: AOYAMA
- Procedure: None (dropdown menu is open, showing Procedure 1, Procedure 2, and Procedure 3)
- Message: Procedure 1

At the bottom of the form, there are several buttons: "Examine This Patient", "End Registration", "Enter Next Patient Info.", and "Clear All". A status bar at the very bottom shows keyboard shortcuts: [F1] [F2] Move [Enter] Select [Esc] Cancel.

- (11) Move the cursor to “Message” and press the [Enter] key.
The message names registered in the message list are displayed in the pop-up menu.

→ “4.2.12 Setting the Message”

Select “None” or “Message”.

The screenshot shows the 'Patient Information Entry' window. The patient information is as follows:

Exam No.	: 20150214
Patient ID	: 123456
Patient Name	: FUJI TAROU
Sex	: None Male Female
D.o.B.	: 1960 / 07 / 07
Age	: 54
Doctor	: AOYAMA
Procedure	: Procedure 1
Message	: None

A pop-up menu is open over the 'Message' field, listing 'Message 1', 'Message 2', and 'Message 3'. Below the form are buttons for 'Examine This Patient', 'End Registration', 'Enter Next Patient Info.', and 'Clear All'. The status bar at the bottom indicates: [1] [1] Move [Enter] Select [Esc] Cancel

- (12) When Steps (1) to (11) are performed, registration of data for one patient is completed.
When executing examination using the registered patient information, move the cursor to “Examine This Patient” and press the [Enter] key.

The screenshot shows the 'Patient Information Entry' window with the 'Message' field now set to 'Message 1'. The patient information is as follows:

Exam No.	: 20150214
Patient ID	: 123456
Patient Name	: FUJI TAROU
Sex	: None Male Female
D.o.B.	: 1960 / 07 / 07
Age	: 54
Doctor	: AOYAMA
Procedure	: Procedure 1
Message	: Message 1

The buttons below the form are 'Examine This Patient', 'End Registration', 'Enter Next Patient Info.', and 'Clear All'. The status bar at the bottom indicates: [1] [1] Move [Enter] Select [Esc] Cancel

The confirmation dialog regarding the specified patient information and scope information appears.

The confirmation dialog disappears when the [Enter] key is pressed.

The screenshot shows a confirmation dialog on an endoscope's display. The dialog contains the following information:

- ID: 123456
- Name: FUJI TAROU
- Message: None
- Sex: None, Doctor: None
- D. o. B.: / / , Procedure: None
- Age: , Number of recordable images in Internal Memory: 20856
- Scope Type: EC-T407M, Focals: 3.2
- Scope Serial: AC732G004, Distal: 8.6
- Scope ID: 2, Flexible: 10.7

At the bottom of the dialog, there is a circular button with the number "3.2" and a cursor icon. The background of the screen shows technical specifications for the endoscope, including "R-540mm G-490mm B-420mm" and "Repeat 1 Ggain 5 Repeat 5: 0".

Note To capture this screen, press the "Freeze" switch of the endoscope. The image data of the screen is saved onto the internal storage device or FTP server in the network.

→ "5.4.2 Memory Tab"

→ "5.4.4 Details Tab"

(13) To register the next patient data, move the cursor to "Enter Next Patient Info." and press the [Enter] key.

Now the system is ready for the next patient data "Patient 02" to be entered.

The screenshot shows a dialog box titled "Patient Information Entry". It contains the following fields and buttons:

- Exam No. : 20150214
- Patient ID : 123456
- Patient Name : FUJI TAROU
- Sex : None Male Female
- D. o. B. : 1960 / 07 / 07
- Age : 54
- Doctor : AOYAMA
- Procedure : Procedure 1
- Message : Message 1

Below the fields, there are four buttons:

- Examine This Patient
- End Registration
- Enter Next Patient Info. (highlighted with a cursor)
- Clear All

At the bottom of the dialog, there is a status bar with the text: "[] [] Move [Enter] Select [Esc] Cancel".

- (14) Repeat steps (2) to (11) to enter patient information.

Patient Information Entry

Patient 01

Exam No.	: 20150214
Patient ID	: 123456
Patient Name	: FUJI TAROU
Sex	: <input type="radio"/> None <input type="radio"/> Male <input type="radio"/> Female
D.o.B.	: 1960 / 07 /
Age	:
Doctor	:
Procedure	:
Message	:

Examine This Patient

End Registration

Enter Next Patient Info.

Clear All

[] [] Move [Enter] Select [Esc] Cancel

- (15) After entering all patient information, move the cursor to “End Registration” and press the [Enter] key.

The display returns to the observation screen.

Patient Information Entry

Patient 01

Exam No.	: 20150214
Patient ID	: 123456
Patient Name	: FUJI TAROU
Sex	: <input type="radio"/> None <input type="radio"/> Male <input type="radio"/> Female
D.o.B.	: 1960 / 07 / 07
Age	: 54
Doctor	: AOYAMA
Procedure	: Procedure 1
Message	: Message 1

Examine This Patient

End Registration

Enter Next Patient Info.

Clear All

[] [] Move [Enter] Select [Esc] Cancel

<Fixed Patient Number>

- (1) Press the [Patient Entry] key.
The Patient Information Entry screen appears.
Patient information is fixed to “Patient 01”.

The screenshot shows the 'Patient Information Entry' screen. At the top, it says 'Patient 01' and has a 'Clear All' button. Below this is a form with the following fields:

Exam No.	: 20150214
Patient ID	: 123456
Patient Name	: FUJI TAROU
Sex	: None Male Female
D.o.B.	: 1960 / 07 / 07
Age	: 54
Doctor	: ADYAMA
Procedure	: Procedure 1
Message	: Message 1

Below the form is an 'Examine This Patient' button. At the bottom left, there is a status bar: [] [1] Move [Enter] Select [Esc] Cancel

- (2) To clear all entries (for example, if any patient data has already been entered), move the cursor to “Clear All” and press the [Enter] key.
The confirmation message “Patient information will be cleared. OK?” appears. When “Yes” is selected, all displayed entries are cleared.

The screenshot shows the same 'Patient Information Entry' screen as above, but with a confirmation dialog box overlaid in the center. The dialog box contains the text: 'Patient information will be cleared. OK?' and has 'No' and 'Yes' buttons. The 'Yes' button is highlighted. The background form is dimmed.

At the bottom left, there is a status bar: [] [1] Move [Enter] Select [Esc] Cancel

- (3) Move the cursor to “Exam No.”.
Character entry is enabled. Enter the examination number and press the [Enter] key.
Enter the examination number, using up to 16 characters.

Note With regard to the items not to be registered, do not press the [Enter] key on the item but only move the cursor to the next item.

Patient Information Entry
 Patient 01
 Exam No. : |
 Patient ID :
 Patient Name :
 Sex : None Male Female
 D.o.B. : / /
 Age :
 Doctor :
 Procedure :
 Message :

 [] [↑] Move [Enter] Select [Esc] Cancel

- (4) Enter each item of patient information referring to Steps (3) to (11) in “<Patient Number Auto Entry>”.
- (5) When all items are entered, move the cursor to “Examine This Patient” and press the [Enter] key.

Note When “Patient ID” is selected for “Exam. Data” in “Displayed Info.” in the System Setup screen, “Patient ID” is selected immediately after opening the Patient Information Entry screen. To enter the examination number, select “Exam No.” by using the [↑] and [↓] keys.

Patient Information Entry
 Patient 01
 Exam No. : 20150214
 Patient ID : 123456
 Patient Name : FUJI TAROU
 Sex : None Male Female
 D.o.B. : 1960 / 07 / 07
 Age : 54
 Doctor : AOYAMA
 Procedure : Procedure 1
 Message : Message 1

 [] [↑] Move [Enter] Select [Esc] Cancel

The confirmation dialog regarding the specified patient information and scope information appears.

The confirmation dialog disappears when the [Enter] key is pressed.

Note To capture this screen, press the "Freeze" switch of the endoscope. The image data of the screen is saved onto the internal storage device or FTP server in the network.

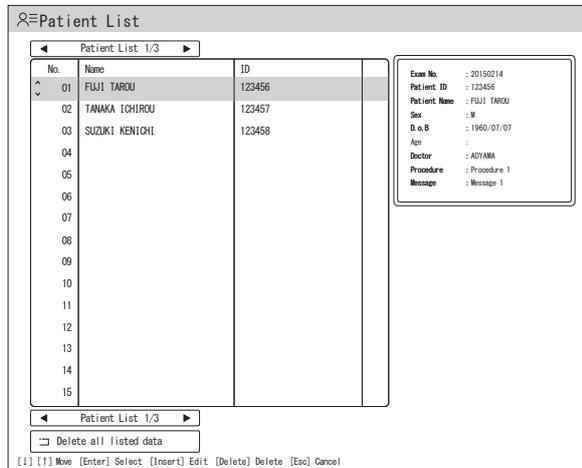
- "5.4.2 Memory Tab"
- "5.4.4 Details Tab"

5.2.2 Calling Up Patient Information

This section explains how to call up patient information.

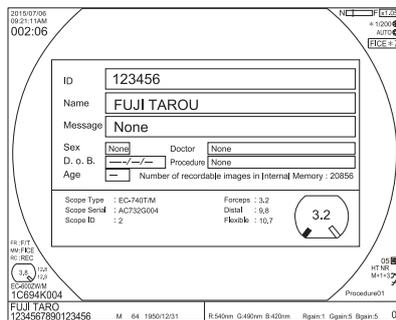
- (1) Press the [Patient] key.
The Patient List screen appears.
To turn the pages, move the cursor to "Patient List 1/3 (to 3/3)" and press the [←] or [→] keys.

- (2) When the cursor is moved to a patient number, detailed information on the selected patient is displayed at the right-hand side of the screen.



When the [Enter] key is pressed, the selected patient information is called up and operation returns to the observation screen.

The confirmation dialog indicating the selected patient information and scope information is displayed. The confirmation dialog disappears when the [Enter] key is pressed.



Note To capture this screen, press the "Freeze" switch of the endoscope. The image data of the screen is saved onto the internal storage device or FTP server in the network.

→ "5.4.2 Memory Tab"

→ "5.4.4 Details Tab"

5.2.3 Amending Patient Information

This section describes the method of amending patient information.

- (1) Press the [Patient] key.

The Patient List screen appears.

To turn the pages, move the cursor to “Patient List 1/3 (to 3/3)” and press the [←] or [→] keys.

Note For information on the patient whose examination is already finished, (☑) is displayed next to the patient number.

→ “7.17 Finishing the Examination”

The screenshot shows the 'Patient List' screen. At the top, there is a title bar with a search icon and the text 'Patient List'. Below it, a navigation bar shows 'Patient List 1/3' with left and right arrow buttons. The main area contains a table with columns 'No.', 'Name', and 'ID'. The table lists three patients: 01 FUJII TAROU (ID 123456), 02 TANAKA ICHIROU (ID 123457), and 03 SUZUKI KENICHI (ID 123458). Below the table, there is a 'Delete all listed data' button and a keyboard shortcut bar: [1] [1] Move [Enter] Select [Insert] Edit [Delete] Delete [Esc] Cancel. On the right side, there is a detailed information panel with fields for Exam No., Patient ID, Patient Name, Sex, D.o.B, Age, Doctor, Procedure, and Message, all currently blank.

No.	Name	ID
01	FUJII TAROU	123456
02	TANAKA ICHIROU	123457
03	SUZUKI KENICHI	123458
04		
05		
06		
07		
08		
09		
10		
11		
12		
13		
14		
15		

- (2) When moving the cursor to the desired patient number, detailed information on the selected patient is displayed at the right-hand side of the screen. When the [Insert] key is pressed, the Patient Information Entry screen appears.

Note When the [Enter] key is pressed, the selected patient information is called up and operation returns to the observation screen.

This screenshot is similar to the previous one, but patient 01 (FUJII TAROU) is now selected, indicated by a cursor and a checkmark (☑) next to the number. The detailed information panel on the right is populated with the following data: Exam No.: 20150214, Patient ID: 123456, Patient Name: FUJII TAROU, Sex: M, D.o.B: 1990/07/07, Age: , Doctor: AOYAMA, Procedure: Procedure 1, and Message: Message 1.

No.	Name	ID
☑ 01	FUJII TAROU	123456
02	TANAKA ICHIROU	123457
03	SUZUKI KENICHI	123458
04		
05		
06		
07		
08		
09		
10		
11		
12		
13		
14		
15		

- (3) On the Patient Information Entry screen, make corrections to patient information. For information on how to correct patient information, refer to the following section.

→ “5.2.1 Registering Patient Information”

The screenshot shows the 'Patient Information Entry' window for Patient 01. The fields are as follows:

Exam No.	: 20150214
Patient ID	: 123456
Patient Name	: FUJI TAROU
Sex	: None Male Female
D.o.B.	: 1960 / 07 / 07
Age	: 54
Doctor	: None
Procedure	: ADYAMA
Message	: SHIBUYA

A dropdown menu is open for the Message field, showing options: SHIBUYA (selected) and SHINAGAWA. Below the form are buttons for 'End Registration' and 'Clear All'. At the bottom, there is a keyboard navigation hint: [1] [1] Move [Enter] Select [Esc] Cancel.

- Note**
- To delete all entries, move the cursor to “Clear All” and press the [Enter] key. The confirmation message “Patient information will be cleared. OK?” appears. When “Yes” is selected, all the contents of the displayed patient information are deleted.
 - To delete patient information, refer to the following section.

→ “5.2.4 Deleting Patient Information”

- (4) When correction of patient information is completed, move the cursor to “End Registration” and press the [Enter] key. Operation returns to the Patient List screen.

The screenshot shows the 'Patient Information Entry' window for Patient 01 after corrections. The fields are as follows:

Exam No.	: 20150214
Patient ID	: 123456
Patient Name	: FUJI TAROU
Sex	: None Male Female
D.o.B.	: 1960 / 07 / 07
Age	: 54
Doctor	: SHIBUYA
Procedure	: Procedure 1
Message	: Message 1

The 'End Registration' button is now highlighted. Below it is the 'Clear All' button. At the bottom, there is a keyboard navigation hint: [1] [1] Move [Enter] Select [Esc] Cancel.

- (5) On the Patient List screen, press the [Enter] key.
Corrected patient information is registered and operation returns to the observation screen. The confirmation dialog indicating the selected patient information and scope information is displayed. The confirmation dialog disappears when the [Enter] key is pressed.

Note To capture this screen, press the "Freeze" switch of the endoscope. The image data of the screen is saved onto the internal storage device or FTP server in the network.

- "5.4.2 Memory Tab"
- "5.4.4 Details Tab"

5.2.4 Deleting Patient Information

This section describes the method of deleting registered patient information.

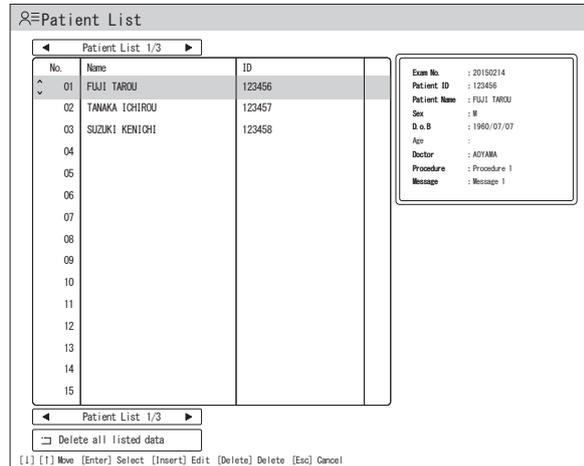
Note Once you delete previously registered patient data, you cannot restore it.

- (1) Press the [Patient] key.
The Patient List screen appears. To turn the pages, move the cursor to "Patient List 1/3 (to 3/3)" and press the [←] or [→] keys.

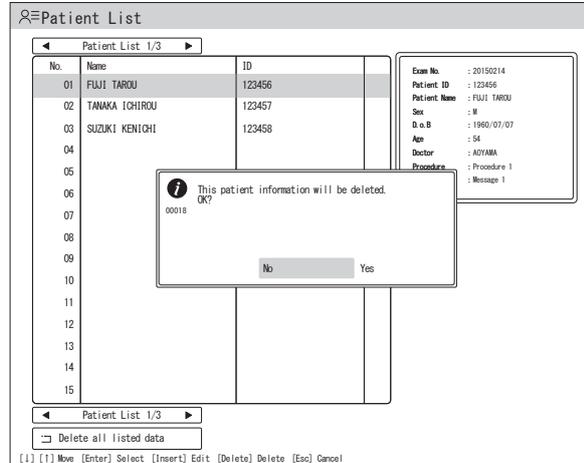
No.	Name	ID
01	FUJI TAROU	123456
02	TANAKA ICHIROU	123457
03	SUZUKI KENICHI	123458
04		
05		
06		
07		
08		
09		
10		
11		
12		
13		
14		
15		

- (2) When moving the cursor to the desired patient number, detailed information on the selected patient is displayed at the right-hand side of the screen.

Note When the [Enter] key is pressed, the selected patient information is called up and operation returns to the observation screen.



- (3) Move the cursor to patient information to be deleted and press the [Delete] key. The confirmation message "This patient information will be deleted. OK?" appears.



When “Yes” is selected, the selected patient information is deleted.

When “No” is selected, the settings are not changed and operation returns to the screen in Step (1).

The screenshot shows a window titled "Patient List" with a sub-header "Patient List 1/3". It contains a table with the following data:

No.	Name	ID
01		
02	TANAKA ICHIROU	123457
03	SUZUKI KENICHI	123458
04		
05		
06		
07		
08		
09		
10		
11		
12		
13		
14		
15		

To the right of the table is a form with the following fields:

- Exam No. :
- Patient ID :
- Patient Name :
- Sex :
- D.o.B :
- Age :
- Doctor :
- Procedure :
- Message :

At the bottom of the window, there is a button labeled "Delete all listed data" and a status bar with the text: "[1] [1] Move [Enter] Select [Insert] Edit [Delete] Delete [Esc] Cancel".

Note When deleting all patient information, move the cursor to “Delete all listed data” and press the [Enter] key.

The screenshot shows the same "Patient List" window as above, but with a confirmation dialog box overlaid in the center. The dialog box contains the following text:

! All patient information will be deleted.
OK?
00019

At the bottom of the dialog box, there are two buttons: "No" and "Yes". The "Patient List" window behind the dialog box is partially obscured, showing the table with patient information and the "Delete all listed data" button.

(4) Press the [Esc] key.
Operation returns to the observation screen.

5.3 Setting the Panel Buttons (Image Processing Functions)

This chapter explains how to set the panel buttons (image processing functions).

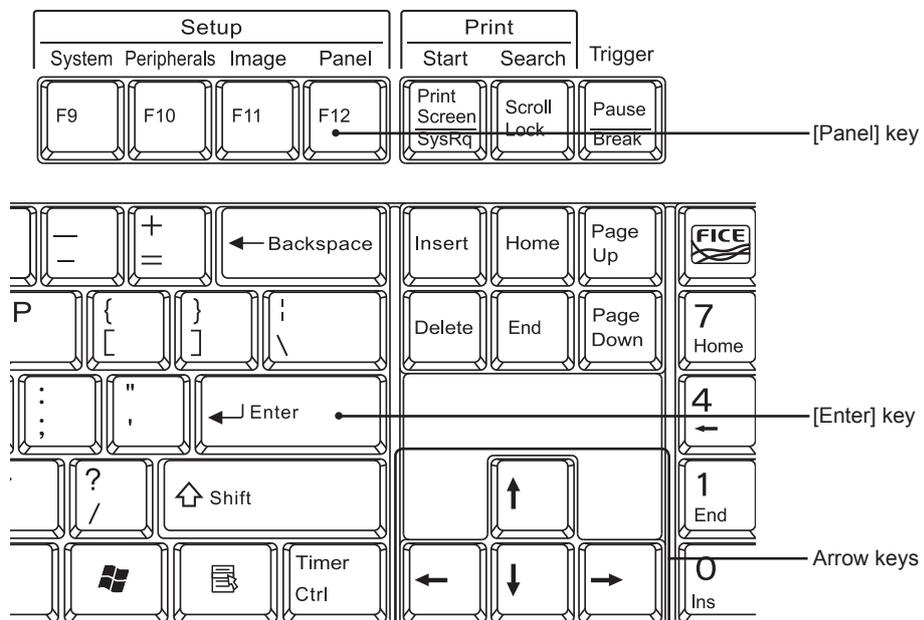
Note During examination, the observation screen is displayed as a sub-screen at the lower right-hand side of the setting screen.

5.3.1 Basic Setup Operations

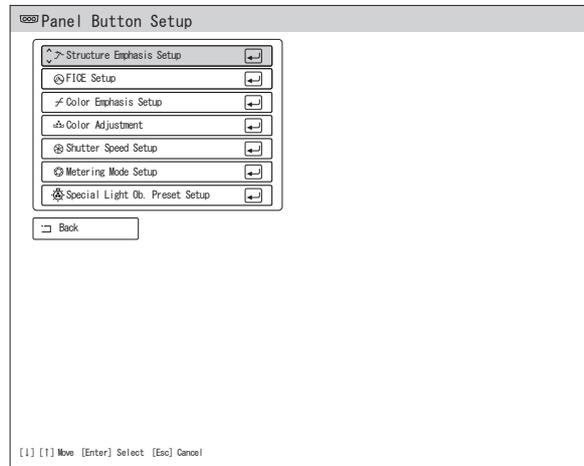
(1) Press the [Panel] key on the keyboard. The Panel Button Setup screen appears.

Note

- Essentially the same operation applies to other setup keys.
- During the observation, the observation screen is displayed in the sub-screen at the lower right side of the setup screen.

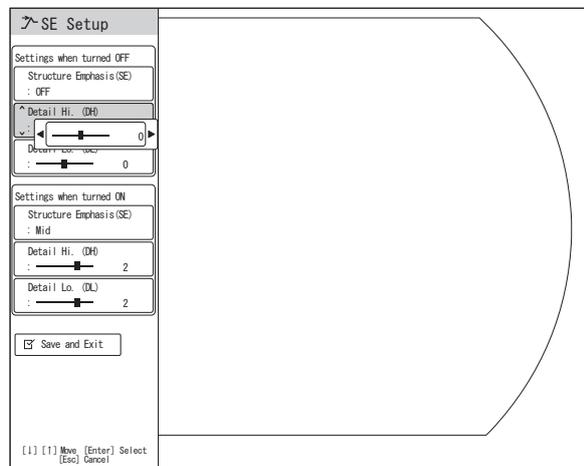


- (2) On the setup screen, use the [↑] and [↓] keys to select an item. For the items with a “↓” mark at the right end, a submenu is displayed when the [Enter] key is pressed.



- (3) To change the setting of an item, select the item using the [↑] and [↓] keys and press the [Enter] key.

- Note**
- In some cases, the setting can be changed by using the the [←] and [→] keys.
 - For the items with a “↓” mark at the right end, a submenu is displayed.

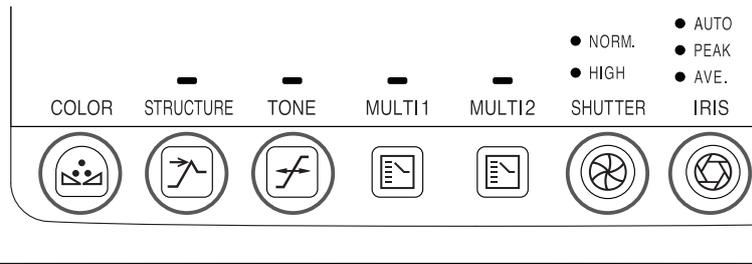


- (4) When the [Enter] key is pressed after changing the setting by using the [↑], [↓], [←] and [→] keys, the cursor moves to the next item.

- Note** In some cases, the cursor can be moved to the previous or next item by using the [↑] and [↓] keys without pressing the [Enter] key.

- (5) To save the settings, move the cursor to “Save and Exit” and press the [Enter] key.

- Note**
- Be sure to select “Save and Exit” when a setting is changed. Otherwise, the changed value is not saved.
 - When the [Esc] key is pressed, the settings are canceled and operation returns to the observation screen.
 - For the structure emphasis, tone, color adjustment, shutter speed and iris mode, the setup screen can be displayed by pressing and holding the corresponding button on the front panel for about two seconds in place of Steps (1) and (2).

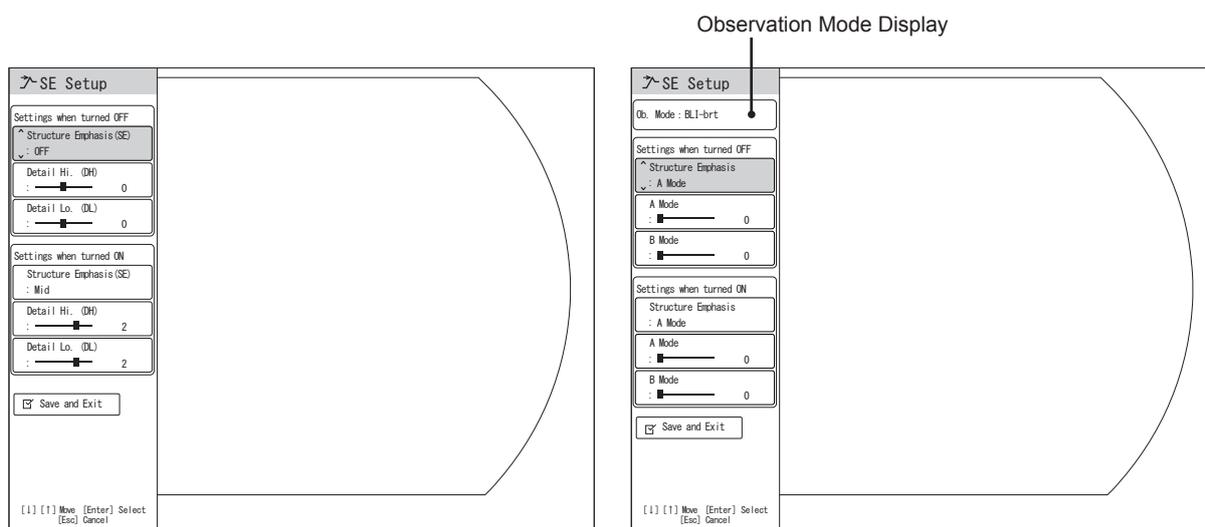


5.3.2 Structure Emphasis Settings

This section explains how to set the structure emphasis function.

The structure emphasis function enables you to adjust the sharpness of the subject structure and obtain a clearer image for closer observation of the details.

Higher levels may result in more noise in the image. Accordingly, adjust the level while viewing the image.



<In the case of Normal mode>

Category	Item	Value	Description
Settings when turned OFF Settings when turned ON	Structure Emphasis (SE)	OFF	Select the level of structure emphasis. When “OFF” is selected, structure emphasis is not applied.
		Low	
		Mid	
		Hi	
	Detail Hi. (DH)	-4 to +4	Adjust the sharpness of the details of the image. When “-4” is selected, contour emphasis is not applied.
	Detail Lo. (DL)	-4 to +4	Adjust the sharpness of the entire part of the image. When “-4” is selected, contour emphasis is not applied.
Remarks			
<ul style="list-style-type: none"> The setting that is applied when the structure emphasis function is set to OFF and the setting that is applied when the structure emphasis function is set to ON can be specified respectively. Higher levels may result in more noise in the image. Accordingly, adjust the level while viewing the image. 			

<In the case of BLI, BLI-bright or LCI>

To set the structure emphasis for the special light observation mode, it is necessary to set the observation mode to "BLI", "BLI-bright" or "LCI" in advance.

Note The settings of the structure emphasis can be retained for each observation mode. When the SE Setup screen is displayed while in the BLI mode, the structure emphasis settings for the BLI mode are specified. When it is displayed while in the BLI-bright mode, the structure emphasis settings for the BLI-bright mode are specified. When it is displayed while in the LCI mode, the structure emphasis settings for the LCI mode are specified.

Category	Item	Value	Description
Settings when turned OFF	Structure	A Mode	Select the structure emphasis mode to be used.
	Emphasis	B Mode	
Settings when turned ON	A Mode	0 to 8	When "0" is set, structure emphasis is not applied.
	B Mode	0 to 8	When "0" is set, structure emphasis is not applied.
Remarks			
<ul style="list-style-type: none"> • The setting that is applied when the structure emphasis function is set to OFF and the setting that is applied when the structure emphasis function is set to ON can be specified respectively. • Higher levels may result in more noise in the image. Accordingly, adjust the level while viewing the image. 			

Note • For the operations on the menu screen, refer to the description of basic setup operations.

→ "5.3.1 Basic Setup Operations"

• How to use

→ "7.8 Turning On/Off Structure Emphasis"

5.3.3 Setting FICE

This section explains how to set FICE.

FICE is a spectral image processing function.

FICE extracts spectral images of specific wavelength components from the original image by image processing, assigns each component to R, G and B and displays the pseudocolor image.

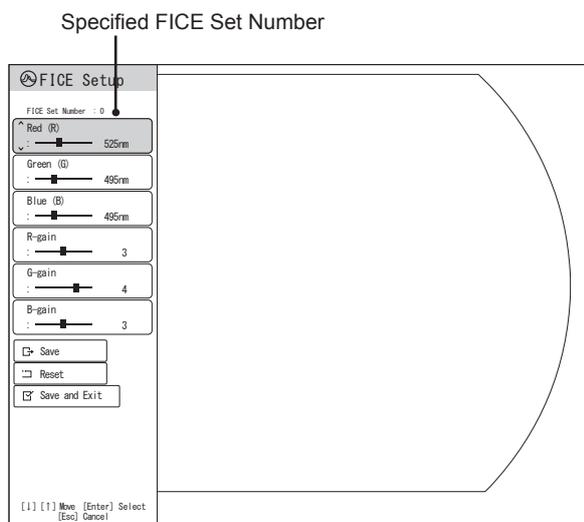
FICE can enhance color tone to improve visibility of the selected structure and areas of the subject.

<Calling Up a FICE Set>

A maximum of 10 FICE sets can be memorized. Specify the number of the FICE set to be changed.

Press the [FICE] key on the keyboard. enter the number of the FICE set to be changed (among 0 to 9) using the numeric key. Select "FICE Setup" in the Panel Button Setup screen.

Note In the BLI, BLI-bright or LCI mode, FICE is not available.



Category	Item	Value	Description
FICE Set Number (0 to 9)	Red (R)	400nm to 695nm	The wavelength can be set in 5nm increments. When changing the wavelength, you cannot assign the same wavelength to all of the gains : R, G and B.
	Green (G)	400nm to 695nm	
	Blue (B)	400nm to 695nm	
	R-gain	1 to 5	Set the gain levels while checking the tone in the screen. When a high gain level is set, halation may occur around the high-brightness portions of the image.
	G-gain	1 to 5	
	B-gain	1 to 5	
		Save	
	Reset		The settings for the currently selected FICE set number are reset to the factory defaults.
Remarks			
<ul style="list-style-type: none"> • When the wavelength is set to 650nm or longer, there may be little effect on the displayed image. • Halation means white blurring around a very bright area. 			

Note • For the operations on the menu screen, refer to the description of basic setup operations.

→ “5.3.1 Basic Setup Operations”

• How to use

→ “7.9 Turning On/Off FICE”

<Confirming FICE Settings>

The number of the FICE set currently in use and the set values can be displayed.

→ “3.8 Displaying FICE Set”

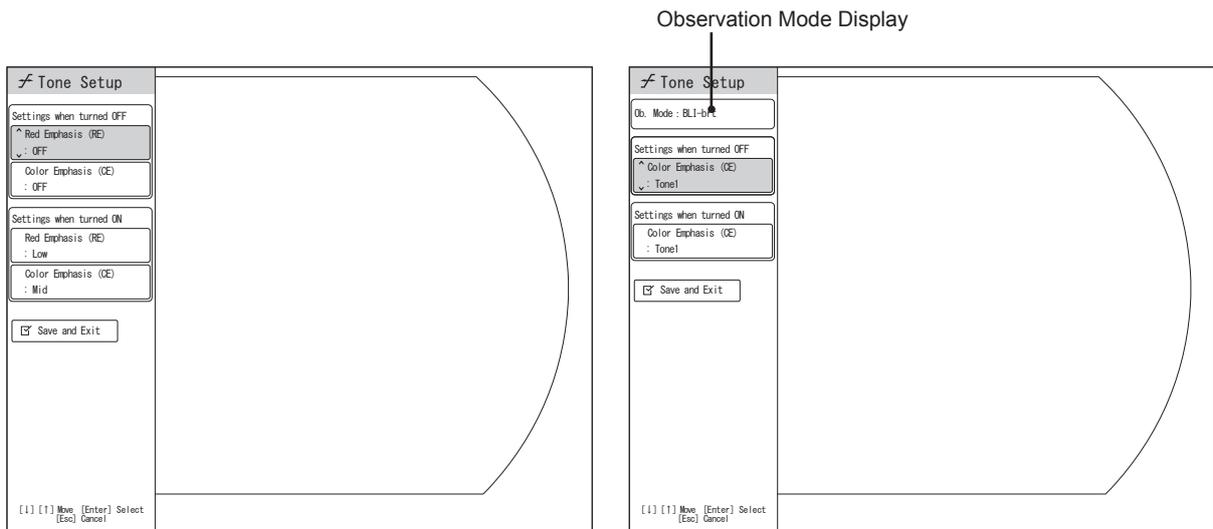
5.3.4 Tone Settings

This section explains how to set the tone function.

This function emphasizes the slight differences between colors in the image by increasing color saturation, allowing closer observation of the minor color tone difference within the subject.

The red emphasis function emphasizes slight differences of the reddish portions such as mucous membrane and blood vessels.

Note When FICE is turned “ON”, the tone function is not available.



<In the case of Normal mode>

Category	Item	Value	Description
Settings when turned OFF Settings when turned ON	Red Emphasis (RE)	OFF	Select the level of red emphasis. When “OFF” is selected, red emphasis is not applied.
		Low	
		Mid	
		Hi	
	Color Emphasis (CE)	OFF	Select the level of color emphasis. When “OFF” is selected, color emphasis is not applied.
		Low	
		Mid	
		Hi	
Remarks			
The setting that is applied when the tone function is set to OFF and the setting that is applied when the tone function is set to ON can be specified respectively.			

<In the case of BLI, BLI-bright or LCI>

To set the tone for the special light observation mode, it is necessary to set the observation mode to “BLI”, “BLI-bright” or “LCI” in advance.

Note The tone settings can be retained for each observation mode. When the Tone Setup screen is displayed while in the BLI mode, the tone settings for the BLI mode are specified. When it is displayed while in the BLI-bright mode, the tone settings for the BLI-bright mode are specified. When it is displayed while in the LCI mode, the tone settings for the LCI mode are specified.

Category	Item	Value	Description
Settings when turned OFF Settings when turned ON	Color Emphasis (CE)	OFF	Select the level of color emphasis. When “OFF” is selected, color emphasis is not applied. “OFF” can be selected only when the BLI-right mode is selected.
		Tone 1	
		Tone 2	
		Tone 3	
Remarks The setting that is applied when the tone function is set to OFF and the setting that is applied when the tone function is set to ON can be specified respectively.			

Note • For the operations on the menu screen, refer to the description of basic setup operations.

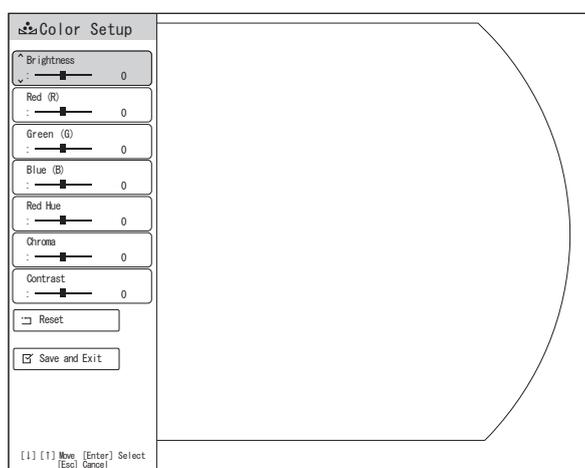
→ “5.3.1 Basic Setup Operations”

• How to use

→ “7.10 Turning On/Off the Tone”

5.3.5 Color Adjustment Settings

This section explains how to set the color adjustment function.



To set the color adjustment function for the special light observation mode, it is necessary to set the observation mode to “BLI” or “BLI-bright” in advance. Note that when FICE is turned “ON” or while in the LCI mode, color adjustment is disabled.

Note The color adjustment settings can be retained for each observation mode. When color adjustment is performed while in the BLI mode, the color settings for the BLI mode are specified. When it is performed while in the BLI-bright mode, the color settings for the BLI-bright mode are specified.

Category	Value	Description
Brightness	-4 to +4	The value can be selected from among nine levels. "+4" is the brightest setting. The factory default is "0". When a high brightness level is set, halation may occur around the high-brightness portions of the image.
Red (R)	-4 to +4	The value can be selected from among nine levels. When the level is increased, the rate of the "red" component in the entire tone increases. The factory default is "0".
Green (G)	-4 to +4	The value can be selected from among nine levels. When the level is increased, the rate of the "green" component in the entire tone increases. The factory default is "0".
Blue (B)	-4 to +4	The value can be selected from among nine levels. When the level is increased, the rate of the "blue" component in the entire tone increases. The factory default is "0".
Red Hue	-4 to +4	The value can be selected from among nine levels. When the level is increased, the image becomes more reddish, and when the level is decreased, the image becomes more yellowish. The factory default is "0". When the observation mode is BLI or BLI-bright, "Red Hue" cannot be changed.
Chroma	-4 to +4	The value can be selected from among nine levels. When the level is increased, the chroma increases. The factory default is "0".
Contrast	-1 to +1	The value can be selected from among three levels. When the level is increased, the contrast increases. The factory default is "0".
Reset		The color adjustment values are reset to the factory defaults.
Remarks		
When "Reset" is selected, the color adjustment values for the connected system scope are reset to the factory defaults.		

Note • For the operations on the menu screen, refer to the description of basic setup operations.

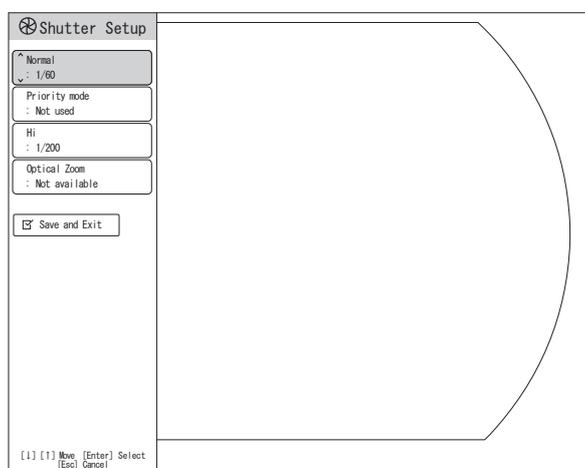
→ "5.3.1 Basic Setup Operations"

• How to use

→ "7.11 Setting the Color Adjustment"

5.3.6 Setting the Shutter Speed

This section explains how to set the shutter speed.



Category	Value	Description
Normal	1/60 1/100 1/200	Select the standard shutter speed at the time of turning on the power. Selectable values vary depending on the connected endoscope.
Priority mode	Not used Used (Speed 1) Used (Speed 2) Used (Speed 3)	When the priority mode is used, the shutter speed is automatically adjusted only in the following cases. <ul style="list-style-type: none"> • When the shutter speed is set to “Normal” on the front panel • When the shutter speed is set to “Hi” on the front panel (only if “1/100” is set for “Hi”)
Remarks When the priority mode is active, the shutter speed is displayed with an asterisk, such as “* 1/200 ⊕”, in the observation screen.		
Hi	1/100 1/200 1/400	Select the shutter speed that is applied when the shutter speed is set to “Hi” on the front panel. Selectable values vary depending on the connected endoscope.
Remarks “Hi” is disabled when the connected endoscope supports optical zooming.		
Optical Zoom	1/100 1/200 1/400 1/600 1/800	“Optical Zoom” is disabled when the connected endoscope does not support optical zooming.

- Note** • The priority mode is valid only when the following versions of system scopes are used.

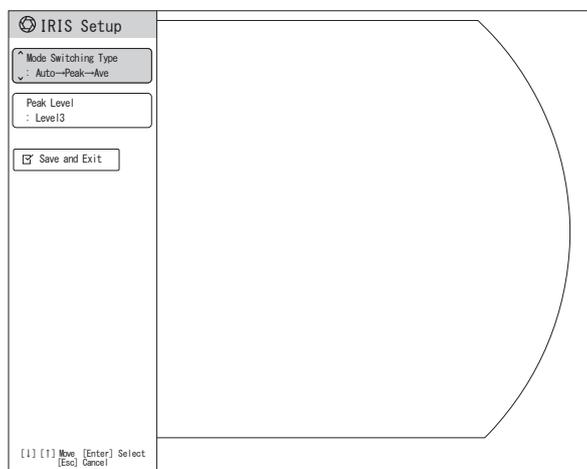
Scope type	Version
530 Series (honeycomb)	Ver.2.03 or later
580 Series	All versions
590 Series	Ver.2.10 or later
600 System	All versions
700 System	All versions

- Note** • For the operations on the menu screen, refer to the description of basic setup operations.

- “5.3.1 Basic Setup Operations”
 - How to use
- “7.12 Switching the Shutter Speed”

5.3.7 Setting the Iris Mode

This section explains how to set the iris mode.



Category	Value	Description
Mode Switching Type	Auto→Peak→Ave Auto→Peak Peak→Ave Ave→Auto	Each the Iris Mode Button is pressed on the front panel, the iris mode switches in the order specified here.
Peak Level	Levels 1 to 5	The peak detection level specifies how much halation is decreased.
Remarks		
• Halation means white blurring around a very bright area.		

- Note**
- For the operations on the menu screen, refer to the description of basic setup operations.
 - “5.3.1 Basic Setup Operations”
 - How to use
 - “7.13 Switching the Iris Mode”

5.3.8 Special Light Observation Preset Setup

This section explains how to set the special light observation preset.

Each time the BLI button on the light source, scope switch or foot switch is pressed, the observation mode switches in the order specified here.

No	Name	Observation Mode
1	BLI	BLI Mode
2	BLI-brt	BLI-brt Mode
3	LCI	LCI Mode

Reset

[1] [1] Move [Enter] Select [Delete] Delete [Esc] Cancel

Note The Special Light Observation Preset Setup screen can also be displayed by pressing and holding the BLI button on the light source for about two seconds.

Category	Item	Value	Description
Special Light Observation Preset Setup No.1 to No.3	Name	To be entered by using the keyboard	Select the preset number and press the [Enter] key. When the confirmation message appears, select "Registration" and press the [Enter] key to enter the preset name. [Note] Enter the preset name within 7 characters. The name already used cannot be entered, and this field cannot be blank.
	Observation Mode	BLI Mode BLI-brt Mode LCI Mode	Select the special light observation mode to be registered for the selected preset number.
	Reset		Select "Reset" and press the [Enter] key. When the confirmation message appears, select "Yes" to reset all the settings of special light observation preset to factory defaults. [Note] When resetting is performed during an examination in the special light observation mode, the screen returns to the normal mode.

Category	Item	Value	Description
Delete			Select the number of the preset to be deleted and press the [Enter] key. When the confirmation message appears, select "Yes" to delete the selected special light observation preset. [Note] When deletion is performed during an examination in the special light observation mode, the screen returns to the normal mode.

Note • For the operations on the menu screen, refer to the description of basic setup operations.

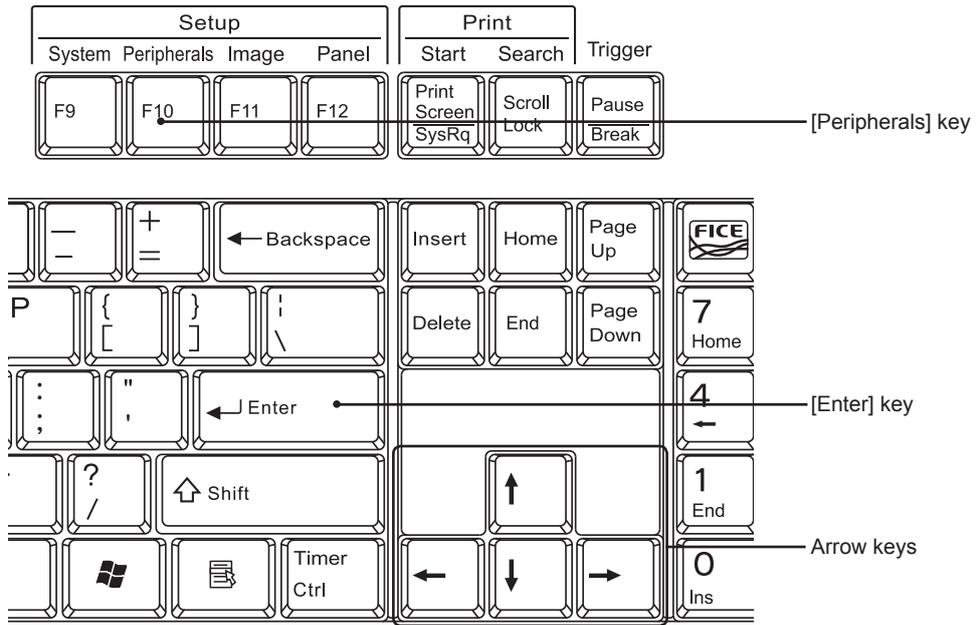
- "5.3.1 Basic Setup Operations"
- How to use
- "7.7 Switching Observation Mode"

5.4 Peripheral Settings

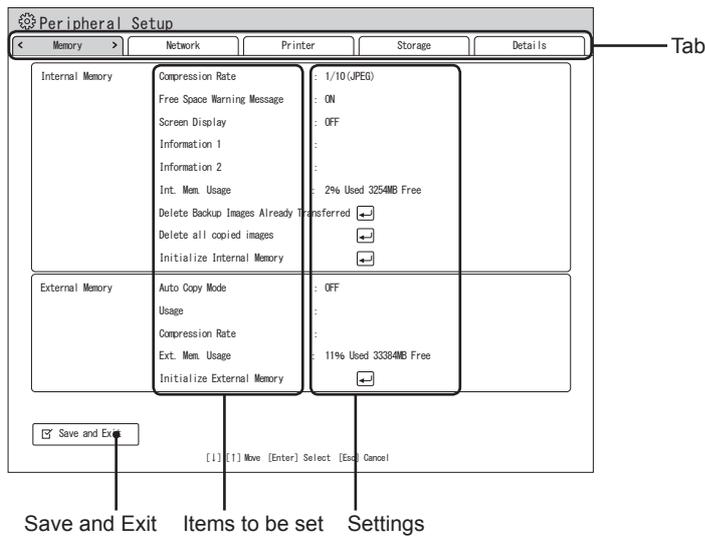
5.4.1 Basic Setup Operations

(1) Press the [Peripherals] key. The Peripheral Setup screen appears.

- Note**
- Essentially the same operation applies to other setup keys.
 - During the observation, the observation screen is displayed in the sub-screen at the lower right side of the setup screen.



(2) On the setup screen, use the [↑] and [↓] keys to select an item.



(3) When a tab is selected, the category can be switched by using the [←] and [→] keys.

- Note** When a list has multiple pages, use the [←] and [→] keys to toggle between pages.

- (4) To change the setting of an item, select the item using the [↑] and [↓] keys and press the [Enter] key.

- Note**
- Use the [↑] and [↓] keys to select a value.
 - For the items with a “↵” mark at the right end, a submenu is displayed.
 - When “[Insert] Edit” is displayed at the bottom of the menu screen, if the [Insert] key is pressed, the desired value can be entered directly by using the keyboard.

- (5) After a value is changed, press the [Enter] key to move the cursor to the next item.

- Note** When a value is entered directly by using the keyboard, the cursor may automatically move to the next item after the input is completed.

- (6) To save the settings, move the cursor to “Save and Exit” and press the [Enter] key.

- Note** Be sure to select “Save and Exit” when a setting is changed. Otherwise, the changed value is not saved.

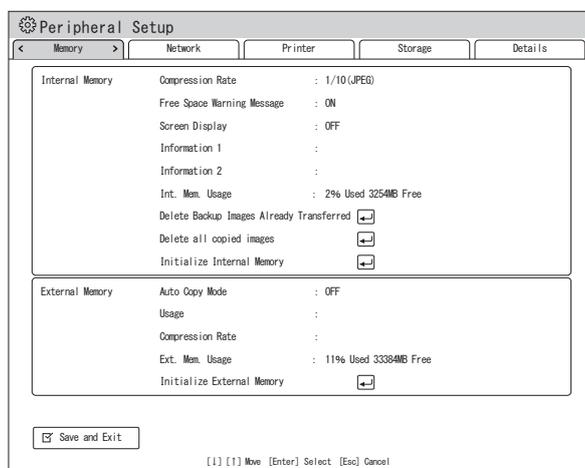
5.4.2 Memory Tab

The VP-7000 system is equipped with the internal storage device used for recording images and for backing up images when the network transfer is enabled. Images in the internal storage device can be copied to an external storage device.

This section explains the settings regarding the internal and external storage devices, how to initialize them and how to delete images.

For details on the number of recordable images and how to use recorded images, see “Chapter 8 Image Recording”.

→ “Chapter 8 Image Recording”



Category	Item	Value	Description
Internal Memory	Compression Rate	1/1 (TIFF) 1/5 (JPEG) 1/10 (JPEG) 1/20 (JPEG)	Select the compression rate of image data to be recorded.
	Free Space Warning Message	ON OFF	ON: When the number of recordable images that can be saved in the internal storage device is reduced to 20, a warning message appears in the observation screen. OFF: The warning message is not displayed.
	Screen Display	ON OFF	ON: The number of recordable images in the internal storage device is displayed in the observation screen. OFF: The number of recordable images in the internal storage device is not displayed in the observation screen.
	Information 1	Press the [Enter] key to enter user's notes.	User's notes can be entered.
	Information 2	Press the [Enter] key to enter user's notes.	User's notes can be entered.
	Int. Mem. Usage		The usage rate and free space of the internal storage device are displayed.
	Delete Backup Images Already Transferred	Press the [Enter] key to display the message window.	From among the image data of each examination stored in the internal storage device, all image data already transferred to the FTP server is deleted at one time. Image data is deleted on an examination basis. If any image data is not yet transferred, no image data in the examination will be deleted. This function is valid when "Used" is selected for "Usage" in "Network" in the Details tab.
	Delete all copied images	Press the [Enter] key to display the message window.	If all image data of an examination stored in the internal storage device have already been copied to an external storage device, the entire image data of the examination will be deleted. Image data is deleted for each examination.
	Initialize Internal Memory	Press the [Enter] key to display the message window.	If you execute initialization, any previous data on the internal storage device is lost and you cannot restore it. Check the contents carefully before initialization.

Category	Item	Value	Description
External Memory	Auto Copy Mode	ON OFF	<p>OFF: Images recorded in the internal storage device during an examination are not copied to an external storage device automatically.</p> <p>ON: Images recorded in the internal storage device during an examination are also copied to an external storage device automatically (simultaneous recording).</p> <p>[Note] When "ON" is selected, attach an external storage device to the VP-7000 before starting an examination.</p> <p>[Note] Use the external storage device only for this system. Do not share it with other systems.</p> <p>[Note] The images in the internal storage device can be copied manually to an external storage device after an examination is finished.</p>
	Ext. Mem. Usage		The usage rate and free space of the external storage device are displayed.
	Initialize External Memory	Press the [Enter] key to display the message window.	When initialization is executed, all the data in the external storage device are deleted and cannot be recovered. Before executing initialization, thoroughly check the content of the external storage device.
<p>Remarks</p> <ul style="list-style-type: none"> • The compression rate is just a guide and differs depending on the image to be saved. "1/1 (TIFF)" means saving without compression. Saving takes time. Also, it consumes a large capacity, so check the available capacity before saving. Do not change the compression rate while saving since images may not be recorded normally. • For details on the available external storage device, see "8.8.1 External Storage Device". • Do not remove the external storage device while the display for the external storage device flashes in orange. If the external storage device is removed while the display flashes in orange, it may damage the data being copied or the external storage device itself. • The term "initializing the external storage device" means erasing the index area (contents area). This product cannot initialize the entire storage device. When initializing the entire storage device, use a personal computer. • If the same external storage device is used over a long time, the processing speed of the external storage device may decrease (due to fragmentation). If this happens, initialize the entire storage device using a personal computer. 			

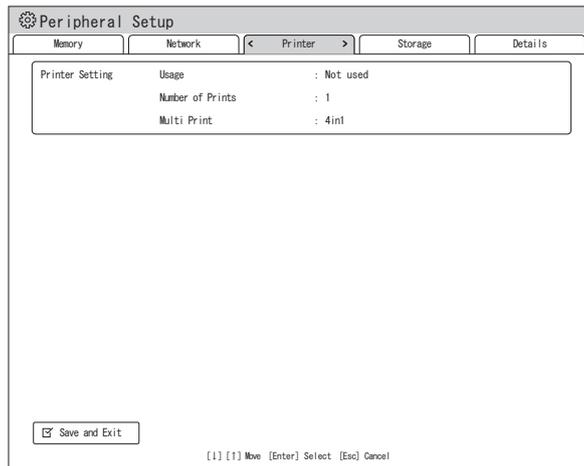
Note • For the operations on the menu screen, refer to the description of basic setup operations.

→ "5.4.1 Basic Setup Operations"

5.4.3 Printer Tab

This section describes the settings for the printer connected to the VP-7000 such as the number of prints and multi-print function. The printer to be used needs to be installed in advance. Installation of the printer is performed by our service personnel.

Turn on the printer before setting the device. If you do the setting with the power turned off, the setting on the processor side will not be transferred to the printer.



Category	Item	Value	Description
Printer Setting	Usage	Not used Printer model name	Select the model name of the connected printer or "Not used". When "Not used" is selected, all items in the "Printer" tab are disabled.
	Number of Prints	1 to 4	Select the number of prints.
	Multi Print	4 in 1 1 in 1 Apply Printer Setting	Select the number of images to be printed on one sheet of printing paper. Items displayed in the setup screen vary depending on the connected printer. 4in1: Prints four images on one sheet. 1in1: Prints one image on one sheet. Apply Printer Setting: Prints images for the number set on the printer side.
Remarks <ul style="list-style-type: none"> • Some settings may be fixed depending on the printer to be used. • The print size is fixed. • When observation is performed while the printer connected with the RS-232C interface is turned off, the error message "Printer cannot be recognized. Check the printer power and cable connection." is displayed. To erase the error message, set "Nor used" for "Usage" in the Printer Setting by referring to the above procedure. 			

Note For the operations on the menu screen, refer to the description of basic setup operations.

→ "5.4.1 Basic Setup Operations"

5.4.4 Details Tab

With the VP-7000, images can be saved onto the FTP server via the network. Network settings are performed by our service personnel.

This section explains the settings for the images to be saved onto the FTP server via the network.

Peripheral Setup

Memory Network Printer Storage < Details >

Network Setup Usage : Not used
Compression Rate : 1/20 (JPEG)

Internal Memory Storage Backup to Internal Memory : OFF
When backed up to Internal Memory, its settings are disabled.
Delete Backup Images Already Transferred : Not used
Transfer Backup images Not Yet Transferred : Not used

Save and Exit

[] [1] Move [Enter] Select [Esc] Cancel

Category	Item	Value	Description
Network Setup	Usage	Used Not used	When “Used” is selected, images can be saved onto the FTP server. In addition, “Backup to Internal Memory” is automatically changed to “OK”. When “Not used” is selected, all items in the “Details” tab are disabled.
	Compression Rate	1/1 (TIFF) 1/5 (JPEG) 1/10 (JPEG) 1/20 (JPEG)	Select the compression rate of image data to be saved.
Remarks <ul style="list-style-type: none"> The compression rate is just a guide and differs depending on the image to be saved. “1/1 (TIFF)” means saving without compression. Saving takes time. Also, it consumes a large capacity, so check the available capacity before saving. Do not change the compression rate while saving since images may not be recorded normally. 			

Category	Item	Value	Description
Internal Memory Storage	Backup to Internal Memory	ON OFF	When "ON" is selected, images to be stored on the FTP server in the network are also backed up onto the internal storage device.
	Delete Backup Images Already Transferred	Used Not used	When "Used" is selected, if all image data of an examination stored in the internal storage device has already been transferred to the FTP server, the entire image data of the examination will be deleted at the end of the examination. If any image data is not yet transferred, no image data will be deleted.
	Transfer Backup Images Not Yet Transferred	Used Not used	When "Used" is selected, if any image data of the previous examination remains in the internal storage device, all image data of the previous examination will be transferred at the beginning of the next examination. Image data of the previous examination that are sent again will not be deleted from the internal storage device even if "Used" is selected for "Delete Backup Images Already Transferred".
Remarks <ul style="list-style-type: none"> If the space in the internal storage device is not sufficient for the next examination, the VP-7000 deletes all image data of an examination already copied to an external storage device or those already transferred to the network in chronological order. When the internal storage device is filled with image data not yet copied to an external storage device or those not yet transferred to the FTP server, images are not backed up but are transferred to the FTP server. To resume backup operation, send the images to the network or copy them to the external storage device to secure an enough free space. 			

Note For the operations on the menu screen, refer to the description of basic setup operations.

→ "5.4.1 Basic Setup Operations"

5.5 Other Settings

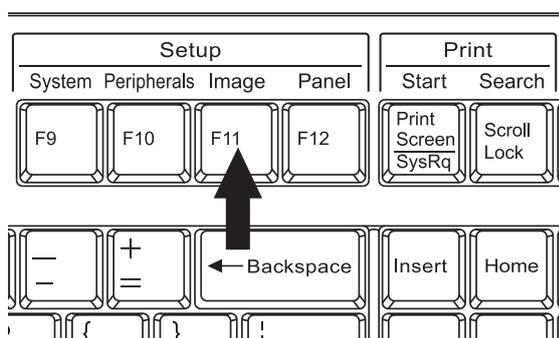
5.5.1 Registering, Calling Up and Editing and Deleting Image Setup Page

The tone settings on the observation screen can be adjusted for each scope type, and a maximum of 5 patterns can be stored.

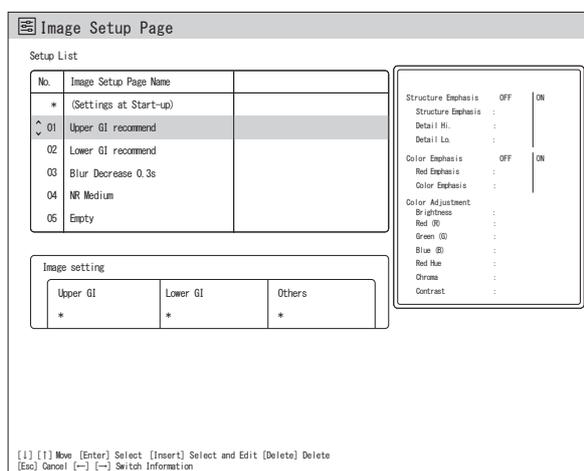
The desired name can be set for each preset settings. When a preset is specified on the Image Setup Page screen, the image can be displayed with the preset tone.

<Registering Image Setup Page>

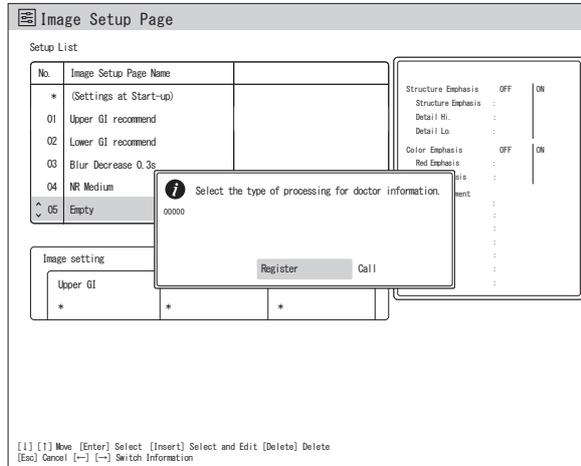
- (1) Press the [Image] key to display the Image Setup Page screen.



- (2) Select a list number for which the image setup page name is “Empty” and press the [Enter] key.



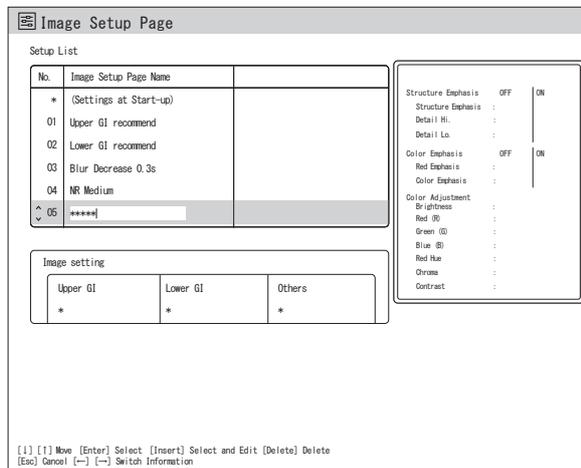
- (3) The confirmation message appears. Select “Register” and press the [Enter] key.



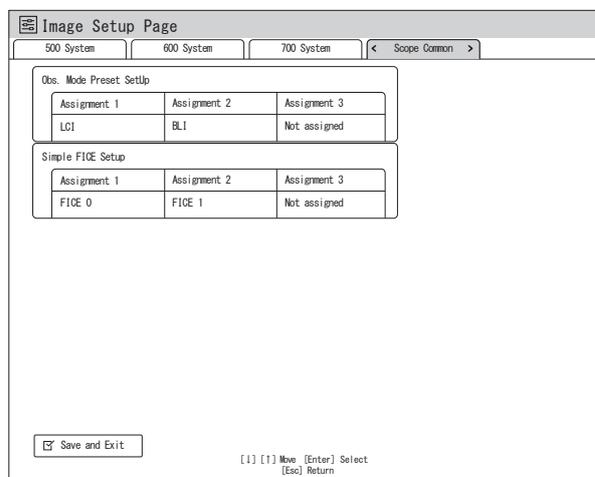
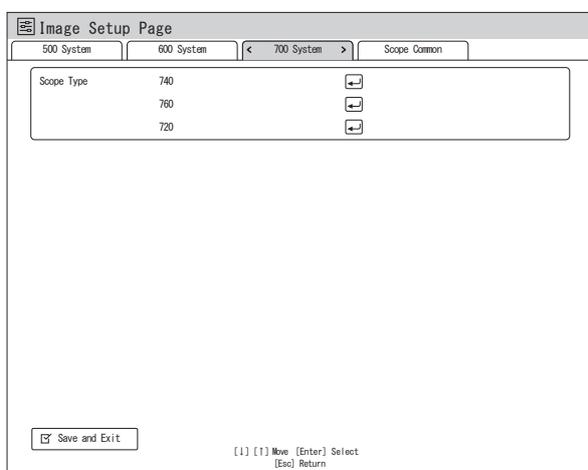
Note

- When “Settings at Start-up” or an already registered image setup page name is selected for “Image Setup Page Name”, either “Register” or “Retrieve Settings” can be selected.
- Registered image setup page names cannot be registered and the image setup page cannot be left blank.

- (4) Enter the image setup page name up to 20 characters and press the [Insert] key.

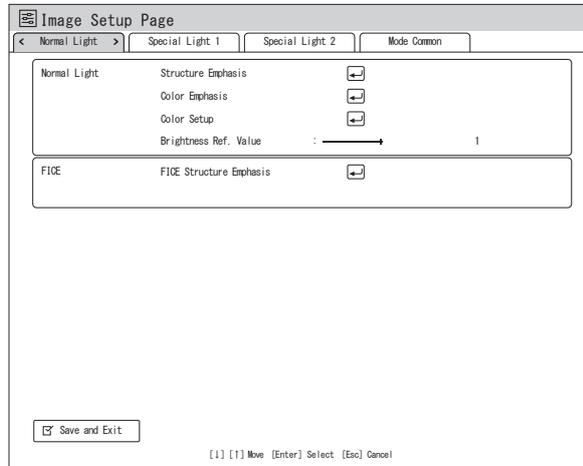


- (5) Select a tab and use the [←] and [→] keys to switch between Scope Systems and Scope Common. Select a scope type and press the [Enter] key.



Category	Item	Value	Description
500 System 600 System 700 System			Settings on the Normal Light/FICE, Special Light 1, Special Light 2 and Mode Common tabs can be performed for each endoscope.
Scope Common	Obs. Mode Preset Setup	Not assigned Special Light Ob. Preset Setup No.1 to No.3 FICE 0 to 9	→ “5.3.8 Special Light Observation Preset Setup” [Note] If an item is not registered as a special light observation preset, the item is not displayed in the pop-up menu.
	Simple FICE Setup	Not assigned FICE 0 to 9	When a FICE set number is assigned, each pressing of the scope switch to which “FICE” is assigned changes the function to be selected in order of FICE “ON” and call up of FICE set number of “Assignment 1” → call up of “Assignment 2” → call up of “Assignment 3” → FICE “OFF”. → “4.2.7 Endoscope Tab” → “5.3.3 Setting FICE”
Remarks To cancel the assignment settings, select “Not assigned” by using the same procedure and press the [Enter] key to finalize the setting.			

- (6) The tone can be adjusted for each observation mode such as Normal light/FICE, BLI/ BLI-brt and LCI.

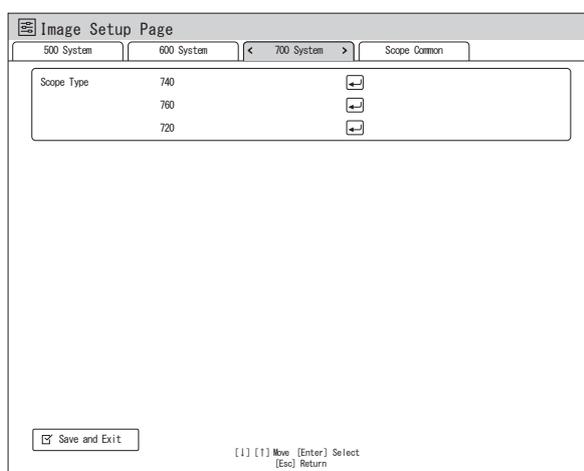


Category	Item	Value	Description
Normal Light/ FICE Special Light 1 Special Light 2	Structure Emphasis		→ “5.3.2 Structure Emphasis Settings”
	Color Emphasis		→ “5.3.4 Tone Settings”
	Color Setup		→ “5.3.5 Color Adjustment Settings”
	Brightness Ref. Value		The brightness reference value at the time of observation is set. This function is the same as the brightness adjustment function of the light source.
Mode Common	Noise Reduction	OFF Low Mid Hi	The noise reduction function reduces noise on the image. However, if noise reduction is applied strongly, the displayed image may look unnatural (e.g. blurring of fine structures). When noise reduction is applied, the following indication is displayed on the screen. (“Low”, “Mid” and “High” indicate the level of noise reduction.) NR: White (Low), Green (Mid) or Yellow (High)
	Hyper-Tone	OFF Low Mid Hi	When Hyper-Tone is applied, the brightness of the dark part of the subject can be adjusted. If Hyper-Tone is applied strongly, noise on the dark part of the subject may become noticeable. When hyper-tone is applied, the following indication is displayed on the screen. (“Low”, “Mid” and “High” indicate the level of noise reduction.) HT: White (Low), Green (Mid) or Yellow (High)

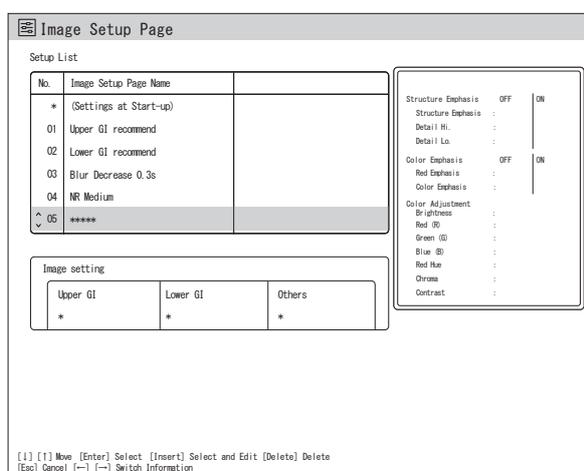
Category	Item	Value	Description
Mode Common	Aid Brightness	OFF	This function increases the brightness level of the area where light hardly reaches in the observation screen. However, the observation screen may become grainy.
	Shake Reduction Mode		The image of the highest contrast within the specified second can be obtained.

(7) Move the cursor to “Save and Exit” and press the [Enter] key.

Note When the settings are performed for multiple scope types, repeat Steps (5) to (7).



(8) Operation returns to the Image Setup Page screen. Press the [Enter] key with the registered “Image Setup Page Name” selected. The settings are loaded and operation returns to the observation screen.



<Detailed Information on Image Setup Page>

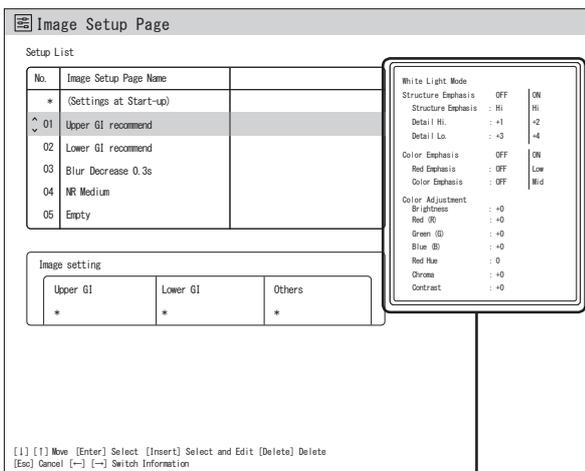
When the endoscope is connected and the Image Setup Page screen is displayed during an examination, the image settings are displayed on the detailed information area.

- (1) Press the [Image] key to display the Image Setup Page screen. Select a registered image setup page name using the [↑] and [↓] keys. The settings are displayed in the detailed information area.
- (2) When a system scope with which BLI, BLI-bright and LCI are available is connected, use the [←] and [→] keys to switch the display in the detailed information area to check the settings of each observation mode.

- Note**
- When the examination is not in progress, no settings are displayed in the detailed information area.
 - The information display switches according to the settings on the Special Light Observation Preset Setup screen.

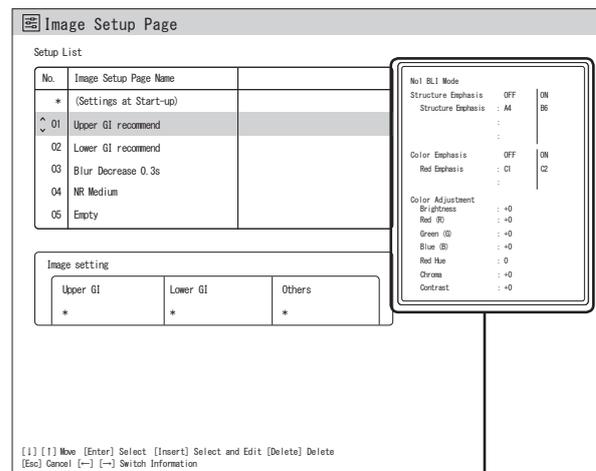
→ “5.3.8 Special Light Observation Preset Setup”

• White Light



Detailed Information

• BLI

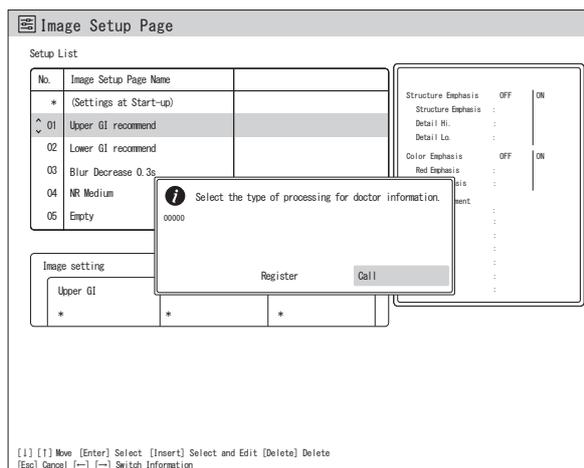


Detailed Information



<Calling Up Image Setup Page>

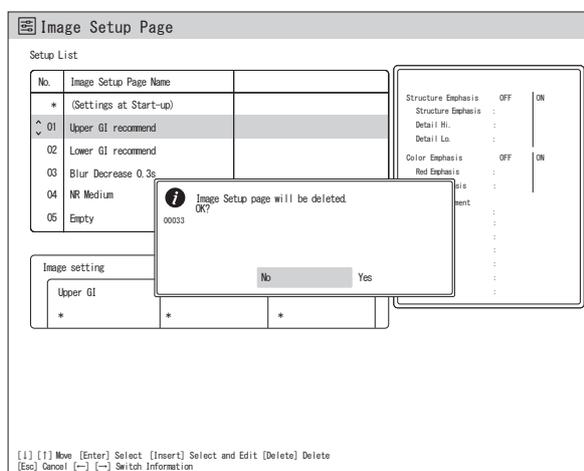
- (1) Press the [Image] key to display the Image Setup Page screen. Select a registered image setup page name using the [↑] and [↓] keys.
- (2) Press the [Enter] key. The confirmation message is displayed. Select “Call” and press the [Enter] key. The selected settings are loaded and operation returns to the observation screen.



Note When “Settings at Start-up” is selected from the list, only “Retrieve Settings” is enabled in the confirmation screen.

<Deleting Image Setup Page>

- (1) Press the [Image] key to display the Image Setup Page screen. Select a registered image setup page name using the [↑] and [↓] keys.
- (2) Press the [Delete] key. The confirmation message is displayed. When “Yes” is selected and then the [Enter] key is pressed, the image setup page is deleted.



<Image Setting>

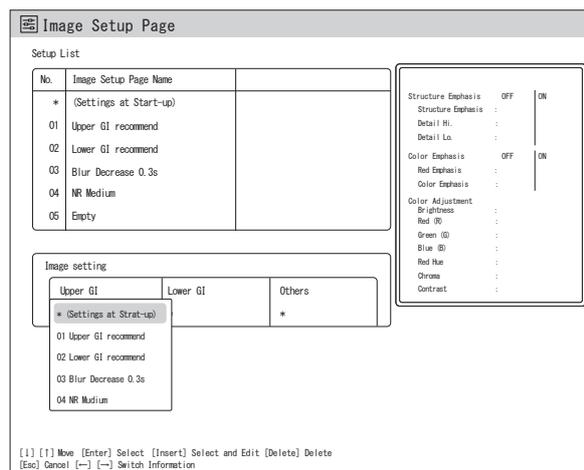
When the endoscope is connected and an examination is started, color adjustment data for “Upper GI”, “Lower GI” or “Others” set on the Image Setup Page screen is loaded according to the target region of endoscopic observation.

Upper GI: Endoscope whose name begins with “EG”

Lower GI: Endoscope whose name begins with “EC”

Others: Other than above

- (1) Press the [Image] key to display the Image Setup Page screen. Select the image setting using the [↑] and [↓] keys.
- (2) Use the [←] and [→] keys to select the endoscope category.
- (3) Press the [Enter] key. The image setup page names are displayed on the pop-up menu.
- (4) Select the name of the image setup page to be assigned and press the [Enter] key.



5.5.2 Setting PoP Function

The PoP function is used to display images input from an external device.

To enable the PoP function (display of externally input images), perform the signal setting of the input device. Set PAL or NTSC according to the output specification of the input device.

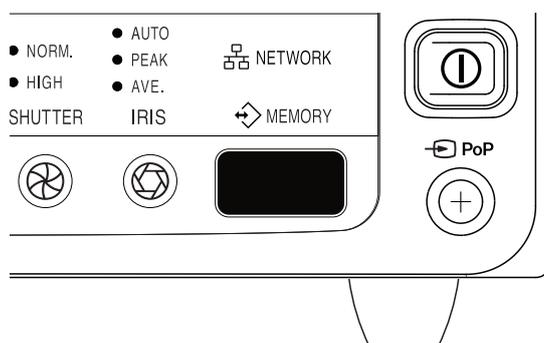
CAUTION

- When a cable is connected to the PoP connector, lay the cable so as to prevent feet or other devices from being caught.

Note When the PoP function is not used, attach the cap to the connector.

PoP settings → “4.2.3 Function Tab”

How to use the PoP function → “7.15.1 PoP Function (Displaying Images on External Device)”



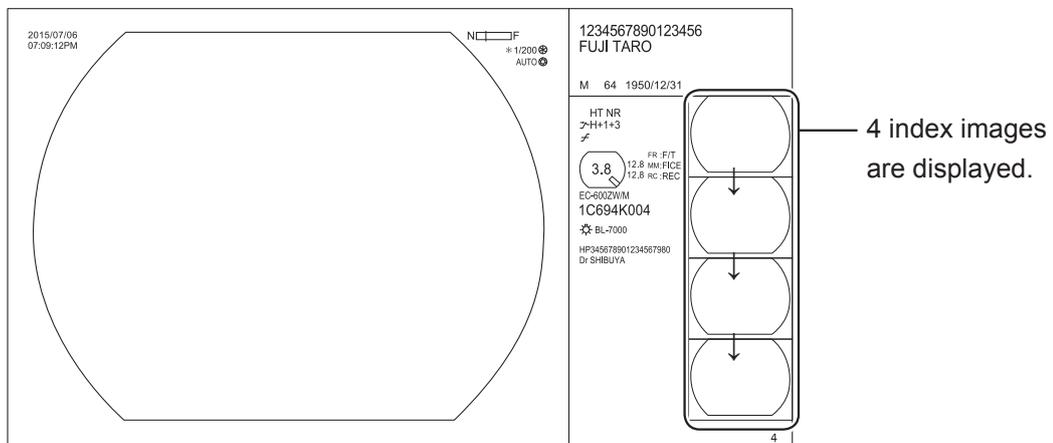
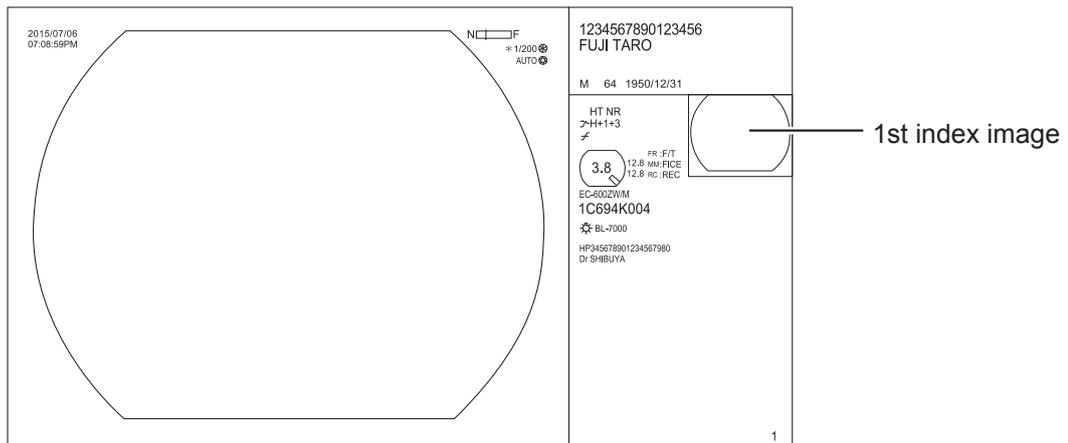
5.5.3 Index Image Display

When a FullHD monitor is connected and the screen resolution is set to FullHD, the last four index images stored in the internal storage device are displayed. They cannot be displayed while in the SXGA mode.

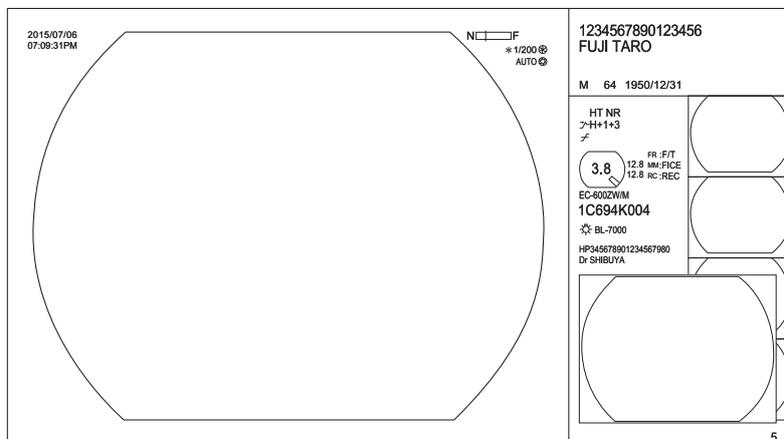
Among the four images, the topmost image is the newest one. When a new image is recorded, each image moves to the lower frame.

Screen resolution setup → “4.2.5 Basic Setting Tab”

Index image display setting → “4.2.3 Function Tab”



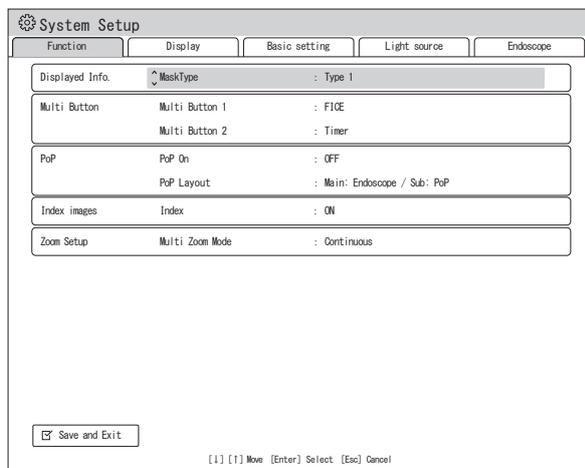
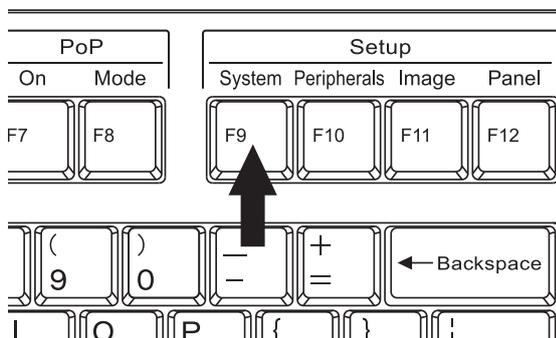
Note If the PoP or dual mode display is ON, the lower two index images among four images are not displayed. To view the lower two index images, turn OFF the PoP or dual mode display.



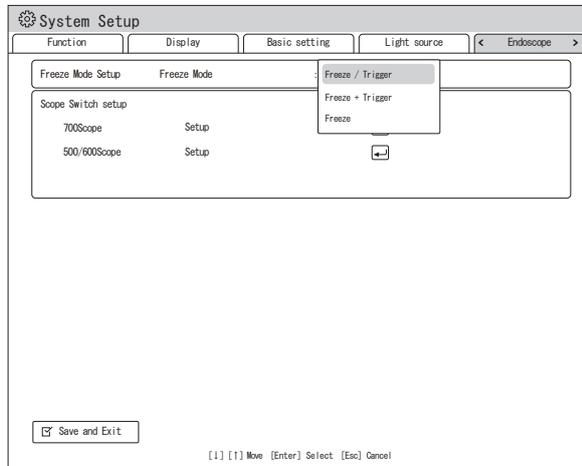
5.5.4 Setting Freeze Mode

Set the freeze mode to be assigned to the scope switch.

- (1) Press the [System] key on the keyboard. The System Setup screen appears.



- (2) On the “Endoscope” tab, move the cursor to “Freeze Mode” in “Freeze Mode Setup” and press the [Enter] key. When a pop-up menu is displayed, select the function to be used.



Note If “Freeze / Trigger”, “Freeze + Trigger” or “Freeze” and “Trigger” / “Record” are not assigned, images cannot be captured.

→ “4.2.7 Endoscope Tab”

5.5.5 Setting Multi Zoom Mode

The type of zoom operation that is applied when an endoscope with the optical zoom function is used in combination with this product.

This setting is effective only for endoscopes that support the multi zoom mode. For details on each operating mode, see the operation manual of endoscopes that support the multi zoom mode.

Endoscopes that do not support the multi zoom mode operate in the continuous mode, regardless of this setting.

The optical zoom operation and the focus meter display on the upper right corner of the observation screen change according to the selected multi zoom mode.

Operating mode	Optical zoom operation	Focus meter display
Continuous	The focus position changes in a stepless manner.	N  F
5 Step	The focus position changes in 5 steps.	N  F
3 Step	The focus position changes in 3 steps.	N  F
2 Step	The focus position changes in 2 steps.	N  F

Zoom Setup → “4.2.3 Function Tab”

5.5.6 Lap Time Display

The lap time can be displayed on the observation screen.

When a FullHD monitor is connected and the screen resolution is set to FullHD, the lap time can be displayed. The lap time function needs to be assigned to the Multi button or a scope switch.

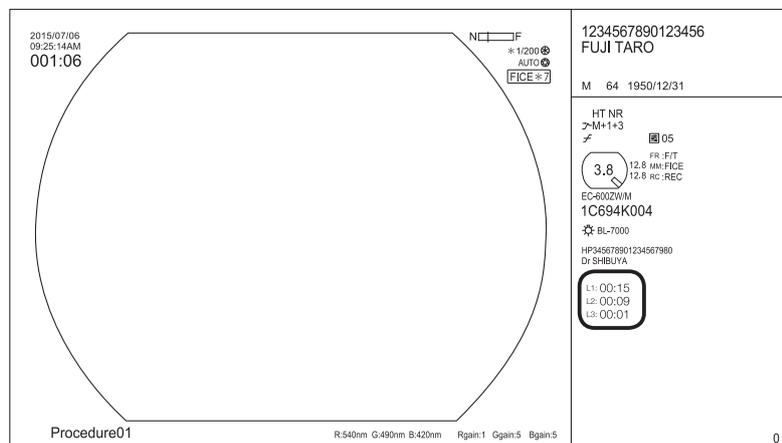
Note The lap cannot be displayed in the case of the dual mode or PoP display.

Lap time setup → “4.2.4 Display Tab”

Multi button setup → “4.2.3 Function Tab”

Scope switch setup → “4.2.7 Endoscope Tab”

How to use the lap time function → “7.15.4 Lap Time Function”



Preparation and Inspection of the System

6.1 Installing and Connecting the Equipment

Install the system according to “Chapter 4 System Installation and Initial Settings”.

- Note**
- If the battery in the processor discharges, it may impede the clock function displayed on the monitor (the clock may lose time). If the processor has been left unused for more than three months, turn on the power to the processor to charge the battery for about three hours. (It is not necessary to connect the endoscope or turn on the light.)
 - If the clock displayed on the monitor is not correct, set the date and time again.

6.2 Preparing Related Equipment

Inspect the following related equipment as per instructions provided in each operation manual.

- Endoscope
- Light source
- Processor
- Monitor
- Water tank
- Suction unit
- Endotherapy device
- Mouthpiece
- Water pump
- Endoscopic CO² Regulator
- Electrosurgical unit, etc.

- Note** Some pieces of related equipment are not reprocessed before shipping from the manufacturer. Reprocess them for the first time prior to use as per instructions provided in respective operation manuals.

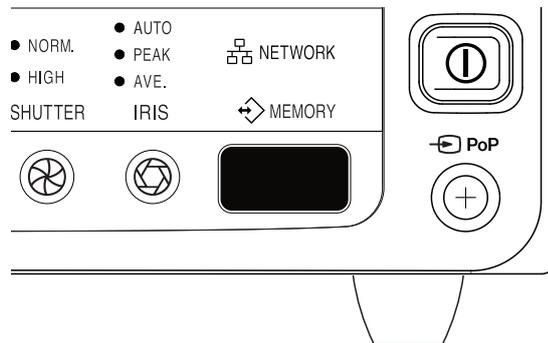
6.3 Operation Check of Light Source and Processor

WARNING

- While the light is turned on, do not look directly into the light coming from the light guide at the distal end of the endoscope. Viewing the light from the light guide directly may damage your eyes.

Note With regard the light seen through the ventilation holes, there are no safety problems.

- (1) Ensure that the PoP connector and USB port are free from moisture or rust.

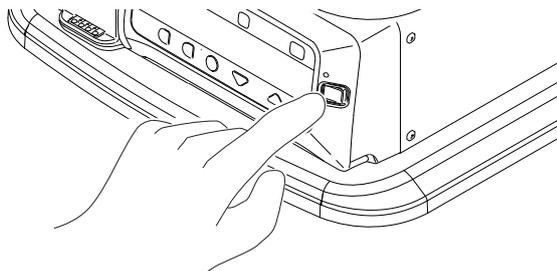


- (2) Connect the endoscope.

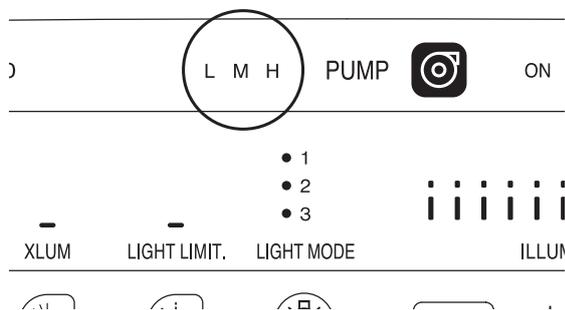
Note For details on how to connect the endoscope, refer to Chapter 7.

→ “7.2 Connecting the Endoscope and Equipment”

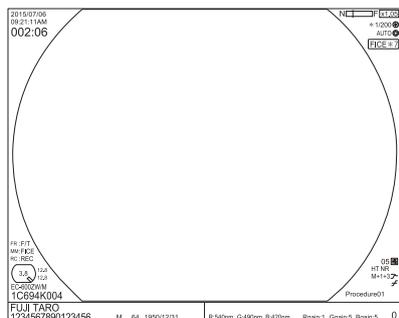
- (3) Turn on the power to the cart and the light source. The power indicator lamp lights up.



- (4) Press the Pump button to make sure that the air supply pump's operation switches in the order of "HI," "MID," "LOW," "OFF," and "HI."



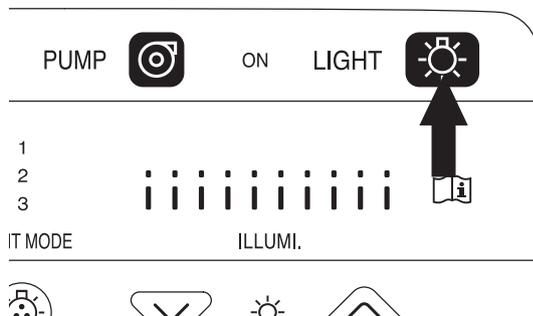
- (5) Turn ON the power to the processor.
The power indicator lamp lights up. The EXAM. lamp of the EXAM. button lights up in blue. The observation screen is displayed on the monitor.



- (6) Press the Light button of the light source.
The Light button lights up in blue, the ON lamp at the left-hand side of the Light button lights up, and then the light turns on. The pictogram for brightness level lights up in blue.

Note If the light source status lamp () turns on or flashes, stop using the equipment.

➔ BL-7000 Operation Manual, "7.5 When the Light Source Status Lamp Flashes"

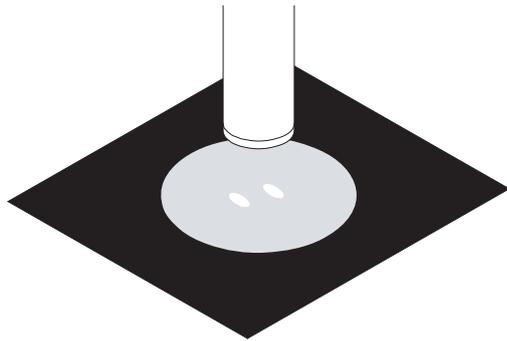


- (7) Put the distal end of endoscope close to a black sheet of paper and check the reflected light.

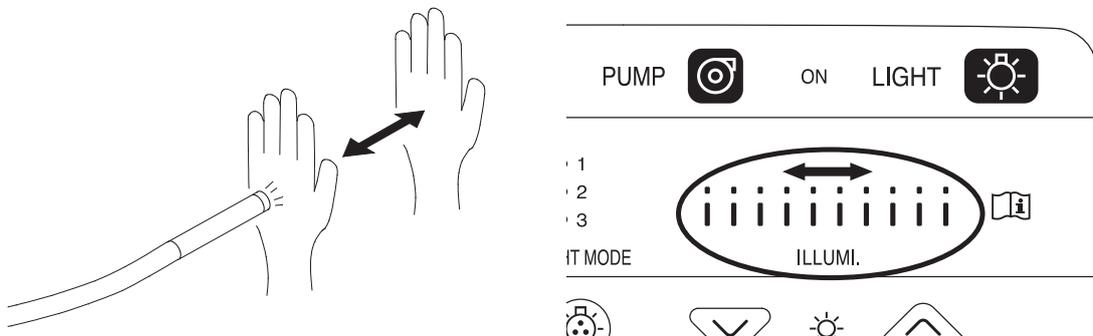
When two points of light are seen, the system is operating normally.

If only one point of light or no light is seen, stop using the equipment immediately, turn off the equipment and consult your local FUJIFILM dealer.

Note If the light emitted from the distal end of endoscope is viewed directly, it may cause damage to the eyes.

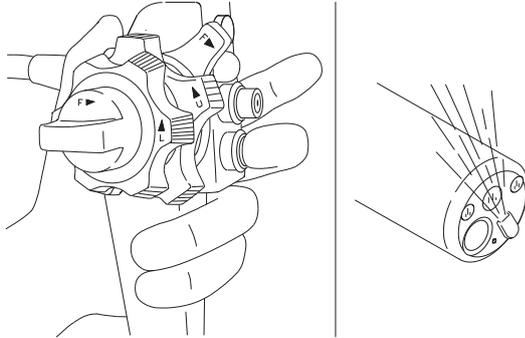


- (8) Apply your palm against the distal end of the endoscope, and make sure that the indicator level of the light source changes when you move your hand toward and away from the distal end.

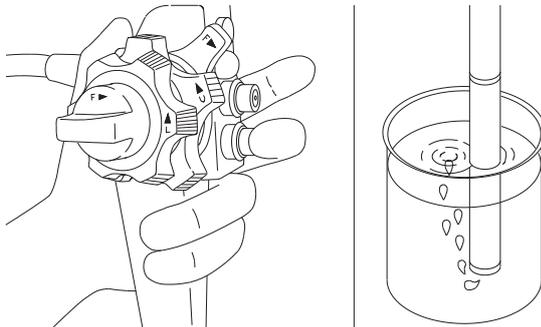


- (12) Press the Pump button to set the air supply pump's operation to "HI."
Leave the distal end of the endoscope in the air, press the air/water valve, and make sure that water comes out of the air/water nozzle.

Note Be careful of the direction when water comes out.



- (13) Immerse the distal end of the endoscope in the water, cover the center hole on the air/water valve with a finger, and make sure that air comes out of the air/water nozzle. Then, take your finger off the hole and make sure that no air comes out of the air/water nozzle.



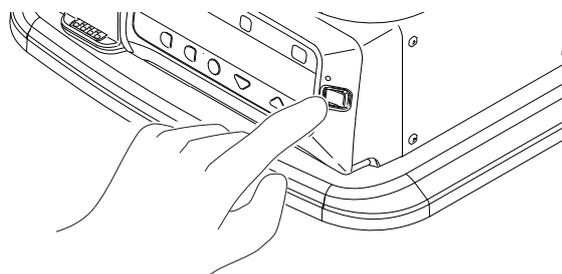
- (14) When the PoP function is used, ensure that the PoP display functions properly.

→ "7.15.1 PoP Function (Displaying Images on External Device)"

When using the PoP function, set the PoP function.

→ "5.5.2 Setting PoP Function"

- (15) Turn off the light source and processor.
The operation check is now completed.



6.4 Registering and Calling Adjustment Value

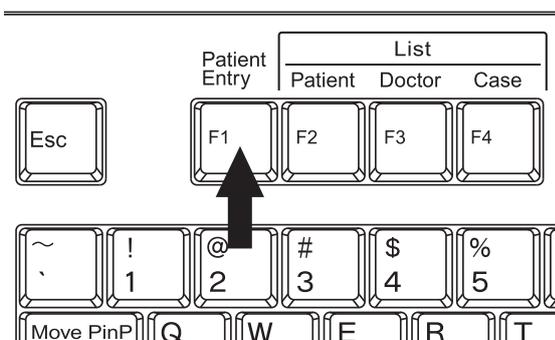
You can register up to five different patterns of the values adjusted in “5.5.1 Registering, Calling Up and Editing and Deleting Image Setup Page” as image setup pages. Registered image setup pages can be called up later.

→ “5.5.1 Registering, Calling Up and Editing and Deleting Image Setup Page”

6.5 Registering the Patient Information

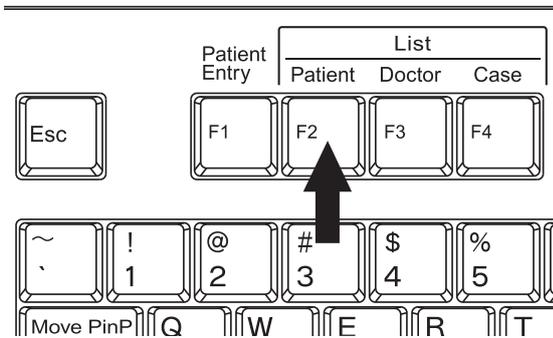
Press the [Patient Entry] key on the keyboard. Register the patient information.

→ “5.2 Registering/Editing Patient Information on Processor”



6.6 Calling up the Patient Information

- (1) Press the [Patient] key on the keyboard. The Patient List screen is displayed.



- (2) Using the [↑] and [↓] keys, place the cursor on the patient information and then press the [Enter] key. The selected patient information is displayed on the observation screen.

→ "5.2.2 Calling Up Patient Information"

Chapter 7 Method of Use

Ensure that no debris adheres to this product.
Adhesion of debris may cause malfunction or failure of the devices.

→ “Chapter 9 Storage and Maintenance”

Introduction

The operation flow of this product is shown below. Refer to each section by following this flowchart.

- 1** Perform inspections before use. → “Chapter 6 Preparation and Inspection of the System”
Note To change the system settings such as the scope switch settings ^[Note 1], index image display ^[Note 1] and PoP ^[Note 1], see “4.2 Initial Settings at the Time of Installation”.
- ↓
2 Connect the endoscope. → “7.2 Connecting the Endoscope and Equipment”
Note The location of the electrical connector socket is shown in “3.1 Front Panel”.
- ↓
3
 - Turn on this product (and the light source). → “7.4 Supplying Power to the Equipment”
→ “7.5 Turning On the Light Source”
→ “7.16 Starting the Examination”
 - Second examination or later → “7.17.2 Starting the Second Examination or Later”**Note** The locations of the power button and the EXAM. button are shown in “3.1 Front Panel”.
- ↓
4 Call up the user settings. ^[Note 1] → “4.2.10 Setting the Doctor's Name”
→ “5.5.1 Registering, Calling Up and Editing and Deleting Image Setup Page”
- ↓
5 Enter the patient data. ^[Note 1] → “5.2 Registering/Editing Patient Information on Processor”
- ↓
6 Check the information display on the monitor. → “3.7 Data Display on the Observation Screen”
- ↓

- 7**
- Check the endoscopic image. Change the observation settings. ^[Note 1] → “5.5.3 Index Image Display”
→ “7.7 Switching Observation Mode” to “7.15 Data Display Operation”
 - Observe the images on the external device. ^[Note 1] → “7.15.1 PoP Function (Displaying Images on External Device)”
 - Record the observed images. ^[Note 1] → “Chapter 8 Image Recording”
- ↓
- 8**
- Finish the examination. → “7.17.1 Finishing the First Examination”
→ “7.17.3 Finishing All Examinations”

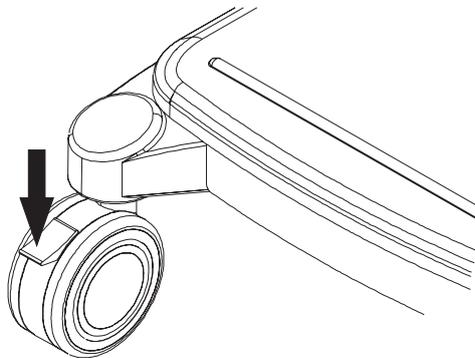
Note The locations of the power button and the EXAM. button are shown in “3.1 Front Panel”.

Note Finish the examination with the EXAM. button during standby in order to reduce the environmental burden.

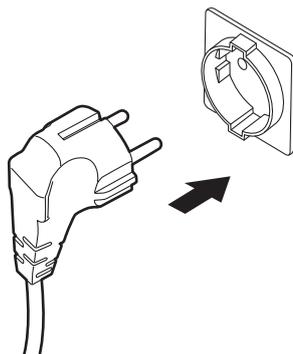
[Note 1] This step may be skipped depending on the examination method.

7.1 Preparing the Equipment

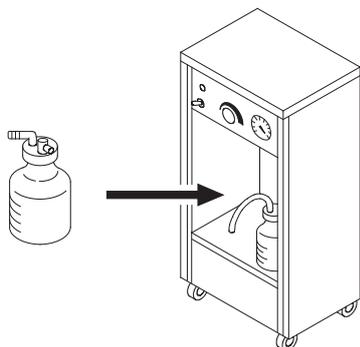
- (1) Turn OFF the power to the light source, processor and cart.
- (2) Move the cart equipped with the system to the place where it is to be used. Lock the casters of the cart.



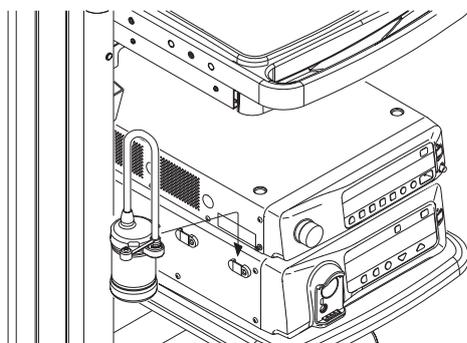
- (3) Plug the power cord from the cart into a protective earth receptacle.



- (4) Mount the suction bottle on the suction unit.



- (5) Hook the water tank approximately 80% full of water on the light source..



7.2 Connecting the Endoscope and Equipment

WARNING

- While the light is turned on, do not look directly into the light coming from the light guide at the distal end of the endoscope. Viewing the light from the light guide directly may damage your eyes.

CAUTION

- Immediately after removing the scope connector from the light source, do not touch the light guide prong with hands since it may be extremely hot. There is a risk of burn injury.
- Set a suction pressure at 40 to 53 kPa or less. The endoscope may adhere to the mucous membrane, resulting in damage to the mucous membrane.
- Do not attach the electrical connector of the 600 system scope or 500 system scope to the electrical connector socket of the VP-7000 with the 700 system scope inserted into the scope connector of the BL-7000.

- Note**
- With regard the light seen through the ventilation holes, there are no safety problems.
 - To avoid damage or malfunction, turn OFF the processor, and then connect or remove the endoscope. Wait for 5 seconds or more before turning the power back to ON. Do not touch the electrical contacts directly with your hand. Prevent the contacts from exposure to xylocaine spray, etc. Dry the moist contacts of the endoscope before connecting the endoscope to the processor.
 - Make sure that the date, time, and patient information are correct before the use.
 - To prevent damage or malfunction, press the EXAM. button, make sure that the STANDBY indicator lamp lights up in orange, and then connect or remove the endoscope.
 - Connecting the endoscope with moisture on the contacts will cause damage or malfunction, for example, image defects. If an electrical connector socket is not connected to the endoscope, cover the socket with the included protection cap (CC-203) to protect the contacts.

Turn OFF the processor or press the EXAM. button to light up the STANDBY indicator lamp in orange, and then install the endoscope. First, connect the endoscope to of the light source.

- Note** Even after turning on the power, do not connect the endoscope while the startup progress bar ■■■■■ is displayed at the upper left side of the screen.

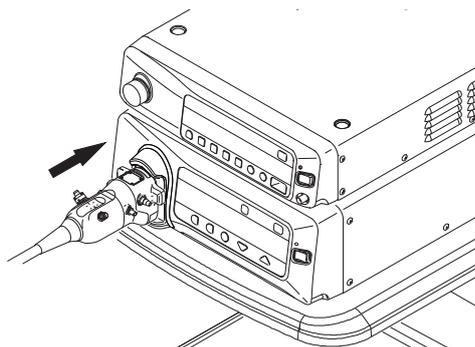
<700 System Scope>

CAUTION

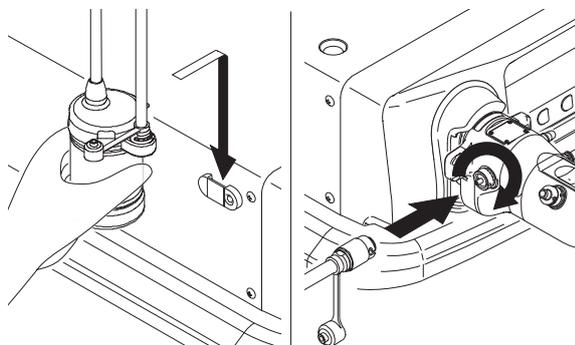
- Ensure that there is no foreign matter or dirt on the receiving window or on the communication window before connecting the endoscope. If there is any foreign matter or dirt on the receiving window or on the communication window, it may cause malfunction or failure of the devices.
- When connecting the endoscope, insert it fully so as to produce no clearance. Do not look into the connecting part of the endoscope. The light emitted from the light source may cause damage to the eyes.

- (1) Insert the scope connector into the scope socket of the light source until it stops.

- Note** Insert the scope connector straight into the scope socket.



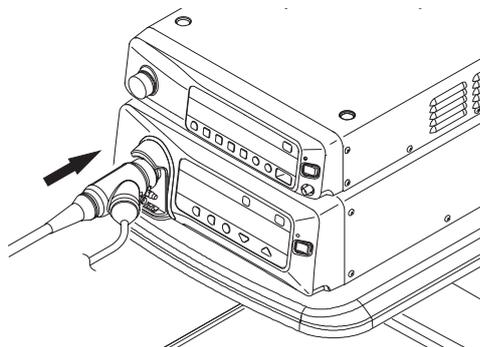
- (2) Hook the water tank filled with sterile water onto the light source.
- (3) Connect the water tank connector to the endoscope.



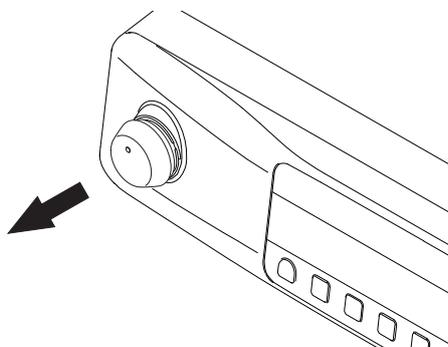
<600 System Scope and 500 System Scope>

- (1) Insert the scope connector into the LG socket of the light source until it stops. Hold the LG connector with both hands, align the index on the LG connector and the index on the light source, and then insert the LG connector right into the light source until it stops.

Note Insert the LG connector straight into the scope socket.

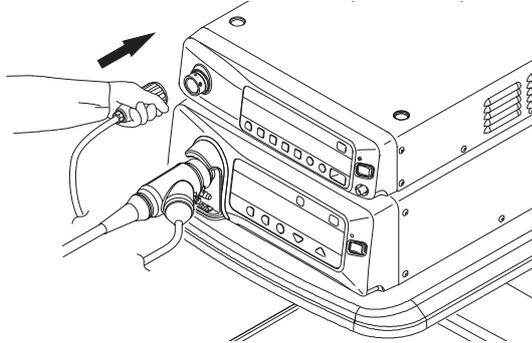


- (2) Remove the protection cap from the electrical connector socket to be connected to the endoscope, and connect the electrical connector.

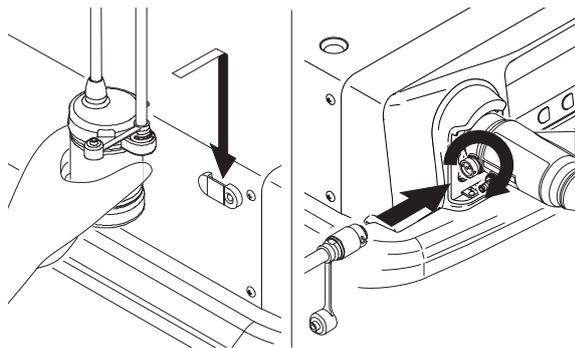


In alignment with the electrical connector index, rotate the connector clockwise while lightly pressing it.

- Note**
- Make sure to rotate the electrical connector index 90 degrees clockwise.
 - Do not connect more than one endoscope.



- (3) Hook the water tank filled with sterilized water onto the light source.
- (4) Connect the water tank connector to the endoscope.



7.3 How to Use the Endoscope and Related Equipment

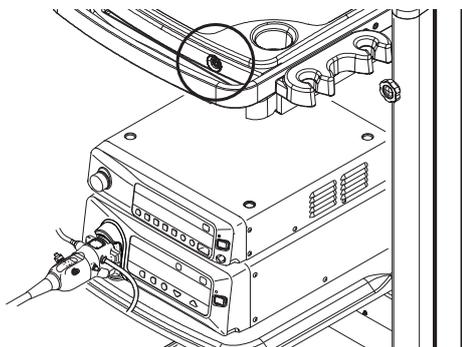
For details on how to use the endoscope and related equipment, refer to the respective operation manuals.

7.4 Supplying Power to the Equipment

Turn on the power to the cart, light source and processor in that order.

When the power to the processor is turned ON, the EXAM. lamp of the EXAM. button lights up in blue.

- Note**
- After turning on the equipment, it takes about 15 seconds before the screen is displayed on the monitor and 60 seconds before the examination can be started. On the image displayed before the EXAM. lamp lights up in blue, no processing is performed by the processor.
 - Even after turning on the power, do not connect the endoscope while the startup progress bar ■■■■■ is displayed at the upper left side of the screen.
 - Do not operate the scope switch before the EXAM. lamp lights up in blue.
 - If the equipment is turned on without inserting the endoscope, the air supply pump of the light source stops automatically.



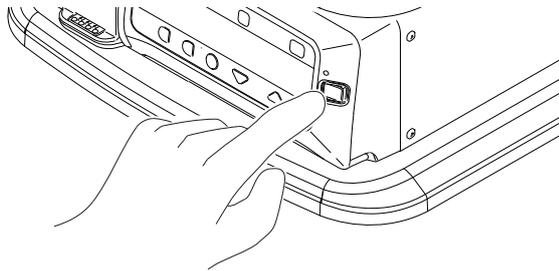
7.5 Turning On the Light Source

WARNING

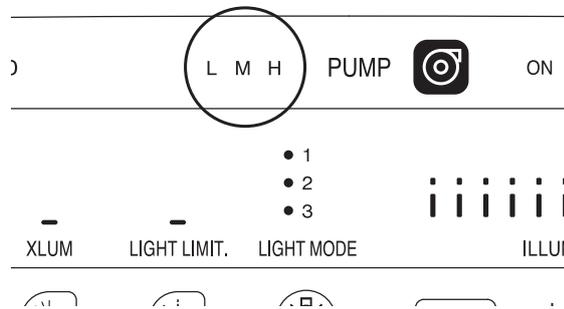
- While the light is turned on, do not look directly into the light coming from the light guide at the distal end of the endoscope. Viewing the light from the light guide directly may damage your eyes.

Note With regard the light seen through the ventilation holes, there are no safety problems.

- (1) Turn on the light source. The power indicator lamp lights up.



- (2) Press the Pump button to make sure that the air supply pump's operation switches in the order of "HI," "MID," "LOW," "OFF," and "HI."

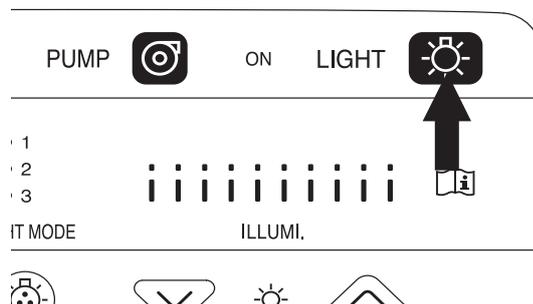


- (3) Press the Light button of the light source.

The Light button lights up in blue, the ON lamp at the left-hand side of the Light button lights up, and then the light turns on. The pictogram for brightness level lights up in blue.

Note If the light source status lamp () turns on or flashes, stop using the equipment.

→ BL-7000 Operation Manual, "7.5 When the Light Source Status Lamp Flashes"

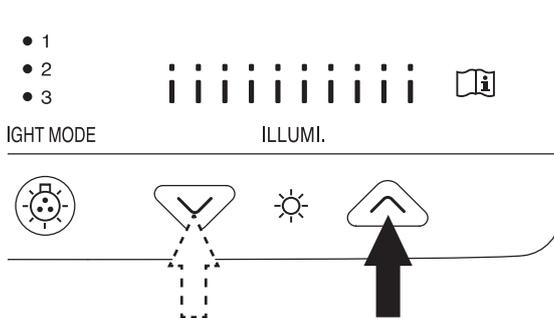


7.6 Adjusting the Brightness

To obtain the appropriate brightness for an object, adjust the brightness by pressing the Brightness Adjustment button.

Press  to make the image brighter, and press  to make the image darker.

While the brightness level to be used as a standard is being adjusted, the pictogram for brightness level turns OFF.



The brightness level can be adjusted from -4 to +5. The level is displayed in the indicator as follows.

Brightness level 0 (standard): 

Brightness level -4: 

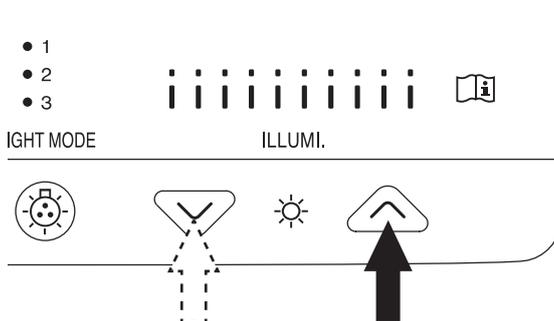
Brightness level +5: 

The brightness level can also be confirmed on the monitor.

The brightness level is displayed at the right-hand side of the iris mode display in the range of -4 to +5. However, when the brightness level is "0" (standard), the number "0" is not displayed.

Lv+1 AUTO 

→ "7.13 Switching the Iris Mode"



7.7 Switching Observation Mode

When the light source is used, each time the BLI button is pressed, the observation mode changes in the order specified on the Special Light Observation Preset Setup screen.

CAUTION

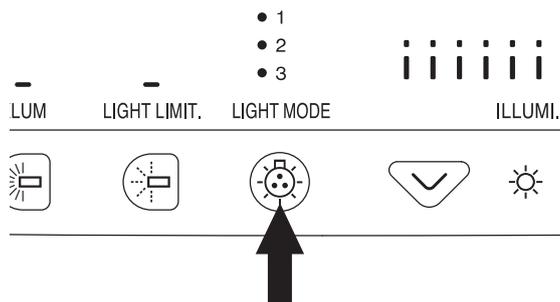
- While the observation mode is being switched, the image on the monitor may flicker for a moment. This is not a failure.

<Setting the special light observation preset>

To set up the special light observation preset, press and hold the BLI button for two seconds. The setup screen appears.

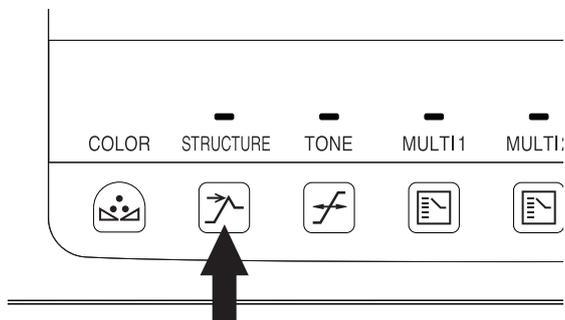
Note This operation can be performed only while an examination using the BL-7000 is performed.

→ “5.3.8 Special Light Observation Preset Setup”



7.8 Turning On/Off Structure Emphasis

Each time the structure emphasis button is pressed, the structure emphasis function turns on or off. When the power is turned on or when an examination is started, this function is set to “OFF”.



<In the case of Normal mode>

When the structure emphasis function is turned on, the following icon appears in the screen.

↗ SE

The color of the setting value is determined depending on the initial setting as shown below. (The setting value is indicated in parentheses.)

SE (Structure Emphasis): White (Low), Green (Mid) or Yellow (Hi)

<In the case of BLI, BLI-bright or LCI>

When the structure emphasis function is turned on, the following icon appears in the screen.

The character of the setting value is always displayed in white.

A Mode: ↗ n/ (“n” indicates the setting level of A mode.)

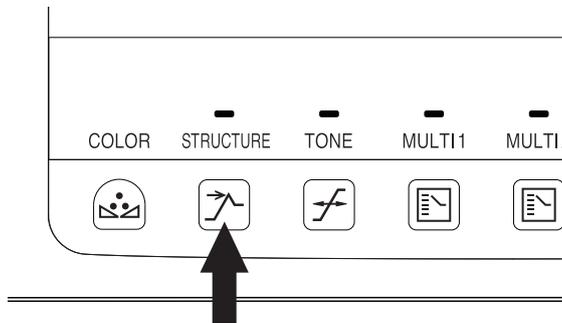
B Mode: ↗ /m (“m” indicates the setting level of B mode.)

Note When this function is set to off or when this function is not used in relation to other functions, the above characters are not displayed.

<Detail setting>

For detail setting, press and hold the Structure Emphasis button for about 2 seconds. The  LED flashes and the function setup screen is displayed.

→ “5.3.2 Structure Emphasis Settings”



7.9 Turning On/Off FICE

FICE is a spectral image processing function.

FICE extracts spectral images of specific wavelength components from the original image by image processing, assigns each component to R, G and B and displays the pseudocolor image.

FICE can enhance color tone to improve visibility of the selected structure and areas of the subject.

- Note**
- In the BLI, BLI-bright or LCI mode, FICE is not available.
 - When FICE is turned “ON” while the tone function is turned “ON”, the tone function is automatically turned OFF.

<Turning On/Off FICE>

Each time the [FICE] key on the keyboard is pressed, FICE is turned on or off.

- Note** When FICE is turned “ON” while the tone function is turned “ON”, the tone function is automatically turned OFF.

<Calling Up a FICE Set>

This section describes how to select FICE sets that have already been configured.

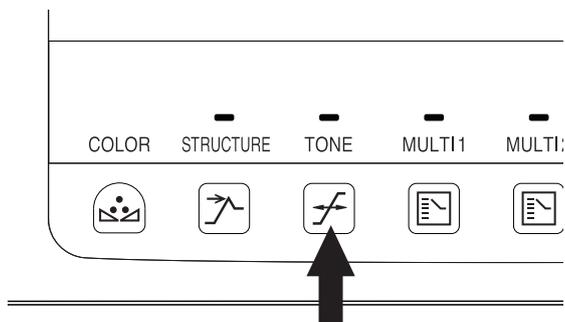
- (1) Turn “ON” FICE.
- (2) Enter a one-digit number (among 0 to 9) using the numeric key.
Enter a preset FICE set number using the numeric key.

Calling up a FICE set and FICE setup → “5.3.3 Setting FICE”

7.10 Turning On/Off the Tone

Each time the Tone button is pressed, the tone function is turned on or off.

Note When FICE is turned “ON” while the tone function is “ON”, the tone function is automatically turned “OFF”.



<In the case of Normal Mode>

When the tone function is turned ON, the following icon is displayed in the screen.

ƒ RE CE

The color of the setting value is determined depending on the initial setting as shown below. (The setting value is indicated in parentheses.)

RE (Red Emphasis): White (Low), Green (Mid), and Yellow (Hi)

CE (Color Emphasis): White (Low), Green (Mid), and Yellow (Hi)

<In the case of BLI, BLI-bright or LCI>

When the tone function is turned ON, the following icon is displayed in the screen.

ƒ C1

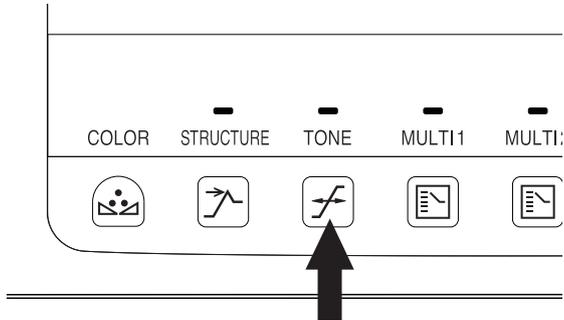
The character and color of the setting value are determined depending on the initial setting as shown below. (The setting value is indicated in parentheses.)

CE (Color Emphasis): C1/White (Tone 1), C2/Green (Tone 2), and C3/Yellow (Tone 3)

<Detail setting>

For detail setting, press and hold the Tone button for about 2 seconds.
The **●** LED flashes and the function setup screen is displayed.

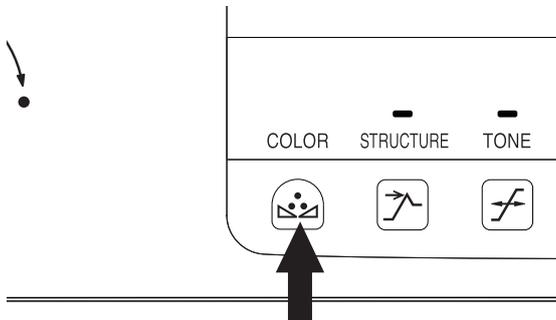
→ “5.3.4 Tone Settings”



7.11 Setting the Color Adjustment

The setting of color adjustment can be performed.
Press and hold the COLOR button for about two seconds to display the setup screen.

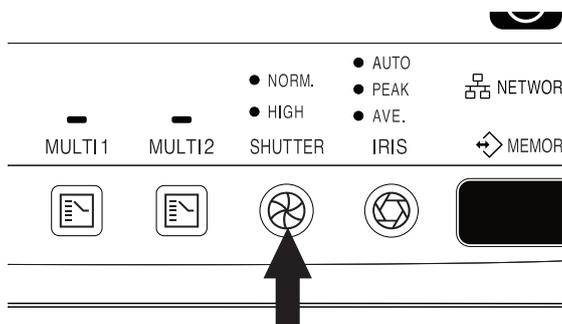
→ “5.3.5 Color Adjustment Settings”



7.12 Switching the Shutter Speed

<Manual switching of shutter speed>

Each time the shutter button is pressed, the shutter speed is switched to “HIGH” (“● HIGH” LED is lit) or “NORM.” (standard) (“● NORM.” LED is lit).



In the screen, the shutter speed is displayed as follows.

“NORM.”: 1/60 The set value is displayed in white.

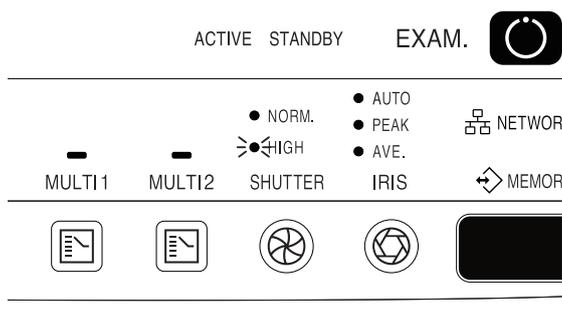
“HIGH”: 1/200 The set value is displayed in green.

Note The displayed value is the set shutter speed (unit: second).

<Automatic switching when the optical zoom scope is used>

When the optical zoom scope is used, the shutter speed can be automatically switched according to the zoom ratio. The installation is performed by service personnel.

When the shutter speed is switched, The ● HIGH LED of the Shutter Speed button flashes.



In the screen, the shutter speed is displayed as follows.

1/200

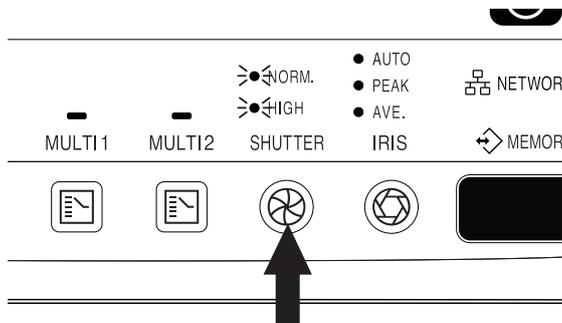
The set value is displayed using black characters on a white background.

<Detail setting>

For detail setting, press the Shutter Speed button for about 2 seconds.

The ● NORM. and ● HIGH LEDs flash flashes and the function setup screen is displayed.

→ “5.3.6 Setting the Shutter Speed”

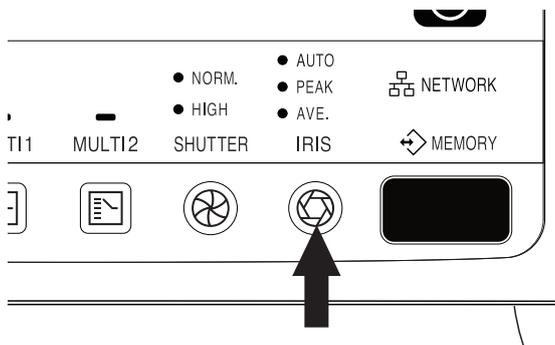


7.13 Switching the Iris Mode

Press the [IRIS] button to select the ALC (automatic light control) mode to control the screen brightness.

The VP-7000 has three iris modes: AVE to control the brightness on the entire screen, PEAK to control the brightness in the highlight areas, and AUTO to set average or peak iris automatically for optimal iris. When the power is turned on, the system is set at the AUTO iris mode.

Each time the [IRIS] button is pressed, the iris mode switches to AVE, PEAK or AUTO.



In the screen, the iris mode is displayed as follows.

AUTO : Lv+1 AUTO  The setting is displayed in white.

PEAK : Lv+1 PEAK  The setting is displayed in green.

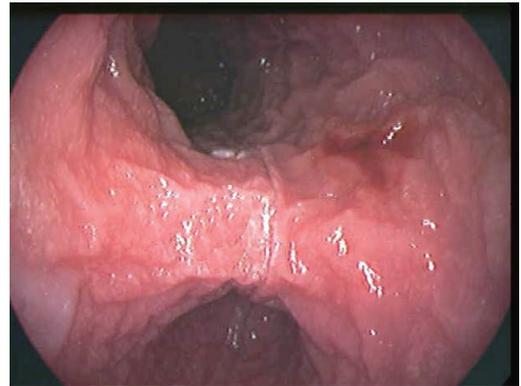
AVE : Lv+1 AVE  The setting is displayed in green.

Note While the light is turned on, the brightness level is displayed next to AUTO/PEAK/AVE.

→ “7.6 Adjusting the Brightness”



The AVE is suitable for a screen that does not have that much difference in brightness.



The PEAK is suitable for a screen that has some high brightness parts.

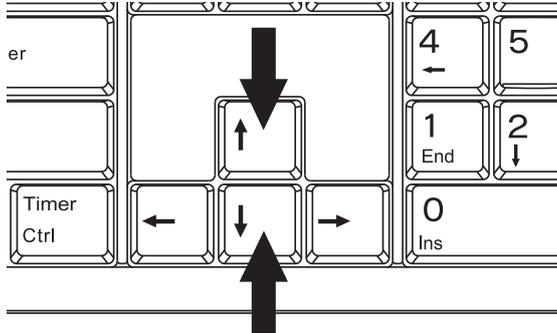
<Detail setting>

Press and hold the Iris Mode button for about two seconds to display the setup screen.

→ “5.3.7 Setting the Iris Mode”

7.14 Adjusting the Electronic Zoom

Display the observation screen and press the [↑] / [↓] keys on the keyboard.

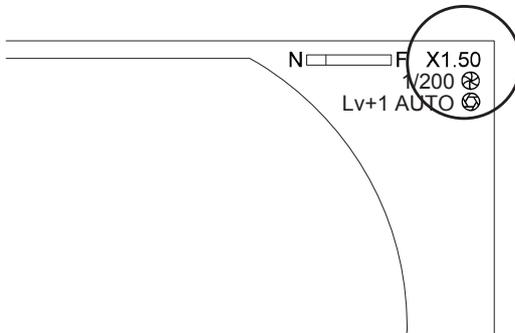


The electronic zoom is switched.

The zoom ratio can be set between x1.00 and x2.00 (0.05 steps).

- Note**
- The zoom ratio of some 530 series scopes is x1.00 to x1.95.
 - When an optical zoom scope is connected, pressing the zoom switch, while the optical zoom ratio is at maximum, switches to the electronic zoom automatically.

→ “4.2.9 Setup for Switching the Shutter Speed During Optical Zoom”



7.15 Data Display Operation

7.15.1 PoP Function (Displaying Images on External Device)

Images on an external device connected to the PoP connector on the front panel can be displayed.

Images on the external device and endoscopic images are displayed at the same time.

The PoP function cannot be operated by using the keyboard unless “PoP On” on the “Function” tab of the System Setup screen is set to “ON”.

→ “4.2.3 Function Tab - PoP”

→ “5.5.2 Setting PoP Function”

CAUTION

-  is displayed at the upper right side of the images on the external device and input images are displayed with a frame. Use the image with the icon  at the upper right side after understanding that it is not an endoscopic image but the image is stored on the external device.

Note Use the PoP display after understanding that there may be an image delay.

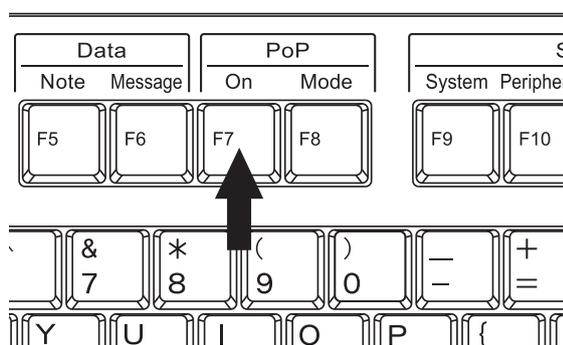
The PoP display is available only in the case of the Full HD output. It is not available for the SXGA or RGB TV output.

If there is no PoP external input signal, a gray screen is displayed.

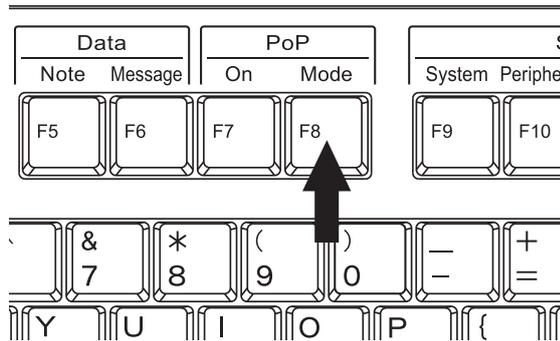
Even if there is no PoP external input signal, image recording is performed.

(1) Press the [On] key.

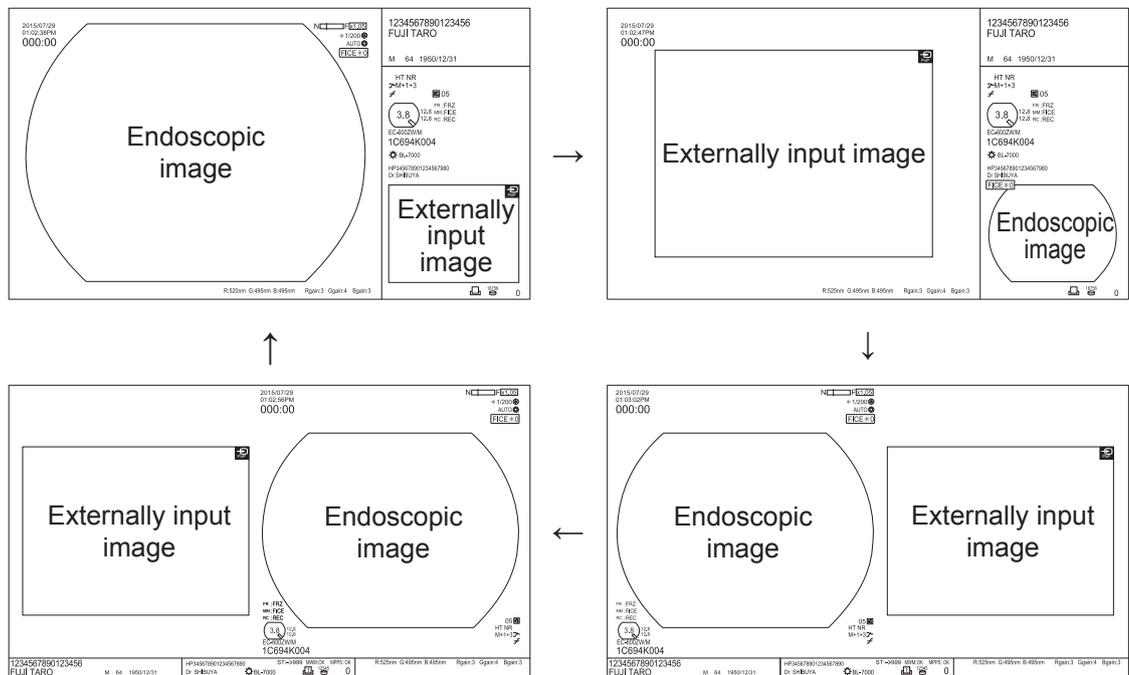
Images on the external device are displayed on the endoscope screen.



(2) To change the display format, press the [Mode] key.



Each time the [Mode] key is pressed, the display format changes as follows.



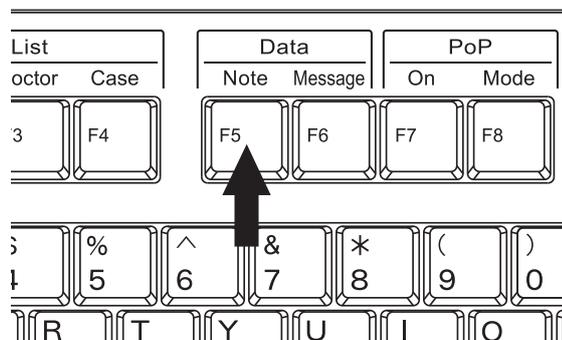
(3) With the PoP display, when the scope switch to which “Trigger” is assigned is pressed, both the endoscopic image and the external input image are stored in the internal storage device.

(4) To cancel the PoP display, press the [ON] key.

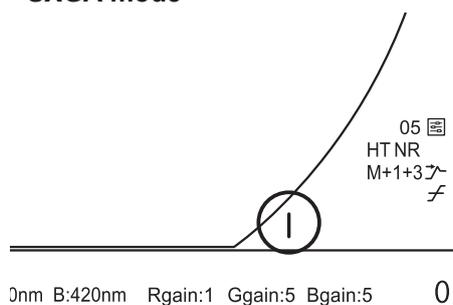
7.15.2 Entering Comments

Comments can be entered on the observation screen.

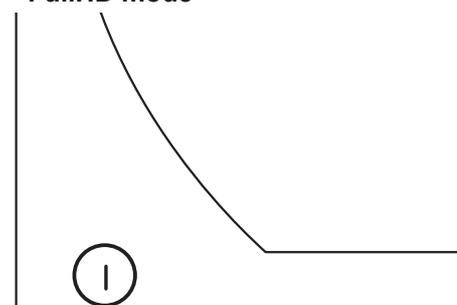
- Press the [Note] key.
The cursor appears on the procedure name.



• **SXGA mode**



• **FullHD mode**



- Enter a comment and press the [Enter] key.
Input of the comment is finalized.

Note If you press the [Esc] key before finalizing, the input is canceled and the procedure name before the change is displayed.

7.15.3 Starting/Stopping the Timer

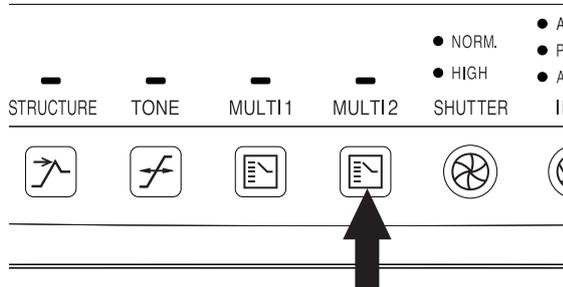
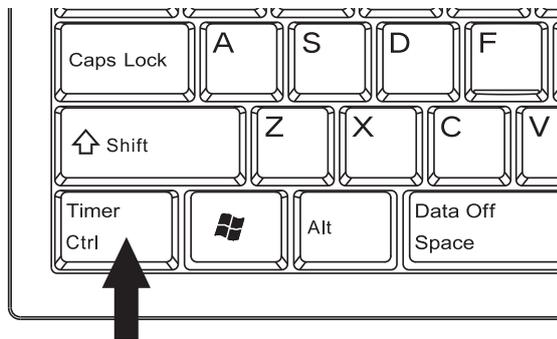
This section describes the method of starting/stopping the timer on the observation screen.

Note When the “Timer” function is assigned to the Multi button, the timer function can be operated by using the Multi button on the front panel.

Starting the timer

The timer starts and it appears on the observation screen.

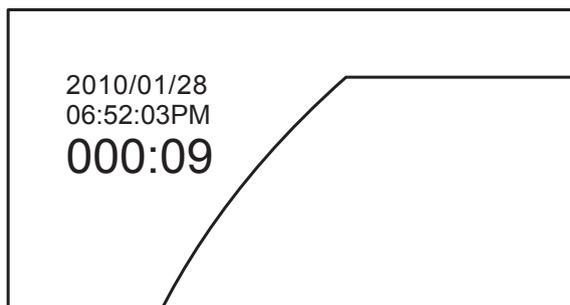
Keyboard	Press the [Timer] key.
Front panel	Press the [Multi 1/Multi 2] button to which the timer function is assigned.



Stopping the timer

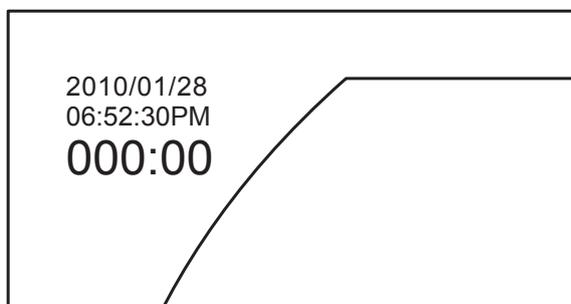
The timer stops.

Keyboard	Press the [Timer] key.
Front panel	Press the [Multi 1/Multi 2] button to which the timer function is assigned.



Resetting the timer

Keyboard	Press the [Timer] key while pressing the [Shift] key.
Front panel	Press and hold the [Multi 1/Multi 2] button to which the timer function is assigned for about two seconds.



Clearing the display

After stopping the timer, repeat the reset operation twice.

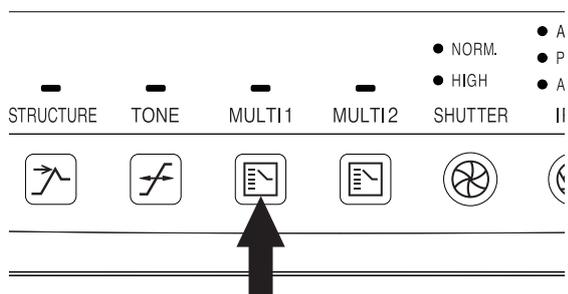
7.15.4 Lap Time Function

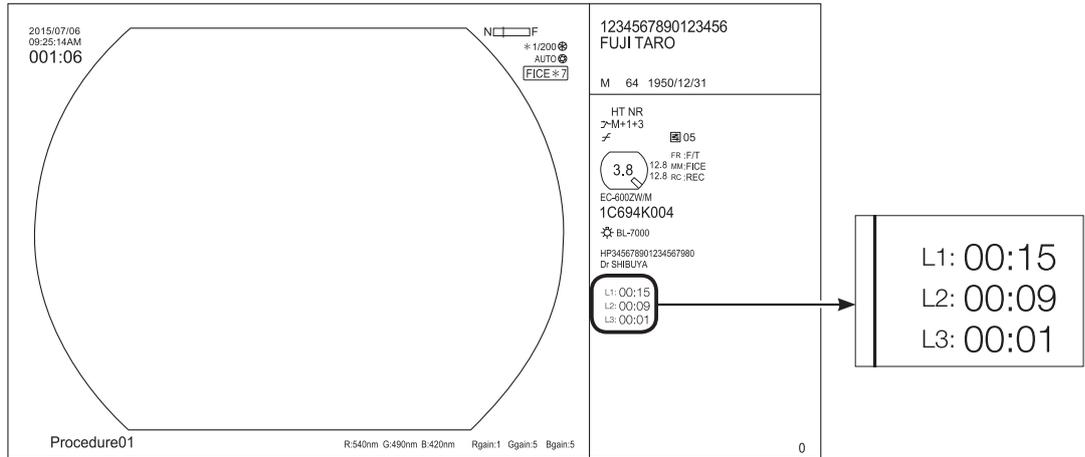
The lap time can be displayed on the observation screen.

→ For details on how to set the lap time function, see “5.5.6 Lap Time Display”.

Note The lap time can be displayed only when the screen resolution setting is FullHD. It cannot be displayed in the case of the dual mode or PoP display.

- (1) Press the Multi button or the scope switch to which the lap time function is assigned. The lap time starts and is displayed on the observation screen. When the button is pressed for the first time, the “L1” lap time starts.





- (2) The lap time starts and stops as follows each time the Multi button or the scope switch to which the lap time function is assigned is pressed.
- 1st time: "L1" starts.
 - 2nd time: "L1" stops and "L2" starts.
 - 3rd time: "L2" stops and "L3" starts.
 - 4th time: "L3" stops.
 - 5th time: Returns to the initial state.

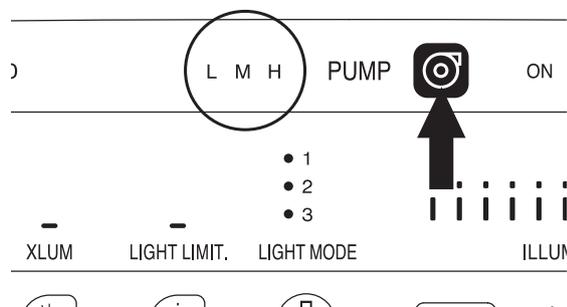
Lap Time Display Example

	Initial state	1st time	2nd time	3rd time	4th time
L1:	00 : 00	00 : 01	→ 05 : 21	05 : 21	05 : 21
L2:	00 : 00	00 : 00	00 : 01	→ 03 : 20	03 : 20
L3:	00 : 00	00 : 00	00 : 00	00 : 01	→ 05 : 01
			5th time		

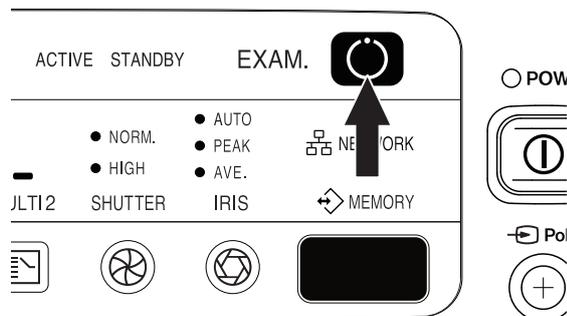
An arrow points from the '5th time' label back to the 'Initial state' column, indicating a reset of all lap times.

7.16 Starting the Examination

- (1) Press the Pump button on the light source, if necessary to select “HI,” “MID,” “LOW,” or “OFF.”



- (2) Press the EXAM. button.



- (3) Insert the endoscope into the patient's body.

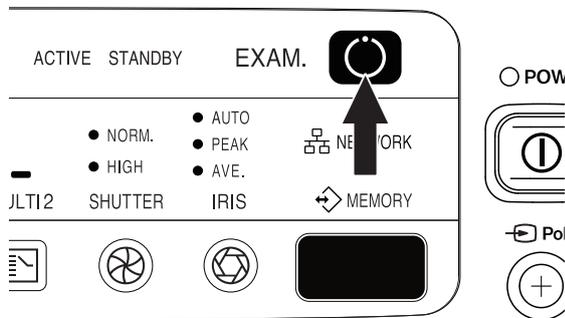
7.17 Finishing the Examination

CAUTION

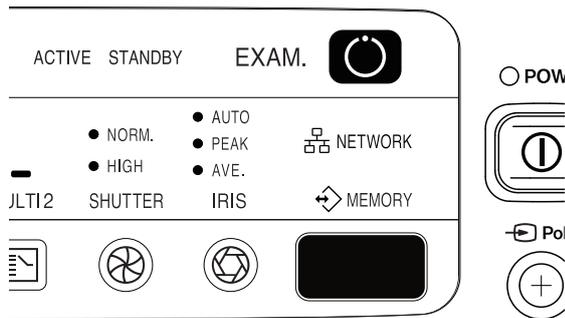
- Immediately after removing the scope connector from the light source, do not touch the light guide prong with hands since it may be extremely hot. There is a risk of burn injury.

7.17.1 Finishing the First Examination

- (1) Remove the endoscope from the patient.
- (2) Press and hold the EXAM. button for about 2 seconds. The STANDBY indicator lamp flashes in orange.
The light of the light source turns off.



- (3) The STANDBY indicator lamp turns up in orange. Remove the endoscope.

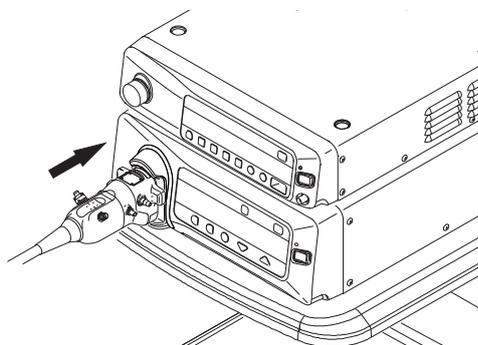


- (4) Clean the endoscope.

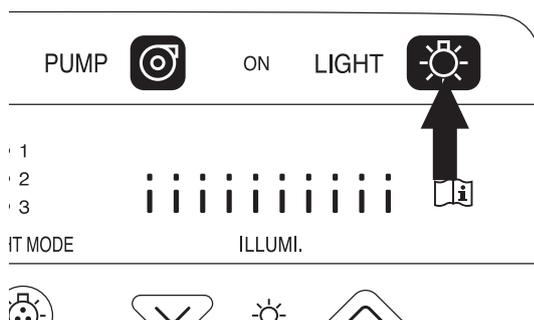
Note For the cleaning procedure, refer to the operation manual of the endoscope.

7.17.2 Starting the Second Examination or Later

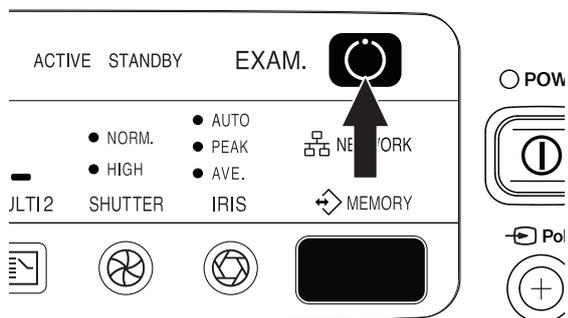
- (1) Install the endoscope on the light source and processor.



- (2) Press the EXAM. button of the processor. The EXAM. lamp flashes and then lights up in blue.
- (3) Press the Light button of the light source to turn on the light.



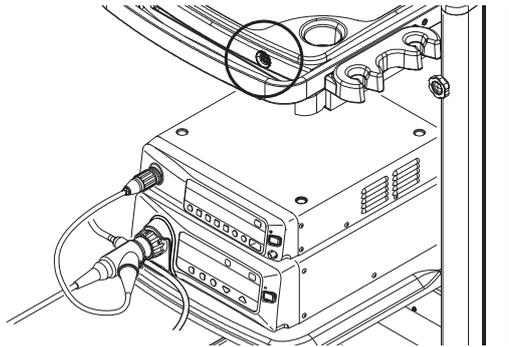
- (4) As in the first time, perform the examination.



7.17.3 Finishing All Examinations

When all examinations have been completed, withdraw the endoscope and turn off the power to the light source, processor and cart. Remove the endoscope and clean it.

- Note**
- Immediately after the examinations, the processor may be still accessing the network. Make sure that the access lamp stops flashing before turning off the power.
 - Keep the power to the peripherals always ON in normal use. Use the switch on the cart to turn the power ON/OFF.



Chapter 8 Image Recording

With VP-7000, the image observed in the monitor can be printed out with the color printer (remote or RS-232C system) or digital printer, and it can be recorded in the external storage device. Prior to use, make sure that images can be printed and recorded normally.

Note Since the display characteristics are different between the color printer and the monitor, images printed with the color printer and those displayed on the monitor may differ in color.

8.1 Method of Controlling the Color Printer

There are two ways to control the color printer. One is the remote control method from the remote connector on the printer, and other is the communication to control from RS-232C connector. You can save the trouble of doing settings and data transfer for the remote control, for it is directly controlled from the processor. On the other hand, the RS-232C system needs to set the printer on the processor side, but can print the patient data on the margin of the print paper.

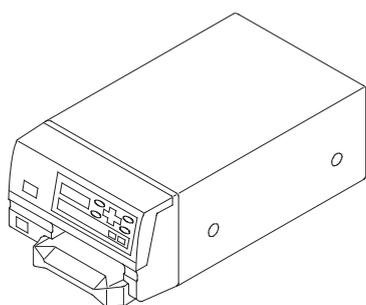
To print the image with the color printer (remote system)
→ “8.2 Printing the Image with the Color Printer (Remote System)”

To print the image with the color printer (RS-232C system)
→ “8.3 Printing the Image with the Color Printer (RS-232C System)”

8.2 Printing the Image with the Color Printer (Remote System)

The image observed on the monitor can be printed out on paper by connecting the color printer to VP-7000.

Note VP-7000 has two remote connectors (REMOTE 1 and REMOTE 2). Settings for assigning the printer to each remote connector should be performed by service personnel.



8.2.1 Assignment of Image Capture Switches

The endoscope's scope switches to which "Freeze" and "Trigger" are respectively assigned are available to capture images.

Note The foot switch of the processor can be set as switches for capturing images.

→ "4.2.7 Endoscope Tab"

8.2.2 Printer Setting

When the remote system is used for connecting the color printer, open the Printer Setup screen from the Peripheral Setup screen and then select "Not used" for "Usage".

→ "5.4.3 Printer Tab"

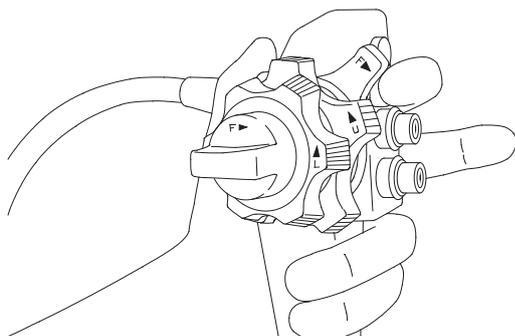


8.2.3 Capturing the Image

Captures the image onto the printer unit.

<Capture the image by using the scope switch of the Endoscope>

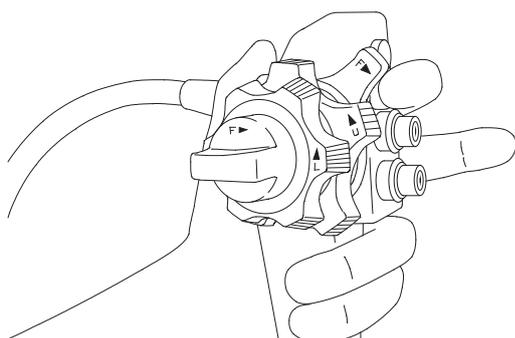
- (1) Focus the object to be recorded on the screen, and freeze the image by pressing the scope switch to which "Freeze" is assigned.



Note The observation screen is frozen while the scope switch to which the Freeze function is assigned is pressed. While the screen is frozen, the video image is displayed in the sub-screen. When Mask Type: Type 1 is selected in SXGA mode, each pressing of the [Tab] key changes the display position of the sub-screen in order of the upper left → upper right → lower right → lower left.

→ "3.7 Data Display on the Observation Screen"

- (2) While the image is static, pressing the scope switch to which "Trigger" is assigned captures the image.



→ "4.2.7 Endoscope Tab"

<Capture the image by using the foot switch>

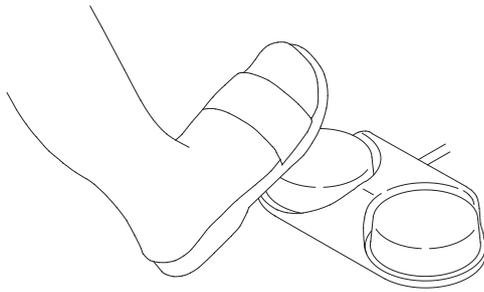
Note How to set the foot switch directly connected to the printer varies depending on the devices. For details, refer to the instruction manual for each printer.

- (1) Focus the object to be recorded on the screen, and freeze the image by pressing the scope switch to which "Freeze" is assigned.

Note The observation screen is frozen while the scope switch to which the Freeze function is assigned is pressed. While the screen is frozen, the video image is displayed in the sub-screen. When Mask Type: Type 1 is selected in SXGA mode, each pressing of the [Tab] key changes the display position of the sub-screen in order of the upper left → upper right → lower right → lower left.

→ "3.7 Data Display on the Observation Screen"

- (2) When you step on the foot switch while the image is static, the image is captured to the printer.



<Capture the image by using remote controller>

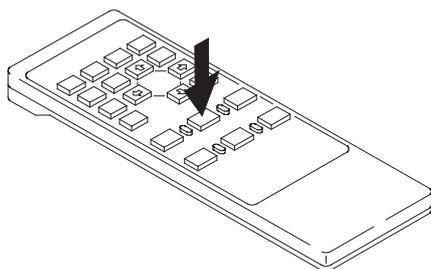
- (1) Focus the object to be recorded on the screen, and freeze the image by pressing the scope switch to which "Freeze" is assigned.

Note The observation screen is frozen while the scope switch to which the Freeze function is assigned is pressed. While the screen is frozen, the video image is displayed in the sub-screen. When Mask Type: Type 1 is selected in SXGA mode, each pressing of the [Tab] key changes the display position of the sub-screen in order of the upper left → upper right → lower right → lower left.

→ "3.7 Data Display on the Observation Screen"

- (2) While the image is static, pressing the CAPTURE button on the remote controller captures the image.

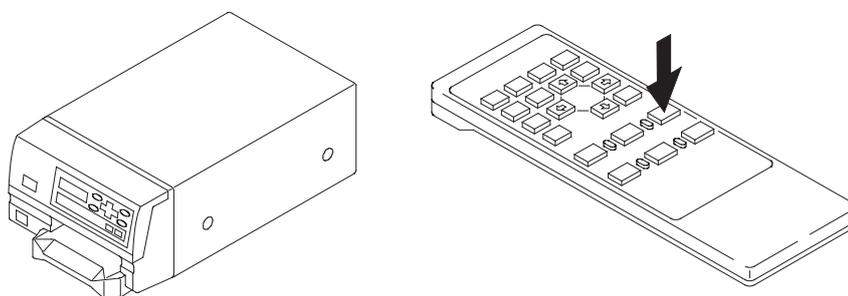
Note The name of the button on the remote controller varies depending on the devices. For details, refer to the instruction manual for each printer.



8.2.4 Printing the Image

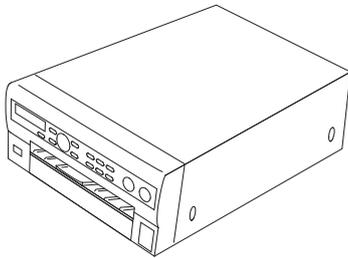
The captured image can be printed.

When the print button on the printer unit or on the remote controller is pressed, the image is printed out.



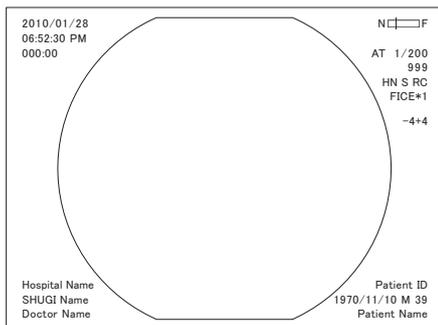
8.3 Printing the Image with the Color Printer (RS-232C System)

The image observed on the monitor can be printed out on paper by connecting the color printer to VP-7000.

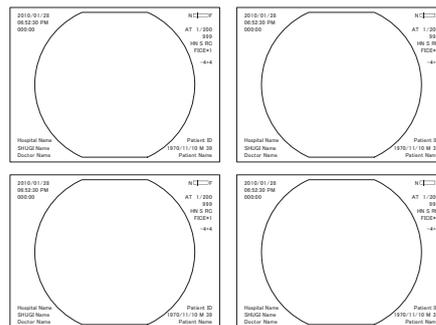


Full screen or multiple screen images (four images, etc.) can be printed on a single sheet of printout paper.

→ “5.4.3 Printer Tab”



Full screen



4 images

The patient name, date and time can be printed at the margin of the print paper. With the remote system, the patient name, date and time are not printed.

→ “5.2.1 Registering Patient Information”

- Note**
- When registering patient information or switching to new patient information, patient information is sent to the printer. While patient information is sent to the printer (for about 30 seconds), images cannot be captured. In addition, when patient information is sent, the image already loaded in the printer is printed forcibly.
 - If the message “Preparation for printing is in progress” appears while loading an image, the image is not loaded into the printer. If this happens, wait until the message disappears and then load the image again.

8.3.1 Assignment of Image Capture Switches

The endoscope's scope switches to which "Freeze" and "Trigger" are respectively assigned are available to capture images.

- Note**
- The foot switch of the processor can be set as switches for capturing images.
 - Settings for assigning the image capture switches should be performed at the time of installation.

→ "4.2.7 Endoscope Tab"

8.3.2 Printer Setting

- Note** The printer to be used needs to be registered in advance. Registration of the printer is performed by our service personnel.

To register the printer to be used, the model name of the printer, the number of prints and the number of images on a single sheet of printer paper are specified. Depending on the printer models, some settings are fixed and cannot be changed.

→ "5.4.3 Printer Tab"

The screenshot shows a 'Peripheral Setup' window with a 'Printer' tab selected. The 'Printer Setting' section contains the following information:

Usage	: Not used
Number of Prints	: 1
Multi Print	: 4in1

At the bottom left, there is a 'Save and Exit' button. At the bottom center, there is a keyboard shortcut legend: [F1] [F1] Move [Enter] Select [Esc] Cancel.

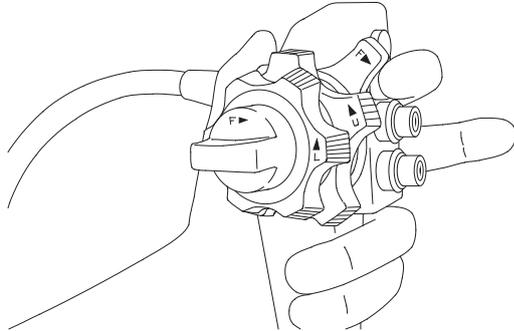
8.3.3 Capturing the Image

Captures the image onto the printer unit.

- Note** If the "Preparation for printing is in progress" appears while capturing an image, the image is not captured into the printer. Wait until the message disappears and then try again.

<Capturing the image by using the scope switch of the endoscope>

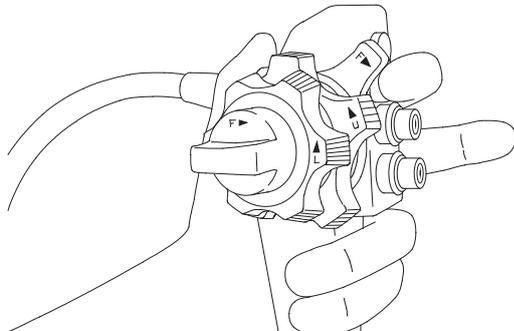
- (1) Focus the object to be recorded on the screen, and freeze the image by pressing the scope switch to which "Freeze" is assigned.



Note The observation screen is frozen while the scope switch to which the Freeze function is assigned is pressed. While the screen is frozen, the video image is displayed in the sub-screen. When Mask Type: Type 1 is selected in SXGA mode, each pressing of the [Tab] key changes the display position of the sub-screen in order of the upper left → upper right → lower right → lower left.

→ "3.7 Data Display on the Observation Screen"

- (2) While the image is static, pressing the scope switch to which "Trigger" is assigned captures the image.



→ "4.2.7 Endoscope Tab"

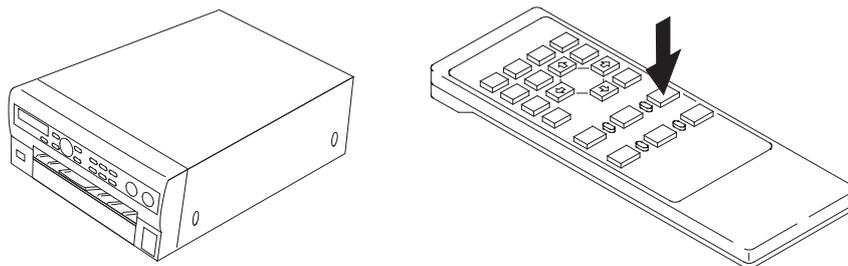
8.3.4 Printing the Image

Prints the captured image.

The print operation method differs depending on the print mode set.

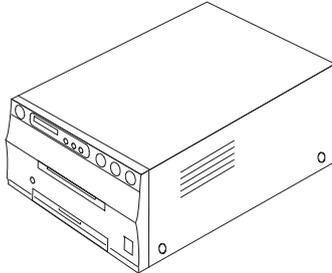
In the Auto mode, when the number of images captured reaches the number of images that has been set, the images are automatically printed out.

In the Manual mode, images are printed out when the [Print] key on the keyboard, or the print button on the printer unit or on the remote controller is pressed.



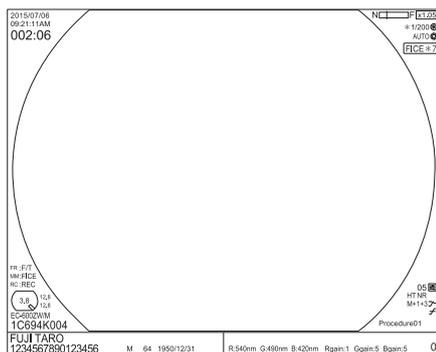
8.4 Printing the Image with the Digital Printer

The image observed on the monitor can be printed out on paper by connecting the digital printer to VP-7000.

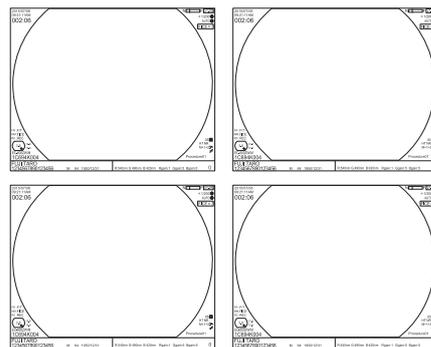


Full screen or multiple screen images (four images, etc.) can be printed on a single sheet of printout paper.

→ “5.4.3 Printer Tab”



Full screen



4 images

The patient name, date and time can be printed at the margin of the print paper.

→ “5.2.1 Registering Patient Information”

Note When registering patient information or switching to new patient information, patient information is sent to the printer. While patient information is sent to the printer (for about 30 seconds), images cannot be captured. In addition, when patient information is sent, the image already loaded in the printer is printed forcibly.

8.4.1 Assignment of Image Capture Switches

The endoscope's scope switches to which "Freeze" and "Trigger" are respectively assigned are available to capture images.

- Note**
- The foot switch of the processor can be set as switches for capturing images.
 - Settings for assigning the image capture switches should be performed by service personnel at the time of installation.

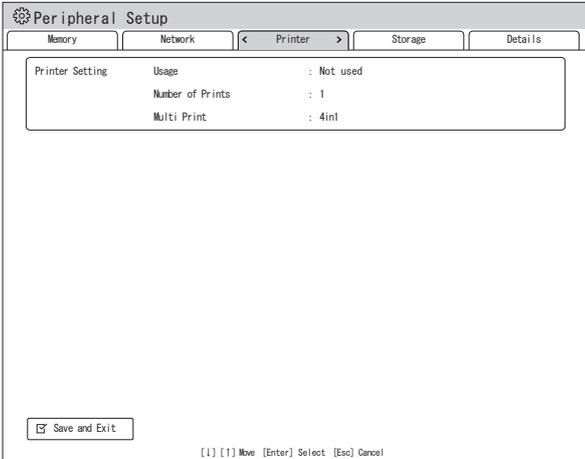
→ "4.2.7 Endoscope Tab"

8.4.2 Printer Setting

- Note** The printer to be used needs to be installed in advance. Installation of the printer should be performed by service personnel.

To register the printer to be used, the model name of the printer, the number of prints and the number of images on a single sheet of printer paper are specified. Depending on the printer models, some settings are fixed and cannot be changed.

→ "5.4.3 Printer Tab"



The screenshot shows a menu titled "Peripheral Setup" with a gear icon. The menu has several tabs: "Memory", "Network", "Printer" (selected), "Storage", and "Details". The "Printer" tab is active, showing the following settings:

Printer Setting	
Usage	: Not used
Number of Prints	: 1
Multi Print	: 4in1

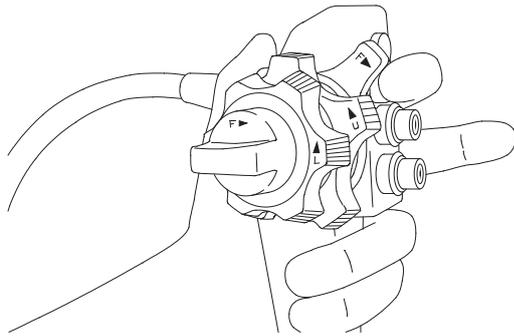
At the bottom left of the menu is a button labeled "Save and Exit". At the bottom center, there is a footer with the text: "[1] [1] Move [Enter] Select [Esc] Cancel".

8.4.3 Capturing the Image

Captures the image and loads it onto the printer unit.

<Capturing the image by using the scope switch of the Endoscope>

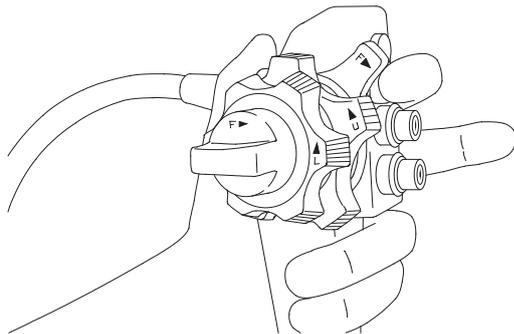
- (1) Focus the object to be recorded on the screen, and freeze the image by pressing the scope switch to which "Freeze" is assigned.



Note The observation screen is frozen while the scope switch to which the Freeze function is assigned is pressed. While the screen is frozen, the video image is displayed in the sub-screen. When Mask Type: Type 1 is selected in SXGA mode, each pressing of the [Tab] key changes the display position of the sub-screen in order of the upper left → upper right → lower right → lower left.

→ "3.7 Data Display on the Observation Screen"

- (2) While the image is static, pressing the FR switch captures the image.



→ "4.2.7 Endoscope Tab"

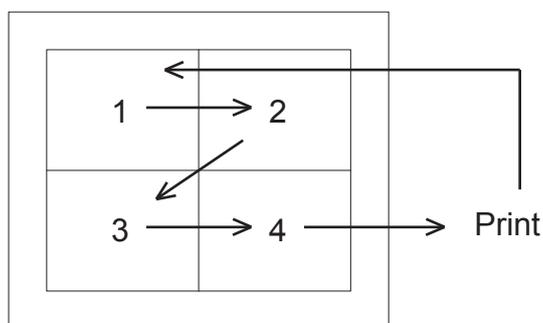
8.4.4 Print Mode Setting

In the digital printer, the print operation method is set according to the print mode. The print mode is selected from the two types of modes: “Auto” and “Manual.” Taking, as an example, how images are captured with four images printed out onto a print sheet, this section describes these modes.

Note Print mode setting should be performed by service personnel at the time of installation.

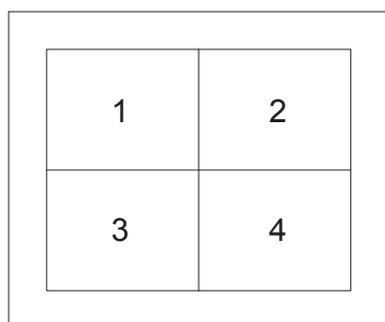
<Auto Mode>

After the images have been captured in order from image 1 to image 4, the images are automatically printed out. When the images are completely printed out, the system returns to image 1, erases the previous image, and then captures an image to it.



<Manual Mode>

Select an image to be printed out from the thumbnail display screen, and then print it out.



Before printing an image, the preview screen is available for confirmation.

To print captured images, refer to the following section.

→ “8.9.4 Printing Searched Images”

8.5 Recording Video Images on the Video Recorder (by Operating the Buttons)

When the video recorder HVO-3300MT (SONY)/HVO-1000MD (SONY)/ HVO-550MD (SONY) connected, you can record the image focused on the endoscope.

→ "4.1.6 Installation for System Expansion"

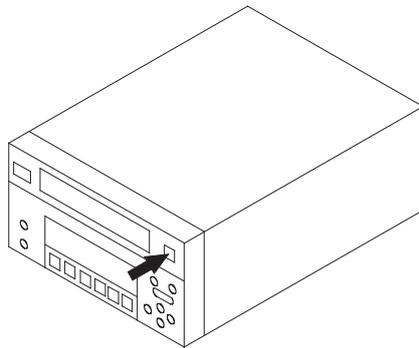
Note Do not connect HVO-3300MT (SONY) or HVO-1000MD to the RGB TV connector.

→ "Operation Manual of HVO-3300MT"

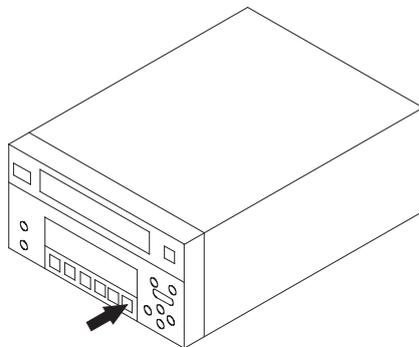
→ "Operation Manual of HVO-1000MD"

8.5.1 Recording Video Images by Operating the Buttons on the Video Recorder

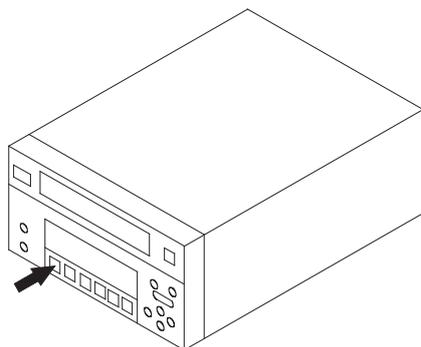
- (1) Press the OPEN/CLOSE  button. The tray opens.
- (2) Place a DVD on the tray.
- (3) Press the OPEN/CLOSE  button. The tray closes.



- (4) To start recording video images, press the REC button on the video recorder.



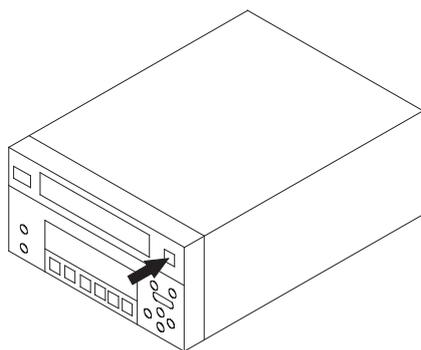
- (5) To stop recording video images, press the STOP button.



- (6) To start recording video images again, repeat Steps (4) and (5).

- (7) To remove the DVD, press the OPEN/CLOSE \triangle button.

Note How to operate the device varies depending on the video recorders. For details, refer to the instruction manual for each video recorder.



8.6 Recording Video Images on the Video Recorder (by Operating the Scope Switch)

8.6.1 Assignment of Video Recording Switches

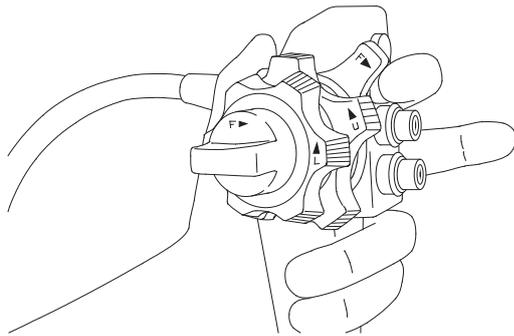
Video images are recorded by using the scope switch on the endoscope to which the "Trigger" function is assigned.

Note The "Trigger" function needs to be assigned to a scope switch. The setting is performed by service personnel.

→ "4.2.7 Endoscope Tab"

8.6.2 Starting Video Recording

Press the scope switch to which "Trigger" is assigned to start video recording. Press the scope switch again to pause video recording.



→ "4.2.7 Endoscope Tab"

8.7 How to Record/Print Images on the Internal and External Storage Devices

Images can be stored onto the internal storage device of the processor. Images stored in the internal storage can be copied to an external storage device.

→ “5.4.2 Memory Tab”

8.7.1 Internal Storage Device

The VP-7000 has an internal storage device. The internal storage device is used for storing exam images and for backing up exam images when the network transfer is enabled. After an examination is over, images are copied to an external storage device, or are sent to the image server or the digital printer.

The maximum number of recordable images and examinations is as follows.

		Maximum number of recordable images (for all examinations)	Maximum number of recordable images (for each examination)	Standard number of recordable examinations (100 images / examination)	Minimum number or recordable examinations (Maximum / examination)
Compression rate	JPEG (1/20)	21,690	800	216	27
	JPEG (1/10)	16,270	750	165	21
	JPEG (1/5)	5,910	500	59	11
	TIFF	840	130	8	6

- Note**
- The number of recordable images varies depending on the type of image.
 - Even if the screen is displayed in Full HD on a Full HD monitor, images are stored in the SXGA format.

The system checks the free space of the internal storage device when starting or terminating an examination. If the space in the internal storage device is not sufficient for the next examination, the system deletes all image data of an examination already copied to an external storage device or those already transferred to the network in chronological order.

When the internal storage device is filled with image data not yet copied to an external storage device or those not yet transferred to the image server, if the space in the internal storage device is not sufficient for the next examination, the message instructing the user to secure the free space is displayed. If this happens, copy the image data to an external storage device or transfer them to the image server to secure the free space in the internal storage device.

→ “8.8 Copying Images to External Storage Device”

→ “8.9.2 Transferring Searched Images”

- Note**
- If there are images that are not yet transferred, the network or image server may be faulty. Be sure that the network is connected properly, hubs and routers operate normally and the image server is operating properly, and then try image transfer again to check whether or not images are properly recorded onto the server.
 - If images that are not yet copied or transferred are not necessary, those images can be deleted by retrieving them or by initializing the internal storage device. Before deleting the image, be sure that all images are not necessary.

→ “8.9.3 Deleting Searched Images”

→ “5.4.2 Memory Tab”

If the free space in the internal storage device is insufficient at the time of starting an examination, the message asking whether or not the examination is continued is displayed.

When “No” is selected: Operation returns to the stand-by state.

When “Yes” is selected: The examination is performed without recording images in the internal storage device. When the network is used, images are not backed up but are transferred to the image server.

- Note**
- If there is no alternative to the image storage function (such as a printer or external filing device), select “No” to end the examination, secure the free space for image storage and then start the examination again.

8.7.2 Assignment of Image Capture Switches

The endoscope's scope switches to which "Freeze" and "Trigger" are respectively assigned are available to capture images.

- Note**
- The foot switch of the processor can be set as switches for capturing images.
 - Settings for assigning the image capture switches should be performed by service personnel at the time of installation.

→ “4.2.7 Endoscope Tab”

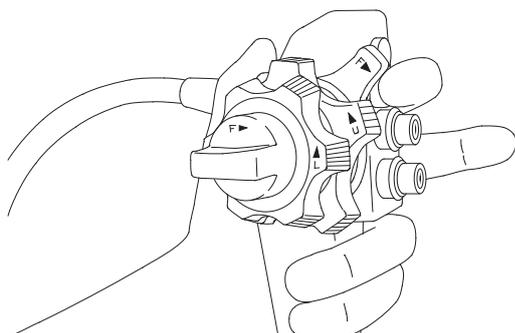
8.7.3 Capturing the Image to Internal Storage Device

Captures the image to the internal storage device.

Note When images are captured with FICE turned ON, two images, FICE and normal images, are captured to the internal storage device in a single operation.

<Capturing the image by using the scope switch of the Endoscope>

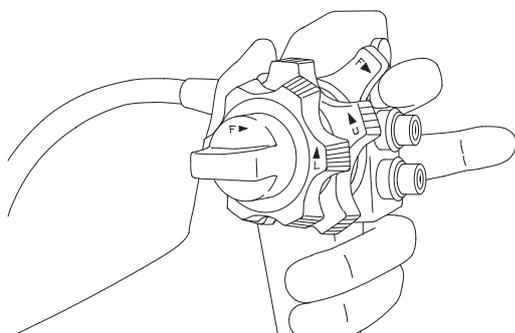
- (1) Focus the object to be recorded on the screen, and freeze the image by pressing the scope switch to which "Freeze" is assigned.



Note The observation screen is frozen while the scope switch to which the Freeze function is assigned is pressed. While the screen is frozen, the video image is displayed in the sub-screen. When Mask Type: Type 1 is selected in SXGA mode, each pressing of the [Tab] key changes the display position of the sub-screen in order of the upper left → upper right → lower right → lower left.

→ "3.7 Data Display on the Observation Screen"

- (2) While the image is static, pressing the scope switch to which "Trigger" is assigned captures the image.



→ "4.2.7 Endoscope Tab"

8.8 Copying Images to External Storage Device

Images stored in the internal storage device can be copied to an external storage device.

8.8.1 External Storage Device

Use the following external storage device.

External storage device: Swissbit external storage device (SFU22048E1BP2TO-I-MS-111-STD or SFU22048E3BP2TO-I-MS-121-STD)

For other external storage devices, consult your local FUJIFILM dealer.

If images cannot be saved in an external storage device that still has free space, format the external storage device to FAT (FAT32) on a personal computer (Windows) or use a new external storage device.

FAT is a system for managing data saved in the hard disk, CF memory card, etc. With FAT16, a maximum of 2GB of data can be managed. With FAT32, a maximum of 2048GB (2TB) of data can be managed.

Format the external storage device to FAT32.

→ “5.4.2 Memory Tab”

Note Do not remove the external storage device while data writing to an external storage device is in progress. If removed, the VP-7000 may not operate properly. If this happens, turn off the processor and then turn it on again.

8.8.2 Copying Images to an External Storage Device

When no examination is in progress, images in the internal storage device can be copied to an external storage device connected to the VP-7000. Daily examination data can be copied easily. In addition, the desired images can be copied using the image search function.

Images recorded in the internal storage device during an examination can also be copied to an external storage device automatically (simultaneous recording).

<How to copy daily exam data>

Daily exam data can be copied to an external storage device only by operating the keyboard, without retrieving the images.

Note After an examination is started, the date and time of the examination is recorded when the first image is obtained. If the examination was started on the previous day, the image data cannot be copied with the following procedure. If this happens, copy the images by retrieving them.

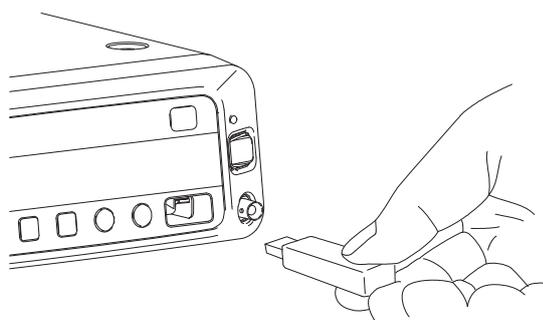
- (1) Prepare an external storage device.

Note

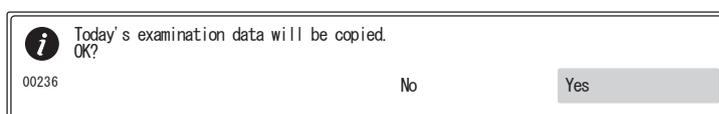
- Back up the data in the external storage device and initialize it with this product or a personal computer to secure a sufficient space for image recording.
- Although a certain free space is secured by deleting unnecessary data, if the free space is insufficient, images cannot be copied. Secure an enough space for image recording.
- When copying image data to an external storage device, if the file of the same name already exists in the external storage device, the data is overwritten. Be sure that there are no images that are edited by a personal computer, etc.

- (2) Make sure that no examination is in progress and connect the external storage device. The memory access lamp lights in green.

Note If an examination is in progress, image data cannot be copied.

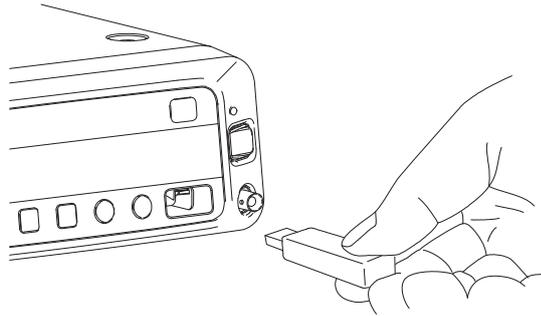


- (3) Press the [Alt] and [C] keys on the keyboard at the same time.
- (4) The message “Today’s examination data will be copied. OK?” is displayed. When “Yes” is selected, data copy starts. When data copy is in progress, the LED for the external storage device flashes in orange. When “No” is selected, data copy is not executed.



- (5) When data copy is completed and the LED for the external storage device lights in green, the external storage device can be removed. Remove the external storage device and be sure that necessary data is copied by using a personal computer, etc.

Note Do not remove the external storage device while the LED for the external storage device flashes in orange. If the external storage device is removed while the LED flashes in orange, it may damage the data being copied or the external storage device itself.



<How to copy images by retrieving them>

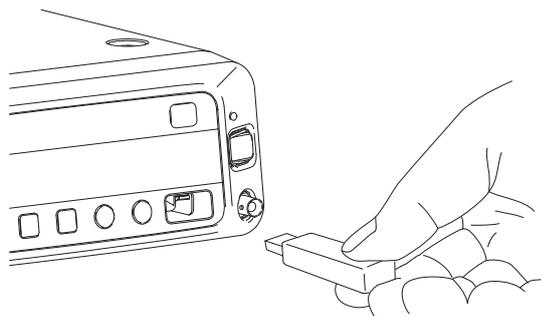
- (1) Prepare an external storage device.

Note

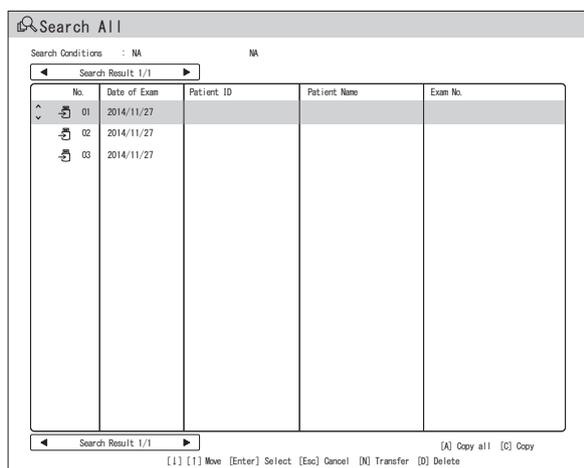
- Back up the data in the external storage device and initialize it with this product or a personal computer to secure a sufficient space for image recording.
- Although a certain free space is secured by deleting unnecessary data, if the free space is insufficient, images cannot be copied. Secure an enough space for image recording.
- When copying image data to an external storage device, if the file of the same name already exists in the external storage device, the data is overwritten. Be sure that there are no images that are edited by a personal computer, etc.

- (2) Make sure that no examination is in progress and connect the external storage device. The memory access lamp lights in green.

Note If an examination is in progress, image data cannot be copied.

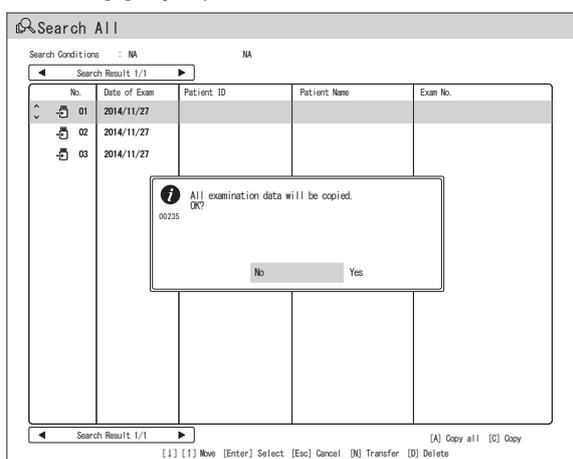


- (3) By following the procedure described in “8.9.1 Searching Images in Internal and External Storage Devices”, display the list of search result. To change the page of the list, move the cursor to “Search Result 1/4 (to 4/4)” and press the [←] or [→] key.
- (4) To copy all exam data in the list, press the [A] key. To copy specific exam data in the list, move the cursor to the desired exam data and press the [C] key.

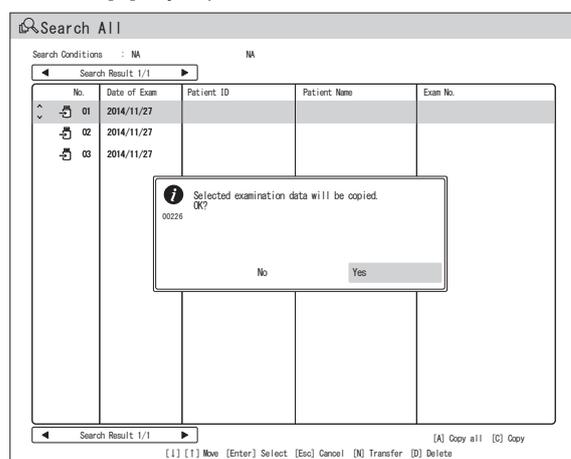


- (5) The confirmation message is displayed. When “Yes” is selected, data copy starts. When data copy is in progress, the LED for the external storage device flashes in orange.

When the [A] key is pressed:

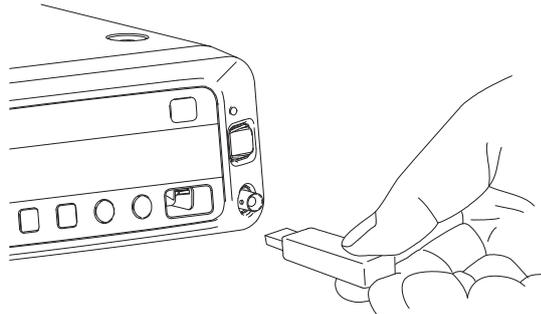


When the [C] key is pressed:



- (6) When data copy is completed and the LED for the external storage device lights in green, the external storage device can be removed. Remove the external storage device and be sure that necessary data is copied by using a personal computer, etc.

Note Do not remove the external storage device while the LED for the external storage device flashes in orange. If the external storage device is removed while the LED flashes in orange, it may damage the data being copied or the external storage device itself.



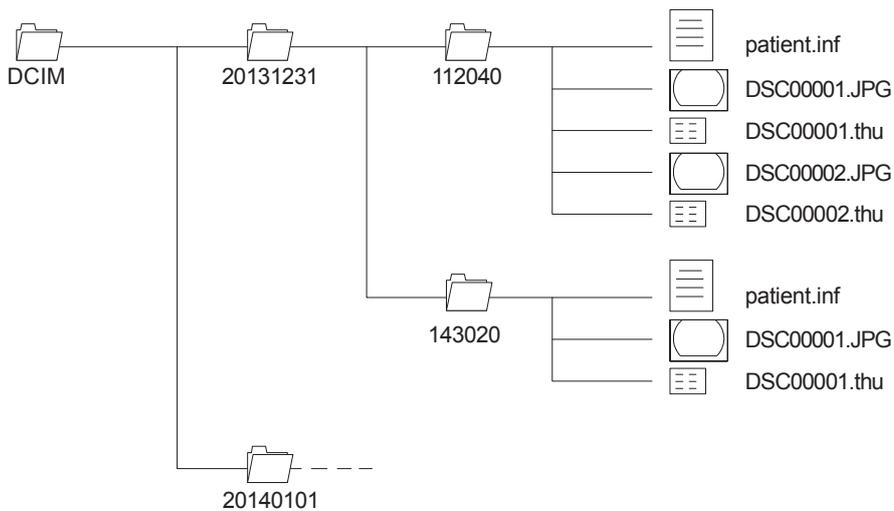
8.8.3 Checking Images on a Personal Computer

<When images are stored in the internal storage device>

Images recorded on the external storage device can be checked on a personal computer capable of reading the external storage device.

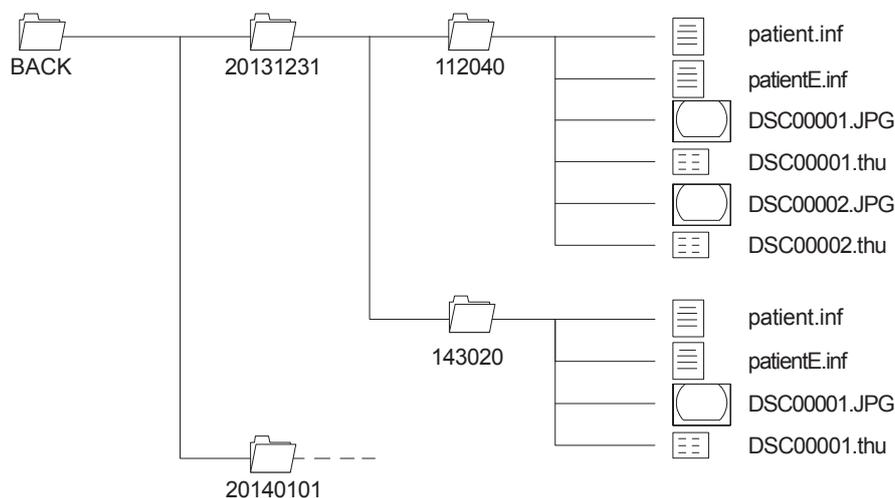
When an image is captured, a folder named with the date of shooting is created and a folder named with the time of shooting is also created in the folder.

Captured images are saved in the folder named with the time of shooting. (Example: When shooting starts at 11:20:40 a.m. on December 31st 2013, images are saved in the “\DCIM\20131231\112040” folder.)



<When images are transferred to the FTP server>

When “ON” is selected for “Auto Copy Mode” on the “Memory” tab in the Image Setup Page screen, the “BACK” folder is created and a folder named with the date of capture and a folder named with the time of capture are also created in the folder. Captured images are saved in the folder named with the time of capture. (Example: When image capture starts at 11:20:40 a.m. on December 31st 2013, images are saved in the “\BACK\20131231\112040” folder.)



Note • The file extension “.thu” indicates the files of images displayed as thumbnails. (Example: DSC00001.thu)

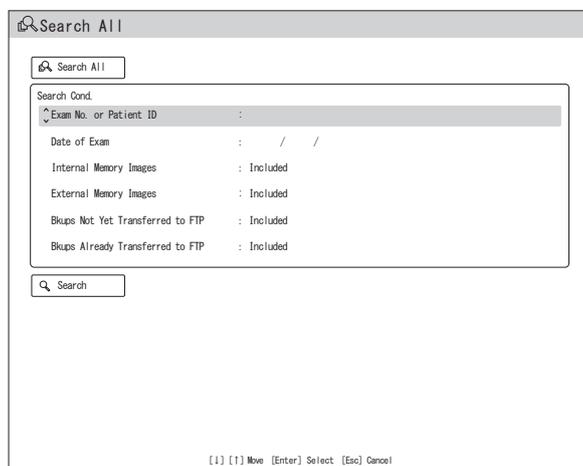
- The file extension “.inf” indicates the files of patient information. Do not directly edit or overwrite each “.inf” file because it is used when searching images and setting devices.
- Do not directly edit images recorded on the external storage device. To edit an image, copy it into a different area (for example, the hard disk of a personal computer) and edit the copied image. If you directly edit or overwrite an image recorded on the external storage device, the image cannot be displayed on the processor.

8.9 How to Search and Print Images in Internal and External Storage Devices

8.9.1 Searching Images in Internal and External Storage Devices

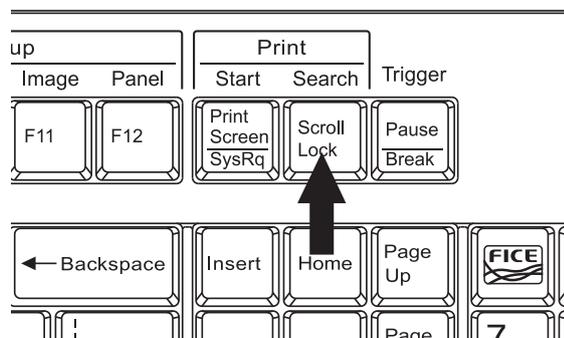
Images recorded on the internal or external storage device can be narrowed down on the Search screen based on the patient ID and date of inspection and then can be displayed as thumbnails. On the thumbnail display screen, images can be enlarged and printed out.

- Note**
- The Search screen is not displayed during the operation of the endoscope.
 - When thumbnail images are displayed using the search function and then one of the images is enlarged, the enlarged image is also displayed on the monitor connected via RGB TV, Video and S Video connectors.
 - When “Used” is selected in “Usage” in the Network Setup screen, images are backed up to the internal storage device. Among the images already backed up, if an image is not yet transferred to the FTP server, (📁) is displayed next to the list number of the image. If the image has already been transferred to the FTP server, (📁) is displayed.
 - For image data in an external storage device, (📁) is displayed next to the list number of the image.
 - For images already copied, (☑) is displayed next to the list number of the image.



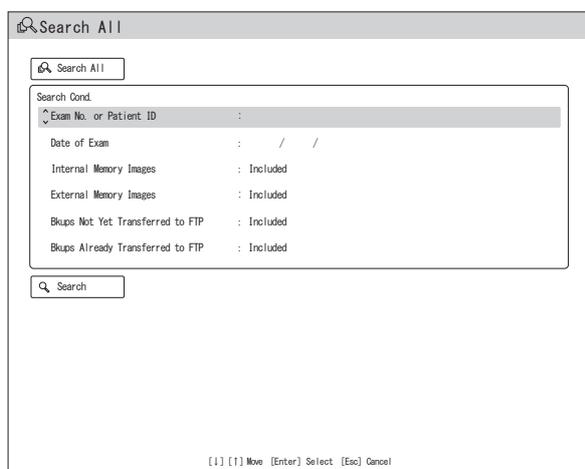
- (1) Press and hold the EXAM. button for about two seconds. While the STANDBY indicator lamp lights orange, press the [Search] key. The search screen appears.

Note Search in the contents of the Internal or External Storage Device can be performed while the STANDBY indicator lamp lights orange by pressing the EXAM. button.



- (2) Set search conditions. When searching with the examination number or patient ID, move the cursor to “Exam No. or Patient ID” and then press the [Enter] key. Character entry is enabled. Enter the examination number or patient ID.

Note The patient ID is searched by a search for a match at the beginning of the row.



- (3) When searching using the date of examination, move the cursor to “Date of Exam” and press the [Enter] key. Each time the year, month or date is entered and then the [Enter] key is pressed, the next item can be entered.

Search All

Search All

Search Cond.

Exam No. or Patient ID : 123456

Date of Exam : / /

Internal Memory Images : Included

External Memory Images : Included

Bkups Not Yet Transferred to FTP : Included

Bkups Already Transferred to FTP : Included

Search

[] [] Move [Enter] Select [Esc] Cancel

- (4) Select the image to be searched. Move the cursor to “Internal Memory Images” and press the [Enter] key. In the displayed pop-up menu, select whether or not the images stored in the internal storage device are included and press the [Enter] key. Similarly, specify whether or not “Bkups Not Yet Transferred to FTP” and “Bkups Already Transferred to FTP” are included.

Search All

Search All

Search Cond.

Exam No. or Patient ID : 123456

Date of Exam : 2015 / 02 / 14

Internal Memory Images : Included

External Memory Images : Not included

Bkups Not Yet Transferred to FTP : Included

Bkups Already Transferred to FTP : Included

Search

[] [] Move [Enter] Select [Esc] Cancel

Internal Memory Image:

Image data stored in the internal storage device

→ “5.4.2 Memory Tab”

External Memory Image:

Image data copied from the internal storage device to the external storage device

→ “8.8.2 Copying Images to an External Storage Device”

Bkups Not Yet Transferred to FTP:

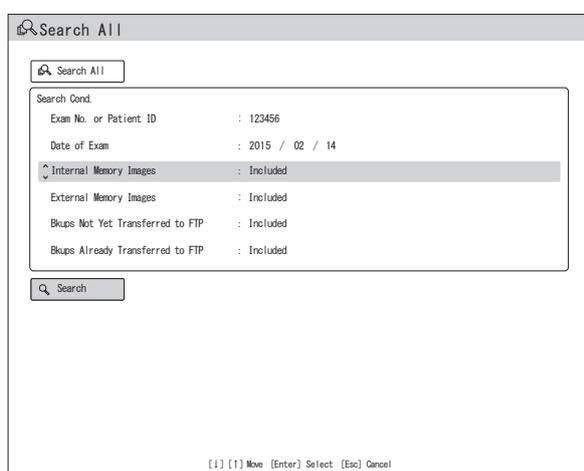
Image data stored only in the internal storage device, not in the FTP server, while the internal storage device is placed in the backup mode by selecting “Used” is selected for “Usage” in the Network Setup screen

Bkups Already Transferred to FTP:

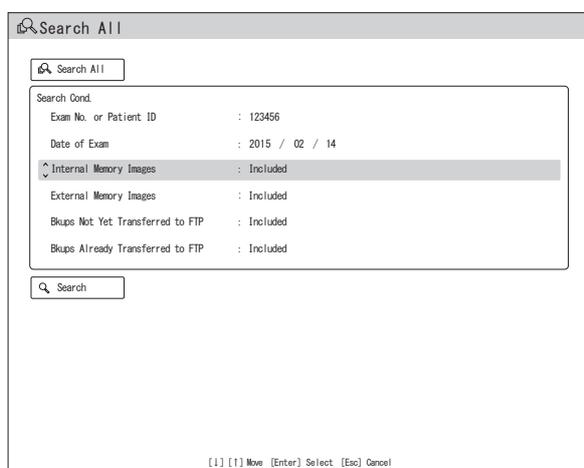
Image data already transferred to the FTP server while the internal storage device is placed in the backup mode by selecting “Used” is selected for “Usage” in the Network Setup screen

→ “5.4.4 Details Tab”

- (5) Move the cursor to “Search” and press the [Enter] key.
Search by “Patient ID” and/or “Date of Exam” can be executed.



Note When listing all images in the internal and external storage devices, move the cursor to “Search All” and press the [Enter] key.



- (6) When the search has finished, search results are listed.
To turn the pages of the list, move the cursor to “Search Result 1/4 (to 4/4)” and press the [←] or [→] key.

- Note**
- In the list of search results, the latest data is listed at the top.
 - A maximum of 1000 images can be listed.
 - When “Used” is selected in “Usage” in the Network Setup screen, images are backed up to the internal storage device. Among the images already backed up, if an image is not yet transferred to the FTP server, (📁) is displayed next to the list number of the image. If an image has already been transferred to the FTP server, (📁) is displayed.
 - For the images stored in the external storage device, (📁) is displayed next to the list number of the image.
 - For images already copied, (✓) is displayed next to the list number of the image.

No.	Date of Exam	Patient ID	Patient Name	Exam No.
01	2014/11/27			
02	2014/11/27			
03	2014/11/27			

[1] [1] Move [Enter] Select [Esc] Cancel [N] Transfer [D] Delete [A] Copy all [C] Copy

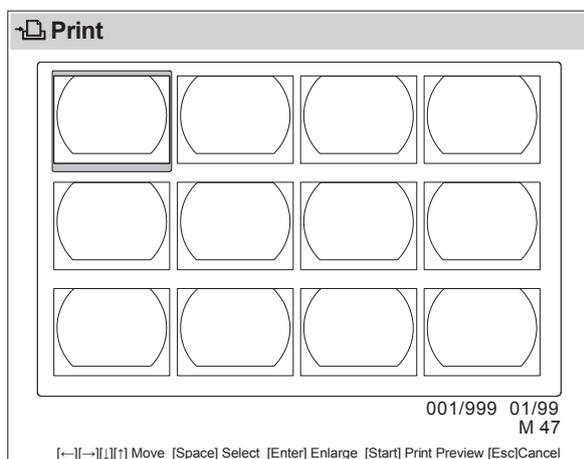
- (7) Move the cursor to the list number of the images to be displayed and press the [Enter] key.

No.	Date of Exam	Patient ID	Patient Name	Exam No.
01	2014/11/27			
02	2014/11/27			
03	2014/11/27			

[1] [1] Move [Enter] Select [Esc] Cancel [N] Transfer [D] Delete [A] Copy all [C] Copy

The images of the selected list number are displayed as thumbnails.

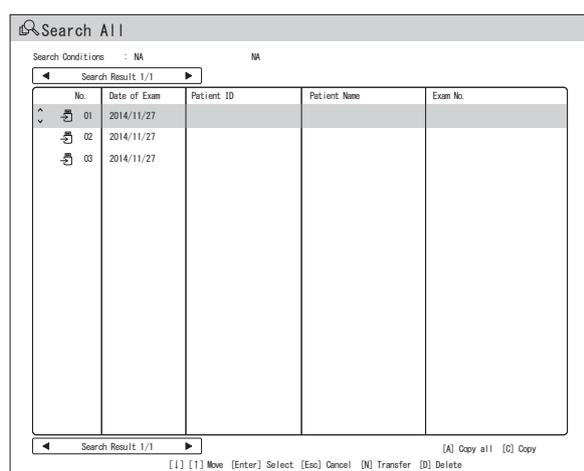
Note When thumbnail images are displayed using the search function and then one of the images is enlarged, the enlarged image is also displayed on the monitor connected via RGB TV, Video and S Video connectors.



8.9.2 Transferring Searched Images

How to transfer the images searched from the internal and external storage devices is explained below.

- (1) By following the procedure described in “8.9.1 Searching Images in Internal and External Storage Devices”, display the list of search results. To change the page number, move the cursor to “Search Result X/X” (X/X: Current page number/Total number of pages) and press the [←] or [→] key.

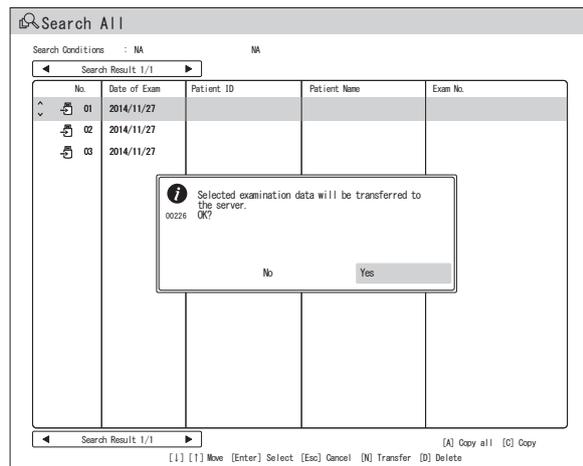


- (2) By using the [↑] or [↓] key, move the list number of the image to be transferred and press the [N] key. The confirmation message “Selected examination data will be transferred to the server. OK?” appears.

When [Yes] is selected, the selected image is transferred.

When [No] is selected, operation returns to the list of search results.

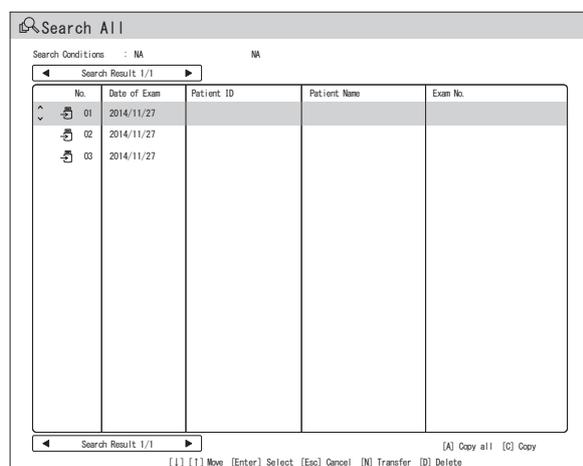
Note When “Not used” is selected for “Usage” in the Network Setup screen, image transfer is not executed even if the [N] key is pressed.



8.9.3 Deleting Searched Images

How to delete the images searched from the internal and external storage devices is explained below.

- (1) By following the procedure described in “8.9.1 Searching Images in Internal and External Storage Devices”, display the list of search results. To change the page number, move the cursor to “Search Result X/X” (X/X: Current page number/Total number of pages) and press the [←] or [→] key.

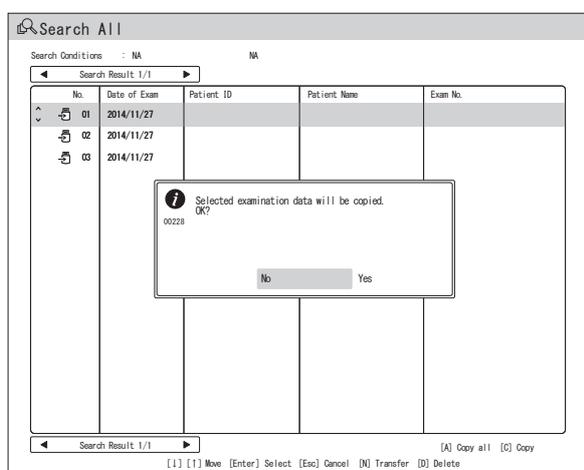


- (2) By using the [↑] or [↓] key, move the list number of the image to be deleted and press the [D] key. The confirmation message “Selected examination data will be deleted. OK?” appears.

When [Yes] is selected, the selected image is deleted.

When [No] is selected, operation returns to the list of search results.

- Note**
- Deleted examination data is grayed out. When the [↑] and [↓] keys are pressed, grayed out items are skipped and cannot be selected.
 - With this operation, the selected examination data is deleted. However, its list number remains in the search result. To delete it from the list, press the [Esc] key to return to the observation screen and then search again.



8.9.4 Printing Searched Images

This section explains how to print the image searched from the internal and external storage devices by using the search function.

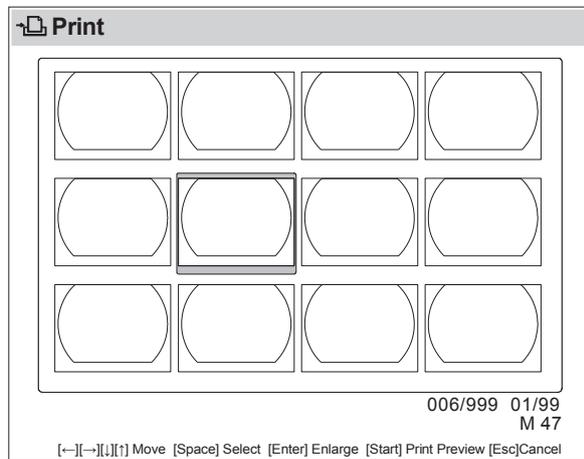
- Note**
- Images searched from the internal and external storage devices can be printed with the digital printer connected to the digital printer connector or the printer connected to the RGB TV, Video or S Video connector.
 - Images searched from the internal or external storage device and displayed on the screen can be printed only with the digital printer connected via the digital printer or the printer connected via the RGB TV, Video or S Video connector.

For details on printer settings, refer to “5.4.3 Printer Tab”.

- (1) Display thumbnail images by following the procedure described in “8.9.1 Searching Images in Internal and External Storage Devices”.

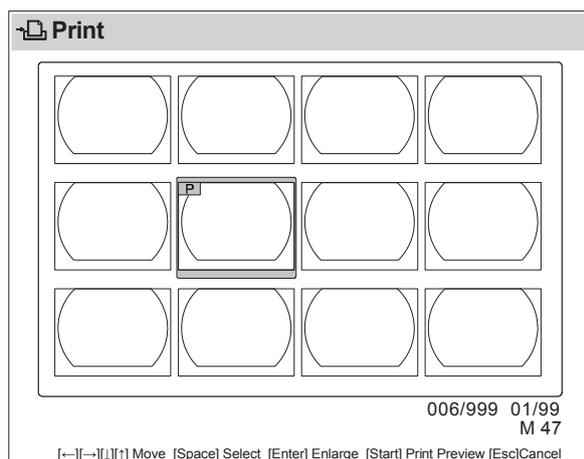
- (2) Select the desired image by pressing the [←], [→], [↑] or [↓] key. The selected box is indicated with a box cursor.

When the [↓] key is pressed with the box cursor placed at the bottom line, the display changes to the next page.

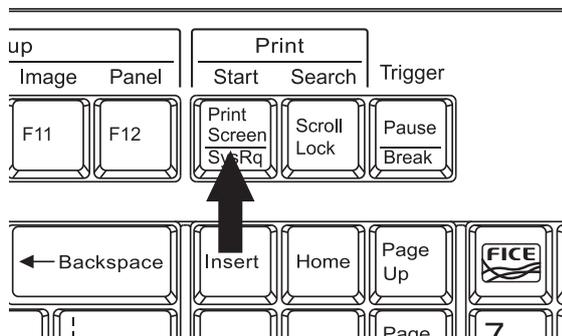


- (3) Move the box cursor to the image to be printed and then press the [Space] key. A "P" mark is displayed on the selected screen. When the [Space] key is pressed again, the "P" mark disappears. When the [Enter] key is pressed, the selected image is enlarged.

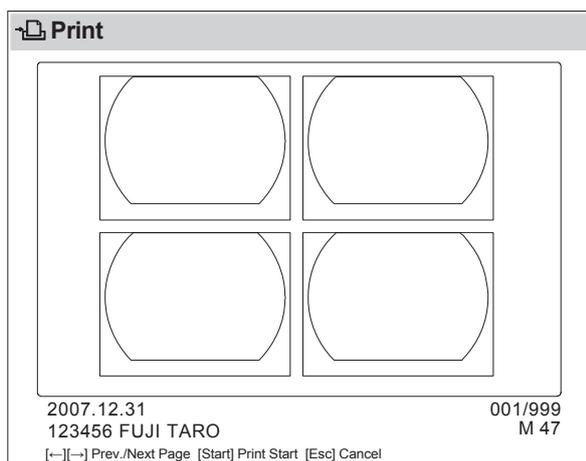
Note When thumbnail images are displayed using the search function and then one of the images is enlarged, the enlarged image is also displayed on the monitor connected via RGB TV, Video and S Video connectors.



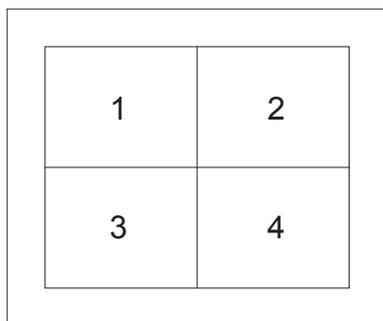
- (4) Repeat Steps (2) and (3) until the “P” mark is displayed for all the images to be printed.
Press the [Start] key.
The print preview screen appears.



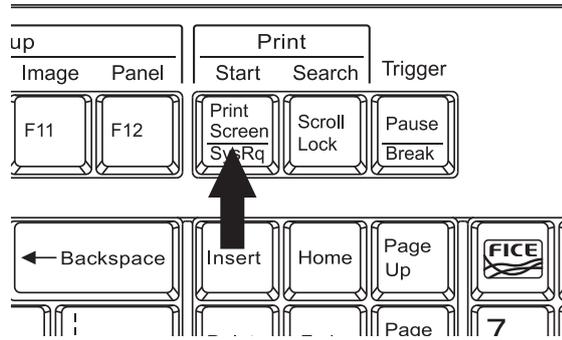
- (5) By pressing the [←] and [→] keys, scroll all pages to check all preview images.
The type of preview display varies depending on the settings on the printer.



Note The “P” marks are numbered such as “P1” and “P2” in the order selected. In the preview screen, the selected images are displayed in order from “P1”.



- (6) Press the [Start] key.
All images in the print preview screen are printed.



Wear personal protective equipment (such as goggles, facemask, chemical-resistant and waterproof gloves, antifouling protective clothing, cap and shoe covers) when performing maintenance work of this product.

9.1 Care after Use of Processor

Remove debris adhering to this product if it is found after use or while not in use.

CAUTION

- Clean the equipment in the proper way as specified. Otherwise, the equipment may be damaged.
- Do not spill water or disinfectants on the equipment body. Do not perform disinfection and sterilization by immersing the equipment in chemical liquid or by gas. The equipment may be damaged.
- Do not touch electric contact points directly by hand. Do not wipe contact points any other liquid than alcohol. Doing so may cause corrosion.

- (1) Turn off the processor.
- (2) Gently wipe off dust or dirt with clean lint-free gauze, etc.
- (3) If any dirt is still present, wipe it off with clean lint-free gauze, etc. moistened with medical-grade neutral detergent.

Note Use detergent according to the detergent manufacturer's instructions.

- (4) Wipe the surface with clean lint-free gauze, etc. moistened with 70% ethanol.
- (5) For uneven surfaces, wipe them with a clean cotton swab, etc. moistened with 70% ethanol.

9.2 Cleaning the Keyboard

WARNING

- Replace the cover for a keyboard to which any debris, etc., has adhered. There is a risk of infection.

Note Do not clean the entire keyboard with running water or disinfect it by dipping. If there is any breakage of or flaw on the keyboard cover, do not wipe the cover using a sterilizing chemical, etc. Doing so may lead to a failure or malfunction.

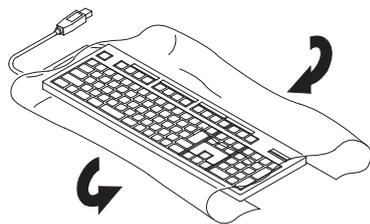
9.2.1 Cleaning the Keyboard

- (1) Turn off the processor.
- (2) Gently wipe off dust or dirt with clean lint-free gauze, etc.

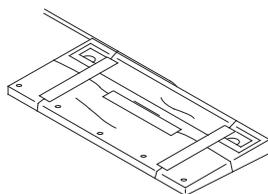
9.2.2 Keyboard Cover and Replacement

In order to prevent adherence of debris or chemical solutions, as well as water entering, ordinarily keep the keyboard covered with a waterproof sheet. Replace the cover if debris has adhered to it or it has become contaminated, broken or scratched.

- (1) Turn off the processor.
- (2) Detach the keyboard from the processor.
- (3) Detach the waterproof sheet from the keyboard.
- (4) Cover the surface of the keyboard with a new waterproof sheet.



- (5) Secure the waterproof sheet to the bottom of the keyboard using adhesive tape.



9.3 Storage

Note Store the equipment in a state where no force is applied to the cables. Do not store the equipment in a place which does not meet the storage conditions. The equipment may be damaged.

Store this product in a place that meets the following conditions.

<Storage Environment>

Temperature : -20 to +60°C
 Humidity : 10 to 90%RH
 (no dew condensation)
 Pressure: 70 to 106 kPa

Note <Operating Environment> Non-operating conditions

Temperature : -10 to +45°C
 Humidity : 30 to 95%RH
 (no dew condensation)
 Pressure: 70 to 106 kPa

When the equipment has been out of use for a long period, check the operation again as performed at the installation.

→ “Chapter 6 Preparation and Inspection of the System”

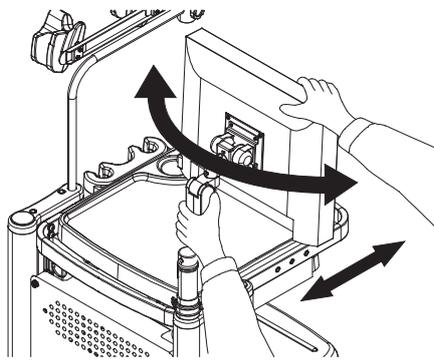
The VP-7000 uses the secondary battery to store the clock and data. When the VP-7000 has remained off for a long period of time, the clock function may not be retained (the date and time may be displayed incorrectly). In such cases, make the initial settings again.

→ “4.2 Initial Settings at the Time of Installation”

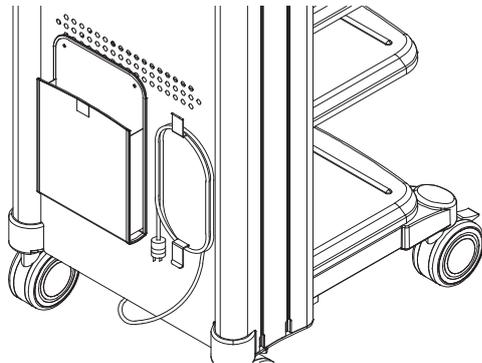
9.4 Relocation

Note Do not apply strong impact on the electrical connector of the endoscope by hitting it against other objects, etc. Install the light source so that no strong impact is applied to the scope connector or LG connector of the endoscope connected to the light source. When operating an electric bed, etc., avoid hitting it against the scope connector or LG connector of the endoscope connected to the light source. There is a risk of damaging the endoscope or light source.

- (1) Turn off the power to the light source, processor and cart in advance. Make sure that the monitor is fixed on the cart.

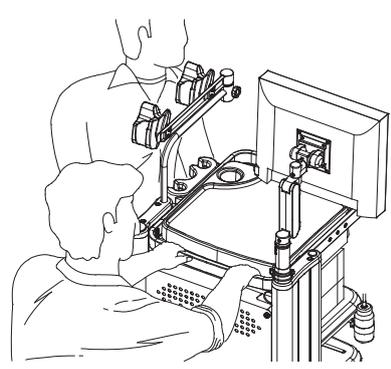


- (2) Unplug the power cord of the cart from the receptacle, and wind it around the handle on the rear side. Unlock the cart casters.

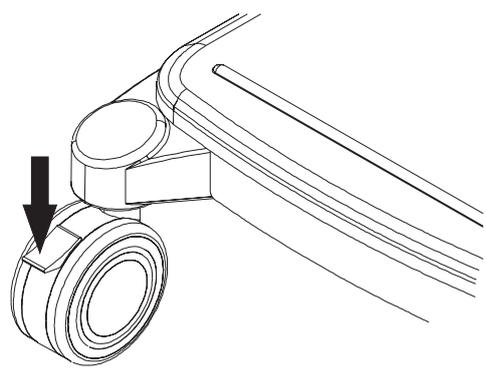


- (3) Move the cart carefully not to give any vibration or impacts to the equipment, paying close attention to bumps and slopes.

- Note**
- Use two persons to move the cart.
 - Pay close attention to prevent the monitor and the scope hanger from hitting anything.



- (4) Lock the casters of the cart at the place where it is relocated.



Chapter 10 Troubleshooting

10.1 Troubleshooting

Phenomenon	Possible cause	Countermeasure
Turning "ON" the power button does not actuate this product (the power indicator lamp does not light up).	<ol style="list-style-type: none"> 1) The main switch on the cart is turned "OFF." 2) The power cord is connected incompletely. 3) The power cord is defective. 4) The receptacle is defective. 5) The fuse is blown. 	<ol style="list-style-type: none"> 1) Turn "ON" the main switch on the cart. 2) Connect the power cord properly. 3) Check the power cord. 4) Check that the rated voltage is supplied. 5) Consult your local FUJIFILM dealer.
The light does not turn on even if the Light button is pressed.	<ol style="list-style-type: none"> 1) The endoscope is not connected. 2) The safety switch for the scope socket is faulty. 3) The light source is faulty. 	<ol style="list-style-type: none"> 1) Securely lock the endoscope. 2) Consult your local FUJIFILM dealer. 3) Consult your local FUJIFILM dealer.
Images do not appear.	<ol style="list-style-type: none"> 1) The Endoscope is connected incompletely. 2) The main switch of the monitor is turned "OFF." 3) Monitor input is not selected correctly. 4) The monitor is not connected. 5) The monitor does not support FullHD output. 	<ol style="list-style-type: none"> 1) Connect the endoscope correctly. → "7.2 Connecting the Endoscope and Equipment" 2) Turn "ON" the monitor. 3) Select the input according to the line connected to INPUT. 4) Connect the monitor via the cable. 5) Press the [Ctrl], [Alt] and [S] keys at the same time to switch the screen resolution setting to SXGA. → "4.2 Initial Settings at the Time of Installation"

[Note] Wait for 5 seconds or more before turning the power back to ON.

[Note] For details on how to operate the endoscope, refer to the operation manual of the endoscope.

Phenomenon	Possible cause	Countermeasure
Images are dark.	1) The imaging section of the endoscope is damaged. 2) The endoscope is not connected completely. 3) The brightness level is approximately -4. 4) The iris mode is "Peak." 5) The system is malfunctioning due to phenomena such as electrostatic discharge. 6) The internal part of the light source is faulty.	1) 5) 6) If an error message appears, follow the displayed instructions. If no error message appears, slowly withdraw the endoscope by following the instructions described in the operation manual of the endoscope in use. Stop using the equipment immediately, and consult your local dealer. 2) Connect the endoscope correctly. → "7.2 Connecting the Endoscope and Equipment" 3) Set the brightness level to approximately 0. → "7.6 Adjusting the Brightness" 4) Set the iris mode to "Ave." → "7.13 Switching the Iris Mode"

[Note] Wait for 5 seconds or more before turning the power back to ON.

[Note] For details on how to operate the endoscope, refer to the operation manual of the endoscope.

Phenomenon	Possible cause	Countermeasure
Highlight areas in images are too bright.	1) The imaging section of the endoscope is damaged. 2) The iris mode is "Ave." 3) The brightness level is approximately +5. 4) The system is malfunctioning due to such as electrostatic discharge. 5) The internal part of the light source is faulty.	1) 4) 5) If an error message appears, follow the displayed instructions. If no error message appears, slowly withdraw the endoscope by following the instructions described in the operation manual of the endoscope in use. Stop using the equipment immediately, and consult your local dealer. 2) Set the iris mode to Peak. → "7.13 Switching the Iris Mode" 3) Set the brightness level to approximately 0. → "7.6 Adjusting the Brightness"

[Note] Wait for 5 seconds or more before turning the power back to ON.

[Note] For details on how to operate the endoscope, refer to the operation manual of the endoscope.

Phenomenon	Possible cause	Countermeasure
An image disappears during examination or treatment.	<p>1) The imaging section of the endoscope is damaged.</p> <p>2) The Endoscope is not connected completely.</p> <p>3) The system is malfunctioning due to phenomena such as electrostatic discharge.</p> <p>4) The internal part of the light source is faulty.</p> <p>5) The system malfunctions due to abnormal power supply conditions (such as voltage drop).</p>	<p>1) 3) 4) 5)</p> <p>If an error message appears, follow the displayed instructions.</p> <p>If no error message appears, slowly withdraw the endoscope by following the instructions described in the operation manual of the endoscope in use.</p> <p>Stop using the equipment immediately, and consult your local dealer.</p> <p>2) Connect the endoscope correctly.</p> <p>→ “7.2 Connecting the Endoscope and Equipment”</p>
A live image is not displayed after freeze mode is cancelled during examination or treatment.	The system is malfunctioning due to phenomena such as static charges.	<p>If an error message appears, follow the displayed instructions.</p> <p>If no error message appears, slowly withdraw the endoscope by following the instructions described in the operation manual of the endoscope in use.</p> <p>Stop using the equipment immediately, and consult your local dealer.</p>

[Note] Wait for 5 seconds or more before turning the power back to ON.

[Note] For details on how to operate the endoscope, refer to the operation manual of the endoscope.

Phenomenon	Possible cause	Countermeasure
An image is suddenly discolored during examination or treatment.	1) The imaging section of the endoscope is damaged. 2) The system is malfunctioning due to phenomena such as electrostatic discharge. 3) The video signal cable is broken or shorting. 4) The endoscope is connected incompletely.	1) 2) 3) If an error message appears, follow the displayed instructions. If no error message appears, slowly withdraw the endoscope by following the instructions described in the operation manual of the endoscope in use. Stop using the equipment immediately, and consult your local dealer. 4) Connect the endoscope correctly. → "7.2 Connecting the Endoscope and Equipment"
Images are distorted.	1) High-frequency interference. 2) The endoscope is connected incompletely.	1) Stop power supply to the high-frequency endotherapy device to restore image output. The endoscope is working properly. 2) Connect the endoscope correctly. → "7.2 Connecting the Endoscope and Equipment"
Keyboard operation cannot be done.	The keyboard connector is not connected.	Connect the keyboard connector.
The peripherals do not operate.	1) The peripherals are turned "OFF." 2) The peripherals are not connected.	1) Turn "ON" the peripherals. 2) Connect the peripherals via the cable.
An abnormal sound is heard from inside the processor.	The fan is faulty.	Consult your local FUJIFILM dealer.

[Note] Wait for 5 seconds or more before turning the power back to ON.

[Note] For details on how to operate the endoscope, refer to the operation manual of the endoscope.

Phenomenon	Possible cause	Countermeasure
The light disappears during examination or treatment.	1) The safety switch for the scope socket is faulty. 2) The light source is faulty.	If an error message appears, follow the displayed instructions. If no error message appears, slowly withdraw the endoscope by following the instructions described in the operation manual of the endoscope in use. Stop using the equipment immediately, and consult your local dealer.

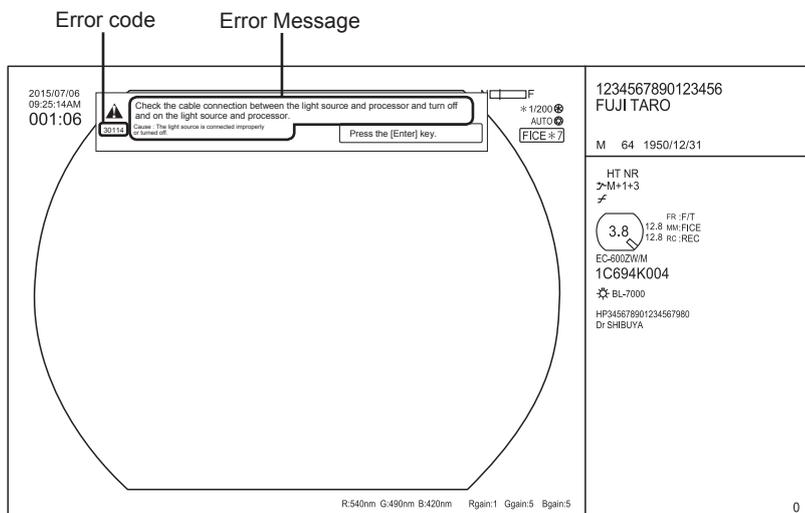
[Note] Wait for 5 seconds or more before turning the power back to ON.

[Note] For details on how to operate the endoscope, refer to the operation manual of the endoscope.

10.2 Error Messages

If an error occurs, an error message appears on the monitor.

[Note] For inquiry to your local FUJIFILM dealer, the error message and the error code displayed with the error message are required.



Error message	Possible cause	Countermeasure
Check cable connection between light source and processor and turn off and on light source and processor. Cause: Light source is connected improperly or turned off.	1) The light source is off. 2) There is a problem with the connection between the processor and the light source.	1) Turn on the light source. 2) Connect the interface cable securely.
Unplug and plug back endoscope, reset the processor and the light source. If the problem persists, contact your local FUJIFILM dealer. Cause: The light source is in abnormal state.	The light source is faulty.	Consult your local FUJIFILM dealer. ^[Note]
Unplug and plug back endoscope, reset the processor and the light source. If the problem persists, contact your local FUJIFILM dealer. Cause: The processor is in abnormal state.	VP-7000 is faulty.	Consult your local FUJIFILM dealer. ^[Note]
Unplug and plug back endoscope, reset the processor and the light source. If the problem persists, contact your local FUJIFILM dealer. Cause: The endoscope is in abnormal state.	The endoscope is faulty.	Consult your local FUJIFILM dealer. ^[Note]
Clean the equipment in the proper way as specified. If the problem persists, contact your local FUJIFILM dealer. Cause: Light source or endoscope is connected improperly.	The power cannot be supplied to the 700 system scope since the equipment is dusty or dirty.	Clean the equipment in the proper way as specified. When the equipment is dusty or dirty, wipe it gently with clean lint-free gauze, etc. If this message appears again even after cleaning is performed, consult your local FUJIFILM dealer. ^[Note]

[Note] For inquiry to your local FUJIFILM dealer, the error message and the error code displayed with the error message are required.

Error message	Possible cause	Countermeasure
Connect or disconnect the endoscope when the EXAM. button lights orange or when the power is OFF.	Removal of the endoscope is attempted while the EXAM. button lights up in blue.	The endoscope should be mounted or removed in the following situations: When the power is turned "OFF," or when the EXAM. button lights up in orange after pressing and holding the EXAM. button for approximately two seconds.
To end examination, cancel freeze mode to display a live image.	Finishing the examination is attempted while the image is frozen.	Finish the examination after canceling freeze mode.
Connected scope cannot be used.	The equipment is started up or inspection is started with a non-applicable endoscope connected.	Connect the endoscope applicable to this product. → "Chapter 11 Main Specification"
Connection to FTP server cannot be established. Cause: FTP server is not connected to the network or network setting is incorrect.	1) The FTP server is not connected to the network. 2) The network setting is improper. 3) The network setting for VP-7000 is abnormal.	1) Turn on the FTP server. 2) Check the connections such as cable and select "Try Reconnection". 3) Check with the system administrator, or consult your local FUJIFILM dealer. ^[Note]
Login to FTP server denied. Check the network setting. Cause: Login name and password settings are incorrect.	The network setting for VP-7000 is abnormal.	Check with the system administrator, or consult your local FUJIFILM dealer. ^[Note]
Could not connect to the network. Cause: Network setting is incorrect or network is in abnormal state.	Manual transfer is attempted even though the network connection is disabled.	Check whether or not the network connection is enabled.
Transferring examination data to the server failed. Check the network setting. Cause: Network connection to the server failed or network setting is incorrect.	The FTP server is not connected to the network or the network setting is incorrect.	Check the cable connections and then make sure that network connection is established between the system and the FTP server.

[Note] For inquiry to your local FUJIFILM dealer, the error message and the error code displayed with the error message are required.

Error message	Possible cause	Countermeasure
Initialization of External Memory failed. Check External Memory.	Initialization of the external storage device fails.	Remove/insert the external storage device from/into the memory slot once, and retry initialization.
Set External Memory. If this message appears even when External Memory is set, contact your local FUJIFILM dealer.	1) No external storage device is inserted. 2) The memory slot is broken.	1) Insert an external storage device. 2) Consult your local FUJIFILM dealer. ^[Note]
Internal Memory has a problem and cannot be used. Initialize Internal Memory. Cause: Internal Memory is not initialized or its file system is corrupted.	1) The internal storage device is not initialized. 2) The file system of the internal storage device is corrupted.	Initialize the internal storage device. → "5.4.2 Memory Tab"
Internal Memory is full. Cause: Free space of Internal Memory is insufficient.	The internal storage device does not have sufficient free space.	Copy the image data to an external storage device or transfer them to the image server to secure the free space in the internal storage device.
External Memory is full. Cause: Free space of External Memory is insufficient.	There is no free space in the external storage device.	Prepare a new external storage device.
Turn printing device off and back on. If the problem persists, contact your local FUJIFILM dealer. Cause: Error occurred in printing device.	The printer is faulty.	Consult your local FUJIFILM dealer. ^[Note]
Printer cannot be recognized. Check the printer power and cable connection. To print after examination, select the [Cancel] button.	1) The printer is not turned on. 2) The printer and VP-7000 are not connected correctly.	1) Turn on the printer. 2) Check the connection between the printer and VP-7000.
Printing in progress. Load images after printing is finished.	A trigger command is sent while the printer is printing.	Wait until printing is finished.
Printer door is open. Check printer.	Printing is executed with the printer door open.	Close the printer door.
Printer paper has run out. Set printer paper.	Printing is executed without paper in the printer.	Put paper in the printer.

[Note] For inquiry to your local FUJIFILM dealer, the error message and the error code displayed with the error message are required.

Error message	Possible cause	Countermeasure
Ink sheet is not set in printer. Set ink sheet.	Printing is executed without ink sheet in the printer.	Set ink sheet in the printer.
Printer ink sheet has run out. Replace ink sheet.	The ink sheet in the printer is finished.	Set ink sheet in the printer.
Paper jamming occurred in printer. Remove paper.	The paper in the printer is jammed.	Remove the jammed paper.
Printer paper and ink sheet sizes do not match. Match printer paper and ink sheet sizes.	The sizes of ink sheet and paper do not correspond to each other.	Set paper and ink sheet of correct size in the printer.
Connection to the video recorder cannot be confirmed. Check the video recorder. Cause: Video recorder is turned off or video recorder and processor are connected improperly.	The video recorder is not turned on.	Check the setting of video recorder power supply, cable connection and communication speed.
Video recorder software error occurred.	1) The connection and setting of the video recorder are not performed properly. 2) The video recorder is faulty.	1) Check the setting of video recorder power supply, cable connection and communication speed. 2) Consult your local FUJIFILM dealer. ^[Note]
No disk is inserted in the video recorder. Insert a disk.	No disk is in the video recorder.	Remove the disk, and insert a new disk into the video recorder.
The disk in the video recorder is full. Replace it with a new disk.	The disk inserted into the video recorder is full.	Remove the disk, and insert a new disk into the video recorder.
The disk in the video recorder is not supported. Insert a "DVD-RAM" or "DVD-R" disk.	The inserted disk is not supported by the video recorder.	Remove the disk, and insert the supported disk into the video recorder.
Data cannot be written on the disk in the video recorder. Insert a recordable disk. Cause: Disk is full or maximum number of recordable files are already stored.	The disk is write-protected.	Remove the disk to cancel the write protection.

[Note] For inquiry to your local FUJIFILM dealer, the error message and the error code displayed with the error message are required.

Error message	Possible cause	Countermeasure
The disk in the video recorder is not recordable. Check the disk. At the time of disk status confirmation, the status "not recordable" is returned from the device.	1) The disk is corrupted. 2) The disk is written.	Remove the disk, and insert a new disk into the video recorder.
The disk in the video recorder is not formatted. Insert a formatted disk. Cause: DVD-RAM disk is not formatted.	The disk is not initialized.	Remove the disk to initialize.
The video recorder is busy.	A trigger command is sent when the video recorder is busy.	Wait until the message disappears.
Disk tray is open. Check the disk tray.	Video recording is executed with the disk tray open.	Correct the error on the video recorder.
Patient has been switched during examination. Recording will be continued.	The patient is switched during video recording	Wait until the message disappears.
Preparation for printing is in progress. Please wait for a while.	A Trigger command for a new image is sent immediately after printing is started.	Wait until the message disappears.
No input signal to the printer. Check the input cable or device settings.	The connection and setting of printer are not correct.	Check the cable connection and setting of printer.
No images are loaded to the printer.	Printing is attempted without an image loaded.	Load the image to print it again.
Adjusting head temperature.	The printer head temperature rises excessively.	Wait until the message disappears.
Printer paper tray is full. Remove paper.	The paper tray is full.	Remove paper from the paper tray.
Printer cannot be recognized. Check the printer power and cable connection. To cancel printing, select the [Cancel] button.	1) The digital printer is not turned on. 2) The USB cable is not connected to the digital printer. 3) The setting of digital printer is abnormal.	Check the power supply, cable connection and setting of digital printer.

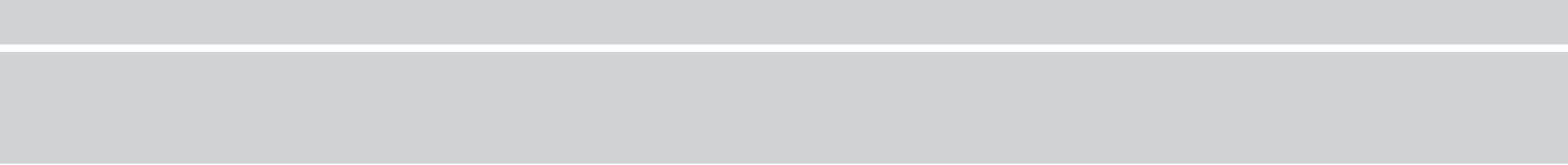
[Note] For inquiry to your local FUJIFILM dealer, the error message and the error code displayed with the error message are required.

Error message	Possible cause	Countermeasure
Paper jamming occurred in printer. Remove paper. To cancel printing, select the [Cancel] button.	The paper in the digital printer is jammed.	Remove the jammed paper.
Printer ink sheet is incorrect. Replace it with a correct ink sheet. To cancel printing, select the [Cancel] button.	The ink sheet information cannot be detected.	Reset the ink sheet in the printer.
Printer paper and ink sheet sizes do not match. Match printer paper and ink sheet sizes. To cancel printing, select the [Cancel] button.	The sizes of ink sheet and paper do not correspond to each other.	Set the specified paper and ink sheet in the printer.
Printer paper has run out. Set printer paper. To cancel printing, select the [Cancel] button.	Printing is executed without paper in the digital printer.	Put paper in the printer.
Printer door is open. Check printer.	Printing is executed with the door of the digital printer open.	Correct the error on the printer.
Turn printing device off and back on. If the problem persists, contact your local FUJIFILM dealer. Cause: Error occurred in printing device.	The digital printer is faulty.	Consult your local FUJIFILM dealer. ^[Note]
Preparation for printing is in progress. Please wait for a while. To cancel printing, select the [Cancel] button.	An image to be printed is sent during initialization of the digital printer setup.	Wait until the message disappears.
Adjusting the printer-head temperature. Please wait for a while. To cancel printing, select the [Cancel] button.	1) The temperature is abnormally high in the printer. 2) The printer is faulty.	1) Wait until the message disappears. 2) Consult your local FUJIFILM dealer. ^[Note]

[Note] For inquiry to your local FUJIFILM dealer, the error message and the error code displayed with the error message are required.

Error message	Possible cause	Countermeasure
Fan function may be failing. The device is still usable, but please contact your local FUJIFILM dealer. Cause: Error occurred in Fan device.	The fan has stopped.	Consult your local FUJIFILM dealer. ^[Note]
Unplug and plug back endoscope, reset the processor and the light source. If the problem persists, contact your local FUJIFILM dealer. Cause: It failed in the initialization of the panel button and the foot switch.	Recognition of the panel button and foot switch has failed.	Turn off the processor and the light source, wait for at least 5 seconds and turn on the processor and the light source again.
Communication error with DICOM GW equipment. Check the connection.	Serial communication with the DICOM GW equipment has failed.	Make sure that the cable is connected properly. If this error occurs frequently, consult your local FUJIFILM dealer. ^[Note]
A communication error is detected with SU equipment. Check the connection.	Serial communication with the ultrasonic endoscope has failed.	Make sure that the cable is connected properly. If this error occurs frequently, consult your local FUJIFILM dealer.
The connected light source is not compatible.	An incompatible light source has been connected.	Connect a compatible light source to the system.

[Note] For inquiry to your local FUJIFILM dealer, the error message and the error code displayed with the error message are required.



Chapter 11 Main Specification

11.1 Specification

◆ Classification of Medical Electrical Equipment

1. Type of protection against electric shock: Class I equipment (Power supply: Protective earth plug)
 2. Degree of protection against electric shock: Type BF applied part
 3. Degree of explosion protection: Use is prohibited in an oxygen-rich environment or in a flammable gas atmosphere.
 4. Degree of protection against ingress of water: IPX0
 5. Mode of operation: Continuous operation
- [Note] Combination with BL-7000

◆ Applied Part

Insertion portion of applicable endoscope

◆ Specification

Power	100 - 240 V ~ 50/60 Hz
Current consumption (rated)	0.8-0.5 A
Type of color	NTSC/PAL
Video output	DVI (Resolution: 1280×1024 pixels, 1920×1080 pixels) HD-SDI (Resolution: 1920×1080 pixels)
Fuse	T3.15AH 250V×2 (Rating: 3.15A/250V)
Serial control	UP-55MD
Image pickup method	Simultaneous ^[Note 1]
S/N	40dB or more
Iris mode	AUTO/PEAK/AVE
Image zoom ^[Note 2]	Electronic zoom x1.00 to x2.00 (0.05 steps)
Memory	Patient data: 45 patients Clinical procedure: 20 types Dr. Name: 20 doctors Image Setup Page: 5 patterns
Built-in clock	Date, time (back up from the secondary battery: ML2430-HJ1)
Shooting counter	Adding up display
Applicable endoscope	700 system scopes ^[Note 3] , 600 system scopes, 500 system scopes ^{[Note 3] [Note 4]}
Dimensions (W x H x D)	390 × 110 × 485 mm (including projection)

Mass	9.0 kg
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[Note 1] Image pickup method using the imaging sensor with color filters (red, green and blue) at the distal end of scope. White light is used as illumination light.

[Note 2] The zoom ratio of some 530 series scopes is x1.00 to x1.95.

[Note 3] BLI, BLI-bright and LCI are available with EB-580S and 700 system scopes. For details, consult your local FUJIFILM dealer.

[Note 4] Depending on the model, smoothness of video images may vary due to the difference in software version.

◆ Operating Environment

Operating conditions

Temperature	+10 to +40°C
Humidity	30 to 85%RH (no dew condensation)
Pressure	70 to 106 kPa

Non-operating conditions

Temperature	-10 to +45°C
Humidity	30 to 95%RH (no dew condensation)
Pressure	70 to 106 kPa

◆ Transport and Storage Environment

Temperature	-20 to +60°C
Humidity	10 to 90%RH (no dew condensation)
Pressure	70 to 106 kPa

◆ Term of Validity/Period for Use (Durability)

The term of validity (durability) is 6 years from the first use of this product, providing that this product undergoes periodic servicing. "Based on our company's criteria"

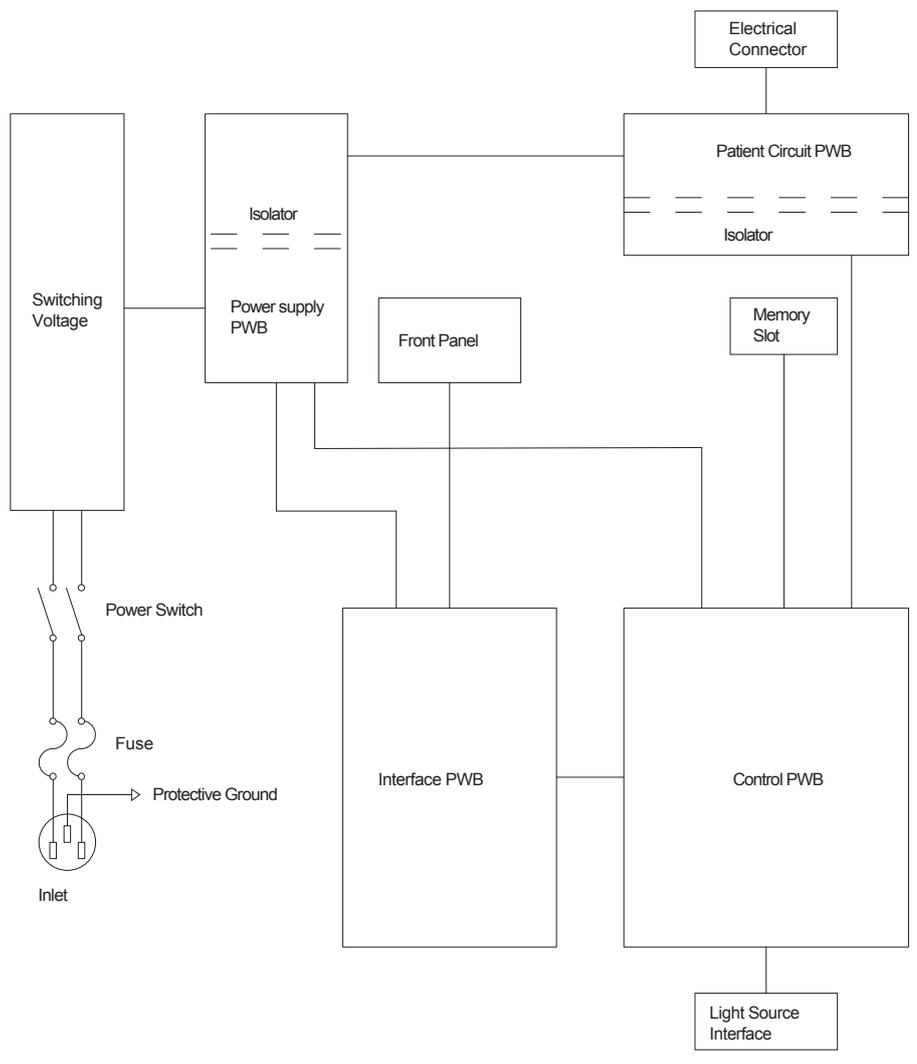
◆ Input/Output Connector

(1) Image output connector		
VIDEO	1.0 Vp-p/75 Ω	1 channel
S VIDEO	Y: 1.0 Vp-p/75 Ω C: 0.3 Vp-p/75 Ω	1 channel
RGB TV (D-sub 15 p)	RGB: 0.7 Vp-p/75 Ω (NTSC/ PAL) SYNC: TTL, 2.0 Vp-p/75 Ω	1 channel
DVI-I (29 p)	Analog/Digital	1 channels
DVI-D (24 p)	Digital	2 channels
HD-SDI	Digital	2 channels
(2) Image input connector		
PoP	1.0 Vp-p/75 Ω	1 channel

(3) Control connector		
I/F (37 p)		1 channel
I/F (Mini D-sub 15 p)		1 channel
REMOTE (BNC)		2 channels
Peripherals (D-sub 9 p)	[Note] RS-232C	2 channels
Keyboard	[Note] USB1.1	1 channel
Card reader	[Note] USB1.1	1 channel
Digital printer	[Note] USB2.0	1 channel
Footswitch (Din 5 p)		1 channel
Network (RJ-45)	[Note] 10/100 BASE	1 channel

◆ Block Diagram

The main unit is provided with the power supply section, control section, operation switches (on the front panel) and interface section, and the patient applied part is electrically isolated (floating). Electrical signals output from the connected endoscope are converted into video signals in the control section, and then video signals are output to the monitor and peripherals.



◆ **Medical Device Directive**

This product complies with the requirements of
European Directive 93/42/EEC.
Classification : Class I



11.2 Electromagnetic Compatibility (EMC) Information

Medical electronic equipment requires special care with regards to EMC.

This product must be installed and used according to the EMC information provided in Table 1 through Table 4 if both this product^[Note 1] and the endoscope and light source^[Note 2], which are used in combination, comply with the requirements of EN 60601-1-2:2015 or that provided in Table 5 through Table 8 if either this product^[Note 1] or the endoscope and light source^[Note 2] comply with the requirements of EN 60601-1-2:2007.

[Note 1] The leftmost alphanumeric character of the serial numbers of this product that complies with the requirements of EN 60601-1-2:2015 is 4 or higher or any of J to Z. If the serial number is other than any of those above, this product complies with the requirements of EN 60601-1-2:2007.

[Note 2] Refer to the operation manual of the endoscope and light source.

<Electromagnetic Emission Compliance Information and Guidance>

Table 1

Guidance and Manufacturer Declaration - Electromagnetic Emission -		
This device is intended for use in the following prescribed electromagnetic environments. Customers and users of this product are advised to check that it is being used in such environments.		
Emission standard	Compliance	Guidance
RF emissions EN 55011	Group 1	This product uses RF energy for internal functions only. Accordingly, the RF emission is very low and unlikely to cause any interference with nearby electronics.
RF emissions EN 55011	Class B (Combination with the 700 system scope, EB-580S or EB-580T and the BL-7000 light source) Class A (Combinations other than above)	[RF emissions] With the Class B combination, this product is suitable for use in all establishments, including domestic establishments and those directly connected to the public low-voltage power supply network that supplies buildings used for domestic purposes. With the Class A combination, this product is intended for use in medical facilities and commercial facilities. Therefore, if this product is used in domestic establishments, electromagnetic interference may occur in any devices. In addition, this product may not offer adequate protection to radio-frequency communication services.
Harmonic emissions EN 61000-3-2	Class A	The user may need to take mitigation measures, such as relocating or reorienting the equipment. In these cases, it is recommended to take corrective measures according to "Chapter 1 Precautions."
Voltage fluctuation/ flicker emissions EN 61000-3-3	Applicable	

<Electromagnetic Immunity Compliance Information and Guidance>

Table 2

Guidance and Manufacturer Declaration - Electromagnetic Immunity -			
This device is intended for use in the following prescribed electromagnetic environments. Customers and users of this product are advised to check that it is being used in such environments.			
Immunity test	IEC 60601 Test level	Compliance level	Guidance
Electrostatic discharge (ESD) IEC/EN 61000-4-2	±8 kV contact ±2 kV air ±4 kV air ±8 kV air ±15 kV air	±8 kV contact ±2 kV air ±4 kV air ±8 kV air ±15 kV air	Floors should be wood, concrete, or ceramic tile. If floors are covered with synthetic material, the relative humidity should be at least 30%.
Electrical fast transient/burst IEC/EN 61000-4-4	±2 kV for power supply lines ±1 kV for input/output lines	±2 kV for power supply lines ±1 kV for input/output lines	Main power quality should be that of a typical commercial or hospital environment.
Surge IEC/EN 61000-4-5	±0.5 kV, ±1.0 kV line to line ±0.5 kV, ±1.0 kV, ±2.0 kV line to earth	±0.5 kV, ±1.0 kV line to line ±0.5 kV, ±1.0 kV, ±2.0 kV line to earth	Main power quality should be that of a typical commercial or hospital environment.
Voltage dips, short interruptions and voltage variations on power supply input lines IEC/EN 61000-4-11	0% U_T for 0.5 cycles and 1 cycles 70% U_T for 0.5 second 0% U_T for 5 seconds	0% U_T for 0.5 cycles and 1 cycles 70% U_T for 0.5 second 0% U_T for 5 seconds	Main power quality should be that of a typical commercial or hospital environment. If the user of this product requires continued operation during power mains interruptions, it is recommended that this product is powered from an uninterruptible power supply or battery
Power frequency (50/60 Hz) magnetic field IEC/EN 61000-4-8	30 A/m	30 A/m	The power frequency magnetic field should have the same level of characteristics as a common location in standard business and hospital environments.

[Note] U_T is the a.c. mains voltage prior to application of the test level.

<Portable and Mobile RF Communications Equipment Compliance Information and Guidance>

Table 3

Guidance and Manufacturer Declaration - Electromagnetic Immunity -			
This device is intended for use in the following prescribed electromagnetic environments. Customers and users of this product are advised to check that it is being used in such environments.			
Immunity test	EN 60601 Test level	Compliance level	Guidance
Conducted RF IEC 61000-4-6	3 Vrms 150 kHz to 80 MHz 6 Vrms ISM Frequency Band ^c	3 Vrms 6 Vrms ISM Frequency Band ^c	Portable and mobile RF communications equipment should be used no closer to any part of this product, including cables, than the recommended separation distance calculated from the equation applicable to the frequency of the transmitter.
Radiated RF IEC/EN 61000-4-3	3 V/m 80 MHz to 2.7 GHz	3 V/m	<p>Recommended separation distance</p> $d = 1.2 \sqrt{P}$ $d = 1.2 \sqrt{P} \quad 80 \text{ MHz to } 800 \text{ MHz}$ $d = 2.3 \sqrt{P} \quad 800 \text{ MHz to } 2.7 \text{ GHz}$ <p>Where “P” is the maximum output power rating of the transmitter in watts (W) according to the transmitter manufacturer and “d” is the recommended separation distance in meters (m). The electric field intensity from a fixed RF transmitter determined by an electromagnetic field study^a should be lower than the compliance level in each frequency range^b.</p> <p>Interference may occur near devices that display the following symbol.</p> 
Immunity to proximity fields from RF wireless communications equipment IEC/EN 61000-4-3	380 - 390 MHz, 27 V/m 430 - 470 MHz, 28 V/m 704 - 787 MHz, 9 V/m 800 - 960 MHz, 28 V/m 1422 - 1512 MHz, 10 V/m 1700 - 1990 MHz, 28 V/m 2400 - 2570 MHz, 28 V/m 3480 - 3600 MHz, 10 V/m 5100 - 5800 MHz, 9 V/m	380 - 390 MHz, 27 V/m 430 - 470 MHz, 28 V/m 704 - 787 MHz, 9 V/m 800 - 960 MHz, 28 V/m 1422 - 1512 MHz, 10 V/m 1700 - 1990 MHz, 28 V/m 2400 - 2570 MHz, 28 V/m 3480 - 3600 MHz, 10 V/m 5100 - 5800 MHz, 9 V/m	Degradation of the performance of this product could result if portable RF communications equipment is used closer than 30 cm to any part of this product.

[Note 1] At 80 MHz and 800 MHz, the higher frequency range applies.

[Note 2] These guidelines may not apply in all situations. Electromagnetic propagation is affected by absorption and reflection from structures, objects and people.

- a. Field strengths from fixed transmitters, such as base stations for radio (cellular/cordless) telephones and land mobile radios, amateur radio, AM and FM radio broadcast and TV broadcast cannot be predicted theoretically with accuracy. To assess the electromagnetic environment due to fixed RF transmitters, an electromagnetic site survey should be considered. If the measured field strength in the location in which this product is used exceeds the applicable RF compliance level above, this product should be observed to verify normal operation. If abnormal performance is observed, additional measures may be necessary, such as re-orienting or relocating this product.
 - b. Over the frequency range 150 kHz to 80 MHz, field strengths should be less than 3 V/m.
 - c. Frequency bands of 6.765 MHz to 6.795 MHz, 13.553 MHz to 13.567 MHz, 26.957 MHz to 27.283 MHz, or 40.66 MHz to 40.70 MHz
-

<Recommended Separation Distance Between Portable and Mobile RF Communications Equipment and this Product>

Table 4

Recommended separation distance between portable and mobile RF communications equipment and this product.			
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This product is intended for use in an electromagnetic environment in which radiated RF disturbances are controlled. The customer or the user of this product can help prevent electromagnetic interference by maintaining a minimum distance between portable and mobile RF communications equipment (transmitters) and this product as recommended below, according to the maximum output power of the communications equipment.

Rated maximum output power of transmitter P (W)	Separation distance related to frequency of the transmitter (m)		
	150kHz to 80MHz $d=1.2\sqrt{P}$	80MHz to 800MHz $d=1.2\sqrt{P}$	800MHz to 2.5GHz $d=2.3\sqrt{P}$
0.01	0.12	0.12	0.23
0.1	0.38	0.38	0.73
1	1.2	1.2	2.3
10	3.8	3.8	7.3
100	12	12	23

For transmitters rated at a maximum output power not listed above, the recommended separation distance d in metres (m) can be estimated using the equation applicable to the frequency of the transmitter, where P is the maximum output power rating of the transmitter in watts (W) according to the transmitter manufacturer.

[Note 1] At 80 MHz and 800 MHz, the separation distance for the higher frequency range applies.

[Note 2] These guidelines may not apply in all situations. Electromagnetic propagation is affected by absorption and reflection from structures, objects and people.

- Cables

Name	Maximum length	Specification
S Video cable	3m	Shielded cable with a characteristic impedance of 75Ω
Video cable	3m	Shielded cable with a characteristic impedance of 75Ω
RGB TV cable	3m	Shielded cable with a characteristic impedance of 75Ω (R, G, B, Sync)
DVI-D cable ^[Note 1]	5m	Shielded cable with a differential signal characteristic impedance of 100Ω Cable compliant with the DVI standard
LAN cable		Cat5e or higher, UTP type and straight cable
HD-SDI cable	15m	Shielded coaxial cable for HD-SDI with a characteristic impedance of 75Ω
CC7-101		Supplied with BL-7000

Use the cable supplied with the printer to connect this product to the digital printer.

[Note 1] Use the cable supplied with the monitor.

<Electromagnetic Emission Compliance Information and Guidance>

Table 5

Guidance and Manufacturer Declaration - Electromagnetic Emission -		
This device is intended for use in the following prescribed electromagnetic environments. Customers and users of this product are advised to check that it is being used in such environments.		
Emission standard	Compliance	Guidance
RF emissions EN 55011	Group 1	This product uses RF energy for internal functions only. Accordingly, the RF emission is very low and unlikely to cause any interference with nearby electronics.
RF emissions EN 55011	Class B (Combination with the 700 system scope, EB-580S or EB-580T and the BL-7000 light source) Class A (Combinations other than above)	[RF emissions] With the Class B combination, this product is suitable for use in all establishments, including domestic establishments and those directly connected to the public low-voltage power supply network that supplies buildings used for domestic purposes. With the Class A combination, this product is intended for use in medical facilities and commercial facilities. Therefore, if this product is used in domestic establishments, electromagnetic interference may occur in any devices. In addition, this product may not offer adequate protection to radio-frequency communication services.
Harmonic emissions EN 61000-3-2	Class A	The user may need to take mitigation measures, such as relocating or reorienting the equipment. In these cases, it is recommended to take corrective measures according to "Chapter 1 Precautions."
Voltage fluctuation/ flicker emissions EN 61000-3-3	Applicable	

<Electromagnetic Immunity Compliance Information and Guidance>

Table 6

Guidance and Manufacturer Declaration - Electromagnetic Immunity -			
This device is intended for use in the following prescribed electromagnetic environments. Customers and users of this product are advised to check that it is being used in such environments.			
Immunity test	EN 60601 Test level	Compliance level	Guidance
Electrostatic discharge (ESD) EN 61000-4-2	±6kV contact ±8kV air	±2kV contact ±4kV contact ±6kV contact ±2kV air ±4kV air ±8kV air	Floors should be wood, concrete, or ceramic tile. If floors are covered with synthetic material, the relative humidity should be at least 30%.
Electrical fast transient/burst EN 61000-4-4	±2kV for power supply lines ±1kV for input/output lines	±2kV for power supply lines ±1kV for input/output lines	Main power quality should be that of a typical commercial or hospital environment.
Surge EN 61000-4-5	±1kV line to line ±2kV line to earth	±1kV line to line ±2kV line to earth	Main power quality should be that of a typical commercial or hospital environment.
Voltage dips, short interruptions and voltage variations on power supply input lines EN 61000-4-11	< 5 % U_T (dip in > 95 % U_T) for 0.5 cycles 40 % U_T (dip in 60 % U_T) for 5 cycles 70 % U_T (dip in 30 % U_T) for 25 cycles < 5 % U_T (dip in > 95 % U_T) for 5 seconds	< 5 % U_T (dip in > 95 % U_T) for 0.5 cycles 40 % U_T (dip in 60 % U_T) for 5 cycles 70 % U_T (dip in 30 % U_T) for 25 cycles < 5 % U_T (dip in > 95 % U_T) for 5 seconds	Main power quality should be that of a typical commercial or hospital environment. If the user of this product requires continued operation during power mains interruptions, it is recommended that this product is powered from an uninterruptible power supply or battery
Power frequency (50/60 Hz) magnetic field EN 61000-4-8	3 A/m	3 A/m	The power frequency magnetic field should have the same level of characteristics as a common location in standard business and hospital environments.

[Note] U_T is the a.c. mains voltage prior to application of the test level.

<Portable and Mobile RF Communications Equipment Compliance Information and Guidance>

Table 7

Guidance and Manufacturer Declaration - Electromagnetic Immunity -			
This device is intended for use in the following prescribed electromagnetic environments. Customers and users of this product are advised to check that it is being used in such environments.			
Immunity test	EN 60601 Test level	Compliance level	Guidance
Conducted RF EN 61000-4-6	3Vrms 150kHz to 80MHz	3 Vrms	<p>Portable and mobile RF communications equipment should be used no closer to any part of this product, including cables, than the recommended separation distance calculated from the equation applicable to the frequency of the transmitter.</p> <p>Recommended separation distance $d = 1.2 \sqrt{P}$ $d = 1.2 \sqrt{P}$ 80MHz to 800MHz $d = 2.3 \sqrt{P}$ 800MHz to 2.5GHz Where "P" is the maximum output power rating of the transmitter in watts (W) according to the transmitter manufacturer and "d" is the recommended separation distance in meters (m). The electric field intensity from a fixed RF transmitter determined by an electromagnetic field study^a should be lower than the compliance level in each frequency range^b.</p> <p>Interference may occur near devices that display the following symbol.</p> 
Radiated RF EN 61000-4-3	3V/m 80MHz to 2.5GHz	3 V/m	

[Note 1] For 80 and 800 MHz, apply the higher frequency range.

[Note 2] These guidelines do not apply to all circumstances. Electromagnetic propagation is affected by absorption and reflection by buildings, items, and people.

- a. Electric field intensity from fixed transmitters such as wireless (mobile / cordless) telephone base stations, land mobile radio base stations, amateur radio, AM and FM radio broadcasts, and TV broadcasts cannot be predicted accurately in theory.

An electromagnetic field survey should be considered to estimate the electromagnetic environment due to fixed RF transmitters. When the measured electric field intensity in the location in which this product is used exceeds the RF compatibility level applied above, this product should be monitored to verify whether it is operating normally. When abnormal operation has been confirmed, it may be necessary to take additional measures, such as relocation or re-installation of this product.

- b. The electric field intensity should be less than 3 V/m through the frequency range from 150 kHz through 80 MHz.

<Recommended Separation Distance Between Portable and Mobile RF Communications Equipment and this Product>

Table 8

Recommended separation distance for portable and mobile RF communications equipment and this equipment.

This device is intended for use in electromagnetic environments in which emission RF interference is managed.

To control electromagnetic interference, the customer and user of this product can maintain the minimum distance between the following recommended portable and mobile RF communications equipment (transmitters) and this product based on the maximum output of the transmitter.

Rated maximum output power of transmitter P (W)	Separation distance related to frequency of the transmitter (m)		
	150kHz to 80MHz $d=1.2\sqrt{P}$	80MHz to 800MHz $d=1.2\sqrt{P}$	800MHz to 2.5GHz $d=2.3\sqrt{P}$
0.01	0.12	0.12	0.23
0.1	0.38	0.38	0.73
1	1.2	1.2	2.3
10	3.8	3.8	7.3
100	12	12	23

For transmitters with a maximum output electric power rated value not listed above, the recommended separation distance (d) expressed in meters (m) can be determined using a formula that corresponds with the frequency of the transmitter. In these formulas, "P" is the maximum output power rating of the transmitter in watts (W) according to the transmitter manufacturer.

[Note 1] For 80 and 800 MHz, apply the higher frequency range for the separation distance.

[Note 2] These guidelines do not apply to all circumstances. Electromagnetic propagation is affected by absorption and reflection by buildings, items, and people.

• Cables

Name	Maximum length	Specification
S Video cable	3m	Shielded cable with a characteristic impedance of 75Ω
Video cable	3m	Shielded cable with a characteristic impedance of 75Ω
RGB TV cable	3m	Shielded cable with a characteristic impedance of 75Ω (R, G, B, Sync)
DVI-D cable ^[Note 1]	5m	Shielded cable with a differential signal characteristic impedance of 100Ω Cable compliant with the DVI standard
LAN cable		Cat5e or higher, UTP type and straight cable
HD-SDI cable	15m	Shielded coaxial cable for HD-SDI with a characteristic impedance of 75Ω
CC7-101		Supplied with BL-7000

Use the cable supplied with the printer to connect this product to the digital printer.

[Note 1] Use the cable supplied with the monitor.

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*

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11.4 After-Sales Service

- (1) If the equipment does not work properly, check it first by reading this manual again and follow all instructions.
- (2) If the equipment is still not working well, contact your local FUJIFILM dealer.
- (3) Repairs during the warranty period

We will repair your equipment free of charge according to the provisions of the warranty. The warranty period is one year after date of purchase.

Note that the warranty is void in the following cases:

- a. Damage caused by fire or natural disaster such as storms or floods.
- b. Trouble caused by careless handling or misuse of the product on the part of the user.
- c. Trouble caused by repair or modification by an unauthorized person.

- (4) Repairs after the warranty period

We will make a paid repair at your request if the equipment is found possible to restore the normal function by repair.

When contacting your local FUJIFILM dealer, provide the following information.

Model name: VP-7000

Serial number:

Description of failure: as detailed as possible

Date of purchase:

Note The serial number is indicated on the left-hand side of the rear panel.

11.5 Disposal of Electric and Electronic Equipment



Disposal of Used Electrical and Electronic Equipment (Applicable in the European Union and other European countries with separate collection systems)

This symbol on the product, or in the manual and/or on this packaging, indicates that this product shall not be treated as household waste.

Instead it should be taken to an applicable collection point for the recycling of electrical and electronic equipment.

By ensuring this product is disposed of correctly, you will help prevent potential negative consequences to the environment and human health, which could otherwise be caused by inappropriate waste handling of this product.

The recycling of materials will help to conserve natural resources. For more detailed information about recycling of this product, contact your local FUJIFILM dealer.

In Countries outside the EU: If you wish to discard this product, contact your local authorities and ask for the correct way of disposal.

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11.7 Service Centers

Contact our regional representative below or the distributor from which you purchased the product.

<Europe>

FUJIFILM Europe GmbH

<http://www.fujifilm.eu/eu/>

See our website to locate our representative in your country.

<USA>

Fujifilm Medical Systems U.S.A., Inc

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(800) 385-4666

<Australia>

FUJIFILM Australia Pty Ltd

<http://www.fujifilm.com.au/>

1800 060 209

<Asia>

FUJIFILM Asia Pacific Pte. Ltd.

<http://www.fujifilm.com.sg/>

6380-5540

If you are not a resident of the regions above, contact the distributor from which you purchased the product.



FUJIFILM Corporation

26-30, Nishiazabu 2-chome, Minato-ku, Tokyo 106-8620, Japan



FUJIFILM Europe GmbH

Heesenstrasse 31, 40549 Duesseldorf, Germany

EU Importer:

FUJIFILM Europe B.V.

Oudenstaart 1, 5047 TK Tilburg, The Netherlands

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114 Old Pittwater Road, Brookvale, NSW. 2100, Australia