OLYMPUS®

INSTRUCTIONS

HIGH DEFINITION LCD MONITOR

OEV261H

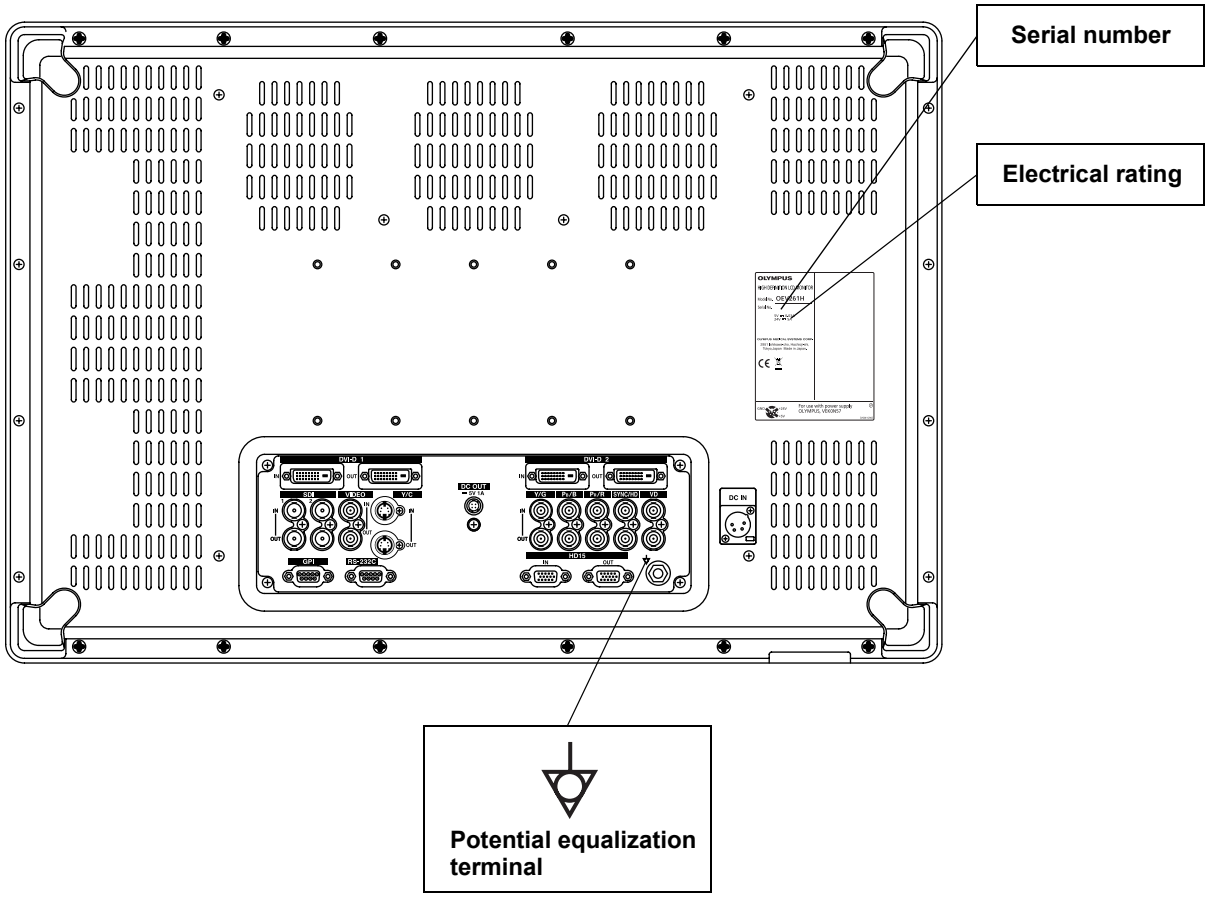
CE

Contents

Labels and Symbols

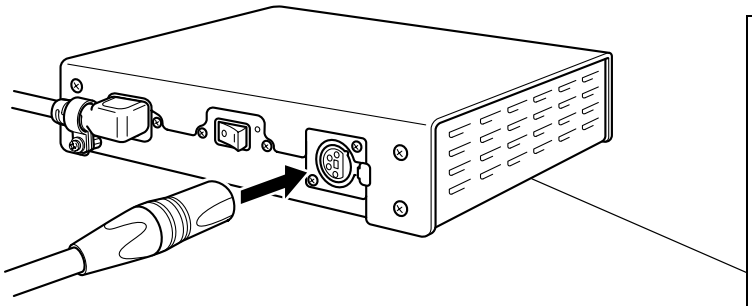
Safety-related labels and symbols are attached to the instrument at the locations shown below. If labels or symbols are missing or illegible, contact Olympus.

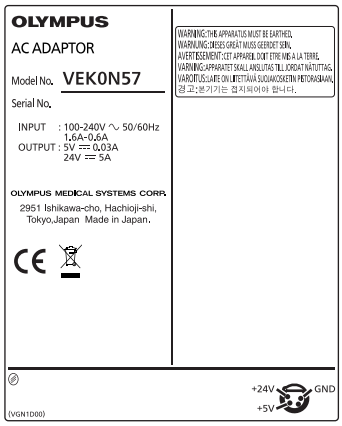
High definition LCD monitor



AC adapter

The rating plate of the AC adapter is on the underside of the adapter.





Serial number
Electrical rating

Important Information — Please Read Before Use

Intended use

This instrument has been designed to be used with Olympus endoscopes, light source, video system center, camera control units and endoscopic ultrasound centers for endoscopic diagnosis and video observation.
Do not use this instrument for any purpose other than its intended use.

Instruction manual

This instruction manual contains essential information on using this instrument safely and effectively. Before use, thoroughly review this manual and the manuals of all equipment that will be used during the procedure and use the equipment as instructed.
Keep this and all related instruction manuals in a safe, accessible location. If you have any questions or comments about any information in this manual, please contact Olympus.

❍ Terms used in this manual

Video system center:

The video system center is a device that converts signals from a videoscope or video converter into monitor images.

Camera control unit:

The camera control unit is a device that converts signals from a fiberscope or rigid endoscope into monitor images.

Ultrasound center:

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

Light source:

The light source provides light and electrical signals to the endoscope.

Wall mains socket outlet:

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

Aspect ratio:

It is a unit that expresses a rate of a screen side and a vertical length.
The aspect ratio of 4:3 is used usually for SDTV.
The aspect ratio of 16:9 is used usually for HDTV.

VESA mounting standards:

These are the standards to be applied when mounting an LCD panel on a monitor mount or stand. These standards were defined by the Video Electronics Standards Association (VESA), a US-based organization concerned with computer display devices.

Mobile workstation:

The mobile workstation is a special trolley on which this monitor is placed.

PIP (Picture in Picture)

The sub display is put in the main display.

POP (Picture out Picture)

The sub display by the side of the main display.

Instrument compatibility

Refer to the “System chart” in the Appendix to confirm that this instrument is compatible with the ancillary equipment being used. Using incompatible equipment can result in patient or operator injury and/or equipment damage. It may also impair the functionality of the instrument.

This instrument complies with medical electrical equipment edition 2 (IEC 60601-1-2: 2007). However when connecting with an instrument that complies with medical electrical equipment edition 1 (IEC 60601-1-2: 1993), the whole system complies with edition 1. (See, “EMC information” on page 94 for EMC compliance level.)

Repair and modification

This instrument does not contain any user-serviceable parts. Do not disassemble, modify or attempt to repair it; patient or operator injury and/or equipment damage can result.
Some problems that appear to be malfunctions may be correctable by referring to Chapter 10, “Troubleshooting”. If the problem cannot be resolved using the information, contact Olympus.

Signal words

The following signal words are used throughout this manual:

DANGER

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

WARNING

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

CAUTION

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

NOTE

Indicates additional helpful information.

Dangers, warnings and cautions

DANGER

- Strictly observe the following precautions. Failure to do so may place the patient and medical personnel in danger of an electric shock:
  - Keep fluids away from all electrical equipment. If fluids are spilled on or into the monitor, immediately stop operating it and contact Olympus.
  - Do not prepare, inspect or use this instrument with wet hands.
- Never install and operate this instrument in locations where:
  - The concentration of oxygen is high.
  - Oxidizing agents (such as nitrous oxide (N_2O)) are present in the atmosphere.
  - Flammable anesthetics are present in the atmosphere.

  Otherwise, explosion or fire may result because this monitor is not explosion-proof.

WARNING

- To reduce the risk of fire or shock hazard, do not expose this equipment to rain or moisture.
- To reduce the risk of fire or shock hazard, keep this equipment away from all liquids. Use and store only in locations which are not exposed to the risk of dripping or splashing liquids, and do not place any liquid containers on top of the equipment.
- Do not use this instrument beyond the rated outlets and wiring, otherwise it may result in fire or an electrical shock.
- Always power the monitor with the voltage specified in this manual. Supplying a nonspecified voltage to the monitor may result in fire or an electric shock.
- This product has a fluorescent lamp that contains a small amount of mercury. It also contains lead in some components. Disposal of these materials may be regulated in your community due to environmental considerations. For disposal or recycling information, please contact your local authorities or the Electronics Industries Alliance.
- Strictly observe the following precautions for the power cord. Damaging the power cord may result in fire or an electric shock:
  - When placing the power cord, take care that it is not crushed in the space between the monitor and a wall, mobile workstation or a shelf.
  - Do not modify or damage the power cord.
  - Do not stretch or place a heavy object on the power cord.
  - Do not place the power cord near heating equipment or expose it to excessive heat.
  - Always grasp and pull the plug when unplugging the power cord. Do not pull on the cord itself.
- Be sure to use the supplied AC adapter. Do not use the supplied AC adapter for powering other devices. The equipment may fail or the power cord may burn.
- If an irregularity is suspected during use of the instrument, stop operation of the monitor. Some problems may be correctable by referring to the following procedure. Damage or irregularity in the instrument may compromise patient or operator safety and may result in more severe equipment damage.

  - In case of a loss of the endoscopic image or a frozen image:
    Turn off the monitor, and turn on it again after 10 seconds. Also turn off the ancillary equipment to be used in combination with this monitor and turn on it again, as described in the instruction manuals for the equipment. If the problem cannot be resolved by the described remedial action, stop using the monitor and gently withdraw the videoscope, fiberscope, rigid endoscope or ultrasonic endoscope from the patient's body as indicated in the endoscope's instruction manual.
  - In case other abnormalities:
    Immediately stop operation of the monitor, withdraw the videoscope, fiberscope, rigid endoscope or ultrasonic endoscope from the patient as indicated in the endoscope's manual, and take remedial action as described in Chapter 10, "Troubleshooting". If the problem cannot be resolved by the described remedial action, be sure to contact Olympus for repair as described in Section 10.2, "Returning the monitor for repair" on page 83.

- When installing this instrument on the mobile workstation or a trolley with a clamping table, be sure to provide the mobile workstation or trolley with a toppling/movement prevention measure. If such a measure is not taken, the mobile workstation or trolley could move or fall during the procedure, which could cause patient and/or operator injury.
- Before using high-frequency electrosurgical equipment, make sure that any signal noise emitted from the equipment does not affect the observation of the surgical procedures. If high-frequency electrosurgical equipment is used without such confirmation, patient injury may result.
- To prepare for unexpected equipment failure, be sure to prepare spare equipment.
- It is recommended that only Olympus high-frequency electrosurgical equipment be used with this unit. Non-Olympus equipment can cause interference on the monitor display or a loss of the endoscopic image.
- Always establish the system with equipment that complies with relevant EMC standards for safety reasons. Equipment which does not comply with EMC standards may cause interference and its function or performance may be affected.

- To protect its components from excessive heat, the monitor will turn itself OFF if its internal temperature rises to a level at which equipment damage could occur. If this happens during the procedure, immediately stop the examination and gently withdraw the videoscope, fiberscope, rigid endoscope or ultrasonic endoscope from the patient as indicated in the endoscope's instruction manual, and contact Olympus.
- Always use the power cord and connection cables that were shipped with the monitor or mobile workstation. Using other power cords or connection cables may result in an electric shock or malfunction.
- Always use the monitor cables designated in this instruction manual. Using non-designated monitor cables may result in production of monitor noise at a level that may affect the observation and treatment or loss of observation image.

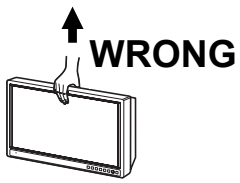
CAUTION

- This apparatus must be grounded. To ensure safe operation, the three-pin plug must be inserted only into a standard three-pin power outlet which is effectively grounded through normal household wiring.
- Extension cords used with the equipment must be three-core and be correctly wired to provide connection to the ground. Incorrectly wired extension cords can be extremely hazardous.
- The fact that the equipment operates satisfactorily does not imply that it is grounded, and the installation is not necessary safe. For your safety, if in any doubt about the effective grounding of the equipment or power outlet, please consult a qualified electrician.
- Do not place the AC adapter in area accessible to the patients. Ensure the patients cannot touch the device, as it can reach high temperature under continuous use.
- In order to maintain adequate ventilation, do not install or place this unit in a bookcase, built-in cabinet or any other confined space. To prevent risk of electric shock or fire hazard due to overheating, ensure that curtains and any other materials do not obstruct the ventilation.
- When installing the instrument, reserve a space of 10 cm or larger between the instrument and any walls or other equipment. Lack of such a space will interfere with the monitor's internal cooling and may lead to malfunction or equipment damage.

- This product has a fluorescent lamp that contains mercury. Disposal may be regulated in your community due to environmental considerations. For disposal or recycling information, please contact your local authorities.
- Be sure that this instrument is not used adjacent to or stacked with other equipment (other than the components of this instrument or system) to avoid electromagnetic interference.
- Electromagnetic interference may occur on this instrument near equipment marked with the following symbol or other portable and mobile RF (Radio Frequency) communications equipment such as cellular phones. If electromagnetic interference occurs, mitigation measures may be necessary, such as reorienting or relocating this instrument, or shielding the location.

- Do not install the instrument in a place exposed to direct sunlight, high temperature (more than 60°C). Otherwise, it may damage the cabinet or internal parts, result in fire.
- Be sure to plug the power cord securely, otherwise it may result in fire and an electric shock.
- Unplug the power cord if the monitor is not used for a long time. Otherwise, it may result in fire.
- Remove the dust on the plug of the power cord regularly, otherwise it may result in fire and an electric shock.
- Be sure to turn the monitor OFF and unplug the power cord before proceeding to maintain the monitor. If the power cord is left plugged in, an electric shock may result.
- Check the installation at least once a year. An improper installation could cause the monitor to fall off resulting in personal injury.
- To reduce the risk of fire or shock hazard and annoying interference, use the recommended accessories only.
- Attach this instrument to the wall by professional company only. Otherwise, this instrument may fall due to improper attachment, injury may result.
- Remove the wall-hanging bracket when not used. Otherwise people moving in the vicinity of the monitor could get caught on the bracket and be injured.

- When installing this instrument, be sure to attach it securely to the monitor mount. Otherwise, the instrument may fall. This may cause patient and/or operator injury and may damage the instrument.
- Do not move the monitor while the power cord and connection cables are connected. Otherwise, damage to the monitor, power cord and connection cables, fire or an electric shock may result.
- When installing or using the monitor, take care not to strike against a corner of the monitor. Otherwise, injury may result.
- Install this instrument in a stable location. Otherwise, the instrument may fall. This may cause operator injury and may damage the instrument.
- Do not try to lift the monitor by grabbing the panel.



- Do not expose the LCD panel to heavy pressure or pressure from pointed objects. Take care especially during transportation. Exposing the LCD panel to heavy pressure may result in blurring or other damage.
- This monitor is intended for use in an electromagnetic environment specified in “EMC information” on page 94.
- Exposing the LCD screen to intense light sources will impair its characteristics and lower image quality.
- The mains plug of the power supply cord shall remain readily operable. The AC receptacle (mains socket outlet) shall be installed near the equipment and shall be easily accessible.
- To completely disconnect this equipment from the power AC mains, disconnect the power cord plug from the AC receptacle.
- In an environment exposed to drastic temperature fluctuations, condensation may build up on inside the LCD screen. This may lower the quality of the screen and may damage it.

NOTE

- The LCD screen is manufactured to precise specifications. Although over 99.99% of the pixels function normally, 0.01% of the pixels are either missing or constantly lit (red, blue or green). This is normal and not a cause for concern.
- The liquid crystal protection panel is a specially manufactured component. Wiping it with a hard cloth, or rubbing it vigorously will scratch the surface.
- If a still image is displayed for an extended period of time, it may generate a temporary afterimage (phosphor burn-in). (However, such images can be removed by displaying normal video for awhile.)
- The response speed and brightness of liquid crystal varies with ambient temperatures.
- Some video images may appear blurred on the screen.
- Leaving the unit in a location exposed to high temperature and humidity for an extended period of time may damage the LCD screen and cause blurring.
- This monitor may become hot after an extended period of operation, but this does not indicate a malfunction.
- High-frequency electrosurgical equipment can cause slight interference on the monitor display.

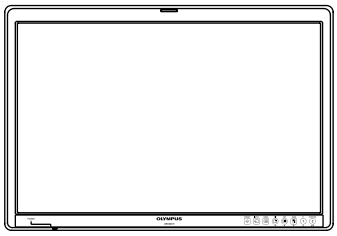
Outline

The 26 inch OEV261H LCD display panel has been designed for use as a medical monitor. The OEV261H is an LCD monitor designed to be used with Olympus endoscopes, light sources, video system centers, camera control units and ultrasound centers. Do not use the monitor for any other purpose.

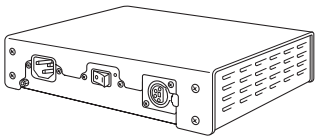
- **Designed for medical applications**
  - Complies with IEC 60601-1 (Ed.2 and 3) and IEC 60601-1-2 (Ed.3)
  - Sheet switches and the protective screen panel have been specifically designed for use in the medical field.
- **WUXGA (1920 × 1200 pixels) high-resolution IPS LCD panel**
- **10-bit 3DLUT (look-up-table) for accurate color reproduction**
- **10-bit signal processing for smooth color transitions**
- **Instant output of input signals**
  - The OEV261H incorporates a function that eliminates time delay of field units caused by IP conversion minimizing delays between input and image display.
- **Supports multiple formats**
  - Capable of handling SDI (both HD and SD), VIDEO, Y/C, YP_BP_R/RGB and DVI-D video input signals.
  - Supports both NTSC and PAL TV systems.
  - It supports computer (COMP) input signals such as analog signal input via RGB and HD15 terminals as well as digital signal input via DVI-D terminal.
- **A host functions**
  - PIP (Picture in Picture) and POP (Picture out Picture) dual screen display functions
  - ENDOSCOPE, 1.8,1.95, 2.0, 2.2, 2.4, 2.6, and PACS gamma
  - Upside-down (180° rotation) and reverse (flip horizontal) functions
  - GPI and RS-232C external control functions

Chapter 1 Checking the Package Contents

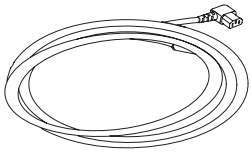
Match all items in the package with the components shown below. Inspect each item for damage. If the instrument is damaged, a component is missing or, you have any questions, do not use the monitor; immediately contact Olympus.



High definition LCD monitor (OEV261H)

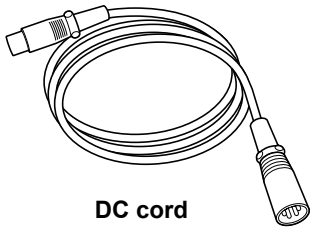


AC adapter



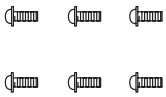
Power cord

Power cord hook

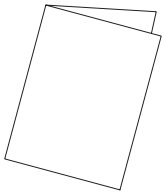


DC cord

Screw (for securing power cord) 1 pcs



Screw (for attaching LCD arm) 6 pcs

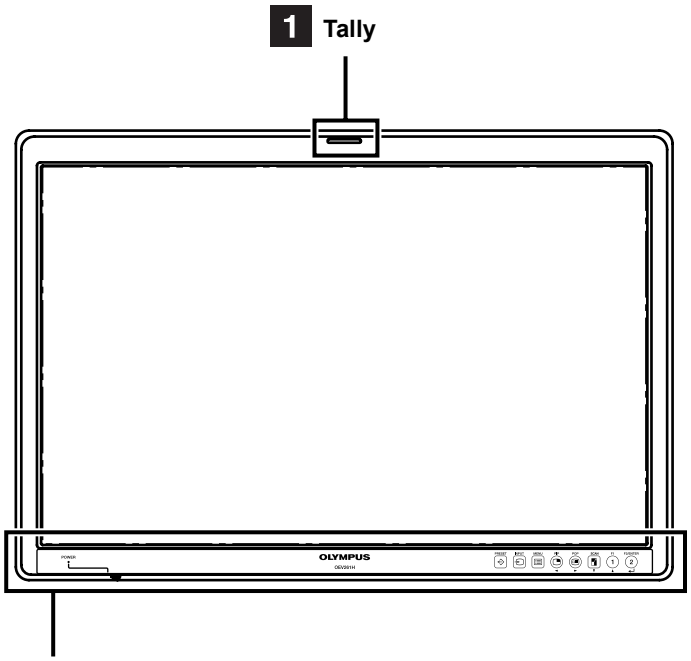


Instruction manual

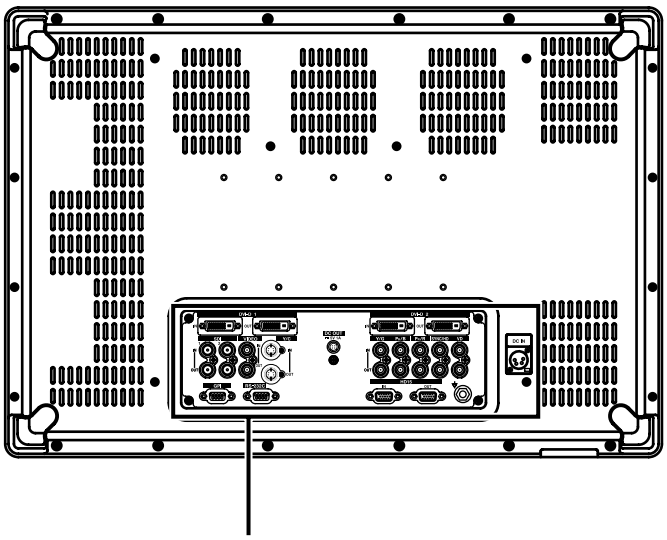
Chapter 2 Controls and Their Functions

2.1 Video monitor unit

Front



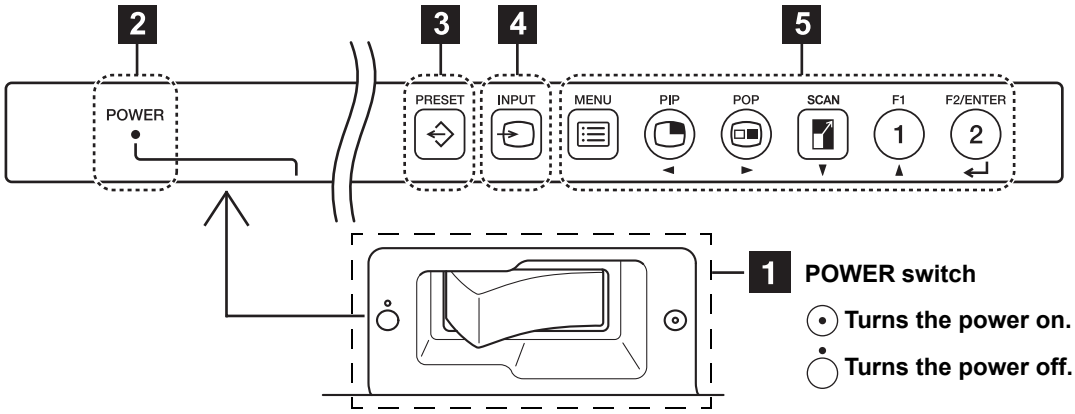
Rear



1 Tally lamp

When a LCD panel backlight or inverter circuit is malfunctioning, the lamp flashes orange.

2.2 Front panel



1 POWER switch (the POWER switch is located at the bottom)

This switch turns the power On and Off.

* Operates only when the AC POWER switch on the AC adapter is set to On and the AC adapter operates.

2 POWER LED

When the power goes On, the LED (green) lights.

3 PRESET button ( )

Previously recorded input settings and image quality settings can be selected from PRESET (10 settings), USER (20 settings) and FACTORY (one setting).

PRESET	:	Settings made at the factory
USER	:	Settings saved by the user in the SYSTEM CONFIG menu.
FACTORY	:	Factory default settings

4 INPUT button ( )

Selects the input terminal for PORT A and PORT B signals. Two images displayed in PIP or POP are called PORT A and PORT B in this manual.

5 **MENU ( ), PIP ( ), POP ( ), SCAN ( ), F1 ( ), F2/ENTER ( ) button**

Use these buttons to display menus, select and adjust settings and confirm menu selections.

MENU : Displays and exit menus.

PIP : Switches from the normal screen, dual PIP screen and PIP mode. When a menu is open, it moves the cursor to the left and selects items.

POP : Switches from the normal display to the dual POP screen and to POP mode. When a menu is open, it moves the cursor to the right and selects items.

SCAN : Magnifies the single screen display and the large screen in PIP mode. When a menu is open, it moves the cursor downwards and selects items.

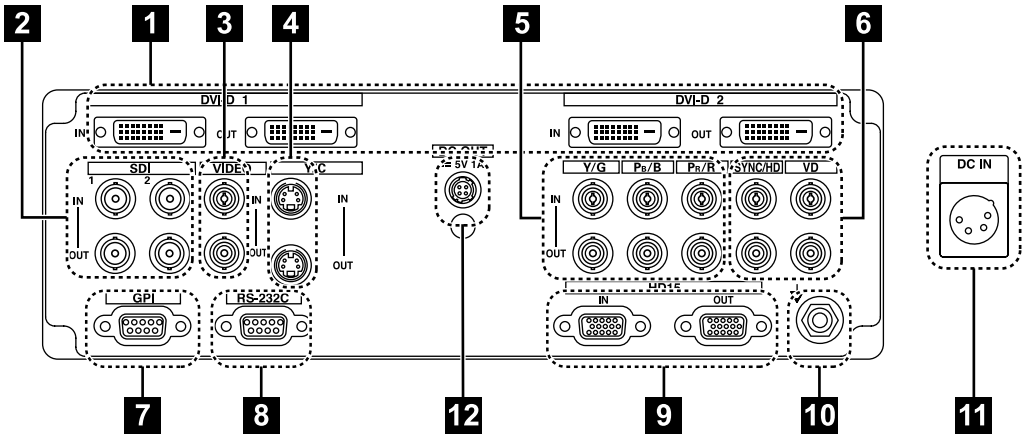
F1 : Executes (confirms) items assigned to FUNCTION1 in a menu. When a menu is open, it moves the cursor upwards and selects items.

F2/ENTER : Executes (confirms) items assigned to FUNCTION2 in a menu. Press to confirm settings in a menu or to go to a submenu.

CAUTION

The buttons are made of plastic film. Do not use pointed objects such as fingernails, pens or screwdrivers to press the buttons, as the resulting damage or deformation could prevent proper contact.

2.3 Rear panel



1 **DVI-D1, DVI-D2 terminals (DVI-D)**

(It is compatible with DVI-VIDEO and DVI-COMP.)

IN : This is the DVI-D signal input terminal. (It is compatible with DVI-VIDEO and DVI-COMP.)

OUT : This is the DVI-D output terminal. It is output when a DVI-D input signal image appears on the display. It is not output when other signals than DVI-D are selected.

2 **SDI1, SDI2 terminals (BNC)**

IN : This is the SDI input terminal (supports automatic HD and SD switching).

OUT : This is the SDI output terminal. When the power goes On, an SDI input signal is output at all times.

3 **VIDEO terminal (BNC)**[*1]

IN : This is the VIDEO signal (composite signal) input terminal.

OUT : This is the VIDEO signal output terminal. Regardless of On/Off of the power supply, the VIDEO input signal is output at all times.

4 **Y/C terminal (4-pin mini-DIN)**

IN : This is the Y/C signal input terminal.

OUT : This is the Y/C output terminal. When the power goes On, the Y/C input signal is output at all times.

5 **YP_BP_R/RGB terminal (BNC)**[*1][*3]

IN : This is the YP_BP_R/RGB signal input terminal.

OUT : This is the input signal output terminal. Regardless of On/Off of the power supply, the YP_BP_R/RGB input signal is output at all times.

6 SYNC/HD, VD terminal (BNC)*2

IN : This is the input terminal for external synchronizing SYNC/HD, VD signals.

OUT : This is the input signal output terminal. Regardless of On/Off of the power supply, external synchronizing SYNC/HD, VD signals are output at all times.

* An external synchronizing signal cable can be connected to the SYNC/HD terminal.
When using RGB signals from a computer, connect the horizontal synchronizing signal cable to the SYNC/HD terminal and the vertical synchronizing signal cable to the VD terminal.

7 GPI input terminal (D-SUB 9-pin)

External control is possible by using a GPI signal.

8 RS-232C input terminal (D-SUB 9-pin)

External control is possible by using an RS-232C signal.

9 HD15 terminal (HD15)

IN : This is the COMP. signal input terminal.

OUT : This is the input signal output terminal. It is output when an HD15 input signal image appears on the display. It is not output when other signals than HD15 are selected.

10 Equipotential terminal (⏚)

This terminal is used to equalize potential.
When potential equalization is required, connect this terminal to the potential equalization terminal of the equipment.

11 DC IN terminal (XLR 4-pin)

This is the 24 V DC/5 V DC input terminal. Connect the supplied DC cord of the supplied AC adapter to this terminal.

12 DC OUT terminal (special 4-pin)

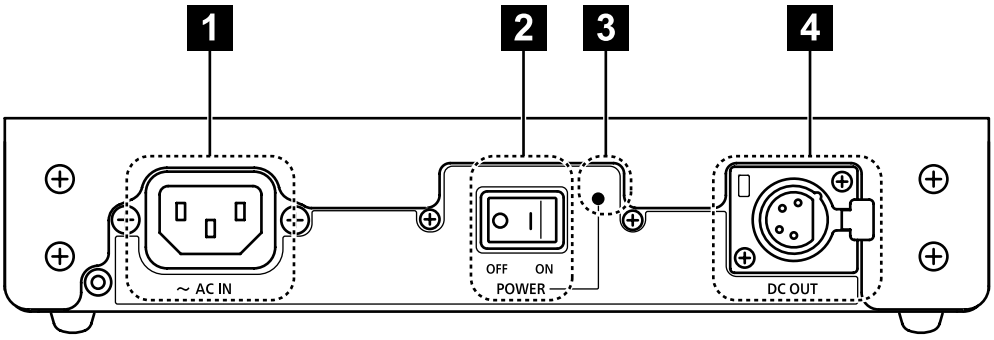
This is the 5 V DC output terminal. When a DVI-FIBER adapter is connected to DVI-D 2 IN, use the designated cable to connect this terminal to the power terminal of the adapter.

*1: Unless a cable is connected to the OUT terminal, the IN terminal is automatically terminated at 75 Ω. Since a connection to the OUT terminal releases the 75 Ω termination of the unit, the level of the VIDEO signal input to the unit may become too large depending on the connected device.

*2: Unless a cable is connected to the OUT terminal, the IN terminal is automatically terminated at 1 kΩ. Making a connection to the OUT terminal will automatically release the 1 kΩ termination.

*3: When a device is connected to the OUT terminal, 1080p and computer input and other broadband signals may distort character outlines and other details.

2.4 AC adapter



1 AC IN terminal

This is the AC input terminal.

2 AC POWER switch (ON: I, OFF: O)

This switch turns the AC adapter on and off.

3 AC POWER LED

This lamp lights green when the AC POWER switch is set to on.

4 DC OUT terminal

This is the DC output terminal.

This terminal enables connection of a DC cord.

Chapter 3 Installation and Connection

WARNING

Review this chapter thoroughly before each use. If the equipment is not properly prepared before each use, equipment damage, patient and operator injury and/or fire can occur.

CAUTION

- Turn OFF all system components before connecting them. Otherwise, equipment damage can result.
- Use appropriate cables. Otherwise, equipment damage or malfunction can result.
- Use the monitor under the conditions described in the section “Transportation, storage, and operation environment/specifications” in the Appendix. Otherwise, improper performance, compromised safety and/or equipment damage may result.
- The cables should not be sharply bent, pulled, twisted or crushed.
- Should the LCD panel of the monitor break, never touch it with bare hands; injury could occur. If your hands come in contact with the liquid crystal material, be sure to rinse them off thoroughly with water.
- The HDTV monitor remote cable (MAJ-1161, MAJ-1230) is connected to a “GPI” terminal. If this is connected to a “RS-232C” terminal, it may lead to malfunction or equipment damage.

Prepare this monitor and compatible equipment (shown in the “System chart” in the Appendix) before each use, and refer to the instruction manuals of each system component. Install and connect the equipment as following pages.

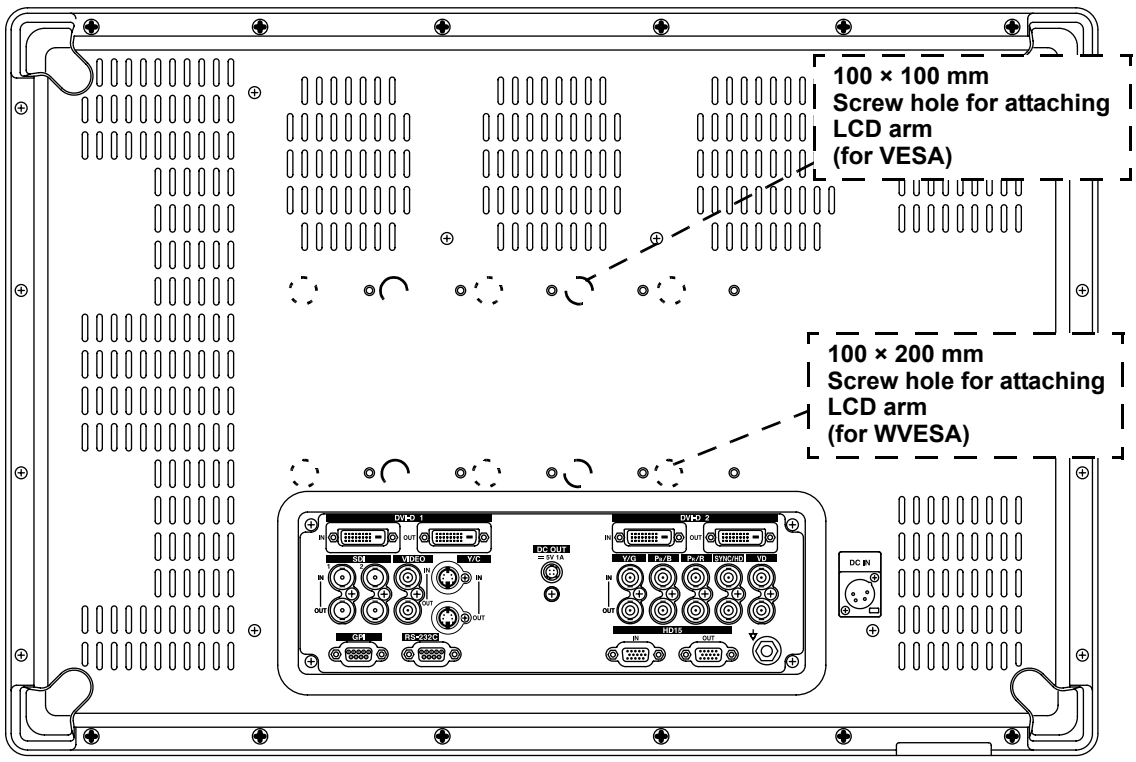
3.1 Installing the monitor

CAUTION

- The monitor is heavy; care must be taken when installing it. Otherwise, injury to the installer(s) and/or damage to the instrument may result.
- When installing the instrument, reserve a space of 10 cm or larger between the instrument and any walls or other equipment. Lack of such a space will interferes with the monitor's internal cooling and may lead to malfunction or equipment damage.
- Do not install this monitor near a source of strong electromagnetic waves (such as a microwave or short-wave therapy machine, MRI equipment, radio equipment or cellular phone). Otherwise, electromagnetic noise may interfere with the monitor image.

Installation on a mobile workstation

When using a LCD monitor mount, prepare a 100 × 200 mm or 100 × 100 mm monitor mount that complies with VESA mount standards.
Fix the monitor onto a 100 × 200 mm monitor mount using the six screws provided. Or fix the monitor onto a 100 × 100 mm monitor mount using the four screws provided. For installation procedures, refer to the instruction manual for the monitor mount.



1. **Align the LCD monitor mount mounting screw holes on the rear of the instrument with the mounting screw holes on the LCD monitor mount (see upper figure).**
2. **Fix the monitor onto the LCD monitor mount using the six screws provided with the monitor.**

CAUTION

- Ensure that the monitor is fixed firmly to the LCD monitor mount. Otherwise, the monitor may drop and cause injury to the operator or damage the monitor.
- Use a monitor mount with sufficient load resistance to support the weight of the monitor. If the monitor falls, patient or operator injury and/or equipment damage may result.
- Do not use screws other than those provided with the LCD monitor. Otherwise, the monitor cannot be fixed firmly to the LCD monitor mount and the monitor may drop, causing injury to the operator or damage the LCD monitor.
- Do not install the monitor on mobile workstations other than those listed in this instruction manual. Otherwise, the mobile workstation may tip, injury to the operator or damage of the monitor/equipment on the mobile workstation may result.

3.2 Installing the AC adapter

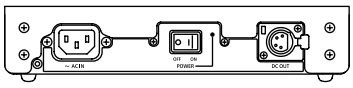
WARNING

Keep fluids away from the AC adapter. Failure to do so may place the patient and medical personnel in danger of an electric shock.

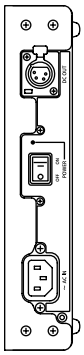
Install the AC adapter in the level position in a dry and stable location.

CAUTION

- Install this instrument in a stable location. Otherwise, the instrument may fall. This may cause operator injury and may damage the instrument.
- Do not install this instrument in vertical position. Otherwise, the fluid or dust is into this instrument, fire or an electric shock may result.



Level position: correct



Vertical position: incorrect

- This instrument may become hot after an extended period of operation. Do not place heat-sensitive material near this instrument.

3.3 Connection to an AC mains power supply

DANGER

Use only a grounded wall mains outlet when connecting the monitor. Failure to do so may cause an electric shock or fire.

WARNING

- Do not allow the power cord to become wet. A wet power cord may cause an electric shock.
- Confirm that the wall mains outlet or the mobile workstation has adequate electrical capacity. Failure to do so may cause fire or power fluctuation.
- Use of a power supply with insufficient electrical capacities may cause malfunction of the equipment.
- Be sure to connect the power plug securely. Otherwise, the equipment will not function.
- Do not bend, pull or twist the power cord. An electric shock, equipment damage or fire can result.
- Be sure to use the supplied AC adapter. Do not use the supplied AC adapter for powering other devices. The equipment may fail or the power cord may burn.

1. Connect the power cord to the AC IN terminal on the AC adapter (see Figure 3.1).

   Use the supplied screw (for securing power cord) and the power cord hook to secure the power cord to the AC adapter.

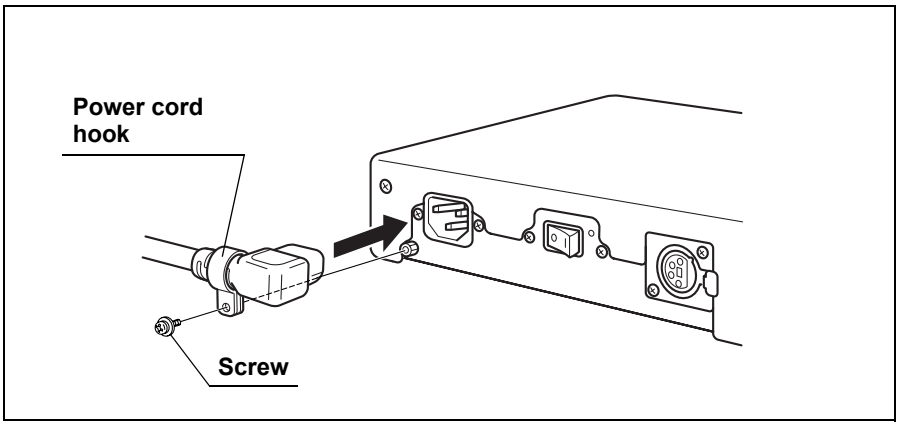


Figure 3.1

2. Slide the supplied DC cord into the DC OUT terminal on the AC adapter until it is locked in place (see Figure 3.2).

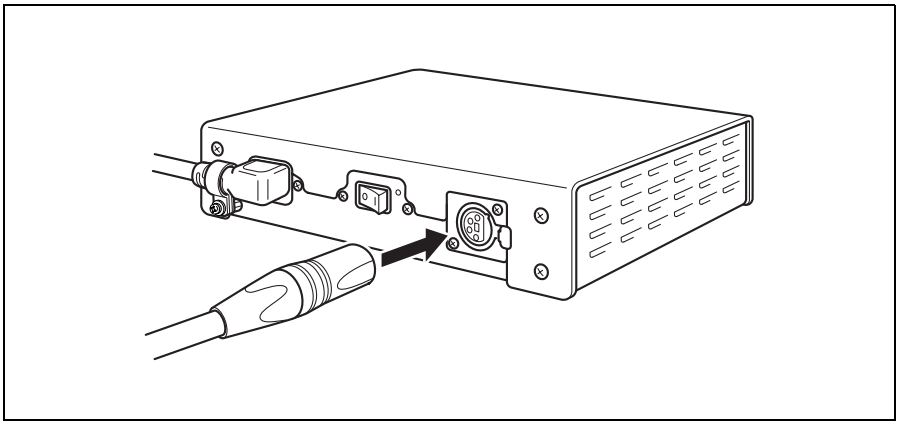


Figure 3.2

3. Slide the DC cord into the DC IN terminal on the monitor until it locks in place (see Figure 3.3).

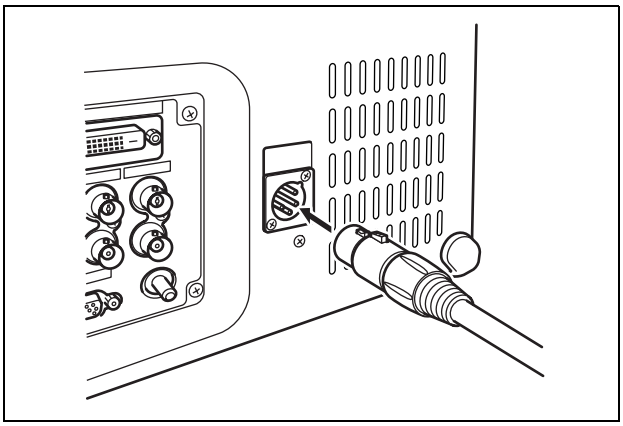


Figure 3.3

4. Connect the power cord to the wall mains outlet.

   The power cord supplied with this should be connected to the wall mains outlet or mobile workstation.

Chapter 4 Inspection and Setup Before Use

DANGER

Before using the monitor, be sure to inspect and set it up as described in this chapter. Also inspect the ancillary equipment to be used in combination with this monitor as described in the instruction manuals for the equipment. If any irregularity is suspected with the monitor, do not use it and take remedial actions as described in Chapter 10, “Troubleshooting”. If this cannot restore the normal operation, contact Olympus. Using the LCD monitor (OEV261H) while an irregularity is suspected does not only result in malfunction but may also cause an electric shock, injury and/or fire.

Inspect the monitor and ancillary equipment according to the purpose of use by referring to the “System chart” in Appendix. For the inspection, observe the following sections and also refer to the instruction manuals for the ancillary equipment.

4.1 Power supply

Inspecting the power supply

Confirm that the monitor can be turned On as described on Section 2.2, “Front panel” on page 15 and Section 2.4, “AC adapter” on page 19. The POWER LED should light up in green.

When the monitor does not power On, check the equipment as follows;

- Confirm that the power cord and DC cord are connected as described in the instructions Section 3.3, “Connection to an AC mains power supply” on page 24.

4.2 Inspection of the displayed image

WARNING

Before using high-frequency electrosurgical equipment, be sure to install and connect the equipment according to its instruction manual and make sure that the noise does not affect the observation and surgical procedures. If high-frequency electrosurgical equipment is used without such confirmation, patient injury may result.

1. Connect the required ancillary equipment as described in Chapter 3, “Installation and Connection”, turn all the ancillary equipment On, and confirm that the monitor displays an image.
2. Observe the palm of a hand, for example, with the endoscope and confirm that the endoscopic image is normal.
3. Confirm that there are no cracks in the LCD panel.

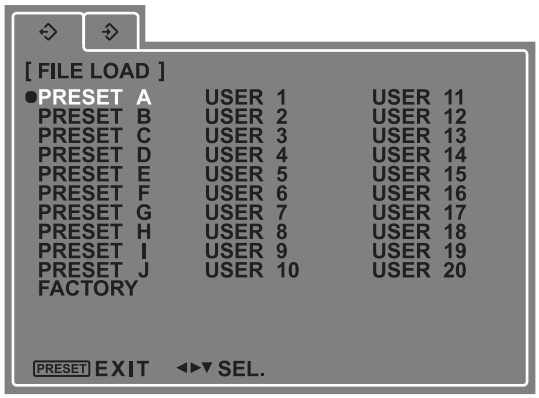
Chapter 5 Screen Menu and Operation of Front Panel

5.1 PRESET button

Previously recorded Olympus settings or user original settings can be loaded, and user original settings can be saved.

Load of recorded settings

Use ◀ ▶ to select ⇩ (LOAD tab) in the tabs and press ▼ to open the FILE LOAD submenu to load the recorded settings.



Use ◀ ▶ ▼ ▲ to move the cursor up, down, left, and right. Pressing ▲ when the cursor is at the top changes the cursor back to the tab selection.

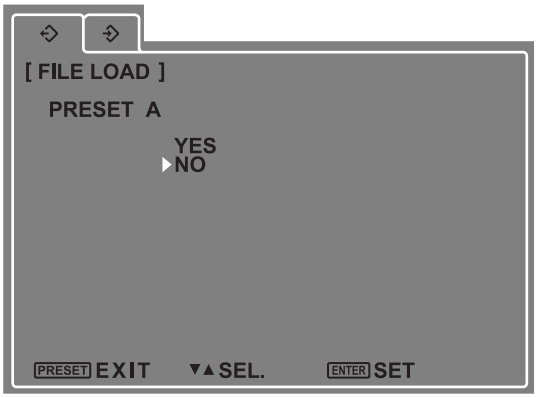
* ●: Displays confirmed preset.
* White characters: Displays selected preset value.

Operation

1. Press [Enter] and a confirmation menu appears on the monitor.
2. Use ▲ ▼ to move the cursor.

   Select [YES] and press [ENTER] to load the selected settings; the FILE LOAD submenu reappears.

   Select [NO] and press [ENTER] or [PRESET] to cancel; the FILE LOAD submenu reappears.



* To exit the PRESET menu, either press the PRESET button again or wait for 10 seconds.
* When the control lock is engaged, the key mark appears on the monitor and operation is disabled.

PRESET settings

Device connected to the monitor	Setting value
Video system center CV-180	**PRESET F**
Video system center CV-260SL, CV-260 (A), CV-260 (B), CV-165, CV-160, CV-145, Endoscopic ultrasound center EU-ME1, EU-M2000/M60, EU-C2000/C60, or EU-M30S	**PRESET G**
Video system center OTV-S7Pro, OTV-S7V*1 **Camera control unit OTV-SP1C*1, OTV-SP1C-G*1** **Video system OTV-SI*1, OTV-SC*1**	**PRESET H**
It does not use	**PRESET A – E, I, J**

*1: Need to change the setting of input terminal.

	PRESET A	PRESET B	PRESET C
INPUT CONFIG			
Video/Y/C	AUTO	AUTO	AUTO
RGB/YP_BP_R	RGB-VIDEO	RGB-VIDEO	RGB-VIDEO
SELECT SYNC	AUTO	AUTO	AUTO
COMP.			
RGB	SQUARE	SQUARE	SQUARE
HD15	SQUARE	SQUARE	SQUARE
DVI-D1	DVI-COMP.	DVI-COMP.	DVI-COMP.
DVI-D2	DVI-VIDEO	DVI-VIDEO	DVI-VIDEO
VIDEO CONFIG			
BACKLIGHT	50	50	50
COLOR TEMP.	D93	D93	D65
COLOR MODE of each input terminal			
VIDEO	1-A	1-B	2-A
Y/C	1-A	1-B	2-A
RGB/YP_BP_R	1-A	1-B	2-A
HD15	6-A	6-A	6-A
SDI1	1-A	1-B	2-A
SDI2	1-A	1-B	2-A
DVI-D1	6-A	6-A	6-A
DVI-D2	1-A	1-B	2-A
SYSTEM CONFIG			
MENU POSITION			
STATUS DISPLAY	3SEC OFF	3SEC OFF	3SEC OFF
POWER ON SETUP	LAST	LAST	LAST
POWER SAVE MODE	OFF	OFF	OFF
LANGUAGE	日本語	日本語	日本語
LOGO	ON	ON	ON
FUNCTION			
FUNCTION1	PORT A GAMMA SELECT	PORT A GAMMA SELECT	PORT A GAMMA SELECT
FUNCTION2	PORT B GAMMA SELECT	PORT B GAMMA SELECT	PORT B GAMMA SELECT
FUNCTION DISPLAY	ON2	ON2	ON2
WINDOW CONFIG			
PIP			
PORT A DISPLAY MODE	4:3	4:3	5:4
PORT B DISPLAY MODE	NORMAL	NORMAL	43
DISPLAY POSITION			
POP			
PORT A DISPLAY MODE	4:3	4:3	5:4
PORT B DISPLAY MODE	NORMAL	NORMAL	4:3
DISPLAY POSITION	MODE1	MODE1	MODE1
DISPLAY PATTERN	PORT A	PORT A	PORT A
SQUARE PATTERN	MODE1	MODE1	MODE1
REMOTE CONFIG			
GPI CONTROL	ENABLE	ENABLE	DISABLE
GPI1	PORT A INPUT VIDEO	UNDEF	PORT A INPUT SDI1
GPI2	PORT A INPUT Y/C	PORT A INPUT RGB/YP_BP_R	PORT A INPUT RGB/YP_BP_R
GPI3	PORT A INPUT RGB/YP_BP_R	PORT A INPUT VIDEO	PORT A INPUT VIDEO
GPI4	UNDEF	PORT A INPUT Y/C	PORT A INPUT Y/C
GPI5	UNDEF	UNDEF	UNDEF
GPI6	UNDEF	UNDEF	UNDEF
GPI7	UNDEF	UNDEF	UNDEF
GPI8	UNDEF	UNDEF	UNDEF
CONTROL			
CONTROL LOCK	ON	ON	ON
FRONT LOCK	MENU	MENU	MENU
INPUT			
PORT A	RGB	RGB	SDI1
PORT B	Y/C	Y/C	RGB

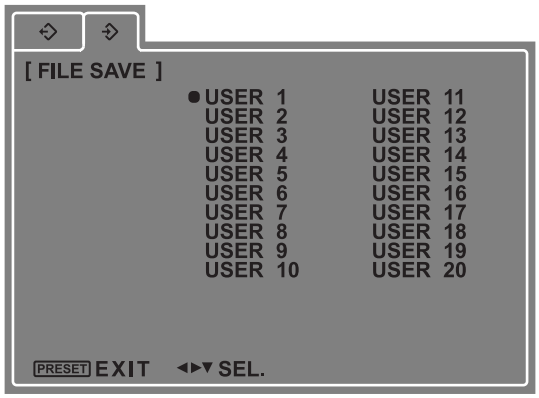
	PRESET D	PRESET E	PRESET F
INPUT CONFIG			
Video/Y/C	AUTO	AUTO	AUTO
RGB/YP_BP_R	RGB-VIDEO	RGB-VIDEO	RGB-VIDEO
SELECT SYNC	AUTO	AUTO	AUTO
COMP.			
RGB	SQUARE	SQUARE	SQUARE
HD15	SQUARE	SQUARE	SQUARE
DVI-D1	DVI-COMP.	DVI-COMP.	DVI-COMP.
DVI-D2	DVI-VIDEO	DVI-VIDEO	DVI-VIDEO
VIDEO CONFIG			
BACKLIGHT	50	50	50
COLOR TEMP.	D93	D65	D65
COLOR MODE of each input terminal			
VIDEO	8-A	8-A	2-A
Y/C	8-A	8-A	2-A
RGB/YP_BP_R	8-A	8-A	2-A
HD15	6-A	6-A	6-A
SDI1	8-A	8-A	2-A
SDI2	8-A	8-A	2-A
DVI-D1	6-A	6-A	6-A
DVI-D2	8-A	8-A	2-A
SYSTEM CONFIG			
MENU POSITION			
STATUS DISPLAY	3SEC OFF	3SEC OFF	3SEC OFF
POWER ON SETUP	LAST	LAST	LAST
POWER SAVE MODE	OFF	OFF	OFF
LANGUAGE	日本語	日本語	ENGLISH
LOGO	ON	ON	ON
FUNCTION			
FUNCTION1	PORT A GAMMA SELECT	PORT A GAMMA SELECT	PORT A GAMMA SELECT
FUNCTION2	PORT B GAMMA SELECT	PORT B GAMMA SELECT	PORT B GAMMA SELECT
FUNCTION DISPLAY	ON2	ON2	ON2
WINDOW CONFIG			
PIP			
PORT A DISPLAY MODE	NORMAL	5:4	5:4
PORT B DISPLAY MODE	4:3	SQUARE	5:4
DISPLAY POSITION			
POP			
PORT A DISPLAY MODE	NORMAL	5:4	5:4
PORT B DISPLAY MODE	4:3	SQUARE	5:4
DISPLAY POSITION	MODE1	MODE1	MODE1
DISPLAY PATTERN	PORT A	PORT A	PORT A
SQUARE PATTERN	MODE1	MODE1	MODE1
REMOTE CONFIG			
GPI CONTROL	ENABLE	DISABLE	ENABLE
GPI1	PORT A INPUT VIDEO	PORT A INPUT SDI1	PORT A INPUT SDI1
GPI2	PORT A INPUT Y/C	PORT A INPUT RGB/YP_BP_R	PORT A INPUT RGB/YP_BP_R
GPI3	PORT A INPUT RGB/YP_BP_R	PORT A INPUT VIDEO	PORT A INPUT VIDEO
GPI4	UNDEF	PORT A INPUT Y/C	PORT A INPUT Y/C
GPI5	UNDEF	UNDEF	UNDEF
GPI6	UNDEF	UNDEF	UNDEF
GPI7	UNDEF	UNDEF	UNDEF
GPI8	UNDEF	UNDEF	UNDEF
CONTROL			
CONTROL LOCK	ON	ON	ON
FRONT LOCK	MENU	MENU	MENU
INPUT			
PORT A	SDI1	SDI1	SDI1
PORT B	RGB	SDI2	DVI-D1

	PRESET G	PRESET H	PRESET I
INPUT CONFIG			
Video/Y/C	AUTO	AUTO	AUTO
RGB/YP_BP_R	RGB-VIDEO	RGB-VIDEO	RGB-VIDEO
SELECT SYNC	AUTO	AUTO	AUTO
COMP.			
RGB	SQUARE	SQUARE	SQUARE
HD15	SQUARE	SQUARE	SQUARE
DVI-D1	DVI-COMP.	DVI-COMP.	DVI-COMP.
DVI-D2	DVI-VIDEO	DVI-VIDEO	DVI-VIDEO
VIDEO CONFIG			
BACKLIGHT	50	50	50
COLOR TEMP.	D65	D65	D65
COLOR MODE of each input terminal			
VIDEO	1-A	2-A	8-A
Y/C	1-A	2-A	8-A
RGB/YP_BP_R	1-A	2-A	8-A
HD15	6-A	6-A	6-A
SDI1	1-A	2-A	8-A
SDI2	1-A	2-A	8-A
DVI-D1	6-A	6-A	6-A
DVI-D2	1-A	2-A	8-A
SYSTEM CONFIG			
MENU POSITION			
STATUS DISPLAY	3SEC OFF	3SEC OFF	3SEC OFF
POWER ON SETUP	LAST	LAST	LAST
POWER SAVE MODE	OFF	OFF	OFF
LANGUAGE	ENGLISH	ENGLISH	ENGLISH
LOGO	ON	ON	ON
FUNCTION			
FUNCTION1	PORT A GAMMA SELECT	PORT A GAMMA SELECT	PORT A GAMMA SELECT
FUNCTION2	PORT B GAMMA SELECT	PORT B GAMMA SELECT	PORT B GAMMA SELECT
FUNCTION DISPLAY	ON2	ON2	ON2
WINDOW CONFIG			
PIP			
PORT A DISPLAY MODE	4:3	5:4	NORMAL
PORT B DISPLAY MODE	5:4	5:4	5:4
DISPLAY POSITION			
POP			
PORT A DISPLAY MODE	4:3	5:4	NORMAL
PORT B DISPLAY MODE	5:4	5:4	5:4
DISPLAY POSITION	MODE1	MODE1	MODE1
DISPLAY PATTERN	PORT A	PORT A	PORT A
SQUARE PATTERN	MODE1	MODE1	MODE1
REMOTE CONFIG			
GPI CONTROL	ENABLE	DISABLE	DISABLE
GPI1	PORT A INPUT VIDEO	PORT A INPUT SDI1	PORT A INPUT VIDEO
GPI2	PORT A INPUT Y/C	PORT A INPUT RGB/YP_BP_R	PORT A INPUT Y/C
GPI3	PORT A INPUT RGB/YP_BP_R	PORT A INPUT VIDEO	PORT A INPUT RGB/YP_BP_R
GPI4	UNDEF	PORT A INPUT Y/C	UNDEF
GPI5	UNDEF	UNDEF	UNDEF
GPI6	UNDEF	UNDEF	UNDEF
GPI7	UNDEF	UNDEF	UNDEF
GPI8	UNDEF	UNDEF	UNDEF
CONTROL			
CONTROL LOCK	ON	ON	ON
FRONT LOCK	MENU	MENU	MENU
INPUT			
PORT A	RGB	SDI1	SDI1
PORT B	DVI-D1	SDI2	DVI-D1

		PRESET J
INPUT CONFIG		
	Video/Y/C	**AUTO**
	RGB/YP$_B$P$_R$	**RGB-VIDEO**
	SELECT SYNC	**AUTO**
	COMP.	
	RGB	**SQUARE**
	HD15	**SQUARE**
	DVI-D1	**DVI-COMP.**
	DVI-D2	**DVI-VIDEO**
VIDEO CONFIG		
	BACKLIGHT	**50**
	COLOR TEMP.	**D65**
	COLOR MODE of each input terminal	
	VIDEO	**8-A**
	Y/C	**8-A**
	RGB/YP$_B$P$_R$	**8-A**
	HD15	**6-A**
	SDI1	**8-A**
	SDI2	**8-A**
	DVI-D1	**6-A**
	DVI-D2	**8-A**
SYSTEM CONFIG		
	MENU POSITION	
	STATUS DISPLAY	**3SEC OFF**
	POWER ON SETUP	**LAST**
	POWER SAVE MODE	**OFF**
	LANGUAGE	**ENGLISH**
	LOGO	**ON**
FUNCTION		
	FUNCTION1	**PORT A GAMMA SELECT**
	FUNCTION2	**PORT B GAMMA SELECT**
	FUNCTION DISPLAY	**ON2**
WINDOW CONFIG		
	PIP	
	PORT A DISPLAY MODE	**5:4**
	PORT B DISPLAY MODE	**SQUARE**
	DISPLAY POSITION	
	POP	
	PORT A DISPLAY MODE	**5:4**
	PORT B DISPLAY MODE	**SQUARE**
	DISPLAY POSITION	**MODE1**
	DISPLAY PATTERN	**PORT A**
	SQUARE PATTERN	**MODE1**
REMOTE CONFIG		
	GPI CONTROL	**DISABLE**
	GPI1	**PORT A INPUT SDI1**
	GPI2	**PORT A INPUT RGB/YP$_B$P$_R$**
	GPI3	**PORT A INPUT VIDEO**
	GPI4	**PORT A INPUT Y/C**
	GPI5	**UNDEF**
	GPI6	**UNDEF**
	GPI7	**UNDEF**
	GPI8	**UNDEF**
CONTROL		
	CONTROL LOCK	**ON**
	FRONT LOCK	**MENU**
INPUT		
	PORT A	**SDI1**
	PORT B	**SDI2**

Save the user original settings

Use ◀ ▶ to select ⇩ (SAVE tab) in the tabs and press ▼ to open the FILE SAVE submenu to save the user original settings.



Use ◀ ▶ ▼ ▲ to move the cursor up, down, left, and right. Pressing ▲ when the cursor is at the top changes the cursor back to the tab selection.

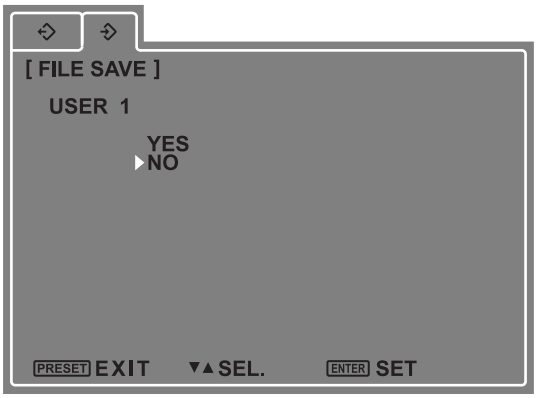
* ●: Displays confirmed preset.
* White characters: Displays selected preset value.

❍ Operation

1. Press [Enter] and a confirmation menu appears on the monitor.
2. Use ▲ ▼ to move the cursor.

   Select [YES] and press [ENTER] to save the user original settings; the FILE SAVE submenu reappears.

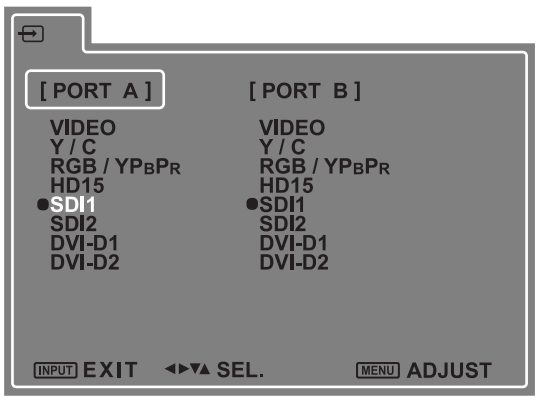
   Select [NO] and press [ENTER] or [PRESET] to cancel; the FILE SAVE submenu reappears.



* To exit the PRESET menu, either press the PRESET button again or wait for 10 seconds.
* When the control lock is engaged, the key mark appears on the monitor and operation is disabled.

5.2 INPUT button

The input terminal for PORT A and PORT B signals can be selected.



Use ◀ ▶ ▼ ▲ to move the cursor up, down, left, and right.

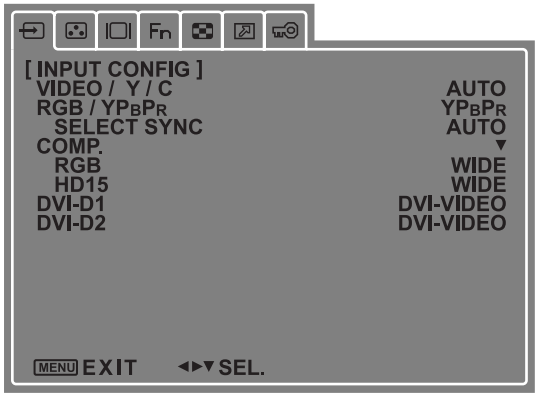
❍ Operation

1. Press [INPUT] to select the input terminal, and INPUT menu disappears.
2. Press [MENU] to adjust the value of selected input terminal. Refer to Section 6.5, “VIDEO INPUT” on page 51.

* ●: Displays confirmed input signal.
* White characters: Displays selected preset value.
* As soon as the INPUT button is pressed, the indication for the PORT input terminal whose video is currently displayed appears in white in single screen display. In dual screen display, the indication for the PORT A input terminal appears in white.
* Using ◀ ▶ to switch PORT will display selected input terminal in white.
* To exit the INPUT menu, either press the INPUT button again or wait for 10 seconds.
* PORT operations are disabled when the input terminal is controlled by GPI. PORTs controlled by GPI are displayed in gray.
* When the control lock is engaged, the key mark appears and operation is disabled.

5.3 MENU button

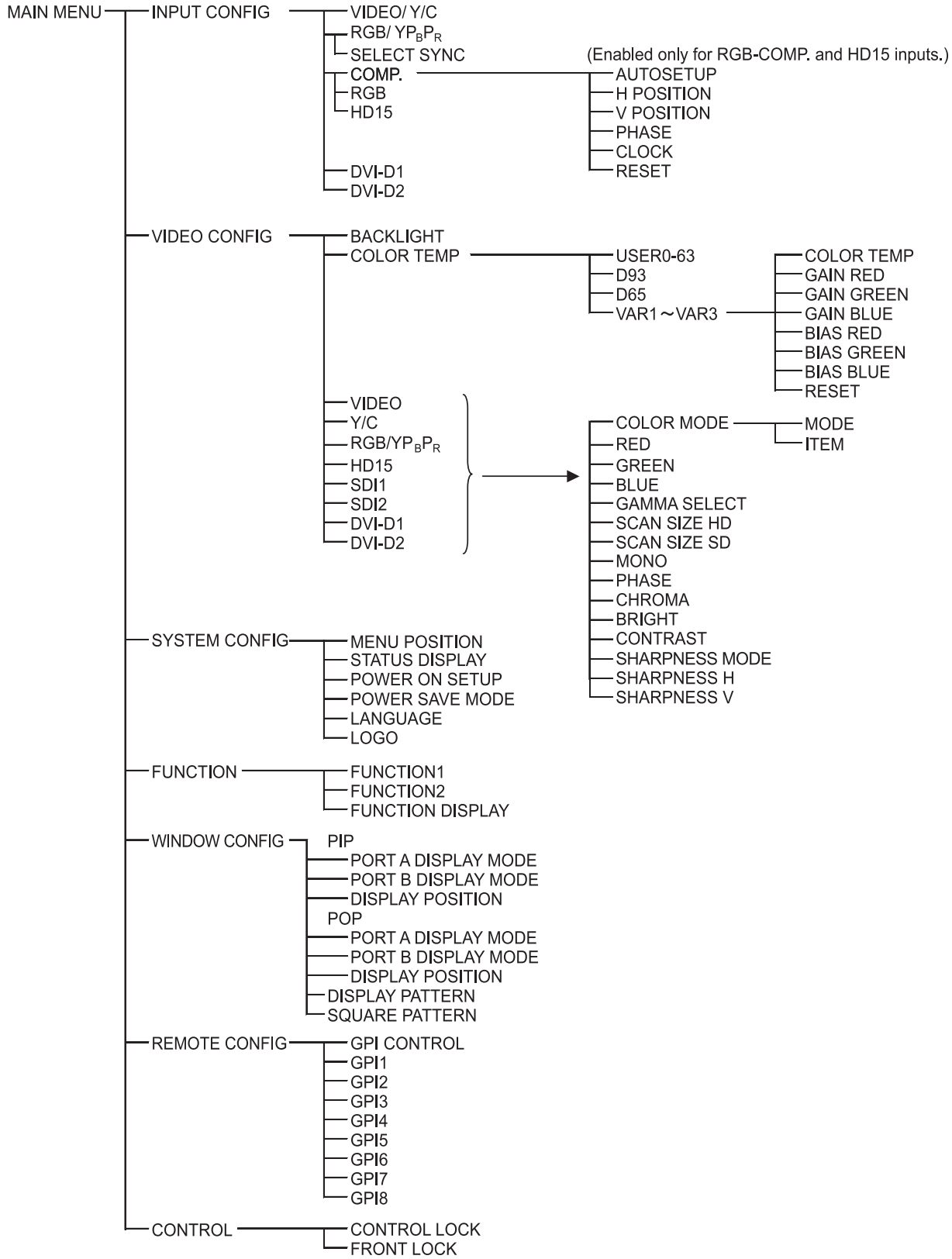
Various settings of the monitor can be adjusted.



Use ◀ ▶ to select a tab. Select the tab you want to set, and then press ▼ to move the cursor to the first item in the submenu to set a submenu. Refer to Chapter 6, “Submenu Operations”.

* To exit the MENU, either press the MENU button again or wait for 120 seconds.

* For a list of the items in the MENU, refer to the following.



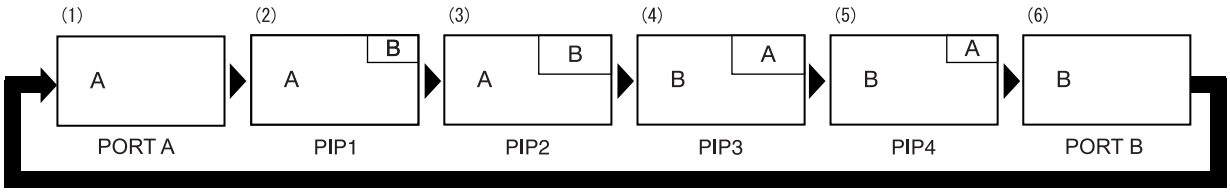
5.4 PIP button

Switches from the normal screen, dual PIP screen and PIP mode.

Example showing operation each time the PIP button is pressed

The display changes in the following order when the PIP button is pressed.

(1) → (2) → (3) → (4) → (5) → (6) → (1) → .....



(1) shows only the PORT A image.
(2) and (3) shows an enlarged view of the PORT A image.
(4) and (5) shows an enlarged view of the PORT B image.
(6) shows only the PORT B image.

* The status display can be set to “CONTINUE,” “3SEC OFF,” or “OFF” in PIP screen mode.
* PIP button operation is disabled when PRESET, INPUT, and MENU screens are displayed.
* If the monitor is shut down during PIP operation and the POWER ON SETUP setting is set to LAST, the status prevailing at shutdown is stored in memory.
* PIP button operations are disabled when the FLIP button is used.
* When the control lock is engaged, the key mark appears and operation is disabled.
* An example showing the PIP DISPLAY POSITION at ▀▄ (the top right of the screen).

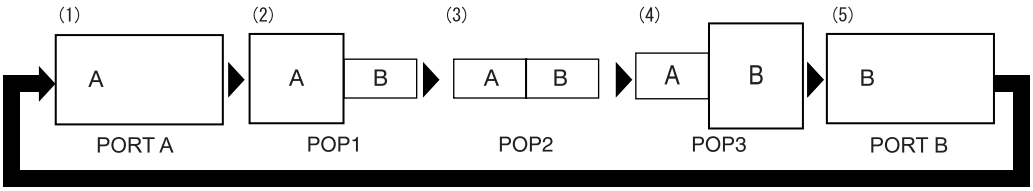
5.5 POP button

Switches from the normal display to the dual POP screen and to POP mode.

Example showing operation when the POP button is pressed

The display changes in the following order each time the POP button is pressed.

(1) → (2) → (3) → (4) → (5) → (1) → .....



(1) shows only the PORT A image.
(2) shows an enlarged view of the PORT A image.
(3) shows the PORT A and B images at equal size.
(4) shows an enlarged view of the PORT B image.
(5) shows only the PORT B image.

* The status display can be set to “CONTINUE,” “3SEC OFF,” or “OFF” in POP screen mode.
* POP button operation is disabled when PRESET, INPUT, and MENU screens are displayed.
* If the monitor is shut down during POP operation and the POWER ON SETUP setting is set to LAST, the status prevailing at shutdown is stored in memory.
* POP button operations are disabled when the FLIP button is used.
* When the control lock is engaged, the key mark appears and operation is disabled.
* An example of POP DISPLAY POSITION in MODE1.

5.6 SCAN button

The single screen display and the large screen in PIP mode can be magnified. Refer to “SCAN SIZE screen mode” on page 61.

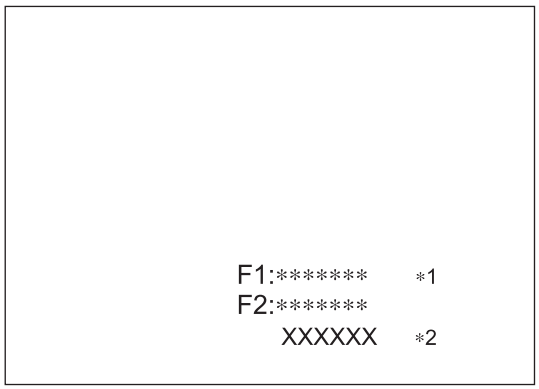
* The display changes in the following;

  SD image: OFF → MODE1 → MODE2 → OFF...

  HD image: OFF → MODE3 → MODE4 → MODE5 → MODE6 → MODE7 → OFF...

5.7 FUNCTION buttons (F1, F2/ENTER)

Items assigned to the FUNCTION buttons appear when these buttons are pressed. To confirm items assigned to the FUNCTION buttons, press these buttons again. Refer to Section 6.7, “FUNCTION” on page 64.



* The screen closes automatically two seconds after the last FUNCTION operation.
* This screen always appears in the same location.
* When the control lock is engaged, the key mark appears on the monitor and operation is disabled.

*1: Function Name: Indicates the name of a function. Select display or hide.

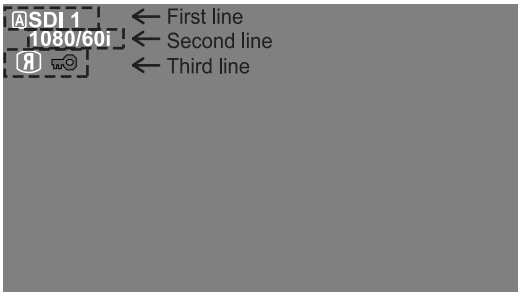
*2: Function Status: Shows the status of the selected function.

5.8 Status display

This screen appears when the power is turned On, input terminals are changed, formats are switched, and when the MENU, FUNCTION, PRESET, and INPUT displays are closed.

❍ Single screen display

The first line displays the name of the input terminal of currently displayed video. The second line displays signal format. The third line displays FLIP and control lock status.



❍ Dual screen display

- The first line displays the names of the input terminals for both PORT A and B. The second line displays signal format. The third line displays PIP, POP and control lock status.

- When the right and left images trade places, the input PORT and signal display follow suit.
    - Status display of an enlarged view appears at top left of the screen during PIP operation.
    - Select one of the following display periods.
        - CONTINUE
        - 3 SEC OFF
        - OFF

NOTE

However, FLIP status is always displayed.

: Upside-down image

: Reversed image

Table 5.1 shows the signal format and display on the monitor.

NOTE

- “UNSUPPOTRT SIGNAL” appears if an unsupported signal is input. It may also indicate that the format selected in the “INPUT CONFIG” menu does not match the input signal.
- “NO SIGNAL” appears if no signal is input.
- “UNSUPPORT SIGNAL” and “NO SIGNAL” may not be properly displayed.

Input terminal / Signal format	Display	VIDEO/ Y/C	SDI1/SDI 2	YP_BP_R	RGB	RGB-COMP./HD15	DVI-D1/DVI-D2 (VIDEO signal)	DVI-D1/DVI-D2 (PC signal)
NTSC	NTSC	○						
PAL	PAL	○						
480/59.94i	480/59.94i		○	○	○			
480/59.94p	480/59.94p			○	○		○	
576/50i	576/50i		○	○	○			
576/50p	576/50p			○	○		○	
720/59.94p	720/59.94p		○	○	○		○	
720/60p	720/60p		○	○	○		○	
1080/50i	1080/50i		○	○	○		○	
1080/50p	1080/50p			○			○	
1080/59.94i	1080/59.94i		○	○	○		○	
1080/60i	1080/60i		○	○	○		○	
1080/59.94p	1080/59.94p			○			○	
1080/60p	1080/60p			○			○	
VGA: 640 × 480 (60 Hz)	640 × 480 (60 Hz)					○		○
SVGA: 800 × 600 (60 Hz)	800 × 600 (60 Hz)					○		○
XGA: 1024 × 768 (60 Hz)	1024 × 768 (60 Hz)					○		○
WXGA: 1280 × 768 (60 Hz)	1280 × 768 (60 Hz)					○		○
SXGA: 1280 × 1024 (60 Hz)	1280 × 1024 (60 Hz)					○		○
UXGA: 1600 × 1200 (60 Hz)	1600 × 1200 (60 Hz)					○		○
WUXGA: 1920 × 1200 (60 Hz)	1920 × 1200 (60 Hz)					○*1		○

Table 5.1

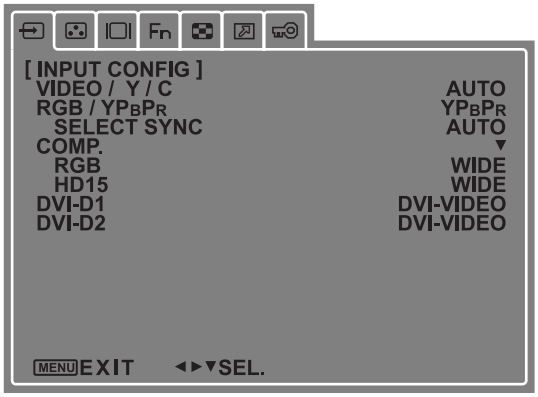
When signals other than the above mentioned are input, “UNSUPPORT SIGNAL” is displayed.

*1: Only compatible with VESA (Video Electronics Standards Association) Reduced Blanking (Clock: 154 MHz, Hsync: positive logic, Vsync: negative logic).

Chapter 6 Submenu Operations

6.1 INPUT CONFIG

Use ◀ ▶ to select (INPUT tab) in the tabs and press ▼ to open the INPUT CONFIG submenu to make the desired settings.



Use ▲ ▼ to move the cursor up and down. Pressing ▲ when the cursor is at the top changes the cursor back to the tab selection. Pressing ▼ when the cursor is at the bottom moves the cursor to the top.
Subsequent operations differ, depending on the selected submenu item.

Selecting an item for which a value has been set

1. Press [ENTER] and the set submenu setting turns green.
2. Use ◀ ▶ to change the set value.

   Use [ENTER] to confirm the change; the submenu selection screen reappears.
   Use [MENU] to cancel the change; the submenu selection screen reappears.

Selecting an item where ▼ appears in the value field

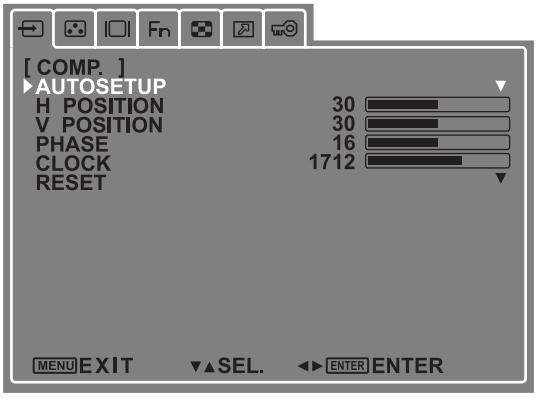
A list of additional submenus appears.

Submenu	Description
VIDEO/ Y/C	Selects the format of signals input to the VIDEO, Y and C input terminals. • AUTO Automatically selects NTSC or PAL. • NTSC Selects NTSC. • PAL Selects PAL.
RGB/YP_BP_R	Selects RGB or YP_BP_R input. • YP_BP_R Selects the YP_BP_R signal. • RGB-VIDEO Selects the video RGB signal. • RGB-COMP. Selects the COMP. RGB signal.
SELECT SYNC	Selects the synchronizing signal when using YP_BP_R and RGB-VIDEO input. • AUTO Automatically detects the synchronizing signal (G-ON has priority) • INT Selects the synchronizing signal superimposed on the Y signal for YP_BP_R input and the synchronizing signal superimposed on the G signal for RGB-VIDEO input. • EXT External synchronization When GPI of EXT is enabled and the item is assigned, the item appears gray to indicate that selection is disabled and the set GPI value appears.
COMP.	Sets up a connection to a computer (COMP.). ∗ Enabled only for RGB-COMP. and HD15 inputs. Switches between values set for each input terminal. ∗ Enabled only during one screen display in PC input. Select and press [ENTER] to open the COMP. submenu (page 46).
RGB	Switches between the WIDE and normal screen for RGB-COMP. signal of RGB-input-terminal. • WIDE Shows the WIDE screen. • SQUARE Shows the normal screen.
HD15	Switches between the WIDE and normal screen for signal of the HD15-input-terminal. • WIDE Shows the WIDE screen. • SQUARE Shows the normal screen.
DVI-D1	Selects the format of signals input to the DVI-D1 input terminal. • DVI-VIDEO Selects component input. • DVI-COMP. Selects COMP. input.
DVI-D2	Selects the format of signals input to the DVI-D2 input terminal. • DVI-VIDEO Selects component input. • DVI-COMP. Selects COMP. input. Fiber adapter is connected to this DVI-D2 terminal.

6.2 COMP.

Selecting COMP. in INPUT CONFIG submenu opens the following menu.

* This menu is enabled only in single screen display during COMP. input.



Use ▲ ▼ to move the cursor up and down. Pressing ▲ when the cursor is at the top changes the cursor back to the tab selection. Pressing ▼ when the cursor is at the bottom moves the cursor to the top.

Operation

1. Use ▲ ▼ to select a set item and press ◀ ▶ or [ENTER].
2. Use ◀ ▶ to change the set value.

   Use [ENTER] to confirm the change; the submenu selection screen reappears.
   Use [MENU] to cancel the change; the submenu selection screen reappears.

* These settings are used for each RGB-COMP. and HD15 input terminal.

Submenu	Description
AUTOSETUP∗1	Performs auto screen setup when RGB-COMP. or HD15 is selected. Select AUTOSETUP and press [ENTER] to open a confirmation screen. Select YES and press [ENTER] to start AUTOSETUP.
H POSITION	Adjusts the image display position in the horizontal direction. Adjustments can be made to each format compatible with COMP. input.∗2 • 0 – 30 – 60
V POSITION	Adjusts the image display position in the vertical direction. Adjustments can be made to each format compatible with COMP. input.∗2 • 0 – 30 – 60
PHASE	Adjusts the clock phase in 1/32 clock-period increments. Adjustments can be made to each format compatible with COMP. input.∗2 • 0 – 16 – 31
CLOCK∗3	Adjusts the sampling clock in dot units. Adjustments can be made to each format compatible with COMP. input.∗2 • 700 – 2200 Default value: Depends on signal format
RESET	Returns the H/V POSITION, PHASE and CLOCK to the factory default settings for currently displayed COMP. input format. Select RESET and press [ENTER] to open a confirmation screen. Select YES and press [ENTER] to return currently displayed format adjustments to their default values.

∗1: [AUTOSETUP] Use this function when the entire screen area is available for display. “EXECUTING” is displayed during “AUTOSETUP” and “COMPLETE” appears when setup completes. “INCOMPLETE” is displayed if setup could not be completed.
AUTOSETUP may not provide adequate adjustment in all cases. Use H POSITION, V POSITION, PHASE and CLOCK to adjust.

∗2: Adjustment is available for compatible input formats, but settings cannot be loaded from and saved to user files.

∗3: “CLOCK” factory default

Format	CLOCK
640 × 480 (60 Hz)	800
800 × 600 (60 Hz)	1050
1024 × 768 (60 Hz)	1344
1280 × 768 (60 Hz)	1680
1280 × 1024 (60 Hz)	1688
1600 × 1200 (60 Hz)	2160
1920 × 1200 (60 Hz)	2080

6.3 VIDEO CONFIG

Use ◀ ▶ to select (VIDEO tab) in the tabs and press ▼ to open the VIDEO CONFIG submenu to make the desired settings.

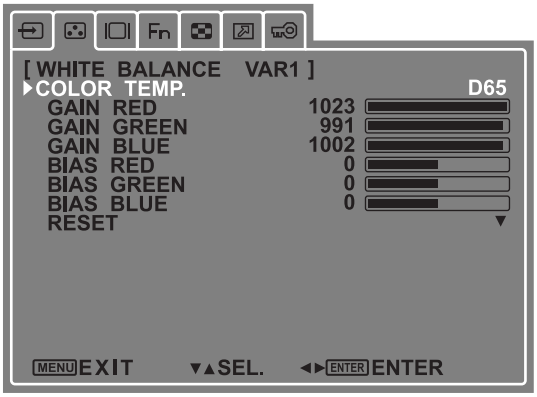
The menu items of BACKLIGHT and COLOR TEMP. are settings shared by all video signal input terminals. The remaining menu items are names of video input terminals. Selecting a terminal opens the VIDEO INPUT submenu for that video input terminal.

Submenu	Description
BACKLIGHT	Adjusts the brightness of the backlight. • 0 – 50 (default value: 50)
COLOR TEMP.	Sets the color temperature. • USER∗∗∗1 ..... Adjustable settings 0 – 63 (equivalent to a color temperature range of 3000 – 9300 K) • D93 ..... equivalent to a color temperature of 9300 K • D65 (default value)..... equivalent to a color temperature of 6500 K • VAR1: Opens submenu for adjusting WB adjustment mode 1 • VAR2: Opens submenu for adjusting WB adjustment mode 2 • VAR3: Opens submenu for adjusting WB adjustment mode 3
VIDEO **Y/C** **RGB/YP_BP_R** **HD15** **SDI1** **SDI2** **DVI-D1** **DVI-D2**	Set the image quality from the each signal input terminal. See page 51 for a description of a setup procedure.

∗1: To use USER ∗∗ adjustable settings 0 – 63, select USER and press ENTER once so that USER changes to light blue. Then use ◀ and ▶ to change ∗∗.
Press ENTER once more to change USER back to white and confirm the setting.

6.4 WHITE BALANCE

Selecting VAR1 – 3 under COLOR TEMP. in the VIDEO CONFIG submenu and pressing ENTER opens the WHITE BALANCE submenu.



Use ▲ ▼ to move the cursor up and down. Pressing ▲ when the cursor is at the top changes the cursor back to the tab selection. Pressing ▼ when the cursor is at the bottom moves the cursor to the top.

Operation

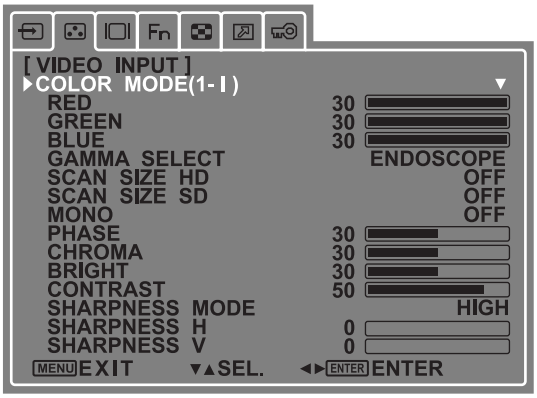
1. Use ▲ ▼ to select a set item and press ◀ ▶ or [ENTER].
2. Use ◀ ▶ to change the set value.

   Use [ENTER] to confirm the change; the submenu selection screen reappears.
   Use [MENU] to cancel the change; the submenu selection screen reappears.

Submenu	Description
COLOR TEMP.	Sets the color temperature. The default color temperature values selected here is reflected to each GAIN and BIAS value. • USER** ..... Adjustable settings 0 – 63 (equivalent to a color temperature range of 3000 – 9300 K) (default value: 63) • D93 ..... equivalent to a color temperature of 9300 K • D65 (default value)..... equivalent to a color temperature of 6500 K
GAIN RED	Adjusts the GAIN for the red component. The default value is adjusted using D65 and is unique for each set. • 0 – 1023
GAIN GREEN	Adjusts the GAIN for the green component. The default value is adjusted using D65 and is unique for each set. • 0 – 1023
GAIN BLUE	Adjusts the GAIN for the blue component. The default value is adjusted using D65 and is unique for each set. • 0 – 1023
BIAS RED	Adjusts the BIAS for the red component. • –512 to 0 to 511 (default value: 0)
BIAS GREEN	Adjusts the BIAS for the green component. • –512 to 0 to 511 (default value: 0)
BIAS BLUE	Adjusts the BIAS for the blue component. • –512 to 0 to 511 (default value: 0)
RESET	Resets the COLOR TEMP. adjustments to their factory default settings. Each COLOR TEMP. selected using GAIN and BIAS was restored to its factory default.

6.5 VIDEO INPUT

Selecting the name of a video input terminal in the VIDEO CONFIG submenu opens the INPUT submenu.



Use ▲ ▼ to move the cursor up and down. Pressing ▲ when the cursor is at the top changes the cursor back to the tab selection. Pressing ▼ when the cursor is at the bottom moves the cursor to the top.

Operation

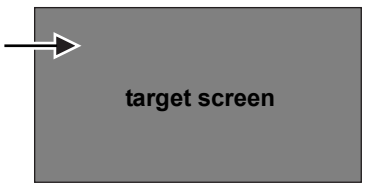
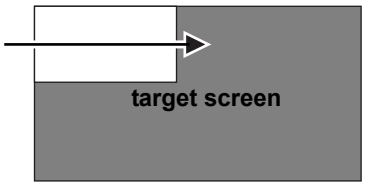
1. Use ▲ ▼ to select a set item and press ◀ ▶ or [ENTER].
2. Use ◀ ▶ to change the set value.

   Use [ENTER] to confirm the change; the submenu selection screen reappears.

   Use [MENU] to cancel the change; the submenu selection screen reappears.

* This menu item is enabled on both screens when video from the same VIDEO, Y/C, RGB/YP_BP_R, SDI1, SDI2, DVI-D1 and DVI-D2 terminal is used in split-screen display.

Submenu	Description
COLOR MODE	Sets (1 – 10) MODE and ITEM (A – J) in COLOR MODE. See page 54 for a description of a setup procedure.
RED	Adjusts RED GAIN 0 – 60 (default value: 30)
GREEN	Adjusts GREEN GAIN 0 – 60 (default value: 30)
BLUE	Adjusts BLUE GAIN 0 – 60 (default value: 30)

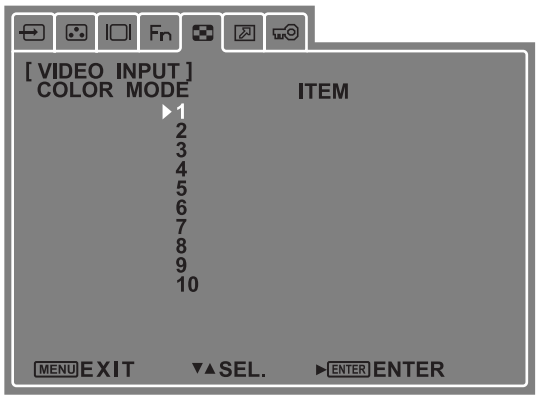
Submenu	Description
GAMMA SELECT	Sets the incline of the gamma curve. • ENDOSCOPE (default value) • 1.8 • 1.95 • 2.0 • 2.2 • 2.4 • 2.6 • PACS
SCAN SIZE HD SD	Magnifies the single screen display and the large screen in PIP mode. When COMP. input is selected, the set value is — (line). This cannot be selected, nor any other selection can be made. When GPI is enabled and an item is assigned, the item appears gray to indicate that selection is disabled and the set GPI value appears. **SCAN SIZE SD** OFF Normal display MODE1 Magnifies SD signal image to horizontal panel size (1920 pixels) MODE2 Magnifies SD signal image to vertical panel size (1200 pixels) **SCAN SIZE HD** OFF Normal display MODE3 Magnifies HD signal image to vertical panel size (1200 pixels) MODE4 Magnifies special area 1 (1422 × 1064) of an HD signal to horizontal panel size (1920 pixels). MODE5 Magnifies special area 1 (1422 × 1064) of an HD signal to vertical panel size (1200 lines). MODE6 Magnifies special area 2 (1280 × 1008) of an HD signal to horizontal panel size (1920 pixels). MODE7 Magnifies special area 2 (1280 × 1008) of an HD signal to vertical panel size (1200 lines). SD Aspect ratio is fixed at 4:3. SD only input terminals display SD items only (MODE1 and 2). * HD signal: MODE3 to 7 described above enable only 1080i (60 Hz/59.94 Hz/50 Hz) or 1080p (60 Hz/59.94 Hz/50 Hz) HD signals, other HD signals are impossible.  **Normal screen**  **PIP screen** See page 61 for a description of a scan size.

Submenu	Description
MONO	Enables or disables monochrome display. When COMP. input is selected, the set value is — (line). This cannot be selected, nor any other selection can be made. • OFF (default value) ..... Color display • ON ..... Monochrome display
PHASE	Adjusts phase. When COMP. input is selected and the MONO function is on, the set value is — (line). This cannot be selected, nor any other selection can be made. 0 – 60 (default value: 30)
CHROMA	Adjusts chroma. When COMP. input is selected and the MONO function is on, the set value is — (line). This cannot be selected, nor any other selection can be made. 0 – 60 (default value: 25)
BRIGHT	Adjusts brightness. 0 – 60 (default value: 30)
CONTRAST	Adjusts contrast. 0 – 60 (default value: 50)
SHARPNESS MODE	Selects the width of outline correction edge. • HIGH (default value)..... Thin edge • LOW ..... Wide edge
SHARPNESS H	Sets horizontal sharpness. When COMP. input is selected, the set value is — (line). This cannot be selected, nor any other selection can be made. • 0 – 30
SHARPNESS V	Sets vertical sharpness. When COMP. input is selected, the set value is — (line). This cannot be selected, nor any other selection can be made. • 0 – 30

Setting COLOR MODE

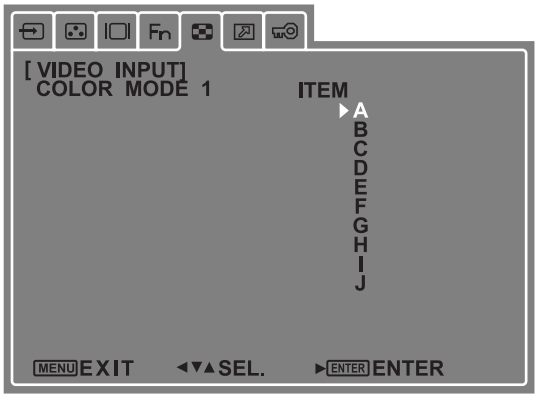
1. Select COLOR MODE in the INPUT submenu screen and press [ENTER].

   The screen for selecting COLOR MODE appears.



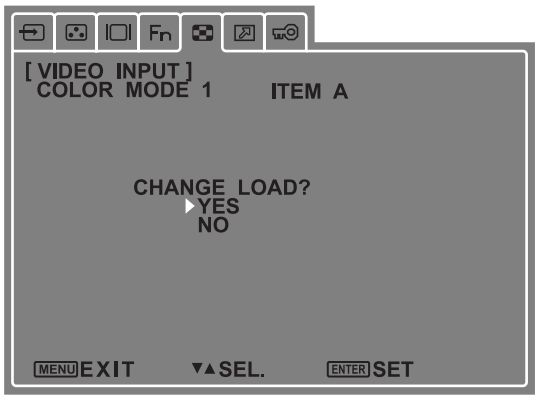
2. Use ▲ ▼ to select a COLOR MODE (1 – 10) and press [ENTER].

   The ITEM selection screen appears.



3. Use ▲ ▼ to select an ITEM (A – J) and press [ENTER].

   A screen confirming the selection appears.



4. Unless a mistake was made in any of the screen settings, use ▲ ▼ to select [YES] and press [ENTER].

   - The settings are now saved and the previous screen reappears.
   - To cancel previous settings, select [NO] and press [ENTER]. The settings are not saved and the previous screen reappears.

❍ The value of COLOR MODE

COLOR MODE	1									
ITEM	A	B	C	D	E	F	G	H	I	J
RED	30	30	30	30	30	30	30	30	30	30
GREEN	30	30	30	30	30	30	30	30	30	30
BLUE	30	30	30	30	30	30	30	30	30	30
GAMMA SELECT	ENDOSCOPE	ENDOSCOPE	ENDOSCOPE	ENDOSCOPE	ENDOSCOPE	ENDOSCOPE	ENDOSCOPE	ENDOSCOPE	ENDOSCOPE	ENDOSCOPE
SCAN SIZE HD	MODE3	MODE3	MODE3	MODE3	MODE3	MODE3	MODE3	MODE3	MODE3	MODE3
SCAN SIZE SD	MODE2	MODE2	MODE2	MODE2	MODE2	MODE2	MODE2	MODE2	MODE2	MODE2
MONO	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF
PHASE	30	30	30	30	30	30	30	30	30	30
CHROMA	25	25	25	25	25	25	28	28	22	22
BRIGHT	30	30	30	30	30	30	30	30	30	30
CONTRAST	50	50	50	44	44	44	44	44	50	50
SHARPNESS MODE	HIGH	LOW	HIGH	HIGH	LOW	HIGH	LOW	HIGH	LOW	HIGH
SHARPNESS H	0	7	10	0	7	10	7	10	7	10
SHARPNESS V	0	7	10	0	7	10	7	10	7	10

COLOR MODE	2									
ITEM	A	B	C	D	E	F	G	H	I	J
RED	30	30	30	30	30	30	30	30	30	30
GREEN	30	30	30	30	30	30	30	30	30	30
BLUE	30	30	30	30	30	30	30	30	30	30
GAMMA SELECT	ENDOSCOPE	ENDOSCOPE	ENDOSCOPE	ENDOSCOPE	ENDOSCOPE	ENDOSCOPE	ENDOSCOPE	ENDOSCOPE	ENDOSCOPE	ENDOSCOPE
SCAN SIZE HD	MODE7	MODE7	MODE7	MODE7	MODE7	MODE7	MODE7	MODE7	MODE7	MODE7
SCAN SIZE SD	MODE2	MODE2	MODE2	MODE2	MODE2	MODE2	MODE2	MODE2	MODE2	MODE2
MONO	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF
PHASE	30	30	30	30	30	30	30	30	30	30
CHROMA	25	25	25	25	25	25	28	28	22	22
BRIGHT	30	30	30	30	30	30	30	30	30	30
CONTRAST	50	50	50	44	44	44	44	44	50	50
SHARPNESS MODE	HIGH	LOW	HIGH	HIGH	LOW	HIGH	LOW	HIGH	LOW	HIGH
SHARPNESS H	0	7	10	0	7	10	7	10	7	10
SHARPNESS V	0	7	10	0	7	10	7	10	7	10

COLOR MODE	3									
ITEM	A	B	C	D	E	F	G	H	I	J
RED	30	30	30	30	30	30	30	30	30	30
GREEN	30	30	30	30	30	30	30	30	30	30
BLUE	30	30	30	30	30	30	30	30	30	30
GAMMA SELECT	1.95	1.95	1.95	1.95	1.95	1.95	1.95	1.95	1.95	1.95
SCAN SIZE HD	MODE7	MODE7	MODE7	MODE7	MODE7	MODE7	MODE7	MODE7	MODE7	MODE7
SCAN SIZE SD	MODE2	MODE2	MODE2	MODE2	MODE2	MODE2	MODE2	MODE2	MODE2	MODE2
MONO	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF
PHASE	30	30	30	30	30	30	30	30	30	30
CHROMA	25	25	25	25	25	25	28	28	22	22
BRIGHT	30	30	30	30	30	30	30	30	30	30
CONTRAST	50	50	50	44	44	44	44	44	50	50
SHARPNESS MODE	HIGH	LOW	HIGH	HIGH	LOW	HIGH	LOW	HIGH	LOW	HIGH
SHARPNESS H	0	7	10	0	7	10	7	10	7	10
SHARPNESS V	0	7	10	0	7	10	7	10	7	10

COLOR MODE	4									
ITEM	A	B	C	D	E	F	G	H	I	J
RED	30	30	30	30	30	30	30	30	30	30
GREEN	30	30	30	30	30	30	30	30	30	30
BLUE	30	30	30	30	30	30	30	30	30	30
GAMMA SELECT	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4
SCAN SIZE HD	MODE7	MODE7	MODE7	MODE7	MODE7	MODE7	MODE7	MODE7	MODE7	MODE7
SCAN SIZE SD	MODE2	MODE2	MODE2	MODE2	MODE2	MODE2	MODE2	MODE2	MODE2	MODE2
MONO	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF
PHASE	30	30	30	30	30	30	30	30	30	30
CHROMA	25	25	25	25	25	25	28	28	22	22
BRIGHT	30	30	30	30	30	30	30	30	30	30
CONTRAST	50	50	50	44	44	44	44	44	50	50
SHARPNESS MODE	HIGH	LOW	HIGH	HIGH	LOW	HIGH	LOW	HIGH	LOW	HIGH
SHARPNESS H	0	7	10	0	7	10	7	10	7	10
SHARPNESS V	0	7	10	0	7	10	7	10	7	10

COLOR MODE	5									
ITEM	A	B	C	D	E	F	G	H	I	J
RED	30	30	30	30	30	30	30	30	30	30
GREEN	30	30	30	30	30	30	30	30	30	30
BLUE	30	30	30	30	30	30	30	30	30	30
GAMMA SELECT	ENDOSCOPE	ENDOSCOPE	ENDOSCOPE	ENDOSCOPE	ENDOSCOPE	ENDOSCOPE	ENDOSCOPE	ENDOSCOPE	ENDOSCOPE	ENDOSCOPE
SCAN SIZE HD	MODE6	MODE6	MODE6	MODE6	MODE6	MODE6	MODE6	MODE6	MODE6	MODE6
SCAN SIZE SD	MODE2	MODE2	MODE2	MODE2	MODE2	MODE2	MODE2	MODE2	MODE2	MODE2
MONO	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF
PHASE	30	30	30	30	30	30	30	30	30	30
CHROMA	25	25	25	25	25	25	28	28	22	22
BRIGHT	30	30	30	30	30	30	30	30	30	30
CONTRAST	50	50	50	44	44	44	44	44	50	50
SHARPNESS MODE	HIGH	LOW	HIGH	HIGH	LOW	HIGH	LOW	HIGH	LOW	HIGH
SHARPNESS H	0	7	10	0	7	10	7	10	7	10
SHARPNESS V	0	7	10	0	7	10	7	10	7	10

COLOR MODE	6									
ITEM	A	B	C	D	E	F	G	H	I	J
RED	30	30	30	30	30	30	30	30	30	30
GREEN	30	30	30	30	30	30	30	30	30	30
BLUE	30	30	30	30	30	30	30	30	30	30
GAMMA SELECT	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2
SCAN SIZE HD	MODE3	MODE3	MODE3	MODE3	MODE3	MODE3	MODE3	MODE3	MODE3	MODE3
SCAN SIZE SD	MODE2	MODE2	MODE2	MODE2	MODE2	MODE2	MODE2	MODE2	MODE2	MODE2
MONO	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF
PHASE	30	30	30	30	30	30	30	30	30	30
CHROMA	25	25	25	25	25	25	28	28	22	22
BRIGHT	30	30	30	30	30	30	30	30	30	30
CONTRAST	50	50	50	44	44	44	44	44	50	50
SHARPNESS MODE	HIGH	LOW	HIGH	HIGH	LOW	HIGH	LOW	HIGH	LOW	HIGH
SHARPNESS H	0	7	10	0	7	10	7	10	7	10
SHARPNESS V	0	7	10	0	7	10	7	10	7	10

COLOR MODE	7									
ITEM	A	B	C	D	E	F	G	H	I	J
RED	30	30	30	30	30	30	30	30	30	30
GREEN	30	30	30	30	30	30	30	30	30	30
BLUE	30	30	30	30	30	30	30	30	30	30
GAMMA SELECT	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2
SCAN SIZE HD	MODE7	MODE7	MODE7	MODE7	MODE7	MODE7	MODE7	MODE7	MODE7	MODE7
SCAN SIZE SD	MODE2	MODE2	MODE2	MODE2	MODE2	MODE2	MODE2	MODE2	MODE2	MODE2
MONO	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF
PHASE	30	30	30	30	30	30	30	30	30	30
CHROMA	25	25	25	25	25	25	28	28	22	22
BRIGHT	30	30	30	30	30	30	30	30	30	30
CONTRAST	50	50	50	44	44	44	44	44	50	50
SHARPNESS MODE	HIGH	LOW	HIGH	HIGH	LOW	HIGH	LOW	HIGH	LOW	HIGH
SHARPNESS H	0	7	10	0	7	10	7	10	7	10
SHARPNESS V	0	7	10	0	7	10	7	10	7	10

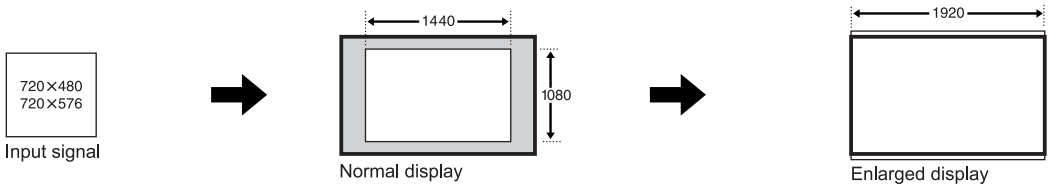
COLOR MODE	8									
ITEM	A	B	C	D	E	F	G	H	I	J
RED	30	30	30	30	30	30	30	30	30	30
GREEN	30	30	30	30	30	30	30	30	30	30
BLUE	30	30	30	30	30	30	30	30	30	30
GAMMA SELECT	ENDOSCOPE	ENDOSCOPE	ENDOSCOPE	ENDOSCOPE	ENDOSCOPE	ENDOSCOPE	ENDOSCOPE	ENDOSCOPE	ENDOSCOPE	ENDOSCOPE
SCAN SIZE HD	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF
SCAN SIZE SD	MODE2	MODE2	MODE2	MODE2	MODE2	MODE2	MODE2	MODE2	MODE2	MODE2
MONO	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF
PHASE	30	30	30	30	30	30	30	30	30	30
CHROMA	25	25	25	25	25	25	28	28	22	22
BRIGHT	30	30	30	30	30	30	30	30	30	30
CONTRAST	50	50	50	44	44	44	44	44	50	50
SHARPNESS MODE	HIGH	LOW	HIGH	HIGH	LOW	HIGH	LOW	HIGH	LOW	HIGH
SHARPNESS H	0	7	10	0	7	10	7	10	7	10
SHARPNESS V	0	7	10	0	7	10	7	10	7	10

COLOR MODE	9									
ITEM	A	B	C	D	E	F	G	H	I	J
RED	30	30	30	30	30	30	30	30	30	30
GREEN	30	30	30	30	30	30	30	30	30	30
BLUE	30	30	30	30	30	30	30	30	30	30
GAMMA SELECT	1.95	1.95	1.95	1.95	1.95	1.95	1.95	1.95	1.95	1.95
SCAN SIZE HD	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF
SCAN SIZE SD	MODE2	MODE2	MODE2	MODE2	MODE2	MODE2	MODE2	MODE2	MODE2	MODE2
MONO	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF
PHASE	30	30	30	30	30	30	30	30	30	30
CHROMA	25	25	25	25	25	25	28	28	22	22
BRIGHT	30	30	30	30	30	30	30	30	30	30
CONTRAST	50	50	50	44	44	44	44	44	50	50
SHARPNESS MODE	HIGH	LOW	HIGH	HIGH	LOW	HIGH	LOW	HIGH	LOW	HIGH
SHARPNESS H	0	7	10	0	7	10	7	10	7	10
SHARPNESS V	0	7	10	0	7	10	7	10	7	10

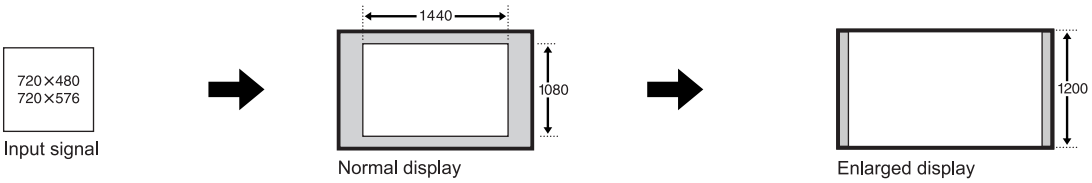
COLOR MODE	10									
ITEM	A	B	C	D	E	F	G	H	I	J
RED	30	30	30	30	30	30	30	30	30	30
GREEN	30	30	30	30	30	30	30	30	30	30
BLUE	30	30	30	30	30	30	30	30	30	30
GAMMA SELECT	WIDE	WIDE	WIDE	WIDE	WIDE	WIDE	WIDE	WIDE	WIDE	WIDE
SCAN SIZE HD	MODE7	MODE7	MODE7	MODE7	MODE7	MODE7	MODE7	MODE7	MODE7	MODE7
SCAN SIZE SD	MODE2	MODE2	MODE2	MODE2	MODE2	MODE2	MODE2	MODE2	MODE2	MODE2
MONO	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF
PHASE	30	30	30	30	30	30	30	30	30	30
CHROMA	30	30	30	30	30	30	33	33	27	27
BRIGHT	30	30	30	30	30	30	30	30	30	30
CONTRAST	50	50	50	44	44	44	44	44	50	50
SHARPNESS MODE	HIGH	LOW	HIGH	HIGH	LOW	HIGH	LOW	HIGH	LOW	HIGH
SHARPNESS H	0	7	10	0	7	10	7	10	7	10
SHARPNESS V	0	7	10	0	7	10	7	10	7	10

❍ SCAN SIZE screen mode

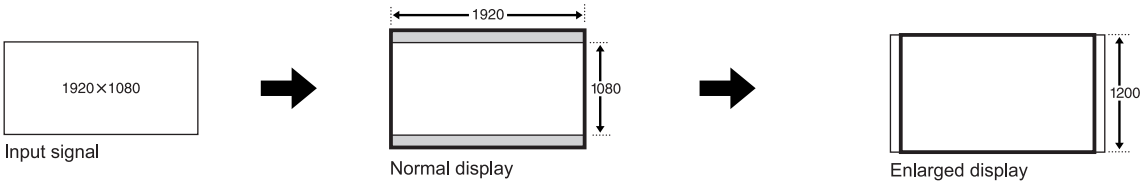
MODE1 Magnifies SD signal image to horizontal panel size (1920 pixels)



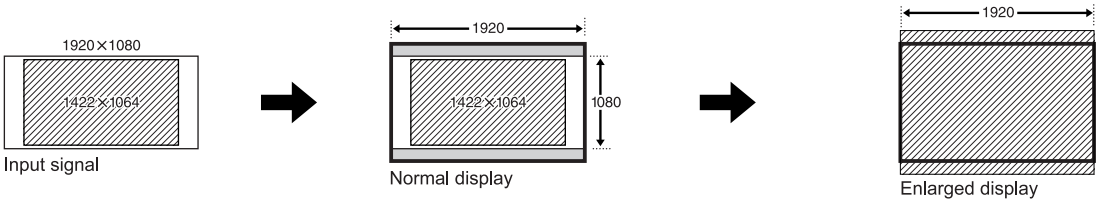
MODE2 Magnifies SD signal image to vertical panel size (1200 pixels)



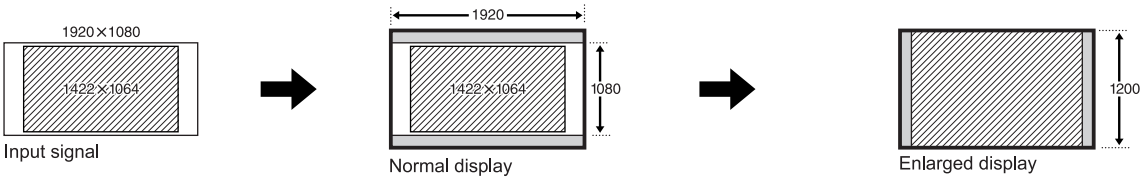
MODE3 Magnifies HD signal image to vertical panel size (1200 pixels)



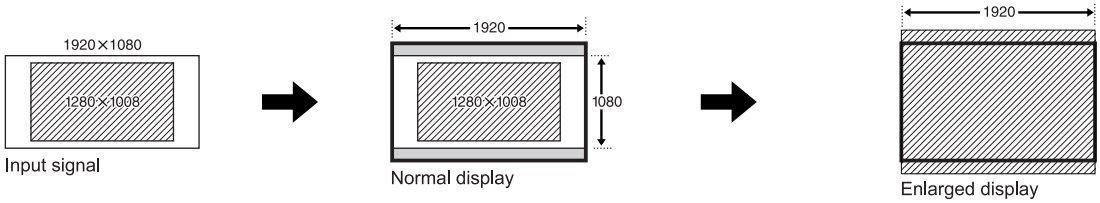
MODE4 Magnifies special area 1 (1422 × 1064) of an HD signal to horizontal panel size (1920).



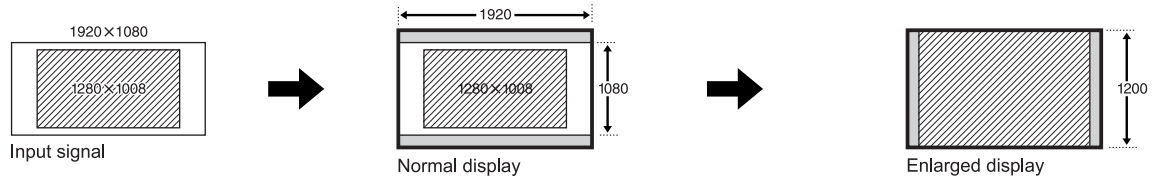
MODE5 Magnifies special area 1 (1422 × 1064) of an HD signal to vertical panel size (1200).



MODE6 Magnifies special area 2 (1280 × 1008) of an HD signal to horizontal panel size (1920).

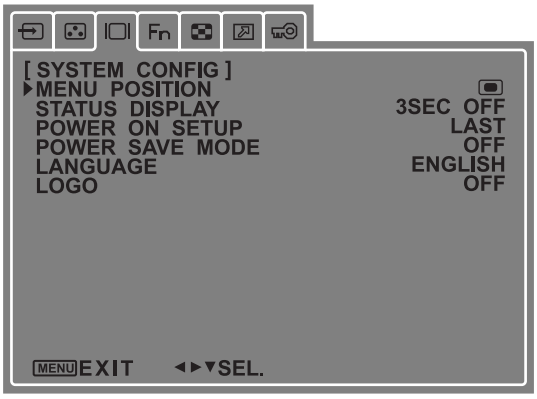


MODE7	Magnifies special area 2 (1280 × 1008) of an HD signal to vertical panel size (1200).



6.6 SYSTEM CONFIG

Use ◀ ▶ to select (SYSTEM tab) in the tabs and press ▼ to open the SYSTEM CONFIG submenu and make the desired settings.



Use ▲ ▼ to move the cursor up and down. Pressing ▲ when the cursor is at the top changes the cursor back to the tab selection. Pressing ▼ when the cursor is at the bottom moves the cursor to the top.

Operation

1. Press [ENTER] and the set submenu setting turns green.
2. Use ◀ ▶ to change the set value.

   Use [ENTER] to confirm the change; the submenu selection screen reappears.

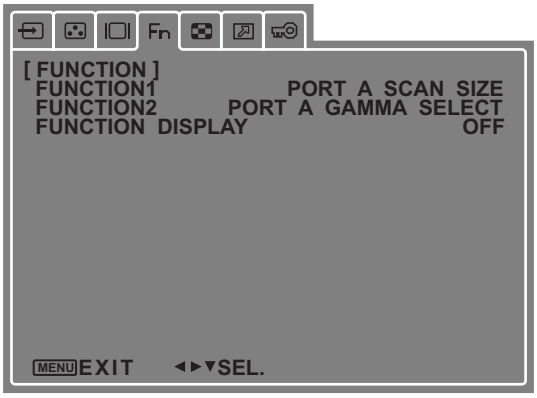
   Use [MENU] to cancel the change; the submenu selection screen reappears.

Submenu	Description
MENU POSITION	Positions the menu. Menu position can be changed to one of the following positions. •  (default value)..... Center of the screen •  ..... Top left of the screen •  ..... Top right of the screen •  ..... Bottom right of the screen •  ..... Bottom left of the screen
STATUS DISPLAY	Determines the time that information on input changes and signal input format information is displayed. • CONTINUE..... Always on • 3SEC OFF (default value) ..... A status change is displayed for about 3 seconds and then goes off. • OFF ..... Not displayed * The status display ( , ) is always on in FLIP mode also when 3SEC OFF is set. * The status display is always on when no input (NO SIGNAL) and input of an unsupported signal format (UNSUPPORT SIGNAL) in PIP or POP mode even when 3SEC or OFF is selected.
POWER ON SETUP	Selects the settings used when the monitor is turned on. • LAST (default value)..... Starts up in the settings used before the power was last turned off. • FACTORY..... Starts up in the factory default settings. • PRESET A – J..... Starts up using one of the preset A to J values. • USER 1 – 20 ..... Starts up in one of the recorded USER 1 – 20 values. This menu does not change when the power is turned on.
POWER SAVE MODE	Sets the power save mode. • OFF (default value) ..... Power save operation is not activated. • ON ..... The backlight dims when no signal (NO SIGNAL) lasts 60 seconds or longer. Signal input or front panel operation will restore the backlight to its normal brightness.

Submenu	Description	
LANGUAGE	Sets menu language.	
	• ENGLISH (default value).....	English
	• DEUTSCH.....	German
	• FRANÇAIS.....	French
	• 日本語	Japanese
	• ITALIANO.....	Italian
	• ESPAÑOL	Spanish
LOGO	Displays the logo at startup.	
	• OFF	Does not display
	• ON (default value).....	Displays logo

6.7 FUNCTION

Use ◀ ▶ to select Fn (FUNCTION tab) in the tabs and press ▼ to open the FUNCTION submenu and make the desired settings.



Use ▲ ▼ to move the cursor up and down. Pressing ▲ when the cursor is at the top changes the cursor back to the tab selection. Pressing ▼ when the cursor is at the bottom moves the cursor to the top.

Operation

1. Press [ENTER] and the set submenu setting turns green.
2. Use ◀ ▶ to change the set value.

   Use [ENTER] to confirm the change; the submenu selection screen reappears.

   Use [MENU] to cancel the change; the submenu selection screen reappears.

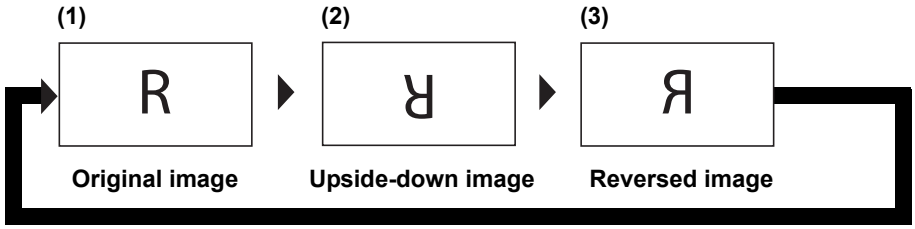
Submenu	Description
FUNCTION1	Selects a function to assign to the FUNCTION1 button. • AUTOSETUP...Performs auto setup of a PC display.*3 • PORT A MONO...Selects monochrome for the PORT A screen.*1 *3 *4 OFF → ON → OFF... • PORT B MONO...Selects monochrome for the PORT B screen.*1 *3 *4 OFF → ON → OFF... • FLIP...Switches the display.*1 *2 *3 Original image → Upside-down image → Reversed image... • PORT A GAMMA SELECT...Switches the gamma mode of the PORT A screen*1 *3 ENDOSCOPE → 1.8 → 1.95 → 2.0 → ... • PORT B GAMMA SELECT...Switches the gamma mode of the PORT B screen*1 *3 ENDOSCOPE → 1.8 → 1.95 → 2.0 → ... • POP DISPLAY POSITION...Selects the position of PORT A/B display in the POP mode.*1 *3 *5 MODE1 → MODE2 → MODE1... • UNDEF...Indicates no function has been assigned. Default value: PORT A GAMMA SELECT
FUNCTION2	Selects a function to assign to the FUNCTION2 button. FUNCTION2 allows you to assign the same functions as FUNCTION1. Default value: PORT B GAMMA SELECT
FUNCTION DISPLAY	Sets the information displayed when the FUNCTION1 – 2 buttons are pressed. Settings that are being changed appear in green. • OFF ..... Does not display assigned function. (Displays operating status.) • ON1 ..... Displays the assigned function when the FUNCTION button is pressed, executes this function and displays the operating status of this function. • ON2 (default value) ..... Displays the assigned function and its operating status when the FUNCTION button is pressed. Pressing the FUNCTION button again when the assigned function is displayed executes the assigned function.

∗1: Changes in settings change menu settings.
∗2: These functions are disabled when the control settings are in GPI mode.
∗3: When the same INPUT is selected for both PORT A/B, both PORT A/B comes available.
∗4: When signals input via RGB-COMP or HD15 is selected, “INVALID FUNCTION” appears to indicate that operation is disabled.
∗5: When POP is not selected, “INVALID FUNCTION” appears to indicate that operation is disabled.

Showing operation when the FUNCTION button (FLIP) is pressed

The display changes in the following order each time the FUNCTION button assigned the FLIP function is pressed.

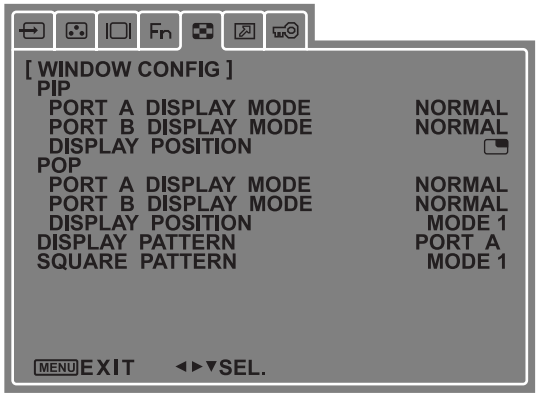
(1) Original image → (2) Upside-down image → (3) Reversed image → (1) Original image → .....



* The status display is always on when using the FLIP function.
* FLIP operations are disabled during dual-screen display.
* If the monitor is shut down during FLIP operation and the POWER ON SETUP setting is set to LAST, the status prevailing at shutdown is stored in memory.
* When the control lock is engaged, the key mark appears and operation is disabled.

6.8 WINDOW CONFIG

Use ◀ ▶ to select (WINDOW tab) in the tabs and press ▼ to open the WINDOW CONFIG submenu and make the desired settings.



Use ▲ ▼ to move the cursor up and down. Pressing ▲ when the cursor is at the top changes the cursor back to the tab selection. Pressing ▼ when the cursor is at the bottom moves the cursor to the top.

Operation

1. Press [ENTER] and the set submenu setting turns green.
2. Use ◀ ▶ to change the set value.

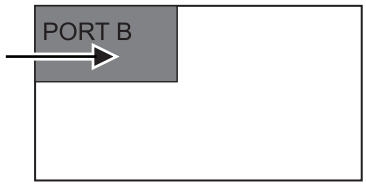
   Use [ENTER] to confirm the change; the submenu selection screen reappears.

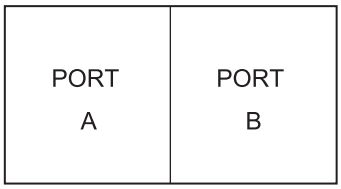
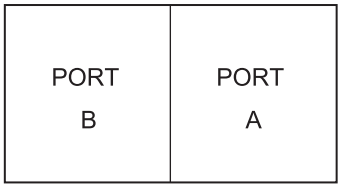
   Use [MENU] to cancel the change; the submenu selection screen reappears.

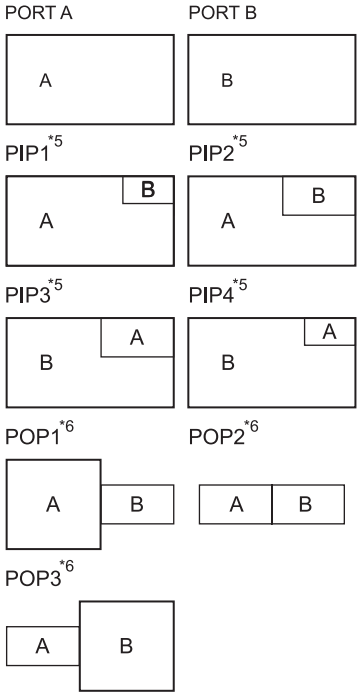
Submenu	Description
PIP (Picture in Picture)	In dual screen display, the PORT B screen appears in the PORT A screen.*1
PORT A DISPLAY MODE	Sets the PORT A small screen mode in PIP mode. • NORMAL (default value)...Normal screen display*2 • 4:3...Video reproduced from the input signal (aspect ratio 4:3)*3 • 5:4...Video reproduced from the input signal (aspect ratio 5:4)*3
PORT B DISPLAY MODE	Sets the PORT B small screen mode in PIP mode. • NORMAL (default value)...Normal screen display*2 • 4:3...Video reproduced from the input signal (aspect ratio 4:3)*3 • 5:4...Video reproduced from the input signal (aspect ratio 5:4)*3 • SQUARE...Video reproduced from the input signal.*3 Enabled when square pattern is selected.
DISPLAY POSITION	Sets the PORT B screen display position in PIP mode. •  (default value)..... Bottom left of the screen •  ..... Top left of the screen •  ..... Top right of the screen •  ..... Bottom right of the screen
POP (Picture out Picture)	In dual screen display, the PORT A screen appears to the left of the PORT B screen.

PIP screen

PIP screen



Submenu	Description	
PORT A DISPLAY MODE	Sets the PORT A screen mode in POP mode. • NORMAL...Normal screen display*4 • 4:3 (default value)...Video reproduced from the input signal (aspect ratio 4:3)*3 • 5:4...Video reproduced from the input signal (aspect ratio 5:4)*3	
PORT B DISPLAY MODE	Sets the PORT B screen mode in POP mode. • NORMAL (default value)...Normal screen display*4 • 4:3...Video reproduced from the input signal (aspect ratio 4:3)*3 • 5:4...Video reproduced from the input signal (aspect ratio 5:4)*3 • SQUARE...Video reproduced from the input signal (The screen is almost square in this aspect ratio)*3 Enabled when square pattern is selected.	
DISPLAY POSITION	Sets the PORT A and B screen display position in POP mode. • MODE1 (default value)...PORT A video appears on the left screen and the PORT B video on the right screen. • MODE2...PORT B video appears on the left screen and the PORT A video on the right screen.	An example showing POP DISPLAY position in MODE1.  An example showing POP DISPLAY position in MODE2. 

Submenu	Description	
DISPLAY PATTERN	Selects the pattern that appears on the panel when a USER file is loaded. ∗ The FLIP mode is not available when a PRESET file or USER file is loaded. ∗ The value of PRESET files cannot be changed. ∗ When change the value of USER files, save by the user in the SYSTEM CONFIG menu previously. PORT A (default value) PORT B PIP1 PIP2 PIP3 PIP4 POP1∗4 POP2∗4 POP3∗4	
SQUARE PATTERN	This function sets the display pattern when PORT B is set to SQUARE in PIP/POP mode. • MODE1 • MODE2 • MODE3 • MODE4 • MODE5	For details on patterns, see “SQUARE PATTERN”.

∗1: Each press of the PIP button switches the size of PORT A and PORT B screens (page 38).

∗2: The SCAN SIZE of the INPUT submenu for VIDEO CONFIG submenu input terminals is reflected.

∗3: This is limited to an 1080i (60 Hz/59.94 Hz/50 Hz) input signal or an 1080p (60 Hz/59.94 Hz/50 Hz) HD signal. Other input signals cannot reproduce this feature and results in a normal screen display.

∗4: In POP mode, the POP DISPLAY POSITION setting is also reflected.

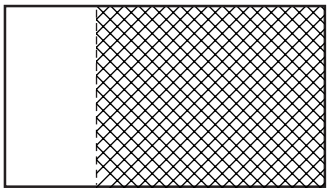
∗5: An example showing PIP DISPLAY POSITION at ▀ (the top right of the screen).

∗6: An example of POP DISPLAY POSITION in MODE1.

SQUARE PATTERN

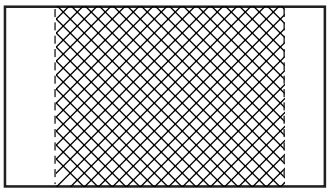
The first signal is displayed at (pixel 1, line 1) in the active area used by input signals. Thus (1, 1) and (1920, 1080) respectively indicate the top left corner and lower right corner of the monitor screen.

MODE1



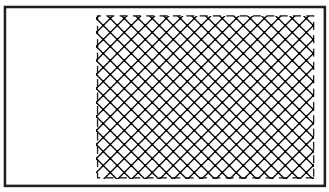
- Top left (544, 1)
- Bottom left (544, 1080)
- Top right (1920, 1)
- Bottom right (1920, 1080)

MODE2



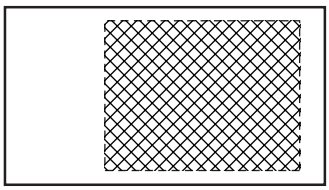
- Top left (320, 1)
- Bottom left (320, 1080)
- Top right (1682, 1)
- Bottom right (1682, 1080)

MODE3



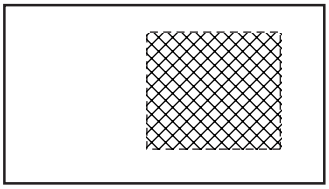
- Top left (521, 38)
- Bottom left (521, 1042)
- Top right (1819, 38)
- Bottom right (1819, 1042)

MODE4



- Top left (600, 98)
- Bottom left (600, 982)
- Top right (1780, 98)
- Bottom right (1780, 982)

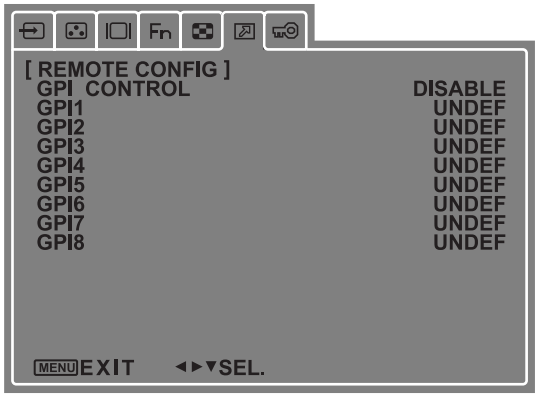
MODE5



- Top left (865, 177)
- Bottom left (865, 902)
- Top right (1643, 177)
- Bottom right (1643, 902)

6.9 REMOTE CONFIG

Use ◀ ▶ to select (REMOTE tab) in the tabs and press ▼ to open the REMOTE CONFIG submenu to make the desired settings.



Use ▲ ▼ to move the cursor up and down. Pressing ▲ when the cursor is at the top changes the cursor back to main menu tab selection. Pressing ▼ when the cursor is at the bottom moves the cursor to the top.

Operation

1. Press [ENTER] and the set submenu setting turns green.
2. Use ◀ ▶ to change the set value.

   Use [ENTER] to confirm the change; the submenu selection screen reappears.

   Use [MENU] to cancel the change; the submenu selection screen reappears.

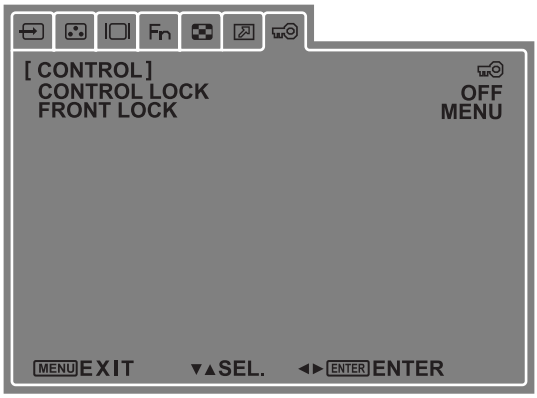
Submenu	Description
GPI CONTROL	Enables and disables GPI functions. • DISABLE...Disabled (default value) • ENABLE...Enabled GPI function operation: Enables and disables all GPI functions enabled by GPI ENABLE. Assigning a function to a Pin allows you to enable separate GPI control for each item. MENU operations are not available when this function is enabled. Operation is interlocked with GPI status.

Submenu	Description
GPI1-8	Assigns REMOTE control terminal pins. The same item can be set to each of the GPI terminals. For details, refer to the REMOTE specifications of the GPI terminal on page 75. • UNDEF (default value) • PORT A SCAN SIZE MODE3*1 • PORT A SCAN SIZE MODE5*1 • PORT A SCAN SIZE MODE7*1 • PORT B SCAN SIZE MODE3*1 • PORT B SCAN SIZE MODE5*1 • PORT B SCAN SIZE MODE7*1 • PIP • POP • FLIP • SELECT SYNC*1 • RED TALLY • GREEN TALLY • PORT A INPUT VIDEO • PORT A INPUT Y/C • PORT A INPUT RGB/YP_BP_R • PORT A INPUT HD15 • PORT A INPUT SDI1 • PORT A INPUT SDI2 • PORT A INPUT DVI-D1 • PORT A INPUT DVI-D2 • PORT B INPUT VIDEO • PORT B INPUT Y/C • PORT B INPUT RGB/YP_BP_R • PORT B INPUT HD15 • PORT B INPUT SDI1 • PORT B INPUT SDI2 • PORT B INPUT DVI-D1 • PORT B INPUT DVI-D2

∗1: When the same INPUT is selected for both PORT A and B, both PORT A and B comes available.

6.10 CONTROL

Use ◀ ▶ to select (CONTROL tab) in the tabs and press ▼ to open the CONTROL submenu and make the desired settings.



Use ▲ ▼ to move the cursor up and down. Pressing ▲ when the cursor is at the top changes the cursor back to main menu tab selection. Pressing ▼ when the cursor is at the bottom moves the cursor to the top.

Operation

1. Press [ENTER] and the set submenu setting turns green.
2. Press ▼ to select and then use ◀ ▶ to change the set value.

   Use [ENTER] to confirm the change; the submenu selection screen reappears.

   Use [MENU] to cancel the change; the submenu selection screen reappears.

Submenu	Description	
CONTROL LOCK	Determines operation.*1	
	• ON (default value).....	Front panel operation is locked (selects the locked operation in FRONT LOCK)
	• OFF.....	Front panel operation enabled
FRONT LOCK	Selects the locked operation of front panel.*2	
	• MENU (default value).....	Operation of MENU button is locked. The menu can be displayed, but the value cannot be changed except CONTROL.
	• ALL.....	Operation of all front panel button is locked, except CONTROL.

∗1: The menu can be displayed when the control lock is engaged.

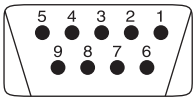
∗2: Selecting MENU, the key mark is displayed in each submenu. Selecting ALL, the key mark is displayed for STATUS, FUNCTION, MENU, INPUT and PRESET.

Chapter 7 REMOTE Specifications

This monitor permits REMOTE operation via GPI input terminal.

7.1 GPI terminals

GPI screen items correspond to the following terminals. Use the REMOTE CONFIG submenu to assign functions to each terminal (page 71).
The functions assigned to each terminal operate when GND (pin 5) is connected (ON) or open (OFF).



GPI input terminal (9P)

Pin number	Signal
1	GPI1
2	GPI2
3	GPI3
4	GPI4
5	GND
6	GPI5
7	GPI6
8	GPI7
9	GPI8

Operating conditions

Level operation: Operates when GND is connected.

Edge operation: Operates when GND changes from open to connected or from connected to open.

* If you have assigned a level operation function to more than one terminal, the function operates as long as one of the terminals is connected. The period between open and connected for edge operation should last longer than 200 ms.

Assigned item	Function	Operating conditions
UNDEF	No setting (no function assigned)	–
PORT A SCAN SIZE MODE3	Switches PORT A scan size.	Level operation:*4 Connected: MODE3, Open: OFF
PORT A SCAN SIZE MODE5	Switches PORT A scan size.	Level operation:*4 Connected: MODE5, Open: OFF
PORT A SCAN SIZE MODE7	Switches PORT A scan size.	Level operation:*4 Connected: MODE7, Open: OFF

Assigned item	Function	Operating conditions
PORT B SCAN SIZE MODE3	Switches PORT B scan size.	Level operation:*4 Connected: MODE3, Open: OFF
PORT B SCAN SIZE MODE5	Switches PORT B scan size.	Level operation:*4 Connected: MODE5, Open: OFF
PORT B SCAN SIZE MODE7	Switches PORT B scan size.	Level operation:*4 Connected: MODE7, Open: OFF
PIP	Switches the PIP mode.	Edge operation:*3 Switches screen modes: PORT A → PIP1 → PIP2 → ...
POP	Switches the POP mode.	Edge operation:*3 Switches screen modes: PORT A → POP1 → POP2 → ...
FLIP	Switches the FLIP mode.	Edge operation:*3 Switches screen modes: Normal → Upside-down → Reverse → ...
SELECT SYNC	Switches synch signals.	Level operation: Connected: EXT, Open: G-ON
RED TALLY	Lights the red tally.	Level operation: Connected: ON, Open: OFF*1
GREEN TALLY	Lights the green tally.	Level operation: Connected: ON, Open: OFF*1
PORT A INPUT VIDEO	Switches PORT A input system to VIDEO.	Level operation: Connected: ON, Open: OFF*2
PORT A INPUT Y/C	Switches PORT A input system to Y/C.	Level operation: Connected: ON, Open: OFF*2
PORT A INPUT RGB/YP_BP_R	Switches PORT A input system to RGB/YP_BP_R.	Level operation: Connected: ON, Open: OFF*2
PORT A INPUT HD15	Switches PORT A input system to HD15.	Level operation: Connected: ON, Open: OFF*2
PORT A INPUT SDI1	Switches PORT A input system to SDI1.	Level operation: Connected: ON, Open: OFF*2
PORT A INPUT SDI2	Switches PORT A input system to SDI2.	Level operation: Connected: ON, Open: OFF*2
PORT A INPUT DVI-D1	Switches PORT A input system to DVI-D1.	Level operation: Connected: ON, Open: OFF*2

Assigned item	Function	Operating conditions
PORT A INPUT DVI-D2	Switches PORT A input system to DVI-D2.	Level operation: Connected: ON, Open: OFF∗2
PORT B INPUT VIDEO	Switches PORT B input system to VIDEO.	Level operation: Connected: ON, Open: OFF∗2
PORT B INPUT Y/C	Switches PORT B input system to Y/C.	Level operation: Connected: ON, Open: OFF∗2
PORT B INPUT RGB/YP_BP_R	Switches PORT B input system to RGB/YP_BP_R.	Level operation: Connected: ON, Open: OFF∗2
PORT B INPUT HD15	Switches PORT B input system to HD15.	Level operation: Connected: ON, Open: OFF∗2
PORT B INPUT SDI1	Switches PORT B input system to SDI1.	Level operation: Connected: ON, Open: OFF∗2
PORT B INPUT SDI2	Switches PORT B input system to SDI2.	Level operation: Connected: ON, Open: OFF∗2
PORT B INPUT DVI-D1	Switches PORT B input system to DVI-D1.	Level operation: Connected: ON, Open: OFF∗2
PORT B INPUT DVI-D2	Switches PORT B input system to DVI-D2.	Level operation: Connected: ON, Open: OFF∗2

∗1: When the “RED TALLY” and “GREEN TALLY” simultaneously go on, the tally color changes to orange.

∗2: Priority of assigned functions:
When multiple items go on simultaneously during level operation in GPI MODE, items higher up on the above list have priority.
For example, input systems are switched in the following order.
VIDEO → Y/C → RGB/YP_BP_R → HD15 → SDI1 → SDI2 → DVI-D1 → DVI-D2 → VIDEO → ...

∗3: When the operating condition is an edge operation, the order the equipment is started up may sometimes make startup values unstable.

∗4: These modes have the following priority: MODE3 > MODE7 > MODE5.

❍ Operating conditions

For information on the operating conditions of PIP, POP and FLIP control, see the operating conditions for each respective item.

Chapter 8 Care, Storage, and Disposal

8.1 Care

WARNING

- After wiping with a piece of moistened gauze, dry the monitor before using it again. If it is used while still wet, there is the risk of an electric shock.
- When cleaning the monitor, always wear appropriate personal protection equipment. Blood, mucus and other potentially infectious material adhering to the monitor could pose an infection control risk.

CAUTION

- Do not clean terminals and AC inlets. Contact with cleaning liquid may result in deformation or corrosion leading to contact failure or equipment breakdown.
- Do not autoclave or gas sterilize the monitor. These methods will damage it.
- Do not wipe the external surface with hard or abrasive wiping material. The screen and the panels will be scratched.

If the monitor is soiled, perform the following cleaning procedure immediately after use. If cleaning is delayed, residual organic debris will begin to solidify, and it may be difficult to effectively clean the monitor. The monitor should also be cleaned routinely.

1. Turn the monitor Off and disconnect the power cord from the wall mains outlet or from a power connector on a mobile workstation.
2. Should the equipment become soiled with blood or other potentially infectious materials, first wipe off all gross debris using a neutral detergent, then wipe with a lint-free cloth moistened with a surface disinfectant.
3. Wipe the surface of the monitor using a soft, lint-free cloth moistened with 70% ethyl or isopropyl alcohol to remove dust, dirt, etc.
4. Dry the monitor with a clean, lint-free cloth.

8.2 Storage

CAUTION

Do not store the monitor in a location exposed to direct sunlight, X-rays, radioactivity or strong electromagnetic radiation (e.g., near microwave medical treatment equipment, short-wave medical treatment equipment, MRI equipment, radio or mobile phones). Damage to the monitor may result.

1. Turn the monitor OFF and disconnect the power cord.
2. Disconnect all cables connected to the monitor.
3. Store the monitor at room temperature in the horizontal in a clean, dry and stable location.

8.3 Disposal

When disposing of this monitor or any of its components, follow all applicable national and local laws and guidelines.

Chapter 9 Inspections

Periodic maintenance inspections are essential to keep the monitor in optimum condition and ensure safe operation. Be sure to conduct periodic maintenance inspections to enable long-term, full use of all of its functions.

Necessity of periodic maintenance service

The backlight in the LCD panel is a consumable component that deteriorates over time, leading to gradual loss of performance that could eventually result in a malfunction. Conventional after-sales service that replaces parts when they malfunction should therefore be combined with a regularly conducted comprehensive service plan to maintain normal operation and prevent unforeseen problems with the equipment.

Chapter 10 Troubleshooting

If the monitor is visibly damaged, does not function as expected or is found to have irregularities during the inspection described in Chapter 4, “Inspection and Setup Before Use” and Chapter 3, “Installation and Connection”, do not use the monitor and contact Olympus. Some problems that appear to be malfunctions may be correctable by referring to Section 10.1, “Troubleshooting guide”. If the problem cannot be resolved by the described remedial action, stop using the monitor and contact Olympus.

DANGER

Never use the monitor if an abnormality is suspected. Damage or irregularity in the instrument may compromise patient or user safety and may result in more severe equipment damage.

10.1 Troubleshooting guide

The following table shows the possible causes of and countermeasures against troubles that may occur due to equipment setting errors or deterioration of consumables.
Troubles or failures other than those listed in the following table need repair. As repair performed by persons who are not qualified by Olympus could cause patient or user injury and/or equipment damage, be sure to contact Olympus for repair.

WARNING

If an abnormality is suspected, turn the monitor Off once and turn it On again. If the abnormality cannot be solved, turn the monitor Off and disconnect the power cord to stop the flow of electricity completely.

Malfunction	Cause	Remedy
The monitor does not power up.	The power cord is not connected.	Connect the power cord as described in the instructions page 24.
	The DC cord is not connected.	Connect the DC cord as described in the instructions on page 24.
	The AC adapter has not been powered up.	Power up the AC adapter.
	The mobile workstation has not been powered up.	Power up the mobile workstation.
No image	The video system center has not been powered up.	Power up the video system center.
	The button for switching input signals has been incorrectly set.	Use the INPUT button on the front panel to select an appropriate terminal.
	The monitor cable has not been connected.	Connect the monitor cable.
	The monitor cable is damaged.	Replace the broken monitor cable with a new cable and connect it.
Monitor settings cannot be changed.	CONTROL LOCK is set to ON.	Cancel the lock according to the instructions on page 73.
The monitor cannot be remote controlled.	The monitor remote cable has not been connected.	Connect the remote cable.
	The monitor remote cable is damaged.	Replace the broken monitor remote cable with a new cable and connect it.
“NO SIGNAL” appears at the top left of the screen.	The video system center has not been powered up.	Power up the video system center.
	The button for switching input signals has been incorrectly set.	Use the INPUT button on the front panel to select an appropriate terminal.
	The monitor cable has not been connected.	Connect the monitor cable.
	The monitor cable is damaged.	Replace the broken monitor cable with a new cable and connect it.
“UNSUPPORT SIGNAL” appears at the top left of the screen.	The button for switching input signals has been incorrectly set.	Use the INPUT button on the front panel to select an appropriate terminal.
No SDI image	The button for switching input signals has been incorrectly set.	Use the INPUT button on the front panel to select “SDI1” or “SDI2”.
	The cable has not been connected.	Connect a cable to the SDI input terminal.
No image and the tally flashes orange.	This symptom may be caused by a malfunctioning LCD panel backlight or inverter circuit.	Turn the power monitor off, wait 10 seconds or more and turn the power on again. If the abnormality cannot be solved, contact Olympus.

10.2 Returning the monitor for repair

CAUTION

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

When returning the monitor for repair, contact Olympus. With the monitor, include a description of the malfunction or damage and the name and telephone number of the individual at your location who is most familiar with the problem. Include a repair purchase order.

Appendix

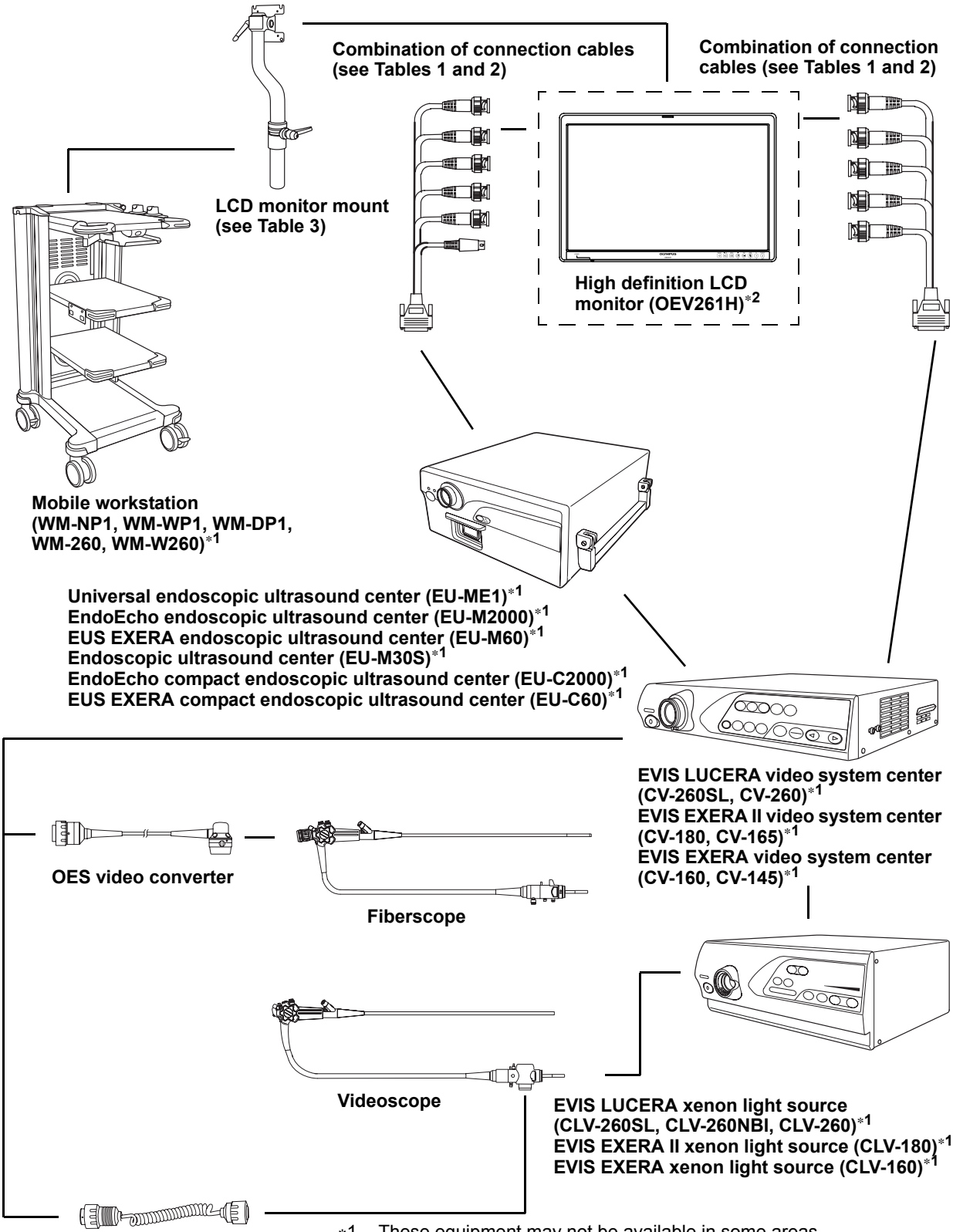
System chart

The recommended combinations of equipment that can be used with this monitor are listed below. New products released after the introduction of this monitor may also be compatible for use in combination with it. For further details, contact Olympus.

WARNING

If combinations of equipment other than those shown below are used, the full responsibility is assumed by the medical treatment facility.

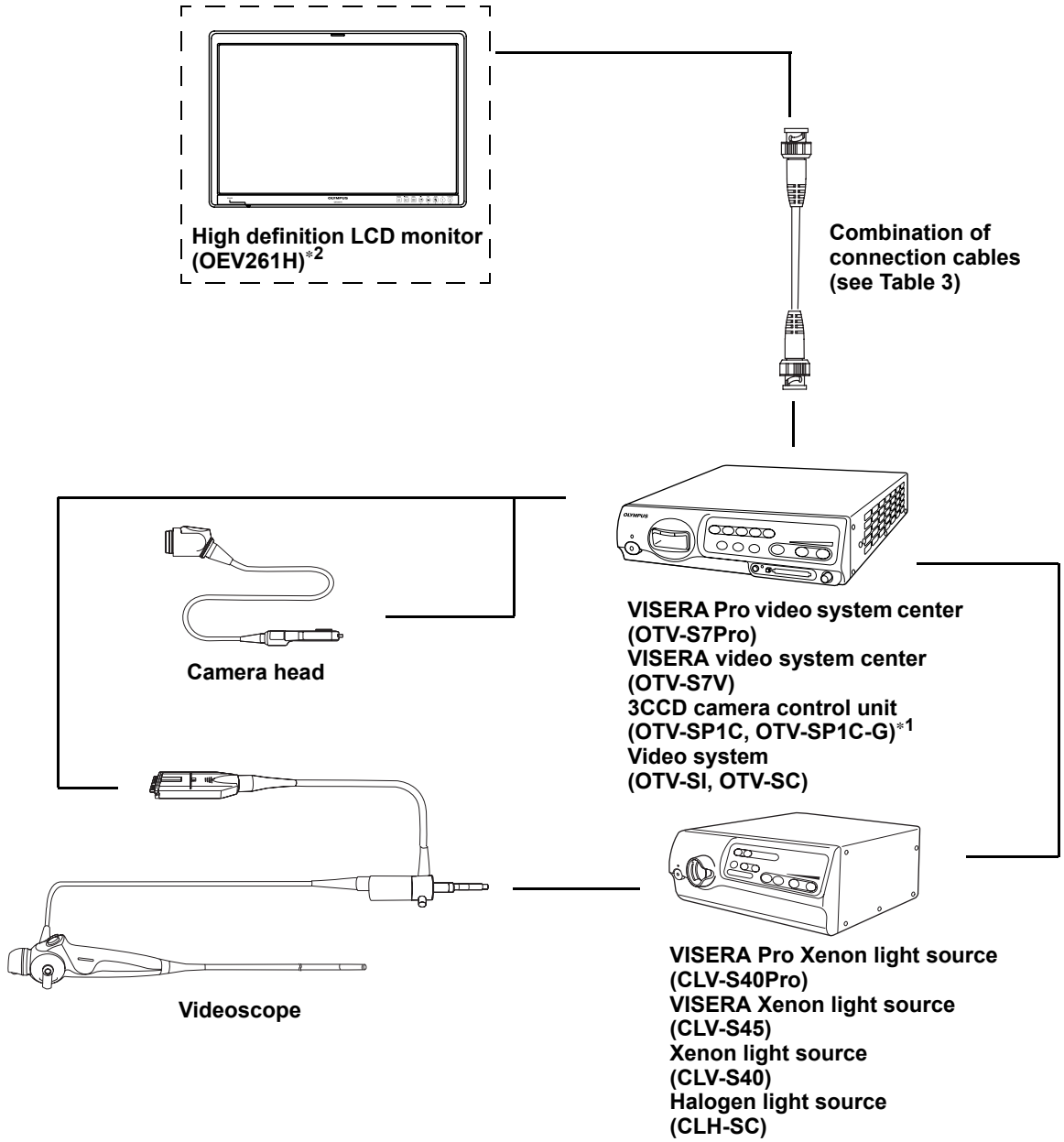
EVIS video system chart



∗1 These equipment may not be available in some areas.

∗2 This product enclosed with the dotted line conforms to EMC (Ed.3).

Camera control unit system chart



*1 These equipment may not be available in some areas.

*2 This product enclosed with the dotted line conforms to EMC (Ed.3).

Connection cables for OEV261H (Video system centers CV-260SL, CV-260, CV-180, CV-165, CV-160, CV-145, endoscopic ultrasound centers EU-ME1, EU-M2000, EU-M60, EU-M30S, EU-C2000 and EU-C60)

	Video cables							
	HDTV monitor cable MAJ-1160 (4 m), MAJ-1228 (1.5 m), MAJ-1229 (7 m), MAJ-1587 (2 m)	**Monitor cable MAJ-846 (7 m), MAJ-971 (15 m)**	**Monitor cable MAJ-921 (1.5 m), MAJ-970 (4 m)**	**Monitor cable MAJ-1462 (7 m), MAJ-1584 (15 m), MAJ-1586 (2 m)**	**RGB cable MAJ-686 (1.5 m)**	**Y/C cable MH-985 (3 m)**	**BNC video cable MB-677 (1.5 m), MB-672 (1 m)**	**SDI cable MAJ-1464 (22 m)**
EVIS video system center CV-260SL, CV-260 (A)	○	○	○	–	–	–	–	–
EVIS video system center CV-260 (B), CV-160, CV-145	–	○	○	–	–	–	–	–
EVIS video system center CV-180	–	–	○	○	–	–	–	○
EVIS video system center CV-165	–	○	○	○	–	–	–	–
Endoscopic ultrasound center EU-ME1	–	○	○	○	–	–	–	–
Endoscopic ultrasound center EU-M2000, EU-M60	–	○	○	–	–	–	–	–
Endoscopic ultrasound center EU-M30S	–	–	–	–	○	○	○	–
Compact endoscopic ultrasound center EU-C2000, EU-C60	–	–	–	–	–	–	○	–

○ compatible – not compatible

Table 1

Connection cable for OEV261H (Video system centers CV-260SL, CV-260, CV-180, CV-165, CV-160, CV-145, endoscopic ultrasound centers EU-M2000, EU-M60, EU-M30S, EU-C2000 and EU-C60)

	Remote cable	
	HDTV monitor remote cable MAJ-1161 (4 m), MAJ-1230 (7 m)	**HDTV monitor remote cable MAJ-1465 (15 m)**
EVIS video system center CV-260SL, CV-260 (A)	○	–
EVIS video system center CV-260 (B), CV-160, CV-145	○	–
EVIS video system center CV-180	○	○
EVIS video system center CV-165	○	–
Endoscopic ultrasound center EU-ME1	–	–
Endoscopic ultrasound center EU-M2000, EU-M60	–	–
Endoscopic ultrasound center EU-M30S	–	–
Compact endoscopic ultrasound center EU-C2000, EU-C60	–	–

○ compatible – not compatible

Table 2

LCD monitor mount (Mobile workstations WM-NP1, WM-WP1, WM-DP1, WM-260 and WM-W260)

	LCD monitor mount		
	MAJ-136	**MAJ-181**	**MAJ-1604**
Mobile workstation WM-NP1, WM-WP1, WM-DP1	–	○	–
Mobile workstation WM-260, WM-W260	○	–	○

○ compatible – not compatible

Table 3

Connection cables for OEV261H (Video system centers OTV-S7Pro, OTV-S7V, camera control units OTV-SPIC and OTV-SPIC-G, video system OTV-SI, OTV-SC)

	Video cables					
	Monitor cable MAJ-1462 (7 m), MAJ-1584 (15 m), MAJ-1586 (2 m)	**Monitor cable MAJ-921 (1.5 m), MAJ-970 (4 m)**	**RGB cable MH-984 (3 m), MAJ-1592 (1.5 m)**	**Y/C cable MH-985 (3 m)**	**BNC cable MB-677 (1.5 m)**	**SDI cable MAJ-1464 (22 m)**
VISERA Pro video system center OTV-S7Pro	○	○	–	–	–	○
VISERA video system center OTV-S7V	–	–	○	○	○	–
3CCD camera control unit OTV-SPIC, OTV-SPIC-G	–	–	○	○	○	–
Video system OTV-SI, OTV-SC	–	–	–	○	○	–

○ compatible – not compatible

Table 4

Transportation, storage, and operation environment/specifications

General

Dimensions (W × H × D):	
LCD monitor	599 × 410 × 100 mm
AC adapter	232 × 50.5 × 177 mm (standard) 232 × 50.5 × 183 mm (maximum)
Weight:	LCD monitor approx. 8.9 kg (19.6 lb)
	AC adapter approx. 1.7 kg (3.7 lb)
Operating temperature:	+10 to +40 °C (+50 to +104°F)
Operating humidity:	30 – 85% (without condensation)
Atmospheric pressure:	700 – 1060 hPa
Operating Maximum altitude	2000 m (6562 ft)
Overvoltage category II	(IEC 60664-1)
Pollution degree 2	(IEC 60664-1)
Storage temperature:	–20 to +60°C (–4 to +140°F)
Storage humidity:	10 – 90%
Storage pressure:	700 – 1060 hPa

- **LCD monitor (OEV261H)**

Power supply:	24 V DC, 5A 5 V DC, 0.03A

- **AC adapter**

AC IN:	100 – 240 V, 50/60 Hz, 1.6 – 0.6 A
DC OUT:	24 V 5.0 A, 5 V 0.03 A

❍ Display panel

LCD panel:	a-Si TFT active matrix
Size:	26 inches
Aspect ratio:	16:10
Number of pixels:	1920 × 1200 (WUXGA)
Display colors:	Approx. 1,677 million colors
View angle:	178° both vertically and horizontally (Contrast ratio 10:1 or better)

❍ Input/output connectors

Input

Video signal input:

VIDEO input terminal	BNC (×1)
Y/C input terminal signal format	4-pin mini-DIN (×1)
Analog RGB + SYNC/HD + VD/YP_BP_R	
Input terminal	BNC (×5)
	RGB
	SYNC signal level: 0.3 – 4.0 Vp-p
	HD VD signal level: TTL level
	YP_BP_R
SDI1, 2 input terminal	BNC (×2) HD SDI SD SDI
HD15 input terminal	D-SUB 15-pin (×1)
DVI-D1, 2 input terminal	TMDS single link
	HDCP compatible
	Vertical frequency: 50.0 – 60.0 Hz
	Horizontal frequency: 31.5 – 67.5 kHz
	Dot clock: 25 – 165 MHz

Control signal input:

GPI input	D-SUB 9-pin × 1
RS-232C input	D-SUB 9-pin × 1

Output	
Video signal output:	
VIDEO output terminal	BNC (×1) loop through, with automatic 75 Ω termination
Y/C output terminal	4-pin mini-DIN (×1) active through out
YP_BP_R/RGB output terminal	BNC (×3) loop through, with automatic 75 Ω termination
SYNC/HD output terminal	BNC (×1) loop through, with automatic 1 kΩ termination
VD output terminal	BNC (×1) loop through, with automatic 1 kΩ termination
SDI1, 2 output terminal	BNC (×2) active through out
HD15 output terminal	D-SUB 15-pin (×1) switched out
DVI-D1, 2 output terminal	DVI-D (×2) switched out
DC power supply output:	DC OUT 5 V, 1 A
Storage of settings	Settings are stored if LAST is selected as the value of [POWER ON SETUP] in SYSTEM CONFIG submenu when the power switch is turned off.

Year of manufacture	**7501234**	The year of manufacture is the second digit of the serial number.
Medical Devices Directive	CE	This device complies with the requirements of Directive 93/42/EEC concerning medical devices. Classification: Class I
WEEE Directive		In accordance with European Directive 2002/96/EC on Waste Electrical and Electronic Equipment, this symbol indicates that the product must not be disposed of as unsorted municipal waste, but should be collected separately. Refer to your local Olympus distributor for return and/or collection systems available in your country
EMC	**Applied standards;** **IEC 60601-1-2: 2001** **IEC 60601-1-2: 2007**	This instrument complies with the standards listed in the left column. CISPR 11 of emission: Group 1, Class B This instrument complies with the EMC standard for medical electrical equipment; edition 2 (IEC 60601-1-2: 2001) and edition 3 (IEC 60601-1-2: 2007). However, when connecting to an instrument that complies with the EMC standard for medical electrical equipment; edition 1 (IEC 60601-1-2: 1993), the whole system complies with edition 1.

EMC information

This model is intended for use in the electromagnetic environments specified below. The user and the medical staff should ensure that it is used only in these environments.

❍ Magnetic emission compliance information and recommended electromagnetic environments

Emission standard	Compliance	Guidance
RF emissions CISPR 11	Group 1	This instrument uses RF (Radio Frequency) energy only for its internal function. Therefore, its RF emissions are very low and are not likely to cause any interference in nearby electronic equipment.
Radiated emissions CISPR 11	Class B	This instrument's RF emissions are very low and are not likely to cause any interference in nearby electronic equipment.
Main terminal conducted emissions CISPR 11		
Harmonic emissions IEC 61000-3-2	Class A	This instrument's harmonic emissions are low and are not likely to cause any problem in the typical commercial power supply connected to this instrument.
Voltage fluctuations/flicker emissions IEC 61000-3-3	Complies	This instrument stabilizes its own radio variability and has no effect such as flicker in lighting apparatus.

❍ Electromagnetic immunity compliance information and recommended electromagnetic environments

Immunity test	IEC 60601-1-2 test level	Compliance level	Guidance
Electrostatic discharge (ESD) IEC 61000-4-2	Contact: ±2, ±4, ±6 kV Air: ±2, ±4, ±8 kV	Same as left	Floors should be made of wood, concrete, or ceramic tile that hardly produces static. If floors are covered with synthetic material that tends to produce static, the relative humidity should be at least 30%.
Electrical fast transient/burst IEC 61000-4-4	±2 kV for power supply lines ±1 kV for input/output lines	Same as left	Mains power quality should be that of a typical commercial (original condition feeding the facilities) or hospital environment.
Surge IEC 61000-4-5	Differential mode: ±0.5, ±1 kV Common mode: ±0.5, ±1, ±2 kV	Same as left	Mains 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 61000-4-11	< 5% U_T (> 95% dip in U_T) for 0.5 cycle	Same as left	Mains power quality should be that of a typical commercial or hospital environment. If the user of this instrument requires continued operation during power mains interruptions, it is recommended that this instrument be powered from an uninterruptible power supply or a battery.
	40% U_T (60% dip in U_T) for 5 cycle		
	70% U_T (30% dip in U_T) for 25 cycle		
	< 5% U_T (> 95% dip in U_T) for 5 seconds		
Power frequency (50/60 Hz) magnetic field IEC 61000-4-8	3 A/m	Same as left	It is recommended to use this instrument by maintaining enough distance from any equipment that operates with high current.

NOTE

U_T is the AC mains power supply prior to application of the test level.

❍ Cautions and recommended electromagnetic environment regarding portable and mobile RF communications equipment, such as cellular phones

Immunity test	IEC 60601-1-2 test level	Compliance level	Guidance
Conducted RF IEC 61000-4-6	3 Vrms (150 kHz – 80 MHz)	3 V (V_1)	Formula for recommended separation distance (V_1=3 according to the compliance level) $d = \left[\frac{3,5}{V_1}\right]\sqrt{P}$
Radiated RF IEC 61000-4-3	3 V/m (80 MHz – 2.5 GHz)	3 V/m (E_1)	Formula for recommended separation distance (E_1=3 according to the compliance level) $d = \left[\frac{3,5}{E_1}\right]\sqrt{P}$ 80 MHz – 800 MHz $d = \left[\frac{7}{E_1}\right]\sqrt{P}$ 800 MHz – 2.5 GHz

NOTE

- 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).
- This instrument complies with the requirements of IEC 60601-1-2: 2001 and IEC 60601-1-2: 2007. However, under an electromagnetic environment that exceeds its noise level, electromagnetic interference may occur on this instrument.
- Electromagnetic interference may occur on this instrument near a high-frequency electrosurgical equipment and/or other equipment marked with the following symbol:

❍ Recommended separation distance between portable and mobile RF communications equipment and this instrument

Rated maximum output power of transmitter P (W)	Separation distance according to frequency of transmitter (m) (calculated as V_1=3 and E_1=3)		
	150 kHz – 80 MHz	80 MHz – 800 MHz	800 MHz – 2.5 GHz
	$d = 1{,}2\sqrt{P}$	$d = 1{,}2\sqrt{P}$	$d = 2{,}3\sqrt{P}$
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

NOTE

The guidance may not apply in some situations.
Electromagnetic propagation is affected by absorption and reflection from structures, objects, and people.
Portable and mobile RF communications equipment such as cellular phones should be used no closer to any part of this instrument, including cables than the recommended separation distance calculated from the equation applicable to the frequency of the transmitter.

Maintenance

Olympus recommends having Olympus endoscopic equipment (endoscopes, reprocessors, light sources etc.) inspected by an Olympus certified service technician at least once a year, to maintain the proper function of the equipment.

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