



MODEL

**HLM-3250W**

FULL HD MULTI FORMAT  
LCD COLOR MONITOR

# OPERATION MANUAL

**Ikegami**





The lightning flash with arrowhead inside a triangle is intended to warn the user that parts inside the product are dangerous and many cause electric hazards.



The exclamation mark inside a triangle is intended to inform users that important operating and servicing instructions are provided with the equipment.

**WARNING: FOR CONTINUED SAFETY, REPLACE SAFETY CRITICAL COMPONENTS ONLY WITH MANUFACTURE'S RECOMMENDED PARTS (REFER TO SERVICE LITERATURE).**

**DECLARATION of CONFORMITY:**

The "CE" mark means the products as mentioned below will meet the intent of the following Directives and Standards.

Inrush current according to EN55103-1 Annex B is as follows.

HLM-3250W: 17.4 A

**Directives** : 93/68/EEC, 2004/108/EC, 92/31/EEC for EMC (electromagnetic compatibility)  
2006/95/EC for Low voltage (Safety)

**Standards** : HLM-3250W : EN55103-1-E4, EN55103-2-E4, EN60950-1

**WARNING: TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT EXPOSE THIS EQUIPMENT TO RAIN OR WATER.**

**Instructions for Disposal of Electric and Electronic Equipment in Private Household**



**Disposal of used Electric and Electronic Equipment**

**(Applicable in the European Union and other European countries with separate collection systems)**

This symbol on the product, or in the related documents in the package, indicates that this product shall not be treated as normal household waste. Instead, it should be taken to a proper applicable collection point or depot for the recycling of electric and electronic equipment.

By ensuring this product is disposed of correctly, you will help prevent possible negative consequences for the environment and human health, which could otherwise be caused by inappropriate waste handling of this product. The recycling of materials will help to conserve natural resources.

For more detailed information about recycling of this product, please contact your local city authority, your household waste disposal service or the place where you purchased the product.

**NOTE:**

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

**CAUTION;**

**ANY CHANGES OR MODIFICATIONS NOT EXPRESSLY APPROVED BY THE PART RESPONSIBLE FOR COMPLIANCE COULD VOID THE USERS AUTHORITY TO OPERATE THE EQUIPMENT.**

# IMPORTANT SAFETY INSTRUCTIONS

## 1. General

- 1) Read all instructions provided.
- 2) Save these instructions for future use.
- 3) Follow all warnings and instructions marked on the television equipment.
- 4) Never insert objects of any kind into this television monitor through cabinet slots as they may come in contact with dangerous voltage points or short out parts, resulting in fire or electric hazards, Never spill liquid of any kind on the television monitor.
- 5) Do not attempt to service this television monitor yourself as operating or removing covers many expose you to dangerous voltage or other hazards, Refer all servicing to qualified service personnel.
- 6) Do not use attachments not recommended by the television equipment manufacturer as they may result in the risk of fire, electric shock, or injury to persons.
- 7) This television monitor has been preadjusted to meet the respective broadcasting standard signals. So, it cannot be used with the signals of different broadcasting standards.
- 8) When keeping or transporting the unit for a long time, pack it in the supplied carton or equivalent.

## 2. Power supply

- 1) This television equipment should be operated only from the type of power source indicated on the marking label.
- 2) This television equipment is provided with a three-wire grounding type plug with a third (grounding) pin. This plug will only fit into a grounding-type power outlet. This is a safety feature. If you are unable to insert the plug into the outlet, contact your electrician to replace your obsolete outlet.  
Do not defeat the safety purpose of the grounding-type plug.

- 3) When connecting and disconnecting the power cable, be sure to hold the plug.
- 4) Do not allow anything to rest on the power cord. Do not place this television equipment where the cord will be abused by persons walking on it.
- 5) For added protection for this television equipment during a lightning storm, or when it is left unattended and unused for long periods of time, unplug it from the wall outlet. This will prevent damage to the equipment due to lightning and power-line surges.
- 6) Do not overload wall outlets and extension cords as this can result in fire or electric shock.

## 3. Usage and location

- 1) Do not use this television equipment near water - for example, near a bath tub, kitchen sink, or laundry tub, in a wet basement, or near a swimming pool, or the like.
- 2) Do not place this television equipment on an unstable cart, stand, or table. The television equipment may fall, causing serious injury to children and adults, and serious damage to the equipment. Use only with a cart or stand recommended by the manufacture, or sold with the television equipment. Wall or shelf mounting should follow the manufacture's instructions, and should use a mounting kit approved by the manufacture.  
Television equipment and cart combination should be moved with care. Quick stops, excessive force, and uneven surfaces may cause the equipment and cart combination to overturn.



# IMPORTANT SAFETY INSTRUCTIONS

- 3) Slots and openings in the cabinet and the back or bottom are provided for ventilation, and to ensure reliable operation of the monitor and to protect it from overheating, these openings should never be blocked or covered. The openings should never be blocked by placing the television equipment on a bed, sofa, rug, or other similar surface. (This television equipment should never be placed near or over a radiator or heat register.)

This television equipment monitor should not be placed in a built-in installation such as a bookcase unless proper ventilation is provided.

- 4) Avoid operating or placing (keeping) in a hot (+40°C or over) or cold (less than 0°C), high vibration, or dusty place. Avoid operating or storing in a place exposed to direct sunlight.
- 5) If an image of extremely high brightness is displayed on the screen for a long time, the panel may get burned in.

## 4. Cleaning

- 1) Unplug this television equipment from the wall outlet before cleaning. Do not use liquid cleaners or aerosol cleaners. Use a damp cloth for cleaning.
- 2) Do not use thinner or benzine for cleaning. Otherwise, the cabinet may deform or the paint may peel away.

## 5. Repair

- 1) Unplug this television monitor from the wall outlet and refer servicing to qualified service personnel under the following conditions:
  - a. When the power cord or plug is damaged or frayed.
  - b. If liquid has been spilled into the television.
  - c. If the television monitor has been exposed to rain or water.
  - d. If the television does not operate normally by following the operating instructions. Adjust only those controls that are covered by the operating instructions as improper adjustment of other controls may result in damage and will often require extensive work by a qualified technician to restore the television monitor to normal operation.
  - e. If the television monitor has been dropped or the cabinet has been damaged.
  - f. When the monitor exhibits a distinct change in performance - this indicates a need for service.
- 2) When replacement parts are required, be sure the service technician has used replacement parts specified by the manufacture that have the same characteristics as the original part. Unauthorized substitutions may result in fire, electric shock, or injury to persons.
- 3) Upon completion of any service or repairs to this monitor, ask the service technician to perform routine safety checks to determine that the television is in safe operating condition.
- 4) For repair service, contact **Ikegami's** authorized sales representative or **Ikegami** service desk directly.

# PRECAUTIONS FOR OPERATIONS

- 1) Never let this unit fall or subject it to strong shock.
- 2) Do not remove the cabinet unless necessary. High-voltage parts are contained in the cabinet and they are very dangerous if you touch them. Only qualified service engineers are allowed to adjust the internal parts of the cabinet.
- 3) This color monitor has been adjusted to signals conforming to each broadcasting standard.  
It cannot be used for signals of different broadcasting standards.  
Be sure to operate the color monitor within the voltage range marked on its back.
- 4) If cabinet or screen is dirty, wipe with soft cloth. At this time, avoid using benzine or thinner, otherwise the paint may peel away.
- 5) Note that, if video signals with high luminance are monitored on the LCD panel over a long period of time, the panel may burn in the image.
- 6) The socket-outlet shall be installed near the equipment and shall be easily accessible.
- 7) Avoid using or storing this unit in the following places:
  - Hot (+40°C or more) or cold (0°C or less) places, especially where this unit may be exposed to the direct rays of the sun.
  - Humid and dusty places.
  - Places where there is considerable vibration.
  - Places exposed to rain or water.
  - When storing or transporting this unit, pack it in the supplied carton or equivalent.
- 8) If no image can be monitored even after performing user adjustment or the unit appears faulty, do not dismantle this unit by yourself. In such cases, contact the **Ikegami** service desk.
- 9) Should this unit fail within one year after delivery, it will be repaired free of charge unless the malfunction was caused by mishandling or misuse of the user. However, the fuses are not covered by the warranty.
- 10) The specifications and appearance of this unit may be subject to change for further improvement without prior notice.

## Precautions Upon Use

In order to use the monitor safely, read through this manual and pay attention to the following points in particular.

**1. Do not use any power supply other than the specified one (AC).**

**2. Do not give a shock to the monitor.**

Be very careful to keep the monitor from shocks because glass is used inside the LCD.

**3. Do not use or store the monitor in the following places.**

**Place where the ambient temperature is out of spec**

When installing the monitor on a monitor shelf, switcher table, rack, etc., make sure in advance that the temperature of the installation location is within the specified range.

In the case of an outdoor setup, even if the ambient temperature is within the specified range, the inside of the monitor may be heated by direct sunlight. Therefore, keep radiation in mind. (Avoid direct sunlight.)

Never block the air outlet at the rear of the monitor and the air inlet at the side. Make sure in particular that a blackout curtain or the like does not block the air outlet.

**Place exposed to rain, snow or high humidity**

Use of the monitor in such a place will cause electric leakage or failure.

**4. Avoid exposing the LCD screen to direct sunlight.**

Exposure of the LCD screen to direct sunlight for a long time will degrade the film. Therefore be careful of direct sunlight when using the monitor outdoors.

**5. Cautions in handling the front protective panel**

Be careful not to touch the LCD panel front surface with bare hands, unless necessary. When wiping the dust off the surface, use soft, dry cloth and take care not to rub the surface strongly. Do not use thinner or benzine.

**6. Do not touch liquid crystal leaked from the monitor's display surface.**

If the monitor's display surface is accidentally broken and the liquid crystal leaks, be careful never to put the liquid in your mouth, inhale it and allow it on your skin. If the liquid gets into your eye or mouth, immediately rinse it with water and get medical attention.

If the liquid contacts your skin or clothes, immediately wipe it off using alcohol or the like and wash the stained spot with soap and water. Do not leave the liquid intact, because otherwise your skin or clothes may be affected.

**7. Do not display the same pattern for a long time.**

Note that residual image may be generated if the same pattern is displayed for a long time.

- Turn off the power when the monitor is not used.

To avoid residual images, preferably take the following measures.

- Change the screen regularly.
- Display the whole screen in white.

**8. Avoid operation at low temperatures.**

Note that the backlight function will be degraded at low temperatures, leading to shorter service life. It is recommended to use the monitor at normal temperatures.

**9. Avoid operation or storage in a place exposed to corrosive gas.**

Operation or storage in a place where any corrosive gas such as sulfur dioxide, hydrogen sulfide, chlorine or ammonia is generated may lead to a significant reduction in the monitor service life. It may also cause failure or electric leakage.

Also avoid using the monitor in a location exposed to high salty wind.

**10. Do not use this monitor for such applications as space appliance, nuclear control system as any medical equipment involving human life.**

**Quality of LCD panel**

Note that because the LCD panel mounted on the monitor is manufactured through the use of high-precision technology, 99.99% or more of the pixels are effective, but 0.01% or less of them may be lacking in brightness or lit up constantly.

**Internal fan**

The internal fan does not run constantly but automatically starts running when the internal temperature of the monitor rises. When the environmental temperature is low, the internal fan may not be running, which indicates no fault condition.

At power-on, the fan rotates for a moment for checking its own performance.

In the case of outdoor use, even if the ambient temperature is low, the fan may start running when the internal temperature of the monitor rises.

Suppose that the fan does not operate properly at power-on or at high temperatures. In such case, the message "FAN ERROR!" will appear at the top of the screen.

The brightness of the backlight may be reduced in order to keep the internal temperature of the motor from rising.

If the message "FAN ERROR!" is displayed, contact your dealer or **Ikegami** service desk.

**Warranty**

If the product should fail within one year from the date of delivery in spite of the proper use, the manufacturer will repair the product free of charge. Even if the product is covered by the warranty, however, the customer will be charged for labor and parts in the following cases.

1. Failure and damage caused by the following:
  - Improper use
  - Repair or modification performed by the customer
  - Transportation, transfer, falling, etc. after the purchase of the product
  - External factors such as natural disasters and over-voltage
2. Aged deterioration of the liquid crystal panel and backlight (change in brightness, increase in the number of luminescent spots and dark points, etc.)
3. Damage, discoloration and degradation of the cabinet including the LCD front protective panel
4. Replacement of the accessories and fuse

If no image comes out in spite of routine adjustment or if the product should seem to fail, contact your dealer or **Ikegami** service desk.

**Accessories**

The monitor comes with the following accessories. Be sure that they are included.

1. Fixed stand (attached on the monitor)
2. Operation manual: 1 copy
3. Parallel remote connector: 1 set
4. Power cable: 1 pc.

\* VGA, SVGA and XGA are registered trademarks of International Business Machines Corporation.

\* Specifications and external dimensions are subject to change without prior notice.



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# HLM-3250W FULL HD Multi-Format LCD Color Monitor

## 1. Outline

### 1-1. Outline

This 32-inch type HDTV/SDTV multi-format color monitor employs a full high-definition liquid crystal panel for reduction in thickness, weight and power consumption, and is designed for use in various spaces such as sub-control rooms, editing rooms, monitor wall, transmission control desks, and outside broadcast vans.

This monitor is compatible with the functions and operation of the HTM/TM series CRT monitors, so that it can realize the functions necessary for a broadcasting service monitor with conventional operation.

### 1-2. Features

#### (1) High performance liquid crystal panel

The Full-HD (1920 x 1080 dots) 10-bit liquid crystal panel features high brightness, high contrast, wide viewing angle, quick response and good color reproducibility. Accordingly, realistic images can be displayed with higher-fidelity gradation but without having to resize the input pixels. This unit is best suited for shelf-mounted monitoring applications.

#### (2) Multi-format

The monitor supports various broadcasting formats.

The monitor automatically identifies various types of input signal formats. (optional component input: set on MENU)

- |                     |                       |
|---------------------|-----------------------|
| • 480i/59.94 (NTSC) | • 1035i/60, 59.94     |
| • 575i/50 (PAL-B)   | • 1080i/60, 59.94     |
| • 480p/59.94 (*1)   | • 1080i/50            |
| • 1080psF/30        | • 720p/60, 59.94      |
| • 1080psF/25        | • 720p/50             |
| • 1080psF/24, 23.98 | • 720p/30, 29.97      |
| • 1080p/60, 59.94   | • 720p/24, 23.98 (*2) |
| • 1080p/50          | • 720p/25             |
| • 1080p/30, 29.97   |                       |
| • 1080p/25          |                       |
| • 1080p/24, 23.98   |                       |

(\*1) RGB/YPbPr input only

(\*2) SDI input only

#### (3) Diverse input sources

The monitor is standard equipped with two SDI signal (compatible with both HD/SD 4:2:2) inputs and two analog composite signal inputs. It also comes standard with one DVI-D signal input (VGA/SVGA/XGA/WXGA/SXGA/UXGA/WUXGA).

The multi-SDI input (\*) compatible with 3G-SDI (single), analog PC input and RGB/YPbPr inputs are optionally available.

\* Under development (scheduled to be released in spring 2009, version upgrade of the monitor itself needed)

#### (4) Compatibility with embedded audio

Standard equipped with an embedded audio feature, the embedded audio signals multiplexed with HD-SDI signal or SD-SDI (4:2:2) signal can be automatically recognized and the audio output can be heard through the built-in stereo speakers or stereo headphones. The monitor also has a standard embedded audio level meter display on the screen.

Using an optional device, the embedded audio signal may be handled as an analog output (when the EA-240A is mounted) or as an AES/EBU output (when the EA-240D is mounted).

Besides, the optional 3G-SDI (single) multi-SDI module comes in two types: Embedded analog audio output type (D3G-240A\*) and AES/EBU output type (D3G-240D\*).

\* Under development (scheduled to be released in spring 2009)

#### (5) Remote control functions

The monitor can be remote-controlled with the use of four remote control functions. Depending on the place of installation and type of operation, the parallel, serial or wireless mode can be used.

In addition to the conventional parallel remote control (pin assignment by user is possible), the monitor also comes standard with a serial remote input interface that enables remote control with just one BNC coaxial cable.

Up to 99 monitors can be remote-controlled individually or concurrently using an optional serial remote controller SRC-301A/Z simply with Ikagami's various monitors being loop-through connected.

An infrared wireless remote controller RCT-30A is also optionally available.

The RS-485 input/output terminals are also standard designed for control of up to 32 units.

## **(6) Built-in markers**

4:3 (16:9 mode), 13:9, 14:9, 15:9, 16:9 (4:3 mode), 1.85:1 (16:9 mode) and 2.35:1 (16:9 mode) line markers can be displayed.

The monitor can also get the 1%-stepwise safety marker displayed in the range of 80-99% with respect to the line marker area.

The safety markers over the effective screen can be equally preset 1% by 1% in the range of 80-99%.

The monitor also comes standard abundantly with five-part split and ten-part split crosshatch markers useful for location alignment.

## **(7) User marker display function**

Up to 10 different user markers, such as line and box markers, are presettable pixel by pixel to your desired positions and sizes. The line and box drawing settings can be easily made with not just the switch but also the USB mouse. Resulting complicated data may also be saved on a USB memory so that the data can be copied to another monitor or stored in a PC.

This function is optimum for positioning in editing the layout and its display for various types of information such as teleshopping.

\* Patent pending

## **(8) Shadow function**

The shadow function is to shade the area other than a 4:3 (16:9 mode), 13:9, 14:9, 15:9 or 16:9 (4:3 mode) marker area on images. The shadow contrast can be set at 0%, 20%, 40% or 60% on the MENU. The use of this function allows you to instantly visualize the image area when converting images with an aspect ratio of 16:9 to those with an aspect ratio of 4:3 or vice versa.

This shadow function can be turned on/off by remote control and prompt switching is therefore realized.

## **(9) Various built-in test signals**

The monitor is standard equipped with color bar signal, grayscale signal with pluge pattern, and window signal. Various adjustments can therefore be made on the monitor alone.

## **(10) Time code display function**

It is possible to display the time code (VITC) multiplexed into HD-SDI signal (ARIB STD-B4 Ver2.0) on the screen.

The display comes in two sizes, large and small, and its brightness in three levels.

## **(11) Waveform monitor/Vector scope display functions**

Waveform monitor of brightness signal can be displayed. The display comes in two sizes, NORMAL and SMALL, and its brightness in three levels. The waveform can also be displayed in any of three selectable positions and in one of two colors: GREEN and WHITE. The vector scope can also be readily displayed.

## **(12) 2-picture split display function**

A previously captured still image and a currently incoming moving image are displayed split onscreen.

Just one monitor serves to compare the pictures from two cameras at once on its screen.

## **(13) Dot-by-dot display function**

All the picture elements of an input signal are displayed 1:1 according to the pixels of the LCD panel without scaling the incoming signal (enlarging or reducing the input signal according to the LCD pixels).

This function is useful in checking transmitted input signals for pixel defects, camera CCD's scratches, etc.

Only the 1080i/p signal is displayed in 1:1 in the normal scanning status.

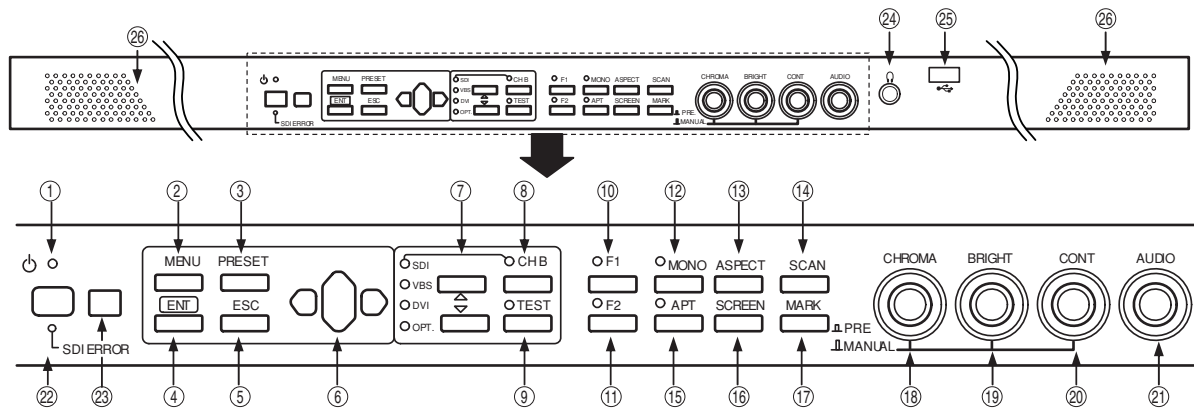
## **(14) External memory function**

Various data (MENU settings, PRESET data, etc.) can be saved on a USB memory and copied to a PC, on which the data is ready to manage. Such data may also be copied to another monitor.

\* Keep in mind that when copying the PRESET data to another monitor, they may be different from monitor to monitor.

## 2. Names of parts and their Functions

### 2-1. Front Controller Parts



#### ① **POWER** switch

- Turns on/off the power to the monitor.
- ※ This switch is not for turning on/off the AC power supply to the monitor.
- ※ Several seconds are required for images to appear after power-on.

#### ② **MENU** switch

- Press this switch to display a menu screen or change the menu screen.
- ※ This switch is disabled when the preset menu is displayed.

#### ③ **PRESET** switch

- Press this switch to display the preset menu.
- ※ This switch is disabled when the menu is displayed.

#### ④ **ENT** switch

- Press this switch to execute menu operations.

#### ⑤ **ESC** switch

- Press this switch to exit from a menu.

#### ⑥ **▲ (UP)/▼ (DOWN)/◀ (LEFT)/▶ (RIGHT)** switch

- Use this switch to change menu items or the setting of each item when a menu or preset menu is displayed.
- With the menu off and the marker on, the image pattern can be preset with the ◀ and ▶ switches and the safety marker area with the ▲ and ▼ switches in the range of 80-99%.

#### ⑦ **INPUT SELECT** switch

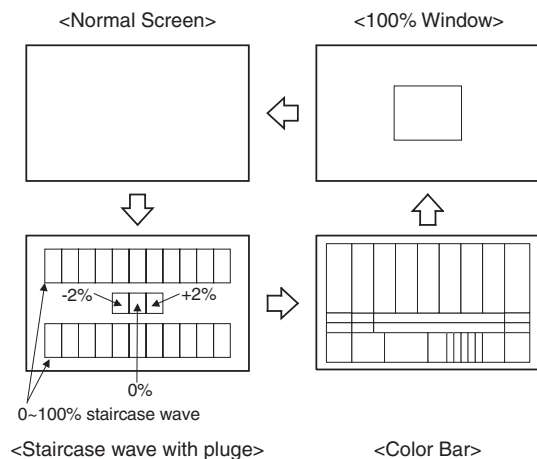
- Use the ▲ and ▼ switches to change input sources.
- ※ "OPT" is enabled when an optional module input is selected.

#### ⑧ **CH-B** switch

- Use this switch to change channels in the SDI or VBS input mode.

#### ⑨ **TEST** switch

- Press this switch to display internal test signals.
- The switching between the following three types of signals is done each time this switch is pressed.

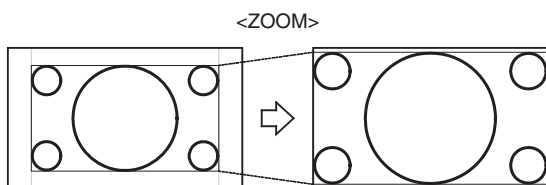


- ⑩ **F1** switch
- Press this switch to select an item preset on the menu.
  - For presettable items, refer to "4-4. Description on MENU 2 Functions".

- ⑪ **F2** switch
- Press this switch to select an item preset on the menu.
  - For presettable items, refer to "4-4. Description on MENU 2 Functions".

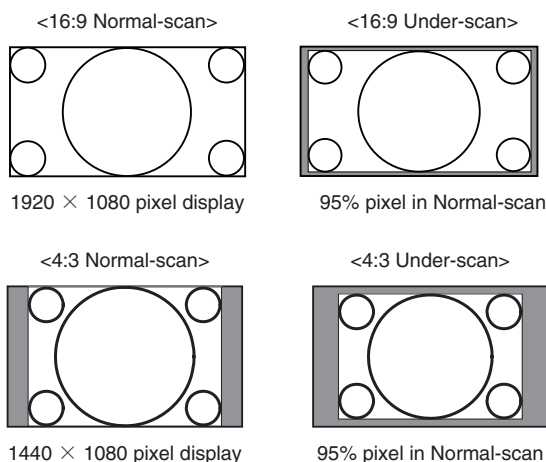
- ⑫ **MONO** switch
- Press this switch to display color signals in black and white.
  - ※ This function is disabled in the component RGB input or PC input mode.

- ⑬ **ASPECT** switch
- Use this switch to change image aspect ratios (4:3/16:9/ZOOM).
  - Choose between memorizing the settings for each channel and making the settings for all channels on MENU2.
  - ※ "ZOOM" magnifies the image area in the 4:3 letterbox.



- ※ SDTV format signals (480i/575i) only are effective.
- ※ In the PC input mode, this function is disabled.

- ⑭ **SCAN** switch
- Press this switch to change image display sizes (normal-scan/under-scan).
  - ※ In the PC input mode, this function is disabled.



- ⑮ **APT** switch
- Press this switch to select the aperture.
  - Set a correction amount on PRESET MENU.
  - ※ In the PC input mode, this function is disabled.

- ⑯ **SCREEN** switch
- Press this switch to display images in R, G or B individually.
  - The switching between colors takes place as follows each time this switch is pressed.  
"R only" → "G only" → "B only" → "Normal Screen"
  - ※ In the PC input mode, this function is disabled.

- ⑰ **MARK** switch
- Press this switch to turn on/off markers.
  - To change icons, use the ◀ and ▶ switches.  
Detailed settings are made on MENU 8.
  - ※ This function is disabled when an internal test signal is displayed or in the PC input mode.

- ⑱ **CHROMA** manual control
- This control serves as a manual/preset switch for chroma or a manual data variable control.
  - The control pops out when it is pressed and the mode is changed to MANUAL.

- ⑲ **BRIGHT** manual control
- This control serves as a manual/preset switch for brightness or a manual data variable control.
  - The control pops out when it is pressed and the mode is changed to MANUAL.

- ⑳ **CONT** manual control
- This control serves as a manual/preset switch for contrast or a manual data variable control.
  - The control pops out when it is pressed and the mode is changed to MANUAL.

- ㉑ **AUDIO** control
- Use this control to adjust the sound volume of the front speaker or the headphones.
  - ※ An audio (analog/embedded audio) to be outputted to the speaker must be set on MENU7.

- ㉒ **SDI ERROR** indicator
- This LED alarm indicator will light up in red in SDI signal transmission error (CRC, TRS, check sum, line number).  
If the indicator lights up, check the details on a waveform monitor or the like.

②③ **Infrared receiver of wireless remote control**

- When a wireless remote controller (RCT-20A/RCT-30A) is used, point it towards this receiver.

②④ **Stereo headphones output** (stereo mini-jack type)

- Analog audio signals or embedded audio signals are fed out of this terminal.
- The analog and embedded inputs can be selected on MENU7.

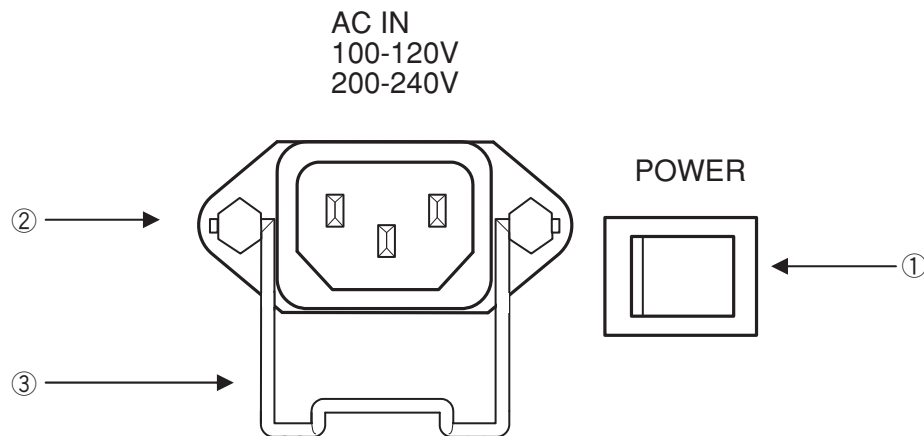
②⑤ **USB** terminal

- Connect a USB memory, and the monitor's data can be saved on the USB memory or the data on the USB memory can be downloaded on another monitor.
- Connect a USB mouse, and the user markers can be drawn.

②⑥ **Stereo speakers**

- Analog audio signals or embedded audio signals are fed out of this terminal.
- The analog and embedded inputs can be selected on MENU.
- With the headphones being connected, no sound is heard from the speakers.

## 2-2. Rear panel (left bottom)



① **MAIN POWER switch**

- Turns on/off the AC power supply to the monitor.
- To operate the monitor, turn ON this MAIN POWER switch as well as the POWER switch on the front panel.

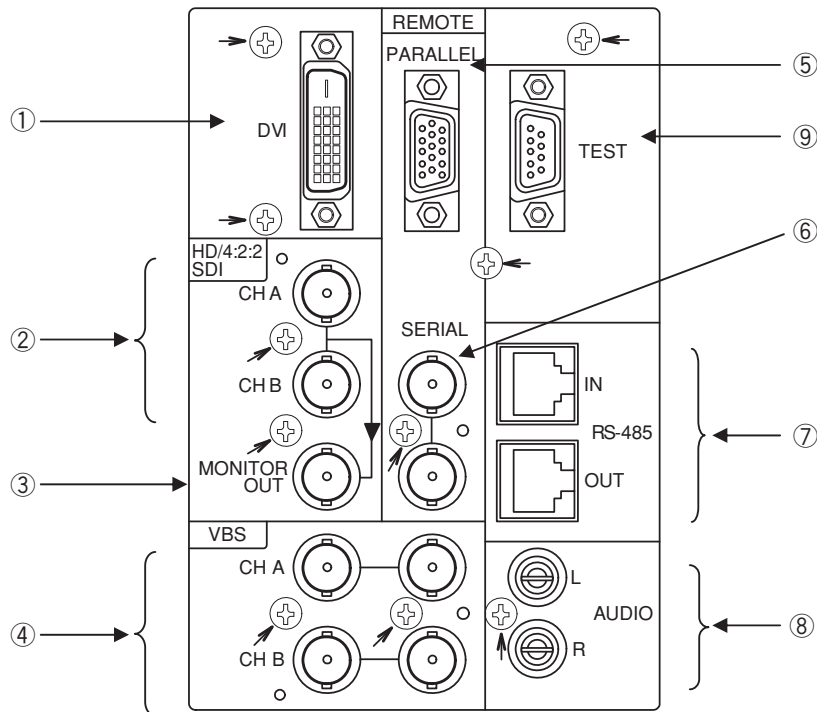
② **AC power input**

- Insert the provided AC cable here to supply AC power.

③ **Lock**

- After inserting the AC plug, lock the AC plug with this lock to prevent it from disconnecting.

## 2-3. Rear panel (video inputs/outputs)



### ① DVI-D signal input

- This connector is used to connect the DVI-D signal from the PC.
- The compatible formats are referred to in "**6-2 Rated performance (5)**".

### ② SDI A/B signal input

- Input the HD-SDI or SD-SDI (4:2:2) signal here.
- The format of input signal is automatically identified.

### ③ SDI signal output

- Output the same selected channel signal from the A/B channel as channel select is made for monitoring.

### ④ NTSC/PAL-B analog composite input

- Input the NTSC/PAL-B analog composite (VBS) signal here.
- Without the loop through connection in place, connect a terminating plug.

### ⑤ PARALLEL REMOTE signal input

- Connect the accompanying remote connector here.
- For details of pin connections, refer to "**Data 3: Parallel Remote Pin Function**" or "**4-12. Description of MENU 9 Functions**".
- Make sure the cable used is shielded.

### ⑥ SERIAL REMOTE signal input

- Connect the BNC cable from the SRC-301A/Z serial remote controller here.
- By adopting the loop through connection, up to 99 monitors can be controlled individually or collectively.
- Without the loop through connection in place, connect a terminating plug.
- Set the monitor ID number on the MENU2 screen.

### ⑦ RS-485 input/output

- These are used for remote control with RS-485.
- Up to 32 units can be loop-through-connected.
- Without loop-through connection, use the optional terminating device.
- ※ Make sure the cable used is shielded.

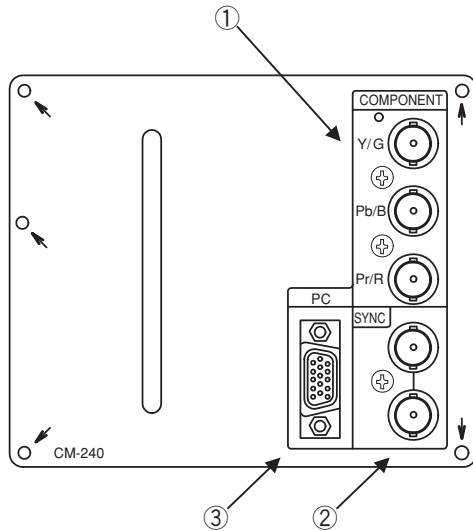
### ⑧ Analog audio input

- Feed analog audio signals here.

### ⑨ TEST terminal for factory adjustment

- The TEST terminal is factory adjustment. Connect nothing to this terminal.

## 2-4. Option (CM-240 input/output)



### ① Component (YPbPr/RGB) signal input

- Feed component signals.
- Set either YPbPr or RGB on MENU1.
- When the signal format is 1080i/60 or 1035i/60, the 1080i/1035 setting must be made on MENU1.
- To select this input, set to "OPT." with the INPUT SELECT switches (▲ & ▼) on the front panel. Make sure that the "INPUT SELECT" on MENU10 is set at "VIDEO".  
For this purpose, it is also possible to assign the function keys [F1] and [F2] on the front panel.

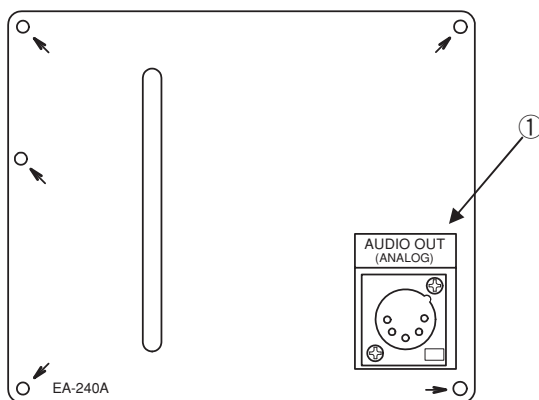
### ② External sync signal input

- Feed an external sync signal here when externally synchronizing component signals.
- If not adopting the loop through connection method, connect the terminating plug.
- To switch to EXT SYNC, make the setting on MENU1.  
For this purpose, it is also possible to assign the function keys [F1] and [F2] on the front panel.

### ③ Analog PC signal input

- Input the PC signal (analog RGB signal) here. As for the compatible format, refer to the "**Data 1: PC Input Signal Compatible Format**".
- To select this input, set to "OPT." with the INPUT SELECT switches (▲ & ▼) on the front panel. Make sure that the "INPUT SELECT" on MENU10 is set at "PC".  
For this purpose, it is also possible to assign the function keys [F1] and [F2] on the front panel.

## 2-5. Option (EA-240A output)

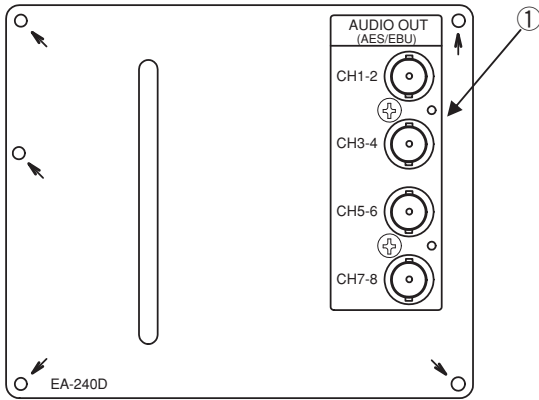


### ① Embedded analog audio output

- Select one pair of channels out of four paired channels (eight embedded audio channels multiplexed in SDI) in the MENU7. The selected 2-channel analog audio signal is outputted from this connector.
- Use XLR-5-11C or equivalent as an output connector.
- For details of pin connection, refer to the "**Data 2: Embedded analog audio outputs (EA-240A)**".
- The output is active. When handling the output unbalanced, use the hot side and ground. (Keep the cold side open.)



## 2-6. Option (EA-240D output)

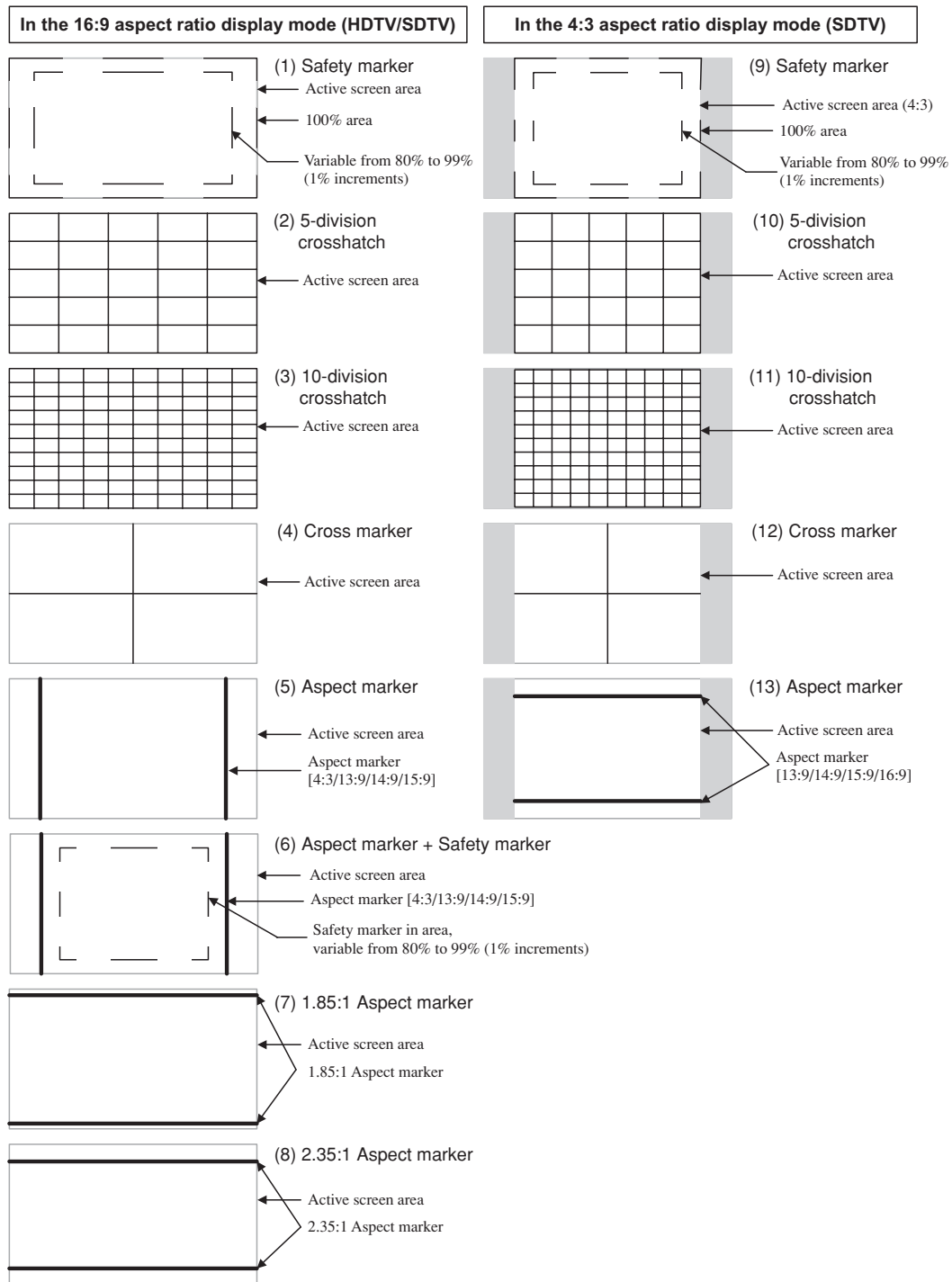


### ① Embedded AES/EBU output

- Eight embedded audio channels multiplexed in SDI are outputted as digital audio signals in AES/EBU format.
- Consumer format (SPDIF) is not supported.
- Use a converter when connecting the equipment of 110  $\Omega$  impedance.

### 3. Markers

#### 3-1. Types of Markers

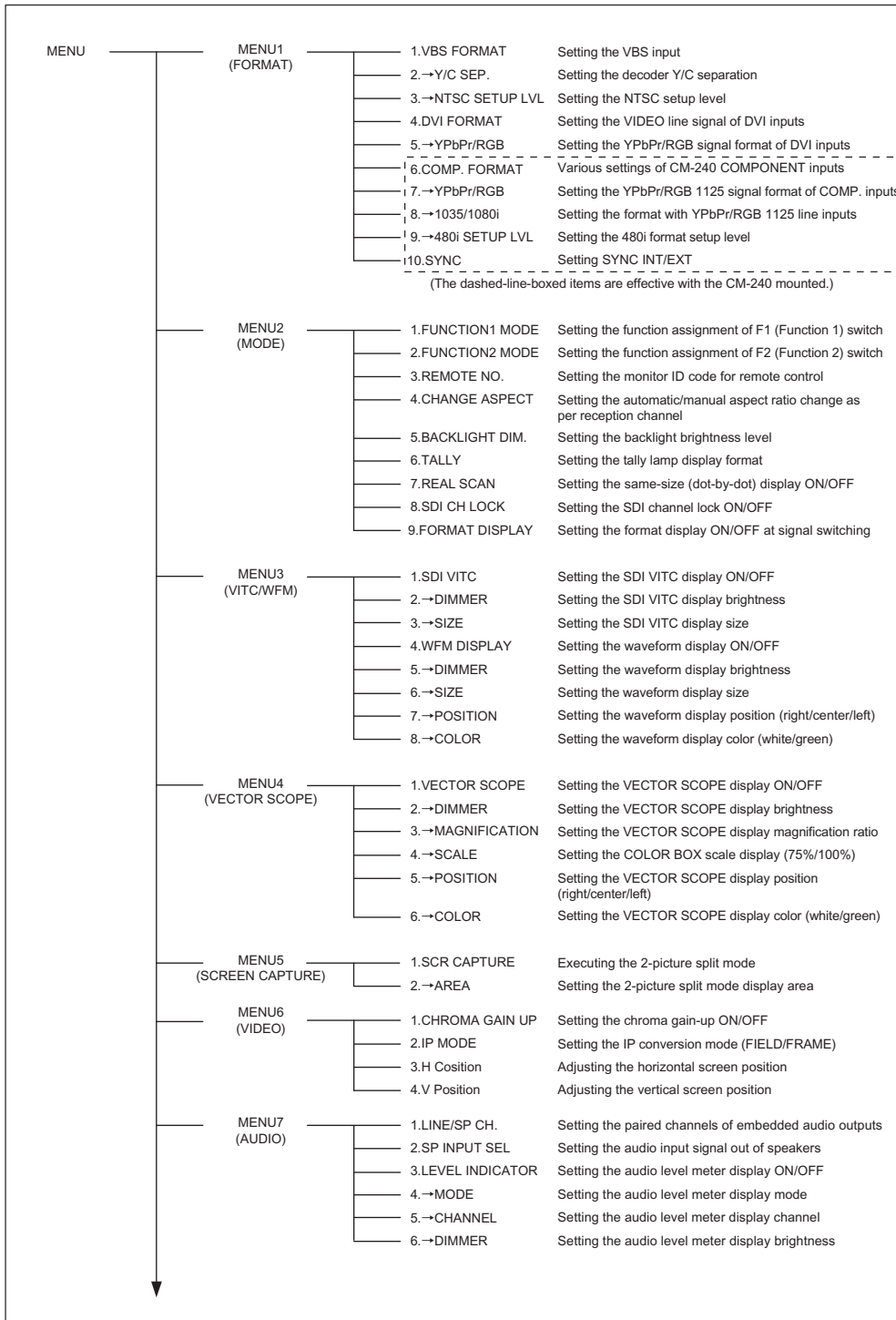


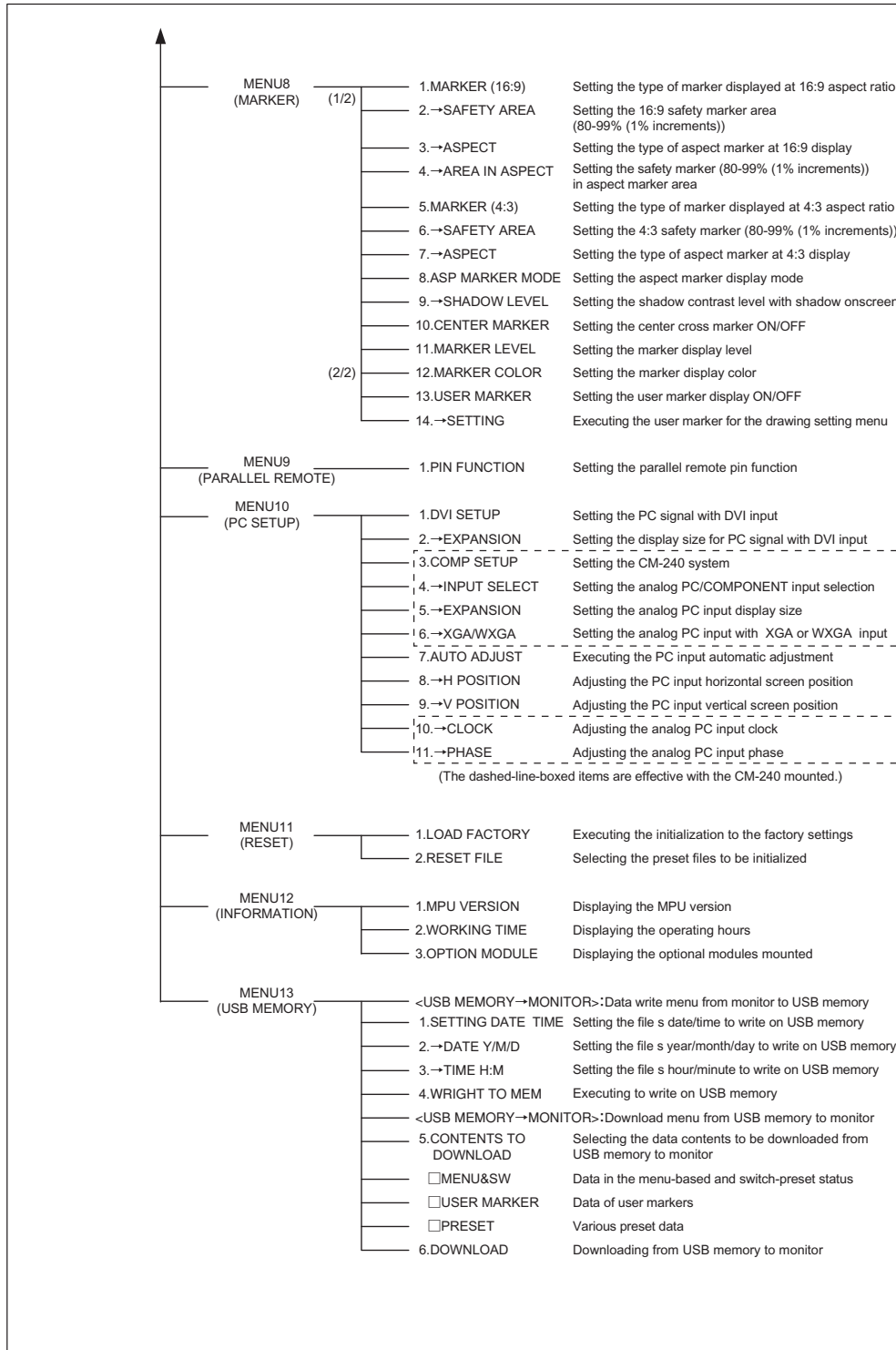
- The displayed markers are set on MENU8.
- With no menu onscreen, the image pattern can be changed with the ◀ and ▶ switches, whereas the safety marker percentage setting (1% increments) with the ▲ and ▼ switches.

## 4. MENU Functions

### 4-1. List of MENU

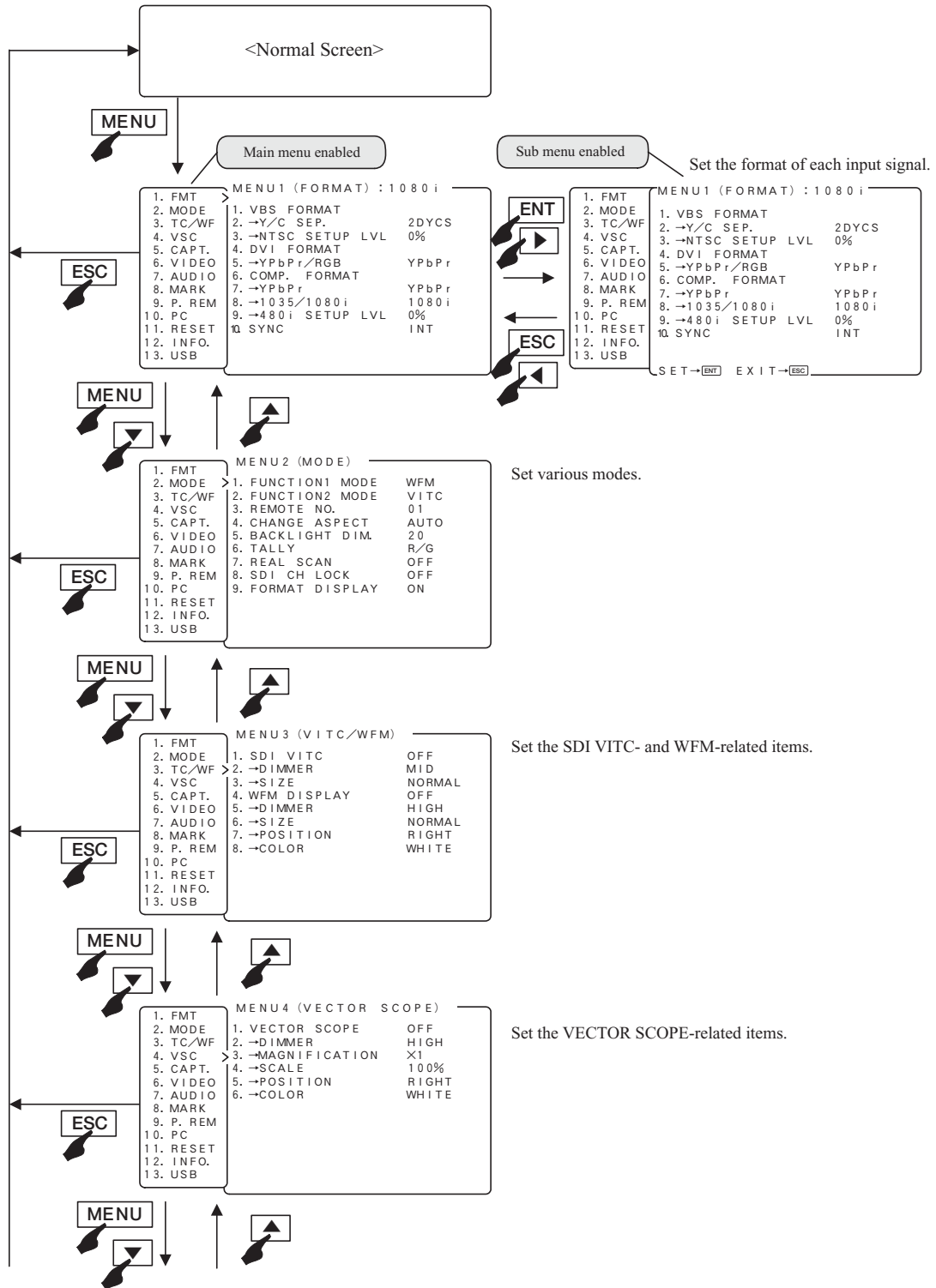
All functions can be executed in the MENU screen.

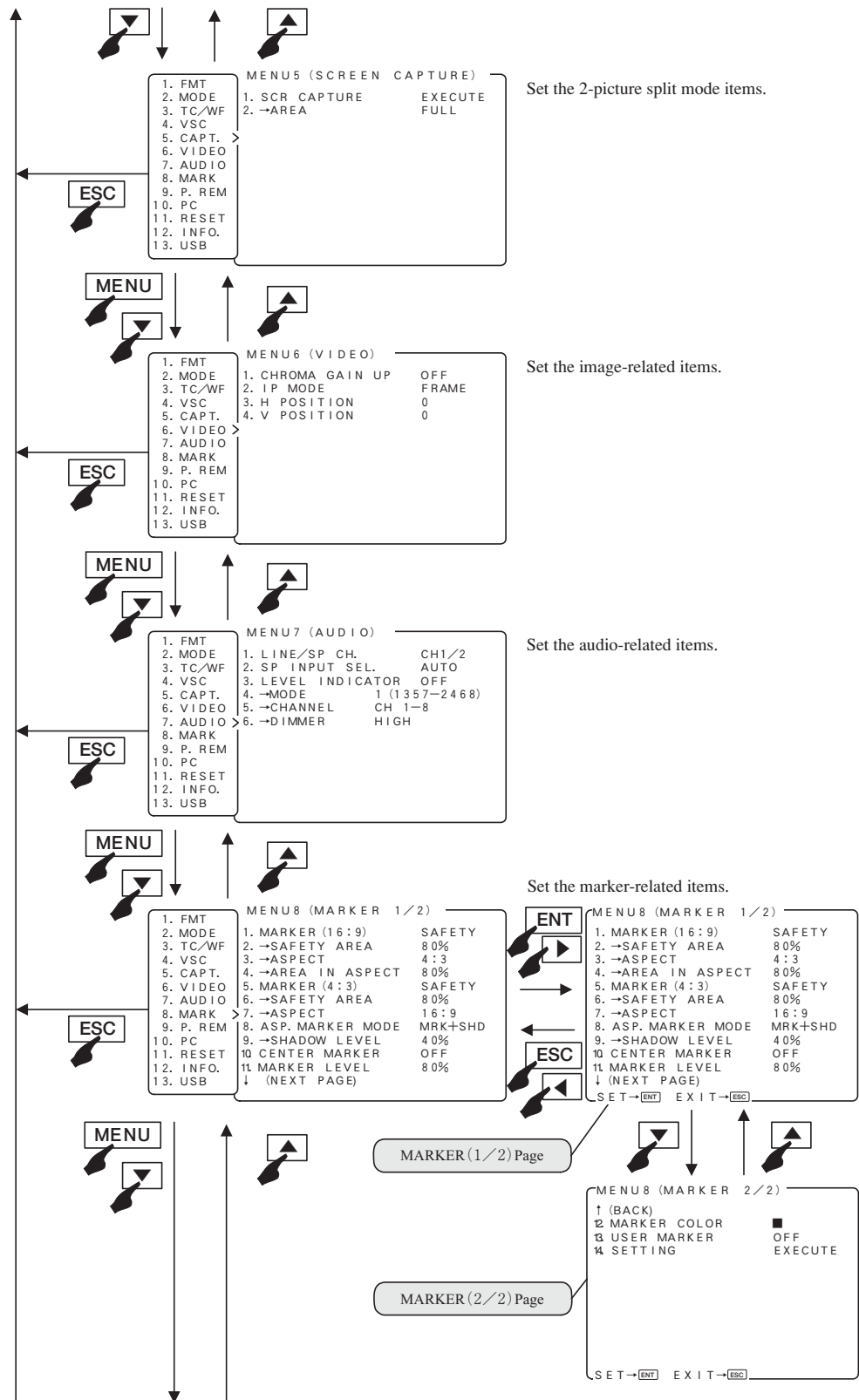


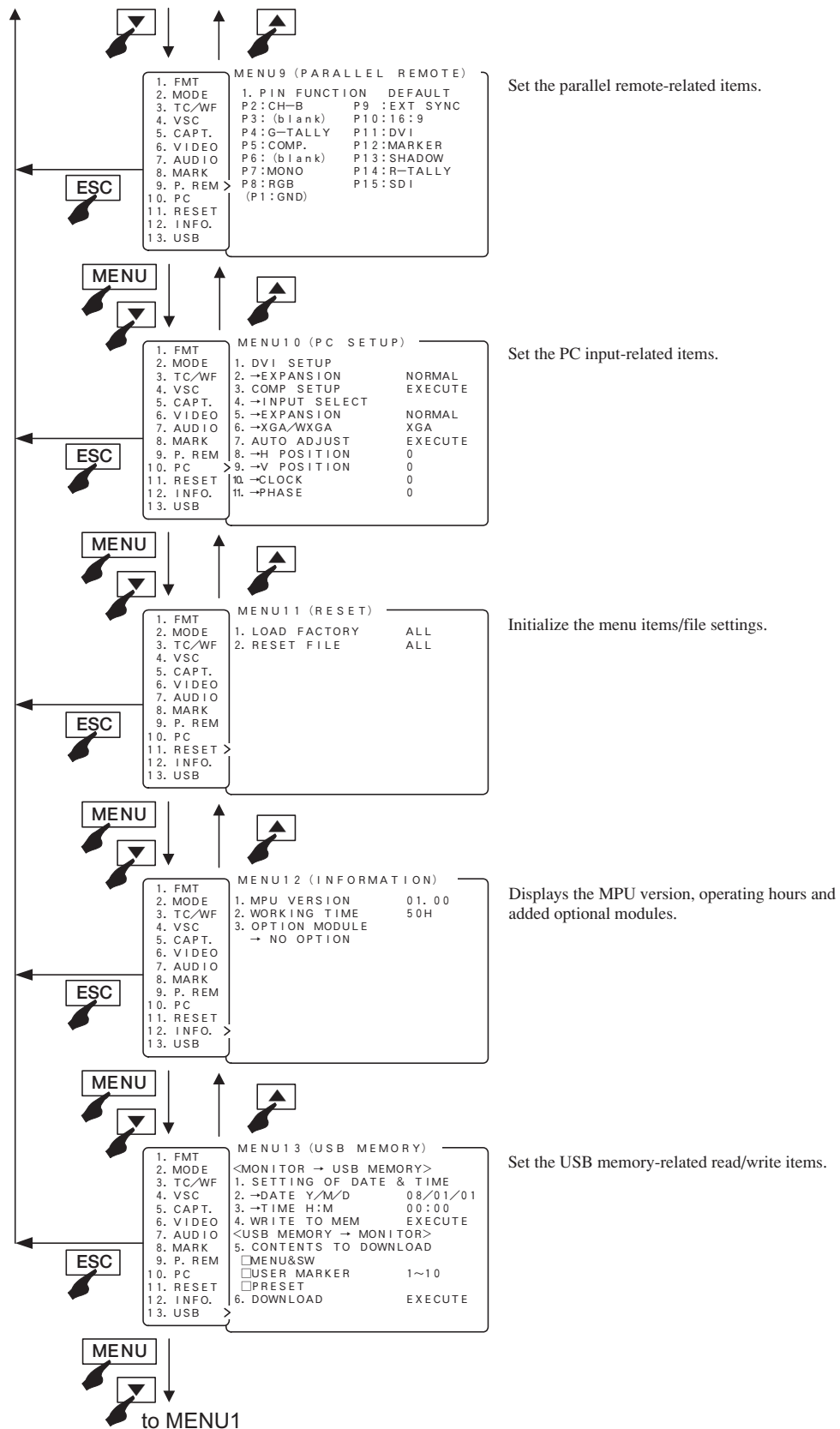


## 4-2. Flow of MENU Operations

MENU can be switched as follows using the **MENU** switch.



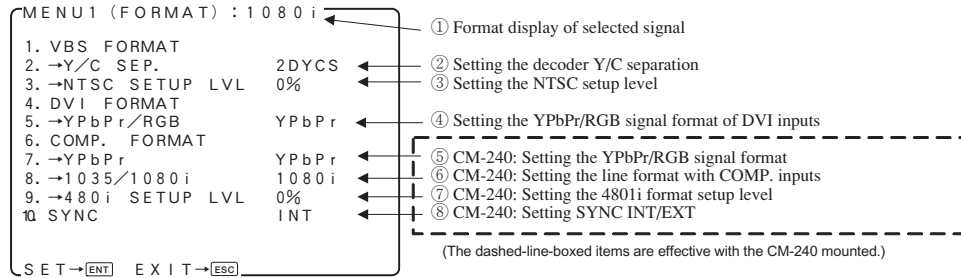




### 4-3. Description of MENU 1 Functions

\* Note the following description on the menu.

- The vertical frequency “/60” includes both 60 Hz and 59.94 Hz (60/1.001).
- The vertical frequency “/48” includes both 24 psF and 23.98 psF (24/1.001) in SF mode.
- The vertical frequency “/24” includes both 24 Hz and 23.98 Hz (24/1.001).



#### ① Format display of selected signal

- Shows the format of the currently selected signal.

#### ② Setting the decoder Y/C separation

- For the Y/C separation of VBS (composite) signals, set any of the following three types of formats.
  - 2DYCS: two-dimensional comb filter
  - 3DYCS: three-dimensional comb filter
  - TRAP : trap filter
- This function can be assigned with the **[F1]** **[F2]** switch on the front panel.
  - Default setting is 2DYCS.

#### ③ Setting the NTSC setup level

- Used to set the setup level at the time of NTSC signal input. When the black level of the signal has 7.5% setup, it is set to "7.5%".
  - Default setting is 0%.

#### ④ Setting the YPbPr/RGB signal format of DVI inputs

- Used to set the DVI input signal format to YPbPr or RGB.
  - Default setting is YPbPr.

#### ⑤ CM-240: Setting the YPbPr/RGB signal format

- Used to set the component input signal format to YPbPr or RGB when the optional CM-240 is mounted.
  - Default setting is YPbPr.
- \* This item is selectable only when the CM-240 (option) is mounted.

#### ⑥ CM-240: Setting the line format with COMP. inputs

- Used to set the component signal to “1035i” only in the 1035i/60 format input when the optional CM-240 is mounted.
  - Default setting is 1080i/60.
- \* This item is selectable only when the CM-240 (option) is mounted.

#### ⑦ CM-240: Setting the 480i format setup level

- Used to set the component signal setup level in the 480i/60 format input when the optional CM-240 is mounted. When the black level of the signal has 7.5% setup, it is set to “7.5%”.
  - Default setting is 0%.
- \* This item is selectable only when the CM-240 (option) is mounted.

#### ⑧ CM-240: Setting SYNC INT/EXT

- With the YPbPr/RGB signal input, set the use of a sync signal that is separated from the Y or G on SYNC image signal or the use of a sync signal that is externally inputted.
- This function can be assigned with the **[F1]** **[F2]** switch on the front panel.
  - Default setting is INT.
- \* This item is selectable only when the CM-240 (option) is mounted.



## 4-4. Description of MENU 2 Functions

MENU 2 (MODE)		
1. FUNCTION1 MODE	WFM	① Setting the function assignment of F1 switch
2. FUNCTION2 MODE	VITC	② Setting the function assignment of F2 switch
3. REMOTE NO.	01	③ Setting the serial remote control ID number
4. CHANGE ASPECT	AUTO	④ Setting the automatic/manual aspect ratio change
5. BACKLIGHT DIM.	10	⑤ Setting the backlight brightness level
6. TALLY	R/G	⑥ Setting the tally lamp indication
7. REAL SCAN	OFF	⑦ Setting the same-size (dot-by-dot) display ON/OFF
8. SDI CH LOCK	OFF	⑧ Setting the SDI channel switching lock ON/OFF
9. FORMAT DISPLAY	ON	⑨ Setting the format display ON/OFF

S E T → [ENT]    E X I T → [ESC]

### ① Setting the function assignment of F1 switch

- Set any of the following operations performed by pressing the **[F1]** switch on the front panel.

< Assignment list of the **[F1]** and **[F2]** switches >

- FILE (Preset file change)
- MRK SEL (Marker type change)
- COMB (Decoder Y/C separation setting change)
- CHR UP (Chroma up ON/OFF change)
- IP MODE (IP conversion mode FIELD/FRAME change)
- DELAY (Delay H/V/H+V change)
- RS ON (Same-size display ON/OFF change)
- USR MRK (USER MARKER display ON/OFF change)
- VSC ON (VECTOR display ON/OFF change)
- VITC ON (SDI VITC display ON/OFF change)
- WFM ON (WFM display ON/OFF change)
- PC SEL (CM-240: PC/COMP. input change)
- SYNC (CM-240: SYNC INT/EXT change)
- AUD CH (Channel change of embedded audio)
- BL DIM (Backlight brightness level change)

\* PC SEL and SYNC are selectable only when the CM-140 (option) is mounted.

\* DELAY is not operative with PC, DVI(PC) and VBS signals. When set at DELAY, the same-size (dot by dot) display is fixed in order to prevent any scaling process.

- Default setting is WFM ON.

### ② Setting the function assignment of F2 switch

- The function assignment is selectable in the same way as that shown above ① by pressing the **[F2]** switch on the front panel.

- Default setting is VITC ON.

### ③ Setting the serial remote control ID number

- Used to set the ID number (01 to 99) of the monitor.
- The ID number is assigned to each monitor in order to perform remote operation with the serial remote controller (SRC-301A/Z).

- Default setting is 01.

### ④ Setting the automatic/manual aspect ratio change

- Used to select the automatic setting of a preset aspect ratio or the fixed setting for all reception channels, when selecting any reception channel.
  - AUTO : displayed with the set aspect ratio for each channel
  - MANUAL : displayed with the same aspect ratio for all channels

- Default setting is AUTO.

\* When making an aspect change in the parallel remote mode, set to "MANUAL".

### ⑤ Setting the backlight brightness level

- Set the backlight brightness in 1 to 30 steps.
- When the backlight brightness level is raised, the black level is also slightly raised. Therefore set the backlight brightness level according to the ambient condition.

- This function can be assigned with the **[F1]** **[F2]** switch on the front panel.

- Default setting is 10.

\* The use at lower backlight brightness level extends the life span of backlight.

## ⑥ Setting the tally lamp indication

- Set any of the following display modes of the tally lamps located at the top of the front of the monitor.

- R/G : R is on the left side and G on the right side, when facing the screen.



[R-TALLY ON] [G-TALLY ON]

- G/R : G is on the left side and R on the right side, when facing the screen.



[G-TALLY ON] [R-TALLY ON]

- R+G : The entire tally is displayed.

The lamp is displayed in amber when both the R-TALLY and G-TALLY are set at ON.

Both R- and G-TALLY at ON.



←[R-TALLY ON]



←[G-TALLY ON]



←[Both R- and G-TALLY at ON]

- Default setting is R/G.

## ⑦ Setting the same-size (dot-by-dot) display ON/OFF

- Set to ON in order to reproduce the input signal in its original pixels without enlargement or reduction.

- This function can be assigned with the **F1** **F2** switch on the front panel.

- Default setting is OFF.

- \* Signals in 480i/575i format are not in square pixels. Therefore, the aspect ratio will be displayed differently from the original image.

## ⑧ Setting the SDI channel switching lock ON/OFF

- The lock is set to "ON" to prevent SDI signal channel switching.

- It utilizes the MONITOR OUT terminal and is effective in fixing the channel. It prevents accidental channel switching.

- Default setting is OFF.

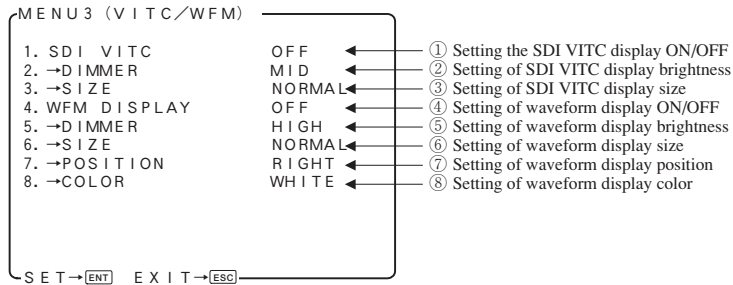
- \* Before setting it to "ON", make sure the desired SDI channel is selected.

## ⑨ Setting the format display ON/OFF before switching signals

- Used to set whether the channel and signal format are displayed or not.

- Default setting is ON.

## 4-5. Description of MENU 3 Functions



### ① Setting the SDI VITC display ON/OFF

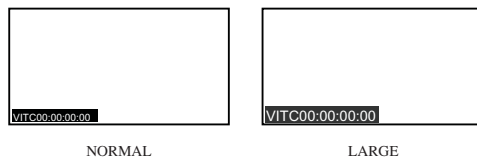
- Used to turn ON or OFF the VITC display multiplexed with HD-SDI signal.
- This function can be assigned with the **[F1]** **[F2]** switch on the front panel.
  - Default setting is OFF.
- \* The VITC display is compatible only with the ARIB STD-B4 Ver2.0-specified formats.

### ② Setting of SDI VITC display brightness

- Used to set the SDI VITC display brightness in three levels, LOW, MID and HIGH.
- Default setting is MID.

### ③ Setting of SDI VITC display size

- Used to select the SDI VITC display size, NORMAL or LARGE.
- Default setting is NORMAL.



### ④ Setting of waveform display ON/OFF

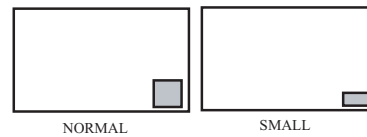
- Used to turn ON or OFF the waveform display of luminance signal.
- This function can be assigned with the **[F1]** **[F2]** switch on the front panel.
  - Default setting is OFF.

### ⑤ Setting of waveform display brightness

- Used to set the waveform display brightness in three levels, LOW, MID and HIGH.
- Default setting is HIGH.

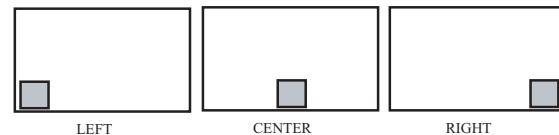
### ⑥ Setting of waveform display size

- Used to set the luminance signal waveform display size, NORMAL or SMALL.
- The SMALL setting displays the waveform half as tall as in the NORMAL setting.
- Default setting is NORMAL.



### ⑦ Setting of waveform display position

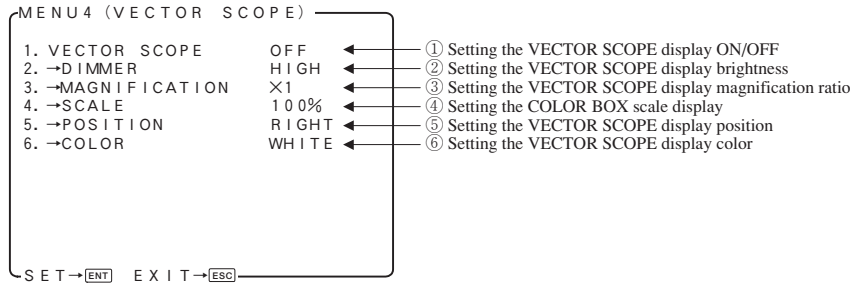
- Used to set the waveform display position, RIGHT, CENTER or LEFT.
- Default setting is RIGHT.



### ⑧ Setting of waveform display color

- Used to set the waveform display color, GREEN or WHITE.
- Default setting is WHITE.

## 4-6. Description of MENU 4 Functions



### ① Setting the VECTOR SCOPE display ON/OFF

- Used to turn on or off the VECTOR SCOPE display.
- This function can be assigned with the **F1** **F2** switch on the front panel.
- Default setting is **OFF**.

### ② Setting the VECTOR SCOPE display brightness

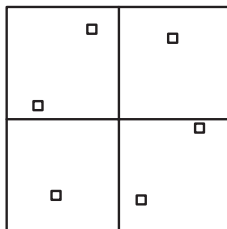
- Used to set the VECTOR SCOPE display brightness in 3 levels: LOW, MID and HIGH.
- Default setting is **HIGH**.

### ③ Setting the VECTOR SCOPE display magnification ratio

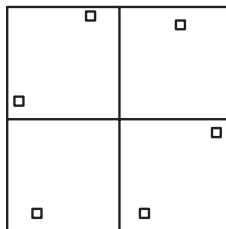
- Used to set the VECTOR SCOPE display magnification in 4 ratios: x1, x2, x4 and x8.
- Default setting is **x1**.

### ④ Setting the COLOR BOX scale display

- Used to set the VECTOR SCOPE's COLOR BOX according to the input color bar signal: 75% and 100%.
- Default setting is **100%**.



75%SCALE

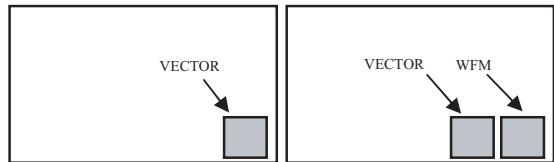


100%SCALE

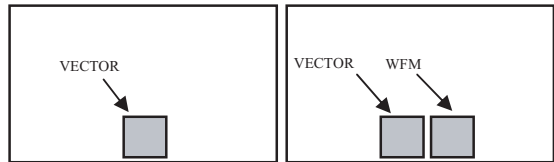
### ⑤ Setting the VECTOR SCOPE display position

- Used to set the waveform display to any of the RIGHT, CENTER and LEFT positions.
- When used commonly with WFM, the VECTOR display is located on the left of the WFM one.
- Default setting is **RIGHT**.

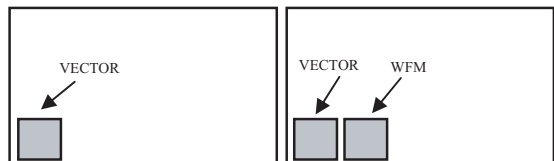
- **RIGHT** location



- **CENTER** location



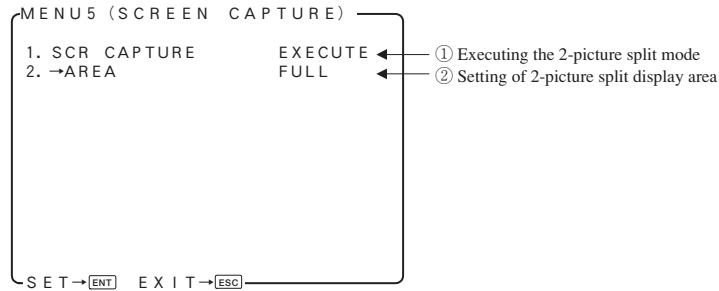
- **LEFT** location



### ⑥ Setting the VECTOR SCOPE display color

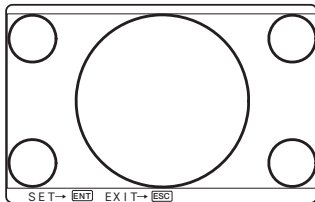
- Used to set the waveform display color to either of GREEN and WHITE.
- Default setting is **WHITE**.

## 4-7. Description of MENU 5 Functions

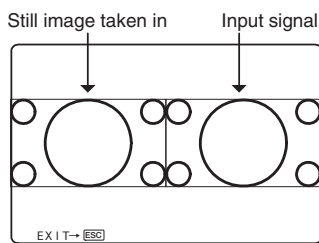


### ① Executing the 2-picture split mode

- Used to execute this mode to take in the still image of an input signal and compare it with other inputs.
1. With “EXECUTE” flashing in magenta, press the **[ENT]** switch.
  2. The display changes as shown below. Press the **[ENT]** switch again to take in the image.

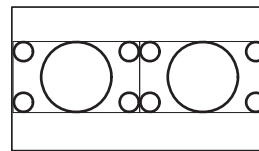


3. Switch the input and compare its image with the taken-in still image. To take in another image or to quit the 2-picture split mode, press the **[ESC]** switch.

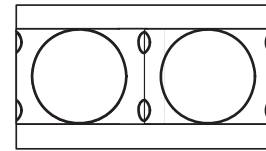


### ② Setting of 2-picture split display area

- Used to set the display area in the 2-picture split mode.
- FULL : Full image displayed
  - 4:3 : Image displayed in the central 4:3 area
- **Default setting is FULL.**
- \* This function is operative with HDTV-format input signals only.



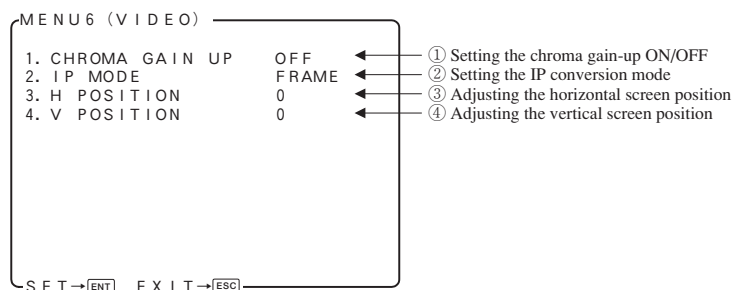
HDTV < FULL >



HDTV < 4:3 >

- \* The 2-picture split mode is operative with same-format signals. If different-format signals are input, the images cannot be properly displayed.
- \* With ASPECT set at [16:9], the SDTV signal is converted to the [4:3].

## 4-8. Description of MENU 6 Functions



### ① Setting the chroma gain-up ON/OFF

- Set the gain-up ON/OFF for chroma signals.
- At the time of ON, the chroma gain increases by +6 dB.
- This function can be assigned with the **F1** **F2** switch on the front panel.
- Default setting is OFF.

### ② Setting the IP conversion mode

- The mode for I → P conversion is set in the 1035i/1080i/1080psF/480i/575i formats.
  - FRAME: The information on the previous and subsequent fields is used to convert images to progressive ones. Thanks to this, diagonal interpolation of moving images is enabled for optimum setting.
  - FIELD : The line interpolation in the field is used to convert images to progressive ones. In this way, the signal delay can be minimized.
- Default setting is FRAME.

\* If the delay difference between video and audio are noticeable, change to "FIELD" setting. This setting will help operate regularly. Compared to FRAME interpolation, the FIELD setting may produce jaggies in moving images viewed diagonally.

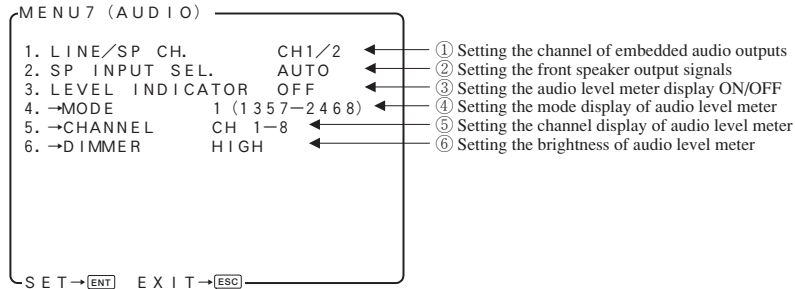
### ③ Adjusting the horizontal screen position

- Adjust the horizontal screen position of VIDEO input (SDI, VBS, COMP).
- The settings are memorized for each channel, each format or the setting of SYNC INT/EXT.
  - Default setting is 0.

### ④ Adjusting the vertical screen position

- Adjust the vertical screen position of VIDEO input (SDI, VBS, COMP).
- The settings are memorized for each channel, each format or the setting of SYNC INT/EXT.
  - Default setting is 0.

## 4-9. Description of MENU 7 Functions



### ① Setting the channel of embedded audio outputs

- Set any of the following pairs of channels of embedded audio to be outputted to the front speaker and the rear analog output connector (EA-240A/D3G-240A only).
  - CH1/2 : The output comes out of the paired CH1 and CH2 channels.
  - CH3/4 : The output comes out of the paired CH3 and CH4 channels.
  - CH5/6 : The output comes out of the paired CH5 and CH6 channels.
  - CH7/8 : The output comes out of the paired CH7 and CH8 channels.
- This function can be assigned with the **[F1]** **[F2]** switch on the front panel.
- Default setting is CH1/2.

### ② Setting the front speaker output signals

- Set the signals to be outputted to the speaker on the front of the monitor.
  - AUTO : embedded audios in the SDI input mode, and analog in other modes
  - EMBEDDED : fixed at embedded audios
  - ANALOG : fixed at analog
- Default setting is AUTO.

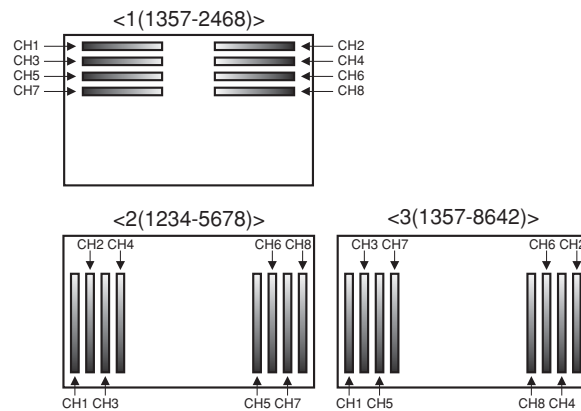
### ③ Setting the audio level meter display ON/OFF

- Used to turn on and off the audio level meter display.
- Default setting is OFF.

### ④ Setting the mode display of audio level meter

- Set the display mode of the audio level meter.
- The number in parentheses shows the order of display channel.
  - 1(1357-2468) : lateral display: odd channels on the left side of the screen, and even channels on the right side of the screen

- 2(1234-5678) : longitudinal display: CH1, CH2, CH3, CH4, CH5, CH6, CH7, CH8 from left to right on the screen
- 3(1357-8642) : longitudinal display: odd channels on the left side of the screen, and even channels on the right side of the screen
- Default setting is 1(1357-2468).



### ⑤ Setting the channel display of audio level meter

- Set the display channel of the audio level meter.
  - CH 1-2 : CH1 to CH2 is displayed.
  - CH 1-4 : CH1 to CH4 is displayed.
  - CH 1-8 : CH1 to CH8 is displayed.
- Default setting is CH 1-8.

### ⑥ Setting the brightness of audio level meter

- Set the brightness of the audio level meter.
- The level meter image transmissive mode or non-transmissive mode can be set.
  - LOW
  - MID
  - HIGH
  - LOW (MIX) (Image transmissive mode)
  - MID (MIX) (Image transmissive mode)
  - HIGH (MIX) (Image transmissive mode)
- Default setting is HIGH.

## 4-10. Description of MENU 8 Functions

MENU 8 (MARKER 1 / 2)	
1. MARKER (16:9)	SAFETY ← ① Setting the type of marker (at 16:9 aspect ratio)
2. →SAFETY AREA	80% ← ② Setting the safety marker area (at 16:9 aspect ratio)
3. →ASPECT	4:3 ← ③ Setting the type of aspect marker (at 16:9 aspect ratio)
4. →AREA IN ASPECT	80% ← ④ Setting the safety marker area in aspect marker area (at 16:9)
5. MARKER (4:3)	SAFETY ← ⑤ Setting the type of marker (at 4:3 aspect ratio)
6. →SAFETY AREA	80% ← ⑥ Setting the safety marker area (at 4:3 aspect ratio)
7. →ASPECT	16:9 ← ⑦ Setting the type of aspect marker (at 4:3 aspect ratio)
8. ASP. MARKER MODE	MRK+SHD ← ⑧ Setting the aspect marker display mode
9. →SHADOW LEVEL	40% ← ⑨ Setting the aspect marker shadow level
10. CENTER MARKER	OFF ← ⑩ Setting the center cross marker ON/OFF
11. MARKER LEVEL	80% ← ⑪ Setting the marker display level
↓ (NEXT PAGE)	
SET → [ENT] EXIT → [ESC]	

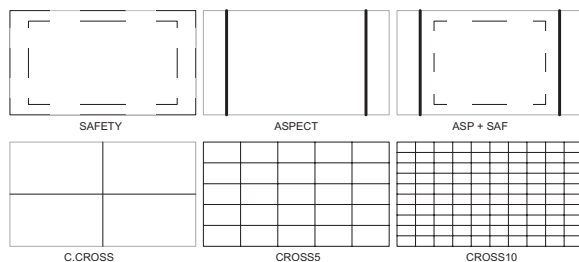
MENU 8 (MARKER 2 / 2)	
↑ (BACK)	
12. MARKER COLOR	■ ← ⑫ Setting the marker display color
13. USER MARKER	OFF ← ⑬ Setting the user marker display ON/OFF
14. SETTING	EXECUTE ← ⑭ Executing the user marker for the drawing setting menu
SET → [ENT] EXIT → [ESC]	

### ① Setting the type of marker (at 16:9 aspect ratio)

- Used to set various types of markers displayed at 16:9 aspect ratio.
  - SAFETY : Displaying the safety marker preset in Item ② .
  - ASPECT : Displaying the aspect marker preset in Item ③ .
  - ASP+SAF: Displaying the aspect marker preset in Item ③ and the safety marker in aspect marker area preset in Item ④ .
  - C.CROSS: Cross marker.
  - CROSS5 : 5-split crosshatch pattern.
  - CROSS10: 10-split crosshatch pattern.
- This function can be assigned with the [F1] [F2] switch on the front panel.

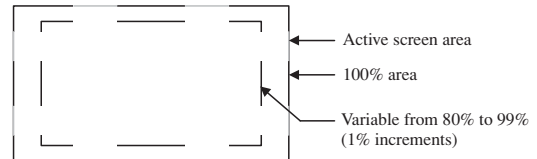
• The types of markers can also be set with the ◀ and ▶ switches on the front panel with no menu displayed.

• Default setting is SAFETY.



### ② Setting the safety marker area (at 16:9 aspect ratio)

- Used to set the safety marker area in the 80%-99% range with 1% increments at 16:9 aspect ratio.

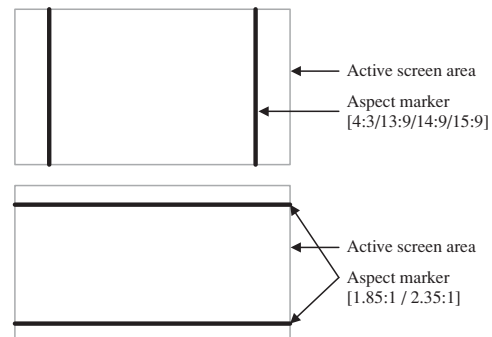


- Somewhere between 80% and 99% can also be set with the ▲ and ▼ switches on the front panel with no menu displayed.

• Default setting is 80% (safety area).

### ③ Setting the type of aspect marker (at 16:9 aspect ratio)

- Used to select the type of aspect marker from “4:3, 13:9, 14:9, 15:9, 1.85:1 and 2.35:1” at 16:9 aspect ratio.

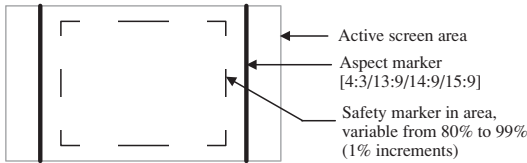


• Default setting is 4:3 marker.



**④ Setting the safety marker area in aspect marker area (at 16:9)**

- Used to set the safety marker in the aspect marker (4:3, 13:9, 14:9 and 15:9) area in the 80%-99% range with 1% increments at 16:9 aspect ratio.



- Somewhere between 80% and 99% can also be set with the ▲ and ▼ switches on the front panel with no menu displayed.

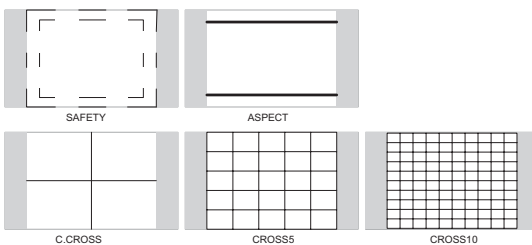
• Default setting is 80% (safety area).

**⑤ Setting the type of marker (at 4:3 aspect ratio)**

- Used to set various types of markers displayed at 4:3 aspect ratio.
  - SAFETY : Displaying the safety marker preset in Item ⑥ .
  - ASPECT : Displaying the aspect marker preset in Item ⑦ .
  - C.CROSS : Cross marker.
  - CROSS5 : 5-split crosshatch pattern.
  - CROSS10 : 10-split crosshatch pattern.

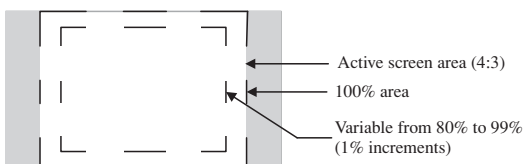
- The types of markers can also be set with the ◀ and ▶ switches on the front panel with no menu displayed.

• Default setting is SAFETY.



**⑥ Setting the safety marker area (at 4:3 aspect ratio)**

- Used to set the safety marker area in the 80%-99% range with 1% increments at 4:3 aspect ratio.

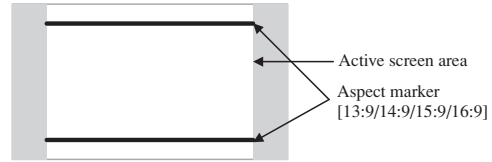


- Somewhere between 80% and 99% can also be set with the ▲ and ▼ switches on the front panel with no menu displayed.

• Default setting is 80% (safety area).

**⑦ Setting the type of aspect marker (at 4:3 aspect ratio)**

- Used to select the type of aspect marker from “13:9, 14:9, 15:9 and 16:9” at 4:3 aspect ratio.



• Default setting is 16:9 marker.

**⑧ Setting the aspect marker display mode**

- Used to set the aspect marker display mode.
  - MARKER : Displaying the marker only.
  - SHADOW : Displaying the shadow only.
  - MRK+SHD : Displaying both the marker and shadow.

• Default setting is MARKER+SHADOW.

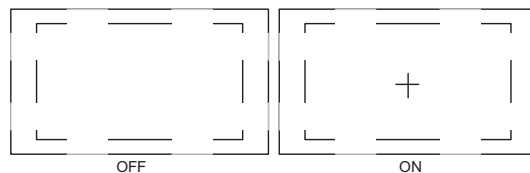


**⑨ Setting the aspect marker shadow level**

- Used to set the contrast level of the aspect marker shadow, when displayed.
  - Settings: 0%, 20%, 40% and 60%
  - Default setting is 40%.

**⑩ Setting the center cross marker ON/OFF**

- Used to turn on and off the center cross marker.
  - Default setting is OFF.



**⑪ Setting the marker display level**

- Used to set the marker display level.
  - Settings: 20%, 40%, 60%, 80% and 100%
  - Default setting is 80%.

**⑫ Setting the marker display color**

- Used to set the marker display color.
  - \* The user marker is displayed in the color preset on the user marker menu.
  - Settings : White, yellow, cyan, green, magenta, red and blue
  - Default setting is white.

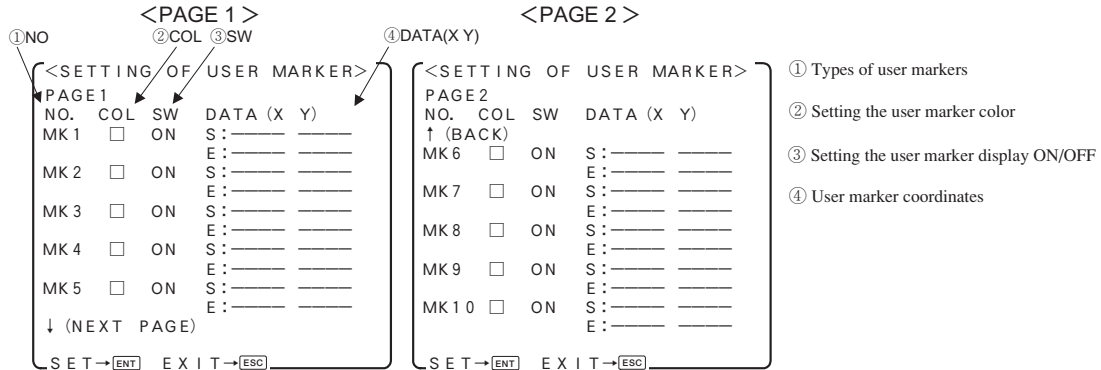
**⑬ Setting the user marker display ON/OFF**

- Used to turn on and off the user marker display.
- This function can be assigned with the **F1** **F2** switch on the front panel.
- Default setting is OFF.

**⑭ Executing the user marker for the drawing setting menu**

- Press **ENT** with EXECUTE, and the user marker setting menu shows up. Now various settings can be made on this menu.
- For details, refer to Item 4-11.

**4-11. Description of MENU8 (USER MARKER) Functions and Making Settings**



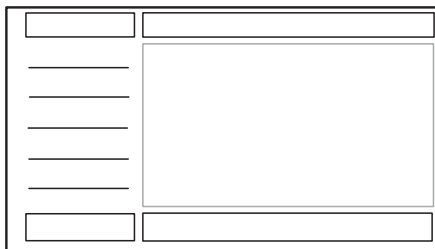
**◆ How to turn from PAGE1 to PAGE2**

When the blinking cursor is at MK1, use the **▲** switch to go to PAGE2. With the blinking cursor at MK5, use the **▼** switch to go to PAGE2.

**① Types of user markers**

- The user markers are presettable in boxes or lines, chosen from 10 types from MK1 to MK10. Up to 10 different display positions of subtitles can therefore be individually preset, depending on programs. Use the **▼** and **▲** switches to select a desired item.

<10 different display examples>



**② Setting the user marker color**

- Using the "COL" item, select a desired display color from 6 colors. The 10 types of user markers can be color-coded to identify them if two or more user markers are used.
- Settings : White, yellow, cyan, green, red and blue
- Default setting is white.


**③ Setting the user marker display ON/OFF**

- Using the "SW" item, the display can be turned on and off.
- Default setting is ON.

#### ④ User marker coordinates

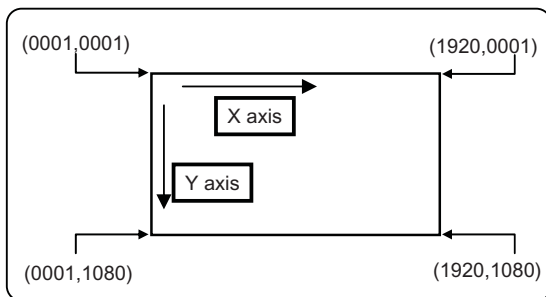
- In the “DATA (X Y)” column, the coordinates for **S: START POINT** and **E: END POINT** of the currently set user markers are displayed. Without such settings, the “—” marker appears.
- Move the cursor to the X/Y data. Using the **ENT** switch, new user markers can be drawn or already registered user markers can be modified.
- The setting can be made in 1-pixel increments. The top left of the effective screen serves as the reference point (0001, 0001) of the coordinates. From this point, the coordinates can be adjusted in the pixel range of 1920 x 1080.
- Default setting is —(unregistered).

#### ● Resetting the data

With “DATA(X Y)” blinking in magenta, hold down the  switch (or the right-hand button on the mouse) longer than 3 seconds. The settings of the data can now be unregistered (—).

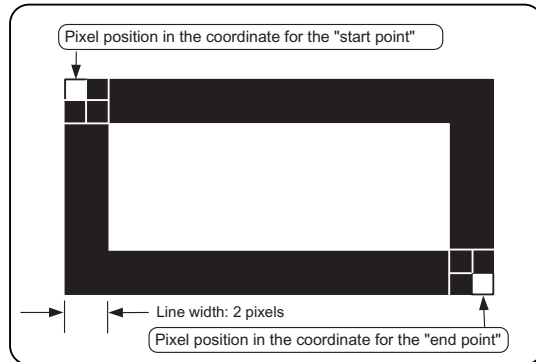
#### ● Coordinate reference point

This 1920 x 1080, Full-HD panel has the pixel reference point (0001, 0001) at the top left of the screen. The pixel at the bottom right on screen is preset as the coordinates (1920, 1080).

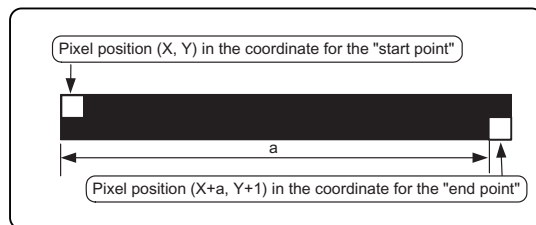


#### ● Marker lines and coordinate values

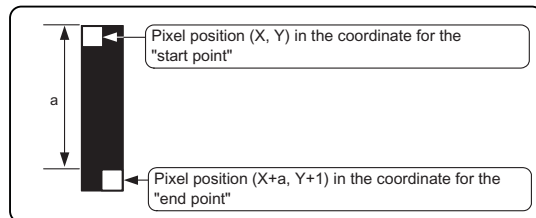
There are 2 line widths for the user markers. However, the coordinate for the start point and that for the end point are different by 1 pixel.



Accordingly, in drawing a horizontal line, the Y-direction address has a coordinate value with 1 pixel added, as shown below.



When a vertical line is drawn, the X-axis address has a coordinate value with 1 pixel added, as shown below.



# How to preset new user markers

## ① Select MENU8

```

MENU8 (MARKER 1 / 2)
1. MARKER (16:9) SAFETY
2. →SAFETY AREA 80%
3. →ASPECT 4:3
4. →AREA IN ASPECT 80%
5. MARKER (4:3) SAFETY
6. →SAFETY AREA 80%
7. →ASPECT 16:9
8. ASP. MARKER MODE MRK+SHD
9. →SHADOW LEVEL 40%
10. CENTER MARKER OFF
11. MARKER LEVEL 80%
↓ (NEX PAGE)
SET→[ENT] EXIT→[ESC]
    
```

Move the cursor

## ② Setting the marker display ON/OFF

```

MENU8 (MARKER 2 / 2)
↑ (BACK)
12. MARKER COLOR
13. USER MARKER  ON EXECUTE
14. SETTING
SET→[ENT] EXIT→[ESC]
    
```

Move the cursor

## ③ Execute the drawing mode in Item 14

```

MENU8 (MARKER 2 / 2)
↑ (BACK)
12. MARKER COLOR
13. USER MARKER  ON EXECUTE
14. SETTING
SET→[ENT] EXIT→[ESC]
    
```

Move the cursor

## ④ Setting the individual markers

```

<SETTING OF USER MARKER>
PAGE1
NO. COL SW DATA (X Y)
MK1  ON S: _____
E: _____
MK2  ON S: _____
E: _____
MK3  ON S: _____
E: _____
MK4  ON S: _____
E: _____
MK5  ON S: _____
E: _____
↓ (NEXT PAGE)
SET→[ENT] EXIT→[ESC]
    
```

Set the color and ON/OFF display for individual markers.

## ⑤ Going to the drawing menu

```

<SETTING OF USER MARKER>
PAGE1
NO. COL SW DATA (X Y)
MK1  ON S: _____
E: _____
MK2  ON S: _____
E: _____
MK3  ON S: _____
E: _____
MK4  ON S: _____
E: _____
MK5  ON S: _____
E: _____
↓ (NEXT PAGE)
SET→[ENT] EXIT→[ESC]
    
```

Move the cursor

The menu screen in Step ④ reappears and the settings are displayed at the X-Y coordinate.

## ⑥ Setting the start point

```

START POINT (X:0960 Y:0540)
END POINT (X:0960 Y:0540)
    
```

With nothing registered, the initial X-Y coordinate is displayed, and the start-point X-Y coordinate starts blinking.

With nothing registered, the cursor is displayed at the default center.

## ⑦ Moving the cursor to the start point

```

START POINT (X:0300 Y:0250)
END POINT (X:0300 Y:0250)
    
```

The shifted X-Y coordinate is displayed.

Move the cursor to the start point.

## ⑧ Saving the start point

```

START POINT (X:0300 Y:0250)
END POINT (X:0300 Y:0250)
    
```

The end-point X-Y coordinate starts blinking.

## ⑨ Moving the cursor to the end point

```

START POINT (X:0300 Y:0250)
END POINT (X:1200 Y:0500)
    
```

Move the cursor to the end point.

Take the procedure to set a new start point.

## ⑩ Saving the end point

```

START POINT (X:0300 Y:0250)
END POINT (X:1200 Y:0500)
    
```

The cursor moves to the start point. Take the procedure in Step ⑥ on the next page.

# How to modify the user markers

## ① Select MENU8

```

MENU8 (MARKER 1/2)
1. MARKER (16:9) SAFETY
2. →SAFETY AREA 80%
3. →ASPECT 4:3
4. →AREA IN ASPECT 80%
5. MARKER (4:3) SAFETY
6. →SAFETY AREA 80%
7. →ASPECT 16:9
8. ASP. MARKER MODE MRK+SHD
9. →SHADOW LEVEL 40%
10. CENTER MARKER OFF
11. MARKER LEVEL 80%
↓ (NEXT PAGE)
SET →[ENT] EXIT →[ESC]
    
```

Move the cursor

## ② Setting the marker display ON/OFF

```

MENU8 (MARKER 2/2)
1 (BACK)
12. MARKER COLOR
13. USER MARKER
14. SETTING
    
```

Move the cursor

## ③ Execute the drawing mode in Item 14

```

MENU8 (MARKER 2/2)
1 (BACK)
12. MARKER COLOR
13. USER MARKER
14. SETTING
    
```

Press [ENT] now.

## ④ Setting the individual markers

```

<SETTING OF USER MARKER>
PAGE1
NO. COL SW DATA (X Y)
MK1 ■ ON S: 0300 0250
E: 1200 0500
MK2 □ ON S:
E:
MK3 □ ON S:
E:
MK4 □ ON S:
E:
MK5 □ ON S:
E:
↓ (NEXT PAGE)
SET →[ENT] EXIT →[ESC]
    
```

## ⑤ Setting the modified size

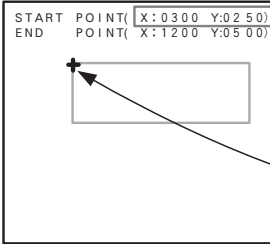
```

<SETTING OF USER MARKER>
PAGE1
NO. COL SW DATA (X Y)
MK1 □ ON S: 0300 0250
E: 1200 0500
MK2 □ ON S:
E:
MK3 □ ON S:
E:
MK4 □ ON S:
E:
MK5 □ ON S:
E:
↓ (NEXT PAGE)
SET →[ENT] EXIT →[ESC]
    
```

(Hold down)

Hold down the switch (or the right-hand button on the mouse), and the data will be initialized ( ).

## ⑥ Setting a new start point

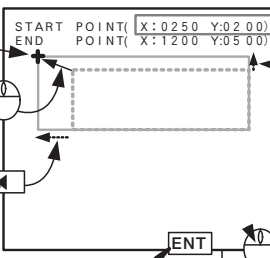


The start-point X-Y coordinate starts blinking.

The magenta-colored cursor appears at the start point.

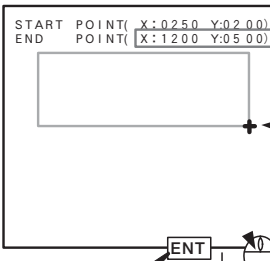
\* If the end point is positioned above or to the left of the start point, the cursor display position depends on the registered data.

## ⑦ Modifying the start point



The shifted X-Y coordinate is displayed.

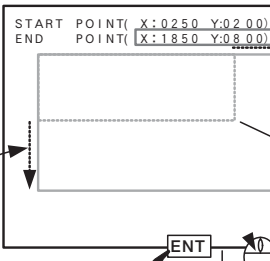
## ⑧ Modifying the end point



The end-point X-Y coordinate starts blinking.

The magenta-colored cursor appears at the end point.

## ⑨ Shifting the end point



Move the cursor to the end point.

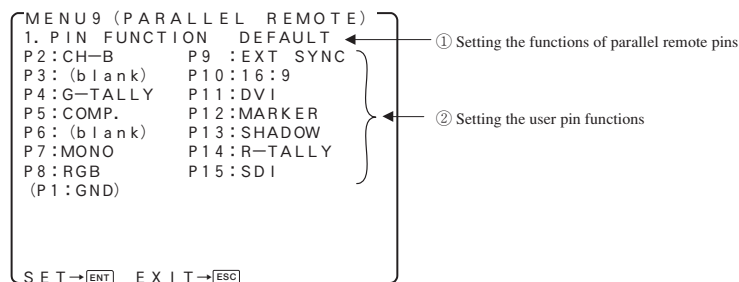
Take the procedure to set a new start point.

## ⑩ Saving the end point



The cursor moves to the start point.

## 4-12. Description of MENU 9 Functions



### ① Setting the functions of parallel remote pins

- Select the pre-assigned pin functions of parallel remote control or the individual user-set functions.
- \* By default, the pre-assigned pin functions are displayed beneath.

### ② Setting the IP conversion mode

- When “USER” is selected in ①, set the individual pin functions. The settable functions are as follows.
  - CH-B : selection of CH-B
  - SDI : selection of SDI input
  - DVI : selection of DVI input
  - COMP. : selection of component input
  - MONO : selection of MONO
  - RGB : selection of component RGB input
  - 16:9 : selection of SDTV aspect ratio 16:9
  - EXT SYNC : selection of external sync input
  - MARKER : marker ON
  - SHADOW : shadow ON at MENU7-preset level
  - SHADOW0 : shadow ON at shadow level 0% (Black)
  - SHADOW20 : shadow ON at shadow level 20%
  - SHADOW40 : shadow ON at shadow level 40%
  - SHADOW60 : shadow ON at shadow level 60%
  - R-TALLY : R tally ON
  - G-TALLY : G tally ON
  - (blank) : unassigned

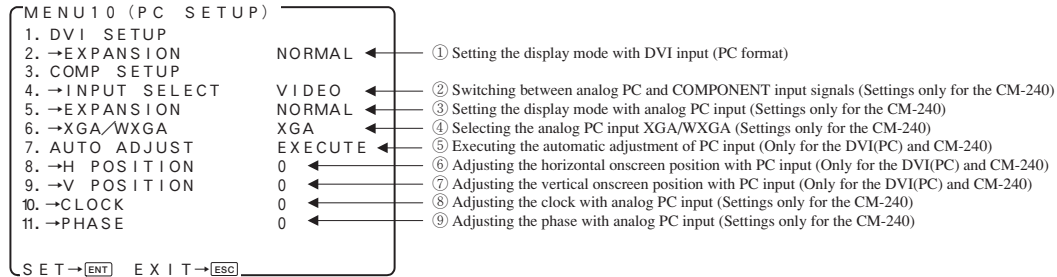
\* “SHADOW0”, “SHADOW20”, “SHADOW40” and “SHADOW60” functions

- Select two or more SHADOW settings at once, and “SHADOW0” (Black) is given priority.
- When any of these functions is turned ON, the MENU8-adjusted shadow level is forced to go back to the level remotely preset.

\* The functions of the following pins, which are fixed, cannot be changed.

- Pin 1 : Make contact GND

## 4-13. Description of MENU 10 Functions



\* The settings on MENU10 can be made only when the PC input is selected.

\* When the computer screen resolution is set at WXGA, SXGA, UXGA and WUXGA, be sure to select the refresh frequency of 60 Hz.

### ① Setting the display mode with DVI input (PC format)

● Used to preset the image display size in receiving the PC-format DVI signals. This is effective when a DVI input mode has been selected and the related signal is detected.

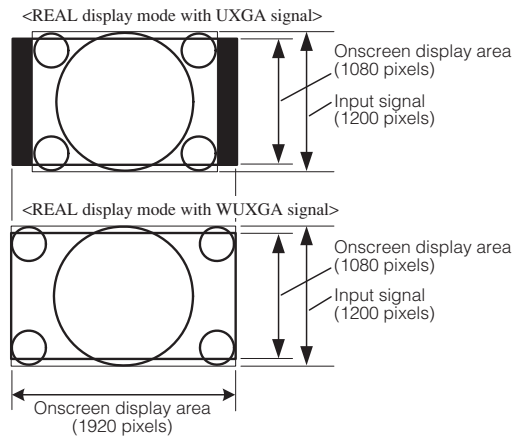
- **REAL** : Images are displayed 1 : 1 with the resolution of input signal.
- **NORMAL** : With the aspect ratio intact, images are enlarged or reduced in this panel's maximum displayable size.
- **FULL** : Images are fully displayed onscreen (1920 x 1080) for all input signals.

• **Default setting is NORMAL.**

◆ Display pixels with respect to PC input signals in each mode

PC input signal (pixels, aspect ratio)	Pixel size and aspect ratio		
	REAL	NORMAL	FULL
VGA (640 × 480, 4:3)	640 × 480 (4:3)	1440 × 1080 (4:3)	1920 × 1080 (16:9)
SVGA (800 × 600, 4:3)	800 × 600 (4:3)	1440 × 1080 (4:3)	1920 × 1080 (16:9)
XGA (1024 × 768, 4:3)	1024 × 768 (4:3)	1440 × 1080 (4:3)	1920 × 1080 (16:9)
WXGA (1280 × 768, 15:9)	1280 × 768 (15:9)	1800 × 1080 (15:9)	1920 × 1080 (16:9)
SXGA (1280 × 1024, 5:4)	1280 × 1024 (5:4)	1350 × 1080 (5:4)	1920 × 1080 (16:9)
UXGA (1600 × 1200, 4:3)	1600 × 1080 (4:3)	1440 × 1080 (4:3)	1920 × 1080 (16:9)
WUXGA (1920 × 1200, 16:10)	1920 × 1080 (16:10)	1728 × 1080 (16:10)	1920 × 1080 (16:9)

\*1: In the REAL display mode with UXGA/WUXGA signals, the input signal's number of vertical pixels (1200 pixels) is greater than the display panel's number of corresponding pixels (1080 pixels). As shown below, therefore, the 120-pixel images are cut off on screen at the top and bottom.



### ② Switching between analog PC and COMPONENT input signals (Settings only for the CM-240)

● **PC** : Analog PC input of the CM-240 is selected.

● **VIDEO** : COMPONENT input of the CM-240 is selected.

● This function can be assigned with the [F1] [F2] switch on the front panel.

• **Default setting is VIDEO.**

### ③ Setting the display mode with analog PC input (Settings only for the CM-240)

● Used to preset the image display size. The table below Item ① is also applicable with the display pixel size with respect to the input signal mode.

• **REAL** : Images are displayed 1 : 1 with the resolution of input signal.

• **NORMAL** : With the aspect ratio intact, images are enlarged or reduced in this panel's maximum displayable size.

• **FULL** : Images are fully displayed onscreen (1920 x 1080).

• **Default setting is NORMAL.**

**④ Selecting the analog PC input XGA/WXGA (Settings only for the CM-240)**

- When the analog PC input signal is WXGA, the format may fail to be identified, depending on the signal timing. In such case, select WXGA.
- Default setting is XGA.

**⑤ Executing the automatic adjustment of PC input (Only for the DVI(PC) and CM-240)**

- Used to automatically adjust the phase, clock and horizontal/vertical onscreen position in Items ⑥ thru ⑨.
- With the “EXECUTE” characters blinking, press the **ENT** switch, and the automatic adjustment will be made.
- \* During the automatic adjustment, do not turn off the power and switch the input signal.

**⑥ Adjusting the horizontal onscreen position with PC input (Only for the DVI(PC) and CM-240)**

- Used to adjust the horizontal onscreen position.

**⑦ Adjusting the vertical onscreen position with PC input (Only for the DVI(PC) and CM-240)**

- Used to adjust the vertical onscreen position.

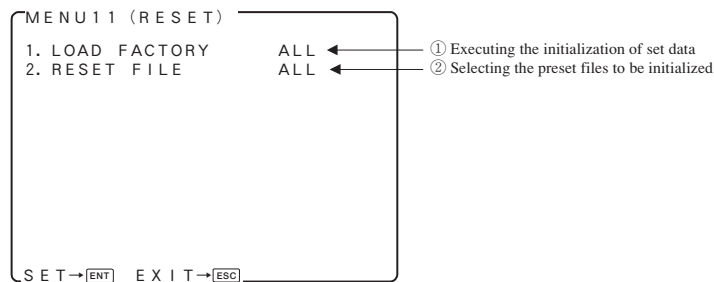
**⑧ Adjusting the clock with analog PC input (Settings only for the CM-240)**

- Used to adjust if noticeable vertical stripes appear onscreen.

**⑨ Adjusting the phase with analog PC input (Settings only for the CM-240)**

- Used to adjust if horizontal stripes appear or the characters look blurry onscreen.

## 4-14. Description of MENU 11 Functions



**① Executing the initialization of set data**

- Perform this setting to restore the default settings.
  - ALL : Factory settings are restored for all PRESET data, all MENUs and switches.
  - PRESET : Factory settings are restored for all PRESET data.
  - MENU&SW : Factory settings are restored for all MENUs and switches.
- To initialize, select an item to be initialized with the **▲** and **▼** switches and press the **ENT** switch. The confirmation message appears. Press the **ENT** switch again. To cancel the initialization, just press the **ESC** switch.

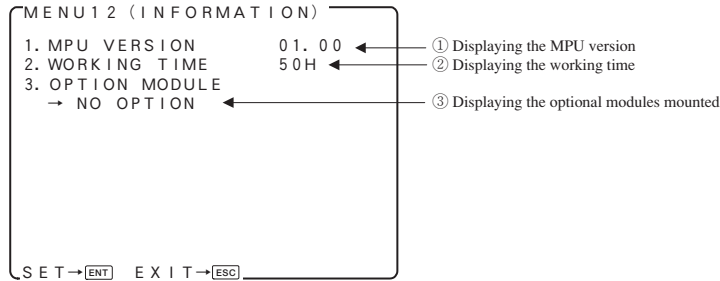
\* The initialization of data cannot be executed if “DATA LOCK” or “ALL LOCK” is set in "5-2. ⑥ Setting of data protection password". To initialize the data,unlock.

**② Selecting the preset files to be initialized**

- When “PRESET ” is selected in ① , select a file for restoring the set data to the factory-set one.
  - ALL : All the preset files are initialized.
  - FILEx : FILEx only is initialized. (x:1 to 8)
  - FILE 1-8: FILE1 to FILE8 only are initialized.
  - D65 : REF D65 only is initialized.
  - D93 : REF D93 only is initialized.
  - D65/D93 : REF D65 and D93 only are initialized.



## 4-15. Description of MENU 12 Functions



### ① Displaying the MPU version

- Displays the current software version.

### ② Displaying the working time

- The total working time of the monitor is displayed in hours.

### ③ Displaying the optional modules mounted

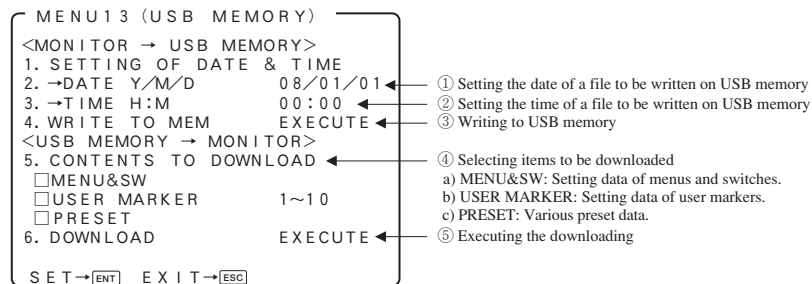
- Displays the optional module currently mounted on the monitor.

- The following message appears when no corresponding optional module is installed.  
“→ NO OPTION”

- The following appear when an optional module is installed.

- CM-240: When equipped with the CM-240.
- EA-240A: When equipped with the EA-240A.
- EA-240D: When equipped with the EA-240D.
- D3G-240A: When equipped with the D3G-240A.
- D3G-240D: When equipped with the D3G-240D.

## 4-16. Description of MENU 13 Functions



### Writing from monitor to USB memory

#### ① Setting the date of a file to be written on USB memory

- Used to set the editing date of a file to be written on a USB memory. Enter a date when you are going to write on the USB memory. When reviewing files on a computer, the date entered here will be displayed as the date of the file.
- Enter “Y (year)/M (month)/D (day)” in this order.
- If no date is entered, the file will be edited as of the date appearing currently on the menu.

#### ② Setting the time of a file to be written on USB memory

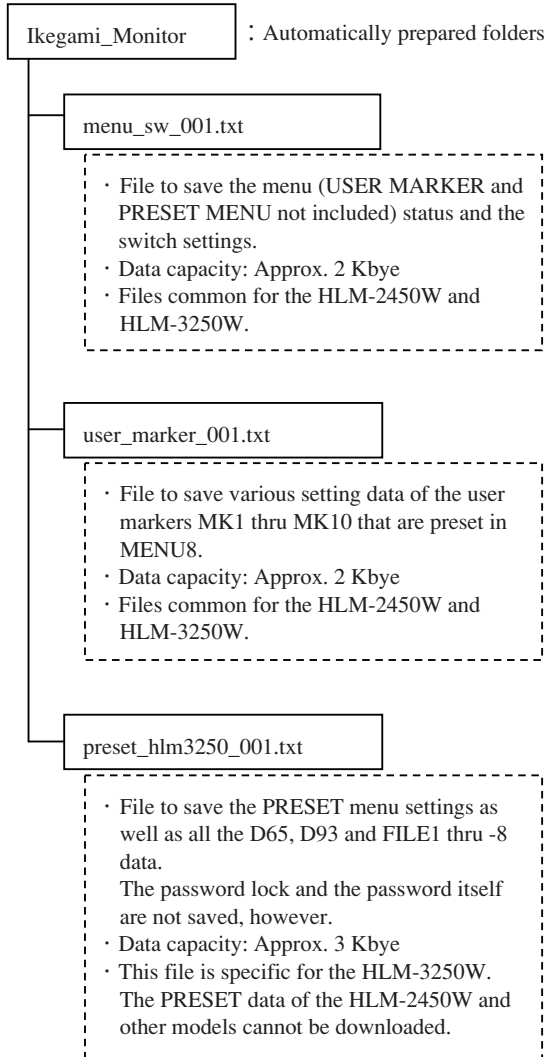
- Used to set the editing time of a file in a way similar to Item ①.
- Enter “H (hour) : M (minute)” in this order.  
If no time is entered, the file will be edited as of the time appearing currently on the menu.

### ③ Writing to USB memory

- To write all the setting data from the monitor to a USB memory, select “EXECUTE” and press the **ENT** switch. For writing details, refer to “How to write from monitor to USB memory” (page 35).

- **File format for writing to USB memory**

Files to be written from the monitor to a USB memory are created in the following 3 text files in the Ikegami Monitor folder that is automatically prepared.



#### ◆ Precautions on writing

- With a USB memory connected, do not turn on and off the monitor power. Do not draw out the inserted USB memory while the writing is going on. Otherwise the USB memory may get damaged. Draw out the USB memory in the steps according to “How to write from monitor to USB memory” (page 35) discussed later.
- Do not change the name of an automatically prepared folder or a file. Otherwise downloading to the monitor cannot be carried out. Do not modify the data of a file either. In such case, the data order may change and the data may fail to be written.
- If there is a file already in the specified folder, the data of a new file will be overwritten on the existing file.
- High-security USB memories could not be possibly recognized.

### Downloading from USB memory to monitor

#### ④ Selecting items to be downloaded

- Select the items of data to be downloaded from the USB memory to the monitor. Tick the check box.
- Items
  - MENU&SW
    - Tick this check box to download the status of all the menus (USER MARKER MENU and PRESET MENU not included) and the switch settings.
    - The “¥Ikegami Monitor¥menu sw 001.txt” file can be read.
    - Files are common for the HLM-2450W and HLM-3250W. The data saved from the HLM-2450W may be downloaded to the HLM-3250W, and vice versa.
  - USER MARKER
    - Tick this check box to download various settings (color, ON/OFF, X-Y coordinate) of the user markers MK1 thru MK10 that are preset in MENU8.
    - The “¥Ikegami Monitor¥user marker 001.txt” file can be downloaded.
    - By changing the “MK1 thru MK10” settings, the user markers can be downloaded in groups or individually.
    - Files are common for the HLM-2450W and HLM-3250W. The data saved from the HLM-2450W may be downloaded to the HLM-3250W, and vice versa.

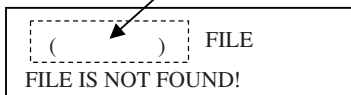
c)  PRESET

- Tick this check box to download the items preset in PRESET MENU and the D65, D93 and FILE1 thru -8 data.
- The “¥Ikegami\_Monitor¥ preset\_hlm3250\_001.txt” file can be read.
- When the data stays locked with the password, the check box cannot be ticked. Enter the password to unlock first and then do the downloading.
- The file names of FILE data are different from model to model. The PRESET data of different models, such as the HLM-2450W, cannot be downloaded.
- The color temperature data in FILE are different from unit to unit. Even by downloading the data of another monitor between two or more monitors, the same color temperature is not achieved. Accordingly, it is advisable to utilize the downloaded PRESET data for its unit as backup.

⑤ Executing the downloading

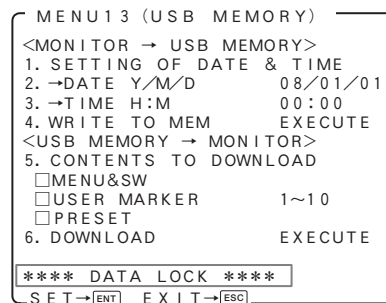
- In downloading the data of the items check-marked in Item ④ from the USB memory to the monitor, select “EXECUTE” first and then press the **ENT** switch. For writing details, refer to “How to download from USB memory to monitor” discussed later.
- If the file check-marked in Item ④ does not exist in the specific folder of the USB memory, the following message appears.

Missing file name displayed here.



◆ Precautions on downloading

- With a USB memory connected, do not turn on and off the monitor power. Do not draw out the inserted USB memory while the downloading is going on. Otherwise the USB memory may get damaged. Draw out the USB memory in the steps according to “How to download from USB memory to monitor” discussed later.
- Do not change the name of an automatically prepared folder or a file. Otherwise downloading to the monitor cannot be carried out. Do not modify the data of a file either. In such case, the data order may change and the data may fail to be written.
- If the password lock is on with the data in the monitor, “DATA LOCK” appears, as shown below, in the menu. Undo the password lock and do the downloading.



- High-security USB memories could not be possibly recognized.

## How to write from monitor to USB memory

```

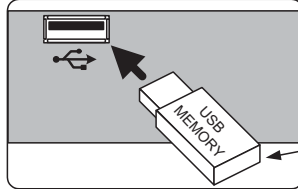
MENU13 (USB MEMORY)
<MONITOR → USB MEMORY>
1. SETTING OF DATE & TIME
2. →DATE Y/M/D 09/01/01
3. →TIME H:M 00:00
4. WRIGH TO MEM EXECUTE
<USB MEMORY → MONITOR>
5. CONTENTS TO DOWNLOAD
  □MENU&SW
  □USER MARKER 1~10
  □PRESET
6. DOWNLOAD EXECUTE

SET → [ENT] EXIT → [ESC]
    
```

Enter the date and time of a file to be written on a USB memory.  
\* If no date and time is entered here, the already entered settings will be upheld.

### ◆Precaution

Do not draw out the inserted USB memory until the writing has been completed. If drawn out during access, the device may get damaged.



Insert a USB memory into the USB port at the monitor front.

```

MENU13 (USB MEMORY)
<MONITOR → USB MEMORY>
1. SETTING OF DATE & TIME
2. →DATE Y/M/D 08/01/01
3. →TIME H:M 00:00
4. WRIGH TO MEM EXECUTE
<USB MEMORY → MONITOR>
5. CONTENTS TO DOWNLOAD
  □MENU&SW
  □USER MARKER 1~10
  □PRESET
6. DOWNLOAD EXECUTE

SET → [ENT] EXIT → [ESC]
    
```

Move the cursor to "EXECUTE" and press the [ENT] switch.

By pressing the [ESC] switch at this point, the device is disconnected and the USB memory can be drawn out.

### When no USB memory is inserted:

```

MENU13 (USB MEMORY)
<MONITOR → USB MEMORY>
1. SETTING OF DATE & TIME
2. →DATE Y/M/D 08/01/01
3. →TIME H:M 00:00
4. WRIGH TO MEM EXECUTE
<USB MEMORY → MONITOR>
5. CONTENTS TO DOWNLOAD
  □MENU&SW
  □USER MARKER 1~10
  □PRESET
6. DOWNLOAD EXECUTE

DEVICE: NO CONNECT
SET USB MEMORY
CANCEL → [ESC]
    
```

The "NO CONNECT" message appears.

### When an unsupported device is inserted:

```

MENU13 (USB MEMORY)
<MONITOR → USB MEMORY>
1. SETTING OF DATE & TIME
2. →DATE Y/M/D 08/01/01
3. →TIME H:M 00:00
4. WRIGH TO MEM EXECUTE
<USB MEMORY → MONITOR>
5. CONTENTS TO DOWNLOAD
  □MENU&SW
  □USER MARKER 1~10
  □PRESET
6. DOWNLOAD EXECUTE

DEVICE: UNSUPPORTED
SET USB MEMORY
CANCEL → [ESC]
    
```

The "UNSUPPORTED" message appears.

### In case of trouble

```

MENU13 (USB MEMORY)
<MONITOR → USB MEMORY>
1. SETTING OF DATE & TIME
2. →DATE Y/M/D 08/01/01
3. →TIME H:M 00:00
4. WRIGH TO MEM EXECUTE
<USB MEMORY → MONITOR>
5. CONTENTS TO DOWNLOAD
  □MENU&SW
  □USER MARKER 1~10
  □PRESET
6. DOWNLOAD EXECUTE

PROCESSING...
    
```

The device is detecting to see if the USB memory is inserted.

### In normal state

```

MENU13 (USB MEMORY)
<MONITOR → USB MEMORY>
1. SETTING OF DATE & TIME
2. →DATE Y/M/D 08/01/01
3. →TIME H:M 00:00
4. WRIGH TO MEM EXECUTE
<USB MEMORY → MONITOR>
5. CONTENTS TO DOWNLOAD
  □MENU&SW
  □USER MARKER 1~10
  □PRESET
6. DOWNLOAD EXECUTE

DEVICE: USB MEMORY
WRITE TO USB MEMORY?
OK → [ENT] CANCEL → [ESC]
    
```

The detection result is displayed here. When the USB memory is recognized, "USB MEMORY" appears onscreen.

When ready to write, press the [ENT] switch. To interrupt it, press the [ESC] switch.

By pressing the [ESC] switch at this point, the device is disconnected and the USB memory can be drawn out.

```

MENU13 (USB MEMORY)
<MONITOR → USB MEMORY>
1. SETTING OF DATE & TIME
2. →DATE Y/M/D 08/01/01
3. →TIME H:M 00:00
4. WRIGH TO MEM EXECUTE
<USB MEMORY → MONITOR>
5. CONTENTS TO DOWNLOAD
  □MENU&SW
  □USER MARKER 1~10
  □PRESET
6. DOWNLOAD EXECUTE

WRITING...
DO NOT REMOVE THE DEVICE!
    
```

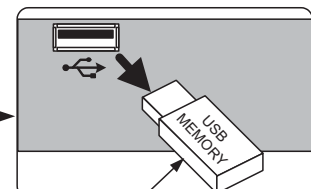
During write

```

MENU13 (USB MEMORY)
<MONITOR → USB MEMORY>
1. SETTING OF DATE & TIME
2. →DATE Y/M/D 08/01/01
3. →TIME H:M 00:00
4. WRIGH TO MEM EXECUTE
<USB MEMORY → MONITOR>
5. CONTENTS TO DOWNLOAD
  □MENU&SW
  □USER MARKER 1~10
  □PRESET
6. DOWNLOAD EXECUTE

JOB COMPLETED!
THE DEVICE CAN BE REMOVED.
EXIT → [ESC]
    
```

Write complete



Draw out the USB memory.

**How to download from USB memory to monitor**

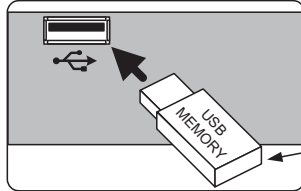
```

MENU13 (USB MEMORY)
<MONITOR → USB MEMORY>
1. SETTING OF DATE & TIME
2. →DATE Y/M/D 09/01/01
3. →TIME H:M 00:00
4. WRIGH TO MEM EXECUTE
<USB MEMORY → MONITOR>
5. CONTENTS TO DOWNLOAD
  MENU&SW
  USER MARKER 1~10
  PRESET
6. DOWNLOAD EXECUTE
    
```

Tick the check box(es) (☑) for items to be downloaded from a USB memory to the monitor.

The USER MARKER can be preset for any from MK1 thru MK10.

**◆Precaution**  
Do not draw out the inserted USB memory until the downloading has been completed. If drawn out during access, the device may get damaged.



Insert a USB memory into the USB port at the monitor front.

```

MENU13 (USB MEMORY)
<MONITOR → USB MEMORY>
1. SETTING OF DATE & TIME
2. →DATE Y/M/D 08/01/01
3. →TIME H:M 00:00
4. WRIGH TO MEM EXECUTE
<USB MEMORY → MONITOR>
5. CONTENTS TO DOWNLOAD
  MENU&SW
  USER MARKER 1~10
  PRESET
6. DOWNLOAD EXECUTE
    
```

Move the cursor to "EXECUTE" and press the [ENT] switch.

By pressing the [ESC] switch at this point, the device is disconnected and the USB memory can be drawn out.

```

When no USB memory is inserted:
MENU13 (USB MEMORY)
<MONITOR → USB MEMORY>
1. SETTING OF DATE & TIME
2. →DATE Y/M/D 08/01/01
3. →TIME H:M 00:00
4. WRIGH TO MEM EXECUTE
<USB MEMORY → MONITOR>
5. CONTENTS TO DOWNLOAD
  MENU&SW
  USER MARKER 1~10
  PRESET
6. DOWNLOAD EXECUTE
  DEVICE: NO CONNECT
  SET USB MEMORY
  CANCEL → [ESC]
    
```

The "NO CONNECT" message appears.

```

When an unsupported device is inserted:
MENU13 (USB MEMORY)
<MONITOR → USB MEMORY>
1. SETTING OF DATE & TIME
2. →DATE Y/M/D 08/01/01
3. →TIME H:M 00:00
4. WRIGH TO MEM EXECUTE
<USB MEMORY → MONITOR>
5. CONTENTS TO DOWNLOAD
  MENU&SW
  USER MARKER 1~10
  PRESET
6. DOWNLOAD EXECUTE
  DEVICE: UNSUPPORTED
  SET USB MEMORY
  CANCEL → [ESC]
    
```

The "UNSUPPORTED" message appears.

**In case of trouble**

```

MENU13 (USB MEMORY)
<MONITOR → USB MEMORY>
1. SETTING OF DATE & TIME
2. →DATE Y/M/D 08/01/01
3. →TIME H:M 00:00
4. WRIGH TO MEM EXECUTE
<USB MEMORY → MONITOR>
5. CONTENTS TO DOWNLOAD
  MENU&SW
  USER MARKER 1~10
  PRESET
6. DOWNLOAD EXECUTE
  PROCESSING...
    
```

The device is detecting to see if the USB memory is inserted.

**In normal state**

```

MENU13 (USB MEMORY)
<MONITOR → USB MEMORY>
1. SETTING OF DATE & TIME
2. →DATE Y/M/D 08/01/01
3. →TIME H:M 00:00
4. WRIGH TO MEM EXECUTE
<USB MEMORY → MONITOR>
5. CONTENTS TO DOWNLOAD
  MENU&SW
  USER MARKER 1~10
  PRESET
6. DOWNLOAD EXECUTE
  DEVICE: USB MEMORY
  DOWNLOAD?
  OK → [ENT] CANCEL → [ESC]
    
```

The detection result is displayed here. When the USB memory is recognized, "USB MEMORY" appears onscreen.

When ready to write, press the [ENT] switch. To interrupt it, press the [ESC] switch.

By pressing the [ESC] switch at this point, the device is disconnected and the USB memory can be drawn out.

```

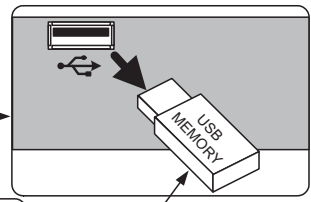
MENU13 (USB MEMORY)
<MONITOR → USB MEMORY>
1. SETTING OF DATE & TIME
2. →DATE Y/M/D 08/01/01
3. →TIME H:M 00:00
4. WRIGH TO MEM EXECUTE
<USB MEMORY → MONITOR>
5. CONTENTS TO DOWNLOAD
  MENU&SW
  USER MARKER 1~10
  PRESET
6. DOWNLOAD EXECUTE
  LOADING...
  DO NOT REMOVE THE DEVICE!
    
```

During download

```

MENU13 (USB MEMORY)
<MONITOR → USB MEMORY>
1. SETTING OF DATE & TIME
2. →DATE Y/M/D 08/01/01
3. →TIME H:M 00:00
4. WRIGH TO MEM EXECUTE
<USB MEMORY → MONITOR>
5. CONTENTS TO DOWNLOAD
  MENU&SW
  USER MARKER 1~10
  PRESET
6. DOWNLOAD EXECUTE
  JOB COMPLETED!
  THE DEVICE CAN BE REMOVED.
  EXIT → [ESC]
    
```

Download complete

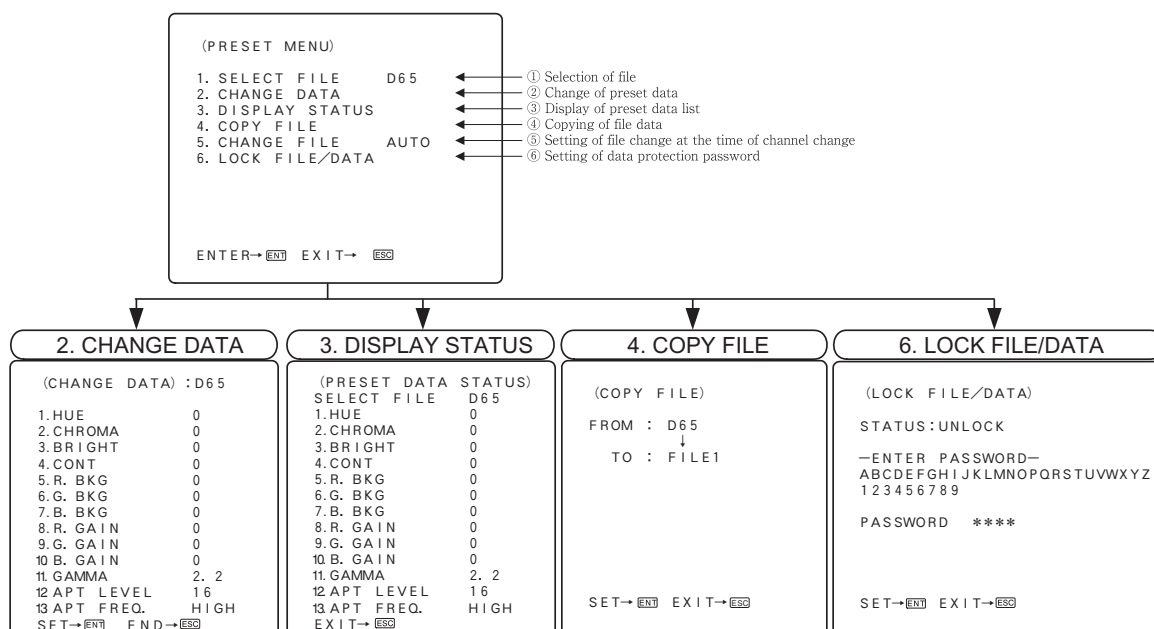


Draw out the USB memory.

## 5. Preset Menu Function

### 5-1. List of preset menu

- To execute the preset menu, press **PRESET**.
- \* Turn off the menu screen.



### 5-2. Description of preset menu

#### ① Selection of files

- Select a file from among D65, D93 and FILE1 to FILE8.

D65 : 6500K

D93 : 9300K

FILE 1-8 : User-edited files

- The following data is memorized on these 10 files.

- HUE : Hue data (only for NTSC signals)
- CHROMA : CHROMA data
- BRIGHT : BRIGHTNESS data
- CONT : CONTRAST data
- R.GAIN : R.GAIN data
- G.GAIN : G.GAIN data
- B.GAIN : B.GAIN data
- R.BKG : R.BACKGROUND data
- G.BKG : G.BACKGROUND data
- B.BKG : B.BACKGROUND data
- GAMMA : Gamma data
- APT LEVEL : Aperture level
- APT FREQ. : Aperture frequency

- The DS65 and D93 have been factory-set for the color temperatures of 6500K and 9300K, respectively. The FILE1 thru -8 data have been factory-set to be the same as for the D65.

## ② Change of preset data

(CHANGE DATA) : D65		(a) File being selected
1. HUE	0	(b) HUE data
2. CHROMA	0	(c) CHROMA data
3. BRIGHT	0	(d) BRIGHT data
4. CONT	0	(e) CONTRAST data
5. R. BKG	0	(f) R. BACKGROUND data
6. G. BKG	0	(g) G. BACKGROUND data
7. B. BKG	0	(h) B. BACKGROUND data
8. R. GAIN	0	(i) R.GAIN data
9. G. GAIN	0	(j) G.GAIN data
10. B. GAIN	0	(k) B.GAIN data
11. GAMMA	2. 2	(l) Gamma data
12. APT LEVEL	16	(m) Aperture level
13. APT FREQ.	HIGH	(n) Aperture frequency
SET → [ENT] END → [ESC]		

● Change the data of a file selected in "(a) Selection of files" on the preceding page.

● How to change data

Select "CHANGE DATA" and press the [ENT] switch. The following "CHANGE DATA" menu appears.

● Adjustable

• HUE

Used to set the hue (only for NTSC signals).

• CHROMA

Used to set the color density.

• BRIGHT (BRIGHTNESS)

Used to set the black level.

• CONT (CONTRAST)

Used to set the white level.

• R.BKG (R.BACKGROUND)

Used to set the black balance (red component) in the dark zone.

• G.BKG (G.BACKGROUND)

Used to set the black balance (green component) in the dark zone.

• B.BKG (B.BACKGROUND)

Used to set the black balance (blue component) in the dark zone.

• R.GAIN

Used to set the white balance (red component) in the bright zone.

• G.GAIN

Used to set the white balance (green component) in the bright zone.

• B.GAIN

Used to set the white balance (blue component) in the bright zone.

• GAMMA

Used to set the gamma level in the "1.4-3.0" range.

• Default setting is 2.2.

• APT LEVEL

Used to set the aperture level in the "0-63" range.

• Default setting is 16.

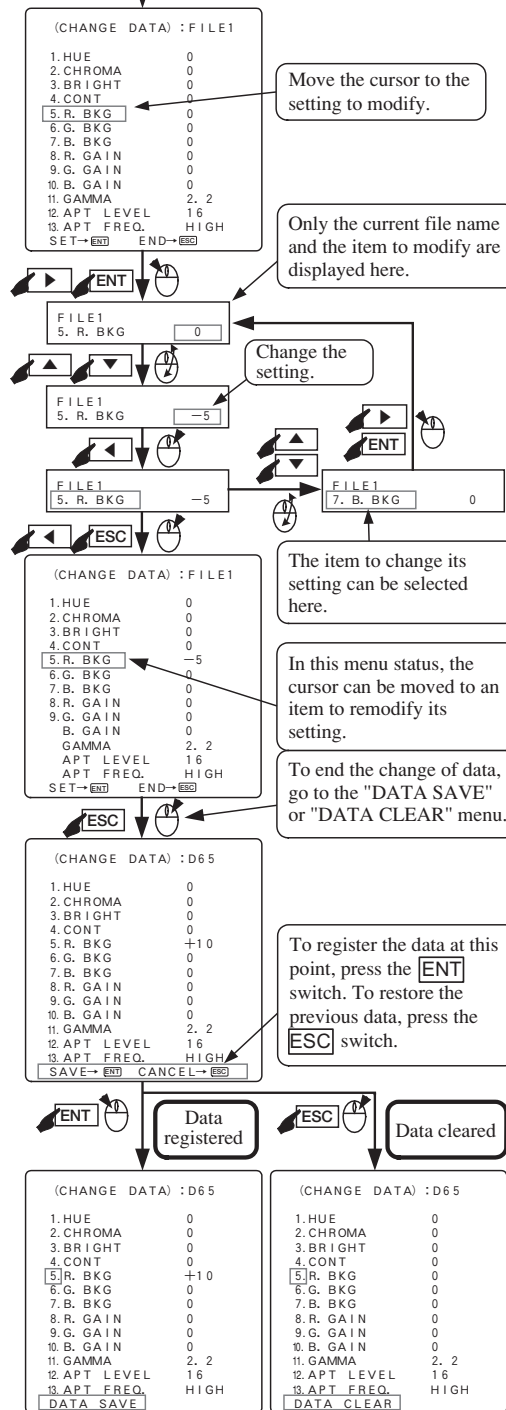
• APT FREQ.

Used to set the aperture frequency.

LOW (low frequency), MID1, MID2, HIGH (high frequency)

• Default setting is HIGH.

### Change of PRESET data



### ③ Display of preset data list

(PRESET DATA STATUS)		
SELECT FILE	D65	(a) File being selected
1. HUE	0	(b) HUE data
2. CHROMA	0	(c) CHROMA data
3. BRIGHT	0	(d) BRIGHT data
4. CONT	0	(e) CONTRAST data
5. R. BKG	0	(f) R. BACKGROUND data
6. G. BKG	0	(g) G. BACKGROUND data
7. B. BKG	0	(h) B. BACKGROUND data
8. R. GAIN	0	(i) R.GAIN data
9. G. GAIN	0	(j) G.GAIN data
10. B. GAIN	0	(k) B.GAIN data
11. GAMMA	2. 2	(l) Gamma data
12. APT LEVEL	16	(m) Aperture level
13. APT FREQ.	HIGH	(n) Aperture frequency
EXIT	→ [ESC]	

- Display a list of the settings of file data.
- To change files, use the and switches at the SELECT FILE setting.

### ④ Copying of file data

(COPY FILE)		
FROM : D65	←	(a) Selection of copy source file
↓		
TO : FILE1	←	(b) Selection of copy destination file
SET → [ENT] EXIT → [ESC]		

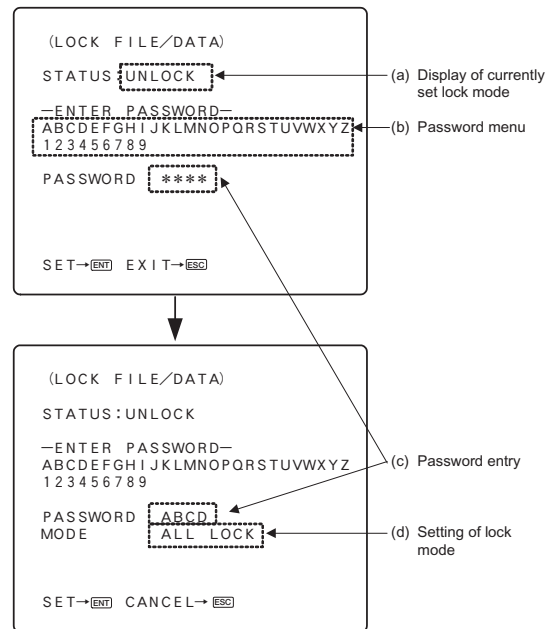
- Select the copy source file (D65, D93, FILEx [x: 1 to 8]) using the / switch and press the [ENT] switch.
- Select the copy destination file (FILEx [x: 1 to 8], FILE1 - FILE8) using the / switch.
  - \* When FILE1 - FILE8 are selected, data is copied to FILE1 through FILE8.
- When the [ENT] switch is pressed, the copy confirmation message appears. To copy, press the [ENT] switch again. If not, press the [ESC] switch.

### ⑤ Setting of file change operation at the time of channel change

- Set the association of channel change with file change.
  - AUTO : Files are memorized for each channel: When a channel is changed to another, an automatically stored file is picked up.
  - MANUAL: Just one file preset for all channels is fixed.
- Default setting is AUTO.

### ⑥ Setting of data protection password

- A password is set to prevent modifications of the preset data and the initialization.



- Display of currently set lock mode
  - The currently set lock mode is displayed.
  - UNLOCK : The lock is released and all data can be changed.
  - DATA LOCK: Preset data change is locked, although file change is possible.
  - ALL LOCK : Preset data change and file change are impossible.
- Password menu
  - Select characters from this list using the , , and switches and press the [ENT] switch to set the password.
- Password entry
  - When setting the lock mode to ALL LOCK or DATA LOCK or when releasing the lock mode (UNLOCK), select characters from the menu in ② and enter a four-digit password here.
  - \* If you forget the registered password, contact Ikegami's service office. They have a password for releasing the lock.
- Setting of LOCK mode
  - When the [ENT] switch is pressed after the password has been entered, the LOCK mode blinks. Execute the setting by pressing the [ENT] key. To return to the previous state, press the [ESC] switch.



## Changing the lock mode

```
(LOCK FILE/DATA)
STATUS:UNLOCK

-ENTER PASSWORD-
A B C D E F G H I J K L M N O P Q R S T U V W X Y Z
1 2 3 4 5 6 7 8 9

PASSWORD ****

SET→ENT EXIT→ESC
```

Select a character with the cross switch, and enter a 4-character password.



```
(LOCK FILE/DATA)
STATUS:UNLOCK

-ENTER PASSWORD-
A B C D E F G H I J K L M N O P Q R S T U V W X Y Z
1 2 3 4 5 6 7 8 9

PASSWORD ABCD
MODE UNLOCK

SET→ENT CANCEL→ESC
```

With the 4-character password entered, the lock/unlock mode status appears.



```
(LOCK FILE/DATA)
STATUS:UNLOCK

-ENTER PASSWORD-
A B C D E F G H I J K L M N O P Q R S T U V W X Y Z
1 2 3 4 5 6 7 8 9

PASSWORD ABCD
MODE ALL LOCK

SET→ENT CANCEL→ESC
```

Select the lock mode.



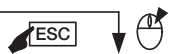
```
(LOCK FILE/DATA)
STATUS:ALL LOCK

-ENTER PASSWORD-
A B C D E F G H I J K L M N O P Q R S T U V W X Y Z
1 2 3 4 5 6 7 8 9

PASSWORD ****

SET→ENT EXIT→ESC
```

Press the ENT switch, and the password is registered in the selected lock mode.



```
(LOCK FILE/DATA)
STATUS:UNLOCK

-ENTER PASSWORD-
A B C D E F G H I J K L M N O P Q R S T U V W X Y Z
1 2 3 4 5 6 7 8 9

PASSWORD ****

SET→ENT EXIT→ESC
```

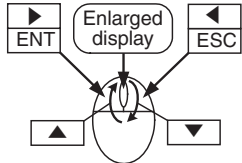
Press the ESC switch, and the lock mode is undone and the previous setting is restored.

## 6. Mouse menu function

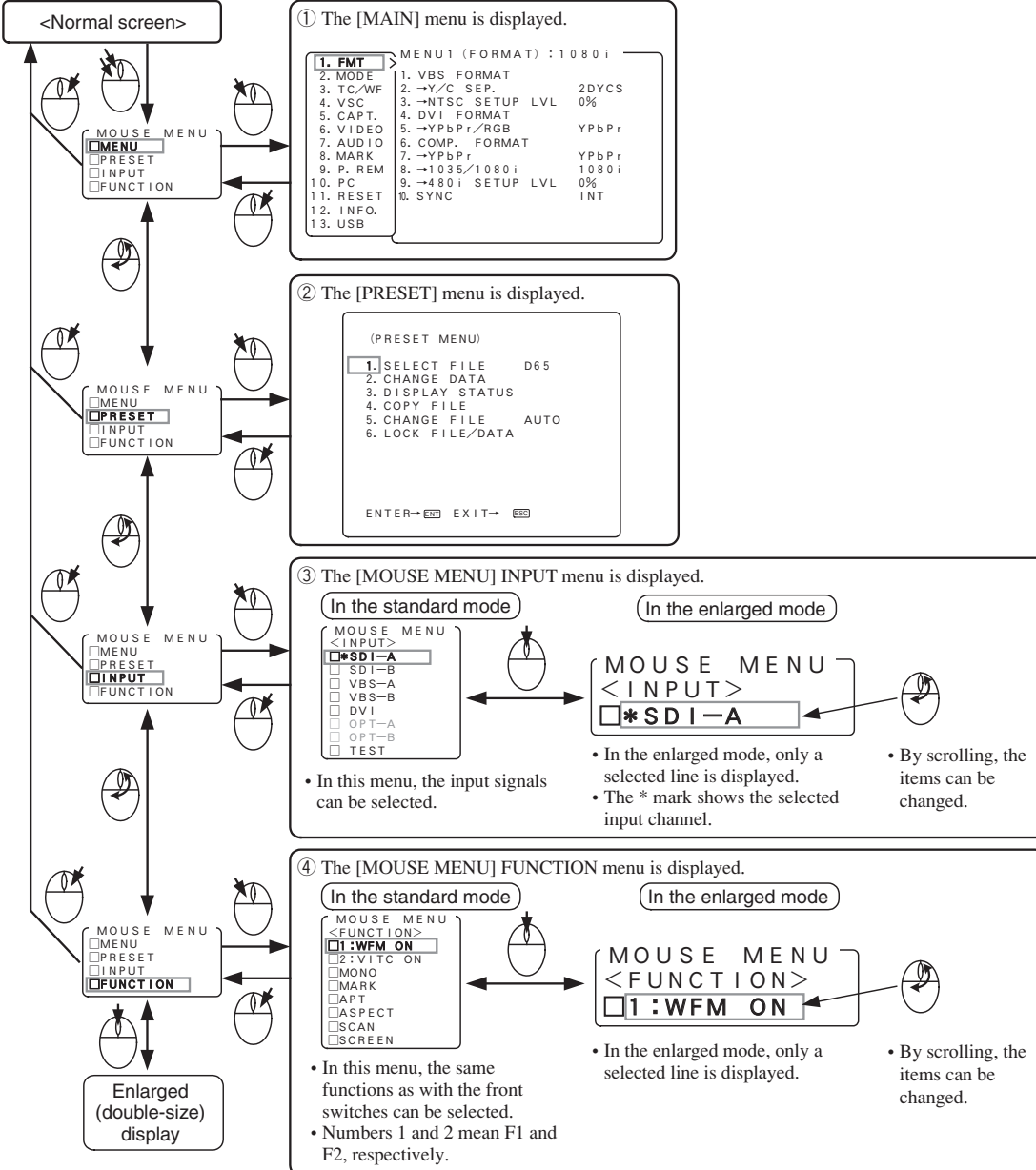
### 6-1. Basic procedure of the mouse menu

**Basic behavior of the mouse**  
 The USB mouse requires the following 5 functions. Remote control is enabled using a 2.4GHz wireless mouse.

The mouse basically behaves in the same way as the switches on the front panel bottom.



- ① Double click
  - The mouse menu is displayed.
- ② Left click
  - A selected item in the menu is moved to the right.
  - The data is registered.
- ③ Right click
  - A selected item in the menu is moved to the left.
  - The data is cleared.
- ④ Center click
  - The mouse menu is enlarged.
- ⑤ Scroll wheel
  - A selected item is moved up and down.
  - The data is modified.



**① The [MAIN] menu is displayed.**

```

    1. FMT > MENU 1 (FORMAT) : 1080 i
    2. MODE 1. VBS FORMAT
    3. TC/WF 2. -Y/C SEP. 2DYCS
    4. VSC 3. -NTSC SETUP LVL 0%
    5. CAPT. 4. DVI FORMAT
    6. VIDEO 5. -YPbPr/RGB YPbPr
    7. AUDIO 6. COMP. FORMAT
    8. MARK 7. -YPbPr YPbPr
    9. P. REM 8. -1035/1080i 1080i
    10. PC 9. -480i SETUP LVL 0%
    11. RESET 10. SYNC
    12. INFO.
    13. USB
    
```

**② The [PRESET] menu is displayed.**

```

    (PRESET MENU)
    1. SELECT FILE D65
    2. CHANGE DATA
    3. DISPLAY STATUS
    4. COPY FILE
    5. CHANGE FILE AUTO
    6. LOCK FILE/DATA
    ENTER-> [END] EXIT-> [ESC]
    
```

**③ The [MOUSE MENU] INPUT menu is displayed.**

**In the standard mode**

```

    MOUSE MENU
    <INPUT>
    1. *SDI-A
    SDI-B
    VBS-A
    VBS-B
    DVI
    OPT-A
    OPT-B
    TEST
    
```

**In the enlarged mode**

```

    MOUSE MENU
    <INPUT>
    *SDI-A
    
```

- In this menu, the input signals can be selected.
- In the enlarged mode, only a selected line is displayed.
- The \* mark shows the selected input channel.
- By scrolling, the items can be changed.

**④ The [MOUSE MENU] FUNCTION menu is displayed.**

**In the standard mode**

```

    MOUSE MENU
    <FUNCTION>
    1. WFM ON
    2. VITC ON
    MONO
    MARK
    APT
    ASPECT
    SCAN
    SCREEN
    
```

**In the enlarged mode**

```

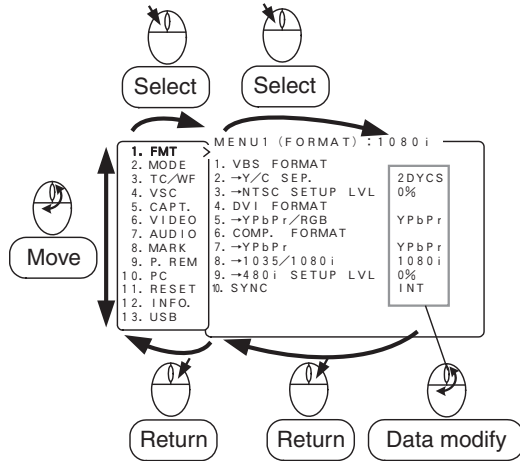
    MOUSE MENU
    <FUNCTION>
    1 : WFM ON
    
```

- In this menu, the same functions as with the front switches can be selected.
- Numbers 1 and 2 mean F1 and F2, respectively.
- In the enlarged mode, only a selected line is displayed.
- By scrolling, the items can be changed.

Enlarged (double-size) display

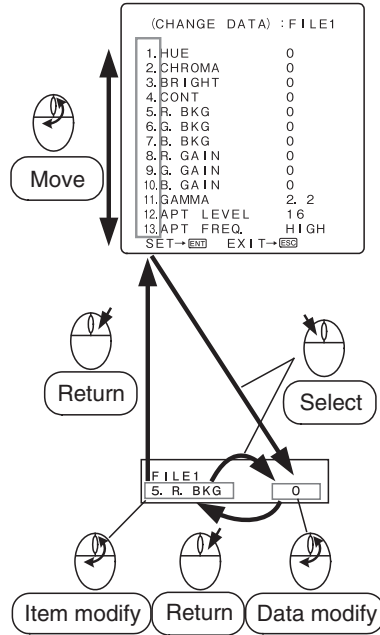
## 6-2. Basic procedures on the MENU and PRESET MENU screens

### ① Basic mouse behavior on the MENU screen



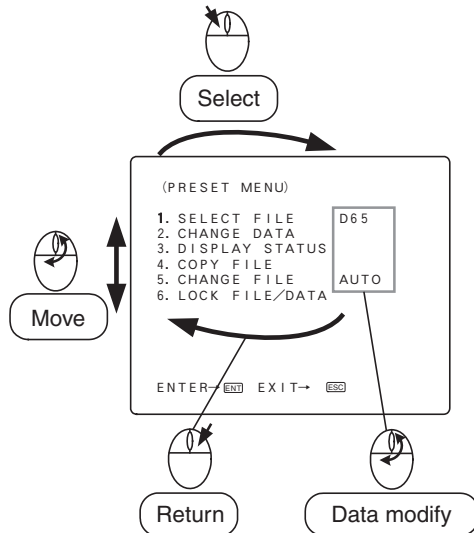
- Left-click the mouse to go to the right of the MENU screen and select an item. Right-click it to return to the left-hand items.
- The scroll wheel is used to move vertically and to change the settings.
- When there are two or more settings to select on the right-hand data like the USB memory's date setting, left-click the mouse to go to the settings to modify.

### ③ Basic mouse behavior on the CHANGE PRESET screen



- The behavior is the same as Item ①.

### ② Basic mouse behavior on the PRESET MENU screen



- The behavior is the same as Item ①.

## 7. Specifications

### 7-1. General specifications

#### (1) Supply voltage

AC input

- 100V~120V±10% 50/60Hz
- 200V~240V±10% 50/60Hz

#### (2) Power consumption

Max. 145W (Standard type)

Max. 151W (with full options)

#### (3) Ambient operating temperature/humidity, ambient storage temperature/humidity

Operation: 0°C to +40°C, 20% to 85%  
(non condensing)

Storage: -10°C to +50°C, 5% to 85%  
(non condensing)

Maximum wet-bulb temperature: 29°C

#### (4) Outside dimensions

(excluding protrusions)

776mm(W) x 498mm(H) x 110mm(D)

#### (5) Weight

Monitor proper: Approx. 16.3kg

(excluding the stand and option)

Stand: Approx. 3.7kg (stand)

#### (6) Standard accessories

Fixed stand (attached on the monitor)

Operation manual , Parallel remote connector,

AC Power cable

x1 each

### 7-2. Rated performance

#### (1) SDI signal (supported as standard)

a) Input/output terminal

Input: BNC 2 lines

Output: BNC 1 line (Active loop through for  
only one line selected)

b) Input signal format (Auto detection)

• HD-SDI: SMPTE 292M

1035i/60, 59.94      1080p/25

1080i/60, 59.94      1080p/24, 23.98

1080i/50              720p/60, 59.94

1080psF/30, 29.97    720p/50

1080psF/25            720p/30, 29.97

1080psF/24, 23.98    720p/25

1080p/30, 29.97      720p/24, 23.98

• SD-SDI (4:2:2): SMPTE 259M

480i/59.94            575i/50

c) Input level

Rating: 800mVp-p±10%

d) Transmission speed

HD-SDI: 1.485Gb/s

SD-SDI: 270Mb/s

e) Quantization bit rate

10 bits

f) Input/output impedance

75Ω

g) Transmission distance

Over 100m (5CFB, 1.485Gb/s)

#### (2) Analog composite (NTSC/PAL-B) signal (supported as standard)

a) Input terminal

BNC 2 lines (Loop through)

b) Input signal format

NTSC composite signal SMPTE 170M

PAL composite signal

c) Input level

VS: 1.0Vp-p, Positive polarity

V: 0.714Vp-p (NTSC)/0.7Vp-p (PAL),

Positive polarity

d) Input impedance

High impedance bridge connection or 75Ω  
termination

(75Ω termination plug is optional.)

#### (3) External sync signal

(when the optional CM-240 is mounted)

Analog component input

a) Input terminal

BNC 1 line (Loop through)

b) Input level

0.3 to 4 Vp-p, three values in positive and  
negative polarities, two values in negative  
polarity

c) Input impedance

High impedance bridge connection or 75Ω  
termination

(75Ω termination plug is optional.)

#### (4) Analog component (RGB/YPbPr) signal

(when the optional CM-240 is mounted)

a) Input terminal

BNC 1 line (single end)

b) Input signal format (Auto detection)

• HDTV

1035i/60, 59.94	SMPTE 240M
1080i/60, 59.94	SMPTE 274M
1080i/50	SMPTE 274M
1080psF/30, 29.97	SMPTE RP211
1080psF/25	SMPTE RP211
1080psF/24, 23.98	SMPTE RP211
1080p/60, 59.94	SMPTE 274M
1080p/50	SMPTE 274M
1080p/30, 29.97	SMPTE 274M
1080p/25	SMPTE 274M
1080p/24, 23.98	SMPTE 274M
720p/60, 59.94	SMPTE 296M
720p/50	SMPTE 296M
720p/30, 29.97	SMPTE 296M
720p/25	SMPTE 296M

• SDTV

480i/59.94	SMPTE 253M
575i/50	EBU N10
480p/59.94	SMPTE 293M

c) Input level

Y/GBR: 0.7Vp-p (except SYNC),

Positive polarity

Pb, Pr:  $\pm 0.35$ Vp-p, Positive polarity

SYNC:  $\pm 0.3$ Vp-p (SYNC on Y/G)

d) Input impedance

75 $\Omega$  termination

**(5) DVI-D and Analog PC signal**

**(Analog when the optional CM-240 is mounted)**

\* DVI-D supported as standard

a) Input terminal

ANALOG: HD D-SUB 15-pin (female) 1 line  
(when the optional CM-240 is mounted)

DIGITAL: DVI-D single link 24-pin (female)  
1 line (supported as standard)

b) Input signal format

• DVI-D (VIDEO)

1080i/60, 59.94	720p/60, 59.94
1080i/50	720p/50
1080psF/30, 29.97	720p/30, 29.97
1080psF/25	720p/25
1080psF/24, 23.98	720p/24, 23.98
1080p/60, 59.94	
1080p/50	
1080p/30, 29.97	
1080p/25	
1080p/24, 23.98	
480i/59.94	
575i/50	480p/59.94

• DVI-D(PC), Analog PC signal format

→ Refer to "**Data 1 PC Input Signal Compatible Format**".

c) Input level

Analog RGB: 700mVp-p, Positive polarity

DVI-D: TMDS

d) Input impedance

Analog RGB: 75 $\Omega$

DVI-D: 50 $\Omega$

**(6) Embedded audio specification (supported as standard)**

a) Input signal format

• SMPTE 292M

1035i/60, 59.94	1080p/25
1080i/60, 59.94	1080p/24, 23.98
1080i/50	720p/60, 59.94
1080psF/30, 29.97	720p/50
1080psF/25	720p/30, 29.97
1080psF/24, 23.98	720p/25
1080p/30, 29.97	720p/24, 23.98

• SMPTE 272M

480i/59.94 (4:2:2) 575i/50 (4:2:2)

b) Format switching

Auto switching

c) Sampling frequency

48kHz (Synchronized with video clock)

d) Embedded audio output

The audio on each of paired channels ch1/2, ch3/4, ch5/6 and ch7/8 is output through the built-in stereo speaker.

**(7) Embedded analog audio output**

**(when the optional EA-240A are mounted)**

\* Analog audio level 0dBs 0.775Vrms

a) Output terminal:

XLR-5-32 type (XLR type 5-pin male)

→ Refer to "**Data 2 Embedded analog audio outputs (EA-240A)**".

b) Line output

Analog audio 2-channel

Active (no-transformer) balanced output type

c) Rated output level:

+4dBs \* Load impedance 10k $\Omega$   
(At -20dBFS digital audio level)

d) Max. Output level:

+24dBs \* Load impedance 10k $\Omega$   
(At 0dBFS digital audio level)

e) Output impedance

50 $\Omega$

f) Min. Load impedance

600 $\Omega$

g) Quantization bit rate

24 bits/ch

- h) Emphasis  
50/15 $\mu$ s digital emphasis (Auto detection)
- i) Frequency response  
20Hz~20kHz $\pm$ 1dB
- j) S/N ratio  
More than 80dB
- k) Dynamic range  
More than 80dB
- l) Crosstalk  
More than 60dB (1kHz, Max. Output)
- m) Harmonic distortion  
Less than 0.1% (Rated output)

**(8) Embedded AES/EBU audio output  
(when the optional EA-240D are mounted)**

\* Digital audio level: 0dBFS=full bit in full scale

- a) Output terminal:  
BNC (Paired channel) 4 lines
- b) Output standards  
AES/EBU standards (for monitor)
- c) Output impedance  
75 $\Omega$

**(9) Embedded audio level meter  
(supported as standard)**

- a) Display method  
Superimposition on screen
- b) Display channel  
8 ch
- c) Display position  
3 types
- d) Display mode  
6 modes
- e) Display segment  
26 segments (including  $-\infty$ )
- f) Segment point  
- $\infty$ , -60, -54, -48, -44, -40, -38, -36, -34, -32,  
-30, -28, -26, -24, -22, -20, -18, -16, -14, -12,  
-10, -8, -6, -4, -2, 0dB
- g) Display color  
- $\infty$  to -22 dB: Green  
-20 to 0 dB: Amber
- h) Peak hold  
About 1 sec
- i) Release time  
About 0.4 sec

**(10) Analog audio input  
(supported as standard)**

- a) Input terminal  
RCA 2 line
- b) Input level  
316mVp-p (-10dBV)

**(11) Speaker output (supported as standard)**

- a) 2-channel output  
1 W + 1 W or more (at the distortion factor of 1.5%)
- b) Input signal source  
Analog audio input or embedded audio input can be outputted. A signal to be outputted is set on MENU.  
\* With the headphones being connected, no sound is heard from the speakers.

**(12) Headphones output  
(supported as standard)**

- a) 2ch output (3.5 mm dia. stereo mini-jack type)  
85 mW/ch (RL: 32 ohms, distortion factor: 1%)
- b) Input signal source  
Analog audio signal or embedded audio signal can be outputted.  
To select one of these signals, make the setting on MENU.

**7-3. Specifications for liquid crystal display (LCD) module**

**(1) Number of pixels**

1920 (H) x 1080 (V) dots

**(2) Pixel pitch**

0.36375mm (W) x 0.36375mm (H)

**(3) Screen size (display area)**

698.4mm x 392.85mm  
(Diagonal 801.31cm, 32 V inch type)

**(4) Screen brightness (brightness performance of LCD unit)**

500 cd/m<sup>2</sup>  
(at full white input)

**(5) Drive system**

a-Si TFT active matrix, line sequential  
(non-interlace)

**(6) Pixel arrangement**

RGB vertical stripe

**(7) Response speed**

Approx. 6 ms typ. (Gray to Gray)  
\* 25°C

**(8) Contrast ratio**

1300:1 (typ.)

### (9) Number of display colors

1.07 billion colors (10 bits)

### (10) Viewing angle

Vertical/horizontal: 178°

(contrast ratio: 10:1 or more)

## 7-4. Functions

### (1) Front operation

- Switch  
POWER ON/OFF, CH A/B, INPUT (SDI/VBS/  
DVI/OPT), MONO, SCREEN, APT, SCAN,  
ASPECT, MARKER, F1, F2, MENU,  
PRESET, ENT, ESC, TEST
- Volume  
CHROMA, BRIGHTNESS, CONTRAST,  
AUDIO

### (2) Marker function

- a) Center marker  
(Set to ON/OFF using MENU settings)
- b) Safety marker  
Any of the following markers is displayed according to the image aspect ratio (4:3/16:9).  
The numbers in parentheses show the aspect at the time of marker display.  
<Types>
  - “Safety area marker” + 100% (4:3/16:9)  
The “safety area markers” are effective over the entire screen and can be preset 1% by 1% in the range of 80-99%.
  - 5 divided crosshatch (4:3/16:9)
  - 10 divided crosshatch (4:3/16:9)
  - Cross (4:3/16:9)
  - 16:9 aspect marker (4:3)
  - 15:9 aspect marker (4:3/16:9)
  - 14:9 aspect marker (4:3/16:9)
  - 13:9 aspect marker (4:3/16:9)
  - 4:3 aspect marker (16:9)
  - 1.85:1 aspect marker (16:9)
  - 2.35:1 aspect marker (16:9)
  - “Each aspect marker” + “Safety marker in aspect” (4:3/16:9)  
The “safety marker in aspect” refers to the safety marker with respect to the aspect marker display zone, and can be preset 1% by 1% in the range of 80-99%.  
Corresponding to each aspect marker.  
<Marker level>
    - Set in five steps of 20%, 40%, 60%, 80% and 100%

### (3) Shadow function

Creates a shadow outside the aspect areas with 4:3 (16:9 mode), 13:9, 14:9, 15:9, 16:9 (4.3 mode), 1.85:1 (16:9 mode) and 2.35:1 (16:9 mode).

<Types>

- “Various aspect markers” + “Shadow”
- “Various aspect markers” + “Safety marker in aspect” + “Shadow”
- Shadow only

<Shadow contrast level>

- Set in four steps of 0%, 20%, 40% and 60%.

### (4) User marker function

Function for the user to draw their desired lines and boxes in the unit of pixels.

- a) No. of types: 10
  - b) No. of colors: 6
  - c) Drawable sizes: 1920 x 1080 pixels
  - d) Drawing method: Switch or USB mouse
- \* Patent pending

## 7-5. Remote Control

### (1) Parallel remote control

Input connector: HD D-SUB 15-pin

- CH A/B switching
- SDI ON/OFF
- 3G-SDI ON/OFF (★)
- COMPONENT ON/OFF
- DVI-D ON/OFF
- ANALOG PC ON/OFF (★)
- COLOR/MONO switching
- RGB/YPbPr switching
- 4:3/16:9 switching
- SYNC INT/EXT switching
- MARKER ON/OFF
- SHADOW ON/OFF
- R TALLY ON/OFF
- G TALLY ON/OFF
- SHADOW0 ON/OFF (★)
- SHADOW20 ON/OFF (★)
- SHADOW40 ON/OFF (★)
- SHADOW60 ON/OFF (★)

\* For the pin function, refer to "Data 3 Parallel Remote Pin Function".

\* In addition to default setting, user setting is possible.

The “★” marked settings are used in the USER mode.

## (2) Serial remote control

(The controller SRC-301A/Z is optional.)

Input/output terminal:

BNC 1 lines (Loop through)

Input level

1.9Vp-p, Negative polarity

Input impedance

High impedance bridge connection or 75 termination

\* For the control items, refer to "**Data 4 Control with Remote Controller**".

## (3) Wireless remote control

(The controller RCT-30A is optional.)

\* For the control items, refer to "**Data 4 Control with Remote Controller**".

## (4) RS-485 remote control (customized)

Connector: RJ-45 (loop-through)

Maximum number of connections: 32 units

## 8. Applicable Standards

### 8-1. Safety standards

- UL60950-1
- EN60950-1

### 8-2. Electromagnetic interference

- VCCI: Class-A
- FCC: Class-A
- EN55103-1 E4
- EN55103-2 E4
- EN55022 Class-A

### 8-3. Environmental regulations

- Compliant with RoHS Directive

## 9. Mounting Bracket

Equipped with "100mm x 100mm / 200mm x 100mm" mounting holes compliant with the VESA mount interface standards. Other mounting holes also available. (Refer to the external view.)

## 10. Options

Any one of the following optional modules can be mounted. Each module is of plug-in type for easy replacement.

### (1) CM-240

"RGB/YPbPr, EXT SYNC module"

RGB/YPbPr : BNC 1 line, single end

EXT SYNC : BNC 1 line, loop through

PC analog RGB: HD D-sub, 15-pin (female), 1 line, single end

### (2) EA-240A

"Embedded analog audio output module"

This module sets a 2-channel output out of the XLR-type 5-pin (XLR-5-32 male) outputs CH1/2, 3/4, 5/6 and 7/8 on the MENU screen.

### (3) EA-240D

"Embedded AES/EBU output module"

AES/EBS BNC 8-ch output

### (4) SRC-301Z

"Serial remote controller"

Serial remote controller capable of remote controlled operation simply by connecting the BNC cable to the serial remote input mounted as standard.

Just this unit can control all of the monitor functions. When plural monitors are connected in loop with BNC cables, up to 99 monitors can be controlled individually or collectively

### (5) RCT-30A

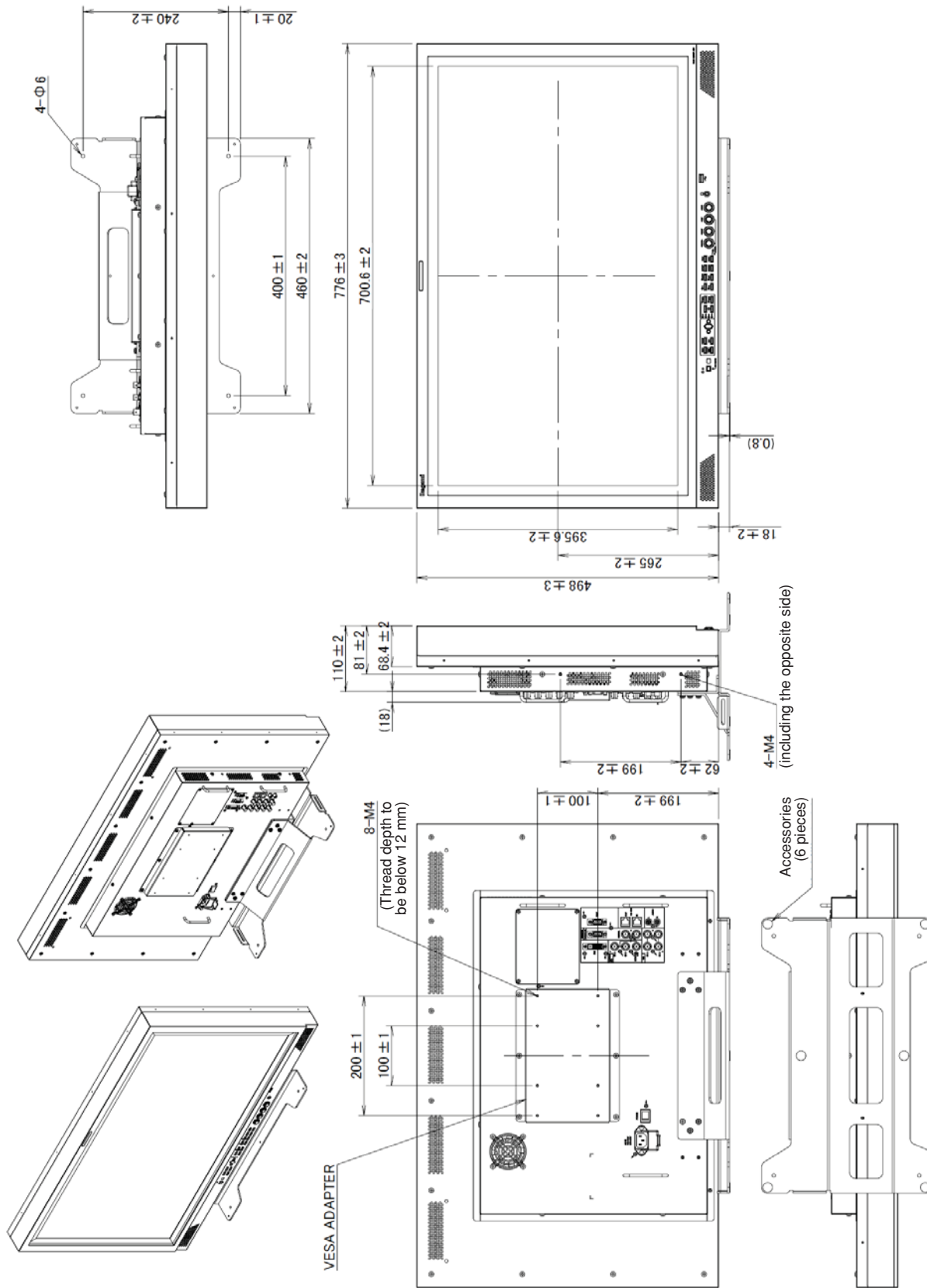
"Infrared remote controller"

Just this unit can control most of the monitor functions. Up to 99 monitors can be controlled individually.

- \* The specifications and appearance of this product are subject to change for product improvements without notice.
- \* Black spots and luminescent spots may occur in 0.01% or less of the effective pixels of this product. This is not a failure.



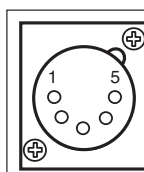
# 11. External View



## Data 1 PC Input Signal Compatible Format

No	Input signal	Horizontal frequency (kHz)	Vertical frequency (Hz)	Clock frequency (MHz)
1	VGA (640 x 480)	31.48	59.95	25.18
2		37.86	72.81	31.50
3		37.50	75.00	31.50
4		43.27	85.01	36.00
5	SVGA (800 x 600)	35.16	56.25	36.00
6		37.88	60.32	40.00
7		48.08	72.19	50.00
8		46.88	75.00	49.50
9		53.67	85.06	56.25
10	XGA (1024 x 768)	48.36	60.00	65.00
11		56.48	70.07	75.00
12		60.02	75.03	78.75
13		68.68	85.00	94.50
14	WXGA (1280 x 768)	48.13	60.02	81.25
15	SXGA (1280 x 1024)	63.98	60.02	108.00
16	UXGA (1600 x 1200)	75.00	60.00	162.00
17	WUXGA (1920 x 1200)	73.46	60.61	157.50

## Data 2 Embedded analog audio outputs (EA-240A)

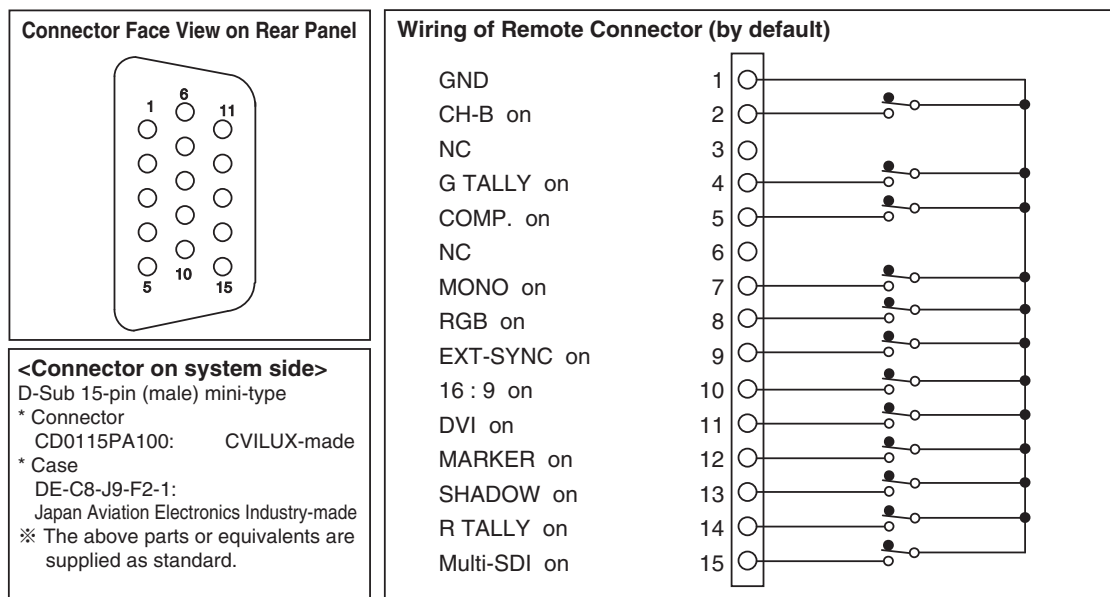


Pin 1 : GND  
 Pin 2 : Odd channel hot output  
 Pin 3 : Odd channel cold output  
 Pin 4 : Even channel hot output  
 Pin 5 : Even channel cold output



For the embedded analog audio 2-channel output, a pair of channels to be selected from among eight channels [ch1/2, 3/4, 5/6, 7/8] can be set on MENU. By default, the [ch1/2] pair is set.

## Data 3 Parallel Remote Pin Function



### ■ Pin functions by default

Pin No.	Function	External Assignment for Function
1	GND	Connecting remote terminals to this pin enables ON control.
2	CH-B on	Connect to Pin 1 to select B channel in the analog composite or Multi-SDI input mode. * When Pin 2 is OPEN, the A channel will be selected.
3	NC	No connection
4	G TALLY on	Connect to Pin 1 to set G TALLY to ON.
5	COMP. on	Connect to Pin 1 to select the COMP. input with the CM-240 mounted. * When Pins 5, 11 and 15 are all open, the analog composite will be selected.
6	NC	No connection
7	MONO on	Connect to Pin 1 to switch the COLOR/MONO setting to MONO.
8	RGB on	In COMP input selection, connect this pin to No.1 pin for switching the mode to RGB.
9	EXT-SYNC on	Connect to Pin 1 to switch the sync mode of the analog input to the external sync (EXT SYNC) with the CM-240 mounted.
10	16:9 on	Connect to Pin 1 to change the aspect (4:3/16:9) of SDTV signals to 16:9. * If the setting is to be controlled simultaneously with channel switching, set [CHANGE ASPE] to [MANUAL] in MENU 2-3.
11	DVI on	Connect to Pin 1 to select the DVI input mode. * When Pins 5, 11 and 15 are all open, the analog composite will be selected.
12	MARKER on	Connect to Pin 1 to set MARKER to ON.
13	SHADOW on	Connect to Pin 1 to set SHADOW to ON. * The shadow is displayed in the MENU7-preset level.
14	R TALLY on	Connect to Pin 1 to set Red TALLY to ON.
15	Multi-SDI on	Connect to Pin 1 to select the Multi-SDI input module. Use together with Pin 2 to switch between channels A and B. * When Pins 5, 11 and 15 are all open, the analog composite will be selected.

■ **Additional user-set functions**

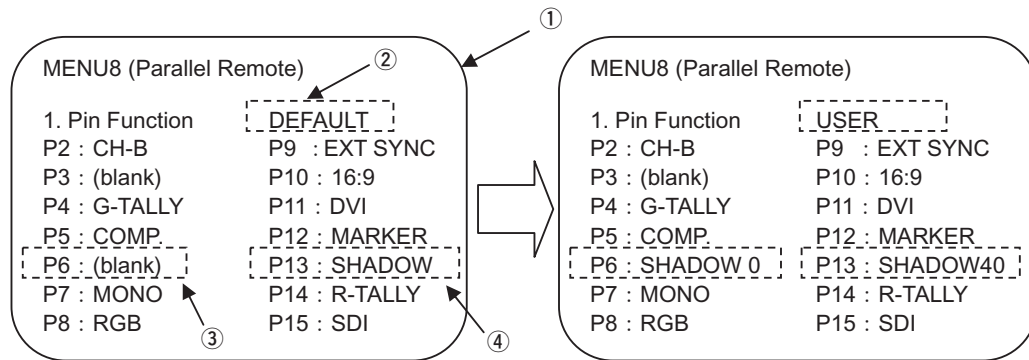
Pin No.	Function	External Assignment for Function
User setting	SHADOW0 on	Connect to Pin 1 for running with the shadow level 0% (black). * Priority is given to this pin function if any other shadow setting pin is pressed at once.
User setting	SHADOW20 on	Connect to Pin 1 for running with the shadow level 20%.
User setting	SHADOW40 on	Connect to Pin 1 for running with the shadow level 40%.
User setting	SHADOW60 on	Connect to Pin 1 for running with the shadow level 60%.
User setting	ANALOG PC on	Connect to Pin 1 for selecting the ANALOG PC input with CM-240 mounted. * When all the input select pins are open, the analog composite signal is selected.
User setting	3G-SDI on	Connect to Pin 1 for selecting the 3G-Multi SDI input with D3G-240A/D mounted. * When all the input select pins are open, the analog composite signal is selected.

\* The functions of pins other than 1 are freely user-settable on MENU.

**Setting of two shadow levels and behavior**

The shadow levels can be very quickly switched each other. To do this, make the user setting to assign the parallel-remote pin functions to “SHADOW0”, “SHADOW20”, “SHADOW40”, “SHADOW60”, etc.  
Typical setting procedure and behavior are shown below.

■ **Setting procedure**



- ① First press the “MENU” switch and make the “MENU8” screen appear.
- ② Move the cursor to “DEFAULT” and enter “USER” instead.
- ③ Move the cursor to “P6: (blank)” and enter “P6: SHADOW0” (black) instead.
- ④ Move the cursor to “P13: SHADOW” and enter “P13: SHADOW40” instead.

\* In the above setting, priority is given to Pin 6 if Pins 6 and 13 are pressed at once.

■ **Behavior**

Item	MARKER	SHADOW (40%)	SHADOW (0%)	Behavior
	Terminal (12)	Terminal (13)	Terminal (6)	
1	“ON”	OFF	OFF	MARKER ON
2	“ON”	“ON”	OFF	MARKER + SHADOW (40%) ON
3	“ON”	OFF	“ON”	MARKER + SHADOW (0%) ON
4	“ON”	“ON”	“ON”	MARKER + SHADOW (0%) ON *Priority to 0%
5	OFF	“ON”	OFF	SHADOW (40%) ON
6	OFF	OFF	“ON”	SHADOW (0%) ON
7	OFF	“ON”	“ON”	SHADOW (0%) ON *Priority to 0%

\* The types of markers displayed are those set on “MENU”.

## Data 4 Control with Remote Controller

Control item	Serial remote SRC-301A/Z	Wireless remote RCT-20A/30A	Remarks
<b>■ Switch functions</b>			
VIDEO SELECT	—	○ (※1)	
VIDEO A (VBS)	○	—	
VIDEO B (VBS)	○	—	
RGB/YPbPr	○	—	
SDI A	○	—	
SDI B	○	—	
PC	○	—	
TEST	○	○ (※1)	
APERTURE ON/OFF	○	○	
COLOR/MONO	○	○	Ineffective in RGB/PC input
BLUE ONLY ON/OFF	○	○	
DELAY (H/V/PCR)	○	○	Ineffective in VBS/PC input
4:3/16:9 SCAN SELECT	○	○	Ineffective in HDTV input
SYNC INT/EXT	—	○	Ineffective in VBS/SDI/PC input
FILE SELECT	○	○	
MARKER ON/OFF	○	○	
MENU	○	○	
<b>■ Variable preset level functions</b>			
HUE	○ (※2)	○ (※2)	
CHROMA	○ (※2)	○ (※2)	
BRIGHTNESS	○ (※2)	○ (※2)	
CONTRAST	○ (※2)	○ (※2)	
APERTURE	○ (※2)	○ (※2)	
R/G/B GAIN	○ (※2)	○ (※2)	
R/G/B BACKGROUND	○ (※2)	○ (※2)	
BACK LIGHT	○ (※2)	○ (※2)	

※1: The switch toggles the modes as follows.

"SDI-A" → "SDI-B" → "VBS-A" → "VBS-B" → "DVI" → "RGB/YPbPr" (when the CM-240 is mounted) →

"Analog PC" (when the PC-240 is mounted) → "SDI-A" → ...

To give the TEST signal, hold down the VIDEO switch for about 3 seconds.

※2: Adjustments through MENU operation.



**MODEL HLM-3250W**  
**MULTI FORMAT**  
**LCD COLOR MONITOR**

**OPERATION MANUAL**

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