

OPERATING INSTRUCTIONS

**Integrated 4chanel Quad View
Multi format LCD Monitor**

**Model : BQM-170LS(17")
BQM-240LS(24")**



IMPORTANT SAFETY INSTRUCTIONS

1. Read all of these instructions.
2. Save these instructions for later use.
3. All warnings on the product and in the operating instructions should be adhered to.
4. Unplug this appliance system from the wall outlet before cleaning. Do not use liquid cleaners or aerosol cleaners. Use a damp cloth for cleaning.
5. Do not use attachments not recommended by the appliance manufacturer as they may cause hazards.
6. Do not use this appliance near water “ for example, near a bathtub, washbowl, kitchen sink, or laundry tub, in a wet basement, or near a swimming pool, etc.

7. Do not place this appliance on an unstable cart, stand, or table.
The appliance may fall, causing serious injury to a child or adult, and serious damage to the appliance.

Use only with a cart or stand recommended by the manufacturer, or sold with the appliance.

Wall or shelf mounting should follow the manufacturer instructions, and should use a mounting kit approved by the manufacturer.

An appliance and cart combination should be moved with care. Quick stops, excessive force, and uneven surfaces may cause the appliance and cart combination to overturn.

PORTABLE CART WARNING
(symbol provided by RETAC)



8. Slots and openings in the cabinet and the back or bottom are provided for ventilation, and to insure reliable operation of the appliance and to protect it from overheating, these openings must not be blocked or covered.
The openings should never be blocked by placing the appliance on a bed, sofa, rug, or other similar surface.
This appliance should not be placed in a built-in installation such as a bookcase unless proper ventilation is provided.
9. This appliance should be operated only from the type of power source indicated on the marking label.
If you are not sure of the type of power supplied to your home, consult your dealer or local power company. For appliance designed to operate from battery power, refer to the operating instructions.
10. This appliance system is equipped with a 3-wire grounding type plug (a plug having 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 obsolete outlet.
Do not defeat the safety purpose of the grounding plug.
11. For added protection for this product during a lightning storm, or when it is left unattended and unused for long periods of time, unplug it from the wall outlet and disconnect the antenna or cable system.
This will prevent damage to the product due to lightning and power-line surges.
12. Do not allow anything to rest on the power cord.
Do not locate this appliance where the cord will be abused by persons walking on it.
13. Follow all warnings and instructions marked on the appliance.
14. Do not overload wall outlets and extension cords as this can result in fire or electric shock.
15. Never push objects of any kind into this appliance through cabinet slots as they may touch dangerous voltage points or short out parts that could result in a fire or electric shock.
Never spill liquid of any kind on the appliance.
16. Do not attempt to service this appliance yourself as opening or removing covers may touch dangerous voltage or other hazards. Refer all servicing to qualified service personnel.

17. Unplug this appliance 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 appliance.
 - c. If the appliance has been exposed to rain or water.
 - d. If the appliance 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 appliance to normal operation.
 - e. If the appliance has been dropped or the cabinet has been damaged.
 - f. When the appliance exhibits a distinct change in performance this indicates a need for service.
18. When replacement parts are required, be sure the service technician has used replacement parts specified by the manufacturer that have the same characteristics as the original part. Unauthorized substitutions may result in fire, electric shock, or other hazards.
19. Upon completion of any service or repairs to this appliance, ask the service technician to perform routine safety checks to determine that the appliance is in safe operating condition.

FCC NOTICE

This device complies with Part 15 of FCC Rules.

Operation is subject to the following two conditions :

(1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

To assure continued compliance, follow the attached installation instruction and do not make any unauthorized modifications.

Note:

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

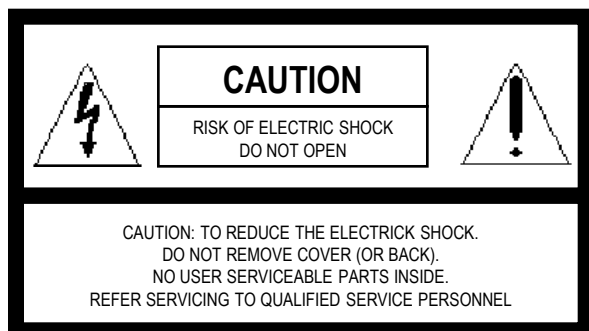
- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

The user may find the booklet "Something About Interference" available from FCC local regional offices helpful.

Warning :

To assure continued FCC emission limit compliance, the user must use only shielded interface cables when connecting to host computer or peripheral devices. Also, any unauthorized changes or modifications to this equipment could void the user's authority to operate this device.

SAFETY PRECAUTIONS



The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.



The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

THIS EQUIPEMNT MUST BE GROUNDED

To ensure safe operation, the three-pin plug must be inserted only into a standard three-pin power outlet which is effectively grounded through normal household wiring. Extension cords used with the equipment must have three cores and be correctly wired to provide connection to the ground. Wrongly wired extension cords are a major cause of fatalities. The fact that the equipment operates satisfactorily does not imply that the power outlet is grounded or that the installation is completely safe.

For your safety, if you are in any doubt about the effective grounding of the power outlet, please consult a qualified electrician.

CAUTION:

THE AC RECEPTACLE (MAINS SOCKET OUTLET) SHALL BE INSTALLED NEAR THE EQUIPMENT AND SHALL BE EASILY ACCESSIBLE.

TO COMPLETELY DISCONNECT THIS EQUIPMENT FROM THE AC MAINS, DISCONNECT THE POWER CORD PLUG FROM THE AC RECEPTACLE.

WARNING :

-TO REDUCE THE RISK OF FIRE OR SHOCK HAZARD, DO NOT EXPOSE THIS EQUIPMENT TO RAIN OR MOISTURE.

-TO REDUCE THE RISK OF FIRE OR SHOCK HAZARD, KEEP THIS EQUIPMENT AWAY FROM ALL LIQUIDS. USE AND STORE ONLY IN LOCATIONS WHICH ARE NOT EXPOSED TO THE RISK OF DRIPPING OR SPLASHING LIQUIDS, AND DO NOT PLACE ANY LIQUID CONTAINERS ON TOP OF THE EQUIPMENT.

CAUTION :

In order to maintain adequate ventilation, do not install or place this unit in a bookcase, built-in cabinet or any other confined space. To prevent risk of electric shock or fire hazard due to overheating, ensure that curtains and any other materials do not obstruct the ventilation.

CAUTION :

TO REDUCE THE RISK OF FIRE OR SHOCK HAZARD AND ANNOYING INTERFERENCE, USE THE RECOMMENDED ACCESSORIES ONLY.

CAUTION :

This apparatus can be operated at a voltage in the range of 100-240 V AC.

Voltage other than 120V are not intended for U.S.A and Canada.

CAUTION :

Operation at a voltage other than 120V AC may require the use of a different AC plug. Please contact either a local service center for assistance in selecting an alternate AC plug.

Notice (U.S.A. only) :

This product has a fluorescent lamp that contains a small amount of mercury. It also contains lead in some components. Disposal of these materials may be regulated in your community due to environmental considerations. For disposal or recycling information please contact your local authorities, or the Electronics Industries Alliance: <<http://www.eiae.org>>

BQM Series



BQM-170LS

(17 Inch HD LCD Monitor)

- Resolution 1920 X 1080
- Aspect ratio 16:9
- Contrast 600:1
- Viewing Angle: 160 °
- Input :
 - SDI(4EA,BNC), Analog(3EA,BNC), Y/C, DVI-I, HDMI, LTC
- Output :
 - SDI(4EA,BNC)
- Power : AC100-230V



BQM-240LS

(24 Inch HD LCD Monitor)

- Resolution 1920 X 1200
- Aspect ratio 16:10
- Contrast 700:1
- Viewing Angle : 178 °
- Input :
 - SDI(4EA,BNC), Analog(3EA,BNC), Y/C, DVI-I, HDMI, LTC
- Output :
 - SDI(4EA,BNC)
- Power : AC100-230V

Thank you for purchasing this product. Before operating this product, please read this instructions carefully and save this manual for later use

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1. Outline

BON HD Digital Monitor series are a Multi-Format HD Monitors with high core technology to display various kind of digital video input signals. It supports HD / SD-SDI, RGB, Component and Composite signals

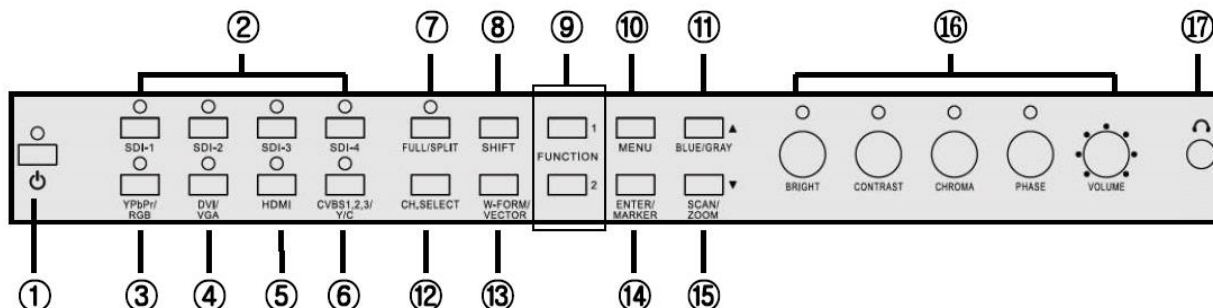
2. Functions and Features

- High Quality Video Display with RGB 10BIT Digital Signal Process
- High Speed Response in LCD panel
- 4ch HD-SDI Signal Input
- Color Calibration (Optional Software)
- DVI & HDMI Input Mode Support
- Multiple-View Layout Mode Support (Single Mode, Split Mode 1~9)
- HD 2K Format, HD/SD-SDI Multi Format Signal Support
- HD/SD-SDI Auto Sensing/Loop Out
- Pixel to Pixel Display(17 inch Model Only)
- De-embedded Audio Output & Analog Audio Input
- Various Marker Display (Safety Area, Aspect)
- H/V Delay, Blue/Mono (Precision Monitoring)
- Over Scan/Zero Scan/Under Scan/Zoom
- Anamorphic Mode Display
- Remote GPI Control (RJ-45)
- Serial Control Port (Update & Control), (RJ-11)
- Built-In Speakers & Ear Phone Jack (Option)
- Time Code Display
- Vector Scope Display (Except PC-RGB, DVI, HDMI)
- Video Waveform Display (Except PX-RGB, DVI, HDMI)
- Internal Pattern Signal Display
- De- embedded 1~16ch SDI/External /HDMI 2ch Audio Level Meter Display
- Caption608(Line 21/VANC/Transcoded), 708 support
- Tally Lamp
- UMD Display, Viudeo Channel ID
- User Friendly OSD Menu Setup
- Wide Viewing Angle
- Picture Adjustment(Bright, Contrast, Hue/ Phase, Chroma, Sharpness)
- Rack & VESA Mountable

Please refer to Specification Sheet for detailed Option

3. Control and Functions

3.1. Front Panel



BQM-170LS,240LS(Front Push Button)

3.1. Front Panel

① **STANDBY**

-Power ON/OFF Button. When you power OFF, it operates after being pushed about 1 second

② **SDI, SDI2, SDI3, SDI4 INPUT SELET**

-Used to select HD/SD-SDI CH1, CH2, CH3, CH4

③ **YPbPr, RGB(Component) INPUT SELECT**

-Used to select Components Signal

-By pressing this button, it converts Input modes between YPbPr and RGB Mode

④ **DVI/VGA INPUT SELECT**

-Used to select DVI/VGA Signal

-By pressing this button, it converts Input mode between DVI and VGA Mode

⑤ **HDMI INPUT SELECT**

- Used to select HDMI Signal

⑥CVBS1, CVBS2,CVBS3, Y/C INPUT SELECT

- Used to select Composite Signal(CVBS), Y/C(S-Video)Signal.
- By pressing this button, it converts Input modes between CVBS1,2,3 and Y/C mode

⑦FULL/SPLIT

- Used to convert Display Mode between Full Mode and Split Modes
- FULL Mode : shows 1 signal source only.
- SPLIT Mode :shows 2 or 4 signal sources together

⑧SHIFT

- Used to convert another Display mode in Split mode
- Split mode provides 10 different layouts
(For details, refer to 7. Split Mode Lay Out)

⑨FUNCTION(F1,F2)

- Carries out the item selected in the SYSTEM Menu
- You can assign desired function into each button.

⑩MENU

- Used to start OSD MENU. Please refer to category 6

⑪BLUE/GRAY(▲)

- 1) When this button is pushed, Display Color is shown only with B(blue)signal or it shows only Luminance without color. Each time being pressed, it converts Blue→ Gray→ Color
- 2) When OSD Menu is ON, it works as UP(▲) button
- 3) Please note : In SPLIT MODE, this function applies all split window simultaneously

⑫Ch, SELECT

- Used to select desired channel in SPLIT Mode.

⑬ **W-FORM/VECTOR**

- This function is only activated in Full Mode ONLY(Not SPLIT Mode)
- When this button being pushed, it shows waveform or vector scope for corresponding input
- By being pushed, it converts each mode between waveform and vectorscope
- Please note : this function does not work in DVI/HDMI/VGA(PC-RGB)Mode

⑭ **ENTER/MARKER**

- 1) When OSD Menu is ON, this button is used as Enter Key.

This button is used to save the selected item and to go to next step. For detailed information, Please refer to category 6. OSD Menu Control

- 2) When OSD Menu is not ON, it works as Marker button

⑮ **SCAN/ZOOM(▼)**

- 1) Used to convert Zero Scan, Under Scan or Over Scan , Zoom Scan mode
- 2) When OSD Menu is ON, it works as Down(▼) Button

⑯ **ADJ VOLUME**

-When button selected, corresponding VOLUME MENU is activated, and when selected one more time, it become inactivated.

When this button turned into ClockWise, Volume will be increased.

When this button turned into Counter ClockWise, Volume will be decreased.

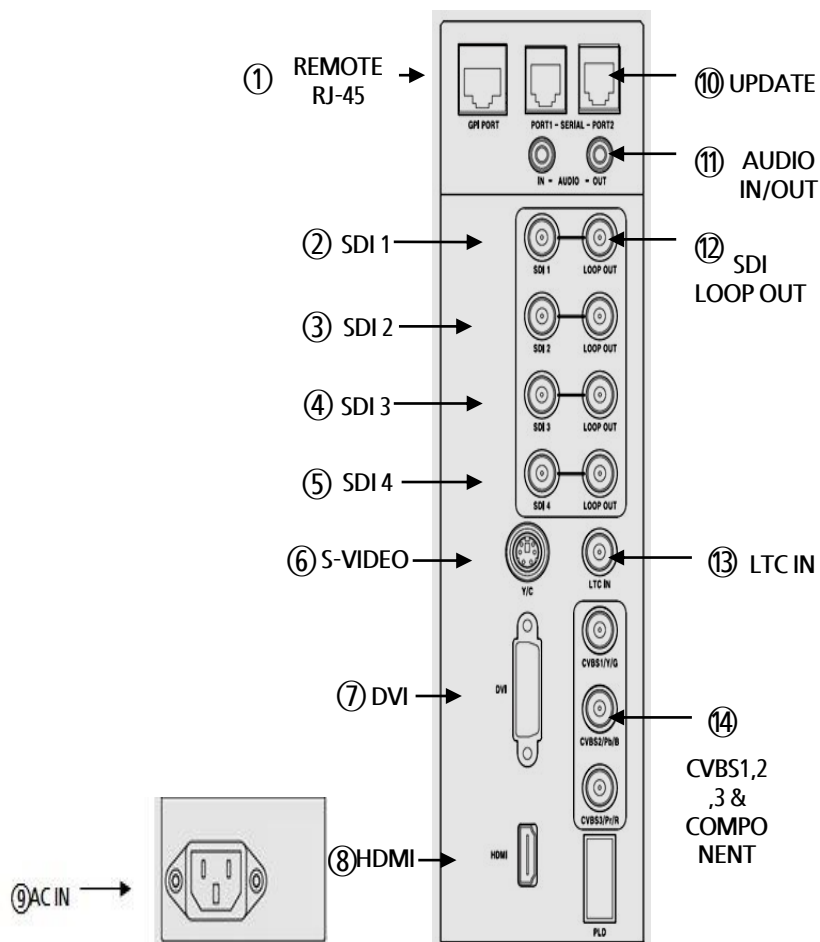


⑰ **Ear-Phone Jack(Optional)**

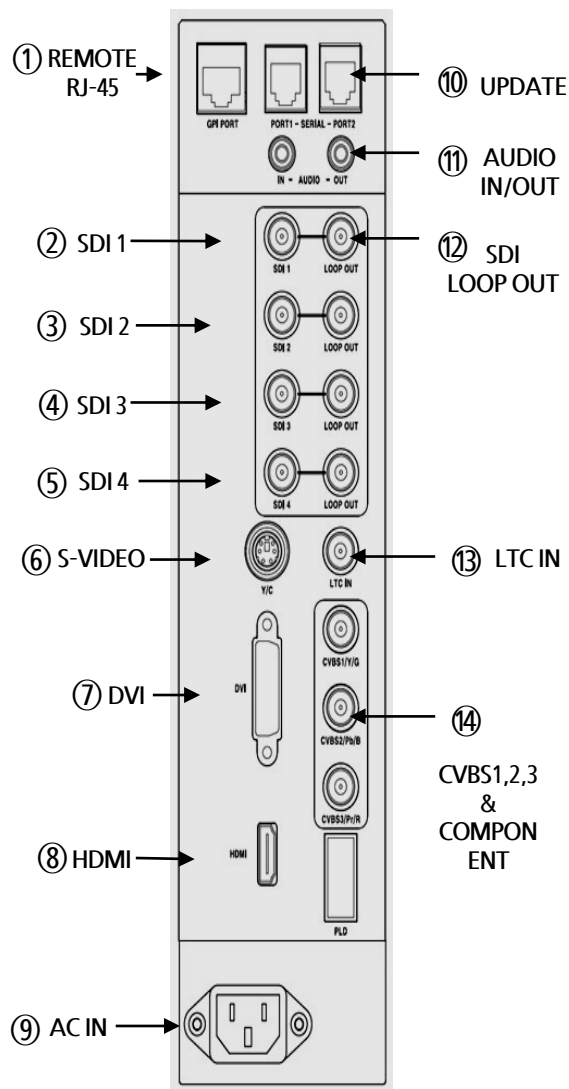
-Available to listen to Speaker Signal via Ear Phone. At this moment, Internal Speaker does not work.

-Ear Phone Volume Sound is controlled by Speaker Volume Set

3.2. Rear Panel



BQM-170LS Rear panel



BQM-240LS Rear panel

① REMOT(RJ-45 Jack)Port

- Used for external Control(Make/Trig type terminal)
- For detailed information, please refer to category8. Terminal Assignment Connection

②③④⑤ :SDI Input Port

- HD/SD-SDI Signal Input Port. SMPTE standard type. Available to input SDI signal which includes Audio Signal.

⑥ Y/C(S-Video) :

- Used to input Y/C(S-Video) Signal

⑦DVI-I :

- Used to input DVI-I Digital Signal

⑧HDMI :

- Used to input HDMI Digital Signal(HDCP1.1 Support)

⑨AC INPUT Port :

- Used to supply AC(100V~230V)Power



Used only the power cord designated to ensure safety and EMC regulation of each countries

⑩ UPDATE Port(RJ-11 Jack)

- Serial Communication Port. This Port is used to modify monitor program or to control Monitor.
- For detailed information, please refer to category 7. Program Update Port

⑪AUDIO IN/OUT

- Input/Output terminal for the external Audio and Embedded Audio Signal.
- Please refer to category3-3. Audio Input/Output for detailed information

⑫SDI LOOP OUT PORT

- This is Active Loop Signal Output Terminal for each of SDI1,2,3,4



IF Monitor is Stand-by OFF, it does not work

⑬LTC IN Port (Longitudinal Time Code)

- Used to match clock source with external LTC input signal in sync in Split Mode 4

⑭Component YUV/RGB & CVBS1,2,3 Input Port

- Used to input Composite signal/ Component (YPbPr/ RGB) Signal

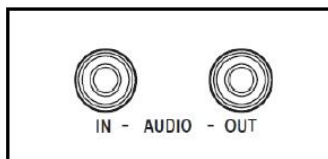
3.3. Tally & Audio

1) Tally



There are 2 different Tally types(LED, UMD). The colors are 2types(Red, Green). Color can be selected by External Contact terminal

1) Audio In/Output



① Analog Audio L/R Input Terminal(3.5mm Phone Jack)

- External Input Port for Analog Input.
- The external Analog Audio Signal is available through the speaker by a Menu set

② Analogue Audio L/R Output Terminal(3.5mm Phone Jack)

- Terminal for Analog Audio Signal Out
- Available to select and out De-embedded 16CH Audio Signal or External Input signal by Menu Set.
- Audio Out Signal is not adjusted by Speaker Volume. It outputs the original inputted level.
- Please refer to 6-5. Embedded Audio Setup

3.4. Function Buttons for F1, F2

There are 2 push buttons located on the front panel. Function1 and Function2. You can select and designate desired function into each button from below list

–F1 Default Value : Audio Display

–Fe Default Value : H/V Delay

◇Selectable Functions◇

- | | |
|-------------------|-------------------|
| ●Audio LM Display | ●Aspect |
| ●Caption Display | ●PC Scan |
| ●Timecode Display | ●Front Button LED |
| ●Fast Mode | ●Freeze |
| ●Anamorphic | ●H/V Delay |
| ●Pixel to Pixel | ●Audio Mute |



Note

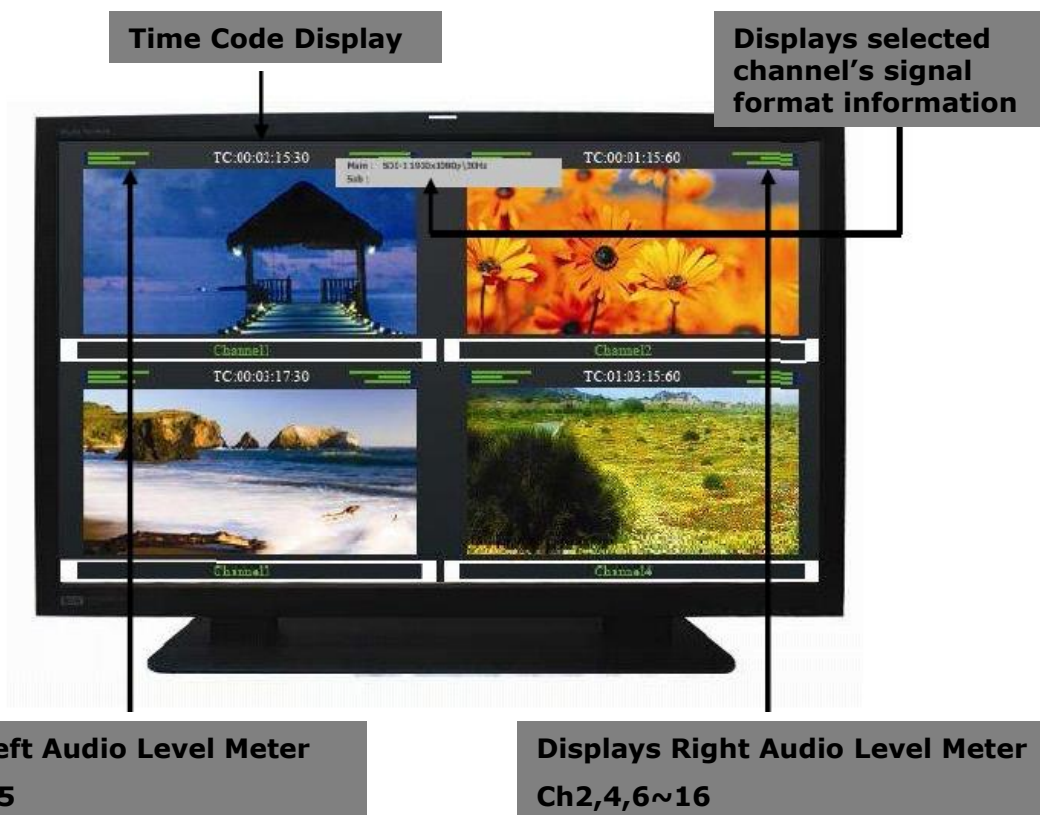
H/V Delay and Marker will not be supported in following input mode

–DVI/HDMI

–PC–RGB(VGA)

4. STATUS DISPLAY

Used to confirm the operating status. Some functions may not be supported depending on the installed options



When Menu is activated, Information indication such as Audio Level Meter, Timecode, Source ID is designed to be lighter in color

1) Audio Level Meter Display

-Sets "ON/OFF" and "POSITION" from Audio Level Display Menu

-ON: Displays Level Meter (Left shows even ch/Right shows odd ch)

-OFF: Display Off Level Meter

■ Audio Level Meter Direction Assignment : You can set either Horizontal or Vertical bar.

■ Even though you set Audio Level Meter ON, if there is no incoming signal, then, it does not show the audio level bar

2) Waveform/Vector Scope Display and Setup

-You can set ON/OFF by pressing W-FORM/VECTOR Button

-Waveform Position can be assigned by OSD Menu

■ Waveform Position : Left Top/Right Bottom/Left Bottom /Right Top

■ You can select Waveform among Y, Cb,Cr by OSD Menu Setup

■ Vector Color is set to 75% & 100%

■ Waveform & Vector scope cannot be displayed if No Signal inputted

■ With the exception of SINGLE/SPLIT2,3,5,6 Mode, waveform or vector scope will not be displayed.

3) Time Code Display

-Sets "ON/OFF" from OSD Menu

■ Even though you set Time Code Display ON, if there is no incoming signal, then, it does not show the Time Code Display

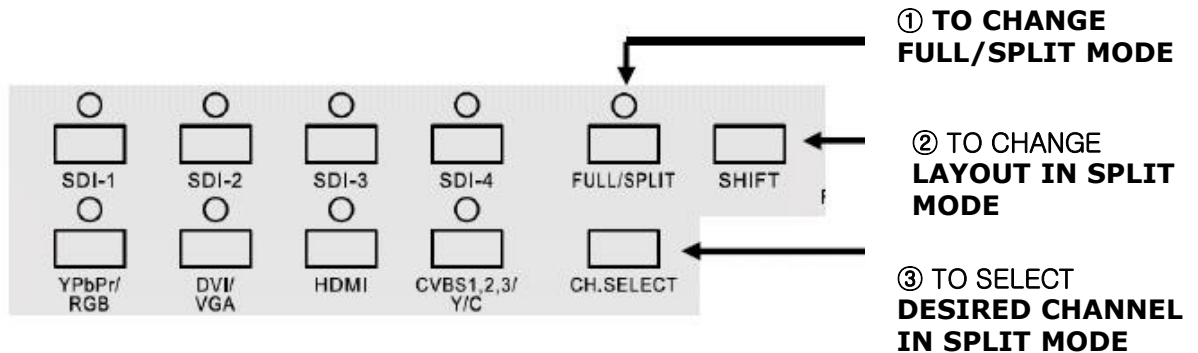
■ Time Code Display is available in SDI input Mode ONLY. Depending on input Video Data Signal's resolution, following Line No , below 4 functions will be supported.

(LTC in HANC, VITC1 in HANC, VITC2 in HANC, DVITC)



When menu is incorrectly set, Time Code shape can be displayed, but function may not be correctly displayed. When Time Code is not correctly displayed, please check the setting status based on input signal.

5. INPUT SELECT



5-1. Full Mode

-Push FULL/SPLIT Button to be Full Mode.

-FULL/SPLIT KEY LED will be off in Full Mode

■ SDI-1/SD-2/SDI-3/SDI-4 : Used to select HD/SD-SDI signal.

■ YPbPr/RGB : Used to select Component YPbPr or Component RGB signal input.

YPbPr Signal support both SD level and HD level and monitor will auto sense signals.

By pressing this button, it converts input modes between YPbPr and RGB

■ DVI/VGA :Used to select DVI or VGA(PC-RGB)

By pressing this button, it converts input modes between DVI and VGA

■ HDMI : Used to select HDMI(with HDCP1.1) signal.

■ CVBS1,2,3/Y/C: Used to select Composite Signal and Y/C(S-Video)

By pressing this button, it converts input modes as following :

CVBS1->CVBS2-> CVBS3->Y/C

5.2. SPLIT MODE

Push FULL/SPLIT Button to be SPLIT Mode.

In this mode, FULL/SPLIT Key LED will be ON



■ SPLIT Layout Mode Change :

In Split Mode, to change layout, press SHIFT KEY button, then, it will change layout out of 9 designated different Layout Modes. (refer to 5-3 SPLIT MODE Layout)



In split mode, there are 9 different layouts and each layout can be selected by pressing "SHIFT" Button. To change different layout, once button being pressed, it may take 3~5seconds

■ Channel Selection in SPLIT Mode :

-In Split Mode, each time Ch. Select Key button being pressed, desired channel will be selected accordingly and selected channel's source ID character's background color will be BLUE and corresponding LED will be ON

5.3. SPLIT MODE Lay Out



<SPLIT-MODE1>QUAD VIDEO



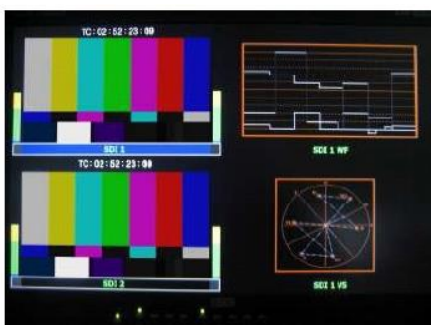
<SPLIT-MODE2>Video + Measure



<SPLIT-MODE3>Video + Measure



<SPLIT-MODE4>2Video + Clock



<SPLIT-MODE5>2Video + Measure



<SPLIT-MODE6>2Video + Measure

5.3. SPLIT MODE Lay Out



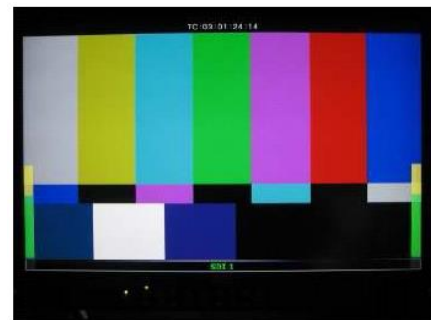
<SPLIT-MODE7>1 + 2 Video



<SPLIT-MODE8>1 + 3 Video

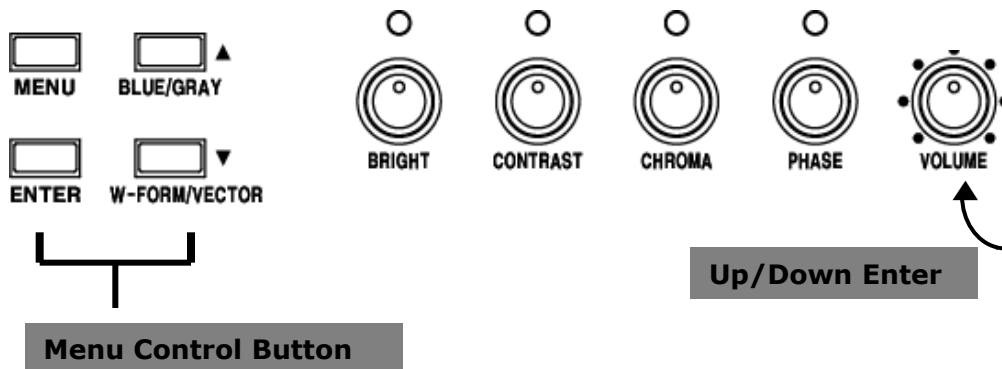


<SPLIT-MODE9>1 + 3 Video



<FULL Mode>

6. OSD Menu



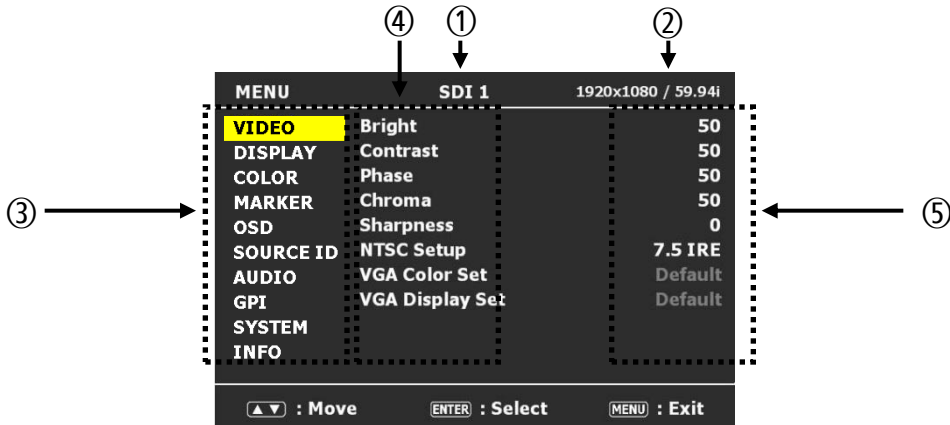
6-1. Menu Setup.

- 1) Press Menu Button for OSD Menu
- 2) Move into the item with Up▼/Down▲ or by rotating VOLUME Knob
Press ENTER Button to select the desired item

Note) Volume can be used as UP(CW) button by rotating Volume knob on the status of Menu Control.
Volume can be used as ENTER Button if VOLUME Knob is pushed.

- 3) Once item is selected, move into the desired item with Up▼/Down▲ Button or item.
Also can be selected by rotating Volume knob.
- 4) To return to previous Menu, press Menu, and press Menu again to terminate OSD Menu

6-2. MAIN MENU



- ① shows signal channel information for current window
- ② shows input video signal format and frequency information
- ③ shows Main MENU items
- ④ shows sub items of currently selected Main MENU (Yellow color)
- ⑤ shows each setting status of sub items



Main MENU items and Sub MENU items can be different depending on the selected signal channel and are subject to change without prior notice for product improvement.

MAIN MENU

- VIDEO : controls bright, contrast, phase, chroma,etc
- DISPLAY : controls Waveform/Vector ,etc
- COLOR : controls color temperature mode
- MARKER : sets Marker type, color, thickness
- OSD : sets MENU, Closed Caption and UMD Display, etc
- SOURCE ID : used for entering Source ID for each signal channel
- AUDIO : sets Audio Input channel, Level Meter display, Source, size etc
- GPI : sets control status for Remote Control function via RJ-45 and RJ-11 Port
- SYSTEM : sets Function Key(F1, F2) & system related status.
- INFO : displays Split mode input status, Firmware Version, Operating time,etc

REFERENCE NOTE for Main MENU Control



In case there is no input signal or no detected signal, the menu can be erased.



When user sets menu in inaccurate signal status, it may cause disorder.



Menu setting value is saved based on input signal mode. Therefore, please check the input mode of corresponding Menu displayed in the upper part when user changing setup status.

6-3. VIDEO SETUP

MENU	SDI 1	1920x1080 / 59.94i
VIDEO	Bright	50
DISPLAY	Contrast	50
COLOR	Phase	50
MARKER	Chroma	50
OSD	Sharpness	0
SOURCE ID	NTSC Setup	7.5 IRE
AUDIO	VGA Color Set	Default
GPI	VGA Display Set	Default
SYSTEM		
INFO		

 : Move
  : Select
  : Exit

- Brightness : adjusts Brightness,
- Contrast : adjusts Contrast
- Chroma : adjusts Chroma
- Phase(Hue) : adjusts Phase
- Sharpness: adjusts Sharpness

[VIDEO SETUP MENU]




- NTSC Setup : sets 0 IRE, 7.5 IRE
 - 7.5 IRE-> Operates in NTSC or in SD level YPbPr mode
 - 0 IRE: Operates in PAL signal
- VGA Color Set/ VGA Display Set :
 - Activated in VGA input mode only. There are Default and User Adjust Mode.



- **7.5 IRE is recommended to set with Analog NTSC signal which are used in North America & Korea.**
- **0 (Zero Setup) is recommended to set with NTSC-J, European type PAL, SECAM and many D-TV formats**
- **Therefore, when user use video device such as camcorder or DVD player (especially, Japanese manufacturer), user need to tune TV after checking the setup is 7.5IRE or Zero**

6-3-1. VGA COLOR SETUP

MENU	SDI 1	1920x1080 / 60D
VIDEO	Red Gain	255
DISPLAY	Green Gain	255
COLOR	Blue Gain	255
MARKER	Red Bias	127
OSD	Green Bias	127
SOURCE ID	Blue Bias	127
AUDIO		
GPI		
SYSTEM		
INFO		

 : Move
  : Select
  : Exit

[VIDEO –VGA Color Set Sub MENU]

■ How to set Menu :

MENU -> VIDEO -> VGA Display Set -> change "Default" value into " User Adjust" and ENTER

- Red Gain : adjusts Red Input Gain
- Green Gain : adjusts Green Input Gain
- Blue Gain : adjusts Blue Input Gain
- Red Bias : adjusts Red Input Offset
- Green Bias : adjusts Red Input Offset
- Blue Bias : adjusts Red Input Offset






■ VGA Color Set :

Adjusts RGB each Level only in YPbPr, RGB, VGA Input Mode.

6-3-2. VGA Display SETUP

MENU	SDI 1	1920x1080 / 60D
VIDEO	Red Gain	255
DISPLAY	Green Gain	255
COLOR	Blue Gain	255
MARKER	Red Bias	127
OSD	Green Bias	127
SOURCE ID	Blue Bias	127
AUDIO		
GPI		
SYSTEM		
INFO		

 : Move
  : Select
  : Exit

■ How to set Menu :

MENU -> VIDEO -> VGA Display Set -> change "Default" value into " User Adjust" and ENTER

[VIDEO –VGA Display Set Sub MENU]

- V-Position :Used to adjust the picture display position in the vertical direction in VGA input mode
- H-Position : Used to adjust the picture display position in the horizontal direction in VGA input mode.
- Phase :Used to adjust digital converting Phase of input signal in PC-RGB
- Auto Adjust :Used to adjust the best display position automatically in VGAmode

6-4. Display SETUP

MENU	SDI 1	1920x1080 / 59.94i
VIDEO	PC Scan	Aspect
DISPLAY	Pixel to Pixel(1:1)	Off
COLOR	Aspect	Native
MARKER	Anamorphic	Off
OSD	Fast Mode	Normal
SOURCE ID	Waveform Select	Y(Green)
AUDIO	Waveform Position	Left Top
GPI	Vector Position	Right Top
SYSTEM	Vector Color	75%
INFO	Timecode Display	On
▲▼ : Move ENTER : Select MENU : Exit		

This menu sets picture size or output

■ PC Scan : sets output either Fill mode or Aspect mode in VGA channel.

-Aspect : displays original source rate

-Fill : displays source filled to screen size

■ Pixel to Pixel :Used to show the picture as original input source size in SD-SDI or Analog mode or used to show picture as P2P mode in 2K format signal input.

Position can be located as following 5 areas :

Off, Center, Right Bottom, Left Bottom, Right Top, Left Top

■ Aspect :

When following signal input such as Analog (Composite, Component, S-Video), HDMI (SD level), SD-SDI (NTSC / PAL), 2Ksf, 2Kp Format, it changes picture 16:9 or Native Ratio (Original Source).

If HD-SDI such as 1080i, 1080p, 720p and 16 : 9 Source HDMI, even though user change Aspect Menu item, the picture does not change. Also with DVI, VGA channel, this function does not support.

■ Anamorphic

resize Vertical Resolution into 2.35 : 1 in 1280*720 / 50p, 59.94p, 60p mode.



1280*720 format
16:9
Anamorphic Off



1280*720 format
2.35 : 1
Anamorphic On

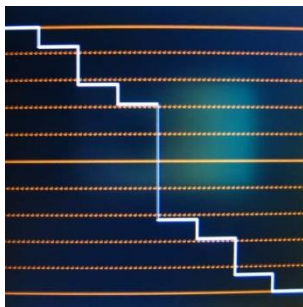
■ Fast Mode :

- **Fast** : minimize delay time by Interace signal output without changing Progressive Scan
- **Normal** : outputs Interace signal into Progressive Scan

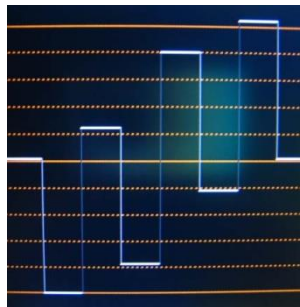
■ Waveform Select :

selects desired VIDEO Waveform

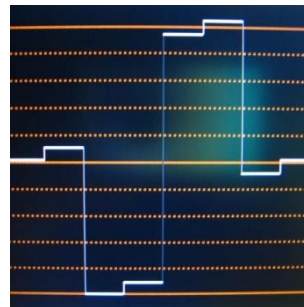
You can select desired type among Y(Green), Cb(Blue) , Cr(Red)



Y (Green) Video
Waveform



Cb (Blue) Video
Waveform



Cr (Red) Video
Waveform

■ Waveform Position

- locates Waveform Display Position.
- Position can be located as following 4 areas :
(Left Top, Left Bottom, Right Top, Right Bottom)

■ Vector Position

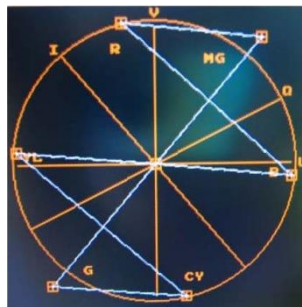
- locates Vector Display Position.
- Position can be located as following 4 areas :
(Left Top, Left Bottom, Right Top, Right Bottom)

■ Vector Color

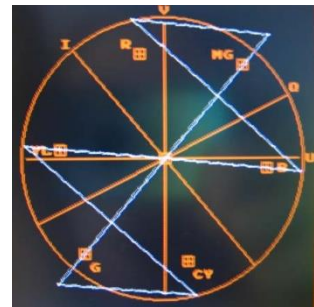
- sets Vector Color types between 75% and 100%.



75% Vector Color
Assignment -
75% Color Bar
Vector



100% Vector Color
Assignment -
100% Color Bar
Vector



75% Vector Color
Assignment -100%
Color Bar Vector

■ Timecode Display

- displays TC(Time Code) included with Digital TC data on the HD/SD-SDI input signal ATC area
- Display Format is as following order : Hour : Minutes : Seconds:Frame.
- There are 4 types of Timecode as followings : LTC, VITC1, VITC2, DVITC

TC:05:33:48:22

① LTC (Longitudinal Time Code)

- This timecode is saved either Video Tape's Audio Track or Cue or Address Track
- Specification is SMPTE-12M, IEC461.

② VITC (Vertical Interval Time Code)

- VITC is saved in VBI area of the Video Tape's Video Track.
- VITC Code is composed of 90 bit adding 10 bit to LTC code to differentiate Redundancy Check with Field.
- Spec is SMPTE-12M, IEC461.

③ DVITC (Digital Vertical Interval Timecode)

- digitalize Analog VITC Waveform into 8bit or 10bit
- used in Digital Video System.
- Spec is SMPTE-266M, ITU-T BT.1366.
- In case of BON Monitor, recommended to set DVITC (SD-SDI).

④ ATC (Ancillary Time Code)

- refer to Time Code which delivers VITC or LTC in the Ancillary area of Digital signal.
- In case of 1920*1080/60i signal, LTC is located in line10, VITC#1 is located in line9, VITC#2 is located in line571.
- Spec is SMPTE RP-188, ITU-T BT.1366.

In case of BON Monitor, following menu set is recommended in Time Code MENU.

- LTC in HANC : located in Line 1.
- VITC1 in HANC : located in Line 9.
- VITC2 in HANC : located in Line 571.

6-5. COLOR SETUP

MENU	SDI 1	1920x1080 / 59.94i
VIDEO	Color Temperature	6500K
DISPLAY	Adjust Temperature	
COLOR	Red Gain	121
MARKER	Green Gain	123
OSD	Blue Gain	116
SOURCE ID	Red Bias	127
AUDIO	Green Bias	127
GPI	Blue Bias	127
SYSTEM		
INFO		
▲▼ : Move ENTER : Select MENU : Exit		

■ Color Temperature

Sets Monitor color temperature or user color temperature. There are 4 different type color temperatures such as 3200K, 5400K, 6500K, 9300K, and each color temperature is set when product is released from factory.

■ Adjust Temperature (User mode)

When setting User Mode, it become activated, User can adjust RGB Gain & Bias and set. When calibrating conducted, probe should be equipped to make accurate calibration..

-**R, G, B Gain** : adjusts R,G,B Gain in USER Mode

-**R, G, B Bias** : adjusts R,G,B Bias in USER Mode

6-6. MARKER SETUP

MENU	SDI 1	1920x1080 / 59.94i
VIDEO	Marker 16 : 9	4 : 3
DISPLAY	Safety Area 16 : 9	95 %
COLOR	Safety Area 4 : 3	95 %
MARKER	Center Marker	On
OSD	Marker Color	White
SOURCE ID	Marker Back Color	Normal
AUDIO	Marker Thickness	2
GPI	User Marker H1	0
SYSTEM	User Marker H2	1920
INFO	User Marker V1	2
	User Marker V2	1200
▲▼ : Move ENTER : Select MENU : Exit		

■ Marker 16:9

- Sets Marker type in 16:9 HD.
- There are 9 different Marker such as 4:3, 15:9, 14:9, 13:9, 1.85:1, 2.35:1, User1, User2, User3, Off.

■ Safety Area 16:9

- sets safety area in 16:9 HD.
- There are 12 different types such as EBU GRA 4:3, EBU ACT 4:3, EBU GRA 14:9, EBU ACT 14:9, EBU GRA 16:9, EBU ACT 16:9, 95%, 93%, 90%, 88%, 85%, 80%, Off .

■ Safety Area 4:3

- sets safety area in 4:3 SD.
- There are 12 different types such as EBU GRA 4:3, EBU ACT 4:3, EBU GRA 14:9, EBU ACT 14:9, EBU GRA 16:9, EBU ACT 16:9, 95%, 93%, 90%, 88%, 85%, 80%, Off .

■ Center Marker

- sets Center Marker ON/OFF.



To set Marker sub items, "Marker item" should be "ON" in the menu

■ Marker Color

- sets Marker Color. Colors are 6 types such as Black, Red, Green, Blue, White, Gray.

■ Marker Back Color

- sets background transparency excluding safety area
- Normal does not set Marker Back Color/Half sets Marker Back Color

■ Marker Thickness : sets

- Marker thickness as pixel unit (1 ~ 10 Pixels)

■ User Marker H1,H2 / V1,V2

- sets H, V Position of User Marker.
- depending on inch, user can be set the maximum resolution which are supported in the LCD Panel.

6-7. OSD SETUP

MENU	SDI 1	1920x1080 / 59.94i
VIDEO	Menu Display Time	60 sec
DISPLAY	Menu Blend	11
COLOR	Menu Position	Center
MARKER	Closed Caption	Off
OSD	CC Start Line	23
SOURCE ID	Caption Window	Win 4
AUDIO	UMD Display	On
GPI		
SYSTEM		
INFO		

▲▼ : Move ENTER : Select MENU : Exit

■ MENU Display Time

-Used to set Menu Window display time. You can set Menu display time with 5 seconds interval. Time can be set 5~60 seconds. If continue value is set, Menu Window will not disappear in the screen.

■ MENU Blend

-Used to set Menu Window Transparency (0~15 level).

-Low number has more transparency and bigger number has less transparency.

■ MENU Position

-Used to change Menu Window Position.

(Center, Left Top, Left Bottom, Right Top, Right Bottom)

■ Closed Caption

-only operates in the HD/SD-SDI, Component (YPbPr) & Composite signal which include character information. When both Character data format in the input signal and mode are matched, it analyze included data and display the data into the screen. According to signal format, display methods which analyze included character information and there are 5 different types such as 608 Line21/Auto, 608 Line21/Manual , 608 VANC, 608 Transcoded, 708.

(In the YPbPr mode, Caption 608 is not displayed.)

■ CC Start Line

When Video Data which includes Closed Caption 608 information is located in up normal Line, you can set from which line CC Data will start. You can set 0~63 from Closed Caption only when Menu is 608(Line21)/Manual.

Normally used when CC Start Line is changed on the way of copying SDI signal via Deck to Tape.

■ Caption Window

You can select window where you display CC in the Split Window Mode.

For instance, if you select Window 2, then, it displays CC into Video Source which outputs into Window 2.

In Full Mode, regardless of Caption Window setting, it displays CC in the Full Window.

■ UMD Display

Switch ON/OFF UMD (Under Monitor Display)

Evertz HD9084 : HD-SDI / CC 608 transcoded – CC Line Select																								
	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25					
1035i	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK					
1080i	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	NS	NS	NS	NS					
1080p	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK					
720p	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK					
Evertz HD9084 : SD-SDI / CC 608 Line21 – CC Line Select																								
	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25					
480/59.94i				OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK					
576/50i				OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK					

(Note) NS : indicates “Not Support”



CC 708 / CC 608 Transcoded
(HD-SDI)



CC 608 Line 21 (SD-SDI)

Evertz 8084AD : SD-SDI / CC 608 Line 21 – CC Line Select															
	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
480/59.94i	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK
576/50i	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK
Evertz 8084AD : Analog Composite / CC 608 Line 21 – CC Line Select															
	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
525/59.94i	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK
625/50i	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK






CC 608 Line 21 (SD-SDI)



CC 608 Line 21 / V-Chip
(Composite)

6-8. SOURCE ID SETUP

MENU	SDI 1	1920x1080 / 59.94i
VIDEO	SDI 1	SDI 1
DISPLAY	SDI 2	SDI 2
COLOR	SDI 3	SDI 3
MARKER	SDI 4	SDI 4
OSD	YPbPr/RGB	YPbPr/RGB
SOURCE ID	DVI/VGA	DVI/VGA
AUDIO	HDMI	HDMI
GPI	CVBS 1	CVBS 1
SYSTEM	CVBS 2	CVBS 2
INFO	CVBS 3	CVBS 3
	S-Video	S-Video

 : Move
  : Select
  : Exit

■ You can set ID for each input signal.

Once you set the ID, it displays on the UMD display window. UMD supports alphabet small letter, capital letter, some of special characters. Upto 10 digits supported.

■ How to change Source ID :

Using MENU/Enter/Up/Down key, you can change Source ID




- MENU : Source ID modification end & Save
- Enter : selects character and move next digit
- Up : changes upper
- Down : changes lower order



When you change Source ID, you can conveniently use Volume Knob

6-9. AUDIO SETUP

MENU	SDI 1	1920x1080 / 59.94i
VIDEO	Play Channel [L]	Ch 1
DISPLAY	Play Channel [R]	Ch 2
COLOR	Audio Level Meter	On
MARKER	Level Meter Direction	Vertical
OSD	Speaker Source	Auto
SOURCE ID	Speaker Volume	25
AUDIO		
GPI		
SYSTEM		
INFO		

 : Move
  : Select
  : Exit

■ Play Channel [L]

-designates extracted sound signal from Speaker Source into Left Output Channel.

■ Play Channel [R]

-designates extracted sound signal from Speaker Source into Right Output Channel.

- Audio Output Channel has from CH1 ~ CH16
 - Left Channel : CH 1, CH 3, ~ CH 15
 - Right Channel : CH 2, CH 4, ~ CH 16
- GROUP1 : CH 1 ~ CH 4
- GROUP2 : CH 5 ~ CH 8
- GROUP3 : CH 9 ~ CH 12
- GROUP4 : CH 13 ~ CH 16

■ Audio Level Meter

-displays the level of inputted Audio Signal as Level Bar type on the screen.

-Level Bar Display :

- SDI (Embedded Audio) -> maximum 16 CH,
- HDMI Channel or Line In Audio -> Left (CH1), Right(CH2) , total 2 CH

■ Level Meter Direction

-sets Audio Level Display Direction either Horizontal or Vertical.

■ Speaker Source

-selects Speaker Out among Auto / SDI 1 / SDI 2 / SDI 3 / SDI 4 / Line In

■ Speaker Volume

-sets Speaker Output Level.

-Speaker, Ear-Phone Output is controlled by Speaker Volume

-Line Out is not affected by Speaker Volume.



- When you select HDMI Video Input, if you set Speaker Source into Auto, it outputs HDMI Audio into Speaker.
- Audio Level Meter is automatically set as same as Speaker Output.

Audio Level Meter Display Condition Table for BQM Model




BQM model	Auto	SDI	Line in
SDI1	SDI1	SDI1	Line in
SDI2	SDI2	SDI2	Line in
SDI3	SDI3	SDI3	Line in
SDI4	SDI4	SDI4	Line in
CVBS	Line in	SDI 1/2/3/4	Line in
S-Video	Line in	SDI 1/2/3/4	Line in
YPbPr/RGB	Line in	SDI 1/2/3/4	Line in
DVI	Line in	SDI 1/2/3/4	Line in
HDMI	HDMI	SDI 1/2/3/4	Line in
VGA	Line in	SDI 1/2/3/4	Line in

When Speaker Source is set into Auto mode, Audio Source outputted via Speaker is Screen Channel(1~4) related Audio that is selected by CH.SELECT button.

- If selected Channel's Input Source is SDI, corresponding signal's Embedded Audio will be output,.**
- If selected Channel's Input Source is HDMI, HDMI Audio will be output**
- If selected Channel's Input Source will be the other signals (CVBS, S-Video, YPbPr, RGB, DVI, VGA) excluding SDI, HDMI, then, External Audio inputted via Line Input terminal will be output**

6-10. GPI SETUP

MENU	SDI 1	1920x1080 / 59.94i
VIDEO	GPI Control	On
DISPLAY	GPI Port 1	Composite1 Input
COLOR	GPI Port 2	Composite2 Input
MARKER	GPI Port 3	Composite3 Input
OSD	GPI Port 4	SDI1 Input
SOURCE ID	GPI Port 5	SDI2 Input
AUDIO	GPI Port 6	SDI3 Input
GPI	GPI Port 7	Key Standby(Fixed)
SYSTEM	Remote ID Number	0
INFO	Serial Remote	Off

 : Move
  : Select
  : Exit

■ GPI Control

Used to select external control terminal (GPI PORT / RJ-45) ON/OFF. It is not possible to control through Remote terminal from outside of external area when it is OFF.

■ GPI Port 1, 2, 3, 4, 5, 6, 7

Used to select each terminal of external Remote Control Terminal. However, GPI Port 7 is fixed as Key Standard.

Please refer to **7. Remote Terminal Assignment** for detailed information

■ Remote ID Number

Using SERIAL PORT (RJ-11) and Wall System Control Software, when remote control, it sets own number for each monitor. ID Number is available to be assigned from 0~99. Or IR Remote control, it sets monitor body number. (Option)

■ Serial Remote

Selects use BON or TSL v4.0 mode.

Selects whether use external SERIAL PORT (RJ-11) control or not.

If Serial Remote is ON, then, it becomes Standby, with the exception of MENU button, the other buttons does not operate.



To Terminate Serial Remote Status (Update, Remote On), press Menu Button more than 3 seconds.

6-11. SYSTEM SETUP

MENU	SDI 1	1920x1080 / 59.94i
VIDEO	Function 1	Audio LM Display
DISPLAY	Function 2	H/V Delay
COLOR	Back Light	18
MARKER	Front Button Lock	Off
OSD	Front Button LED	On
SOURCE ID	Test Pattern	Off
AUDIO	Clock Sync Source	Internal
GPI	Clock Adjust	01: 07: 55
SYSTEM	Setup Load	Factory Default
INFO	Setup Save	User 1

▲▼ : Move ENTER : Select MENU : Exit

■ Function 1,2

Used to select the functions to be assigned to individual buttons to F1,F2. (For detailed information, please refer to 3-4 table.)

■ Back Light

Used to adjust brightness of LCD Panel

■ Front Button Lock

Switches ON/OFF Rock function for Front Key button .

When Button Lock is On, excluding MENU button, all the other buttons will not work. Standby Power button will not work as well.

■ Front Button LED

Shows button selection status & LED On/Off .When switching LED Button Off, Standby button also becomes OFF

■ **Test Pattern** : without additional Input Source, it provides internal Test pattern of 1920X1080 30p on the screen. (Off, Blue, Green, Red, 0~100% White)

■ **Clock Sync Source** : In Split Mode 4, Clock signal can be in sync with either Internal or LTC. When LTC setup, if there is no external LTC input, then, it automatically converted into Internal mode.

■ **Clock Adjust** : When Clock Sync Source and Internal mode, in Split Mode 4, clock OSD time can be set.

■ Setup Load

This is a function that changes each setup status of the product

-**Factory Default mode**: changes factory default mode

But, Remote ID Number value will not be initialized.

-**User 1, 2, 3 mode** : changes User1,2,3 setup

■ Setup Save




-Used to set current Menu setup status.

-There are 3 modes such as USER 1, 2, 3 mode.

-saved value can be recalled anytime via Setup Load Function

6-12. INFO MENU

MENU	SDI 1	1920x1080 / 59.94i
VIDEO	Firmware Version	v1.30_08_08
DISPLAY	Operating Time	694 h
COLOR	Input Status	
MARKER	Channel 1	SDI 1
OSD	Channel 2	SDI 2
SOURCE ID	Channel 3	SDI 3
AUDIO	Channel 4	SDI 4
GPI		
SYSTEM		
INFO		

 : Move
  : Select
  : Exit

■ Firmware Version

-displays product Firmware & Hardware PLD version

■ Operating Time

-displays Operating hour

■ Input Status

- Displays input source information for each window channel.



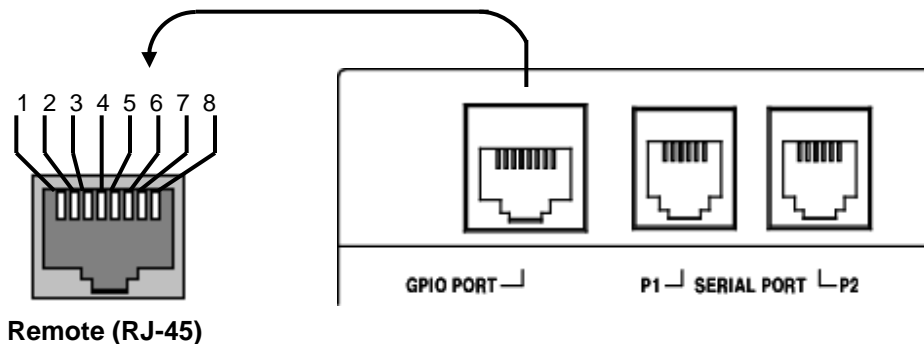
Note :

While Back Light is adjusted, LCD Panel requires enough time to be stable adjusting Phase (brightness). It requires more than 30 minutes.

7. Remote Terminal Assignment

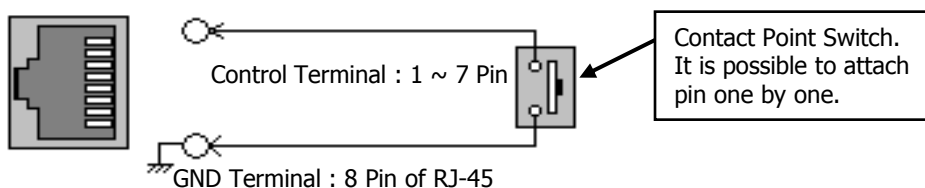
7-1. Remote Terminal(RJ-45) Assignment

Each terminal function can be set from the GPI CONTROL SETUP Menu.



Remote PIN Assignment			
1 PIN	GPI Port 1	5 PIN	GPI Port 5
2 PIN	GPI Port 2	6 PIN	GPI Port 6
3 PIN	GPI Port 3	7 PIN	GPI Port 7(Stand by Power ON/OFF) Fixed
4 PIN	GPI Port 4	8 PIN	COMMON(GND)

7-2. GPI Port(RJ-11) Connection



Please refer to category.7-3. Remote Terminal Assignment.

7-3. Remote Terminal Assignment

Port Assignment Items	Function	Operating conditions
SDI1 Input	Switches the input SDI-1	Edge Operation
SDI2 Input	Switches the input SDI-2	
SDI3 Input	Switches the input SDI-3	
SDI4 Input	Switches the input SDI-4	
Y/Pb/Pr Input	Switches the input YPbPr	
R/G/B Input	Switches the input RGB	
DVI Input	Switches the input DVI	
VGA Input	Switches the input PC-RGB	
HDMI Input	Switches the input HDMI	
CVBS1 Input	Switches the input CVBS1	
CVBS2 Input	Switches the input CVBS2	
CVBS3 Input	Switches the input CVBS3	
S-Video Input	Switches the input Y/C	
Gray Only	Mono Display On/Off.	
Blue Only	Blue Only On/Off.	
Under Scan	Under scan the video image.	
Over Scan	Up Scan the video image.	
Zoom Scan	Zoom out the video image.	
Key Up	When you control the Menu, used for up	
Key Down	When you control the Menu, use for down.	
Key Menu	Menu On/Off	
Key Enter	Enter	
PC Scan	Use for selecting Aspect and Fill in VGA mode.	
Aspect Ratio	Use for selecting Native Ratio and 16:9 in SD Mode.	
Pixel to Pixel	Pixel to Pixel Scan On/Off	
Anamorphic	Anamorphic On/Off	
Full/Split	Mode select for Full and Split	
Shift	Switch Lay Out in Split mode.	
CH Select	Used to change Layout in Split Mode.	
Waveform Display	Waveform display On/Off.	
Vectorscope Display	Vector Scope display On/Off.	
Timecode Display	Time Code display On/Off.	
Fast Mode	Used to select Fast and Normal Mode.	
Marker	Marker display On/Off.	
Marker 16:9	Used to set the maker area in 16:9 ratio.	
Safety Area 16:9	Used to set the safe area in 16:9 ratio.	
Safety Area 4:3	Used to set the safe area in 4:3 ratio.	
Center Marker	Center Marker On/Off.	
Caption Display	Caption Off/608/708.	
Audio LM Display	Audio Level display On/Off	
Audio Mute	Audio Mute On/Off .	
H/V Delay	H/V Delay On/Off.	
Freeze	Used to freeze the displaying video image.	

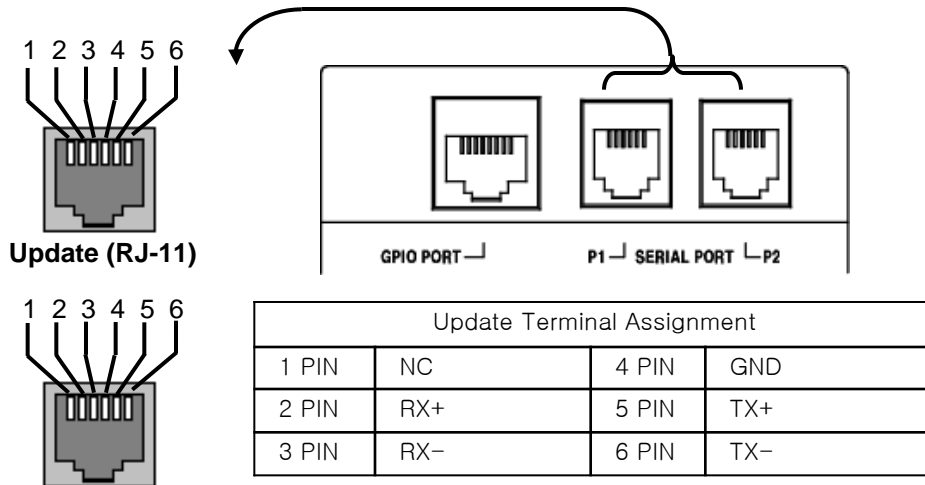
8. Program Update Port(RJ-11)

Update Port(RJ-11) can be used in a situation as below.

- 1) To modify Firmware program
- 2) To control Color Temperature, Gamma Setting for LCD
- 3) To control Multi Monitors using PC Exclusive use program "Wall System Control" on PC

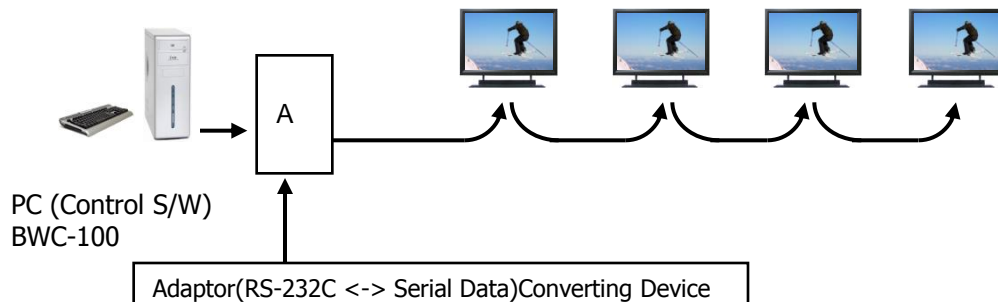


Please consult with technician for Program Update or for Serial Port use. Incorrect use of this port may cause damage or malfunction.



8-1. Multi Monitor Control (through Update Port)

Multi Monitor Control can be operated by exclusive use Adaptor(RS-232C <-> Serial Conversion) Converting device and by PC where exclusive use program (Wall System Controller) is installed.(Option)



9. List of Compatible Signal formats : BQM Series

9-1. Input Video Signals

NO	Signal Format	CVBS (Com POSITE)	Component		HD/SD SDI	DVI	HDMI
			YPbPr	RGB			
1	487/59.94i (Analog)	○	○	○	-	-	-
2	576/50i (Analog)	○	○	○	-	-	-
3	720+487/59.94i (SD-SDI)	-	-	-	○	-	-
4	720+576/50i (SD-SDI)	-	-	-	○	-	-
5	1280+720/23.98p	-	-	-	○	○	○
6	1280+720/24p	-	-	-	○	○	○
7	1280+720/50p	-	○	-	○	○	○
8	1280+720/59.94p	-	○	-	○	○	○
9	1280+720/60p	-	○	-	○	○	○
10	1920+1035/59.94i	-	-	-	○	-	-
11	1920+1035/60i	-	-	-	○	-	-
12	1920+1080/23.98p	-	○	-	○	○	○
13	1920+1080/23.98sF	-	○	-	○	-	-
14	1920+1080/24p	-	○	-	○	○	○
15	1920+1080/24sF	-	○	-	○	-	-
16	1920+1080/25p	-	○	-	○	○	○
17	1920+1080/29.97p	-	○	-	○	○	○
18	1920+1080/30p	-	○	-	○	○	○
19	1920+1080/50i	-	○	-	○	○	○
20	1920+1080/50p	-	○	-	-	○	○
21	1920+1080/59.94i	-	○	-	○	○	○
22	1920+1080/59.94p	-	○	-	-	○	○
23	1920+1080/60i	-	○	-	○	○	○
24	1920+1080/60p	-	○	-	-	○	○
25	2048+1080/23.98p	-	-	-	○	-	-
26	2048+1080/23.98sF	-	-	-	○	-	-
27	2048+1080/24p	-	-	-	○	-	-
28	2048+1080/24sF	-	-	-	○	-	-
29	2048+1080/25p	-	-	-	-	-	-
30	2048+1080/25sF	-	-	-	-	-	-
31	2048+1080/29.97p	-	-	-	-	-	-
32	2048+1080/29.97sF	-	-	-	-	-	-
33	2048+1080/30p	-	-	-	-	-	-
34	2048+1080/30sF	-	-	-	-	-	-

9-2. Computer Signals (VGA/DVI) : BQM Series

NO	Input Signal Names	Screen Resolution	VGA (PC-RGB)	DVI	Vertical Frequency
1	VGA	640*480	√	√	60Hz ~ 100Hz
2	SVGA	800*600	√	√	56Hz ~ 85Hz
3	XGA	1024*768	√	√	86Hz ~ 100Hz
4	WXGA	1280*768	√	√	50Hz ~ 85Hz
5	SXGA	1280*1024	√	√	60Hz ~ 76Hz
6	WSXGA+	1680*1050	√	√	50Hz~60Hz
7	UXGA	1600*1200	√	√	60Hz Only
8	WUXGA*	1920*1080	√	√	60Hz
9	WUXGA	1920*1200	-	√	60Hz, (PC Only)

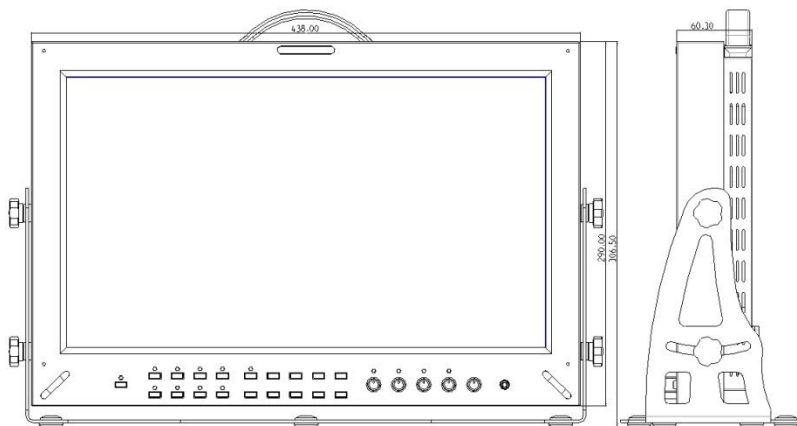
- Output resolution could be changed automatically according to PC Graphic Card in PC- RGB and DVI Input mode.

10. Specifications

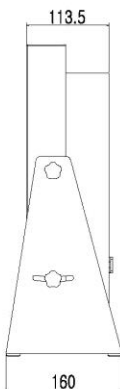
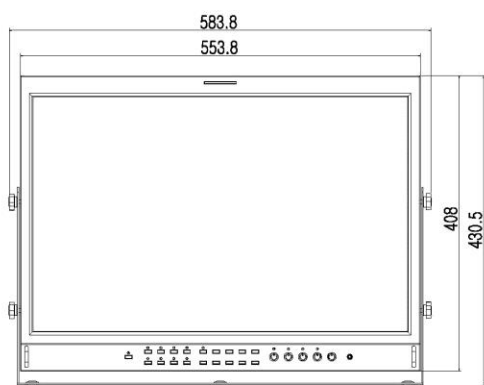
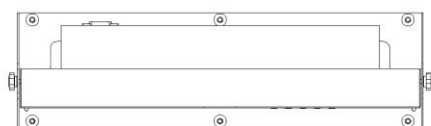
Section		BQM-170LS	BQM-240LS
Input	SDI Input	4EA, HD/SD Serial Digital , 1.485Mb/s/270M, BNC Jack	
	Analog Input	3EA, Composite, Component, RGB, BNC Jack	
	Y/C Input	1EA, Y/C, Super Jack(4p)	
	DVI-I Input	1EA, DVI-I, 24pin, Female, PC-RGB (with Gender) 5pin	
	HDMI	1EA, HDMI, 19pin Female	
Output	SDI Output	4EA, SDI Loop Output, BNC Jack	
Analog Input Level	Composite	1.0Vp-p (with sync), NTSC/PAL	
	YC(S-Video)	Y :1.0Vp-p, C:0.286Vp-p	
	Component (Y/Pb/Pr)	Y :1.0Vp-p, Pb :0.7Vp-p, Pr :0.7Vp-p	
	Component (R/G/B)	G :1.0Vp-p(with Sync), B :0.7Vp-p, R :0.7Vp-p	
	DVI-RGB, Sync Level	R, G, B : 0.7Vp-p, H/V Sync : 4V ± 1Vp-p	
Input Signal Format	2K Format	2048 * 1080 / 24p, 23.98p, 24 psF, 23.98 psF	
	SMPTE 274M	1920 * 1080i / 60, 59.94, 50 1920 * 1080p / 30, 29.97, 25, 24, 23.98, 23.98 psF, 24 psF	
	SMPTE 296M	1280 * 720p / 60, 59.94, 50	
	SMPTE 260M	1920 * 1035i / 60, 59.94	
	SMPTE 259M, 125M	720 * 480i / 60, 59.94	
	ITU R-BT.656	720 * 576i / 50	
	Component	640 * 480 up to 1920 * 1080p	
	HDMI Digital	~ 1920 * 1200 (Embedded Audio, with HDCP)	
	DVI Digital	640 * 480 up to 1920 * 1200	
	DVI-RGB Mode	640 * 480 up to 1280 * 1024, max 1600 * 1200	
Audio Input	Input Line	1EA, L/R Stereo, 3.5 mm Stereo Phone Jack	
	SDI Audio Input	Embedded HD/SD-SDI Audio	
Audio Output	Output Line	1EA, L/R Stereo, 3.5 mm Stereo Phone Jack	
	Speaker Output	2EA, 2W+2W	
	Ear-phone Output	1EA, L/R Stereo, 3.5 mm Phone Jack	
	Output Signal	Input Line & De-embedded Audio, 1 ~ 16CH	
I/O Port	Remote	1EA, Remote, RJ-45P Jack, GPI-7 Port	
	Update	2EA, RJ-11P Jack, RS-422, Serial interface	
LCD	Size	17.3"	24"
	Resolution	1920 * 1080	1920 * 1200
	Pixel Pitch	0.1989 * 0.1989 mm	0.270 mm
	Color	6bit +HFRC, 16.7M	24bit RGB, 16.7M
	Viewing Angle)	R/L:160, U/D:140	R/L:178, U/D:178
	Luminance of White	400 cd/m ²	500 cd/m ²
	Contrast	600 : 1	1000 : 1
Display Area (H * V)		381.8 * 214.8 mm	518.4 * 324 mm
Power Requirements		AC100 ~ 230V, 50/60Hz	
Power Consumption (Approx)		52W	72W
Operating Temperature		0°C ~40°C(32°F~104°F)	
Operating Humidity		20% ~ 80% RH	
Weight (without Stand & Packing)		7 Kg	9 Kg
Dimension (W*H*D) without Box & Stand		420.5 * 310 * 108.9 mm	553.8 * 408 * 113.5 mm
Accessory		• Power Cable • Manual(CD) • Cleaner • Stand	
Option		• Rack Mount (Option) • Vertical/Wall Mount (Option) • ND Filter (Option) • Hood & Carrying Case (Option) • V-Mount (Option)	

Specifications can be changeable for the efficiency and quality improvement of this product without prior notice

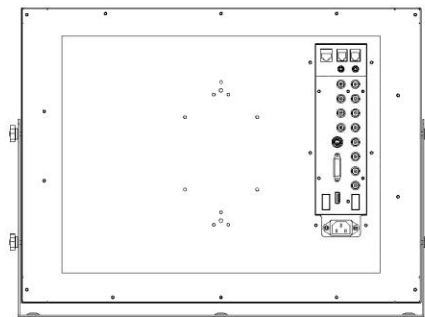
11. Dimensions



BQM – 170LS Dimensions (Unit: mm)



WALL Mounting Hole
(100*100mm)
Size M4, Depth 10mm



BQM – 240LS Dimensions (Unit: mm)

12. Trouble shooting

Solutions to common problems related to the monitor are described here.

If none of the solutions presented here solves the problem, unplug the monitor and consult an authorized dealer or service center.

NO	Symptom	Probable cause and corrective action	Page
1	No power supply	<ul style="list-style-type: none">• Firmly insert the Power Cord.• Check the power. (100V ~220V)	
2	No picture with the power on	<ul style="list-style-type: none">• Connect the signal cable firmly.• Turn on the power of the connected component and set the output correctly.• Check if the input signal format is acceptable to the monitor.	
3	No sound	<ul style="list-style-type: none">• Connect the signal cable firmly.• Adjust Volume Level.	
4	Wrong color, no color	<ul style="list-style-type: none">• Check if the Hue is set up with basic value from the menu.• Check if the color temperature is in basic value.	
5	Wrong picture position, wrong picture size	<ul style="list-style-type: none">• Check Pixel to Pixel mode is on.• Adjust the picture size (H/V Position)	
6	Menu do not appear on the screen or it is shaking	<ul style="list-style-type: none">• The items which are not available for the current input or the current input signal are not displayed on the menu. Change input or the input signal.• Check if the input signal format is acceptable to the monitor.	

13. Maintenance

- When a still video of LCD is displayed for a long time, it may appear wrong image by heating on the screen. This is due to the characteristics of the LCD display and is not malfunction. After power off for a moment, start over again.
- The red spots, blue spots and green spots on the panel surface are a normal characteristic of LCD displays, and it is not a problem. The LCD display is built with very high precision technology, however, be aware that a few very small pixels may be a little troubled by crossing each other or lighting.
- Periodic maintenance inspection time of backlight is about 50,000 hours.
- Periodic maintenance inspection time of fan motor (option) is about 10,000 hours.

14. Up version and Modification of Product

Specifications can be changeable for the efficiency and quality improvement of this product without prior notice.

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