Operating Instructions

HD Digital Monitor

(LCD Multi Format)

Model

BXM-170LS(17”)
BXM-240LS(24”)

BXM Series

BXM-170LS
(17 Inch HD LCD Monitor)

- Resolution 1366X768
- Aspect ratio 16:9
- Contrast 900:1
- Viewing Angle:176 °(178 °)

- Input :
  SDI(2EA,BNC), **Analog(5EA,BNC),**
  Y/C, DVI, HDMI, PC-RGB
- Output :
  SDI(1EA,BNC), Analog(5EA,BNC)
- Power : 12V DC(11V~17V)/AC100-230V

BXM-240LS
(24 Inch HD LCD Monitor)

- Resolution 1920 X 1200
- Aspect ratio 16:10
- Contrast 1000:1
- Viewing Angle : 178 °

- Input :
  SDI(2EA,BNC), **Analog(5EA,BNC),**
  Y/C, DVI, HDMI, PC-RGB
- Output :
  SDI(1EA,BNC), Analog(5EA,BNC)
- Power : AC100-230V

IMPORTANT SAFETY INSTRUCTIONS

1. Please read this manual thoroughly before operating the monitor.
2. Unplug monitor from the wall outlet before cleaning the LCD screen. Do not use liquid cleaners or aerosol cleaners. Use ONLY a damp cloth provided.
3. Don't use any unauthorized accessories not recommended by the manufacturer as they may cause hazards.
4. Don't operate this monitor near damp or wet surfaces.
5. Use only the recommend manufacturer mounting hardware accessories. Slots and openings in the cabinet and the back or bottom are provided for ventilation, and to insure reliable operation of the monitor and to protect it from overheating, these openings must not be blocked or covered.

PORTABLE CART WARNING
(symbol provided by RETAC)

6. 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.
7. 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 your outlet.
   Do not ignore the Safety purpose of the grounding plug.
8. 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. This will prevent damage to the product due to lightning and power-line surges.
9. Do not allow anything to rest on the power cord.

10. Follow all warnings and instructions marked on the appliance.
11. Do not overload wall outlets and extension cords as this can result in fire or electric shock.
12. Do not attempt to service this monitor without a qualified service personnel.

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.

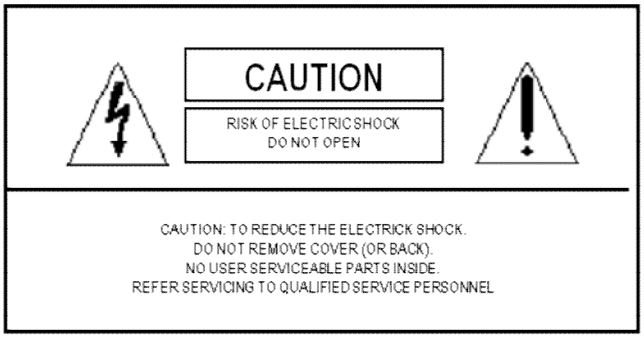
-Consult the dealer or an experienced radio/TV technician for help.

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 safety 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.

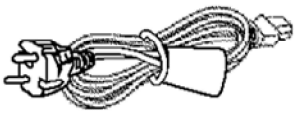
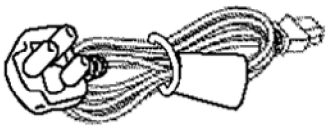
Notice (U.S.A. only):

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.>

Caution for AC Power Cord

FOR YOUR SAFETY PLEASE READ THE FOLLOWING TEXT CAREFULLY.

Appropriate AC Power Cord must be used in each local area.

FOR European and Asia Countries. ETC.	FOR U.K. ONLY
	If the plug supplied is not suitable for your socket outlet, it should be cut off and appropriate one fitted.
FOR U.S.A and Canada	
	

Information on Disposal for Users of Waste Electrical & Electronic Equipment (private households)

This symbol on the products and/or accompanying documents means that used electrical and electronic products should not be mixed with general household waste.

For proper treatment, recovery and recycling, please take these products to designated collection points, where they will be accepted on a free of charge basis. Alternatively, in some countries you may be able to return your products to your local retailer upon the purchase of an equivalent new product.

Disposing of this product correctly will help to save valuable resources and prevent any potential negative effects on human health and the environment which could otherwise arise from inappropriate waste handling. Please contact your local authority for further details of your nearest designated collection point.

Penalties may be applicable for incorrect disposal of this waste, in accordance with national legislation.

For business users in the European Union

If you wish to discard electrical and electronic equipment, please contact your dealer or supplier for further information.

Information on Disposal in other Countries outside the European Union

This symbol is only valid in the European Union.

If you wish to discard this product, please contact your local authorities or dealer and ask for the correct method of disposal.

CE NOTICE

This is Class B product. In a domestic environment this may cause radio interference in which case the user may be required to take adequate measures.

The apparatus shall not be exposed to dripping or splashing and no objects filled with liquids, such as vases, shall be placed on the apparatus.

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

Contents

1. Product 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, Composite/YC/YPbPr/RGB/DVI/PC-RGB/HDMI(HDCP) Signals.

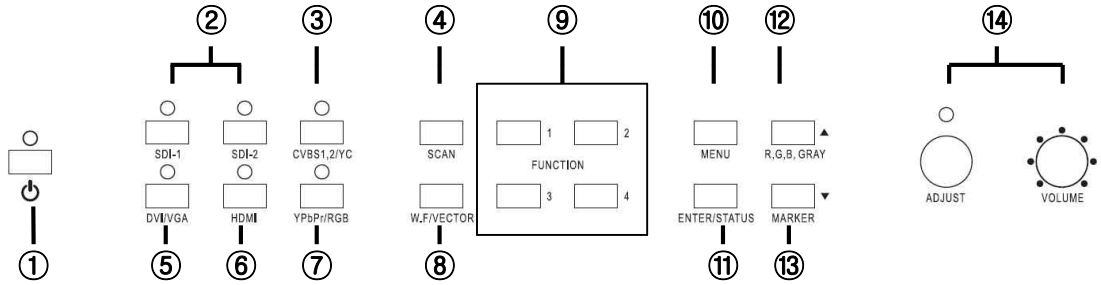
2. Functions and Features

- 2ch HD/SD-SDI Inputs(2K Format) & 1ch Selective Through output
- HDMI (HDCP) input
- Analog Component & DVI – I input
- 2ch Composite input
- 12bit fully Signal Processor
- Pixel Zoom (*2, *4, *8)
- Precision 8~16ch Audio Level Meter
- Various Markers Display (EBU, Variable)
- Precision Monitoring (H/V Delay, R, G, B, Mono)
- Closed Caption (608(ANC), 608(Line21), 708)Display
- Time Code Display (VITC)
- Input mode & Signal Status Information Display
- Waveform Monitoring Display (Y, Pb, Pr Selected, Line Selected)
- Video Range Check Display
- Vector Display (75% / 100%)
- Remote GPI control (RJ-45)
- USB Port (Update)
- RS-422, Serial Control Port, (RJ-11)
- Built-In Speaker
- 3 Color TALLY Lamp
- Analog Audio Input/ De-embedded Output
- Wide Viewing Angle
- UMD/IMD Mode
- Teletext (Option)
- Lock Type of Esay Picture Adjustment
- Hard Coating & Anti Glare Panel & ND Filter (Option)
- Rack & VESA Mount 대응 (Rack Mount Option)

Please refer to Specification Sheet for Detailed information.

3. Controls and Functions

3.1. Front Panel



BXM Front Buttons

① ⏻ STANDBY

Power ON/OFF Button. This Button is operated after being pressed about 3 seconds.

② SDI 1, SDI 2 INPUT SELECT :

This is for selecting SDI Input. Additional OSD LOGO is displayed.

③ CVBS 1, CVBS 2, YC INPUT SELECT

This is for selecting CVBS1,2, Input and selecting YC Input. Each time user press this button, it converts CVBS1,2, Y,C Mode.

④ SCAN

This Button is used to convert output picture status into Zero Scan, Under Scan, Over Scan, Zoom, Pixel to Pixel Mode. Each time user press this button, it converts above Mode.. (SCAN LED is ON when Over Scan.)

⑤ DVI / VGA INPUT SELECT

This is for selecting DVI / VGA Input. Each time user press this button, it converts DVI, VGA Mode.

⑥ HDMI INPUT SELECT

This is for Selecting HDMI input.

⑦ COMPONENT-YUV, RGB INPUT SELECT

This is for selecting Components Input. Each time user press this button, it converts YPbPr, RGB Mode.

⑧ W-FORM/VECTOR(▼)

Input signal is shown as a format of Wave form or Vector Scope. Each time this button is pressed, it converts each mode. (This mode is available only in follow mode => SDI, CVBS, S-Video, YPbPr Mode)

⑨ FUNCTION 1 (F1, F2, F3, F4)

These two Function buttons carries out the item selected in the SYSTEM Menu.

⑩ MENU

When selected this button, OSD Menu is activated. Please refer to category 6.

⑪ ENTER , ⑪* **ENTER/STATUS**

1) When sets the OSD Menu used as Enter button. Please refer to category 6 for detailed information.

2) If the OSD Menu is not activated used for the input signal's information display.

⑫ R. G. B. GRAY(▲)

1) When this button is pressed, Display Color is shown as a format of Wave form or Vector Scope. Each time this button is pressed, it converts each mode. These functions are available only in SDI, CVBS, S-Video, Y Pb Pr mode

2) When the OSD MENU is activated, used for Up (▲) button

⑬ MARKER(▼)

1) Used for Marker On/Off.

2) When the OSD MENU is activated used for down(▼) button.

⑭ ADJUST

Possible to control these functions .(Brightness, Contrast, Saturation, Phase, Volume)

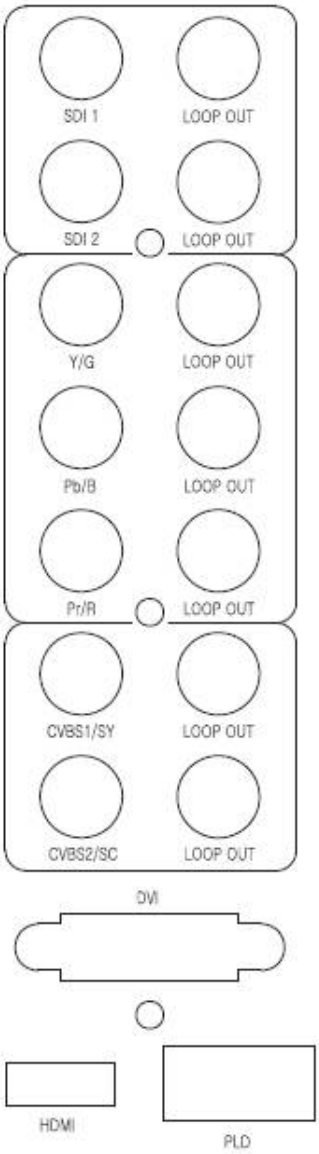
Brightness
Contrast
Chroma
Phase
Speaker Volume

} Selectable these items

When the OSD MENU is activated this VOLUME button can be used for Up(▲), Down(▼) and ENTER.

3.2. Rear Panel

1. USB 2. RJ-45(GPI) 3. RJ-11 x 2 4. earphone



Rear of BXM

①: USB Update Port
You can update Firmware by this USB port. Please refer to category7 for detailed information.

② : REMOTE Port ,RJ-45 Jack -Through (RJ-45) Port
Terminal for controlling the monitor by an external control. (Make/Trig Type)
Please refer to cagegory8 for detailed information.

③ : UPDATE Port (RJ-11 Jack)
Serial Communication Port
This port is used to modify monitor program or to control Monitor.
Please refer to category for detailed information.

④ : **AUDIO IN/OUT**
Input/Output terminal for the external Audio and Embedded Audio Signal.

⑤ : SDI 1 , SDI 2 input.

⑥ : LOOP OUT jack (Selected Active Thru out)

⑦: Component input
Y,U,V (Y,Pb,Pr) and R,G,B

⑧: Component LOOP OUT
Component Loop Out port
To set Component Loop Out, set Analogue Loop into "ON" in the MENU/VIDEO

⑨: Composite / Y/C(S-Video) Input

⑩: Composite LOOP OUT
Composite Loop Out port
To set Composite Loop Out, set Analogue Loop into "ON" in the MENU/VIDEO

⑪: DVI-I input jack

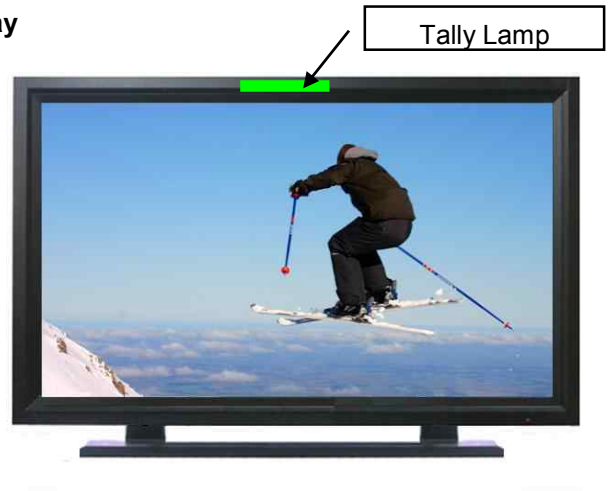
⑫: HDMI input jack

⑬: PLD Update Port
Used for PLD Update port.

⑭ : AC INPUT (AC 100V~220V)

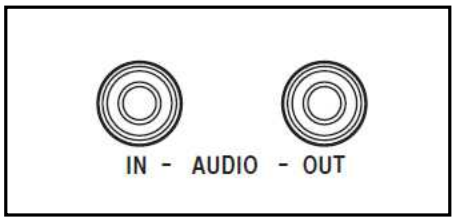
3-3. Tally & Audio

1) Tally Display



Tally Colors are 2types(Red, Green), and can be selected by external contact terminal.

2) AUDIO Input/Output



① Analog Audio L/R terminal (Stereo Pin Jack)

The external audio signal is available through the speaker by a Menu setting.

② Analog Audio L/R Output (Stereo Pin **Jack**)

Terminal for output of De-embedded Analog Audio signal from SDI.
The 16ch Audio Signal output is available by a Menu Setting. Please refer to 6-6 **Embedded Audio** Setup for detailed information.

3-4. Function Button for F1, F2, F3, F4

Used to select the functions to be assigned to individual buttons F1 ~F4(front-panel buttons).

Function

1. PC SCAN Aspect/Fill
2. Aspect Native/16:9
3. Pixel to Pixel On/Off
4. Anamorphic On/Off
5. PaP On/Off
6. PiP On/Off
7. Fast Mode On/Off
8. Time Code Display On/Off
9. Marker On/Off
10. Caption Display On/Off
11. Audio Display On/Off
12. Audio Mute On/Off
13. H/V Delay On/Off
14. Freeze Main On/Off
15. Freeze sub On/Off
16. Front Button LED On/Off
17. Video Loss Tally
18. Video Loss Alarm
19. Video Range Check
20. Focus Peaking Display

H/V Delay is available only below mode.

1) SDI-1, SDI-2 input
2) CVBS1, CVBS2 input
3) S-Video
4) YPbPr, RGB input

4. STATUS DISPLAY

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

1) **Audio Level Display Mode**.
You can set Audio Level Display On/Off and display position.

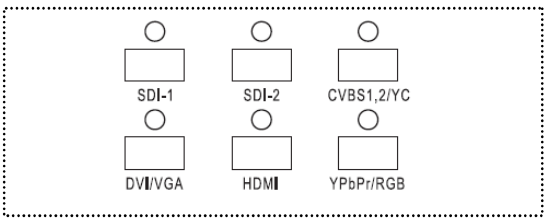
2) **Waveform Monitor Display**
You can set Waveform Monitor Display On/Off and display position by OSD Menu.

Wave form is not available in YPbPr 1080p input.

3) **Time Code Display**
You can set Time Code display On/Off and display position by OSD Menu.

• Time Code Displaying is available SDI input only.

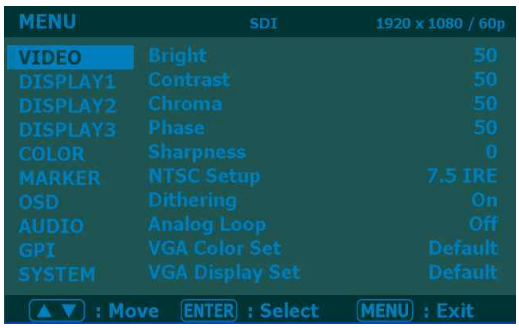
5. INPUT SELECT



< Input Button >

6. OSD MENU

6-1. VIDEO Setup



VIDEO MENU

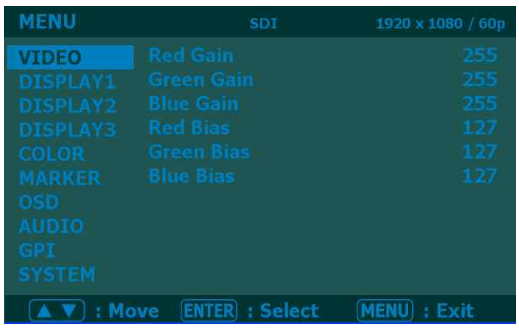
- **Brightness** : Adjusts brightness.
- **Contrast** : Adjusts Contrast.
- **Chroma** : Adjusts Chroma.
- **Phase(Hue)**: Adjusts Phase.
- **Sharpness** : Adjusts Sharpness.
- **NTSC Setup** : Selectable among 0 IRE,7.5 IRE

  7.5 IRE -> -> Operates at NTSC or YUV Mode .
- **Dithering** : sets gradation effect.

  ON -> makes screen gradation smooth
  (Recommended to turn Dether ON if 8bit output)
  Off -> without gradation effect, it outputs into screen
- **VGA Color Set** ▪ **VGA Display Set** :

Activates only in VGA Input. mode. There are Default mode and User Adjust Mode.

6-1-1. VGA COLOR setup

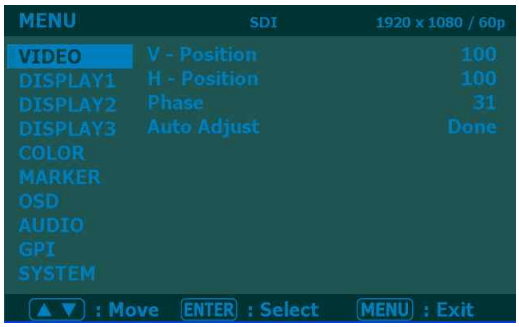


This menu is applied VGA input mode only.

- **Red Gain** : Controls Gain of Read input.
- **Green Gain** : Controls Gain of Green input.
- **Blue Gain**: Controls Gain of Blue input.
- **Red Bias** ▪ **Green Bias**▪ **Blue Bias** : Controls offset of each Bias.

VGA Color Set : You can control each value of R.G.B among YPbPr, RGB, VGA input mode only.

6-1-2. VGA Display Setup



This Menu is displayed VGA Mode Only.

▪ V –Position ▪ H –Position : You can adjust V and H position in PC-RGB input mode.

▪ Phase: You can adjusts Phase

▪ Auto Adjust : You can adjust screen position automatically..

6-2. Display

▪ PC SCAN : You can select display mode among Fill and Aspect.

▪ Aspect : Sets picture ratio as 16:9 or as Native ration in SD mode, 2k mode.

▪ Pixel to Pixel(1:1) : This function is available only in 7” and 20” model. Displays native signal inputted in HD-SDI, 1920 x 1080 without scaling down. The active display can be set to Left Upper, Right Upper, Left Bottom, Right Bottom, and Center.

▪ Anamorphic : Makes vertical resize to see Anamorphic screen(2.35:1) on 720/50P 59.94P mode.

▪ Fast Mode : Used select Fast, Normal Mode

Fast mode minimize the delay time as it outputs Interlaced scanning Input not converting into progressive scanning method. Normal Mode is used to output Interlaced scanning signal as progressive scan.

▪ Back Light : Controls brightness of LCD backlight.

▪ Test Pattern : Without additional Input signal, it provides internal Test Pattern of 1920 x1080 30p format on the screen. (Off, Blue, Green, Red, 0~100% White)

6-2-1. Display

Sets Screen size mode or display status.

- **PIP & PAP Main** : Selects input of Main.
- **PIP & PAP Sub** : Selects input of Sub.

- **Dual Display Type** : In the Dual Display Mode, you can adjusts position and sized of picture.
- **PiP Position** : You can select position of Sub.

- W.F Display Mode : Selects W.F display Mode.

- W.F Line Select : Display selected line's W.F and you can select the line by UP ▲ DOWN ▼ button.
- W.F Select : Used to display desired Video waveform -> Y(Green), Cr(Red), Cb(Blue)

- W.F Position : Used to set the position of Waveform Display -> Left Top, Left Bottom, Right Top, Right Bottom

- Vector Position : Used to set the position of Vector scope among->Left Top. Left Bottom. Right Top.

- W.F & Vector Blend : Used to adjust transparency of W.F and Vector scope.

6-2-2. Display Setup

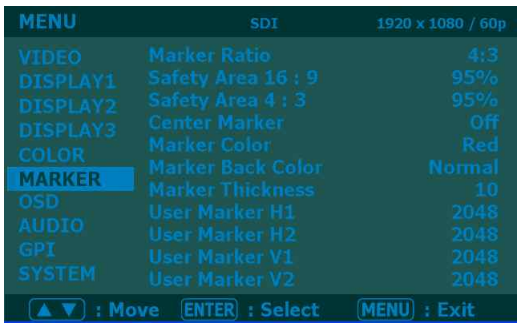
- **Video Range Check** : Video Range Check On/Off
- **Y Range Max** : Used to set Maximum value of Y.
- **Y Range Min** : Used to set Minimum value of Y.
- **C Range Max** : Used to set Maximum value of C.
- **C Range Min** : Used to Set Minimum value of C..
- **Blink Color** : Used to set the Blink Color when the Video Range Check On. There are Black/ Blue/ Green/ Red.
- **Blink Time** : Used to set the Blink time when the Video Range Check ON.

- **Focus Peaking Display** : Camera Focus Assistance On/Off.
- **Peaking Color** : Used to set the peaking color of Focus Assistance.
- **Peaking Width** : Used to set the peaking width of Focus Assistance.

6-3. COLOR

- **Color Temperature**
  : Sets color temperature on screen among 3200°K,5400°K,6500°K, 9300°K의
- **Adjust Temperature**
  : Activates when User is set in Color Temperature RGB Gain and Bias are possible to control
- **R,G,B Gain** : Control each R,G, B Gain in USER mode
- **R,G,B Bias** : Control each R,G,B Bias in USER mode

6-4. MARKER



- **Marker 16:9**
  Used to set the type of Marker in 16:9 HD Signal.
  -> 4:3,15:9,14:9,13:9,1.85:1,2.35:1,User,Off
- **Safety Area 16:9**
  Used to set the safety area in 16: 9 HD signal
  -> EBU ACT 16:9/14:9/4:3, EBU GRA 16:9/14:9/4:3, Off, 80%,85%,88%,90%,93%,95%
- **Safety Area 4:3**
  Used to set the safety area in 16:9 HD signal input
  -> EBU ACT 16:9/14:9/4:3, EBU GRA 16:9/14:9/4:3, Off, 80%,85%,88%,90%,93%,95%
- **Center Marker** : Center Marker On/Off
- **Marker Color** : Selects Marker Color.-> Black, Red, Green, Blue, White, Gray
- **Marker Thickness** : Set Marker Thickness as Pixel unit. (1~10 Pixels)
- **Marker Back Color** : Sets background transparency between Normal and Half, excluding Safety area. -> Normal, Half
- **User Marker H1,2/V1,2** : Sets H,V Position of User Marker
  (Depending on inch, user can be set the maximum resolution which are supported in the LCD Panel.)

6-5. OSD

- **Timecode Display** : Timecode Display ON/OFF
- **Timecode Position** : Used to set position of Time Code.
- **Menu Display Time** : Sets Menu and Information.
  -> Select one of off, 0(continute)~60 seconds.
- **Menu Blend** : Set transparency of menus and indication windows on the screen
  -> Selects 0~15 levels

▪ MENU Position : Select for Center, Left Top, Right Top, Left Bottom, Right Bottom.

▪ Closed Caption : This function is available in Composite, YPbPr,I and Digital(HD/SD-SDI) signal. There are three selectable mode : OFF, CC 708, CC 608 (Transcoded, VANC, Line 21 Line), . This function displays character information included in CC signal on the screen..

▪ CC608 Start Line : **Used to set the start line of CC608 on screen In 608 Sine 21 Mode,**

Menu Position: Left-Top, Left-Bottom, Right-Top, Right-Bottom, Center

Closed Caption Display : Standard 608(CVBS & SDI : NTSC/PAL)
Digital 708(SD/HD-SDI)

6-6. AUDIO

▪ 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 .

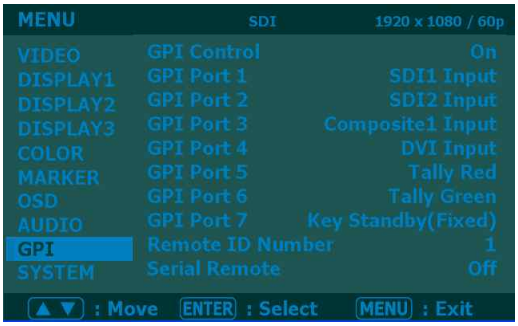
▪ Audio Level Meter : Displays the level of inputted Audio signal as Level Bar on the screen .

▪ Level Meter Position : Selects the position of Audio Level Meter either Upper or Lower.

▪ Speaker Source : Selects Speaker Output among Auto / SDI 1,2 / LINE IN input

▪ Speaker Volume : Sets Speaker Output Level.

6-7. GPI PORT Setup



▪ GPI Control :
Used to select external control terminal ON/OFF. It is not possible to control through Remote terminal from outside or 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 (RJ-45).
However, GPI Port7 is fixed as Key Standby. For detailed information, please refer to category 8-1,2,3

▪ Remote ID Number : Used to set own number for monitor in case IR remote Control (Option)
▪ Serial Remote : Select whether use external Serial Port control or not.
If Serial Remote is on, IR remote controller and Key do not work

To terminate Serial Remote Status (Update, Remote On), press Menu button for 3 seconds.

6-8. SYSTEM

▪ Function 1,2,3,4 : Used to select the functions to be assigned to individual buttons to F1, F2, F3, F4
(For detailed information, please refer to category 3-4)

▪ Front Button Lock : Sets ON/OFF lock function of front key buttons.

▪ **Setup Load** : used to change product setup status.
- **Factory Mode:** used to return to the factory default.
- **User 1,2,3 Mode** : Menu Setting is transferred to the Menu of 1,2,3 to be saved by user

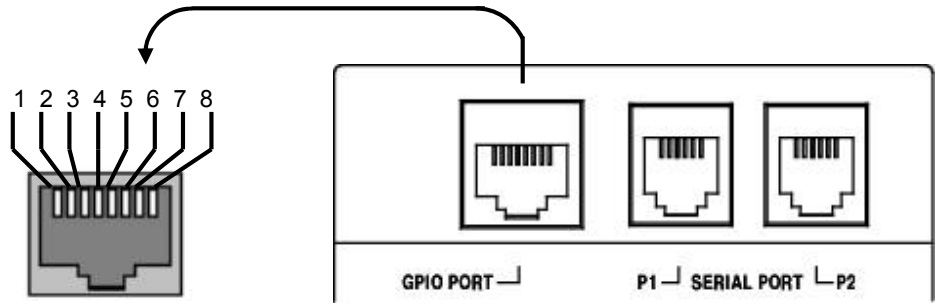
▪ Setup Load : Used to change Setup.
– Factory Mode: Used to return to factory default.
– User 1,2,3 mode : Menu Setting is transferred to the Menu of 1,2,3 to be saved by user.
▪ Setup Save : Used to save current Menu setting. User 1,2,3 can be used by Setup Load.
▪ Firmware Version : Displays F/W Version and H/W Version.
▪ Operating Time : Displays operating time of the product.

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

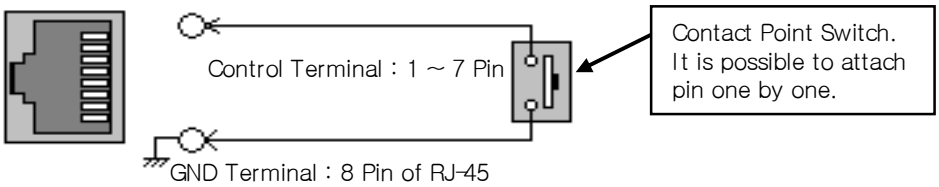
Each terminal function can be set from the GPI CONTROL SETUP Menu.



Remote (RJ-45)

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

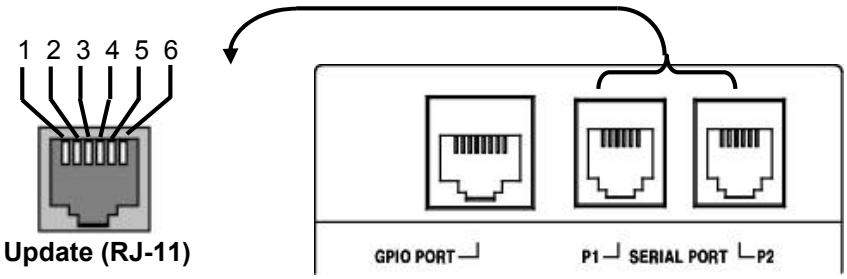
Port Assignment Items	Function	Operating conditions
CVBS1 Input	Switches the input CVBS1	Edge operation
CVBS2 Input	Switches the input CVBS2	
CVBS3 Input	Switches the input CVBS3	
SDI1 Input	Switches the input SDI-1	
SDI2 Input	Switches the input SDI-2	
DVI Input	Switches the input DVI	
HDMI Input	Switches the input HDMI	
VGA Input	Switches the input PC-RGB	
Y/Pb/Pr Input	Switches the input YUV	
R/G/B Input	Switches the input RGB	
S-Video Input	Switches the input Y/C	
Gray Only	Switches Mono ON/OFF.	
Blue Only	Switches Blue Only ON/OFF.	
Under Scan	Scales down the screen.	
Over Scan	Scale Up the screen.	
Zoom Scan	Fits the screen into inputted definition.	
Key Up	Cursor Up during Menu Control	
Key Down	Cursor Down during Menu Control.	
Key Menu	Switches Menu Functions ON/OFF.	
Key Enter	Switches Enter Button ON/OFF.	
PC Scan	Selects Aspect/Fill in PC-RGB Mode.	
Aspect Ratio	Selects Native Ratio/16:9 in SD mode.	
Pixel to Pixel	Switches Pixel to Pixel Scan Function ON/OFF.	
Anamorphic	Switches Anamorphic Function ON/OFF	
PaP	Switches PaP Function on/off.	
PiP	Switches PiP Function on/off.	
Waveform Display	Switches Waveform Display ON/OFF.	
Time Code Display	Switches Time Code Display ON/OFF.	
Vector Display	Switches Vector Scope Display ON/OFF.	
Dual Link Mode	Selects Dual Link RGB444/YPbPr422/OFF	
Fast Mode	Selects Fast Mode/ Normal Mode.	
Marker Display	Makes Marker APPEAR/DISAPPEAR.	
Marker 16:9	Controls Marker Area in 16:9	
Safety Area 16:9	Controls Safety Area in16:9.	
Safety Area 4:3	Controls Safety Area in 4:3..	
Center Marker	Makes Center Marker APPEAR/DISAPPEAR	
Caption Display	Selects Caption Function among Off/608/609.	
Audio Display	Switches Audio Level ON/OFF.	
Audio Mute	Switches Audio Output Mute ON/OFF	
Tally Red	Switches Red Color of Tally Lamp ON/OFF.	Level Operation (Connected:ON, Open:Off)
Tally Green	Switches Green Color of Tally Lamp ON/OFF.	
H/V Delay	Switches H/V Delay Function ON/OFF.	Edge operation
Freeze Main	Stops Main either at PaP or at PiP	
Freeze Sub	Stops Sub either at PaP or PiP.	
Front Button LED	Switches LED of the Front button ON/OFF.	

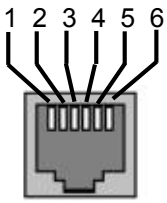
8. Program Update Port(RJ-11)

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.

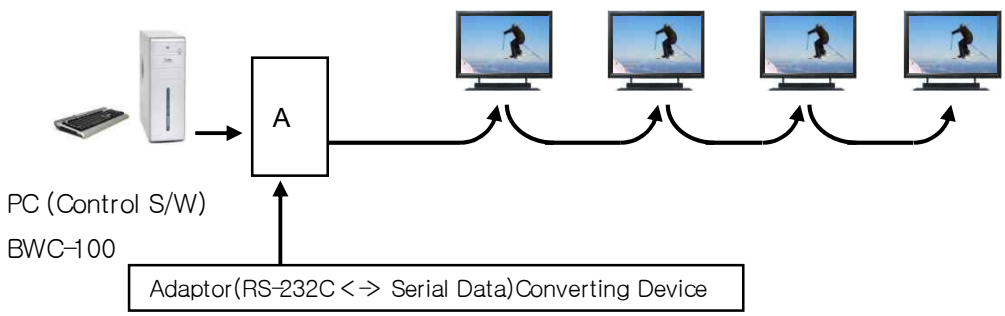




Update Terminal Assignment			
1 PIN	NC	4 PIN	GND
2 PIN	RX+	5 PIN	TX+
3 PIN	RX-	6 PIN	TX-

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. Program Update Port(USB)

1) Used for Firmware Update.

9-1 How to update the firmware by USB port.

Set the Update Execute to Yes, and then, exit the menu by pressing menu button.
Then, it automatically start update procedures.

-Update Process

HOST Update : SDI-1, SDI-2 LEDs gradually turn it ON/OFF, and when completed, it starts Reboot (Approximately 2 minutes required)

VIPER Update : LEDs of below front buttons will be turning as following order, and when completed, it automatically Reboot.

SDI-1 -> SDI-2 -> CVBS1,2/YC -> YPbPr/RGB -> HDMI -> DVI/VGA.

(Approximately 6 minutes required.)

Good example : In case proper update file is located in the inserted USB

Bad example : In case Update file is not located in the inserted USB or NO USB inserted into the monitor

1. USB Update File must be located in the priority folder of USB to execute update properly.
2. USB Update Port support USB storages that were Formated by FAT12,FAT16 or FAT32 file system ONLY.
3. A few of USB storages may not be recognized in BXM Monitor.

USB Update supports HOST/VIPER Update ONLY.

VIPER Update should be conducted by the update port located in the rear of the monitor

If Monitor does not recognize USB properly, insert USB storage ahead of time before Turn the monitor ON.

10. List of Compatible Signal formats

10-1. Video Signals : BXM Series

NO	Input Signal Formats	Composite/ S-Video	Component		HD/SD-SDI				DVI/ HDMI
			Y,Pb,Pr	R,G,B	Single	Dual YUV4:2:2	Dual YUV4:4:4	Dual RGB444	
1	NTSC	√	-	-	-	-	-	-	-
2	PAL	√	-	-	-	-	-	-	-
3	525/60i (SD)	-	√	√	√	-	√	√	-
4	625/50i (SD)	-	√	√	√	-	√	√	-
5	720*480/59.94p	-	√	-	-	-	-	-	√
6	720*576/50p	-	√	-	-	-	-	-	√
7	1280*720/23.98p	-	-	-	√	-	√	√	√
9	1280*720/24p	-	-	-	√	-	√	√	√
9	1280*720/50p	-	√	-	√	-	√	√	√
10	1280*720/59.94p	-	√	-	√	-	√	√	√
11	1280*720/60p	-	√	-	√	-	√	√	√
12	1920*1035/59.94i	-	-	-	√	-	√	√	√
13	1920*1035/60i	-	-	-	√	-	√	√	√
14	1920*1080/50i	-	√	-	√	√	√	√	√
15	1920*1080/59.94i	-	√	-	√	√	√	√	√
16	1920*1080/60i	-	√	-	√	√	√	√	√
17	1920*1080/23.98p	-	√	-	√	-	√	√	√
18	1920*1080/23.98psf	-	√	-	√	-	√	√	-
19	1920*1080/24p	-	√	-	√	-	√	√	√
20	1920*1080/24psf	-	√	-	√	-	√	√	-
21	1920*1080/25p	-	√	-	√	-	√	√	√
22	1920*1080/25psf	-	-	-	√	-	√	√	-
23	1920*1080/29.97p	-	√	-	√	-	√	√	√
24	1920*1080/29.97psf	-	-	-	√	-	√	√	-
25	1920*1080/30p	-	√	-	√	-	√	√	√
26	1920*1080/30psf	-	-	-	√	-	√	√	-
27	1920*1080/50p	-	√	-	-	√	-	-	√
28	1920*1080/59.94p	-	√	-	-	√	-	-	√
29	1920*1080/60p	-	√	-	-	√	-	-	√
30	2048*1080/23.98p	-	-	-	√	-	-	√	-
31	2048*1080/23.98psf	-	-	-	√	-	-	√	-
32	2048*1080/24p	-	-	-	√	-	-	√	-
33	2048*1080/24psf	-	-	-	√	-	-	√	-
34	2048*1080/25p	-	-	-	√	-	-	√	-
35	2048*1080/25psf	-	-	-	√	-	-	√	-
36	2048*1080/29.97p	-	-	-	√	-	-	√	-
37	2048*1080/30p	-	-	-	√	-	-	√	-

- With Analog YPbPr mode, 1035/59.94i,60i signal input, Marker is displayed in 1080/59.94i,60i and output.
- Output screen mode can be output with automatic control in DVI mode.
- STATUS Display of Input Signal might be different with real screen.
- Safety Area Edge part may not be displayed in some modes.

10-2. Computer signals (PC-RGB/DVI) : BDM 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	√	√ ,note1	60Hz
9	WUXGA	1920*1200	-	√ ,note1	60Hz,(PC Only)

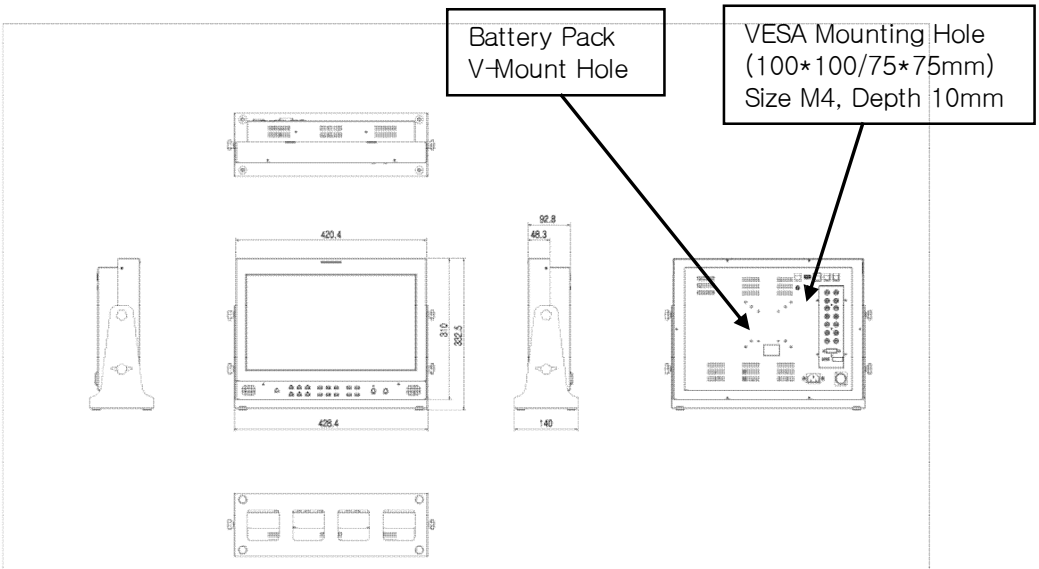
• Output resolution could be changed automatically according to PC Graphic Card in PC-RGB and DVI Input mode.

11. Specifications

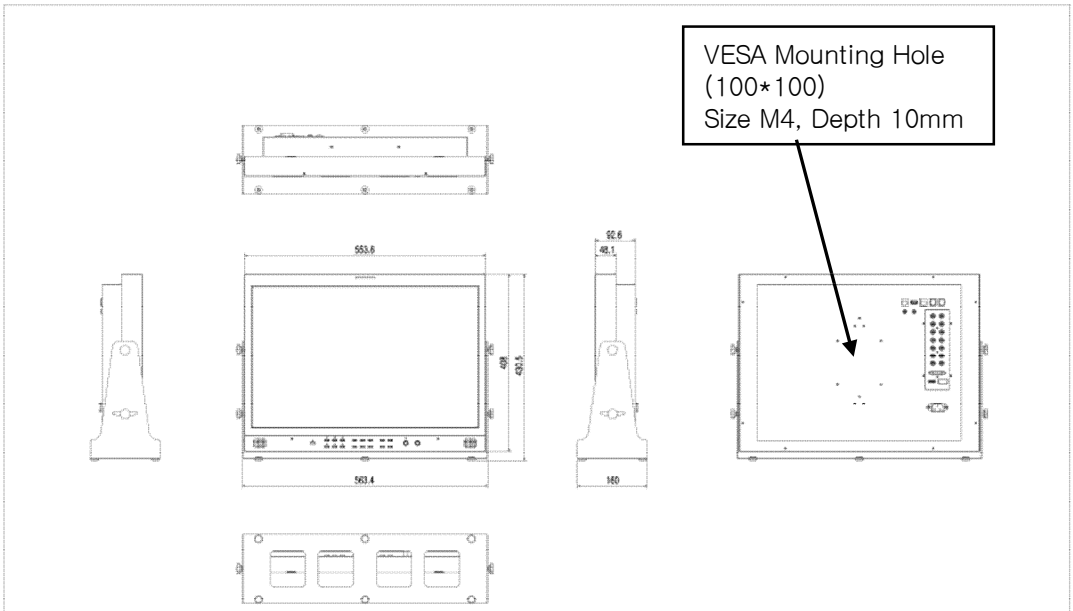
Section		BXM-170	BXM-240
Input	SDI Input	2EA, HD/SD Serial Digital , 1.485G/270M, BNC Jack	
	Analog Input	2EA, Composite,YC(S-Video),3EA Component,RGB,BNC Jack	
	DVI-RGB Input	1EA, DVI + Analog Jack (with gender) (24Pin + 5Pin)	
	DVI Input	1EA, DVI-I, 24pin, Female	
	HDMI	1EA, HDMI, 19pin Female	
Output	SDI Output	1EA, BNC, Selective SDI-Active Loop Output	
	Analog Output	5EA, 75Ω,Analog Loop,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	
Digital Input Fomat	2K Format	2048*1080/24p, 23.98p, 24psf, 23.98psf	
	Dual_YUV422	1920*1080p/60, 59.94, 50	
	Dual_YUV444, Dual_RGB444	1920*1080i(60, 59.94, 50),1080p(30, 29.97, 24, 23.98), 1280*720p(60, 59.94, 50)	
	SMPTE 274M	1920*1080i/60, 59.94, 50 1920*1080p/30, 29.97, 25, 24, 23.98, 23.98sf	
	SMPTE 296M	1280*720p/60, 59.94, 50	
	SMPTE 372M	-	
	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,w/o 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, RCA Jack	
	SDI Audio Input	Embedded HD/SD-SDI Audio	
Audio Output	Output Line	1EA, L/R Stereo, RCA Jack	
	Speaker Output	2EA, 2W+2W	
	Ear-phone Output	1EA, L/R Stereo, 3.5mm pin 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"(LC171WXN-SAA1)	24"(LM240WU7-SLB2)
	Resolution	1366 * 768(16:9)	1920 * 1200
	Pixel Pitch	0.091*0.273 mm	0.270 mm
	Color	16.7M	16.7M
	Viewing Angle(deg)	R/L:178, U/D:178	R/L:178 , U/D:178
	Luminance of White	350 cd/m²	400 cd/m²
	Contrast	900 : 1	1000 : 1
	Display Area (H * V)	372.91 * 209.66 mm	518.4 * 324 mm
Power Requirements		AC100 ~ 230V, 50/60Hz	
Power Consumption(Approx)		0.65A ~ 0.34A(??W)	0.65A ~ 0.34A(??W)
Operating Temperature		0°C ~40°C(32°F~104°F)	
Operating Humidity		20% ~ 80% RH	
Weight (without Stand & Packing)		7.0 kg	9kg
Dimension(W*H*D)without Box&Stand		421.6 * 309 * 95.3 mm	436 * 329 * 82.8 mm
Accessory		•Power Cord -1- • Manual -1- •DVI to VGA Gender -1- • Stand -1-	
Option		•Rack Mount (Option) • Vertical/Wall Mount (Option) •ND Filter (17",24"Option) •Hood & Carring Case (Option) •V-Mount (8.4",17" Option)	

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

12. DIMENSIONS



BXM - 170LS Dimensions (Unit: mm)



BXM - 240LS Dimensions (Unit: mm)

13. 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	• Firmly insert the Power Cord. Check the power. (100V ~220V)	
2	No picture with the power on	• 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	• Connect the signal cable firmly. Adjust Volume Level.	
4	Wrong color, no color	• 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	• 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	• 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.	

14. 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.

15. Up version and Modification of Product

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

MEMO

BON ELECTRONICS. INC

BON ELECTRONICS, INC.
(Head Office) Tresbelle Sky B/D 2 F, 1479 Gayang2-Dong, Gangseo-Gu, Seoul, Korea
Tel : (+82) 2-2659-0333 (113), fax: (+82) 2-2659-8133,

brandon@gw.bon.co.kr

john@bon.co.kr

http://www.bon.co.kr

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