Multi-Format Broadcast Monitor

BEM-182, 212, 242

User's Guide

BON ELECTRONICS
http://www.bon.co.kr

Contents

Features

Firmware Update with USB Memory

Focus Assistance/False Color (SDI)

Waveform/Vectorscope (SDI)

Closed Caption (CEA-608/708) (SDI)

Time Code (SDI)

8~16ch Audio Level Meter

Video Exposure Range Check (SDI)

UMD Mode (SDI)

AFD & V-CHIP (SDI)

Various Markers

H/V Delay (SDI)

Tally LED Control Output R/G/B/W Internal Patterns Rack & VESA Mount (Option)

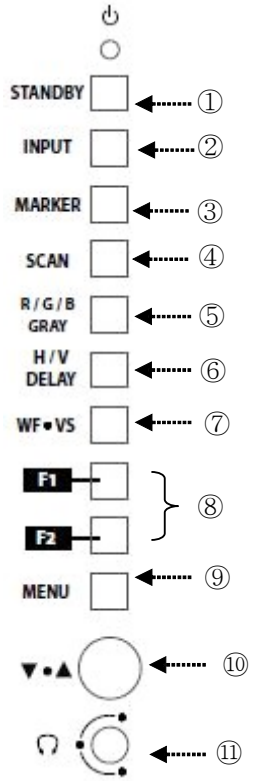
3G SDI input (Level A/B)

1~16Ch Audio Level Meters

Safety Instructions

- To help avoid damaging your monitor, connect only one power (AC or DC) in operation.
- Rough handling of product may cause physical damage or malfunction.
- Never insert anything metallic into the monitor openings. Doing so may create the danger of electric shock.
- To avoid electric shock, never touch the inside of the monitor. Only a qualified should open the monitor's case.
- Openings in the monitor cabinet are provided for ventilation. To prevent overheating, these openings should not be blocked or covered.
- Put your monitor in a location with low humidity and a minimum of dust. Avoid places like damp basement or dusty hallways.
- Place the monitor on a solid surface and treat it carefully. The screen is made of glass and can be damaged if dropped or sharply hit.
- Do not attempt to remove the back cover, as you will be exposed to a shock hazard. The back cover should only be removed by qualified service personnel.
- Unplug the monitor power before you connect external devices to the monitor.
- If your monitor does not operate normally, or if there are any unusual sounds or smells coning from it, unplug it immediately and contact us.
- Please do not disassemble the monitor. No service will be provided in that case.
- Displaying fixed picture for a long time may cause an afterimage or dead spots. To recover LCD pixels, display whole white picture on screen for a n hour or two and pixels will be recovered.
- No service will be provided for user's own color calibration.

Front



1) Power (Standby) Button

2) Input

HDMI / SDI Input Selection.

3) Marker On/Off

4) Scan

Switches scan mode.

5) R/G/B/Gray

Switches to display Red, Green, Blue or Gray color only.

6) H/V Delay

Displays ancillary data.

7) WF/VS (SDI)

Displays waveform, vectorscope.

```
* Some afterimage might be left on Waveform when the input picture
freezed long on interlace signal.
```

```
* On SDI 2K input with Psf scanning mode, displaying Circle or
Horizontal Line pattern might cause an afterimage effect. However, it
will be disappeared after the picture is changed.
```

8) Function Keys

User-preferred function can be assigned to function keys. Assignable functions are listed below.

- ALM (Audio Level Meter) Display On/Off
- Freeze Frame On/Off
- UMD Display
- Front Button LED On/Off
- Video Loss Display On/Off
- Focus Assist
- False Color
- Exposure Range Check
- Audio Mute
- 1:1 Scan On/Off
- Caption Display
- Time Code

9) Menu

Displays Menu.

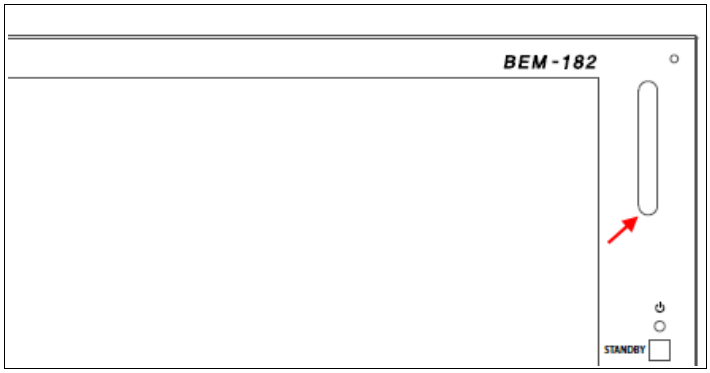
10) Adjust Knob

Works as arrow keys or selector.

11) Phone Jack

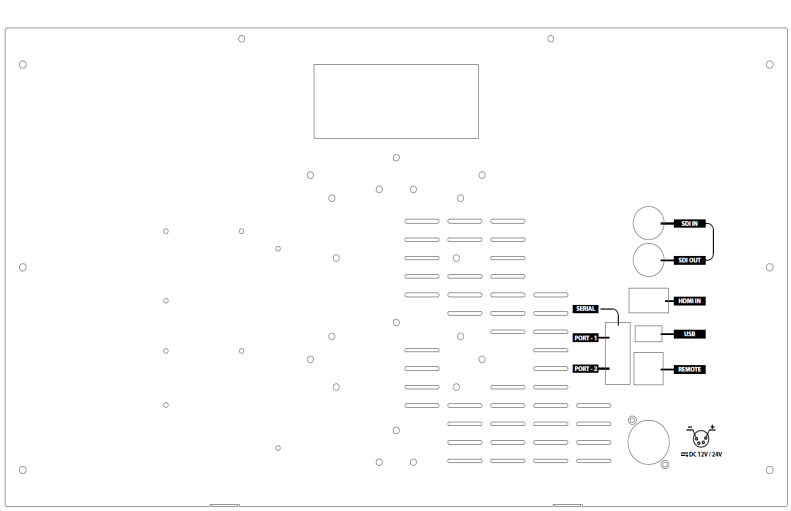
Headphone Output.

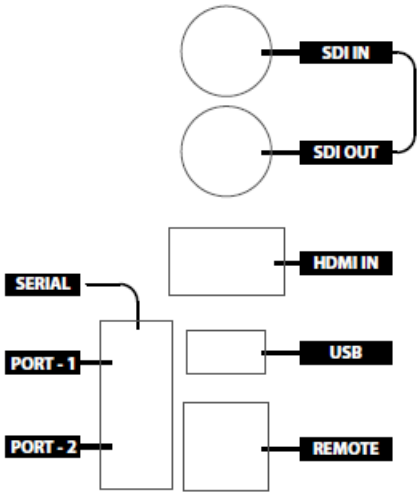
Tally



Tally mode displays Red, Green, Amber color by the input from tally (RJ-45 GPI) input port.

Rear





1) SDI IN

2) SDI OUT

SDI Loop-through out.

3) HDMI IN

4) USB

USB Port for firmware update.

5) SERIAL 1

Serial port for firmware update and monitor control.

6) SERIAL 2

Serial port for firmware update and monitor control.

7) REMOTE

Ethernet port for monitor control.

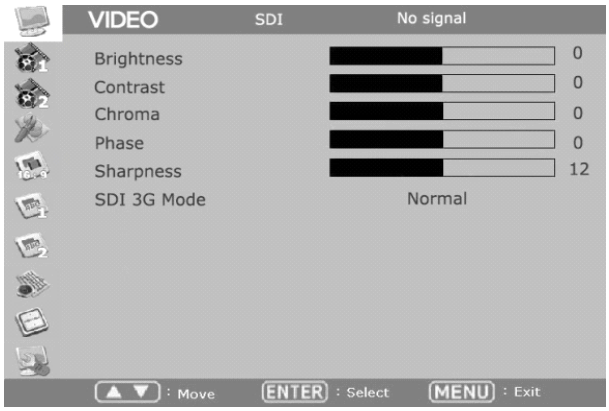
OSD Menu

Menu opens up by pressing Menu button. This button also works as Exit button on the Menu. The brightness knob works as up/down arrow. To select something, press either enter button or the knob.

```
* The menu may disappear on no signal or unstable signal input.

* Menu setting is saved for each input mode. So the user should make
selection on an appropriate input mode.
```

VIDEO



Brightness

Adjust brightness.

Contrast

Adjust contrast.

Chroma (Hue)

Adjust chroma.

Phase

Adjust phase.

Sharpness

Adjust sharpness. Default: 12s.

SDI 3G Mode

Set this mode if the input is 3G HD SDI. SDI 3G mode support SMPTE standards listed below:

- A_MS1_YCbCr422_10
  : 3G SDI Level-A Mapping Structure 1 – YCbCr 4:2:2/10 bit
- A_MS2_YCbCr444_10

: 3G SDI Level-A Mapping Structure 2 – YCbCr 4:4:4/10 bit

▸ A_MS2_RGB444_10

: 3G SDI Level-A Mapping Structure 2 – RGB 4:4:4/10 bit

▸ A_MS3_YCbCr444_12

: 3G SDI Level-A Mapping Structure 3 – YCbCr 4:4:4/12 bit

▸ A_MS3_RGB444_12

: 3G SDI Level-A Mapping Structure 3 – RGB 4:4:4/12 bit

▸ A_MS4_YCbCr422_12

: 3G SDI Level-A Mapping Structure 4 – YCbCr 4:2:2/12 bit

▸ B_MS1_YCbCr422_10

: 3G SDI Level-B Mapping Structure 1 – YCbCr 4:2:2/10 bit

▸ B_MS2_YCbCr444_10

: 3G SDI Level-B Mapping Structure 2 – YCbCr 4:4:4/10 bit

▸ B_MS2_RGB444_10

: 3G SDI Level-B Mapping Structure 2 – RGB 4:4:4/10 bit

▸ B_MS3_YCbCr444_12

: 3G SDI Level-B Mapping Structure 3 – YCbCr 4:4:4/12 bit

▸ B_MS3_RGB444_12

: 3G SDI Level-B Mapping Structure 3 – RGB 4:4:4/12 bit

▸ B_MS4_YCbCr422_12

: 3G SDI Level-B Mapping Structure 4 – YCbCr 4:2:2/12 bit

▸ B_2X_DS1_YCbCr422_10

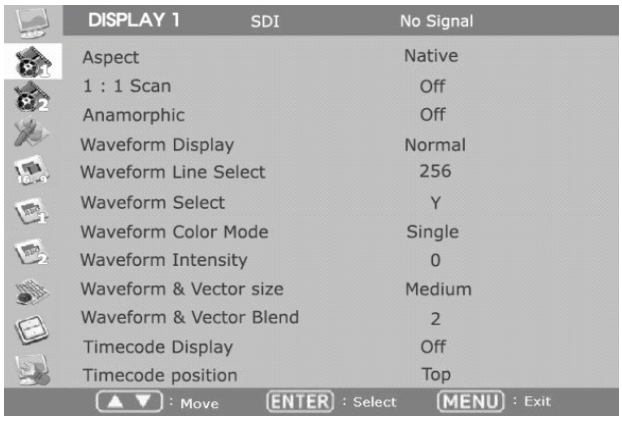
: 3G SDI Level-B Data Stream 1 – YCbCr 4:2:2/10 bit, Dual Link SMPTE-372M

▸ B_2X_DS2_YCbCr422_10

: 3G SDI Level-B Data Stream 2 – YCbCr 4:2:2/10 bit, Dual Link SMPTE-372M

Especially for 3G Level B signals, the format should be set manually.
Also, be aware that the format information might be lost on power down.

DISPLAY 1



Aspect

Set the aspect ratio of the screen. 16:9, 4:3, Native(Original) are selectable.

1:1 Scan

Set this on to display picture in 1:1 pixel mapping.

Anarmorphic

Set this mode to resize the screen to 3.56:1, 2.74:1, 2.59:1, 2.55:1, 2.40:1, 2.39:1, 2.35:1, 1.85:1, 1.75:1, 1.66:1, or 1.37:1.

Waveform Display

Select waveform display mode. Choose Normal to analyze whole screen, choose Line Select to analyze a specific line of the screen.

Waveform Line Select

Select the line when you select Line Select mode for Waveform display.

Waveform Color Mode

Choose either Single or Mixed.

Waveform Intensity

Set waveform color's intensity between 0~63.

WFM & Vector Size

Set Waveform and Vectorscope size among three kinds.

WFM & Vector Blend

Set transparency of Waveform and Vectorscope window between 0~6.

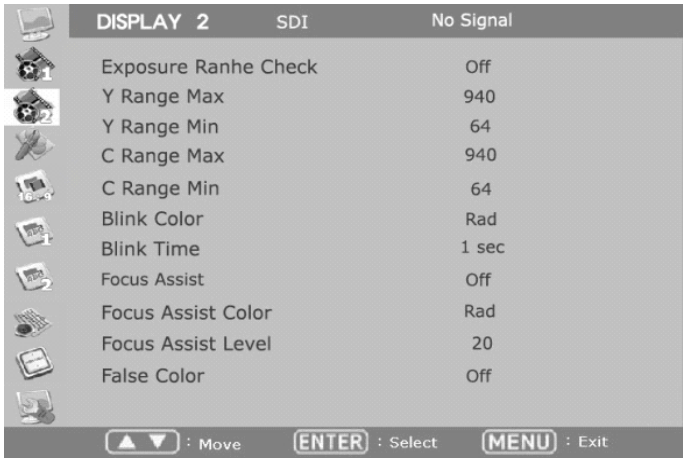
Timecode Display

Set this mode on to display timecode from SDI signal. Select the appropriate timecode that you wish to display among LTC (Longitudinal Time Code), VITC (Vertical Interval Time Code), DVITC (Digital Vertical Interval Time Code).

Timecode Position

Set Top or Bottom position for timecode.

DISPLAY 2



Exposure Range Check (Video Range Check)

Checks Y, C level and displays over-exposed or under-exposed area on screen. The base value can be Y, Cb, or Cr.

Y Range Max / Min

Set Y range value for range check.

C Range Max / Min

Set C range value for range check.

Blink Color

The filled area color by range check can be either Black, Blue, Green or Red.

Blink Time

Set blinking time of the area between 1 to 5 seconds.

Focus Assist

Turns on Focus Assist mode. This mode can be set also by pressing Focus Assist button in front.

Focus Assist Level (Sensitivity)

The sensitivity of the focus assist function can be set between 0 to 48.

Focus Assist Color

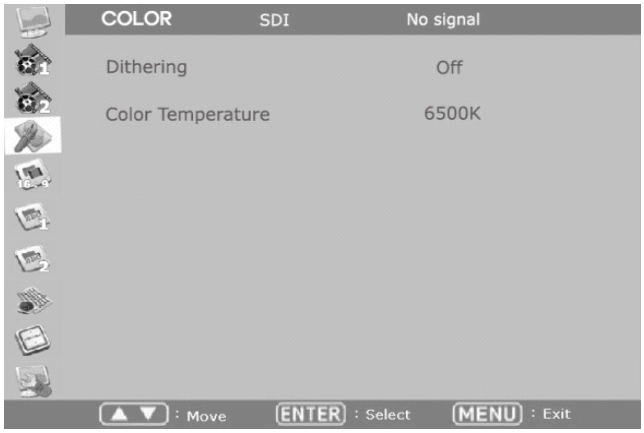
Set brush color of focus assist mode among Blue, Green, and Red.

False Color

Shows pictures in specific colors as its luminance level other than the original colors. Much exposed area is filled with red while little exposed area is purple.

```
* 10-bit, 12-bit Dithered gradient pattern might not be displayed
clearly in this mode.
```

COLOR



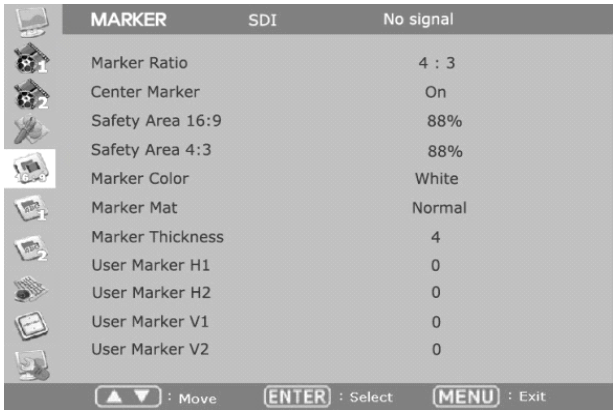
Dithering

Set this mode on to display gradient more smoothly.

Color Temperature

VAR, 3200K, 5400K, 6500K, 9300K color temperatures are preset and selectable by user. On User mode, user can adjust RGB gain and bias. Adjusting on User mode is recommended to professional users.

MARKER



Marker Ratio

Select one of preset markers or user marker. To display marker, press Marker button in front of the monitor.

Center Marker

Set preference to display center marker or not.

Safety Area 16:9

Adjust size of the safety area when marker displayed on 16:9 screen.

Safety Area 4:3

Adjust size of the safety area when marker displayed on 4:3 screen.

Marker Color

Select marker's color among White, Red, Green, Blue, Gray and Black.

Marker Mat

Set how to display outside of the safety area. Normal, Half(Gray), Black are selectable.

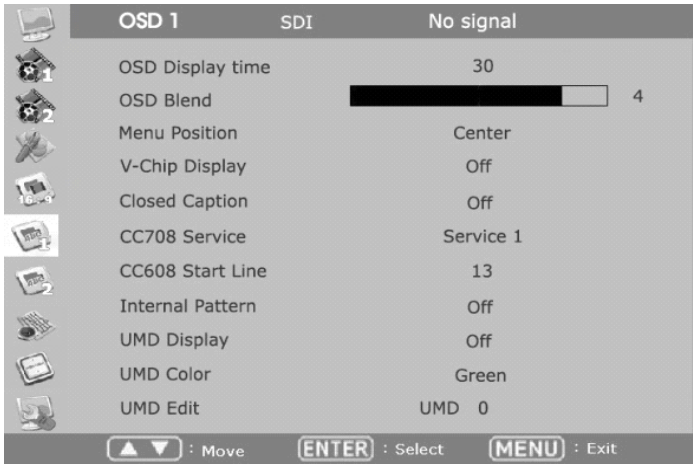
Marker Thickness

Set marker thickness between 1 to 10.

User Marker H1 / User Marker H2 / User Marker V1 / User Marker V2

Set user marker's position. H1 for left, H2 for right, V1 for top, V2 for bottom. The positions are saved as the selected marker name such as USER1.

OSD 1



OSD Display Time

Set OSD menu display time. Choose 0 for infinite.

OSD Blend

Set transparency of the menu between 0 to 5.

OSD(Menu) Position

Set menu position among Left Top, Right Top, Left Bottom, Right Bottom and Center.

V-Chip

SD-SDI, Composite signal might contain V-Chip data. Turn this mode on to display V-Chip information on screen.

Closed Caption

Select one of 608 Line 21, 608 VANC, 608 Transcoded, 708 to display Closed Captions. In special condition such as menu display status, captions are not displayed.

CC708 Service

Select one of CC service as your preference.

Service 1: general captions.

Service 2: translated captions.

Service 3,4: not assigned.

CC608 StartLine

Display line of captions are selectable by user. (e.g. 13)

Internal Pattern

To test monitor display without signal, turn this mode on. Several patterns such as Color Bars, Blue, Green, Red, White and Black are selectable.

UMD Display

Set this mode on to display UMD text on screen.

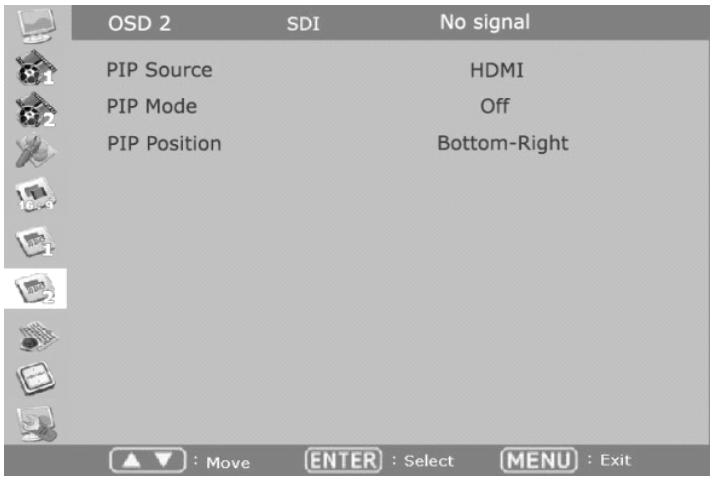
UMD Color

Select UMD text color among Red, Green, and Amber.

UMD Edit

Set the UMD source ID to display on screen.

OSD 2



PIP Source

Selects the main picture source for Picture-in-Picture mode. The sub-picture source is automatically selected to the other input. (e.g. If HDMI is set as main, SDI is automatically set as sub-picture)

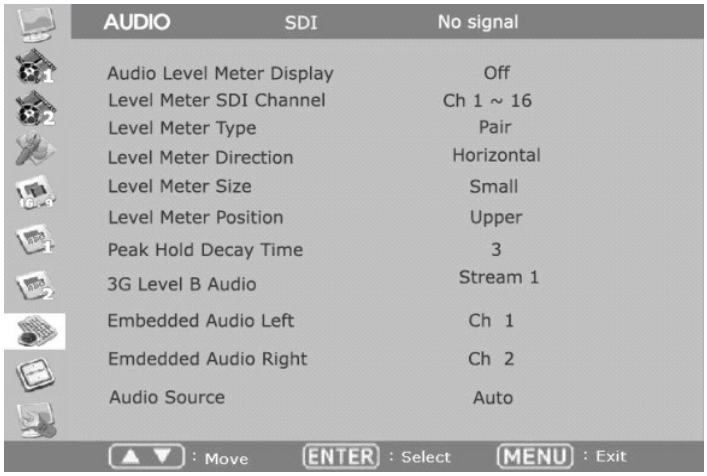
PIP Mode

Adjusts mode of the sub-picture among Small, Large, or Side by Side.

PIP Position

Selects position of the sub-picture.

AUDIO



Audio Level Meter

Turns on/off audio level meters.

Level Meter SDI Channel

Set the audio channels to display.

Level Meter Type

Select one of two types: pair or group.

Level Meter Direction

Select one of two orientations : Horizontal or Vertical.

Level Meter Size

Select the size of the meters : Small or Large.

Level Meter Position

Select the position of the meters : Upper or Lower.

Peak Hold Decay Time

Set the decay time of the meters.

3G Level B Audio

Select one audio signals when there are two inputs.

Embedded Audio Left

Select audio channel for left (Ch 1 ~ 15)

Embedded Audio Right

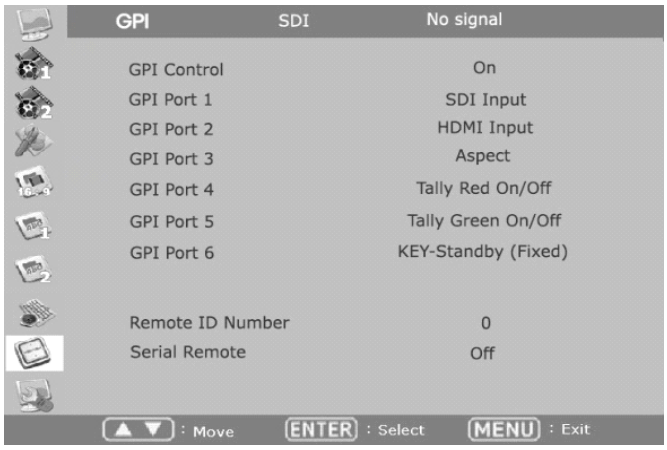
Select audio channel for right (Ch 2 ~ 16)

Audio Source

Select audio source for speaker among Auto / SDI / HDMI.

```
When both SDI, HDMI cables are connected, It is able to listen to SDI
audio on HDMI video input by this menu. However, It is not able to
listen to HDMI audio on SDI video input.
```

GPI



GPI Control

Turns on/off external monitor control function.

GPI Port 1,2,3,4,5,6

Assigns each GPI port's function. (e.g. SDI 1 input, HDMI input, Tally Red) See **EXTERNAL REMOTE CONTROLLING** section for details.

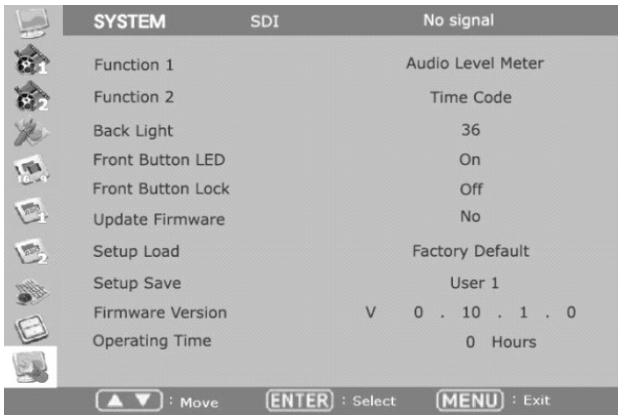
Remote ID Number

Assigns the ID for the monitor to control through serial port. 0 to 99 can be assigned.

Serial Remote

Turns serial remote function on. All front buttons are locked on this mode. To exit from this mode, press and hold Menu button for 3 seconds.

SYSTEM



Function 1,2

Assigns a function to each function button.

Backlight

Set the backlight intensity from 0 to 40. An LCD panel requires more than 30 minutes to be settled to a new backlight value.

Front Button LED

Set front LEDs on/off status.

Font Button Lock

Locks front buttons not to work. Press and hold Menu button for 3 seconds to exit from this mode.

Update Firmware

Turns update mode on. Select Serial or USB port for update. After firmware update, the monitor should be turned off/turned on, and Factory Default should be loaded before use.

Setup Load

Load monitor settings from Factory Default, User 1/2/3/4.

Setup Save

Save current monitor setting to use later. 4 settings can be saved.

Firmware Version

This version number is required when you request for service.

Operating Time

This indicates total hours that the monitor operated.

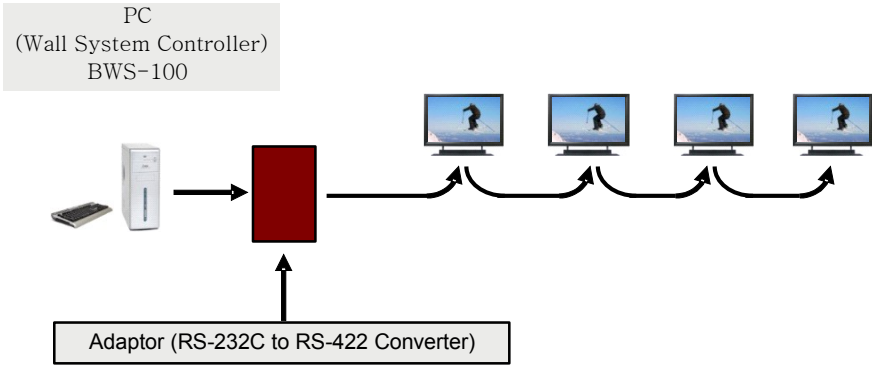
Monitor Control via Serial Port

This is optional feature of the monitor.

User can control multiple monitors via serial port on the back. Connect PC and monitor with RS-422 (general telephone cable), using an appropriate gender. (e.g. a RS-232C to RS-422 gender, or a USB to RS-232C to RS-422 gender)

In most cases this kind of gender is needed because PC does not have phone port, but RS-232C port or USB.

PC Software BWS-100 will be provided as request.



USB Firmware Update

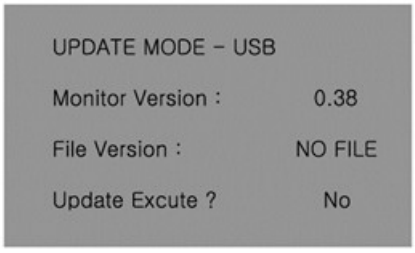
To update your monitor's firmware, request for a new firmware file to your local reseller or to BON Electronics.

Move the file on a USB flash memory, insert it to your monitor. Please beware the file should be located **in the root(top folder level)**.

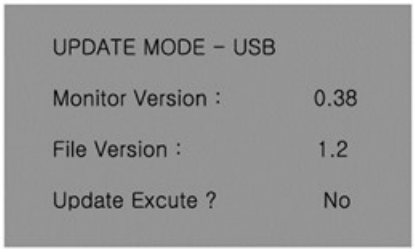
Also, the USB flash memory **should have FAT32 or FAT** file system. (USB memory has FAT32 file system, usually)

Set Update Firmware item as USB from SYSTEM menu.

Some part of firmware cannot be updated by USB updating procedure, so please get help from your local dealer or expert before you update firmware with USB memory.



Error Message when USB access or file not exist



Message when file on USB detected

You can also use Serial Port and your PC to update the firmware. Please request for help to your local dealer or directly to BON Electronics.

External Remote Control

Connecting GPI Port(RJ-45)

Turning the monitor off is recommended before cable connection. Assignable functions are listed below.

Function Name	Description
SDI-1 Input	Switches the input to SDI-1
SDI-2 Input	Switches the input to SDI-2
HDMI Input	Switches the input to HDMI
YPbPr Input	Switches the input to YPbPr
CVBS-1 Input	Switches the input to CVBS-1
CVBS-2 Input	Switches the input to CVBS-2
CVBS-3 Input	Switches the input to CVBS-3
KEY-UP ▲	CURSOR UP on Menu Control.
KEY-DOWN ▼	CURSOR DOWN on Menu Control.
KEY- MENU	Menu On/Off
KEY-ENTER	Enter Button
Aspect	Aspect On/Off
1:1 Scan On/Off	1:1 SCAN Function On/Off
H/V Delay On/Off	H/V Delay Function On/Off
TC Display On/Off	TC Display On/Off
ALM Display On/Off	Audio Level Meters Display On/Off
Freeze On/Off	Freeze Frame On/Off
Front Button LED On/Off	Front Button LED On/Off.
Tally Red On/Off	Tally Red LED On/Off
Tally Green On/Off	Tally Green LED On/Off

Backlight

Set the backlight intensity from 0 to 40. An LCD panel requires more than 30 minutes to be settled to a new backlight value.

Front Button LED

Set front LEDs on/off status.

List of Compatible Video Formats (HDMI)

NO	Signal Input Formats	INPUT HDMI
1	NTSC	O
2	PAL	O
3	720*576/50i	O
4	720*480/59.94i	O
5	720*480/60i	O
6	720*576/50p	O
7	720*480/59.94p	O
6	720*480/60p	O
8	1280*720/23.98p	O
9	1280*720/24p	O
10	1280*720/25p	O
11	1280*720/29.97p	O
12	1280*720/30p	O
13	1280*720/50p	O
14	1280*720/59.94p	O
15	1280*720/60p	O
16	1920*1080/50i	O
17	1920*1080/59.94i	O
18	1920*1080/60i	O
19	1920*1080/23.98p	O
20	1920*1080/24p	O
21	1920*1080/25p	O
22	1920*1080/29.97p	O
23	1920*1080/30p	O
24	1920*1080/50p	O
25	1920*1080/59.94p	O
26	1920*1080/60p	O

List of Compatible Video Formats (SDI)

NO	Input Signal Formats	HD/SD-SDI			
		Single	3G YUV4:2:2	3G YUV4:4:4	3G 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	-	-	-	√

Specifications

BEM-182

LCD	
Size	18.5"
Resolution	1366 x 768
Pixel Pitch	0.3 x 0.3mm
Color	16.7M(8bit) Colors
Viewing Angle(deg)	170(H), 160(V)
Luminance of White	250 cd/m²
Contrast	1000 : 1
Back Light	LED
Display Area (H x V)	409.8 x 230.4 mm (16.1 x 9.0 inches)
Input	
1 x BNC	HD/SD-SDI, 3G/1.485G/270M
1 x HDMI	HDMI1.3 (with HDCP v.1.3), 19pin Female
Output	
1 x BNC	SDI Loop Through
Input Signal Format	
SMPTE 425M AB	Level A MS1, MS2, MS3, MS4 Level B MS1, MS2, MS3, MS4
2K, SMPTE 428M	2048*1080,24p/psf,23.98p/psf
SMPTE 274M/292M	1920*1080i (60, 59.94, 50) 1920*1080p (30, 29.97, 25, 24, 24sF, 23.98, 23.98sF)
SMPTE 296M	1280*720p/60,59.94,50

SMPTE 260M	1920*1035i/60,59.94
SMPTE 125M/259M	720*480i/60,59.94, 720*576i/50
ITU R-BT.656	576i(50)
Audio	
1 x Phone Jack Out	Headphone Out(Stereo)
General	
1 x RJ-45	GPI-7 Port for control
2 x RJ-11	RS-422, RJ-11P Jack
1x USB	For firmware update
Power Requirements	DC 12V/24V
Power Consumption	21W
Operating Temperature	0°C ~ 40°C
Operating Humidity	20% ~ 80% RH
Weight	5.0 kg / 10.0 lbs
Dimensions(WxHxD)	Main Body : 459.0x264.0x38.3 mm / 18.0x10.3x1.5 inches
Accessories	• Power Cable • AC-Adapter • Manual • Cleaner
Options	• Rack Mount kit • Sun Hood •Screen Proctector •Wall Bracket • Tilting Stand • Carrying Case • V-Battery Mount • Anton Bauer Battery Mount

BEM-212

LCD	
Size	21.5"
Resolution	1920 x 1080
Pixel Pitch	0.24825mm

Color	16.7M(8bit) Colors
Viewing Angle(deg)	178(H), 178(V)
Luminance of White	250 cd/m²
Contrast	3000 : 1
Back Light	LED
Display Area (H x V)	476.64 x 268.11 mm (18.7 x 10.6 inches)
Input	
1 x BNC	HD/SD-SDI, 3G/1.485G/270M
1 x HDMI	HDMI1.3 (with HDCP v.1.3), 19pin Female
Output	
1 x BNC	SDI Loop Through
Input Signal Format	
SMPTE 425M AB	Level A MS1, MS2, MS3, MS4 Level B MS1, MS2, MS3, MS4
2K, SMPTE 428M	2048*1080,24p/psf,23.98p/psf
SMPTE 274M/292M	1920*1080i (60, 59.94, 50) 1920*1080p (30, 29.97, 25, 24, 24sF, 23.98, 23.98sF)
SMPTE 296M	1280*720p/60,59.94,50
SMPTE 260M	1920*1035i/60,59.94
SMPTE 125M/259M	720*480i/60,59.94, 720*576i/50
ITU R-BT.656	576i(50)
Audio	
1 x Phone Jack Out	Headphone Out(Stereo)
General	
1 x RJ-45	GPI-7 Port for control
2 x RJ-11	RS-422, RJ-11P Jack

1x USB	For firmware update
Power Requirements	DC 12V/24V
Power Consumption	39W
Operating Temperature	0°C ~ 40°C
Operating Humidity	20% ~ 80% RH
Weight	6kg / 13.2lbs
Dimensions(WxHxD)	Main Body : 523 x 299 x 38 mm / 20.5 x 11.7 x 1.5 inches
Accessories	• Power Cable • AC-Adapter • Manual • Cleaner
Options	• Rack Mount kit • Sun Hood •Screen Proctector •Wall Bracket • Tilting Stand • Carrying Case • V-Battery Mount • Anton Bauer Battery Mount

BEM-242

LCD	
Size	24"
Resolution	1920 x 1080
Pixel Pitch	0.27675mm
Color	16.7M(8bit) Colors
Viewing Angle(deg)	178(H), 178(V)
Luminance of White	250 cd/m²
Contrast	3000 : 1
Back Light	LED
Display Area (H x V)	531.36 x 298.89mm (20.9 x 11.8 inches)
Input	
1 x BNC	HD/SD-SDI, 3G/1.485G/270M

1 x HDMI	HDMI1.3 (with HDCP v.1.3), 19pin Female
Output	
1 x BNC	SDI Loop Through
Input Signal Format	
SMPTE 425M AB	Level A MS1, MS2, MS3, MS4 Level B MS1, MS2, MS3, MS4
2K, SMPTE 428M	2048*1080,24p/psf,23.98p/psf
SMPTE 274M/292M	1920*1080i (60, 59.94, 50) 1920*1080p (30, 29.97, 25, 24, 24sF, 23.98, 23.98sF)
SMPTE 296M	1280*720p/60,59.94,50
SMPTE 260M	1920*1035i/60,59.94
SMPTE 125M/259M	720*480i/60,59.94, 720*576i/50
ITU R-BT.656	576i(50)
Audio	
1 x Phone Jack Out	Headphone Out(Stereo)
General	
1 x RJ-45	GPI-7 Port for control
2 x RJ-11	RS-422, RJ-11P Jack
1x USB	For firmware update
Power Requirements	DC 12V/24V
Power Consumption	40W
Operating Temperature	0°C ~ 40°C
Operating Humidity	20% ~ 80% RH
Weight	6.8 kg / 15.0 lbs
Dimensions(WxHxD)	Main Body : 583.6x330.6x38.1 mm / 22.8x12.9x1.5 inches

Accessories	• Power Cable • AC-Adapter • Manual • Cleaner
Options	• Rack Mount kit • Sun Hood •Screen Proctector •Wall Bracket • Tilting Stand • Carrying Case • V-Battery Mount • Anton Bauer Battery Mount

This specifications are subject to change without prior notice for product improvement.

Dimensions

MODEL	Unit	W	H	D	Remark
BEM-182	mm	459.0	264.0	38.3	without Stand
	inches	18.0	10.3	1.5	

MODEL	Unit	W	H	D	Remark
BEM-212	mm	523	299	38	without Stand
	inches	20.5	11.7	1.5	

MODEL	Unit	W	H	D	Remark
BEM-242	mm	583	330	38	without Stand
	inches	22.8	12.9	1.5	

Troubleshooting

Try these if you have trouble in using the monitor. Call for Service if you can't solve the problem even after you tried these solutions.

Symptom	Solution
Power isn't turned on	Check Connectivity of Power Cable between Outlet and the Monitor. Press and Hold Power button for more than one second. Try with Other Monitor or Electric Device using the same Power Cable. Check if battery voltage is above 12V when the monitor powered by battery.
Screen is Black and All Button Lights are On in startup process	Reconnect the Power and Restart the Monitor. (Call for Service if the Symptom appeared more than 3 times)
Screen is Black on Startup and there's neither BON Logo nor "No Signal" Display, but Buttons are Working	Reconnect the Power and Restart the Monitor. (Call for Service if the Symptom appeared more than 3 times)
There's a delay in BON Logo Display on Startup	It is normal and No Reaction Required.
BON Logo appeared on Startup, but No Screen Output when Input Signal Connected	Remove Input Cable and Check if "No Signal" appears on Screen. - restart the Monitor if you can't see "No Signal" - Make Monitor "Factory Default" and Try again and Try again - Check the Cable Connectivity - Try with Different Cable - Check the Input Format and Frequency - Try with Different Input Device. If successful, the Failed Input Device may Generate Non-Standard Signal (Please Inform Us its Model Name).
"No Signal" appears on the Screen	Check the Input Selection. Make Monitor "Factory Default" and Try again. Try with Different Input Cable. Check the Cable Connection. Check if the Input Format and Frequency is Supported. Try with Different Input Device. If successful, the Failed Input Device may Generate Non-Standard Signal (Please Inform Us its Model Name).

Strange Color on BON Logo on Startup	Reconnect the Power and Restart the Monitor. (Call for Service if the Symptom appeared more than 3 times)
the Startup Logo Color was ok but Strange Color on Active Screen	Make Monitor "Factory Default" and Try again. Select Test Pattern(Internal Pattern) in the menu and See if R,G,B Color is Correct. Check the Input Selection. Try with Different Cable. Check if Each Cable is correctly Connected when you use Component as Input.
Screen Position Mismatch	Make Monitor "Factory Default" and Try again. Reconnect the Power and Restart the Monitor. Try with Different Input Device. If successful, the Failed Input Device may Generate Non-Standard Signal (Please Inform Us its Model Name).
No Audio Output	Check if the Volume level is 0. Display the Audio Level Meters and See its output.
Colors look different between different models	Give your Monitor 1 hour warmup time. Because Different Panels have different Characteristics, Colors might look Different.
Colors look different between same models	Give your Monitor 1 hour warmup time. Same Panels are not exactly same but they have a tolerance range among them by the Panel Manufacturer, so Colors might look Different. * The tolerance range is in Panel Standard Document included in CD

Warranty Information

Free Service

If the product needs to be repaired in 12 months from the purchase.

Exceptions

- damage caused by accident, abuse, misuse, water, flood, fire, or other acts of nature or external causes
- damage caused by service performed by anyone who is not an authorized service provider
- damage to a product that has been modified or altered without the written permission of BON

Service to be Charged

If the product needs to be repaired after 1 year and before 4 years from the purchase.

Modification of Product

Dimensions, specifications or design of the product are subject to change without prior notice for product improvement.

Caution on Menu Operation

OSD Menu might be freezed or broken on very high-quality or complicated pictures input. In that case, turn off the power for 5 seconds and turn it on to make Menu works.

Caution for Monitor Placement

For long lifetime and proper operation of the monitor, all surface of the monitor should not be blocked by any material for ventilation.

Caution for Usage

This monitor is designed to be used for broadcasting purpose. Using it as PC monitor is not recommended.

BON ELECTRONICS

Corporate Headquarters

Tresebelle-Sky 2F, 1479 Gayang-2, Gangseo-gu, Seoul, South Korea

Research / Service Center

Vision Tower 7F, 1481 Gayang-2, Gangseo-gu, Seoul, South Korea

Telephone

+82 2 2659 0333

FAX

+82 2 2659 8133

Web

http://www.bon.co.kr

Email

salesbon@bon.co.kr