

Multi-Format Field Monitor

FM-052SC



User's Guide



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

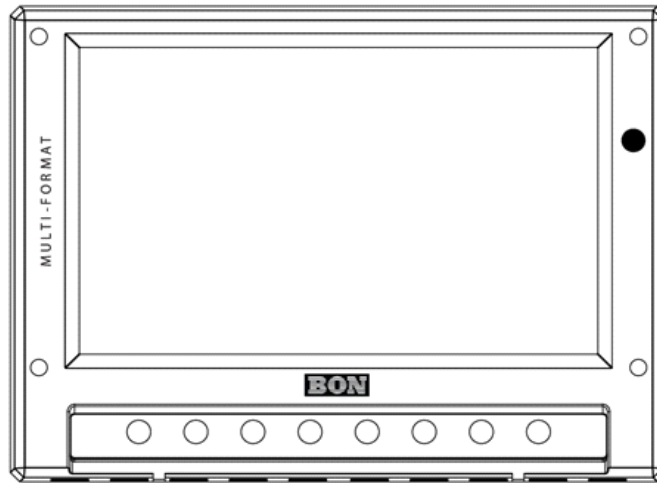
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Safety Instructions

- 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 coming 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 Buttons



Focus Assist

Turn focus assist on to draw focus lines.

Marker

Turn focus assist on to draw focus lines.

Zoom

Switch zoom mode in the order of : Pixel to Pixel, User Zoom, DSLR Zoom

Pixel to Pixel

Shows the original picture with 1:1 pixel mapping. If the picture is larger than the monitor's LCD resolution, the center part of the picture is shown. Use knob to see a different part of the picture. 5 parts are selectable : CENTER, TOP-LEFT, TOP-RIGHT, BOTTOM-LEFT, BOTTOM-RIGHT.

User Zoom

This is a custom zoom mode which user can set the zoom level. Turn the knob to set your own zoom level in this mode.

DSLR Zoom

This zoom-in/out preset allows fully scaled-up monitoring of contracted video from DSLRs. Zoom-in/out area can also be customized to allow partial or full view.

To choose camera type, press Menu and choose Video, choose a DSLR camera type.

Daylight

This button switches luminance level in the order of : Indoor, Outdoor, Daylight, Auto. Press this button to switch the luminance to see the screen shortly. Daylight mode provides maximum

luminance for sunlight visibility, which works more perfect on Bon Super Bright models. If you choose Auto, the luminance changes automatically by the environment.

Menu

Displays the menu.

F1/▼

Launch function 1 assigned by user on the System menu, or it can be used as down arrow key on the menu.

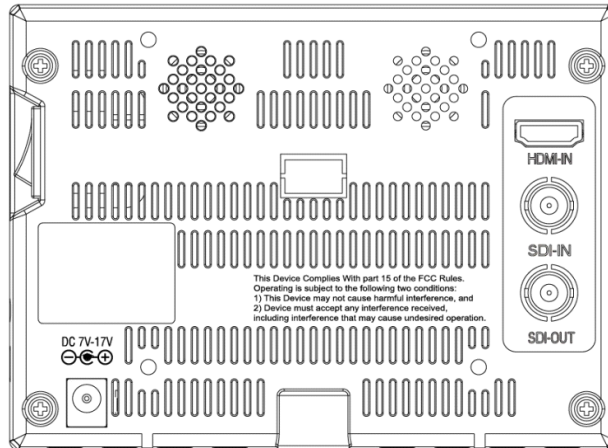
F2/▲

Launch function 2 assigned by user on the System menu, or it can be used as up arrow key on the menu.

Adjust/Enter

Adjust volume, brightness, contrast, chroma, phase, or sharpness. Or it is used as Enter key on the menu.

Rear



DC Power Jack

7V ~ 17V DC power can be used.

SDI Input Port

HD SDI or SD SDI input port. SDI signal should be fulfill SMPTE standards.

SDI Out

SDI Out port used as Loop-Through port which bypasses SDI signal, or HDMI-to-SDI conversion out.

PGM (USB on the side)

PGM is a program update port for firmware.

Audio Level Meters

Audio level meters displays max 16 channels. But it depends on the number of channels contained in the signal itself. For example, if the signal contains 2 channels, the audio level should be 2 channels.

The odd channels are displayed in the left, whereas the even channels are in the right. The position of the meters can be set to top or bottom of the screen on the AUDIO section of the menu.

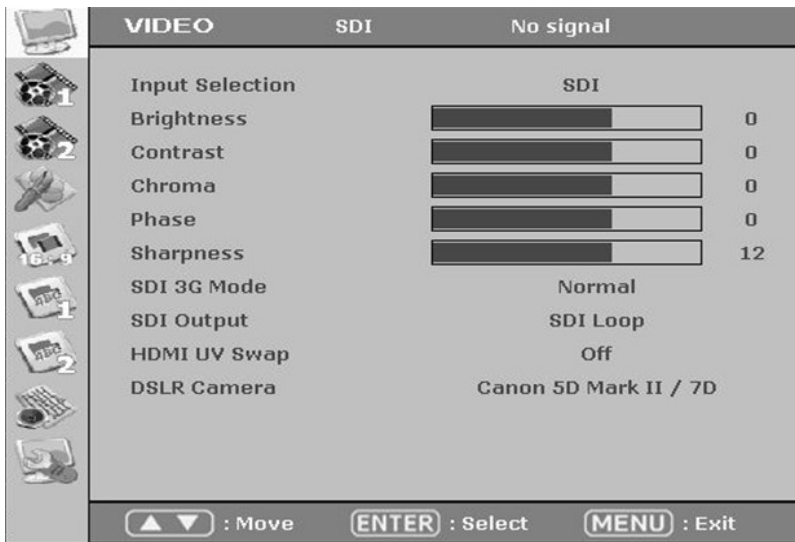
OSD Menu

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 instable signal input.

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

VIDEO



Input Selection

Select input signal.

Brightness

Adjust brightness. Default: 127.

Contrast

Adjust contrast. Default: 127.

Chroma (Hue)

Adjust chroma. Default: 127.

Phase

Adjust phase. Default: 127.

Sharpness

Adjust sharpness. Default: 18.

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.

HDMI UV Swap

Sometimes UV signal might be opposite such input as PC RGB or such resolution as PC's. Turn this mode on to see correct color when the incorrect color displayed on this kind of input.












SDI Output

Set how to use SDI Out port. Choose either SDI loop-through or HDMI-to-SDI conversion out.

DSLR Camera

Set which DSLR camera you use for DSLR Zoom mode. DSLR Zoom mode can be set by pressing Zoom button in the front.

DISPLAY 1

	DISPLAY 1	SDI	No signal
	Aspect		Native
	Anamorphic		Off
	Waveform Display		Normal
	Waveform Line Select		256
	Waveform Select		Y
	Waveform Color Mode		Single
	Waveform Intensity		0
	Waveform & Vector Size		Small
	Waveform & Vector Blend		2
	Timecode Display		Off
	Timecode Position		Top

▲ ▼ : Move ENTER : Select MENU : Exit

Aspect

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

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 Select

Select which color signal to monitor among Y, Cb, or Cr.

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.

YCbCr

YCbCr is a digital color reproduction standard. Y is for luminance, Cb is for blue strength, Cr is for red strength.

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

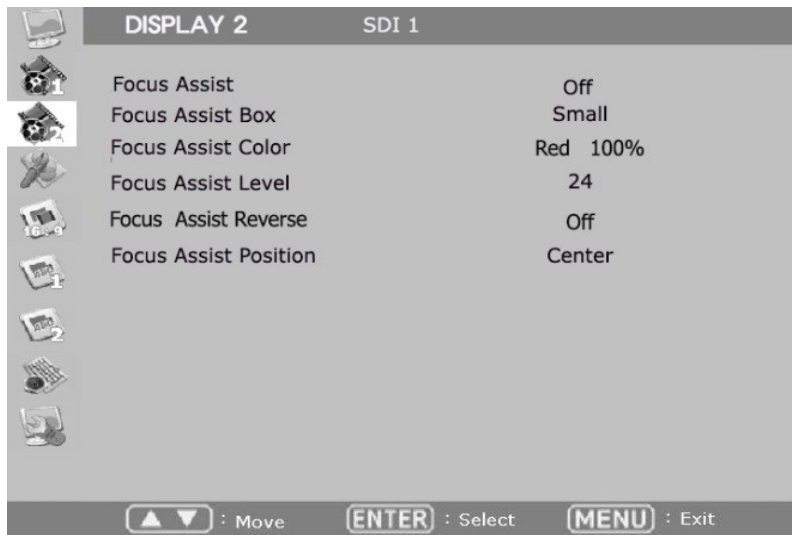
Set blinking time of the area between 1 to 5 seconds.

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.

DISPLAY 2 (Focus Assist)



Focus Assist

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

Focus Assist Box

Adjusts the size of the focus area box. Select among Small, Medium, Full, and user-adjustable User1, User2.

Focus Assist Color

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

Focus Assist Level (Sensitivity)

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

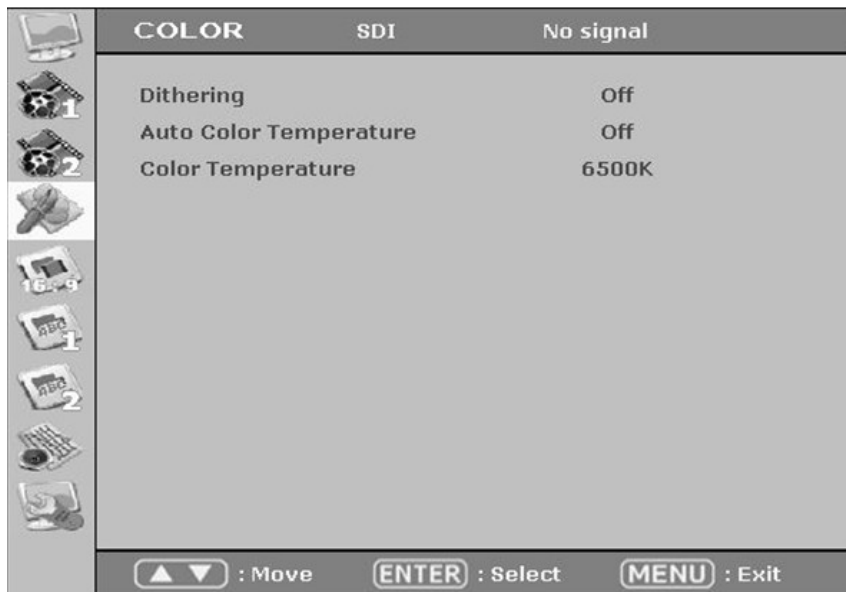
Focus Assist Reverse

Un-focus area is highlighted instead of focus area.

Focus Assist Position

Focus area can be placed Center, Left Top, Center Top, Right Top, Right Center, Right Bottom, Center Bottom, Left Bottom and Left Center.

COLOR



Dithering

Set this mode on to display gradient more smoothly.



Auto Color Temperature

Set this mode on to adjust color temperature by temperature change. Its output might incorrect on some harsh environment.

Color Temperature

VAR, 3200K, 5600K, 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	SDI	No signal
	Marker Ratio		4 : 3
	Center Marker		On
	Safety Area 16:9		88%
	Safety Area 4:3		88%
	Marker Color		White
	Marker Mat		Normal
	Marker Thickness		4
	User Marker H1		0
	User Marker H2		0
	User Marker V1		0
	User Marker V2		0

▲ ▼ : Move ENTER : Select MENU : Exit

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

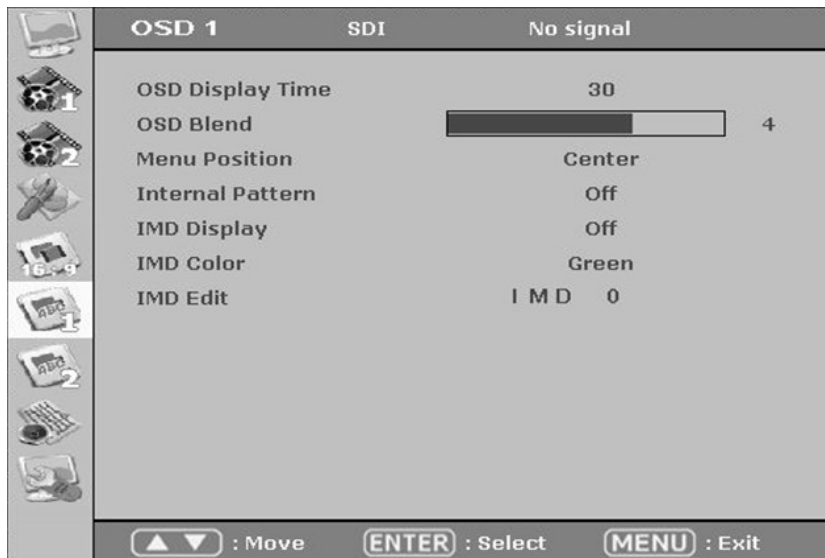
Set marker thickness between 1 to 10.

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.

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.

IMD Display

Set this mode on to display IMD text on screen.



IMD Color

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

IMD Edit

Set the IMD source ID to display on screen.

OSD 2

	OSD 2	SDI	No signal
	H/V Level Meters		Off
	H/V Position		Left Top
	H/V Size		Small
	H/V Sensitivity		4
	Flip/Level Reset		Done
	Battery Check		Off
	Auto Flip		Off
	Tally Display		Off
	Tally Operating Level		Low
	Tally Color		Red

▲ ▼ : Move ENTER : Select MENU : Exit

H/V Level Meters

Displays the horizontal and vertical angle on screen.

H/V Level Position

Sets the position of level meters.

H/V Size

Sets large or small level meter size.

H/V Sensitivity

Sets the sensitivity of level change.

Flip/Level Reset

Resets the flip and angle meters.

Battery Check

Turns on battery level checker display.

Auto Flip

Automatic flip when monitor upside is down.

Tally Display

Displays tally signal on the top of LCD.

Tally Operating Level

Sets tally input level.

Low (Open) : below 0.6V, Green + Black (GND)

High : over 2.5V, Red(5V) + Green

Caution : Do NOT use Red(5V) + Black(GND). It can cause electric shock on the monitor.

Tally Color

Sets tally color among Red, Green, Amber.

Example Picture of Tally Cable



Pin Assignment



1	RED	+5V
2		Not Connection
3		Not Connection
4	GREEN	TALLY IN
5		GND

AUDIO

	AUDIO	SDI	No signal
	Audio Level Meter Display		Off
	Level Meter SDI Channel		Ch 1 ~ 16
	Level Meter Type		Pair
	Level Meter Direction		Horizontal
	Level Meter Size		Small
	Level Meter Position		Upper
	Peak Hold Decay Time		3
	3G Level B Audio		Stream 1
	Embedded Audio Left		Ch 1
	Embedded Audio Right		Ch 2
	Audio Source		Auto

▲ ▼ : Move ENTER : Select MENU : Exit

Audio Level Meter Display

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 among Auto / SDI / Line In / HDMI

SYSTEM

	SYSTEM	SDI	No signal
Function 1			False Color
Function 2			Waveform/Vector Display
Back Light			17
Front Button Lock			Off
Setup Load			Factory Default
Setup Save			User 1
			No
Firmware Version			V 1 . 10 . 1
Operating Time			0 Hours

▲ ▼ : Move (ENTER) : Select (MENU) : Exit

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.

Font Button Lock

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

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.

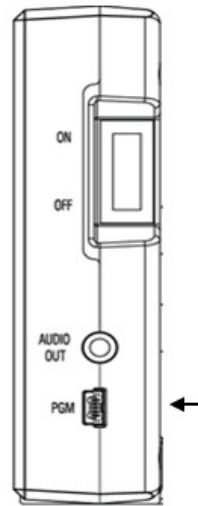
Firmware Version

This version number is required when you request for service.

Operating Time

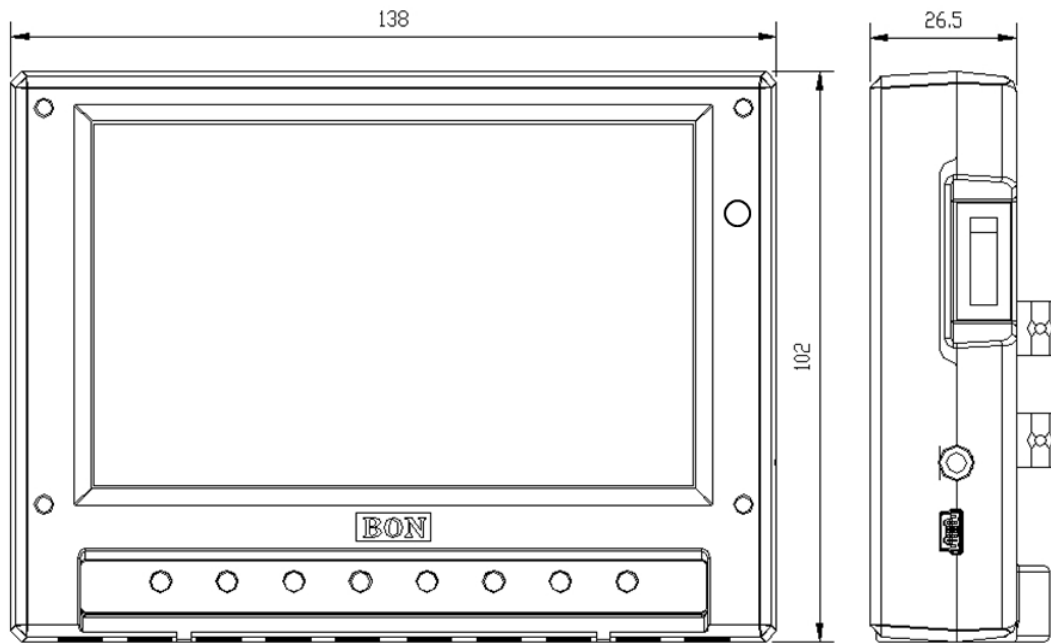
This indicates total hours that the monitor operated.

Program Update Port (PGM)



This mini USB port is used for updating firmware. It is recommended to get help from an expert. Before connecting a cable, the monitor DC power should be disconnected to prevent malfunction of the monitor.

Dimensions



MODEL	Unit	W	H	D	Remark
FM-052SC	mm	138	102	26.5	without Stand
	inches	5.4	4.0	1.0	

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.
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 12 months 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 frozen 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.



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