MS21

21.5" 3G-SDI Studio Monitor USER GUIDE

ikan MULTI-FORMAT   MS 21

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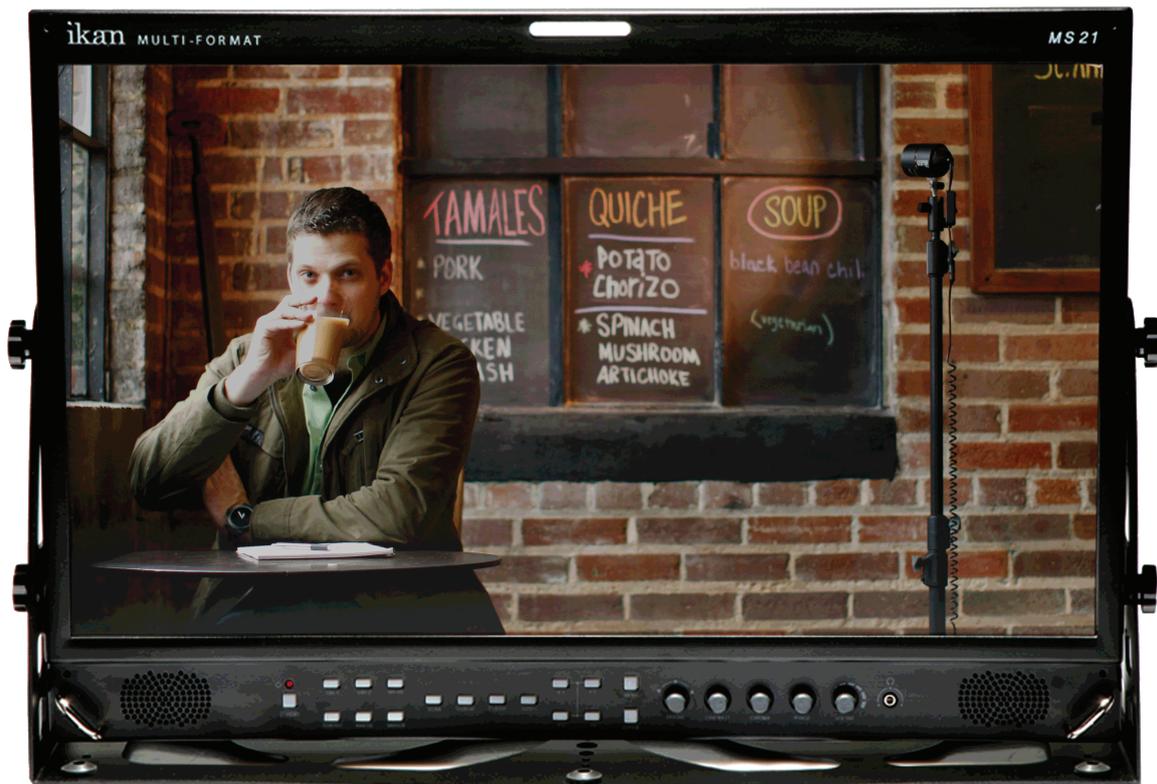
Contents

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
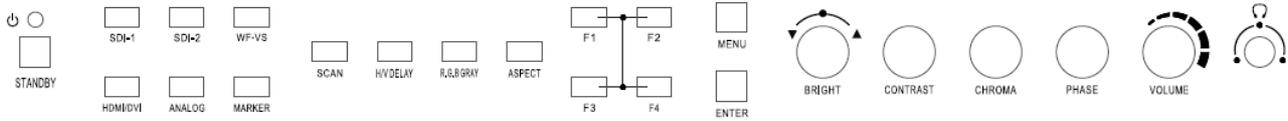
Standby (Power)

Input Switcher (SDI 1, SDI 2, HDMI/DVI)

Analog

Switch analog input in the order of CVBS1 -> CVBS2 -> CVBS3 -> SVIDEO -> YPbPr -> RGB -> VGA.

WF/VS

Waveform / Vectorscope display selection button.

Marker On/Off

Frame line generation button.

Scan

Switch scan mode among Zero Scan, Under Scan, Over Scan, Pixel to Pixel in HD resolution. Zero Scan, Under Scan, Over Scan, Pixel to Pixel in SD resolution.

H/V Delay

Displays ancillary data by moving screen position.

R/G/B Gray

Switch for Red/Green/Blue/Gray only.

Aspect

Adjust aspect ratio in the order of 4:3, 16:9, Fill, Native.

Function Keys

User-assigned function keys.

Menu

Enter

Knob for Adjustment or Enter

Knob used to adjust Brightness / Contrast / Chroma / Phase or Enter button.

Headphone Jack

Rear
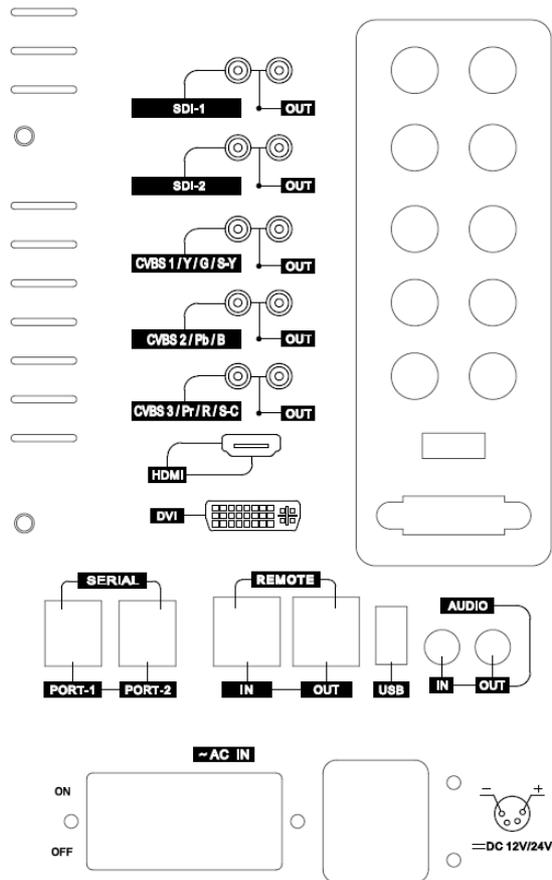
AC Input

Please check Power Cord, Power Voltage, Supply power for power input are suitable for the standard before use.

Please do not mix AC power and DC power as it may cause the defects or fire.

DC Input

For DC power supply. Check the DC Input voltage. In case of using the Battery power, DC 11 ~ 27V is usable.

Update Port

The Serial communication terminal that for changing the operating program(Firmware) of the body or controlling the monitor.

Remote Ethernet Port

External control via PC is able with this port by using 'Wall Control Program'. Firmware is also updatable through this port.

USB Port

USB Firmware Update Port.

MENU Description

General Cautions for OSD menu or Display

The menu may not be displayed even when user pressed Menu button if there's No Signal, or in unclear signal status.

The menu selection may be saved for each input signal mode, so sometimes user should do menu selection again.

VIDEO
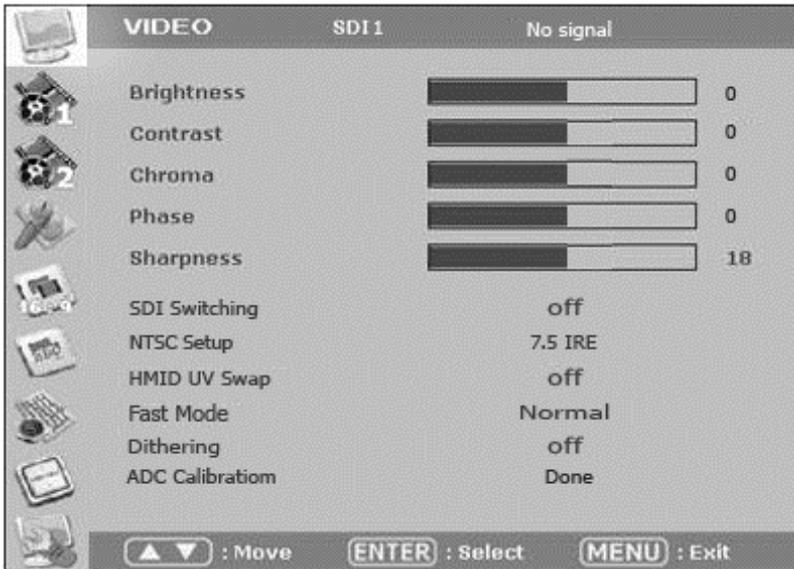
Brightness, Contrast, Chroma, Phase, Sharpness

Adjust color representation values.

SDI Switching

Normal : Use Normal in general condition but the screen might be blinking on screen change when you use Matrix or Routing Switcher.

Fast : Use Fast to minimize blinking on screen change.

NTSC Setup

Select IRE among 0 or 7.5 (Default)

HDMI UV Swap

Sometimes color might be swapped on some HDMI input such as PC RGB. Turn this mode on to return to correct color.

Fast Mode

Use this mode to minimize afterimage on very fast video.

Dithering

Turn this mode on to view motion pictures smoothely when the source has low quality.

ADC Calibration

On CVBS input, turn this mode on when the color value is upside down. Normally it is not needed to be turned on.

DISPLAY 1
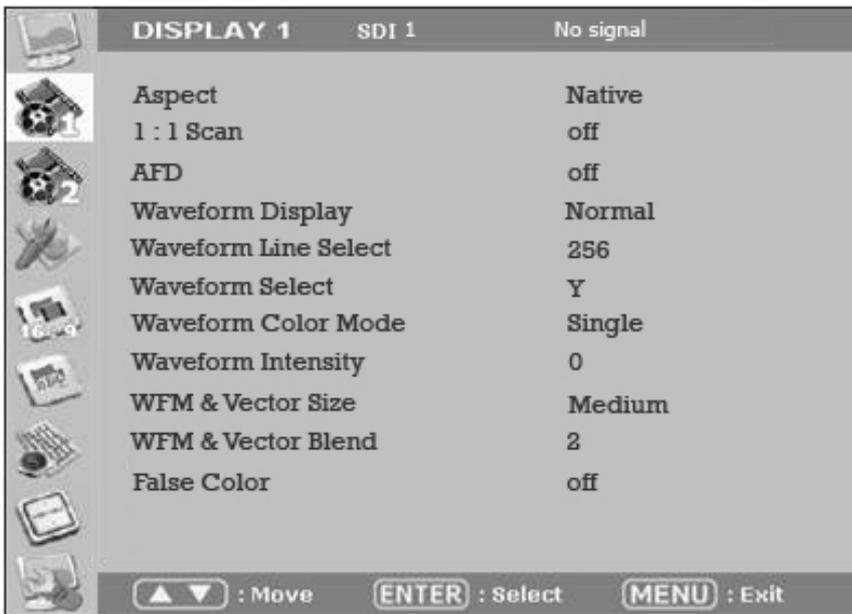
Aspect

Set the aspect ratio of the screen. 16:9, 4:3, Native(Original) are selectable. This selection is ignored on 1080i, 1080p, 720p.

1:1 Scan

On SD signals(Not HD), Set this on to display picture in 1:1 pixel mapping.

AFD

Turn this mode on to adjust aspect ratio with the ratio value in the source signal.

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 waveform line to display among Y, Cb, Cr.

Waveform Color Mode

Select waveform color mode among Single or Mix.

Waveform Intensity

Adjust waveform intensity.

Waveform & Vector Size

Adjust size of Waveform & Vector.

Waveform & Vector Blend

Adjust transparency value of Waveform & Vector.

False Color

Turn False Color mode on to check exposure levels of the picture.

DISPLAY 2
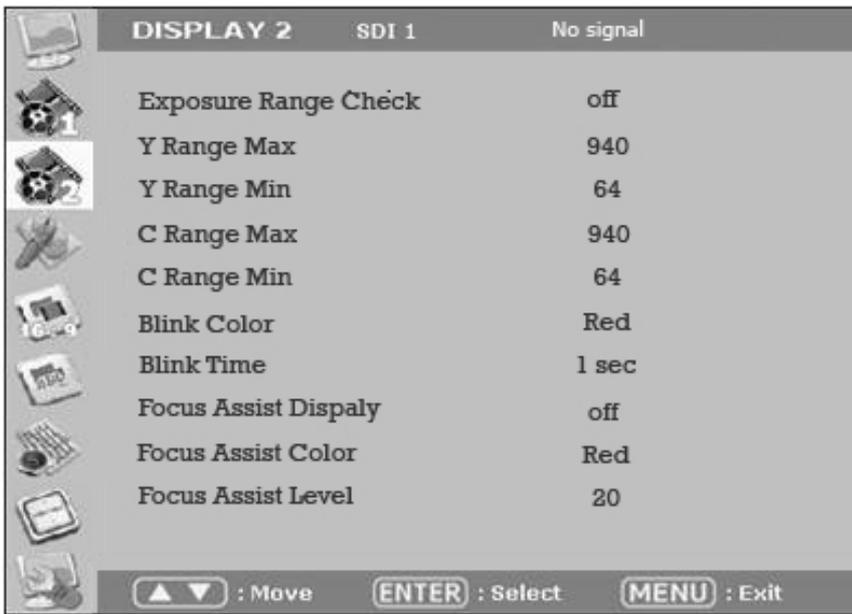
```
DISPLAY 2        SDI 1          No signal

Exposure Range Check          off
Y Range Max                   940
Y Range Min                   64
C Range Max                   940
C Range Min                   64
Blink Color                   Red
Blink Time                    1 sec
Focus Assist Dispaly          off
Focus Assist Color            Red
Focus Assist Level            20

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

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 Display

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

Focus Assist Level

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.

COLOR
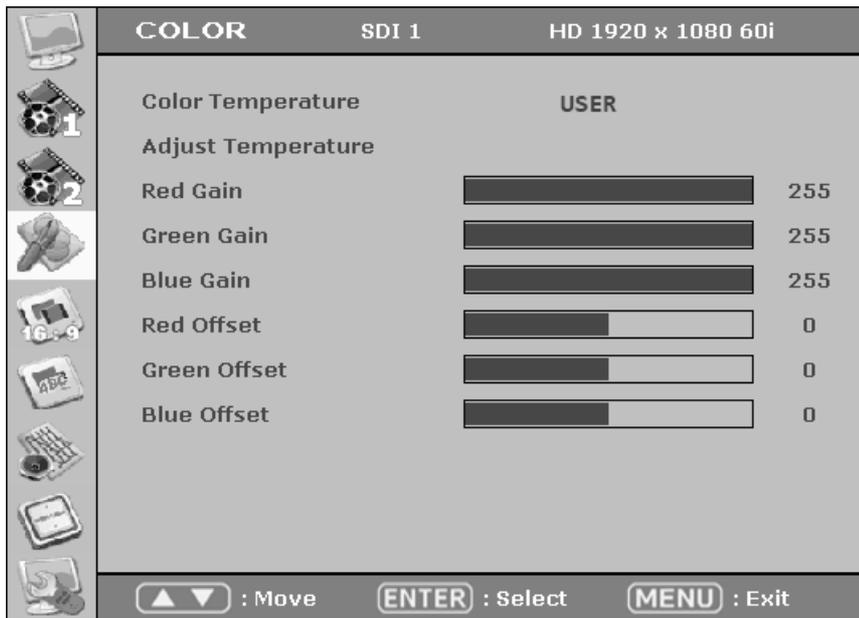
Color Temperature

Select color temperature among 3200K, 5400K, 6500K, 9300K or USER. (Gain and Offset menu are displayed on USER temperature only)

Red/Green/Blue Gain (USER mode only)

R,G,B gains are adjustable on User mode.

Red/Green/Blue Offset (USER mode only)

R,G,B offsets are adjustable on User mode.

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
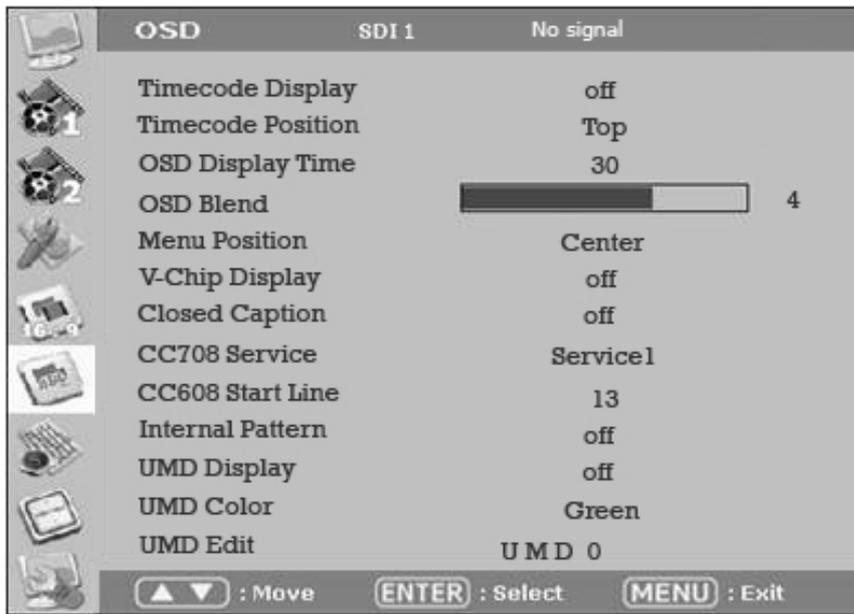
Timecode Display On/Off

Timecode Position

Set the position of timecode.

OSD Display Time

Set menu display time (seconds)

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

Show internal test pattern such as color bars. Turn this mode off to display general pictures from input port.

UMD Display

Display UMD status. The screen aspect ratio will turn to 16:9 on this mode.

UMD Color

Set UMD color.

UMD Edit

Edit UMD text.

UMD Off   UMD On

AUDIO
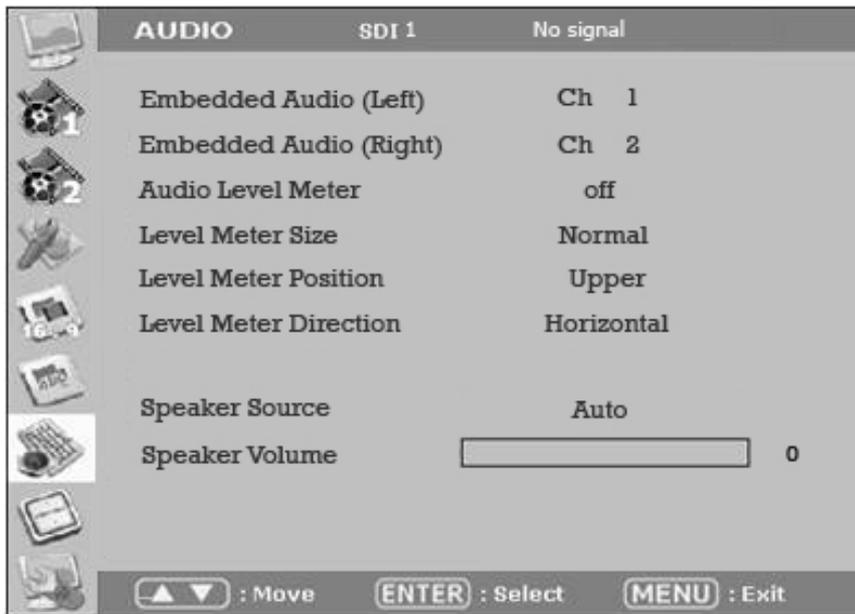
Embedded Audio Left

Select audio channel for left (Ch 1 ~ 15)

Embedded Audio Right

Select audio channel for right (Ch 2 ~ 16)

Audio Level Meter

Turns on/off audio level meters.

Level Meter Size

Select the size of the meters : Small or Large.

Level Meter Position

Select the position of the meters : Upper or Lower.

Level Meter Direction

Select Level Meter orientation among Horizontal or Vertical.

Speaker Source

Select the speaker output among Auto / SDI / Line In. For HDMI, use Auto mode.

Speaker Volume

Set volume of speaker.

GPI
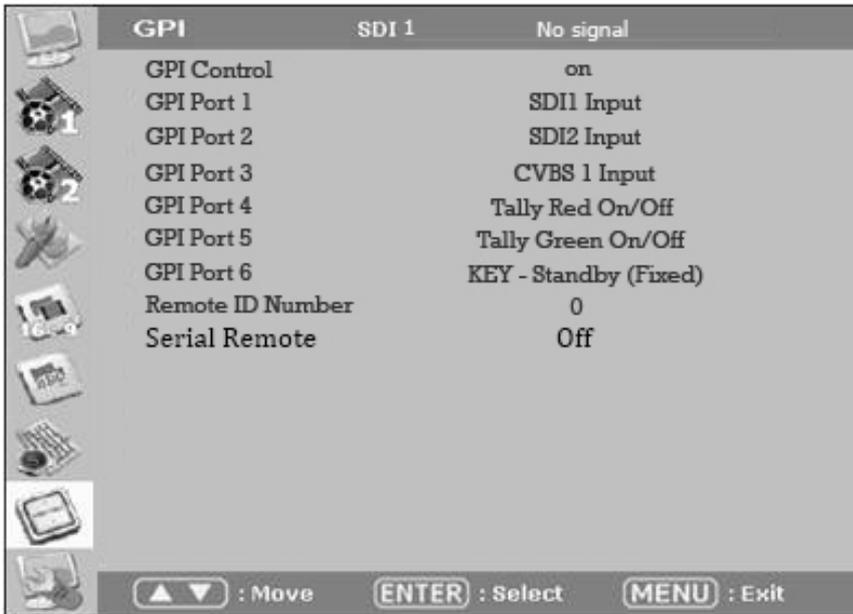
GPI Control

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

SYSTEM	SDI 1	No signal
Function 1		Audio Level Meter
Function 2		Time Code
Function 3		Exposure Range Check
Function 4		Focus Assist Dispaly
Back Light		40
Front Button LED		on
Front Button Lock		off
Update Firmware		no
Setup Load		Factory Default
Setup Save		User1
Firmware Version		V 2 . 70 . 10 .22
Operating Time		17 Hours

▲ ▼ : Move   ENTER : Select   MENU : Exit
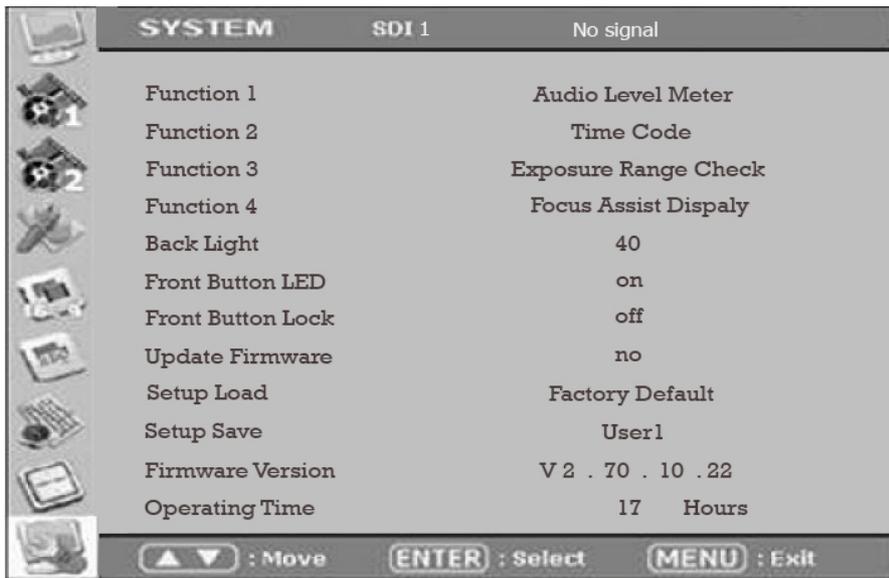
Function 1,2,3,4

Assigns a function to each function button. See FRONT section for detail.

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.

External Remote Control

Connecting GPI Port(RJ-45)

Update Port (RJ-11)
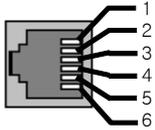
Update (RJ-11)

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

∗ Turn power off first and connect update cable when you update monitor firmware.

Remote Control / GPI Port Pin Assignments
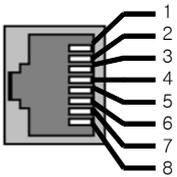
Remote (RJ-45)

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(FIXED) (TALLY OUT)
4 PIN	GPI Port 4	8 PIN	COMMON(GND)

Each pin's functionality can be assigned on OSD System Menu, GPI Control section.
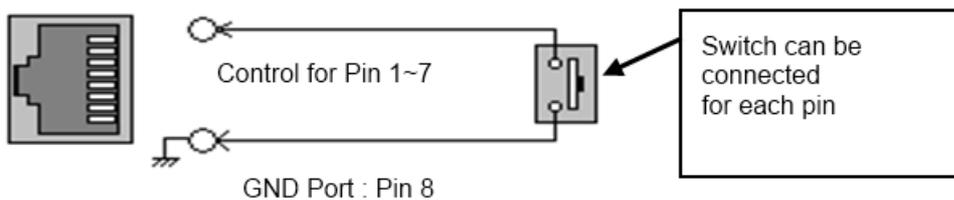
Assignable functions are listed below.

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

List of Compatible Video Formats (HDMI/Composite)

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

List of Compatible Video Formats (SDI)

NO	Input Signal Formats	Composite/ S-Video	Component		SDI	DVI
			YPbPr	RGB		
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	-	-	-	-	-
8	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	-	-	-	√	-

Specifications

		BSM-182 i	BSM-212 i	BSM-242 i
Input	2 x BNC	HD/SD-SDI, 1.485G/270M		
	3 x BNC	Analog(YPbPr/CVBS/S-Video/RGB)		
	1 x HDMI	HDMI (with HDCP v.1.1), 19pin Female		
	1 x DVI	DVI-I, 24pin, Female		
Output	3 x BNC	Analog(YPbPr/CVBS/S-Video/RGB)		
	2 x BNC	HD/SD-SDI, 1.485G/270M		
I/O Port	1 x Phone Jack In	Line In(Stereo)		
	2 x Phone Jack Out	Line Out(Stereo), H/P Out(Front, Stereo)		
	2 x Speaker Out	2W+2W, Stereo		
LCD	Size	18.5"	21.5"	24"
	Resolution	1366 * 768	1920 x 1080	1920 x 1080
	Pixel Pitch	0.3*0.3 mm	0.24825mm	0.27675mm
	Color	16.7M(6bit+Hi-FRC)	16.7M(8bit)	16.7M(8bit)
	Viewing Angle(deg)	170(H), 160(V)	178(H), 178(V)	178(H), 178(V)
	Luminance of White	250 cd/m²	250 cd/m²	250 cd/m²
	Contrast	1000 : 1	3000 : 1	3000 : 1
	Display Area (H X V)	409.8 x 230.4 mm (16.1 x 9.0 inches)	476.64 x 268.11 (mm)	531.36 x 298.89 (mm)
	Back Light	LED	LED	LED
Power Requirements		DC 12V/24V, AC100-230V(50/60Hz)	DC 12V/24V, AC100-230V(50/60Hz)	AC(100-230V, 50/60Hz)
Power Consumption		47W	51W	59W
Operating Temperature		0°C ~ 40°C		
Operating Humidity		20% ~ 80% RH		
Dimension(W*H*D) w/o Box&Stand		438.4x308.8x58.5mm(17.2x12.1x2.3inches)	503.6x348.0x59.2mm(19.8 x 13.7 x 2.3 inches)	563.6x376.1x60.6mm(22.1 x 14.8 x 2.3 inches)
Accessory		• Power Cable • DVI to VGA Gender • Manual • Cleaner		
Option		•Rack Mount kit •Sunhood •Carrying Case •V-Moun •Anton Battery •Protect	•Rack Mount Kit •Handle • Protect •V-Mount	• Rack Mount Kit •Handle

Dimensions
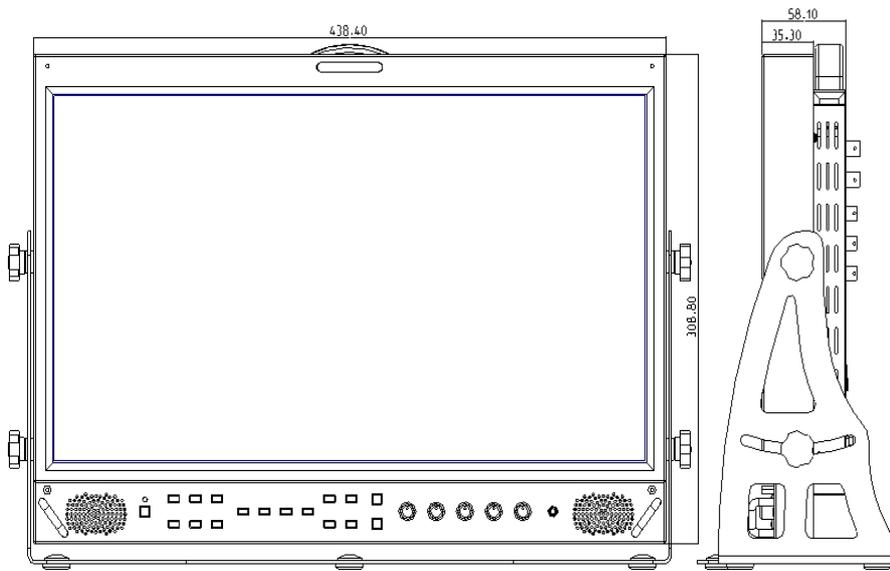
BSM-182i (WxHxD)

438.4 x 310.8 x 66.4mm

(17.2 x 12.2 x 2.6 inches)

BSM-212i (WxHxD)

505.6 x348.0 x 59.2mm
(19.9 x 13.7 x 2.3 inches)

BSM-242i (WxHxD)

553.4 x 403.5 x 62.5 mm
(21.7 x 15.8 x 2.4 inches)

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