

# Multi-Format Field Monitor

MD7



## User's Guide

ikan

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## Introduction

MD7 is an 1100 cd/m<sup>2</sup> super bright on-camera monitor for DSLR and ENG cameras. New features such as auto back light control, H/V level meter, and auto color adjustment on temperature change are included. Also, it converts HDMI to SDI in the original resolution.

## Features

Superbright LCD Screen for Visibility in Direct Sunlight.

Firmware Update with USB Memory

Peaking/False Color

Waveform/Vectorscope

DSLR Guides

Closed Caption (CEA-608/708)

Onscreen Time Code Display

8~16ch Audio Level Meter

Video Exposure Range Check

UMD/IMD Mode

AFD & V-CHIP(SDI Only)

Various Markers

H/V Delay

Pixel-to-Pixel Zoom

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

HDMI-to-SDI Converter (Original Resolution)

Auto Back Light Control

Auto Color Temperature Adjustment

Horizontal/Vertical Angle Level Meters

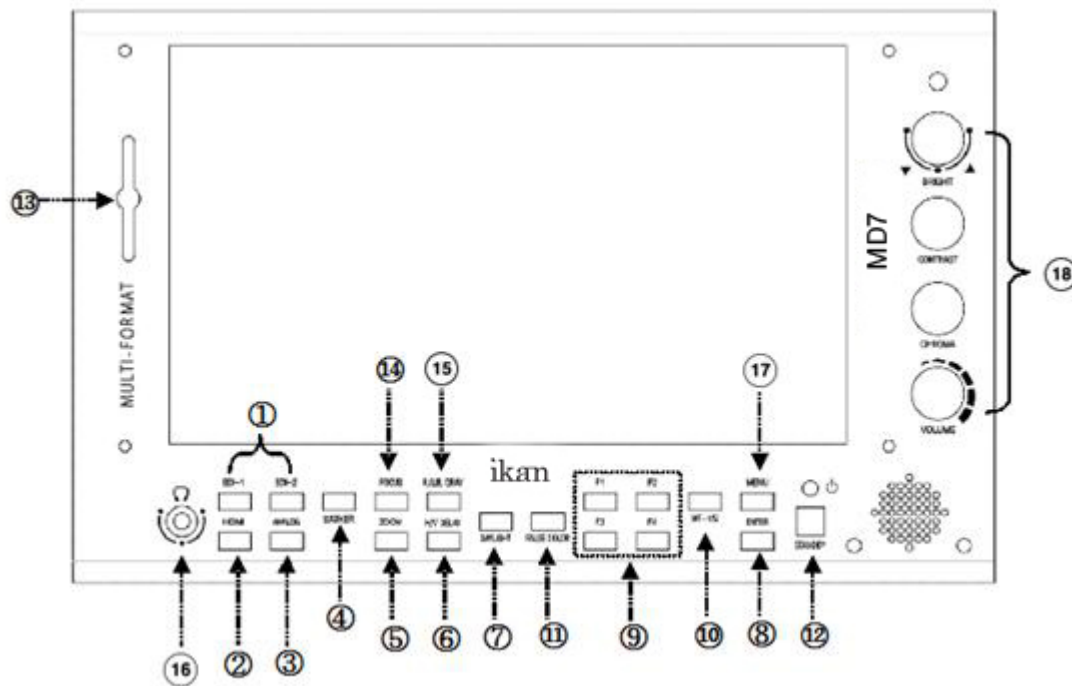
3G SDI input (Level A/B)

1~16Ch Audio Level Meters

## Safety Instructions

- ⤴ To help avoid damaging your monitor, connect only one power (AC or DC) in operation simultaneously.
- ⤴ 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 service personnel 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. Opening the case will void the warranty.
- ⤴ Displaying a fixed picture for a long time may cause an afterimage or dead spots. To recover LCD pixels, display whole white picture on screen for 1-2 hours and pixels will be recovered.
- ⤴ No service will be provided for user's own color calibration.

## Front



### 1,2) SDI, HDMI Input Selection

### 3) Analog Input Selection

Switch input in the order of: YPbPr (Component), CVBS1, CVBS2, CVBS3 (Composites).

### 4) Marker On/Off

### 5) 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. five 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

from Canon 5D Mark II/7D, 60D, Nikon D800, Sony A77, Panasonic GH2 and Canon 5D Mark III.

## **6) H/V Delay**

H/V Delay allows you to check the outside signal of active picture area. This mode is for broadcast professionals. By pressing the button, it switches the mode in the order of : H Delay, V Delay, H/V Delay, Off.

## **7) Daylight**

This button switches back light level in the order of : Indoor, Outdoor, Daylight, Auto. Press this button to switch the luminance to see the screen comfortably. Daylight mode provides maximum luminance for sunlight visibility. If you choose Auto, the luminance changes automatically for the environment.

## **8) Enter**

Enter Key.

## **9) Function Keys**

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

- ALM (Audio Level Meter) Display On/Off
- Anamorphic On/Off
- Aspect On/Off
- Pixel-to-Pixel On/Off
- Direct Zoom
- WFM/VS Display
- False Color On/Off
- Freeze On/Off
- H/V Flip On/Off
- Direct User Marker
- H/V Delay On/Off
- R/G/B/Mono On/Off

## **10) Waveform / Vectorscope**

Waveform enables users to check the luminance level. Vectorscope is for checking chrominance values of the picture. The mode is switched in the order of : Waveform, Waveform Parade, Vectorscope, Wide Waveform, Full-Screen Waveform, Full-Screen Vectorscope.

\* Some afterimage might be shown on Waveform when the input picture

didn't change 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.

### **11) False Color**

Shows pictures in specific colors as its luminance level other than the original colors. Overexposed 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.

### **12) Power Button**

Power turns off when pressed for one second.

### **13) Tally Lamp**

Tally lamp displays Red, Green, Amber color tally.

### **14) Focus Assist**

Displays focus area when pressed. The focus sensitivity is adjustable on the display menu.

### **15) R/G/B/Gray Only**

Displays Red, Green, Blue or Gray only as the button is pressed.

### **16) Audio Out**

Stereo headphone jack for audio output.

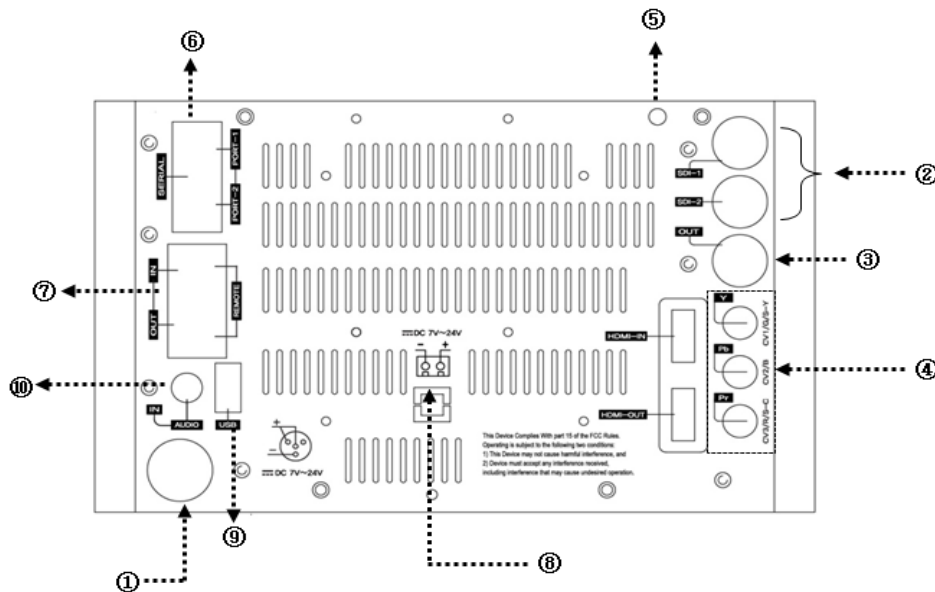
### **17) Menu Button**

Menu and Exit button.

### **18) Knobs**

Brightness, Contrast, Chroma, Volume adjustable knobs. The brightness knob is also used as arrow knob to move up and down on the menu, User Zoom, etc.

## Rear



### 1) DC Power Jack

7V~24V DC power can be used.

### 2) SDI 1, 2 Input Ports

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

### 3) SDI Loop-Through and HDMI-to-SDI Out Port

This port can be used either SDI Loop-through or SDI out of HDMI-to-SDI converter.

### 4) Component YPbPr or CVBS 1,2,3 Input Ports

Component YPbPr or CVBS (Comosite) input ports.

### 5) Tally Input

To display Red, Green, Amber tally.

### 6) Update Port (RJ-11 Jack)

Serial communication port for updating firmware or monitor control.

### 7) Control Port

Monitor control port. The detail is in the chapter "External Remote Control".

### 8) Internal Power Port

External battery power connection port. (7V~24V)

### 9) USB Port

USB firmware update port.



## **Tally**

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

## **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.

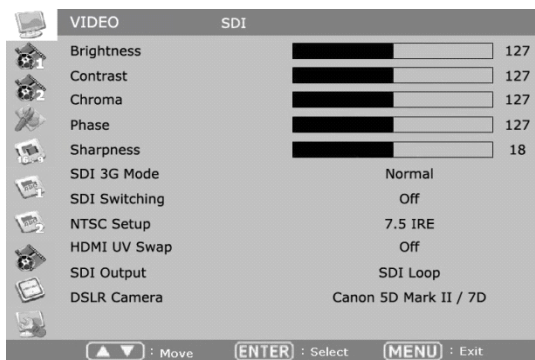
## OSD Menu

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



### 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\_M61\_YCbCr 422\_10  
: 3G SDI Level-A Mapping Structure 1 - YCbCr 4:2:2/10 bit
- ▶ A\_M62\_YCbCr 444\_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\_YCbCr 444\_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\_YCbCr 422\_12  
: 3G SDI Level-A Mapping Structure 4 - YCbCr 4:2:2/12 bit
  
- ▶ B\_MS1\_YCbCr 422\_10  
: 3G SDI Level-B Mapping Structure 1 - YCbCr 4:2:2/10 bit
- ▶ B\_MS2\_YCbCr 444\_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\_YCbCr 444\_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\_YCbCr 422\_12  
: 3G SDI Level-B Mapping Structure 4 - YCbCr 4:2:2/12 bit
- ▶ B\_2X\_DS1\_YCbCr 422\_10  
: 3G SDI Level-B Data Stream 1 - YCbCr 4:2:2/10 bit, Dual Link SMPTE-372M
- ▶ B\_2X\_DS2\_YCbCr 422\_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.**

### **SDI Switching**

Set this mode for smooth SDI switching between two SDIs (e.g. SDI 1 to SDI 2).

### **NTSC Setup**

Select 0 IRE or 7.5 IRE. 7.5 IRE works on NTSC or SD YUV.

### **HDMI UV Swap**

Sometimes UV output sequence is swapped. Turn this mode On when incorrect color is displayed to correct color.-Used sometimes with industrial machine cameras.

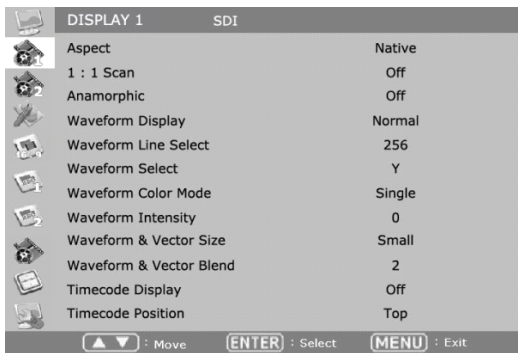
**SDI Output**

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



Setting	Value
Aspect	Native
1 : 1 Scan	Off
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.

### 1:1 Scan

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

### Anamorphic

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.

### 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



DISPLAY 2		SDI
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		Off
Focus Assist Color		Red
Focus Assist Level		20
False Color		Off

▲ ▼ : Move    ENTER : Select    MENU : Exit

### Exposure Range Check (Video Range Check)

Checks Y, C level and displays overexposed or underexposed 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

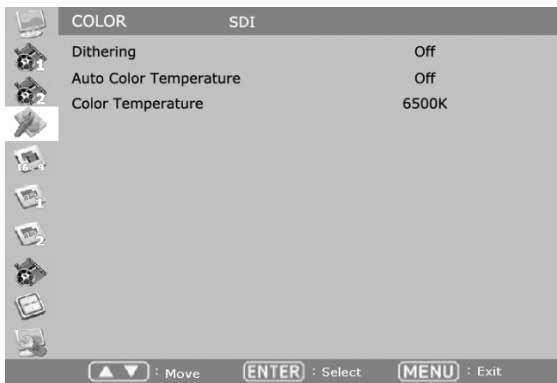
Set brush color of focus assist mode among Blue, Green and Red.

### False Color

Shows pictures as its luminance level in specific colors other than the original colors. Overexposed area is filled with red while underexposed 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.

### Auto Color Temperature

Set this mode On to adjust color temperature by temperature change. Its output might be incorrect at extreme temperatures.

### 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. User mode is recommended for professional users only.

### False Color

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



## MARKER

MARKER	SDI
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.

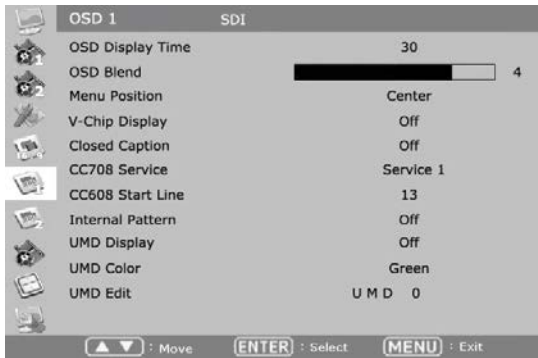
### Marker Thickness

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 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.

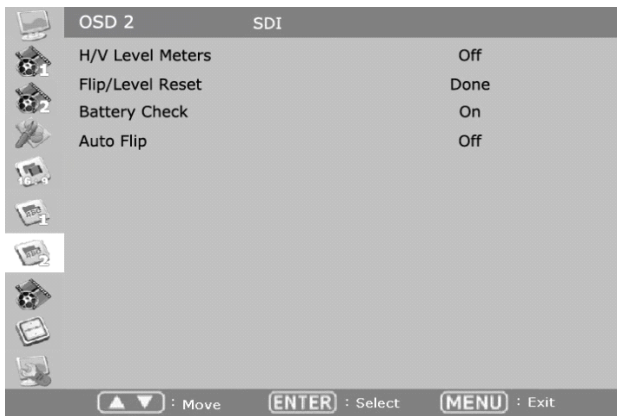
**UMD Color**

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

**UMD Edit**

Set the UMD source ID to display on screen.

## OSD 2



### **H/V Level Meters**

Displays the horizontal and vertical angle on screen.

### **Flip/Level Reset**

Resets the flip and angle meters.

### **Battery Check**

Turns on battery checker display.

## AUDIO

AUDIO	SDI
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
Audio Output	Left / Right

▲ ▼ : Move    ENTER : Select    MENU : Exit

### Audio Level Meter

Turns On/Off audio level meter.

### 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)

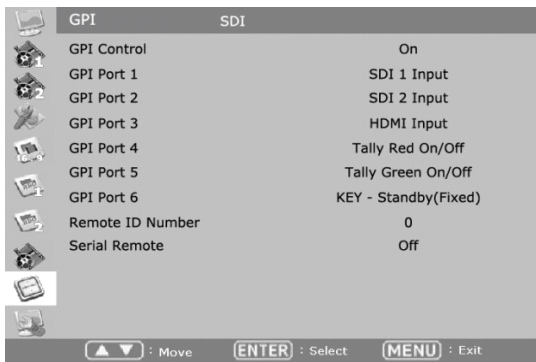
### Audio Source

Select audio source among Auto / SDI / Line In / HDMI

## **Audio Output**

Select audio output among Left, Right, Left/Right.

## 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.

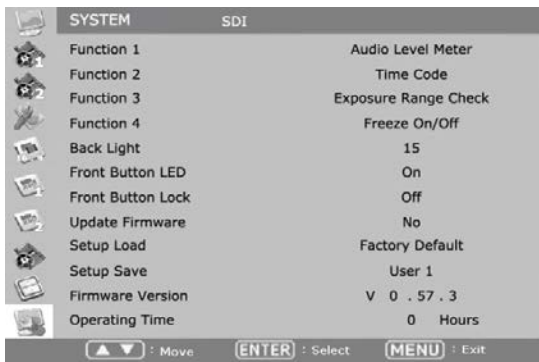
### Remote ID Number

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 three seconds.

## SYSTEM



### 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 settle to a new backlight value before final monitor calibration.

### 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. Four 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)

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 before final monitor calibration.

### Front Button LED

Set front LEDs on/off status.

## List of Compatible Video Formats (HDMI/Composite)

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

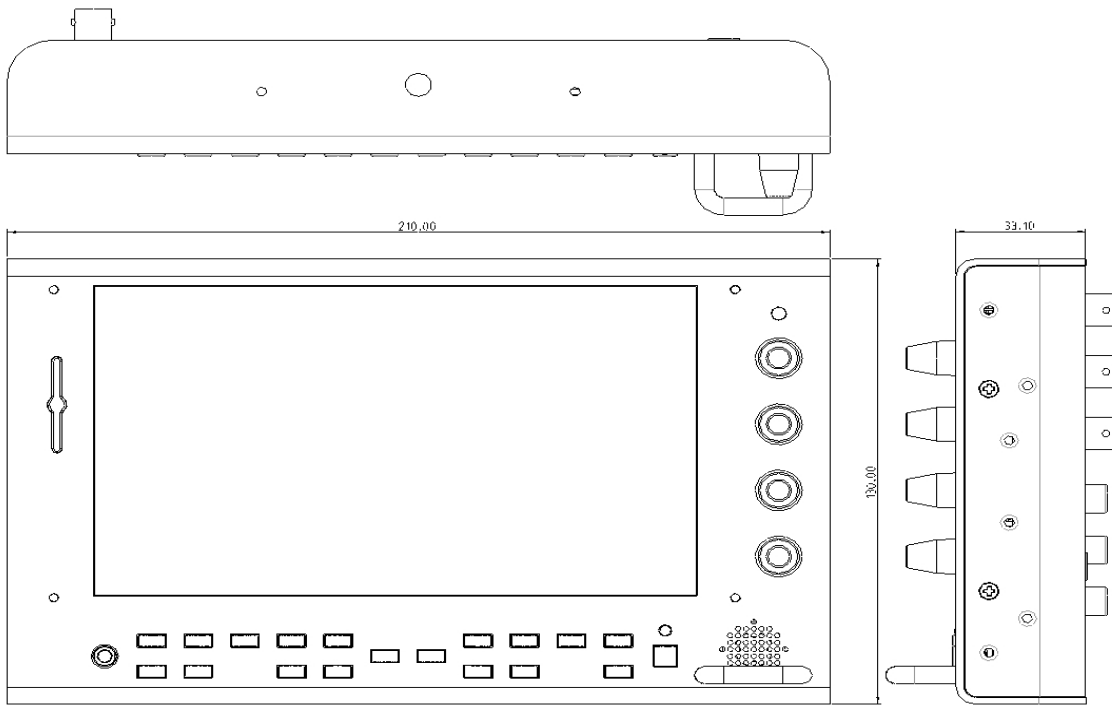
## Specifications

<b>Input</b>	2 x BNC	HD/SD-SDI, 3G/1.485G/270M
	1 x HDMI	HDMI, (with HDCP v.1.1), 19pin Female
	3 x RCA	Analog(YPbPr/CVBS)
<b>Output</b>	1 x BNC	SDI Loop-through or HDMI-to-SDI Conversion Out
	1 x HDMI	HDMI (with HDCP v.1.1), 19-pin Female
<b>Format</b>	SMPTE 425M AB	1080p (60,59.94,50), Direct Mapping(MS1,2,3,4)
		2 x HD-SDI(3G), 2 x SMPTE 292M
	SMPTE 274M	1080i /60, 59.94, 50 /24sf, 23.98sf
		1080p /30, 29.97, 25, 24, 23.98
	SMPTE 296M	720p / 60, 59.94, 50
	SMPTE 260M	1035i / 60, 59.94
	SMPTE 259M,125M	480i / 60, 59.94
	ITU R-BT.656	576i / 50
	HDMI	up to 1080 / 60i
Analog (Composite)	1.0Vp-p(with sync), NTSC/PAL	
<b>AUDIO</b>	1 x Phone Jack In	Line In(Stereo)
	1 x Phone Jack Out	Headphone Out(Stereo)
	Speakers	0.5W, Mono
<b>I/O Port</b>	1x GPIO Port	TTL Level, RJ-45 port
	1x USB Port	for Firmware Update
	Tally Output Control	Sink Current 0.5A max, with RJ-45 port
<b>LCD</b>	Size	7.0"
	Resolution	1024 x 600
	Pixel Pitch	0.15 x 0.15 mm
	Color Depth	8 bits (6 bits + 2 bits FRC)
	Viewing Angle	R/L:170, U/D:170 degree
	Luminance of White	1.100 cd/m <sup>2</sup>
	Contrast	800 : 1
	Display Area (H x V)	153.6 x 90.0 mm (6.1 x 3.5 inches)
<b>Operation Environment</b>	Power Requirements	DC 7V ~ 24V, AC 100 - 230V (50Hz/60Hz)
	Power Consumption	18W
	Temperature	-10°C ~ 40°C

	Humidity	20% ~ 80% RH
<b>Appearance</b>	Weight	1.3kg (2.86 lbs), without stand
	Dimensions	210 x 151 x 78 mm (8.3 x 6.0 x 3.1 inches)
<b>Accessories</b>		Manual (CD), Cleaner, DC Adapter, AC Power Cord
<b>Options</b>		Acrylic Protector, Sun Hood, Pouch, DV Battery Mount, V-Mount, Anton Bauer Mount, D-Tap Power Cable, Stand

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

## Dimensions



MODEL	Unit	W	H	D	Remark
FM-072SCH	mm	210.0	151.0	78.3	without stand
	inches	8.3	6.0	3.1	

## 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 ikan 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 ikan Logo Display on Startup	It is normal and No Reaction Required.
Logo appeared on Startup, but No Screen Output when Input Signal Connected	Remove Input Cable and Check if "No Signal" appears on Screen. <ul style="list-style-type: none"> <li>- restart the Monitor if you can't see "No Signal"</li> <li>- Make Monitor "Factory Default" and Try again and Try again</li> <li>- Check the Cable Connectivity</li> <li>- Try with Different Cable</li> <li>- Check the Input Format and Frequency</li> <li>- Try with Different Input Device. If successful, the Failed Input Device may Generate Non-Standard Signal (Please Inform Us its Model Name).</li> </ul>
"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 ikan 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 ikan.

### 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 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.

# ikan

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