LCD Racks Monitor

PRM-702A
MULTI-CHANNEL LCD MONITOR

User's Manual

postium

Contents

PRM-702A

Warning

· Always use set voltage.

  - DC 12V

· If liquid is spilled on or impacts this product, please disconnect the product immediately

  and seek professional help before continued use.

· Keep unit disconnected during extended periods of disuse.

· Keep unit in a well-ventilated place to prevent overheating.

· Do not install the product near any heat-generating equipment.

  Also, keep the product out of direct sunlight or dusty areas.

· Only clean the product with a noncommercial, mild and neutral detergent.

· When transporting the product, make use of its original packaging for safer carriage.

FCC (Federal Communications Commission)

This equipment has been tested and found to comply with the limits for class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interface when the equipment is operated in a commercial environment.

This equipment generates, uses, and can radiate radio frequency energy, and if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential to correct the interference at his own expense

⚠ Warning!! : Change or modifications not expressly approved by the manufacturer responsible for compliance void the user's authority to operate the equipment.

Disposal of Old Electrical & Electronic Equipment
(Applicable in the European Union and other European countries with separate collection systems)

This symbol on the product or on its packing indicates that this product shall not be treated as household waste. Instead it shall be handed over to the applicable collection point for the recycling of electrical and electronic equipment. By ensuring this product is disposed of correctly, you will help prevent potential negative consequence for the environment and human health, which could otherwise be caused by inappropriate waste handling of this product. The recycling of materials will help to conserve natural resources.
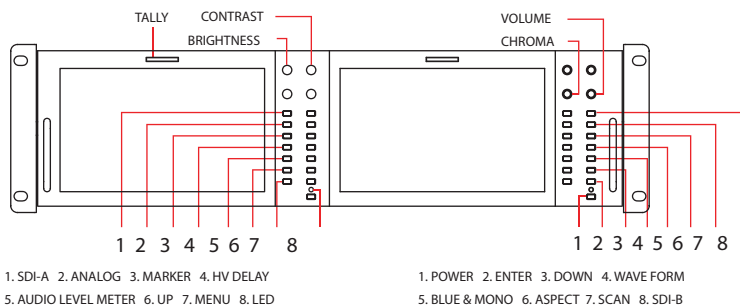
Warning

Features

Multi-Format PRM-702A Series unit has the following features:

· Compatible with varied SDI Signals
  The product is compatible with varied SDI signal
  -480i,576i,720p,1035i,1080i,1080p,1080psf, 2K

· Compatible with varied Analog Signals
  The product is compatible with varied Composite, S-Video signal
  - NTSC, PAL, SECAM
  The product is compatible with varied Component, RGB signal
  - 480i,576i,480p,576p,720p,1080i,1080p

· Waveform/Vector Scope/Audio Level Meter
  Waveform & Vector Scope available for SDI Signals Embedded Audio Level Meter

· Audio Out
  Built in Audio Disembedder and Internal Speakers Stereo Audio out using phone jack

· Knob Control
  Easy to adjust user configuration using the control knob

· BLUE & MONO

· H/V Delay

· Wide Variety of Markers & Safety Areas
  Center Marker, Safety Area Marker, Aspect Marker, Display Size(Scan)

· Pixel To Pixel
  Provides both full screen and unscaled native image.

· Wide Screen/LED Backlight

· 24Bit RGB LVDS Interface Panel

· DC Compatible
  The product is powered by normal 12V source.

· Remote control function
  Simple remote controllability with single cable connection, no additional modules required

· Additional Features
  Active Loop Through/SDI, 700:1 contrast ratio, 350 cd/m2 brightness, OSD user interface,
  Rack Mountable

Name & Function of Each Part

<FRONT>

1. SDI-A 2. ANALOG 3. MARKER 4. HV DELAY
5. AUDIO LEVEL METER 6. UP 7. MENU 8. LED

1. POWER 2. ENTER 3. DOWN 4. WAVE FORM
5. BLUE & MONO 6. ASPECT 7. SCAN 8. SDI-B

· [BRIGHT] knob
  Used to adjust the degree of brightness between MAX(25) and MIN(-25).

· [CONTRAST] knob
  Used to adjust the contrast ration between MAX(25) and MIN(-25).

· [CHROMA] knob
  Used to adjust the saturation between MAX(25) and MIN(-25).

· [VOLUME] knob
  Used to adjust the volume between MAX(20) and MIN(0).

· [SDI-A] button
  Used to select SDI A Input.

· [SDI-B] button
  Used to select SDI B Input.

· [ANALOG] button
  Used to select desired Analog Input (CVBS1/2/3, S-Video, Component, RGB).

· [SCAN] button
  Used to transfer from OVER SCAN mode to ZERO SCAN mode.
  Mode changes in the order of ZEROSCAN -> OVERSCAN -> PIXEL TO PIXEL -> ZEROSCAN.
  #This function is not available in Internal Pattern and Wave Form/Vector Scope/Audio Level Meter
   full size.

· **[ASPECT] button**
Used to toggle aspect ratio in SD from standard to anamorphic.
#This function is not available in Internal Pattern and Wave Form/Vector Scope /Audio Level Meter full size.

· **[MARKER] button**
Used to show MARKER on the screen. The type of marker at work may be selected on the main menu.
#This function is not available in Internal Pattern, Wave Form/Vector Scope /Audio Level Meter full size.
Pixel to Pixel and HV Delay mode.

· **[HVDELAY] button**
Used to activate the HV Delay mode.
#This function is not available in Internal Pattern and Wave Form/Vector Scope /Audio Level Meter full size.

· **[BLUE/MONO] button**
You may remove R(red) and G(green) from the input signal and play the screen only with B(blue) signal.
Button may be pressed twice to change the screen to MONO mode. (This mode uses only Luminance value)
#This function is not available in Internal Pattern and Wave Form/Vector Scope /Audio Level Meter full size.

· **[AUDIO LEVEL] button**
Used to active AUDIO LEVEL METER on the screen. The type of audio level meter at work may be
selected on the main menu.
This is available only SDI input.

· **[WAVE/VECTOR] button**
Used to activate the Waveform or Vector Scope. Pressing the button once will activate the Waveform,
pressing the button twice activates the Vector Scope. The type of waveform/vectorscope work may be
selected on the main menu.
This is available only SDI input.

· **[UP] button**
Used to navigate menu during OSD menu activation. It may also be used to toggle clockwise through
1:1 quadrants in native scan mode.

· **[DOWN] button**
Used to navigate menu during OSD menu activation. It may also be used to toggle counterclockwise
through 1:1 quadrants in native scan mode.

· **[MENU] button**
Used to activate the OSD menu.

· **[ENTER] button**
Used to confirm a chosen value (or mode) within the OSD menu.
#This can be used to control the position of Wave/Vector in small size.

· **[POWER] button**
Power On/Off button.
If the signal is normal, LED lights in Green. If the signal is unsupported or disconnected, LED lights in Yellow.
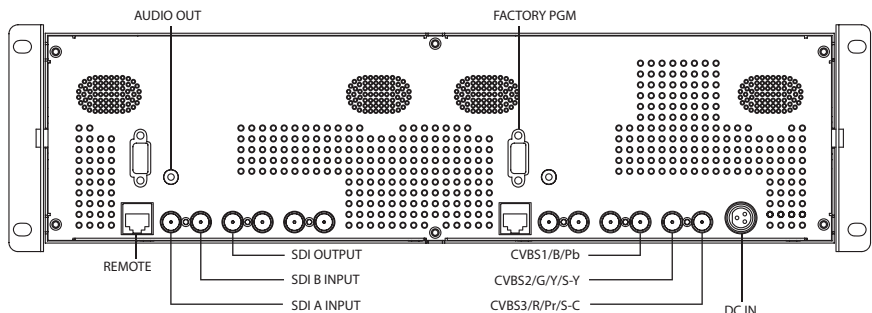
· **TALLY**
LED indicating monitor's current status using optional Remote.

Name & Function of Each Part

<REAR>

AUDIO OUT

FACTORY PGM

REMOTE

SDI OUTPUT
SDI B INPUT
SDI A INPUT

CVBS1/B/Pb
CVBS2/G/Y/S-Y
CVBS3/R/Pr/S-C

DC IN

· SDI A-IN (BNC)
  SDI A signal input terminal

· SDI B-IN (BNC)
  SDI B signal input terminal

· SDI-OUT (BNC)
  SDI signal output terminal

Connector	Composite	Component	R G B	S-Video
1	CVBS1	Pb	B	No Con.
2	CVBS2	Y	G	Y
3	CVBS3	Pr	R	C

· CVBS1/B/Pb (BNC)
  Signal input terminal used for COMPOSITE1, RGB B, COMPONENT Pb signals.

· CVBS2/G/Y/S-Y (BNC)
  Signal input terminal used for COMPOSITE2, RGB G, COMPONENT Y, SVIDEO Y signals.

· CVBS3/R/Pr/S-C (BNC)
  Signal input terminal used for COMPOSITE3, RGB R, COMPONENT Pr, SVIDEO C signals.

· AUDIO OUT (phone jack)
  Used to audio output jack.

· FACTORY PGM (15 pins)
  Input connector for FACTORY PGM allowing for firmware updates.

· REMOTE (RJ-45)
  Connection for remote control of monitor.

DC IN socket

2 : +12V
3 : GND

· DC IN (3 pins)
  Used to supply DC power; 12V

OSD Menu Organization & Adjustment

[1] MAIN - Picture

· Brightness

  This Item controls the degree of brightness.

  #Brightness can be adjusted by using the [BRIGHT] control knob on the front of the monitor.

· Contrast

  This item controls the contrast ratio.

  #Contrast can be adjusted by using the [CONTRAST] control knob on the front of the monitor.

· Chroma

  This item controls saturation.

  #Saturation can be adjusted by using the [CHROMA] control knob on the front of the monitor.

· Aperture

  This item controls the picture sharpness.

· Phase

  This item controls Phase value (Hue).

  #This function is only available in Composite and S-Video NTSC Input.

· NTSC Setup

  This item sets IRE value in NTSC mode between 0 IRE and 7.5 IRE.

  #This function is only available in NTSC Input.

[2] MAIN - Color

· Color Temp
 This item controls Color Temperature with presets of 3200K, 5600K, 6500K, 9300K, and
 User1, User2, User3 mode.

· User
 On User Mode, the user may select and control R, G, & B GAIN, BIAS values by using the
 [UP]/[DOWN]/[ENTER] buttons.

· Color Copy
 In User mode, user can copy the preset of 3200K, 5600K, 6500K or 9300K to make the
 custom adjustment by using the [UP]/[DOWN]/[ENTER] button.

[3] MAIN - Marker

· Line Marker

This selects the marker type when the MARKER is displayed on the screen.

Compatible MARKER types are as follows:

MODE	Marker CLASS
HD / SD 16:9	16:9, 4:3, 4:3 ON AIR, 15:9, 14:9, 13:9, 1.85:1, 2.35:1, 1.85:1 & 4:3
SD 4:3	16:9

· Center Marker

This item displays the CENTER MARKER on the screen.

· Safety Area

This item controls the size of the SAFETY AREA between 80%, 85%, 88%, 90%, 93%, and 100%.

· Marker Mat

This item darkens the area outside of MARKER setting area. The degree of the matte is between OFF(0) and (7).

The higher the number the darker MARKER the matte becomes.

· Marker Color

This item controls Marker color. Selectable colors are white, gray, black, red, green, and blue.

#Line Marker, Center Marker and Safety Area functions are operates only after activated
  by pressing the MARKER button on the front of the monitor.

[4] MAIN - Remote
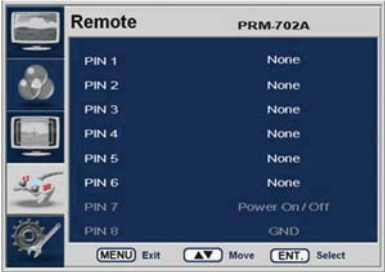
· Pin1 ~ Pin6

The user may connect RJ-45 jack to the remote terminal on the rear of the unit and designate a function for each pin. The selectable functions are as follows:

Menu Classification	Settable Values		REMOTE (RJ-45)
PIN 1~6	ANALOG CHANNEL , DIGITAL A CHANNEL DIGITAL B CHANNEL TALLY RED , TALLY GREEN BLUE ONLY , UNDERSCAN ASPECT , HVDELAY 16:9 MARKER, 15:9 MARKER, 14:9 MARKER, 13:9 MARKER, 4:3 MARKER, 4:3 ON AIR MARKER, 1.85:1 MARKER, 2.35:1 MARKER, 1.85:1 & 4:3 MARKER CENTER MARKER SAFETY AREA 80%, SAFETY AREA 85%, SAFETY AREA 88%, SAFETY AREA 90%, SAFETY AREA 93%, SAFETY AREA 100%		1: Pin1 2: Pin2 3: Pin3 4: Pin4 5: Pin5 6: Pin6 7: Pin7 8: GND
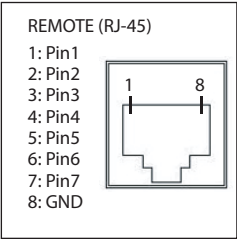
· Pin7 - PIN7 is for POWER ON/OFF use only.

[5] MAIN - System [page1]
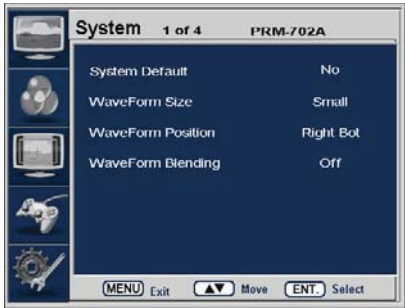
· System Default

User can use the System Default menu to initialize the values of the monitor.

· Waveform Size

This item controls the size of Waveform or Vector Scope.

· Waveform Position

This item controls the position of Waveform or Vector Scope between Right, Center and Left.

-In normal display, press Enter button to activate this feature in activated Waveform .

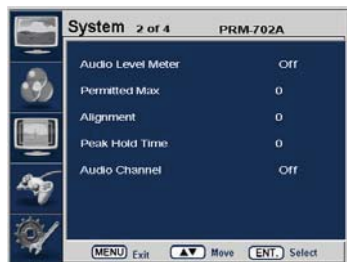-This feature can be activated in small size mode only.

· Waveform Blending

This item activates the blending of Waveform or Vector Scope.

-This feather activates automatically if Waveform overlaps with OSD.

-This feather can be activated in small size mode only.

[5] MAIN - System [page2]

· Audio Level Meter

This item selected the type of Audio Level Meter

(Off/Horizontal / Vertical / dBFS / VU / EBU / BBC /Nordic)

- This feather can't be activated a function of Waveform

 on Full Audio Level Meter(dBFS / VU / EBU / BBC /Nordic) selected,

- This feather can be activated a function of Permitted Max/ Alignment /Peak Hold Time

on Full Audio Level Meter selected

• Permitted Max

 This item adjust a minimum level of Permitted Max Level to change a position of Red color.

- dBFS(-60~0), BBC(10~70), EBU(-12~12), VU (-20~3), Nordic (-42 ~ 12)

• Alignment

This item adjust a minimum level of Alignment to change a position of Green color.

- dBFS(-60~0), BBC(10~70), EBU(-12~12), VU (-20~3), Nordic (-42 ~ 12)

   - A priority of Permitted Max Level is higher than Alignment Level .

• Peak Hold Time

This item adjust the time to indicate the marker of Peak level

· Audio Channel

  This item sets embedded audio channel selects CH1 ~ CH16, and Off.

 -Waveform Size, Waveform Position and Waveform Blending functions are operates

  only after activated by pressing the WAVE/VECTOR button on the front of the monitor.

 -Menus or features which are related with Waveform and Audio enables can be enabled in
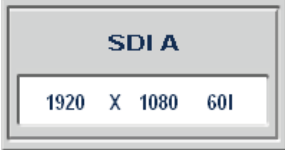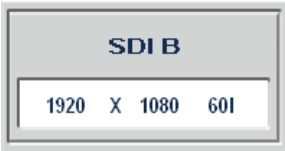
  SDI input mode only.

[5] MAIN - System [page3]
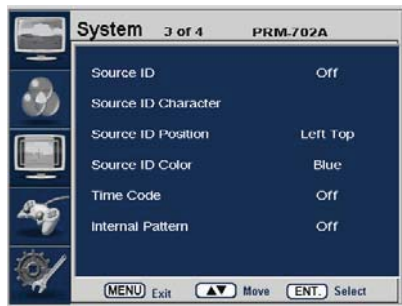
· Source ID
  This item is used to activate the source ID display by selecting BG Type or Char Type.

· Source ID Character
  This item is used to customize the Source ID display. (A~Z, a~z, 0~9 and special characters)

· Source ID Position
  This item controls the position of Source ID display. (Top-Left, Top-Center, Top-Right,
  Bottom-Right, Bottom-Center, Bottom-Left)

· Source ID Color
  This item is used to change the color of source ID display by selecting black, white, red,
  green, blue or yellow.

· Time Code
  This item activates the Time Code. Select between VITC or LTC.

· Internal Pattern
  This item used to activate the Internal Pattern of 100% White or 100% Color Bar.

[5] MAIN – System [page4]

· Back Light
  This item controls the LED backlight setting. The value should be within range between
  MIN(0) and MAX(15).

· AFD
  This item activates the AFD mode. Selectable mode are Off, Aspect Mode and Marker Mode.
  #This feature action in only SDI signal included AFD Data.
  #In Internal Pattern mode, this feature and menu disable automatically.

· Set ID
  This item controls the Set ID setting for UMD. The value should be within range between
  0 and 127.

· Closed Caption
  This item controls colsed caption ON/OFF. (708, 608(Line21), 608(ANC))

· Firmware Version
  This item is the firmware version of the system.

· License

PRM-702A MULTI-CHANNEL LCD MONITOR

OSD Menu Organization & Adjustment

SDI A INPUT Menu

SDI A

1920 X 1080 60I

· PRM- 702A Series unit is capable of processing single SDI A Input signal.

· Press [SDI-A] button on the front of the monitor to select the SDI A input. OSD menu displays as shown on the left.

-If no image displays after selecting the desired input mode, check and make sure that your connection is not lose or disconnected.

-Input resolution displays on the bottom of the OSD screen.

SDI B INPUT Menu

SDI B

1920 X 1080 60I

· PRM- 702A Series unit is capable of processing single SDI B Input signal.

· Press [SDI-B] button on the front of the monitor to select the SDI B input. OSD menu displays as shown on the left.

-If no image displays after selecting the desired input mode, check and make sure that your connection is not lose or disconnected.

-Input resolution displays on the bottom of the OSD screen.

ANALOG INPUT Menu

▶ **COMPOSITE 1**
COMPOSITE 2
COMPOSITE 3
SVIDEO
COMPONENT
RGB

[▲▼] Move [ENT.] Select

720 X 480 60I

· PRM -702A Series unit is capable of processing varied ANALOG Input signals.

· Press [ANALOG] button on the front of the monitor and activate the OSD menu as shown on the left.
Select the input you desire by using the [UP]/[DOWN] button and press the [ENTER] button to confirm.

-If no image displays after selecting the desired input mode, check and make sure that your connection is not lose or disconnected.

-Input resolution displays on the bottom of the OSD screen.

Other Functions

[1] PIXEL TO PIXEL

· PRM-702A monitor's Pixel to Pixel mode displays input signal without scaling.

· To activate the [Pixel To Pixel] mode, access the Scan menu in System menu and select
 [Pixel To Pixel].

· In the [Pixel To Pixel] mode, use the [UP]/[DOWN] buttons to toggle between 1:1 scan
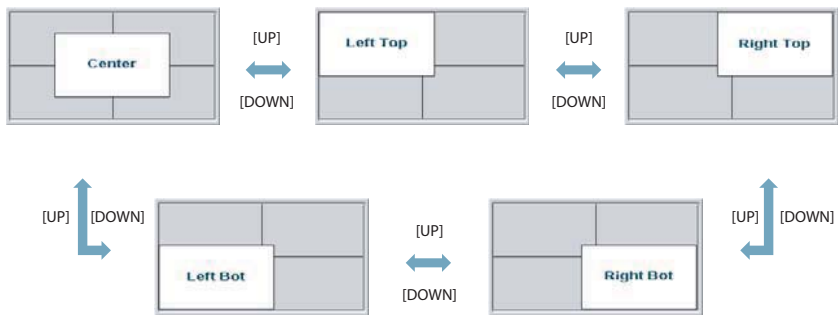 sections

Input	Action Button	Available Modes
HD 1080i/1080p	[UP] (Clockwise)	Center -> Left Top ->Mid Top -> Right Top -> Right Mid -> Right Bottom-> Mid Bottom -> Left Bottom -> Left Mid -> Center -> ….
	[DOWN] (Opposite)	Center -> Left Mid -> Left Bottom -> Mid Bottom-> Right Bottom -> Right Mid -> Right Top -> Mid Top -> Left Top -> Center -> …

- OSD change

Other Functions
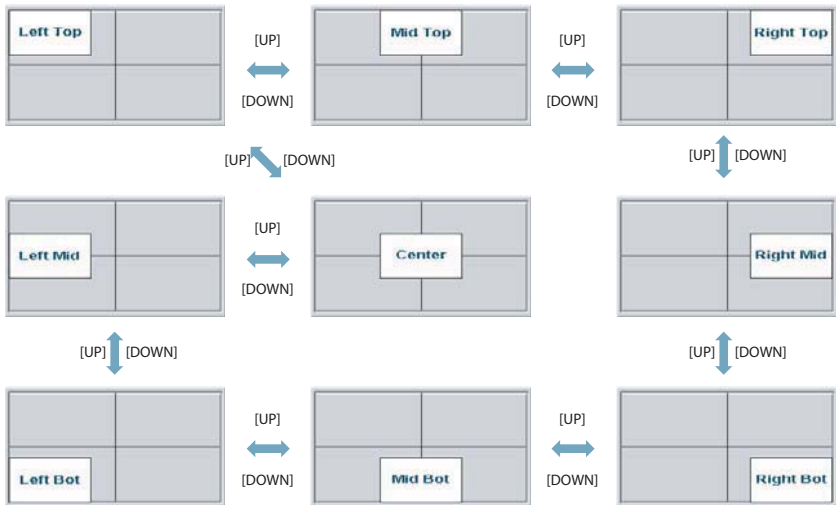
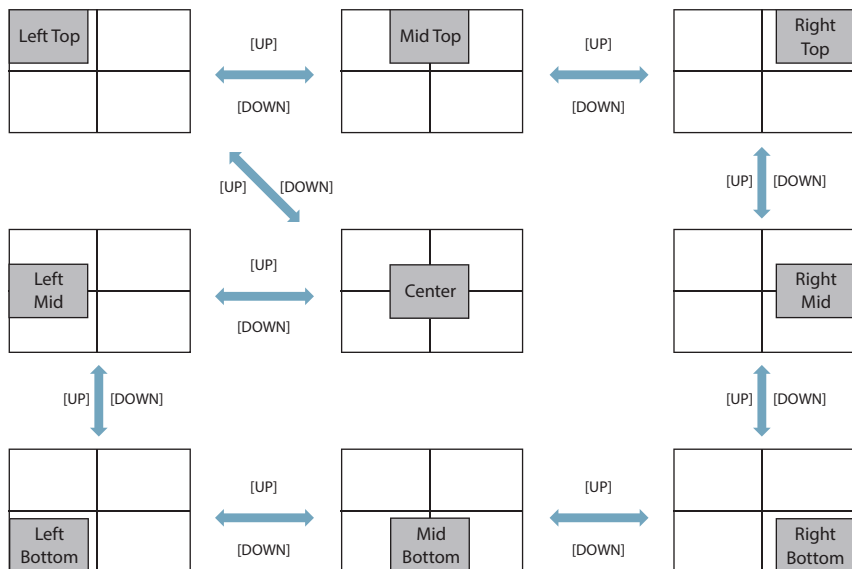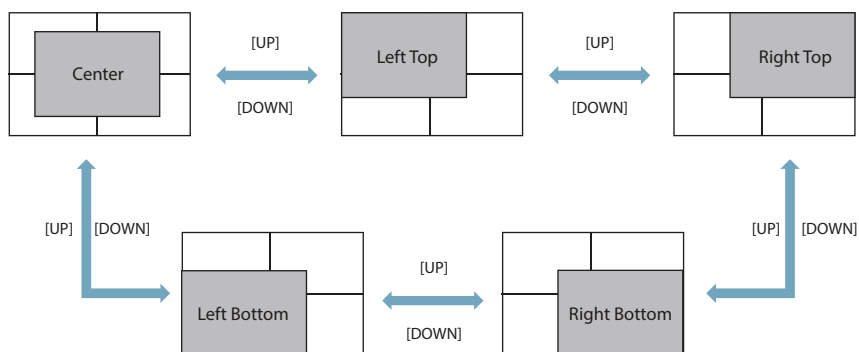| Input	Action Button	Available Modes
HD 720p	[UP] (Clockwise)	Center -> Left Top -> Right Top -> Right Bottom -> left Bottom -> Center -> …
	[DOWN] (Opposite)	Center -> Left Bottom -> Right Bottom -> Right Top -> Left Top -> Center -> ….

- OSD change

#Pixel To Pixel mode is available in SD mode, but 1:1 sections cannot be rotated
through as with HD sources.

· Positions in HD Signal 1080i/1080p mode

| Left Top | | [UP] | | Mid Top | | [UP] | | Right Top |
| | | [DOWN] | | | | [DOWN] | | |

[UP] [DOWN]

| Left Mid | [UP] [DOWN] | Center | [UP] [DOWN] | Right Mid |

[UP] [DOWN]

| Left Bottom | [UP] [DOWN] | Mid Bottom | [UP] [DOWN] | Right Bottom |

· Position in HD Signal 720p mode

| Center | [UP] [DOWN] | Left Top | [UP] [DOWN] | Right Top |

[UP] [DOWN]

| Left Bottom | [UP] [DOWN] | Right Bottom |

Other Functions

[2] Waveform

Small display : YCbCr → Y → Cb → Cr → Vector → off

Full display   : Y → Cb → Cr → Vector → off

· Waveform

OFF	Waveform

· Waveform Size

Small (Y)	Small (Cb, Cr, Y)	Full (Y)
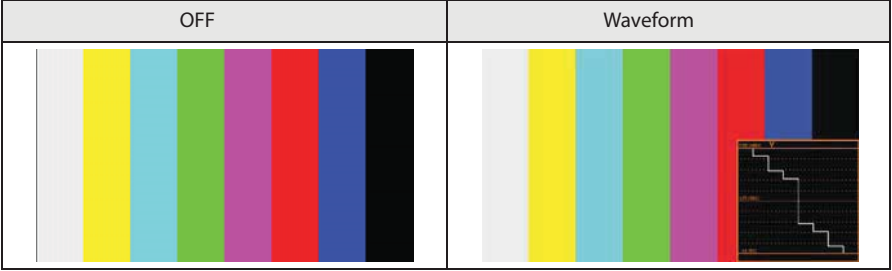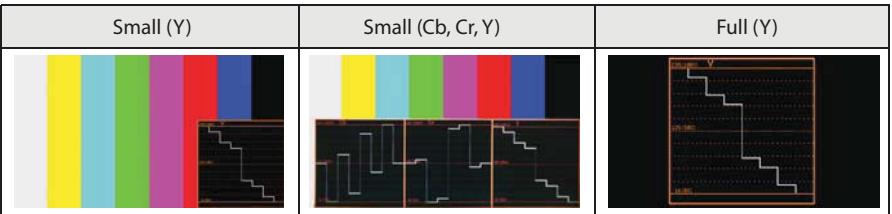
If push the Input button (SDI-A ,SDI-B and Analog), Waveform full mode is change to
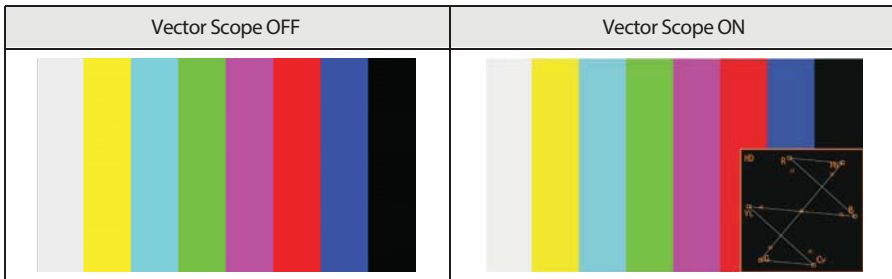small mode automatically.

· Waveform Positions

Left	Center	Right

· Waveform Blending

OFF	ON
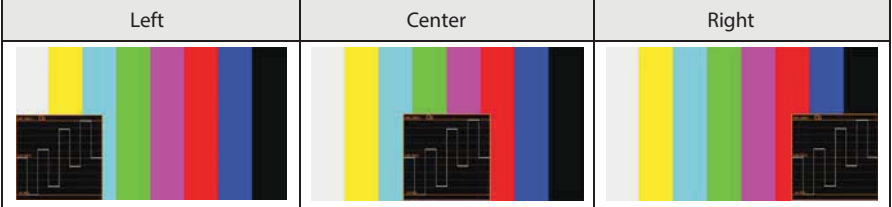
· Exception: If overlaps with OSD, blending activates automatically.

Main OSD	Info Window
Pixel To Pixel	**Source ID**
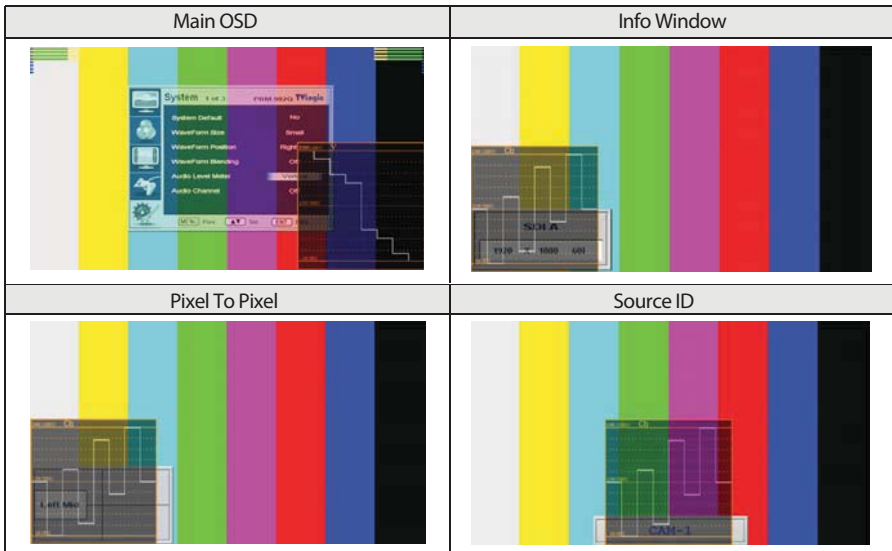
This function is only available with SDI Input.

[3] Vector Scope

·Vector Scope

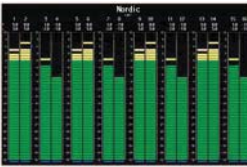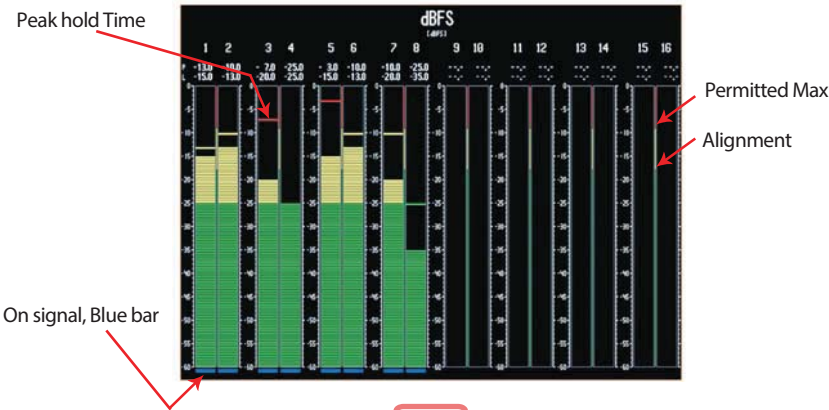| Vector Scope OFF	Vector Scope ON

· Vector Scope Size

Small	Full

Other Functions
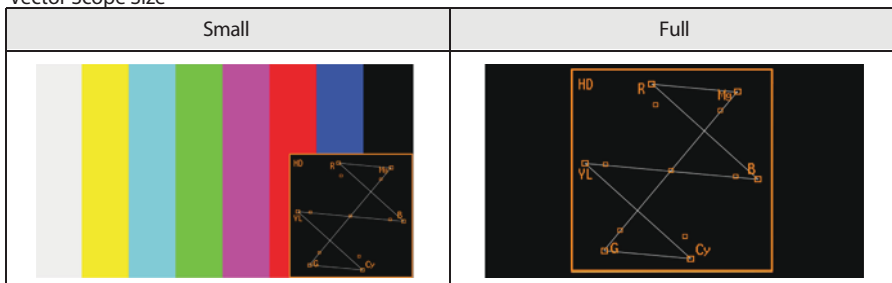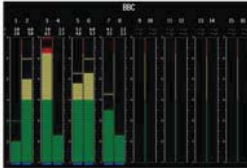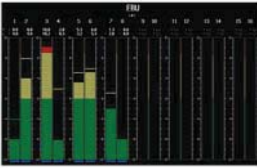
Vector Scope Position / Blending
: Refer to the Waveform position (P.18) and Waveform Blending (P.19)
This function is only available with SDI Input.

[4] Audio Level Meter

· Audio Level Meter

OFF	HORIZONTAL	VERTICAL
dBFS	BBC	EBU
VU	Nordic	

Peak hold Time

Permitted Max
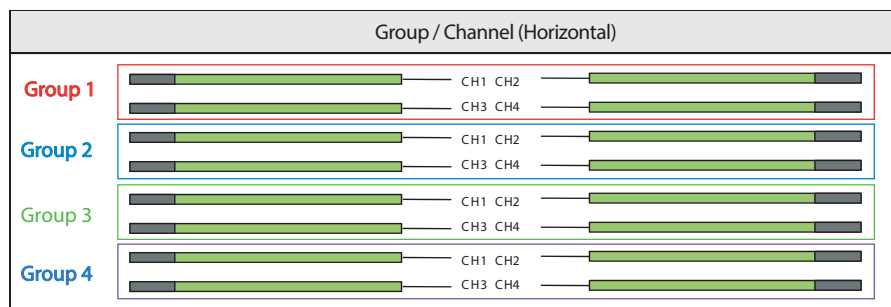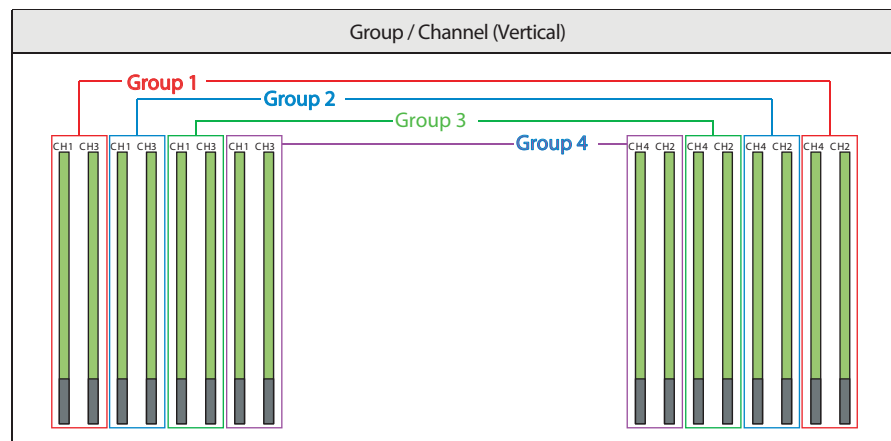
Alignment

On signal, Blue bar

· Avoid Overlap

In full size WaveForm mode, WaveForm shifts down to avoid the overlap with Audio Level Meter.

Audio Level Meter OFF	Audio Level Meter ON

· Group & Channel
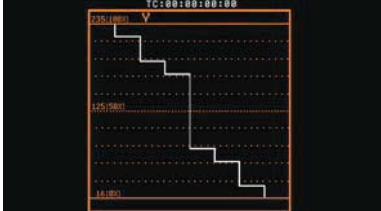
Group / Channel (Horizontal)

#This function is only available with SDI Input.

Group / Channel (Vertical)
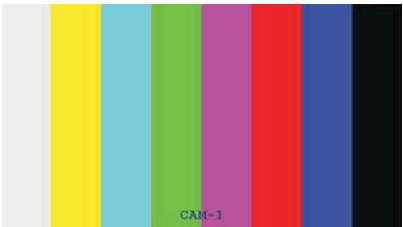
[5] Time Code

Time Code	Time Code + Audio Level Meter
Time Code + WaveForm Full Size	Time Code + SourceID + WaveForm + Audio Level Meter

#This function is only available with SDI Input.

[6] Source ID

· Source ID

BG Type	Char Type

· Source ID Position

Left Top	Mid Top	Right Top
Left Bottom	Mid Bottom	Right Bottom
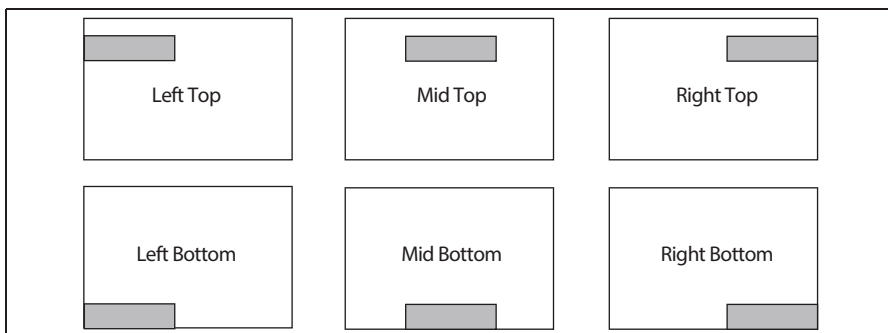
· Source ID Color

Black	White	Red	Green	Blue	Yellow
CAM-1	CAM-1	CAM-1	CAM-1	CAM-1	CAM-1

[7] MAIN - System [page3]

System   3 of 3   PRM.0000

Back Light   0
AFD   Off
Set ID   0
Closed Caption   Off

Firmware Version Gen Ver : 0 . 0 . 0 . 0
                 FPGA Ver : 0 . 0 . 0 . 0
             Developed By POSTIUM KOREA

(MENU) Exit (▲▼) Move (ENT) Select

· Back Light
  This item controls the LED backlight setting. The value should be within range between
  MIN(0) and MAX(50).

· AFD
  This item activates the AFD mode. Selectable mode are Off, Aspect Mode and Marker mode.
  This feature action in only SDI signal included AFD Data.
  In Internal Pattern mode, this feature and menu disable automatically.

· Set ID
  This item controls the Set ID setting for UMD. The value should be within range between 0 and 99.

· Closed Caption
  This item controls closed caption ON/OFF.(708, 608(Line21), 608(ANC))

· Firmware Version
  This item is the firmware version of the system.

· License

System Default Value

MEMU		Value
Picture	Brightness	0
	Contrast	0
	Chroma	0
	Aperture	0
	Phase	0
	NTSC Setup	7.5 IRE
Color	Color Temp	6500K
	Gain Red (1/2/3)	0
	Gain Green (1/2/3)	0
	Gain Blue (1/2/3)	0
	Bias Red (1/2/3)	0
	Bias Green (1/2/3)	0
	Bias Blue (1/2/3)	0
	Color Copy	6500K
Marker	Line Marker	Off
	Center Marker	Off
	Safety Area	Off
	Maker Mat	Off
	Marker Color	White
Remote	PIN 1	Analog Channel
	PIN 2	Digital A Channel
	PIN 3	Digital B Channel
	PIN 4	Tally R
	PIN 5	Tally G
	PIN 6	Blue Only
System [Page 1]	System Default	No
	Waveform Size	Small
	Waveform Position	Right Bot
	Waveform Blending	Off
System [Page 2]	Audio Level Meter	Off
	Permitted Max	-
	Alignment	-
	Peak Hold Time	-
	Audio Channel	Off
System [Page 3]	Source ID	Off
	Source ID Character	CAM -1
	Source ID Position	Left Top
	Source ID Color	Blue
	Time Code	Off
	Internal Pattern	Off
System [Page 4]	Back Light	Calibrated Value
	AFD	Off
	Set ID	0
	Closed Caption	Off
System [Butten]	Scan	Zero Scan
	Aspect Ratio	4:3
	Marker	Off
	HV Delay	Off
	Blue & Mono	Off
	Audio Level Meter	Off
	Waveform/Vector	Off

Product Specification

Input (1 Screen)	3 x BNC	Analog Input
	2 x BNC	SDI 2 Channel Input
Output (1 Screen)	1 x BNC	SDI Output (Active Through Out)
Input Signal	Composite	1.0Vpp (With Sync)
	S-Video	1.0Vpp (Y With Sync), 0.286Vpp(C)
	Component	1.0Vpp (Y With Sync), 0.7Vpp (Pb,Pr)
	RGB	1.0Vpp (G With Sync), 0.7Vpp (B,R)
	HD-SDI	1.458Gbps
	SD-SDI	270Mbps
Analog Input Signal Formats	Composite / S-video	NTSC (525/59.94i) , PAL (625/50i)
	Component / RGB (SOG)	480i(59.94) , 576i(50) , 480P(59.94) , 576P(50)
		1080i(60/59.94/50)
		1080P(30/29.97/25/24/24sF/23.98/23.98sF)
		720P(50/59.94/60)
SDI Input Signal Formats	SMPTE-274M	1080i (60/59.94/50)
		1080p (30/29.97/25/24/24sF/23.98/23.98sF)
	SMPTE-296M	720p (23.98/24/25/29.97/30/50/59.94/60)
	SMPTE-260M	1035i (60/59.94)
	SMPTE-125M	480i (59.94)
	ITU-R.BT.656	576i (50)
	2K Format	2048 X 1080 (23.98psf/24psf/23.98psf/24p)
Audio Out		Analog Stereo (Phone Jack)
		Internal Speaker 2 X 1W (Stereo)
LCD	Size	7.0 inch
	Resolution	800 x 480 (15:9)
	Pixel Pitch	0.1905 (H) X 0.1905 (V) mm
	Color	16.2M(true), 24bit
	Viewing Angle	H : 140 degrees
		V : 140 degrees
	Luminance of white	350 cd/㎡ (Center)
	Contrast	700:1
	Display Area	152.4 x 91.44 mm
Power		12V DC
Power Consumption (Approx.)		Watts(DC)
Operating Temperature		0℃ to 40℃ (32°F to 104°F)
Storage Temperature		-30℃ to 50℃ (-22°F to 122°F)
Main Body Dimensions (mm/inch)		WxHxD : 480x126x45.2(mm) / 18.8x4.96x1.787(inch)
Weight		3.2kg / 7.05 lbs
Accessory		DC Power Adapter
Option		19" Rack Mountable Kit (3U) (Dual Monitor)

* Above specifications may be changed without notice

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