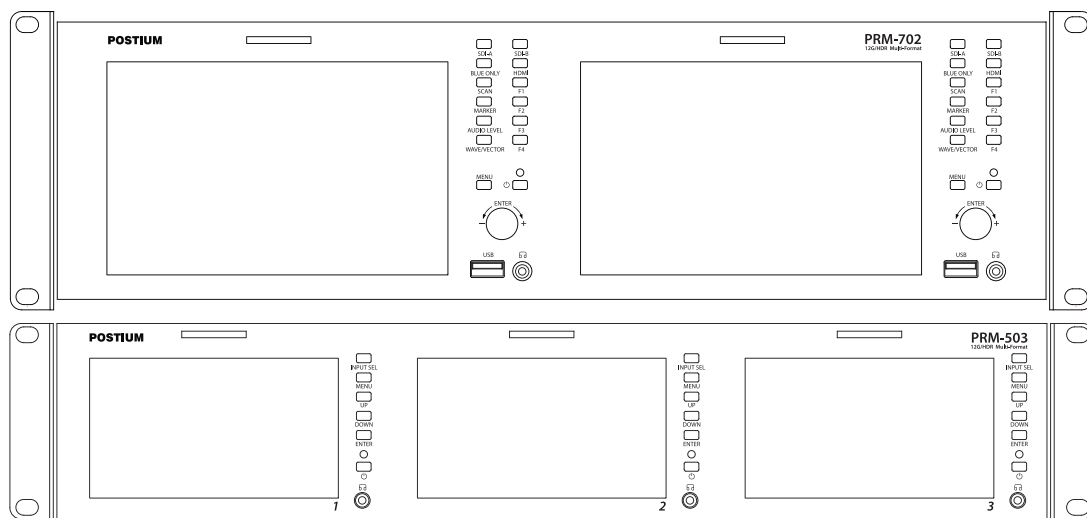


# PRM-12G Series

## 12G Multi-Channel Rack Monitors



## Operational Instructions

PRM-702

PRM-503



[www.postium.com](http://www.postium.com)

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## 1. Precaution

Always use set voltage.

DC 12V 5A

All these instructions should be read and understood before operating the unit.

If liquid is spilled on or impacts this product, please disconnect the product immediately and seek professional help before continued use.

Unplug the product from the wall outlet if it is not to be used for several days or more.

Keep the product 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.

Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.

When using other DC 12V 5A adapters instead of the standard adapter provided by the manufacturer, please check the proper load capacity or current capacity and use an adapter with stable voltage.

Do not overload AC outlets or extension cords. Overloading can cause fire or electric shock.

A very small proportion of pixels may be stuck, either always off (black), always on (red, green, or blue), or flashing. In addition, over a long period of use, because of the physical characteristics of the liquid crystal display, such stuck pixels may appear spontaneously. These problems are not a malfunction.

If a fixed picture such as a frame of a divided picture or time code, or a still picture is displayed for a long time, an image may remain on the screen and be superimposed as a ghosting image.

The permanent burn-in may occur for LCD panel if still images are displayed in the same position on the screen continuously, or repeatedly over extended periods.

To reduce the risk of burn-in,

- a. Turn off the character displays.
- b. Turn off the power when not in use.
- c. Turn off the power if the monitor is not to be used for a prolonged period of time.

Do not attempt to service the product yourself. Removing covers can expose you to high voltage and other dangerous conditions. Request a qualified service person to perform servicing.

When the product needs replacement parts, make sure that the service person uses replacement parts specified by the manufacturer, or those with the same characteristics and performance as the original parts. Use of unauthorized parts may result in fire, electric shock and/or other danger.

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

Do not throw away the carton and packing materials. 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 interference 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 area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

**⚠ Warning!!** : Changes or modifications not expressly approved by the manufacturer could 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.

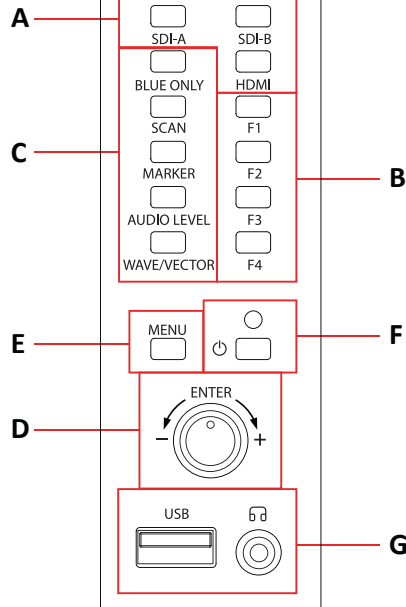
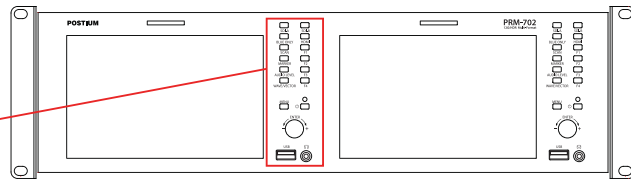
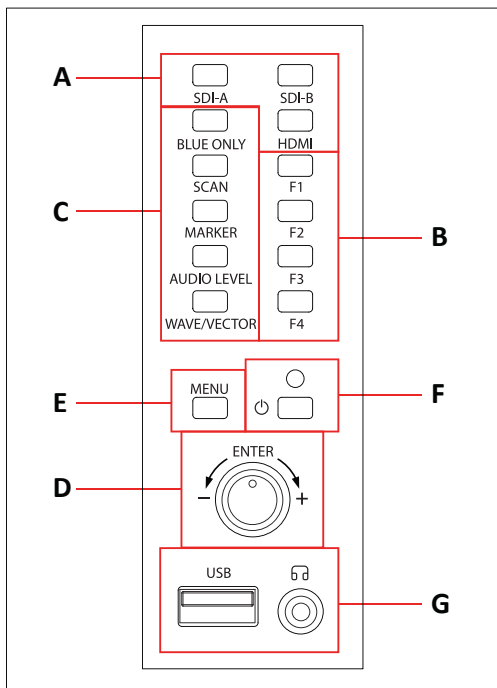
## 2. Main Features

### **PRM 12G RACK Monitor Series unit has the following features:**

- Versatile HD/3G/4K Input Capability  
This monitor is equipped with standard 12G-SDI input interface(x2), HDMI.
- Supporting 12G/6G-SDI(4K) 2 Channel
- HDR(High Dynamic Range) display supporting PQ EOTF(ST 2084), Hybrid Log Gamma, S-Log3
- Gamma Selection (1.0 ~ 3.0)
- Color Temperature(3200K, 5500K, 6500K, 9300K, USER 1/2/3)
- Focus Assist
- False Color (Zebra, False Color ARRI, False Color Variable)
- Waveform, Vector Scope (Wave + Vector)
- HDR Waveform
- UMD (TSL3.1)
- Firmware Update via USB Flash Memory
- Various Markers (EBU, 4:3, 16:9, 1.85:1, 2.35:1, Variable, Custom etc.)
- Zero Scan / 1:1 Scan
- Time Code Display
- De-embedded 8~16ch Audio Level Meter
- White Internal Patterns Display for Color Test (Black ~ 100%, Color Bar)
- Remote Control via GPI(RJ-45) Port
- H/V Delay(only HD format)
- Blue/Mono
- 3 Color TALLY Lamp
- Various Preset Mode
- Key Lock & Password Lock
- HDR Auto Setting
- HDMI 2.0 Support
- Aspect

### 3. Location and Function of Parts and Controls

#### Front Panel of PRM-702



#### A : Input select Buttons

Press to monitor the signal input to each connector.

##### [SDI-A] Button

- Press the button to select SDI-A input for one channel.

##### [SDI-B] Button

- Press the button to select SDI-B input for one channel.

##### [HDMI] Button

- Press the button to select HDMI input.

#### B : F1 ~ F4 Button

Press to adjust or turn on/off the assigned function.

The following functions are assigned at the factory.

[F1]: H/V Delay

[F2]: Color Temp

[F3]: Audio Level

[F4]: Time Code

#### C : Function Button

Press to adjust or turn/off each function.

##### [BLUEONLY] Button

- Press the button to activate and deactivate the Blue Only function.

- You may remove R(red) and G(green) from the input signal and play the screen only with B(blue) signal.

This function is convenient to adjust Chroma and Phase and to observe the signal noise.

- The button may be pressed twice to change the screen to MONO mode.

(This mode uses only Luminance value)

##### [SCAN] Button

- Press the button to adjust the scan mode. (Zero Scan, 1:1 Scan).

##### [MARKER] Button

- Press the button to activate and deactivate the Marker.

##### [AUDIOLEVEL] Button

- Press the button to activate and deactivate the Audio Level Meter.

##### [WAVE/VECTOR] Button

- Press the button to activate and deactivate the Waveform.

#### D : Rotary encoder

##### [BRIGHT] knob

Press this knob to display the adjustment screen and adjust the picture brightness. Press again to hide the adjustment screen. Turn the knob right to increase the brightness and turn left to decrease it.

##### [CONTRAST] knob

Press this knob to display the adjustment screen and adjust the picture contrast. Press again to hide the adjustment screen. Turn the knob right to increase the contrast and turn left to decrease it.

##### [CHROMA] knob

Press this knob to display the adjustment screen and adjust the color intensity. Press again to hide the adjustment screen. Turn the knob right to increase the color intensity and turn left to decrease it.

##### [APERTURE] knob

Press this knob to display the adjustment screen and adjust the picture sharpness. Press again to hide the adjustment screen. Turn the knob right to make the picture sharper and turn it left to make the picture softer.

**E : Menu Operation Buttons**

Displays or sets the on-screen menu.

**[MENU] Button**

- Activates and deactivates the display of the Main Menu.
- When the on-screen menu is not displayed, if this button is pressed the main menu is display. When the menu is displayed, press the button to return to the previous menu.
- When the menu is displayed, turn the Enter knob to select a menu item or setting value, then press the knob to confirm the setting.
- If the menu is not displayed and this knob is pressed, the adjustment screen of [VOLUME]-> [BRIGHT]-> [CONTRAST]->[CHROMA]->[APERTURE] is displayed to adjust the item.

**F :  (Standby) Switch and Indicator**

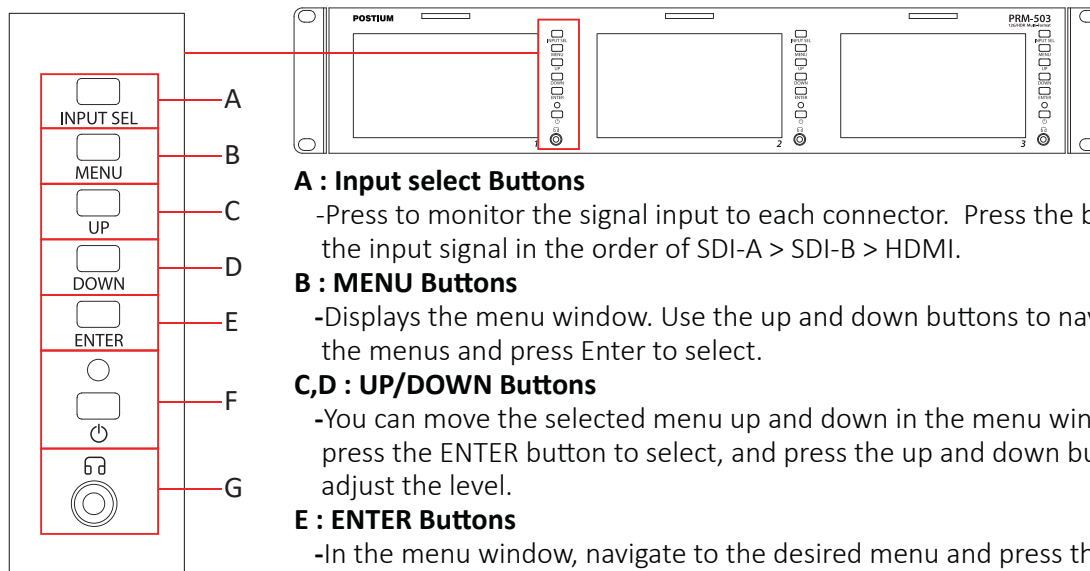
- Press to turn the power on when this monitor is in standby mode. After being turned on, the monitor performs initialization and the indicator flashes in green.
- Press the switch again for a second to set the monitor in standby mode. Then, the indicator flashes in orange and then turns red.

**G : (headphone) jack & Speaker and USB connector****Headphone jack & Speaker**

- The audio signal which is selected using the input select button is output in stereo sound.
- When SDI signals are input, the audio signals of the channels selected with SDI Audio Setting in the User Configuration menu are output.
- When the headphones are connected to the jack, audio signals will not be output.

**[USB] Connector**

- To update CPU, GPU, FPGA program.
- To connect the monitor with the Color Calibration program provided by the manufacturer and perform the color calibration.

**Front Panel of PRM-503****A : Input select Buttons**

-Press to monitor the signal input to each connector. Press the button to select the input signal in the order of SDI-A > SDI-B > HDMI.

**B : MENU Buttons**

-Displays the menu window. Use the up and down buttons to navigate through the menus and press Enter to select.

**C,D : UP/DOWN Buttons**

-You can move the selected menu up and down in the menu window, press the ENTER button to select, and press the up and down buttons to adjust the level.

**E : ENTER Buttons**

-In the menu window, navigate to the desired menu and press the Enter button to select it.

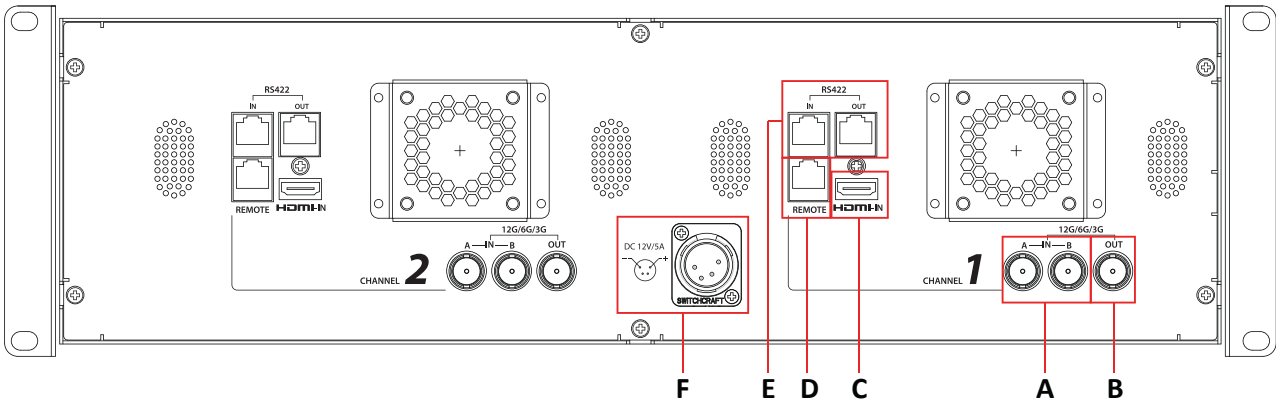
**F : (Standby) Switch and Indicator**

- Press to turn the power on when this monitor is in standby mode. After being turned on, the monitor performs initialization and the indicator flashes in green.
- Press the switch again for a second to set the monitor in standby mode. Then, the indicator flashes in orange and then turns red.

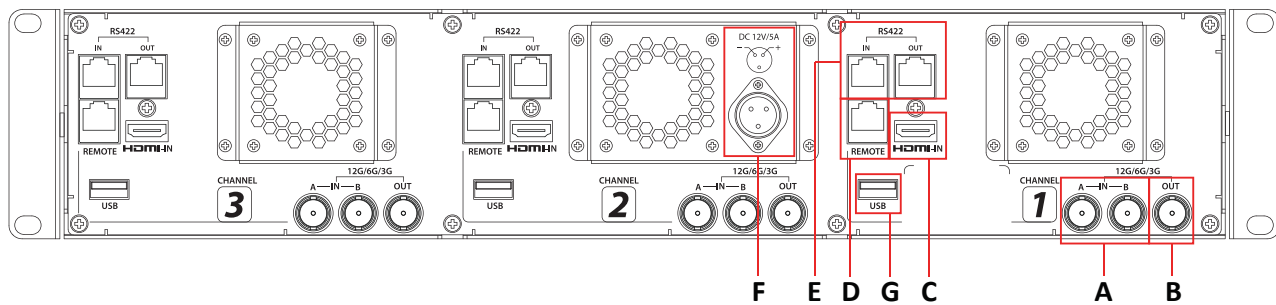
**G : (headphone) jack**

- The audio signal which is selected using the input select button is output in stereo sound.

### Rear Panel of PRM-702



### Rear Panel of PRM-503



#### A : SDI IN (SDI Input) connectors (BNC)

Input connectors for SDI signals.

#### B : SDI OUT (SDI Output) connectors (BNC)

Output connectors for SDI signals.

Each connector outputs the signal which is SDI-A, SDI-B input to the corresponding SDI IN connector.

\*\*Note- Output is activated only when the power is on. Output is not activated in standby mode.

#### C : HDMI Input connector

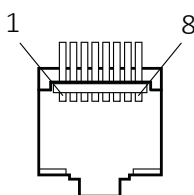
Input connector for HDMI signals.

- For an HDMI cable, High Speed HDMI Cable with the cable type logo or HDMI 2.0 Cable is recommended.
- When inputting 4K resolution(3840 x 2160 or 4096 x 2160) signal, use a cable of 3m or less.

#### D : PARALLEL REMOTE connector(RJ-45, 8-pin)

Forms a parallel switch and controls the monitor externally.

[Pin Assignment]



Pin Number	Function
1	12G SDI-1
2	12G SDI-2
3	HDMI
4	Zero Scan
5	1:1 Scan
6	4:3 Aspect
7	Power
8	GND

\*Functions can be changed in [Remote] section of the menu.



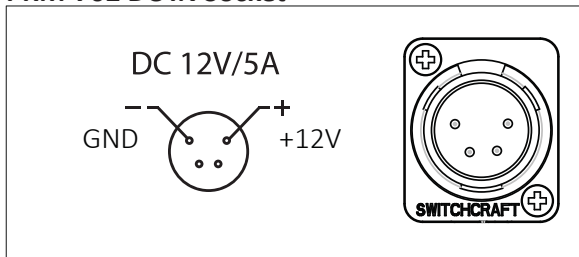
**E : SERIAL REMOTE IN/OUT connector (RJ-45)**

Used for the future function expansion.  
the external UMD(IMD) equipment and controls the monitor.

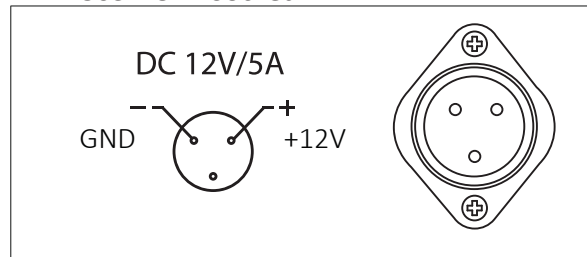
**F : DC IN terminal**

Connects the DC power supply to the monitor.  
DC 12V(5A)

**PRM-702 DC IN Socket**



**PRM-503 DC IN Socket**



**G : [USB] Connector (The PRM-702 is on the front.)**

- To update CPU, GPU, FPGA program.
- To connect the monitor with the Color Calibration program provided by the manufacturer and perform the color calibration.

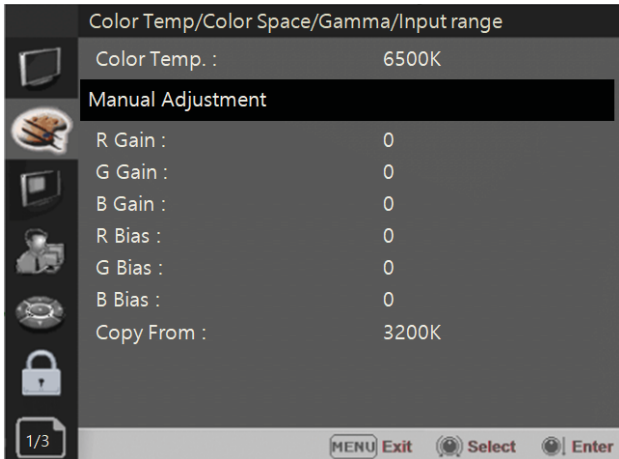
## 4. Using the Menu

This monitor is equipped with an OSD menu to make various adjustments and settings such as picture control, input setting, set setting change, etc.

### 1. Press the MENU button.

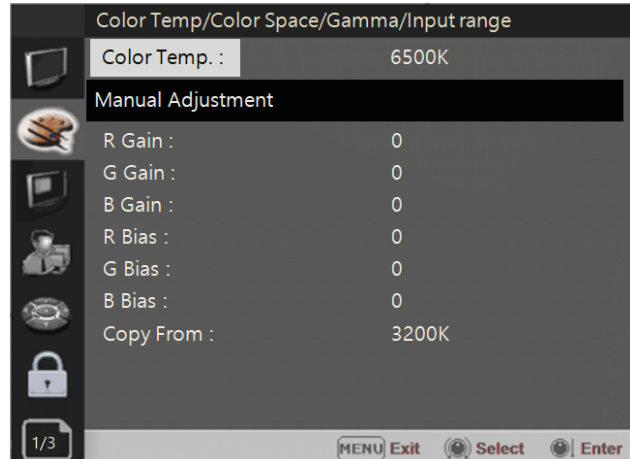
The menu appears.

The menu presently selected is shown in gray.



### 2. Turn SELECT/VOLUME knob to select a menu, then press the knob.

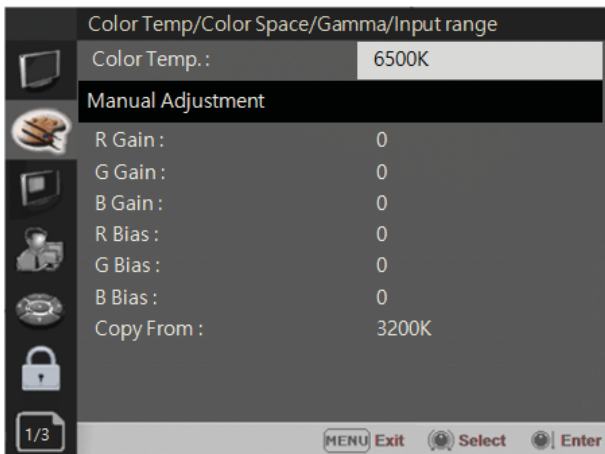
The menu icon presently selected is shown highlighted.



### 3. Select an item.

Turn SELECT/VOLUME knob to select the item, then press the knob.

The item to be changed is shown highlighted, and the sub menu is displayed on the right.



### 4. Make the setting or adjustment on an item.

#### **How to change the adjustment level:**

To increase the level, turn the SELECT/VOLUME knob right.

To decrease the level, turn the SELECT/VOLUME knob left.

#### **How to change the setting:**

Turn the SELECT/VOLUME knob to change the setting, then press the knob to confirm the setting.

**\*\*Note** - The item displayed in gray cannot be accessed. The item is accessible if it is displayed in white.

#### **To return the display to the previous screen:**

Press the MENU button.

#### **To clear the menu:**

Press the MENU button.

## 5. Adjustment Using the Menus

The OSD menu of this monitor consists of the following items.



### Status menu (To indicate the current settings)

- Format
- Color Temp
- Brightness
- Contrast
- Chroma
- Aperture
- Color Space
- Gamma
  
- User Preset
- RGB/YCC Range
- WFM/Vector
- Audio Level Meter
- Time Code
- Volume
  
- SDI Input
- SDI Payload ID
- Identifier
- Sampling
- Picture Rate
- Scanning Method
- Bit Depth
- Transfer Cha
- Colorimetry
  
- Model Name
- Serial Number
- Board Version
- Operation Time
- Calibration Time
- Board Temp



### Color Temp./Color Space/Gamma menu

- Color Temp
- Manual Adjustment
  - R Gain
  - G Gain
  - B Gain
  - R Bias
  - G Bias
  - B Bias
  - Copy From
- Color Space
- HDR-EOTF
  - Type
- Gamma
- Backlight
- RGB/YCC Range
- HDR Auto Setting



### Camera Assist menu

- Zebra & False Color Setting
  - Zebra & False Color
    - Zebra Level Adj.
    - Zebra Range
    - Variable White Clipping
    - Variable Pink Level
    - Variable Green Level
    - Variable Black Clipping
  - False Color Comparison
    - Wipe Position
- Focus Assist Setting
  - Focus Assist
    - Color
    - Frequency



### User Configuration menu

#### User Preset Setting

- | Load
- | Save

#### Function Button Setting

- | F1 Button
- | F2 Button
- | F3 Button
- | F4 Button

#### Scaling Setting

- | Scan
- | Aspect

#### Input Setting

- | 3G Signal Format

#### Speaker Out / Audio Level Meter Setting

- | SDI L-Speaker Out
- | SDI R-Speaker Out
- | HDMI L/R Speaker Out
- | Audio Level Meter
  - | Display
  - | Reference
  - | Size/Transparency
  - | Peak Hold Time

#### Marker Setting 1/2

- | Marker
  - | Aspect Marker
    - | Variable Aspect
  - | Center Marker
  - | Area Marker Color
  - | Aspect Mat
  - | Fit
  - | Thickness

#### Marker Setting 2/2

- | Custom H1
- | Custom H2
- | Custom V1
- | Custom V2

#### WFM/Vector Setting

- | WFM/Vector
  - | Type
  - | Intensity
  - | Transparency
  - | Color
  - | Position

#### System Setting

- | Internal Signal
- | OSD Time
- | OSD position
- | Time Code



**Remote menu**

Parallel Remote

- 1 Pin
- 2 Pin
- 3 Pin
- 4 Pin
- 5 Pin
- 6 Pin
- 7 Pin
- 8 Pin

Monitor ID

In-Monitor Display Setting

- IMD Type
- User Text
- Transparency
- Text Color
- L-Tally Color
- R-Tally Color



**Security Setting**

Key Lock

Password

- User Parameter Lock
- Change Password

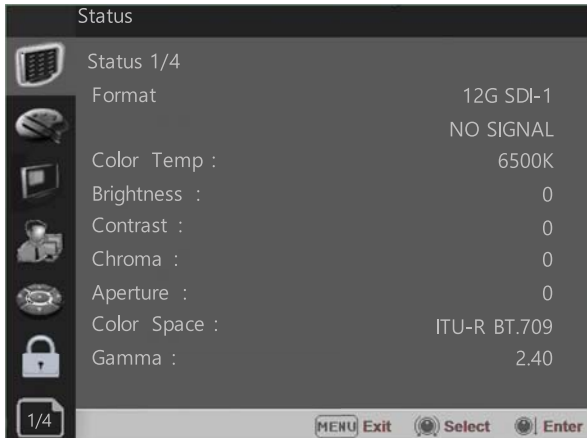
## 6. OSD Menu Operations



### Status Menu

The Status menu displays the current status of the monitor. The following items are displayed.

#### Page 1/4



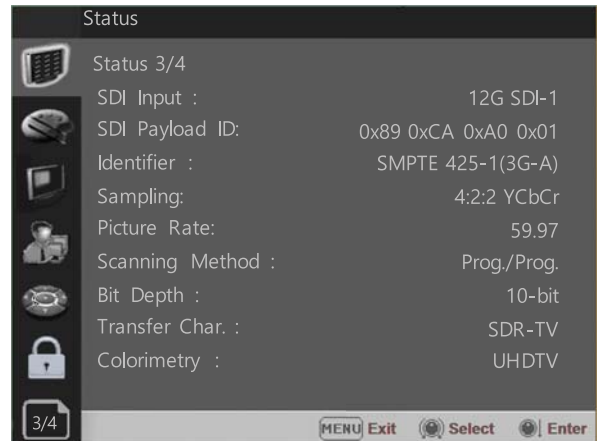
- Format
- Color Temp
- Brightness
- Contrast
- Chroma
- Aperture
- Color Space
- Gamma

#### Page 2/4



- User Preset
- RGB Range
- Back Light
- WFM/Vector
- Audio Level Meter
- Time Code
- Volume

#### Page 3/4



- SDI Input
- SDI Payload ID
- Identifier
- Sampling
- Picture Rate
- Scanning Method
- Bit Depth
- Transfer characteristics
- Colorimetry

\*\*\* When the SDI signal is connected, these items are displayed.

#### Page 4/4



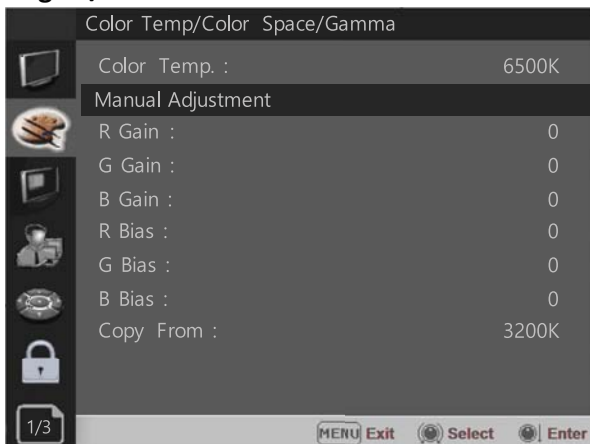
- Model Name
- Serial Number
- Board Version
- Operation Time
- Last Calibration Time
- Board Temp.



### Color Temp/Color Space/Gamma Menu

These menus are used for adjusting or setting the color temperature, color space or gamma of the picture.

#### Page 1/3



#### Color Temp.

- Selects the color temperature from among [3200K], [5500K], [6500K], [9300K], [User1], [User2], [User3], [DCI-P3].

**\*\*Note - If Color Space is set to [DCI-P3], Color Temp. is fixed to [DCI-P3].**

#### R/G/B Gain

- Displays the R/G/B Gain of the current Color Temperature.

#### Manual Adjustment

- If you set the Color Temp. to User 1/2/3, the item is changed from black to white, which enables you to adjust the color temperature.

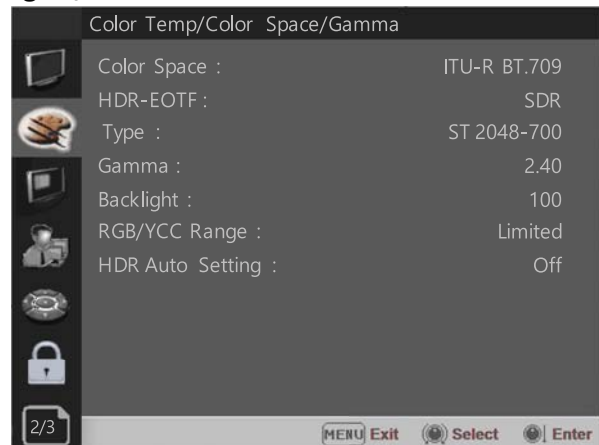
#### R/G/B Gain/Bias

- Adjusts the color balance(Gain, Bias).

#### Copy From

- The Gain and Bias data of each Color Temp. are restored to User adjustment.

#### Page 2/3



#### Color Space

Selects the color space from among [ITU-R BT.709], [SMPTE-C],[EBU], [DCI-P3], [ITU-R BT.2020], [Native],[ACES Proxy].

#### HDR-EOTF

Selects the color space from among [SDR],[HDR], [ITU-R BT.1886].

#### Type

Selects 4 modes of HDR gamma.

- ST-2084 700 \* \* : This mode displays the absolute brightness up to 800cd/m<sup>2</sup>. So, the highlights over 800cd/m<sup>2</sup> are clipped.
- ST-2084 1000 : This mode displays the relative brightness up to 1000cd/m<sup>2</sup>. The part exceeding 1000cd/m<sup>2</sup> is clipped.
- ST-2084 10000 : The characteristics of LCD panel doesn't allow to produce the ideal brightness required by this standard, so the gamma is displayed in the relative brightness
- HLG-1.15(700) \* \* (Hybrid Log Gamma) : This mode can be selected when the White is 300 cd/m<sup>2</sup> in HLG..
- HLG-1.0 / 1.1 / 1.2 / 1.3 / 1.4 / 1.5 : These modes allow the user to apply HLG from 1.0 up to 1.5.
- HLG -SG(1.2): HLG gamma is applied to 1.2 and then displayed in the absolute value up to 300cd/m<sup>2</sup>.
- S-Log3: Select the S-Log3(HDR) gamma.
- ST-2084 4000 : This mode displays the relative brightness up to 4000cd/m<sup>2</sup>. The part exceeding 4000cd/m<sup>2</sup> is clipped.

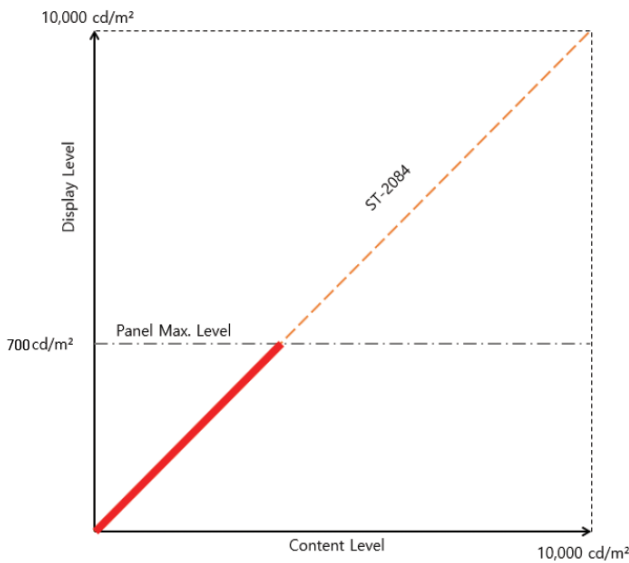


**Color Temp/Color Space/Gamma Menu**

- ToneMappingPQ-1,000/4,000/10,000:  
Tone mapping mode can be set to 1,000, 4,000, or 10,000.

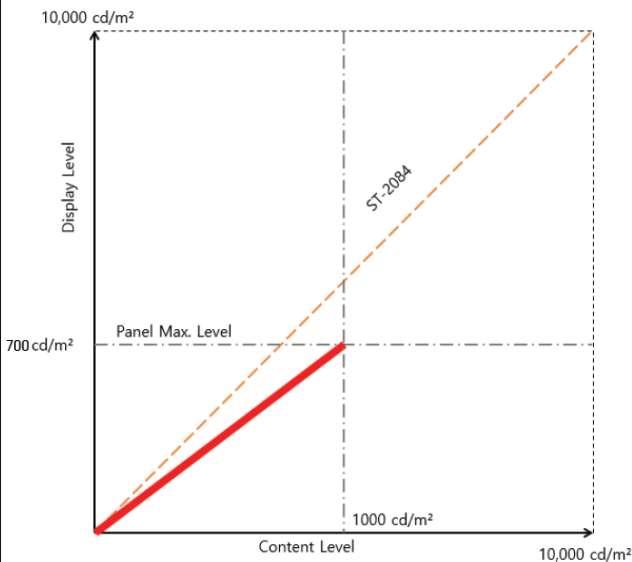
**ST-2084 700 \* \***

As shown in the graph below, only the expression according to the maximum panel brightness level of the model is clipped.



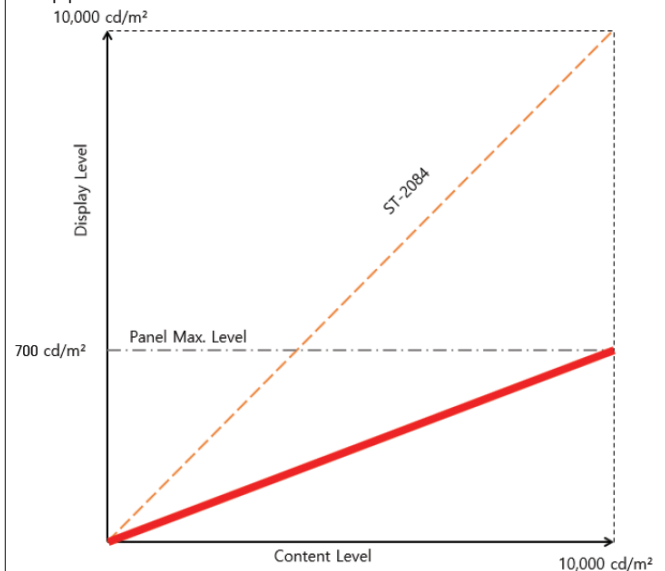
**ST-2084 1,000**

As you can see in the graph below, the data level is expressed only up to 1000 cd/m² within the panel maximum of 700 cd/m² of the model and then clipped.



**ST-2084 10,000**

As you can see in the graph below, the data level is expressed only up to 1000 cd/m² within the panel maximum of 700 cd/m² of the model and then clipped.



1) OSD Menu of this mode is different, depending on each model's HDR maximum luminance.

HDR maximum luminance

PRM-503 : 700 cd/m²

PRM-702 : 700 cd/m²

2) PQ and HLG gamma is different, depending on each model's luminance.

PRM-503 : ST 2084-700- HLG-1.13(700)

PRM-702 : ST 2084-700- HLG-1.13(700)

**\*Gamma**

Selects the appropriate gamma mode from 1.00 to 3.00.

\*\* Note- When the HDR-EOTF is set [SDR], this menu becomes activated.- When the color space is set to [Native], this menu becomes deactivated.

When the color space is set to Native, this menu becomes deactivated.





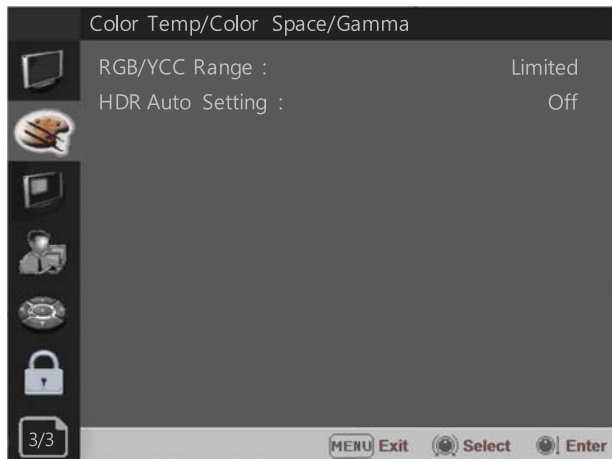
**Color Temp/Color Space/Gamma Menu**

**\*Back Light**

Adjusts the level of the back light level.  
If the back light value is increased, the screen becomes brighter.

\*\* If the setting in Color Temp. menu and Color Space menu is changed, the value of Back Light returns to the default value of the color calibration in the factory.

**Page 3/3**



**\*RGB/YCC Range**

- Selects Black Level and White Level of RGB/YCC format.

SDI : -Limited : 64(10bit)/256(12bit)~  
1023(10bit)/4095(12bit)  
-Full : 4/16(Black Level) ~  
1023(10bit)/4095(12bit)

HDMI : - Limited : 64(10bit)/256(12bit)~  
1023(10bit)/4095(12bit)  
-Full : 0(Black Level) ~  
1023(10bit)/4095(12bit)

**\*HDR Auto Setting**

This function allows the monitor to read the Transfer Characteristics and Colorimetry information of Payload identifiers of the ST 2082-10 12G SDI signal and adjust HDR automatically.

-Transfer Characteristics : SDR, ST2084-1000, HLG1.2  
-Colorimetry : Rec709, Rec 2020



**Camera Assist Menu**

**Page 1/2**



**Zebra & False Color**

- Evaluates the Luma(Y') level of the input image. If the certain Y' level is set, the pixels with the designated Luma(Y') level are displayed in zebra pattern.

**Zebra**

Pixels with Y' level over 100% turn to red zebra pattern, and pixels with Y' level under 0% turn to green zebra pattern.

**Zebra Level Adjustment**

- Adjusts the Y' level as the user wants.

**Zebra Range**

- Adjusts the Y' level as the user wants.

**False Color ARRI**

The color pattern is displayed with ARRI camera standard.

Color	Level	Description
red	99~100%	White clipping
yellow	97~99%	Just below white clipping/white shoulder
pink	52~56%	One stop over medium gray (Caucasian skin)
green	38~42%	18% neutral gray
blue	2.5~4.0%	Just above black clipping/black slope
purple	0~2.5%	Black clipping

**False Color Variable**

This mode allows the user to adjust White clipping, Pink level, Green level, Black Clipping.

**Variable White Clipping**

- Adjusts White Clipping from 0 to 1023.

**Variable Pink Level**

- Adjusts Pink level from 0 to 1023.

**Variable Green Level**

- Adjusts Green level from 0 to 1023.

**Variable Black Clipping**

- Adjusts Black Clipping from 0 to 1023.



## Camera Assist Menu

### False Color Comparison

Allows the user to divide the picture side by side, and compare the original image on the left half and the False Color image on the right half.

### Wipe Posion

Adjusts the boundary line of the left and right area. Allowed to adjust the boundary line by using the [SELECT/VOLUME] knob.

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### Focus Assist

- Controls the aperture level of a video signal and displays images on screen with sharpened edges to help camera focus operation.

Available types are [Color On] and [Mono On].

- [Color On]: The background image is the original color type.
- [Mono On]: The background image is the mono type.

### Color

- Selects a color for Focus Assist among [RED], [Green], [Blue], [White], [Yellow], [Cyan].

### Frequency

- Adjusts the edge difference level between the edges in an image.
- Available values are from 0% to 100%.

### Black Stretch

This mode can be used to increase shadow detail without changing the absolute black level, and without affecting mid-tones. The Black Stretch increases the visibility of subjects in dark areas, not degrading image quality in bright areas.

### Max

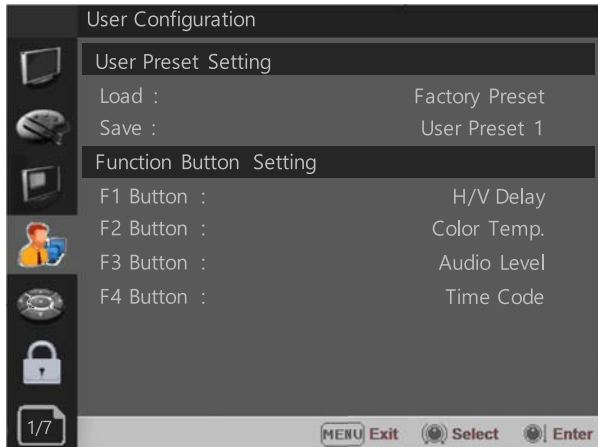
Adjusts the maximum range to apply the Black Stretch. The range is adjustable from 0 to 1023.



### User Configuration Menu

User Configuration consists of the adjustment menus such as [User Preset Setting], [Function Button Setting], [Input Setting], [Output Setting], [Speaker Out / Audio Level Meter Setting], [Marker Setting], [WFM/Vector Setting], [Closed Caption Setting], [System Setting].

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#### User Preset Setting

[Load] : Load the saved settings in [User Preset1], [User Preset2], [User Preset3], [User Preset4], [User Preset5] and [Factory Preset].

[Save] : Save the current setting status to [User Preset1], [User Preset2], [User Preset3], [User Preset4], or [User Preset5].

\*\* When [User Preset Lock] of [Password] is set [On], [User Preset 1] setting values are protected by password. If you want to save the changed setting values to [User Preset 1], you can enter the password first to set [User Preset Lock] to [Off] and then save the values.

#### Function Button Setting

- Assigns the function for F1 to F4 buttons on the front panel.

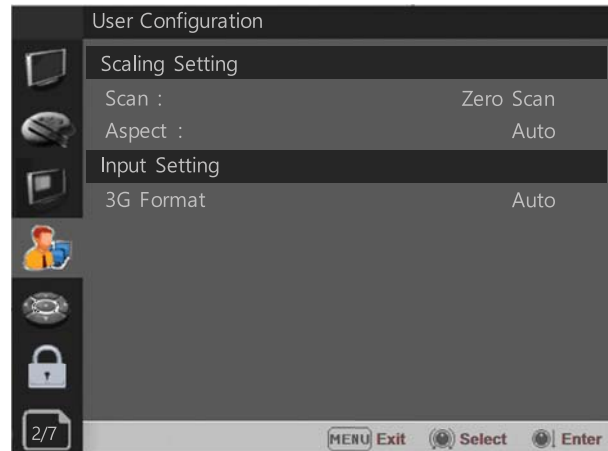
The following functions can be assigned. :

\*[H/V Delay],[Color Temp.],[Audio Level], [Time Code], [WFM/Vector], [HDR-EOTF], [Aspect], [User Preset 1], [User Preset 2], [User Preset 3], [User Preset 4], [User Preset 5].

- The following functions are assigned in the factory.

- [F1 Button] : H/V Delay
- [F2 Button] : Color Temp.
- [F3 Button] : Audio Level
- [F4 Button] : Time Code

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#### Scaling Setting

[Scan] : Adjusts the Scan mode.

Adjusted in the order of Zero Scan > 1:1 Scan.

[Aspect] : Adjusts the Aspect Ratio of the video.

Adjustment order : Auto > 16:9 > 4:3 > 2.35:1 > 1.85:1 > 15:9 > 16:10.

#### Input Setting

[3G Format]

- Selects the format of 3G/6G/12G SDI input signal.

[Auto],[A-444 YUV 10b],[A-444 GBR 10b], [A-444 YUV 12b],[A-444 GBR 12b], [A-422 YUV 12b], [B-444 YUV 10/12b],[B-444 GBR 10/12b], [B-422 YUV 12b],[B-422 YUV 10b/60p]



## User Configuration Menu

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User Configuration	
Speaker /ALM Setting	
SDI L-Speaker Out :	CH 1
SDI R-Speaker Out :	CH 2
HDMI L/R Speaker Out :	Off
Audio Level Meter :	8Ch[G1+G2]
Display :	Pair
Reference :	-18dB
Size/Transparency :	Normal/Full
Peak Hold Time :	0

**Speaker / ALM Setting**

- Selects the audio channel of the SDI & HDMI input signal.

**SDI : Left Speaker Out / Right Speaker Out**

- Selects the embedded audio channel for the left and right audio out of the Headphone jack on the front panel of the monitor.

Audio channel can be selected among Ch1 ~ Ch16, Analog.

**HDMI : L/R Speaker Out**

- Selects the embedded audio channel of the HDMI signal. The available modes are [Off], [HDMI On], [Analog On].

**Audio Level Meter Setting**

Selects the embedded audio mode.

: [Off], [8Ch [G1+G2]], [8Ch [G2+G3]], [8Ch [G3+G4]], [8Ch [G1+G3]], [8Ch [G1+G4]], [8Ch [G2+G4]], [16Ch [G1~G4]]

\*\* In HDMI input, either [Off] or [HDMI 2Ch] can be selected.

**Display**

Selects the display method for Audio Level Meter.

Available modes are [Group] and [Pair].

\*\* In HDMI input, the mode is fixed to [Pair].

**Reference**

Selects the default value of Audio Level Meter.

Available options are [-18dB] and [-20dB].

**Size/Transparency**

Selects the size and transparency of Audio Level Meter.

Available options are [Normal/Full], [Normal/Half], [Large/Full], [Large/Half].

**Peak Hold Time**

Controls the speed rate of Peak Hold Decay Time occurring when the audio volume decreases.

## User Configuration Menu

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User Configuration	
Marker Setting 1/2	
Marker :	Off
Aspect Marker :	Off
Variable Aspect :	1.00 : 1
Center Marker :	Off
Area Marker :	Off
Color :	White
Aspect Mat :	0
Fit :	Off
Thickness :	1

**Marker Setting****Marker**

- Selects On to display the marker, and Off to deactivate it.

**Aspect Marker**

Selects the aspect ratio of the marker.

You can select from among [Off], [16:9], [4:3], [4:3 ON AIR], [15:9], [14:9], [13:9], [1.85:1], [2.35:1], [2.39:1], [1.85:1 & 4:3], [1.66:1], [1.896:1], [Variable], [Custom].

**\*Variable Aspect**

Allows the user to select the aspect ratio from the range between 1.00:1 and 3.00:1.

**Center Marker**

Selects On to display the center marker and Off not to display it.

**Area Marker**

Selects the size of the area marker.

You can select from among [Off], [80%], [85%], [88%], [90%], [93%], [100%], [EBU Action 16:9], [EBU Graphic 16:9], [EBU Action 14:9], [EBU Graphic 14:9], [EBU Action 4:3], [EBU Graphic 4:3].

**Color**

Selects the color of the marker.

You can select from among [White], [Gray], [Red], [Green], [Blue], [Yellow], [Cyan], [Magenta].

**Aspect Mat**

Darkens the outside of the area of the Aspect Marker. You can select from 0 to 7.

**Fit**

With Fit On, the Area Marker is displayed relative to the Aspect Marker in use.

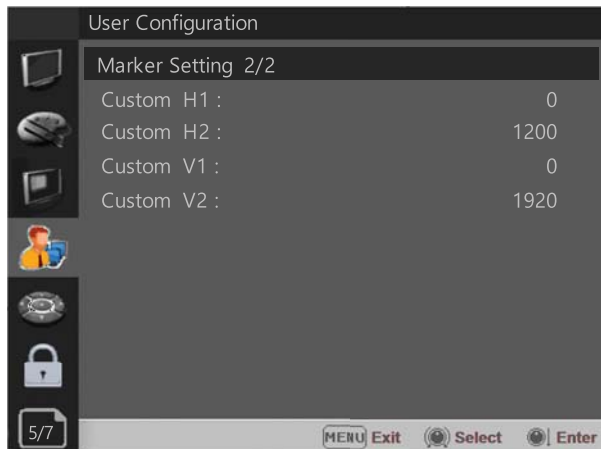
With Fit Off, the Area Marker is displayed relative to the incoming video source.

**Thickness**

Adjusts the thickness of the marker lines. You can select it from 1 to 7.



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**Marker Setting 2/2**

This function is activated when the “Aspect Marker” is set [Custom].

Menu > User Configuration 4/8 > Marker > Aspect Marker > Custom

**Custom H1**

- Adjust the first line of the screen height (Panel Height).
- It must be selected as [Custom] in the [Aspect Marker] item to be displayed.

**Custom H2**

- Adjust the second line of the screen height (Panel Height).
- It must be selected as [Custom] in the [Aspect Marker] item to be displayed.

**Custom V1**

- Adjust the first line of the screen width (Panel Width).
- It must be selected as [Custom] in the [Aspect Marker] item to be displayed.

**Custom V2**

- Adjust the second line of the screen width (Panel Width).
- It must be selected as [Custom] in the [Aspect Marker] item to be displayed.

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**WFM/Vector Setting****WFM/Vector**

- Select [On] to display the [WFM/Vector] and [Off] not to display.

**Type**

- You can select from among [WFM], [VectorScope], [WFM+Vector]
- \*This function doesn't work when RGB format signal is input.

**Intensity**

Adjusts the brightness of Waveform and Vectorscope display.  
You can select from 1 to 4.

**Transparency**

Adjusts the transparency level of Waveform and Vectorscope.

[Black]: The background is black. Displayed image is hidden behind the background.

[Half]: The background is transparent. Displayed image can be seen indistinctly behind the Waveform and Vectorscope display.

**Color**

Selects the color of Waveform monitor.  
Available colors are [Green] and [White].

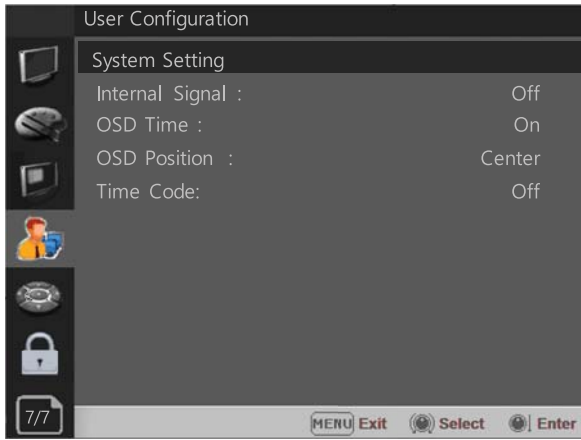
**Position**

Sets the display position of the [WFM/Vector].  
Select [Bottom Right], [Bottom Left],[Top Left], or [Top Right].



**User Configuration Menu**

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**System Setting**

**Internal Signal**

Generates the White Pattern internally. The selectable range is from 100%(White) to 0%(Black), ColorBar.

**OSD Time**

- Adjusts the display time of the OSD menu.
- [10 Sec.]: The OSD menu will be disappeared after 10 seconds.
- [20 Sec.]: The OSD menu will be disappeared about 20 seconds.
- [30 Sec.]: The OSD menu will be disappeared about 30 seconds.
- [On]: The OSD menu will not be disappeared.

**OSD Position**

Sets the position of OSD. Selects [Left] or [Left Top], [Center], [Top Left].

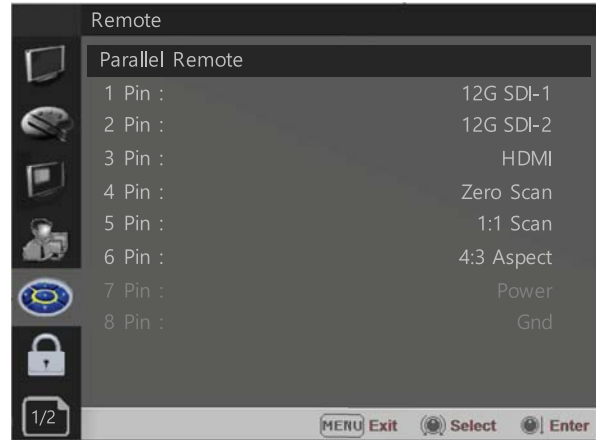
**Time Code**

- Selects the type of the time code to be displayed.
- [VITC]: To display the VITC time code
- [LTC]: To display the LTC time code



**Remote Menu**

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**Parallel Remote**

Selects the Parallel Remote connector pins for which you want to change the function. Various functions can be assigned to pin 1 to 6. The following is the lists of the functions which can be assigned to the pins.

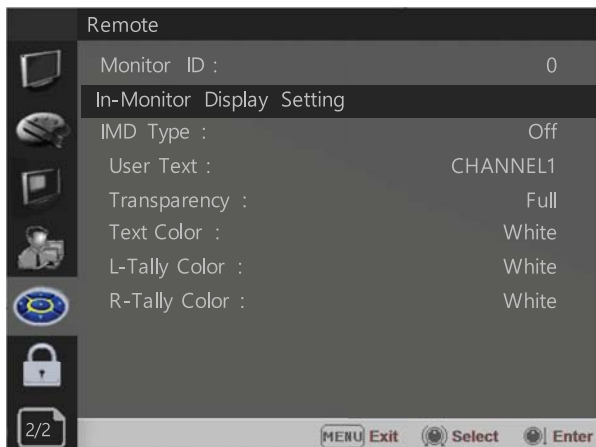
- [--]
- [12G SDI-1]
- [12G SDI-2]
- [SFP-IP]
- [D-Link 2-S.I.]
- [HDMI]
- [Zero Scan]
- [1:1 Scan]
- [4:3 Aspect]
- [16:9 Aspect]
- [Auto Aspect]
- [H/V Delay]
- [Blue Only]
- [Blue Only Mono]
- [Marker]
- [Tally R]
- [Tally G]
- [User Preset 1]
- [User Preset 2]
- [User Preset 3]
- [User Preset 4]
- [User Preset 5]

- \*\* [--]: No function is assigned
- \*7 Pin: For Power On and Off only
- \*8 Pin: For Ground only



## Remote Menu

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#### Monitor ID

Sets the ID of the monitor to control the monitor through Serial Remote.

#### In-Monitor Display Setting

The monitor supports “TSL UMD Protocol – V3.1 provided by Television System Ltd.

[Transparency], [Text Color], [Left Tally Color], [Right Tally Color] can be set in the setting menu.

\*\* The monitor displays English alphabet, numbers, Symbolic codes.

\*\* Up to 16 characters can be displayed in English.

#### IMD Type

- Selects the In-Monitor Display type.

Available modes are [Off],[TSL V3.1],[User].

#### User Text

- When [IMD Type] is selected as [User], the user can assign the IMD up to 8 characters of ASCII code.

#### Transparency

- Selects [Full] or [Half] for the background of IMD.

-[Full]: The background is black. Displayed image is hidden behind the background.

-[Half]: The background is transparent. Displayed image can be seen indistinctly behind the IMD display.

#### Text Color

- Selects the color of text displayed in IMD.

- The user can select from among [White], [Gray], [Red], [Green], [Blue], [Yellow], [Cyan], [Magenta].

#### L-Tally Color

- Selects the color of left tally lamp displayed in IMD.  
- The user can select from among [White], [Gray], [Red], [Green], [Blue], [Yellow], [Cyan], [Magenta].

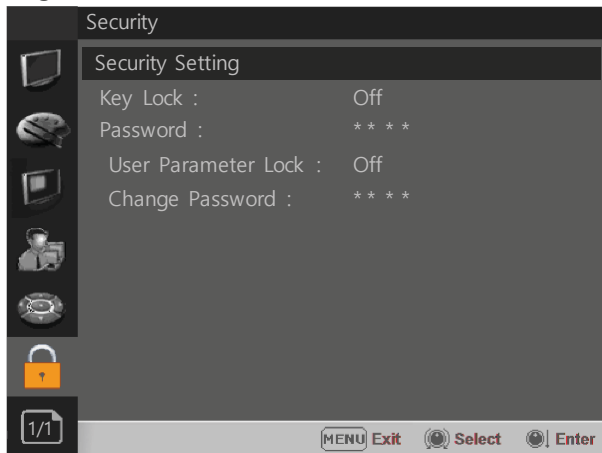
#### R-Tally Color

- Selects the color of right tally lamp displayed in IMD.  
- The user can select from among [White], [Gray], [Red], [Green], [Blue], [Yellow], [Cyan], [Magenta].



**Security Menu**

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**Security Setting**

**Key Lock**

When Key Lock function is set On, the change of the menu settings and functions doesn't work.

\*\* The same function as [Key Lock] button on the front panel.

**Password**

-This function allows the user to protect the setting values through password.

-When the Password lock is applied, the functions and the setting values can be changed, but they are not saved.

-When you protect the setting values with a password, set a four-digit number.

-The initial password is 0000.

-When you use [Password], change the initial password first.

**User Parameter Lock**

Selects [On] to protect the setting values.

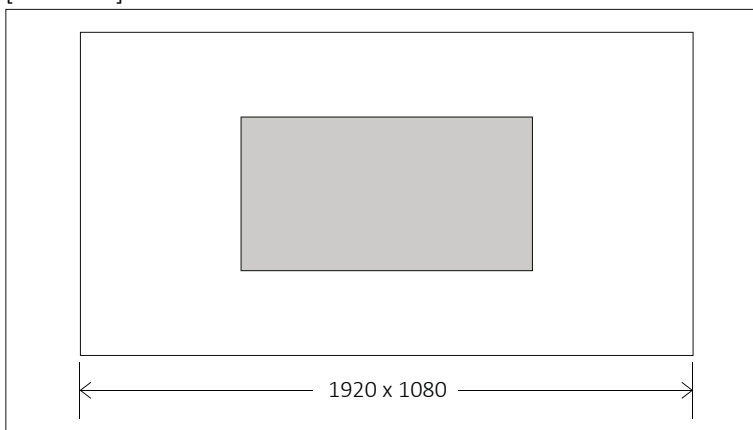
Selects [Off] to not protect by the password.

**Change Password**

Changes the password.

## 7. Scan Mode Image

[1:1 Scan]



When selecting 1:1 Scan mode with the [Scan] button in 1280x720 mode, a 1:1 mapped image is output in the center of the screen as shown above.



## 8. Available Signal Formats

This monitor is applicable to the following signal formats

### Single HD-SDI

Signal System	Signal Format
1920 x 1080 / 23.98, 24, 25, 29.97, 30p/Psf, 50, 59.94, 60i	4:2:2 YCbCr 10bit
2048 x 1080 / 23.98, 24, 25, 29.97, 30p/Psf	4:2:2 YCbCr 10bit
1280 x 720 / 23.98, 24, 25, 29.97, 30, 50, 59.94, 60p	4:2:2 YCbCr 10bit

### Single 3G-SDI

Signal System	Signal Format	
1920 x 1080 / 47.95, 48, 50, 59.94, 60p	4:2:2 YCbCr 10bit	Level A / Level B-DL
1920 x 1080 / 23.98, 24, 25, 29.97, 30p/Psf, 50, 59.94, 60i	4:4:4 RGB 10bit 4:4:4 YCbCr 10bit 4:4:4 RGB 12bit 4:4:4 YCbCr 12bit	Level A / Level B-DL
2048 x 1080 / 47.95, 48, 50, 60p	4:2:2 YCbCr 10bit	Level A / Level B-DL
2048 x 1080 / 23.98, 24, 25, 29.97, 30p/Psf	4:4:4 RGB 10bit 4:4:4 YCbCr 10bit 4:4:4 RGB 12bit 4:4:4 YCbCr 12bit	Level A / Level B-DL
1280 x 720 / 23.98, 24, 25, 29.97, 30, 50, 59.94, 60p	4:4:4 RGB 10bit 4:4:4 YCbCr 10bit	Level A

### Single 6G-SDI

Signal System	Signal Format
3840 x 2160 / 23.98, 24, 25, 29.97, 30p	4:2:2 YCbCr 10bit
4096 x 2160 / 23.98, 24, 25, 29.97, 30p	4:2:2 YCbCr 10bit

### Single 12G-SDI

Signal System	Signal Format
3840 x 2160 / 23.98, 24, 25, 29.97, 30, 47.95, 48, 50, 59.94, 60p	4:2:2 YCbCr 10bit
4096 x 2160 / 23.98, 24, 25, 29.97, 30, 47.95, 48, 50, 59.94, 60p	4:2:2 YCbCr 10bit

**HDMI**

Signal System	Signal Format
720 x 480p@59.94 / 60	4:4:4 RGB 8 / 10 / 12bit 4:4:4 YCbCr 8 / 10 / 12bit 4:2:2 YCbCr 12bit
720 x 576p@50	
1280 x 720p@50 / 59.94 / 60	
1920 x 1080i@50 / 59.94 / 60	
1920 x 1080p@23.98 / 24 / 25 / 29.97 / 30 / 50 / 59.94 / 60	
2048 x 1080p@23.98 / 24 / 25 / 29.97 / 30 / 47.95 / 48 / 50 / 59.94 / 60	
3840 x 2160p@23.98 / 24 / 25 / 29.97 / 30 / 50* / 59.94* / 60*	4:4:4 RGB 8bit 4:4:4 YCbCr 8bit 4:2:2 YCbCr 12bit *Supports 4:4:4 RGB 8bit only
4096 x 2160p@23.98 / 24 / 25 / 29.97 / 30 / 50* / 59.94* / 60*	

## 9. Product Specifications

### PRM-702

Spec		PRM-702
Screen number / Rack Size(19")		Dual / 3RU
Display	Size	7"
	Resolution	1920 x 1200
	Active Area (W x H)	151.2mm (W) X94.5(H)mm
	Pixel Pitch	0.078mm x 0.078mm
	Color	16.7M
	Viewing Angle	160(H), 160(V)
	Luminance of White	1000cd/m <sup>2</sup>
	Contrast	1200:1
Input	SDI	2 x 12G SDI
	HDMI®	1x HDMI® 2.0
Input Signal Format	SMPTE ST 2082-10(12G Single)	2160p(60/59.94/50/30/29.97/25/24/23.98)
	SMPTE ST 2081-10(6G Single)	2160p(30/29.97/25/24/23.98)
	SMPTE ST 425-AB	1080p(60/59.94/50/30/29.97/25/24/23.98/30sF/29.97sF/25sF/24sF/23.98sF)
		1080i (60/59.94/50)
	SMPTE ST 274	1080p(30/29.97/25/24/23.98/24sF/23.98sF)
		1080i (60/59.94/50)
	SMPTE ST 296	720p(60/59.94/50)
	SMPTE ST 260	1920 x 1035i(60/59.94)
	SMPTE ST 2048	2048 x 1080p(24/23.98/24sF/23.98sF)
	SMPTE ST 125	480i(59.94)
	ITU-R BT.656	576i(50)
HDMI®	HDMI® 2.0 2160p(60)	
Output	SDI	1 x 12G SDI(A,B Selecte)
Audio	Audio Out	1 x Phone Jack
	Speaker	2 x STEREO
Control	RS-422	o
	Remote (GPI Control)	o
	USB(Update, Calibration)	For Firmware Update, Color Calibration
General	Power Requirements	DC12V / 5A
	Power Consumption	52W
	Operating Temperature	0 ~ 40°C(32°F~104°F)
	Operating Humidity	20% ~ 80% RH
	Dimensions (with RMK)	476.5 x 132.3 x 58.5 mm / 18.88 x 5.2 x 2.30 inch
	Weight	2.5kg / 5.511lbs
	Accessories	DC Power Adapter / Power Cable

\* Specifications are subject to change without prior notice for the product quality improvement.

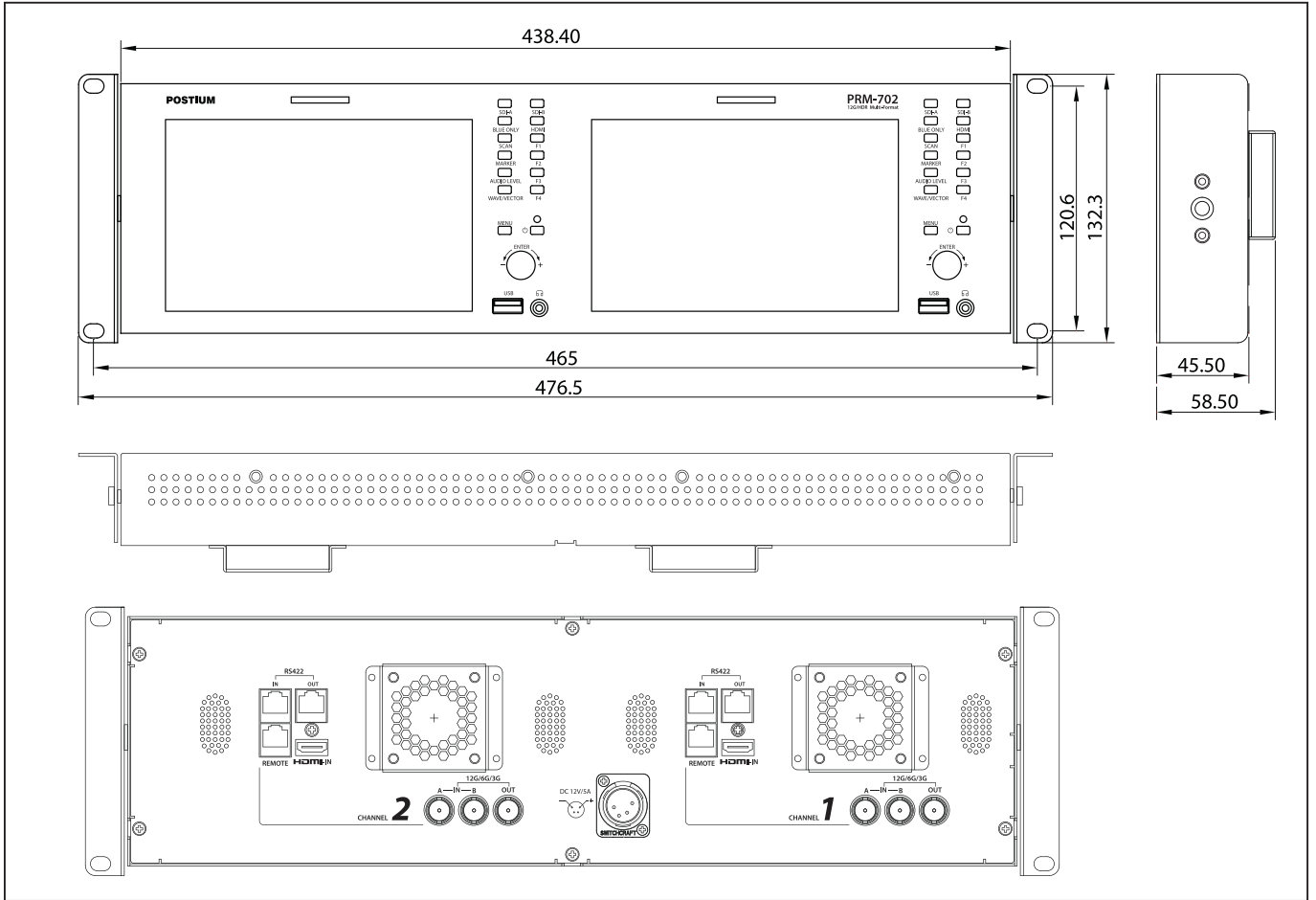
## PRM-503

Spec		PRM-503
Screen number / Rack Size(19")		Triple / 2RU
Display	Size	5"
	Resolution	1920 x 1080
	Active Area (W x H)	109.58mm (W) X61.64(H)mm
	Pixel Pitch	0.057mmX0.057mm
	Color	16.7M
	Viewing Angle	160(H), 160(V)
	Luminance of White	1000cd/m <sup>2</sup>
	Contrast	1000:1
Input	SDI	2 x 12G SDI
	HDMI®	1x HDMI® 2.0
Input Signal Format	SMPTE ST 2082-10(12G Single)	2160p(60/59.94/50/30/29.97/25/24/23.98)
	SMPTE ST 2081-10(6G Single)	2160p(30/29.97/25/24/23.98)
	SMPTE ST 425-AB	1080p(60/59.94/50/30/29.97/25/24/23.98/ 30sF/29.97sF/25sF/24sF/23.98sF)
		1080i (60/59.94/50)
	SMPTE ST 274	1080p(30/29.97/25/24/23.98/24sF/23.98sF)
		1080i (60/59.94/50)
	SMPTE ST 296	720p(60/59.94/50)
	SMPTE ST 260	1920 x 1035i(60/59.94)
	SMPTE ST 2048	2048 x 1080p(24/23.98/24sF/23.98sF)
	SMPTE ST 125	480i(59.94)
ITU-R BT.656	576i(50)	
HDMI®	HDMI® 2.0 2160p(60)	
Output	SDI	1 x 12G SDI(A,B Selecte)
Audio	Audio Out	1 x Phone Jack
	Speaker	x
Control	RS-422	o
	Remote (GPI Control)	o
	USB(Update, Calibration)	For Firmware Update, Color Calibration
General	Power Requirements	DC12V / 5A
	Power Consumption	53W
	Operating Temperature	0 ~ 40°C(32°F~104°F)
	Operating Humidity	20% ~ 80% RH
	Dimensions (with RMK)	476.5 x 76.2 x 63 mm / 18.88 x 3 x 2.48 inch
	Weight	2.3 Kg / 5.07 lb
	Accessories	DC Power Adapter / Power Cable

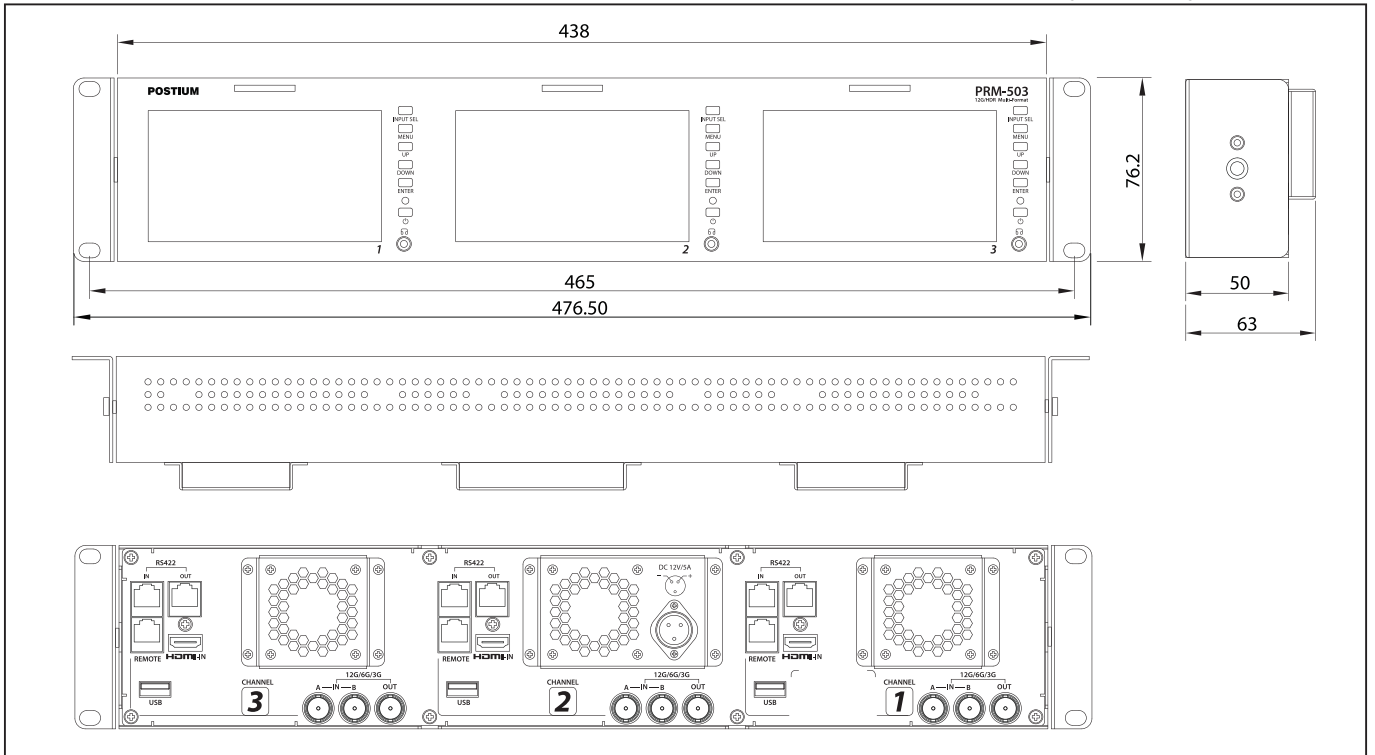
\* Specifications are subject to change without prior notice for the product quality improvement.

# 10. Product Dimensions

**PRM-702** Dimensions(With RMK) : 476.5 x 132.3 x 58.5 mm / 18.88 x 5.2 x 2.30 inch. Weight : 2.5kg / 5.511lbs



**PRM-503** Dimensions(With RMK) : 476.5 x 76.2 x 63 mm / 18.88 x 3 x 2.48 inch. Weight : 2.3 Kg / 5.07 lb





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