*v*MON-Series

12G/6G/3G/HD/SD-SDI, HDMI 4K/8K Video Monitors

- ***v*MON-170-4K** ***v*MON-170-8K**
- ***v*MON-240-4K**
- ***v*MON-270-4K** ***v*MON-270-8K**
- ***v*MON-320-4K** ***v*MON-320-8K**

User Guide

Part Number 821845, Revision A

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CHAPTER 1: Installation

Introduction

Overview

The *v*MON Series is a full-featured range of slim, free standing video monitors ideal for mobile trucks, news and transmission control rooms, 4K or 8K production/post-production and video surveillance applications. These monitors come standard with in-monitor level metering, selectable video vectorscope/histogram, safe area and aspect ratio markers, IMD labeling, tally, and built-in color bars, as well as a variety of picture controls and productive video features such as zoom controls and focus assist.

The *v*MON Series consists of 17”, 24” (4K only), 27”, or 32” 4K or 8K monitors which support a variety of 12G/6G/3G/HD/SD-SDI, HDMI, and SFP+ Cage source inputs. They support a large variety of professional broadcasting features such as Audio Metering, Quad View, Waveform, Histogram, and Vectorscope, making them brilliant monitors in 4K or 8K production workflows.

All standard frame rates and resolutions are supported from 12G-SDI, 6G-SDI, 3G-SDI, and HDMI input sources, and each SDI input has a looping output. Up to 16 audio channels may be selected for visual monitoring using on-screen bar graph style level meters. Monitoring speakers on the front panel allow the selected screen to be audibly monitored, while a 3.5mm headphone jack provides optional private monitoring.

Safety

Instructions

1. Read, keep, and follow all of these instructions; heed all warnings.
2. Do not use this equipment near water.
3. Use only a dry cloth to clean the equipment.
4. Do not block any ventilation openings.
5. Do not install near any heat source such as a radiator, heat register, amplifier, or stove.
6. Do not attempt to plug the unit into a two-blade outlet (with only two prongs of equal width).

Important:

By design, the supplied AC mains power cord will only plug into a three-prong grounded outlet for your safety. If the plug does not fit into the outlet, contact an electrician to replace the obsolete outlet.

7. Protect the power cord from being walked on or pinched, particularly at plug connection on the equipment and at the socket.

8. Use only the attachments/accessories specified by the manufacturer.
9. Unplug the equipment during lightning storms or when unused for long periods of time.
10. Refer all servicing to qualified service personnel. Servicing will be required under all of the following conditions:
    a. The equipment has been damaged in any way, such as when the power-supply cord or plug is damaged.
    b. Liquid had been spilled or objects have fallen onto the equipment.
    c. The equipment has been exposed to rain or moisture.
    d. The equipment does not operate normally.
    e. The equipment has been dropped.

Screen Maintenance

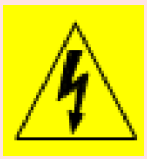
Please follow the guidelines below carefully to prevent discoloration, stains, and scratches on the screen:

- Avoid striking the screen with any object.
- Do not wipe the screen hard.
- Do not wipe the screen with solvents such as alcohol, thinner, or gasoline.
- Do not spray detergent or other cleaners on the monitor or LCD panel, as it may cause a fault because of water droplets entering the monitor.
- Do not write on the screen.
- Do not paste or stick any viscous markers on the screen.

The screen may be cleaned by gentle wiping with lint free cloth to remove dust. For the more thorough cleaning, use lint free cloth that has been very lightly dampened with detergent, and then dry any excess moisture from the monitor or LCD panel immediately to prevent damage.

Safety Symbols

WARNING:



The symbol to the left warns of electric shock hazard inside the unit. Disconnect the power cord before removing access panels when installing upgrades. Only qualified service personnel are to operate the equipment with covers removed, and are to exercise caution to avoid personal injury.

Mounting

The unit is designed for table top use or VESA wall mounting. Please adhere to the following clearances:

Table 1-1: Clearance Recommendations

Clearance	Surface
24″	Front
3″	Rear
2″	Sides

Heat Dissipation

The ambient temperature inside the mounting enclosure should not exceed 40° Celsius (104° Fahrenheit).

Important

Heat generated by the power supplies and other components is vented by fans in the back of the unit. Therefore, as a safety precaution, you must allow proper ventilation on this surface.

Sympathetic Vibration

Sympathetic vibration from other equipment (cables, etc.) in the rack may be serious enough to interfere with the unit's sound quality. If you experience sympathetic vibrations, use thin card stock, felt, foam, or weather-stripping between the vibrating surfaces. Tie loose cables securely with cable ties.

Electrical Interference

Be careful to avoid mismatched cable types and other similar causes of undesired reflections in digital signal systems. If severe enough, such reflections can result in corruption of the digital data stream. As with any audio equipment, maximum immunity from electrical interference requires the use of shielded cable. The internal circuitry ground is connected to the chassis.

Power

The unit connects to an AC mains power source (100 to 240 VAC, 65W, 50/60Hz) using an IEC power cord.

When the mains plug or appliance coupler is used as the disconnect device, the disconnect device should remain operable.

The unit may alternatively operate on a DC power source (12 VDC, 4A) using a 4-pin XLR connection.

Compliance

FCC

This equipment has been tested and found to comply with the limits for a 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 users will be required to correct the interference at their own expense.

ICES-003

This Class A digital apparatus complies with Canadian ICES-003.

Cet appareil numérique de la classe A est conforme à la norme NMB-003 du Canada.

CHAPTER 2: Local Operation

Operation

The *v*MON Series monitors can be operated easily and simply from controls on its front panel, as described in this chapter.

Front Panel

The front panel is shown in Figure 2-1. This panel image is representative of each of the monitors in the vMON series.

Figure 2–1: *v*MON Series Front Panel

1. **Power:** The **Power** indicator on the monitor will be red when it is connected to power but the **Power** button is turned off. Pressing the **Power** button will turn on the monitor and will light this indicator blue. Pressing the **Power** button for 2 seconds will turn off the monitor and return the indicator to red.
2. **LCD Screen**: The various models offer choices of 17.3”, 24”, 27”, or 31.5” LCD screens to monitor video.
3. **Left/Right Speakers**: Local near field audio monitoring is achieved through the

use of two (left/right) speakers. The speaker response may be adjusted with tone controls in the **Speaker Options** menu. Refer to the **Menu / Option Touchscreen** section of Chapter 2.

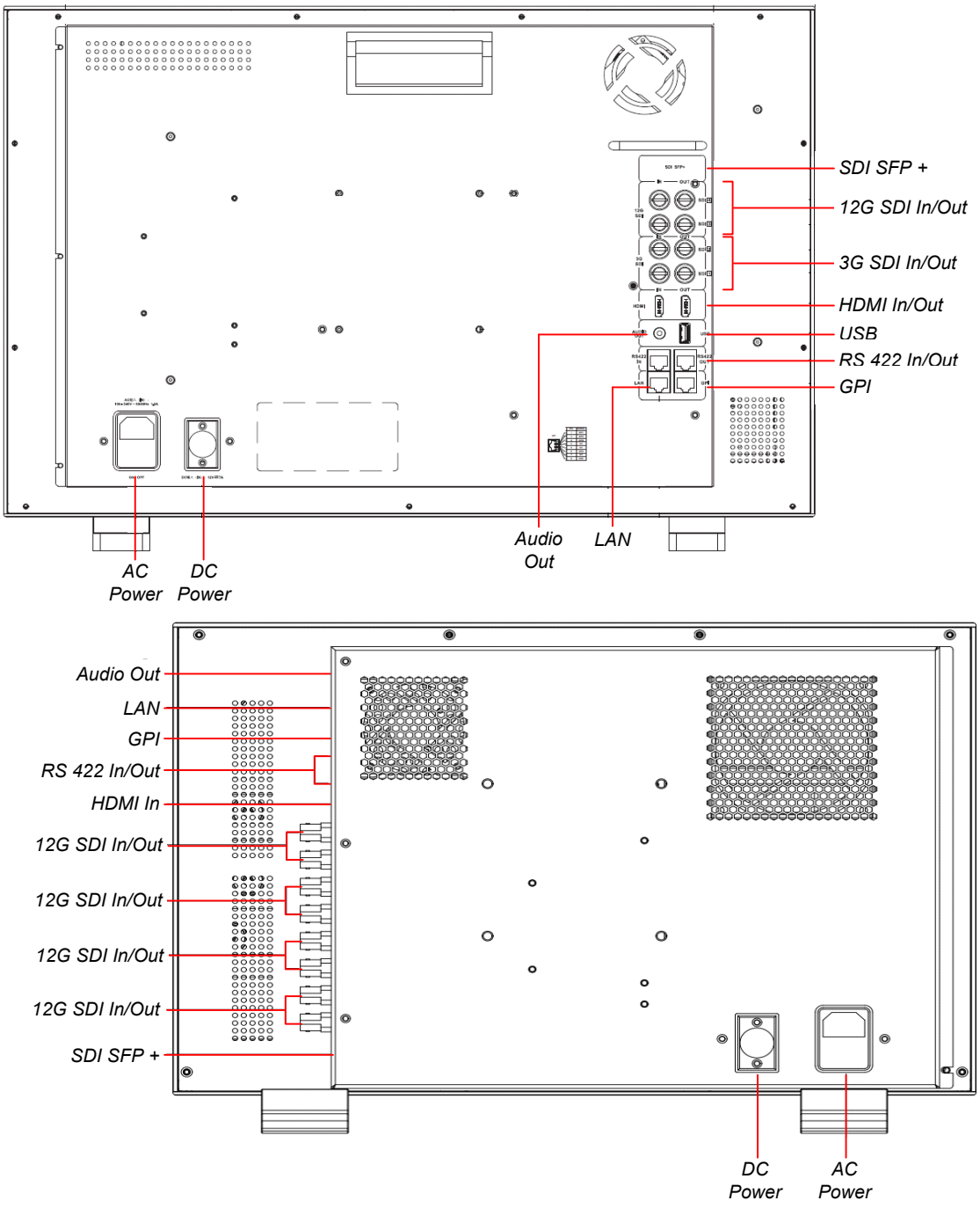
4. **Front Panel Controls**: These controls are described in Figure 2-5 and the following text.

5. **USB**: This USB 2.0 Type A connector allows you to use a flash drive (not supplied) to perform updates to the monitor FPGA, OSD, APP EDP software, or LUT file.

Rear Panel

A typical vMON Rear Panels are shown in Figure 2-2. The number and type of connections on each Rear Panel may vary according to the features of each model.

Figure 2-2: Typical *v*MON Series Rear Panels



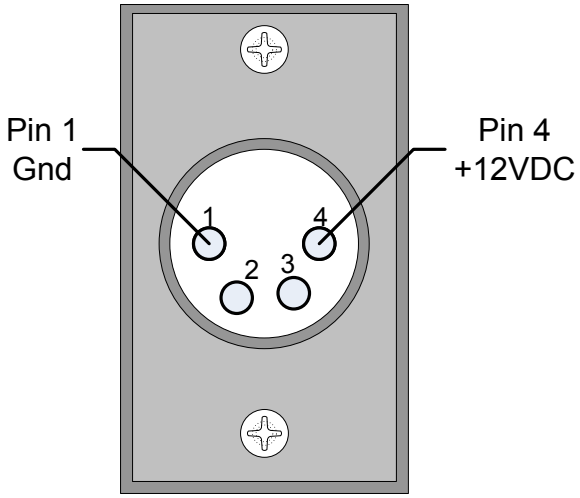
1. **AC Power**: The monitor receives power from the AC inlet, which is a standard IEC receptacle for 100 to 240 VAC ±10%, 50/60 Hz power connection, and includes a Power Switch. Normally the Power switch is kept in the "1" (On) position and the operation of the monitor is controlled from the front panel controls. Four regional AC power cords, supplied according to shipping region, are available.

Important:

By design, the supplied AC mains power cord will only plug into a three-prong grounded outlet for your safety. If the plug does not fit into the outlet, contact an electrician to replace the obsolete outlet.

2. **DC Power**: This is a 4-pin XLR-M jack. A 12V battery (not supplied) or a 12VDC power supply (not supplied) can be connected to this connector for operation when not connected to the AC mains. The pinout is shown in Figure 2-3. Observe the polarity shown. This connector may not be present in some models.

Figure 2-3: DC Power Connector Pinout



3. **Audio Out**: This is a 3.5mm stereo jack. It produces analog audio from the monitored video signal. It can be connected to an external audio amplifier or to headphones.

4. **12G SDI In/Out**: The IN connector receives a 12G/6G/3G/HD/SD-SDI signal to be monitored and the OUT connection outputs this signal. The number of 12G In/Out pairs will vary according to model. Refer to the Tables and Block Diagrams in Chapter 3 of this manual.

5. **3G SDI In/Out**: The IN connector receives a 3G/HD/SD-SDI signal to be monitored and the OUT connection outputs this signal. The number of 3G In/Out pairs will vary according to model. Refer to the Tables and Block Diagrams in Chapter 3 of this manual.

6. **HDMI In/Out**: An HDMI input and output is provided. They will support a 4096x2160 60Hz (4K/60p) maximum signal.

7. **RS-422 In/Out**: RS-422 In and Out connections are provided. This uses an adaptive TSL3.1 or TSL4.0 protocol. This protocol supports a dynamic UMD/Tally control. The RS-422 interface operates at 38400 baud, 8-bit data, 1 stop bit and even parity. Refer to the pinout in Figure 2-4 and to the connection chart in Table 2-1.

Figure 2-4: RS-422 Jack Pinout

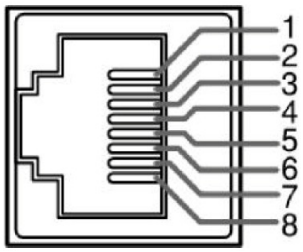


Table 2-1: RS-422 Jack Connections

Pin	Function
1	GND (Power Ground)
2	GND (Power Ground)
3	Tx-
4	Rx+
5	RX-
6	Tx+
7	NC (No Connection)
8	NC (No Connection)

8. **GPI**: A GPI interface is provided for external control. Refer to the pinout in Figure 2-3 and to the connection chart in Table 2-2.

Table 2-2: GPI Jack Connections

Pin	GPI Signal	Description
1	GPI 1	Activates when grounded or set to a low level. GPI 1, 2, 3, and 4 functions set in menu.
2	GPI 2	
3	GPI 3	
4	NC	No Connection
5	NC	
6	GPI 4	As with GPI 1, 2, or 3 above.
7	NC	No Connection
8	GND	GPI Ground return

9. **LAN**: This Ethernet port can be used for color correction, upgrading, or remote network control UMD via TSL5.0. Please contact Wohler Technical Service for further information.

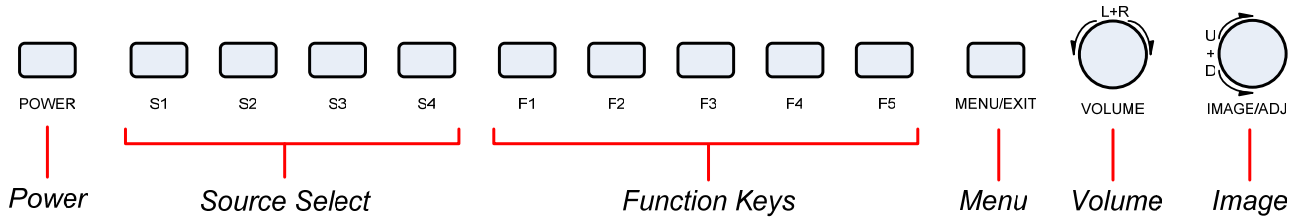
10. **SDI SFP+**: This SFP+ cage accepts an optional 12G/6G/3G/HD/SD-SDI optical input module.

11. **USB**: This USB 2.0 Type A connector allows you to use a flash drive (not supplied) to perform updates to the monitor FPGA, OSD, APP EDP software, or LUT file.

Front Panel Control Operations

The location of the front panel knobs and buttons is shown in Figure 2-5.

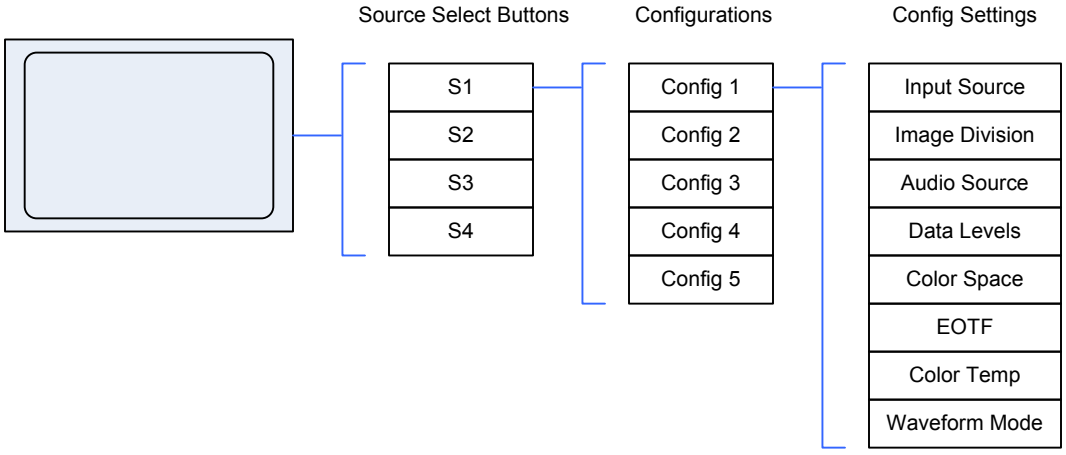
Figure 2-5: Front Panel Controls



1. **Power**: The **Power** button is used to turn the monitor on or off. When the monitor is connected to power, but the monitor is off, the indicator will light red. To turn on the monitor, press the **Power** button and the indicator will light blue. To turn off the monitor, press the **Power** button for 2 seconds. The delay exists to prevent accidentally turning off the monitor while in use. When the monitor is off, the indicator will light red.

2. **Source Select**: Each **Source Select** button will enable a preselected Configuration of an input source and screen parameters needed to support that source, such as color gamut, EOTF, or others. This simplifies changing from source to source. The **S1**, **S2**, **S3**, or **S4** buttons will light in blue when each is pressed. Each of these four **Source Select** buttons can be assigned one of five Configurations, each of which contains eight different monitor settings. Refer to Figure 2-6. Refer to the **Function Menu** section in the **Menus and Options** section of this chapter to assign a Configuration to each **Source Select** button.

Figure 2-6: Source Select Buttons



3. **Function Keys**: These five programmable buttons may be set up to quickly turn a variety of display features and functions on or off. Refer to the **Function** descriptions in the **Menu and Options** section of this chapter.

4. **Menu/Exit**: This button allows you to enter or exit the monitor set up menus or return to a previous menu. All of the functions and features of the monitor can be adjusted within the menu structure. Refer to the **Menu and Options** section of this chapter.

5. **Volume**: Rotate the **Volume** knob to adjust the level of the audio being heard in the speakers or in the headphone. While the menus are activated after pressing the **Menu/Exit** button, rotate this knob to move the menu item selection left or right and then press this knob to select the item. When not in the menu, holding this knob pressed will allow you to select the following adjustments:

    a. **Volume**: Select items related to volume adjustment.

    b. **Backlight**: Select among screen backlight adjustments.

    c. **Quad Win Select**: Rotating the knob will select which Quad View window to select. At this time you may press and turn the **Image/Adj** knob to adjust the brightness, contrast, and saturation of the selected window.

6. **Image/Adj**: While the menus are activated after pressing the **Menu/Exit** button, rotate this knob to move the menu item selection up or down. When not in the menu, holding this knob pressed will allow you to select the following adjustments:

    a. **Brightness**: Select items related to screen backlight brightness adjustments.

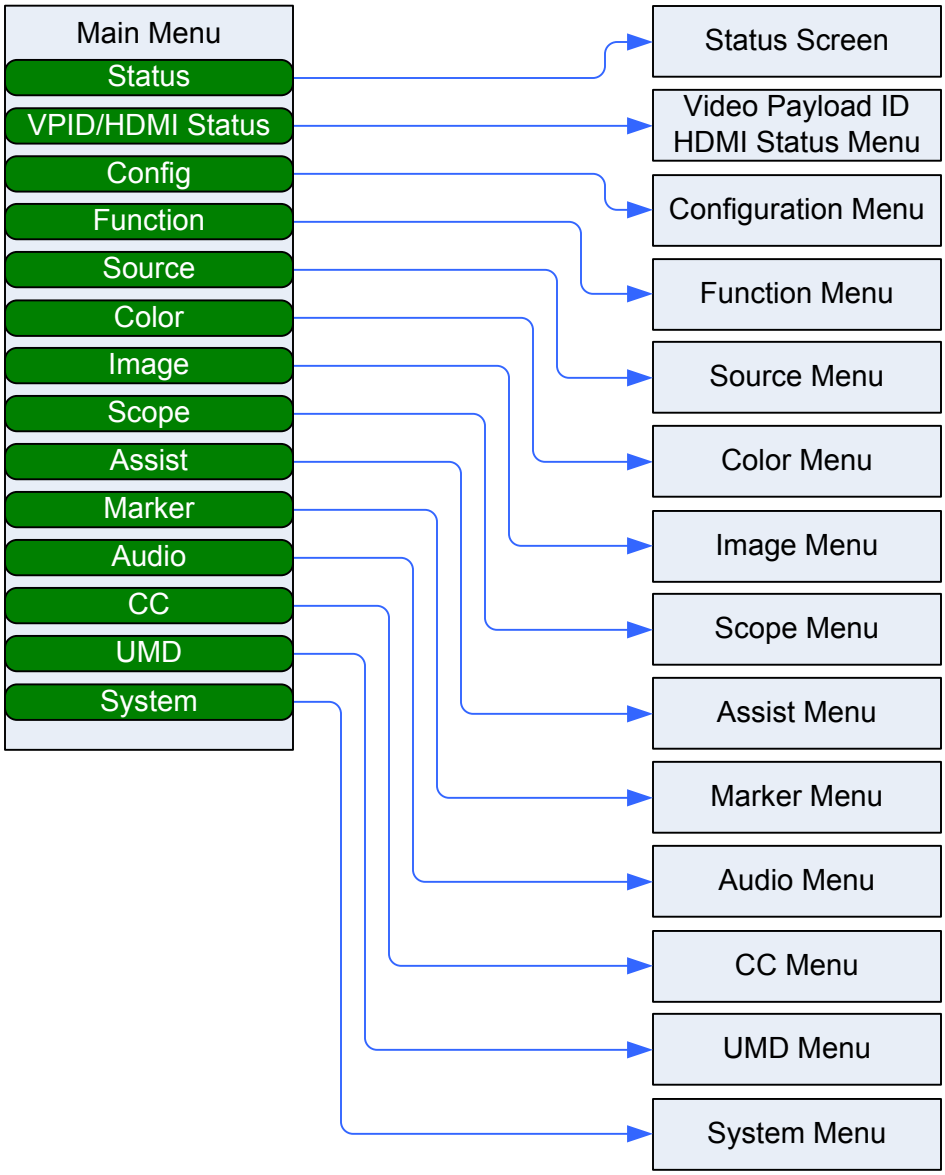
    b. **Contrast**: Select among image contrast adjustments.

    c. **Saturation**: Select among saturation adjustments. When each adjustment appears, turn the **Image/Adj** knob to add or subtract the value by 1 or turn the **Volume** knob to add or subtract the value by 10.

Menus and Options

You may set most options or view a variety of system information using the self-contained menus. Figure 2-7 is a diagram of the menu arrangement, a tree showing how to reach any menu from the **Main Menu**. Hold the **Source** knob pressed for two seconds to access the **Main Menu**. Figure 2-8 shows the **Main Menu**.

Figure 2-7: Menu Tree



Menu Navigation

Press the **Menu/Exit** button to access the **Main Menu**. Press it again to exit the menu system when you are finished. Rotate or press the **U+D Image** and the **L+R Volume** knobs to make your way through the submenus and make the changes you need to make.

After the initial press of the **Menu/Exit** button, use the following steps to navigate through the main menu and submenus:

1. Rotate the **U+D Image** knob to highlight the submenu of your choice. Press the **U+D Image** knob to enter the submenu.
2. Within the submenu, rotate the **U+D Image** knob to travel up or down in the submenu to find the item you would like to change. Then rotate the **L+R Volume** knob to scroll through the list of available settings for that item. When you reach the setting you want, press the **L+R Volume** knob. Repeat this process to make all of the changes you would like to make in that submenu.
3. When you have finished making changes to the submenu, press the **U+D Image** knob to exit it. At this point, you may again rotate the **U+D Image** knob to travel up or down the list of submenus, as in Step 2.
4. When you are finished with the menu system, press the **Menu/Exit** button to exit.

Main Menu

Press the **Menu/Exit** button to access the **Main Menu**. Press it again to exit the menu system when you are finished. The **Main Menu** is shown in Figure 2-8.

Figure 2-8: Main Menu / Status

Status	Input Mode	Single Input
VPID/HDMI Status	Input Format	SDI1
Config	Color Space	Rec 709
Function	Gamma	2.4
Source	Color Temp	6500K
Color	Backlight	9
Image	Gateway	192.168.001.001
Scope	Subnet Mask	255.255.255.000
Assist	IP Address	192.168.001.155
Marker	Device ID	002100415130500F20303
Audio	DSP Version	V74230529
CC	EDP Version	V75230529
UMD	MCU Version	V230608-V440_01_UEF-B
System		

Status Menu

The first sub menu, **Status** is initially shown. It shows the status of various items. This menu is view-only and is not meant to be changed. The **Status** is shown in Figure 2-8. The items it contains are as follows:

1. **Input Mode**: This shows the current input mode of the monitor.
2. **Input Format**: This shows the input format of the signal currently being monitored.
3. **Color Space**: This shows the SMPTE color space of the signal being monitored.
4. **Gamma**: This shows the Gamma value of the signal being monitored.
5. **Color Temp**: This shows the color temperature of the signal being monitored.
6. **Backlight**: This displays the current backlight brightness setting of the screen.
7. **Gateway**: This displays the current Gateway for this monitor. The default value is shown in Figure 2-8.
8. **Subnet Mask**: This displays the current Subnet Mask for this monitor. The default value is shown in Figure 2-8.
9. **IP Address**: This displays the current IP Address for this monitor. The default value is shown in Figure 2-8.
10. **Device ID**: This shows the Device ID for this monitor.
11. **DSP Version**: The internal DSP software version information is shown.
12. **EDP Version**: The internal EDP software version information is shown.
13. **MCU Version**: The internal MCU software version information is shown.

Video Payload ID/HDMI Status Menu

Rotate the **U+D Image** knob to highlight the **VPID/HDMI Status** selection and press the **U+D Image** knob to enter the submenu. This menu will either display the Video Payload ID/HDMI status for the selected HDMI or SDI source. This menu is shown in Figure 2-9.

Use the **L+R Volume** and **U+D Image** knobs to travel through the menu and make changes, as explained in the **Menu Navigation** section of this chapter.

Figure 2-9: VPID/HDMI Status Menu

SDI Source

Status	Channel Select	Channel 1
VPID/HDMI Status	Source	SDI1
Config	Payload ID	00 00 00 00
Function	SMPTE Standard	Unknown
Source	Color Depth	--
Color	Color Format	--
Image	Picture Rate	--
Scope	Scanning Method	--
Assist	Colorimetry	--
Marker	Link Assignment	--
Audio		
CC		
UMD		
System		

HDMI Source

Status	Channel Select	Channel 1
VPID/HDMI Status	Source	HDMI
Config	Color Format	--
Function	Data Level	00 00 00 00
Source	Color Depth	--
Color	Colorimetry	--
Image		
Scope		
Assist		
Marker		
Audio		
CC		
UMD		
System		

The items these menus contain are as follows:

1. **Channel Select**: Use this to select the channel on which to view the various signal parameters.
2. **Source**: Display of the current input signal.
3. **Payload ID**: Display of the Payload ID. (SDI only)

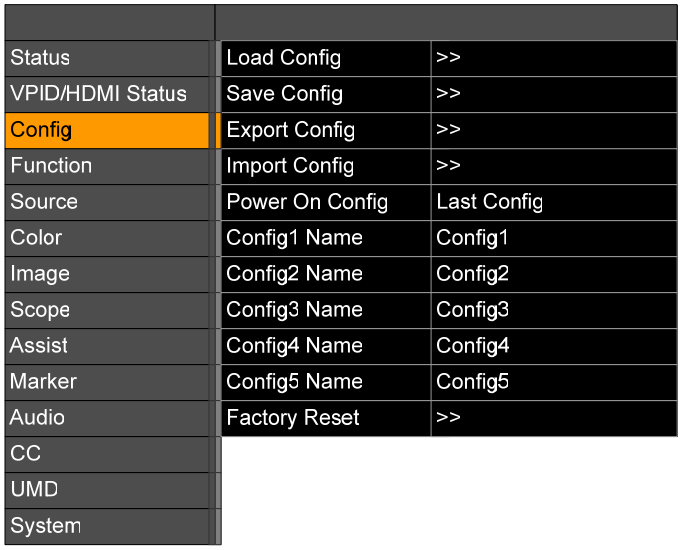
4. **SMPTE Standard**: Display of the SMPTE protocol. (SDI only)
5. **Color Depth**: Display of the Color Depth of the signal.
6. **Color Format**: Display of the Color Format of the signal.
7. **Data Level**: Display of the Data Level of the signal. (HDMI only)
8. **Picture Rate**: Display of the Picture Rate of the signal. (SDI only)
9. **Scanning Method**: Display of the Scanning Method of the signal. (SDI only)
10. **Colorimetry**: Display of the Colorimetry of the signal.
11. **Link Assignment**: Display of the Link Assignment of the SDI signal.

Configuration Menu

Rotate the **U+D Image** knob to highlight the **Config** selection and press the **U+D Image** knob to enter the submenu. This menu will let you save, load or perform other operations on the monitor configurations. This menu is shown in Figure 2-10.

Use the **L+R Volume** and **U+D Image** knobs to travel through the menu and make changes, as explained in the **Menu Navigation** section of this chapter.

Figure 2-10: Config Menu



The items this menu contains are as follows:

1. **Load Config**: Use this to select Configurations 1 through 5 to load.
2. **Save Config**: Use this to select Configurations 1 through 5 to save. Note that in the **Function** menu, the **S1** through **S4** buttons, for example, can be set to enable Configurations. After modifying parameters, be sure to save the Configuration by pressing the **L+R Volume** knob, otherwise pressing the **S1** through **S4** buttons will still load the previous Configuration.
3. **Export Config**: Use the U disk to export either the current Configuration or all Configurations.
4. **Import Config**: Import either the current Configuration or all Configurations from the U disk.
5. **Power On Config**: This sets which Configuration will be loaded when the

monitor is power up. Either the Configuration will be unchanged from when power was turned off or a Configuration from 1 to 5 may be used.

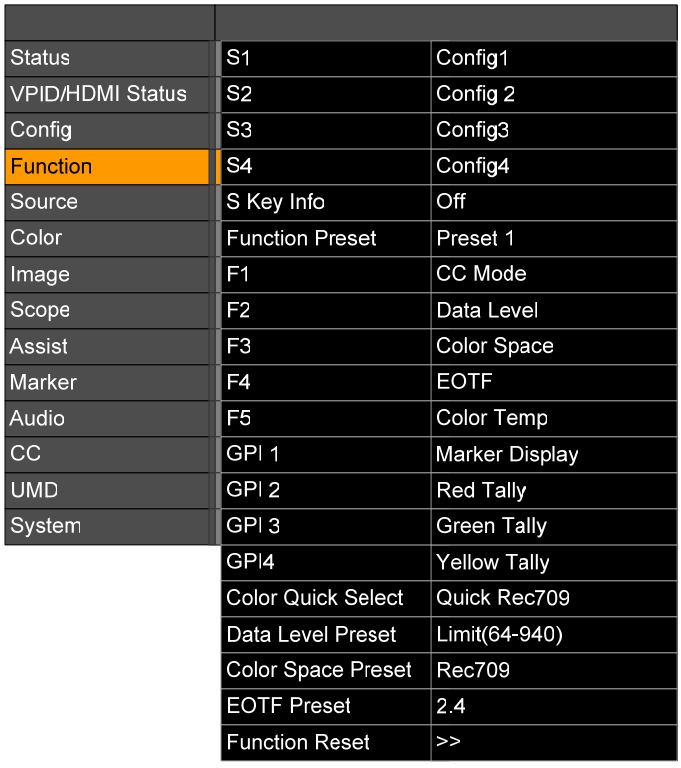
6. **Config1 Name**: Use this selection to rename Config 1 with a name that perhaps relates to the input source selected in this Configuration.
7. **Config2 Name**: Use this selection to rename Config 2.
8. **Config3 Name**: Use this selection to rename Config 3.
9. **Config4 Name**: Use this selection to rename Config 4.
10. **Config5 Name**: Use this selection to rename Config 5.
11. **Factory Reset**: Using this selection you may reset either the Current Configuration or All Configurations. Use this selection with care since it cannot be undone and will likely require you to set up the monitor from scratch.

Function Menu

Rotate the **U+D Image** knob to highlight the **Function** selection and press the **U+D Image** knob to enter the submenu. This menu will let you set up front panel keys to quickly perform frequently used functions. This menu is shown in Figure 2-11.

Use the **L+R Volume** and **U+D Image** knobs to travel through the menu and make changes, as explained in the **Menu Navigation** section of this chapter.

Figure 2-11: Function Menu



The items this menu contains are as follows:

1. **S1**: Use this to select which Configuration (1 - 5) will load when the **S1** panel

key is pressed.

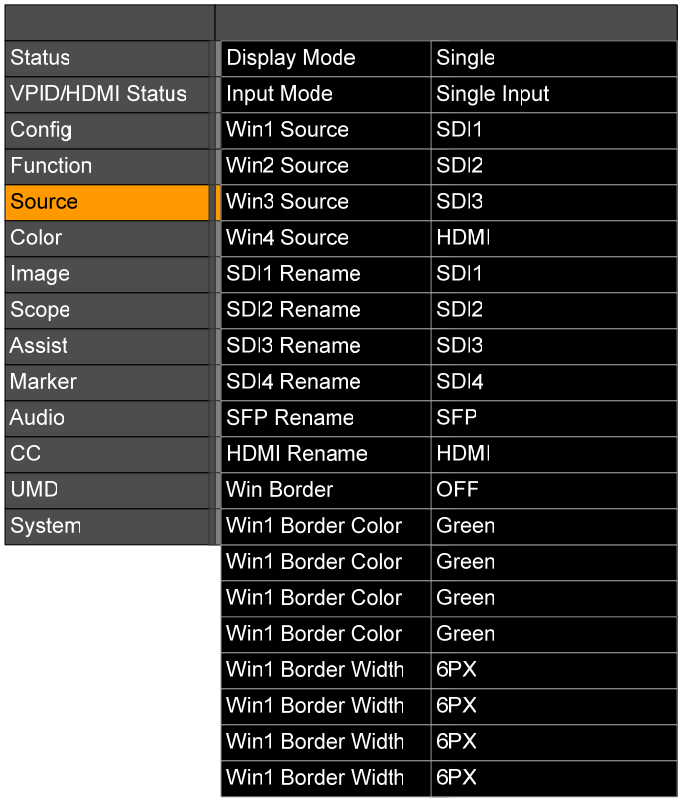
2. **S2**: Use this to select which Configuration (1 - 5) will load when the **S2** panel key is pressed.
3. **S3**: Use this to select which Configuration (1 - 5) will load when the **S3** panel key is pressed.
4. **S4**: Use this to select which Configuration (1 - 5) will load when the **S4** panel key is pressed.
5. **S Key Info**: Use this to select **OFF** which will not display S Key information or to select **ON**, which will cause S Key information to be displayed.
6. **Function Preset**: Presets 1 to 4 can be selected.
7. **F1**: Any one of a large variety of functions can be assigned to the **F1** key.
8. **F2**: Any one of a large variety of functions can be assigned to the **F2** key.
9. **F3**: Any one of a large variety of functions can be assigned to the **F3** key.
10. **F4**: Any one of a large variety of functions can be assigned to the **F4** key.
11. **F5**: Any one of a large variety of functions can be assigned to the **F5** key.
12. **GPI 1**: Any one of a large variety of functions can be assigned to the **GPI 1** key.
13. **GPI 2**: Any one of a large variety of functions can be assigned to the **GPI 2** key.
14. **GPI 3**: Any one of a large variety of functions can be assigned to the **GPI 3** key.
15. **GPI 4**: Any one of a large variety of functions can be assigned to the **GPI 4** key.
16. **Color Quick Select**: Preset the Color so that it can be preset in an **F** function key for quick selection.
17. **Data Level Preset**: Preset the Data Level so that it can be preset in an **F** function key for quick selection. **Note**: To preset the Data Level, the Color Quick Select must first be set to User.
18. **Color Space Preset**: Preset the Color Space so that it can be preset in an **F** function key for quick selection. **Note**: To preset the Color Space, the Color Quick Select must first be set to User.
19. **EOTF Preset**: Preset the EOTF so that it can be preset in an **F** function key for quick selection. **Note**: To preset the EOTF, the Color Quick Select must first be set to User.
20. **Function Reset**: Reset all of the settings in this menu to the Factory Settings.

Source Menu

Rotate the **U+D Image** knob to highlight the **Source** selection and press the **U+D Image** knob to enter the submenu. This menu will let you set up details about the input Sources. This menu is shown in Figure 2-12.

Use the **L+R Volume** and **U+D Image** knobs to travel through the menu and make changes, as explained in the **Menu Navigation** section of this chapter.

Figure 2-12: Source Menu



The items this menu contains are as follows:

1. **Display Mode**: Use this to select either Single or Quad display mode. The arrangement of the windows on the screen is shown at right.
2. **Input Mode**: Use this to select the signal input mode as follows:
    a. **Single**: The selected source is displayed full screen.
    b. **Quad**: The four selected sources are displayed on four sub screens.
    c. **SDI Dual Link**: Selects Dual Link input mode.
    d. **SDI 2SI**: Selects 2SI input mode.
    e. **SDI SQD**: Selects SQD input mode.
3. **Win1 Source**: This selects which input will display on Window 1. The choices are SDI1, SDI2, SDI3, SDI4, SFP, and HDMI.

4. **Win2 Source**: This selects which input will display on Window 2, if it is enabled. The choices are SDI1, SDI2, SDI3, SDI4, SFP, and HDMI.
5. **Win3 Source**: This selects which input will display on Window 3, if it is enabled. The choices are SDI1, SDI2, SDI3, SDI4, SFP, and HDMI.
6. **Win4 Source**: This selects which input will display on Window 4, if it is enabled. The choices are SDI1, SDI2, SDI3, SDI4, SFP, and HDMI.
7. **SDI1 Rename**: This allows you to provide SDI 1 with a custom name.
8. **SDI2 Rename**: This allows you to provide SDI 2 with a custom name.
9. **SDI3 Rename**: This allows you to provide SDI 3 with a custom name.
10. **SDI4 Rename**: This allows you to provide SDI 4 with a custom name.
11. **SFP Rename**: This allows you to provide the SFP input with a custom name.
12. **HDMI Rename**: This allows you to provide the HDMI input with a custom name.
13. **Output Signal**: This selects which input will appear on the HDMI output. The choices are SDI1, SDI2, SDI3, SDI4, SFP, HDMI input (if one exists), or whichever input is appearing on Window 1 of the monitor.

The following selections are available only if Quad input mode is selected:

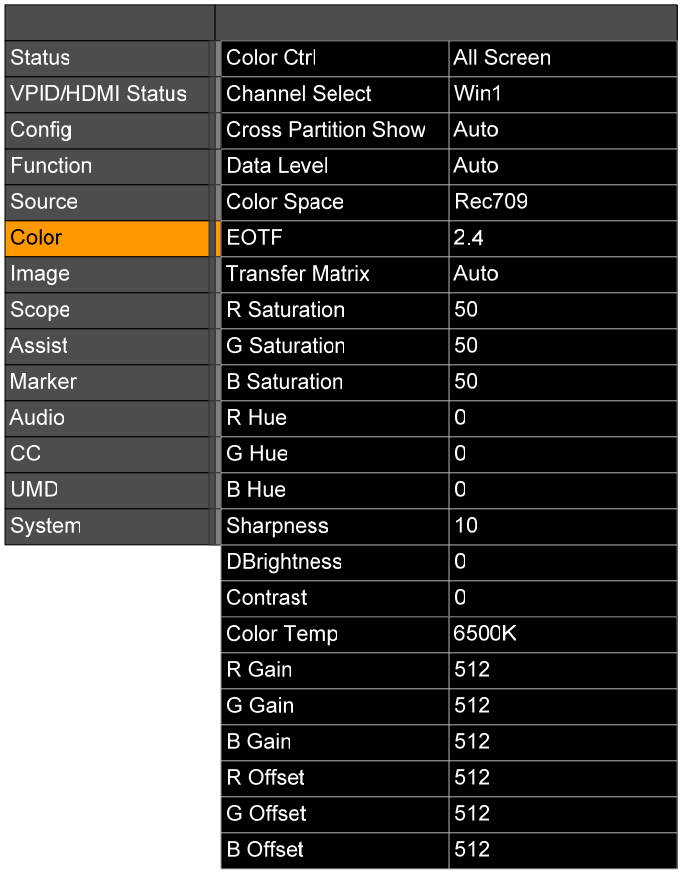
14. **Win Border**: This turns the wire frame window border(s) ON or OFF.
15. **Win1 Border Color**: A choice of colors is available for the Win1 screen: White, Green, Blue, Cyan, Red, or Yellow.
16. **Win2 Border Color**: A choice of colors is available for the Win2 screen: White, Green, Blue, Cyan, Red, or Yellow.
17. **Win3 Border Color**: A choice of colors is available for the Win3 screen: White, Green, Blue, Cyan, Red, or Yellow.
18. **Win4 Border Color**: A choice of colors is available for the Win4 screen: White, Green, Blue, Cyan, Red, or Yellow.
19. **Win1 Border Width**: The width of the wire frame for the Win1 screen can be selected in pixels: 3PX, 6PX, or 8PX.
20. **Win2 Border Width**: The width of the wire frame for the Win2 screen can be selected in pixels: 3PX, 6PX, or 8PX.
21. **Win3 Border Width**: The width of the wire frame for the Win3 screen can be selected in pixels: 3PX, 6PX, or 8PX.
22. **Win4 Border Width**: The width of the wire frame for the Win4 screen can be selected in pixels: 3PX, 6PX, or 8PX.

Color Menu

Rotate the **U+D Image** knob to highlight the **Color** selection and press the **U+D Image** knob to enter the submenu. This menu will let you set up details about the color display characteristics. This menu is shown in Figure 2-13.

Use the **L+R Volume** and **U+D Image** knobs to travel through the menu and make changes, as explained in the **Menu Navigation** section of this chapter.

Figure 2-13: Color Menu



The items this menu contains are as follows:

1. **Color Control**: This setting will select how the color settings are applied:
    a. **Full Screen**: The color settings will apply to the whole screen.
    b. **Zone Ctrl**: Different color settings can be set for each window. This setting is only available in Quad mode.
2. **Channel Select**: The Win1, Win2, Win3, and Win4 settings cause the color settings in this menu to apply to the individual window. The arrangement of the windows on the screen is shown at right.

Win 1	Win 2
Win 3	Win 4

3. **Cross Partition Show**: This is a Reserved function that is not yet implemented. The settings are Auto or ON.
4. **Data Level**: A choice of Data Levels is offered:

a. **Auto**: The Data Level of the input signal is set automatically.
b. **Limited**: 64-940
c. **Extended**: 64-1023
d. **Full**: 0-1023
e. **SMPTE Full**: 4-1019

5. **Color Space**: A choice of Color Space is offered:
   a. **Auto**: The Color Space of the input signal is matched automatically.
   b. **Bypass**: The Color Table selection is bypassed.
   c. **Rec709**: The Color Table selected is REC709.
   d. **EBU**: The Color Table selected is EBU.
   e. **DCI P3 D65**: The Color Table selected is DPI P3 D65.
   f. **DCI P3**: The Color Table selected is DCI P3.
   g. **Rec2020**: The Color Table selected is Rec2020.
   h. **U1_User1, U2_User2, U3_User3, U4_User4, U5_User5, U6_User6**: Up to 6 color table can be loaded into the monitor. U1_User1 through U6_User6 allow you to select between them.
6. **EOTF**: A choice of EOTF is offered to allow for a selection according to the requirements: Bypass (Bypass uses the Gamma of the monitor screen.), Gamma 2.0, 2.2, 2.4, 2.6, 2.4(HDR), Rec.2100 HLG 1.03, 1.11, 1.16, 1.20, 1.27, 1.33, ST2084 PQ, ST2084 PQ (softroll), Slog, Slog2, Slog3, Clog, Clog2, Clog3, Vlog, Dlog, or LogC.
7. **Transfer Matrix**: The available choices are: Auto (Automatically select a transfer matrix that matches the input signal.), Rec 601, Rec 709, or Rec 2020.
8. **R Saturation**: The range of Red Saturation values is 0 to 200. The default value is 50.
9. **G Saturation**: The range of Green Saturation values is 0 to 200. The default value is 50.
10. **B Saturation**: The range of Blue Saturation values is 0 to 200. The default value is 50.
11. **R Hue**: The range of Red Hue values is -100 to 100. The default value is 0.
12. **G Hue**: The range of Green Hue values is -100 to 100. The default value is 0.
13. **B Hue**: The range of Blue Hue values is -100 to 100. The default value is 0.
14. **Sharpness**: The adjustable range of Sharpness is 0 to 20. The default value is 10.
15. **DBrightness**: The adjustable range of Display Brightness is -2000 to 2000. The default value is 0.
16. **Contrast**: The adjustable range of Display Contrast is -2000 to 2000. The default value is 0.
17. **Color Temp**: The available Color Temperature settings are 6500K, 9300K,

5500K, or User 1 to User 6. You may customize the Color Temperature, save it to a corresponding User Mode (User1 through User6) in a configuration, assign that configuration to a S1 to S4 Select key, and then use that S1 to S4 key to load it. Note: After modifying the parameters, be sure to go to the Config menu and save the Configuration. Otherwise, the S1 to S4 keys will continue to load the previous Configuration.

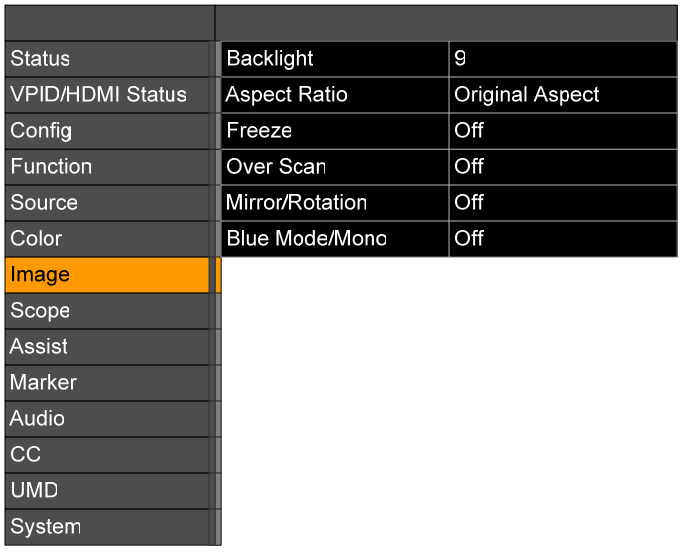
18. **R Gain**: The adjustable range of Red Gain is 0 to 1023. This can only be adjusted in Color Temperature User mode.
19. **G Gain**: The adjustable range of Green Gain is 0 to 1023. This can only be adjusted in Color Temperature User mode.
20. **B Gain**: The adjustable range of Blue Gain is 0 to 1023. This can only be adjusted in Color Temperature User mode.
21. **R Offset**: The adjustable range of Red Gain is 0 to 1023. This can only be adjusted in Color Temperature User mode.
22. **G Offset**: The adjustable range of Green Gain is 0 to 1023. This can only be adjusted in Color Temperature User mode.
23. **B Offset**: The adjustable range of Blue Gain is 0 to 1023. This can only be adjusted in Color Temperature User mode.

Image Menu

Rotate the **U+D Image** knob to highlight the **Image** selection and press the **U+D Image** knob to enter the submenu. This menu will let you set up details about how the image will be displayed. This menu is shown in Figure 2-14.

Use the **L+R Volume** and **U+D Image** knobs to travel through the menu and make changes, as explained in the **Menu Navigation** section of this chapter.

Figure 2-14: Image Menu



The items this menu contains are as follows:

1. **Backlight**: The range of Backlight adjustment is 0 to 100.
2. **Aspect Ratio**: The available settings are Full Screen, Original Screen and

1:1.

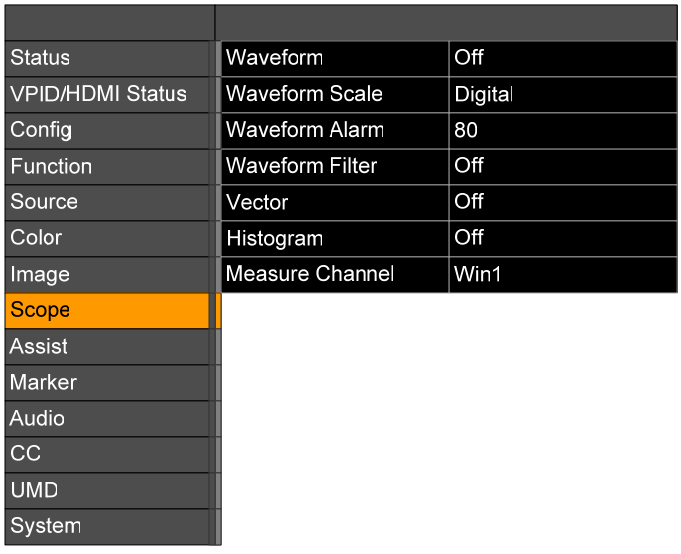
3. **Freeze**: The ON or OFF setting will control whether to freeze the screen.
4. **Over Scan**: The ON or OFF setting will control whether Over Scan is enabled or not.
5. **Mirror/Rotation**: The settings are as follows:
    a. **OFF**: The orientation of the image on the screen is normal.
    b. **Mirror**: The screen image is mirrored horizontally.
    c. **Rotation**: The screen image is rotated 180° and appears upside-down.
6. **Blue Mode/Mono**: The settings are as follows:
    a. **OFF**: The Blue Mode feature is turned off.
    b. **Mono**: A black and white monochrome image is displayed.
    c. **Blue**: Full Blue Mode is enabled.
    d. **Red**: Full Red Mode is enabled.
    e. **Green**: Full Green Mode is enabled.

Scope Menu

Rotate the **U+D Image** knob to highlight the **Scope** selection and press the **U+D Image** knob to enter the submenu. This menu allows you to define Waveform, Vector, and Histogram appearance on the screen. This menu is shown in Figure 2-15.

Use the **L+R Volume** and **U+D Image** knobs to travel through the menu and make changes, as explained in the **Menu Navigation** section of this chapter.

Figure 2-15: Scope Menu



The items it contains are as follows:

1. **Waveform**: There are the following Waveform Functions:

a. **OFF**: The Waveform measurement is off and will not display.
b. **LUMA**: The LUMA waveform will display.
c. **YCbCr**: The YcbCr waveform will display.
d. **RGB**: The RGB waveform will display.
e. **Quad Luma**: This will display Quad Luma. This function is only available in Quad Mode.

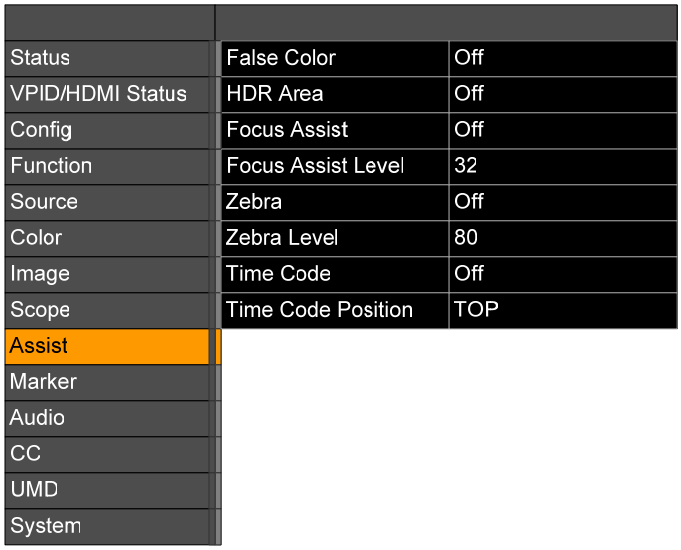
2. **Waveform Scale**: The Waveform Scale may be set to:
   a. **Digital**: The Waveform Scale is displayed numerically.
   b. **IRE**: The Waveform Scale is displayed as a percentage of luminance.
   c. **Luma PG**: The HDR PQ luminance waveform is displayed.
   d. **Luma HLG**: The Luma HLG luminance waveform is displayed.
3. **Waveform Alarm**: The **Waveform Alarm** display can be set to any percentage with the range of **80%** to **100%**. When the measured waveform reaches or exceeds this percentage, an alarm will occur and the alarm will be indicated in red.
4. **Waveform Filter**: Display of the Waveform Filter may be turned ON or OFF.
5. **Vector**: This controls the **Vector** display as follows:
   a. **OFF:** No Vector display
   b. **100**: The vector illustration is 100% of the display.
   c. **75**: The vector illustration is 75% of the display.
6. **Histogram**: This controls the **Histogram** display as follows:
   a. **OFF**: Turn off the Histogram display.
   b. **LUMA**: Display the brightness histogram.
   c. **RGB**: Display theRGB histogram.
7. **Channel Select**: This adjustment is only available when the monitor is in Quad View mode. It controls which channel will be the subject of the **Waveform** display. The choices are **Channel 1**, **Channel 2**, **Channel 3**, or **Channel 4**.

Assist Menu

Rotate the **U+D Image** knob to highlight the **Assist** selection and press the **U+D Image** knob to enter the submenu. This menu allows you to enable or disable the various Assist functions of the monitor. This menu is shown in Figure 2-16.

Use the **L+R Volume** and **U+D Image** knobs to travel through the menu and make changes, as explained in the **Menu Navigation** section of this chapter.

Figure 2-16: Assist Menu



The items it contains are as follows:

1. **False Color**: **False Color** may be turned **ON**, **OFF, or** turned **ON** with **HDR**.
2. **HDR Area**: The **HDR Area** function shows the HDR percentage of the input signal. It may be turned **ON** or **OFF**.
3. **Focus Assist**: Focus Assist may be displayed as follows:
    a. **OFF**: No **Focus Assist**
    b. **Red**: Show **Focus Assist** in **Red**.
    c. **Green**: Show **Focus Assist** in **Green**.
    d. **Blue**: Show **Focus Assist** in **Blue**.
4. **Focus Assist Level**: When **Focus Assist** is on, **Focus Gain** can be set to any level between 0 and 100.
5. **Zebra**: the **Zebra** display may be set to **ON** or **OFF**.
6. **Zebra Level**: The **Zebra Level** may be set to any value between **0%** and **100%**. When the brightness in the monitored image reaches or exceeds the set percentage, an alarm will occur and the parts of the monitored image that exceed will be overlaid with a red zebra pattern.
7. **Time Code**: The existence or characteristics of the Time Code display may be set as follows:
    a. **OFF**: **Time Code** will not be displayed.
    b. **VITC1**: The **Time Code** will be displayed as VITC1.

c. **VITC2**: The **Time Code** will be displayed as VITC2.

d. **LTC**: The **Time Code** will be displayed as LTC.

Note: Time Code cannot be displayed on HDMI signals.

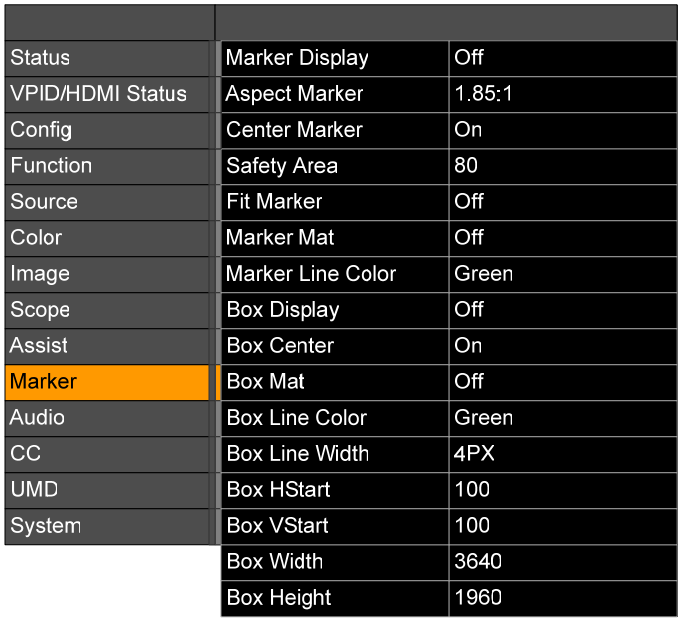
8. **Time Code Position**: The Time Code display may be set to the Top of the screen or the Bottom of the screen.

Marker Menu

Rotate the **U+D Image** knob to highlight the **Marker** selection and press the **U+D Image** knob to enter the submenu. This menu allows you to set the various Marker functions of the monitor. This menu is shown in Figure 2-17.

Use the **L+R Volume** and **U+D Image** knobs to travel through the menu and make changes, as explained in the **Menu Navigation** section of this chapter.

Figure 2-17: Marker Menu



The items it contains are as follows:

1. **Marker Control**: This selection turns all markers **ON** you have enabled or turns them **OFF**.
2. **Aspect Marker**: The Area Marker may be set to **OFF** or may be set to various ratios: **4:3**, **16:9**, **15:9**, **14:9**, **13:9**, **1.85:1**, or **2.35:1**.
3. **Center Marker**: The **Center Marker** may be turned to **OFF** or **ON**.
4. **Safety Area**: The **Safety Area** marking may be turned **OFF** or it may be set to various percentages: **80%**, **85%**, **88%**, **90%**, or **93%**.
5. **Fit Marker**: The **Fit Marker** may be turned **OFF** or **ON**.
6. **Marker Mat**: The **Marker Mat** may be turned **OFF** or it may be set to **Black** or **Gray**.
7. **Marker Line Color**: This turns the **Marker Line** on and to one of the following colors: **White**, **Red**, **Green**, **Blue**, or **Gray**.

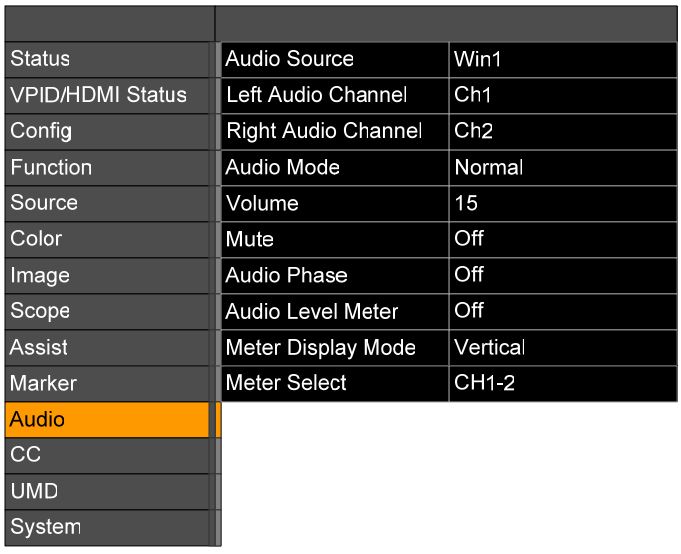
8. **Box Display**: The **Box Display** may be turned **OFF** or **ON**.
9. **Box Center**: The **Box Center** may be turned **OFF** or **ON**.
10. **Box Mat**: This is the color of the filling outside of the **Box** wire frame. It may be set to **OFF**, **White**, **Black**, **Translucent**, **Red**, **Green**, or **Blue**.
11. **Box Line Color**: The color of the Box wire frame may be set to: **White**, **Green**, **Blue**, **Cyan**, **Red**, or **Yellow**.
12. **Box Line Width**: The thickness in pixels of the Box wire frame line may be set to **4PX** or **8PX**.
13. **Box HStart**: The horizontal start position of the Box wire frame may be set anywhere between **0** and **3840**.
14. **Box VStart**: The vertical start position of the Box wire frame may be set anywhere between **0** and **2160**.
15. **Box Width**: The horizontal width of the Box wire frame may be set anywhere between **0** and **3840**.
16. **Box Height**: The vertical height of the Box wire frame may be set anywhere between **0** and **2160**.

Audio Menu

Rotate the **U+D Image** knob to highlight the **Audio** selection and press the **U+D Image** knob to enter the submenu. This menu allows you to set the various Audio setups and displays on the monitor. This menu is shown in Figure 2-18.

Use the **L+R Volume** and **U+D Image** knobs to travel through the menu and make changes, as explained in the **Menu Navigation** section of this chapter.

Figure 2-18: Audio Menu



The items it contains are as follows:

1. **Audio Source**: The Audio Source can be set to Win1, Win2, Win3, or Win4. This function is only available in Quad Mode.
2. **Left Audio Channel**: The Audio source of the left channel can be set to any

input channel 1 through 16.

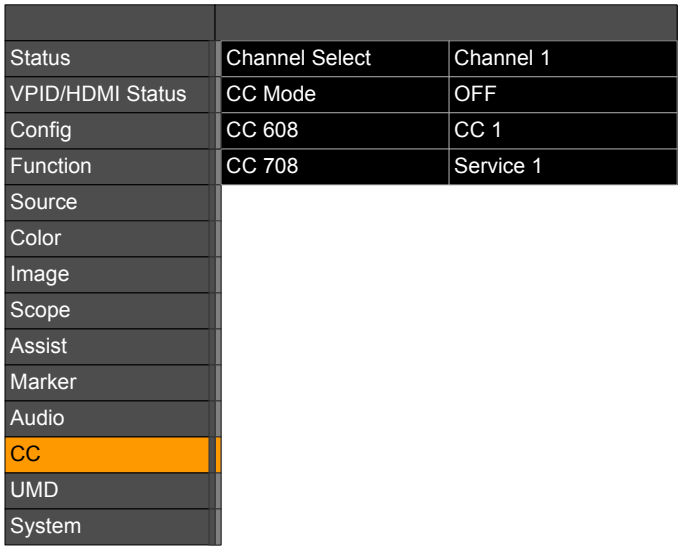
3. **Right Audio Channel**: The audio source of the right channel can be set to any input channel 1 through 16.
4. **Audio Mode**: The Audio Mode can be set to:
    a. **Normal**: Both left and right channels are output.
    b. **Right Channel Mute**: Only the left channel is output.
    c. **Left Channel Mute**: Only the right channel is output.
5. **Volume**: The Volume Adjustment can be set from 0 to 31.
6. **Mute**: The Mute function may be turned OFF to listen to audio or ON to silence audio.
7. **Audio Phase**: Audio Phase measurement may be turned ON or OFF.
8. **Audio Level Meter**: The Audio Level meters may be turned ON or OFF.
9. **Meter Display Mode**: When the Audio Level Meters are turned on, the Meter Display Mode allows them to be displayed either vertically or horizontally.
10. **Meter Select**: When the Audio Level Meters are turned on, they may display audio from the following choice of channels: 1&2, 3&4, 5&6, 7&8, 9&10, 11&12, 13&14, 15&16.

CC Menu

Rotate the **U+D Image** knob to highlight the **CC Settings** selection and press the **U+D Image** knob to enter the submenu. This menu allows you to set the various Closed Caption setups and displays on the monitor. This menu is shown in Figure 2-19.

Use the **L+R Volume** and **U+D Image** knobs to travel through the menu and make changes, as explained in the **Menu Navigation** section of this chapter.

Figure 2-19: CC Menu



The items it contains are as follows:

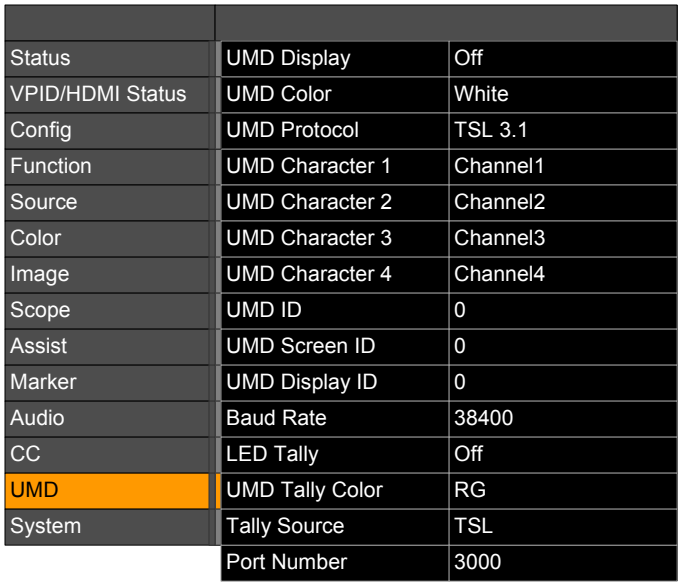
1. **Channel Source**: The Source of the Closed Captions can be set to SDI1, SDI2, SDI3, or SDI4.
2. **CC Mode**: The three CC Mode settings are:
    a. **OFF**: Closed Captions will not be displayed.
    b. **708**: 708 Closed Captions will be displayed.
    c. **608**: 608 Closed Captions will be displayed.
3. **CC 608**: Type CC 1, CC 2, CC 3, or CC 4 Mode 608 Closed Captions may be selected.
4. **CC 708**: Service Type 1, 2, 3, 4, 5, 6, or 7 Mode 708 Closed Captions may be selected.

UMD Menu

Rotate the **U+D Image** knob to highlight the **UMD** selection and press the **U+D Image** knob to enter the submenu. This menu allows you to set the various UMD setups and displays on the monitor. This menu is shown in Figure 2-20.

Use the **L+R Volume** and **U+D Image** knobs to travel through the menu and make changes, as explained in the **Menu Navigation** section of this chapter.

Figure 2-20: UMD Menu



The items it contains are as follows:

1. **UMD Display**: The UMD Display may be turned ON or OFF.
2. **UMD Color**: The color of the UMD Display my be set to Green, Red, White, or Black.
3. **UMD Protocol**: The UMD Protocol can be set to:
    a. **Local**: The UMD characters can be set locally.
    b. **TSL3**.1: The UMD characters can be set remotely using TSL3.1 protocol using an RS422 interface, 8-bits, 1 stop bit, even parity, 38400 baud.

c. **TSL4**.0: The UMD characters can be set remotely using TSL4.0 protocol using an RS422 interface, 8-bits, 1 stop bit, even parity, 38400 baud.

d. **TSL5**.0: The UMD characters can be set remotely using TSL5.0 protocol using the LAN interface, with the default IP address of the monitor: 192.168.1.155.

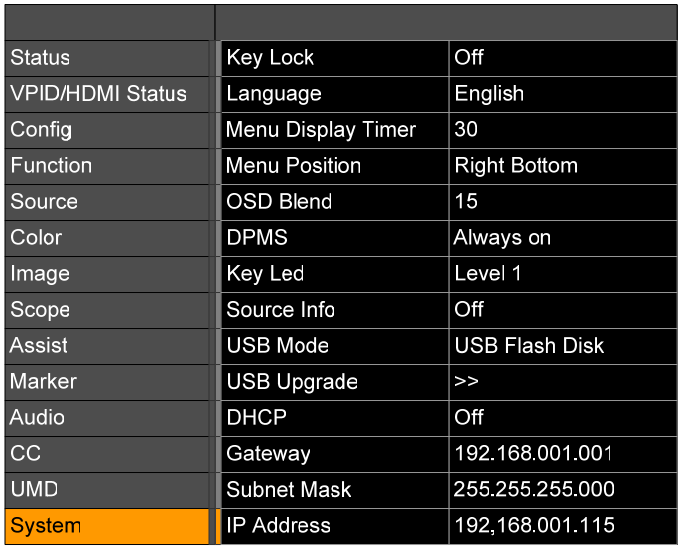
4. **UMD Character 1**: The name that will appear in single screen mode or in Win1 when in Quad Mode.
5. **UMD Character 2**: The name that will appear in Win2 when in Quad Mode.
6. **UMD Character 3**: The name that will appear in Win3 when in Quad Mode.
7. **UMD Character 4**: The name that will appear in Win4 when in Quad Mode.
8. **UMD ID**: The IMD ID address can be set anywhere from 0 to 126. When multiple monitors are cascaded, each monitor can be set to a different address so that they may be distinguished individually. This address is used by the RS-422 connection when TSL3.1 or TSL4.0 protocol is used.
9. **UMD Screen ID**: The IMD Screen ID can be set anywhere from 0 to 65534. This is only available when using TSL5.0 protocol.
10. **UMD Display ID**: The IMD Display ID can be set anywhere from 0 to 65534. This is only available when using TSL5.0 protocol.
11. **Baud Rate**: The RS-422 baud rate may be set to one of the following values: 4800, 9600, 19200, 38400, 57600, or 115200. The default baud rate is 38400.
12. **LED Tally**: The LED Tally may be turned ON or OFF.
13. **UMD Tally Color**: The UMD Tally Color may be set as follows:
    a. **OFF**: OSD Tally is turned off.
    b. **RG**: This selects OSD Tally RG Mode.
    c. **GR**: This selects OSD Tally GR Mode.
    d. **RGY**: This selects OSD Tally RGY Mode.
14. **Tally Source**: The Tally Source may be set as follows:
    a. **GPI**: GPI protocol is selected.
    b. **TSL**: TSL protocol is selected.
15. **Port Number**: The Network Port Number is 3000.

System Menu

Rotate the **U+D Image** knob to highlight the **System** selection and press the **U+D Image** knob to enter the submenu. This menu allows you to set the various parameters that apply to the monitor as a system. This menu is shown in Figure 2-21.

Use the **L+R Volume** and **U+D Image** knobs to travel through the menu and make changes, as explained in the **Menu Navigation** section of this chapter.

Figure 2-21: System Menu



The items it contains are as follows:

1. **Key Lock**: The Key Lock may be turned ON or OFF.
2. **Language**: The language used in the menu system of this monitor may be set to either English or Chinese.
3. **Menu Display Timer**: The Menu Display Timer can be set anywhere from 5 to 60 seconds. When this time lapses, the menu will disappear from the screen.
4. **Menu Position**: The location of the menu can be set to the top left, top right, bottom left, or bottom right on the screen.
5. **DPMS**: This setting controls the back light and power saving operation of the monitor:
    a. **Always ON**: The screen backlight will always be on.
    b. **Light Sleep**: The screen backlight will turn off when there is no signal and no operation for 1 minute.
    c. **Deep Sleep**: The monitor will enter ECO mode when there is no signal and no operation for 1 minute. The monitor can be awakened by pressing the Power button.
6. **Key LED**: The level of the Key indicator can be set as follows: OFF, Level 1, or Level 2.
7. **Source Info**: Source Info may be turned ON or OFF.
8. **USB Mode**: The source of monitor upgrades can be set to either USB Flash

Disk or to via a USB connection to a PC.

9. **USB Upgrade**: You may upgrade the various firmware parts of the monitor via USB. The firmware to be upgraded includes FPGA, LUTs, OSD, EDP, APP, or all of the firmware.
10. **DHCP**: Network setting DHCP may be turned ON or OFF.
11. **Gateway**: The network Gateway may be set as follows:
    a. **255.255.255.000**: Set a custom Gateway.
    b. **0**: The Default Gateway is set to 192.168.001.001.
12. **Subnet Mask**: The Subnet mask settings are:
    a. **255.255.255.000**: Set a custom subnet mask.
    b. **0**: The default Subnet Mask is 255.255.255.000.
13. **IP Address**: The default IP Address is 192.168.1.155.

Commonly Used Setups

The many settings in the menus of this monitor provide great flexibility in setting it up for many different tasks. However, this may be daunting for a new customer. This section provides step by step examples of how to perform some basic setups.

Input Source Selection, Single Picture Mode

Switching to view another source may involve more than simply switching the input source. It may also require the changing of various parameters such as gamut, EOTF, and so on. The vMON monitors make switching inputs simple, but setting up each input first requires a few steps. For example to set SDI 3 as the input source for a full screen display, use the following steps:

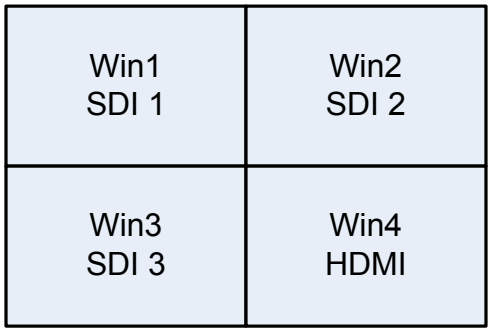
1. Connect the signal to be monitored to the SDI 3 BNC.
2. Press the **MENU/EXIT** button and then go down to the **Source** submenu.
3. In this menu, set the **Display Mode** to **Single**, the **Input Mode** to **Single Input**, and the **Win1 Source** to **SDI3**.
4. Go to the **Function** submenu and set **S1** to **Config1**.
5. Go to the **Config** submenu, set **Save** to **Config1** and press the **Volume Knob** to save.
6. After saving, from now on pressing the **S1** button will cause SDI 3 to display.

Input Source Selection, Quad Split Mode

To set Win1 to display SDI 1, Win2 to display SDI2, Win3 to display SDI3 and Win4 to display HDMI, use the following steps:

1. Connect the four signals to be monitored to the appropriate inputs on the monitor.
2. Press the **Menu/Exit** button and then go down to the **Source** submenu.

3. Set the **Display Mode** to **Quad**, set **Input Mode** to **Quad Input**, set the **Win1 Source** to **SDI 1**, set the **Win2** Source to **SDI 2**, set the **Win3** Source to **SDI 3**, and set the **Win4** source to **HDMI**.
4. Go to the **Function** submenu and set **S2** to **Config1**.
5. Go to the **Config** submenu, set **Save** to **Config1** and press the **Volume Knob** to save.
6. After saving, from now on pressing the **S2** button will cause the Quad Split of the four input signals to display as follows:



Input Source Selection, SDI SQD/2SI

This sections the steps necessary to set up either SDI SQD or SDI 2SI to monitor a 4K signal. These steps are essentially the same for SDI SQD and SDI 2SI. Note that only vMON monitors that are capable of 8K can be set up to display an 8K signal. Use the following steps:

1. Connect the signals to be monitored to the SDI 1/2/3/4 BNCs.
2. Press the **Menu/Exit** button and then go down to the **Source** submenu.
3. Set the **Display Mode** to **Single** and set **Input Mode** to **SDI SQD**.
4. Go to the **Function** submenu and set **S3** to **Config1**.
5. Go to the **Config** submenu, set **Save** to **Config1** and press the **Volume Knob** to save.
6. After saving, from now on pressing the **S3** button will display the 4K signal in Quad Lind SDI SQD Mode.

Configuration Settings

The configuration settings described above can also contain many other parameters such as brightness, contrast, EOTF curve, color gamut, and so on, in addition to simply the input source. In the following steps, **Config5** will be set to display an HDMI signal, but with changed parameters:

1. Connect the HDMI signal to be monitored to the HDMI input.
2. Press the **Menu/Exit** button and then go down to the **Source** submenu.
3. Set the **Display Mode** to **Single**, set **Input Mode** to **SDI SQD,** and set the **Win1 Source** to **HDMI**.
4. Go down to the **Color** submenu and set the **Color Space** to **U1_User1**.
5. Go down to the **Image** submenu and set the **Backlight** to **80**.

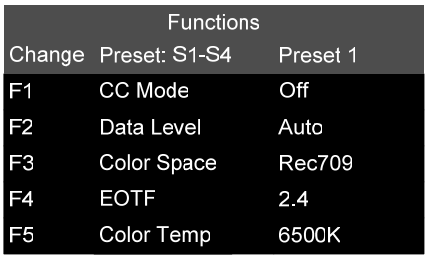
6. Go back to the **Function** submenu and set **S2** to **Config5**.
7. Go to the **Config** submenu, set **Save** to **Config5** and press the **Volume Knob** to save.
8. After saving, from now on pressing the **S2** button will display the HDMI signal in Single Picture Mode, with the Color Space as U1_User1 and the Brightness set to 80.

Function Key Settings

Using the Function Preset setting in the Function menu, you may set up four different Function Key Presets. In normal operation, press the F key once and the Function Key Menu, as shown in Figure 2-22, pops up. The action performed by each of the Functions keys may also be set in this menu.

Pressing an S1 – S4 key after the Function Key Menu pops up will allow you to switch to a different Function Key Preset Group.

Figure 2-22: Function Key Menu



CHAPTER 3: Technical Info

Table 3–1: *v*MON-170-4K, *v*MON-170-8K Specifications

Specification	Values/Domains
Power Requirements	100 VAC to 240 VAC ± 10%, 50/60Hz or 12 VDC
Power Consumption	50 Watts
Dimensions (H x W x D)	17.1” x 12.6” x 5.9” (433mm x 321mm x 150mm)
Shipping/Net Weight	17.2 lbs (7.8 kg) / 11.7 lbs (5.3 kg)
Supplied Accessories	AC Power Cord
Display Type	17.3" diagonal; 216.8mm (H) x 135.5mm (V)
Screen Resolution	3840H x 2160V 4K resolution
Luminance / Contrast	400 cd/m^2 / 1000:1
Audio Meter Channels	2-16 per display window
Color Depth	16.7 million
Backlight	LED
Video Inputs	16 channels from: • 4 x BNC 12G-SDI • 1 x HDMI 2.0 • 1 x SDI SFP+ input cage for optical module
Video Outputs	• 4 x BNC looped 12G-SDI
Audio Output	• 1 x 3.5mm stereo headset jack

Table 3–2: *v*MON-240-4K Specifications

Specification	Values/Domains
Power Requirements	100 VAC to 240 VAC ± 10%, 50/60Hz or 12 VDC
Power Consumption	70 Watts
Dimensions (H x W x D)	22.7” x 15.8” x 5.9” (578mm x 401mm x 150mm)
Shipping/Net Weight	25.2 lbs (11.4 kg) / 20 lbs (9.1 kg)
Supplied Accessories	AC Power Cord
Display Type	24" diagonal; 525.7mm (H) x 295.7mm (V)
Screen Resolution	3840H x 2160V 4K resolution
Luminance / Contrast	400 cd/m^2 / 1000:1
Audio Meter Channels	2-16 per display window
Color Depth	1.07 billion
Backlight	LED
Video Inputs	16 channels from: • 2 x BNC 12G-SDI • 1 x HDMI 2.0 • 1 x SDI SFP+ input cage for optical module
Video Outputs	• 2 x BNC looped 12G-SDI • 2 x BNC looped 3G-SDI
Audio Output	• 1 x 3.5mm stereo headset jack

Table 3–3: *v*MON-270-4K, *v*MON-270-8K Specifications

Specification	Values/Domains
Power Requirements	100 VAC to 240 VAC ± 10%, 50/60Hz or 12 VDC
Power Consumption	63 Watts
Dimensions (H x W x D)	26.3” x 17.4” x 6.3” (649mm x 441mm x 160mm)
Shipping/Net Weight	30.9 lbs (14 kg) / 25.8 lbs (11.7 kg)
Supplied Accessories	AC Power Cord
Display Type	27" diagonal; 609.6mm (H) x 431.8mm (V)
Screen Resolution	3840H x 2160V 4K resolution
Luminance / Contrast	400 cd/m^2 / 2000:1
Audio Meter Channels	2-16 per display window
Color Depth	1.07 billion
Backlight	LED
Video Inputs	16 channels from: • 2 x BNC 12G/6G/3G/HD/SD-SDI • 2 x BNC 3G/HD/SD-SDI • 1 x HDMI 2.0 • 1 x SDI SFP+ input cage for optical module
Video Outputs	• 2 x BNC looped 12G/6G/3G/HD/SD-SDI • 2 x BNC looped 3G/HD/SD-SDI
Audio Output	• 1 x 3.5mm stereo headset jack

Table 3–4: *v*MON-320-4K, *v*MON-320-8K Specifications

Specification	Values/Domains
Power Requirements	100 VAC to 240 VAC ± 10%, 50/60Hz or 12 VDC
Power Consumption	50 Watts
Dimensions (H x W x D)	29.5” x 19.6” x 6.3” (750mm x 498mm x 160mm)
Shipping/Net Weight	58.0 lbs (26.3 kg) / 27.7 lbs (12.5 kg)
Supplied Accessories	AC Power Cord
Display Type	32.5" diagonal; 274.8mm (H) x 698.1mm (V)
Screen Resolution	3840H x 2160V 4K resolution
Luminance / Contrast	400 cd/m^2 / 2000:1
Audio Meter Channels	2-16 per display window
Color Depth	1.07 billion
Backlight	LED
Video Inputs	16 channels from: • 4 x BNC 12G-SDI • 1 x HDMI 2.0 • 1 x SDI SFP+ input cage for optical module
Video Outputs	• 4 x BNC looped 12G-SDI
Audio Output	• 1 x 3.5mm stereo headset jack

Figure 3–1: *v*MON-170-4K, *v*MON-170-8K Block Diagram

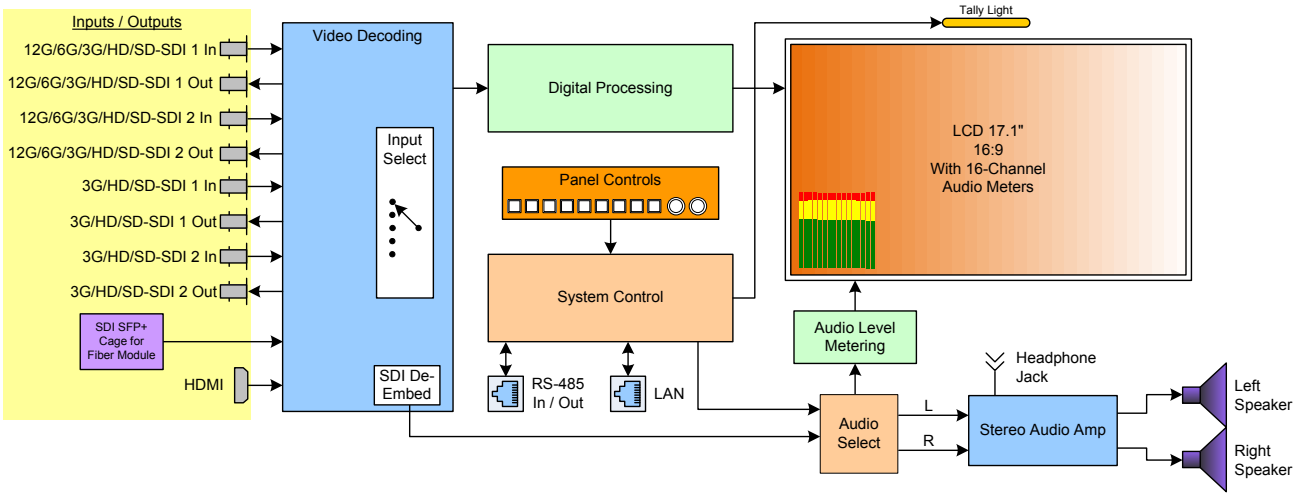


Figure 3–2: *v*MON-240-4K Block Diagram

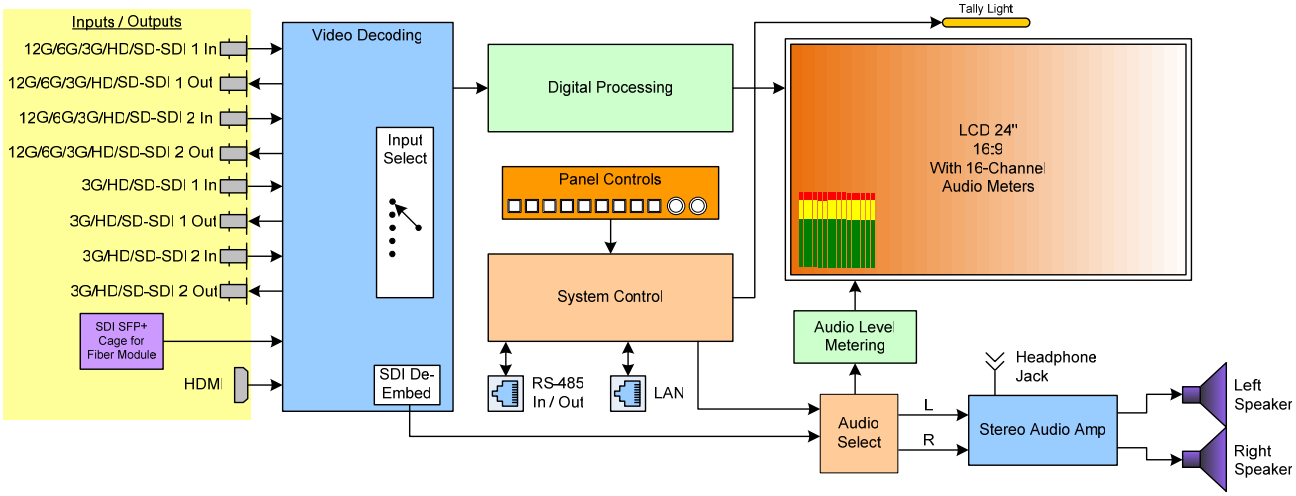


Figure 3–3: *v*MON-270-4K, *v*MON-270-8K Block Diagram

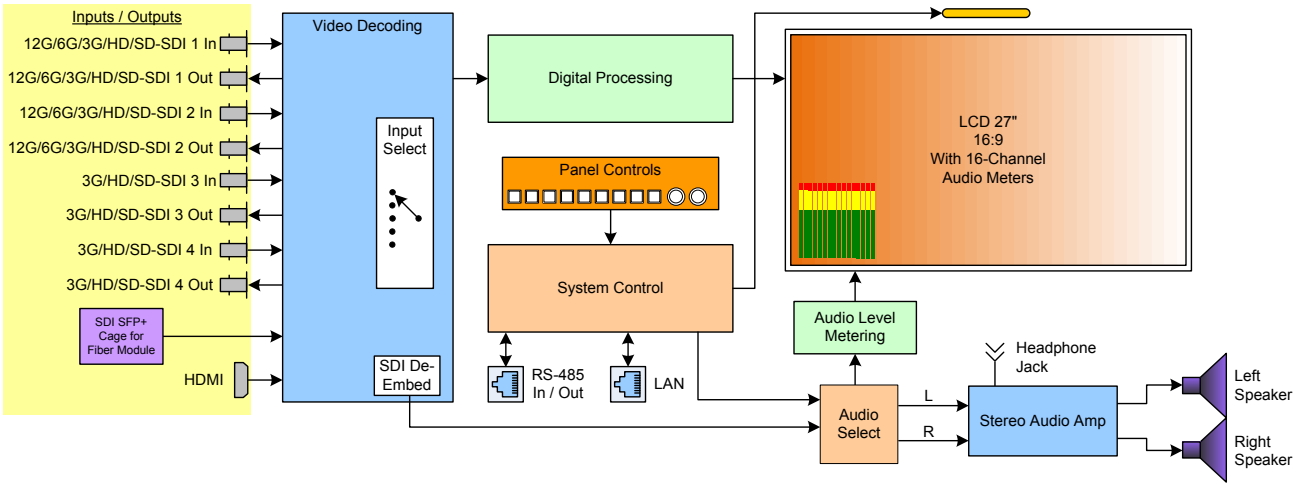


Figure 3–4: *v*MON-320-4K, *v*MON-320-8K Block Diagram