RMT-170e HD Series

- RMT-170e-HD
- RMT-170e-SD

17-Inch High Definition Video Monitors

User Guide

Part Number 821042, Revision A

Wohler CONFIDENCE.

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RMT-170e HD Series User Guide

Introduction

Overview

The RMT-170e HD Series monitors are an ideal solution for viewing many different types of HD/SD (up to 1080i and 720p) or analog video and computer input. These monitors come with many in-monitor display features including IMD, tally, time-code, closed captioning, format display, and area/title safe.

The RM-170e Series also provides a host of audio tools including level metering and built-in speaker monitoring of its dual stereo analog inputs or SDI embedded audio.

Topics

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. Install only in accordance with the instructions in the section entitled, "Unpacking and Installation" on page 3.
5. Do not install near any heat source such as a radiator, heat register, amplifier, or stove.
6. Do not expose the equipment to rain or moisture.
7. Do not attempt to plug the unit into a two-blade outlet (with only two prongs of equal width).

IMPORTANT: By design, these monitors will only plug into a three-prong outlet for your safety. If the plug does not fit into your outlet, contact an electrician to replace the obsolete outlet.

8. Protect the power cord from being walked on or pinched, particularly at plug's source on the equipment and at the socket.
9. Use only the attachments/accessories specified by the manufacturer.
10. Unplug the equipment during lightning storms or when unused for long periods of time.
11. Refer all servicing to qualified service personnel. Servicing will be required under all of the following conditions:
    - The equipment has been damaged in any way, such as when the power-supply cord or plug is damaged.
    - Liquid had been spilled or objects have fallen onto the equipment.
    - The equipment has been exposed to rain or moisture.
    - The equipment does not operate normally.
    - The equipment has been dropped.

Accessories

Table 1–1 Optional Accessories

Part Number	Description
790017	Table Top Stand
790018	Rack Ears
790019	Battery Mount (V Type)
790020	Battery Mount (Anton Bauer)

Unpacking and Installation

Unpack the RMT-170e HD Series monitor and inspect for any apparent physical damage that may have occurred in transit. In addition to the monitor, the package should contain:

- The monitor
- A power cord,
- A warranty card, and
- Either:
  - A table stand and two M5 x 5 mm screws, or
  - Two rack-mount ears and M4 X 13 mm screws.
  - Optional: A battery mount and four M3 x 12 mm screws.

Note: We recommend you retain the shipping carton for future use.

1. When installing a mount option, use a soft, non-scratch surface to place the monitor on.
2. Place the monitor on the soft surface, screen down to install the table stand or the rack ears.

3. Use the included screws to attach either option. The table stand attaches on the rear bottom of the unit and the rack ears attach to the sides.

4. Use the included M3 x 12 mm screws to attach the optional battery mount, attach it to the rear of the monitor.

5. Place the RMT-170e HD Series monitor in the required location for operation.

6. Connect the required signals. For BNC connections use 75 Ω-rated connectors.

7. Connect A.C. mains power using the included EIC power cord. Please ground the unit to ensure proper operation.

8. Turn on the mains power using the toggle switch located on the rear of the RMT-170e HD Series monitor above the power connector.

FCC Compliance

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 the user will be required to correct the interference at his own expense.

Features

The RMT-170e HD Series monitors are 17" multiple function TFT-LCD monitors with 1366 x 768 screen resolution (16:9 native aspect). Interlaced signals are processed by using a 3D comb filter and 3D

de-interlacer. Analog signals are internally digitized with a high quality 10-bit over sampled analog to digital converter.

Video inputs are provided for serial digital interface (SDI, 2 inputs) and DVI-I digital sources plus VGA (using DVI connector), component (YPrPb), Y/C, and CVBS analog signals. In addition to sixteen channels of SDI embedded audio, four channels of unbalanced analog audio are accepted with unbalanced outputs available for two channels.

Up to four bar graph audio meters per side can be superimposed on the screen for A/V functionality. Metered Channels 1 and 2 are also available for use with internal speakers. The GPI style tri-color tally provides red/green/amber indication using an industry standard RJ-45 connection.

- 1366 x 768 screen resolution (16:9 native aspect)
- Monitors video from SDI, DVI-I, VGA, Component (YPrPb), Y/C, and CVBS analog signals (high quality 10-bit over sampled analog to a digital converter)
- Audio monitoring from internal speakers or headphones
- Tri-color tally light
- Closed Captioning for CVBS signals
- Two HD/SD-SDI inputs with selected channel loop out (not on A model)
- Eight audio meters, IMD and time code on screen display (four audio meters on A model)
- Four analog audio inputs, two analog audio outputs
- Eight audio meters, IMD and time code on screen display
- Built-in speakers with headphone mute
- Native pixel-to-pixel capability or standard scaling
- Audio decoding and display of up to eight channels of SDI
- Waveform/vectorscope

Specifications

Physical Specifications

Table 1–2 lists the specifications for the RMT-170e HD Series monitors.

Table 1–2 Monitor Specifications

Specifications	RMT-170e-SD	RMT-170e-HD
Power	60 W; 1.5 A; 110 to 240 V AC (50 to 60 Hz)	
Dimensions (Without Stand)	16.32″ W x 12.25″ H x 2.83″ D (414.5 mm x 311.2 mm x 71.8 mm)	
Rack Height	7RU	
Weight	17 lbs. (7.2 kg) (without table stand or rack mount)	
Digital Inputs	2 SD-SDI with loop through	2 HD/SD-SDI with loop through
Common Inputs	• 1 Component Video CVSB • 1 Configurable Video Y/C, YPbPr, Composite • 1 Configurable HDMI, VGA, DVI on DVI-I • 4 Audio (RCA) • GPI on RJ-45 • RS-485 with loop through	
Digital Outputs	• 1 HD/SD-SDI Re-clocked active loop through • 2 Audio selected embedded or external audio outputs	
Common Outputs	2 Analog Audio	
Response Time	Tr=8; Tf=9	
Active Viewing Area	17″ diagonal (14.68″ H x 8.25″ V (372.92 mm H x 209.66 mm V)	
Resolution	1366 H x 768 V	
Pixel Pitch	0.091 mm x 0.273 mm	
Pixel Response	<8 ms	
Contrast	900:1	
Color Depth	16.7 million	
Brightness	350 cd/m^2	
Backlight	White CCFL	
Backlight Life (hrs)	50,000	
Color Temperature	D55, D65, D93	

Table 1–2 Monitor Specifications (Continued)

Specifications	RMT-170e-SD	RMT-170e-HD
Viewing Angles	178° H x 178° V	
Operating Temperature	32° F to 122° F (0° C to 50° C)	

Figures 1–3 through below illustrate the dimensions of the unit's features in four different views.

Input/Output Specifications

Table 1–3 Signal Inputs, Frame Rate, and Color Matrix

Signal Type	Overscan		Native		Full Normal		Frame Rate	Color Matrix
	Input	Output	Input	Output	Input	Output		
NTSC	684x462	1920x1080 1600x1200	720x480	720x480	720x480	1366x768 (16:9), 1024x768 (4:3)	60	601
PAL	684x548	1920x1080 1600x1200	720x576	720x576	720x576	1366x768, 1024x768	50	601
SECAM	684x548	1920x1080 1600x1200	720x576	720x576	720x576	1366x768, 1024x768	50	601
NTCS-4.43	684x462	1920x1080 1600x1200	720x480	720x480	720x480	1366x768, 1024x768	60	601
PAL-M	684x462	1920x1080 1600x1200	720x480	720x480	720x480	1366x768, 1024x768	60	601
480I60	684x462	1920x1080 1600x1200	720x487	720x480	720x480	1366x768, 1024x768	60	601/709
576I50	684x548	1920x1080 1600x1200	720x576	720x576	720x576	1366x768, 1024x768	50	601
480P60	684x462	1920x1080 1600x1200	720x480	720x480	720x480	1366x768, 1024x768	60	601/709
576P50	684x548	1920x1080 1600x1200	720x576	720x576	720x576	1366x768, 1024x768	50	709
720P24	1216x684	1366x768	1280x720	1280x720	1280x720	1366x768	48	709
720P25	1216x684	1366x768	1280x720	1280x720	1280x720	1366x768	50	709
720P30	1216x684	1366x768	1280x720	1280x720	1280x720	1366x768	30	709
720P50	1216x684	1366x768	1280x720	1280x720	1280x720	1366x768	50	709
720P60	1216x684	1366x768	1280x720	1280x720	1280x720	1366x768	60	709
1035I60	1824x984	1366x768	1920x1035	1920x1035	1920x1035	1366x768	60	709
1080I60	1824x1026	1366x768	1920x1080	1920x1080	1920x1080	1366x768	60	709
1080I50	1824x1026	1366x768	1920x1080	1920x1080	1920x1080	1366x768	50	709
1080P24	1824x1026	1366x768	1920x1080	1920x1080	1920x1080	1366x768	48	709
1080P25	1824x1026	1366x768	1920x1080	1920x1080	1920x1080	1366x768	50	709
1080P30	1824x1026	1366x768	1920x1080	1920x1080	1920x1080	1366x768	60	709
1080P50	1824x1026	1366x768	1920x1080	1920x1080	1920x1080	1366x768	50	709
1080P60	1824x1026	1366x768	1920x1080	1920x1080	1920x1080	1366x768	60	709
1080SF24	1824x1026	1366x768	1920x1080	1920x1080	1920x1080	1366x768	48	709
VGA	–	–	–	–	640x480	1366x768	60 - 75	–
SVGA	–	–	–	–	800x600	1366x768	60 - 75	–
XGA	–	–	–	–	1024x768	1366x768	60 - 75	–
SXGA	–	–	–	–	1280x1024	1366x768	60 - 75	–
UXGA	–	–	–	–	1600x1200	1366x768	60	–
WVGA	–	–	–	–	800x480	1366x768	60	–
WXGA	–	–	–	–	1366x768	1366x768	60	–
WUXGA	–	–	–	–	1920x1200	1366x768	60	–

Table 1–4 below lists the signal formats that can be displayed on the RMT-170e-HD.

Table 1–4 Usable Input Signals

Format	SDI	Video	Y/C	YPbPr	HDMI	DVI	VGA
NTSC	–	Yes	Yes	–	–	–	–
PAL	–	Yes	Yes	–	–	–	–
SECAM	–	Yes	Yes	–	–	–	–
NTCS-4.43	–	Yes	Yes	–	–	–	–
PAL-M	–	Yes	Yes	–	–	–	–
4080I60	Yes	–	–	Yes	Yes	–	–
576I50	Yes	–	–	Yes	Yes	–	–
480P60	–	–	–	Yes	Yes	–	–
576P50	–	–	–	Yes	Yes	–	–
720P24	HD[a]	–	–	Yes	Yes	–	–
720P25	HD	–	–	Yes	Yes	–	–
720P30	HD	–	–	Yes	Yes	–	–
720P50	HD	–	–	Yes	Yes	–	–
720P60	HD	–	–	Yes	Yes	–	–
1035I60[b]	HD	–	–	Yes	Yes	–	–
1080I60	HD	–	–	Yes	Yes	–	–
1080I50	HD	–	–	Yes	Yes	–	–
1080P24	HD	–	–	Yes	Yes	–	–
1080P25	HD	–	–	Yes	Yes	–	–
1080P30	HD	–	–	Yes	Yes	–	–
1080P50	–	–	–	Yes	Yes	–	–
1080P60	–	–	–	Yes	Yes	–	–
1080SF24	HD	–	–	Yes	Yes	–	–
VGA	–	–	–	–	–	Yes	Yes
SVGA	–	–	–	–	–	Yes	Yes
XGA	–	–	–	–	–	Yes	Yes
SXGA	–	–	–	–	–	Yes	Yes
UXGA	–	–	–	–	–	Yes	Yes
WUXGA	–	–	–	–	–	Yes	Yes

a All formats marked HD are only supported by the RMT-170e-HD model.
b The unit supports the input signal 1035I60 but will display in 1080I60 format.

The functionality of the front panel buttons varies depending on the input terminal and/or the input signal type. The detailed corresponding relationships are listed in Table 1–5 below.

Table 1–5 Button/Signal-Terminal Relationships

Function	Input Signal							
	Video/ Y/C	YPbPr SD	YPbPr HD	SD SDI	HD SDI	HDMI	DVI-D	VGA
Contrast	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Bright	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Chroma	Yes	Yes	Yes	Yes	Yes	Yes	–	
Phase	NTSC	–	–	–	–	–	–	–
NTSC Setup	NTSC	–	–	–	–	–	–	–
Compo Level	SMPTE	480I60[a]	SMPTE	SMPTE	SMPTE	SMPTE	–	–
Color Temp.	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Scan	Yes	Yes	Yes	Yes	Yes	Yes	Full	Full
Aspect	Yes	Yes	–	Yes	–	SD/Yes	–	–
Marker	Yes	Yes	Yes	Yes	Yes	Yes	–	–
Blue Only	Yes	Yes	Yes	Yes	Yes	Yes	–	–
Mono	Yes	Yes	Yes	Yes	Yes	Yes	–	–
H/V Delay	–	–	–	Yes	Yes	–	–	–
Dot Phase	–	–	–	–	–	–	–	Yes
H Position	–	–	–	–	–	–	–	Yes
V Position	–	–	–	–	–	–	–	Yes
Audio	Ext	Ext	Ext	Ext/Ebd	Ext/Ebd	Ext/Ebd	–	–
Time Code	–	–	–	Yes	Yes	–	–	–
UMD	Yes	Yes	Yes	Yes	Yes	Yes	–	–
Audio Meter	Yes	Yes	Yes	Yes	Yes	Yes	–	–

a In the submenu of Menu Configuration Area, the Compo level function is adjustable only when the signal format is Ypbpr: 480I60. For any other signal formats, its default format is SMPTE and can not be adjusted.

Table 1–6 Y Signal Input Component Levels

Function	Beta 7.5	SMPTE	Beta 0
SETUP	53.37mV	0mV	0mV
Y	714.29 mV Peak Luma,100% White)	700.00 mV Peak Luma,100% White)	714.30 mV Peak Luma,100% White)
PB/PR	700.00 mVp-p (75% Color Bars)	525.00 mVp-p (75% Color Bars)	756.80 mVp-p (75% Color Bars)
	933.34 mVp-p (100% Color Bars)	700.00 mVp-p (100% Color Bars)	1009.0 mVp-p (100% Color Bars)
SYNC	-286 mV	-300 mV	-286 mV

Table 1–7 Analog Video Input Specifications

Parameter	Value
Impedance	75 Ω
Input Level	1 Vp-p nominal
Maximum Input Level	2.5 Vp-p centered @ 0V

Table 1–8 SDI Video Input Specifications

Parameter	Value
Signal Standard	SMPTE292M, SMPTE259M, ITU-R BT656; 270Mbps (525/625 SD component) 1485 Mbps (HD)
Impedance	75 Ω
Return Loss	>18dB 5 MHz to 540 MHz
Equalization	Automatic equalizing to 30dB @ 270 Mb/s

Table 1–9 SDI Video Output Specifications

Parameter	Value
Signal Standard	SMPTE292M, SMPTE259M, ITU-R BT656; 270Mbps (525/625 SD component) 1485 Mbps (HD)
Impedance	75 Ω
Return Loss	>18dB 5 MHz to 540 MHz
Signal Level	800 mV ± 10%
Overshoot	<10% of amplitude
Jitter	<0.2 UI (740 ps) peak, typical <500 ps
Rise and Fall Time	400 to 1500 pm (20% to 80% of amplitude)
DC Offset	0 V ± 0.5 V

Note: All specifications are subject to change without notice.

Front Panel Controls

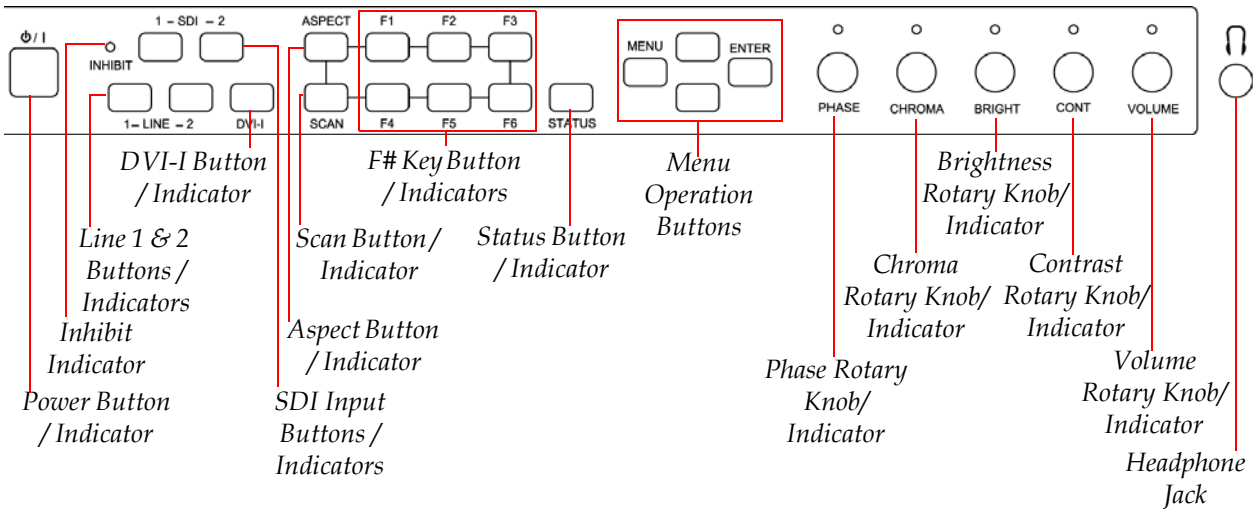
The RMT-170e-HD monitor provides a variety of in monitor data including signal type, waveform/vectorscope, IMD (In-Monitor Display), audio meters, and time code. It also includes a three-color tally light above the display. Figure 1–1 illustrates the front panel features, and Figure 1–2 illustrates the front panel controls.

Figure 1–1 Front Panel Features

- **Tally Light**: This tri-color (red/green/amber) light is controlled through an RJ-45 connector on the rear panel. For more information about the RJ-45 connector, refer to Figure 1–4 and Table 1–10 on page 17 for details.
- **Input Signal**: The input signal is automatically detected.
- **Safe Areas**: Multiple safe areas are configurable in the **OSD Menu**.

- **Audio Levels:** Levels for audio channels the are displayed on up to eight meters in pairs, as two or four meters on each side. The A model displays two to four meters.
- **IMD:** The **OSD Menu** provides settings to customize the **IMD** (In-Monitor Display) text area to show a line of characters, numbers, and/or some symbols. The IMD displays in a 4:3 image and below a 16:9 image.
- **Speakers:** Audio may selected for monitoring through the left and right speakers.
- **Time Code:** The de-embedded time code from the HD/SD-SDI source displays in the bottom right corner.
- **Waveform**: The signal waveform is configurable in the **OSD Menu**.

Figure 1–2 Front Panel Controls



Button/Indicators

- **Power (Button/Indicator)**: As an indicator, the **Power** button glows green when power is on (switch is on the back panel) and a signal is detected. It glows red when the power is on and no signal is present. As a control, it turns the signal display on the monitor on and off.
- **Inhibit (Button/Indicator)**: This indicator glows green when the control panel buttons have been locked and the system must be unlocked through the **OSD Menu**.

- **SDI Input 1/2 (Button/Indicator)**: This indicator glows green when this input is selected for display on the monitor. As a control, this button selects the SDI signal for display to the monitor.

- **Line 1/2 (Button/Indicator)**: This indicator glows green when this input is selected for display on the monitor. As a control, this button selects the signal for display to the monitor. You can select from three signal types for Line 2 in the USER CONFIG menu of the **OSD Menu**.

- **DVI-I (Button/Indicator)**: This indicator glows green when this input is selected for display on the monitor. As a control, this button selects the signal for display to the monitor. Select from three signal types in the USER CONFIG menu of the **OSD Menu**.

- **Aspect (Button/Indicator):** This indicator glows green when a non-default aspect ratio has been selected for this signal. As a control, this button toggles between 4:3 and 16:9.

- **F1 through F6 (Buttons/Indicators)**: These indicators glow greenwhen the associated function is active.

- **Status (Button/Indicator)**: Pressing this button toggles the status display (not a menu) on and off to the monitor. If the button is not pressed a second time, the status will disappear after several seconds.

OSD Menu Buttons

- **Menu (Button)**: Pressing the **Menu** button displays the OSD menu. Refer to Using the OSD Menu on page 19 for more details.

- **Up/Down (Buttons)**: Pressing these buttons after pressing the **Menu** button navigates through the menus and submenus up or down respectively. Neither of these buttons functions when the **OSD Menu** is not displayed on the monitor.

- **Enter (Button)**: The **Enter** button selects menus, submenus, and option values in the **OSD Menu**. When the **OSD Menu** is not displayed on the monitor, this button displays F1 to F6 functions assignments.

Rotary Knob/Indicators

The rotary knobs on the right side of the monitor's control panel have multiple functions most of which are very similar and are listed immediately below:

1. **Pushing the knob**: Displays the current setting.

   Note: Pushing the **Volume** knob has a different function. See below.

2. **Rotating the knob**: Increases or decreases the value.

3. **Indicator glows amber**: If you select a value other than the default.

- **Phase (Rotary Knob/Indicator):** Modifies the sharpness.
- **Chroma (Rotary Knob/Indicator)**: Modifies the color saturation.
- **Brightness (Rotary Knob/Indicator)**: Modifies the brightness.
- **Contrast (Rotary Knob/Indicator)**: Modifies the contrast.
- **Volume (Rotary Knob/Indicator)**: Modifies the audio volume. Pushing the **Volume** knob toggles displaying the current setting, muting the audio, and restoring the music and removing the setting display.

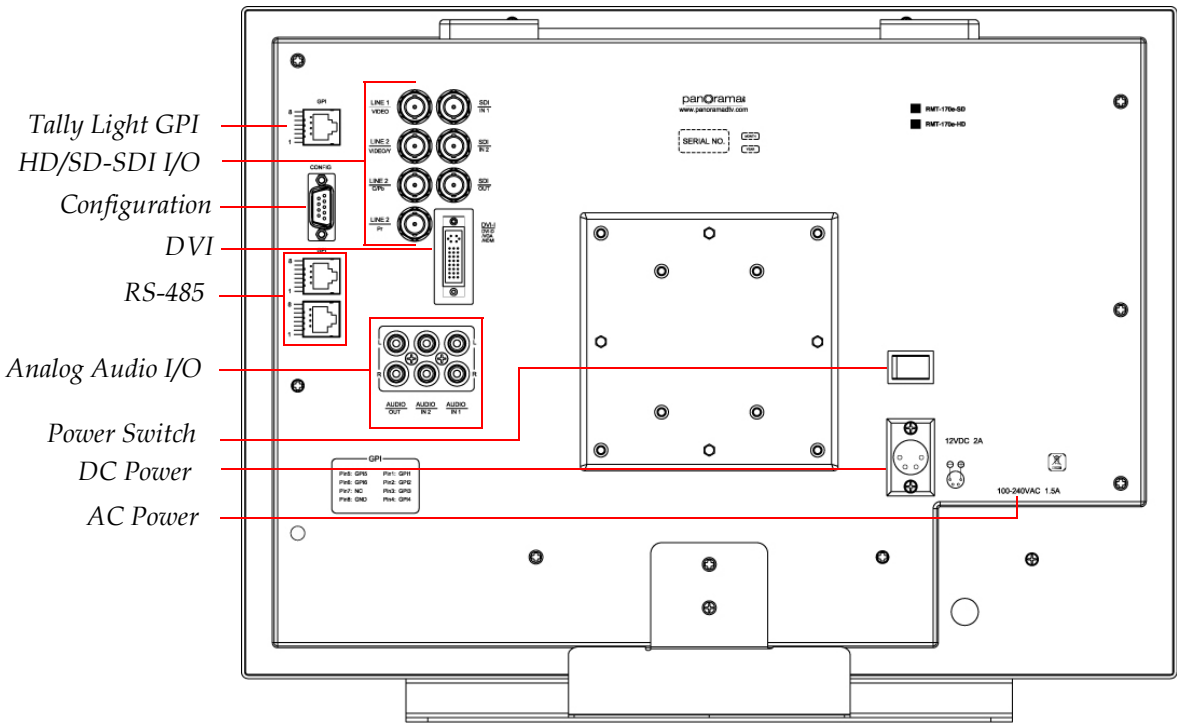
Other Front Panel Features

Headphone Jack: Monitor the assigned left/right stereo audio channels with stereo headphones from this mini-stereo connector. The speakers will mute when the headphones are plugged in.

Rear Panel Connectors

Figure 1–3 on page 16 illustrates the rear panel connectors.

Figure 1–3 RMT-170e-HD Rear Panel



- **Tally Light Control (GPI - RJ45)**: This connect provides control to the front panel (tri-color) tally light and other remote functions.

Figure 1–4 GPI / Tally Light RJ45 Connector Pin Map

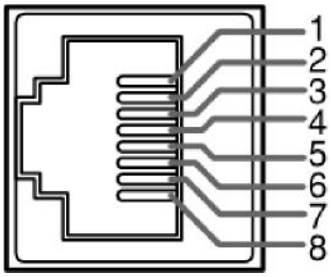


Table 1–10 GPI / Tally Lamp Color / Pin Designations

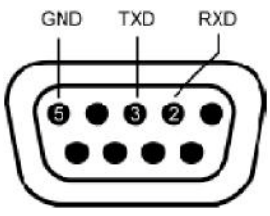
Tally Lamp Color	GPI 1 Pin	GPI 2 Pin
Green	GND	Open
Red	Open	GND
Orange	GND	GND

Table 1–11 GPI / Tally Lamp Connector Pin Out

Pin	Function
1.	GPI 1
2.	GPI 2
3.	GPI 3
4.	GPI 4
5.	GPI 5
6.	GPI 6
7.	No Connection (NC)
8.	Ground

- **SDI Inputs 1 and 2**: SD-SDI input signal on BNC jacks.
- **SDI Output**: Output jack for selected SDI signal.
- **Line 1 (Video)**: Input jack for analog composite video signal only.
- **LINE2 (Video/Y)**: Input jack for analog composite video input signal, or luminance (Y) signal of Y/C or YPrPb.
- **Line 2 (C/Pb)**: Input jack for Chroma (C) signal of Y/C or Pb (Blue) component of YPrPb.
- **Line 2 (Pr)**: Input jack for Pr (Red) component of YPrPb.
- **Config I/O** (on DB-9): Remote connector for factory programming and configuration access.

Figure 1–5 DB-9 Connector Pin-Out



- **DVI-I** (DVI-D/VGA/HDMI): Input jack for DVI analog/digital and requires an adapter for VGA or HDMI input signal.

  Note: The DVI-I signal type must be set in the USER CONFIG menu of the **OSD Menu** to function correctly.

- **RS485 I/O (RJ45)**: Connector for external control.

Figure 1–6 RS485 RJ45 Connector Pin Map

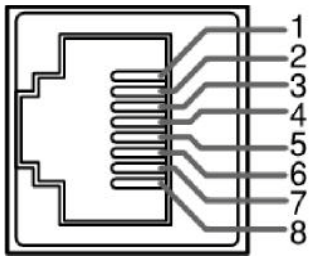


Table 1–12 RS485 Pin Out

Pin	RS485 In Terminal Signal	RS485 Out Terminal Signal
1, 2	GND	GND
3	Tx-	Tx-
4	Rx+	Rx+
5	Rx-	Rx-
6	Tx+	Tx+
7, 8	NC	NC

- **Analog Audio Input 1**: Input jacks for the analog audio signal.
- **Analog Audio Input 2**: Input jacks for the analog audio signal.
- **Analog Audio Output**: Output jacks for the analog audio signal.
- **Power Switch**: Toggling the power switch powers the monitor on or off.
- **DC Power Connector**: Connect DC power to this four-pin female connector (12V @ 6A). See the back of the unit for the pin-out diagram.
- **AC Power Connector**: The power cord connector on this monitor is on the bottom face of the right side of the back panel. A power source with the capacity of more than 45W is recommended.

Using the OSD Menu

A description of how to use the **OSD Menu** follows. Also refer to Table 1–13 below for typical values and domain range.

1. Press the **Menu** button to display the menu.

   Note: If you do not press another button for approximately 10 seconds, the menu will disappear from the screen.

2. Use the **Up** and **Down** buttons to navigate through the seven sub-menu icons. The sub-menus are:
   A. STATUS
   B. COLOR TEMP
   C. MARKER
   D. VIDEO CONFIG
   E. AUDIO CONFIG
   F. USER CONFIG
   G. CONTROL

3. Press the **Enter** button to enter the parameter selections in the chosen sub-menu.

4. Use the **Up** or **Down** buttons to cycle through the sub-menu selections.

5. When the desired option is highlighted, press the **Enter** button to select it.

6. Use the **Up** or **Down** buttons to adjust the parameter value up or down, make a selection, or turn a function on or off.

7. Press the Enter button to save the parameter change and return to the sub-menu level.

Press the **Menu** button to back out of a parameter or sub-menu. Press the **Menu** button again to remove the menu from the screen.

Table 1–13 OSD Menu Structure

Menu	Parameters	Default Value	Domain Range
STATUS	FORMAT	Display only; Non-selectable. The values vary depending on input signal type and configuration settings.	
	COLOR TEMP		
	COMPO LEVEL		
	NTSC SETUP		
	SCAN MODE		
	AUTO STANDBY		
	MODEL		
COLOR TEMP[a]	COLOR TEMP	D65	Selects the color temperature that will become the basis for adjustments where: • D93 = 9300K • D65 = 6500K • D56 = 5600K • USER
	RED GAIN	128	0 to 255
	GREEN GAIN		
	BLUE GAIN		
	RED BIAS	32	
	GREEN BIAS		
	BLUE BIAS		
	RESET	Resets gain and bias to their factory presets.	

Table 1–13 OSD Menu Structure (Continued)

Menu	Parameters	Default Value	Domain Range
MARKER[b]	MARKER ENABLE	ON	ON (enabled) or OFF (disabled)

	AREA MARKER	15:9	Selects the area marker aspect ratio according to the display aspect:
			• Aspect = 16:9
			  • Off
			  • 4:3 Vertical
			  • 15:9 Vertical
			  • 14:9 Vertical
			  • 13:9 Vertical
			  • 1.85:1 Horizontal
			  • 2.35:1 Horizontal
			• Aspect = 4:3
			  • Off
			  • 16:9

	CENTER MARKER	ON	ON (enabled) or OFF (disabled)
	SAFETY	OFF	• 80% • 85% • 88% • 90% • 93% • 95% • OFF
	MARKER LEVEL	1	Sets the luminance (white level) to display safety, center and area marker line, where: • 1 = 50% • 2 = 75% • 3 = 100%

Table 1–13 OSD Menu Structure (Continued)

Menu	Parameters	Default Value	Domain Range
MARKER (Continued)	MARKER MAT	OFF	Sets the area marker mat transparency, where: • OFF = Normal background, use line for area marker edge only • HALF = 50% Back ground brightness • BLACK = Black
VIDEO CONFIG	APERTURE	20	0 to 100
AUDIO CONFIG	SOURCE TYPE	EXT	Used to select the audio source type, where: • EXT = Analog audio (Sets SPEAKER L and SPEAKER R to AUD 1L and AUD 1R respectively.) • EBD = Only selectable for SDI and HDMI signal types • NONE (Sets SPEAKER L and SPEAKER R to OFF.

Table 1–13 OSD Menu Structure (Continued)

Menu	Parameters	Default Value	Domain Range
AUDIO CONFIG (Continued)	SPEAKER L	AUD 1L (EBD 1)	Selects the audio channel assigned to the specified speaker based on the audio source type, where: • If SOURCE TYPE = NONE, then OFF • If SOURCE TYPE = AUD…, then AUD 1L, AUD 1R, AUD 2L, and AUD 2R • If SOURCE TYPE = EBD and the input signal is SDI, then EBD CH1 through EBD CH16 • If SOURCE TYPE = EBD and the input signal is HDMI, then EBD CH1 through EBD CH8
	SPEAKER R		
	METER POSITION	HORIZONTAL	VERTICAL or HORIZONTAL
	METER DISP	OFF	ON or OFF
	METER 1-4DISP	1-4	• 1-2 • 1-4 • OFF
	METER 5-8DISP	5-8	• 5-6 • 5-8 • OFF

Table 1–13 OSD Menu Structure (Continued)

Menu	Parameters	Default Value	Domain Range
AUDIO CONFIG (Continued)	METER 1	OFF	Selects the audio channel assigned to the left speaker based on the audio source type, where: • If SOURCE TYPE = NONE, then OFF • If SOURCE TYPE = AUD…, then AUD 1L, AUD 1R, AUD 2L, and AUD 2R • If SOURCE TYPE = EBD and the input signal is SDI, then EBD 1through EBD 16 • If SOURCE TYPE = EBD and the input signal is HDMI, then EBD 1 through EBD 8
	METER 2		
	METER 3		
	METER 4		
	METER 5		
	METER 6		
	METER 7		
	METER 8		
	REF LEVEL	-20 DB	• -18 DB • -20 DB
	OVER LEVEL	-10 DB	• -2 DB • -4 DB • -6 DB • -8 DB • -10 DB
USER CONFIG	BACKLIGHT	50	Adjusts the backlight (0 to 100)
	LINE 2 INPUT[C]	VIDEO	Selects the Line 2 input type, where: • VIDEO (CVBS) • Y/C • YPBPR
	DVI-I INPUT	DVI-D	Selects the DVI-I Input type: • VGA • DVI-D • HDMI

Table 1–13 OSD Menu Structure (Continued)

Menu	Parameters	Default Value	Domain Range
USER CONFIG (Continued)	AUTO STANDBY	ON	Sets the power saving mode (includes backlight and panel power supply, and signal to panel), where: • ON = The monitor goes into power saving mode if no signal is input for about one minute. • OFF = The monitor keeps power on regardless of the input signal status.
	LANGUAGE	ENGLISH	• ENGLISH • CHINESE (In Chinese)
	COMPO LEVEL	SMPTE	Only for 480i60 component input, where: • SMPTE = 100/0/100/0 signal • BETA0 = 100/0/75/0 signal • BETA7.5 = 100/7.5/75/7.5 signal
	NTSC SETUP	0	Only available for NTSC signals: • 0 =Japan • 709 = North America
	COLOR MATRIX	601	Only applies to 480I60 and 480P60: • 601 • 709
	UMD DISPLAY	OFF	IMD = In Monitor Display: ON or OFF
	UMD COLOR	RED	Color of the text characters: • RED • GREEN • YELLOW • WHITE

Table 1–13 OSD Menu Structure (Continued)

Menu	Parameters	Default Value	Domain Range
USER CONFIG (Continued)	UMD CHARACTER	RMT-170E-HD	A user-definable input of up to 16 alphanumeric characters (also includes some symbols)
	TC DISPLAY	OFF	Displays the time code, where: • ON • OFF
	WAVE FORM	OFF	Displays the waveform: • VECT100 • VECT75 • WAVE • OFF
	WAVE FORM POS	TOP LEFT	Determines the location on the monitor where the waveform displays: • BOT LEFT = The waveform will cover the original information on the screen. • BOT RIGHT = The waveform will cover the original information on the screen. • TOP LEFT = The waveform replaces the position of the FORMAT menu. • TOP RIGHT = The waveform replaces the position of the STATUS menu.
	FORMAT DISPLAY	AUTO OFF	Determines whether the format and scan mode are displayed, where: • ON = Always displayed • AUTO = Displayed for about 10 seconds after change • OFF = Hidden

Table 1–13 OSD Menu Structure (Continued)

Menu	Parameters	Default Value	Domain Range
USER CONFIG (Continued)	CC	OFF	Only available for NTSC (Y/C) signal types: • OFF • CC1 through CC4 • TEXT1 through TEXT 4 • XDS
	F1 BUTTON	MARKER	Sets the function for the designated button, where: • MARKER = Turns all markers ON or OFF • AUDIO METER = Turns all audio meter displays ON or OFF • WAVE FORM = Turns display ON or OFF • H/V DELAY = Toggles the values OFF, H, V, and H/V • AUTO SETUP = Press to auto-adjust • NATIVE = Toggles NATIVE and OFF • BLUE ONLY = Toggles BLUE and NORMAL • MONO = Toggles MONO (monochrome) and NORMAL • UNDEF = No settings
	F2 BUTTON	AUDIO METER	
	F3 BUTTON	H/V DELAY	
	F4 BUTTON	NATIVE	
	F5 BUTTON	AUTO ADJUST	
	F6 BUTTON	BLUE ONLY	

Table 1–13 OSD Menu Structure (Continued)

Menu	Parameters	Default Value	Domain Range
USER CONFIG (Continued)	GPI1	TALLY R	TALLY R, TALLY G, SDI1, SDI2, LINE1, LINE2, DVI-I, H/V DELAY, MONO, BLUE ONLY, NORMAL SCAN, OVER SCAN, NATIVE, ASPECT 4:3, ASPECT 16:9, or MARKER ENABLE
	GPI2	TALLY G	
	GPI3	SDI 1	
	GPI4	SDI 2	
	GPI5	LINE 1	
	GPI6	LINE 2	
CONTROL	KEY INHIBIT	OFF	Inhibits the use of all buttons except **Power**, **Menu**, and **Volume**: ON or OFF

a To modify the options in the COLOR TEMP menu, COLOR TEMP must be set to USER.
b MARKER is disabled when SCAN is NATIVE, or the input signal is DVI or VGA.
c It may be necessary to turn the monitor off for a moment after switching from HDMI to DVI-D or from DVI-D to HDMI to correct momentary translation issues.

Using the Function (F) Keys

When the **OSD Menu** is not displayed, you can press the **F** keys to quickly adjust the following parameters:

Table 1–14 F Key Button Functionality

F Button	Function
1	Marker
2	Audio Meter
3	H/V Delay
4	Native
5	Auto Adjust
6	Blue Only

Technical Functional Overview

Figure 1–7 on page 29 and Figure 1–8 on page 30 illustrate the overall functionality of the RMT-170e HD Series monitors.

Figure 1–7 RMT-170e-SD

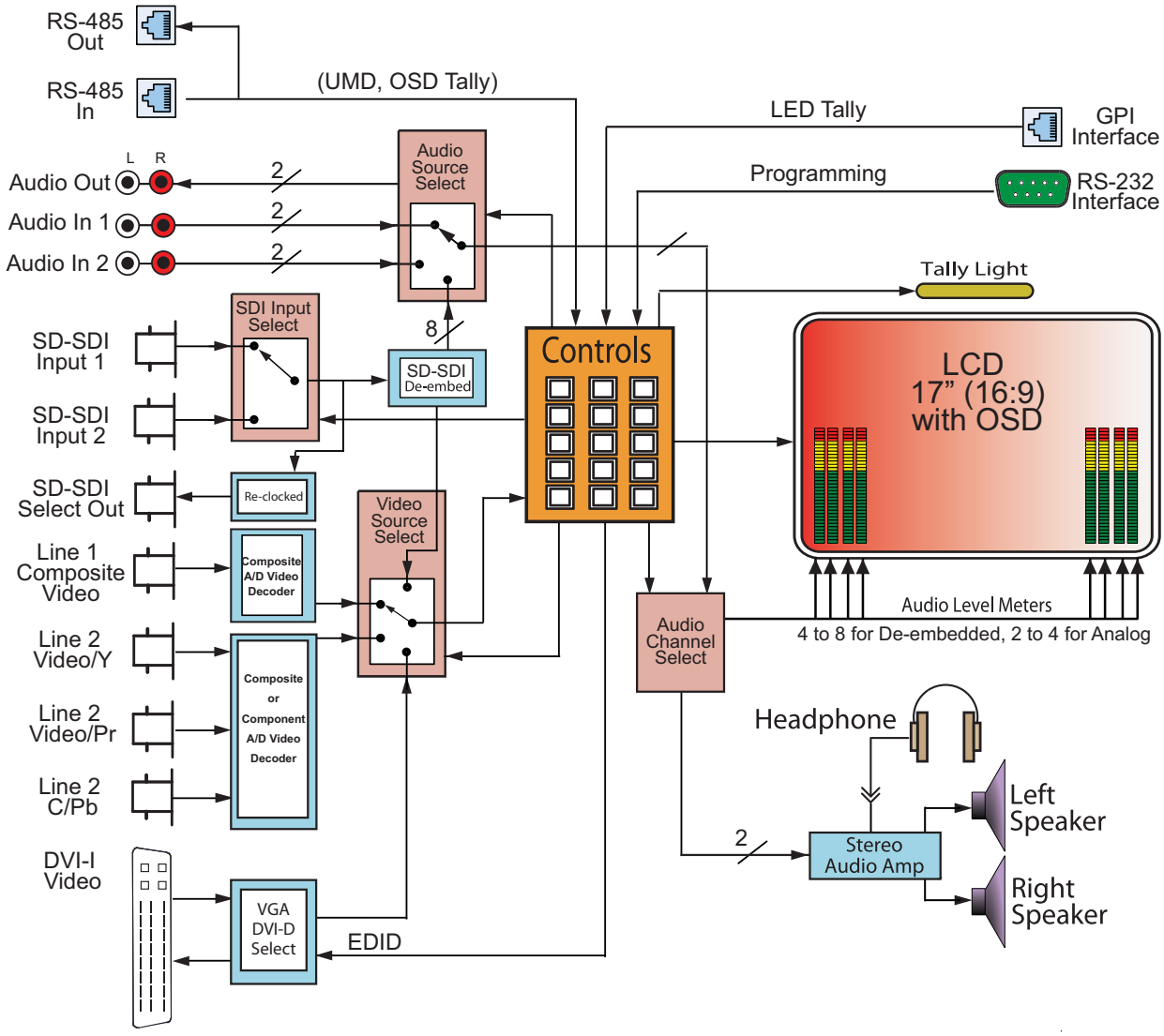


Figure 1–8 RMT-170e-HD