



---

## RMT-173 Series

- RMT-173-RM
- RMT-173-TT

Dual Input, LCD, Multi-Viewer Audio/  
Video Monitors

User Guide

**Part Number 821100, Revision A**

---



VIDEO

31055 Huntwood Avenue  
Hayward, California  
94544 USA



AUDIO

1 800 5 WOHLER  
+1 (510) 870-0810  
Fax +1 (510) 870-0811



CAPTIONING

[www.wohler.com](http://www.wohler.com)  
[info@wohler.com](mailto:info@wohler.com)



LOUDNESS

© 2013 Wohler Technologies, Inc. All rights reserved.

This publication is protected by federal copyright law. No part of this publication may be copied or distributed, stored in a retrieval system, or translated into any human or computer language in any form or by any means electronic, mechanical, manual, magnetic, or otherwise, or disclosed to third parties without the express written permission of Wohler Technologies.

## **Reproduction**

Licensed users and authorized distributors of Wohler Technologies, Inc. products may copy this document for use with Wohler Technologies, Inc. products provided that the copyright notice above is included in all reproductions.

## **Customer Support**

Wohler Technologies, Inc.  
31055 Huntwood Avenue  
Hayward, CA 94544  
www.wohler.com

Phone: 510-870-0810  
FAX: 510-870-0811  
US Toll Free: 1-888-596-4537  
(1-888-5-WOHLER)  
Web: www.wohler.com  
Sales: sales@wohler.com  
Support: support@wohler.com

## **Disclaimers**

Even though Wohler Technologies, Inc. has tested its equipment and software, and reviewed the documentation, Wohler Technologies, Inc. makes no warranty or representation, either express or implied, with respect to software, documentation, their quality, performance, merchantability, or fitness for a particular purpose.

Wohler Technologies, Inc. reserves the right to change or improve our products at any time and without notice.

In no event will Wohler Technologies, Inc. be liable for direct, indirect, special, incidental, or consequential damages resulting from any defect in the hardware, software, or its documentation, even if advised of the possibility of such damages.

Some states do not allow the exclusion or limitation for incidental or consequential damages, so the above exclusion or limitation may not apply to you.

## **Printing**

This document is intended to be printed on a duplex printer, such that the copy appears on both sides of each page. This ensures that all new chapters start on a right-facing page.

This document looks best when printed on a color printer since some images may be indistinct when printed on a black and white printer.

## **Last Update**

October 17, 2013

# RMT-173 Series

---

## Introduction

### Overview

---

The RMT-173 Series dual input, LCD video monitors are high-performance, professional LCD monitors that support advanced 12-bit digital processing technology with 3D comb filter and de-interlace, accurate scaling engine, GAMMA correction and color temperature adjustments to achieve the best possible image display.

The RMT-173 Series supports 2-channel 3G/HD/SD-SDI, Y/C, component, and CVBS signal inputs as well as a single HDMI signal input. Each model can simultaneously display two signal inputs, with three display modes including one full screen display, Picture-In-Picture (PIP) displays or two Picture-By-Picture (PBP) uniform size screen displays.

### Topics

---

Topics	Page
<a href="#">Introduction</a>	<a href="#">1</a>
<a href="#">Safety</a>	<a href="#">2</a>
<a href="#">Installation Recommendations</a>	<a href="#">3</a>
<a href="#">Unpacking and Installation</a>	<a href="#">4</a>
<a href="#">Features</a>	<a href="#">7</a>
<a href="#">Front Panel Features</a>	<a href="#">8</a>
<a href="#">Rear Panel Features</a>	<a href="#">11</a>
<a href="#">Using the Menu System</a>	<a href="#">15</a>
<a href="#">Specifications</a>	<a href="#">29</a>
<a href="#">Technical Function Overview</a>	<a href="#">32</a>

# Safety

## Important Safety Instructions

---

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

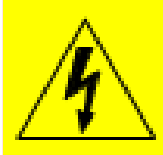
**IMPORTANT:** By design, these monitors will only plug into a three-prong outlet for your safety. If the plug does not fit into your outlet, contact an electrician to replace the obsolete outlet.

6. Protect the power cord from being walked on or pinched, particularly at plug's source on the equipment and at the socket.
7. Use only the attachments/accessories specified by the manufacturer.
8. Unplug the equipment during lightning storms or when unused for long periods of time.
9. Use of a cart is neither recommended nor approved by Wohler.
10. 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.
  - Objects have fallen onto the equipment; or the equipment has been exposed to rain or moisture, or liquid has been spilled onto the equipment.
  - The equipment does not operate normally.
  - The equipment has been dropped.

## 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.

## Installation Recommendations

### Heat Dissipation

---

The ambient temperature around the unit should not exceed 40° Celsius (104° Fahrenheit). Allow plenty of space around the unit for air circulation.

### Mounting/Bracing

---

A table top (-TT) stand or rack mount (-RM) kit may be provided. A standard VESA 100 mounting hole pattern is provided on the back of the unit for use with other mounts (not supplied).

Refer to [Mounting on page 5](#) for instructions on attaching the desktop stand.

## Connections and Cable Recommendations

---

We recommend that you limit the length of the cables that you use for feeding HD-SDI signals sources to the HD-SDI inputs of the RMT-173 Series units and that you use a Belden 1694A cable (or equivalent). The HD-SDI inputs (**IN1** and **IN2**) can be up to 150 meters (492 feet) in length for 1.5 Gbps (HD), more for 270 Mbps (SD) and less for 3Gbps.

**Note:** HDMI 1.3 or 1.4 cable lengths of 2m (6 feet) are guaranteed to work well. Four meters (12 feet) lengths of high quality cable should work well enough, but is not guaranteed for all situations. Longer HDMI cables often degrade signal quality. Active extender transmitter/receiver pairs can be used to cover long distances.

## Electrical Interference

---

Be careful to properly terminate/ground signals and 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 comes with a standard 12 VDC/5 A external power adapter and connects an A/C mains power source (65W, 100 to 240 VAC, 50/60Hz) through the IEC connector provided on the power adapter.

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

# Unpacking and Installation

## Contents

---

While unpacking the components, verify that none of the components are damaged. The selected stand or mounting kit comes in a separate box.

Also verify that the box contains all of the following:

- Monitor

- Adapter (12 VDC)
- Power cord
- User guide CDROM
- Warranty card

## Mounting

---

The RMT-173 Series monitors come standard with either a table top base (RMT-173-TT) or rack ears (RMT-173-RM). A standard VESA 100 pattern accommodates other user-supplied mountings, such as for walls.

To install the table-top base, refer to [Figure 1-1](#) and the instructions that follow. Refer to the instructions included with other mounts when used.

**Figure 1-1 RMT-173-RM Bracket Installation**



## RMT-173 Series

### Unpacking and Installation

1. Place the monitor face down on a smooth surface and, as shown in [Figure 1-1](#), use a screwdriver and the supplied **round head** screws to fasten the bracket to the back of the monitor.

**Figure 1-2 RMT-173-RM Base Installation**



2. Next, again using a screwdriver, attach the base to the bracket, with the supplied **flat head** screws, as shown in [Figure 1-2](#).
3. Place the monitor upright on a solid static-free surface.
4. Connect the signal inputs to the rear panel.
5. Connect the power cord to the rear panel of the monitor and to mains power.
6. Set the **Power** switch on the rear panel of the monitor to **On** (1).



# Features

The RMT-173 Series monitors provide the following features:

- Multi-format analog and digital audio signals
- Adjustment of the parameters for each channel
- High-quality waveform and/or vector monitoring
- Embedded SDI or stereo analog audio through speakers or headphones
- Audio bar graph meters, up to sixteen
- Stereo analog audio line output of selected channel
- Area, safety, and center markers
- Closed captions for CVBS
- Pre-set or user-adjustable color temperature per channel
- Time code for SD/HD-SDI in ANC-packet form and D-VITC for SD-SDI
- Dynamic OSD/IMD tally

# Front Panel Features

The following feature descriptions refer to [Figure 1–3](#) below.

**Figure 1–3 RMT-173 Front Panel (PIP Layout)**



- **Status:** The status is displayed in the upper left corner for the main window and in the upper right corner for the sub-window. It includes the input channel number and signal format. Operation is defined in the DISPLAY menu.
- **Level Meters:** Displays up to 16 channels, in horizontal or vertical orientation. Define the meters setup in the AUDIO SOURCE and METER DISPLAY menu options.

- **IMD:** The 16 characters of the in-monitor display (IMD) can be displayed in red, green, yellow, or white. OSD CONFIG IMD DISPLAY, IMD COLOR, and IMD CHAR define the static operation. The IMD menu defines the dynamic IMD and OSD tally operations.
- **Timecode:** The display format for the timecode is HH: MM: SS: FF. In the event no timecode is available, the monitor will display --:--:--:--. Time code is currently available for SD/HD-SDI ANC-packetized and D-VITC for SD-SDI.
- **Input:** Pressing this button displays the Source menu. Further presses cycle through available main video inputs. Alternately the Up/Dn keys can be used.
- **F1 through F5:** These buttons serve as programmable hot keys. Pressing a Function key displays the Function menu. Pressing the key again toggles the state of that function. Refer to the [Function Key Menu on page 25](#) for details.
- **Menu:** Pressing this button displays the on-screen display (OSD) Menu. Press MENU again to revert one menu level or exit out of MENU mode.
- **Up and Down:** After pressing the **MENU** button, press **Up** or **Down** to move within submenus.
- **ENTER:** After pressing the **MENU** button, pressing this button selects the current menu or menu option. Changes are previewed, but not saved, until you press the **ENTER** button again.

When the OSD Menu is not displayed, you can press the **ENTER** button to quickly adjust the following parameters.

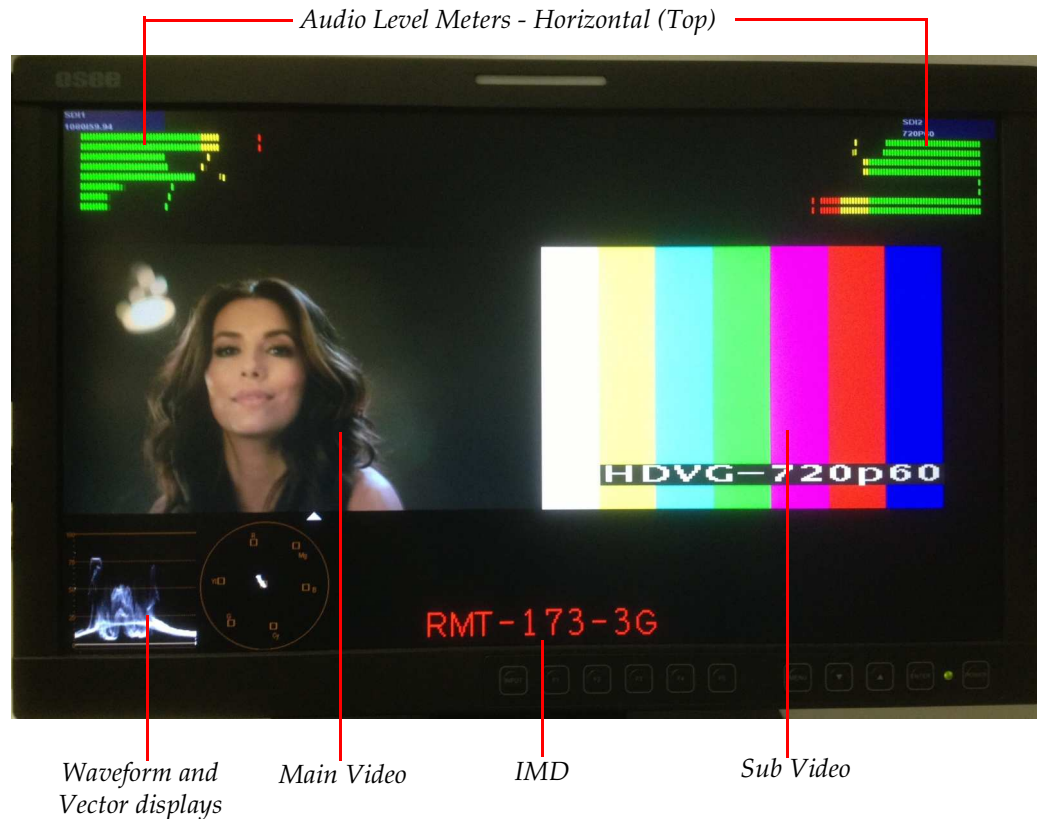
- **VOLUME:** Adjusts the volume from 0 to 30.
- **BRIGHTNESS:** Adjusts the video brightness from 0 to 100, where 50 is the typical value.
- **CONTRAST:** Adjusts the image contrast from 0 to 100, where 50 is the typical value.
- **CHROMA:** Adjusts the color saturation from 0 to 100, where 50 is the typical value.
- **Power LED:** Lights red in standby mode and green when on. When no main input signal is present, it blinks green.
- **POWER (front):** Toggles the monitor to on or standby mode.

## RMT-173 Series

### Front Panel Features

- **PBP Function:** In PIP or PBP screen modes, the SUB window displays the second video input, as defined in the [Config Menu on page 22](#) or the [Function Key Menu on page 25](#).

**Figure 1-4 RMT-173 PBP Layout**



- **Waveform/Vector:** Waveform and Vector displays are controlled by settings in the [Display Menu on page 21](#) and by the WIN SELECT function described in the [Function Key Menu on page 25](#).

# Rear Panel Features

Figure 1-5 RMT-173 Complete Rear Panel



Figure 1-6 RMT-173 Rear Panel - Lower Right



- **DC IN** (jack): Accepts power plug from the included 12 VDC power adapter.
- **Power** (Rocker Switch): Turns power to the monitor on (1) or off (0).



**Figure 1-7 RMT-173 Rear Panel - Upper Left**

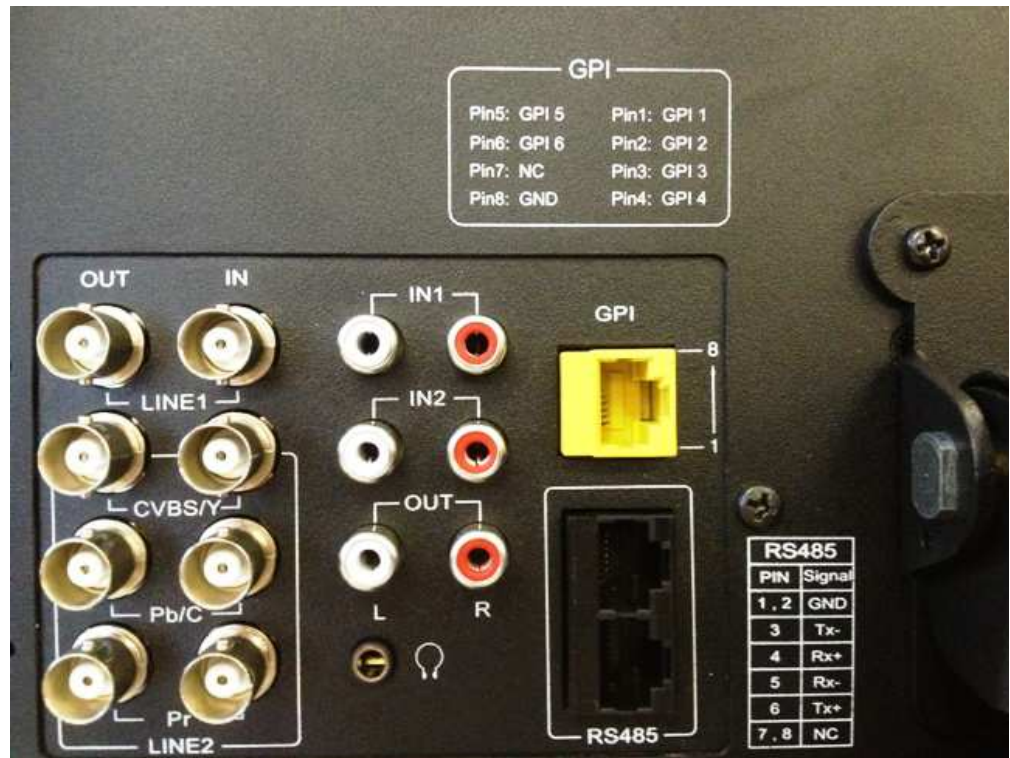


**SDI Video Inputs** (2 BNC) and **SDI Outputs** (2 BNC): These inputs and outputs receive and regenerate the 3G/HD/SD-SDI signals.

**HDMI IN:** Type A HDMI jack accepts non-DHCP HDMI signals in standard broadcast video formats. It can also accept similar DVI-D resolutions with an adaptor (not supplied).

**Ethernet** (RJ-45): Network interface for upgrades and dynamic tally/UMD.

**Figure 1–8 RMT-173 Rear Panel - Lower Left**



- **Line 1 Input and Output** (2 BNC): CVBS composite analog video.
- **Line 2 Inputs and Outputs: CVBS/Y** (2 BNC), **Pb/C** (2 BNC), **Pr** (2 BNC), analog composite, S-video, and component video.
- **Audio Inputs** (4 RCA) and **Outputs** (2 RCA): Each input pair (one for each channel) accepts standard analog audio. Output is from last (video) channel selected as heard from the speakers/headphones.
- **Headphones:** This 1/8" jack receives a standard mini-headphone plug and provides stereo audio. Inserting a plug here, wired or not, will mute the speakers.
- **GPI** (RJ-45): Tally input. Refer to [Figure 1–9 on page 14](#) and [Table 1–1 on page 14](#) for connection details. Refer to the [GPI Menu on page 26](#) for selectable functions.
- **RS485 Ports** (2 RJ-45): Input and output connectors for external control. Refer to [Figure 1–9 on page 14](#) and [Table 1–2 on page 14](#) for connection details.

Table 1–1      GPI Pin Out

Pin	Function
1	GPI 1
2	GPI 2
3	GPI 3
4	GPI 4
5	GPI 5
6	GPI 6
7	NC
8	GND

Figure 1–9      RJ45 Connector Pin Map

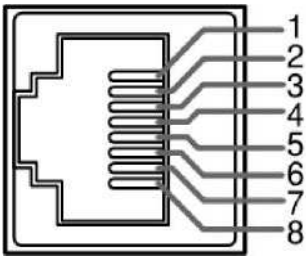


Table 1–2      RS485 Pin Out

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



# Using the Menu System

Configuring the RMT-173 Series monitors is accomplished in the **Menu system**. Each of the menus is explained on this and the following pages.

1. Press the **MENU** button to display the menu.
2. Use the **Up** and **Down** buttons to navigate through the submenus. The submenus are:
  - STATUS MENU (Read-only)
  - INPUT SELECT MENU
  - MARKER MENU
  - AUDIO MENU
  - DISPLAY MENU
  - CLOSED CAPTION MENU
  - CONFIG MENU
  - COLOR TEMP MENU
  - FUNCTION KEY MENU
  - GPI MENU
  - IMD MENU
  - KEY INHIBIT MENU
3. Press the **ENTER** button to move into the parameter selections in the chosen sub-menu.
4. Use the **Up** or **Down** buttons to cycle through the sub-menus and 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.

## Status Menu

Note that none of the options displayed on the STATUS menu are editable.

**Table 1-3 Status Menu**

Parameters	Default Value	Domain Range
INPUT (Main)	Display only; Non-selectable. The values vary depending on input signal type and configuration settings.	
FORMAT		
COLOR TEMP		
SCAN MODE		
FAST MODE		
MODEL		
SERIAL NUMBER		
IP ADDRESS		
COLOR VERSION		

## Input Select Menu

**Table 1-4 Input Select Menu**

Parameters	Default Value	Domain Range	
SDI1	ON	ON/OFF	Setting an input to OFF disables it in the source popup menu, so that <b>INPUT</b> button presses will bypass it.
SDI2	ON	ON/OFF	
LINE1	ON	ON/OFF	
LINE2	LINE2(YPBPR)	<ul style="list-style-type: none"><li>• CVBS</li><li>• LINE2(Y/C)</li><li>• LINE2(YPBR)</li><li>• OFF</li></ul>	
HDMI	ON	ON/OFF	
NTSC SETUP	7.5	<ul style="list-style-type: none"><li>• 0</li><li>• 7.5</li></ul>	•
NTSC PHASE	0	-50 to +50	

## Marker Menu

**Important:** MARKER is disabled when SCAN mode is NATIVE, or when the input signal is DVI or VGA.

**Table 1–5 Marker Menu**

Parameters	Default Value	Domain Range
MARKER	OFF	All markers ON (enabled) or OFF (disabled)
AREA MARKER	OFF	<p>Select the area marker aspect ratio to be displayed. Note: the aspect ratio of the current image will not appear in this list.</p> <ul style="list-style-type: none"> <li>• OFF: turns area marker off</li> <li>• 4:3</li> <li>• 16:9</li> <li>• 15:9</li> <li>• 14:9</li> <li>• 13:9</li> <li>• 16:9</li> <li>• 1.85:1</li> <li>• 2.35:1</li> </ul>
CENTER MARKER	OFF	ON (enabled) or OFF (disabled)
SAFETY MARKER	OFF	<p>Setting the picture safe area size marker proportional to the aspect ratio (determined by the Area Marker setting):</p> <ul style="list-style-type: none"> <li>• OFF</li> <li>• 80%</li> <li>• 85%</li> <li>• 88%</li> <li>• 90%</li> <li>• 93%</li> <li>• 95%</li> </ul>

**Table 1–5      Marker Menu (Continued)**

Parameters	Default Value	Domain Range
MARKER LEVEL	1	<p>Sets the luminance (white level or brightness) to display safety, center, and area marker line, where:</p> <ul style="list-style-type: none"> <li>• 1 = 100%</li> <li>• 2 = 75%</li> <li>• 3 = 50%</li> </ul>
MARKER MAT	OFF	<p>Sets the area marker matte transparency, where:</p> <ul style="list-style-type: none"> <li>• OFF = Normal background, use line for area marker edge only</li> <li>• HALF = 50% Background brightness</li> <li>• BLACK = Black</li> </ul>
CROSS HATCH	OFF	<ul style="list-style-type: none"> <li>• ON enables a 10H x 8V grid for MAIN image in full screen and PIP modes.</li> </ul>

## Audio Menu

The menu sets up the audio sources for each channel according to the last video input selected. Speakers and the analog Audio Output follow the selection accordingly.

**Table 1–6      Audio Menu**

Parameters	Default Value	Domain Range
AUDIO SOURCE	EBD	Used to select the audio source type, where: <ul style="list-style-type: none"> <li>• UNDEF = Disables audio source</li> <li>• AUDIO1 / AUDIO2 = Analog audio Inputs IN1 or IN2 selected</li> <li>• EBD = Embedded audio (only for HDMI and SDI inputs)</li> </ul>
SPEAK OUT L	EBD CH1	Select embedded audio for the left speaker/headphone/line output: <ul style="list-style-type: none"> <li>• OFF</li> <li>• CH1 thru CH16</li> </ul>
SPEAK OUT R	EBD CH1	Select embedded audio for the right speaker/headphone/line output: <ul style="list-style-type: none"> <li>• OFF</li> <li>• CH1 thru CH16</li> </ul>
AUDIO METER	ON	ON / OFF

**Table 1–6 Audio Menu (Continued)**

Parameters	Default Value	Domain Range
METER SELECT	G1-4	<p>Select the audio meters to display:</p> <ul style="list-style-type: none"> <li>• OFF</li> <li>• CH1-2</li> <li>• G1 (Group 1: 4 channels: 1-4)</li> <li>• G2 (Group 2: 4 channels: 5-8)</li> <li>• G3 (Group 3: 4 channels: 9-12)</li> <li>• G4 (Group 4: 4 channels: 13-16)</li> <li>• G1+G2 (Groups 1 &amp; 2: 8 channels: 1-8)</li> <li>• G1+G3 (Groups 1 &amp; 3: 8 channels: 1-4, 9-12)</li> <li>• G1+G4 (Groups 1 &amp; 4: 8 channels: 1-8, 13-16)</li> <li>• G2+G3 (Groups 2 &amp; 3: 8 channels: 5-12)</li> <li>• G2+G4 (Groups 3 &amp; 4: 8 channels: 5-8, 13-16)</li> <li>• G3+G4 (Groups 3 &amp; 4: 8 channels: 9-16)</li> <li>• G1-4 (Groups 1 - 4: 16 channels: 1-16)</li> </ul>
METER DIRECTION	VERTICAL	<p>HORIZ: divided evenly between the left and right sides of the monitor</p> <p>VERT: displayed in a single bank</p>
METER POSITION	BOT LEFT	<p>TOP (HORIZ)</p> <p>BOT (HORIZ)</p> <p>TOP LEFT (VERT)</p> <p>BOT LEFT (VERT)</p> <p>BOT RIGHT (VERT)</p> <p>TOP RIGHT (VERT)</p>
METER DIS MODE	MODE 1	<p>MODE 1: BARS ONLY</p> <p>MODE 2: # &amp; BOX</p> <p>MODE 3: #, BOX, &amp; VALUE TEXT</p>

**Table 1–6 Audio Menu (Continued)**

Parameters	Default Value	Domain Range
REF LEVEL	-20dB	Select the reference level: -20dB or -18dB
OVER LEVEL	-10dB	Select the overload level: <ul style="list-style-type: none"> <li>• -10dB</li> <li>• -8dB</li> <li>• -6dB</li> <li>• -4dB</li> <li>• -2dB</li> </ul>

## Display Menu

**Table 1–7 Display Menu**

Parameters	Default Value	Domain Range
STATUS DISPLAY	OFF	OFF/AUTO/ON
AFD DISPLAY	OFF	OFF/ON
WAVEFORM TYPE	VECT100	<ul style="list-style-type: none"> <li>• OFF</li> <li>• LINE WAVE</li> <li>• WAVEFORM</li> <li>• VECT75</li> <li>• VECT100</li> <li>• MODE 1 (WF + VECT - 75)</li> <li>• MODE 2 (WF + VECT - 100)</li> </ul>
LINE WAVE	OFF	OFF/ON
LINE WAVE NUMBER	MID SCREEN	<ul style="list-style-type: none"> <li>• 0 TO HIGHEST SCAN LINE NUMBER</li> </ul>
WAVE OVER LIMIT	75	50 to 100
WAVE UNDER LIMIT	5	0 to 50
WFM TRANS	OPAQUE	<ul style="list-style-type: none"> <li>• OPAQUE</li> <li>• TRANS 1</li> <li>• TRANS 2</li> <li>• TRANS 3</li> </ul>

**Table 1–7 Display Menu (Continued)**

Parameters	Default Value	Domain Range
WFM POS	LEFT	<ul style="list-style-type: none"> <li>• LEFT</li> <li>• RIGHT</li> </ul>
TIMECODE	OFF	<ul style="list-style-type: none"> <li>• VITC</li> <li>• LTC</li> <li>• D-VITC</li> <li>• OFF</li> </ul>

## Closed Caption Menu

---

**Table 1–8 Closed Caption Menu**

Parameters	Default Value	Domain Range
CLOSED CAPTION	CC1	<ul style="list-style-type: none"> <li>• CC1</li> <li>• CC2</li> <li>• CC3</li> <li>• CC4</li> <li>• TEXT1</li> <li>• TEXT2</li> <li>• TEXT3</li> <li>• TEXT4</li> <li>• OFF</li> </ul>
SDI CC LOG	ON	ON/OFF

## Config Menu

---

**Table 1–9 Config Menu**

Parameters	Default Value	Domain Range
FAST MODE	OFF	<ul style="list-style-type: none"> <li>• OFF</li> <li>• ON</li> </ul>
FILM MODE DETECT	OFF	<ul style="list-style-type: none"> <li>• OFF</li> <li>• ON</li> </ul>



**Table 1–9 Config Menu (Continued)**

Parameters	Default Value	Domain Range
SUB IN TYPE	OFF	OFF/PBP/PIP
SUB IN SELECT	SDI1	INPUTS
PIP SIZE	SMALL	<ul style="list-style-type: none"> <li>SMALL/LARGE</li> </ul>
PIP POSITION	BOT RIGHT	<ul style="list-style-type: none"> <li>TOP RIGHT</li> <li>TOP LEFT</li> <li>BOT RIGHT</li> <li>BOT LEFT</li> </ul>
BACKLIGHT	15	0 to 30
AUTO STANDBY	OFF	ON/OFF
APERTURE	0	0 to 24
LOCK NUMBER	---	8 characters (factory setup)
LANGUAGE	ENGLISH	<ul style="list-style-type: none"> <li>ENGLISH</li> <li>CHINESE</li> </ul>

## Color Temp Menu

**Important:** To make custom modifications to the RGB gains and bias, **COLOR TEMP** must be set to either **USER 1.** or **USER 2.**

**Table 1–10 Color Temp Menu**

Parameters	Default Value	Domain Range
COLOR TEMP	D65	Selects the color temperature (white balance) in degrees Kelvin X 100: <ul style="list-style-type: none"> <li>D93 = 9300K</li> <li>D65 = 6500K</li> <li>D56 = 5600K</li> <li>D50 = 5000K</li> <li>D32 = 3200K</li> <li>USER1 (Set for HDMI and Component Inputs)</li> <li>USER2 (Set by user)</li> </ul>
RED GAIN	Presets Factory Calibrated	0 to 255
GREEN GAIN		
BLUE GAIN		

**Table 1–10 Color Temp Menu (Continued)**

Parameters	Default Value	Domain Range
RED BIAS	Presets Factory Calibrated	0 to 63
GREEN BIAS		
BLUE BIAS		
COPY FROM	---	When USER1 or USER 2 is selected, COPY FROM will copy one of the standard color temperatures to be custom modified.
RESET	Resets User gain and bias to their factory defaults.	

## Function Key Menu

This menu lets you customize what you need each function key to do.

**Table 1-11 Function Key Menu**

Parameters	Default Value	Domain Range
F1 BUTTON	AUDIO METER	Select the function to assign to the function button: <ul style="list-style-type: none"> <li>• SCAN: Enables or disables display.</li> <li>• NATIVE</li> <li>• ASPECT: Toggles between 4:3 and 16:9 scaling (SD only).</li> <li>• BLUE ONLY</li> <li>• MONO</li> <li>• MARKER</li> <li>• H/V DELAY</li> <li>• AUDIO METER</li> <li>• FAST MODE</li> <li>• TC</li> <li>• IMD</li> <li>• MUTE</li> <li>• PBP</li> <li>• CC</li> <li>• FREEZE</li> <li>• WIN SELECT</li> <li>• UNDEF (none)</li> </ul>
F2 BUTTON	NATIVE	
F3 BUTTON	ASPECT	
F4 BUTTON	BLUE ONLY	
F5 BUTTON	PBP	

## GPI Menu

**Table 1–12 GPI Menu**

Parameters	Default Value	Domain Range
GPI 1	TALLY GREEN	Select the function that each GPI will control. <ul style="list-style-type: none"> <li>• AREA MARKER</li> <li>• CENTER MARKER</li> <li>• SAFETY MARKER</li> <li>• ASPECT</li> <li>• NATIVE</li> <li>• OVER SCAN</li> <li>• UNDER SCAN</li> <li>• BLUE ONLY</li> <li>• MONO</li> <li>• H DELAY</li> <li>• V DELAY</li> <li>• H/V</li> <li>• SDI 1</li> <li>• SDI 2</li> <li>• LINE 1</li> <li>• LINE 2</li> <li>• HDMI</li> <li>• LED TALLY GREEN</li> <li>• LED TALLY RED</li> <li>• UNDEF (NONE)</li> </ul>
GPI 2	TALLY RED	
GPI 3	NATIVE	
GPI 4	BLUE ONLY	
GPI 5	MONO	
GPI 6	H/V DELAY	

## IMD Menu

**Table 1–13    IMD Menu**

Parameters	Default Value	Domain Range
IMD DISPLAY	ON	ON = Displays OFF = Does not display
IMD COLOR	RED	Select the color in which to display the IMD text: <ul style="list-style-type: none"> <li>• RED</li> <li>• GREEN</li> <li>• YELLOW</li> <li>• WHITE</li> </ul>
IMD CHARACTER		The IMD text can contain up to 16 characters including all letters, numbers, and some symbols.
IMD PROTOCOL	LOCAL	Select the IMD protocol you want to use: <ul style="list-style-type: none"> <li>• LOCAL</li> <li>• TSL3.1</li> <li>• TSL4.0</li> <li>• TSL5.0</li> <li>• IMAGE VIDEO</li> <li>• NETWORK</li> </ul>
IMD ID	0	Select the IMD ID: 0 through 255
IMD NAME (S/N)	XXXXXXXX XXXXXXXX	The IMD serial number contains up to 16 characters.

**Table 1–13     IMD Menu**

Parameters	Default Value	Domain Range
BAUD RATE	9600	Select the communications baud rate: <ul style="list-style-type: none"> <li>• 2400</li> <li>• 4800</li> <li>• 9600</li> <li>• 19200</li> <li>• 38400</li> <li>• 57600</li> <li>• 115200</li> </ul>
LED TALLY	ON	ON/OFF
OSD TALLY MODE	RG	Select the OSD tally mode: <ul style="list-style-type: none"> <li>• RG: Red/Green</li> <li>• GR: Green/Red</li> <li>• RGY: Red/Green/Yellow</li> <li>• OFF: No OSD Tally</li> </ul>
IMD TALLY MODE	T1	Select the IMD tally mode: <ul style="list-style-type: none"> <li>• T1</li> <li>• T2</li> <li>• T1T2</li> <li>• T2T1</li> <li>• T1-</li> <li>• T2-</li> <li>• T1T2-</li> <li>• T2T1-</li> </ul>
TALLY SOURCE	STANDARD	Select the LED/OSD tally source. Refer to <a href="#">Table 1–2</a> and <a href="#">Figure 1–9 on page 14</a> : <ul style="list-style-type: none"> <li>• STANDARD</li> <li>• IMAGE VIDEO</li> <li>• TSL</li> </ul>

## Key Inhibit Menu

### Key Inhibit Menu

**Table 1–14 Key Inhibit Menu**

Parameters	Default Value	Domain Range
KEY INHIBIT	OFF	<ul style="list-style-type: none"><li>• OFF = Does not inhibit keys</li><li>• ON = Inhibits all keys except POWER and MENU (to make setup changes)</li></ul>

## Specifications

The general specifications of the RMT-173 Series monitors are listed in [Table 1–15](#) below.

**Table 1–15 RMT-173 Specifications**

Specification	RMT-173
Dimensions, including the table stand	12.5" H x 16.5" W x 6.3" D 305 mm H x 420 mm W x 160 mm D
Dimensions, with rack mount	10.3" H (6U) x 19" W x 2.7" D 305 mm H x 483 mm W x 70 mm D
Shipping Weight	13 lbs. (5.9 kg)
LCD Dimension	17.3"
Aspect Ratio	4:3/16:9 (native)
Resolution	1920 H x 1080 V
Color Depth	8-bit, 16.7M colors
Viewing Angle	178° H / 178° V
Brightness	300 cd/m <sup>2</sup>
Contrast Ratio	600:1

Table 1–16 below lists the I/O specifications.

**Table 1–16 RMT-173 I/O Specifications**

Specification	RMT-173 Values
Video Inputs	<ul style="list-style-type: none"> <li>6 BNCs: CVBS, S-Video, YPbPr, 3G/HD/SD-SDI (supports embedded audio)</li> <li>HDMI</li> </ul>
Video Outputs	6 BNCs: Loop out of BNC In
Audio Inputs	4 RCAs: Analog stereo for EXT sources
Audio Outputs	2 RCAs: Analog stereo (monitoring, same as speakers)

Table 1–17 below distinguishes each of the RMT-173 models.

**Table 1–17 RMT-173 Distinctions Among Each Model**

Category	Specification	3G	HD	SD	A
3G-A SDI SMPTE 424M	1080p: (60/59.94/50)	✓	✓	✓	✓
HD-SDI SMPTE 292M, 296M	1080p: (23.98, 24, 25, 29.97, 30) 1080i: (60/59.94/50) 1035i: (60/59.94)\ 720p: (60/59.94/50)		✓	✓	✓
SD-SDI SMPTE 259M	480i: (60/59.94) 576i: (50)			✓	✓
Analog	PAL NTSC				✓

**Note:** 1080psF may display as the equivalent 1080i rates listed above. Segmented-Frame (sF) scan is not supported.

Table 1–18 below lists the specifications for CVBS inputs.

**Table 1–18 RMT-173 CVBS I/O Specifications**

Specification	RMT-173 Values
Signal Type	NTSC, PAL
Signal Amplitude	1V peak-to-peak $\pm 3$ dB
Impedance	75 $\Omega$
Return Loss	> 40 dB $\pm 5$ MHz
DC Offset	0V $\pm 0.05$ V
Frequency Response	$\pm 0.2$ dB to 5 MHz



**Table 1–18 RMT-173 CVBS I/O Specifications**

Specification	RMT-173 Values
Differential Gain	< 1%
Differential Phase	< 1.5°

Table 1–19 below lists the specifications for SDI inputs.

**Table 1–19 RMT-173 SDI Specifications**

Specification	RMT-173 Values
Signal Compliance	SMPTE 424M, SMPTE 299M, SMPTE 296M, SMPTE 274M, SMPTE 259M, SMPTE 292M, SMPTE 291M
Connector	BNC per IEC 169-8
Impedance	75 $\Omega$
Return Loss	>18 dB at 5 to 270 MHz >15 dB at 270 MHz to 1.5 GHz >10 dB up to 3 GHz
Maximum Signal Level	800 mV peak-to-peak, 10%
Signal Amplitude	800 mV peak-to-peak, 10%
DC Offset	0 V $\pm$ 0.5 V
Overshoot	<10%
Total Jitter	<0.2 UI
Rise and Fall Time	3G (3Gb/s): <135 ps HD (1.5 Gb/s): <270 ps SD: <700 ps

# Technical Function Overview

Figure 1-10 below illustrates the overall functionality of the RMT-173 Series monitors.

**Figure 1-10 RMT-173 Block Diagram**

