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MON1-T/7W-HR

3RU, Half-Rack, HD/SD-SDI Video
Monitor

User Guide

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MON1-T/7W-HR

User Guide

Introduction

Overview

The MON1-T/7W-HR model is mounted in a 3RU half-rack width extended length chassis designed to install into a Tektronix® style rack mount “Tek Tub” chassis.

It also features a high-resolution 7" Active Matrix TFT back-lit LCD. Aspect ratio of the screen is 16:9. The LCD can display standard or high definition NTSC or PAL digital video signals and automatically detects and accomodates these formats for display. The LCD display features front panel trim pot controls for contrast and brightness and a power indication LED.

Topics

Topics	Page
Introduction	1
Safety Instructions	2
Installation Recommendations	3
Applications	4
Specifications	5
Front Panel Features	6
Rear Panel Connectors	7
Technical Functional Overview	8

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, "[Installation Recommendations](#)" on [page 6](#).
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, this monitor 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.

Installation Recommendations

Mounting

The unit is designed to install into a standard 19" rack mounted at eye level for best visual observation of the monitor screens.

Heat Dissipation

The ambient temperature inside the mounting enclosure should not exceed 40° Celsius (104° Fahrenheit). Adjacent devices can be rack mounted (or stacked) in proximity to the unit if the above temperature is not exceeded. Allow a 1RU (1.75"/44.45mm) space above and below the unit for air circulation.

Important: To reduce noise, the monitor has no fans. As a result, the heat generated by the power supplies, and other components is vented by slots in the side of the unit. Therefore, as a safety precaution, we advise you to be sure to allow proper ventilation on both sides of the unit.

WARNING! In products featuring an audio amplifier and speakers, the surface at the side of the unit, where the audio amplifier heat sink is internally attached, may get very hot after extended operation. When operating the unit exercise caution when touching this surface and ensure that external materials which may be adversely affected by heat are not in contact with it. There is a Hot Surface label (see diagram) attached to the aforementioned surface of the product.

Power

The unit comes with a standard 12 VDC/2.5 A internal power supply and connects an A/C mains power source (65W, 100 to 240 VAC, 50/60Hz) to the IEC connector provided on the rear panel of the unit.

Features

- Half-Rack 7" LCD high resolution color video monitor
- MON1-T/7W-HR rackmount model fits in 3U half-rack Tektronix™
- One HD/SD-SDI (auto-sensing) input on BNC connector
- Buffered and equalized HD/SD-SDI output on BNC connector
- SDI "lock" indication LED on rear panel
- 16:9 aspect ratio
- Wide viewing angle
- Recessed front panel controls for brightness and contrast
- Minimal power dissipation for a low operating temperature
- Low power consumption
- Power indication LED
- Internal universal AC mains power supply

Applications

The MON1-T/7W-HR monitor is ideal for video monitoring for mobile trucks, news and transmission control rooms, duplication and post-production applications.

Specifications

The specifications for the MON1-T/7W-HR are listed in [Table 1-1](#) below.

Table 1–1 Specifications

Specification	Value
Display Size (diagonal):	7.0" (17.8 cm)
Display Type:	High-resolution TFT LCD , Transmissive
Video Formats:	NTSC/PAL autosensing
Signal Input Type:	75 Ω BNC (SMPTE 259M, SMPTE 292M autodetect)
Display Image Controls:	Brightness and contrast
Aspect Ratio:	16:9 Wide
Active Area (HxV):	155.00 x 87.12 (mm)
Resolution (dots x lines):	854 Pixels X 3 (RGB Dots) X 480 Lines (1.2M "Megadots")
Dot Pitch (HxV):	0.0605 x 0.1815 (mm)
Pixel response Time:	7 ms rising (typ.); 18 ms falling (typ.)
Color Configuration:	RGB Stripe
Color Numbers:	262,000
Viewing Angle:	top=50°, bottom=60°, left=65°, right=65°
Contrast Ratio:	450 (typ.)
Brightness:	400 (typ.) NITs (cd/m ²)
LCD Lamp Life:	15,000 hours (avg.). to specified reduction
Power Consumption:	10W typical, 30W max
Power Supply:	100 to 240VAC, 47 to 63Hz, universal input, internal, CE & UL approved
Chassis Type:	3U, 1/2 rack wide with 19" rack mounting (EIA-310D) in Tektronix® Tub
Dimensions (HxWxD):	5.125 x 8.375 x 16.75" (213 x 130 x 425mm)
Weight:	5.5 lbs (2.5 kg)

Table 1–2 LCD Display Video Raster Format Parameters

Format	Scan Format Standards	Frame Rate	Lines	Active Lines	Samples	Active Samples
SDTV, 54	RP 174	60	525	507/487	3432	2880
SDTV, 36	SMPTE 267	60	525	507/487	2288	1920
SDTV, 27	SMPTE 125	60	525	507/487	1716	1440
SDTV, 54	ITU-R BT 601.5	50	625	577	3456	2880
SDTV, 36	ITU-R BT 601.5	50	625	577	2304	1920
SDTV, 27	ITU-R BT 601.5	50	625	577	1728	1440
HDTV, 74.25	SMPTE 260	30	1125	1035	2200	1920
HDTV, 74.25	SMPTE 274	30	1125	1080	2200	1920
HDTV, 74.25	SMPTE 274	30p	1125	1080	2200	1920
HDTV, 74.25	SMPTE 274	25	1125	1080	2640	1920
HDTV, 74.25	SMPTE 274	25p	1125	1080	2640	1920
HDTV, 74.25	SMPTE 295	25	1250	1080	2376	1920
HDTV, 74.25	SMPTE 274	25p	1125	1080	2750	1920
HDTV, 74.25	SMPTE 296 (1, 2)	60p	750	720	1850	1280

Front Panel Features

Figure 1–1 MON1-T/7W-HR Front Panel

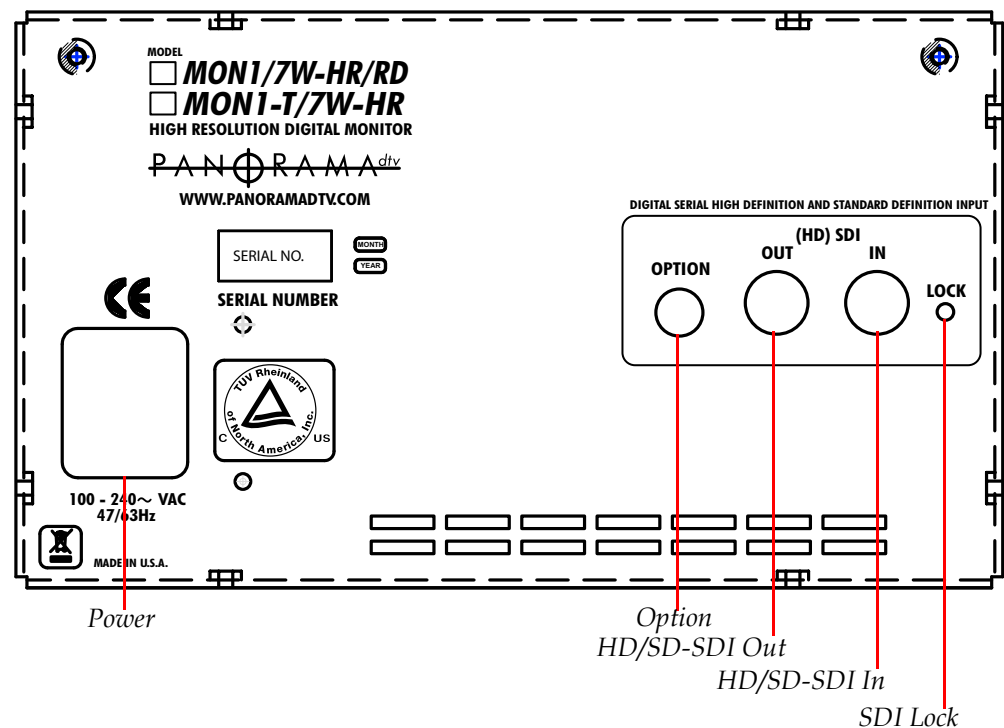


- **Power:** This LED glows green to indicate the units power connector is connected to mains power and an operation voltage is present.
- **Brightness:** This rotary knob adjusts for desired screen brightness.

- **Contrast:** This rotary knob adjusts for desired image scene, dark-to-bright contrast.
- **Video LCD Display:** The video input formats PAL/NTSC, HD, and SD are automatically detected and accommodated.

Rear Panel Connectors

Figure 1–2 MON1-T/7W-HR Rear Panel



- **Power Connector:** Attach a standard IEC-320 power cord between this connector and mains power. The front panel Power LED (Item 1) will glow green to indicate that an operating voltage is present.
- **Option Switch:** This 10-position BCD switch is used to select the bootload and fill options. Fill options display a solid field of 100% of selected color in the absence of an incoming video signal. For

normal operation, the switch must be set to 1, 2, 3, or 4. Settings are shown in the table below:

Table 1–3 Option Switch Settings

Setting	Description
0	Test
1	Black fill
2	Red fill
3	Green fill
4	Blue fill
5 ^a	Internal Test
6	Reserved
7	
8	
9	Not Used

a If the unit is powered while the switch is set to position 5, a cyan fill will be displayed on the screen.

- **HD/SD-SDI Out:** This connector outputs an buffered and equalized copy of the SD-SDI or HD-SDI signal entering the SDI Input Connector.
- **HD/SD-SDI In:** This female BNC connector input accepts either SD-SDI or HD-SDI inputs of various SMPTE standards (see LCD Display Video Raster Format Parameters table on page 6) and is terminated at 75Ω.
- **SDI Lock Indication LED:** This LED glows green to indicate that the SDI source signal connected to the SDI input is "locked".

Technical Functional Overview

Figure 1–3 illustrates the overall functionality of the MON1-T/7W-HR.

Figure 1–3 MON1-T/7W-HR Block Diagram

