VMM-4SNY
Integrated Test and Measurement Module for Sony® LCD Monitors

The Videotek® VMM-4SNY module is the first integrated, professional test and measurement device for Sony® LCD monitors, and represents a new concept in monitoring for video and audio sources.

Providing a cost-effective alternative to test equipment housed in separate rack-mount units, the VMM-4SNY module fits into the following Sony monitors: BVM-E170, BVM-E250, BVM-L170, BVM-L230, LMD-1751W, LMD-2050W, LMD-2051W, LMD-2450W, LMD-2451W, LMD-4250W, LMD-4251W, PVM-L1700, PVM-L2300, and PVM-L3200. The audio output is connected to the monitor’s internal speakers (when available) with no external connections.

### FEATURES
- Modular test and measurement solution for professional Sony® LCD monitors; includes internal audio (internal speakers in the monitor are required and available only in certain Sony® models) and video connections to the monitor
- Cost-effective alternative to test and measurement equipment in separate rack-mount units
- HD/SD-SDI capabilities with optional upgrade to 3G-SDI
- Control via web interface or RCU-CMS
- Meters 16 channels of embedded audio
- Two terminating SDI inputs
- One AES audio input
- One external reference input
- MLT display with independent size and position of waveform, vector and picture
- Selectable quad or full-screen display of picture, waveform, vector, gamut, timing, picture, alarms and audio
- Powered by the monitor; no external power supply
- 99 presets

### SPECIFICATIONS
Specifications are subject to change without notice.

#### Inputs
- Input Type .................. 2 terminating inputs
- Input Connector Type ........ BNC, female
- Input Impedance ............. 75 ohms nominal
- Signal Source Amplitude ...... 800 mV nominal
- Signal Source DC Offset ...... ±0.5 VDC

#### SD-SDI Input
- Input Return Loss ............ ≤-25 dB, 5 to 270 MHz
- Cable EQ ...................... ≥300 m, Belden 8281

#### HD-SDI Input
- Input Return Loss ............ ≤-15 dB, 5 MHz to 1.485 GHz
- Cable EQ ...................... ≥100 m, Belden 8281

#### 3G-SDI Input
- Input Return Loss ............ ≤-10 dB, 1.485 to 2.97 GHz
- Cable EQ ...................... ≥80 m, Belden 1694A

#### External Reference Input
- Input Connector Type ........ BNC, female
- Input Type .................. Terminating
- Input Impedance ............. 75 ohms nominal
- Blackburst Input Amplitude NTSC: sync and burst 286 mV, nominal
  PAL: sync and burst 300 mV, nominal
- Blackburst Input Amplitude Tolerance ±6 dB
- Return Loss .................. ≤-40 dB

#### Digital Audio Input
- Audio Formats ................ AES/EBU and embedded
- AES Input Connector Type .......... 1 BNC, female
- AES Input Impedance ............. 75 ohms, nominal
- AES Input Return Loss ........... >25dB, 0.1 to 6 MHz
- AES Input Level ................. 0.2 to 2 V
- Input Sample Rate ............. AES 32 kHz, 44.1 kHz, 48 kHz, 88.2 kHz, 96 kHz
  (internal sample rate converted to 48 kHz)

The VMM-4SNY comes standard with two HD-SDI/SD-SDI input connections with embedded audio support, an AES input connection and an external reference connection. The unit offers optional 3G-SDI capability. Waveform, vector, gamut, timing, picture, alarms or audio can be viewed in a quadrant or as individual full-screen displays. The module also offers a scalable waveform, vector and picture display, and can meter 16 channels of embedded audio and/or the AES input.

Functional control is enabled through a standard Ethernet connection via a web browser or an optional remote control panel (RCU-CMS).
## VMM-4SNY
### Integrated Test and Measurement Module for Sony® LCD Monitors

#### Audio Monitoring
- **Number/Connector**: Internal
- **Source**: Any audio input pair may be selected for the audio monitoring (internal monitor speakers) output

#### Communication Interfaces
- **Ethernet**: 1 Ethernet port, RJ-45 connector 10/100Base-T
- **LTC/GPIO**: 2 LTC/GPIO connectors push-pin type
- **LTC**: Nominal input amplitude: 2 V pk-pk
- **4 General-Purpose Inputs**: Input impedance: 10K ohms returned to 3.3 VDC

#### Waveform/Vector Display — SDI Inputs
- **Line-Select**
- **Waveform Formats**: YC, Cb, RGB, YRGB, YC, Cb + alpha, RGB + alpha; SDI as composite
- **Sweep Rates**: 1 H, 2 H, 3 H, 4 H, 1 V, 2 V, 3 V, 4 V
- **Sweep Magnification**: x0.50, x1, x5, x10
- **Waveform/Vector Gain**: Fixed: steps of 1x, 2.5x, 5x; Variable: 0.5x to 15x in 0.01 steps

#### Power Requirements
- **Power Consumption**: 12 W nominal from monitor power supply

#### Mechanical
- **Dimensions (H X W X D)**: 0.77 x 7.90 x 6.30 in. (1.96 x 20.01 x 16.08 cm)
- **Weight**: 1.30 lbs (0.59 kg)

#### Environmental
- **Operating Temperature**: 32° to 95° F (0 to 35° C)
- **Storage Temperature**: -4° to 140° F (-20° to 60° C)
- **Humidity (non condensing)**
  - Operating: 30% to 80%
  - Non-operating: 5% to 90%
- **Transportation**: 24 in. (9.5 cm) impact-drop survivable in original factory packaging
- **Operating Altitude**: 6562 ft (2000 m)
- **Pollution Degree**: 2

#### Ordering Information
- **VMM-4SNY**: Video and audio monitoring module for Sony® monitors; supports HD-SDI and SD-SDI input formats and up to 16 channels of embedded audio, as well as 1 AES audio input; the VMM-4SNY supports external reference of black burst or tri-level sync; the 720p 60 Hz internal output is supported by several Sony® LCD monitors, including the BVM-E170, BVM-E250, BVM-L170, BVM-L230, LMD-1751W, LMD-2051W, LMD-2450W, LMD-2451W, LMD-4250W, LMD-4251W, PVM-L1700, PVM-L2300, and PVM-L3200
- **VMM-4SNY-3GB**: Video and audio monitoring module for Sony® monitors; supports 3G-SDI, HD-SDI and SD-SDI input formats and up to 16 channels of embedded audio, as well as 1 AES audio input; the VMM-4SNY supports external reference of black burst or tri-level sync; the 720p 60 Hz internal output is supported by several Sony® LCD monitors, including the BVM-E170, BVM-E250, BVM-L170, BVM-L230, LMD-1751W, LMD-2051W, LMD-2450W, LMD-2451W, LMD-4250W, LMD-4251W, PVM-L1700, PVM-L2300, and PVM-L3200
- **VMM-H23GBF**: Field upgrade for 3G-SDI input option; software upgrade enables the 3G-SDI input formats
- **RCU-CMS**: Remote control panel option; provides the remote control panel for desktop applications; includes Ethernet connection software for setup of the RCU and IP addresses of connected units; controls up to 32 units
- **PTC-4**: Portable case with tilt stand for RCU-CMS desktop application
- **DRT-4**: Double rackmount tray for RCU-CMS and CMN-41; use BLK-4 to fill unused space if needed

---

**Contact Information**

NA +1 800 231 9673 • CALA +1 786 437 1960 • EA +44 118 964 8200 • MESA +971 4 433 8250 • APAC +852 2776 0628

**www.broadcast.harris.com**

©2010 Harris Corporation

0711