

Videotek® CMN-41-3GB

Multiformat Onscreen Monitor



The Videotek® Compact Monitor Series CMN-41-3GB family of multiformat onscreen monitors provide the smallest solution on the market for efficient video and audio signal monitoring. The CMN-41 tests signal quality across all DTV formats up to 3 Gb/s. Available in two versions, the CMN-41-3GB with DVI-D output and the CMN-MV-3GB with 720p/59.94 SDI output. Both models possess two SDI inputs and provides selectable waveform, vector, gamut, timing and picture full-screen display.

With Videotek compact monitors you can meter all 16 channels of embedded audio or one AES input. You can also view the waveform of the composite or tri-level external reference to verify signal integrity and customize the MLT display with independent size and position of waveform, vector and picture.

Features

- Dual looping 3G/HD/SD inputs standard
- Existing SD and HD/SD units can be upgraded to 3G/HD/SD
- Metering of all 16 channels of embedded audio
- One AES audio input
- Quad display of audio, picture, waveform and vector
- Thumbnail picture with adjustable size and position
- 608, 708 closed-caption detect, alarm, display
- Teletext detect, alarm, display
- OP-47 HD subtitle display
- Waveform display of external reference or LTC input
- Overlay display with independent size and position of waveform, vector and picture
- DVI-D external display output (CMN-41-3GB)
- 720p/59.94 SDI display output (CMN-MV-3GB)
- 99 presets
- Standard four-pin XLR DC power input (AC adapter supplied)
- Convection cooled, silent operation (no fan)
- Front-panel headphone jack
- Front-panel USB port for save/recall of presets, screen captures and SDI captures
- Dual rackmount option available
- Desktop case with tilt bail option available

Details

A standard 11-17 VDC power input provides flexible powering for both fixed installations and field operation. Low power consumption allows the use of convection cooling for energy-saving, silent operation.

The CMN-41-3GB and CMN-MV-3GB can be mounted in either a dual rackmount tray or a standalone desktop case. Each package has a compact half-rack footprint less than seven inches deep — a short mounting depth that integrates easily with today's LCD monitors.

Packages exist for both the CMN-41-3GB and CMN-MV-3GB to be paired with the VSG-401 Compact Video and Audio Signal Generator and rack mounting hardware, for a cost-effective, comprehensive test and measurement set, all fitting into a narrow depth 1RU form-factor.

Specifications

Specifications and designs are subject to change without notice

INPUTS	
Input Type	2 active looping 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 to 1.485 GHz)
Cable EQ	≥100 M, Belden 8281

3 GB/S SDI INPUT	
Input Return Loss	≤-10 dB (1.485 to 2.97 GHz)
Cable EQ	≥80 M, Belden 1694A

EXTERNAL REFERENCE INPUT	
Input Type	Passive looping
Input Connector Type	BNC female
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
Tri-level Sync Amplitude	600 mV pk-pk
Tri-level Sync Amplitude Tolerance	±3 dB
Return Loss	≤-40 dB 100 kHz to 5 MHz

DIGITAL AUDIO INPUT	
Audio Formats	AES/EBU, embedded
AES Input Connector type	1 BNC female
AES Input Impedance	75 ohms nominal
AES Input Return Loss	>25 dB (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)

SDI OUTPUT	
Output Connector Type	BNC female
Output Impedance	75 ohms
Output Return Loss	≤-15 dB (5 MHz to 1.485 GHz) ≤-10 dB (1.485 to 2.97 GHz)
Output Signal Level	800 mV ±10%
Output DC Offset	0 V ±0.5 V

ANALOG MONITORING OUTPUT – HEADPHONE

Number/Connector	One 1/8 in (3.5 mm) headphone jack
Load Impedance	16 ohms nominal
Maximum Output Level	44 mW RMS
Total Harmonic Distortion and Noise (THD+N)	≤-65 dB
Level Adjustment	From maximum output level to 0 mV with front-panel control
Source	Any audio input pair may be selected to appear on the headphone output

DVI OUTPUT (EXCEPT CMN-MV-3GB)

Output Connector	DVI-I connector, supporting DVI-D
Output Resolution	1024x768 (XGA)
H-Sync Rate	48.363 Hz ±1%
V-Sync Rate	60.004 Hz ±1%

COMMUNICATION INTERFACES

Ethernet	1 Ethernet port, RJ45 connector, 10/100Base-T
USB	1 USB 2.0 host port (except CMN-41L)
LTC/GPIO	1 LTC/GPIO connector 15-pin female D-sub
LTC	Nominal input amplitude: 2 V pk-pk
Four General Purpose Inputs	Input impedance: 10 K ohms returned to +3.3 VDC
One General Purpose Output	Relay closure

WAVEFORM/VECTOR DISPLAY – SDI INPUTS

General	A full-screen display for viewing an input as picture, waveform, vector, audio, alarm status, or timing
Waveform	Composite; YC _B C _R or RGB, parade/overlay of like formats
Sweep time base	1 or 2H with x1, x5, and x10 horizontal magnification 1 or 2 V with x1, x5, and x25 horizontal magnification
Waveform accuracy	≤±0.5%
Vector	C _B vs. C _R for HD or SD
Vector accuracy	≤1°
Gamut	Encoded or RGB gamut displays with upper and lower limit selection
Audio	2, 4, 6, 8, or 16-channels displayed simultaneously

WAVEFORM DISPLAY – EXTERNAL REFERENCE AND LTC

Waveform Amplitude Accuracy	±5%
Waveform Frequency Response	25 Hz to 4.5 MHz within ±5% of amplitude at 50 kHz

CAPTIONING

CC608	EIA/CEA-608-E
CC708/DTVCC	EIA/CEA-708-D
Teletext	EN 300 706 Presentation Level 1 teletext and subtitles
HD Teletext	OP-47 delivery of EN 300 706 teletext and subtitles

MECHANICAL	
Dimensions (H x W x D)	1.75 x 8.5 x 6.98 in. (4.45 x 21.59 x 17.73 cm)
Weight	1.9 lbs (0.862 kg)
POWER REQUIREMENTS	
Power Connector	15 VDC nominal 11 VDC minimum 17 VDC maximum
Power Consumption	15 W nominal
Over-Voltage Protection	±50 VDC nominal
ENVIRONMENTAL	
Operating Temperature	32° to 122° F (0° to 50° C)
Storage Temperature	-22° to 149° F (-30° to 65° C)
Humidity (non condensing)	Operating: 20% to 80% Non-operating: 5% to 90%
Transportation	24 in. (9.5 cm) impact drop survivable in original factory packaging
Altitude	6562 ft (2000 m)
Pollution Degree	2

Ordering Information

CMN-41-3GB	Compact Monitor Series multiformat onscreen monitor, 3G/HD/SD-SDI inputs, DVI-D output, 1RU, half rack
CMVS-DVI	Compact Monitor and Signal generator test set, includes CMN-41-3GB (DVI OUTPUT), VSG-401 and the DRT-4
CMN-MV-3GB	Compact Monitor Series multiformat onscreen monitor, 3G/HD/SD-SDI inputs, SDI output, 1RU, half rack
CMVS-SDI	Compact Monitor and Signal generator test set, includes CMN-MV-3GB (SDI OUTPUT), VSG-401 and the DRT-4
CMN-H23GB-F	Upgrade CMN-41 or CMN-MV to support 3 Gb/s, field upgrade
CMN-S23GB-F	Upgrade CMN-41-S or CMN-MV-S to support HD and 3 Gb/s, field upgrade
CMN-S2H-F	Upgrade CMN-41-S or CMN-MV-S to support HD, field upgrade
RCU-CMS	Remote control panel
BLK-5	Blank panel for left or right side of DRT-4
DRT-4A	Double rackmount tray for CMN-41 and CMN-MV, use BLK-4 to fill unused space if needed
PTC-4	Desktop case for CMN-41, CMN-MV and RCU-CMS

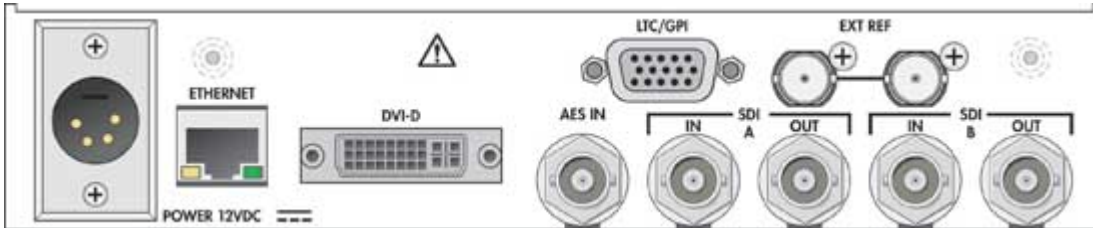
CMN-41 Front Panel



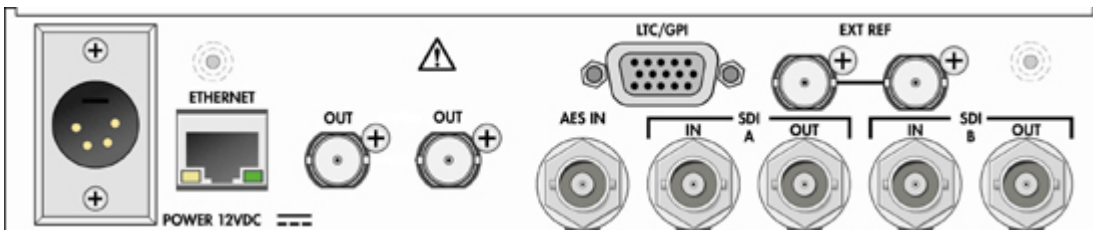
CMN-41 and CMN-MV Front Panel



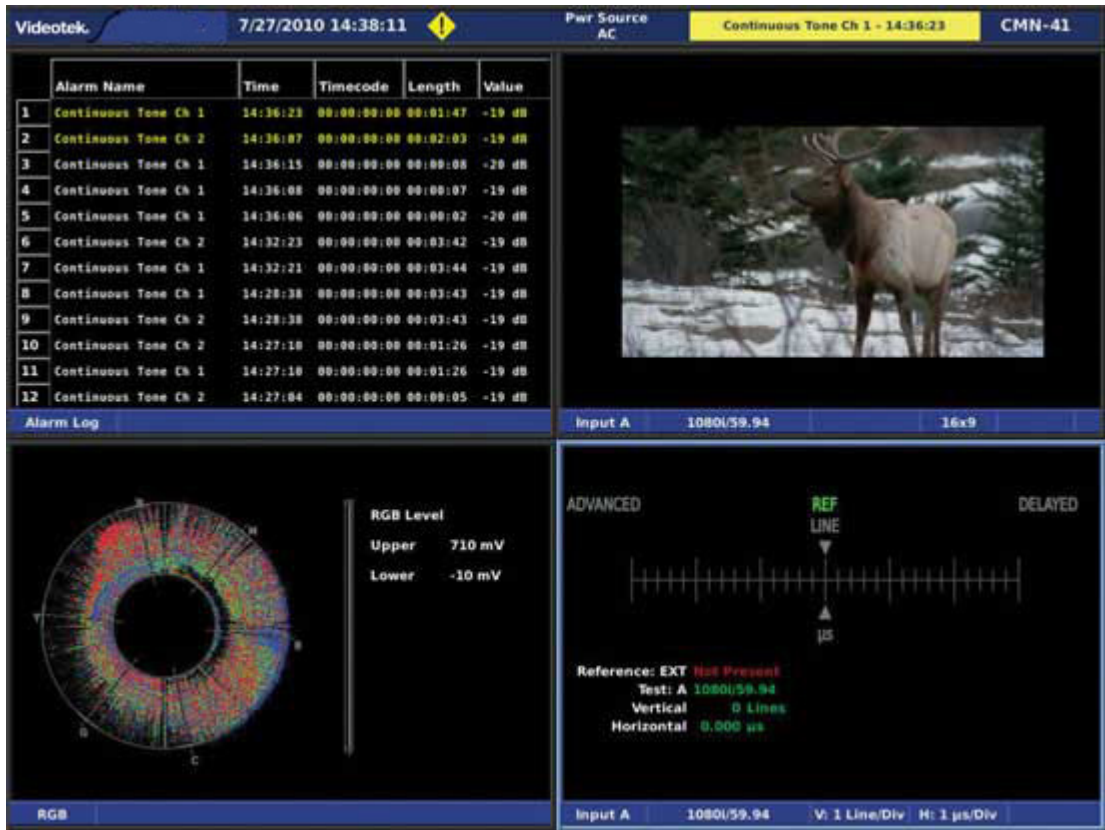
CMN-41 Back Panel



CMN-MV Back Panel



CMN-41 Compact Monitor screen capture with quad display showing picture, alarms, gamut and timing



Compact Monitor Series screen capture in Overlay mode with waveform, vector and PiP display. Each component of the display is individually resizable

