

Videotek® CVM-306-3GB

Compact Multiformat Signal Analyzer



The Videotek® CVM-306-3GB multiformat signal analyzer delivers integrated video and audio signal monitoring in an affordable, compact package. With a robust feature set and space-saving design, the CVM-306-3GB allows even the most modest installation to benefit from high-end monitoring and a professional look.

CVM-306-3GB possesses two triple-rate (3G/HD/SD) inputs, and selectable waveform, vector, gamut, timing and full-screen picture display. You can meter all 16 channels of embedded audio or the one AES input, with integrated speakers that can monitor any two selected channels. You can also customize the integrated LCD display with independent sizing and positioning of waveform, vector and picture, or select from the following quad displays:

- Waveform or timing
- Vector or gamut
- Audio, alarm pane or alarm status
- Picture

The 3RU CVM-306-3GB chassis is less than seven inches deep and integrates easily with today's consoles. An 11-17 VDC power input comes standard, and low power consumption allows the use of convection cooling for silent operation.

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
- Speaker output of two selected channels with dedicated volume control
- One AES audio input
- Thumbnail picture with adjustable size and position
- 608, 708 closed-caption detect, alarm, display
- Teletext detect, alarm, display
- OP-47 HD subtitle display
- DVI-D external display output
- Waveform display of external reference or LTC input
- LCD display with independent sizing and positioning of waveform, vector and picture
- Selectable quad display with waveform or timing, vector or gamut, audio or alarms, and picture
- 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
- 99 presets
- SNMP alarming and monitoring

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 V DC

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

3 GB/S-SDI INPUT

Input Return Loss	≤-10 dB (1.485 to 2.97 GHz)
Cable EQ	≥80 M, Belden 1694A

OUTPUTS

SDI Output

Output Connector Type	BNC female
Output Impedance	75 ohms
Output Return Loss	≤-15 dB (5 MHz to 1.485 GHz)
Output Return Loss	≤-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	1 1/8 in. (3.5 mm) stereo headphone jack
Load Impedance	16 ohms nominal
Maximum Output Level	44 mW RMS
Total Harmonic Distortion + 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

ANALOG MONITORING OUTPUT (SPEAKERS)

Load Impedance	8 ohms nominal
Maximum Acoustic Output Level	96 dB SPL at 2 ft, 997 Hz sine wave into left and right speaker
Level Adjustment	From maximum output level to ambient with front panel control
Source	Any audio input pair may be selected to appear on the headphone output EMB 3 Gb/s-SDI, EMB HD-SDI, EMB SD-SDI or AES

ANALOG MONITORING OUTPUT (LINE OUT)

Number/Connector	1x 6-pin connector
Load Impedance	1 K ohms minimum
Maximum Output Level	2 V pk-pk ±10% 0 dBFS, 997 Hz sine with digital audio input of 0 dBFS

ANALOG OUTPUT FREQUENCY RESPONSE

With Digital Inputs	±1.0 dB 20 Hz to 18 kHz
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ANALOG OUTPUT SNR

With Digital Inputs	≥80 dB relative to 2 V pk-pk; measured at 997 Hz; noise measurement 22 Hz to 22 kHz; A-weighted
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ANALOG OUTPUT THD + NOISE

With Digital Inputs	0.1%; measured at +20 dBu output, 997 Hz sine into a hi-Z load; Filter: 22 Hz to 22 kHz; AES 1/2
Crosstalk (stereo separation)	≤-80 dB @ 0 dBFS, 997 Hz, sine; adjacent channels only

EXTERNAL REFERENCE INPUT

Input Connector Type	BNC female
Input Type	Passive looping
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)

DVI OUTPUT

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 Port	1 Ethernet port, RJ45 connector, 10/100Base-T
USB	1 USB 2.0 host port, USB type A receptacle
LTC/GPIO	1 LTC/GPIO connector 15-pin female D-sub
LTC	Nominal input amplitude = 2 V pk-pk
4 General Purpose Inputs	Input impedance 10 K ohms returned to +3.3 VDC
1 General Purpose Output	Relay closure

WAVEFORM/VECTOR DISPLAY – SDI INPUTS

Line Select Waveform Formats	YCbCr; RGB; YRGB; YCbCr + Alpha; RGB + Alpha; SDI as composite
Sweep Rates	1H, 2H; 1 V, 2 V
Sweep Magnification	x1, x5, x10
Waveform/Vector Gain	Fixed: steps of 1x, 2.5x, 5x Variable: 0.5x to 15x in 0.01 steps

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

POWER REQUIREMENTS

Power Connector	15 VDC nominal 11 VDC minimum 18 VDC maximum
Power Consumption	40 W nominal
Over-Voltage Protection	±50 VDC nominal

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)	5.22 x 18.94 x 6.47 in. (13.26 x 48.11 x 16.43 cm)
Weight	6.15 lbs (2.79 kg)

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

CVM-306-3GB	CVM series compact video monitor/multiformat signal analyzer with integral LCD and speakers, SD and HD and 3G-SDI, 3RU
CMN-S23GB-F	Upgrade CMN-41-S, CMN-91-S, or CVM-306-S to support HD and 3G-SDI, field upgrade
CMN-S2H-F	Upgrade CMN-41-S, CMN-91-S, or CVM-306-S to support HD-SDI, field upgrade
CMN-H23GB-F	Upgrade CMN-41, CMN-91, or CVM-306 to support 3G-SDI, field upgrade