



VTM-420HD/SD

VIDEOTEK™
A Zero Defects Company

The **VTM-420HD/SD** fortifies Videotek's family of multi-format on screen test and measurement equipment by expanding the features found in the line's first HD instrument, VTM-400HD. The capabilities include auto-recognition and detection of HD and SD serial digital formats. Closed caption information is decoded and displayed with selectable text size. The system updates the display and graticule to show new formats automatically. The unit has been designed to parade or overlay two video sources of two like formats. The optional Ethernet connectivity increases network adaptability; while the built-in router control ports affords expandability for up to 24 inputs. System enhancements include the optional audio input capabilities that now include metering and monitoring of Dolby Digital® and Dolby® E formats along with analog, digital AES/EBU and embedded. The audio displays include bar graphs and Videotek's unique CineSound® display for 5.1 and 7.1 channels of audio. Other audio option enhancements include the addition of a meter selection, increased scale markings and resolution, reference level selection and user selectable meter labels. The optional frame capture used for storing animate of the display allows for transfers to personal

computers for logging, e-mail, FAX, and/or printing. A SpyderWeb™ unattended network monitoring software system for single user control and monitoring is included with every unit has also been enhanced. These enhancements include a link in the alarm log for stored frame captures associated with an alarm and transferring capabilities.

FEATURES:

- Two multi-format Standard definition/High definition Digital video inputs
- Auto detection of input formats: SD or HD720p, 1080i, 1080p, 525/60, 625/50
- Closed captioning detection and display
- Input signal strength display
- Two router control ports, enables expandability to 24 inputs using Videotek's RS single bus digital router
- A-B parade/ overlay inputs and filters (synchronous and same format)
- Settable alarm parameters and limits
- XGA (1024 x 768) monitor multi-tasking output
- Selectable display formats 4:3, 14:9, 16:10 and 16:9
- Line select, all lines
- Time code input with on screen display
- On screen measurement cursors
- Assignable GPI's to allow for external triggers with user defined text that appears in alarm list
- Interfaces with SpyderWeb™ and STM-350 test and measurement streamer
- Single connection SpyderWeb™ software

VIDEO

INPUT SIGNALS:

Two dual standard, self-terminating inputs accepting Standard definition, SMPTE 259MC formats or High definition SMPTE 274M, 292M and 296M formats
Including: 525/59.94, 625/50, 1080i/60, 1080i/59.94, 1080i/50, 1080p/30, 1080p/29.97, 1080p/25, 1080p/24, 1080p/23.98, 1080/30sf, 1080/29.97sf, 1080/25sf, 1080/24sf, 1080/23.98sf, 720p/60, 720p/59.94, 720p/50, 720p/30, 720p/29.97 and 480p/59.94 mapped to 1080i/59.94

DATA RATE:

270 Mb/s and 1.485 Gb/s, auto detect

CONNECTORS:

2 BNC, 75 (terminating)

LEVEL:

800 mV, nominal

INPUT EQ:

Up to 80 meters of 8281 at either 270 Mb/s or 1.485 Gb/s

RETURN LOSS:

≥8 dB 5 MHz to 270 MHz
≥5 dB 270 MHz to 1.485 GHz

REFERENCE

INPUT:

Analog Blackburst, composite video or tri-level sync

LEVELS:

286 mV p-p ± 6 dB for blackburst NTSC
300 mV p-p ± 6 dB for PAL sync and burst
600 mV p-p ± 3 dB for tri-level

IMPEDANCE:

Hi-Z looping

RETURN LOSS:

≥45 dB, 0 to 5 MHz

CONNECTORS:

BNC, 75Ω looping

XGA OUTPUT

R, G, B LEVELS: 1 V p-p, nominal

R, G, B IMPEDANCE: 75Ω

HORIZONTAL SYNC:

Negative TTL pulse @ 48,363 Hz ± 1%

VERTICAL SYNC:

Negative TTL pulse @ 60.004 Hz ± 1%

DISPLAY ACCURACY:

± 1% waveform and ± 1° vector over the entire display

CONNECTOR:

15-pin HD (high density), female

XGA MONITOR REQUIREMENTS

Must be capable of displaying 1024 x 768 progressive @ 60Hz (VESA Standard #9011101A)

AUDIO OPTIONS

INPUTS: (ANALOG)

Eight monophonic or four stereo channels, balanced or unbalanced

MAXIMUM INPUT LEVEL:

+24 dBm (600Ω)

INPUT CONNECTOR AND IMPEDANCE:

37-pin D-sub, ≥20 kΩ

INPUTS: (DIGITAL)

Eight AES/EBU serial digital pairs
Sixteen embedded audio channels
One Dolby AC-3 stream (Option 8 only)
One Dolby E stream (Option 8 only)

INPUT CONNECTORS AND IMPEDANCE:

Eight 75Ω, BNC, female

OUTPUTS: (ANALOG)

MONITOR OUTPUT:

Eight monophonic or Four stereo channels, balanced or unbalanced, follows selected audio input. Dolby inputs (Option 8) produce a two channel mix down output.

OUTPUT SIGNAL LEVEL:

±6 dB adjustable. For digital audio, -20 dBFS produces a +4 dBm analog output level.

OUTPUT CONNECTOR AND IMPEDANCE:

37-pin D-sub, 10Ω unbalanced or 20Ω balanced, nominal

SIGNAL TO NOISE:

100 dB (relative to signal level out of +24 dBu), typical

CONTROL

GPI:

A and B input selection, On-air Tally, Memory sequence, XVGA bypass, Capture Frame, Transfer captured frame, Clear alarms, Reset CRC errors

GPO:

Two Alarms, user configured

CONNECTOR:

26-pin HD (high density) D type female

INPUT IMPEDANCE:

10 kΩ returned to +5 VDC

ALARM OUTPUT:

Relay closure

MAXIMUM RELAY CURRENT:

100 mA

EXTERNAL ROUTER CONTROL:

Two separate RJ-11 female, for use with Videotek RS-12 series routers for input expansion

REMOTE CONTROL

CONNECTOR:

9-pin D-sub, female

KEYBOARD INTERFACE:

PS/2 compatible for remote control with loop through for multiple user configuration

CONNECTOR:

6-pin mini DIN (PS/2), female

COMMUNICATIONS:

RS-232/422 selectable, No parity, 8 data bits, 1 stop bit, supported baud rates: 19200, 38400, 57600 and 115200
Optional Ethernet port 10/100 Base-T

CONNECTORS:

9-pin D-sub, female
RJ-45 Ethernet female (optional)

DISPLAY

GENERAL:

Picture, waveform, vector, audio and alarms list in a partitioned display or the picture, waveform, vector or audio separately in full screen display

WAVEFORM:

YCbCr or RGB or composite for 60I and YCbCr or RGB for HD, parade/overlay of like formats

SWEEP TIME BASE:

1H or 2H, 1V or 2V with X1, x5 and x10 horizontal magnification

WAVEFORM ACCURACY: ≤1%

VECTOR:

Cb vs. Cr for HD
Composite or Cb vs. Cr for 60I

VECTOR ACCURACY:

± 1°

AUDIO: (optional)

2, 4, 6 or 8 channels displayed simultaneously

POWER REQUIREMENTS

POWER INPUT:

90 to 264 VAC, 50/60 Hz

POWER CONSUMPTION: 115 VA

MECHANICAL

DIMENSIONS:

Height: 1.75" (4.5 cm)
Width: 19.0" (48.3 cm)
Depth: 19.75" (50.2 cm)

WEIGHT:

9.3 lb. (4.2 kg)

ENVIRONMENTAL

OPERATING TEMPERATURE:

0° to 50° C

STORAGE TEMPERATURE:

-40° to 65° C

HUMIDITY:

90% maximum (non-condensing)

OPERATING ALTITUDE:

To 10,000 feet (3,050 m) above sea level

STANDARD ACCESSORIES

Operator's manual

One 26-pin D-sub, male for GPI/Tally/LTC breakout
Rackmount Kit
Power cord

SpyderWeb™ software SW-IP:

Alarm logging, remote control, and unattended monitoring for one VTM-300/400HD series via RS-232/422, or over a LAN, WAN, or Internet using network IP communications.
Includes cable SW-ADK-2.

OPTIONS

VTM-OPT 7A:

8 analog, AES/EBU and embedded audio inputs for both SD and HD inputs with displays of up to 8 inputs at once, including CineSound™ display. Outputs up to eight channels of analog audio.

VTM-OPT 8:

8 analog, AES/EBU and embedded inputs plus Dolby® E and AC-3™ inputs for both SD and HD video inputs, with displays of up to 8 inputs at once, including CineSound™. Outputs up to eight channels of analog audio

VTM-OPT 9:

8 analog, AES/EBU and embedded inputs plus Dolby® E and AC-3™ inputs for both SD and HD video inputs, with displays of up to 8 inputs at once, including CineSound™. Output up to 8 analog channels including full Dolby® decoding and one digital audio output from an embedded source
Available October 2003

FC-400:

Internal Frame Capture

SpyderWeb™ SW-M.6:

SpyderWeb™ Software for monitoring multiple units via RS-422 multi-drop interconnections. Alarm logging, remote control, and unattended monitoring for 1 to 6 VTM-300/400HD Series.
Includes cable SW-ADK-2

SpyderWeb™ SW-M.12:

SpyderWeb™ Software for monitoring multiple units via RS-422 multi-drop interconnections. Alarm logging, remote control, and unattended monitoring for 1 to 12 VTM-300/400HD Series.
Includes cable SW-ADK-2

SpyderWeb™ software SW-IP.6:

For monitoring multiple units using network IP communications. Alarm logging, remote control, and unattended monitoring for 1 to 6 VTM-300/400HD series over LAN, WAN, or Internet. Includes cable SW-ADK-2

SpyderWeb™ software SW-IP.12:

For monitoring multiple units using network IP communications. Alarm logging, remote control, and unattended monitoring for 1 to 12 VTM-300/400HD series over LAN, WAN, or Internet. Includes cable SW-ADK-2

RCU-420HD/SD:

Remote control panel for use with the VTM-420HD/SD

ENET-420:

Internal Ethernet Connection for VTM-420HD/SD. Built-in 10/100 Base-T Ethernet port. Factory installed

VTM MOBILE OPT.2:

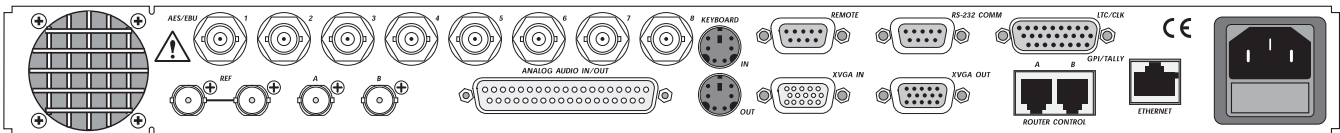
Accommodates: VTM-330E* and VTM-420HD/SD*

* PAL models when VGA output set to the fixed VESA standard



VTM Mobile Opt.2

Add portability to any VTM-300/400HD Series or VTM-200 Series (NTSC only) model with a fold out, adjustable viewing angle 15" active matrix TFT LCD display (1024x768 resolution) mounted in a shock resistant lightweight carrying case.



VTM-420HD/SD BACK PANEL