Viper I

Portable Fiber Optic Broadcast Production Systems

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The Viper I family from Grass Valley, a Belden Brand, including our reel mounted Sidewinder system, handles all your signals on one lightweight fiber cable. Both systems are modular and provide two-way video (NTSC/PAL or HD-SDI), audio, intercom and data transport.

These flexible, interoperable systems let you create your own configuration of Mussel Shell, rack mounted "442" or reel mounted modular units. Use with our TAC Cable battlefield proven cables and connectors.

Viper I Portable Fiber Optic Broadcast Production Systems

KEY FEATURES

- Multichannel video and audio
- HD-SDI and/or NTSC/PAL video
- Mic/line analog and/or AES audio
- RTS 2-Wire, Clear-Com or 4-Wire intercom
- RS-232/422 and CCU data + GPI paths
- Ethernet 10/100 or Gigabit for VoIP and laptop connections (Viper only)
- Reel, Mussel Shell and 442 rack mount
- Multimode or single-mode fiber
- Convenient plug-in modules
- Battery or AC operated
- Anton/Bauer Snap-On option
- Alarmed UPS protection
- Extra-low power consumption
- Wide temperature range
- Military tactical cable and connectors

SPECIFICATIONS

Video Tx/RX103 Module Set (NTSC/PAL)

Interface: RS-170, NTSC, PAL

I/O impedance (differential input, isolated from ground): 75Ω

Level, blanking level clamped to 0 V: 1 Vp-p

Freq. response:

(30 Hz to 5.0 MHz): ±0.15 dB

(-3 dB point, min.): 9 MHz

Signal to noise (weighted) min/typ: 68/71 dB

Differential gain: <2%

Differential phase: <1°

Luminance nonlinearity: <2%

Chrominance-luminance intermodulation distortion: <1%

Delay inequalities: <10 ns

Gain inequalities: ±1 IRE

Line time distortion: <0.5 IRE

Field time distortion: <2 IRE p-p

Short time distortion: <3 IRE p-p

Long time distortion: <1 IRE peak

Dynamic gain, picture and sync: <1%

Video TX/RX259 Module Set

For 270 Mb/s SDI Video, conforms to SMPTE-259M specifications, see Tx/Rx259 datasheet

Video TX/RX292 Module Set

For SDI and up to 1.5 Gb/s HD-SDI video, conforms to SMPTE-292M specifications, see Tx/Rx292 datasheet

Audio TX/RX280 and TX/RX380 Module Sets

Digital transmission: 18-bit

Sampling rate (samples/s): 48 kS/s

Input impedance (balanced): 5 kΩ and 600Ω

Output impedance (balanced): 30Ω

Input levels:

(max, low Z) dBm: -22, 8 and 18

(max, high Z) dBV: -24, 6 and 16

Output level, line, max: 18 dBm standard, 24 dBm optional

Frequency response at 8 dBm, 20 Hz to 22 kHz: ±0.2 dB

Total harmonic distortion + noise: 20 Hz to 20 kHz at 8 dBm: <0.05%

1 kHz at 18 dBm: <0.01%

Signal to noise ratio, unweighted, 20 Hz to 20 kHz, RMS: (ref. to 18 dBm clip reference): >90 dB

Auxiliary (requires 2-way TX/RX280 audio paths)

Intercom interface: 2 ch. 4-Wire (bal.) or 2-Wire (RTS or Clear-Com)

Signal to noise ratio (ref. to 10 dBm): 70 dB

CCU/data interface: RS-422, RS-232, or Sony CCU (e.g., RM-M7, RM-P3)

Transmission rate: 0 to 150 kb/s

Contact closure:

Port Input: Normally high TTL level

Logic 1 = open remote contacts; connect to ground (Logic 0) to actuate

Output: Form 1A SPST, "normally open" isolated contacts

Electro-Optical (typ.)

Operating wavelength: 1310 nm

Transmitter (Tx) output into cable (dBm)

TX103, TX280: -14 (-10W/CWDM)

TX259 -8 (0W/CWDM)

TX292 -7.5 (0W/CWDM)

Receiver (Rx) sensitivity (dBm)

RX103, RX259: -25

RX292: -22

RX280: -30

Operating wavelength: 1550 nm

Transmitter (Tx) output into cable (dBm)

TX103, TX280: -12

TX259: -8 (0 with CWDM)

TX292: 0*

Receiver (Rx) sensitivity (dBm)

RX103, RX259: -27

RX292: -22*

RX280: -30

Mechanical/Electrical/Environmental

Reel (incl. Sidewinder):

Dimensions (W x H x D):

S: 304.8 x 304.8 x 304.8 mm (12 x 12 x 12 in.)

M: 381 x 406.4 x 330.2 mm (15 x 16 x 13 in.)

L: 457.2 x 533.4 x 355.6 mm (18 x 21 x 14 in.)

Weight, empty:

S: 5.4 kg (12 lbs.)

M: 6.8 kg (15 lbs.)

L: 12.7 kg (28 lbs.)

Mussel Shell: 8-module

Dimensions (W x H x D): 368.3 x 355.6 x 76.2 mm (14.5 x 14 x 3 in.)

Weight (nominal, loaded): 4.5 kg (10 lbs.)

422 rack mount chassis:

Dimensions, w/o mounting ears (W x H x D): 424.18 x 88.9 x 266.7 mm (16.7 x 3.5 x 10.5 in.)

Weight: 3.6 kg (8 lbs.)

Power consumption, nominal (loaded with 4/8 modules): 10/20W

No. of video module slots available (Mussel/442/Sidewinder): 4/4/2

No. of dual audio module slots available (Mussel/442/Sidewinder): 4/4/2

Video connectors (NTSC and HD-SDI): BNC

Audio connectors (analog and AES): 3-pin XLR, male or female

Intercom connectors (duplex, on intercom module):

RTS module (one dual channel) one 3-pin XLR, male

Clear-Com® modulle (2 channels) two 3-pin XLR, male

4-Wire module (2 channels) two 5-pin XLR, male

Optical connectors/ attachment:

Inside Mussel Shell or Sidewinder reel hub — to modules: ST-type

Cable Plug End: 4-pin military hermaphroditic plug (MX or Delphi)

Mussel Shell: 4-pin military hermaphroditic receptacle (MX or Delphi)

Rack mount 442 Enclosure (see MCRV breakout below): ST-type

Power connector: 4-pin XLR

Battery mount (optional): PAG or Anton/Bauer Snap-on Gold Mount

Input voltage range: 12 to 24 VDC (30 VDC max.)

Operating temperature range: -40° to 70° C (-40° to 158° F)

Humidity range: 0 to 95% non-condensing

*For HD-SDI over distance at 1550 nm, requires single-mode fiber and DFB/CWDM laser.

ORDERING

Contact your Grass Valley sales representative.

WWW.GRASSVALLEY.COM

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