

Telecast
Fiber Systems, Inc.

Sidewinder™

Fiber Optic ENG/SNG Snake



The Sidewinder is the portable fiber optic snake for your analog and digital video, audio, intercom and data communications applications.

The **Sidewinder** is the all-purpose snake linking your remote camera or switch site to your news vehicle, mobile production unit or uplink. Fiber optics flawlessly maintain video, audio and intercom signal quality regardless of distance or conditions.

Signal Quality is Improved

Fiber optics solve all the electromagnetic and RF transmission problems associated with ordinary copper. These problems become even greater with new digital video technology, and the new Sidewinder solves them all.

You Save Time and Effort

The lightweight fiber optic cable pays out flexibly as you walk. Simply plug in your BNCs and XLRs, and shoot. No equalization and no tweaking. Set up is effortless. And so is teardown. You get in and out...*fast*.

Ten Times the Distance, but only One Tenth of the Weight

The Sidewinder extends your reach to more than 20 kilometers without repeaters. The basic Sidewinder is available on small, medium or large reels, with 500 feet (152 meters), 1,000 feet (305 meters), or 2,000 feet (610 meters) of cable. Add more reels of cable to go as far as you want. Military connectors plug reels together quickly.

Widely Used, Now Better

The Sidewinder is used around the world by TV stations and networks. It is used by the White House, and it has become a standard communications system of the U.S. Army. Now the Sidewinder hub accommodates standard Viper™ plug-in modules, so you can reconfigure in the field, and upgrade to digital and high definition television (HDTV) as your needs arise.

Features

- *Rugged, Portable Unit*
- *NEW interchangeable modules*
- *Military tactical cable*
- *Military standard connector*
- *2 Video, 4 Audio, Intercom & Data*
 - *Serial Digital Video, including*
 - *ITU-R 601 (270 Mbps)*
 - *SMPTE-292M (Hi-Def)*
 - *Wideband NTSC/PAL video*
 - *Studio quality, RS250-C (SH)*
 - *Mic/Line audio, 18-bit digital*
 - *AES/EBU digital audio optional*
 - *Intercom: RTS, Clear-Com or 4-wire*
 - *2 channels of duplex data incl.*
 - *RS232, RS422, Sony CCU, tally*
- *Quick, easy set-up & tear down*
- *Noise-free transmission*
- *Long distance, no repeaters*
- *Mussel Shell or Rack-mount option*
- *Multimode or single mode fiber*
- *Battery or AC operated*
- *Anton/Bauer Snap-On® option*
- *Alarmed UPS protection*
- *Extra-low power consumption*
- *Wide temperature range*

Applications

- *Electronic News Gathering*
- *Satellite News Gathering*
- *Mobile Satellite Links*
- *Outside Broadcast Cabling*
- *Sports Telecasts*
- *Telecomm Services*
- *Emergency Restoration*
- *Military/Government*
- *Facility Interconnections*

Faster set up in portable operations

You Don't have to be a fiber expert

You can deploy the Sidewinder by pulling the lightweight fiber cable from the reel, or by carrying the reel as the cable pays out behind. Even with 1,000 ft. of Tac-4 cable, the reel only weighs about 33 pounds. The Sidewinder's optical connections are inside the reel. In day-to-day operations, you plug in BNCs & XLRs, not fiber optic connections.

Sidewinder consists of our "OX-Frame" Reel

- Three sizes of stackable Reel available for the Sidewinder
 - Small size holds 152 meters (500 ft) of Tac-4 cable
 - Medium size holds 305 meters (1,000 ft) of Tac-4 cable
 - Large size holds 610 meters (2,000 ft) of Tac-4 cable
- Smooth operating with sealed bearings and variable brake
- Internal electronics are plug-in transmitters & receivers
 - Same modules used in the Mussel Shell and in our Viper
 - Modularly reconfigure signal direction, or upgrade to digital
- Fly-away cases hold Reel and all equipment



TAC-4 Cable Assemblies Tougher than Coax

Telecast's TAC-series fiber cables and industry-standard "hermaphroditic" connectors are designed for military battlefield use—and have become the standard in field teleproduction. They stand up to temperature extremes, vehicle traffic and flexing better than coaxial or wire cables. Three sizes of Telecast OX-Frame™ reels give you the length you need.



and a portable *Mussel Shell* enclosure

- Weather resistant, durable, modular enclosure
- Houses UPS plus up to 8 transmitter or receiver modules
- Mix & match analog or digital video & dual audio or AES/EBU
- Usable with Telecast Viper system as well
- Quick hermaphroditic 4-pin connector is industry standard

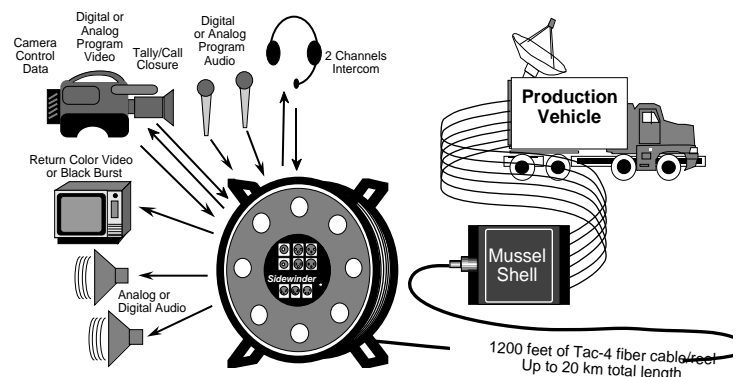


or Specify the Rack Mount Viper 442 Enclosure

- For placement in a vehicle, media center or other fixed location
- Houses up to 8 TX/RX modules, 4 used per Sidewinder reel
- Low profile unit also includes UPS and auxiliary data
- Uses simple, standard ST type connectors

Batteries or AC — Uninterruptable power

- All units operate on 12 to 24 VDC, battery or AC/DC adapter
- Anton/Bauer battery mount optional on Mussel Shell & Reel
- Alarmed rechargeable UPS included — 30 min. backup
- Consumes only about 10 watts fully loaded (4 modules)
- LED indicators show signal status and power status



The Sidewinder carries all your analog or digital signals on one durable fiber cable, making it the perfect portable system for today's and tomorrow's high quality production.

Faster set up, outstanding quality



All the signals you need...on one cable

Digital and analog video, digital and analog audio, intercom, data, camera control, and tally. Change your signals by simply changing modules. Evolve to high definition at your own pace.

Flawless signals...*instantly*.

You don't have to spend your valuable set-up time tweaking and solving cable problems. The Sidewinder replaces your noisy coaxial and wire cables with noise-free fiber optic cable. No interference, no signal loss, no high frequency signal rolloff.

Today's Wideband PAL/NTSC Analog Video

You demand the highest quality for your video signals, and the Sidewinder delivers it. Plug in the **TX/RX103** module set and get 9 MHz wide video with S/N of 70 dB, exceeding the industry's comprehensive EIA/TIA-250-C(SH) standards.

"Future Proof" with Hi-Def Digital Video

Transition to serial digital video with easy plug-in modules. Whether you need data rates as low as 19.4 Mb/s, 601 component video transmission at 270 Mb/s, or uncompressed HDTV at 1.5 Gb/s, our **TX/RX292** laser module set handles them all.



Link to your Facility's Backbone

The Sidewinder makes an excellent extension to your permanently installed fiber optic backbone network, such your building, your campus, or your event venue. With your Mussel Shell or your rack frame located at your central site, you tie in with the reel unit at remote wiring closets or pedestals. From there you have full mobility anywhere on or around your facility.

Imagine! Your facility's fiber backbone now becomes an important part of your mobile production link. Move from node to node by merely plugging into your network with the quick fiber connector.

Digitally Transmitted Analog Audio

Telecast digitally delivers clean, clear audio signals, too. Each module multiplexes and transmits or receives two independent mic or line audio channels—flat from 20 Hz to 22 kHz. Auxiliary intercom and data channels are also multiplexed onto the duplex TX/RX280 set.

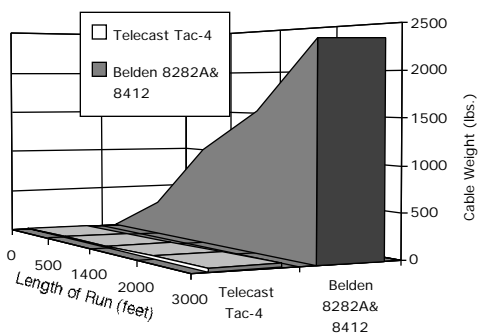
AES/EBU Digital Audio, too

Support your digital AES/EBU audio needs with our **TX/RX260** digital audio modules. Fits into an audio module slot.

Auxiliary Intercom, Data/CCU and Tally

The Sidewinder comes standard with two channels of Clear-Com® or 4-wire intercom, or one dual channel Telex RTS®, plus two channels of duplex data—RS422, RS232, Sony CCU, or switch closure interfaces for tally, call, etc.—digitally multiplexed onto your bidirectional TX/RX280 audio streams. User controls for 2-wire intercoms include input gain, output gain, null, termination and belt pack power on/off. The Sidewinder can also translate between intercom types, so your Clear-Com user can communicate with the RTS user. Or you can interface to your truck with 4-wire, and drive 2-wire belt packs in the field.

How much time and effort can you save?



over 95% savings

Weight comparison of Telecast Tac-4 fiber cable (only 20 lbs per 1,000 ft) versus coax and audio pairs for just four video plus eight audio channels

For each 3,000 ft., the Sidewinder eliminates **over a half ton** of copper cable.

Specifications

Video

TX/RX103 Module Set (NTSC/PAL)	<i>shown for 1300/1550nm</i>
Interface	RS-170, NTSC, PAL
Input/Output impedance (Differential input, isolated from ground)	75 Ohms
Level, blanking level clamped to 0 V	1Vp-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 dB/71 dB
Differential Gain	< 2%
Differential Phase	< 1°
Luminance Nonlinearity	< 2%
Chrominance-Luminance Intermodulation Distortion	< 1.0%
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 & Sync	< 1%

TX/RX259 Module Set For 270 Mbps SDI Video
Conforms to SMPTE-259M specifications; see TX/RX259 data sheet

TX/RX292 Module Set For up to 1.5 Gbps HDTV SDI Video
Conforms to SMPTE-292M specifications; see TX/RX292 data sheet

Audio

TX/RX280 & TX/RX380 Module Sets

Digital Transmission	18-bit
Sampling Rate (samples/sec)	48k
Input Impedance (balanced)	5 k & 600
Output Impedance (balanced)	30
Input Levels (max, Lo Z) dBm	-22, +8 and +18
(max, Hi Z) dBV	-24, +6 and +16
Output Level, line, max.+ 18 dBm standard, +24 dBm optional	
Frequency Response (@ +8 dBm), 20 Hz to 22 kHz	±0.2 dB
Total Harmonic Distortion + noise	
20 Hz to 20 kHz (@ +8 dBm)	<0.05%
1 kHz (@ +18 dBm)	<0.01%
Signal to Noise Ratio, unweighted , 20 Hz to 20 kHz, RMS	>90 dB
(ref. to +18 dBm clip Reference)	

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	RS422, RS232, or Sony CCU (e.g., RM-M7, RM-P3)
Transmission Rate	0 to 150 kBits/sec

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	1300 nm	1550 nm
TX Output into cable (dBm)		
TX103, TX280	-14 & -10	-12
TX259	-8 & 0	-8 & 0
TX292	-7.5 & -2	----
RX Sensitivity, RX103 (dBm)	-25	-27
RX Sensitivity, RX259 (dBm)	-25	-27
RX Sensitivity, RX292 (dBm)	-22	----
RX Sensitivity, RX280 (dBm)	-30	-30

For performance details, please see individual module data sheets. Specifications verified with Tektronix VM700A Video Analyzer, Tektronix 1910 Digital Video Signal Generator and Audio Precision System One

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 Specifications subject to change without notice.
 Made in the USA

Distributed by:

Mechanical/Electrical/Environmental

Sidewinder Reel	SM Reel	MD Reel	XL Reel
Dimensions (WxHxD):	12"x12"x12"	15"x16"x13"	18"x21"x14"
Weight, empty:	12 lbs	15 lbs	28 lbs
Mussel Shell			8-module
Dimensions (WxHxD):			14.5"x14"x3"
Weight (nominal, loaded)			10 lbs
Rack Mount Option (See Viper Data Sheet, 442 Enclosure)			
Dimensions, w/o mounting ears (WxLxD):		16.7" x10.5" x 3.5"	
Weight			8 pounds
Power Consumption (loaded with 4 modules)			
			10 watts
Number of Video Slots Used			
			2
Number of Dual Audio Slots Used			
			2
Video Connectors			
			BNC
Audio Connectors			
		3-pin XLR, male or female	
Intercom Connectors (duplex, on intercom module)			
	RTS module (one dual channel)	one 3-pin XLR, male	
	Clear-Com module (two channels)	two 3-pin XLR, male	
	4-wire module (two channels)	two 5-pin XLR, male	
Optical Connectors/attachment			
	Inside reel hub to modules		ST-type
	Cable Plug End	4-pin military hermaphroditic plug	
	Mussel Shell	4-pin military hermaphroditic receptacle	
	Optional (Viper) 442 Enclosure		ST-type
Power Connector			
			4-pin XLR
Battery Mount (optional)			
	Anton/Bauer Snap-on™	Gold Mount	
Input Voltage Range			
		12 to 24 VDC (30 VDC max.)	
Operating Temperature Range			
		-40° to +70°C	
Humidity Range			
		0 to 95% non-condensing	

ORDERING INFORMATION

The new modular Sidewinder™ System is ordered as component items. Order Hub assembly, Mussel Shell or rack mount frame, cable assembly on reel, video and audio modules, intercom plug-in modules and options separately.

- 1) **Basic Sidewinder Hub Assembly**—fits in any size reel, holds 4 modules (2V+2A)
- 2) **Mussel Shell** (military optical receptacle) or **Viper 442 Rack Mount frame** (ST)
- 3) **Cable Assembly**—Tac-4 Heavy Duty cable, military plug outside, 4 STs inside
 - **SM Reel**—Small reel, 500 ft. Single mode or Multimode
 - **MD Reel**—Medium reel, 1,000 ft. Single mode or Multimode
 - **XL Reel**—Large reel, 2,000 ft. Single mode or Multimode
- 4) **Video and Audio Transmitter (TX) & Receiver (RX) Module Sets**
 - **TX/RX103**—NTSC/PAL analog video module set; meets RS250-C-SH
 - **TX/RX259**—ITU-R 601 serial digital video interface module set; 270 Mbps
 - **TX/RX292**—Wideband serial digital video interface; 19.4 Mbps to 1.5 Gbps
 - **TX/RX280**—dual 18-bit audio module set; mic/line analog in; line out; Aux ready
 - **TX/RX260**—AES/EBU 2-way transceiver module set; digital audio in and out
- 5) **Intercom Plug-in Modules**, requires 2-way TX/RX280 modules for intercom/data
 - **ADDR-AUX-4W**—2 channels of balanced, non-powered audio on 2 XLRs
 - **ADDR-AUX-RTS**—2 channels of Telex® RTS, power to belt packs, 1 XLR
 - **ADDR-AUX-CC**—2 channels of Clear-Com®, power to belt packs, 2 XLRs
- 6) **Military Connector Receptacle, Vehicle—MCRV-4**—Military to ST Breakout for "442"
- 7) **Fly-Away Cases**—Holds Reel and Mussel Shell
 - SHIP-SM-1**— For Small Reel, **SHIP-MD-1**— Medium, **SHIP-XL-1**— Large
- 8) **Power Accessories**
 - SNAP-AB-1C** Anton/Bauer Snap-On® Battery mount on Reel or Mussel Shell
 - ADAP-AC-02** AC/DC power cube adapter

Also see: our widely used **Viper™** video/audio/intercom system (interoperable with the Sidewinder), the **Adder™** series of digital audio snakes, the **Cobra™** fiber triaxial camera link, the **DiamondBack™** 8-channel analog video multiplexer, and the 8-channel **Python™** SDTV/HDTV link.



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