

CopperHead™

HD/SDI & Analog Fiber Optic ENG/SNG Camera



Features

- All camera signals on lightweight fiber cable
 - Analog NTSC/PAL program video
 - Digital SDI or HD/SDI program video
 - Return color viewfinder/monitor video
 - Return black burst/genlock video
 - 24-bit camera program audio
 - 24-bit auxiliary program audio
 - Two-way headset intercom
 - Return IFB/audio channel
 - Tally/call closure circuit
 - Bi-directional camera control data
 - Bi-directional RS232 data for PTZ
- Broadcast quality video and audio
- Multikilometer distance capability
- Up to 30 dB optical range with DFB option
- Battery mount options for Anton/Bauer®, PAG™ & "V" Mount
- Wide temperature range
- Low power consumption
- Durable, high reliability design
- Battery back-up in Base Station unit
- Multimode or singlemode versions available

All Your Digital & Analog Camera Signals on a Single Cable

The CopperHead is the new fiber optic multiplexing system that fits on the back of your ENG/SNG camera. It gives you all the bi-directional signals you need in your remote TV production, and it delivers the true broadcast quality and reliability you expect of Telecast fiber systems. Your CopperHead can simultaneously accommodate both analog (NTSC or PAL) and digital (SDI or HD/SDI) program video, as well as all two-way audio, video, data, tally/call and intercom signals, all on one durable, lightweight fiber optic cable.

and audio—free from interference, grounding problems or drifting due to temperature variations. And the rugged tactical fiber cable lets you move faster, farther and with confidence.

The CopperHead is your solution to the size, weight and transmission problems of ordinary coax and multicore cabling. You will save time and effort, and your job will become much easier.

The camera end unit fits neatly between the camera and battery. Mounting options include Anton/Bauer, PAG and "V" mount. The other end is a 1RU frame located in your truck or control room. A lightweight, battlefield-rated fiber cable connects the two units. Choose from a full range of available custom interface cables to fit your camera's BNC, XLR and/or 26-pin connectors.

Because the CopperHead transmits all signals digitally and optically, you are assured of the highest quality video



Applications

- Electronic news gathering
- Satellite news gathering
- Sports production
- Teleconferencing
- Campus communications
- CATV local origination
- Telemedicine

Specifications

Program Video, Analog

Interface	RS170, NTSC, PAL
Frequency Response	±0.15 dB
30Hz-5MHz	≥ 10 MHz
-3dB point	≥ 72 dB
Video Signal to Noise Ratio	< 1%
Differential Gain	< 0.5°
Differential Phase	

Program Video, Digital (Optional)

Interface	SMPTE 259M, 292M
Data Rate Range	19.4 Mbits/sec to 1.5 Gbits/sec
Input Level	800 mV (peak to peak)
Input Impedance	75 Ohms
Output Impedance	75 Ohms
Bit-Error Rate (@ -22 dBm)	10 ⁻¹²
Jitter (pathological data pattern)	< 0.2 UI
Rise/Fall Times	< 270 ps

Audio

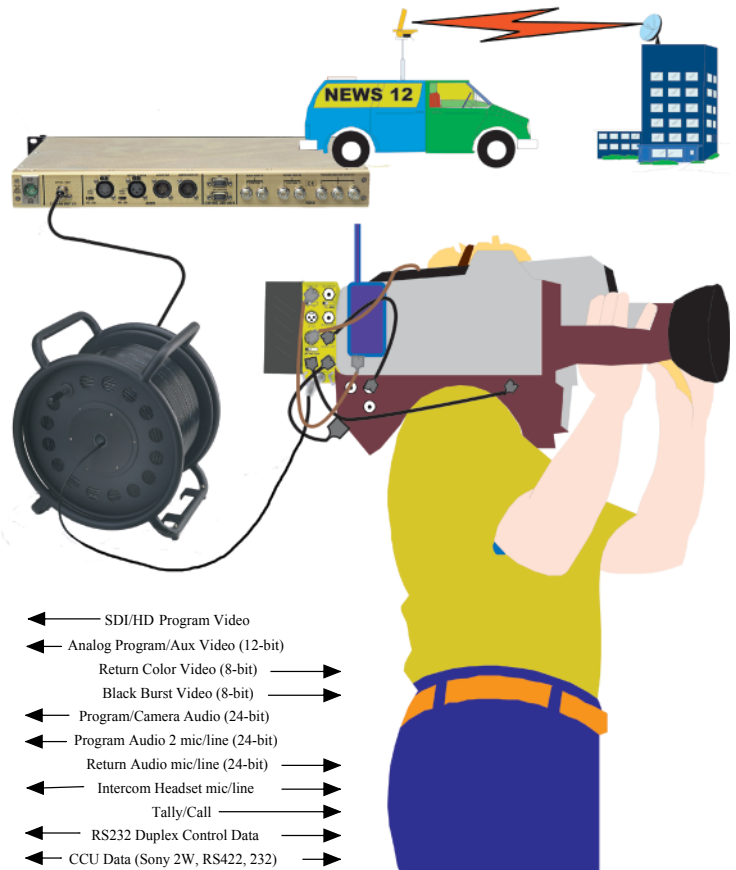
Input/Output Impedance	10 kΩ/30 Ω
Frequency Response	±0.2 dB, 20Hz to 20kHz
Audio Signal to Noise Ratio	> 90 dB
Total Harmonic Distortion (20Hz to 20kHz)	< 0.1%

Electro-Optical

Operating Wavelengths	1300 nm/1550 nm
Transmitter Laser output power (std./optional)	-6 dBm/0 dBm
Receiver Sensitivity, main	-30 dBm
Receiver Sensitivity, HD/SDI	-22 dBm
Fiber Compatibility	single mode or multimode
Optical Connector	ST type
Standard, Analog	Standard, Digital; Optional, Analog
Standard, Digital; Optional, Analog	2-fiber HDLC hermaphroditic
Distance Limit	
Multimode	2 km
Single mode	5 km
Optional single mode, DFB	> 30 km

Mechanical/Environmental

Dimensions (WxLxD)	5" x 6.12" x 2.2"
Weight	
Camera unit	1.5 lb
Base Station unit	5 lb
Power Consumption	
Camera unit	7 watts@10-18VDC
Base Station unit	10 watts@10-18VDC
Temperature Range	-25° to +55°C
Humidity Range	0 to 95% RH, Noncondensing



Ordering Tips

- Only analog now, but with plans for digital?
The CopperHead is factory upgradeable to SDI/HD digital later. You will need a Tac-2 two fiber cable & HDLC fiber connector for digital.
- Need very long distance, up to and beyond 20 km?
For distances beyond 5 km, order the long haul option which includes special lasers.
- Single mode or multimode compatible?
Single mode has a longer range, but multimode takes more handling abuse. For HDTV, use single mode.
- Data or no data?
Does your camera have to be "painted" with a remote control? If so, get the correct adapter cable for your camera.
- How many fibers?
One (Tac-1) for an analog CopperHead, but you will need two fibers (Tac-2) to add SDI/HD capabilities.



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