

Digital Triax-to-Fiber Camera Interface Now for High Definition and High Speed Cameras

US Patent
6,115,159



Applications

- Sports teleproduction
Golf, skiing, racing, etc.
- Remote camera links
- Metropolitan production
- Cross-campus production
- Pre-fibered venues

Cobra Features

- Complete camera control
- Reach to 20+ kilometers
- All 2-way triax signals
 - Component video
 - Return video & genlock
 - Audio, intercom & IFB
 - Control data & tally
- Modular camera interfaces
- High-definition capable
- Portable, lightweight units
- Provides camera power
- Drives long triax runs
- Fast, easy setup/teardown
- Uses only one fiber strand

Triax cameras on standard optical fiber, with even higher performance

Telecast's patented Cobra represents a breakthrough in television production. It is the industry's first and only high performance link that interconnects triax-equipped cameras to their base stations using durable, lightweight fiber optic cable.

And now, it's even better! With digital transport of the analog RF signal, the Cobra-D uses ST type connectors and allows for longer, trouble-free links.

Ten Times the Distance, One Tenth the Weight
Get those camera shots you can't reach with triax. The digital Cobra allows you to locate your camera more than 20 kilometers from the base station, with no repeaters. With Tac-4 fiber cable at 18 lbs per 1,000 feet, your setup and strike go faster and easier.

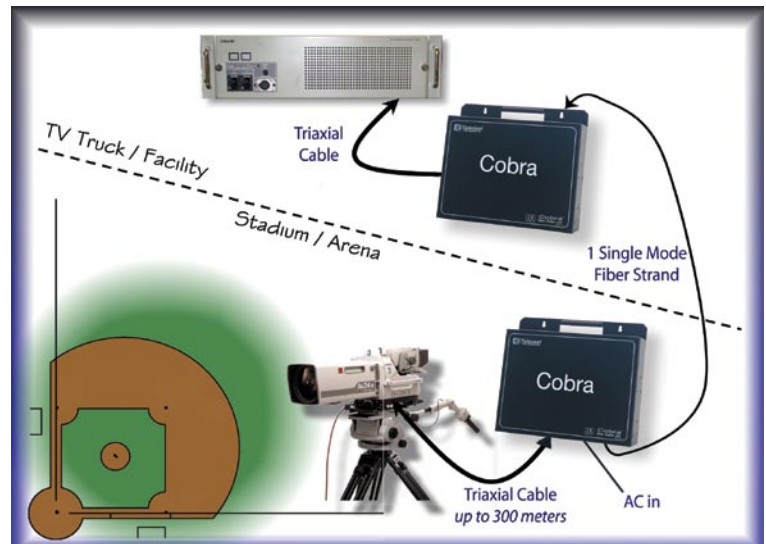
Fiber also eliminates all electromagnetic and radio frequency interference, as well as ground faults and hum.

HD and High Speed

The modular Cobra can be used with most triax-based broadcast cameras from Sony, Ikegami and Grass Valley, including HD and slow motion triax cameras.

Plug into Standard Single Mode Fiber

Fiber optic cables are the preferred medium for today's high definition television production. Many venues now are pre-fibered with standard single-mode optical fiber, and the Cobra is your camera adapter for these venues. One fiber strand delivers all the bi-directional video, audio, intercom and data control signals between your camera and base station.



Control Crosstown Cameras

Share production facilities among several city-wide or facility-wide venues. Use fiber optic backbone cables in your building or campus, between your stadium and arena, or use metropolitan "dark fiber" from your carrier or access provider.

Provides power, too

Cobra also powers your camera by reinserting power through as much as 1,000 ft (300m) of triaxial cable, depending on camera/CCU model.

Tac™ Fiber Cable

- Lightweight and small
- Tougher than Triax
- Cannot corrode
- Military, tactical design
- Flexible in cold weather
- Electrical isolation
- Immune to RFI and RFI
- Immune to crosstalk
- Immune to lightning
- No ground faults or hum
- High optical bandwidth over long distances

Specifications

Camera Compatibility

Plug-in modules keep your Cobra compatible as cameras and CCUs change. Match your camera system or CCU/base station to the Cobra plug-in modules:

- C designates camera end module
- BS designates base station end module

Module Set	Camera System	Manufacturer
LD-2-C & LD-2-BS	LDK 6000 (HD)	Grass Valley
LD-2-C & LD-2-BS	LDK 23HS	Grass Valley
LD-1-C & LD-1-BS	LDK 9000 series*	Grass Valley

*for LDK 9, LDK 10, LDK 20, LDK 100 & LDK 200 cameras

Module Set	Base Station	Manufacturer
WB-2-C & WB-2-BS	BS-377	Ikegami
SB-1-C & S/WB-1-BS	BS-323/A	Ikegami
SB-1-C & S/WB-1-BS	BS-355	Ikegami
SB-1-C & S/WB-1-BS	BS-366	Ikegami
SB-1-C & S/WB-1-BS	BS-375	Ikegami
SB-1-C & S/WB-1-BS	BS-377/LR	Ikegami
SB-1-C & S/WB-1-BS	BS-553	Ikegami
SB-1-C & S/WB-1-BS	CCU-370	Sony
SB-1-C & S/WB-1-BS	DCU-370	Sony

WB-1-C & S/WB-1-BS	BS-388	Ikegami
WB-1-C & S/WB-1-BS	CCU-500/550	Sony
WB-1-C & S/WB-1-BS	CCU-700/750	Sony

SS-1-C & S/WB-1-BS	BVP-9000 Super Motion	Sony
D30-1-C & S/WB-1-BS	DXC30/35/50 w/CCU-TX7	Sony

See Ordering Information, right, for Digital Cobra universal frames.

Convenient Cobra handle for easy carrying. You can hang the unit with all connectors facing downward for environmental protection, or mount the Cobra in a standard 19-inch rack.



Transmission

Data Rate	2.7Gbps
Optical Source	Laser Diode
Fiber Type	Single-Mode
Optical Output Power (typical)	0 dBm
Optical Sensitivity (typical)	-22 dBm
Link Margin/Distance (typical)	22 dB/30 km
Wavelength (from camera/to camera), 1-fiber version	1300/1550 nm
Input/Output Impedance	75 Ω

Available in 1-fiber or 2-fiber versions.

Mechanical/Environmental

Enclosure Dimensions each end (LxWxH)	16.7" x 10.5" x 3.5"
Weight, Base Station End	8 lbs
Weight, Camera End	14 lbs
Connectors, modular plates, user reconfigurable	
Triaxial (Signal and Power) ...Kings Tri-Loc® (standard), others available	
Optical	ST Single Mode (standard)
Input Voltage, Specify	100 VAC, 120 VAC or 240 VAC
Output Voltage to Camera	240 VAC
Triaxial range, Cobra to Camera, typical, CCU dependent	300 meters
Power Consumption, each end, excluding camera power	< 10 Watts
Indicators	Carrier presence, High Voltage presence, AC in, RX Status
Temperature Range, operating	-40° C to +55° C
Humidity Range	0 to 95% non-condensing

Ordering Information, Digital Cobra Frames

CBRA-DCH-1S Universal transceiver Frame, Camera side
 CBRA-DBS-1S Universal transceiver frame, Base Station side
 For two fiber operation, "1S" becomes "2S" in the above part numbers.



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