

BROADCAST LASERCOM SYSTEM



The LCT-5 Takes You Places Where Cables Cannot Go

LCT-5 supports a broad spectrum of signals including new video technologies that require higher bandwidth:

- Wireless transfers of 1080i HD-SDI SMPTE 292M at 1.485 Gbits/sec
- Wireless transfers of 1080p Full HD-SDI SMPTE 424M at 2.97 Gbits/sec
- 2K and 4K Digital Cinema and Ultra-HD
- Gigabit Ethernet
- Relay of simultaneous signals — SD, HD, GIG-E, Audio, Comm
- Bi-directional digital transmission
- Plug-and-play video, audio, graphics and intercom on a single link
- Portable terminal can be set up in less than 30 minutes

Wireless Breakthrough Delivers Uncompressed HD Video

Laser communication links from AOptix deliver uncompressed HD images — so rich in vivid detail — it is emerging as the solution of choice for wireless networks at live events. Until now, HD camera feeds and relay links were limited by the physical nature of fiber cables or compromised by video compression required for wireless transmission before reaching the mobile production studio.

Now, with a new 10 Gbits/sec optical wireless relay link or camera feed, AOptix is poised to revolutionize wireless networks used in the production of live HD events.

The Broadcast Lasercom System includes the LCT-5 terminal and Interface I/O Chassis to provide the plug-and-play bi-directional solution for HDTV sports and entertainment telecasts.

LCT-5 LASERCOM TERMINAL

Engineered for these high-fidelity networks, a single LCT-5 link enables simultaneous delivery of multiple HD-SDI video, audio, intercom and graphics including embedded return video, audio and controls back to the camera operator. The LCT-5 is the only wireless solution that can deliver single or multiple uncompressed high-resolution or high-frame-rate camera feeds over several kilometers in distance.

With its easy-to-use web-based graphical user interface and automated acquisition alignment and tracking functionality, non-specialized field personnel can install and operate the terminal link in minutes. On-board link quality diagnostics provide the operator with valuable control information through a standard laptop.

INTERFACE I/O CHASSIS

The rack mountable unit holds multiple electrical-to-optical and optical-to-electrical converter modules plus a redundant power supply. It also includes fiber amplifiers, variable optic attenuators, and intelligent control circuitry necessary to interface with standard broadcast equipment, as well as the DWDM functionality. Modular design allows you to insert or remove optional modules to change the I/O configuration as needed.

PROPRIETARY ADAPTIVE OPTICS

Adaptive Optics (AO) technology is a revolutionary approach to laser communications that corrects for atmospheric turbulence and distortions to minimize the effects of scintillation and dramatically enhance link availability. It also maintains beam alignment despite vibration due to wind, rain, or unsteady camera platforms.

Optical adjustments are made with tip-tilt steering and a unique deformable mirror. Through closed loop control, the deformable mirror actively changes its shape thousands of times per second to compensate for adverse atmospheric conditions. These changes precisely correct for the wavefront distortions, while focusing the beam directly into a single-mode fiber or multi-mode fiber.

RELAY LINKS AND CAMERA FEEDS

Combining AO performance enhancements, automated acquisition, alignment and tracking features plus simultaneous DWDM transmissions, the plug-and-play bi-directional Broadcast Lasercom System provides a turnkey solution for any wireless network.

FROM THE LEADER IN ADAPTIVE OPTICS

AOptix Technologies is the leading developer of advanced lasercom and biometric identification solutions using adaptive optics, an imagery correction technology that compensates for motion and atmospheric disturbances as they happen. These advanced optical solutions are being developed for both government and commercial applications.

PRODUCT SPECIFICATIONS

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| Data rate | 10 Gbits/sec |
| Maximum link distance | 5 km May vary with WDM configuration and operating conditions |
| Wavelength | C band and L band Optical power complies with ANSI eye safety standards |
| LCT-5 dimensions | 23 cm x 34 cm x 39 cm (9" x 13.5" x 15.5") |
| LCT-5 weight | 20.5 kg (45.8 lbs) |
| Operating temperature range | -20 C to +60 C |
| DC power | 30W (33.6W peak power) |
| Input voltage | 28V DC nominal Available with optional AC power supply and 8-hour battery back-up |
| LCT-5 to interface chassis | 300 ft distance |
| Remote operation | Web-based graphical user interface |
| Control interface | Ethernet RJ-45 or command-line interface |
| Interface I/O chassis | 19" rack mountable |
| Tripod with built-in gimbals | Man-portable tripod with electronically articulated gimbals for automated alignment and acquisition |
| Optional cards | <ul style="list-style-type: none"> • HDTV uncompressed to 1.5 Gbits/sec • HD and SD compressed to 540 Mb/s • Gigabit Ethernet transceiver • 8-channel AES audio, Dolby® E • 8-channel intercom transceiver • Additional cards available upon request |



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