

Optical Voice and Data Communications

LightSpeed™ AN/PAQ-6 v2



Replacement of legacy Phone and Distance Line (PDL) system during Underway Replenishment (UNREP) with LightSpeed™ technology. Silent communication during approach and UNREP– 6-PAQ transceiver units use eye-safe IR LEDs to provide secure EMCON voice and data communications: Bridge to-Bridge and Station-to-Station without RF.

LightSpeed™ K-, M-, and M100-Core



Compact, High- and Low-Speed Free-Space Optical (FSO) Transceivers designed for integration. Kilobit (K-core), Megabits (M-core) and Hundred of Megabits (M100-core) engineered for mission-critical performance. They offer covert, wireless, high-bandwidth optical communications at distances beyond 2000 meters. Designed for seamless integration into defense platforms, these transceivers enable secure, interference-free links—without reliance on congested or compromised RF spectrums.

LightSpeed™ R4



The LightSpeed™ R4 free-space optical (FSO) communication system provides secure, high-reliability data links without emitting any radio frequency energy—even during acquisition and tracking. The R4 is rapidly deployable and designed for use in contested environments. Through precision optical pointing, acquisition, and tracking, the system autonomously establishes and maintains a stable optical link between transceivers.

LightSpeed™ L1, and L3



The easy-to-use L1 and L3 tactical flashlights gives you the ability to communicate without radio (non-RF) which is critical to many tactical situations. The Free Space Optical (FSO) communications allow to signal and communication with “stereophonic quality” voice in environments where traditional radio communication are either not allowed, degraded, or not available.

LightSpeed™ L20, L30



Small, portable, simple to use LED based Light Gun for signaling. Operates on Harris and Brentronics standard batteries or external power. Lightweight - <1 kg, fits into a pocket! Can be used to transmit Morse code or color light signals. 12 hours of continuous ON operation/illumination on one charge. In addition to all L20 functionality, LightSpeed™ optical communications provide clear voice link between L30 units at distances over 1 km.

Optical Voice and Data Communications (con't.)

LightSpeed™ R36

The LightSpeed™ R36 unit is the latest generation of the Optical Communication system providing IP based Ethernet network and voice connection between vehicles. Each communication node utilizes an array of IR LEDs and an omnidirectional receiver capable of providing a 360° communication link.



LightSpeed™ R55

The eye-safe IR source (Class 1) used by R55 allows non-visible communications between units at distances at extended range. Using the supplied headsets, R55 provides full-duplex voice communication and also function as an Ethernet link to a remote computing device or to another system via a standard Ethernet connection.



LightSpeed™ OceanLink™ U10, U15

Provides a 2-way, non-RF communication system from submarines to surface, airborne or underwater platforms with a wide angle of view. Avoids conspicuous operation and detection by creating a 1-10 Mbps optical channel between a submarine underway and below water surface at distances exceeding 10 km. The single reinforced fiber handles both Transmit and Receive.

The eye-safe blue light LED used by U10 allows communications between units at distances up to 300 m. The units function as an Ethernet link to a remote computing device or to another system via a standard Ethernet connection.



LightSpeed™ R60

In modern threat environments, traditional RF is noisy, jammed, and easily intercepted. R60 offers a next generation omnidirectional Free-Space Optical transceiver that enables secure, RF-free communication at ranges up to 1,000 meters in all directions—ideal for dynamic, mobile, and contested defense scenarios. Enables multiple simultaneous, line-of-sight links across 360° up to 1,000.



Internal Display™ (ID)

ID technology breaks new ground in handheld optical devices. Similar to "heads-up displays" used by military pilots, ID incorporates a transparent display into riflescopes, spotting scopes, and binoculars. ID provides a platform for accessories to display thermal and night vision video streams, ballistic information, and many other streams of data.



G1™ Riflescope

The G1™ is a superb 1-8 x 24 riflescope with anti-reflective coatings and an illuminated reticle in the second focal plane. It's the first riflescope to utilize the unique ID technology; the ID does not interfere with any standard function of the riflescope. The G1™ can be augmented with sensor technologies that display information on the internal "heads-up" display and vastly expand the user's capabilities without ever taking one's eyes off the target.



G5™ Riflescope

The G5™ is the second product with the unique Internal Display technology integrated. The ID does not interfere with any standard function of this 5 x 30 riflescope. With sensor technologies G5™ can vastly expand the utilization of the riflescope by offering *Situational Awareness* while user is focused on the target.



Optical Detection

Sentinel™ S45

A waterproof, 24-hour surveillance system that provides security and protection for borders, VIP's, and important locations. Fast scanning enables the detection of snipers, video, photography, cameras, and scopes. Advanced features include geo-locating targets, compass, inclinometer, and GPS positioning. The Sentinel™ can be mounted to a vehicle, pole, or building to provide monitoring and automatic alerts.



Ray 2

A new generation of Beam is now Ray Generation 2 with all new sensor suite. Extended operation to 5-6km (for XL version) and superb Low Light camera provide best in class detection capabilities of any platform in use.



Beam™ 30

An all-weather, 24-hour surveillance systems that provides security and protection for borders, VIP's, and important locations. Fast scanning enables the detection of snipers, video, photography, cameras, and scopes. System features include pan/tilt capabilities, 360° panoramic camera at video rates, and geo-location of targets with GPS data. Beam™ 30 can be mounted to a vehicle, pole, or building to provide monitoring and automatic alerts.



Campanile™ 33

An optional target investigation system to Beam™ 30. Campanile™ has multiple electro-optic sensors allowing the operator to recognize and identify targets found by the Beam™ and to make effective decisions quickly..



Beam™ 50

An advanced Optical and Radar Detection system capable of tracking UAVs and other ground and air targets to 5+km. Combination of the best sensors currently available – optical detection, radar detection, acoustic detection. Highly portable system can be setup and running in less than 5 minutes with networking and ATAK/CIVTAK interface capabilities.



VENOM™ and Wind Sensing

VENOM™ Ballistics Solver (VBS)

The VENOM™ Ballistics Solver (VBS) is the first small arms ballistics solver properly computing the wind's influence on a bullet. VBS contains all standard drag curves and can support designer rounds. VBS is available as a stand-alone program under Windows or Android OS.



VENOM™

VENOM™ stands for Velocity Extracted from scintillation via Optical Measurement. A weapon-mounted wind measurement device contains all the functions of a laser rangefinder, ballistic computer and other sensors, including inclinometer, thermometer, barometer, etc. VENOM™ connects to external devices such as Kestrel or PDAs. Range capability is 1800-2000m with accuracy of measurement better than +-0.5 mph.



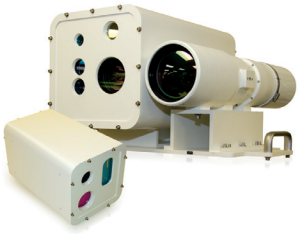
xWinds™

The revolutionary xWinds™ ("Crosswinds") system provides a first-of-its-kind training aid for the hardest skill a sniper has to master – Wind Estimation and Visualization. Providing a real-time view of crosswinds throughout the entire range using network of wireless sensors.



Custom Solutions

Custom Imaging Solutions



TPL builds custom image solutions for industrial and governmental needs. A component toolkit includes gimbals, gyro-stabilized and software stabilized platforms, long range optics, color night vision imagers and variety of mid- and long-wave sensors.

TPSv4 Software - Temporal Processing System



Temporal Processing System (TPS) is a self-contained, real-time video processing and enhancement system with networking and connectivity features. It accepts all video input types and performs both day and nighttime video image enhancement. The image enhancement algorithms penetrate fog, haze and mirage artifacts. Its image stabilization algorithms suppress image jitter from camera vibrations.

Laser Warning Detection

D2™ Laser Detector



The D2™ is a passive laser warning receiver that detects and coarsely locates laser emissions from laser pointing/illuminating devices and rangefinders. The device enhances safety and survivability for today's battlefield environment by notifying an operator of any and all classes of commercial and military laser devices.

D3™ Laser Detector



The D3™ laser warning system enhances safety and survivability in today's battlefield environment by notifying its wearer of any commercial or military targeting laser emissions. Four unique wide-band detectors (750nm-1700nm) detect laser signals in a 360 Az by 120 El degree field and selectable audio, visual, and/or tactile feedback notify the wearer of a detection.

D6™ Laser Detector



The D5™ laser warning system enhances safety and survivability in today's battlefield environment by notifying its wearer of any commercial or military targeting laser emissions. A unique wide-band receiver (750 nm to 1700 nm) detect laser signals in a 120° cone and provides command feedback to its wearer. Laser warnings are integrated with ATAK/CIVTAK or other equipment via USB-C.

IFF Beacons

I2™ Thermal/NIR Smart Beacon



Designed for Identification of Friend or Foe (IFF), Communications (Information), Search and Rescue (SAR) and related applications, the I2™ Long Range Information Midwave/NIR Beacon offers unprecedented range-of-use including large solid angles enabling visibility from air and ground/surface platforms.



Sector Optics Product Brief

Download the Sector Optics product brief on the home page or any product page at www.sectoroptics.com.

Torrey Pines LOGIC

10505 Roselle Street, #100, San Diego, CA 92121 • 1 (858) 755-4549 • www.tplogic.com

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