Torrey Pines LOGIC

Optical Voice and Data Communications

LightSpeed™ AN/PAQ-6 and AN/PAQ-6 v2

This LightSpeed™ technology replaces a legacy Phone and Distance Line (PDL) system during Underway Replenishment (UNREP). The system is capable of passing any information (including tactical) in any format (open source) from ship (any size) to shore to mobile. There is Non-RF silent communication during approach. The UNREP-6-PAQ transceiver units' use eye safe IR LEDs.

LightSpeed™ B22

The eye-safe IR LED allows non-visible communication between units at distances up to 2.5 km. Provides full-duplex voice communication and measures distances between LightSpeed™ devices with very high accuracy to provide distance, velocity and acceleration. Functions as a network link to a remote computing device or to another system via USB network connection.

LightSpeed™ F10

A non-RF free space optic video and control link, the F10 system provides an invisible infrared Ethernet link between ground station and UAS. The F10 perates in RF denied/congested environment.

LightSpeed™ L1, L2, L3

The easy-to-use L1, L2 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™ R50

The eye-safe IR LED allows non-visible communication between units at distance up to 6 km. Provides full-duplex voice communication and functions as an Ethernet link to a remote computing device or to another system via a standard Ethernet connection.

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.

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™ 230

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™ 230 can be mounted to a vehicle, pole, or building to provide monitoring and automatic alerts.

Campanile™ 233

A direct extension to the Beam™ 210 system, Campanile™ 233 has multiple electro-optic sensors allowing the operator to focus on targets found by the Beam™ and to make effective decisions quickly. Campanile can provide variety of EO/IR payloads.

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.
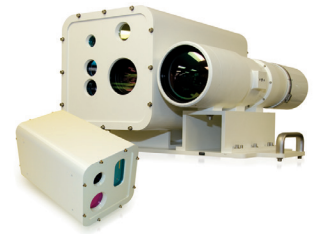
TPSv4 Software – Temporal Processing System

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.

Mosaic™ and Geo-Registering Systems

Mosaic™ System

The TPL Mosaic™ System addresses the need to create mosaic images on-the-fly and geo-register them. Data derived from manned or unmanned platforms in high resolution can now automatically be built into a mosaic without operator control.

Laser Warning Detection

D1™ Laser Detector

D1™ is a passive laser warning receiver. It is designed to detect, and coarsely locate directions of laser emissions from other hunters' laser devices and rangefinders to aid in the prevention of shooting and laser eye damage accidents to downrange hunters. D1™ will alert its wearer of laser emissions through selectable audible, visual, and tactile feedback.


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.

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.
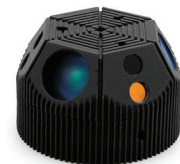
Sector Optics Product Brief

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