

The PV2535 is the first of its kind—a 35⁰-class, laser-ready EO/IR multispectral platform delivering industry-leading stand-off range, zoom power, and stabilization in a 25⁰ system footprint, without the traditional penalties of size and weight.

Designed for extreme stand-off operations (~100 km IRD), high-altitude surveillance, and persistent-stare missions, the PV2535 sets a new benchmark for strategic intelligence gathering on large manned aircraft and aerostat-based platforms.

Unmatched. Anywhere.



pv2535

The New Benchmark in Strategic ISR EO/IR Systems

PAYOUT SPECIFICATIONS

Zoom Sensor Suite

| | |
|--------------------------|------------------------------------------------------------|
| HD MWIR Zoom: | Step Zoom |
| Type: | MWIR, HOT MOVPE MCT (Independent from NFOV Spotter) |
| Resolution: | 1280 x 1024 pixels |
| Fields-of-View: | 30° to 2° |
| UHD Color Daylight Zoom: | Step Zoom |
| Type: | CMOS sensor, Back Side Illuminated, Stacked Global Shutter |
| Resolution: | 5120 x 4096 pixels |
| Fields-of-View: | 30° to 4.9° with 4x E-Zoom to 1.22° at 1280 x 1024 |
| HD SWIR Zoom (Optional): | Step Zoom |
| Type: | InGaAs with Asynchronous Laser Pulse Detection |
| Resolution: | 1280 x 1024 pixels |
| Fields-of-View: | 30° to 4.9° |

Spotter Sensor Suite

| | |
|-----------------------|------------------------------------------------------------|
| HD MWIR Spotter: | 1.5x Optical Zoom |
| Type: | MWIR, HOT MOVPE MCT (Independent from WFOV Zoom) |
| Resolution: | 1280 x 1024 pixels |
| Fields-of-View: | 0.73°, 0.55°, 0.49° |
| UHD Color Spotter: | FFL with E-FOV to Native Resolution |
| Type: | CMOS sensor, Back Side Illuminated, Stacked Global Shutter |
| Resolution: | 5120 x 4096 pixels |
| Fields-of-View: | 0.73° to 0.18° |
| HD SWIR Zoom Spotter: | 4x Optical Zoom |
| Type: | InGaAs with Asynchronous Laser Pulse Detection |
| Resolution: | 1280 x 1024 pixels |
| Fields-of-View: | 0.73°, 0.55°, 0.37°, 0.18° |

Laser Suite

Eye-Safe Laser Rangefinder:

| | |
|-------------|------------|
| Wavelength: | 1535nm |
| Energy: | Class 1M |
| Range: | up to 39km |

Laser Pointer: (Optional)

| | |
|-------------|----------------|
| Wavelength: | 808 nm |
| Power: | Class 4 |
| Notes: | NVG Compatible |

pv1012

pv1315

pv1520

pv1825

pv2030

pv2535

pv2535 OPERATIONAL EDGE

The PV2535 does not extend the limits of legacy EO/IR systems. It replaces the limits altogether.

The PV2535 is built for missions where existing ISR systems simply run out of capability. It enables extreme stand-off surveillance, persistent target custody, and wide-area dominance at ranges and altitudes that exceed the operational limits of current-generation 25° EO/IR systems.

Whether maintaining continuous over-watch for hours or days, operating far beyond typical threat envelopes, or sustaining visibility at the edge of the battle-space, the PV2535 establishes an ISR sensing advantage that cannot be matched by current systems.

This is ISR in a new operational regime—defined by reach, persistence, and dominance.

SIZE

WEIGHT

POWER

PERFORMANCE

COST

Strategic Mission-Read

The PV2535 delivers a class of ISR performance that redefines what strategic missions can demand.

By combining 35" class optical power with a 25" system footprint, it achieves levels of stand-off range, resolution, and endurance that legacy architectures cannot approach—without forcing operators into oversized turrets, bespoke aircraft, or single-mission platforms.

This allows strategic ISR capability to be deployed across high-endurance aircraft and persistent aerostat platforms alike, fundamentally expanding where and how top-tier sensing can be applied.

FAST Platform Advantage

At extreme zoom and stand-off ranges, stabilization is no longer a feature—it is the limiting factor. This is where FAST fundamentally separates the PV2535 from every legacy system.

By eliminating the inner gimbal ring and maximizing usable payload aperture, FAST enables the PV2535 to operate in performance regimes that are not achievable with traditional 25" architectures.

Precision and Mission Integration

The PV2535 is engineered to turn extreme sensing power into decisive operational advantage.

An independent NFOV IR spotter operates alongside the primary long-range sensor, enabling simultaneous wide-area search and detailed target interrogation—maintaining custody even as targets move across vast areas.

Step-stare LOS-axis control and integrated high-accuracy geolocation preserve clarity and positional confidence at extended ranges, while full sensor data access ensures seamless integration into mission systems and multi-domain networks.

This combination delivers persistent, high-confidence intelligence at distances no other operational EO/IR system can sustain today.

Situational Awareness Redefined

ISR performance in a class of its own — exceeding legacy 25" EO/IR systems by orders of magnitude in stand-off range, stability and usable resolution

35"-class optical power in a 25" system footprint, enabling performance regimes not achievable with any current operational EO/IR platform

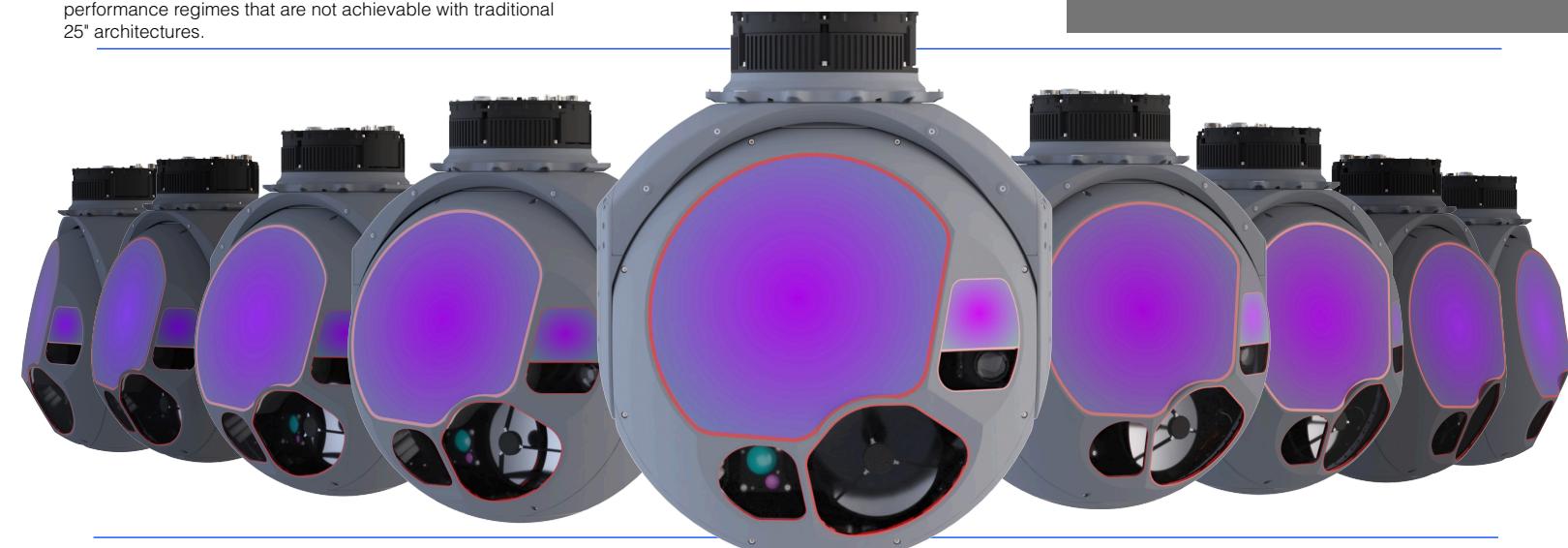
Extreme range and persistent custody without reliance on HALE-only aircraft or bespoke ISR platforms

Simultaneous wide-area search and precision interrogation, preserving awareness and decision speed at scale

Strategic-grade sensing across aircraft and persistent aerostat deployments, without platform lock-in

Modular, upgradeable architecture designed to evolve with sensors, networks, and mission demands

ITAR-free, enabling unrestricted sovereign deployment



TURRET SPECIFICATIONS

Stabilization and Steering:
5 Axis + 6 DOF Active Isolator featuring FAST technology
Azimuth Range: Continuous 360°
Elevation Range: +45° to - 225°
LOS range: +/- 1° (with Step-Stare Capability)

SYSTEM SPECIFICATIONS

PV1012 Turret: <200lbs/ 90.7kg, 25.7" (D) x 30.0" (H), 653mm (D) x 762mm (H)
Power: MIL-STD-704E, 320W (Typ.), 1000W (Max.)

ENVIRONMENTAL SPECIFICATIONS

Shock and Vibration: MIL-STD-810H, RTCA DO-160G
EMC Compatibility: MIL-STD-461

VIDEO INTERFACES

Built-in video switch matrix for output configuration flexibility
4 independent HD-SDI outputs with clean sensor output or symbology overlay
Gigabit Ethernet video using H.264 or H.265 format
Fiber Optic interface with all video data available using ARINC 818-2 or SMPTE 297 format
STANAG 4609 KLV Metadata

DATA INTERFACES

Interface Types: RS-232/422, Ethernet, MIL-STD-1553B
Functional Interfaces: Aircraft GPS/INS, Remote Control, Metadata, Maintenance/Logger

PATENTS - PV Labs' FAST technology is protected by patents in the following countries: Austria, Australia, Canada, Czech Republic, Finland, France, Germany, Great Britain, Greece, Hungary, Ireland, Israel, Italy, Japan, Netherlands, New Zealand, Norway, Portugal, Republic of Korea, Spain, Sweden, Turkey, and the USA – by the following Patent Documents: AU2014373639; CA2934801; DE602014046620.6; ES2734393; EP3105492; HUE045198; IL246433; IT50201900032702; JP6524100; KR102322149; NZ722456; PT3105492; TR201908881; US9348197; US9765925; WO2015095951