pvLABS

The PV1520 delivers what airborne EO/IR operators have demanded for decades. True 20-inch–class optical performance in a compact 15-inch system.

At 88 lbs v. ~212 lbs for typical 20" systems, the PV1520 enables long-range identification where space, weight, and endurance are constrained—but mission success still depends on reach and clarity.

Twice the Operational Impact. Half the Weight

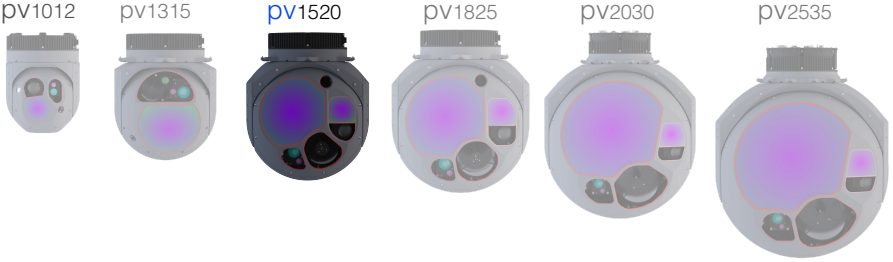
pv1520

Compact Size. Full Capability

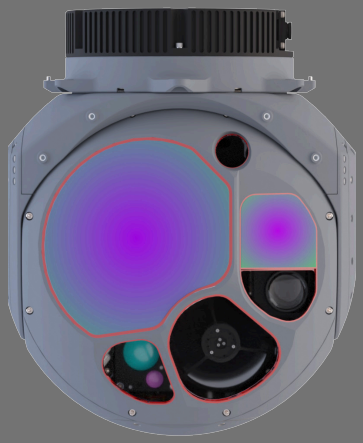
PAYLOAD SPECIFICATIONS

Wide field of View 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˚ Continuous Optical Zoom
UHD Color Daylight Zoom:	Step Zoom with E-FOV to Native Resolution
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˚
Narrow Field-of-View 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:	30.2˚, 0.78˚, 0.69˚ (with 1.5x Step Optical Zoom)
UHD Color Spotter:	Step Zoom with E-FOV to Native Resolution
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 Spotter:	4x Optical Zoom
Type:	InGaAs with Asynchronous Laser Pulse Detection
Resolution:	1280 x 1024 pixels
Fields-of-View:	1.03˚, 0.78˚, 0.52˚, 0.26˚ (with 4x Step Optical Zoom)
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



SIZE WEIGHT POWER PERFORMANCE COST



pv1520 OPERATIONAL EDGE

Delivers 20"-class ISR performance on helicopters and light fixed-wing aircraft that cannot support traditional 20" systems.

~60% weight reduction vs common 20" systems

Multi-domain, dual-use capability (ISR, SAR, maritime, public safety)

Deployment without costly airframe modification

Modular upgrades to remain relevant as missions evolve

ITAR-free for unrestricted global deployment

Doc Number: 167059A11

Inquiries: 1.888.667.7202
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Compact Capability

The PV1520 delivers what airborne EO/IR operators have demanded for decades. True 20-inch–class optical performance in a compact 15-inch system.

Built on PVLabs' FAST stabilization platform, the PV1520 pairs next-generation low-SWaP sensors with exceptional payload aperture and image stability—without the size, weight, or endurance penalties of legacy systems.

FAST Platform Advantage

The PV1520 inherits the full stabilization performance of the FAST platform—ensuring targets remain locked, images remain stable, and long-range DORI performance is preserved in high-dynamic environments.

This stability is critical when extracting maximum range and clarity from modern low-SWaP sensors.

Multi-Mission Profile

The PV1520 thrives across tactical and strategic ISR CONOPS:

Class 3 UAS (MALE / HALE)

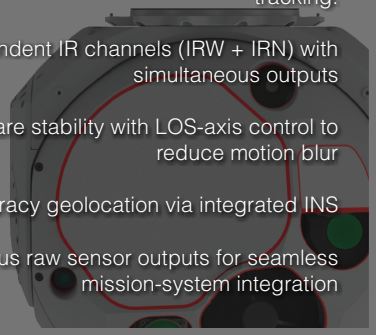
Light and medium ISR aircraft (King Air 350, Caravan, PC-12)

Regional platforms (C-295, Dash-8, ATR-72)

Multi-mission helicopters (H135 through H225M)

Aerostat deployments requiring 20□-class performance without size penalties

The PV1520 supports continuous situational awareness during detection, identification, and tracking:

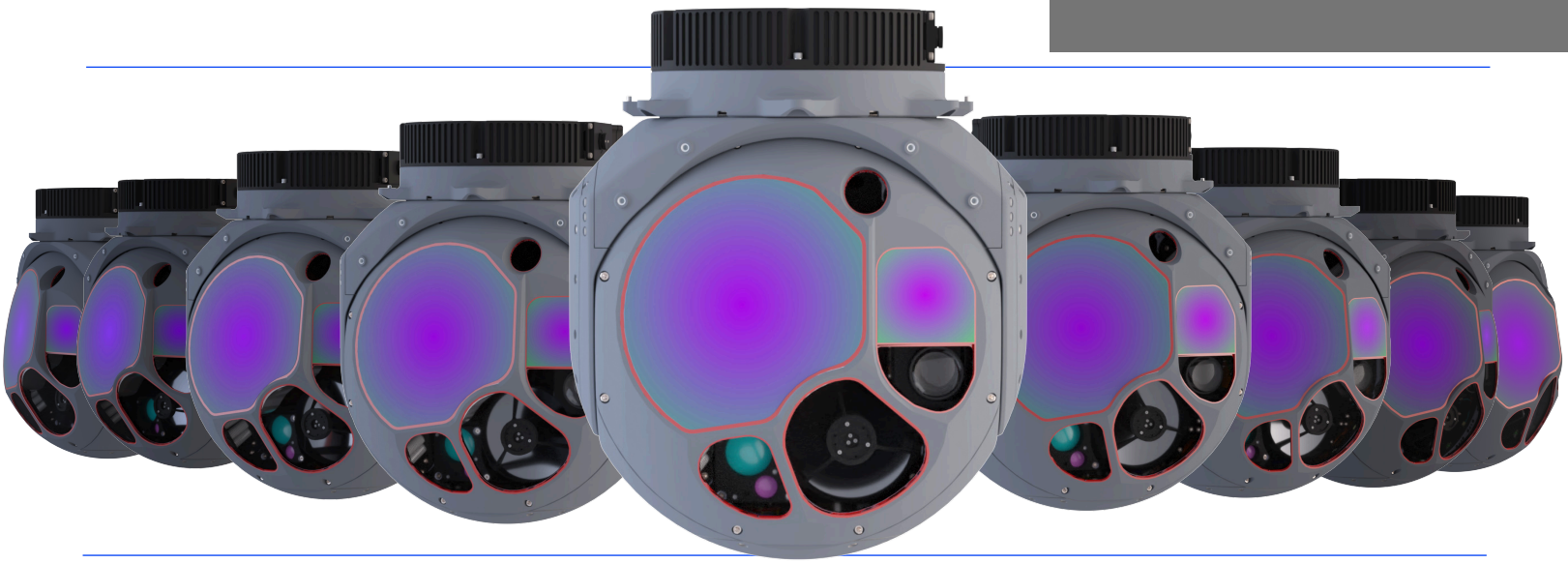


Dual independent IR channels (IRW + IRN) with simultaneous outputs

Step-stare stability with LOS-axis control to reduce motion blur

High-accuracy geolocation via integrated INS

Simultaneous raw sensor outputs for seamless mission-system integration



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:	<88.2lbs/ 40.0kg, 16.5" (D) x 19.75" (H), 420mm (D) x 503mm (H)
Power:	MIL-STD-704E, 280W (Typ.), 760W (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; IT502019000032702; JP6524100; KR102322149; NZ722456; PT3105492; TR201908881; US9348197, US9765925; WO2015095951

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