VPR-2050-AF-FF-128-1400-CTZ-640-GS

THE VIPER

INFINITI

Military Grade PTZ Camera System

The Viper is a revolutionary multi sensor PTZ camera boasting a long-range 128X visible day/night camera, long-range 40+km thermal infrared zoom, and optional ZLID NIR illumination with LRF. This multi-sensor payload enables the Viper to provide high resolution imaging in virtually any environment from heavy fog to complete darkness. Designed for weapons systems pointing and accuracy, it meets and exceeds MIL-STD-810F military ratings for shock, vibration, temperature and dust/water ingression. This makes it the ultimate long range camera system for 24/7 situational awareness and long-range recognition and identification of targets.

Key Features:

- Turn-key long-range military grade multi-sensor surveillance system
- Tri-Sensor payload: HD visible, ZLID illumination & thermal
- Day/Night 1080p HD IP ONVIF 1/2.8" or 1/1.8" CMOS sensor
- 16-2050mm Zoom Lens (with motorized 2x doubler)
- 128X zoom range for an incredible 19°–0.15° field of view
- Auto focus & motorized fog/parasitic light filter
- Image enhancements: DWDR, HLC, ROI, EIS, 3DNR, Fog/Haze
- Color: 0.06 Lux; B&W: 0.005 Lux (0 Lux with IR ZLID)
- ZLID IR Laser for 3 km of illumination that syncs with zoom
- 640×480 15µm, 30Hz real-time InSb cooled thermal imager
- 85–1400mm auto-focus germanium thermal lens
- Cooled thermal sensor provides extremely sharp thermal imagery
- Up to 37km of human detection and 50km of vehicle detection with DDE
- Rugged -40°–+60°C and IP67 sealed with anti-corrosion finish
- Elliptical Synchronous Drive pan tilt for unparalleled mobile positioning
- Endless 360° rotation with speeds up to 70°/s and 0.00025° resolution
- State of the art 2-axis gyro stabilization & EIS DSP image stabilization
- Meets and exceeds MIL-STD-810F for shock and vibration
- EMI MIL-STD-461E for electromagnetic interference

1080p FULL HD
2MP Sensor

128X ZOOM
16–2050mm Zoom Lens

ZLID
3km Zoom Laser IR Diode

COOLED InSb THERMAL
Cooled Thermal

16X Ge ZOOM
Thermal Zoom Lens

DDE
Digital Detail Enhancement

PTZ
PTZ Controls

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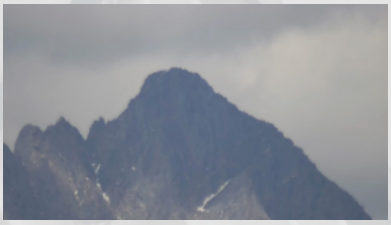
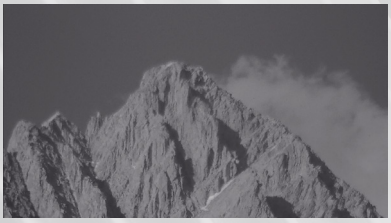
HD Visible Camera with ZLID

Visible/NIR Optical HD Camera

The Viper's visible camera was designed and optimized for long range surveillance. It uses a 1/2.8" progressive scan CMOS sensor with an HD resolution of 1920×1080 and a fantastic signal to noise ratio of 55dB. The 1/2.8" sensor has excellent spectral sensitivity for both visible and NIR wavelengths and features an automatic IR cut filter, making it a true day/night camera providing clear color images by day and black and white images at night. The 1/2.8" sensor provides the best balance between light sensitivity and maximum zoom, making it particularly suited for long range surveillance.
The Viper also integrates the latest technology in real-time image processing such as BLC, HLC, DWDR, EIS, ROI, 3D DNR, ABF, Defog/ Haze etc. Each of these image enhancements can be automatic or user-defined and calibrated based on the application requirements. Since the camera is native IP, all of these settings can be changed and configured remotely, along with remote PTZ and zoom control.



no Fog Filter



with Fog Filter

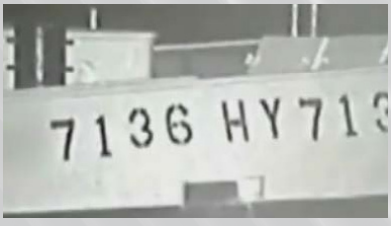
Long Range 128X Zoom Lens

The Viper comes equipped with a precision engineered 16–1025mm IR-corrected continuous zoom lens with motorized HD doubler, offering an incredible 128X zoom range from 19° through to a very narrow 0.15° FOV when paired with the 1/2.8" sensor. That's equivalent to a "full-frame" DSLR camera using a 13,500mm lens! Infiniti's zoom optics are built with the highest quality Japanese fluorite ELD low dispersion glass, and the integrated rapid auto focus allows long range recognition and identification of targets without operator intervention. The lens also incorporates a motorized fog filter that is used with the camera's monochrome mode and de-haze image processing to see through fog, smoke, smog and haze that render standard optical cameras unusable. Infiniti's HD Zoom camera is a perfect synergy between precision craftsmanship, state of the art sensor hardware and the latest image processing for unparalleled range and performance.

See through windows with ZLID

1–5km IR ZLID Laser Illumination

Many laser illuminators overexpose the center of the screen and leave the edges dark. Our laser has an adjustable 0.5° to 19.5° angle of view, and Infiniti's ZLID (Zoom Laser IR Diode) technology synchronizes IR intensity and area illumination with the zoom lens for outstanding active IR performance, eliminating over-exposure, washout, and hot-spots for clear images in complete darkness. An optional LRF is also available that can automatically turn off the laser if an object is detected within 95m of the active ZLID.



Ship at night with ZLID

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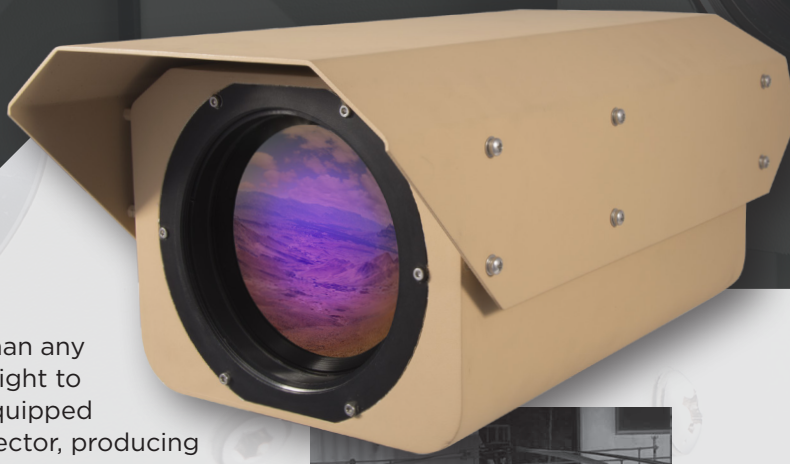
Thermal Imager



See It All

Infiniti's cooled thermal cameras let you see further than any other night vision technology, using heat rather than light to see objects. This cooled thermal imaging camera is equipped with a midwave, cooled Indium Animonide (InSb) detector, producing ultra-sharp thermal images of 640×480 pixels. This will satisfy users that want to see the smallest of details and demand the best possible image quality. It allows the user to see more detail and detect smaller objects from a further distance. Coupled with a high sensitivity, and leading germanium optics, this camera offers extreme long-range performance and excellent image quality.

Cooled InSb Thermal Imager

The Viper contains a high sensitivity 15µm cooled InSb sensor with a resolution of 640×480 and an ultra-long cooler lifetime of 20,000 hours. The cooled sensor is able to detect differences in temperature as small as ±0.025°C, providing more detail for tracking of targets at extreme ranges in total darkness and through most obscurants, with performance on par with 1500mm thermal systems.

16X Continuous Zoom Germanium Lens

The cooled InSb thermal core is paired with a precision-engineered f/5.5 germanium zoom lens allowing you to view targets with a 16X optical zoom range from 85mm to 1400mm. This allows for long-range detection of thermal targets by offering anything from a 6.4° to 0.4° field of view. These lenses also feature auto focus capabilities, delivering crisp, clear images even when adjusting zoom, ensuring optimal performance and situational awareness in the wide field of view and crisp details in the narrow field of view.

Extreme Long Range Detection

The Viper is a Mid-Wave Infrared (MWIR) thermal camera which means it operates on 3,000nm–5,000nm wavelengths where terrestrial temperature targets emit most of their infrared energy. Using the built-in Digital Detail Enhancement (DDE) for increased contrast and image clarity, this system is capable of detecting vehicles up to 50km away.* While thermal is a significant investment, its superior range and performance allows it to replace and outperform all other solutions, making it a viable option for many applications.

DRI Ranges:

37km
Human Detection*

50km
Vehicle Detection*

*DRI detection ratings are based on industry-wide standards (Johnson's Criteria) that should be fully understood for proper expectations. For more information, please see our whitepaper about understanding DRI measurements.

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Other Features

Elliptical Synchronous Drive P/T Positioner

The Viper has a weapons systems grade positioner designed for military applications and is able to withstand shock and vibration for use on tanks and navy vessels. The pan tilt implements an Elliptical Synchronous Drive for high torque to handle large payloads while providing micro steps as precise as 0.00025° for smooth manual control or automatic slew to cue tracking when used with Video Analytics, VTMS systems, Radar, AIS and weapon systems. The integrated multi-axis gyro stabilization uses a high-rate MEMS gyro in combination with the pan/tilt to mechanically stabilize the payload, reducing the effects of vibration, oscillation, pitch and roll for unparalleled stabilization on tanks, humvees, assault vehicles and more.

Intuitive And User Friendly

While the Viper is an extremely sophisticated multi-sensor system it is also a user friendly plug-and-play solution controllable by touch screen, mouse, VMS systems, DVR/NVR or 3-axis joystick. This allows the Viper to be operated by any individual with little or no training and ensures compatibility with new and existing equipment.

Rugged And Robust

The Viper is compromised of military grade, precision engineered components and manufactured using unique processes to offer absolute performance. It uses a military style connector to supply power, video, and communication over a single cable and does not require a junction box or external electronics of any kind, increasing reliability and the amount of time required to install the system. The entire system is designed for the most demanding mobile applications. It is MIL-STD-810F/G tested and certified and is sealed to a minimum of IP66 making it water and dust proof. Its internal heater/blower allows it operate in conditions from –40°C to +60°C and both the pan/tilt and enclosure use a tough anti corrosion finish for continued operation in the most brutal and harsh climatic conditions.

Remote Connectivity

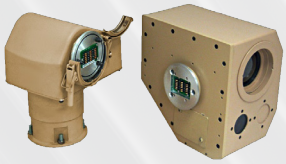
The Viper is an IP system that allows you to instantly and remotely connect, and control it through the internet in real-time from anywhere in the world using Ascendent Remote Management Software (ARMS) on your laptop, iPhone, or Android device. For remote or mobile applications Internet bandwidth is often limited, which why our DVRs, NVRs and IP cameras can record at one resolution and stream at another. Our web client also allows you to change your settings, update firmware and activate image enhancements in real time even including backfocus lens adjustment.

- Gyro Stabilized
- Voltage Regulation
- MIL-STD 810F Military Grade & IP66
- Military Connectors
- Radar Integration

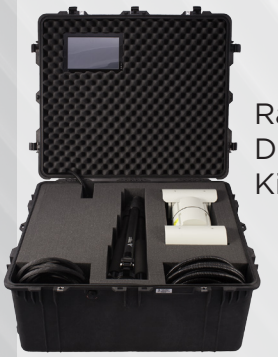
OPTIONAL ACCESSORIES:

PTZ Controller

LRF (up to 20km range)



Blindmate Connectors



Rapid Deployment Kit

THE VIPER'S

Specifications

INFINITI ELECTRO-OPTICS

Optical Assembly	1/2.8" HD Sensor	Optional Starlight Sensor
Image Sensor	1/2.8" Progressive Scan CMOS	1/1.8" Progressive Scan Exmor CMOS
Max Resolution	1920×1080 pixels	
Lens (12-bit Rapid Auto Focus)	16mm–1025mm (2050mm with doubler) HD Zoom Lens	
Angle of View	19.3° – 0.15° Horizontal FOV	25.29° – 0.2° Horizontal FOV
Minimum Illumination @ f/1.2	0.02 Lux (Color), 0.005 Lux (B&W)	0.002 Lux (Color), 0.0002 Lux (B&W)
Fog/Haze Filter	Motorized	
Backlight Compensation	BLC/HLC/DWDR (Digital WDR)	
IP Protocol	ONVIF, PSIA/GCI, HTTP, etc.	
IR Illuminator		
ZLID	Zoom Laser Infrared Diode	
Distance	3km (at max power), 95m NOHD	
Angle	0.5° ~ 19.5°	
Wavelength	808nm (940nm Stealth optional)	
LRF (optional)	Turns off laser if object is detected within NOHD distance	
Thermal Imager	**85–1400mm Ge Lens**	**Optional 35–715mm Ge Lens**
Lens (Motorized Focus)	85–1400mm f/5.5 Auto Focus Zoom Lens	35–715mm f/4.0 Auto Focus Zoom Lens
Image Sensor	High Sensitivity Cooled InSb	
Array Format	640×480	
Pixel Pitch	15µm	
Thermal Sensitivity (Room Temp. @ f/1.0)	< 25 mk	
Field Of View	6.4°–0.4° HFOV	15.6°–0.8° HFOV
Digital Zoom	2X and 4X Digital E-zoom	
DRI Detection Rating**	37km for human, 50km for vehicle	27km for human, 45km for vehicle
Digital Detail Enhancement (DDE)	Digital Detail Enhancement (DDE) Low/Medium/High	
Cooler Lifetime	20,000 hours (rated)	
Pan/Tilt Mechanical		
Drive Unit	Elliptical Synchronous Drive	
Pan Angle & Speed	360° Continuous Pan, up to 70°/s,	
Tilt Angle & Speed	+90° to -90°, up to 70°/s	
Resolution	0.00025°	
Backlash	None	
Gyro Stabilization	1 degree, 0.5 degree and 0.25 degree options	
Absolute Positioning	Yes	
Environmental		
Operational Temperature	-40°C~+60°C (with heater, -20°C without heater), Humidity: 90%±3% RH	
Environmental Certifications	MIL-STD-810F, EMI MIL-STD-461E, IP67	
Electrical		
Input Voltage	24V DC/AC	
Power Consumption	< 220W	
Power Protection & Voltage Regulation	Over Voltage Protection, Under Voltage Protection, Reverse Polarity Protection, Inrush Current Limiting, Over Current Protection, Over Load Protection	

*Specifications subject to change. **Approximate maximum detection rating under ideal conditions based on Johnson's Criteria (2 pixels of detection).

Optional Features: Wireless IP Radio (1–50km line of sight), IP Server for thermal, Joystick (Pelco-D or IP 3-axis joysticks), Mobile DVR/NVR with optional GPS and/or Cellular 3G, GPS, Radar Integration, RDK, Quick Connectors

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