



Peridot Night Dome

AI-Enhanced Wide-Area Thermal Situational Awareness

Peridot Night Dome is a ruggedized night-vision observation module designed to provide wide-area situational awareness for defense and homeland security missions. Built on Maris' Jupiter-AI edge computing platform, the system combines six thermal cameras with onboard AI processing to generate a 75° conical field of view for continuous surveillance.

Integrated YOLO-based AI enables real-time object detection and classification while transmitting processed video to the host observation system.



Designed as a modular subsystem, Peridot Night Dome integrates seamlessly into manned or unmanned ground, aerial, and maritime installations, providing reliable night-time observation in demanding operational environments.

Markets and Applications

Military

Situational awareness,
UGV payloads, observation systems,
perimeter security

Homeland Security

Border surveillance,
critical infrastructure protection,
fixed-site monitoring

Key Benefits

- Wide-area thermal coverage
- AI-powered threat detection
- Long-range night observation
- Flexible system integration
- Rugged mission-ready design

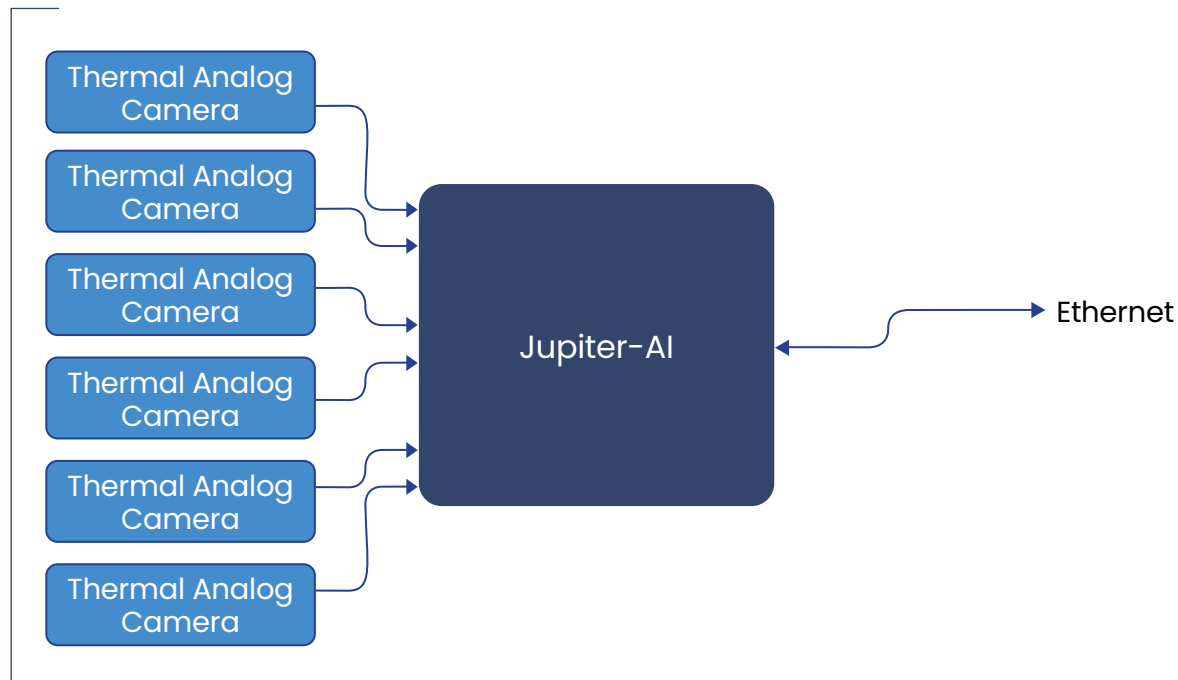
Key Features

- Six uncooled 640×512 thermal cameras
- 75° conical field of view with partial camera overlap
- Integrated Jupiter-AI processing board
- Built-in YOLO object detection and classification
- Modular architecture for land, air, and sea installations



Six uncooled thermal cameras

Block Diagram



Technical Specifications

Thermal Cameras	uncooled, 640×512, 32° FOV ×6
Effective Coverage	conical 75°
AI Processor	Jupiter-AI with YOLO software
Outputs	AI-enhanced video stream via Ethernet
Enclosure	Ruggedized, military environmental standard
Platforms	Ground, aerial, maritime installations

