



Recon® V OverWatch – R50™

About Recon V OverWatch – R50

The Aries Recon V OverWatch Kit (R50) pairs the Aries OverWatch™ system with the Teledyne FLIR Recon V thermal binocular to deliver long-range detection, identification, and alerting in the most demanding environments. Designed for dismounted teams or fixed observation posts, the R50 can be backpacked or mounted for persistent surveillance, giving commanders extended reach and precise situational awareness beyond line of sight. Fully integrated with Tactical Assault Kit (TAK) and Mission Command Host (MCH), it allows operators to stream live video, snapshots, and sensor metadata across any tactical network—instantly transforming the Recon V into a shared, networked surveillance asset.

How R50 Supports the Mission

Surveillance and Reconnaissance — Long-range thermal and visible detection with live streaming, recording, and change-detection alerts for persistent overwatch.

FOB Perimeter Security — Provides 24/7 standoff surveillance, cueing operators to movement or approaching threats before they breach the perimeter.

Asset Monitoring — Enables remote observation of key assets or terrain features, transmitting stabilized, geolocated imagery to commanders through TAK networks.

Force Protection — Extends the team's visual reach, detecting and identifying threats from a distance to give operators critical seconds of advantage.

Change Detection and Alerting — Built-in analytics highlight motion and scene changes automatically, allowing unattended monitoring with immediate notification of new activity.

Situational Awareness — Integrates Recon V sensor data and video directly into Android Tactical Assault Kit (ATAK) or MCH for a shared, real-time operational picture across the team.

The R50 allows team to detect, identify, and track threats long before they're visible—turning standoff distance into decision advantage. It extends a commander's reach, delivering precise, real-time awareness that shapes the fight before it begins.



The R50™ is powered by the NEOS DogBone processor—an edge processing and data transport system that pushes live, network-ready camera data directly to operators. This allows it to optimize bandwidth and automatically route data across MANET, SATCOM, LTE, or laser links, ensuring reliable visibility even in degraded or denied environments. With integrated stabilization, rangefinding, and GPS-enabled geotagging, it provides accurate target data while maintaining EMCON discipline—with no Wi-Fi or Bluetooth emissions. Compact, rugged, and low-power, the R50 extends the commander’s eyes far beyond the forward line, enabling early detection, rapid target handoff, and informed decisions at the speed of the mission.

R50 Features

Integrated Camera Optics — Simple, intuitive connectivity through the NEOS™ DogBone

Tactical MANET Radio Compatible — Seamless integration with all major MANET radios.

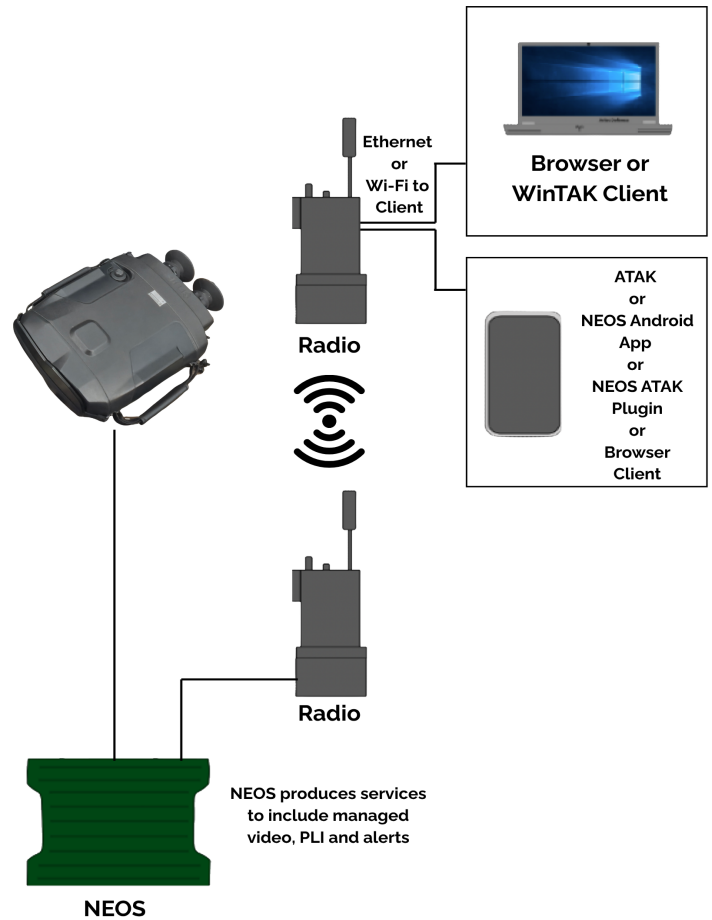
Data Network Compatible — SATCOM, LTE, Wi-Fi, laser data and radio compatible

TAK Enabled — Instant access to camera feeds and rapid video distribution via a user-friendly, field-proven alerting system that is viewable on tablets and mobile devices.

Low SWaP-C — Man-wearable ruggedized anodized aluminum enclosure; very small size and weight with low 5-volt power requirement.

Binocular — Compact and light-weight ruggedized multi-sensor thermal optic designed for day and night field operations. Built-in stabilization, digital magnetic compass, GPS, and laser rangefinder provide accurate range-to-target.

EMCON — Avoids detection with zero Wi-Fi or Bluetooth emissions.



NEOS SPECS (MILITARY)

Enclosure Dimensions: 3.52" x 4.2" x 1.3"

Power Requirement: 5 volts at 3 amps

Enclosure Weight: 302 grams

Network: Ethernet NATO STANAG (Glenair)

Power: Glenair

Video Input: USB NATO STANAG (Glenair)
H.264, MJPEG, AVC, Analog (w/ Aries Peanut Cable)
OS: Linux Based Aries OS

Board: Aries Board

EMCON: No Wi-Fi or Bluetooth hardware or software

Output Video Stream: MJPEG over HTTP via TCP

Video Quality: Adjustable 1 - 99% compression

Video Framerate: Adjustable 1 - 20 FPS

Video Resolution: Adjustable up to 360 x 480

Full Remote Settings Customization

Aert Trigger Threshold: Adjustable 1 - 5000 pixel:

IP Rating: 68

TRL: 9

Operating Temp: -40C to 105C