

SPIRIT PAYLOAD INTEGRATIONS

Elevate mission capabilities beyond flight



Ascent's coaxial UAV platforms are engineered for optimal payload flexibility. As the world's only enterprise-grade coaxial UAVs, the modular open architecture design makes it easy to integrate and deploy the software, sensors, cameras, or specialized equipment necessary to meet mission requirements today and tomorrow—no compromises needed.

Whether gathering actionable data or monitoring and protecting assets, by combining robust aircraft design with unmatched adaptability, Ascent is dedicated to elevating your operations, one payload at a time.

CAMERAS

EO/IR

NextVision DragonEye2 and DragonEye2 Gen2

Compact, Lightweight Dual EO-IR stabilized camera
EO 40x Zoom
Thermal 640x480
Weight: 115g

Use cases: Infrastructure Inspection, ISR, Border Security, Long-range & Persistent Surveillance, SAR, Military Operations, Fire Detection

Markets: Public Safety, Government, Industrial

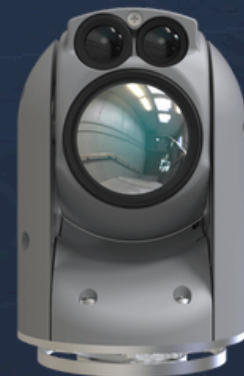


NextVision Nighthawk2-UZ

Lightweight Dual EO-IR stabilized camera turret
EO 40x Zoom
Thermal 1280x720
Weight: 350g

Use cases: Border Protection, Military ISR, Inspection, Long-range and Persistent Surveillance, Crowd Management

Markets: Public Safety, Government, Industrial



SPIRIT PAYLOAD INTEGRATIONS



CAMERAS CONTINUED...

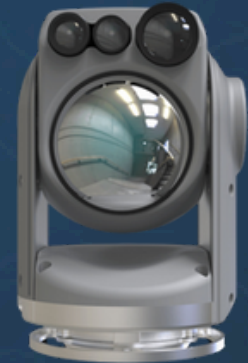
EO/IR

NextVision Raptor

Long-range, Dual EO-IR stabilized camera turret
EO 80x Zoom
Thermal 1280x720
Weight: 640g

Use cases: Border Security, Military Operations, Inspection, SAR, Long-range observation, Perch & Stare, Object Tracking, Geolocations

Markets: Public Safety, Government, Industrial



Gremsy VIO F1

Advanced lightweight EO/IR camera
4K Zoom Sensor
640x512 Radiometric Thermal Camera
Integrated 2400m Laser Rangefinder
Object Tracking
Weight: 854g

Use cases: Inspection, Search & Rescue, Firefighting, Disaster Relief
Markets: Public Safety, Government, Industrial



MAPPING & PHOTOGRAMMETRY

Sony ILX-LR1 Industrial Camera

High-Resolution Data Collection
61MP Full-Frame Image Sensor
4K Zoom
Swappable Lenses
Weight: 243g

Use cases: Inspection, Investigation, Surveying, Mapping
Markets: Industrial, Public Safety



SPIRIT PAYLOAD INTEGRATIONS



SOFTWARE & GROUND CONTROL STATIONS

For seamless integration between sUAS hardware and software, our advanced software solutions and available ground control systems provide precise mission planning, real-time telemetry, and intuitive command & control interfaces, ensuring efficient operation and enhanced situational awareness.

SOFTWARE

AscentQ

Our unique version of the open-sourced QGroundControl GCS software, AscentQ, is tailored to fly our coaxial UAV's. AscentQ features: simplified user interface, streamlined checklists, custom configuration menus and dedicated payload control widgets, creating a more intuitive, more user-friendly experience for the operator.

GROUND CONTROL STATIONS

UXV Navigator Tab 5

Easily extendable add-onto existing Android-based Samsung Galaxy Tab Active5

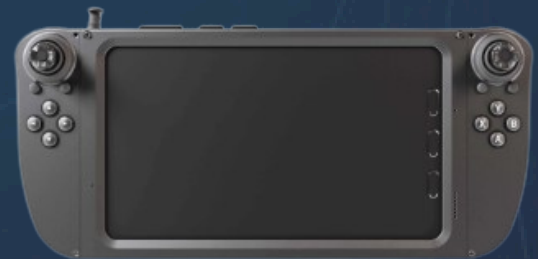
2x 2 Axis joysticks with push button mechanism,
12 push buttons

2x 1 Axis joysticks with push button mechanism,
Stylus pen holder

USB-C for charging, HDMI output

Size: 12.12 x 5.39 x 2.48 inches

Weight: 2.1 lbs (1.12 lbs excluding tablet)



Herelink

Android-based all-in-one control, telemetry, and video

Up to 20km in FCC mode, 12km in CE mode

WiFi, Bluetooth, and USB to connect with other devices

Battery life: 2-4 hours

Size: 8.5 in x 4.2 in x 1.2 in

Weight: 1.2 lbs



Alternative GCS options include ruggedized Windows PCs, Android and iOS.

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SPIRIT PAYLOAD INTEGRATIONS



RADIOS

Microhard pMDDL2450 and other Microhard offerings

Microhard Digital Data Link radios provide secure and reliable point-to-point and point-to-multipoint applications where high bandwidth links are required.



Doodle Labs

DoodleLABsSWaP-optimized Mesh Rider® radios offer long-range, high-bandwidth mesh networks for uncrewed systems and are NDAA-compliant. They feature a multi-band capability covering the M1-M6 frequency bands (1625 - 2500 MHz) within a single radio, offering a robust and versatile solution for various applications.



Herelink DDL 2.4ghz

An integrated remotecontroller, ground station, and wireless digital transmission system designed to be used with the Cube Autopilot, Ardupilot or PX4. Herelink allows RC control, HD video, and telemetry data to be transmitted up to 20km between the ground station and air unit.



L3 Harris Falcon III RF-7850A-UA Unmanned Aircraft Networking Radio

CompactSWaP profile, allowing for reliable high-speed data and video transmission. Offers full interoperability with L3 Harris wideband radios and traditional narrowband waveforms, including Combat Net Radio (CNR).



L3 Harris RF300M-DL (C) Small Secure Data Link (SSDL)

Single-channel, easily embedded tactical radio with a reduced SWaP that provides multiband, multimode networking capabilities. JTRS-approved with a SCA compliant architecture.

SPIRIT PAYLOAD INTEGRATIONS



PAYLOAD DEVELOPMENT KITS

Ascent's available Product Development Kits (PDKs) extend payload customization capability to the Integrator or the Operator, making it easy to quickly configure custom, mission-specific payloads and sensors as requirements change. The PDK includes CAD files and other resources needed for seamless electrical, mechanical, and software integrations.

Three available PDKs can be used to integrate payloads to the top or bottom of the Spirit or to the bottom of the NX30.

- **Terminal PDK** - used to integrate payloads to the top or bottom of the core.
- **Intermediate PDK** - used to integrate payloads between a battery and a payload.
- **Landing Gear PDK** - allows integration of both a sensor and landing gear to the bottom of the aircraft.

Standardized pinouts on the PDKs distribute power and data to the top and bottom of the core and integrate directly with the autopilot.



CUSTOM PAYLOAD OPTIONS

If the specific payload you need is not mentioned here, connect with one of our experts to discuss integration options. Ascent AeroSystems platforms feature a modular open systems approach (MOSA) which enables the quick and easy integration of virtually any radio, custom sensor, specialty payload, or ground control system.

