

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

Compact, Lightweight Dual EO-IR Stabilized Camera

EO 40x Zoom

Thermal 640x480

Weight: 165g

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

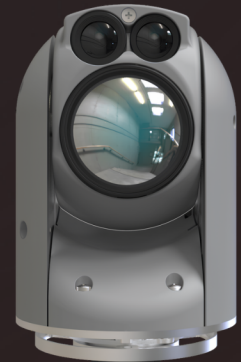
EO 40x Zoom

Thermal 1280x720

Weight: 380g

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

Markets: Public Safety, Government, Industrial



NextVision Raptor

Long-range, Dual EO-IR Stabilized Camera Turret

EO 80x Zoom

Thermal 1280x720

Weight: 625g

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

Markets: Public Safety, Government, Industrial



CAMERAS: EO/IR

Gremsy VIO F1

Advanced Lightweight EO/IR Camera

4K Zoom Sensor

640x512 Radiometric Thermal Camera

Integrated 2400m Laser Rangefinder

Object Tracking

Weight: 790g

Use Cases: Inspection, Search & Rescue, Firefighting, Disaster Relief

Markets: Public Safety, Government, Industrial



CAMERAS: MAPPING & PHOTOGRAMMETRY

Sony ILX-LR1 Industrial Camera

High-Resolution Data Collection

61MP Full-Frame Image Sensor

4K Zoom

Swappable Lenses

Weight: 810g

Use Cases: Inspection, Investigation, Surveying, Mapping

Markets: Industrial, Public Safety



CAMERAS: MULTISPECTRAL

MicaSense Series RedEdge-P

High-Resolution Multispectral and Panchromatic Sensor

5 Spectral Bands (1.6MP per Band)

5.1MP RGB Panchromatic

Dimensions: 8.9 cm x 7.0 cm x 6.7 cm

Weight: 363g

Use Cases: Agricultural Inspection, Vegetation Mapping

Markets: Industrial



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 UAVs. AscentQ features: a 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

Freefly Pilot Pro

Android-based GCS with Samsung Galaxy Tab Active5

RJ45 LAN port (For telemetry and video supported payloads)

Screen Mirror over WiFi; Sim Card variant available

12 x physical buttons

Battery life: 5 hours, 1 hour charge time

Size (folded): 8.50 in x 10.31 in x 3.11 in

Weight: 4.25 lbs

IP43 (Controller Body) / IP68 (Integrated Tablet)

NDAA Compliant



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 Linux, Windows, and Android systems.

COMMAND & CONTROL (C2)

Doodle Labs

DoodleLABs SWaP-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 remote controller, 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

Compact SWaP profile, allowing for reliable high-speed data and video transmission. Offers full interoperability with L3Harris 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.

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.

