



R80D SKYRAIDER™ ECOSYSTEM

The Future of Multi-Mission UAS for the U.S. DoD



THE LEADING SUPPLIER OF
SMALL UNMANNED SYSTEMS
TO GOVERNMENT, DEFENSE, AND PUBLIC
SAFETY CUSTOMERS, WORLDWIDE

OVER 25,000

platforms and payloads deployed into the most
demanding operating environments

OVER 1,000

personnel dedicated to innovation
and customer success

R80D SKYRAIDER

YOUR SMALL UAS MULTI-TOOL

ADAPTIVE. RUGGEDIZED. INNOVATIVE.

Developed for U.S. Defense and Federal Government Customers, the R80D SkyRaider is our most advanced military UAS, delivering a range of versatile Group 2-3 payload capabilities with the agility and single-operator deployment footprint of a proven Group 1 Vertical Take-Off and Landing (VTOL) aircraft.

ONE PLATFORM, MANY MISSIONS

The SkyRaider's expanded carrying capacity, open payload architecture, and dynamic and responsive flight control, provides an unprecedented level of flexibility in a single VTOL aircraft.

RAIDER OS CYBER-SECURITY

Built on the battle-tested Raider OS software, SkyRaider integrates specialized hardware and software to support the unique needs of the U.S. DoD and Federal Government users including customer-proprietary hardware and software interfaces, ATAK/Nett Warrior integration and more.

FREE-FLYING, TETHERED, OR VEHICLE INTEGRATED

The SkyRaider can be easily adapted in the field for all primary modes of UAS operation. No tools or engineers required.



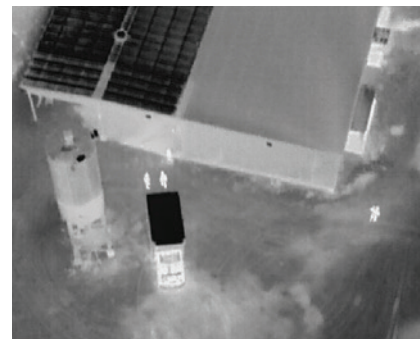
LASER DESIGNATION

With StormCaster™-DX's user-defined target tracking, SkyRaider operators can capture accurate coordinates, heading and speed of moving objects and vehicles, enabling clandestine monitoring and marking. This advanced, multi-role laser designator offers capabilities previously only available on larger drones or ground-based systems.



PERSISTENT OVERWATCH

SkyRaider operators can deliver sustained eyes on target for fixed-location overwatch and surveillance. With Automatic In-Air Replacement (AIR) and an optional field-installable power tether.



TACTICAL ISR

The SkyRaider carries a suite of long-range, stabilized daylight and IR imaging payloads. These are supplemented with a front-mounted EO/IR payload for day and night situational awareness and secondary view-angle ISR when carrying non-optical payloads.

R80D SKYRAIDER

MULTI-MISSION UAS

RUGGED & RELIABLE

Carbon fiber and magnesium airframe, tested to IP-54 and military standards

INTELLIGENT & AUTONOMOUS

Multiple NVIDIA processors for AI on the edge

PAYLOADS UP TO 7.7 LBS

Easily attach, carry and deliver payloads up to 7.7 lbs

FLEXIBLE & MODULAR

Application and Unmanned Development Kit for payloads and software



FLEXIBLE/MODULAR DESIGN + RUGGED ENVIRONMENTAL TOLERANCES + EDGE OF NETWORK AI + MULTI-MODAL SENSING = PRECISE OPERATION IN CONTESTED DOMAINS & ALL WEATHER CONDITIONS

CARBON FIBER + MAGNESIUM IP-RATED AIRFRAME

- Compact design is deployable in minutes by a single operator
- Tested to IP-54 and military standards

DOUBLE BATTERY FAILURE

- Maintains safe flight, even under single battery failure
- < 99Wh batteries enable transport on commercial aircraft
- Provides backup power under tethered flight

2X REDUNDANT NAVIGATION SYSTEMS

Maintains safe flight in high-risk operating environments, even under complete subsystem failure

FRONT-FACING EO/IR CAMERA

- Provides ISR and situational awareness
- Primary forward collision avoidance sensor*
- High definition daylight video and 320x240 infrared imaging

ONBOARD TX2 PROCESSOR

- Maximum edge of network compute power for AI & autonomy
- Developer access via Unmanned Development Kit

4X COMPUTER VISION CAMERAS

- Provides autonomous launch and recovery in close quarters or from moving platforms
- Enables position hold in contested electromagnetic environments
- Provides sensing input for lateral collision avoidance*

MULTI-USE PAYLOAD ARCHITECTURE

Future proof – Payload Development Kit enables Teledyne FLIR, partners, and users to quickly develop and deploy sophisticated, integrated payloads

MODULAR PROPULSION SYSTEM

Optimize SkyRaider for different missions by simply switching arms and props

ACCESSORY PORT

Provides mechanical integration for auxiliary hardware; Block 2 airframe only

LASER ALTIMETER

Maintains consistent altitude over uneven terrain for safe BvLOS operations



*Dependent on future software upgrade



FREE FLIGHT OPERATION

ANYWHERE, ANY TIME

SkyRaider executes the most complex and demanding missions up to 15,000' MSL, in winds gusting to 56 mph, in rain and snow, and at temperatures from -4° F to +122° F.

BOUNDLESS VERSATILITY

Four electromechanical interface points allow the integration of a wide range of sensors and accessories including imaging, CBRNe, LIDAR and communications payloads weighing up to 7.7 lbs.

LOWER COGNITIVE LOAD

Automated and autonomous navigation ensures safe and effective operation, even in denied environments or challenging launch and recovery locations.



TETHERED OPERATION

ADAPTABILITY

Quickly switch from tethered to free flying operations. In the unlikely event of loss of tether power, aircraft batteries offer an alternative power source.

PERSISTENT OPERATION

The SkyRaider Tether Kit enables persistent operation at a fixed location, delivering both aircraft power and datalink over a secure and RF-quiet link.

MISSION COVERAGE

Rated to carry 4.4 lbs*, the Tether Kit supports the latest in the StormCaster payload family, as well as other payloads including tactical radios.

*Requires Block 2 Tether Kit and Block 2 airframe.



VEHICLE INTEGRATED OPERATION

MULTIPLE OPERATING MODES

Launch, recovery, and operation of the UAS
- free flying or tethered - from stationary or moving vehicles
in both land and maritime environments.

INTEGRATION WITH VEHICLE SYSTEMS

UAS vehicle integration provides power, command & control,
and secure storage for SkyRaider, allowing UAS operators to
control the UAS locally from inside the vehicle or remotely.

MULTI-ROLE PAYLOADS



LASER DESIGNATOR PAYLOAD

StormCaster-DX is a low-SWaP laser target designator payload designed to affect the STANAG-compliant terminal guidance of laser guided munitions.



IMAGING PAYLOADS

Multiple imaging payloads are available that offer continuous zoom LWIR, ultra low-light imaging, and high fidelity daylight and thermal.



CBRNE PAYLOADS

The MUVE C360 multi-gas detector, the B330 continuous biological detector, and R430 radiation detector are integrated, swappable CBRNe payload solutions.



CONTINUOUS AIRCRAFT OPERATIONS

The Tether Kit is a modular, highly transportable system enabling persistent mission support, delivering power and data for extended, secure RF-quiet operation.



CARRY & DELIVERY PAYLOAD

Osprey has the ability to carry or drop payloads up to 7.7 lbs; provides ability to construct simple payloads in the field.



PAYLOAD DEVELOPMENT KIT

Extends payload development to end-users and third-party integrators, enabling the rapid development of application specific payloads.

LASER DESIGNATOR PAYLOAD

STORMCASTER™ - DX

The Teledyne FLIR StormCaster-DX is a multi-role, low-SWaP laser target designator payload designed to affect the STANAG-compliant terminal guidance of laser guided munitions. StormCaster-DX is tightly integrated with the R80D SkyRaider UAS to leverage its class-leading payload capacity, multi-mode operations (tethered/untethered & mounted/dismounted), and AI-CV-based targeting capabilities.



PERFORMANCE SPECIFICATIONS

SENSOR	FLIR Boson 640, 12 μ , 60Hz
RESOLUTION	640 x 512
FIELDS OF VIEW	Wide Angle: 24° Narrow Angle: 5.8°
GIMBAL LINE-OF-SIGHT STABILIZATION	< 0.3 mRad
GIMBAL STABILIZATION	3 axis (pitch, roll, yaw)
CONTROLLABLE RANGES OF MOTION	Pitch: +20/-100 degrees Yaw: +/- 40 degrees
SLEW RATE	60 deg/s
WEIGHT	2.75 lbs
DIMENSIONS	6.8" (W) x 6.8" (L) x 7.6"(H)
OPERATING TEMPERATURE	-20°C to 50°C



IMAGING PAYLOAD

STORMCASTER™ -T

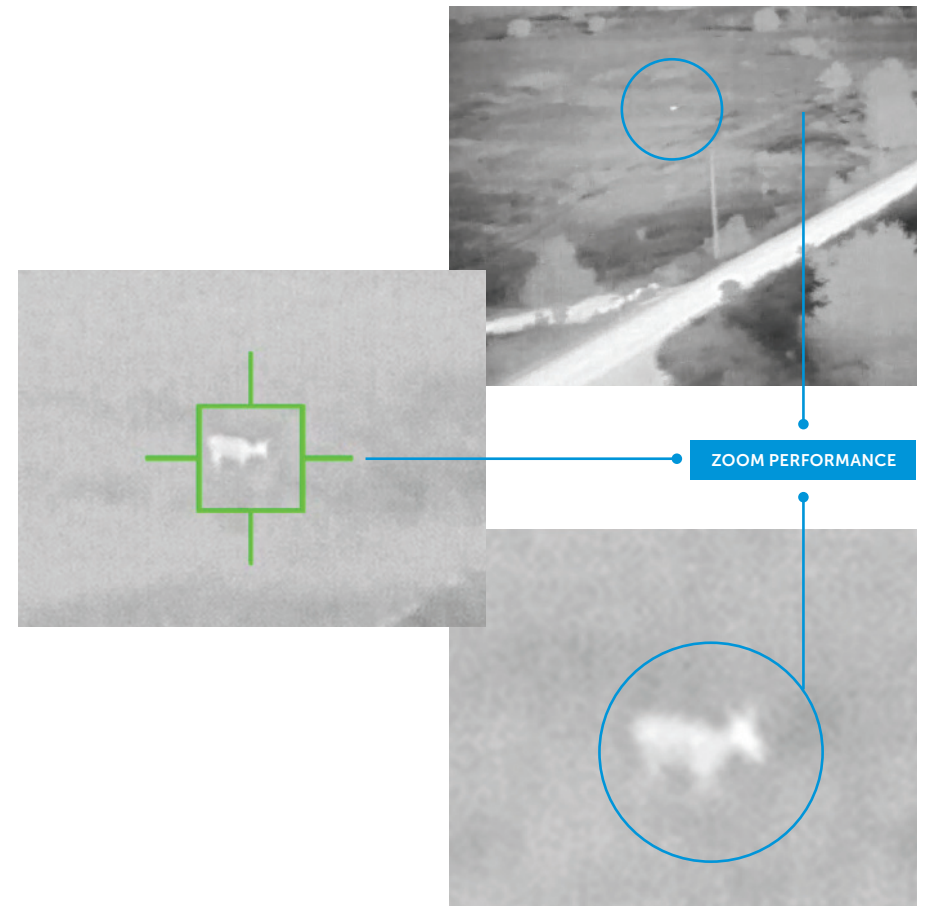
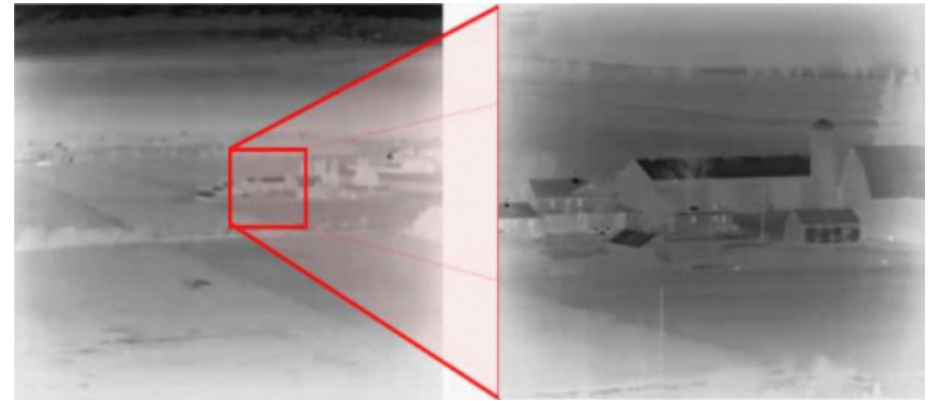
CONTINUOUS ZOOM LWIR IMAGING

The StormCaster-T continuous zoom LWIR payload supports detection, recognition, identification and target acquisition day or night, with maximum range and time on station.



PERFORMANCE SPECIFICATIONS

SENSOR	Boson, 12 μ m, 30Hz/9Hz
RESOLUTION	640 x 512
FIELDS OF VIEW	31° to 6° optical continuous zoom 2° with digital zoom
GIMBAL LINE-OF-SIGHT STABILIZATION	< 0.3 mRad
GIMBAL STABILIZATION	3 axis (pitch, roll, yaw)
GIMBAL VIBRATION ISOLATION	6 axis passive on aircraft
CONTROLLABLE RANGES OF MOTION	Pitch: +20/-90 degrees Yaw: +/- 180 degrees
SLEW RATE	60 deg/s
WEIGHT	2.2 lbs
DIMENSIONS	7.7" (W) x 6.2" (L) x 8.7"(H)
OPERATING TEMPERATURE	-4° F to 113° F



Zoom Performance:
Comparative Imagery for 15mm to 75mm continuous zoom

IMAGING PAYLOAD

STORMCASTER™ -L

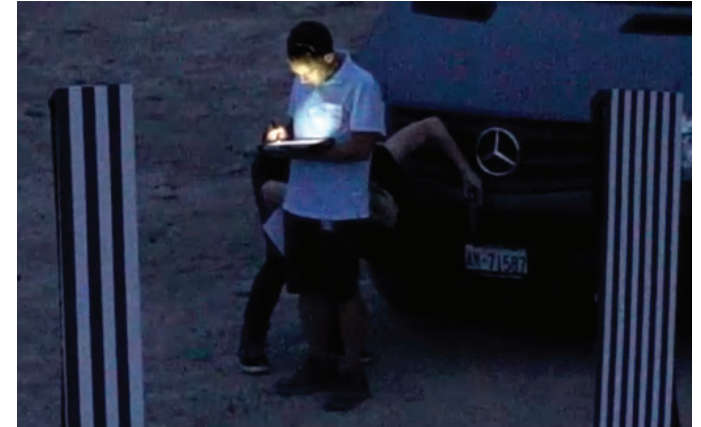
ULTRA LOW-LIGHT ISR, TRACKING AND MAPPING

The StormCaster-L ultra low-light imaging payload offers unmatched ISR, tracking and mapping performance during twilight and nighttime operations.



PERFORMANCE SPECIFICATIONS

RESOLUTION	4240 x 2832 max, 12.2 MP
FIELDS OF VIEW	39° optical, 11° with digital zoom
GIMBAL LINE-OF-SIGHT STABILIZATION	< 0.3 mRad
GIMBAL STABILIZATION	3 axis (pitch, roll, yaw)
GIMBAL VIBRATION ISOLATION	6 axis passive on aircraft
CONTROLLABLE RANGES OF MOTION	Pitch: +20/-90 degrees Yaw: +/- 180 degrees
SLEW RATE	60 deg/s
WEIGHT	2.9 lbs
DIMENSIONS	7.7" (W) x 7.9" (L) x 9.4"(H)
OPERATING TEMPERATURE	32° F to 113° F



License plate ID at 0.06 lux



ISR at 0.06 lux



Color discrimination : > 1hr before sunrise

IMAGING PAYLOAD

STORMCASTER™ - E

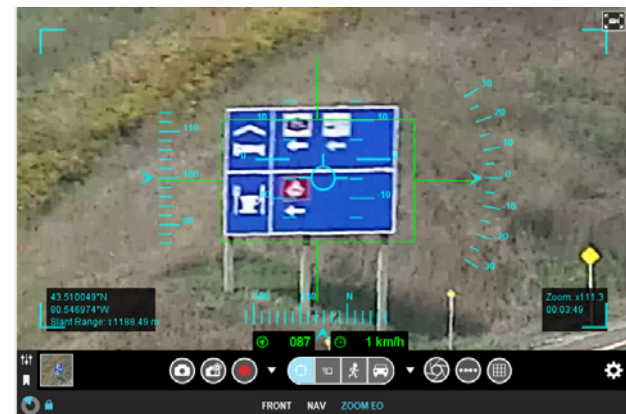
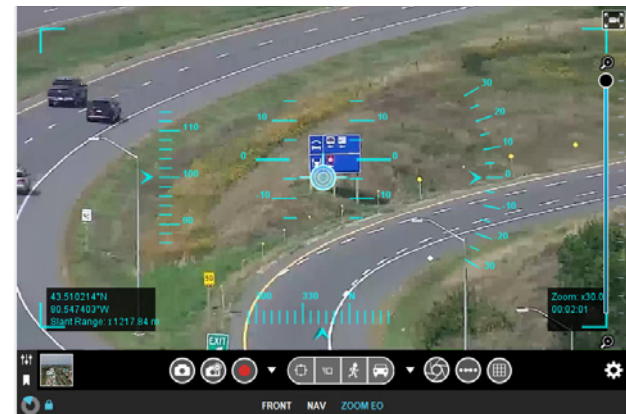
LONG-RANGE ZOOM IMAGING PAYLOAD

The StormCaster-E is a fully integrated electro-optical camera payload with 30x enhanced optical zoom to support detection, recognition and identification at extended target range. Designed for demanding applications that require clear and precise imagery across daylight and low light conditions.



PERFORMANCE SPECIFICATIONS

RESOLUTION	1080p/ 60
FIELDS OF VIEW	58.1° – 2.3°
ZOOM	30x Enhanced Optical, 4x Digital
GIMBAL LINE-OF-SIGHT STABILIZATION	< 0.3 mRad
GIMBAL STABILIZATION	3 axis (pitch, roll, yaw)
CONTROLLABLE RANGES OF MOTION	Pitch +20/-100 degrees Yaw +/- 180 degrees
WEIGHT	2.4 lbs
DIMENSIONS	7.7" (W) x 5.5" (L) x 7.5"(H)
OPERATING TEMPERATURE	-4°F to 122°F



Zoom performance: Comparative imagery across 1x, 30x, 120x zoom range

IMAGING PAYLOAD

TRILLIUM HD40-XV

Utilizing the payload development kit, Trillium Engineering has integrated its HD40-XV EO payload onto the R80D SkyRaider platform. The payload's 33x optical zoom visible camera provides long distance ISR while providing sharp, clear, actionable imagery in support of the mission.



PERFORMANCE SPECIFICATIONS

SHUTTER TYPE	Global
ZOOM	33x Optical
FIELD OF VIEW	60° - 2.1° Digital to 1.0°
VIDEO RESOLUTION	720p
REMOVABLE MEMORY	No
GIMBAL STABILIZATION	2 axis
CONTROLLABLE RANGES OF MOTION	Pitch: +30/-80 degrees Yaw: +/- 180 degrees
VIDEO METADATA	Embedded STANAG 4609 KLV Metadata
ENVIRONMENTAL PERFORMANCE	All weather operations IP-54 compliant
WEIGHT	36 oz
OPERATING TEMPERATURE	-4° F to 122° F



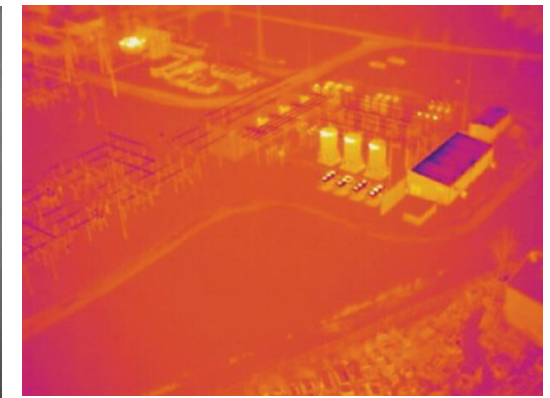
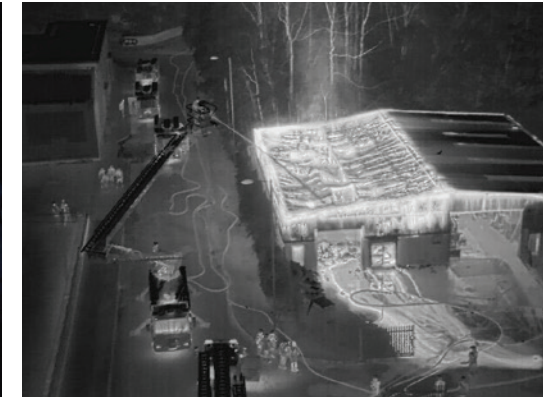
Zoom Performance: Comparative imagery across 1-66x zoom range

IMAGING PAYLOAD

EO/IR MK-II

HIGH-FIDELITY INFRARED

The EO/IR Mk-II delivers high-fidelity daylight and thermal imagery in a weather-resistant, 3-axis stabilized gimbal.



PERFORMANCE SPECIFICATIONS

MAKE & MODEL	SONY FCB_MA132 + FLIR TAU2
IMAGE STILLS	EO: 13 Megapixels (4192 x 3104 pixels) IR: (640 x 512 pixels)
FIELD OF VIEW	58° / 45° (13mm) or 32° (19mm)
ZOOM	4x digital
VIDEO RESOLUTION	640 x 512 / 8.33 FPS H.264 recorded
COLOR PALETTES	White-hot, Black-hot, Rainbow, Ironbow
GIMBAL STABILIZATION	3-Axis
CONTROLLABLE RANGES OF MOTION	Pitch: +/- 60° Yaw: +/- 20°
VIDEO METADATA	Embedded STANAG 4609 KLV Metadata
DIGITAL ENHANCEMENTS	Active Contrast Enhancement (ACE) Digital Detail Enhancement (DDE) Information Based Histogram Equalization (IBHEQ) Isotherms
ENVIRONMENTAL TOLERANCES	IP-54, MIL-STD-810G for salt mist/rain
WEIGHT	20 oz

CAPTURE DAYLIGHT AND THERMAL IMAGERY AT THE SAME TIME

Ideal for both day and night operations, the EO/IR Mk-II imaging payload provides:

- Enhanced thermal (IR) imagery in a range of color palettes – white-hot, black-hot, rainbow, and ironbow
- Secure HD 1080p video streaming to the pilot and remote personnel anywhere in the world
- Choice of IR lenses – 19 mm focal length (tactical applications) and 13 mm (thermal mapping or SAR applications)
- Advanced radiometric temperature measurement, accurate to +/- 90° F



OSPREY - CARRY & DELIVERY PAYLOAD

CARRY ALMOST ANYTHING UP TO 7.7 LBS

**Individual
First Aid Kit**



**Water
Purification
Kit**



FirstLook



**Small Pelican
Case**



Life Vest



Tactical Radio



**Unattended
Ground
Sensor**



DETECTION PAYLOAD

MUVE™ C360

INTEGRATED MULTI-GAS DETECTOR FOR UNMANNED AERIAL SYSTEM

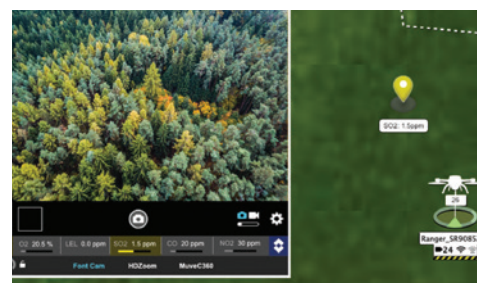
The MUVE™ C360 is a multi-gas detector completely integrated with an unmanned aerial system (UAS) to provide real-time continuous monitoring of chemical hazards while on the move. The sensor block boasts 8-channels, which includes a photoionization detector (PID), Lower Explosive Limit (LEL) detector, and six other sensors.



PERFORMANCE SPECIFICATIONS

SENSOR BLOCK TECHNOLOGY	
SENSORS	CO, Cl ₂ , O ₂ , NO ₂ , H ₂ S, SO ₂ , LEL
PID	VOC 10.6 eV (ppm)
FLIR CALIBRATION STATION	Proprietary automatic calibration design, includes tubing and power adaptor
SAMPLING & ANALYSIS	
SAMPLE INTRODUCTION	Actively pumped via integrated snorkel
SAMPLING RATE	300 ml/min minimum
SAMPLING & ANALYSIS	Real-time detection
SYSTEM INTERFACE	
DISPLAY & ALERTS	Mission Control Station (MCS)
WIRELESS RANGE	Determined by the UAS range
DATA STORAGE	Sensor data and flight information logged on tablet
TRAINING REQUIREMENTS	<30 mins for operator; 4 hours for advanced user

POWER	
INPUT VOLTAGE	12V SkyRanger R70; 12V Calibration Station
BATTERY SPECIFICATION	Powered by the UAS
COLD START TIME	90 seconds from cold start
ENVIRONMENTAL	
OPERATING TEMP	-4 to 122 °F (-20 to 50 °C)
OPERATING HUMIDITY	10 to 93%, non-condensing
STORAGE TEMP	-22 to 158 °F (-30 to 70 °C)
PROTECTION	IP43-rated
PHYSICAL FEATURES	
DIMENSIONS (L X W X H)	6.5 x 2.3 x 2.0" (16.51 x 5.84 x 5.08 cm) - C360 only
TOTAL PAYLOAD WEIGHT	1.5 lb (680.39 g) - C360 with dock and snorkel
INTEGRATION DOCK	Proprietary quick-connect mount for UAS and FLIR Calibration Station



DETECTION PAYLOAD

MUVE™ B330

CONTINUOUS BIOLOGICAL DETECTOR AND COLLECTOR

The MUVE B330 is a Continuous Biological Detector and Collector purpose-designed for unmanned aerial systems (UAS) to provide real-time continuous monitoring of biological threats while on the move. The B330 leverages the legacy design and performance of the IBAC product line in a SWaP-optimized configuration.



PERFORMANCE SPECIFICATIONS

TECHNOLOGY	UV Laser Induced Fluorescence (LIF)
COMMUNICATION	Ethernet
SAMPLING & ANALYSIS	
SAMPLE INTRODUCTION	Airborne particles; triggered aerosol sample collector
SAMPLE PHASE	Aerosol; flow rate 4.0 L/min (0.14 ft ³ /min)
THREATS	Spores, vegetative bacteria, viruses, and toxins; particle size: 0.7 – 10 microns
SENSITIVITY	<100 particles/L of air
SAMPLING & ANALYSIS	Continuous sampling when in operation
SAMPLE COLLECTION	Integrated sample collection

SYSTEM INTERFACE

DISPLAY & ALERTS	Mission Control Station (MCS)
OUTPUTS	Alarm Status, Diagnostics Status, Collector Status
DATA STORAGE	16 GB internal storage
TRAINING REQUIREMENTS	<8 hrs

POWER

INPUT VOLTAGE	16-36 VDC
POWER CONSUMPTION	10W (normal operation), 12W (collector running)
COLD START TIME	<5 mins

ENVIRONMENTAL

OPERATING TEMP (AMBIENT)	-26 to 120 °F (-32 to 49 °C)
OPERATING HUMIDITY	5% to 99%, non-condensing
STORAGE TEMP	-38 to 126 °F (-39 to 52 °C)

INTEGRATED SAMPLE COLLECTOR SPECIFICATIONS

SAMPLING METHOD	Dry collection
POWER CONSUMPTION	2 watts
MAX FLOW RATE	30 L/min
PARTICLE SIZE	1 to 10 microns
COLLECTION MEDIA	Sample Disk
SAMPLE RECOVERY	Sample extraction from sample disk in vial with liquid buffer

PHYSICAL FEATURES

DIMENSIONS (L X W X H)	7.6 x 7.6 x 8.5 in (19.3 x 19.3 x 21.6 cm)
WEIGHT	3.17 lbs (1.44 kg)
ENCLOSURE	Windform® SP (Composite polyamide based, carbon filled)

DETECTION PAYLOAD

MUVE™ R430

RADIONUCLIDE IDENTIFICATION DEVICE FOR UNMANNED AERIAL SYSTEMS

The MUVE R430 is a radiation detector designed for unmanned aerial systems (UAS) used to detect, locate, measure, map, and identify radioactive sources from above. The R430 is integrated into the Mission Control Software (MCS) providing visible and audible alerts that expedite response measures. The R430 provides a balance of size and weight for various situations including survey, emergency response, and environmental monitoring.



PERFORMANCE SPECIFICATIONS

TECHNOLOGY	Radionuclide identification device (RID); Gamma and Gamma/Neutron models
GAMMA DETECTOR – NAL (TI)	1.77 x 1.77 x 1.77" (45 x 45 x 45 mm) cubic detector with silicon photomultiplier (SiPM)
HIGH DOSE GAMMA DETECTOR – NAL (TI)	Energy Compensated Geiger Müller (GM) Tube
NEUTRON DETECTOR – ZnS (GN MODEL ONLY)	27 x 58 x 5 mm moderated panels (2 each)
ENERGY RANGE (GAMMA)	20 keV – 3MeV
GAMMA SENSITIVITY (Cs-137)	1610 cps/μSv/h
NEUTRON SENSITIVITY	> 4 cps/nv

GAMMA SPECTRUM LENGTH	1024 channels
DOSE RATE RANGE (Cs-137)	10 μrem/h – 1 rem/h ± 10%, 100 nSv/h – 10 mSv/h ± 10%
DOSE RATE RANGE ID MODE (Cs-137)	0.1 μrem/h – 5mrem/h, 1 nSv/H – 50 μSv/h
OVERLOAD DOSE RATE RANGE	1 – 1000 rem/h, 10 mSv/h – 10 Sv/h
STABILIZATION	Sourceless gain stabilization
LINEARIZATION	Real time linearization of gamma energy
TYPICAL RESOLUTION	≤ 7% FWHM at 662 keV (20 °C)
SERVICE INTERVAL	5-year factory maintenance
SYSTEMS INTERFACE	
COMMUNICATIONS	USB-C, UAS interface port
DATA STORAGE	8GB internal memory
SOFTWARE	Onboard webserver software
DATA FILE FORMAT	According to ANSI N42.42
SAMPLING & ANALYSIS	
SAMPLE INTRODUCTION	Absorption of EM gamma and neutron emissions
THREATS	Detects neutron and gamma radiation emitted from natural occurrences in the environment, special nuclear material, industrial, or medical material
NUCLIDE IDENTIFICATION	According to ANSI N42.42
LIBRARY CATEGORIES	SNM, IND, MED, NORM
TIME TO IDENTIFICATION	From a few seconds to a few minutes

CONTINUOUS AIRCRAFT OPERATION

TETHER KIT

The Tether Kit enables continuous operation of the aircraft and attached payloads delivering power and data for secure and RF-quiet operations. Payload lift capacity supports a broad spectrum of mission sets. Intelligent altitude management maximizes operational envelope while minimizing operator burden.

PERFORMANCE SPECIFICATIONS

TETHER LENGTH	328ft
DATA RATE	50 Mbps
MAX CEILING	13,000 ft MSL
PAYLOAD	5 lbs
GROUND STATION VELOCITY	12 mph
FLIGHT DURATION	24 hours*
ENVIRONMENTAL TOLERANCE	IP54
WIND TOLERANCE	Up to 28 mph at AGL of 320 ft with payload weighing 3.3 lbs
OPERATING TEMPERATURE	14° F to 122° F
POWER	120V/60Hz or 230V/50Hz

* Dependent on environmental conditions.



TETHERED FLIGHT ON THE MOVE



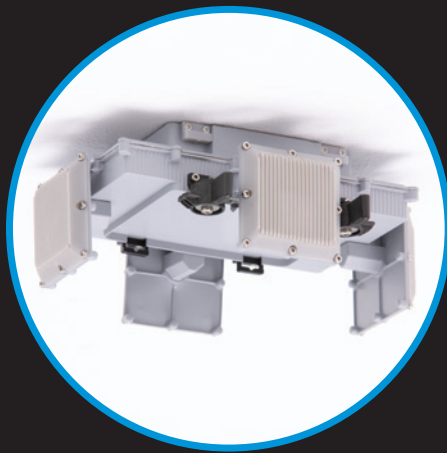
TETHERED FLIGHT WITH STORMCASTER-T AND TRAK



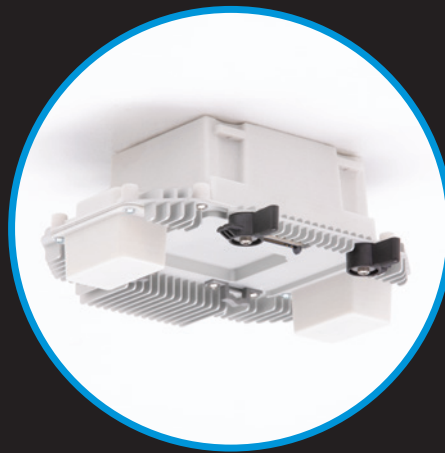
Elistair Safe-T2 ground station shown

TACTICAL NETWORKING

INTEGRATED TACTICAL NETWORKING

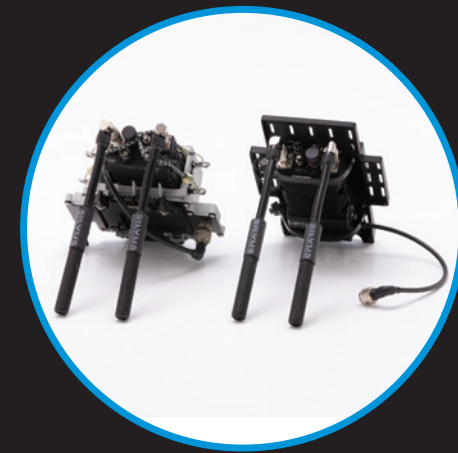


Radionor Interposer



Silvus Interposer

TACTICAL RADIO ADAPTOR KIT (TRAK)



TRAK

- Multiple, field-adaptable tactical networking integrations, including Silvus, Radionor, Wave Relay MPU 5, Trellisware
- Provides C2/downlink from aircraft via “interposer”
- Provides BLOS network retransmission

- **Advanced Tactical Networking Support (Silvus)**
 - C2, video, mesh re-trans and GUI integrated network stats when using Silvus interposer
 - One-Click Interaction: set any tactical radio node as Home, Track, or Follow

FLEXIBLE PAYLOAD ARCHITECTURE

PAYLOAD DEVELOPMENT KIT (PDK)

Extends payload development to end-users and third-party integrators, enabling the rapid development of application-specific payloads for the SkyRaider platform.

LEVERAGE A FULL SET OF PAYLOAD DEVELOPMENT TOOLS ELECTRICAL + MECHANICAL + SOFTWARE INTEGRATION

Enables full integration with the SkyRaider airframe, including:

- Mechanical mounting
- Sensor data from aircraft (e.g. GPS)
- Power from aircraft batteries
- Secure IP networking for payload data

VIBRATION-ISOLATING MECHANICAL AIRFRAME DESIGN

Minimizes the need to deploy dedicated stabilization into the payload

SUPPLEMENTARY EO/IR PAYLOAD

Provides day/night ISR capability while flying non-optical payloads

EXPANDED PAYLOAD SWAP ENVELOPE

Able to carry integrated payloads up to 7.7lbs



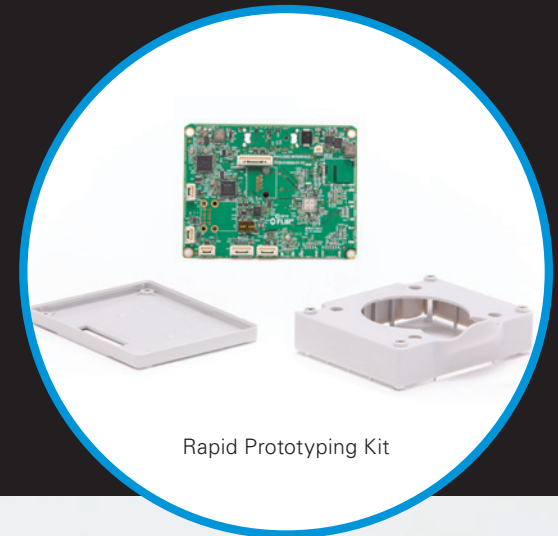
UNMANNED DEVELOPMENT KIT (UDK)

A SECURE AND COMPREHENSIVE OPEN ARCHITECTURE FOR UNMATCHED ADAPTABILITY

PAYLOAD DEVELOPMENT KIT (PDK)

Extends payload development to end-users and third-party integrators, enabling the rapid development of application-specific payloads for the R80D SkyRaider platform.

- Includes electromechanical tools and software libraries
- Provides access to key SkyRaider functions & subsystems including power, telemetry, and networking
- GUI and data visualization inside Mission Control Station (MCS) ground control software



APPLICATION DEVELOPMENT KIT (ADK)

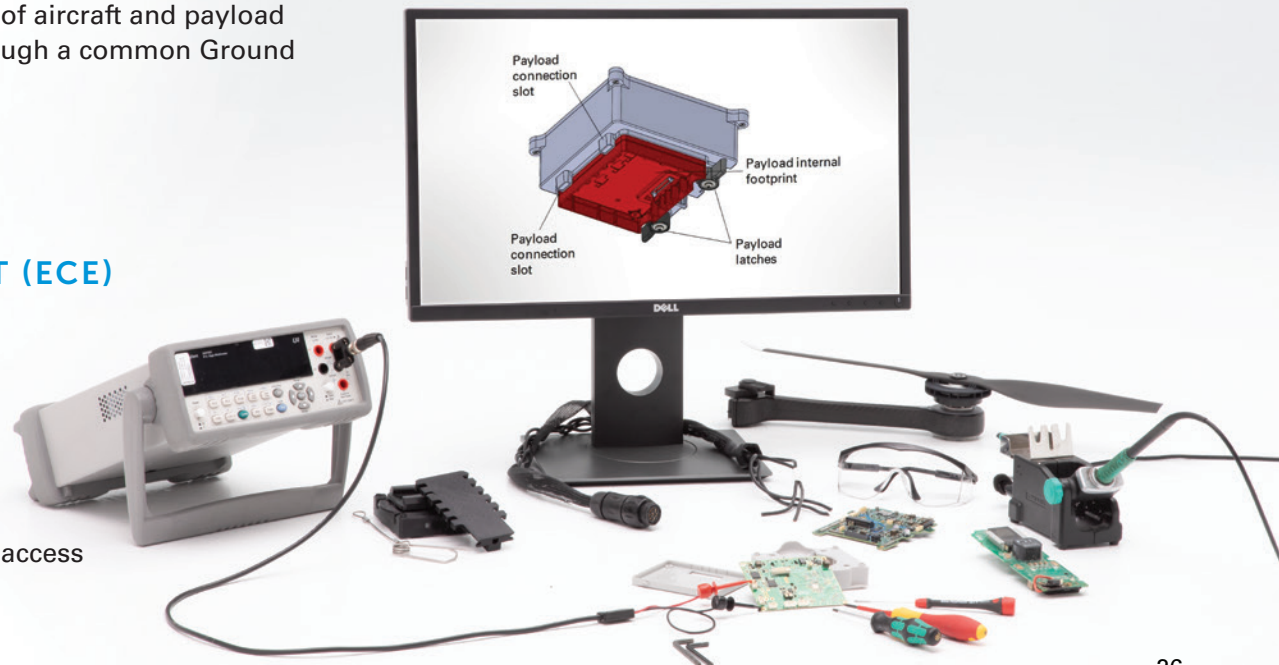
Provides partners and integrators access to a full suite of aircraft and payload controls, including the ability to control SkyRaider through a common Ground Control Station (GCS).

- Includes C/C++ headers and supporting libraries
- Compatible with Linux and Android

EMBEDDED COMPUTING ENVIRONMENT (ECE)

Allows developers to run embedded applications on the R80D SkyRaider platform

- Secure, root access to a segregated portion of aircraft (CPU) and/or base station (CPU & GPU) hardware to deploy custom software applications at the edge of the network
- Built-in ADK support enables developer applications access to aircraft controls, telemetry and video for scripted/autonomous applications



TELEDYNE FLIR + TAK



USER FOCUSED INNOVATION

Teledyne FLIR UASTAK integration is designed for operational efficiency, reduced SWaP, and seamless integration with the TAK ecosystem. Enables full operation of the R80D SkyRaider without the need for a dedicated ground control station. Command & control functions enabled through TAK include navigation, payload controls, and data sharing with other TAK users.

- Full R80D Control VIA ATAK EUD
- POI and KLV Display and Distribution
- Seamlessly Leverages ATAK AR Video Overlay
- Create, Distribute, and Execute Missions as Operator or Observer
- Advanced Operator and Observer R80D Payload Control
- Follow-Me Function
- Waypoint Navigation
- R80D SPol and Viewshed Displayed and Distributed across TAK
- Display and Distribute R80D Native AI Detections
- Point Dropping from Video Display
- Full Screen, Half Screen, and Picture in Picture Display



TAK-CIV screen

LOWER COGNITIVE LOAD, GREATER MISSION EFFECT

High resolution sensing, edge-of-network AI, and advanced computer vision algorithms convert data into actionable intelligence, delivered to the point of decision in Teledyne FLIR GCS or Customer C2 systems.

AUTOMATED TARGET CLASSIFICATION, TRACKING, ANALYSIS, METADATA ENHANCEMENT & DATA SHARING



LOWER COGNITIVE LOAD, MORE IMMEDIATE OPERATIONAL EFFECT



ADVANCED SOFTWARE AUTOMATION AND AUTONOMY SIMPLIFIES UAS OPERATIONS, AND KEEPS PERSONNEL FOCUSED ON THE MISSION

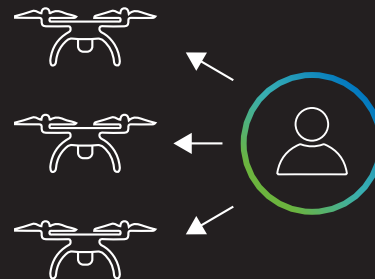
DARK MODE

UAS can execute semi-autonomous missions without an active C2 link to the operator



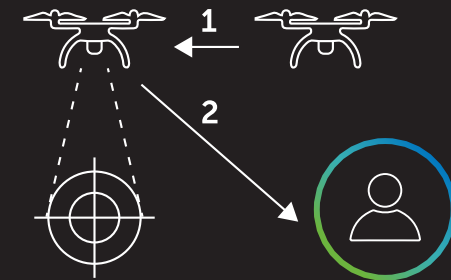
MULTI-AIRCRAFT CONTROL

A single operator can control up to 16 UAS, each performing coordinated automated tasks



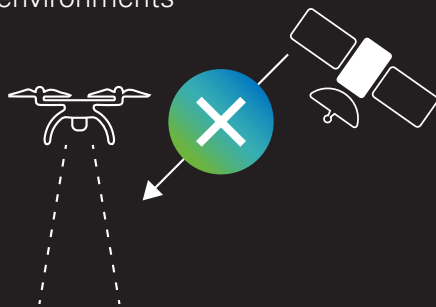
AIR

Achieve continuous eyes-on-target through Autonomous In-air Replacement (AIR) and target handoff



GPS-DENIED OPERATION

UAS employs computer vision and dead reckoning to hold position and navigate in GPS-denied or degraded environments



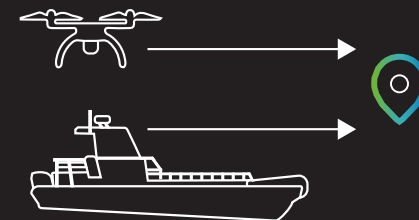
AUTONOMOUS LAUNCH & RECOVERY

UAS can land onto fixed or moving platforms without operator control



FOLLOW ME

UAS can follow, track, or recover to any known person, vehicle or location at a defined standoff



TYPICAL CONFIGURATION



ACCESSORIES

XL Batteries

Increase free-flight mission time by 60%. Up to 59 minutes with EO/IR Frontcam Payload



8 Bay Battery Charger



R80D SKYRAIDER

PERFORMANCE SPECIFICATIONS

Height	17.7 in
Total Length	53 in propeller tip to propeller tip
Weight	11 lbs
Typical Endurance*	Over 40 minutes with standard propulsion system Tether Kit available Up to 59 minutes with new XL Battery Packs * Endurance specifications measured with Forward EO/IR payload; actual flight time varies based on payload and operating conditions
Max. Speed	Ground speed 31mph Max ascent speed 13ft/s Max descent speed 9ft/s
Temperature	-4° F to 122° F
Wind	40mph sustained, 56mph gusting
Precipitation	Tested to IP-54 and military standards
Frequency	915Mhz, 922Mhz, 2.2Ghz + other frequencies and waveforms
Radio Range	Up to 5 miles with standard base station
Mission Data	AES encryption with 256-bit physical key exchange
Launch Time	3-5 minutes

ADAPTIVE.
RUGGEDIZED.
INNOVATIVE.

ONE PLATFORM, MANY MISSIONS

FREE-FLYING, TETHERED, OR
VEHICLE INTEGRATED

**MISSION COVERAGE
SUSTAINED PERSISTENCE**

With Teledyne FLIR's Multi-Aircraft
Autonomous Flight Controls

**EXPANDABLE PAYLOAD
UP TO 7.7LBS**

With Teledyne FLIR's Payload Development Kit
for Enhanced Payload Flexibility

**INGRESS RATING
IP-54/MIL-STD-810G***

Teledyne FLIR UAS are Reliable and Proven in
the Harshest of Battlefield Conditions

*Conforms to select elements

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