# PRODUCT CATALOG

For more product information, **visit avinc.com**



VERSION 2-20208

AeroVironment™

# CONTENTS

AEROVIRONMENT HAS DELIVERED THE
**VAST MAJORITY** OF ALL UNMANNED AIRCRAFT
IN THE U.S. DEPARTMENT OF DEFENSE INVENTORY*

**35,000+**
**UNITS DELIVERED WORLDWIDE**

**4 MILLION+**
**ACCUMULATED UAS FLIGHT HOURS (EST)**

**55+**
**ALLIED NATIONS USE OUR LMS, UAS, UGV & SUPPORT SERVICES**

# WHO WE ARE

At AeroVironment, we are relentless in our efforts to deploy technology in ways that push beyond the realm of what's possible. With each innovation, we strive to broaden our customers' horizons and elevate their capacity to make smarter, quicker decisions.

We develop technologies and solutions that enable customers to operate beyond the horizon, enabling them to see the world in powerful new ways, complete ever-more ambitious missions and overcome seemingly intractable challenges. By pushing the boundaries of future-defining technologies, we move beyond what is currently possible to create a powerful, interlocking family of products spanning missions, domains and worlds.

** Source: United States Department of Defense Unmanned Systems Roadmap 2013-2038, page 5*

# MULTI DOMAIN ROBOTIC SYSTEMS

**JUMP**® 20

**T-20**™

**PUMA**™ LE

**PUMA**™ 3 AE

**SOLAR** HAPS

**PUMA**™ VTOL KIT

**RAVEN**® B

**SWITCHBLADE**® 600

**SWITCHBLADE**® 300 BLOCK 20

**BLACKWING**™

**VAPOR**® 55 MX

**DDL**™ NETWORK ANTENNAS

**CRYSALIS**™ GCS

**telemax**™ EVO UGV

**tEODor**™ EVO

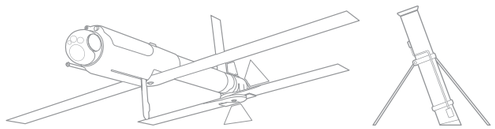
# LOITERING MUNITION SYSTEMS

## LMS

AeroVironment's Switchblade® loitering munition systems (LMS) close the gap between observation and action, giving troops the ability to identify threats and precisely deliver a lethal payload with minimal collateral effects. Their small size and low acoustic, visual and thermal signatures make Switchblade systems difficult to detect or track, even at close range.

Rapidly deployable and highly maneuverable with high-performance optics and scalable munition payloads, our LMS enable warfighters to easily launch, track and engage beyond-line-of-sight targets, including light armored vehicles, across domains. These qualities made the Switchblade the "kamikaze drone" of choice in Ukraine.

# SWITCHBLADE® 600 LOITERING MUNITION



**LAUNCHER DIMENSIONS**
Length: 60 in (1.5 m)
Diameter: 7.5 in (19.2 cm)

**WEIGHT**
Munition: 33 lb (15 kg)
AUR: 65 lb (29.5 kg)

**RANGE**
40+ km

**ENDURANCE**
40+ min

**SPEED**
Loiter: 70 mph (113 km/h)
Sprint: 115 mph (185 km/h)

**EFFECTS ON TARGET**
Anti-armor &
anti-personnel effects

| | |
|---|---|
| **FIRE CONTROL SYSTEM** | Tablet-based FCU with tap-to-target guidance & built-in mission planner & trainer |
| **TARGETING OPTICS** | 2-axis, 4-sensor gimbal (Dual EO/IR) integrated sensor suite |
| **OPERATING ALTITUDE** | Below 650 ft (198 m) AGL; ceiling >15,000 ft (4572 m) MSL |
| **LAUNCH METHOD** | Self-contained launcher for ground, air & maritime |
| **LETHALITY** | Precision strike with anti-armor warhead |

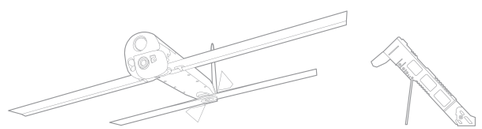
## KEY FEATURES

- *Patented wave-off feature & recommit capability*
- *Enhanced frequency hopping Digital Data Link™ covering more frequencies & supporting AES-256-bit encryption*
- *Intuitive touch screen tablet Fire Control Unit (FCU)*
- *<10 minute system setup & launch*

**ALL-IN-ONE, MAN-PORTABLE, ANTI-ARMOR, SMART MUNITION SYSTEM**

*Best-in-Class Sensor Suite*
*Anti-Armor Warhead*
*Self-Contained Tube-Launcher*
*Mission Planning on FCU*
*Integrated Training Simulator (T-sim)*
*Fire Control System*

# SWITCHBLADE® 300 BLOCK 20



**WEIGHT**
Munition: 4 lb (1.8 kg)
AUR: 8 lb (3.6 kg)
(includes payload, launcher, transport bag)

**RANGE**
20+ km

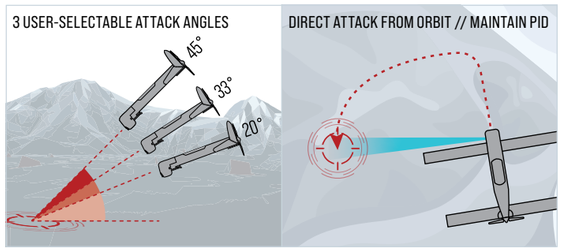
**ENDURANCE**
20+ min

**SPEED**
Loiter: 63 mph (101 km/h)
Sprint: 100 mph (161 km/h)

| | |
|---|---|
| **FIRE CONTROL SYSTEM** | Tablet-based FCU with tap-to-target guidance & built-in mission planner & trainer |
| **TARGETING OPTICS** | Enhanced EO/IR with forward to left hand panning camera suite |
| **OPERATING ALTITUDE** | Flight <500 ft (152.4 m) AGL; supports operation >15,000 ft (4572 m) ASL |
| **LAUNCH METHOD** | Self-contained launcher for ground, air & maritime; configurable multipack capability |
| **LETHALITY** | Anti-personnel effects; precision strike with low collateral effects |

## KEY FEATURES

- *Patented wave-off feature & recommit capability*
- *Enhanced frequency hopping Digital Data Link™ covering more frequencies & supporting AES-256-bit encryption*
- *Intuitive touch screen tablet Fire Control Unit (FCU)*
- *Advanced Munition—multiple commit angles, user-selectable point of detonation, left hand commit with continuous Positive Identification (PID)*




# BLACKWING™ LOITERING RECONNAISSANCE SYSTEM

**DIMENSIONS**
Wingspan: 27 in (68.6 cm)
Length: 19.5 in (49.5 cm)
Diameter: 3 in (7.6 cm)

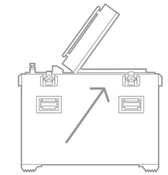
**WEIGHT**
4 lb (1.8 kg)

| | |
|---|---|
| **SENSORS** | Integrated EO/IR sensors—day/night operations |
| **LAUNCH METHOD** | Underwater-to-air delivery canister, tube, MPL |

## KEY FEATURES

- *Rapid response ISR*
- *C3 tactical data relay from UAS to UUV*
- *Modular payload*

# MPL MULTIPACK LAUNCHER



**DIMENSIONS**
36 in D x 30 in W x 36 in H

**WEIGHT**
~130 lb empty
~160 lb loaded

| | |
|---|---|
| **CONFIG-URATIONS** | 6-pack standard (Alternates for 2-20 AURs possible) |
| **MOUNTING** | Hold-downs for vehicle or shipboard use |
| **POWER** | Solar panel & internal battery, Shore/TacVeh power augments to maintain internal operating temps |
| **CONTROL** | 100 ft remote operation control cable (FOB/COP ops cell bunker/ buildings, tactical vehicles, ship CIC) |

## KEY FEATURES

- *Compatible with Switchblade® 300 & Blackwing™*
- *Rapid Reload—<30 seconds per round*
- *Low observable remote ops*
- *Tactical vehicle/MRAP*

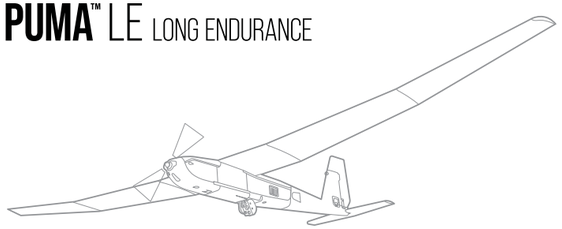
# SMALL UNMANNED AIRCRAFT SYSTEMS

## SUAS

Over the last decade, members of AeroVironment's growing family of small unmanned aircraft systems (SUAS) — Puma™ LE, Puma™ 3 AE, Raven® and VAPOR® Helicopter UAS — have been adopted by more than 55 allied nations.

The reason for their appeal is straightforward. Under battlefield conditions, they have proven themselves ideal for low-altitude intelligence, surveillance and reconnaissance missions. Lightweight, rugged and easy to operate, our SUAS deliver real-time color and/or infrared imagery to ground control and remote viewing stations. With their enhanced communications and interoperability, they are a critical building block for multi-domain operations.

# PUMA™ LE LONG ENDURANCE



DIMENSIONS
Wingspan: 15 ft (4.6 m)
Length: 7.3 ft (2.2 m)

WEIGHT
23.5 lb with Mantis™ i45/i45 N (10.7 kg)

**LINK RANGE**
20 km, 60 km with LRTA

**ENDURANCE**
6.5 hr with Puma™ Smart 2500 Battery*

**TOTAL PAYLOAD CAPACITY**
5.5 lb (2.5 kg)**

| | |
|---|---|
| SPEED | Cruise: 47 km/h (25 kts) Dash: 76 km/h (41 kts) |
| OPERATING ALTITUDE | 300–500 ft (91–152 m) AGL, typical Max. launch 10K ft (3,048 m) MSL |
| GCS | Crysalis™ and legacy common GCS |
| LAUNCH METHOD | Hand-launched, bungee or vehicle launch |
| RECOVERY METHOD | Autonomous or manual deep-stall; land or sea |

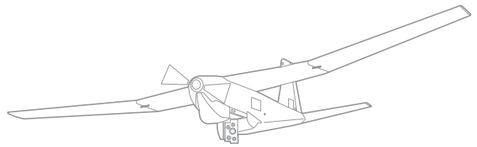
* Puma™ Smart 2500 Battery is not compatible with other Puma™ AE aircraft

**Payload capacity is reduced by 0.3 lb (140 g)

## KEY FEATURES

- *6.5 hours of ISR capability & full-motion video in all environments*
- *Support two flights with 2-case mission packout*
- *Dedicated secondary payload bay with power supply & Ethernet*

# PUMA™ 3 AE ALL ENVIRONMENT // RQ-20C



DIMENSIONS
Wingspan: 9.2 ft (2.8 m)
Length: 4.6 ft (1.4 m)

WEIGHT
15.4 lb with Mantis™ i45/i45 N (7 kg)

**LINK RANGE**
20 km, 60 km with LRTA

**ENDURANCE**
2.5 hr with Mantis™ i45

**TOTAL PAYLOAD CAPACITY**
4 lb (1.8 kg)

| | |
|---|---|
| SPEED | Cruise: 49 km/hr (26 kts) Dash: 76 km/h (41 kts) |
| OPERATING ALTITUDE | 300–500 ft (91–152 m) AGL, typical Max. launch 10K ft (3,048 m) MSL |
| GCS | Crysalis™ & legacy common GCS |
| LAUNCH METHOD | Hand-launched, optional bungee launch or VTOL kit |
| RECOVERY METHOD | Autonomous or manual deep-stall; land or sea; VTOL option |

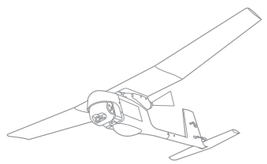
## KEY FEATURES

- *Increased payload capacity with optional underwing transit bay for secondary payloads*
- *Single-case mission packout provides two full flights*

**INTEROPERABLE LRU SHARING ACROSS PUMA™ PRODUCT LINE**

Puma™ 3 AE and Puma™ LE share many of the same Line Replaceable Units (LRUs), retaining similar operation, transport and logistics support within the Puma™ family.


# RAVEN® B RQ-11B



DIMENSIONS
Wingspan: 4.5 ft (1.4 m)
Length: 3 ft (0.9 m)

WEIGHT
4.8 lb (2.2 kg)

**LINK RANGE**
10 km

**ENDURANCE**
75+ min

| | |
|---|---|
| SPEED | Cruise: 32 km/h (17 kts), Dash: 81 km/h (44 kts) |
| OPERATING ALTITUDE | 100–500 ft (30–152 m) AGL, typical Max. launch 14K ft (4,267 m) MSL |
| GCS | Crysalis™ & legacy common GCS |
| LAUNCH METHOD | Hand-launched |
| RECOVERY METHOD | Autonomous or manual deep-stall |



# PUMA™ KITS AND ACCESSORIES

## COMPATIBLE WITH PUMA™ PRODUCT LINE

### PUMA™ BUNGEE LAUNCH SYSTEM

- For environmental scenarios where hand launch is not preferred
- Setup & operational in <10 min
- Multiple ground fastener options securely installed in a variety of soil types or mounted to low, immovable objects

## COMPATIBLE WITH PUMA™ 3 AE ONLY

### PUMA™ VTOL KIT

- Automated one-button launch & recovery in confined environments
- Fixed-wing to VTOL in minutes
- Available as add-on or retrofit kit

### PUMA™ UNIVERSAL TRANSIT BAY

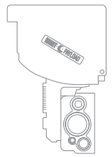
- Optional under-wing transit bay for additional payload capacity
- Easy integration of third-party payloads
- Three heights available: 1.75 in, 2.25 in & 3 in

### PUMA™ VNS VISUAL NAVIGATION SYSTEM

- Seamless mission continuity through GPS-denied environments
- Low-SWAP retrofit kit on existing & new Puma™ AE
- Enables integration of future autonomy capabilities

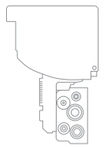
# MANTIS™ IMAGING PAYLOAD SENSORS

## COMPATIBLE WITH PUMA™ PRODUCT LINE



### MANTIS™ i45 N

- Maximum visibility during night & low-light ISR
- Wide & narrow LWIR camera imagers
- 5 MP monochrome Low Light camera
- Enhanced laser illuminator



### MANTIS™ i45

- Superior daylight & low-light capabilities
- Dual 15 MP high-res EO cameras
- Low Light, LWIR cameras
- Laser illuminator

## COMPATIBLE WITH RAVEN®

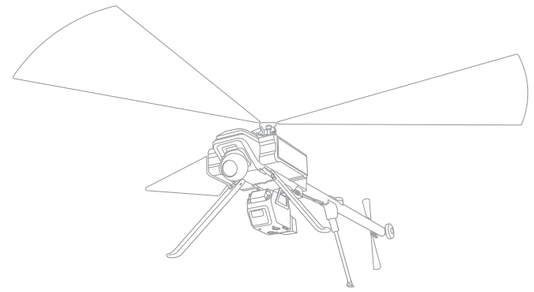
### MANTIS™ i23 D

- High-performance daytime imaging
- Dual 18 MP high-res EO sensors
- 25x digital zoom

### MANTIS™ i23

- Daylight & thermal imaging system
- 5 MP EO camera imager
- Laser illuminator

# VAPOR® 55 MX ALL-ELECTRIC HELICOPTER UAS



DIMENSIONS
Aircraft: 6 ft x 2.2 ft x 2.1 ft
(1.8 m x .67 m x .64 m)
Rotor Diameter: 7.5 ft (2.29 m)

GTOW WEIGHT*
55 lb (24.9 kg) for commercial use
65 lb (29.5 kg) for defense missions with less endurance

**RANGE**
Up to 32 km

**ENDURANCE**
Cruise: 75 min
Hover: 60 min

**USABLE PAYLOAD***
Up to 12 lb (5.4 kg) @ 55 lb
Up to 22 lb (10 kg) @ 65 lb

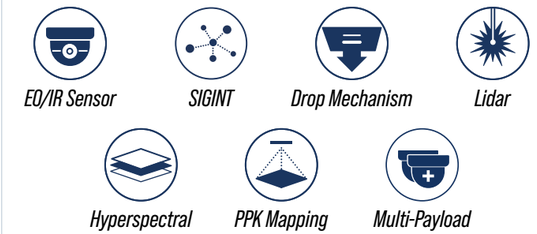
*FAA restricts the max Gross Take-off Weight (GTOW) of drones operating in the NAS to 55 lb unless you have special authorization

| | |
|---|---|
| GROUND SPEED LIMIT | 33 mph (15 m/s) |
| OPERATING ALTITUDE* | 0-12,000 ft (3,657 m) MSL (density) |
| MAX WIND PEAK* | Sustained: 34.5 mph (30 kts) |
| DATA LINKS | 900 MHz, 2.4 GHz or 5.8 GHz (Video), Silvus, Persistent Systems, MicroHard |

## KEY FEATURES

- *Payload Flexibility—payload modules with rail design enables quick & easy payload integration for increased mission flexibility*
- *Sleek, modular airframe design for easy assembly & disassembly*
- *Telescoping tail & folding landing gear for greater portability*

**EXAMPLES OF POSSIBLE PAYLOADS**




AeroVironment™

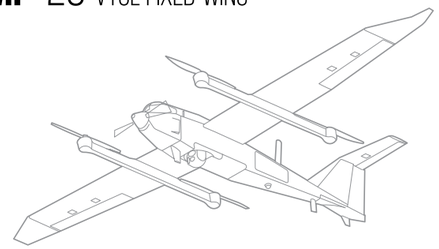
# MEDIUM UNMANNED AIRCRAFT SYSTEMS

## MUAS

With a 185-kilometer operating range, AeroVironment's fixed-wing medium unmanned aircraft systems (MUAS)—JUMP® 20 and T-20™—are excellent choices for exacting reconnaissance, surveillance and target acquisition applications, due to their ability to carry some of the most powerful and versatile imaging sensors available.

The JUMP® 20 is the first fixed-wing UAS extensively employed by U.S. forces capable of vertical take-off and landing (VTOL). It features a 30-pound payload capacity and more than 14 hours of uninterrupted flight.

## JUMP® 20 VTOL FIXED-WING



DIMENSIONS
Wingspan: 18.8 ft (5.7 m)
Length: 9.5 ft (2.9 m)

WEIGHT
215 lb MGTOW* (97.5 kg)
Fuel & Payload

LINK RANGE
185 km (115 mi)

ENDURANCE
14+ hr

USABLE PAYLOAD CAPACITY
Up to 30 lb (13.6 kg)

POWER SUPPLY
MOGAS, 190 cc EFI Engine
Battery Powered VTOL Jump

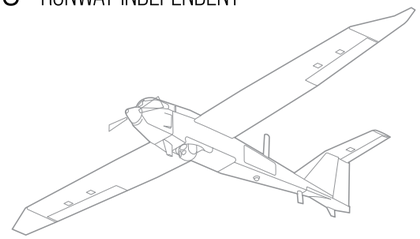
| | |
|---|---|
| **OPERATING ALTITUDE** | 17,000 ft DA |
| **GCS** | Common GCS with T-20™ |
| **LAUNCH METHOD** | No launch system or runway required; vertical take-off & landing (VTOL) |
| **RECOVERY METHOD** | VTOL landing |

*MGTOW - Maximum Gross Take-off Weight

KEY FEATURES

- *Multi-INT/Multi-Domain in a single integrated aircraft*
- *Best-in-class range & endurance, delivering superior performance*
- *Fully Integrated Payload Options—synthetic aperture radar, mapping capabilities, laser designation, anti-jamming, COMINT/SIGINT*

## T-20™ RUNWAY INDEPENDENT



DIMENSIONS
Wingspan: 18.8 ft (5.7 m)
Length: 9.5 ft (2.9 m)

WEIGHT
225 lb MGTOW* (102 kg)
Fuel & Payload

LINK RANGE
185 km (115 mi)

ENDURANCE
24+ hr

USABLE PAYLOAD CAPACITY
Up to 50 lb (22.7 kg)

POWER SUPPLY
MOGAS, 190 cc EFI Engine

| | |
|---|---|
| **OPERATING ALTITUDE** | 20,000 ft DA |
| **GCS** | Common GCS with JUMP® 20 |
| **LAUNCH METHOD** | Catapult-launched |
| **RECOVERY METHOD** | Autonomous or manual skid landing |

*MGTOW - Maximum Gross Take-off Weight

KEY FEATURES

- *Runway Independent—small operational footprint with PLS (catapult)*
- *High-Performance Optics—long-range day/night imaging, onboard tracking & stabilization*
- *Class-leading endurance & payload flexibility in a Group 3 UAS*
- *Group 4 capabilities in a Group 3 footprint*

### SENSOR OPTIONS

*EO*
*MWIR*
*SPOTTER*

**HOODTECH** 09E0960/09E0IR3
JUMP® 20 ONLY

*EO*
*MWIR*

**WESCAM** MX-8
JUMP® 20 ONLY

*EO*
*MWIR*
*LD*

**HOODTECH** 11E0IR5
JUMP® 20 ONLY

*EO*
*MWIR/SWIR*
*SPOTTER*

**TRILLIUM** HD80/95
JUMP® 20 ONLY

*EO*
*MWIR*
*SPOTTER*

**HOODTECH** 06E0IR
T-20™ ONLY

**SWAPPABLE IMAGING SYSTEMS**
» Superior long-range day and night imaging systems that offer onboard tracking, MWIR, image stabilization, analog and digital output with H.264/5 compression.

**DATA LINKS**
» Provides ISR support, MUM-T interoperability, OSRVT downlink to ground or air forces, and the ability to communicate across multiple channels and bands.

**COMMUNICATIONS RELAY**
» Provides unobstructed ground-to-ground and pilot-to-ground voice/video communication in urban environments or challenging terrain.

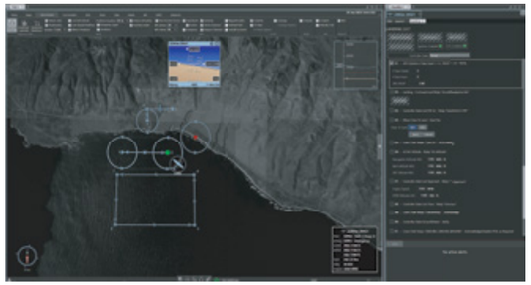


## ISR SERVICES

AeroVironment's ISR services ensures uninterrupted operations and mission success through effective mission planning, on-site operational support, maintenance, repairs, and timely supply chain management. Our highly trained staff of Field Service Representatives (FSR) are ready to quickly mobilize to support customer mission requirements in any theater of operation.

- **Fully Equipped & Staffed Turnkey Solutions** *for COCO & GOCO operations*
- **OEM-SME** *remote pilot certified operators, instructors & maintainers*
- **Design & Development** *of mission-tailored TTPs & SOPs*
- **Development** *of on-site sustainment operations & delivery*
- **Total Logistical & Operational Support** *mission planning, coordination & monitoring*
- **Maintenance & Repair Services** *on-site to ensure mission sustainment & success*

## TRAINING AND FIELD SERVICES



**STUDENT TRAINING**

- *Tailored FSR training for air vehicle operators and mechanics to include a "dual-qualification" in 8 weeks*
- *Built in simulator through Quattro autopilot with Vigilant Spirit interface*

**FIELD SERVICE**

- *Factory support program*
- *Ongoing global logistics support*
- *Component replacement tracking*
- *On-site FSRs*
- *Crew member currency training support*

# NETWORK CONNECTIVITY

Reliable, real-time, secure communications are fundamental for accurate situational awareness and rapid response. Accordingly, we developed Crysalis™, our next-generation ground control solution, in conjunction with our broadband digital network module, Digital Data Link™, for enhanced command and control in a network-centric battlefield.

Featuring robust data encryption across multiple frequency bands, this IP-based module is designed for maximum flexibility and interoperability between small airborne systems and ground systems with limited power requirements. It ensures that bandwidth is available to maximize the number of systems that can operate in a given area.

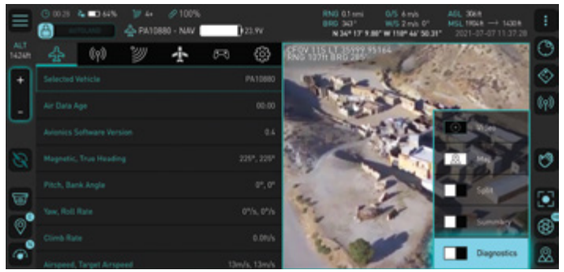
# CRYSALIS™ GCS

AeroVironment's next-generation ground control solution streamlines command and control of compatible UAS and their payloads through an intuitive user experience. Built around three core elements—software, hardware and antennas—Crysalis™ offers complete interchangeability, either as a network of modular elements or turnkey systems optimized for the warfighter. The result: an adaptable, operationally simplified GCS solution that improves battlefield communications and collaboration by enabling users to easily share real-time information and coordinate mission-critical decisions.

# CRYSALIS™ CONTROL

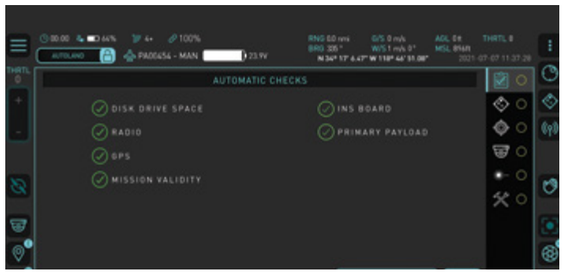

### MISSION PLANNING WIZARD

Takes operators through a step-by-step process to set flight operations and mission waypoints, identify any DTED conflicts, or quickly re-fly missions previously saved to the UAS or GCS.



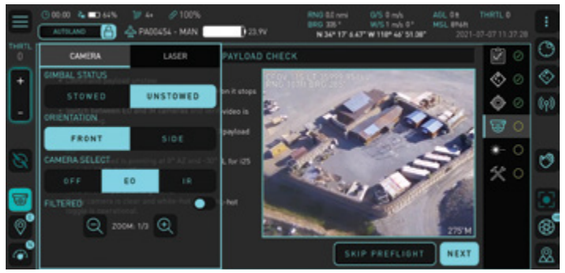
### MISSION FLIGHT DIAGNOSTICS AND CAMERA MODES

View aircraft, GPS, telemetry, radio, GCS and mission plan diagnostics at any time with dynamic retasking. Select from multiple view options including real-time video, map, split screen and summary mode to customize your viewing experience.




### BUILT-IN PRE-FLIGHT CHECKLIST

Comprehensive checklist covering avionics and navigation systems, radio systems, mission waypoints, aircraft and payload control and aircraft instrumentation reducing the time from set-up to deployment.

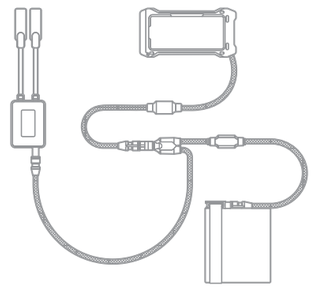



### PAYLOAD CONTROL

Quickly access multiple camera and payload status and control options with zoom capability.



# CRYSALIS™ RVT



PORTABILITY
Wearable

SETUP TIME
5 min

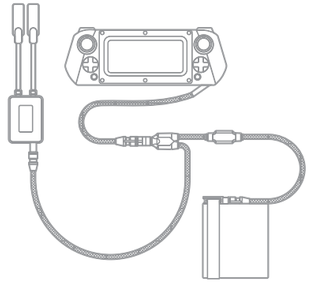
LINK RANGE
5 km

WEIGHT
System: 3.3 lb (1.5 kg)

### USE CASE

Single operator (wearable); provides situational awareness, battlefield coordination and support to large and/or small teams; passive downlink video viewing and UAS telemetry data.

# CRYSALIS™ ULTRALIGHT GCS



PORTABILITY
Wearable

SETUP TIME
5 min

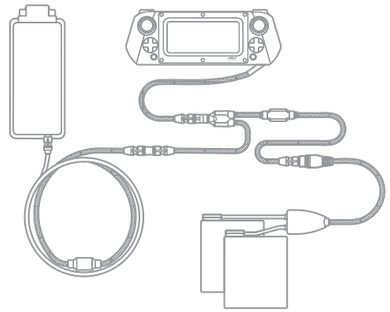
LINK RANGE
5 km

WEIGHT
System: 4.7 lb (2.1 kg)

### USE CASE

Single operator (wearable); ideal for on-the-move and mobile ISR operations; virtual touch screen or tactile joystick control of UAS and payloads.

# CRYSALIS™ TACTICAL GCS



PORTABILITY
Backpackable

SETUP TIME
10 min

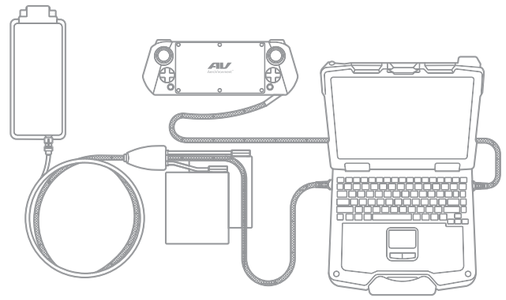
LINK RANGE
20 km

WEIGHT
System: 8.6 lb (3.9 kg)

### USE CASE

Single operator deployment and launch; full control of UAS and payloads through virtual or tactile joysticks; backpackable, lightweight and rugged for use in any environment with an operational range up to 20 km.

# CRYSALIS™ COMMAND GCS



PORTABILITY
Man-packable

SETUP TIME
15 min

LINK RANGE
20 km

WEIGHT
System: 14.3 lb (6.49 kg)

### USE CASE

Single or dual operator deployment; all-in-one modular and flexible ground control system and payloads through tactile joysticks; ideal for command-level operations; semi-fixed positions.

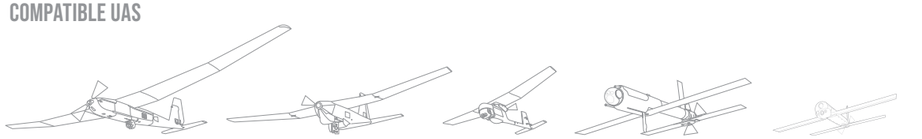
# **DDL™** NETWORK ANTENNAS

AeroVironment's Digital Data Link™ (DDL™) is a small, lightweight, broadband digital network module enabling enhanced command and control of SUAS and LMS. DDL is IP-based, allowing maximum flexibility and interoperability between small airborne and ground systems with limited power and bandwidth to maximize the number of systems that can operate in a given area. DDL is compatible with AeroVironment's network connectivity solutions and antennas, providing command and control ranges that extend from the wearable, short-range pDDL™ (5 km) to the Long Range Tracking Antenna (60 km).

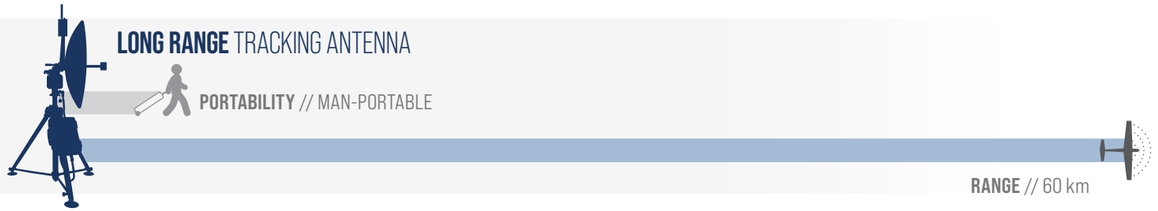
**DDL™ FREQUENCIES**

M1/2/5 OR
M3/4/6

**COMPATIBLE UAS**



**PUMA™** LE | **PUMA™** 3 AE | **RAVEN®** | **SWITCHBLADE®** 600 | **SWITCHBLADE®** 300 BLOCK 20

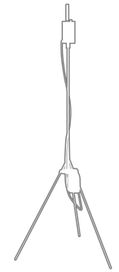



## **pDDL™** ANTENNA

**DIMENSIONS**
4 in x 2.25 in x 0.75 in
(10.2 cm x 5.7 cm x 1.9 cm)

**WEIGHT**
7.1 oz (201 g)

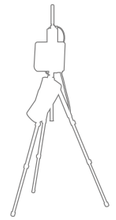
## **STANDARD RANGE** ANTENNA



**DIMENSIONS**
Height: 6.5 ft (2 m)
Base Diameter: 3 ft (0.9 m)

**WEIGHT**
3 lb (1.3 kg)

## **ERA** EXTENDED RANGE ANTENNA



**DIMENSIONS**
Height: 4.25–7 ft (1.3–2.2 m)
Base Diameter: 3.75–8.2 ft (1.1–2.5 m)

**WEIGHT**
10.8 lb (4.9 kg)

*Note: excludes the GCS RF Head, hub and system battery*

## **LRTA** LONG RANGE TRACKING ANTENNA

**DIMENSIONS**
Height: M1/2/5: 5.8–9.4 ft (1.8–2.9 m)
M3/4/6: 5.25–8.8 ft (1.6–2.7 m)
Base Diameter: 5.3 ft (1.6 m)

**WEIGHT**
M1/2/5: 304 lb (138 kg)
M3/4/6: 300 lb (136 kg)

| | | | | |
|---|---|---|---|---|
| **LINK RANGE** | Up to 5 km | Up to 20 km | Up to 40 km | Up to 60 km |
| **OPERATING BANDS** | M1/2/5 or M3/4/6 | M1/2/5 or M3/4/6 | M1/2/5 or M3/4/6 | M1/2/5 or M3/4/6 |
| **RX SENSITIVITY** | -98 dBm @ 2 Mbps<br>-93 dBm @ 6 Mbps | -98 dBm @ 2 Mbps<br>-93 dBm @ 6 Mbps | -98 dBm @ 2 Mbps<br>-93 dBm @ 6 Mbps | -98 dBm @ 2 Mbps<br>-93 dBm @ 6 Mbps |
| **POWER CONSUMPTION** | 9 W | 20 W | 20 W (pass through, not additional) | 275 W (nom., heater off)<br>460 W (max., heater on) |
| **OPERATING VOLTAGE** | 5.5–16 V | 5.5–16 V | 5.5–16 V | 90–250 V ac, 47–65 Hz |
| **DATA RATE** | 4.5 Mbps | 4.5 Mbps | 4.5 Mbps | 4.5 Mbps |
| **SUPPORTED COMPRESSION** | MPEG2 or H264 SD | MPEG2 or H264 SD | MPEG2 or H264 SD | MPEG2 or H264 SD |
| **INTERFACES** | USB | Ethernet/RS-232/RS-485 | Ethernet/RS-232/RS-485 | Ethernet/RS-232/RS-485 |
| **ENCRYPTION** | AES-128/AES-256 | AES-128/AES-256 | AES-128/AES-256 | AES-128/AES-256 |

# UNMANNED GROUND VEHICLES

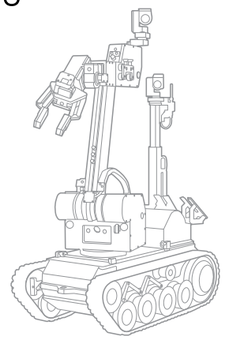
## UGV

Our family of unmanned ground vehicles (UGV) share the same purpose as our unmanned aircraft and loitering munition systems: to keep operators out of harm's way.

Our UGVs have proven themselves in a variety of dangerous ground applications, including the localization and mitigation of threats due to explosive ordnance disposal (EOD), hazardous materials handling (HAZMAT), chemical, biological, radiological and nuclear (CBRN) threat assessments, and special weapons and tactics (SWAT) team operations.

With their advanced, specialized, precision manipulators, autonomous functionality and intuitive operation, our rugged, all-terrain UGVs accommodate a high degree of mission flexibility. That's why they have been adopted in 45 countries for homeland security, emergency response and defense purposes.

## tEODor™ EVO



DIMENSIONS
54 in x 27 in x 44 in
(1370 mm x 685 mm x 1130 mm)

WEIGHT
844 lb (383 kg)

LIFTING CAPACITY
220 lb (100 kg)

GRIPPER WIDTH
12 in (300 mm)

MANIPULATOR
6-axis manipulator with linear axis

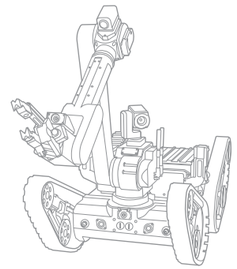
CLIMB STAIRS & SLOPES
45°

| | |
|---|---|
| TOTAL PAYLOAD CAPACITY | 771 lb (350 kg) |
| SPEED | 1.8 mph (3 km/h) |
| DRIVE MECHANISM | Dual track–independent high-torque motors |
| FUNCTIONALITY | Upward Reach with Vertical Gripper: 113 in (2860 mm)<br>Upward Reach with Horizontal Gripper: 95 in (2410 mm)<br>Forward Reach: 73 in (1860 mm)<br>Downward Reach: 50 in (1260 mm) |
| GCS | Robo Command |

### KEY FEATURES

- *Laser rangefinder, video input & data interface integrated into gripper*
- *Universal interfaces–multiple firing system connection options*
- *Expansive payload bay eliminates round-trip load-outs*

## telemax™ EVO PLUS



DIMENSIONS
34 in x 27 in x 29 in
(870 mm x 680 mm x 740 mm)

WEIGHT
249 lb (113 kg)

LIFTING CAPACITY
176 lb (80 kg)

GRIPPER WIDTH
8 in (200 mm)

MISSION DURATION
Up to 12 hr

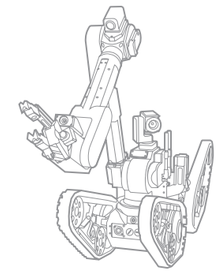
CLIMB STAIRS & SLOPES
45°

| | |
|---|---|
| TOTAL PAYLOAD CAPACITY | 154 lb (70 kg) |
| SPEED | 3.1 mph (5 km/h) |
| DRIVE MECHANISM | 4-track running gear with individually adjustable flippers |
| FUNCTIONALITY | Obstacle Height: 16 in (400 mm)<br>Gap Width: 20 in (500 mm) |
| GCS | Robo Command |

### KEY FEATURES

- *Heavy lift capable precision 6-axis manipulator*
- *Tool Center Point Control provides precise, humanlike movement of the manipulator*
- *Double payload bay provides space for additional batteries & sensors*

## telemax™ EVO HYBRID



DIMENSIONS
32 in x 16 in x 30 in
(815 mm x 400 mm x 770 mm)

WEIGHT
Max. 176 lb (80 kg)

LIFTING CAPACITY
82 lb (37 kg)

GRIPPER WIDTH
8 in (200 mm)

MISSION DURATION
Up to 10 hr

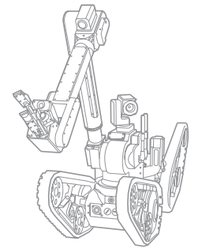
CLIMB STAIRS & SLOPES
45°

| | |
|---|---|
| TOTAL PAYLOAD CAPACITY | 68 lb (31 kg) |
| SPEED | Max. 6.2 mph (10 km/h) |
| DRIVE MECHANISM | 4-track running gear with individually adjustable flippers; optional wheels |
| FUNCTIONALITY | Obstacle Height: 20 in (500 mm)<br>Gap Width: 24 in (600 mm) |
| GCS | Robo Command |

### KEY FEATURES

- *Compact design suited for confined spaces, e.g., airplanes, underground trains & buses*
- *Tool Center Point Control provides precise, humanlike movement of the manipulator*
- *Pre-programmed automatic manipulator & flipper motion sequences*

## telemax™ EVO PRO



DIMENSIONS
31 in x 16 in x 29 in
(775 mm x 400 mm x 750 mm)

WEIGHT
Max. 169 lb (77 kg)

LIFTING CAPACITY
44 lb (20 kg)

MANIPULATOR
7-axis with telescopic reach

MISSION DURATION
Up to 10 hr

CLIMB STAIRS & SLOPES
45°

| | |
|---|---|
| TOTAL PAYLOAD CAPACITY | 77 lb (35 kg) |
| SPEED | Max. 6.2 mph (10 km/h) |
| DRIVE MECHANISM | 4-track running gear with individually adjustable flippers; optional wheels |
| FUNCTIONALITY | Obstacle Height: 20 in (500 mm)<br>Gap Width: 24 in (600 mm)<br>Gripper Width: 4.7 in (120 mm)<br>Reach Height: 106 in (2690 mm) |
| GCS | Robo Command |

### KEY FEATURES

- *Telescopic joint allows for extended horizontal & vertical reach*
- *Tool Center Point Control provides precise, humanlike movement of the manipulator*
- *Pre-programmed automatic manipulator & flipper motion sequences*

### MISSION VARIANTS

**EOD**
*Explosive Ordnance Disposal*

**HAZMAT**
*Hazardous Materials*

**CBRNE**
*Chemical, Biological, Radiological, Nuclear & Explosives*

**SWAT**
*High Risk Law Enforcement Operations*

### INTERCHANGEABLE ACCESSORIES

*Optics/Visual Augmentation*

*UGV Communications*

*Power Sources*

*Wheels/Tracks*

*Tooling & Hauling*

*Render Safe Options*

# FIELD OPERATIONS AND CUSTOMER SUPPORT

## SUPPORT SERVICES

### FIELD OPERATION SERVICES

» AeroVironment provides world-class field operation services on a global scale. Our field operation services include fully-equipped and staffed turnkey solutions and outstanding OEM-certified operators, instructors and maintainers.

### FIELD SERVICE REPRESENTATIVES

» Our Field Service Representatives (FSRs) provide on-site field service support and act as the liaison between customers and our engineering team. The FSRs are highly qualified to provide on-site flight standardization program development and training support package development.

### PROGRAM MANAGEMENT AND SME SUPPORT

» We supply customer-focused program management and subject matter expert (SME) support. Our exceptionally skilled staff provides tailored mission planning and operational support, and we include engineering support from the original equipment manufacturer. We also offer on-site sustainment operations development and delivery.

### SUSTAINMENT OPERATION

» We support our customers with sustainment operations, including professional inventory control and comprehensive logistical services. Our logistical support includes extensive planning, coordination and monitoring to successfully plan and maintain operations.

## AIRWORTHINESS

» AeroVironment's airworthiness organization monitors and evaluates airworthiness regulation initiatives in key markets and regions across the globe to ensure our products conform to our customers' airworthiness certification needs.

## TRAINING

» We specialize in student-centered learning using state-of-the-art, interactive 3D digital training media that aids in the retention of information and promotes student participation. Courses include simulator-focused mission scenarios providing a real world digital experience, hands-on practical exercises, mission planning and live flight field operations. We offer all levels of operator training from basic to advanced courses in a safe and controlled environment. Our distinctive training program is recognized both domestically and internationally.

## QUALITY

» AeroVironment's ISO-9001:2015 production and service facility ensures the highest level product and support quality. The company's unmatched experience and technology roadmap combine to deliver an outstanding customer experience in situations where reliability and effectiveness can make the difference between success and failure.