

*Rucksack Portable  
Electric SUAV System*

# EVOLUTION-XTS

- Rapidly Deployable
- 90+ Minute Endurance
- Total System Weight Under 25 lbs
- Zoom Daylight & High Resolution IR Payloads
- Fully Autonomous or Manual "U-Drive" Operation



L-3's Evolution XTS Small UAV (SUAV) system fits in an ordinary rucksack and can be rapidly deployed in mere minutes. Total system weight, including aircraft, payload, launcher, ground control station (GCS) and batteries, is under 25 pounds. Advanced system autonomy and precise GPS navigation enable "hands off" operation from take-off through auto-recovery.

The Evolution XTS aircraft features snap-together components, and weighs barely eight pounds with battery. With its whisper-quiet but powerful and efficient dual electric propulsion system, Evolution XTS easily penetrates winds for optimum mission performance. Over 90-minute endurance is possible using a 10-cell Lithium battery pack. The XTS features a user-selectable visible and IR beacon; optional wingtip lights are also available.

Nose payload options include a dual zoom day color camera, 320 x 240 pixel IR camera with 2x digital zoom, lowlight camera with laser illuminator, and Chem-Bio (detector/collector) payload.

Payloads are modular and quickly interchangeable. Serial communication to the nose offers a host of possibilities for future payloads.

Evolution XTS can be launched by hand, bungee, or using the optional rifle-style pneumatic launcher. The XTS molded composite airframe is remarkably durable; when required, a compact Field Repair Kit allows operators to make minor repairs, enabling high uptime and availability of systems.

The Evolution XTS system features four command & control channels, and four video and telemetry channels, enabling operation of multiple aircraft from a single GCS. Monocle-style video goggles offer operators an unobstructed view of their surroundings while viewing live video from the air vehicle's switchable cameras. Video may also be viewed in a "pop-up" window on the mission control console. A "Snap-Shot" function allows images to be stored on the laptop hard drive.

The Evolution XTS system's remarkable mission planning software provides a simple user interface capable of using many common digital map formats. Operators can quickly plan new missions, or call up an earlier saved mission. Preflight checks are routinely performed using the software's automated checklist. After launch, software allows real-time "point-and-click" mission re-tasking. A multi-function "U-Drive" controller is provided to allow operators to manually steer the aircraft, if desired.

A typical Evolution XTS system includes three aircraft; nose payloads; ground control station (GCS) with laptop computer, video goggles, and accessories; remote video terminal (RVT); field repair kit; launcher; batteries; and durable waterproof transport bags. Many equipment options are available, as well.

*Only two operators are needed to fly Evolution XTS, which is currently in production and deployed in support of U.S. operations in Iraq and Afghanistan. Operation with just a single operator is also possible.*



*The Evolution XTS system weighs under 25 pounds, and fits comfortably in a standard rucksack.*



**communications**  
**BAI Aerosystems**

# Rucksack Portable Electric SUAV System

## EVOLUTION-XTS



The modular design of Evolution XTS allows for rapid assembly. Modular nose payloads are fully interchangeable and easily snap in place after the battery is inserted.



The Communications System includes a GCS and RVT, laptop computers, video goggles, antennas, batteries, and U-Drive controller.



Evolution XTS can now be launched with a rifle-style pneumatic launcher, and also by hand or bungee cord. Minimal space is needed for take-off and landing.

### Air Vehicle Dimensions

Wing Span: 64.5"  
Length: 38.5"  
Take-off Weight: 8.2 lbs

Maximum Nose Payload: 1.5 lbs  
Maximum Speed: >40 mph  
Cruise Speed: 30 mph

### Air Vehicle Components

- Durable Modular Composite Air Vehicle  
*Simple "Snap-Together" Assembly and Disassembly*
- Quiet and Reliable Electric Propulsion
- 4-Channel UHF Uplink Receiver and Antenna
- 4-Channel Microwave (Video + Telemetry) Transmitter and Antenna  
*Demonstrated 10+ Kilometer Line-of-Sight Range*
- Onboard Video Switching System  
*Ground Selection of Forward or Side-Looking Nose Sensor*
- Advanced Miniature GPS Navigation Autopilot  
*Fully-Autonomous "Hands-Off" Operation from Take-Off to Recovery*
- Lightweight Waterproof Transportation Case

### Available Modular Nose Payloads

- Dual (Forward & Side-Looking) Daylight Color TV w/ 6x Zoom Nose
- Side-Looking (Forward Optional) Infrared (IR) w/ 2x Digital Zoom Nose
- Dual (Forward & Side-Looking) Lowlight TV + Laser Illuminator Nose
- Chem-Bio (Chem-Detect, Bio-Collect) w/ Side-Looking Color TV Nose

### Ground Communications Systems

- Command/Communications Subsystem Case
- Hi-Gain Video and Telemetry Receiver with Hi-Gain Directional Antenna
- Color LCD Video Goggle Display
- 1-Watt UHF Uplink Transmitter
- Rugged Laptop Computer  
*Advanced Moving Map Mission Planning Software*
- Remote Video Terminal  
*Hi-Gain Receiver, Hi-Gain Antenna and Video Goggle for Remote Viewing*

### Field Support Kit

- With Repair Material, Maintenance Tools, Bungee Launchers, System Transportation Case

### System Features

- Fast System Assembly and Deployment (under 15 minutes from "Cold Start")
- Fully Autonomous Flight: Minimal "Man-in-the-Loop" Operation
- Fast System Break-Down (under 2 minutes from Landing to Pack-Up)
- Fully-Interchangeable Factory-Built Components
- Open-Source Primary Lithium Battery Packs

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**communications**  
**BAI Aerodynamics**

9040 Glebe Park Drive  
Easton, Maryland 21601, USA  
410.820.7500  
Fax 410.820.8500  
www.bai.aero 11/05