

ADVANCE INFORMATION

1/4 SCALE V-STAR™ – VTOL Swift Tactical Aerial Resource



Tactical UAVs have tremendous potential to transform the outcome of the battlefield. However, none until V-STAR™ has solved the long-standing challenges of low logistical footprint, VTOL capability and low acoustic signature with 360 degree real-time IR and Side Aperture Radar (SAR) payloads.

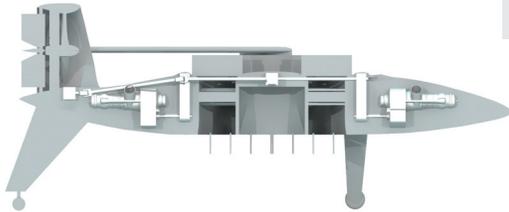
Frontline's 65" 1/4 scale V-STAR™ operates near the ground even in mountainous high altitude delivering a VTOL capable, autonomous UAV solution for land and naval force commanders that outperforms helicopters and tilt-rotor UAV systems. The design provides tremendous payload flexibility—from traditional ISR roles to kinetic weapons to small scale logistical supply deliveries for combat troops. V-STAR's™ unique patented lift fans, diamond-box-wing and all electric and quiet operation create the core of this revolutionary UAV configuration.

V-STAR™ CREATES NEW LOGISTICAL, INTELLIGENCE AND WEAPONS ASSETS.

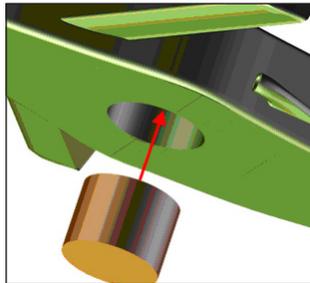
Our VTOL-Swift Tactical Aerial Resource™ – or V-STAR™ – with its novel 360 degree real-time IR capability instantly allows pinpointing of gunshot muzzle flash and IR detection and classification of humans and vehicles. It provides a breakthrough solution for frontline combat commanders. With payload at the center-of-gravity, and simple bolt on wing extensions enhancing range and endurance, V-STAR™ provides real mission flexibility: it can carry ISTAR (intelligence/surveillance/target acquisition/reconnaissance) packages or small kinetic weapons. It's VTOL attribute ends the need for prepared fields, launch and recovery systems that slow the effectiveness and usefulness of UAS operations.

SPECIFICATIONS FOR V-STAR™, V-STAR™/ER AND V-STAR™/ERH

Model	65" V-STAR™	140" V-STAR™/ER	V-STAR™/ERH
Cruise Speed	60 knots	45 knots	45 knots
Top Speed	80 knots	75 knots	75 knots
Range	Up to 600 nm	Up to 810 nm	> 2,200 nm
Payload Volume	1.2 ft ³	1.2 ft ³	1.2 ft ³
Payload Weight	Up to 12 lbs	Up to 12 lbs	Up to 12 lbs
Wing Span	65 inches	140 inches	140 inches
Noise @ 100' hover	<75 db	<75 db	<75 db
Service Ceiling	16,000 ft	16,000 ft	16,000 ft
Engine(s)	Twin Electric	Twin Electric	Twin Electric
Power	Battery	Battery	PEM Fuel Cell, Liquid H2
Empty weight	35 lbs	38 lbs	40 lbs
TOGW	42 lbs	50 lbs	52 lbs
Endurance	Up to 10 hrs	Up to 18 hrs	> 48 hrs
Enclosed Blades	YES	YES	YES
Production Price Est.	\$95,000	\$105,000	\$130,000



Notional V-STAR™ Cut-away view



V-STAR™ payload integration

IR & SAR PAYLOAD

With a spherical IR detection system that provides real-time, continuous 360° horizontal and vertical field-of-regard the payload can simultaneously track and classify multiple targets in any 3D spacial orientation. This allows instantaneous pinpointing of weapons fire and total situational awareness.

Couple with our spherical 3D IR sensing is ImSAR's NanoSAR Side Aperture Radar delivering 0.5 meter resolution at 1 kilometer. The combination of spherical IR sensing and radar provides enemy detection and visibility even in very bad weather.

INTERNATIONAL TRAFFIC IN ARMS REGULATIONS (ITAR)

This document does not contain technical data within the definition contained within ITAR and the Export Administration Regulations (EAR), and as such is releasable by any means to any person whether in the U.S. or abroad.



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Notice: This document contains information on products that are in prototype and initial production phases of development. The specifications are subject to change without notice. Verify with Frontline Aerospace Inc. directly that you have the latest product information before installing in an experimental aircraft.