SwiftCore™

Flight Management System

The SwiftCore Flight Management System is an advanced end-to-end avionics solution enabling you to control, communicate, and command your Unmanned Aircraft System (UAS) for autonomous flight.

Modular, Robust, and Easy to Operate

Leveraging BST's proprietary SwiftCore Flight Management System (FMS) operators can program their Black Swift UAS in minutes to calculate the area under review and then begin collecting data for immediate analysis and decision making. With its intuitive user-focused interface, flight planning is simple and easy to accomplish. Mission monitoring and mapping is all done from a handheld Android™ Tablet loaded with BST's SwiftTab™ software. Gesture-based controls enable users to confidently deploy their UAS with minimal training while being able to collect data over geography that is topically diverse with confidence.

Intuitive SwiftTab user interface controls all autopilot, mission and aircraft parameters.

The SwiftCore Flight Management System (FMS) consisting of the SwiftPilot™ autopilot system, the SwiftTab tablet-based user interface, the SwiftStation™ ground station, and application-specific sensor integrations. The SwiftCore FMS is designed to be modular, robust, and simple to operate allowing users to focus on data products.

The SwiftCore FMS enables advanced control systems. These "smart" control systems provide industry leading sensor-based control of the UAS that minimizes operator workload while improving the quality of the observed data by autonomously modifying the flight path based on sensor inputs.

SwiftCore Flight Management System has been proven in the field to provide a cost-effective, powerful, and easy-to-operate system engineered to meet the demands of nomadic scientific field campaigns in harsh environments.

"I have not come across an autopilot that can handle fixed wing aircraft as well as Black Swift."

Daniel Hesselius
Director of Flight Operations
University of Colorado, Boulder

SwiftStation is a tripod-mounted ground station incorporating both a 900MHz and a GPS antenna and the SwiftPilot autopilot system enabling fully autonomous flight from launch to landing.
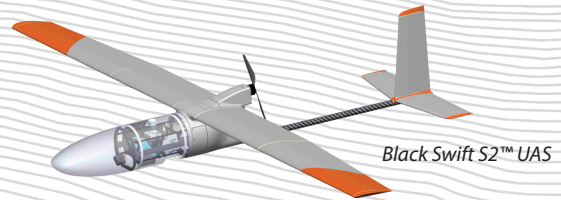
BlackSwift
TECHNOLOGIES

Modular by Design, Accurate by Nature™

SwiftCore™
Flight Management System

Black Swift S2™ UAS

System Specifications

SwiftPilot™

Size	6.7cm x 4.0cm x 1.8cm
Weight	50 grams
Accuracy	9 DOF IMU (differential and static pressure) 10 Hz GPS 1 kHz altitude update rate
Extendability	Gumstix Overo payload (1 GHz Cortex-A8)
Interfaces Supported	CAN, UART I2C, SPI, USB Ethernet and GPIO

SwiftTab™

Platform	Android®-based Tablet
Interface	Gesture and Multi-touch
Telemetry	Real-time

SwiftStation™

Size	15cm x 30cm x35cm
Weight	0.9 kg
Customizable	Multiple Radio Solutions Available
Expandable	via Custom Modules

When Accuracy is Required

SwiftCore™ has been approved and used for major scientific missions by NASA, deployments by NOAA, research studies conducted by institutions including CU, UTSI, and by a growing list of commercial users.

Fully Customizable Solution

SwiftCore™ can be integrated into any UAS platform and customized to meet the specific demands of your missions. Contact our team of experts to learn more about how SwiftCore can work for you.

BlackSwift
TECHNOLOGIES

3200 VALMONT ROAD, SUITE 7
BOULDER, COLORADO 80301
720 638 9656
info@BlackSwiftTech.com

Modular by Design, Accurate by Nature™