

Aerial Surveillance Systems, Inc.

SkyEye 350 Aerial Surveillance Platform



Detect, Process, Evaluate, Resolve, Act, Exploit! - In Real-time!

DETAILED SPECIFICATION SHEET AND INSTALLED EQUIPMENT

Base Aircraft:

Hawker Beechcraft King Air Model 350

Date of Manufacture: 1997

Manufacturer's Serial Number: FL-179

Registration Number: N350S

Aircraft Total Time Since Brand New: 2,540 Hours, 1,930 Total Landings/Cycles Since New

Engine Type: Pratt & Whitney PT-6A-60A, 1,050 Shaft Horsepower Each Engine

Engine Specs: Engine Serial Numbers LH: PCE-PK-0083, RH: PCE-PK-0084

Engine Total Time: 2,540 Hours, Left and Right, 726 Hours Since Hot Section Inspections -HSI's

Engine Time Between Overhaul: 3,600 Hours

Engine Time Remaining Until Overhaul: 1,060 Hours, Left and Right

Maintenance History: Fresh Phase I-IV Inspections with all 5 Year Items Current by Stevens Aviation

Avionics/Radios:

Collins Proline II, EFIS 85 - 3-Tube Primary Flight Displays with Co-Pilot EFIS EHSI-74

Autopilot/Flight Director: Collins APS-65 with EFIS-85

COMMS: Dual Collins VHF-22A

NAVS: Dual Collins VIR-32, Dual Glideslopes

FMS: Universal UNS-1LW WASS Certified, Multi-Mission and VOR/DME/GPS Sensor Inputs

GPS Monitor: Universal UNS-1ML GPS Monitor for WASS Certification and 3D-RNAV Approaches.

Multi Function Display: Universal MFD-890 with Charts, Weather Depiction and Synthetic Vision

DME: Dual Collins DME-42s

Transponders: Dual Collins TDR-94A's Diversity Mode "S" Transponders, and TCAS II

Radio Altimeter: Collins ALT-55B

ADF: Collins ADF-60A

RMI: Dual Collins RMI-30's

Compass Systems: Dual Collins MCS-65

Audio Systems: Dual DB Systems Model 438

Weather Radar: Collins WXR-840 Color Radar displayed on MFD-85

Enhanced Ground Proximity Warning System (EGPWS): Allied Signal Mark VI

TCAS II: Collins TCAS 4000 with Collins Enhanced and Elementary Surveillance Transponders

Stormscope: BF Goodrich WX-1000

HF Radio: King/Bendix KHF-950

RVSM Equipped

Exterior/Interior:

Exterior: Original, Good Condition. Overall Matterhorn White with Light Persimmon, Red Bronze and Light Maroon. Aircraft will be Painted New to Customer's Specifications. Interior: 8 Place Double Club Arrangement with Tan Leather Swiveling Seats and a Side Facing Aft Lavatory Behind the Aft Cabin Doors. Ivory Stretch knit Headliner, Burgundy Carpet and Burlwood High Gloss Cabinetry.

C4-ISR Special Missions Equipment Installed:

- 1) a Specially Modified Special Missions Cargo Pod fitted with either a FLIR Systems, Inc BRITE Star™ II or the FLIR Systems, Inc Star SAFIRE™ HD hard mounted and attached to the underside of the aircraft. In addition to the standard EO/IR FLIR turret, the special missions pod also enables the aircraft to mount other sub-systems such as missile warning and defensive systems, Signals Intelligence (SIGINT) systems, Synthetic Aperture Radar (SAR) with GMTI capabilities, and many other customer desired options or to be used for excess cargo or external baggage.

- 2) The FLIR Systems, Inc. BRITE Star II Airborne Thermal Imaging System, a 6 axis stabilized (Military Only Version) targeting sight with a 5 field-of-view (FOV) large format (640x512) high resolution thermal imager and a 3 FOV, high resolution, 3 chip - color daylight camera with monochrome mode with matched fields-of-view to the thermal imager for image blending. The system includes a Diode Pumped Laser Designator / Rangefinder (DPLDR) with unprecedented 100% Laser Duty Cycle, automatic in-flight boresighting capability for maximum target kill accuracy and is compatible with all US and NATO PRF and PIM laser-guided munitions. It also carries a Laser Pointer (LP), multimode video auto tracker and an internal Inertial Measurement Unit (IMU) with Navigation Processor and embedded GPS for precise geo-pointing and geo-location. All of the features listed above make it the most powerful, multi-sensor Targeting Sight in its class. A Laser Spot Tracker option will be available mid 2010.



or - depending on customer requirements:

- 3) The FLIR Systems Star SAFIRE HD Airborne Electro Optical/Infrared (EO/IR) Thermal Imaging System which is a High Definition NATO+ exportable imaging system with no Laser Designator. The Stabilized Turret FLIR Unit (TFU) has a 640x512 Infrared Focal Plane Array that is Optically Microscanned to produce a 1280 x 720 true High Definition image which is coupled to 5 field-of-view (FOV) 120x telescope for maximum range performance. The system also has a 5 FOV, high Definition color daylight camera with 120x zoom as well as a lowlight HD camera with matched fields-of-view to the thermal imager for Image Blending. Other options include a Laser Rangefinder (LR), Laser Pointer (LP), Laser Illuminator, multimode video auto tracker and an internal Inertial Measurement Unit (IMU) with Navigation Processor and embedded GPS for precise geo-pointing, geo-location. All of the features listed above make it the most powerful, only full HD multi-sensor imager in its class.



- 4) a FLIR Systems EO/IR System Control Unit and Central Electronics Unit mounted inside the aircraft with a User Interface and General Atomics CLAW compatibility.
- 5) a specially designed and built Mission Control Operator's Console (MCOC) mounted inside the cabin which contains:
 - a) dual installed Rosen Aviation 20 inch High Resolution Monitor Displays
 - b) a Rosen Aviation Cabin Display Management System to control all video displays in the cabin and cockpit utilizing 3 each Computerized Passenger Control Units (PCU's)

- c) a General Atomics CLAW Aircraft Workstation which is a 19 inch, rack mounted, Quad Core, high performance ruggedized aircraft qualified computer (PC) which supports full systems operability and a 1600x1200 video resolution for the monitor outputs and up to 6 hours of mission recording and capture support on the hard drive.
 - d) General Atomics CLAW software including a moving map and full geo-location and time-stamp information and full sensor system control and cueing. The CLAW software also enables full mission planning and post mission review and critique
 - e) a mounted keyboard control and trackball to control all aircraft and sensor functions
 - f) Military Blue Force Tracker (BFT) receiver and interface
 - g) Broadcast Microwave System's (BMS) aircraft data link antenna control
 - h) a Special Missions Cobham NAT Digital Audio Panel (DACs) controller
 - i) FLIR Systems, Inc Hand Controller for manual control of the turret system and laser designator
 - j) Cobham/Wulfsburg Flexcom 5000 Controller
 - k) Sky Connect Forte Iridium Control Unit.
- 6) a Cobham/Wulfsburg RT-5000 Flexcomm radio which provides total communications capability and which is a complete multi-band solution for flying in the rigorous and dynamic para-public environment. This top-of-the line Wulfsberg tactical radio system transforms the aircraft into a command and control center in the sky. It is the only system that enables users to talk on all law enforcement, military, medical, marine, SAR and public service frequencies from 29.7 MHz to 960 MHz with P-25 compliant digital communications and supports full encryption up through and including Level 1.
- 7) a FORTÉ system from EMS Sky Connect, which is a highly effective satellite phone system that delivers full in-flight capability and global coverage through the Iridium network with an integrated cabin intercom system for communications between the cockpit and cabin. A USB connection point provides email and data access available on the aircraft with two-way text messaging and tracking option and includes a MMU-II cockpit and cabin dialer.
- 8) an EMS eNfusion® HSD-400 Satcom receiver with two each, two (2) channel card subsystems (4 total channels) which are used for data and voice communication. Each card can support two (2) simultaneous Inmarsat Swift 64 channels, or a single (1) SwiftBroadband (BGAN) channel. The SD-400 interfaces with the eNfusion® AMT-3800 intermediate-gain antenna used to receive and transmit voice and data from the aircraft via the Inmarsat satellite network and to provide high-speed voice and data links to Inmarsat's world-wide satellite network. The HSD-400 accesses SwiftBroadband services over Inmarsat's I-4 satellite network and the unit can fall-back on Swift 64 services over the I-3 satellite network, for ultimate reliability over SwiftBroadband's Standard IP (up to 432kbps, nominally 300-150kbps) or Streaming IP (QoS service).

This system is installed and interfaced with the SCOTTY airborne communication suite which supports various applications. With the SCOTTY system the aircraft can transmit high resolution live video, make voice calls, hold in-flight full duplex video conferences, send and receive moving map data, access the Internet, send faxes, still pictures, and transfer recorded video files in "real-time" all over a link which is compatible to any military-standard encryption devices. SCOTTY provides reliable beyond line-of-sight video surveillance and communications to/from anywhere in the world. Whether for reconnaissance, or for live operations where rapid decisions and ground support are required, SCOTTY's Aero Mission's Gear provides a permanent 'live' link using audio, video, and/or data to maximize the communication with the ground. The system offers up to 4

channels of 64 kbps each over Inmarsat, giving the user multiple role capabilities such as simultaneous voice, data and video transmissions from air to ground or vice versa.

- 9) a Broadcast Microwave Services (BMS) Bidirectional C-Band Microwave Line-of-Sight (LOS) Datalink System including the C-band transceiver, aircraft mounted Omni antenna and corresponding BMS Ground Receiver Station with Directional Tracking antenna, and 2 each man-portable Broadcast Microwave Services' (BMS) digital microwave receivers. The system is a standards-based design, ensuring interoperability and integration with all security and defense systems in order to collect critical information from the aircraft in real-time, all from safe distances of up to 100 miles. The FLIR EO/IR turret cameras can record information behind enemy lines and from long distances and transmit the video and location coordinates back to command centers and tactical ground troops. Ground personnel can quickly analyze and respond to suspicious, volatile, or perilous situations. Access to this critical information fosters well-informed decisions, providing a major tactical advantage to ground troops while minimizing casualties. The BMS system is also ROVER 3 compatible and the ground station datalink can "assume control" of the aircraft sensors from the ground thereby allowing personnel on the ground to view targets of opportunity instantly in real-time.
- 10) an antenna interconnect and power supply for provisioning for up to 3 each Harris PRC-117 military radio systems with interface to the aircraft Special Mission Audio system with 2 each installed "batwing" Satcom antennas and one Line of Sight (LOS) UHF antenna.
- 11) a Cobham Digital Audio Control System (DACS) Special Missions Audio System which is a communications management system with the ability to distribute and control all audio in the aircraft, to/from all transceivers, receivers and aural alert sources and also provides an integrated, multichannel cabin and cockpit intercom system with 2 cockpit and 4 cabin control locations and programmable user definition which allows the audio system to be configured to suit customer specific communication schemes and any type communications equipment from any supplier in the world.
- 12) two (2) each 10.4 inch cabin and one (1) each 8.6 inch Rosen cockpit displays and PCU's to provide system video to the cockpit and two cabin observer stations so that these locations are able to view the mission control and sensor information in real-time and "see" what the mission control operator is seeing from the MCO console.

AIRCRAFT PERFORMANCE



Performance Specifications

	U.S.	Metric
Cruise Speed	315 knots	583 km/h
Engine 2 each:	Pratt & Whitney PT6A-60A 1,050 shaft horsepower each	
Maximum Range	1,765 nm	3,509 km
Service Ceiling	35,000 feet	10,668 meters
Fuel Capacity	539 U.S. gallons	1,814 liters
Maximum Gross Weight	15,000 pounds	6,818 kilograms
Length	46.7 feet	14.23 meters
Wingspan	57.9 feet	17.65 meters
Height	14.3 feet	4.36 meters
Seating	Up to 11	
Useful Load	1,270 pounds	2,681 kilograms

Mission Endurance in Aerial Surveillance Platform Configuration: 4.5 Hours
Ideal Loiter Speed: 140 Knots IAS
Ideal Surveillance Altitude: 12,000-14,000 AGL
Surveillance Coverage: 800 NM x 800 NM
Take Off Field Length Required (max gross weight): 3,300 Feet

