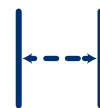# Where Precision and Reliability Soar!

Northwest UAV

uAvioni✈

UNMANNED AVIATION SYSTEMS
Connecting Everything That Flies

LEVITATE. COMMUNICATE. SEPARATE. NAVIGATE.

THE SMALLEST, LIGHTEST AND LOWEST POWER ADS-B
AND AIR TRAFFIC INTEGRATION SOLUTIONS

Designed for unmanned aircraft, uAvionix has dramatically reduced the size and cost of critical safety components required to fly safely and legally in the National Airspace System.

![uAvionix logo]

LEVITATE

Combining the flexibility and decade's worth of open-source innovation in UAS autopilots with the robustness of certifiable hardware.

George is the most Reliable Enterprise AutoPilot. George combines the flexibility and over a decade's worth of open-source innovation in UAS autopilots with the robustness of certifiable DAL-C hardware and a DAL-C safety and sensor processor. Built on a familiar architecture, certifiable and tested to aviation standards, and compatible with Sky-Line Cloud-Based C2. George is plug and play with all uAvionix certified solutions. Make your platform's safety case with type-certified aviation-grade avionics and ground infrastructure.

George G2i + skyStation2 Integration Kit The NDAA compliant autopilot leveraging the world-class Cube core from CubePilot – perfectly combining the innovation of open-source autopilot excellence with Design Assurance Level (DAL) C hardware and safety and sensor monitoring. The George Integration Kit includes everything early adopters and platform developers need to integrate into an existing platform and start flying out of the box.

⊔ George **G2**		⊔ George **G3**	
For Group 2 UAS	21-85 lbs	For Group 3 UAS	< 1,320 lbs
Servo/ESC Outputs	9	Servo/ESC Outputs	12
RS-232 Serial IO	2	RS-232 Serial IO	2.5
2X2 MIMO BVLOS C2 Radio	✓	External C2 & ADS-B Options	
Dual Band ADS-B Receiver	✓		

Basic Configuration:
George G2 Autopilot, truFYX GPS. Integrated 2X2 MIMO BVLOS C2 Radio and Dual Band ADS-B Receiver.

Enterprise Configuration:
George G3 Autopilot, truFYX-ext GPS, ping200X DAA, microLink Enterprise C2, pingRX Pro ADS-B IN.

Sensor Integrity George uses the highest-quality GPS, C2 Radio, airspeed, Detect and Avoid (DAA), and military grade geomagnetic sensors for unprecedented accuracy and platform integrity. George's onboard sensor safety processor monitors system health and will deploy emergency measures, such as a parachute, in the unlikely event of a failure.

What's Included:
- George G2i Autopilot (w/ integrated C2 Datalink & ADS-B IN)
- skyStation2 C2 Ground Radio System
- skyStation2 Antennas (x2)
- skyStation2 1/4-20 Tripod Mount Hardware
- microFYX GPS
- Cable Harness
- Ethernet Cable
- 915MHz Antenna (x2)
- 1090MHz Antenna
- USB Drive w/ App & User Guide
- 3mm FESTO Tubing
- 12S Power Adapter
- Travel Case
- uAvionix / George Stickers
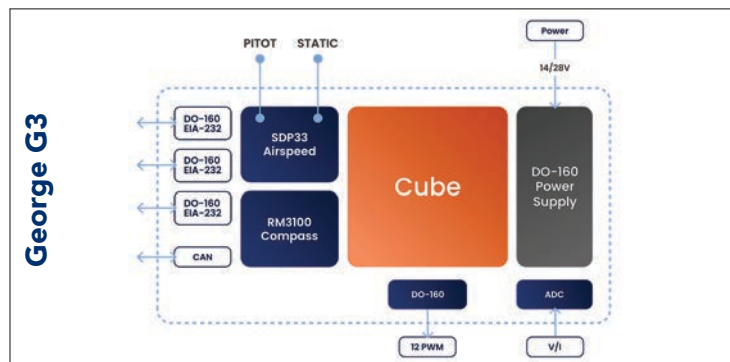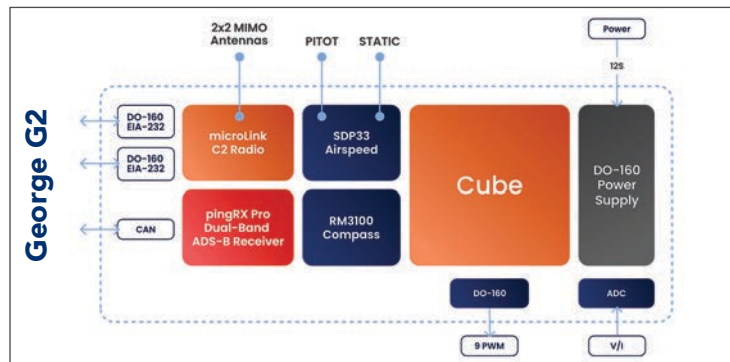
![Northwest UAV logo] **is the proud distributor for the uAvionix UAV product line.**

COMMUNICATE

Command and Control (C2) solutions for point-to-point or networked UAS operations for BVLOS.

skyLine a Cloud Managed BVLOS C2 Network The skyLine network is the world's first enterprise Control and Non-Payload Communications (CNPC) infrastructure management services built from the ground up to meet DO-377 and anticipated TSO C-213A for safety-critical UAS and AAM applications. SkyLine focuses on preventing lost links altogether with the first certifiable aviation-grade CNPC network and radios. Make your platform's safety case with type-certified aviation-grade avionics and ground infrastructure. SkyLine is plug and play with all uAvionix certified solutions.

skyLink Aviation-Protected CNPC Licensed C-Band Radios provide for the maximum protection against unwanted and unsafe interference. Critical infrastructure, controlled airspace, type certified aircraft, and advanced air mobility demand safety and assurances that licensed Spectrum provides. SkyLink supports many versatile and robust integration options for nearly limitless possibilities and greater compatibility with your fleet.

skyLink ARS Radio is a C-Band (5030-5091 MHz) bi-directional, Multiple Input & Single Output (MISO) dual radio system offering UAS operators reliable platform control using aviation-protected spectrum.

Meets RTCA DO-362A standard.

skyLink GRS Radio is a C-Band all-weather IP67 ground radio. It's dual dipole 16 dBi antenna gain complies with category GLXS of DO-362A.

RS-232 user and control interface connects multiple radios to a SkyLink HUB GPS interface.
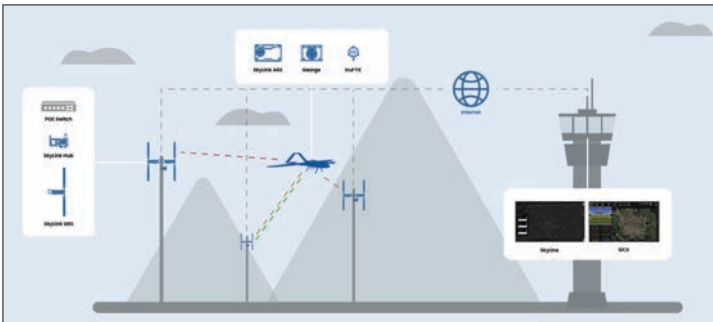
skyLink ARS Radio

Input Power	4-6V 1.7W Peak
Size	31x26x9mm
Weight	16 grams

skyLink GRS Radio

Input Power	24VDC
Size	42x264x746mm
Weight	225 grams

microLink (ISM) is an all-weather network-ready microLink Ground Radio System (GRS). TCP and UDP Power Over Ethernet (POE) connectivity. Includes an IP67 grade enclosure, dual dipole antennas and pole mounting kit.

Ground Radio System (GRS) skyStation 2 for microLink is an all-weather network-ready microLink Ground Radio System (GRS). TCP and UDP POE connectivity. IP67 grade enclosure, dual dipole antennas and pole mounting kit.

microLink

Band	902-928MHz ISM Band
Architecture	Dual Diversity Radios
Transmit Power	1W (4W EIRP)
Spreading	Code and Frequency
Bandwidth	200kHz

microLink Pro information and specifications available on request.

skyStation

Input Power	POE 13W Peak
Size	122x82x55mm
Weight	500 grams

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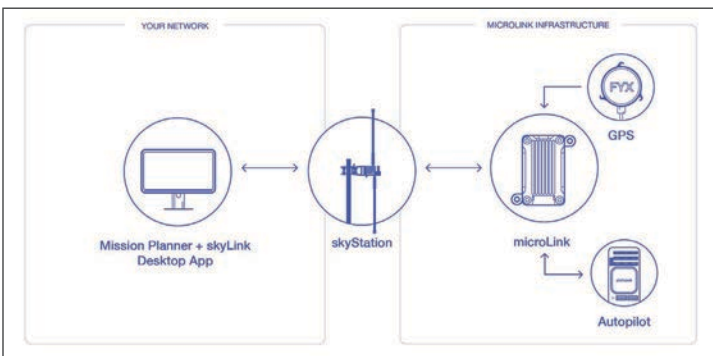
SEPARATE

Certified Mode S ADS-B Transponders and Detect and Avoid Solutions for Worldwide Compliance for Unmanned Aviation Systems.

ping200X is the only FAA TSO Certified Mode S ADS-B OUT transponder for UAS and enables airspace access, regulator, and Air Navigation Service Provider (ANSP) acceptance worldwide. The ping200X, when paired with the truFYX SBAS GPS, meets the requirements of global controlled airspace delivering safe separation information to Air Traffic Control (ATC). Integrate the ping200X with your autopilot from your ground station (GCS) or carry as payload with the uAvionix mini-controller to simplify functionality.

ping200XR is a Mode S ADS-B Transponder with Integrated Aviation GPS, enabling airspace access, regulator, and Air Navigation Service Provider (ANSP) acceptance worldwide. The efficiently powerful ultra-small design brings aviation-grade avionics to UAS and meets the requirements for Class 1 and 2 sUAS by weighing only 52 grams. In addition, the ping200XR includes the uAvionix truFYX SBAS GPS receiver meeting the RTCA DO-229D and TSO-C145e. With industry-standard serial control offers broad autopilot support.

RT2087/ZPX-A is a AIMS Certified micro "remote" transponder based on the ping200X, with the addition of an enable/disable control for the Mode A X-bit. ZPX-A and designed to meet the performance requirements of the applicable FAA TSOs, RTCA MOPS, and DoD AIMS performance and test standards. ZPX-A is a Mode S, Level 2els, Class 1 transponder with support for ADS-B extended squitter, elementary surveillance, and SI code. Additionally, a control that provides for enabling X-bit for Mode 3/A replies.

ADS-B TRANSPONDERS	ping200X	ping200XR	ZPX-A
Input Power	11-34V (3S-8S LiPo) 1.5W Continuous On/Alt 4W Peak (8ms Maximum)	11-34 V (3S-8S LiPo) 1.5W Continuous On/Alt 4W Peak (8ms Maximum)	9-30.3 VDC 1.7W On/Alt 0.4W Standby
Size	47 x 54 x 9 mm	47 x 72 x 10 mm	46.99 x 9.50 x 59.15 mm
Weight	50 grams	52 grams	45 grams
SIL / SDA	3 / 2	3 / 2	Based Upon GPS Source
Operating Temperature	-45°C to 70°C	-45°C to 70°C	-35°C to +70°C (Internal Barometer) -45°C to +70°C (external Barometer)

ping200Sr ping200Sr is a fully functional 250-Watt Level 2els Class 1 Mode S Extended Squitter (ES) ADS-B OUT transponder, integrated with WAAS GPS and barometric altitude sensor. Perfect for any aircraft operating from 500'AGL up into the stratosphere. The all-in-one design is ideal for rapid deployment on almost any UAS. The GPS and transponder antenna are both remotely mountable.

ping20Si is the world's smallest, lightest, most affordable Mode S ADS-B transponder. At just 20 grams, it allows drone aircraft to respond to Mode S radar interrogations by ATC and TCAS. ping20Si meets the performance requirements of TSO-C166b Class B1S and TSO-C122e Class 1 Level 1els @ 20W. No autopilot integration is required, but if preferred, the ping20Si is compatible with popular autopilots. *ping20Si is NOT approved for use in the United States. For U.S. applications, see ping200Sr and ping200X.

ADS-B TRANSPONDERS	ping200Sr	ping20Si
Input Power	11-33V 2.0W Ave On/Alt. 1W Standby	11-28V 1.0W Ave On/Alt. 0.5W Standby
Size	91x57x17mm	50x25x17mm
Weight	76 grams	20 grams
SIL/SDA	3/2	1/1
Operating Temperature	-45°C to 80°C	-45°C to 80°C

Control App Available On:

[Google play] [App Store]

*ping20Si NOTE: The following required statement from the Federal Communications Commission (FCC) applies to United States based entities with the exception of direct sales to the U.S. Government and units directly exported by uAvionix: This device has not been authorized as required by the rules of the Federal Communications Commission. This device is not, and may not be, offered for sale or lease, or sold or leased, until authorization is obtained.

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ping2020i USA and **ping1090i UK** are the world's smallest, lightest and most affordable full range, dual link Automatic Dependent Surveillance – Broadcast (ADS-B) UAT transceivers with integrated Satellite Based Augmentation System (SBAS) Global Positioning System (GPS) and precision barometric sensor. At just 26 grams, they assist with Detect and Avoid (DAA) functionality for Unmanned Aircraft Systems (UAS) operations in the National Airspace System (NAS). Compatible with popular autopilots.

ping2020i USA

- Transceiver transmits ADS-B on 978MHz
- GPS/SBAS augmentation systems with RAIM layer for fault detection and exclusion

ping1090i UK/Australia

- Transceiver transmits ADS-B DF-18 on 1090MHz Extended Squitter
- GPS/SBAS augmentation systems with RAIM layer for fault exclusion
- Approved for use in the UK as a CAP1391 Basic Electronic Conspicuity Device (ECD)

pingStation3 is a dual band (978MHz and 1090MHz), networkable ADS-B receiver with a POE interface. PingStation3 provides ground, surface, or low-altitude ADS-B surveillance and is capable as a multilateration sensor for Mode S. pingStation3 is robust enough to be permanently mounted outdoors in harsh environmental conditions, and small enough to be used as a mobile asset for roaming operations. Installation is simple, and a single POE cable provides both power and data communications. An integrated GPS provides precision time-stamping for messaging.

Multiple pingStation3 may be networked together to provide a wide area low-altitude surveillance volume. Data messages options are available, including ASTERIX CAT021, JSON, and Compressed VRS format as described within the pingStation3 ICD.

ADS-B TRANSCEIVERS	ping2020i	ping1090i
Input Power	11-28V 500mW Ave 30W Peak (400us)	11-28V 500mW Ave 30W Peak (400us)
Size	25x40x16mm	25x40x16mm
Weight	26 grams	26 grams
SIL / SDA	1 / 1	1 / 1 (or 1/0 for CAP1391 devices in UK only)
Operating Temperature	-45°C to 70°C	-45°C to 70°C

Networkable Weatherproof 978/1090 ADS-B Receiver

pingRX Pro is the only dual-band UAS ADS-B receiver capable of receiving on both 978MHz and 1090MHz, and benefits from the heritage of certified avionics. The pingRX Pro inherits the original pingRX's autopilot support while adding the protection of an aircraft-grade aluminum case and detachable remote mount antenna. The ideal solution for UAS operators who need reliability, rugged build quality, and flexibility.

pingUSB is the world's smallest, lightest, and most affordable dual-band ADS-B traffic receiver. View real-time ADS-B traffic on your Electronic Flight Bag (EFB) app or on your PC. pingUSB receives ADS-B traffic on both 978MHz and 1090MHz, and delivers real-time position reports to your favorite EFB. pingUSB provides a direct USB connection to PC based applications and functions as a programmer to configure the ping ADS-B transponders and transceivers.

ADS-B RECEIVERS	pingRX Pro	pingUSB	pingStation 3
Input Voltage / Power	4-6V / 150mA	4-6V / 150mA	44-57V / 500mW POE
Size	32x31x9mm	75x121x8mm	7.0x1.4x26.5"
Weight	8 grams	14 grams	545 grams

[1] Requires 3rd-party multilateration software.

Control App Available On: Google play · Download on the App Store

uAvionix

NAVIGATE

Global Positioning System (GPS) solutions specifically designed for Unmanned Aviation Systems.

truFYX & truFYX-EXT TSO-C145e Class Beta-1 SBAS GPS are the world's first TSO certified SBAS GPS position sources designed specifically for UAS autopilots and Automatic Dependent Surveillance – Broadcast (ADS-B) OUT solutions. The truFYX incorporates the GPS receiver and antenna into a single waterproof enclosure.
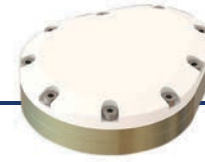
Reduce your onboard GPS count by leveraging truFYX as the primary position source to your autopilot and ADS-B solution.

- Primary position source for domestic en route, terminal, approach (LNAV), and departure navigation
- Integrity in the absence of the SBAS signal through the use of Fault Detection and Exclusion (FDE)
- Enhanced accuracy with processing of optional ionospheric corrections
- Meeting worldwide compliance requirements for controlled airspace access pre- and post-2020 ADS-B mandates in the US and EU

Externally Mounted GPS Receiver

truFYX - TSO

GPS L1C/A w. SBAS	12 GPS Channels 3 SBAS Channels
HPA / VPA	5m / 7m
Velocity Accuracy	3 m/s
Time Accuracy	30 ns
Update Rate	5Hz
SIL / SDA	3 / 2
Input Voltage / Power	5.5-31V, 0.5 W
Size	47.37x8.21mm
Weight	20 grams

truFYX EXT - EXP

GPS L1C/A w. SBAS	12 GPS Channels 3 SBAS Channels
HPA / VPA	5m / 7m
Velocity Accuracy	3 m/s
Time Accuracy	30 ns
Update Rate	5Hz
SIL / SDA	3 / 2
Input Voltage / Power	5.5-31V, 0.5 W
Size	55.85x46.85x8.21mm
Weight	38 grams

For questions on uAvionix product prices, capabilities, custom integration, training & support contact David Jackson, David.Jackson@nwuav.com | 503.434.6845 x185 or Northwest UAV 503.434-6845 | customerservice@nwuav.com

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