Outback A320/A321

Dual Frequency GPS/GLONASS RTK

The A320™/A321™ Smart Antennas offer versatile, portable solutions with centimeter-level accuracy powered by Eclipse™ II multifrequency GNSS receiver technology.

With the Eclipse II GNSS OEM module, RTK performance is scalable. Utilize the same centimeter-level accuracy in either L1-only mode, or employ the full performance of fast RTK performance over long distances with L1/L2 GNSS signals. SureTrack™ technology gives peace of mind knowing your RTK rover is making use of every satellite it is tracking, even satellites not tracked at the base. Benefit from fewer RTK dropouts in congested environments, faster reacquisitions and more robust solutions due to better cycle slip detection. SureTrack also removes concerns with mixing GNSS data from various manufacturers. Even if your base is only L1/L2 GPS, SureTrack with GLONASS at your rover delivers complete GNSS performance where others cannot.

The durable enclosures house the receivers, antennas and optional radio modems, all in one package. They can be powered through various sources, making A320/A321 Smart Antennas ideal for a variety of applications. The A320 Smart Antenna is designed to be mounted on a variety of roving machines and vehicles for kinematic positioning and navigation applications. The A321 Smart Antenna, on the other hand, can be used as a portable base station mounted on a tripod or riser. Additionally, the A321 Smart Antenna has a full graphic display with menu selection keys, and can log data to a standard USB flash drive.

Advantages

- Centimeter-level accuracy using Eclipse II technology in a rugged, all-in-one enclosure
- Improved GNSS performance, particularly with RTK and GLONASS applications through the implementation of SureTrack technology
- Long range RTK baselines of up to 24 km
- High-precision positioning in RTK, OmniSTAR® G2/HP/XP/VBS and SBAS/DGPS modes
- Supports NMEA 2000, NMEA 0183, binary, and USB for communication with external devices
- Compatible with RTK reference networks through RTCM v3 or CMR/CMR+ corrections
- SBAS satellite ranging technology increases the number of satellites in view for greater speed and reliability
- Internal radio bay supports Satel and Microhard radios

Specifications

GNSS Sensor

Receiver Type:	GNSS L1 & L2 RTK with carrier phase
Channels:	12 L1CA GPS 12 L1P GPS 12 L2P GPS (with subscription code) 12 L2C GPS (with subscription code) 12 L1 GLONASS (w/subscription code) 12 L2 GLONASS (w/subscription code) 3 SBAS or 3 additional L1CA GPS 1 L-Band
SBAS Tracking:	3 channels
Update Rate:	10 Hz standard, 20 Hz available
Timing (1PPS) Accuracy:	20 ns
Cold Start Time:	< 60 s typical (no almanac or RTC)
Warm Start Time:	< 30 s typical (almanac and RTC)
Hot Start Time:	< 10 s typical (almanac, RTC & position)
Maximum Speed:	1,850 kph (999 kts)
Maximum Altitude:	18,288 m (60,000 ft)
Differential Options:	SBAS, Autonomous, External RTCM, RTK, OmniSTAR (G2/HP/XP/VBS)

Horizontal Accuracy

	RMS (67%)	2DRMS (95%)
RTK: [1,2]	10 mm+1 ppm	20 mm+2 ppm
OmniSTAR HP: [1,3]	0.1 m	0.2 m
SBAS (WAAS): [1]	0.3 m	0.6 m
Autonomous, no SA: [1]	1.2 m	2.5 m

Specifications - continued

Communication

	A320	A321
CAN:	1x	--
USB:	-- 1x USB-B	1x USB-A
Serial:	2x	2x (Bluetooth Adapter Support)
PPS:	1x	1x
Protocol:	NMEA 0183, NMEA 2000 binary	NMEA 0183, binary,

Environmental

Operating Temperature:	-30°C to +65°C (-22°F to + 149°F)
Storage Temperature:	-40°C to +85°C (-40°F to +185°F)
Enclosure:	IP67, EP455
Compliance:	FCC, CE

Power

Input Voltage:	9 – 36 VDC
Power Consumption:	< 5 W @ 12 VDC (typical; without radio)
Current Consumption:	< 400 mA @ 12 VDC (typical; without radio)

Mechanical

Dimensions:	150 mm (5.9") H x 244 mm (9.6") D
Material:	Magnesium alloy/plastic
Mount:	Screw/magnetic mount or 5/8" tripod mount
Enclosure:	Waterproof, dust proof
Weight:	1.8 kg (4.0 lbs)

Ultimate Systems

Outback MAX
Advanced GPS Guidance

Outback STX
Advanced GPS Guidance

— or —

Outback eDriveXC
Precision Steering System

Outback eDriveXD
Precision Steering System

[1] Depends on multipath environment, number of satellites in view, satellite geometry, and ionospheric activity
[2] Depends also on baseline length
[3] Upgrade required

AgJunction®

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