

# GPS-WAAS Receiver

GPS Receiver combined with the unparalleled accuracy and integrity monitoring of WAAS for fixed wing and rotorcraft

**COBHAM**

The most important thing we build is trust



# GPS-WAAS Receiver

Meets requirements for primary navigation receiver for enroute and approach guidance  
2008 Data Sheet



## Advanced features

**Latest technology:** TSO-C145b BETA 3 for LPV approaches

**Lightweight:** less than 1.0 Lb.

**Compact:** 1.4"H x 2.6"W x 4.0"D

**Easy installation:** Stand alone or display integrated

## Greater precision

The Chelton Flight Systems GPS-WAAS receiver utilizes the signals coming from Global Positioning System (GPS) Satellite Constellation and Satellite-Based Augmentation System (SBAS) such as WAAS or EGNOS.

The primary function of the unit is to compute the Position, Velocity of an aircraft and the Precise Time (PVT). It also computes the integrity of the PVT from the SBAS signal, if available. The GPS detects and excludes failed satellites (FD/FDE) using Receiver Autonomous Integrity Monitoring (RAIM) algorithm, whenever there are enough number of satellites, regardless of SBAS availability.



**Size:** 1.4"H x 2.6"W x 4.0"D (excluding connectors and mounting flange)

**Weight:** 0.95 lbs.

**Enclosure:** Machined 6061-T6 aluminum

**Finish:** Black anodized

<b>GPS Type:</b>	C/A code Sensor with WAAS capability	<b>Communication:</b>	RS-232: One host port, 19.2 kbps One maintenance port 19.2 kbps Input discrete: Air/ground, self test, data load, master reset Output discrete: Fail navigation, fault discrete, power fail Software protocol: Binary, proprietary
<b>Conformity:</b>	DO-229D DO-254, Level-B DO-178B, Level-B DO-160E ARINC 743A-4	<b>Software Upgrade:</b>	Field upgradeable
<b>Certification:</b>	TSO-C145b Class Beta 3: LPV	<b>DO-160E Qualification:</b>	[(F2)V]BBBRXWXSFSZZAZ[ZC][YL]M[A3J33]XXAC
<b>Frequency:</b>	1575.42 MHz	<b>MTBF:</b>	40,000 hrs. (MIL-HDBK 217)
<b>No. of Channels:</b>	Total: 15 (GPS: 12 WAAS: 3)	<b>COM Ports:</b>	RS232, 19,200 bps
<b>Architecture:</b>	Digital Signal Processor with FPGA and RF Front-end	<b>Main Connector Type:</b>	MIL-C 38999 Souriau PN: 8D0C-13F35PN
<b>Measurement Accuracy:</b>	Receiver noise Per DO-229D	<b>Airframe Side:</b>	Souriau PN: 8D5-13F35SN
<b>Time:</b>	100 ns, Synchronized to either GPS or UTC (SA off)	<b>Antenna Connector Type:</b>	Amphenol TNC
<b>Sensitivity:</b>	Acquisition: -136 dBm Tracking: -140 dBm	<b>Thermal Protection:</b>	Internal thermal regulation and monitoring
<b>Update Rate:</b>	5 Hz	<b>Input Voltage:</b>	Nominal 14 to 28V, dual bus
<b>Dynamics:</b>	Speed, acceleration and jerk per DO-229D requirements for en-route, terminal, non-precision approach and precision approach	<b>Maximum Input Voltage:</b>	Spikes to 80V
<b>Alert:</b>	Alert in the form of data available as per DO-229D	<b>Minimum Input Voltage:</b>	Down to 10V for 30 seconds
<b>Integrity Monitoring:</b>	SBAS integrity (if available), FD and FDE RAIM, Predictive RAIM, All as per DO-229D		
<b>BITE:</b>	Power-on Self Test and Online BITE		

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