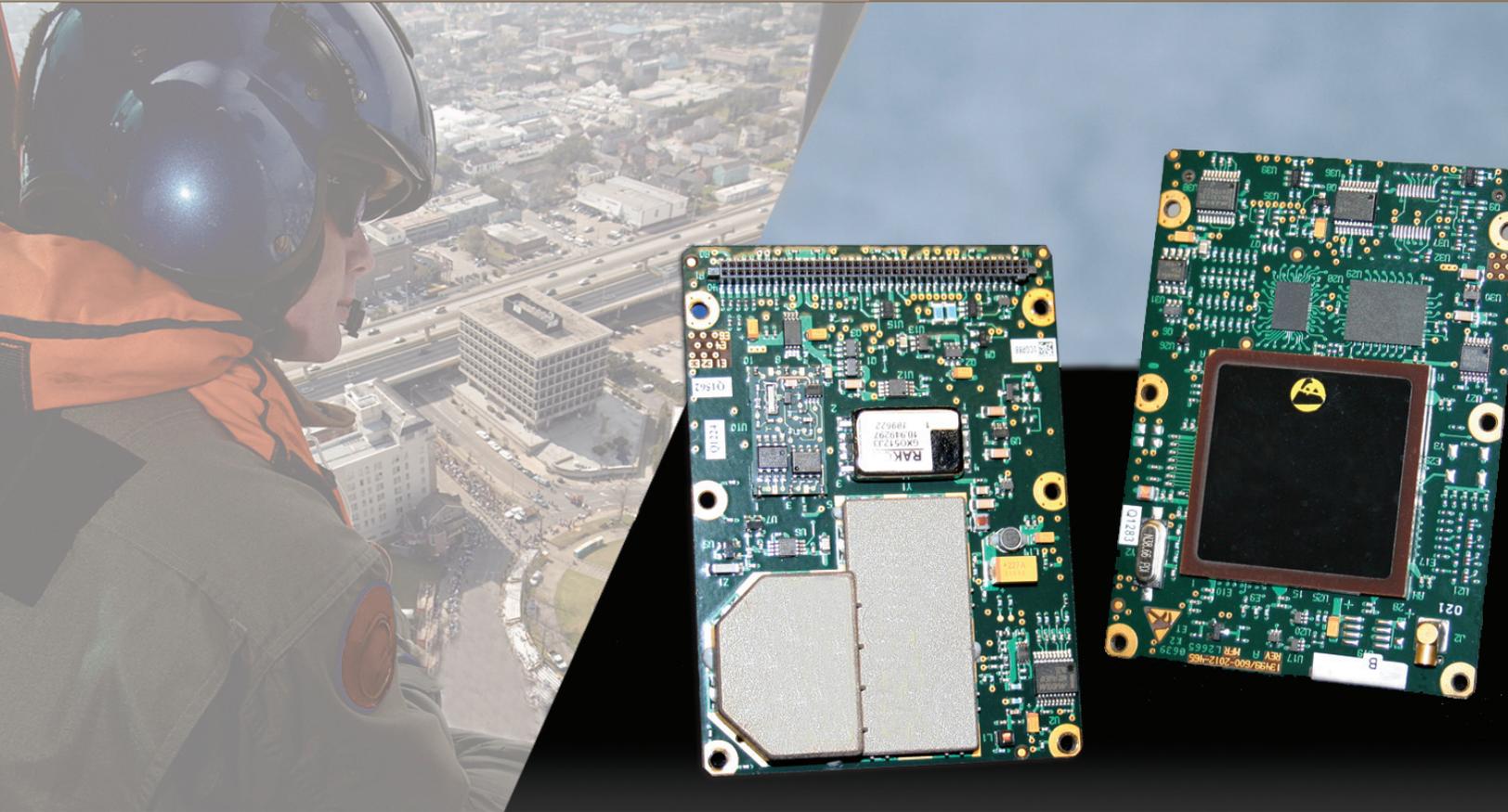


# Polaris™Link



Information is power. Our Polaris™Link supports a vast range of applications including command and control, handheld computers and other platforms looking to integrate a ruggedized GPS capability.

Our PolarisLink utilizes the Rockwell Collins' 12-Channel All-in-View Standard Positioning Service (SPS) C/A Code Module. This receiver is the SPS companion to the Rockwell Collins MPE™-S receiver with the DoD standard embedded Ground-Based GPS Receiver Application Module Small Serial Interface. This commercial receiver provides the designers of host application equipment and systems with an SPS version of their products without the cost of a full redesign or requalification..

Our receiver is intended for use in multiple federal, civilian, DoD and international platforms requiring SPS real-time GPS data. The small size and features of our commercial receiver make it attractive for command and control, handheld computers, vehicles and other platforms seeking to integrate a ruggedized GPS capability.

Our true All-in-View navigation of up to 12 GPS satellites provides proven capabilities of the 12-channel GPS signal processor providing advanced correlator engine accelerated acquisition capabilities to the SPS functionality.

For backwards compatibility, our commercial receiver also provides continued support to current users of

our MPE-S and legacy MPE™ family of embedded GPS receivers. Customers will recognize and appreciate the continued use of the same familiar 80 pin I/O connector and robust MMCX RF connector. Efforts have been made to keep the signal pin-out of the I/O connector compatible with prior versions of the MPE, allowing for an economical upgrade to our current 12-channel receiver technology.

When turned off, a low-power time source runs continuously to allow rapid acquisition of the GPS satellites when the receiver is turned on. All capabilities require only a single 3.3-volt power source for operation with a recommended back up of 3.3 to 6 volts.

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## KEY FEATURES/USER BENEFITS

- Built to the same standards as the Rockwell Collins MPE-S and GB-GRAM and is interchangeable in all platform integrations
- Design is compatible with the U.S. Army Standard Embedded Small Serial Interface (SSI) form factor GPS receiver
- Tested to military standards for environmental conditions including temperature, vibration and shock
- Three independent serial interfaces with precise time pulse outputs
- 12-channel continuous satellite tracking for true All-In-View operation
- Field reprogrammable to allow easy updates of application software
- Typical cold start without time, position or almanac in less than 100 seconds from complete OFF
- Area navigation with 999 waypoint storage
- Route navigation using route built from stored waypoint sequences
- User setup of units, datums and coordinate systems
- Receiver Autonomous Integrity Monitoring (RAIM)
- Demonstrated outstanding GPS performance and integration history
- Mature, proven GPS technology developed over a 30-year period
- High reliability with MTBF >60,000 hours (calculated)
- Additional feature software upgrades are available

## SPECIFICATIONS

### System performance

Frequency	L1 - C/A
Acquisition time	TTFB <90 sec (warm start) (prob >.95) TTFB <100 sec (cold)
Position accuracy	LADGPS: <3 meters typical horizontal SPS: 7.8 meters CEP
Velocity accuracy	0.4 m/sec static (3D 95%) GPS time accuracy 111 nanoseconds
Coordinate system	28 predefined
Datums	233 predefined, 6 user-defined
Storage capacity	999 waypoints, 15 reversible routes

### Physical characteristics

Power	Operating: +3.3 V DC, less than 0.7W typical Keep alive: +3.0 V DC to +6.0 V DC, 2 mW typical
Weight	2.5 oz (70 gm) nominal
Size/Volume	3.4" x 2.45" x 0.6" maximum (8.6 cm x 6.2 cm x 1.6 cm)
Temperature range	-40°C to +85°C operating -55°C to +85°C storage
Altitude (operating)	10,000M
Velocity (operating)	515 m/s

## INTERFACES/CONNECTORS

- Power and data (SAMTEC P/N SFM-140-L2-S-D-LC)
- RF input (Huber Suhner P/N 85MMCX - 50-0-1/III)

## HARDWARE INTERFACES

- Three (3) independent serial data ports (full duplex)
- Two (2) low power CMOS serial data ports
- One (1) standard RS-232 serial data port
- ICD-GPS-153 compatible
- NMEA-0183 (ver 3.01) data output
- 1 PPS input
- 3 configurable PPS outputs (1PPS UTC, 1PPS T-Mark, 10 PPS)
- L1 active RF antenna port, 3.3 V DC
- RTCM 194-93/SC 104 differential GPS correction data input

## AVAILABLE SOFTWARE VARIANTS

- ITAR Cat. XV (F) iITAR controlled
- Military (A) - call for availability
  - HAVEQUICK, SINCGARS, Call for Fire, Gun Laying
- Military (B) - call for availability
  - Attitude Determination System
- Department of Commerce
- Standard 12-Channel SPS-Link
- UAS, Line of Sight - call for availability
- Attitude Determination System - call for availability

## SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE.

Each SPS unit has been designated as U.S. Department of Commerce. Like the MPE-S, the SPS receiver may be manufactured both in the United States and Europe. This provides our global customers and users with procurement, hardware and system support options which best meet their local long term logistic needs.

## SELECTION GUIDE

Receiver Type	Description	Part Number
12-channel Embedded SPS	Commercial Miniature GPS Engine Card	987-8760-00X

## Building trust every day.

Rockwell Collins delivers smart communication and aviation electronic solutions to customers worldwide. Backed by a global network of service and support, we stand committed to putting technology and practical innovation to work for you whenever and wherever you need us. In this way, working together, we build trust. Every day.

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