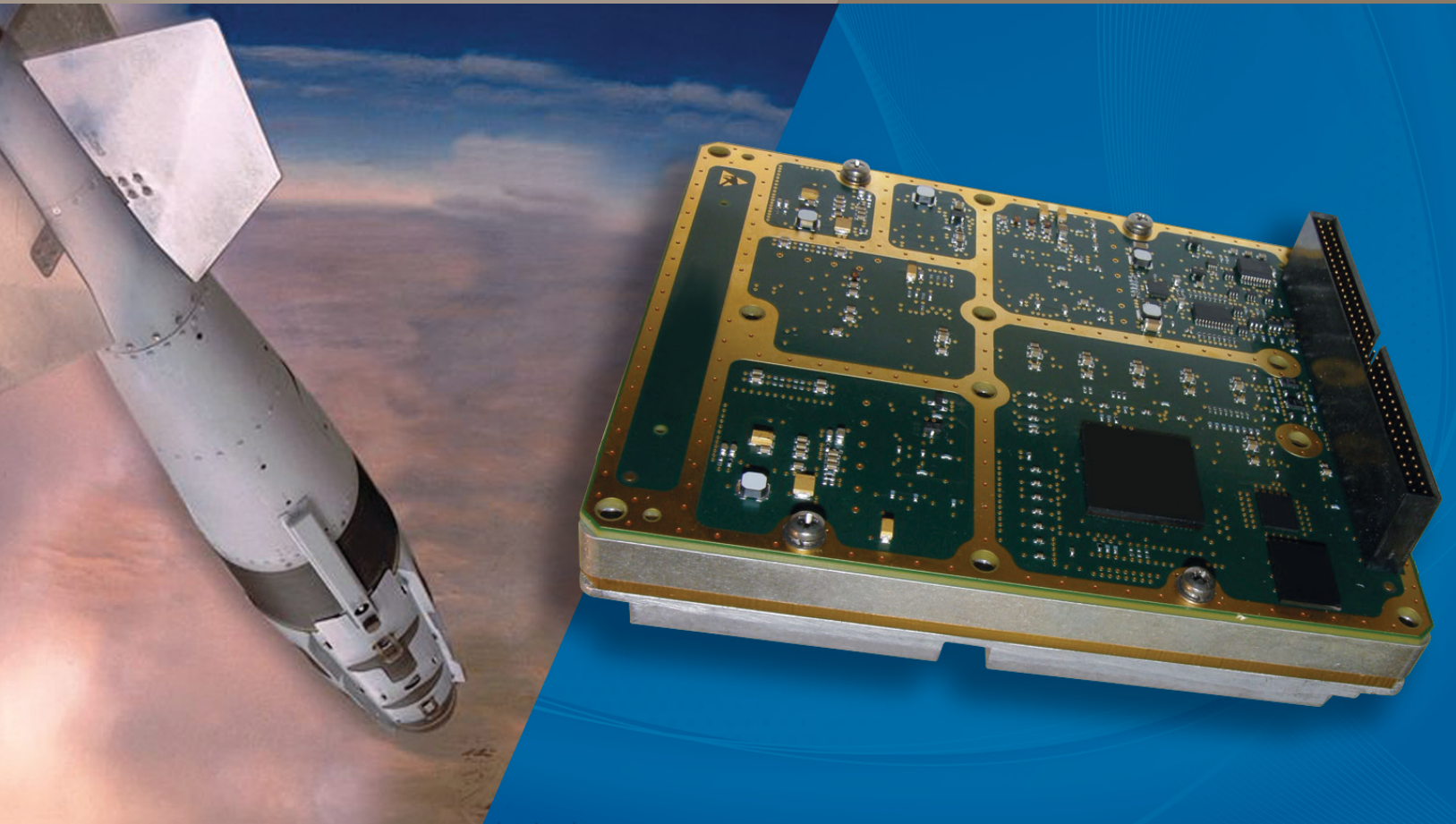


Integrated GPS Anti-Jam System (IGAS)



Enhancing your accuracy in any environment.

Accuracy is paramount when launching weapons in the field. Your mission success and the safety of your troops depend on it. Rockwell Collins has proven expertise in delivering reliable, accurate navigation products for precision-guided missile and munitions systems. The Integrated GPS Anti-Jam System (IGAS) is no exception.

With its foundation in the field-proven 12-channel NavStrike™ and Joint Direct Attack Munitions (JDAM) receivers, the IGAS is the first integrated Global Positioning System (GPS) and Anti-Jam system in the reliable family of Rockwell Collins munitions receivers. The precision and accuracy of your attacks are enhanced through the system's 24-channel dual frequency all-in-view navigation, fast satellite acquisition with more than 9,000

correlators and accurate GPS navigation for munitions systems in stand-alone or GPS/INS (Global Positioning System/ Inertial Navigation System) integrations. Leveraging the most advanced GPS and anti-jam technology available, IGAS delivers fast Direct-Y acquisition in jamming and high jamming immunity while tracking.

KEY FEATURES

- › 24-channel SAASM-based design
- › >85 dB J/S performance***
- › High-rate aiding
- › SA/AS capable**
- › Fast Direct-Y capability
- › All-in-view track and navigation
- › High accuracy
- › Antenna masking selection
- › Precise time transfer (timing pulse not needed)
- › Continuous ionospheric corrections*

KEY BENEFITS

- › Latest single chip SAASM-based design
- › Dual-frequency (L1/L2) tracking
- › Enhanced Direct-Y code acquisition/ cold start
- › High anti-jamming immunity
- › 24-channel all-in-view tracking and navigation
- › Field-programmable software
- › Designed for high-g vibration
- › High-speed serial interface
- › SAASM extended functions including black-key
- › Clock recalibration

**Rockwell
Collins**

Building trust every day

HIGH ACCURACY IN A COMPACT PACKAGE

Designed to meet the mission needs of missile and munitions applications, IGAS provides you with a highly accurate, reliable system in a compact, cost-effective package. The IGAS delivers accurate GPS navigation either as a stand-alone system or when integrated with an existing INS or Doppler Reference System.

PRECISE

This integrated receiver offers full Precise Positioning Service (PPS) accuracy. Simultaneous L1/L2 operation provides real time ionospheric corrections for further accuracy enhancements. Its primary communication interface is a high-speed RS-422 serial port. The Anti-Jam solution utilizes 12-beam steering. This all-in-view beam steering ensures signals from all satellites in view will receive the full benefits of the system's AJ performance. Additionally, this system has an Ultra Tight Coupling (UTC) interface option.

GROWTH PATH

Modular design and field-programmable software ease maintenance, provide a growth path and reduce life-cycle cost for use in various jammed environments. Delivery is assured by using common critical components, processes and manufacturing lines that deliver over 100,000 Selective Availability Anti-Spoofing Module (SAASM)-based GPS receivers per year.

INTERFACES

- Serial data: RS-422, up to 230 Kbaud
- 1 PPS/TimeMark/HaveQuick
- Four L1/L2 RF antenna ports, keyed
- Keying (DS-101/DS-102/high-speed serial port)
- CRPA power/control

SYSTEM CHARACTERISTICS

Receiver	L1 frequency, C/A and P or Y code** L2 frequency, P or Y code**
Dynamics	Velocity: >1,200 m/sec maximum Acceleration: 10 g
TTFF	<10 seconds - time uncert: ≤10 μs <26 seconds - time uncert: ≤10 ms 77 s nominal cold start w/o initialization data
Time accuracy	<100 nanoseconds RMS
Position accuracy	<3 meters CEP** <2 m typical
Velocity accuracy	<0.07 m/sec RMS (typical)
Altitude	>100,000 ft**
Position update rate	Unaided – 1 Hz pseudo-range based and 10 Hz propagated INS-aided – 1 Hz pseudo-range based and 4-25 Hz dependent on aiding rate

Crypto key input	Serial port, KYK-13/KOI-18/ CYZ-10**
MTBF	>6,500 hours

PHYSICAL CHARACTERISTICS

Power	<12 watts continuous
Weight	2 pounds maximum
Size/volume	4.35" W x 5.15" H x 0.9" D maximum
Temperature range	-54°C to +74°C (continuous) -54°C to +90°C (non-operating)
Shock	150 g operating

* When anti-jam provides for dual frequency operation.

** Export of Precise Positioning Service (PPS) units is authorized for GPS Memorandum of Understanding countries only. PPS security modules must be obtained through Foreign Military Sales (FMS) procurement.

*** AJ performance is based on 3 spatially diverse BB Jammers. Full performance is classified.

SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE

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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