Superior beamforming GPS anti-jamming for airborne platforms.

The U.S. military and close allies have used GPS on the battlefield for decades. Virtually all military electronic equipment – aircraft, vehicles, radios, computers and guided bombs – relies on GPS for accurate positioning, navigation and timing (PNT).

Threats are increasing and evolving as our adversaries improve their ability to jam and spoof GPS signals. To defend against increasingly available counter-GPS capabilities, the military is requiring GPS protection, augmentation and alternatives that are more resilient and less vulnerable.

High-performance GPS anti-jam protection is available today and should be the foundation of any high-assurance PNT strategy in this evolving anti-access/area denial (A2/AD) environment.

Leveraging 30+ years of military GPS experience and advanced technical expertise in anti-jamming technology, Rockwell Collins now provides digital beamforming GPS anti-jamming in form factors that suit all your military needs.

DIGAR comprises the best airborne GPS anti-jam antenna electronics available. It supports 16 simultaneous steered beams to provide superior jamming immunity in the most severe GPS-challenged environments.

The antenna electronics are built upon field-proven GPS anti-jam weapons technology and state-of-the-art signal processing techniques. As the premier military GPS and anti-jam provider for weapons such as the Joint Direct Attack Munition (JDAM), Massive Ordnance Penetrator (MOP), Excalibur and others, Rockwell Collins now offers this superior digital beamforming anti-jam capability to airborne users.

**KEY BENEFITS**

- Superior digital beamforming
- Up to 16 simultaneous beams for superior jamming immunity
- 125+ dB J/S performance*
- Two- to seven-element CRPA compatible
- Simultaneous L1/L2 protection
- Supports Y-Code and M-Code anti-jam
- Supports STAP/SFAP beamforming
- Two form factors available:
  - Small (75 cubic inches)
  - Large (218 cubic inches)
- Supports retrofit AE-1/GAS- 1/ADAP platforms
- RelNav capable (JPALS, AAR)
- Situational awareness (direction finding)

*Beamsteering mode. Actual performance is classified.
SUPERIOR ANTI-JAMMING PERFORMANCE

DIGAR’s advanced, anti-jam capabilities were specifically designed to meet the mission needs of all airborne platforms, including fixed wing, unmanned and rotary wing. It’s been tested head-to-head with the industry’s leading solutions and has outperformed them all.

With technology proven at government test ranges and now fielded on direct attack weapons, DIGAR provides superior protection against all known jamming threats.

GROWTH

› M-Code beamforming
› Enhanced situational awareness (e.g., jammer characterization and geo-location)
› RelNav (JPALS, AAR)
› GNSS multi-constellation compatibility

INTERFACES

› Protected RF output (L1/L2)
› Digital multi-beam output
› RS-422 control/status interface
› RS-422 instrumentation

SYSTEM CHARACTERISTICS

Anti-jamming performance (20 MHz broadband jammer)
- State 5 tracking: >105 dB J/S**
- State 3 tracking: >125 dB J/S**
- Other: Compatible with any GPS receiver using RF Output. Beamforming available with GEM VII and ASR 3.7 receivers

Size
- DIGAR-300 offers a package suitable for UAS and rotary wing
- DIGAR-200 supports retrofit AE-1/GAS-1/ADAP platforms and forward-fit fixed wing

CRPA compatibility
- Can be configured for beamsteering with any array

Platform versatility
- Tested on fixed wing, rotorcraft, UAS and naval vessels

GPS flexibility
- Programmable for optimized Y- and M-code anti-jamming

Situational awareness
- Direction finding option

**Beamsteering mode. Actual performance is classified.

PHYSICAL CHARACTERISTICS

Power
- DIGAR-300: 28 volts DC
- DIGAR-200: 115V/400 Hz

Power consumption
- 45-50W nominal, 70W max

Weight
- DIGAR-300: <5 lbs
- DIGAR-200: 12 lbs

Size/volume
- DIGAR 300: 7” D x 5.6” W x 1.9” H
  (17.78 cm D x 14.22 cm W x 4.83 cm H)
- DIGAR 200: 8” W x 2.27” H x 12” D
  (20.32 cm W x 5.77 cm H x 30.48 cm D)
  (AE-1, GAS-1, ADAP form factor)

Temperature range
- -55° C to 71° C (continuous)

Cooling
- Conduction/convection

Shock operating
- 20 g

Shock crash
- 40 g

Random vibration
- 20-1000 Hz, 0.32 G2/Hz
- 1000-2000 Hz, -6 dB per octave decrease

Specifications subject to change without notice.

Building trust every day.

Rockwell Collins delivers innovative aviation and high-integrity solutions that transform commercial and government customers’ futures worldwide. Backed by a global network of service and support, we are deeply committed to putting our solutions to work for you, whenever and wherever you need us. In this way, working together, we build trust. Every day.

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