



## MULTI-SENSOR ANTENNA SYSTEM (MSAS-100)

# ADVANCED GROUND GPS ANTI-JAMMING

### Supports 24 simultaneous steered beams

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 PNT experience and advanced technical expertise in anti-jamming technology, Collins Aerospace now provides digital beamforming GPS anti-jamming in form factors that suit your military needs.

Our Multi-Sensor Antenna System (MSAS-100) comprises the best ground GPS anti-jam antenna electronics available with an integrated, seven-element CRPA antenna. It supports 24 simultaneous steered beams to provide superior jamming immunity in the most severe GPS-challenged environments.

Antenna electronics are built upon field-proven GPS anti-jam weapons technology and state-of-the-art signal processing techniques. As the premier leader in Assured PNT technologies like TACAN, JPALS and others, Collins Aerospace now offers this superior digital beamforming anti-jamming receiver. MSAS-100 also can operate as a digital nuller.



### KEY FEATURES AND BENEFITS

- Offers superior digital beamforming
- Supports up to 24 simultaneous beams for jamming immunity
- Delivers anti-jamming performance of ~95 dB J/S\*
- Incorporates seven-element CRPA
- Provides simultaneous L1/L2 protection
- Supports Y-Code and M-Code anti-jamming
- Supports SFAP beamforming
- Sized at 288 cubic inches
- Includes barometer and orientation sensor to support Assured PNT applications
- Can operate as a digital nuller
- MST capable-advanced software algorithm providing GPS integrity against all spoofing types

\*Actual performance for specific threat environments varies and is classified.

## INTERFACES

Protected GPS RF output (nulling only)

Digital multi-beam (L1/L2) output

RS-422 control/status interface

MIL-STD-1275 vehicle power

Uses standard NATO mount

AltNav RF output

## SYSTEM CHARACTERISTICS

Compatible with any GPS receiver using RF output; adaptive nulling

Beamforming capability available using digital multi-beam interface

SFAP architecture mitigates multiple broadband, partial band and narrow band jammers simultaneously

## PHYSICAL CHARACTERISTICS

|                    |                              |
|--------------------|------------------------------|
| Power:             | 28 VDC                       |
| Power consumption: | 34 W nominal                 |
| Weight:            | <11 lbs.                     |
| Size/volume:       | 9" D x 8" W x 4" H/288 ci    |
| Temperature range: | -40° C to 71° C (continuous) |
| Cooling:           | Convection                   |



MSAS-100 (bottom)



MSAS-100 (top)

Specifications subject to change without notice.

