



SPECIFICATION SHEET

TACAN ANTENNA, SHIPBOARD MODEL AS-3240A

PART NUMBER 2619536G00X



- Solid-state, high-performance, electronically-scanned, all band TACAN antenna, complete with integral monitoring and built-in fault isolation capability
- Honeycomb sandwich structure composite Radome for reduced weight while maintaining structural integrity
- COTS FAA flight-tested technology
- All active elements and electronics employ a Line Replaceable Unit (LRU) ideology
- This antenna meets or exceeds all requirements in MIL-A-29505

Designed for shipboard applications, the AS-3240A antenna has been used by the US Navy for more than 35 years and is currently used by more than 25 navies around the world. Configuration is adaptable for fixed, land-based TACAN systems. LRU ideology allows for ease of field maintenance. This all-band TACAN antenna works across the TACAN Band, all 252 channels, without the need for fine-tuning or adjustment.

Built in Test (BIT) assures the user that the antenna electronics are fully functional. The AS-3240A has been sold to various international customers and militaries.

dB Systems is the leader in spare parts, repair and overhaul, and RF testing for the AS-3240 and AS-3240A antennas. dBs has been under contract with the US Navy for almost 10 years to test units before deployment and diagnose and repair faulted units.

TACAN ANTENNA, SHIPBOARD

Model AS-3240A
PART NUMBER 2619536G00X

SPECIFICATIONS/CHARACTERISTICS

TYPE: TACAN, Short Vertical Aperture

FREQUENCY RANGE: 1X through 126X; 1Y through 126Y;
962 MHz - 1213 MHz (no adjustments or tuning required)

RADIATOR, CENTRAL, RF: Single Monopole Over a Ground Plane

MODES OF OPERATION: TACAN or DME Only

SCANNING: Electronically Scanned

SCANNING SPEED: 900 RPM \pm 0.015%, Crystal Controlled

ROTATION DIRECTION: Clockwise, looking down on the antenna

POLARIZATION: Vertically Polarized

GAIN, MAIN BEAM: \geq 3 dBi & \leq 6.5 dBi

GAIN, HORIZON: \geq -2 dBi

MAIN BEAM ELEVATION LOCATION: Carrier main lobe between $+15^\circ$ and $+35^\circ$; typically $+25^\circ$

SLOPE (VICINITY OF HORIZON): \leq 0.06 V/V/ $^\circ$ (normalized to value at horizon)

POWER HANDLING CAPABILITY: Up to at least 3 kW peak RF power at 4% duty cycle

VSWR: \leq 2.2:1 (960-1215 MHz) measured at end of low loss cable not exceeding 5 feet in length.

ENERGY BELOW HORIZON: \leq 40% of total energy radiated

HORIZONTALLY POLARIZED COMPONENT: The horizontally polarized component \geq 26 dB below the vertically polarized component.

CARRIER CIRCULAR PATTERN: Circular within \pm 5%

IMPEDANCE: 50 Ω nominal

15 HZ % MODULATION: \geq 7% from -20° to 0° elevation, \geq 11%, \leq 30% from 0° to $+30^\circ$ elevation

135 HZ % MODULATION: \geq 7% from -20° to 0° elevation, \geq 11%, \leq 33% from 0° to $+30^\circ$ elevation

HARMONIC CONTENT:

- RSS of 30 & 45 Hz \leq 25% of 15 Hz
- RSS of 270 & 405 Hz \leq 25% of 135 Hz
- RSS of 105, 120, 150 & 165 Hz \leq 25% of 15 Hz

AZIMUTH ACCURACY:

- 15 Hz Peak Error \leq $\pm 8^\circ$
- 135 Hz Peak Error \leq $\pm 1.5^\circ$
- 135 Hz Peak Error (w/ Lightning Protection) \leq $\pm 3.0^\circ$

135 HZ CROSS-POLARIZATION ERROR ($\pm 45^\circ$ HORN TILT): Peak \leq $\pm 2.0^\circ$

15 HZ CROSS-POLARIZATION ERROR ($\pm 45^\circ$ HORN TILT): Peak \leq $\pm 5.0^\circ$

WARM-UP TIME: \leq 5 Seconds

AC POWER: 95 to 260 VAC, 1 Phase, 47 to 63 Hz

DC POWER: +22 to +58 VDC

SIZE: Antenna (with lightning protection): 73.5" H x 58" Dia.

WEIGHT: Antenna (with lightning protection): 117 lbs.

TEMPERATURE:

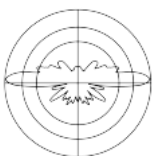
Antenna: -55° C to $+95^\circ$ C
ACU: -10° C to $+50^\circ$ C

RELATIVE HUMIDITY: 0% to 100%

ALTITUDE: 10,000 feet above sea level, maximum

LIGHTNING PROTECTION: Optional lightning protection (P/N: 2619535G001) provided via RF transparent lightning down conductor. Cantilevered off antenna pedestal.

INTEGRAL MONITOR: Provides BIT to LRU level. Issues antenna shutdown or maintenance alert depending on failure mode.



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