



SPECIFICATION SHEET

TACAN ANTENNA, SHORT APERTURE AS-4502/T (MODEL dBs 710)

dBs PART NUMBER 710001-10X



The dBs AS-4502/T all-band antenna has been adapted to the TACAN Navigation Set AN/TRN-41 to allow instantaneous operation on any of the 252 X and Y mode TACAN channels. The AS-4502/T antenna is the world's smallest, lightest, most versatile, full-service TACAN antenna in use today. It is completely man-portable and air-droppable for immediate deployment.

- This mechanically-rotating, direct-drive antenna provides all-band capability through the use of broadband radio frequency elements.
- The all-band antenna acts as both a receiving and transmitting antenna, radiating bearing, distance, and station identification signals to TACAN transponder-equipped aircraft.
- As a receiving antenna, it receives TACAN interrogation signals from aircraft and sends them to the ground beacon receiver-transmitter for processing.
- The dBs AS-4502/T antenna is 12" high and 30" in diameter.
- The Az. Monitor is 11" x 11" x 4".
- The dBs AS-4502/T antenna will work anywhere from -54° C to +71° C, 0% to 95% relative humidity, and from 0 to 13,100 ft. above sea level.

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SPECIFICATIONS/CHARACTERISTICS

TYPE: Mechanically scanned (rotating)

135 HZ AZIMUTH ERROR: $\pm 0.7^\circ$ RMS maximum

FREQUENCY RANGE: X & Y all band (962 to 1213 MHz TX & 1025 to 1150 MHz RX)

15 HZ AZIMUTH ERROR: $\pm 4.0^\circ$ RMS maximum

INPUT POWER REQUIREMENT: +24 VDC ± 6 VDC; 95 watts (running)

ORIENTATION (MAGNETIC): Better than $\pm 2^\circ$

TIME TO COME UP TO SPEED: Approximately 10 seconds

SIZE AND WEIGHT: 41 lbs. (18.65 kg) 30" Dia x 12" H

ROTATION SPEED: 900 RPM $\pm 0.015\%$

ANTENNA HEIGHT (TRIPOD ADJUSTMENT): From 3.0 to 5.0 feet (0.9 to 1.5 meters)

VSWR: 962 MHz to 1213 MHz < 2.0 to 1

HARMONIC CONTENT:

- 15 Hz Mod 2nd - 6th RMS Sum: <25%
- 135 Hz Mod 2nd - 6th RMS Sum: <15%

VERTICAL COVERAGE: Carrier main lobe between $+15^\circ$ and $+35^\circ$

SLOPE: >0.01 V/V/ $^\circ$ between -5° and $+5^\circ$

15 HZ PERCENT MODULATION: $21\% \pm 9\%$ from -2° to $+5^\circ$ elevation $20\% \pm 10\%$ from $+5^\circ$ to $+10^\circ$ elevation $\geq 5\%$ from $+10^\circ$ to $+30^\circ$ elevation

135 HZ % MODULATION: $24\% \pm 12\%$ from -2° to $+5^\circ$ elevation $2\% \pm 10\%$ from $+5^\circ$ to $+10^\circ$ elevation $\geq 5\%$ from $+10^\circ$ to 25° elevation

MODULATION VARIATION: < 4% from median value from -2° to $+5^\circ$

ENERGY BELOW HORIZON: < 25% of total energy radiated

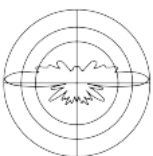
PEAK GAIN: +3.0 dB/isotropic radiator (minimum)

HORIZON GAIN: -1.0 dB/isotropic radiator (minimum)

135 HZ CROSS-POLARIZATION ERROR IN VICINITY OF HORIZON: $\pm 1.0^\circ$ RMS maximum

15 HZ CROSS-POLARIZATION ERROR IN VICINITY OF HORIZON: $\pm 3.0^\circ$ RMS maximum

CARRIER CIRCULAR PATTERN: Circular within $\pm 5\%$



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