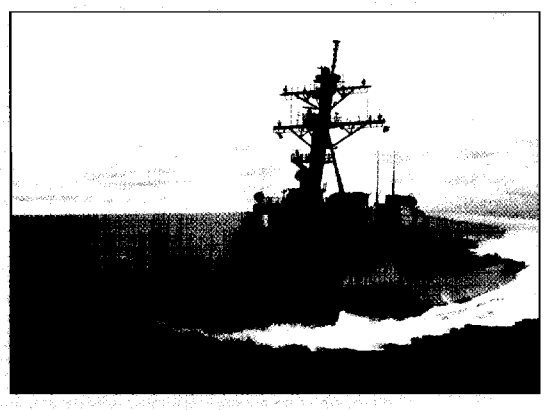
COMSAT RSI
Technical Products

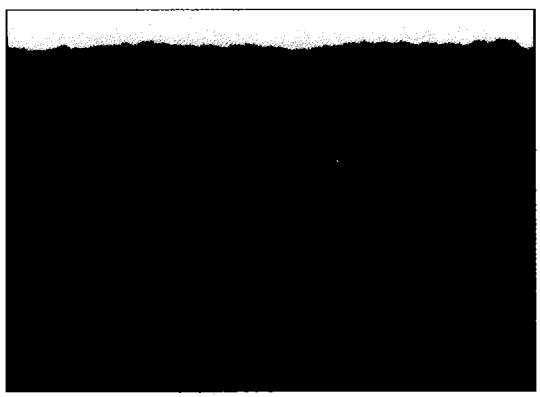
TACTICAL AIR NAVIGATION (TACAN) ANTENNAS

COMSAT RSI offers three TACAN Antennas, each designed for separate operating environments and operational missions.

OE-273A(V)/URN Electronically Scanned All-Band TACAN Antenna (Shipboard)

The OE-273A(V)/URN is a solid-state, high-performance TACAN antenna. It is electronically scanned and covers all 252 channels. This antenna is designed for shipboard mast-top installation and includes a detachable lightning arrestor, and a separately installed controller.



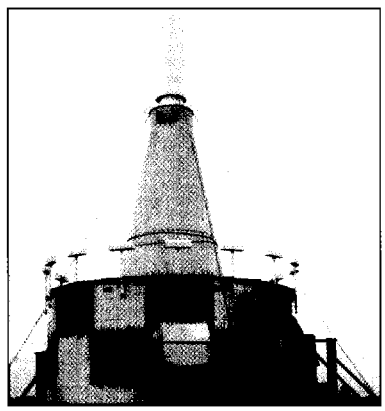


AS-3132B/T All-Band TACAN Antenna (Man-Portable)

The antenna, used with the AN/TRN-41, is a man-portable, air-droppable, solid-state miniature TACAN system that provides tactical teams or remote sites with a navigational aid system. It is mechanically scanned and covers all 252 channels.

FA-10369 Low-Power All-Band TACAN Antenna (Fixed Site) (Model 900A)

The Model 900A is an all-band TACAN antenna that can transmit and receive signals on all channels of the TACAN bands. Its low-power design increases system longevity and lowers operating costs.



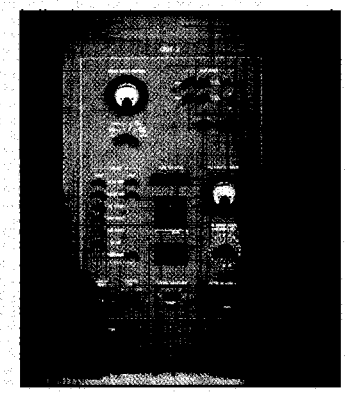
OE-273A(V)/URN Electronically Scanned (Shipboard) All-Band TACAN Antenna

The OE-273A(V)/URN is a solid-state TACAN antenna that electronically scans the entire X and Y modes. Two RF monitor probes, located on the counterpoise, sample the radiated output of the antenna for analysis by the control monitor circuits. The Control Indicator Unit contains operation and monitoring circuitry. The unit's weatherproof case contains two assemblies and a front panel with built-in test (BIT) indicators and status indicators. The installed Lightning Arrestor attaches to the antenna pedestal below the radiating area. The lightning arrestor is easily installed/detached from the pedestal.

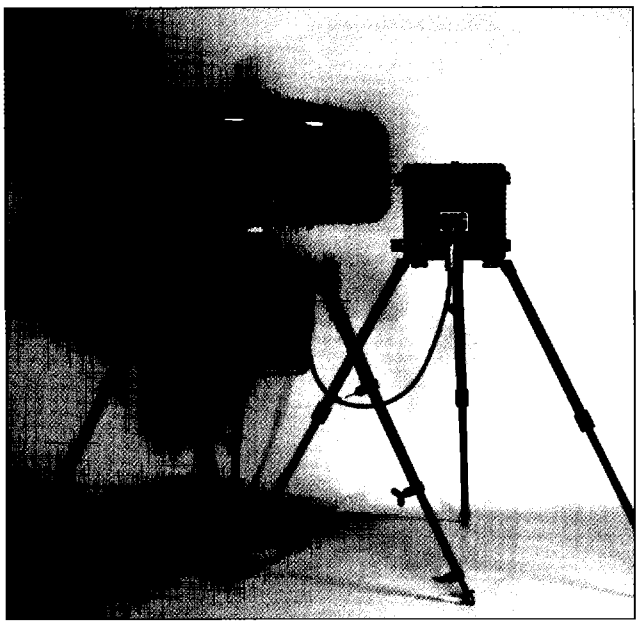
Features

- Instantaneous all band, 252 channel operation.
- Fully electronic digital solid-state design.
- Built-in monitoring of beacon and antenna functions.
- Built-in test.
- Qualified to MIL-E-16400 for shipboard use, including 95°C mast-top operation.
- RF Transparent Lightning Arrestor with demonstrated efficiency.
- Compatible with shipboard and shore station TACAN beacons.
- Can be adapted for use on land and for mobile applications.

Antenna (shown without lightning arrester)



Control Indicator Unit



All-Band Antenna With Azimuth Monitor

Instantaneous All-Band TACAN Antenna And Azimuth Monitor

Antenna AS-3132B/T

The AS-3132B/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. It is completely man-portable and air-droppable for immediate deployment.

Azimuth Monitor ID-2466/T

The azimuth monitor, ID-2466/T, is designed to be used with portable TACAN sets. The ID-2466/T monitors various parameters and automatically shuts down the AN/TRN-41 TACAN should the radiated signal be changed. The monitor also provides for the orientation/alignment of the antenna, pre-setting of beacon azimuth alarm limits and error indication when any monitored parameter is not within acceptable limits.

Features

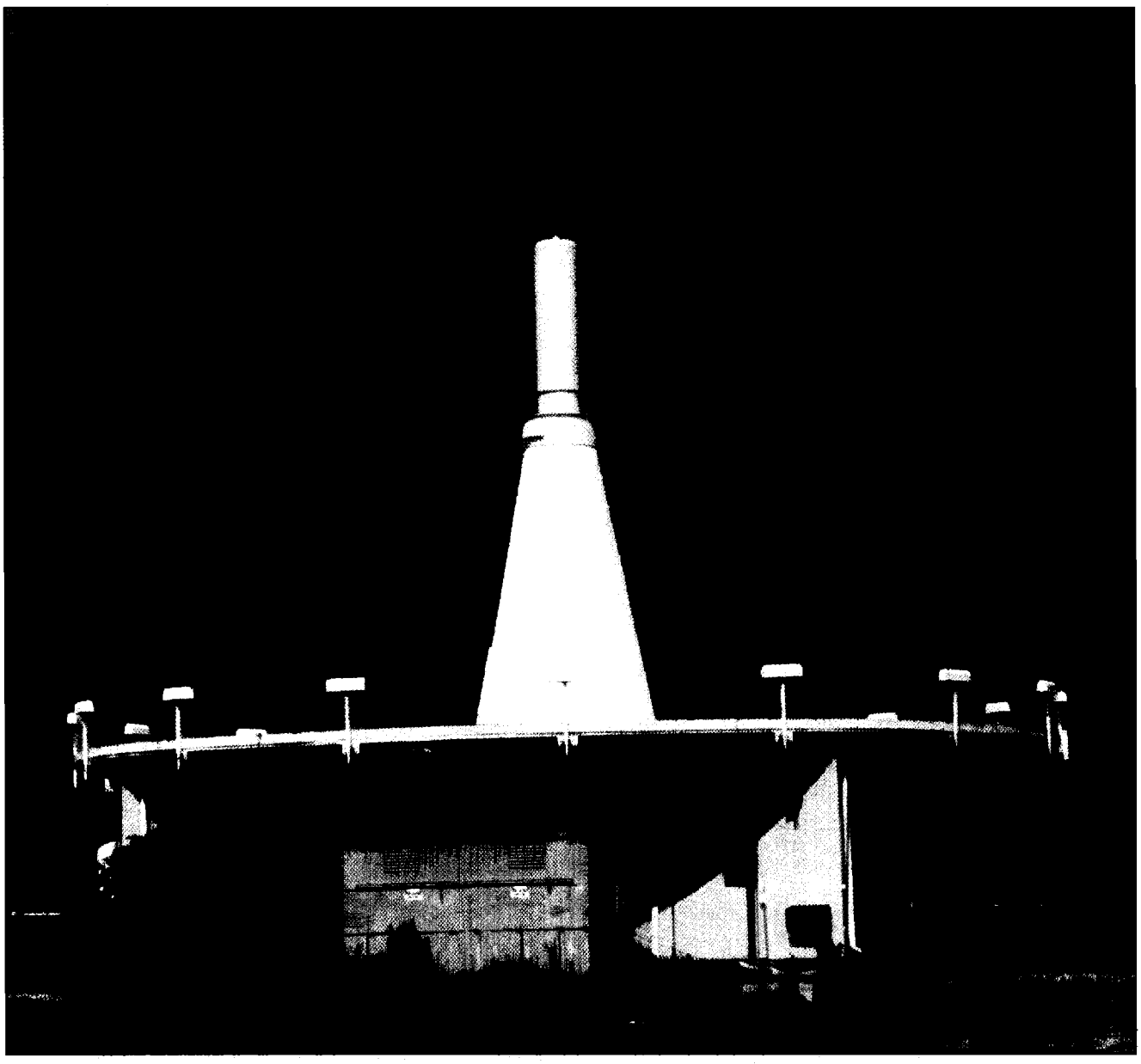
- Instantaneous all-band, 252 channels
- Easy to deploy and maintain
- Total weight is ~40 lbs
- Backpackable and air-droppable
- Low power to operate (~ 75 W)
- Brushless motor (high reliability, low RFI)
- ~15 minutes required for setup
- High reliability, greater MTBF due to state-of-the-art devices and advanced antenna design
- Meets USAF and NATO requirements

FA-10369 Low Power All-Band TACAN Antenna

The FA-10369 is a low power TACAN antenna intended for use with FA-9996 beacon equipment located at VORTAC sites. It is designed to replace existing TACAN antennas and provides a TACAN antenna which has greater reliability, ease of maintenance and requires substantially less power to operate than previous TACAN antennas. The antenna will operate at all 252 channels. The 900A will operate with existing monitor antennas. The 900A adapts easily to existing mounting configurations. The 900A will operate with any beacon equipment up to a power level of 5 kW peak.

Features

- Low power consumption
- Increased life span (20 years)
- Ease of maintenance through access ports
- FAA tested and approved for use
- Built-in test and fault isolation
- Reliable in extreme environments (-50°C to +70°C)
- 200 antennas scheduled for delivery to the FAA



TACAN Antenna Specifications

	OE-273A(V)/URN	AS-3132B/T	FA-10369
• Antenna Type	Electronically scanned	Mechanically scanned	Mechanically scanned
• Frequency	All 252 channels (X & Y bands)	All 252 channels (X & Y bands)	All 252 channels (X & Y bands)
• Power Consumption	150 W @ 115 VAC, 60 Hz and 400 Hz	Antenna: 75 W @ 24 ±6 VDC Az. Monitor: 5 W @ 24 ±6 VDC	460 W @ 115 VAC and 400 W @ 36 VDC
• RF Power Handling Capability	3 kW Peak	1 kW Peak	5 kW Peak
• VSWR	2.2:1 max.	2.0:1 max.	1.8:1 max.
• Impedance	50 Ω	50 Ω	50 Ω
• Polarization	Vertical	Vertical	Vertical
• Antenna Gain (Peak)	3 dBi min.	3 dBi min.	8 dBi min.
• Harmonic Content	Meets MIL-STD-291B	Meets MIL-STD-291B	Meets MIL-STD-291B
• Modulation	135 Hz: From 0° to +30°, 21 +12-14% and from -20° to 0° ≥ 7% 15 Hz: From 0° to +30°, 21 +9-10% and from -20° to 0° ≥ 7%	135 Hz: From -2° to +10°, 21 ±12% and from +10° to +25° ≥ 5% 15 Hz: From -2° to +10°, 21 ±9% and from + 10° to +30- ≥ 5%	135 Hz: From -2° to +20°, 21% + 14-9%, 20° to 40° Specification varies depending on frequency range 15 Hz: From -2° to 40°, 21 ±9%
• Combined Cross-Polarization Error (135 & 15 Hz)	2° RSS	2° RSS	1° RSS
• Combined Azimuth Accuracy (135 & 15 Hz)	±1.5° max. ± 3° max. with lightning arrestor	±2.0° max.	±2.0° max.
• Weight	Antenna - 111 lbs. Control Indicator - 112 lbs.	Antenna - 40 lbs. Az. Monitor - 8 lbs.	Antenna - 330 lbs. ACU - 65 lbs.
• Size	Antenna - 22" high, 52.8" diameter Control Indicator - 33.6" x 20" x 16"	Antenna - 12" high, 30" diameter Az. Monitor - 11" x 11" x 4"	Antenna - 118" high, 35" diameter ACU - 12 1/4" x 19" x 16.5"
• Temperature (Operating)	Antenna: -28°C to +95°C Control Indicator: 0°C to +50°C	Antenna: -54°C to +71°C Az. Monitor - -54°C to +71°C	Antenna: -50°C to +70°C ACU - -10°C to +50°C
• Relative Humidity	0 to 95%	0 to 95%	0 to 95%
• Altitude	N/A	0 to 13,100 ft above sea level	0 to 10,000 ft above sea level

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