THREAT SIGNAL GENERATOR
MTS – 300A

DESCRIPTION

Airco Republic Products MTS-300A second generation Threat Signal Generator, incorporates the latest technology and advanced features for complete “end-to-end” system checkout using radiated threats for verification of antenna to cockpit display operation. Fault isolation can also be accomplished by utilizing the MTS-300A in its direct connect mode with its supplied RF cable and adapters for flight line troubleshooting.

MTS-300A Operational Summary

• The MTS-300A is a portable battery powered 24lb. Self-contained unit that can be used to do a full walk around sweep of the aircraft in several minutes during pre-flight checkout of individual antenna inputs and AOA determination.

• Over 17,000 RF threat frequencies can be programmed in 3 bands from 0.7 to 18 GHz with 4500 additional threat frequencies available in an optional band 4 with coverage from 26.5 to 40 GHz.

• The unit can be used in AUTOMATIC MODE for testing RWR’s and RWR/ECM interaction by radiating up to 20 threats in a preprogrammed scenario. The MTS-300A can also be used in its MANUAL MODE for single threat transmission and signal variation.

• Sufficient radiated power at 20ft. To test crystal video RWR’s

• A direct connect port supplies a minimum of +10 dBm with the internal attenuator setting programmed to 0 dB attenuation. This feature allows for testing aircraft cables and RWR sensitivity.

• Incorporated into the Test Set is a “POWER SAVE” feature that turns the treat signal generator off when no keyboard activity is detected over a period of time. The “BIT MODE” performs testing in each band. Should one band be out of service, the remaining bands will function as normal.
MTS-300A System Features

- AUTOMATIC MODE: Allows one person flightline testing and complete checkout of system.
- 4-6 hour flightline battery operation.
- Approximately 24 lbs. for easy walk-around testing.
- Built-in Test for high confidence level of equipment.
- Removable PCMCIA threat storage card for easy security storage.
- Large wide viewing angle display for monitoring several parameters simultaneously.

MTS-300A Standard Accessories

- PC compatible threat programming software.
- External battery eliminator.
- Two rechargeable battery assemblies with integral charging system.
- Transit case.
- Shoulder and carry strap.
- External RF cable and adapter kit.
- Technical manual with operation and maintenance instructions.
- PCMCIA storage card.

MTS-300A Optional Accessories

- Optional millimeter wave band from 26.5 to 40 GHz.

MTS-300A PERFORMANCE CHARACTERISTICS

- Microprocessor controlled with built-in keyboard and user friendly menu driven software.
- Comprehensive Built-In-Test (BIT) of every band.
- RS-232 port for programming threats from a PC or for remote operation.
- Security password coded for user multi-level authorization.
- Four to six hour flightline battery operation with ENERGY SAVER MODE that monitors keyboard activity and battery low indicator.
- Pulse or CW operation.
- Fully automatic “smart” battery charger for maximum battery life.
- Continuous frequency coverage from 0.700 to 18 GHz with .001 GHz steps in three bands.
- Optional band coverage from 26.5 to 40 GHz in .003 GHz steps.
- Two simultaneous RF emitters for multi-threat transmission.
- RADIATE or DIRECT CONNECT MODES.
- Built-in programmable 50 dB attenuator for both RADIATE and DIRECT CONNECT MODES.
- Programmable scenarios with up to 20 threats per scenario on a front panel removable PCMCIA card for security.
- Automatic mode with programmable transmit duration time.
- Programmable pulse parameters including width, PRI, stagger, jitter, and coded pulse spacing.

- Programmable simulated antenna beam widths from 0 to 10 degrees.
- Programmable simulated SCAN types with programmable Dynamic Range:
  - Circular Scan
  - Conical Scan
  - Spiral Scan
  - Raster
- Programmable Track While Scan (TWS) types with programmable depth:
  - Uni-Directional Horizontal Scan
  - Bi-Directional Horizontal Scan
  - Uni-Directional Vertical Scan
  - Bi-Directional Vertical Scan
- Programmable Inter-Pulse Modulation (CHIRP).

Operating Conditions

- Battery Life: Up to 6 hrs.
- Environment: -20 to +50°C operating
  -40 to +55°C storage
- Input Power: Battery Charger/Eliminator Nominal: 115 VAC 45 to 440 Hz
  220 VAC 45 to 66 Hz
  Auto Switching

Physical

- Weight approx. 24 lbs.
- Size approx. 16W x 13H x 11D inches.