



TTG-7000 TCAS/TRANSPONDER TEST SET

The TTG-7000 TCAS/Transponder Test Set is a RF Signal Generator Designed for Testing of TCAS (Traffic Alert and Collision Avoidance System) and Transponder Hardware and Software.

The TTG-7000 Test Set Supplies a 10.4 Inch Touchscreen LCD Display for Operator Control of all Test Set Capabilities. The TTG-7000 can be Remotely Controlled Via either GPIB, LAN, RS-232 or USB.

The TTG-7000 Test Set can be Used Throughout the Development Cycle, from Engineering Hardware and Software Validation Testing to Manufacturing Tests.

Features:

- Simulates 32 Dynamic/400 Static Intruders
- ADS-B Squitters
- Four Port Antenna Simulation
- Hybrid Surveillance
- DO-181, 185, 260, and 300 testing.
- Six Independent Transmitters
- TX/RX Data Logging Capability
- Data Parsing for Analysis
- Pulse and Frequency Measurement
- USB/GPIB/Ethernet Interface



Transmitter Specifications:

Frequency

Range: 962 – 1213 MHz
Resolution: 100 KHz
Accuracy: +/- 10KHz

Power

Range: -10 to -90 dBm per Element
Resolution: 1 dB
Accuracy: +/- 1 dB
Port: Top (4 Elements)
Bottom (4 Elements)
Any Individual Element

Calibrated at 1090, 1030, and 978 (UAT unit)
Calibration performed on top/bottom (All ports)

Pulse Modulation

Accuracy: +/- 0.05 uSec
On/Off Ratio: > 80 dB
Rise/Fall Time: Normal (<100 nS)/Slow (600 nS)
External Pulse Modulation

Phase Simulation

Range: 0 to 359 °
Resolution: 1°
Accuracy: Typical <+/- 1°, max +/- 3°
(4 Port Simulation)

Range Simulation

Range: 0 to 150 NMI
Resolution: 12.5 Feet
Accuracy: +/- 25 Feet

Velocity Simulation

Range: +/-2000 Kt/Hr
Resolution: 1 Kt/Hr
Accuracy: +/- 1 Kt/Hr

Vertical Speed Simulation

Range: +/-32608 Ft/Min
Resolution: 64 Ft/Min
Accuracy: +/- 64 Ft/Min

Altitude Simulation

Range: -1000 to 126700 Feet
Mode: Gilham and 25 Feet
Resolution: 25/100 Feet up-to 50175 Ft
100 Feet above 50175 Ft

Receiver Specifications:

VSWR

< 1.4

Max Input Power

+57 dBm

Internal Antenna Simulation

1030 Receiver with BPSK Demod

1090 Receiver

Dynamic Range: 40 dB

Dual Receiver: Top/Bottom

Power Measurement

Range: +17 to +57 dBm
Resolution: 0.1 dB
Accuracy: 1 dB

Relative Phase Measurement

Range: 0 to 359 degrees
Resolution: 1 degree
Accuracy: +/- 4 degree

Frequency Measurement

Resolution: 1 KHz
Accuracy: 1 KHz
Using Special Test Mode

Pulse Characteristic Measurement

Resolution: 10 nS



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**ISO 9001-2000
Certified**

www.a-tg.com

Front Panel Menus:

Receiver Screen

UUT and Test Set Signals:

- UF Interrogations
- DF Replies
- ATCRBS Interrogations
- ATCRBS Replies

Data Logging Capability

Timestamp: 25 nSec Resolution

Signal Trapping Capability

User and Pre-Defined Trap Mask

Transmitter Screen

Signals: UF Interrogations
DF Replies
ATCRBS Interrogations
ATCRBS Replies

Transmit Sequence

Reply File Sequence

Special Transmit Sequences

TCAS ADSB Screen

Dynamic Intruder: 32
Static Intruder: 400

ADS-B Intruder Simulation

Intruder Information Entry:

- Range/Bearing/Altitude
- Latitude/Longitude/Altitude

Range Offset

Phase Noise and BIAS

Own Aircraft Information

Hybrid Surveillance/BDS Register

ATCRBS Fruit

Display Screen

Displays Intruders

ATE Line Screen

Display Decoded ATE Line Messages

Transponder Screen

- % Reply
- Interrogation Message Selection
- Interference Testing
- Suppression Out
- Antenna Diversity

Software Interface:

- Command Set
- USB 2.0
- Ethernet
- GPIB
- RS-232
- Web Server
- GPIB Commands Emulation
- User Applications (On request)

Interfaces:

- Suppression Bus (Front/Back)
- ATE Lines (Front/Back)
- 429 Tx/Rx (Front/Back)
- Two Scope BNC Outputs (Front /Back)
- LAN (Front/Back)
- USB Type B Control (Front)
- 2 USB Type A (Front) for HID/Flash Drives
- 6 External Pulse Modulation Inputs (Back)
- Top/Bottom Receiver Coupled Outputs

Physical Characteristics:

- Power:** 115/230 VAC, 50/60 Hz
- Height:** 10.5 inches
- Width:** 19 inches
- Depth:** 16.5 inches
- Weight:** 28 lbs



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