

12-602-8 Antenna & Cable Analyzer



Antenna & Cable Analyzer 12-602-8

- Frequency range from 100 kHz to 3.6 GHz
- Built-in DC voltage supply (bias) for active components such as amplifiers
- Saving of measurement results on SD memory card or USB memory stick
- Easy operation with user-configurable test sequences (wizard)
- Easy-to-replace Li-ion battery for up to 4.5h of operation
- Rugged, splash proof housing for work in the field
- Easy handling due to low weight (3kg with battery) and easy-to-reach function keys
- Different language options



The 12-602-8 is a rugged, handy cable and antenna analyzer designed for use in the field. Its low weight and simple operation make it indispensable for anyone who needs an efficient measuring instrument outdoors for the installation and maintenance of antenna systems.

Specification

System Comprises of:

- Cable and Antenna Analyzer
- Combined Open/Short/50Ω Load Calibration Standard
- Hard Transportation Case
- Series 6 interseries adapter kit (N, BNC, TNC & SMA)
- 2m N-type male N-type male RF Cable



Frequency range	100 kHz to 3.6 GHz
Standard measurement functions	reflection measurement / distance-to-fault measurement / one port cable loss measurement
Output Power (port1, port 2)	0 dBm to -40 dBm (nominal), in 1 dB steps
Maximum permissible spurious signal level	+17 dBm (nominal)
Number of points	101, 201, 401, 601, 631, 801, 1001, 1201

Distance to fault (DTF) measurement

Display modes	return loss (dB), VSWR
Resolution in meters	(1.58 x velocity factor/span)
Horizontal display range	3 m to 1500 m

Reflection measurement

Directivity	100 kHz to 3 GHz (nominal) >43 dB (nominal)
	3 GHz to 3.6 GHz >37 dB (nominal)
Display modes	S_{11} , return loss (dB), VSWR, one-port cable loss

General data

Display	6.5" colour LCD with VGA resolution
Battery operating time	4.5 Ah up to 3h
Dimensions (W x H x D)	194mm x 300mm x 69mm (144mm)
Weight	<3kg

Supplied

Li-ion battery pack (4.5AH)	USB Cable
LAN Cable	Plug-in power supply
CD-Rom ZVH Viewer Software	Quick Start Guide

Optional Extras

Li-ion 4.5 AH Spare Battery	Li-ion 6.75AH Extended Life
Carrying Holster Chest Harness & Raincover	
Battery Charger	

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12-406 Homing Test Set



- Checks angular displacement and sensitivity of all current homing and DF equipment/systems
- Versatile operation for quick and easy systems
- Compact, lightweight instrument in portable shower-proof metal case
- Powered by fully rechargeable batteries

With access to the antennas for either homing or DF systems, the Homing Test Set Model 12-406 can quickly and easily check the correct functioning of the equipment.

By simply selecting any one of the relevant distress frequencies 121.5MHz, 156.8 MHz, 243MHz the Homing Test Set simulates a beacon at 0°, 22.5° or 45° both left and right.

Sundry test frequencies of 121.65, 156.3 and 243.3 MHz may also be selected together with varying input levels. Replaceable phase links ensure that systems with varying antenna spacing may also be checked and a look-up table of left/right sensitivity with channel frequency is provided. Battery recharging is by simple connection to a 28V DC line supply.

Specification

Output Power

-90dBm (10uv) divided equally between two antenna connectors.

Frequencies

Distress	Test
121.5	121.65
156.8	156.3
243	243.3

Angular Displacement Relative to 243 MHz Ahead

1/2 f.s.d.	22.5° left or right
f.s.d.	45° left or right

Antenna spacings of 305mm or 508mm are selectable by appropriate phase link.

Battery Operating Life

5 hours

Battery Charger Supplies

Charge current 28V DC input <200mA

12-500-5 PLB/ELT(s) Test Set

Specification

406 Mhz Measurements
Measure all Cospas-Sarsat Frequency Channels Decode all Cospas Sarsat
Protocols UIN & Full HEX

Power	± 1 dB
Power Rise Time	± 0.5 ms
Phase Modulation	± 0.04 rad
Modulation Rise and Fall Times	± 10 us
Modulation Symmetry	± 0.005
Modulation Bit Rate	± 0.2 bps

121.5 MHz Measurement

Frequency (using EXT REF, resolution = 100Hz)	± 11 Hz
Peak Power	± 1.5 dB
Modulation Factor	± 5%

Miscellaneous

Range (using internal antenna)	406 MHz	<10m
	121.5 MHz	<3m
RF Input VSWR		1.10:1
RF Input Level	406 MHz Burst	-16 dBm Min
		+40 dBm Max
	121.5 MHz Burst	-30 dBm Min
		+27 dBm Max
Operating Temperature Range		0°C to +50°C
Storage Temperature Range		-20°C to +60°C
RF Input Cable Termination		BNC Female
10 MHz REF Cable Termination		SMA Female
Dimensions		82.2 (3.24)
		x 147.3 (5.80)
		x 19 (0.75)



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12-503-1 ELT Test Set

Specification

406 Mhz Measurements
Measure all Cospas-Sarsat Frequency Channels Decode all Cospas Sarsat
Protocols UIN & Full HEX

Power	± 1 dB
Power Rise Time	± 0.5 ms
Phase Modulation	± 0.04 rad
Modulation Rise and Fall Times	± 10 us
Modulation Symmetry	± 0.005
Modulation Bit Rate	± 0.2 bps

121.5 MHz Measurement

Frequency (using EXT REF, resolution = 100Hz)	± 11 Hz
Peak Power	± 1.5 dB
Modulation Factor	± 5%

Miscellaneous

Range (using internal antenna)	406 MHz	<10m
	121.5 MHz	<3m
RF Input VSWR		1.10:1
RF Input Level	406 MHz Burst	-16 dBm Min
		+40 dBm Max
	121.5 MHz Burst	-30 dBm Min
		+27 dBm Max
Operating Temperature Range		0°C to +50°C
Storage Temperature Range		-20°C to +60°C
RF Input Cable Termination		BNC Female
10 MHz REF Cable Termination		SMA Female
Dimensions		82.2 (3.24)
		x 147.3 (5.80)
		x 19 (0.75)



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12-503-5 Programming Test Set



Specification

A portable test set designed to analyse and reprogram the COSPAS/SARSAT message embedded in the 406MHz distress signal.

The Test Set comprises a programming unit, a keyboard and a programming cable set. All are contained in a sturdy moulded, weatherproof case.

The unit can be used to program the following Techtest products:

- 500 Series Personal Locator Beacon
- 503 Series Emergency Locator Transmitter
- 15-503-134 Series Crash Position Indicator

Operating Temperature range: 0°C to +50°C

Storage Temperature range: -20°C to +70°C

Variable contrast control

Mains (240V) or internal re-chargeable battery operation

Dimension (case) 361mm x 290mm x 165mm



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Electrostatic Discharger Test Set Model 12-612



Electrostatic Discharger Test Set

Model 12-612

- Tests all types of electrostatic dischargers
- Utilise latest surface mount techniques for high reliability
- Both 1000v and 500v operation
- Insulation range 0-1000 MΩ
- Continuity 0-100Ω with buzzer
- Unique analogue/digital display
- Showerproof simulated leather case

General Description

The Electrostatic Discharger Test Set Model 12-612 is designed to test all types of aircraft electrostatic dischargers. Utilisation of the test set reduces maintenance costs and ensures a far higher standard of aircraft electrostatic reliability.

Of lightweight rugged construction, incorporating latest surface mount techniques for high reliability and minimal maintenance, the Electrostatic Discharger Test Set Model 12-612 can be used in the most stringent environments.

A unique analogue/digital display ensures swift, accurate measurement even in the most awkward of aircraft environments. The unit is supplied complete with simulated leather shower proof case.

Description of Operation

Of paramount importance in testing electrostatic dischargers is correct electrical resistance between discharger tip and aircraft airframe.

Some composite carbon tip electrostatic dischargers can prove difficult to measure with standard instrumentation; the model 12-612 overcomes these problems by utilising unique adaptors within the accessories of the test set. In all cases measurement of resistance is a simple straight forward procedure, ensuring minimal maintenance time.

Specification

INSULATION RANGE

Nominal Test Voltage (DC)	500V and 1000V
Insulation Resistance Range	0.01MΩ to 1000MΩ (all instruments and all test voltages)
Terminal Voltage on Open Circuit (DC)	-0% +25% of rated voltage
Short Circuit Current	210mA
Accuracy (at 20°)	0.01 - 9.99Ω ±3% or ±2 digits 10-99.9Ω ±5% or ±2 digits
Response Time	1.5s for full scale (i.e. 1000MΩ)

RESISTANCE RANGE

Resistance	0.01 - 100Ω
Terminal Voltage on Open Circuit	4V min
Short Circuit Current	210mA Nominal >18mA (10-100Ω)
Accuracy (at 20°)	0-10MΩ ±3% or ±2 digits 10-100MΩ ±5% or ±2 digits 100 - 1000MΩ ±30%
Zero Offset	0-9.99Ω
Response Time	2s to full scale