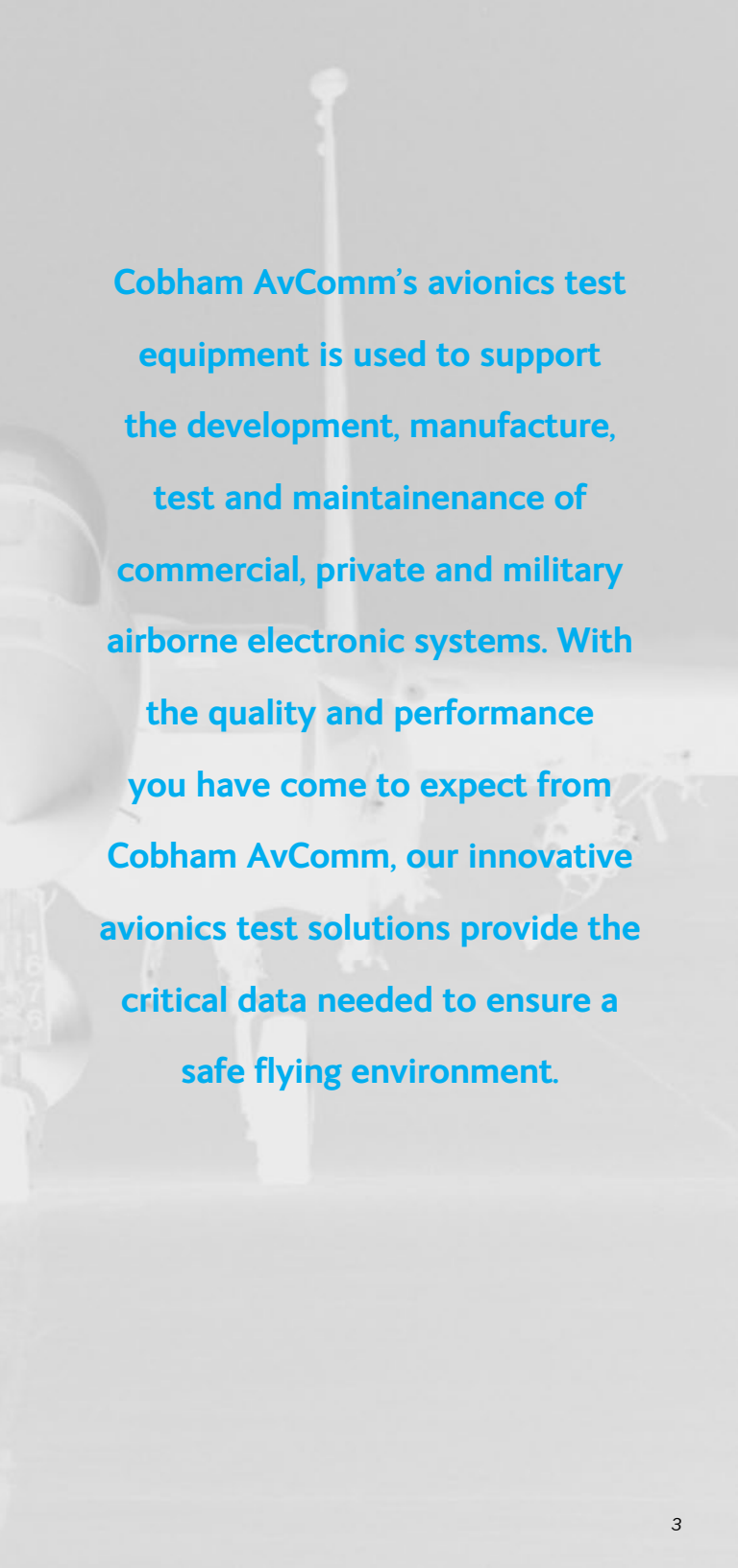
COBHAM

Cobham AvComm

Avionics

Test Equipment



Cobham AvComm's avionics test equipment is used to support the development, manufacture, test and maintainenance of commercial, private and military airborne electronic systems. With the quality and performance you have come to expect from Cobham AvComm, our innovative avionics test solutions provide the critical data needed to ensure a safe flying environment.

Contents

For the latest list and technical specifications of Cobham AvComm products, please visit

www.cobham.com/avcomm

IFR4000

Nav/Comm Flight Line Test Set

The IFR4000 verifies the operation and installation of ILS, VOR and Marker Beacon receivers and VHF/UHF AM/FM and HF AM/SSB transceivers. The menu driven functionality and guided test capability make this instrument extremely easy to use.

Key Features

- Most portable, ergonomically designed, Nav/Comm ramp tester available
- Guided test capability cuts down total test time
- Low cost ELT option
- Frequency counter provides external frequency measurement
- Generation of ARINC 596 Selective Calling Tones
- MORSE CODE provides 1-4 characters transmitted in the VOR and ILS localizer mode

Key Applications

- Support for ramp or bench environment via over-the-air or direct connection
- Measurement of VHF/UHF transmitter, frequency, output power, modulation (AM and FM and receiver sensitivity)
- Measurement of HF transmitter, frequency, output power, modulation (AM and SSB USB/LSB) receiver sensitivity
- Accurate measurement of HF/VHF/UHF antenna and or feeder SWR (Standing Wave Ratio)
- Simulation of Localizer and Glideslope (CAT I, II and III Ground Station) Signals with variable DDM settings

ATB-7300

Nav/Comm Test System

The ATB-7300 Nav/Comm Test System is a configurable platform designed for avionics test. It has multi-system test capability as a stand-alone instrument or in a system ATE configuration.

Standard Features

- Tests ILS / VOR / MKR / ADF and VHF COMM functions, including SELCAL
- Large touch screen color display
- Compatible with Aeroflex NAV-2000R and Collins 479S-6A GPIB command sets

Optional Features

- 250 kHz to 3 GHz spectrum analyzer with custom analysis tools for RF avionics applications (includes VHF Comm TX and DME TX analyzer)
- 406 MHz COSPAS / SARSAT Beacon (ELT) test
- VHF Comm TX and DME TX analyzer

ALT-8000

FMCW/Pulse Radio Altimeter Flight Line Test Set

The ALT-8000 provides an easily configurable RF-based altitude simulation to quickly test an installation, or direct-connect to the Line Replaceable Unit (LRU) for additional troubleshooting capability. A large color touch-screen displays parametric measurements and allows for detailed profiles to be set up to emulate actual airborne conditions.

Features

- Tests FMCW radio altimeters including analog CDF types
- Tests pulse radio altimeters (non-pulse compression types) - For military applications, see ALT-8015
- Direct-connect to UUT T/R or to installed system via antenna couplers
- Ratio-metric RF loop test allows TX, RX, antenna or feeder faults to be identified
- Programmable multi-leg climb/descend profiles
- Remote control interface (Ethernet)
- Battery 4 hours plus duration
- Software upgradeable

Key Benefit

Unlike other testers, the ALT-8000 tests from the antenna to the indicator in the cockpit, allowing the operator to replicate in-flight conditions and isolate a bad component of the installed system.

ALT-8015

FMCW/Military Pulse Radio Altimeter Flight Line Test Set

The ALT-8015 provides an easily configurable RF-based altitude simulation to quickly test an installation, or direct-connect to the Line Replaceable Unit (LRU) for additional troubleshooting capability. A large color touch-screen displays parametric measurements and allows for detailed profiles to be set up to emulate actual airborne conditions.

Features

- Tests military pulse radio altimeters: AN/APM-171(V), AN/APN-194(V) and AN/APN-209(V), including LPI variants
- Tests FMCW radio altimeters including CDF types - For commercial applications, see ALT-8000
- Fast detector for tracking LPI radio altimeters with TX power management
- Direct-connect to UUT T/R or to installed system via antenna couplers
- Ratio-metric RF loop test allows TX, RX, antenna or feeder faults to be identified
- Programmable multi-leg climb/descend profiles
- Remote control interface (Ethernet)

Applications

- Terrain Awareness Warning System (TAWS) installations
- Create profiles to control dynamic altitude simulations
- Simulate a takeoff/departure and complete landing approach, including a flare out
- Replicate actual airborne conditions

APM-424(V)4 and APM-424(V)5

Interrogator/Transponder Flight Line Test Set

The APM-424(V)5 is a performance and capability upgrade to the TS-4530 and APM-424 legacy test sets. The unit closely replicates legacy operation for utilization of existing procedures, making the APM-424(V)5 a cost effective, highly accurate upgrade to fielded test sets.

- DoD AIMS 03-1000A Mark XIIA certified
- Supports DoD AIMS 04-900A Option A - KIV-78 & QRTK6 NG (with Airbus DS QRTK6 NG adapter) and Option B - KIV-77 & SIT-2010 crypto appliqués
- Transponder Test Modes 1, 2, 3/A, C, S (EHS/ELS), 4, Mode 5 (Level 1 and 2)
- Interrogator Test Modes 1, 2, 3/A, C, S, 4, Mode 5, TCAS, ETCAS (Level 1 and 2)
- DO-260B compliant; ADS-B Out test capability
- Accurate GPS time/date acquisition (via GPS antenna, crypto or manually)
- Hand-held and battery powered
- Self-diagnostic, point and shoot Go/No-Go operation
- Parametric test results can be stored for downloading to a PC for review or maintenance logging

EXPORT CONTROL:

This product is controlled for export under the International Traffic in Arms Regulations (ITAR). A license from the U.S. Department of State is required prior to the export of this product from the United States.

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IFR6000

Flight Line Test Set

The IFR6000 is a compact, lightweight and weatherproof unit designed for testing MODE A/C/S transponder, DME, TCAS I and II, 1090 MHz ADS-B and 978 MHz UAT systems.

- Individual test modes: Mode S, ATCRBS Transponder, DME, TCAS, TIS, ADS-B MON/ ADS-B GEN (DO-260A/B),978MHz UAT
- Large keys for gloved operation
- Lightweight and compact at 8 lbs.
- Battery operation 6 hours plus between charges
- Fully FAR part 43 appendix F compliant
- Transponder Auto-Test / data dump of transponder test results to PC
- Elementary and Enhanced Surveillance parameters (DAP's)
- Comprehensive GICB test
- Configuration files for different classes of transponders
- Comprehensively tests any DME channel including track sensitivity
- User selectable TCAS scenarios
- Over-the-air or direct-connect operation
- Parametric measurements including TX power and frequency
- Optional ADS-B capabilities are DO-260A/B compliant
- Optional TCAS and 978 MHz UAT capability
- Optional testing using UC-584 Coupler

IFR6015

Military Flight Line Test Set

The IFR6015 is a compact, lightweight and weatherproof unit designed for testing Modes 1, 2, 3/A, C, S transponder, DME, TCAS, ADS-B, TIS, military E-TCAS and TACAN avionics systems.

- Individual test modes: Transponder Modes 1, 2, 3A, C and S, DME, TCAS, E-TCAS, TIS, ADS-B MON/ ADS-B GEN, TACAN
- Large keys for gloved operation
- Lightweight and compact at 8 lbs.
- Battery operation 6 hours plus between charges
- Fully FAR part 43 appendix F compliant
- European Elementary and Enhanced Surveillance
- TACAN and IFF Modes 1 and 2
- Emulates preset modes of TACAN Test Sets Generic DoD, AN/ ASM-663, AN/ARM-184, Bradley 2650 & 2655
- Transponder Auto-Test / data dump of transponder test results to PC
- Comprehensive GICB test
- Configuration files for different classes of transponders
- Comprehensively tests any DME channel including track sensitivity
- TCAS fast scenario feature uses Auto Altitude and Converge to ensure automatic collision at zero range
- Over-the-air or direct-connect operation
- Parametric measurements including TX power and frequency
- Optional ADS-B capabilities
- Optional testing using UC-584 Coupler

IFF-45TS

MK XIIA/TACAN Bench Test Set

The IFF-45TS test set provides RF signal generation and parametric measurement of MK XIIA and TACAN equipment. Replies and interrogations can be individually configured to support testing requirements. ADS-B Out testing monitors ADS-B, TIS-B, ADS-R and acquisition squitters. The IFF-45TS emulates either a TACAN ground transponder or a TACAN airborne interrogator, providing six TACAN test modes.

- MK XIIA AIMS certified for Level 1 and Level 2
- Supports DoD AIMS 04-900A, Option A: KIV-78 & QRTK6 NG (with Airbus DS QRTK6 NG adapter) and Option B: KIV-77 & SIT-2010 crypto appliqués
- Dual I/O for diversity testing of transponders or SUM/DIFFERENCE on interrogators
- Software defined radio design allows waveform flexibility and future growth potential
- Dual signal generator design allows coordinated signal production for interference and echo testing
- Remote interfaces consist of RS-232, Ethernet and GPIB
- Graphical User Interface (GUI) allows easy access to test features
- Test ranges of up to 3 km with appropriate antennas

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ATC-5000NG

NextGen ATC/DME Test Set

The ATC-5000NG is an RF signal generator/receiver for testing Mode 3/A, C and S transponders. The ATC-5000NG was designed with modern software defined radio technology and is the replacement product for the commercial functionality of the SDX-2000, ATC-1400A and S-1403DL.

- Generates ATCRBS/Mode S interrogations
- Software defined architecture supports legacy and NextGen transponders
- 10.4 inch touch screen LCD display for operator control
- Can be remotely controlled via GPIB or Ethernet
- Legacy command sets supported:

  - SDX-2000 (option)
  - ATC-1400/S-1403DL (future option)

- Support for current standards:

  - ATCRBS/Mode S, DO-181E
  - ADS-B, DO-260, DO-260A, DO-260B
  - UAT, DO-282B (option)

- DME (option)
- Multi-Receiver test capability (option)
- TX/RX data logging capability
- Full diversity testing capability
- Enhanced measurement capabilities
- Supports interrogation tables and block transmissions
- Enhanced single and double interrogation modes
- Contains six transmitters

RGS-2000NG

NextGen TCAS Test Set

The RGS-2000NG TCAS Test Set is an RF signal generator/ receiver for testing TCAS (Traffic Alert and Collision Avoidance Systems) with an option available for testing transponder LRUs. The RGS-2000NG was designed with modern software driven digital modulation technology and is the RGS-2000 replacement for engineering development, design validation, manufacturing and return-to-service testing.

- 10.4 inch touch screen LCD display for operator control
- Can be remotely controlled via GPIB or Ethernet
- Legacy command set supported for RGS-2000
- Support for current standards:
  - TCAS, DO-185A, DO-185B
  - ADS-B, DO-260, DO-260A, DO-260B
  - TCAS II Hybrid Surveillance, DO-300
  - ATRCRBS/Mode S, DO-181E (option)
- Simulates up to 32 dynamic and 568 static intruders
- Transponder test capability for Modes 3/A, C and S (option)
- ADS-B squitter encode/decode
- Four port antenna simulation
- Contains six transmitters
- Enhanced measurement capabilities
- TX/RX data logging capability

UC-584

Universal Transponder Antenna Coupler

Used with IFR 6000/6015
Flight Line Test Set

The UC-584 is designed to solve the problem of reliable FAR Part 43 Appendix 'F' ERP (Effective Radiated Power) and transponder MTL (Minimum Trigger Level) testing in the high multi-path ramp and hangar environments. The antenna coupler mounts directly over the aircraft's transponder antenna and is retained in place with a toggle action grip.

The UC-584 can be connected to the Cobham AvComm IFR 6000/6015 direct-connect port.

- Reliable FAR Part 43 Appendix 'F' ERP and MTL testing in high multi-path environments
- Provides >20 dB of antenna isolation for Mode S transponder altitude and diversity tests
- <1 dB repeatability
- Rugged design for ramp use
- Fits most 'Shark Fin' L-Band antenna's
- Quick action antenna grip/release action
- Single and dual antenna coupler kits available

IFF-7300S Series

IFF/Crypto/TACAN
Automated Test System

The IFF-7300S Series is a powerful computer based system designed for the test and diagnosis of military avionics, including IFF transponders, interrogators, cryptos, and TACAN transceivers.

Aircraft emulation and test setup

The IFF-7300S contains all required resources and emulates all necessary signals that the aircraft exerts on the unit under test (UUT).

- No need for an external power supply
- The radio is completely set up and ready for full testing

Test modes

- Automated return-to-service testing (Level 1)
- Automated module level diagnostics (Level 2)
- Manual mode testing using Cobham AvComm's proprietary Virtual Panel application software.

Individual Test Program Sets (TPS's) are available for each LRU. The IFF-7300S system is expandable. To add test capability, simply buy additional TPS's.

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RF Expansion Module

for Spherea ATEC® Series 6 ATE

The RF Expansion Module (RFEM) is designed to support testing of airborne RF components on the ATEC® Series 6 ATE. Developed and manufactured by Cobham AvComm in partnership with Spherea Test & Services, the RFEM provides a convenient platform that is completely compatible with new and existing ATEC® Series 6 ATE systems. Our objective is to offer test coverage of RF products from all major OEMs

- Cobham AvComm designed RF test system, fully integrated into the ATEC® Series 6
- Simple Ethernet interface between RFEM and ATEC® Series 6, permits easy retrofit to existing ATE installations
- Powerful test executive interface offers many advantages to the test operator
- Global service and support provided jointly by SPHEREA Test & Services and Cobham AvComm
- Extensive CMM-listed TPS library developed to test Nav, Comm, TCAS, Transponder, GPS, and other RF systems
- Complete RFEM and TPS information can be consulted on the SPHEREA Customer Support and Services MyATE Internet web site

Complete RFEM and TPS information can be obtained from the Spherea Test & Services web site or the Cobham AvComm web site.

ATE Software Revision Service

Cobham AvComm offers Software Revision Service (SRS) for its two legacy Avionics ATE Systems: IRIS2000 ATE and the IRS1200 ATE. SRS is a maintenance program designed to keep your Test Program Set (TPS) software up to date with the latest OEM test specifications.

SRS contracts can be purchased for a wide variety of IRIS 2000 TPSs such as: VOR, ILS, VHF, COMM, DME, ATC Transponder, HF, ADF, FMC, FCC, DSWC, GPWC, Radio Altimeters, Mode S Transponders, TCAS Computers, and Air Data Computers.

To learn about Cobham AvComm's new ATE solution, see the RF Expansion Module (RFEM) or contact Cobham AvComm.

SRS contracts can be purchased for the IRS1200 ATE TPSs for Honeywell Inertial Reference LRUs, including a variety of IRUs, ADIRUs and control panels.

To learn about a new ATE solution for Honeywell Inertial Reference LRUs, please contact Cassidian Test & Services.

GPSG-1000

GPS/Galileo Portable Positional Simulator

The GPSG-1000 uses modular technology for RF and baseband signal generation to produce highly accurate and repeatable test results. Unlike bench top simulators, Cobham AvComm's approach also allows the test system to be easily upgraded.

Some of the many features of the GPSG-1000 include:

- GPS signals simulated: L1, L1C*, L2C*, L5*
- Galileo signals simulated: E1, E5**, E5a**, E5b**
- Simultaneous GPS/Galileo simulation
- WAAS/EGNOS SBAS simulation
- Static and dynamic simulations
- NMEA-0183 File Record and Playback functionality
- 12 channel configuration with upgrade path (RAIM supported)
- Programmable space vehicle (SV) parametrics and health
- User or built-in GPS receiver referenced time and date
- PVT data available via RS-232
- User defined data transferable between linked GPSG units
- Remote control interface Ethernet
- Software/firmware upgradable

* For tracking of L1C, L2C or L5 signals some receivers require synchronized L1 transmissions.

** For tracking of E5 signals some receivers require synchronized E1 transmissions.

Fuel Quantity Test Sets

Cobham AvComm fuel quantity test sets will accurately test or troubleshoot any AC or DC capacitive fuel, water, LOX, Engine Oil or other AC or DC system when used with AvComm's aircraft specific interface cables/units.

Test sets available and systems tested:

	System	Commercial	Military
PSD60-2R	AC	√	
PSD30-2AF	DC	√	√
PSD60-1AF	AC		√
PSD90-1C	AC/DC	√	√

- Measures/simulates capacitance
- Measures voltage
- Meggar test for troubleshooting
- Supported with aircraft specific procedures
- Easy to operate
- Lightweight and portable
- Rechargeable battery
- Self-test

Note: Aircraft-specific interface cables are required and must be purchased separately. Contact Cobham AvComm for your application.

Fuel Interfaces

Cobham AvComm has a large selection of aircraft-specific interface cables supporting many rotary and fixed wing aircraft.

Depending upon the aircraft, Cobham AvComm interface units perform the following:

- Interface with the Cobham AvComm Fuel Quantity Test Set(s)
- Provide FQIS interface at various points on the aircraft for complete testing
- Provide interface to probes (tank units), wiring harnesses, indicators, signal conditioners, etc.
- Provide level sensor and/or thermistor testing
- Provide densitometer and compensator testing

Cobham AvComm supports multiple platforms. Refer to our website for a complete list of interfaces available by aircraft platform.

Service Centers

Cobham AvComm is committed to the quality of its Avionics Test Equipment. That is why we have established Regional Service Centers and Factory Certified Calibration Centers around the world. Please utilize the center closest to you.

Cobham AvComm maintains an ongoing process of approving our certified calibration centers worldwide. For the most up to date list, please visit:

http://ats.aeroflex.com/service

For the latest list and technical specifications of Cobham AvComm products, please visit

www.cobham.com/avcomm

email: **AvComm.TechSales@cobham.com**
web: **www.cobham.com/avcomm**

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