

Aeroflex Test Solutions

**Product Catalog** 

## Aeroflex



Aeroflex Test Solutions is a global leader in the Test and Measurement Instrumentation marketplace. Our products support a wide range of industries, including aerospace, defense and wireless mobile and broadband communications. Our proven solutions encompass a full spectrum of instrumentation from turnkey systems, stand alone boxes or modular components that provide customers with highly reliable, customized, innovative and cost effective testing tools. We have leadership positions in specialty communications test niches like LTE wireless test, PMR and military radio test, commercial and military avionics test and satellite STE and broadband test.

#### A Passion for Performance



Honestly, we couldn't think of a better word to describe Aeroflex. We are passionate about our performance, driven to do better. Better than our competition, of course. But they're not our standard for performance. What really drives us is the desire to do better than we've done before. You can see it in our Solution-Minded approach to every customer need. In our Performance-Driven insistence that every solution is a cut above. And in our Customer-Focused definition of performance.







You can see it in our people, in the way they work, they take ownership and fight for even the smallest detail in any project. The real proof of our passion is in our products. There's always something about an Aeroflex product - something more, something faster, or something making it more cost-effective. And it's designed to meet your needs - no matter how challenging they are - head on.

A passion for performance. It's more than a principle or even a philosophy. It's a promise to do whatever it takes to help you achieve your goals.

# **Enabling Communica**

#### What's New?

New in this issue are products including PXI Maestro, the 3550 Radio Test Set, S-Series Signal Generators and Vector Signal Analyzers,, CS9000 Broadband Signal System, AX-Series Semiconductor Test Systems, and



Take a look inside and find out more about our expanding range of test solutions. At Aeroflex we are passionate about becoming a partner in your success. The latest information about our products is always available at www.aeroflex.com/ats

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## tion Worldwide.

#### ALT-8000 FMCW/Pulse Radio Altimeter Flightline Test Set



The ALT-8000 provides an easily configurable RF based altitude simulation to quickly test an installation, or directconnect 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.

- Tests FMCW radio altimeters including CDF types
- Tests pulse radio altimeters (non-pulse compression types) For Military pulse radios, see ALT-8015
- Full RF loop test allows TX, RX, antenna or feeder faults to be identified
- Programmable multi-leg climb/descend profiles
- Remote control interface USB/LAN

#### ATB-7300 Nav/Comm Test System

testing.



IFR 4000 Nav/Comm Ramp Test Set

The IFR 4000 navigational communications ramp test set verifies the operation and installation of ILS, VOR and Marker Beacon receivers and VHF AM/FM and UHF AM transceivers. The IFR 4000 with its lightweight size (under 8 lbs.), long run time battery (8 hrs.) and ergonomic design will provide you with the most portable navigational communications ramp test set on the market today.

- Accurate measurement of VHF/UHF transmitter, frequency, output power, modulation (AM and FM and receiver sensitivity)
- Generation of ARINC 596 selective calling tones
- Guided test capability cuts down total test time

#### IFR 6000 Ramp Test Set



The IFR 6000 is a compact, lightweight and weatherproof unit designed for testing transponder modes A/C/S, 1090 MHz ADS-B and 978 MHz UAT, TCAS I and II, and DME. It features an extremely easy-to-use interface where every parameter the user commonly views is displayed on one screen. The IFR 6000 is everything you need for comprehensive DME testing supporting all DME channels. Interfaces include RS-232, USB, antenna, RF I/O, interrogation and reply monitor BNC and altitude decoder.

- One main user screen for each test mode
- Detachable antenna
- Simple user interface
- Lightweight and compact under 8 lbs.
- Optional ADS-B capabilities are DO-260A/B compliant
- available.
  Designed for use in product development, prototype, certification, factory test and service

The ATB-7300 Test System is a comprehensive, configurable

test platform for navigation/communication systems and

manufacturing, troubleshooting and return-to-service testing.

The ATB-7300 offers unparalleled flexibility for OEM's and

remote repair facilities to adapt to their own unique needs. The system provides a full menu of RF test functions via a

color touch-screen control display, with full remote capability.

Optional high performance spectrum analyzer capability is

Applications

include

R&D.

- Avionics signal generation and signal analysis tools in a single chassis
- Tests ILS/VOR/MKR/ADF and VHF comm functions, including SELCAL

#### **Aeroflex Avionics Test Products**

#### Transponder, Interrogator, DME, TACAN and TCAS Testers

- APM-424(V)4 & APM-424(V5) Interrogator/Transponder Test Set
- IFF-45TS Transponder/Interrogator/TACAN Bench Test Set
- IFR 6000 Ramp Test Set

component

IFR 6015 Military Ramp Test Set

- IFF-7300S Automated Test System
- RGS-200NG

**IFF-45TS Transponder/Interrogator/TACAN Bench Test Set** The IFF-45TS is a leading edge RF signal generator designed for Mode 5 engineering and manufacturing applications. It provides support for transponder, interrogator, TACAN and

• AIMS certified (All modes including Mode 5)

ADS-B beacon testing.

- Dual I/O for diversity transponder or sum/difference interrogator testing
- Supports AIMS 04-900 Type A (KIV-78) and Type B (KIV-77) Mode 4/5 cryptographic equipment

#### APM-424(V)5 and APM-424(V)4 MK XII/XIIA Test Sets



The APM-424 Test Set easily accommodates a variety of aircraft and ground/shipboard platforms to test MK XII/A transponder and interrogator performance including Mode S Elementary and Enhanced Surveillance. The APM-424 is offered in two standard configurations:

#### APM-424(V)4 MK XII Test Set APM-424(V)5 MK XIIA Test Set

The APM-424(V)5 supports both DoD AIMS 04-900A Option A (KIV-78) and Option B (KIV-77) crypto appliqués.

- DoD AIMS 03-1000A Mark XIIA (Mode 5 level 1 and 2) certified \*
- Transponder Test Set Modes 1, 2, 3/A, C, 4, S, and Mode 5 \* (Level 1 & 2)
- Mode S Elementary and Enhanced Surveillance
- Interrogator Test Set Modes 1, 2, 3/A, C, 4, S, TCAS, ETCAS and Mode 5 \* (Level 1 & 2)
- Self-diagnostic
- Factory upgrade kits available for APM-424(V)3 and TS-4530 units
- \* APM-424(V)5 only

#### IFF-7300S Automated Test System



The IFF-7300S is a powerful computer-based system designed for the test and diagnosis of military avionics including IFF transponders, interrogators, cryptos, and TACAN transceivers. Test Program Sets (TPSs) are custom developed to test specific avionics models.

- Direct-connect to UUTT/R or antenna ports
- Large touch-screen color display
- Automated testing per OEM procedures
- Manual mode testing for diagnostics and troubleshooting beyond Level 2

#### **RGS-2000NG TCAS Test Set**



The RGS-2000NG is an RF signal generator/receiver for testing TCAS (Traffic Alert and Collision Avoidance System) 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.

- More test capability than any tester in the market, all packed into one box
- 10.4 inch touch screen LCD display for operator control of all test set capabilities or can be remotely controlled via GPIB or Ethernet
- Simulates 32 dynamic/400 static intruders

#### Nav/Comm Testers

- IFR 4000 Nav/Comm Ramp Test Set
- ATB-7300 Nav/Comm Test Set

#### **Radio Altimeter Testers**

- ALT-8000 Radio Altimeter Test Set
- ALT-8015 Military Radio Altimeter Test Set

#### **RF Expansion Module for ATEC® Series 6 ATE**



The RF Expansion Module (RFEM) is designed to support testing of airborne RF components on the ATEC<sup>®</sup> Series 6 ATE. Developed and manufactured by Aeroflex in partnership with Cassidian Test and Services, the RFEM provides a convenient platform that is completely compatible with new and existing ATEC<sup>®</sup> Series 6 ATE systems that use the Cassidian test executive environment.

- Aeroflex designed RF test system, fully integrated into the ATEC<sup>®</sup> Series 6
- Simple Ethernet interface between RFEM and ATEC<sup>®</sup> Series 6, permits easy retrofit to existing ATE installations
- Extensive CMM-listed TPS library in development or planned, covering Nav, Comm, TCAS, Transponder, SATCOM, GPS, and other RF systems
- Global service and support provided jointly by Cassidian
   and Aeroflex

"...Aeroflex has been the industry leader in

avionics testing for more than 40 years..."

#### PSD90-1C AC/DC Fuel Capacitance Test Set



The PSD90-1C AC/DC Fuel Capacitance Test Set will test any AC or DC capacitive fuel, water, LOX or engine oil or other AC capacitance system. The PSD90-1C has new features that allow the user to better troubleshoot and isolate fuel system problems. Rugged in design, the unit can be used anywhere troubleshooting is required. Capable of being operated with external power, the PSD90-1C is ideal for shop or depot level repair of fuel system components.

- Easy to operate/calibrate
- Closed box calibration using front panel controls performed annually
- Lightweight/portable
- · Re-chargeable battery or externally powered

#### PSD60-2R Fuel Quantity Test Set



The PSD60-2R is an accurate, highly reliable, portable capacitance test set. Along with an aircraft specific interface, the PSD60-2R will test any AC capacitive fuel, water, LOX, engine oil or other AC capacitance system.

- Measurement of total tank capacitance, individual tank units and compensators
- · Simulation of capacitance for indicator calibration
- Simulation of compensator capacitance value for dry calibration

#### Aeroflex Avionics Test Products ATE Systems

- RF Expansion Module for ATEC® Series 6 ATE
- IFF-7300S Automated Test System

#### **Fuel Quantity Testers**

- PSD30-2AF Universal DC Capacitance Test Set
- PSD60-1AF AC Capacitance Field Calibration Unit
- PSD60-2R Fuel Quantity Test Set
- PSD90-1C AC/DC Capacitance Test Set

### Simulators

#### **Fuel Interfaces**



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

Depending upon the aircraft, Aeroflex interface units will provide:

- FQIS interface at various points on the aircraft for complete testing
- Interface to probes (tank units), wiring harnesses, indicators, signal conditioners, etc.
- Level sensor and/or thermistor testing
- Densitometer and compensator testing

Aeroflex supports over 200 different aircraft. Contact us for a quote for your specific application.



#### **GPSG-1000** Portable Satellite Simulator



The GPSG-1000 uses modular technology for RF and baseband signal generation to produce highly accurate and repeatable test results.

- Simulation of GPS L1, L1C, L2C, L5 signals
- Simulation of Galileo E1, E5, E6 signals
- SBAS, WAAS/EGNOS L1, L5 for automatic SBAS simulation
- Built-in GPS C/A code receiver for automatic GPS almanac download
- Dynamic waypoint navigation
- Available in 6 or 12 channel configuration
- Can be easily upgradable







Aeroflex GPS Simulator Products GPS Simulators

GPSG-1000 Portable Positional Simulator

# Manufacturing Test Sys

5800 Series - Multi-Strategy Test System



The 5800 Series is a multi-configuration, multi-functional test system that is designed to meet the ever changing needs of today's electronic manufacturing environment. The 5800 Series architecture adopts an open approach to both hardware and software, allowing the user to configure the systems to suit the exact product test requirements in line with the overall company test strategy. This makes the 5800 Series an obvious choice when needing a flexible single test solution, capable of being anything from a simple bench top Manufacturing Defects Analyzer (MDA) to a complex functional automated End-of-Line (EOL) solution.

The many capabilities of the 5800 Series minimize investment in test systems by reducing the number of platforms required to achieve throughput, also whilst providing the highest level of test coverage within a single manufacturing stage.

The open approach provided by the 5800 Series is unique in the market place as it allows any 3U PXI instrument to be used alongside the 5800's own hardware to facilitate the ultimate test platform, all of which are then controlled under a single software environment.

#### 5820 Bench Top

The bench top model provides a scalable core system but in a low cost package. Allowing you to start small but grow your test solution. The Aeroflex instrument cards are interfaced to the test fixture by means of interconnecting cabling. As with all the body styles, 3rd party PXI and GPIB controlled instrumentation can be added to further enhance the capabilities of the system. This system can then be effortlessly migrated to a rack-mounted system as your test requirements grow without loss of any previous investment.

#### 5830 Rack Mount

The 5830 Rack Mount model builds the core system into a 19" rack solution for further test flexibility. The Aeroflex cards can then be cabled to an industry standard mass interconnect interface of the user's choice such as a Virginia Panel<sup>™</sup> or MAC panel<sup>™</sup> or ECT VG Series (Pylon). The rack mounted system is the easiest platform to integrate additional test resource that is not available in PXI format such as GPIB controlled instrumentation, as it can all be contained within the one unit thus future proofing your test investment.

#### 5860 Stand-Alone

The 5860 is a floor-standing system that is self-contained and ergonomically designed for high volume production. This compact system is particularly suited to low cost automated in-line fixture applications where its height profile allows for SMEMA compliance. The chassis houses many of the functional components required for a standalone multistrategy test system.

#### 4200 Series – In-Circuit Test System



The MTL test software provided with the 4200 Series presents the user with a high-level structured programming environment that has fully integrated edit and debug facilities. This structure offers the twin benefits of top-level simplicity while also allowing the control of all system parameters at a lower level for customized testing. The graphical debug and Computer Assisted Program Generator (CAPG) tools assist to minimize the time taken to get any test application and fixture into production realizing the systems potential and return on investment in the shortest time frame.

#### 4230 Rack Mount

A compact 19-inch rack mounted in-circuit system ideal for integration into medium or high volume production lines.

#### 4250 Stand-Alone

A floor standing in-circuit system that offers wide ranging capability in a compact ergonomic package with a dedicated fixture interface.

### stems

#### 5200 Series – Analog In-Circuit Test System



5220 - Benchtop System

The 5220 is a very compact system that combines high test speed and high accuracy with the ability to test a wide range of component types, effectively blurring the line between MDA, or analog in-circuit, and full digital in-circuit. It is equally suitable for use in low-cost bench top applications or high volume automated production lines, where its high test speed assists in maximizing production output.

With its simple and intuitive programming environment, the 5200 Series does not require the high-level programming skills sometimes demanded by high-end in-circuit testers. This assists in the speedy implementation of analog in-circuit test programs, reducing the "Time to Market" of any new electronic product and as such controlling costs.

- High speed high accuracy
- Programmable power supplies for "powered up" tests
- Automatic program generation (CAPG)
- Simple program debug environment (TPG)
- Automatic debug of in-circuit tests
- · Vector-less test
- · Capacitor polarity and vector-less test
- · In-circuit capacitor polarity tests



7700 - Integrated Microwave Test Solution



The 7700 is a complete automated test system housed in an incredibly small footprint. The solution includes a fully-functional test executive called the Aeroflex Measurement Console (AMC). Using the production test sequences provided with the base model, the 7700 includes the capability to emulate the functionality of the following instrumentation:

- Vector signal generator
- Spectrum analyzer
- Vector network analyzer
- Oscilloscope
- Power meter
- Frequency counter
- Noise figure meter
- Microwave transition analyzer

The 7700 does not just replace test equipment. It is a fully integrated ATE solution that has the capability to control all aspects of production test including the DUT, remote switching hardware, thermal chambers, etc.



#### **Aeroflex Manufacturing Test Products**

- 5800 Series Multi-Strategy Test Systems
- 4200 Series In-Circuit Test Systems
- 5200 Series Analog In-Circuit Test System
- 7700 Integrated Microwave Test System



Deployed worldwide for microwave test and measurement, Aeroflex microwave test instruments have a frequency range from 1 MHz to 46 GHz (up to 110 GHz with microwave frequency extenders). Options include tracking/offset/CW/ modulated source, scalar and spectrum analyzers, fault location and group delay - for characterization of components and assemblies.

#### 6820A Series Microwave Scalar Analyzer



- · Integrated source and scalar analyzer
- 3 GHz, 8.4 GHz, 20 GHz, 24 GHz, 40 GHz and 46 GHz frequency versions
- · Synthesized source with low harmonic content
- Precision scalar network measurements
- Real time fault location with 0.1% accuracy

The 6820A is a versatile scalar analyzer and integrated synthesized frequency source enabling easy, fast, accurate testing of transmission lines, microwave components, sub-assemblies and complete microwave systems.

The scalar analyzers provide a very effective test methodology for device/system measurements without the usual complexities, calibrations and costs associated with VNAs. Typical measurements include insertion loss, VSWR/return loss, conversion loss/gain, amplifier gain compression and distance to fault.



#### Aeroflex Microwave Products

- 6810A Series Microwave Generators
- 6820A Series Microwave Scalar Analyzers
- 6840A Series Microwave System Analyzers

#### 6840A Series Microwave System Analyzer



- · Integrated source, scalar and spectrum analyzer
- Precision scalar network measurements with high dynamic range plus tuned/selective measurements
- Comprehensive group delay measurement capability without the need for external devices and complex calibrations even when characterizing frequency translation devices

The 6840A Series RF and microwave system analyzers are powerful tools for the microwave industry. Integrated into a single instrument are a synthesized source, a three input scalar analyzer and a synthesized spectrum analyzer. The internal source can be used as a simple CW output, as a swept source for scalar measurements, as a tracking generator with the spectrum analyzer and as an offset tracking source for network measurements on frequency translation devices.





#### SMART^E™ 5100 T/R Module Test Environment



The SMART^E 5100 T/R Module Test Environment is a member of the SMART^E 5000 Series, which is a complete test solutions environment from Aeroflex. The Model 5100 encompasses hardware, software, test practices and support along with standard and customizable test programs tailored to the specific problems of testing high performance modules utilized in a variety of phased array radars. The unique combination of integrated tests, system calibration methods and greater throughput in the 5100 provides a superior solution for the testing of the thousands of modules required for phased array radar.

- Complete Synthetic Test Environment
  - Hardware, software, processes, support
  - Open architecture, system level calibration and diagnostic
- Optimized for T/R Module Test
  - Test module subassemblies, modules and multi-module assemblies on one system
  - DC-40 GHz, DUT control and monitoring
- Full Range of Required Mixed Signal Capabilities
- Highest Test Throughput and Lowest Life Cycle Cost Available
- Proven Systems Deployment
  - 5th generation solution major customers worldwide



#### SMART^E™ 5200 Satellite Payload Test Environment

The Model 5200 encompasses hardware, software, test practices and support along with standard and customizable test programs tailored to the specific problems of testing high performance payloads. Such payloads consist of many channels with possibly hundreds of connections between the test system and the payload under test.

The Aeroflex SMART^E 5200 Test Environment is based upon the 5th generation evolution of Aeroflex's synthetic test technology.

- Complete Synthetic Test Environment
  - Hardware, software, processes, support
- Optimized for Satellite Payload Test
- Highest Test Throughput and Lowest Life Cycle Cost Available
- Proven Systems Deployment
   5th generation solution major customers worldwide
- Full Range of Required Mixed Signal Capabilities
   DC, digital, analog, RF/microwave
- System Level Architecture
   Calibration, verification, alignment, diagnostic
- Open System Architecture
  - System hardware and software, TPS's



SMART^E 5100 T/R and RF/Microwave Test Environment

 SMART^E 5200 Satellite Panel, Payload, TVAC and Compact Antenna Range Test Environment

# Military Communications

#### 3515 Series Radio Communications Test Set



The Aeroflex 3515 Series offers the latest in radio front-line testing, long battery life and superior performance. The Aeroflex 3515 Series has many of the features of a bench radio test set, plus it has a coaxial cable and antenna analyzer. The 3515 Series is perfect for testing AM, FM and digital radio transceivers.

Designed for portable operation, the 3515 Series is also ideal for performing vehicular radio installation testing. By utilizing over-the-air testing techniques, a radio installed in a vehicle can be tested, without making a direct connection to the aircraft or vehicle.

The 3515 Series has optional test application program capability that allows complete tests to be included. Here is a list of just some of the application programs:

- · Radio tests for aircraft, boat, vehicle or portable radios
- Test intercom systems
- Provide detailed operating instructions for the unit under test
- Store test results and settings for later retrieval
- Add connection diagrams, parts lists and special setups



#### **Aeroflex Military Communications Products**

- 3515 Series Portable Radio Communications Test Set
- 7200 Configurable Automated Test Set
- RCTS-001 Radio Communications Test System
- GRM-122 Avionics Upgrade Systems

#### 7215 Configurable Automated Test Set

- Software defined test set that replaces an entire suite of traditional instruments
- Advanced automation and test speed optimization
- State-of-the-art user touch-screen interface



The Aeroflex 7200 Configurable Automated Test Set platform provides the manufacturers and users of software defined radio (SDR), avionics, radar and other advanced devices with the most state-of-the-art synthetic instrument platform available today, while providing upgrade support for next generation devices in the future.

The 7200 provides the required functions and performance of a spectrum analyzer, signal generator, measuring receiver, power meter, BER meter, audio generator, audio analyzer, oscilloscope, DMM and more in a small ruggedized MIL-28800 Class 3 package. It operates in manual and fully automated modes with a built-in test executive. An optional switch matrix interface and the ability to directly control the deveice under test provides very high speed automated test capabilities.

The Aeroflex 7200 provides a test solution that significantly lowers your acquisition and total life cycle support costs, and with its modular architecture can be tailored to your specific requirements.

#### Radio Communications Test Systems (RCTS)

The Military Radio Communications Test System (RCTS) is used by the U.S. Armed Forces to test complex voice and data frequency hopping radios and accessories.

The ruggedized packaging of 16 basic generator/receiver instruments makes the system ideal for depot and field maintenance shops. When combined with one of the "Plug and Play" Radio Personality Modules (RPM) and the appropriate cables, the test system provides semi-automated testing of various military radio systems (UHF, VHF, HF) and accessories. Very little operator intervention or training is required to perform radio testing and repair.

#### **RCTS-001 Radio Test System**



- Ground and airborne radios
- Loud speaker
- RF PA
- Remote controls
- Single radio mount

The RCTS-001 (AN/GRM-122) is the radio test system currently fielded for depot and field maintenance of SINCGARS military radio equipment. When used in conjunction with an ON-373 B and ON-AVIM maintenance kit, the user has everything needed to perform testing, repair and maintenance on the entire suite of SINCGARS equipment.

#### **GRM-122** Avionics Upgrade Systems

These systems upgrade existing GRM-122 systems fielded by the U.S. Army to test Army airborne radios and navigation systems. The following upgrade kits are available:

| GRM-122 Av kit | Complete avionics, life support and |
|----------------|-------------------------------------|
|                | HAVEQUICK upgrade                   |
| RPM-12CK kit   | Avionics upgrade                    |
| RPM-2HCK kit   | HAVEQUICK upgrade                   |

#### RCTS-002HQ Radio Test System

- Ground radios
- Airborne radios
- Hand-held radios
- · Remote controls
- RF amplifiers
- Single distribution unit

The RCTS-002HQ Radio Communications Test System is a self-contained unit used to test U.S. Air Force ARC-222 and ARC-186 radios. The addition of HAVEQUICK capability enables the testing of ARC-164 radios.



#### **RCTS-003B Radio Test System**



The following LRUs can be verified, tested and repaired with the RCTS-003B:

| PRC-90   | PRC-90T     | PRC-90-2        | PRC-90-2T    |
|----------|-------------|-----------------|--------------|
| PRC-112  | PRC-112A    | PRC-112B        | PRC-112B1    |
| PRC-112C | PRC-112D    | PRC-112G        | URT-33C/M    |
| URT-33D  | Quickdraw 2 | (w/ COSPAS/SARS | AT & SATCOM) |

The RCTS-003B Radio Communications Test System is the current generation self-contained, transportable, semiautomated radio test system that is presently fielded for use by the U.S. Armed Forces. The instrument is used for operational verification testing and/or repairs of life support radio systems. Full functional testing of all operational modes is available.

#### **RCTS-012 Radio Communications Test Set**



The RCTS-012 Radio Communications Test Set is used to test the AN/ARN-89, AN/ARN-123, AN/ARN-147 and AN/ARN-149 avionics/navigation radios.

The unit provides a semi-automated, comprehensive test and alignment capability for the above systems, reducing test time and operator training.

#### **Aeroflex Military Communications Products**

- RCTS-002HQ Radio Communications Test System
- RCTS-003B and Accessories Radio Communications Test System
- RCTS-004 and Accessories Radio Communications Test System
- RCTS-007 and Accessories Radio Communications Test System
- RCTS-012 Radio Communications Test Set

# Mobile Device Test

#### 7100 Digital Radio Test Set



The Aeroflex 7100 Digital Radio Test Set is a compact, bench top instrument that provides all the tools required during the design, development and test stages of LTE UE chip sets and terminals. All the key measurements are provided for characterizing the performance of single- and multi-mode LTE mobile devices. The 7100's easy to use test features cover the entire spectrum of R&D test activities, starting with initial RF, baseband and protocol stack development through integration, regression and precertification testing. The 7100 offers three modes of operation to suit the test application:

- Development Mode: advanced control and programmability for detailed R&D testing
- Call Box Mode: general purpose LTE device test with standard protocol stack
- Service Mode: high throughput testing in combination with the 7310 Lector software

Features include:

- Comprehensive 3GPP Rel-8 to Rel-11 LTE test capability -LTE-Advanced Rel-10 Carrier Aggregation
- Supports FDD and TDD, with 2x2 and 4x2 MIMO, covering all frequency bands
- Multi-RAT testing covering LTE, WCDMA, CDMA, TD-SCDMA, GERAN including handover
- RF parametric measurements and built-in test cases
- Protocol logging and analysis tools
- Performance testing of end-to-end IP packet links, up to Cat 6 at 300 Mbps
- IMS test capability, including GSMA IR.92 VoLTE support
- Built-in Fading/AWGN capability for RF performance testing under realistic signal conditions

Covering All Phases of LTE Terminal Testing - The 7100 incorporates a 3GPP Rel-11 compliant protocol stack and physical layer to emulate an eNB (evolved Node B) and the EPC (Evolved Packet Core) network, covering all potential spectrum allocations up to 6 GHz. A comprehensive range of RF tests is included, incorporating some based on the 3GPP TS 36.521 RF test specification, covering all key transmitter, receiver and transceiver measurements. These tests use the built-in protocol stack to configure the correct RF conditions for testing. An integrated IMS server allows complete functional testing to be performed, permitting end-to-end throughput and latency to be measured in a controlled environment. The comprehensive range of test capabilities enables the 7100 to be deployed in all phases of device design and development and the ease of use and costeffective design also make it suitable for use in the production and service markets.

#### 4400 Mobile Phone Tester Series

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| • • |          | - 6 | 00  | . A. |

The universal radio communication tester for production test and service test. Aeroflex's 4400 Mobile Phone Testers are costeffective test solutions for those in wireless manufacturing test, service test and handset repair requiring a multi-technology platform. By quickly testing GSM, GPRS, EDGE, WCDMA (UMTS), HSDPA, 1xEV-DO and TD-SCDMA terminals, the Aeroflex 4400 provides the lowest total test cost per device and drastically reduces production downtime because one system can easily switch from one technology to another.

- Multi-standard platform for wireless handset test: GSM, GPRS, EDGE, Wideband CDMA, HSDPA, CDMA2000, 1xRTT, EVDO, TD-SCDMA
- · Easy to use interface, thus minimizing training requirements
- Various PC interfaces for instrument control and data transfer; GPIB, LAN, USB, RS-232
- · Compatible with Lector automation test software

#### **Aeroflex Mobile Device Test Products**

- 7100 Digital Radio Test Set
- 7310 Lector and Scriptor Family
- 2201 ProLock Phone Tester
- 4202R Mobile Service Tester

- 4208 Off-Air Mobile Tester
- 4400 Mobile Phone Tester Series
- 4921,4932 and 4933 RF Shields
- 4914, 4916, 4918 Antenna Couplers

#### 2201 ProLock Phone Tester



Aeroflex's 2201 ProLock is a reasonably priced test instrument for testing 2G and 3G mobile devices. Level 1 and level 2 service shops use ProLock to quickly test wireless devices, perform smaller repairs and bill manufacturers for warranty claims. The 2201 ProLock is small, easy to use and affordable to large mobile phone retailers with a repair shop in the back office. The ProLock supports both GSM and WCDMA phones and wireless devices.

#### 7310 Lector and Scriptor Family



Easily managing complex measurements

Aeroflex's 7310 Lector automation software is a wellestablished and economic test solution for service centers and repair shops testing returned mobile phones with any of Aeroflex's terminal testers. Lector enables Service centers to reliably test mobile devices quickly and easily with the aid of a mobile device database for automatic recognition of test parameters.

- · Fully integrated test environment for Mobile device test
- Supports multiple Aeroflex Terminal Testers
- Supported technologies: LTE, GSM, GPRS, EDGE, WCDMA, HSDPA, CDMA2000, EVDO, TD-SCDMA, TETRA, Bluetooth<sup>®</sup>, WiFi (Wireless LAN)





#### 4202R GSM-R Handset Tester



The Aeroflex 4202R Mobile Service Tester is dedicated to new features and frequency bands introduced by GSM-R, the railway communication system based on GSM. The Aeroflex 4202R is the first GSM-R test instrument for service applications, and its small size and low weight make it the ideal choice to test and repair applications requiring mobility.

Support of GSM-R specific call features, such as Voice Group Call Service (VGCS) and emergency calls based on VGCS.

Support of specific parameters, like Group ID and call priority.

Optional battery pack available for true mobile operation.

#### Aeroflex Antenna Couplers and RF Shield Boxes

A range of Antenna Couplers and RF Shield Boxes with excellent isolation and durability are available for Aeroflex and are fully integrated into the Lector test environment. Shield boxes come in two sizes with varying presentations. The small shield boxes, 4921, 4931, and 4932 are suitable for testing smartphones. The larger 4933 RF Shield box is ideal for testing larger devices such as tablets, laptops and bulky wireless monitoring devices.

RF antenna couplers enable RF tests to be performed over the air without a direct connection to the antenna port of the device under test. The 4916 covers the cellular range up to 2.7 GHz, the 4918 extends coverage to 6GHz and the 4914 addresses the TETRA frequency range.

## **Modular Instrumentation**

The Aeroflex PXI 3000 Series of RF Modular Instruments expand PXI's speed and modularity into the realm of wireless communications testing. The range includes a broad choice of:

- PXI chassis and PXI controllers
- PXI modular instruments for wide bandwidth RF signal generation and RF signal conditioning for signal carrier frequencies up to 6 GHz, and wide bandwidth RF signal analysis for signal carrier frequencies up to 13 GHz.
- PXI Studio and PXI Maestro application software for signal generation and vector signal analysis of complex wireless communications systems.

#### MODULES



**RF Signal Generators** - The 3020 Series and 3050A/3320 are a range of compact 3U high precision PXI modular RF signal generators. Their functionality and performance are ideally matched to the needs of RF test systems for design verification and manufacturing up to 6 GHz.

**RF Digitizers** - The 3030 Series and 3070A range of PXI RF Digitizers provide precision conversion of RF signals into digital data. When used with PXI Studio 2 application software they provide class leading vector signal analysis of RF signals with functionality and performance ideally matched to the needs of RF test systems for manufacturing and design verification.





**RF Combiners** - The versatile 3060 Series RF combiners are designed for use in RF test systems in conjunction with RF signal generators and RF digitizers. Together these modules enable the development of compact, high performance low cost modular RF test systems.  Measurement Library Suites supporting generic modulation including PSK, QAM and FM, as well as multiple wireless standards including GSM/EDGE, UMTS/HSPA+, LTE, CDMA 2000<sup>™</sup> and 1xEVDO, TD-SCDMA, DECT, WiMAX, WLAN, Bluetooth<sup>®</sup> and ZigBee<sup>®</sup> wireless technology.



#### CHASSIS AND CONTROLLERS

**3000, 3005 and 3006 Chassis** - The Aeroflex 3000 PXI Chassis provides one system slot and seven peripheral slots. This portable and lightweight chassis boasts a wide operating temperature range, low operating noise, and a robust design.

The Aeroflex 3005 PXI Chassis provides one system slot and eighteen PXI/CompactPCI peripheral slots. This rack-mountable chassis has many advanced features such as intelligent chassis management and remote management.

he Aeroflex 3006 is an 18-slot PXI Express chassis, compliant with PXI Express and cPCI Express specifications and offering one system slot, one system timing slot, ten hybrid peripheral slots, and six PXI Express peripheral slots for a wide variety of testing and measurement applications requiring enhanced bandwidth.

#### Embedded Controllers -

The 3001 Series are a range of high performance compact 3 slot wide PXI embedded system controllers based on Intel® Core<sup>™</sup> 2 Duo and Core<sup>™</sup> i7 processors. Each are ideally suited for use in fully integrated PXI modular test solutions in conjunction with Aeroflex PXI 3000 Series RF instruments and PXI chassis. Each member of the 3001 system controller series is supported with a generous 4GB of DDR memory, up to 500 GB of SATA HDD capacity and a variety of I/O connectivity arrangements.

All 3001 variants are supplied with a Windows 7 x32 operating system and Aeroflex PXI 3000 Series driver and application software pre-installed. Just plug-in and you are ready to go.

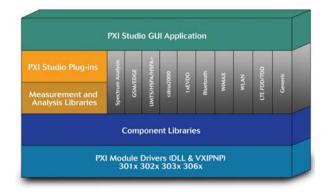
#### **Aeroflex PXI Products**

- 3010/3011 PXI RF Synthesizers
- 3020 Series RF Signal Generators
- 3050A/3320 RF Signal Generators
- 3030 Series PXI RF Digitizers
- 3070A RF Digitizers
- 3060 Series RF Combiners

- 3000, 3005 and 3006 Chassis
- 3001C/3001D PXI Controller Module
- GSM/EDGE Measurement Suite
- UMTS/HSUPA Measurement Suites
- LTE FDD and TDD Measurement Suites
- Bluetooth<sup>®</sup> Measurement Suite
- Generic Measurement Suite

#### **APPLICATION SOFTWARE**

#### **Measurement Libraries**



Aeroflex provides a wide range of wireless communications test capabilities on PXI 3000 at the physical layer through a scalable software architecture consisting of measurement libraries/plug-ins. Any of the optional measurement libraries/plug-ins can be added easily. Each provides a programming user interface (.dll or .NET) for use in automated test systems, and an intuitive graphical user interface for use in the PXI Studio. Software modularity allows for total user control of system configuration and capabilities. A full description and specification for each measurement library is provided in the appropriate sections accessible through the navigation panel.

#### **PXI Maestro**

PXI Maestro, software that accelerates ATE development and lowers manufacturing cost of test. PXI Maestro extends the PXI 3000 platform to provide a production-ready test system with integrated device under test control and the ability to test multiple devices in parallel.





#### **PXI Studio**

PXI Studio is a Windows-based software for use with all Aeroflex 3000 Series PXI modules. This highly flexible application can provide vector signal generation and vector signal analysis of complex modulated signals. As standard PXI Studio provides a single integrated graphical user interface to all Aeroflex PXI modules and performs spectrum and time domain analysis of sample data for general purpose RF component testing and alignment of radio communications transceivers.

#### **IQCreator**

IQCreator<sup>®</sup> is a Windows-based software for arbitrary waveform creation for use with Aeroflex 3000 Series PXI signal generators. IQCreator<sup>®</sup> enables you to create waveforms that emulate digitally modulated RF and analog baseband I and Q transmission formats. This tool enables a user to set up a modulation scheme including GSM/EDGE, UMTS/HSPA, LTE FDD/TDD,CDMA2000/1xEVDO, TD-SCDMA, WiMAX, WLAN, Bluetooth, ZigBee<sup>®</sup>, FM and Generic modulations (QPSK, QAM) to then create an ARB (Arbitrary Waveform Generator) file. Graphical displays of the waveform FFT, vector and constellation diagrams, etc. can be viewed and exported for use in other Windows<sup>®</sup> applications.

#### **PXI Systems**

Aeroflex PXI 3000 Series modules and software components can be configured as part of complete test systems. With the addition of Aeroflex custom application software development services and full system integration and support, complete turnkey test systems can be supplied.

#### **Aeroflex PXI Products**

- CDMA2000/1xEV-DO Reverse Link Measurement Suite
- DECT Measurement Suite
- TD-SCDMA Measurement Suite
- WLAN Measurement Suite
- WiMAX OFDMA Measurement Suite

### Radio Test Sets Radio Test Sets

The Aeroflex family of radio test sets is the result of more than 50 years experience in providing superior radio test solutions. The combination of rugged dependability, high performance and software configuration provides the next generation of proven test products for your analog and digital radio test needs. Only Aeroflex provides the widest range of dedicated land mobile radio test sets, with full functions for the latest digital technologies. Aeroflex's wide range of products cover land mobile radio applications in the HF, VHF, UHF and 700/800 MHz band, with an industry first frequency range to 2.7 GHz. Aeroflex develops, manufactures and markets radio test solutions that protect your investment with upgradeable software modules to meet the latest radio test requirements.







#### 3920B Series Digital Radio Test Set



- The most comprehensive software defined test solution on the market today
- Full AM, FM, SSB analog measurements
- 2 MHz 2.7 GHz operation
- Mobile, base and direct mode TETRA test functions
- Support the NEW TETRA Enhanced Data Standard (TEDS)
- P25, P25 Phase II, SmartZoneTM and SMARTNETTM test applications
- Linear Simulcast Modulation (LSM)
- High performance spectrum analyzer, dual channel oscilloscope and analog meters
- 0.01 PPM timebase for super accurate frequency measurements
- Support for DMR (MOTOTRBOTM), dPMR, NXDNTM and ARIB T98 technologies
- Highly accurate EVM, power burst measurements and constellation displays
- Automatic test and alignment operation for APX<sup>™</sup>, ASTRO®, ASTRO® 25, and ASTRO® 25 XTL<sup>™</sup> Series radios.
- Automatic test and alignment operation for Kenwood, Relm, Harris, EF Johnson and other OEM radios.

The 3920B offers high performance tests equal to more expensive stand alone instruments. With advanced digital signal processing technology and rugged construction, the 3920B provides the most flexible, cost effective radio test system available. Featuring test capabilities for both analog and digital radios, the 3920B meets the need for testing both your legacy analog systems as well as the latest narrowband digital standards. The 3920B also features one button automatic test and alignment capabilities for many P25 radios including Motorola P25, TETRA and MOTOTRBO radios, enabling greater efficiency of test resources than ever before.

#### **Aeroflex Radio Test Set Products**

3920B Series Digital Radio Test Set

#### 3550R Portable Radio Test System



- 2 MHz 1 GHz operation
- FM/AM transmitter and receiver tests
- P25, DMR, and NXDN digital radio test options
- Spectrum analyzer with <-136 dBm noise floor
- Tracking generator and oscilloscope
- Enhanced antenna and cable testing
- SINAD, distortion, RF power and frequency error meters
- DCS encoder and decoder
- Weighs less than 8 lbs.
- All day operation with stand-by mode, 4 hour battery life with continuous use
- -20 to +55 C operating temperature range
- Rugged construction (specifications for humidity, altitude, shock and vibration, MIL PRF 28800F Class II Certified)

The Aeroflex 3550 is the industry's first 1 GHz touch-screen hand-held radio test system. At less than 8 lbs. and packaged in a cast magnesium alloy case, the Aeroflex 3500 is truly a rugged and portable radio test set. A true radio test set, the 3550 combines many of the features of a bench top radio test set with advanced cable and antenna tests including DTF, Return Loss and VSWR analysis. It is the only hand-held radio test set that can test all the components of an installed radio system. Designed to meet the test needs of avionics and land mobile radio, the 3550 provides fast, reliable measurements of the radio's transmitter and receiver parameters. The 3550 also has the capability to test the latest narrowband radio systems including P25, DMR and NXDN. The 3550 is perfect for testing radio transceivers, whether installed in a vehicle or in a remote location. Now featuring PTC (Positive Train Control) tests, the 3550 now brings advanced, portable testing to railroad industry.



#### 2305 TETRA Test Set



A portable TETRA tester - Tailor-made for field service

- Supports TETRA mobile station and base station tests relevant for service
- Intuitive and failsafe user interface
- Made for the PMR field service environment
- Bright screen and robust case
- Portable, lightweight and compact
- Optional battery operation

The 2305 Stabilock delivers precise results quickly. The 2305 is based upon a TETRA-dedicated hardware platform with software options for different applications: The 2332 Base Station Test Option and the 2333 Mobile Station Test Option. No matter what application or TETRA frequency band, after a simple set up of the network parameters and frequency range, the tester is ready for operation. The large, high contrast color display is split into four sections for clear reading of test results in numeric or graphic format. All settings and commands are accessible via six softkeys or with one-hand operation using the turn-and-push dial. Reducing TETRA complexity to what is really needed in field service – with this operational concept, users can operate the instrument easily by just pressing a few keys!

#### **Aeroflex Radio Test Set Products**

- 3550 Portable Radio Communications Test Set
- 2305 TETRA Test Set

### Radio Test Sets Radio Test Sets

#### 8150 TETRA AirAnalyzer



Keep control of your TETRA network to provide the best possible service.

- Advanced protocol analysis using message sequence charts (MSC) to display the complex flow of communications in the signaling protocol between TETRA radios and the base station
- Exclusive quality of service analyzer charts issues within a radio cell over a given time period, including statistical evaluation
- Voice decoder monitoring and recording of ongoing voice communication in the network
- Measurement of channel and modulation parameters
   with the TETRA physical data analyzer
- GPS-assisted radio coverage measurements
- TETRA scanner to survey spectrum utilization
- Decoding of communication under static or dynamic air interface encryption

Professional users of TETRA demand reliable and safe network operation, and the best possible radio coverage. These requirements can be fulfilled with Aeroflex's 8140 TETRA AirAnalyzer, a unique and versatile tool that allows you to continuously analyze and maintain a TETRA network. No matter if you are analyzing radio coverage, call setup time, cell or control channel load, the 8140 TETRA AirAnalyzer is the right tool to get the full insight of your TETRA network. It is also well suited to examine issues arising during the introduction of new systems into a network and to perform interoperability testing during system development. The instrument is based on a standard protocol stack, which is used in the certified IOP test setup of the TETRA Association and is the accepted reference standard for TETRA protocol analysis.

#### 2945B - Communications Service Monitor



- Rugged lightweight package
- Full span spectrum analyzer with "live" look and listen
- · Tracking generator with full offset tracking
- Accurate power measurement to 150 W
- Rugged lightweight package
- · Full span spectrum analyzer with "live" look and listen
- Tracking generator with full offset tracking
- Fast auto-tune (typically <3 seconds)
- Accurate power measurement to 150 W
- Transient and harmonic analysis
- Color transflective superfast LCD with rapid refresh rate for easy monitoring and real time adjustment
- Analog trunked systems also available including MPT1327, EDACS and LTR<sup>®</sup> trunked radio and repeater test options

Portable, versatile and lightweight (12 kg/25 lbs.), the 2945B goes anywhere for the full range of parametric and signaling test. In addition to a full-span spectrum analyzer and tracking generator with an 80 dB dynamic range, a 50 kHz digital storage oscilloscope is included. It provides accurate power measurements up to 150 W, as well as harmonic and transient power analysis.

#### **Aeroflex Radio Test Set Products**

8150 TETRA AirAnalyzer



2948B - Low Phase Noise Communications Service Monitor



All the benefits of the 2945B but with a low phase noise signal generator, for more critical receiver testing.

- Low phase noise signal generator
- High stability reference oscillator (OCXO) as standard
- Accurate power measurement to 150 W
- Transient and harmonic analysis
- Color transflective superfast LCD with rapid refresh rate for easy monitoring and real time adjustment
- Tracking generator with full offset tracking
- Full span spectrum analyzer with "live" look and listen







#### **Aeroflex Radio Test Set Products**

- 2944B Communications Service Monitor
- 2945B Communications Service Monitor

### Semiconductor Test PXI and AXIe

Modular industry standard PXI and AXIe technology gives users control over their test system configurations and upgrade paths. The PXI and AXIe platforms provide a mature, stable foundation that will support the wide range of configurations and long term roadmaps required by the semiconductor industry.

#### **Markets Served**

The AX-Series integrated semiconductor test instruments and systems from Aeroflex are ideally suited for characterization and production test of:

Consumer RF Semiconductors including:

- Discretes
- Power amplifiers
- Front end modules
- Tuners
- RFID/NFC
- ZigBee<sup>®</sup>
- Bluetooth<sup>®</sup>
- WLAN
- Transceivers

Consumer mixed signal semiconductors including:

- Wired communications
- Audi/Video
- Interface
- Modems
- Microcontrollers
- MEMs

#### MODULES

#### DPS12 - Device Power Supply

The DPS12 is a 12 channel analog source/measurement unit in a single slot AXIe 3.1 format. It has voltage forcing functionality along with a source engine and PMU digitizers (250 KHz sample rate). The channels are independently programmed and can be operated in any combination. The DPS12 is divided into two banks with 6 channels per bank. Each bank can have its -12 V to +12 V range shifted up to match application needs.

#### Dynamic Digital 48 - AXI Compatible Instrument with 48 Flexible Digital Channels

The DD48 is a self contained 48 channel mixed-signal digital system that fits in a single AXI slot. Each DD48 has an independent sequencer controller with pattern generators, and an independent per channel timing system via integrated timing generators connected to integrated pin electronics. Each pin card can operate as an independent 48 channel sub-system or may be synchronized with other pin cards controlled by a separate Digital Synchronization Module provided in the Chassis InterFace board (CIF) installed in the system backplane. Each pin on the DD48 can drive and compare data up to 400 Mbps.

#### Cage Interface Card (CIF)

A CIF system module is required in the hub slot of each AXIe chassis.

The CIF provides the following functionality:

- Communications between the test computer and instruments located within a chassis
- Multiple types of flexible asynchronous instrument triggers
- Frequency references on one or more chassis backplanes
- Support for a single DMM (digital multimeter) to be used for instrument calibration within multiple chassis
- AXle shelf management functions
- · Digital synchronization on one or more chassis backplanes.







#### **Aeroflex Semiconductor Products**

- Modules
- Integrated subsystems
- Turnkey Systems

#### INTEGRATED SUBSYSTEMS AXRF Multi-Port PXI RF Subsystem



The AXRF is the industry's first fully integrated multi-vector 8port PXI RF subsystem. Users have traditionally been forced to choose between expensive high end integrated ATE or discrete bench/PXI instruments that require custom integration.

The AXRF fills this gap as an integrated subsystem based on cost-effective, standards-based PXI instruments. High level software provides simple user commands that control all cards in the subsystem. And a comprehensive automated calibration program assures that the AXRF achieves and maintains its stated specifications over time and temperature. It is designed to be used as either a stand-alone test system or as a subsystem that can be integrated into existing test systems.

The AXRF is based on production-proven, high-speed PXI instrumentation that provides industry-leading test times and parallel test efficiency for multi-site applications.

#### AX500 Integrated 5 Slot AXIe System

The AX500 is the industry's first self-contained test system based on the AXIe standard. It provides all of the power, cooling, and device loadboard interfacing required for up to 5 AXIe instrument cards. The AX500 can be used as a standalone test system or as a rack mountable subsystem upgrade for existing test systems. Device loadboards use high-density direct connections to the AXIe instrument cards and can easily be interchanged as required for different devices.



TURNKEY SYSTEMS AX518 Integrated 5 Slot AXIe/18 Slot PXI System



Low latency, high speed PCI/PCIe infrastructure, combined with industry leading settling times, give the AX518 exceptionally fast test times and high parallel test efficiency.

Manipulator mounts and docking plate compatibility coupled with a full suite of production software tools facilitate smooth deployment into high volume production. The PXI/AXIe foundation of the AX518 provides a unique combination of high end ATE performance with the economics and investment protection that come with widely deployed industry standards based instruments.

#### AX1018 Integrated 10 Slot AXIe/18 Slot PXI System

The AX1018 test system leverages PXI and AXIe to provide high end semiconductor ATE performance in a compact, lowcost, industry standards based form factor. With support for a wide range of digital, analog, and RF instrumentation, the AX1018 is perfectly suited for post-silicon validation and characterization, as well as multi-site production test of consumer digital and wireless devices. Low latency, high speed PCI/PCIe infrastructure, combined with industry leading settling times, give the AX1018 exceptionally fast test times and high parallel test efficiency.

The system was designed with an easily interchangeable device loadboard using high density direct AXIe and mixed-signal connections and blind mate PXI RF connections.

### Signal Generation Signal Generation

#### **2023A Series Signal Generators**



Renowned around the world for its combination of flexibility, reliability and performance, the 2023A Series signal generator continues to offer fantastic value and excels in the following areas:

- Phase noise performance
- Class leading VSWR
- Highest power option +25 dBm
- Unique SINAD measurement option for simplified receiver testing
- Unique DC power input option for use in vehicle or external supply in the field
- Fast pulse modulator option with internal pulse generator
- 2026 multisource variant

...and at 8 kg (17.6 lbs.) is still one of the lightest and most portable signal generators in its class.

#### Internal Pulse Generator, Option 9

With a minimum pulse width of 50 ns, when used in conjunction with options 7 or 11 (fast pulse modulator), this combination of options will provide a pulse modulated signal with rise/fall times of typically 10 ns providing an integrated radar testing solution. The 2023A Series' minimum carrier frequency of 9 kHz makes this option combination particularly suitable for EMC testing. Option 9 may also be ordered with the standard pulse generator.

#### 2026A/B Series Multisource Generators



Up to three fully functional signal generators in one unit offering a unique solution for complex tests on receivers, components and systems.

The 2026A/B are multiple source generators which offer two RF signal generators in one box with a third source available as an option. Each source is a fully functional RF signal generator with AM, FM, ØM, 2FSK, 4FSK and pulse modulation capability.

The 2026A/B are ideal for use in R&D and manufacturing where there is a need for two or three combined sources for conducting tests such as intermodulation and selectivity performance of components and receiver assemblies.

To aid the user to undertake difficult test procedures simply and without ambiguity, the 2026A/B family provide application-specific modes of operation. Application modes include amplifier two and three-tone intermodulation, receiver intermodulation and receiver selectivity. A rotary control and up/down keys allow easy modification of the selected parameters.

- Two or three high quality RF signal generators in a space efficient format
- · Ideal for intermodulation and receiver characterization
- Wide frequency coverage:-10 kHz to 2.05 GHz (2026A) 10 kHz to 2.51 GHz (2026B)
- +24 dBm RF output for effective component testing
- · Support for an external signal generator
- Application specific test modes simplify measurement procedures
- User defined tracking between signal sources

#### **Aeroflex Signal Generator Products**

- S-Series SGA Signal Generator
- S-Series SGD Signal Generator
- 2023A/B/25 Signal Generators

#### **Broadband Signal and Environment Series**



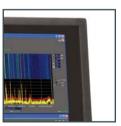


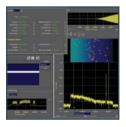
The Broadband Signal and Environment series provides the widest bandwidth and deepest memory RF/baseband signal generator available. The BSG combines broadband RF upconverters, wide bandwidth high dynamic range DACs and high speed memory with powerful DSP-based signal creation software. Real signals, including recording using Aeroflex's Broadband Signal Analyzers or other recorder sources can be imported, combined with digitally generated signals, and then played back on the BSG for ultra-realistic test scenarios.

Applications include:

- Radar
- Communications
- EW/ECM
- Spectrum monitoring
- EME

Aeroflex's Vector Signal Player (VSP) software provides simple controls for signal file selection, and output frequency and power control. Aeroflex's up converters use real (non-I/Q) conversion architectures, generating high dynamic range waveforms without the carrier leakage and signal image problems associated with I/Q modulators found in traditional signal sources. The Vector Signal Simulator (VSS) software provides the unique ability to mix any combination of signals and impairments to generate complex signal environments.







#### Aeroflex Broadband Signal Generator Products

- Explorer CS1247-18G Broadband Signal and Environment Series
- Explorer CS1247-G Broadband Signal and Environment Series

### Signal Generation and S-Series

The S-Series is a range of cutting-edge RF test equipment. This class-leading, Windows<sup>™</sup>-based, totally touch screen RF product range employs the latest synthesizer technology providing excellent phase noise combined with fast frequency and level settling time.

The S-Series instruments employ a large touch screen userinterface to provide unparalleled ease of use. The small form-factor and light weight ensure minimum footprint on the bench or test system and maximum portability.

Feel confident in your RF test needs - by combining instruments and modules using our innovative Aerolock<sup>™</sup> concept, the S-Series safeguards your future.

The S-Series products have been designed to cater for the needs of RF engineers who not only need high quality RF signal sources but also need the speed and efficiency provided by the newer generation equipment.

#### SGA - Fast, Low Noise Analog Signal Generator



- Frequency coverage 100 kHz to 6 GHz
- Phase noise -135 dBc/Hz
- RF level/freq settling times 100 μs

With the unique combination of low phase noise and fast settling times, the SGA sets a new standard for performance. With four internal 10 MHz oscillators and two external inputs, a wide selection of modulation modes is catered for with wide bandwidths to support testing of broadcast systems and FSK for high speed digital transmission and telemetry, as well as a fully featured avionics option. A fast pulse modulator/generator option supports demanding tests on radar RF and IF stages required for military and RF applications.

#### SGD - Fast, Low Noise, Digital Signal Generator



- Frequency coverage 100 kHz to 6 GHz
- +13 dBm output (+20 dBm option)
- IQ modulator with 300 MHz RF bandwidth
- Up to 250 MS/s dual channel arbitrary waveform generator with memory options up to 4 GBytes (1G Sample)
- 3GPP ACLR of -71 dB
- Embedded IQCreator® waveform generation tool
- Low SSB phase noise: -135 dBc/Hz at 1 GHz
- Fast frequency settling time: 100 μs
- · List mode with AWG waveform sequencing

With a comprehensive range of features and options, the SGD meets the needs for a general-purpose signal generator while offering the high performance required of demanding, critical receiver measurements or rapid manufacturing. The wide bandwidth IQ modulator is complemented by an embedded version of IQCreator<sup>®</sup>, Aeroflex's powerful waveform creation tool. This enables a user to design waveform files from simple generic or system specific templates as well as convert user designed waveforms into compatible formats. A simple 'Generate and Play' feature allows any waveform adjustments to be carried out 'on the fly'.



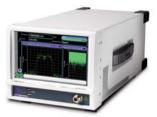
Waveforms designed in IQCreator<sup>®</sup> can include signal impairments and time markers to aid sychronization. Graphical displays of the waveform FFT, vector and constellation diagrams, etc. can be viewed and exported for use in other Windows<sup>™</sup> applications.

#### **Aeroflex S-Series Products**

- SGA Fast, Low Noise Analog Signal Generator
- SGD Fast, Low Noise, Digital Signal Generator
- SVA Vector Signal Analyzer
- SCO 4-Input Port Combiner
- SPA High Power Amplifier
- SPS USB Power Sensor

## Analysis

#### SVA - Vector Signal Analyzer



- Frequency coverage 250 kHz to 13 GHz
- Input level range to +30 dBm
- Maximum instantaneous bandwidth: 90 MHz
- Digitizer ADC resolution: 13 bits
- Digital downconverter with sample rates up to 250 MS/s
- List mode for fast frequency and level settling time:  ${<}250~\mu\text{s}$
- · Generic demod and spectrum analysis as standard

The SVA converts RF signals into digital IF or I&Q sampled data providing vector signal analysis of RF signals with functionality and performance required in the laboratory or the manufacturing test system. With high linearity, low noise and excellent level accuracy, the SVA is ideally suited for the analysis of WLAN, WMAN, WPAN, 2G, 3G, 4G cellular radio signals as well as general purpose analog and digitally modulated signal analysis. A spectrum analyzer mode provides the features and controls you would expect from a conventional spectrum analyzer.

A dual display mode allows close-in analysis of FFT segments using a simple drag and drop technique or to display two sets of results in either trace or text formats.



#### SCO - 4-Input Port Combiner

- Wide band cover
- SCO-6 1 MHz to 6 GHz
- Plug & Play operation under the control of an SGA/SGD simplifies test configuration and calibration
- Aerolock™ interlocking mechanism for test system creation
- Combine the outputs of up to four SGA/SGD signal generators

High performance 4-input combiner/switch module to complement the SGA/SGD signal generator for all multisource applications.

#### SPA - High Power Amplifier

- 1 Watt from 10 MHz to 6 GHz
- Seamless operation under the control of an SGA/SGD
- SPA path calibration data used by SGA/SGD to optimize RF output level accuracy
- Ultimate RF level accuracy by path/cable calibration using USB power sensor
- Can be used stand-alone

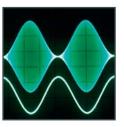
The SPA is a 1U high, half rack width, PA which may be controlled by an S-Series SGA or SGD Signal Generator via a USB plug & play interface. By accepting up to +10 dBm from an SGA/SGD, a gain of at least 20 dB will provide an output from the SPA of up to +30 dBm. A rear panel enable control allows the SPA to be used as a stand-alone PA.

#### www.aeroflex.com/sseries











### Spectrum and Signal A Spectrum and Signal Analysis

Our range of spectrum analyzers use the latest digital processing and RF technology to deliver accomplished accuracy, stability and speed. Our products target R&D, EMI pre-compliance, manufacturing, installation and service.

#### 3250 Series Spectrum Analyzers



- Powerful RF performance, phase noise -115 dBc/Hz, DANL -145 dBm/Hz
- Standard 30 MHz I/Q demodulation bandwidth
- Measurement personality options including GSM/EDGE, UMTS, CDMA2000/1xEVDO, WLAN and WiMAX
- Remote control via LAN, GPIB, RS-232C
- 7" wide touch panel display
- Standard removable hard disk
- Optional 3 GHz and 8 GHz tracking generator
- · Portability based on light and compact design

The 3250 Series provides market leading performance at a low cost. The innovative compact design 3250 spectrum analyzer employs the latest digital processing and RF technology, providing accomplished accuracy, stability and measurement speed.

#### 9100 Series Hand-held Spectrum Analyzers

The 9100 Series - Rugged design for field and lab applications



The 9100 Series Hand-held Spectrum Analyzers provide RF engineers with the excellent performance of a workbench analyzer in a hand-held form, at a competitive price.

- 100 kHz 7.5 GHz frequency range
- Used in the field to measure and verify base station emissions
- Used for installation trouble-shooting, repair and maintenance e.g. in wireless local loop and modern 2.4 GHz WiFi systems

They provide RF engineers and service technicians with the excellent performance of a workbench analyzer, but in a hand-held form factor.

Typical measurements include transmitter testing, alignment of modulator and measuring switch breakthrough. Additional options; such as a tracking generator, the 9160 VSWR/DTF bridge and the 9103 VSWR/DTF reflection measurement option; expand the capabilities of the 9100 Series.



#### Aeroflex Spectrum and Signal Analyzers Products

- 3250 Series Spectrum Analyzers
- 9100 Series Spectrum Analyzers

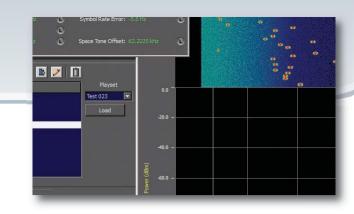
SOFTPLOT Application Software

SVA Vector Signal Analyzer

## nalysis

**Broadband Signal Analyzers and Recorders** 



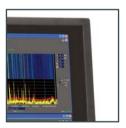


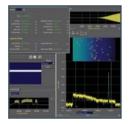
The Aeroflex Portable Broadband Signal Analyzer and Recorder series provides the widest bandwidth and deepest memory RF/baseband signal analyzers available. The BSA combines broadband RF downconverters, wide bandwidth high dynamic range ADCs and high speed memory with powerful DSP-based signal analysis software. The wideband recording capability of the Explorer makes it simple to find, record, and analyze signals of interest. The DSP software analyzes both real time signal inputs and signals captured into BSA signal memory. Digital acquisition and processing achieve the highest fidelity, accuracy and repeatability. Signals recorded into memory can be saved to onboard storage or transferred over network. Recorded signals can be imported into Aeroflex's Broadband Signal Generators and played back.

Applications include:

- Radar
- Communications
- EW/ECM
- Spectrum monitoring

The multi-threaded system application software allows signal acquisition with simultaneous analysis of signals, providing tight correlation of time, frequency and modulation measurements on the same signal space.







#### Aeroflex Broadband Signal Analyzers Products

- CS9000SM Broadband Signal Analyzer and Recorder
- Explorer CS1247-18A Broadband Signal Analyzer and Recorder
- Explorer CS1247-A Broadband Signal Analyzer and Recorder
- Scout CS1104 Broadband Signal Analyzer and Recorder

## Providing the world with 'per flow' IP test and measurem

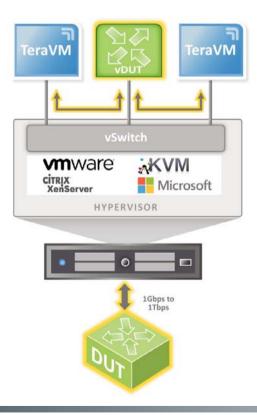


### TeraVM - Fully Virtualized IP Test and Measurement Solution

TeraVM is a fully virtualized IP network and application test and measurement solution that can emulate and measure millions of unique application flows. TeraVM provides comprehensive measurement and performance analysis on each and every application flow with the ability to easily pinpoint and isolate problem flows.

TeraVM enables customers to:

- Build an elastic test bed to test physical and virtual network functions
- Scale tests of stateful application traffic from 1Gigabit to 1 Terabit per second
- Gain greater utilization from a single test bed
  through license sharing



#### Test Physical or Virtual Devices

TeraVM is a highly scalable virtualized IP test solution, suitable for testing high performance physical networking devices at terabit rates and virtual network functions. TeraVM can be deployed on independent servers or direct to a datacentre server. The ease of mobility is particularly beneficial when it comes to testing both the physical and virtual version of a network function.

#### Elastic Test Bed - Scale as you Grow

TeraVM permits users to start small at a gigabit or less of test application traffic and easily scale as the test requirement demands. Alternatively, users of TeraVM can deploy a highly scaled test bed and thereafter segment into smaller test beds for individual user test needs, providing greater utilization of the test resources.

#### Portability

TeraVM can be deployed to any x.86 industry standard hardware which is running one of the major hypervisors. With TeraVM you are no longer locked in to proprietary test hardware.

#### Mobility

TeraVM is packaged as a virtual appliance which only requires a software license to operate. For geographically dispersed test organizations moving a test bed across the world is as simple as checking out a license from a centrally deployed license server.

www.aeroflex.com/virtualized-ip-test-solutions/

#### Aeroflex Virtualized IP Test Solution Products

- TeraVM Fully Virtualized IP Test and Measurement Solution
- TVM-R620/R420 Turnkey IP Network and Application Test Solution



#### **Example Use Cases**

#### Network Function Virtualization (NFV)



With a more software centric approach to operations, carriers must ensure that the NFV system and the Virtual Network Functions (VNF) being deployed into the datacentre like infrastructure are functional and moreover are as robust and reliable as

products running in proprietary hardware.

TeraVM is the only test solution available today that can be orchestrated into a NFV system as a regular VNF enabling Test Data as a Service (TDaaS) for VNF service validation, ensuring robust and reliable service deployments.

#### Long term Evolution (LTE)

With the ever increasing number of content sources, such as over the top "OTT" multimedia services (RCS - messaging and video calling), service providers are looking to the Evolved Packet Core (EPC) to deliver even more traffic on top of the millions of unique flows currently being serviced, with no impact to existing subscriber service level agreements (SLA).

TeraVM delivers the necessary scale of traffic to effectively load test the EPC with millions of unique subscriber flows. TeraVM's stateful endpoint emulation permits load testing of both control and user plane, with dedicated performance analysis for session establishment.

#### **Delivering Next Generation Video Services**

The success of Next Generation Video Services is dependent on the reachability and reliability of the video being delivered to the viewer's screen, which today can be of many sizes. Service providers face further challenges which include the continued demand for new content feeds and to manage the growth in video bandwidth.



TeraVM is consistently used to test video streaming services as it provides performance measurements from the perspective of the end viewer (video quality - MOS). TeraVM supports all the major network video delivery protocols: broadcast (IGMP/MLD/Automated Multicast - AMT), on demand (RTSP) and/or over the top (HTTP adaptive streaming), which is used to test the network infrastructure for performance limitations.

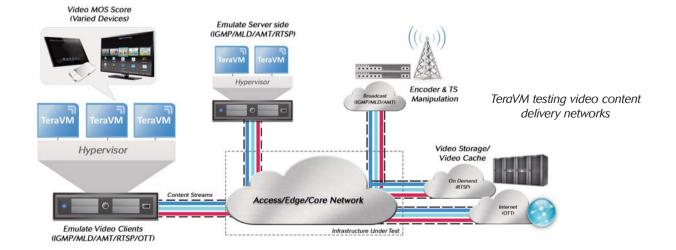
#### Virtual Private Network (VPN) Testing



Defining the correct balance of security policies for a VPN client is essential in ensuring network security and the ability to deliver a reasonable level of Quality of Experience for the tunnelled application. Testing secure sever gateway performance is not only

dependent on the performance of the tunnel establishment, but also the ability to test application performance e.g. video, voice and data in the configured tunnels.

TeraVM is used for testing VPNs as it statefully emulates the leading 3rd party vendor SSL/IPsec VPN clients. Each emulated VPN client communicates directly with a corresponding vendor's VPN appliance, with real user log in credentials. TeraVM's granular measurement approach provides real time analysis on the secure tunnels and the application being sent over the encrypted flow.



## **VICE IN THE SECTION OF A SECTI**

#### Development



#### TM500 Family

In the demanding world of developing new cellular equipment, base stations typically arrive long before mobiles. But without a mobile, how do you test the the network? Aeroflex, with its TM500 test mobiles provides the answer. Need an HSPA+ handset UE? Choose TM500. Need an LTE UE with 600Mbit/s performance? Choose TM500. Need multiple UE for development testing which can be re-used as part of a capacity test solution? Choose TM500!

Every major infrastructure vendor and the majority of femtocell manufacturers use TM500 throughout the development cycle. Why? Because it's the industry standard for 3GPP verification, validation and optimization. From GSM and HSDPA through HSUPA and HSPA+ to LTE-A, TM500 offers all the capabilities of a mobile terminal with advanced test functionality. And what's more, the TM500 roadmap is always in step with the latest demands of the industry to help Aeroflex's customers deliver their new products on time.

Testing a single base station against a single mobile isn't enough though. Scheduling and load balancing algorithms need to be optimized and the network needs to be load tested. Complex scheduler and load capacity testing can be performed early in the design cycle and help deliver robust, flexible and high performance solutions to network operators.

Aeroflex Test Mobiles provide low level handset UE control and configuration flexibility combined with the detailed measurement data to rapidly diagnose engineering issues as well as high level performance summary making it suitable for both infrastructure engineers or operators. New technology test mobiles such as those based upon LTE have leading edge roadmaps to support testing of the very latest 3GPP functionality.

#### **Performance and Capacity Test**

With the ability to emulate from tens up to tens of thousands of mobile devices across multiple cells and different radio access technologies, the TM500 Family provides a test solution that builds on the scalability of the TM500 Test Mobile to validate network performance as experienced by end users.



The TM500 Family with integrated data services can measure the complete performance from RF through the packet core including interaction with other users, the simulated RF environment and mobility. This is essential to accurately replicate real-world user behavior profiles such as web browsing, emails, downloading, video streaming and VoLTE, together with mobility across the radio access network.

- The system is fully scalable, connecting to tens of base station sectors, emulating thousands of mobile devices and modeling real RF channel conditions.
- Each mobile can support multiple cellular technologies (2G, 3G, 4G), and using advanced mobility models can create inter and intra technology handover scenarios.
- Real world user data applications can be generated for each mobile allowing true 'end-toend' IP performance analysis.
- Repeatable test scenarios can be scheduled to produce a comprehensive set of system measurements and KPIs, allowing the user to assess network performance at a protocol, application or system level.

www.aeroflex.com/networktest



#### **Manufacturing Test**

#### **Base Station RF Tester**



Aeroflex's Base Station RF Tester measures the BS RF transmitter (Tx) and receiver (Rx) characteristics of LTE/LTE-A, UMTS/HSPA+, TD-SCDMA, WLAN 802.11 a, b, g, n, ac, GPS and Bluetooth using one 4U PXI set, integrating a Vector Signal Analyzer (VSA), Vector Signal Generator (VSG), and optional multiple channel RF conditioning modules.

Designed for small cell RF Production Test:

- Offering non-signaling RF test capability with industry leading measurement & speed
- Suitable for the production test of BS RF components, tailored for evolving small cell production test
- Providing an analysis example code/flexible service package to minimize the manufactures'effort of automated test system integration and production throughput optimization



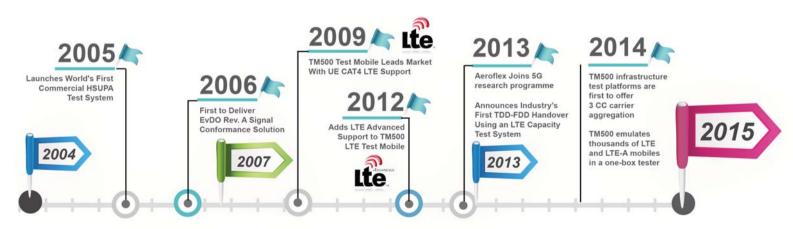
#### BTS Repair Test 6113 EDGE Base Station Test Set



- Field portable, easy to use, fully integrated for GSM 850, 900, 1800 and 1900 BTS testing
- Options to control all major BTS types
- Test sequences for full customization
- Optimized for installation and commissioning, routine maintenance, fault finding and production testing

Aeroflex's 6113 Digital Radio Test Set is regarded by many as the industry standard base station tester, and it provides a wide range of test and measurement functions to enable fast manual or automatic testing of GSM 850, 900, 1800 and 1900 Base Transceiver Stations (BTSs). Applications include installation and commissioning, routine maintenance, fault finding and final unit production testing.

3G, **4G**, 5G



Wireless Network Test - First to Markets

2G,

#### Aeroflex Wireless Network Test Products

- TM500 Family
- Base Station RF Tester
- 6113 EDGE Base Station Test Set

# Service and Support

Aeroflex Test Solutions Service and Support is committed to providing world class service and support through a portfolio of comprehensive products all designed to meet or exceed your expectations.

Our goal is to provide seamless global support to our diverse customer base in a manner that reduces the cost of ownership while increasing customer satisfaction.

#### **Global Support**

At Aeroflex, we understand that downtime can be expensive and, keeping your instruments operational and at peak performance is critical to your business. The quality of our support directly affects your business' profitability, employee productivity and your satisfaction. Along with our state-of-the art test instruments, Aeroflex has developed a comprehensive range of extended warranty contracts and service contracts to ensure that you can maximize the uptime of your investment and give you the peace of mind that comes with the knowledge that your test instrument will be fully maintained during its lifecycle. When you purchase a test instrument from Aeroflex, you make an investment backed by one of the most comprehensive service and support organizations in the industry. Aeroflex's experience with a diverse customer base has shown us that our customers' support requirements vary considerably. With our flexible approach to customer support, starting from the date of purchase through the life of the instrument, we have a support program that fits your needs.

#### End-to-End Coverage

When your test instrument is enrolled in an Aeroflex Service and Support Contract, any unplanned, high cost maintenance events are eliminated. Service and Support Contracts offer you both convenience and reduced administrative burden by transferring the workload and responsibility to Aeroflex or sharing the workload if you select our Partner Support Option. Many of our customers have a fully trained and competent maintenance team that can provide first line support and effectively reduce the downtime. Utilizing your own Aeroflex trained maintenance group, the Partner Support Service Contract enables you to troubleshoot and maintain an Aeroflex instrument via in-house expertise while still being protected in the knowledge that Aeroflex engineers are just a phone call away should additional support prove necessary.

An Aeroflex Service and Support Contract offers additional support beyond the Aeroflex standard warranty period. It delivers increased customer satisfaction and lower lifetime costs of ownership through a combination of business and operational benefits that help your business increase performance.

For more details on customer specific service and support options go to aeroflex.com or contact your Aeroflex regional service and support center.











#### Aeroflex Service and Support Locations

- Americas
- Europe
- APAC
- China

#### **Technical Support**

Our technical support department delivers responsive and rapid problem isolation through our call management system. Aeroflex helpdesk personnel will route your support request, by telephone or internet, to the right person and manage that request for assistance through to completion.

In partnership with the customer, Aeroflex will determine both the best and quickest course of action to resolve your technical support request.

#### Americas

Wichita, Kansas 10200 West York Street Wichita Kansas 67215-8935 USA Tel: [+1] (316) 529-5511 or 1- 800-835-2350 (US Only) Fax: [+1] (316) 529-5330 or 1-866-325-1180 (US Only)

#### Europe

Stevenage, England Longacres House Six Hills Way Stevenage SG1 2AN UK Tel: [+44] (8706) 080134 Fax: [+44] (1438) 772203

#### Asia-Pacific (Excluding China)

Singapore Technopreneur Centre 20 Ayer Rajah Crescent #07-27 Singapore 139964 Tel: [+65] 6873 0991 Fax: [+65] 6873 0992

#### China

Rm 901, IBM Tower, Pacific Century Place 2A Gong Ti Bei Lu, Chao Yang District Beijing 100027 Phone: [+86] (10) 65391166 Fax: [+86] (10) 65391778









Aeroflex Microelectronic Solutions is a world leader in the design, manufacturing and marketing of high-reliability integrated circuits, CCA and RAD test services, motion control and motors, microwave and RF devices, components and subsystems for the aerospace, defense, fixed broadband, and wireless/mobile markets.

Aeroflex's Colorado Springs, Gaisler, Metelics-HiRel, Microwave Filter Products, Motion Control, Plainview and RAD divisions provide HiRel standard and custom integrated circuits and circuit card assembly for the aerospace, highaltitude avionics, medical, x-ray cargo scanners, critical transportation systems, nuclear power controls, GPS receivers, networking and telecommunication markets.

Aeroflex's RF and Microwave (RFMW) division and its business units are firmly established as the industry's most complete suppliers of RF, microwave and millimeter wave devices, components and subsystems. Our broad offering of standard products, innovative, custom-engineered designs and comprehensive resources enable Aeroflex to support the most demanding high-performance product needs of our worldwide customers.

The RFMW business units include:

- Aeroflex Signal and Control Solutions
- Aeroflex / Inmet
- Aeroflex / Metelics
- · Aeroflex Nanjing
- Aeroflex / Weinschel

As an industry leading supplier of microwave and RF products, Aeroflex's advanced technologies, broad capabilities, engineering expertise, manufacturing facilities and experience marketing products into a wide range of industry applications are aligned to serve our customers' requirements for cost-effective products that are delivered on time.

Included in our broad product range, Aeroflex offers a comprehensive array of coaxial components ideally suited for test and measurement applications. These T&M accessories are available from Aeroflex / Inmet and Aeroflex / Weinschel and include coaxial components operating over frequency ranges up to 65 GHz and to power levels of 1 kW CW.

Our core T&M component offering includes:

- Coaxial fixed and step attenuators
- Precision terminations
- DC blocks and bias tees
- · Resistive splitters and dividers
- · In and between series adapters
- Planar Blind-Mate® connectors
- Planar Crown® connectors
- SmartStep® test interconnect and signal conditioning subsystems
- Equalizers
- Detectors and limiters
- Switches and switch matrix interconnect and conditioning subsystems

Please visit our web site at www.aeroflex.com/AMS for additional information.











Aeroflex.com delivers the latest information about our products, services, news and events.

#### **Performance-Driven Content**

We understand you need a web site that allows you to access information quickly and easily. That's why we provide an Aeroflex Test Solutions home page with easy navigation options, menu structure and product directory. Aeroflex.com also offers a search box in the top menu bar.

#### Solution-Minded Design

Our web site is organized around making it simple to find the right test solution. With an easy product directory to follow, we'll lead you to the right product. Once you're on a product page, we give you the key stats, right up front- along with all the related information you need- data sheets, application notes, software, articles, news and more. You can even request a quote right there. Easy.

#### **Customer-Focused Service**

We want to exceed your expectations. That's why we have recently updated our Customer Service/Support area of the web. RMAs, hardware and software support, training information and sales office locations are all available online, ready at your convenience.

You can also find information about our worldwide service centers through our web site- 24/7 at Aeroflex.com/support.

#### News You Want. Events You'll Want to Attend.

Sign up online for our e-mail newsletter, and, each month, you'll receive all the latest Aeroflex news, including upcoming product announcements, new application notes and product software releases. You can also find the information you need about key industry trade shows. Of course, our latest products are always available on the Aeroflex Test Solutions home page.

## Why choose Aeroflex?

At Aeroflex we can tailor our test products to meet our customers' exact design requirements. We aim to work with our customers throughout every stage of the design cycle, from the development of new technology platforms right through to production, delivering precisely engineered products to meet their specifications.

#### **Our Strengths**

- A strong focus on performance, design and manufacturing innovation
- · Commitment to developing and strengthening long-term customer relationships
- Continued investment in R&D and new product development to keep our solutions ahead of the field in the latest technologies
- Pursuing a team-based sales approach that enables close technical collaboration with our customers
- · Worldwide support for both sales and service, wherever our customers are located
- The reassurance of ISO 9000 registration

Our use of experienced engineering personnel as part of the sales team enables close technical collaboration with the customer during the design and qualification phase for new technologies and equipment, providing the smoothest possible route to integrating our instruments into the customer's test setup.

Aeroflex is a global organization with employees located throughout North America, Europe and Asia/Pacific Regions. Aeroflex has a global customer base which is underpinned through our global sales and service and support teams.





#### Commitment 01

Commitment to developing and strengthening long-term customer relationships

#### Collaboration 🕕

Pursuing a team-based sales approach that enables close technical collaboration with our customers

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#### Support

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Worldwide support mfor both sales and service, wherever our customers are located



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Our passion for performance is defined by three attributes represented by these three icons: solution-minded, performance-driven and customer-focused.

www.aeroflex.com

info-test@aeroflex.com