

# AEROFLEX

A passion for performance.

PMR

P25

TETRA

MPT1327

EDACS

SmartNet™/SmartZone™

LTR®

PassPort®



## Land Mobile Radio Test Systems

# Aeroflex Radio Test Sets



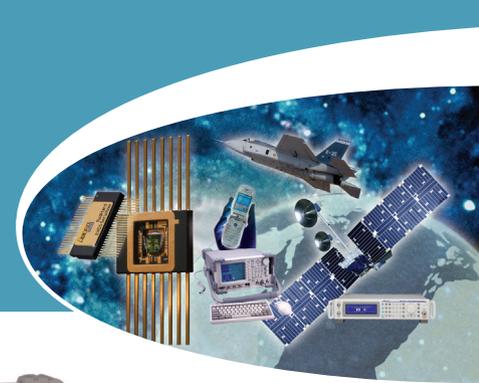
**The Aeroflex family of radio test sets is the result of more than 50 years experience in providing superior radio test solutions.**

*With its increasing portfolio of test products resulting from the 2002 acquisition of IFR, Aeroflex delivers a broad range of test sets that have achieved worldwide acceptance. By remaining flexible, adaptive and extremely customer-focused, Aeroflex continues to be a market leader. Aeroflex's wide range of test products covers wireless applications from HF, VHF, UHF, all the way to an industry-first of 2.7 GHz. Dedicated to increasing your productivity and lowering the cost of test, Aeroflex develops, manufactures and sells products that will protect your test investment with upgradeable software modules to meet the latest protocol standards.*



*Aeroflex radio test sets are being used everywhere from R&D labs to the factory floor. Extremely durable, of the highest quality and easy to use, Aeroflex radio test sets are preeminent in the service market and public safety applications, including mission-critical police and emergency communication systems. From direct power measurement of 100 W transmitters to receiver sensitivities in the sub 1  $\mu$ V region, Aeroflex radio test sets are in demand because of their unique ability to deliver both accuracy and ease of use. Built-in spectrum analyzers, tracking generators and oscilloscopes are available to complement all models to speed problem identification and repair.*

*Every Aeroflex radio test set is reliable, has an excellent price/performance ratio and represents an outstanding test value. Aeroflex understands how and why communications markets move quickly. You can count on Aeroflex's resident expertise to rapidly respond not only to the constant evolutionary changes in protocols, but also to your specific requirements.*



## 3920

### The newest generation PMR test platform

The 3920 is the latest in next generation portable test for advanced professional analog and digital radio communications. The instrument is a platform onto which software capabilities expand the measurement and signaling capabilities for communications systems that utilize advanced digital modulation and protocols. It does this while retaining the capability to test many current generation analog AM and FM radio systems.

The 3920 performs measurements on many digital and analog PMR radio systems. The 3920 has the processing power to perform the complex digital measurements that previously were only possible on vector signal analyzers. In addition, the 3920 boasts a full-featured spectrum analyzer and tracking generator, as well as a complex signal generator. The all-new digital architecture of the 3920 not only delivers faster, more accurate measurements, thereby lowering the cost of test when compared to any of its contemporaries and predecessors, but also ensures that future market needs can be met in a timely fashion. The future of professional mobile radio is changing rapidly as technology advances and market needs expand and the 3920 is a platform that will stand the test of time.

**Type:** analog/digital

**Input Power:** 125 W max

**Frequency Range:** 2 MHz to 2.7 GHz

**Systems Supported:** FM, AM, P25, HPD®, DMR, SmartNet™/SmartZone™, TETRA



## 2975

### The state-of-the-art test system for public safety

The Aeroflex 2975 P25 Radio Test Set not only handles Project 25 but also legacy support for LTR®, SmartNet™/SmartZone™, PassPort® and analog systems. It tests both analog and digital P25 radios, including terminals, repeaters and base stations.

The 2975 comes standard with a digitized 2.7 GHz spectrum analyzer and dual-channel digital storage oscilloscope for complete transmitter spectrum performance testing, transmission line testing, plus unique color coded pass/fail results for at-a-glance troubleshooting and test. Also included are the tools necessary to perform comprehensive, general-purpose RF testing and it comes with a high-resolution color screen.

The 2975 features a 40 GB internal hard drive for storage of setup information, frequency lists and test data. The 3.5-inch floppy drive simplifies program installation and software upgrades with transferable setup files for all your 2975 instruments.

The 2975 also offers unique "Try Before You Buy" options where customers can try an option before purchase. Owners of the 2975 test sets can try any 2975 option for up to 30 days before making an investment decision.

**Type:** analog/digital

**Input Power:** 125 W max

**Frequency Range:** 1 MHz to 2.7 GHz

**Systems Supported:** FM, AM, P25 SmartNet™/SmartZone™, LTR®, PassPort®

# Analog/digital PMR & Cellular



2944B



2945B

## 2944B/2945B/2948B

### The industry's most rugged, lightweight analog radio test set

With unparalleled features and performance, this lightweight and portable platform provides the ultimate solution for alignment and verification of two-way radio systems. Everything you need in a single convenient package makes this radio test set the perfect tool for both field and bench applications. All models include a low noise full span spectrum analyzer with oscilloscope and sensitive receiver for off air testing to 1.05 GHz. The rugged and lightweight (25 lbs.), field-proven design also supports use of external DC or convenient internal battery for applications where AC power is not available.

The bright color display offers exceptional viewing of test results and control settings coupled with an intuitive operator interface to create an easy to use environment for both the novice and expert alike. Easy access to stored setups along with an auto-tuning receiver provides quick performance checking.

There is no need to sacrifice accuracy for portability. With accurate deviation, frequency and power measurements to 150 W, you can be confident that your equipment will be operating at peak performance.

Choose from these three models and get exactly what you need. The 2944B provides everything you need for conventional AM/FM/SSB analog radio systems tests. If your application requires support for trunking, the 2945B adds support for LTR®, EDACS, and MPT-1327 as well as harmonic and power profile analysis. The 2948B is available with all these features plus a low phase noise signal source coupled with avionics testing.

**Type:** analog

**Input Power:** 5 mW to 150 W

**Frequency Range:** 400 kHz to 1.05 GHz

**Systems Supported:** FM, AM, EDACS, LTR®, MPT1327, POCSAG, SSB



## 3500

### The first truly portable radio test set

The Aeroflex 3500 combines many features of a benchtop radio test set with the capabilities of a VSWR and Distance to Fault (DTF) meter into a lightweight, rugged and portable platform. The 3500 is perfect for testing AM and FM radio transceivers, whether on a bench, installed in a vehicle, or in some remote location.

At only 8.5 lbs., and with a five hour batter life, the 3500 is truly a portable radio test set that the test professional can take anywhere. In addition, the 3500 has a rugged aluminum case that protects it from harsh surroundings that are often present in field test environments.

New to the 3500 is the capability to generate and receive P25 signals. With the capability of generating standard P25 test patterns and performing P25 modulation fidelity measurements, the 3500 is a powerful tool to take with you to that remote P25 repeater site.

The 3500 includes all of the features that you would expect in a radio test set. Aeroflex engineers developed the 3500 to test all parts of the radio system, including the transmitter, receiver, cable and antenna. With a spectrum analyzer and a VSWR and Distance to Fault meter (using Frequency Domain Reflectometry), the 3500 includes many more features than are usually found in a radio test set.

**Type:** analog/digital

**Input Power:** 20 W or up to 150 W with external attenuator

**Frequency Range:** 2 MHz to 1 GHz

**Systems Supported:** FM, AM, P25



## Supporting Products

### CPM20/46 counter power meter

Aeroflex's counter power meters (CPM) are a portable combination of three instruments: a microwave frequency counter, true power meter and digital voltmeter. A compact instrument with internal rechargeable battery, ruggedized case and carry strap, it can be used up a tower, on a roof or at a field site. Numerous sensors of varying frequency ranges and power levels are available for the CPM20 and CPM46.

### 6970 RF power meter

The 6970 RF power meter provides precision microwave power measurements in a hand-held battery-powered package. A wide range of user features, including duty cycle, relative power measurements and limit checking make the 6970 power meter highly versatile. Power sensors are available in a frequency range of 10 kHz to 46 GHz for the 6970.

### 239X spectrum analyzers

The 239X Series of spectrum analyzers from Aeroflex has three units covering a frequency range of 9 kHz to 26.5 GHz. The 239X Series of analyzers weigh less than 21 lbs., making them truly portable. The unit has a 6.4 inch TFT color LCD, nine markers, and built-in semi-automated measurements.

2399C - 9 kHz to 3 GHz

2394A - 9 kHz to 13 GHz

2395A - 9 kHz to 26.5 GHz

# Aeroflex Accessories

**Utilize some of Aeroflex's software options to make your testing more efficient.**

## **2975 "Try Before You Buy" Options**

"Test drive" the various software options available on the 2975 for a trial period. After this trial period, you may purchase the option/s from your Aeroflex Sales Representative.

The software options available for trial include:

**P25 Options**

**Analog Test Options**

**Encryption Options**

Please call or e-mail us for your free copy of our Introduction to Project 25 brochure.

## **STI Software**

The STI Field Test Software controls the 2975 to make automated signal measurements on multiple frequencies during drive tests. The software comes complete with an excellent user interface, manuals and street map data for the entire USA. The user can view measurement locations and signal measurement results in real-time on their laptop during drive-test and indoor measurement projects. After testing, signal measurements can be analyzed with area statistics, contour plot coverage reports or with optional tile analysis methods. Future plans include versions that work with the 3500 and the 3920.

## **Blue Streak™ Cables and Adaptors**

Blue Streak™ QMA test cables and adaptors eliminate uncertainties in RF power output and sensitivity measurements associated with BNC adaptors. The system consists of a high frequency, phase stable, QMA-equipped test cable and various mating adaptors designed to fit most manufacturers hand-held and mobile radios. The snap-on, pull-off design is extremely secure when mated. Each half can rotate 360 degrees relative to its mate, yet together they exhibit little or no change in RF performance.

## **Attenuators**

Aeroflex has precision attenuators that will interface with any of our radio test sets. Two 20 dB models are available that will handle 50 to 150 W of continuous input power. By using one of these attenuators the user never has to worry about overheating the termination in their radio test set. The power meters in all Aeroflex radio test sets can be compensated for the input attenuation giving the user an accurate on-screen reading of transmitter power.

AC27002: 20 dB, 50 W Attenuator

AC27003: 20 dB, 150 W Attenuator

AC25059: 6 dB, 150 W Attenuator

AC25060: 10 dB, 150 W Attenuator

# Radio Test Set Features



	3920	2975	2948B	2945B	2944B	3500
<b>GENERAL FEATURES</b>						
1 GHz Frequency Coverage						
2.7 GHz Frequency Coverage	OPTION					
Color Display						
Battery Operation			OPTION	OPTION	OPTION	
Weight	33 lbs.	33 lbs.	25 lbs.	25 lbs.	25 lbs.	8.5 lbs.
Scope	5 MHz	500 kHz	50 kHz	50 kHz	50 kHz	OPT 50 kHz
Spectrum Analyzer						OPTION
Tracking Generator	OPTION					
Audio Analyzer	OPTION	OPTION				
Harmonic/Spurious Search	OPTION					
Site Monitor	OPTION					
Site Survey	OPTION	OPTION				
Remote Monitoring						
DMM	OPTION					
Tone Encode/Decode						
<b>CONVENTIONAL FORMATS</b>						
FM						
AM						
SSB			OPTION	OPTION	OPTION	
P25 (C4FM)	OPTION					OPTION
LSM	OPTION	OPTION				
<b>METERS</b>						
Power						
Frequency						
Modulation						
Distortion/SINAD						
Audio Counter						
Voltmeter						
P25 Modulation Fidelity	OPTION					OPTION
P25 Symbol Deviation	OPTION					OPTION
P25 Eye Diagram	OPTION					
P25 Distribution Plot	OPTION					
P25 Trajectory Plot	OPTION					
P25 TX BER	OPTION					
<b>SIGNAL FORMATS/TRUNKING</b>						
LTR®		OPTION	OPTION	OPTION		
EDACS			OPTION	OPTION		
MPT 1327			OPTION	OPTION		
PassPort®		OPTION				
SmartNet™/SmartZone™	OPTION	OPTION				
PROJECT 25	OPTION	OPTION				
TETRA	OPTION					
HPD®	OPTION					
DMR	OPTION					
Avionics Test			OPTION			
<b>I/O</b>						
RS-232						
GPIB			OPTION	OPTION	OPTION	
Ethernet						
Printer Port			OPTION	OPTION	OPTION	
USB						
VGA						
Mouse	USB	Ps2				
Keyboard	USB	Ps2				

## Legend

	Standard Feature
OPTION	Option Available
	Not Available

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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.