Wireless

2947A *Communications Service Monitor*

USED4TEST

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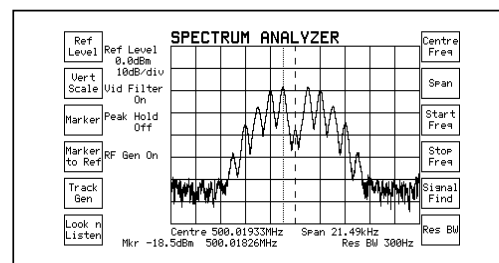*As used by the Federal Aviation Administration and the US Navy*

- **Militarized rugged lightweight package - tested and conforms to MIL-PRF-28800F Class 2**
- **Full span spectrum analyzer with 'live' look and listen**
- **Tracking generator with offset tracking**
- **150 W RF power measurement to ±10% accuracy**
- **Two variable Audio Generators**
- **Super fast LCD with rapid refresh rate for easy monitoring and real time adjustment**
- **AMPS and TACS Cellular Testing**
- **PMR Testing**
- **EDACS Testing**
- **RS-232 control interface for PC automated testing**
- **PCMCIA 2 memory card DOS formatted (for saving instrument settings, results, screens and transfer/storage of Auto-run programs)**
- **50 kHz DSO (digital storage oscilloscope) with anti-aliasing**
- **Comprehensive color-coded keyboard for ease of use**
- **Fast response high-resolution bar charts for peaking and nulling**

The 2947A communications service monitor was built to meet the requirements of the US Navy and Federal Aviation Administration. It provides an excellent combination of instruments for all types of maintenance work while providing exacting measurements for use in repair and calibration laboratories.

Field Operation

At under 15 kg, (33 lbs.) the 2947A lightens the load to remote sites. The form factor of the 2947A combined with the bail arm make it easy to carry and position for optimal usage. A front cover over the front panel offers storage of adapters and further protection to the instrument's front panel.

Fast Full Performance Spectrum Analyzer

The spectrum analyzer provides spans from 100 Hz per division to full span and also has a fully adjustable reference level. Speed is comparable with analog analyzers, allowing real time adjustments over a full 70 dB dynamic range. With the tracking generator provided as standard, duplexers and filters can be aligned quickly and easily.

'Live' Look and Listen

This feature puts the 2947A above all of its peers with the ability to examine signals on the screen and demodulate them simultaneously. Intermittent interference can be isolated quickly and the signals then easily identified.

From 2 µV to 150 W

The 2947A will measure the power of low level signals either off-the-air or those found when probing a circuit. 150 W measurement is provided without the need for external attenuators.

Accurate RF Signals

The signal generator provides coverage from 400 kHz to 1.05 GHz with +5 dBm output (+7 dBm overrange) and fast switching speed. Level accuracy is ±2 dB at all levels above -127 dBm.

MICROPHONE INPUT Press To Talk (PTT)

When using the microphone in "receive" mode, operating the PTT will switch the instrument to "transmit" mode and allow voice modulation of the signal generator.

Duplex

Full duplex operation is provided by the 2947A. This allows testing of duplex radios as well as simultaneous testing of repeater transmit and receive paths. There are no restrictions to the duplex offset.

Cellular and Trunking - built-in

AMPS and TACS analog cellular standards testing

SSB Demodulation

The SSB demodulator allows signals to be demodulated either via the internal loudspeaker or the accessory socket (upper and lower sideband in the 400 kHz to 1 GHz range).

Network Simulation

The 2947A simulates the signaling protocol that the radio would see from the real network. This allows calls to be set up and handled enabling receiver and transmitter parametric measurements to be made.

Remote Control - RS-232 or GPIB

Remote control is provided with an RS-232 interface or by an IEEE488.2 interface.

Auto-run - internal control

Automatic testing without an external controller is possible. Custom tests may be written and run by the operator.

Memory Card - with real time clock

Test setups, test results, screen dumps, spectrum analyzer coordinates and test sequences can all be stored on a PCMCIA memory card drive allowing information to be easily stored and retrieved by the monitor and PC when required.

Environmental

Tested and conforms to MIL-PRF-28800F Class 2 for shipboard applications

Audio Analysis

Comprehensive filters are provided including band pass, low pass and high pass. The direct measurement of CTCSS is possible with the 300 Hz LP filter, even with speech present.

Two comprehensive audio generators are provided for internal modulation or audio sources for transmitter stimulus. 600 Ω balanced and unbalanced inputs and outputs are available.
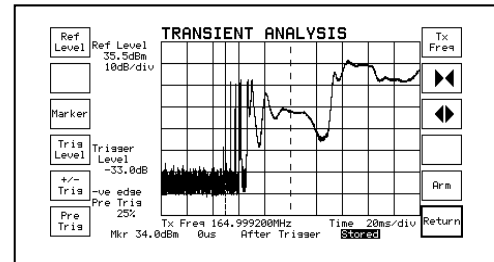
Comprehensive Oscilloscope

Analysis of audio signals, whether from the demodulated signal or the audio input direct can be viewed for further inspection. The oscilloscope can either be combined with the measurement screen in the Tx, Rx or AF test modes or 'zoomed' to a full screen display.

Transient Analysis

The ability to capture transients on the rising or falling edge of a waveform provides a valuable tool for fault finding radios and radio systems.

Harmonic Analysis

An automatic harmonic analysis function is included to complement the fast spectrum analyzer.

Tones Generation and Decoding

The tones menus include full remote control so that radio workshops can further automate their tasks.

Now Equipped with EDACS™ Radio and Repeater Test Software

The 2947A provides Auto/Manual test capability for EDACS radios and repeaters. Up to 4 user defined variants can be created and stored, each with up to 24 spot channel frequencies. The 2947A also performs bit error rate tests to check the performance of receiver and transmitter.

A data logging facility is also available to continuously decode and display data messages from the repeater under test.

Supplied Accessories

Operating Manual

Maintenance Manual

Training Video

AC Supply Lead

DC Supply Lead

Microphone with PTT

BNC Telescopic Aerial

Front Panel Stowage Cover

For general characteristics and supplemental (non-warranted) specifications please refer to the 2948 Data Sheet.

Also see www.NAVICPmart. com

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