

Portable Instruments Improve Performance and Handle More Applications

Portable test instruments have recently grown in popularity, especially as instrument manufacturers have combined functionality and high performance in those units. System installers and maintenance staff no longer need to find the space, power, and gentle transportation needed for laboratory instruments that once were the only way to obtain accurate measurement data.

The trend toward greater capability in portable, especially handheld, instruments is continuing. Below are listed some examples of offerings from various companies, along with notes on performance and capabilities.

Agilent Technologies launched the FieldFox line of RF test instruments in early 2009. This handheld RF analyzer includes these functions: spectrum analyzer, power meter with USB power sensor, and a vector network analyzer option. The unit can make the necessary insertion gain/loss, VSWR and distance-to-fault measurement common in wireless system installation and maintenance. A key feature of the FieldFox is QuickCal, a built-in calibration system that does not require a calibration kit.



QuickCal also corrects drift due to temperature changes during field usage.

Rosenberger Hochfrequenztechnik recently introduced a newly-designed portable Passive Intermodulation



Analyzer instrument. Although not a handheld unit, the PIA provides on-site measurement of this key parameter in high performance base stations. The analyzers are available for common wireless frequency bands: LTE 700, AMPS 800, EGSM 900, DCS 1800, PCS 1900, TD-SCDMA 2000, UMTS 2100, UMTS II / LTE / BRS-EBS and WiMAX.

Anritsu Company is a pioneer in high performance handheld instruments, and has an extensive lineup with capabilities ranging from basic RF testing to advanced high performance analysis. Among the latest develop-

ments from this company is a new platform and package for its family of handheld Site Master™, Spectrum Master™ and Cell Master™ analyzers. The



S331E/S332E/S361E/S362E are full-featured handheld analyzers for installing, provisioning, maintaining, and troubleshooting wireless base station cable and antenna systems. The MS2712E/MS2713E handheld spectrum ana-

lyzers have dynamic range of >95 dB in 10 Hz RBW, DANL of -152 dBm in 10 Hz RBW, and phase noise of -100 dBc/Hz max at 10 kHz offset at 1 GHz. The MT8212E is a handheld multi-function base station analyzer that combines all the tools required to deploy, maintain and troubleshoot wireless base stations into a lightweight, battery-operated package.

For optical system testing, *EXFO Electro-Optical*



Engineering Inc. offers the AXS-200/855 DSx/PDH/Ethernet Test Set. This unit is a handheld multi-service test solution that increases technician efficiency by seamlessly transitioning from E1/DS1, DS3 or PRI circuit testing to comprehensive Ethernet/IP performance testing without swapping modules or test units. Housed in the AXS-200 SharpTESTER platform, the AXS-200/855 is a lightweight, rugged, handheld

unit optimized for rapid, simple testing. The AXS-200/855 offers field technicians a single unit to perform comprehensive dual DSx/PDH and ISDN PRI testing, including real-time insertion of voice traffic and one-time setup of tests to be run across all ISDN channels simultaneously, as well as turnkey Ethernet testing, including RFC 2544, multistream traffic generation and monitoring, BERT and IP connectivity tools.

These are just a few examples of high performance portable instruments. Watch for new introductions in the New Product announcements published in future issues of *High Frequency Electronics*.