



The Power of Preventative Radio Maintenance for Rapid Deployment

DIAGNOSTX™
BY LOCUS USA

THE POWER OF PREVENTATIVE RADIO MAINTENANCE FOR RAPID DEPLOYMENT

A NEW Portable Self-Calibrating, Over-The-Air Radio Analyzer for Local, State, and Federal Agencies

With the launch of the DiagnostX PX-900 Portable Instrument for P25 Trunk and P25 Conventional radio systems, LocusUSA has reimagined and retooled its patented-technology solution to adapt to the growing needs of local, state, and federal agencies in maintaining their radios during mobile security and disaster operations.

By ensuring the optimal performance of a radio system, the PX-900 measures the alignment and operating characteristics of two-way radios, long-range, over-the-air (OTA), in real-time, without user intervention. The instrument detects and identifies crystal oscillator alignment, radio frequency (RF) drift, and related radio frequency interference before these incidents lead to hazardous conditions and communication failures.

ABOUT THE TECHNOLOGY

The DiagnostX patented technology uses measurements and signal intelligence techniques to assess:

- Common frequency-related metrics
 - Frequency Error
 - Maximum Frequency Deviation
 - Symbol Error
 - Symbol Deviation
 - SNR
 - RSSI
- Performs/stores historical radio performance

These frequency metrics can evaluate the inner workings and alignment of a radio.

DiagnostX uses over-the-air measurement techniques to determine the performance of each radio by filtering out environmental detractors to give a lab measurement while in the field.

The user can set performance thresholds used to capture transmissions, thereby fine-tuning the data analysis.

Additionally, the user has control over frequency assignments and the ability to save configurations by market or user profile.

Once the incoming transmission is captured, and the waveform is analyzed and evaluated, it is stored in a database for second-level statistical analysis, based on past radio transmissions, as well as to verify any abnormality that would identify a poorly operating radio.

DiagnostX allows radio system managers to review the evaluated metrics and schedule poorly performing radios for maintenance and alignment.

HOW THE PX-900 WORKS

The DiagnostX PX-900 Portable Instruments are self-calibrating, over-the-air radio waveform analyzer systems.

Once the user sets up the instrument for operation in the desired area, the PX-900 can operate autonomously with minimal user interaction. The instrument will capture all valid transmissions under the frequency it is tuned to.

With each transmission, the analysis is stored in a database for further assessment, allowing the user to export reports for further investigation - enabling traceability and logging over time.

The instrument displays the operational characteristics of each radio user-defined threshold.

The PX-900 has a user-friendly interface and displays configurations, current operating conditions, and live radio analysis - all in a compact, durable hard case, making for quick deployment and ease of travel.

FEATURES

- Protocols: P25 Trunk and P25 Conventional
- Available Frequency Bands: VHF; UHF; 700/800 MHz (uplink frequencies only); and 900 MHz
- Encryption: AES
- Self Calibrating
- A standalone instrument that operates on standard AC or its own DC power (~6 hours)
- Generates reports identifying radios in need of maintenance and validates the alignment characteristics of the other radios
- Weight: 11 lbs. (approximately)
- Hard Case: MIL-SPEC-certified - MIL-STD-810F (Immersion)
- Power Requirement: 12VDC/1.5A
- Measurements: 14" W x 10" H x 4" D

BENEFITS

Improving communication resiliency and situational awareness during security and disaster operations remains a priority. As the rate and complexity of these incidents increase, there is a growing urgency for a lightweight, portable over-the-air radio waveform analyzer.

The PX-900 instrument fulfills this need as an essential radio maintenance tool for local, state, and federal agencies to utilize in ensuring the operational readiness of mission-critical communications equipment while assuring the safety of officers and agents.

Know before you go with the DiagnostX PX-900 Portable Instrument!