

2975 1_9_2_4 Release Notes (1).txt

2975 Software Release Version 1.9.2.4 - Release Information

August 21, 2009

-- PURPOSE

The purpose of this document is to communicate the Feature/Function additions, operational changes, loading instructions, Operation Manual changes, and support contact relating to release of software for the 2975 P25 Radio Test Set.

-- NEW FEATURES/FUNCTIONS

The latest version of 2975 software is Version 1.9.2.4

Below is a recap of recent version Features/Functions to highlight the on-going improvements to the 2975.

Version 1.3.x Feature/Function enhancements --

- * AM modulation and demodulation
- * faster operation
- * selectable audio filters
- * tone signaling and coded squelch control formats
- * save and recall of settings
- * improved P25 C4FM meter
- * improved SINAD meter
- * independent transmit and receive modulation formats

Version 1.4.x Feature/Function enhancements --

- * all the features/functions of Version 1.3.0
- * new and improved 2975 Operation Manual

Version 1.4.x New optional functions and features --

- * SmartNet(tm)/SmartZone(tm) trunking option
- * new SmartNet(tm)/SmartZone(tm) Option Manual

Version 1.5.x Feature/Function enhancements --

- * all the features/functions of Version 1.4.0
- * EIA/TIA Standard P25 Modulation patterns, including CCITT V.52 pattern (TxBER)
- * "Quick Tune" Spectrum Analyzer mode (use your mouse to click and tune signals)
- * newly revised 2975 Operation Manual

Version 1.5.x New optional functions and features --

- * P25 Trunking option
- * New P25 Trunking Option Manual

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Version 1.7.x Feature/Function enhancements --

- * all the features/functions of Version 1.5.x
- * New Spectrum Analyzer functions,
 - Four (4) Markers with frequency/level readout, plus marker-to-marker readouts
 - Cable Fault measurement calculator
 - "Quick Span" mouse for simultaneous frequency/span settings
- * Digital Coded Squelch (DCS) and DTMF decoding
- * Volume and Squelch controls are accessible using the mouse
- * RF Generator ON/OFF control is on the Receiver screen
- * A User definable screen permitting customized screens
- * Faster Setup recall accessible from any screen
- * Several bug fixes and enhancements

Version 1.7.x New optional functions and features --

- * Control Channel Logger (2975OPT6) for capturing P25 trunking protocol messages
- * LSM/P25 Phase II (2975OPT11) for Transmit and Receive of CQPSK waveforms
- * LSM Advanced/P25-2 Advanced (2975OPT13) adds powerful measurement capabilities for P25 waveforms, including error vector magnitude (EVM) and I-Q constellation display
- * P25 Trunking VHF/UHF/700MHz (2975OPT14) for testing P25 systems in various frequency bands of operation
- * SmartNet(tm)/SmartZone(tm) 900 MHz (2975OPT8) for testing radios in the 900 MHz band using this trunking protocol
- * AES (2975OPT10) Advanced Encryption System to permit testing radios using this powerful encryption scheme
- * KVL Keyloader (2975OPT12) to permit loading and management of encryption keys within the 2975

Version 1.8.x Feature/Function enhancements --

- * all the features/functions of Version 1.7.x
- * E-Manual support. The new E-manual support provides the ability to create user manuals and
 - application notes for display directly on the 2975 user screen. Users can now load user manual
 - directly into the 2975, including "how to" guides.
- * Enhanced Web Features: The expanded network IP support with DHCP support provides streaming data
 - via the Internet and the ability to pull and push files into the 2975 with a web based file management
 - system.
- * Improved Spectrum Analyzer Functions: Software version 1.8.1 includes the ability for an improved
 - Zero Span mode that allows the capture of the power ramp or power down ramp signal. In addition, the

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- number of vertically and horizontally configurable markers has been increased to 8. The speed of the spectrum analyzer has been improved as well.
- * C4FM modulation fidelity improvements: The C4FM modulation fidelity meter on the 2975 now reports the frequency error and deviation at symbol time in addition to the modulation fidelity error.
 - * Auto-tune: This gives the 2975 the ability to automatically tune to the frequency of a transmitter and display spectrum, received frequency and frequency error. It also provides the ability to perform automatic harmonic analysis by automatically tuning to the harmonics.
 - * TX BER: This new standard feature allows the user to measure modulator BER (Bit Error Rate) when transmitting a specific tone into the 2975.
 - * LCO #7: Telephone dialing entry support included
 - * Opcodes "03" and "06" continuous delivery (Unit to Unit and PSTN interconnect modes).
 - * Wider range of receive operation for P25 decoding
 - * Protected mode for setup saves
 - * RF Spectrum analyzer has 8 markers (add 4 more) now vertically and horizontally configurable
 - * AM PEP Power Meter: The 2975 has been revised to support Peak Envelope Power on AM measurements.
 - * Improved Save/Recall screen now includes directories support and new user interface for easier access to saved setups.

Version 1.8.x New optional functions and features --

- * Auto-Test 1 (2975OPT9) provides user defined tests and limits for transmit, receive and audio systems
- * KVL ASN Mode Support (2975OPT20) for KVL-3000 and older model key loader support. Supports only keys for DES-OFB and AES encryption.

Version 1.8.2.1 Feature/Function enhancements --

- * all the features/functions of Version 1.8.x
- * Fix of the *.rst command for remote operation and programming
- * Fix of the CH1/CH2 Scope input sweep lock issue
- * Fix to restore Scope Softkey functions
- * Fix of entry errors on HEX fields
- * Fix of a Web Server file download issue
- * Refinement of CH1/CH2 user selection in maximized mode
- * Enhanced hot swap ethernet cable function

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Version 1.8.2.2 Feature/Function enhancements --

- * all the features/functions of Version 1.8.2.1
- * Fix of the Fixed Mode IP operation

Version 1.9.1 Feature/Function enhancements --

- * all the features/functions of Version 1.8.2.2
- * Scope Markers: The 2975 now supports markers for the integral dual channel o'scope. These markers allow the user to easily set and verify amplitude and frequency parameters of audio signals to 50 kHz.
- * Screen Capture Functions: Using the front panel HOLD key or through the web-server that is supplied standard on all 2975 units, test professionals can capture spectrum displays, oscilloscope displays, or any currently displayed front screen displays. In addition, with the integral web-server file management function, users can catalog graphic files and extract screen shots in an easy to use GIF format.
- * Vrms Option for Audio Function Generators: Software version 1.9.1 includes the ability to select Vrms in addition to Vpp on sine waves generated from the function generator audio outputs.
- * Demod Audio Routing Generator: Users can now recover demodulated audio from AM, FM or P25 radio systems and use that audio to modulate either an AM, FM or P25 carrier. This capability provides for pseudo-repeater operation for extended test capabilities in bench and field operations.
- * Addition of the STD511 Tone to BER Meter: The 2975 now has the ability to automatically receive, demodulate and calculate BER from a STD511 tone to assist in tuning various transmitters deployed in the market.
- * Frequency Lists Can Now be Optionally Attached to Set Ups: This new standard feature allows the user to not attach frequency lists to setups, speeding up the save and recall functions of setups.
- * The DTMF Decoder now provides a "Clear" function for clearing existing DTMF data.

Version 1.9.1 New optional functions and features --

- * PassPort(r) (OPT19): The 2975 now optionally provides the latest features for testing PassPort(r) Radios and Repeaters. This includes the new VHF PassPort(r) functions being deployed.
- * Explicit Messaging(OPT22): The 2975 now optionally supports explicit messaging for trunked VHF/UHF radio systems that use this extended messaging for the latest P25 trunking systems. (Requires OPT4 and OPT14)
- * SCCB Messaging (OPT21): The 2975 now optionally supports the Secondary Control Channel Broadcast message for either explicit or normal P25 trunked operation. The addition of this feature allows the user to set up simulated control channels to verify how P25 radios switch over to secondary control channels. The explicit mode supports one additional control channel and the implicit mode supports two additional control channels. (Requires either OPT4 or OPT14)
- * Adjacent Status Broadcast Messaging (OPT24): The 2975 now optionally supports the

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Adjacent Channel Broadcast message for explicit P25 trunked operation. The addition of this feature allows the user to set up a simulated adjacent control channel to verify how P25 radios switch over to adjacent control channels in roaming modes. (Requires OPT4 and OPT14)

Unit to Unit and PSTN Interconnect(OPT23): The 2975 now optionally supports Unit to Unit and PSTN interconnect calls in the explicit mode of operation. This feature allows users to verify that a radio can generate and receive Unit to Unit and PSTN calls. (Requires OPT4 and OPT14)

Version 1.9.1 New enhancements to optional functions and features --

- * Addition of Tracking Generator to the Audio Analyzer function for sweeping audio circuits. Option improvement of 2975OPT15 and 2975OPT16.

Version 1.9.1.2 Feature/Function enhancements --

- * all the features/functions of Version 1.9.1
- * Find frequency functions would sometimes lock up unit. This has been resolved.
- * Scope operation over extended periods would sometimes lock up unit. This has been resolved.
- * Redirect Function via Ethernet and X-Windows client would not properly display screens. This has been resolved.
- * Minor bug fix in handling DHCP assignments.
- * Added version control for option configurations.
- * Set up files that incorporated a "Frequency List" could cause a unit lock up upon recall. This has been resolved.

Version 1.9.1.2 New enhancements to optional functions and features --

- * PassPort(r) Option (OPT19) bandwidth setting was operating in the 12.5kHz bandwidth when in fact the radio was assigned a 25kHz wide bandwidth.
- * Added ability to log control channel and LCO messages for P25 operation (OPT6) to individual files with flexibility based on file size or time duration. These are remote commands only, no Graphical User Interface is provided.

Version 1.9.1.3 Feature/Function enhancements --

- * all the features/functions of Version 1.9.1.2
- * Receiver squelch operation was not operating correctly. This has been resolved.
- * Improvement in AM modulation meter accuracy.
- * Improved C4FM Meter operation.
- * Fixed P25 Low Speed Data decoding problem.

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Version 1.9.1.3 New enhancements to optional functions and features --

- * Minor fix on PassPort(r) VHF Band Channels 141-382 that were offset by 1MHz and some minor changes to VHF band operation.

Version 1.9.1.4 Feature/Function enhancements --

- * all the features/functions of Version 1.9.1.3
- * Improved system stability
- * Enhanced RCI commands

Version 1.9.1.4 New enhancements to optional functions and features --

- * Extra resolution added to Analog Simulcast Audio Analyzer function

NOTE: PassPort(r) Option owners will need to update their unit with the latest PassPort(r) Option file. Please call 1-800-835-2350 to get your updated PassPort(r) Option file for version 1.9.1.4.

Version 1.9.1.5 New enhancements to optional functions and features --

- * all the features/functions of Version 1.9.1.4
- * Resolves software download problem in version 1.9.1.4

Version 1.9.2 New enhancements to optional functions and features --

- * all the features/functions of Version 1.9.1.5
- * adds the ability to view an eye diagram of a P25 phase 1 signal.

NOTE: Requires download of option file (free) after version 1.9.2 has been installed.

Option file is available on Aeroflex.com and P25.com web sites.

- * Improved system stability
- * Improved operator interface
- * Improved P25 message decoding
- * Improved Scope stability
- * Open windows now stay open when focus is removed
- * Added Average setting for RF Error meter
- * Added Eye diagram for P25 Phase 1 signals
- * Improved P25 Trunking operation

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Version 1.9.2.1 New enhancements to optional functions and features --
* all the features/functions of Version 1.9.2

Optimized CQPSK I/Q Plot Application to synchronize with additional waveforms
Improved C4FM Meter Response2.

Version 1.9.2.3 New enhancements to optional functions and features --
* all the features/functions of Version 1.9.2.1

This version has been modified to allow operation of 2975OPT27 -
SmartNet(tm)/SmartZone(tm) 800 MHz Rebanded channel plan.
Added 2975OPT27 - SmartNet(tm)/SmartZone(tm) 800 MHz Rebanded channel plan.
Note: This option requires 2975OPT3 - SmartNet(tm)/SmartZone(tm) Testing Option.

The addition of this option is the only difference between version 1.9.2.3 and the
previous release of version 1.9.2.1.

Version 1.9.2.4 New enhancements to optional functions and features --
* all the features/functions of Version 1.9.2.3

* An issue with the ASN KVL Keyloader (2975OPT20) has been resolved. The entire key
was not being saved.

* This version implements a change to the modulation fidelity meter. In previous
versions, the modulation fidelity reading
would increase if the symbol deviation were other than 1800 Hz. Now the symbol
deviation and modulation fidelity readings
are separate from one another.

* The PassPort(r) option (2975OPT19) has been updated. Bands 7, 8 and 9 were
configured with a 5 MHz offset. They have been updated
to have a 3 MHz offset.

NOTE: The PassPort(r) option update requires a new Option file which can be
obtained from the Aeroflex Customer Service department 800-835-2350.