VIAVI Solutions

Software Release Notes

AVX-10K Software Version 4.3.0 Available

10/08/2024

New Features

- Added Guided Test functionality to the COMMs instrument
- Added dual tone modulation selection in the Mod Tone menu in the COMMs generate instrument. The selections now are OFF, 1020 Hz and DUAL 800/120Hz.
- Added Over-the-Air power measurements to the Antenna selection in the COMMs instrument. The operator can now make relative signal strength measurements using the antenna port in the COMMs receive tab.
- Added a cable loss measurement mode to the VSWR/DTF Test Tools instrument. The Test Tools instrument now has VSWR, DTF, and Cable Loss capabilities.

Improvements

- **Transponder**
  - The Transponder Auto test report now shows output power in the units selected in the application. Previously, the report showed output power only in dBm.
  - The transponder auto test previously identified DF=11 squitters occurring when the transponder is configured for on-ground condition as a failure. Recent changes to the transponder specifications require a transponder on the ground to squitter a DF=11 when the aircraft is on the ground and does not have a GPS fix. The AVX-10K now identifies DF=11 squitters when the transponder is configured for on the ground as a pass and shows the interval.

Errata

- When testing an ELT (Emergency Locator Transmitter) the AVX-10K will not display modulation on the 121.5 MHz or 243 MHz signal unless the ELT beacon is placed in the on condition for longer than 3 seconds. The AVX-10K will display frequency and power output, but no modulation measurements are taken when the ELT is armed. The ELT should be placed in the on or activated condition for 5 seconds or more to be able to measure the sweep rate, start/stop, and modulation depth of the transmitted signal.

Calibration

- Re-calibration is not required for this software release if your unit has been calibrated with 4.1.2 or higher software. If upgrading from 3.1.10 or an earlier version of the software, calibration is required.

Download Instructions

- The installation package is available via your StrataSync account or can be downloaded by Clicking Here.

Contact Information

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AVX-10K Software Version 4.2.0 Available

08/21/2024

New Features

- Added E-TCAS operation in TCAS instrument. Option AVX-10K-SETCAS.
- Added Military modes 1,2 and 3 to the transponder test instrument. Option AVX-10K-SM1/2/3.
- Secure Use - Added password-protected enable / disable control of Wireless Network Functionality (Wi-Fi and BT). Option AVX-10K-SSECURE.

Improvements

- **VOR**
  - Corrected direct keyboard entry when variable entry method is chosen.
- **TACAN**
  - Increased the resolution of the TACAN frequency measurement display.
- **COMMS**
  - Expanded the COMMS frequency range for the FM modulation measurements.

Errata

- When testing an ELT (Emergency Locator Transmitter) the AVX-10K will not display modulation on the 121.5 MHz or 243 MHz signal unless the ELT beacon is placed in the on condition for longer than 3 seconds. The AVX-10K will display frequency and power output, but no modulation measurements are taken when the ELT is armed. The ELT should be placed in the on or activated condition for 5 seconds or more to be able to measure the sweep rate, start/stop, and modulation depth of the transmitted signal.

Calibration

- Re-calibration is not required for this software release.

Software Version 4.1.4

06/07/2024

New Features

- Compliance with DO-181F ATCRBS/Mode S All-Call Usage/Failure

Improvements

- **Transponder**
  - Corrected operation of the transponder autotest when testing basic mode S transponders (Elementary Surveillance)
- **Target Generation 1090**
  - Menu cleanup
- **Target Generation UAT**
  - Menu cleanup
- **ILS/VOR**
  - Corrected the RF turning off between Guided Test steps
- **DME**
  - Corrected lockup condition when running a Guided Test without a DME connected
- **TACAN**
  - Limited changes
  - Pulse rise time corrected

Errata

- When testing an ELT (Emergency Locator Transmitter) the AVX-10K will not display modulation on the 121.5 MHz or 243 MHz signal unless the ELT beacon is placed in the on condition for longer than 3 seconds. The AVX-10K will display frequency and power output but no modulation measurements are taken when the ELT is armed. The ELT should be placed in the on or activated condition for 5 seconds or more to be able to measure sweep rate, start/stop and modulation depth of the transmitted signal.

Calibration

- Re-calibration is not required for this software release.

Download Instructions

- The installation package is available via your StrataSync account or can be downloaded by Clicking Here.\

Software Version 4.1.2

02/13/2024

New Features

- Added TACAN application
- Added serial data streaming to the Altitude Encoder Test Configuration
    - Serial data can now be streamed, allowing air data OEMs to connect to the AVX-10K to obtain Mode S Address, Tail Number, Mode C/S Altitude, and Airspeed (AIS) reported from the aircraft's transponder for incorporation into their 91.411 test report.
- Added System and Instrument Settings lockout
    - Provides a password-protected feature to enable/disable lockout of the system settings and set up parameters of multiple instruments for the purpose of "supervisor" control, allowing the user to only run auto and guided tests and create reports.
- Added Guided test features to VOR, ILS, DME, and TACAN applications
- Diagnostics now allows the operator to edit the transponder fields (Engineering Use)

Improvements

- **Transponder**
    - The Altitude Encoder test configuration now acquires and displays Indicated Airspeed (AIS) and Tail Number
    - Vertical Status (VS) is now displayed on the transponder summary page
    - Improved test report summary
    - Manual address mode no longer warns the operator that the Mode S address received from the UUT does not match the address entered by the user. This warning occurred when the address matched the address input by the operator but still identifies the address if it does not match the operator input.
- **ADS-B Auto**
    - Corrected file naming issue
    - Improved test report summary
- **DME**
    - DME now allows the operator to use two-letter Morse code identification
- **COMMS**
    - Extended RF meter range to 512 MHz
    - Created separate frequency values for the different modulation schemes
- **ELT**
    - Added MOD Depth calculations

- **System**
  - Cosmetic changes to the overall GUI to make operation more consistent
  - Aligned softkey names across all applications
  - Corrected application initialization issue. The symptom for this issue is an extended initialization time resulting in application fields not populating. (note – a separate factory hardware modification is required should this issue persist)

Errata

The following is a list of specification discrepancies in this software release for the AVX-10K, which will be corrected in the next release.

- TACAN-Rise time is 2.5 µ Seconds, it should be 2.0 µ Seconds
- TACAN-Maximum RF level is limited to -5 dBm, should be -2 dBm.

Note: Previous Errata issues have been corrected in this release.

Calibration

- Re-calibration is not required for this software release.

Software Version 3.1.10

06/16/2023

New Features

- ELT 406: Display HEX aircraft address and decode and display tail number

Improvements

- The AVX-10K's built in web browser has been removed due to security concerns
- Position Settings: Position Format Conversion inaccuracy corrected
- UAT Monitor: Corrected instrument not seeing UAT traffic due to attenuator calculations
- DME: Corrected app possible adverse effect on other applications
- DME: Corrected instrument stopping when changing channels while app still running
- ELT: Improved 121.5 no signal at -35 dBm
- COMM: Increased Frequency Counter resolution
- VSWR: Corrected app possible adverse effect on other applications

Errata

The following is a list of known issues in this release of software for the AVX-10K and will be corrected in the next release.

- When testing transponder functions in manual address mode, a dialog box pops up during the test identifying an address mismatch between the operator entry and what was received by the AVX-10K even though the Mode S addresses match. Pressing the CONTINUE button will complete the test.

Calibration

- Re-calibration is not required for this software release.

Software Version 3.1.7

03/28/2023

New Features

- **ELT**
  - AM Mod depth is being added to the tone measurement
  - Added a measurement of sweep rate to the ELT instrument
- **Transponder**
  - Operator is now able to perform the altimeter tests in reverse order in addition to ascending order.
  - The AVX-10K will now test a transponder in manual address mode when the transponder/aircraft is configured for ground mode. It now displays the vertical status and when on the ground does not check ATCRBS or acquisition squitter operation.
- **ADS-B Auto**
  - Failure items are now highlighted in Red on Test Reports for ADS-B Auto and DME instruments
- **COMMs**
  - Operator is now able to set audio frequency in COMMs application

Improvements

- Calibration date is now being updated when the calibration is performed
- **ELT**
  - When changing to WATTS in ELT the instrument displays a power measurement of 1 milliwatt without testing an ELT
  - Recall function is now loading all data
  - ELT instrument for 121.5 and 243 MHz toggling between ENABLE and DISABLE has been fixed
- **COMMs**
  - Comm AM modulation depth is now consistent when changing power levels
  - Comm AM and SSB sensitivity has been improved
  - COMM Frequency entry-COMMs now allows direct frequency entry
  - 406 ELT now scrolls down to see the last line of decoded data
  - RX LED is now active when receiving COMM signals
- **TRANSPONDER**
  - Reformatted the altitude check screens to make them clearer for the operator

- **VSWR/DTF**
    - Cable DB value check-Corrected an error when loading coaxial cable parameters
- **ADS-B monitor**
    - ADS-B Monitor: Global Position Decode Setting has been improved to include lat/long positions
- **SELCAL**
    - SELCAL instrument had a pre-set channel that is not valid
    - SELCAL/COMM Frequency settings now work properly when crossing 40Mhz
- **TCAS**
    - Corrected TCAS Mode C Reply delay

- **FILE SYSTEM**
    - Changed the file naming to allow more consistent file naming convention

Errata

The following is a list of known issues in this release of software for the AVX-10K and will be corrected in the next release.

- When testing transponder functions in manual address mode, a dialog box pops up during the test, identifying an address mismatch between the operator entry and what was received by the AVX-10K, even though the Mode S addresses match. Pressing the CONTINUE button will complete the test.
- When changing the DME mode from X to Y or Y to X while DME simulation is running, causes the DME instrument to stop.

Calibration

- Re-calibration is not required for this software release.

Software Version 3.1.4

12/22/2022

New Features

- Added COMM Applications – AM, FM, SSB, SELCAL. Requires the AVX-10K-SCOM option key.
- Added ELT Application. Requires the AVX-10K-SELT option key.

Improvements

- The saved file name convention has been made more consistent across applications.
- When only the Glide Slope instrument is active, it now displays the LOC frequency to allow a user to properly channel the radio
- Fixed an issue when entering Latitude and Longitude degrees and minutes.
- Improved Self-Test instructions and report and included in StrataSync downloads.
- Fixed an issue when trying to scroll report files from a mobile device.
- VOR Variable bearing no longer stops at zero.
- Improved XPDR Auto Test reports and corrected time and date issues.
- For the VSWR / DTF Application, the cable loss now has more resolution.
- Added a “Save to PDF” function for XPDR Auto.
- Can now use graphics display to control VOR: Bearing.
- Moved Tx and Rx LEDs light to the status bar.

Errata

The following will be corrected on the next software release.

- ELT 406 MHz Beacon Monitor Sensitivity: ELT 406 on the antenna port specification is -35 dBm. This release is deviated to -25 dBm. RFIO (Direct) connection meets specification.
- AM Meter Sensitivity: The antenna port specification is -20 dBm. This release is deviated to -15 dBm.
- SSB Modulation: Specification variable modulation range is 25 Hz – 3 kHz. This release is deviating to a 1 kHz fixed tone.

Calibration

- Re-calibration is not required for this software release.

Software Version 3.0.9

10/25/2022

New Features

- The AVI-10K now sets unit parameters to a fixed list of default settings when a factory default is issued.
- Improvements made to the ILS / VOR Instrument:
  - Added a Save/Recall function.
  - Added the capability to operate in DDM when using the autopilot test.
  - Added a “Revert to Normal” button to return any parameters to the normal (cal) value if the operator changes any from the normal or default values.
  - Added the ability for the user to create a guided test.

Improvements

- During UAT Target Generation, eliminated the requirement for password entry to allow operators to access the real-time clock synchronization.
- Corrected an issue with loading predefined cables in VSWR/DTF instrument.
- Corrected an issue with inadvertent failures of certain OEM transponders.
- Corrected an issue where the ADS-B instrument recalls DO-260B test data and formats as DO-260A data.
- Corrected an issue with ADS-B AUTO test data where all data is shown as PASS and the overall test status shows as FAIL.
- Added temperature compensation for generator number 2.
- Corrected TCAS sensitivity and ERP measurements.
- Corrected Glideslope indication with an actual display in ILS mode.
- Corrected GICB register 1,7.
- Corrected modulation depth recalculation after a frequency or level change.
- Improved VOR tone control (button) to cycle thru OFF, TONE and MORSE.
- Improved scaling in transponder instrument for watts indication.
- Corrected test result for ELM in transponder autotest.

Calibration

- Re-calibration is not required for this software release.

Software Version 3.0.7

08/26/2022

New Features

- Added ILS and VOR Instrument Application. Requires the AVX-10K-SNAV (Navigation) option key.

Improvements

- Altitude Encoder Test, Loop Expanded Tests, and Recall Data improvements for the XPDR AUTO application.
- Watts (in addition to the existing dBm units) added for various instruments.
- VSWR / DTF: VSWR Calibration UI improvements.
- Antenna Range limits corrected for various instruments.

Errata

- ADS-B AUTO: Fail showing on a passing test - overall pass / fail might show fail even though all test points passed.
- ADS-B MONITOR: Recalling past test data in the ADS-B auto test may identify fields incorrectly.
- XPDR AUTO: When selecting Watts for the power units the output power of the transponder is not scaled correctly when displaying ERP.
- XPDR AUTO: Tail numbers from some countries are not decoded correctly.
- VSWR Application Cable Database: Creating user-defined cables *may* cause issues. Suggest users avoid creating cables at this time.

Software Version 2.1.26

4/28/2022

New Features

- Added a “Find Minimum” marker button to the VSWR/DTF instrument.
- Added a “Valley Search” marker button to the VSWR/DTF instrument.

Improvements

- When running an ADS-B test, the results have been changed from “No Reply” to PASS, FAIL or INCOMPLETE.
- The “SAVE PROFILE” button on the DME test instrument has been changed to “SAVE DATA”.
- The results data from a FAR 43 test have been reformatted to fit on one page, front and back.
- Corrected an issue performing a TRANSPONDER AUTO TEST, where the test would halt after 4% of the test while testing a nonstandard transponder configuration.
- Corrected an issue of the cable database in the VSWR/DTF instrument not being updated when a new version of the software was installed.

Errata

- None

Software Version 2.1.7

3/17/2022

New Features

- **General:**
  - Added DME and UAT Monitor Test Applications
  - Updated the ability to load options via USB on the Software Options page
- **Transponder Autotest:**
  - ed FAR 43 ATCRBS test configuration

Improvements

Transponder Autotest:

- Corrected the Transponder Auto Test summary length/width items not previously filled in on the summary report.
- Updated tab names in Transponder Auto Test to match port setting. The TOP and BOTTOM tabs on the Transponder Auto Test were incorrectly indicating which RF port was being used for testing.

Errata

- None

Software Version 2.0.49

12/10/2021

New Features

General: None

Improvements

- Transponder Autotest: Fixed issues with testing ATCRBS only transponders

  When testing ATCRBS only transponders, the AVX-10K would record failures resulting from the ATCRBS transponder not responding to the MTL search routine. The MTL search routine was modified to accommodate ATCRBS transponders.

Errata

- None

Software Version 2.0.20

11/16/2021

New Features

General: None

Improvements

- General:
  - Corrected System Settings Calibration date
- Transponder Autotest:
  - Addressed lockup issue when running a transponder autotest
  - Fixed Reply Ratio failing in Mode S auto test
- TCAS:
  - Fixed the TCAS Mode S Pulse Shape
- UAT:
  - Fixed UAT Gen Latitude and Longitude discrepancy
- VSWR/DTF:
  - Added save & recall for VSWR calibration
  - Corrected some VSWR UI issues

Errata

Failures of Generic ATCRBS Transponder Auto tests - Testing ATCRBS only transponders result in failures while the AVX-10K is testing ALL-CALL short mode A and ALL-CALL short mode C protocols.

This will be corrected on the next firmware release.

Software Version 1.0.39

9/24/2021

New Features

- General: None

Improvements

- General:
  - Fixed pulse amplitude variation measurements
  - Test reports align with only the tests run
  - Improved performance in high traffic environments
- Fixed reply jitter measurements
- Transponder Autotest:
  - Addressed occasional lockup issue when running a transponder autotest
- TCAS:
  - Fixed altitude range and rate calculations in TCAS application when converge setting is on

Errata

- None

Software Version 1.0.21

9/08/2021

New Features

- General: Initial release

Improvements

- General: Initial release

Errata

- TCAS instrument: Using the converge setting in the on-condition results in incorrect vertical speed calculations for the scenario. Use Converge off until the anomaly is repaired.