

TX300S Firmware/Software Updates

The TX300S test platform and its factory-installed modules (300SM, 320SM, OTDR) constantly evolve to keep up with new applications and advanced capabilities. Use VeExpress from the >Utilities >Tools menu to get the latest software updates, or go to www.veexinc.com to download the full upgrade packages to keep the test set and modules up to date. Refer to the last section of this document for details.

Software versions: Platform 02.00.04

Jun 6, 2015

Release Scope:

Formal Release. General availability.

New features and improvements:

1. NEW! Introduces Platform Sleep Mode (Standby) with Active Phase Holdover support. Allow users press Home + ESC buttons together to put the test set to sleep. Time reference can be transported indoors to equipment room where tests would take place. The test set will maintain the holdover during the low power consumption state. Allows users to store the test set back in the carrying case, without having to worry about overheating or blocked cooling fans, while they go through security check points, elevators, etc. With a fully charged battery, the test set could remain in sleep mode for more than 16 hours. The low power chip-scale Atomic Clock remains fully powered and active during standby. A “watermark” clock and battery status indication is provided for indoors use (press HOME).
2. NEW! Built-in VeExpress license Release and Request function to make sharing licenses easier
3. Direct Ethernet test profile launch from the File Manager. Users can now go to the File manager, select the desired test profile and launch the application. The process of selecting a test app, test mode, port setup and application settings is now fully automated.
4. Added license (option) Release and Request to the built-in VeExpress client, for easier and faster license sharing. A confirmation message has also been added in case the Release button is tapped by mistake. The function has to be enabled by the group administrator in VeExpress web.
5. Added support for Huawei E3351 3G USB data card (HSPA+/UMTS 2100/900MHz, GSM/GPRS/EDGE 850MHz/900MHz/1800MHz/1900MHz)
6. Improved VeExpress direct download function. Now Platform (System) and/or applicable Module (Test Applications) firmware updates can be downloaded directly from the test set to the USB memory stick for easier upgrades
7. Improved Management Port (LAN) configuration Profile management. Previously used profile is now loaded by default after reboot
8. Updated Atomic Clock disciplining profiles to better represent the minimum time required to properly discipline the precision oscillator. A Phase Graph has also been added for users to monitor the disciplining process and assess its quality and readiness
9. Added Atomic 1PPS phase tracking button to monitor the phase difference between the disciplined Atomic 1PPS output and its GPS 1PPS input. Since there are no absolute references in many field sites, this relative measurement gives a good indication of the disciplining status, phase alignment and stability. Users should look for a horizontal trend around the zero nanosecond line.
10. Added “Sync 1PPS” button to align the free-running Atomic 1PPS to the GPS 1PPS, within <100ns, without disciplining. Users have a choice of aligned free-run 1PPS and full disciplining. Free-run phase stability has a more linear (predictable) behavior which in certain applications may allow users to predict its long-term cumulative time error, once the atomic oscillator’s natural frequency offset is known (measured)
11. Enhanced GPS disciplining settings for the optional built-in Atomic Clock provides better control of the interaction between the GPS and Atomic Clock, especially when users force it into holdover mode to make indoor measurements.

Known issues or limitations:

- a. No new significant issues to report.

Software versions: Platform 02.00.01

Mar 19, 2015

Release Scope:

Formal Release. General availability.

New features and improvements:

1. Added support for TX320SM dual SFP+ factory-installed test module
2. Improved built-in VeExpress client to allow users to check available licenses and release licenses (make available to others) directly from the test set.
3. Improved Atomic Clock sleep mode. When enabled, the atomic physics package remains fully powered in holdover mode when the test set is turned off (battery > 80%) and will remain powered for up to 18 hours.
4. Fixed an intermittent issue with slow test results saving and incomplete PDF generation

Known issues or limitations:

- a. TX300S platform and factory-installed modules' software and improvements are now tracked separately. Please refer to the individual test module's software downloads and release notes for TX300S Platform, 300SM (XFP/SFP), 320SM (Dual SFP+) and OTDR for more details.

Software versions: Platform 02.00.00

Feb 20, 2015

Release Scope:

Major Release. General availability.

NEW SOFTWARE UPGRADE PROCEDURE, PLEASE READ CAREFULLY!

New features and improvements:

0. TX300S Platform and factory-installed module applications (300SM, 320SM and OTDR) are now separate. Refer to the individual software upgrade packages and Release Notes. Go to www.veexinc.com >Products and Solution >TX Series >TX300S
1. New and improved intuitive Test Mode selection menu. Conveniently groups all Test Applications by technologies and allows for richer lists of new and future test applications.
2. New individual modular software upgrades for an even more flexible TX300S platform, allowing the support for a growing list of factory-installed test module options (blades):
 - a. TX300S Platform – Provides system-wide, OS and common function updates (tx300s-veex.tar.gz).
 - b. 300SM Blade – This is the software update for the original XFP/SFP based Multi-Service Test Module application (tx300s-tx300sm.tar.gz).
 - c. 320SM Blade – This is the software update for a NEW Dual SFP+ based Multi-Service Test Module application (tx300s-tx320sm.tar.gz).
 - d. OTDR Blade – This is the software update for the recently launched built-in OTDR Module application (tx300s-OTDR.tar.gz). The OPX BOX GUI and OTDR Viewer features are still included with the platform updates.

This allows any test module updates to be released separately, in smaller and easier to download upgrade packages. The TX300S Platform still uses the traditional upgrade procedure to update the System, while the test blades use a new Module Update (M.Upgrade) function to update their Test Applications. The procedures at the end of this document have been updated to reflect the changes.

The following hardware combinations are currently supported: TX300S Platform with two 300SM, single 300SM, 300SM + OTDR, single 320SM or 320SM + OTDR blades.
3. New boot ROM upgraded to version 3.1 and CPLD 20, to support individual module (blade) updates.
4. Enhanced >Utilities >Files >USB file browser. Allows users to open wander measurements and PCAP protocol capture files for further post-analysis. HTML and TXT file viewers are also supported. TX300S launches the required application.
5. Added results auto-upload to built-in R-Server Client. If enabled, all test results are automatically uploaded to a centralized R300 server.
6. Added support for new Edimax 802.11ac USB Wi-Fi dongle (Z99-99-027G)

7. Added Russian language support.
8. Fixed a File Manager compatibility issue with encrypted test profiles created with ReVeal RXTS
9. System performance improvements.

Known issues or limitations:

- a. No new significant issues to report.

Software version 01.03.00

Dec 19, 2014

Release Scope:

Formal Release. General availability.

Uses ReVeal RXTS companion PC software (download from www.veexinc.com)

New features and improvements:

1. New power failure improvements. If the test set runs out of battery while running tests, it will properly document the condition by adding a "low battery" event and saving the results before shutting down [1934]
2. New Timed partial results saving. Users can now program a periodic test results saving window to save partial results while a test is running [1992]
3. VeExpress Check can now download full upgrade packages directly to a USB Memory stick and used for the upgrade procedure, without the need of a PC.
4. Improved test results and profiles compatibility with ReVeal (supports new ReVeal RXTS)
5. Improved security compatibility with latest JavaScript™ browser plug-in updates, when using web browsers for remote access and remote control (mirroring)
6. Boot-up time reduced to 40 seconds

Known issues or limitations:

- a. No new significant issues to report

Software version 01.02.06

Sep 18, 2014

Release Scope:

Formal Release. General availability.

This version is only available as a full USB upgrade (no delta update). Please follow the procedure #2 described in the References section, at the end of this document.

New features and improvements:

1. Added direct Remote Access functionality via web browser (enter test set's IP address in the browser)
2. Added R-Server support to upload test results and upload/download test profiles to a centralized location. Using a PC client, users can access results and generate reports (requires R-Server version 1.8.9 or later).
3. Added Advanced Saving option. Adds additional data to the test results (e.g. Tech ID, Job ID, Prefix, Location, etc.) to Ethernet, Fibre Channel and CPRI test applications.
4. Added wander and phase file format compatibility with VeEX Wander Analysis PC software version 2.0.7
5. Beta: Clock Wander and 1PPS Phase Measurement option with native VeEX TIE and CSV file formats. CSV offers an open format for users to plot/analyze with spreadsheets or create import tools for other advanced analysis applications [1818]
6. Beta: Built-in MTIE/TDEV Wander Analysis option reduces the need to carry a PC. It is compatible with the new Clock Wander Measurements feature and allows the TX300S to analyze up to two day worth of TIE results, even while the test is still running. It can also generate MTIE/TDEV reports in CVS and PDF [1818]
7. Wi-Fi DHCP connectivity issues with Edimax 802.11a/b/g/n dual band USB adapter have been addressed
8. E1 LED is no longer becoming green when CPRI Slave mode is enabled.

Known issues or limitations:

- a. No new significant issues to report}

Software version 01.02.03

Jul 16, 2014

Release Scope:

Formal Release. General availability. Highly Recommended

This version is only available as a full USB upgrade (no delta update). Please follow the procedure #2 described in the References section, at the end of this document.

New features and improvements:

1. Added support for Huawei E180 WCDMA HSDPA cellular data card. Works with 900/2100MHz HSPA/UMTS and 850/900/1800/1900MHz EDGE/GPRS/GSM (Requires Z77-00-015G USB cellular modem and 499-05-157 USB Data Card Support option. SIM not included)
2. Added support for VeEX Wander Analysis PC software, correcting the unknown signal label in the PDF reports. Requires VeEX Wander Analysis PC software version 2.0.6 or later.
3. Improved Atomic Clock settings and disciplining. Self-documented Atomic Clock disciplining parameters to fit any application and available test time [1869]
4. Improved high precision clock selections. Now each Test App can select between 'GPS 1PPS', 'Atomic 1PPS' and 'Atomic 10MHz' independently. Atomic 1PPS and 10MHz options can be free running (GPS=OFF) or GPS-disciplined (GPS=ON).
5. Improved power down control and low battery detection to avoid unintended automatic shutdown.
6. The Management port now retains the fixed IP address setting after reboot, even with disconnected Ethernet cable
7. Updated CPLD to resolve intermittent issues that may have occurred to certain units, like screen blinking for 0.5s, CPRI shut down or GPS becoming offline during long-term tests.

Known issues or limitations:

- a. No new significant issues to report.

Software version 01.01.03

Apr 30, 2014

Release Scope:

Formal Release. General availability.

New features and improvements:

1. Added satellite tracking table and reset function on TX300S GPS [1809]

Known issues or limitations:

- a. No new significant issues to report

Software version 01.01.01

Mar 27, 2014

Release Scope:

Initial Release. General availability.

New features and improvements:

1. New Dual Testing capability allow users to run up to two simultaneous and independent tests
2. New built-in GPS and Atomic Clock reference options
3. New automatic IP connection when the Management Port is set to DHCP or STATIC modes
4. New built-in VeExpress client for software updates (delta push) and license management (permanent, leased, shared)
5. New welcome screen to guide new users and help transition existing TX300 users into the multi-test GUI

6. Added support for dual-band Wi-Fi dongle (2.4 & 5 GHz)
7. Added a second USB port for more flexibility

Known issues or limitations:

- a. No new significant issues to report

References

Test Profiles and Test Results Backup Procedure

The TX300S File Management system offers backup [**To USB**] and restore [**From USB**] functions. They can be found in the **>Utilities >Files >Saved**, on the left side of the screen.

To enable the [**To USB**] and [**From USB**] functions, insert a FAT32 USB Memory stick into any of the USB ports. Wait for the USB memory to be recognized (the folder icon will change appearance with a green USB memory icon).

Select the desired test results, test profiles, screen capture and protocol capture files to be saved, using the individual check boxes. For a full backup, check the master box on the header and all files will be marked.

Tap the [**To USB**] button to initiate the file transfer procedure and wait for the progress bar to finish. Original files won't be deleted from the test set.

When all files have been copied to the USB, you may tap the folder icon (top-right corner) and select "**Remove USB Drive**" to make sure all cached data is transferred to the USB drive, especially when transferring small files.

It is highly recommended to select all important test profiles and results, and make a backup copy to a USB drive, before upgrading the unit's software. The software upgrade process cleans up all the data stored in the unit. After the unit has been updated, use the [**From USB**] function to restore the data back to the test set.

Synchronizing the Test Set with VeExpress

The TX300S needs to connect to VeExpress to auto-register, validate its licenses (newly assigned or shared) and check for any new Platform (System) or Application (Test Module) software updates available.

Connect the TX300S to the Internet via its LAN management port (located on the right side of the test set), verify that a valid IP address is displayed on the bottom-left corner of the screen, press the utilities' **V** icon on the top-left corner of the screen to access the Utilities section, and select **>Utilities >VeExpress** to access the built-in client. Press the **Check** button to register and update licenses (permanent, rented or leased). It also checks if the test set is running the latest software version.

It is recommended to sync the TX300S with VeExpress on a regular basis, especially after performing software upgrades, to refresh its licenses (e.g. expecting a new license or releasing/sharing licenses with other test sets). Connecting to VeExpress is also required if new software features (licenses) have been purchased, leased, rented or shared/reassigned.

Managers can also login to www.v-express.com, using a PC or tablet, to manage test sets and licenses


Updating the TX300S Platform (System) software


Depending on the hardware configuration, the TX300S can have up to three software components that need to be updated, basically the Platform (System) software and the built-in test modules' software (TX300SM, TX320SM or OTDR hardware).

There are two main ways to keep the TX300S system up-to-date:

1. Using the built-in VeExpress feature (**>Utilities >VeExpress**). Using an Internet connection, through the Management Port, the test set connects to the VeExpress server and user can press the **Check** button to see if there is a new SW update (Delta Push directly to the test set) or full upgrade (performed via USB memory). The **Software Upgrade** tab should show all the applicable software versions available (if not shown, please go to item 2).

A) **Delta Update**: Using the built-in VeExpress users can perform consecutive (incremental) updates directly from the test set (for example, updating from 2.0.1 to 2.0.2). The advantage is that update packages are smaller and a lot faster to download. The test set must be connected to a LAN (using the Management port) and have access to the Internet.

B) **Full Upgrade**: If the software version in the test set is much older than the current release, then a FAT32 USB Memory stick needs to be inserted in the USB port located on the left side of the test set. Select the applicable software components using the check boxes and press **Download**. The test set will then download the selected install packages directly to the root of the attached memory stick. When finished, turn the test set OFF. Then press the **App**,  and **Power** buttons simultaneously to power the test set ON in software upgrade mode. The three buttons can be released once the confirmation tone (beep) is heard. Wait for the upgrade process to finish.

2. Via USB Memory Stick: Using a (PC) web browser, go to <http://veexinc.com/en-us/Products/TX300s> and click on the open the Software download window and click on the link to get the latest SW upgrade package for the Platform (no need to login). Select the applicable module page and download the Module software. Copy the `tx300s-veex-arm.tar.gz` file to the root of a FAT32 USB memory stick and then plug it to the USB port located on the left side of the TX300S. Turn the power OFF. Press the **App**,  and **Power** buttons simultaneously, to power the test set ON in software upgrade mode. The three buttons can be released once the confirmation tone (beep) is heard. Wait for the upgrade process to finish.

Note: Software packages and other tools can be downloaded from the TX300S product page at www.veexinc.com >Products and Solutions >TX Series >TX300S >Software

The TX300S must be connected to AC/DC charger at all times during the whole upgrade process. DO NOT turn it off at any time; the upgrade process will take several minutes and the TX300S will reboot itself at the end.

To verify the current software version number installed in the unit, open the **Utilities** section, select **Settings**, and open **About**.

Note: If installed in your PC, some file compression agents (applications) may show the resulting `tx300s-veex-arm.tar.gz` as a compressed file, but there is no need to expand the file any more. Keep it as is.

Updating the Built-in Test Modules' Software (via USB)

Make sure the TX300S Platform is running the latest firmware version available. The TX300S platform always formats the internal SD card during a platform (system) upgrade, so the modules' software need to be reloaded after the system upgrade. Take this opportunity to check if new versions are available for the 300SM Multi-service (XFP/SFP), 320SM Multi-service (SFP+) and/or OTDR.

- Download the applicable test module software from the web site or using the built-in VeExpress client.
- Copy the test modules' uncompressed firmware update package files to the root of the memory stick (both modules can be upgraded simultaneously)
- Plug the memory stick into the USB port located on the left side of the platform
- Turn the TX300S ON and wait for the boot up process to finish.
- The TX300S may display an "incompatible software version" warning message to indicate that the test module requires a firmware update. Tap the OK button to close the message.
- Touch the **Utilities** button on the top bar, open the **Utilities** tab on the left bar, and select **M.Upgrade**.
- The platform will search the memory stick for valid update packages and show their information.
- Use the check boxes to select the desired software updates
- Tap on the **Upgrade** button to start the firmware update process. This could take several minutes. The test set will shut itself off at the end.
- Turn the test set ON, connect to a LAN, go to >**Utilities** >**VeExpress** and press **Check** to update its licenses

The TX300S must be connected to AC/DC charger at all times during the whole upgrade process. DO NOT turn it off at any time; the update process would take a few minutes and the test set may reboot itself at the end.

To verify the software version number installed in the current test module, turn the test set back on, open the **Utilities** section, select **Settings**, and open **About**.

ReVeal RXTS (PC software)

Offers Remote Access, download screen capture, results, profiles and wander files, create reports, etc. Download it from www.veexinc.com >Products and Solutions >TX Series >TX300S

ReVeal Wander Analysis (PC software)

Wander and absolute phase analysis and reporting. MTIE and TDEV analysis and standard pass/fail masks

Download it from www.veexinc.com >Products and Solutions >TX Series >TX300S



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