Software Upgrade Procedure
How to Install Updates for Platform and Modules

VeEX® offers multiple ways of obtaining software updates and upgrading its test sets. The latest software releases for portable test sets, test platforms, and test modules are available on the product pages of the public website. They can also be obtained through the built-in VeExpress™ cloud services and/or R-Server asset management systems. Most updates are available at no extra cost.

VeEX's portable test platform families also offer multiple alternatives to deliver these software (firmware) updates to test sets and their test modules, keeping them up-to-date and benefitting from the most recent features and improvements. This document describes each of the methods available to obtain and install the latest software versions.

It is recommended to back up all the test results and test profiles before performing software upgrades. The backup and restore procedure are described at the end of this document.

Getting the Latest Test Set Software Versions Available

Depending on hardware configuration, a test set may require multiple software components which need to be updated regularly. Basically, one for the Platform (System) software and one for each built-in or replaceable test modules. For example, a TX300s platform with internal (factory built) TX340sm and OTDR modules requires a total of three installer packages. The two most popular and convenient ways to download the software updated packages are explained below.

A. Using PC or Tablet to Download the Software Packages from VeEX's Website

Any industry-standard web browser can be used to download the test set's software updates. No registration or login required. Point the browser to www.veexinc.com >Support >Software and enter the first four characters of the test set's serial number, to get a list of all the software associated with that particular unit. Users can also go directly to the specific product pages and use the links on the Software section, under the RESOURCES tab, to download the latest install packages. Note that for TX300s, RXT-1200, MTTplus and UX400 families, users must download Platform (system) and Modules software packages separately.

Unzip the downloaded files and copy their content to the root of a FAT32 USB memory stick. The resulting install package files use .tar.gz or .xz extensions. Although certain third-party PC compression agents may still recognize them as compressed files, DO NOT uncompress them anymore. Once the platform and modules software packages are in the root of the memory stick, follow the respective update procedures described in the next section.

B. Using the Test Set's VeExpress Client to Download the Software Packages

If available in the test set, the built-in VeExpress feature can be used to identify and fetch the latest software versions available. Connect the test set to the Internet, using the Management Port (LAN) or WiFi (WLAN). Tap on the 🛠 or Ⓥ button, go to >Utilities >VeExpress >Synchronization, and press the Check button. The test set connects to the VeExpress Cloud and searches the latest software versions available, for the applicable platform and modules. The results will be listed on the Software Upgrade tab. Insert a FAT32 memory stick into the test set, use the ☑ check boxes to select the desired updates (one at a time) and press Download to retrieve each of the files and save them in the USB memory stick. In this case, there is no need to unzip these files.

- **Delta Update**: From time to time VeEX may release smaller incremental updated. Use the built-in VeExpress client, to perform consecutive (incremental) updates directly to the test set (for example, updating from 3.2.1 to 3.2.2). The **Full**

Upgrade: If the software version in the test set is much older than the latest release, then a FAT32 USB memory stick needs to be inserted into one of the test set's USB ports. The test set will download the selected install packages directly to the root of the attached memory stick. When all downloads are finished, follow the USB upgrade procedure described in the next section. One advantage of this method is that once the test set has finished the upgrades, the same USB memory stick, which already contains the installer packages, can be used to update multiple test sets, saving some time.

Updating the Test Platform (System) Software, Using USB
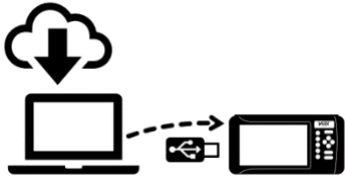
Once all the .tar.gz or .tar.xz installer packages have been downloaded, unzipped (if necessary) and copied to the root of a FAT32 USB memory stick, turn the test set's power OFF. The unit must remain connected to the AC/DC charger during the whole upgrade process. Once the upgrade process is started, DO NOT turn it off at any time. The upgrade process can take several minutes, and the test set should reboot itself at the end.

- Insert the memory stick in one of the USB ports available on the test set and wait for it to become available.
- Follow the applicable rubber button combination:
  - For **TX300s**, press the App, 🗁 and ⏻ buttons simultaneously, to power the test set in software upgrade mode.
  - For **RXT-1200**, press the ⬆, ↵ and ⏻ buttons simultaneously, to power the test set in software upgrade mode.
  - For **MTTplus**, press the 📷 and ⏻ buttons simultaneously, to power the test set in software upgrade mode.
  - For **V150** series (e.g., MTX150, WX150, FX120, FX150, FX180, CX310), press the 🖫 and ⏻ buttons for a Clean install (clears data and settings) or press 🏠 and ⏻ to keep data and settings stored in the unit. This process will update both the platform's system and test engine. A micro-B USB to USB-A OTG cable is required to accommodate regular USB type A memory sticks. (The small handhelds are not the focus of this document.)
  - For **UX400**, press the ⏻ button, then hold the ☼ Light button below, to power the unit in software upgrade mode. (The UX400 is not the focus of this document.)
- The buttons can be released once the confirmation tone (beep) is heard. Wait for the upgrade process to finish.
- The test set may reboot. A warning message may be shown to remind users when module updates are required.
- To verify the current software version installed in the unit, go to Utilities >Settings >About.

Updating the Test Modules' Software, Using USB

Before starting this module upgrade procedure, check if new platform versions are available and read their accompanying Release Notes. Make sure the Test Platform is upgraded first, so the test set is already running the latest system firmware version available. Test platform upgrades for self-contained (non-modular) test sets are normally clean installations, in which the internal storage is formatted. That is, the software for any built-in modules need to be reloaded after a platform update. Follow this procedure to update each module:

- The test set must remain connected to the AC/DC charger during the whole upgrade process.
- Turn the test set ON and wait for the boot up process to finish.
- The test set may display an "incompatible software version" warning message, to indicate that the test modules also require their firmware to be installed. Tap the OK button to acknowledge and close the message.
- Insert the FAT32 USB memory stick, containing the unzipped modules' install packages, into one of the USB ports available on the platform and wait for it to be recognized.
  If the test set's VeExpress Client was used for download, the installer files are already copied to the USB memory stick.
- Tap on the 🛠 or 𝒱 button on the top bar, open the Utilities tab on the left menu 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 to apply.
- 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 of the process.

- To verify the software version installed in the current test module, turn the test set back on, open the Utilities >Settings >About to get the details.
- Optional - Connect to a LAN or WLAN, go to Utilities >VeExpress and press Check to update its software licenses.

## Updating the Test Set Software Over LAN or WiFi (WLAN)

This functionality may not be available in all test platforms or test sets running older software versions. PCs, Macs, tablets and smartphones can be used to upgrade test sets through network connections, as long as the test set is reachable, and the device's OS provides access to the file system (allows selecting and unzipping the software upgrade install packages). PCs and reliable wired connections are recommended for this task.

Whether the remote upgrade is to be done through local, campus, VPN networks, or across the globe over Internet/IP connection, keep in mind that local on-site assistance may be required. Depending on the type of upgrade and test set, certain cases may require the unit to reboot manually (e.g., low-level updates to the CPLD programmable logic managing the bootup process). So, local help should be available to power it back on, in the event it is needed. Also, in DHCP environments, the remote test set may get a different IP address after a reboot (static or reserved IP are recommended).

Test Sets on Local Network or Through VPN Access

Make sure the test set is ON and connected to a LAN, WLAN (WiFi), or configured as a WiFi access point (AP Mode). It is recommended to perform a Platform Upgrade before updating the module(s) software to the latest version(s).

- Open a Web Browser and enter the test set's IP address into the address/search field (e.g., 192.168.0.113). The test set's current IP address is usually displayed on the bottom-left corner of the screen .
- Once the test set's Web Remote Access page loads, select Platform Upgrade or Module Upgrade from the menu on the left side of the browser window. Perform the platform upgrade before updating any of the test modules.
- Tap or click on the Select File button and use the file browser to point it to the appropriate tar.gz or tar.xz software Image file.
- Tap or click on the Upload button to transfer the software image file to the test set. Depending on the file size and connection speed, this may take a few minutes.
- Once the file transfer has finished and been verified, select Upgrade, click on OK, if a reboot warning message is shown, and let the test set go through the process, uninterrupted. This will take a few minutes. If the file verification fails, due to link or transmission errors, try uploading it again.
- Additional ROOTFS and/or low-level CPLD upgrade notifications may be presented, on the test set screen, after the reboot. Tap on OK to proceed with these updates.
- Reboot the test set, if required.
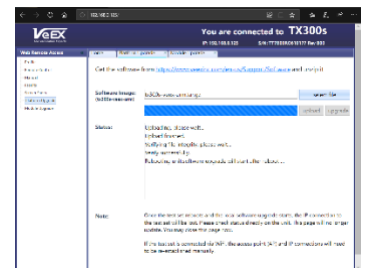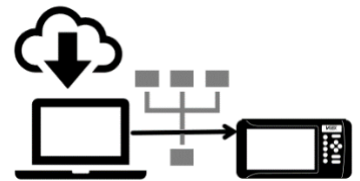
Test Sets on Remote Networks (Remote Sites)

EZ Remote is a best-effort cloud service offered by VeEX at no extra cost. It provides access to test sets in remote locations (across the globe or on separate networks). Although the web-based user interface is similar to the Web-Access described earlier, due to unknown performance of the Internet connections, which may not be reliable or guaranteed, EZ Remote does not offer platform or module upgrades functionality. For more details about using EZ-Remote, click on or scan the QR code, and refer to the EZ Remote User Guide.

Related Topics

Test Profiles and Test Results Backup/Restore Procedure

Upgrading the test platform (system) software is normally a clean installation, in which the storage is wiped out, with all user data and settings erased. To preserve test results and test profiles, it is recommended to perform a backup before installing any new platform software.

- The test set's File Management system offers backup 🔲To USB/OTG and restore From USB/OTG functions. They can be found in the >Utilities >Files >Saved, on the left side of the screen.
- To enable the To USB/OTG and From USB/OTG functions, insert a FAT32 USB memory stick into any of the test set's USB ports. Wait for the USB memory to be recognized (the folder icon changes appearance with a green USB memory icon).
- Use the individual ☑ check boxes to select the desired test results, test profiles, screen capture and protocol capture files to be saved. For a full backup, check the master box on the header to select all the files.
- Tap the To USB/OTG 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, tap on 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.

Once the platform and modules' software has been updated, insert the USB memory stick back into the test set, wait for it to be recognized and follow this procedure:

- Tap on the 🛠 or Ⓥ icon and go to >Utilities >Files >Saved.
- Tap the 🔲From USB/OTG button to initiate the file restoration process.

Synchronizing the Test Set with VeExpress™

VeEX's VeExpress cloud service and the test set's built-in client are used to auto-register, validate its licenses (newly assigned or shared) and check for any new platform (system) or application (test modules) software updates available. It is recommended to sync the test set 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.

- Connect the test set to the Internet via one of its LAN management ports or WiFi.
- Verify that a valid IP address is displayed on the bottom-left corner of the screen, tap on the 🛠 or Ⓥ button on the top-left corner of the screen, open the Utilities section of the menu (left), and select VeExpress to access the built-in client.
- Press the Check button to register and update licenses (permanent/owned, rented/leased, or shared). It also checks if the test set is running the latest software version.

Using a PC or tablet, managers or VeExpress administrators can use a web browser to login to www.v-express.com, to manage their test sets and licenses. VeExpress is currently available for TX300s, RXT-1200 and MTTplus portable test platforms.

About VeEX

VeEX Inc., a customer-oriented communications test and measurement company, develops innovative test and monitoring solutions for next generation telecommunication networks and services. With a blend of advanced technologies and vast technical expertise, VeEX products address all stages of network deployment, maintenance, field service turn-up, and integrate service verification features across copper, fiber optics, CATV/DOCSIS, mobile 4G/5G backhaul and fronthaul, next generation transport network, Fibre Channel, carrier & metro Ethernet technologies, WLAN and synchronization.

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