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 its portable test sets, test platforms, and test modules are available on the public website. They can also be obtained through VeExpress™ cloud services and/or R-Server asset management systems. Most updates are made available at no extra cost.

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

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 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 a 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 the product. Users can also go directly to the specific product pages and use the DOWNLOADS > Software menu to obtain the install packages. Note that for TX300s, RXT-1200, MTTplus and UX400 families, users must download platform (system) and module software packages separately.

Unzip the files and copy their content to the root of a FAT32 USB memory stick. The install packages use tar.gz file extensions and they may be recognized by certain PC applications 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 VeExpress Client to Download the Software Packages

If available in the test set, the built-in VeExpress feature can be used to 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 the latest software versions available, for applicable platform and modules, will be listed on the Software Available tab. Use the ☑ check boxes to select the desired updates (one at a time) and press Download to retrieve the files and save them in the test set. No need to unzip these files.

- **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 delta update packages are smaller, faster to download, and saved in the test set storage (no USB memory required). Delta updates may not always be available.
- **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 one of the test set 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 time.

Updating the Test Platform (System) Software, Using USB

Once all the tar.gz installer packages have been downloaded, unzipped and copied to the root of a FAT32 USB memory stick, turn the test set's power OFF. It 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 will 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, 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 licenses.

# Updating the Test Set Software over LAN or WiFi

This functionality may not be available in all test platform or test sets running older software versions. PCs, Macs, tablets and smartphones could 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, to allow selecting the software upgrade install files. PCs and reliable wired connections are recommended for this task.

Whether the remote upgrade is done through local, campus, VPN networks, or across the globe over the Internet using EZ-Remote, keep in mind that local on-site assistance may be required. Depending on the type of upgrade and test set, in some cases the unit may need to be reboot manually (e.g. low-level updates to the CPLD programmable logic managing the bootup process). 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.

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 displayed on the bottom-left corner of the screen 📶 192.168.0.113.

- 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 software image file.

- Tap or click on the Upload button to transfer the software image file to the test set. Depending on the connection, this may take a few minutes.

- Once the file transfer is done and verified, select Upgrade then click on OK. If a reboot warning message is shown, let the test set go through the process uninterrupted. This will take a few minutes. If file verification fails, due to link errors, try uploading it again.

- Additional ROOTFS and/or low-level CPLD upgrade notifications may be presented on the test set after the reboot. Tap on OK to proceed with these updates.

- Reboot the test set if required.
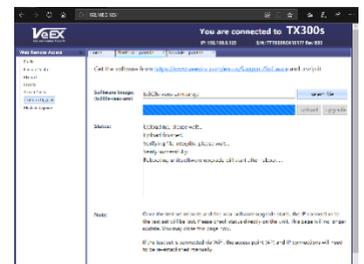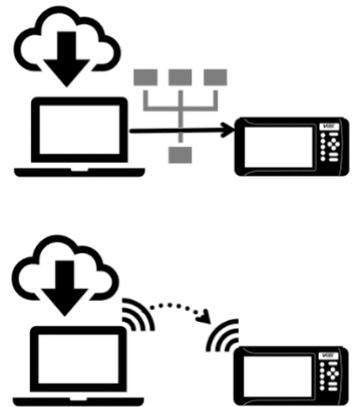
Test Sets on Remote Networks (Remote Sites)

EZ Remote is a cloud service offered by VeEX at no extra cost. It provides access to test sets in remote locations across the globe or in separate networks. If the test set is in a remote site to which a reliable connection is guaranteed, EZ Remote could also be used as an alternative to perform platform and module upgrades. For more details about using EZ-Remote, click on or scan the QR code, and refer to the EZ Remote User Guide.

If not already online, ask a local (on-site) user to connect the target test set to the Internet, tap on the ✖ or Ⓥ button on the top bar, go to Utilities > Settings > More > EZ Remote (location may vary by product), press Apply and provide the S/N and password.

On the PC, point a web browser to ezremote.veexinc.net, enter the test set's full serial number and VNC password. Once the remote screen is displayed on the browser, go to the Remote Platform Access tab and follow the same procedure described for local network upgrades.

Related Topics

Test Profiles and Test Results Backup/Restore Procedure

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

- The test set's 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 test set's USB ports. Wait for the USB memory to be recognized (the folder icon will change 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] 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] 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.

Mangers or VeExpress administrators can use a web browser to login to www.v-express.com, using a PC or tablet, 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.