E7760A, Wideband Transceiver Instrument Software Update Instructions

Introduction

The purpose of this document is to outline the instrument software update procedure for the E7760A Wideband Transceiver.

This procedure will update the instrument software, from the revision that is currently installed, to the latest revision available. The advantages of updating the instrument software with the current revision include:

1. Keeps the E7760A Wideband Transceiver current and up to date.
2. Updating the measurement applications where appropriate.
3. Updating the PC board software where appropriate.
4. This also updates windows and 3rd party software. These updates may take an HOUR or longer to complete.

An update to the instrument software revision **does not** require a new license key for the measurement application(s), so long as the application(s) were licensed prior to the update.

To determine what revision of instrument software is currently installed, at the top of the menu bar select [**System**], {**System information**} and look under the {**System**} tab for the "Instrument S/W Revision" number (example: "A.01.02"). If the installed revision is the same as the latest revision on the web, there is no need to update the Wideband Transceiver Software.

Note: This will only update the instrument software that currently resides on the C: drive of the instrument. It will not update the version that exists on the recovery partition. Because of this, if the recovery process, as described in the E7760A Wideband Transceiver service guide, is performed, the instrument will revert back to the instrument software revision that was originally shipped from the factory.

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<u>Requirements</u>

To use this update procedure, the following requirements must be met:

- A properly functioning instrument.

- Video display/ monitor

- A USB keyboard and mouse.

- The ability to log in to the instrument as the **administrator**.

- The ability to transfer a large file (~1G Byte) to the instrument being updated.

<u>File Download</u>

1. Go to http://www.keysight.com/find/E7760A

2. Go to Technical support on the right side of the page and select the "Drivers, Firmware and Software" tab.

3. On the software page, Select and download the executable file "Instrument Software (Version E.xx.xx)" in the "Documents & Downloads" section of the webpage.

If you do not have the ability to download files directly to the C: drive of the instrument being updated, store the file on a large capacity USB storage device for transfer to the instrument. (The file size is ~1 GByte.)

<u>USB</u>: If you downloaded the instrument software update file to a PC, then transferred to a USB storage device, plug that USB device into one of the USB ports on the instrument. Access the file using Windows Explorer, and proceed to Step 1.

<u>LAN</u>: If you downloaded the instrument software update file directly via LAN to the instrument, for example, to C:TEMP, access the file from that location and proceed to Step 1.

<u>Note:</u> If using the LAN method, depending on your firewall settings, you may see the pop-up message shown in Figure 2, Select "**Unblock**" to continue.

Software Update Procedure

The default user account is *Instrument*, which does not have the required permissions to install the instrument software updates. For the process outlined below, the user must be logged in as the *Administrator*.
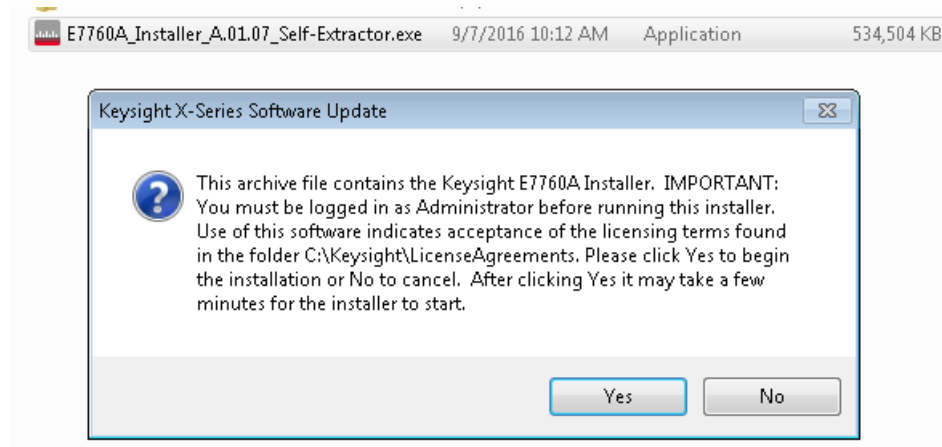
The E7760A automated instrument Software upgrade process has an install wizard which removes the old software version and installs new software version without manual steps. It only requires the user to be logged in as administrator. The removal of the old software version and the installation of the new software version can take approximately 60 minutes or more. (Dependent on number of files requiring update)

Software install

1.   Close the application by pressing [**File**], {**Exit**}

2.   Connect a USB keyboard and mouse to the instrument.

3.   Log out of the default user (*Instrument*) by selecting **Start→Log Off→Log Off.**

4.   At the login prompt enter:

   - User name: **administrator**
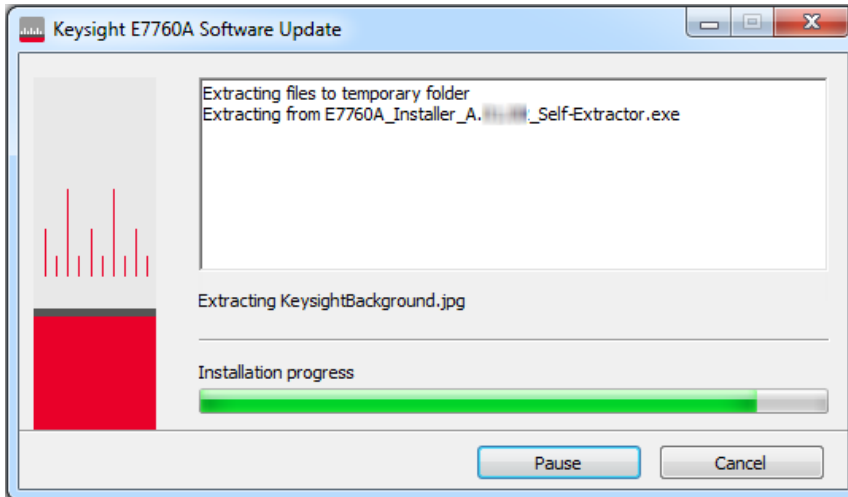   - Password: **Keysight4u!**

Note: If a "Found New Hardware" wizard window pops up, select "No Not at this Time" to bypass the activity.

5.   Locate the instrument software file you downloaded from the Keysight web site.

6.   Double click on the file named "**E7760A_Installer_A.xx.xx_Self-Extractor.exe**"

7.   A message appears, reminding you that you must be logged in as **administrator.**

8.   A window appears showing the extraction of the software installer. When the extraction process is complete, there will be another widow that will show the progress of the software removal and installation. There is no interaction required from this point forward. A prompt to **Shut down and Restart the E7760A Wideband Transceiver,** will be display when the Software update is complete.

Extraction window

Instrument Software uninstall windows

The old instrument software is being removed. The green progress bar will roll across the screen indicating software activity.
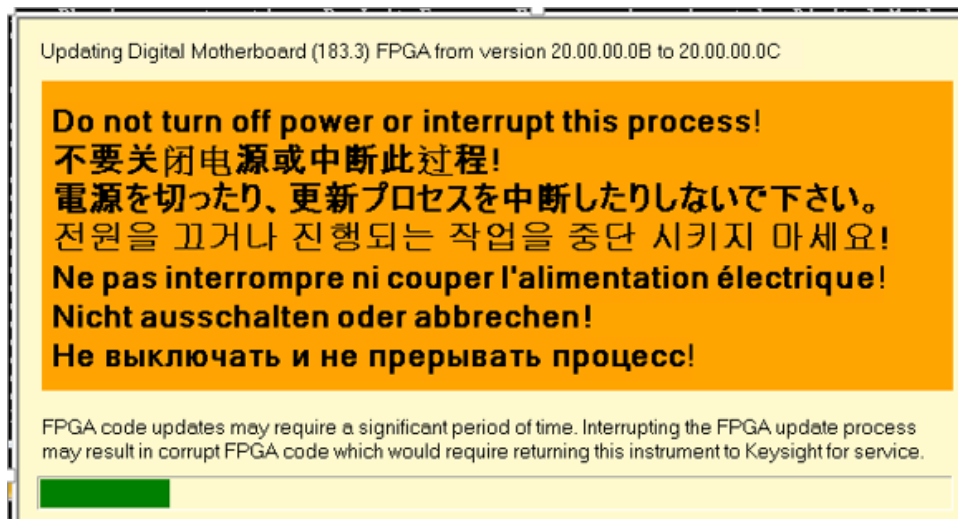
Instrument Software new version install window

The new instrument software is being installed. The green progress bar will roll across the screen indicating software activity. There may be several windows appearing and disappearing during this time. Updating the installed boards FPGA code. This will take a long time to update each installed board. NO interaction with the Wideband Transceiver is required.

Example of one of the windows you might see during the software update process:
FPGA Programming: DO NOT power off the instrument at this time for **ANY** reason. If this process is interrupted, the instrument may end up in an unusable state, and will likely need to be sent to a Keysight physicality for repair.

NOTE: The instrument is configured to have at least 3 LO boards installed. Updating the FPGA code on each board can take about 10 Minutes.

Updating Local Oscillator (186.1) FPGA from version 00.00.13.04 to 00.00.13.07

Do not turn off power or interrupt this process!
不要关闭电源或中断此过程!
電源を切ったり、更新プロセスを中断したりしないで下さい。
전원을 끄거나 진행되는 작업을 중단 시키지 마세요!
Ne pas interrompre ni couper l'alimentation électrique!
Nicht ausschalten oder abbrechen!
Не выключать и не прерывать процесс!

FPGA code updates may require a significant period of time. Interrupting the FPGA update process may result in corrupt FPGA code which would require returning this instrument to Keysight for service.

This Screen will appear and disappear for each LO board installed. It may appear as a Loop but it is dependent on the number of LO boards installed. Please be patient. The green progress bar will roll across the screen indicating software activity.

FPGA status update screen will show the progress of the update. This might be under another window

Update FPGA Status

FPGA Assemblies

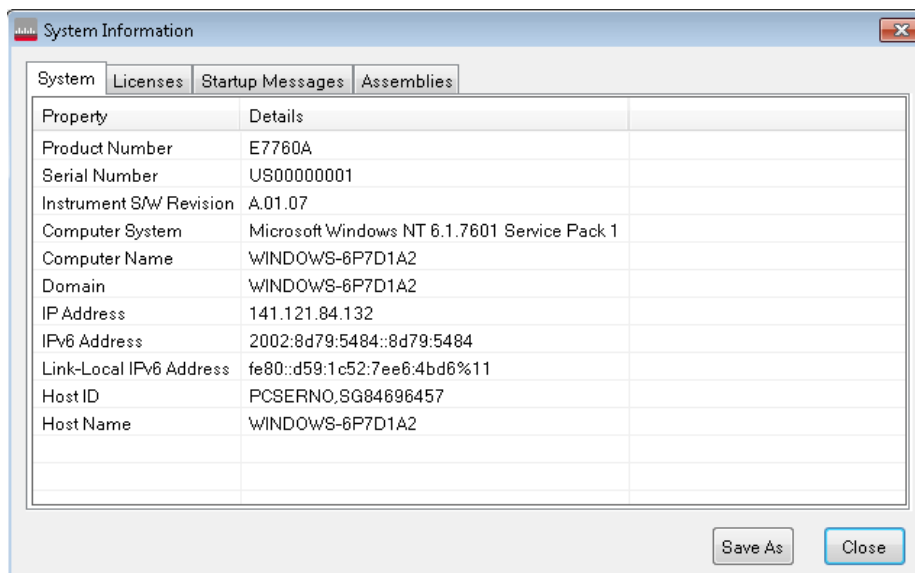| Name	SubInstrument	HW ID	Address	Current Rev	Target Rev	Update Status
Digital Motherboard	INST0	183.4	0.0	21.00.00.1A	21.00.00.1A	Already current
Modulator Demodulator	INST0	184.1	1.0	10.00.00.06	10.00.00.08	Update completed
Local Oscillator	INST0	186.1	3.0	00.00.13.04	00.00.13.07	Update completed
Local Oscillator	INST0	186.1	3.1	00.00.13.04	00.00.13.07	Update in process ...
Local Oscillator	INST0	186.1	3.2	00.00.13.04	00.00.13.07	Update required
Local Oscillator	INST0	186.1	3.3	00.00.13.04	00.00.13.07	Update required
Head IF	INST0	185.1	2.0	10.00.00.08	10.00.00.09	Update completed
Head	INST0	187.2	4.0	20.00.00.01	20.00.00.01	Already current
Head FW	INST0	187.2	4.0	10.09.0F.13	11.01.1F.0b	Update required
Head	INST0	187.1	4.5	10.00.00.07	10.00.00.07	Already current
Head FW	INST0	187.1	4.5	10.09.0F.13	11.01.1F.0b	Update required

Status
Summary

Parsed FPGA index file 'DeviceVersions.xml', contains 18 entries for FPGA assemblies
Checking environment ...
Initializing hardware ...
Querying current FPGA versions ...
Checking for new FPGA versions ...
Updating FPGAs ...

Exit

Software upgrade "Completed Successfully"

9. When the Software installation is complete. You will be asked shutdown and restart you instrument

10. After the instrument restarts it will boot up to the E7760A Wideband Transceiver application screen.

11. Check for any errors and verify that the new software version is installed correctly. At the top menu select [**System**], {**System information**} and look under the {**System**} tab for the "Instrument S/W Revision".

Note: If the E7760A Wideband Transceiver does not boot correctly, verify that the USB storage device has been removed. The default boot order for the instrument is the USB drive first and then the hard disk drive second. Failure to remove the USB device may result in an error, as the instrument attempts to boot from it.