



SmartSDR™ for Windows v2.7.5 Release Notes

May 20, 2021

SmartSDR v2.7.5 is a HOTFIX release intended for use with the FLEX-6400™, FLEX-6600™, FLEX-6300™, FLEX-6500™, and FLEX-6700™ software defined radios which contain critical software defect fixes identified in previous versions of SmartSDR.

What is a Hotfix Release?: A hotfix is a software update designed to fix a bug or security hole in a program. Unlike typical version updates, hotfixes are urgently developed and released as soon as possible to limit the effects of the software issue. They are often released between incremental version updates.

Please see the “Important Release Details” section before upgrading. Several best practice recommendations will facilitate a smooth transition to the new version of SmartSDR.

What's New in SmartSDR v2.7.5?

IMPORTANT INFORMATION: SmartSDR v2.7.5 is a Windows-only version of SmartSDR and will not contain a software update for the Maestro and M Model radios. To provide a fix for the SmartLink login issue as quickly as possible, only SmartSDR for Windows is being released at this time.

A future release of SmartSDR that contains the software fixes found in v2.7.5 will be forthcoming for the Maestro and M model radios.

CAN I USE SmartSDR FOR WINDOWS v2.7.5 ON AN M Model RADIO?: The answer is “YES”, but you will not be able to operate the radio from the front panel until the next version of SmartSDR is released. If you operate the radio from the front panel, a radio firmware downgrade will occur to a previous version of SmartSDR that contains critical software defects. Downgrading the radio firmware to a version less than v2.7.5 is not recommended.

CAN I USE A MAESTRO TO CONNECT TO A RADIO THAT HAS BEEN UPGRADED TO SmartSDR v2.7.5?: The answer is “NO”. If you can only use a Maestro to connect to a FLEX-6000, we recommend that you do not upgrade the radio firmware to v2.7.5 and wait until the next version of SmartSDR for Maestro is released.

CAN I USE SmartSDR for iOS AND SmartSDR for MacOS WITH PREVIOUS VERSIONS OF SmartSDR?: The answer is “YES”, but we always recommend that you upgrade the radio firmware to the latest version to ensure that you have the most current firmware bug fixes, new firmware features, and performance optimizations for the optimal user experience.

WARNING FOR ALL USERS: SmartSDR v2.7.5 for Windows and all subsequent SmartSDR v2.x versions require version 4.6.2 of the .NET Framework. The .NET Framework is an integral component of the Windows operating system that supports running applications on Windows. For Win10 users, the .NET update is already installed and should not require any actions to update the .NET Framework. For other versions of Windows, you may be prompted to upgrade the .NET Framework before you can use SmartSDR v2.7.5.

Please follow any prompts provided by your version of Windows for the installation of .NET v4.6.2. Also, a reboot of the PC may be required after upgrading the .NET Framework on your PC. Note that you may have to install Windows security updates as a prerequisite before installing .NET v4.6.2 and .NET 4.6.2 may not install on unsupported versions of Windows.

AVAILABILITY OF OLDER VERSIONS OF SmartSDR: Starting with SmartSDR v2.7.5 and 3.2.37, SmartLink is no longer supported with previous versions of SmartSDR. All previous versions of SmartSDR for Windows, except for SmartSDR v2.4.10, including SmartSDR for the Maestro and the M models will no longer be available for use after the forthcoming release for the Maestro and M model radios. This will give you time to prepare for upgrading to the latest version of SmartSDR. It is highly recommended that you upgrade to the latest version of SmartSDR at your earliest convenience. This has ramifications for remote users since radio firmware updates are not supported over a SmartLink connection.

CAUTION: If upgrading from SmartSDR v2.6.2 or below, this release of SmartSDR will result in two firmware update processes occurring on the FLEX-6000. The radio's LED indicator will turn purple twice and the radio will reboot after each firmware update. Due to a software change that is specific for M model radios, the firmware upgrade may hang after the 2nd time the power button LED turns purple which will require resetting the radio as described in the **Best Practices for Installing a New Version of SmartSDR for Windows section** below.

If you are updating a remote radio using a VPN, having the ability to turn off and on the DC power supply and being able to reboot the radio using the REM ON connector should be a prerequisite before upgrading the FLEX-6000.

New Features and Bug Fixes in SmartSDR v2.7.5

Fixed SmartLink Login Issue: Due to a security update to Auth0, the software used to manage secure access for SmartLink, the .NET Framework used with previous versions of SmartSDR does not properly support the TLS v1.3 security update. This issue has been resolved. Starting with SmartSDR v2.7.5, all versions of SmartSDR will require version 4.6.2 of the .NET Framework (#J8420)

Fixed SmartLink Login Access for Users in China: The mechanism used to detect Internet access in the previous version of SmartSDR did not work properly for users in China. This issue has been fixed. (#J8419)

60m Access added to the IARU Region 3 TURF: Radios that use the IARU Region 3 TURF now have access to the 60m band. Please comply with the country's approved band plan when operating 60m in IARU Region 3. (#J8417)

Important Release Details

Backup your profiles before upgrading: Moving back and forth between different versions of SmartSDR may result in data loss unless you have a backup (export) of your Profiles. It is recommended to export all profiles *before upgrading* to v2.7.5, and export profiles again before reverting to previous versions. Exporting profile data is covered in detail below in the *Best Practices for Installing / Uninstalling SmartSDR v2* section. Maintaining a good set of profile exports as backups is *always* a best practice.

Always Perform a Factory Reset of your Radio when Downgrading the Radio Firmware:

The database in the FLEX-6000 is NOT backward compatible. This means if you downgrade the firmware in your radio, you *must perform a Factory Reset* to ensure the internal database is consistent with the version of SmartSDR firmware that is running on the radio.

The procedure for performing a Factory Rest is described in the **Best Practices for Installing a New Version of SmartSDR for Windows section** below.

In addition to performing a Factory Reset on the radio, you mustn't import a database using a profile export that is greater than the version you are using. In later versions of SmartSDR, the profile export file name contains the version of SmartSDR that was running when the export was saved to your PC.

SmartSDR v2 requires a software license installed on the radio before it can be used with a FLEX-6000: If your radio is licensed for a version of SmartSDR less than v2, a SmartSDR license upgrade is required. Once the FLEX-6000 has been licensed for SmartSDR v2, all subsequent point releases (v2.x) are available at no additional expense. Please see the section "Purchasing a SmartSDR Software License for your FLEX-6000" for instructions on how to purchase a license.

Best Practices for Installing / Uninstalling SmartSDR

Best Practices for Installing a New Version of SmartSDR for Windows

Unless instructed otherwise, always backup your Global, TX (transmit), and Microphone Profiles. Please refer to the *SmartSDR for Windows Software User's Guide* for detailed instructions related to exporting your profiles to a file on your PC.

When you upgrade to a newer version of SmartSDR for Windows, a database conversion program runs automatically to convert older profile schemas to an updated one.

When downgrading versions, SmartSDR is unable to restore the updated profile schema version, which may cause profile corruption. To recover your previously created profiles after a software version downgrade, import the profile data created using the downgraded version of SmartSDR for Windows.

Ensure your Windows operating system is up to date before installing SmartSDR for Windows. The proper operation of SmartSDR for Windows and its associated drivers rely on having an up-to-date and supported Windows operating system including the root security certificates. It is strongly recommended that you run Windows Update and install all mandatory and optional updates before installing SmartSDR for Windows.

Managing SmartSDR installed on other devices. If using other PCs running SmartSDR for Windows, update all devices at the same time to ensure a consistent operating experience and to avoid radio firmware upgrade/downgrade delays.

Power cycle the FLEX-6000 radios before installing a new version of SmartSDR for Windows. To ensure a seamless upgrade of the FLEX-6000, it is recommended that you power cycle your radio *before* installing the SmartSDR for Windows software on your PC and updating the radio firmware.

“Cold Boot” your FLEX-6000 after upgrading the radio firmware. Using the power button, shut down the radio, then disconnect it from DC power for 30 seconds. This procedure “cold boots” the radio and helps ensure proper operation. Once DC power is restored to the radio, wait an additional 2 minutes to ensure that all internal processors have booted up completely before pressing the power button to load the SmartSDR firmware and boot your radio.

What to do if the firmware updates do not finish after 5 minutes? On rare occasions, an update may not signal the completion of a firmware update. If five (5) minutes have elapsed without the radio restarting and completing the upgrade, power off the radio by pressing the power button. The radio should restart, and the firmware update should complete normally.

Note: It would be rare that a single press on the power button does not shut down the radio. However, if this occurs, remove the DC power cable from the radio to force a hard reset. Wait about 1 minute, restore DC power, wait 2 minutes and depress the power button. The radio will restart and the firmware update should complete successfully.

How to Factory Reset a FLEX-6000

There may be situations where a factory reset of the FLEX-6000 is needed to ensure that the radio is working properly. If instructed to Factory Reset the FLEX-6000, use the procedure below.

Perform a Comprehensive Cold Boot and Factory Reset of your radio

Please pay attention to the "wait times" that are part of the steps listed below. These are important to ensure the radio resets properly.

- Power off the radio by pressing and releasing the power button. Allow it to completely power down before continuing by waiting for the power LED to turn off (or amber if a GPSDO is installed). If pressing and releasing the power button does not shut down the radio, **press and hold** the power button until the radio shuts down.
- Once the radio is powered off, **wait for 2 minutes** to allow for all processors to properly shut down.
- Remove the power cable from the radio for **at least 30 seconds** and then reconnect it. It is important to remove the power cable from the radio and not just turn off the power supply.
- After reconnecting the DC power cable, **wait for 2 minutes** to allow for the internal PSoC processor to boot up completely before continuing.

For the FLEX-6700 and FLEX-6500:

- Press and hold the OK button while pressing and releasing the Power button.
- Release the OK button once the power LED turns white and allow the radio to continue booting normally.

For the FLEX-6300, FLEX-6400(M), and FLEX-6600(M):

- Press and hold the Power button for approximately 5 seconds until the power button or power LED turns white. Release the power button and allow the radio to continue booting normally.

Uninstalling Previous Versions of SmartSDR for Windows – Is It Necessary?

In general, the answer is no, but there are considerations when more than one version of SmartSDR is maintained on your system:

Currently, every version of SmartSDR for Windows is installed in a "side by side" manner allowing the use of previous versions and supporting easy version switching of both software and radio firmware as long as there are no software dependencies that prevent backward compatibility. This method of installing places unique versions of software on your PC rather than removing or upgrading previous versions.

Release Specific Caveats:

If not previously installed, SmartSDR v2.7.5 will install an updated FlexVSP driver that is not backward compatible with previous versions of SmartSDR CAT and will result in an unhandled exception error.

After installing this release (v2.7.5) we strongly recommend you do not revert to any version before SmartSDR v2.6.2 to ensure the data integrity of the SD card is maintained.

SmartSDR for Windows Shared Components:

The SmartSDR ecosystem employs shared components used by multiple versions of the software. When previous versions of SmartSDR for Windows are uninstalled it may result in the removal of one or more of these shared components, which may make newer versions inoperable.

Therefore, if you desire to uninstall an older version of SmartSDR, we highly recommend you uninstall older versions before installing a new version of SmartSDR for Windows.

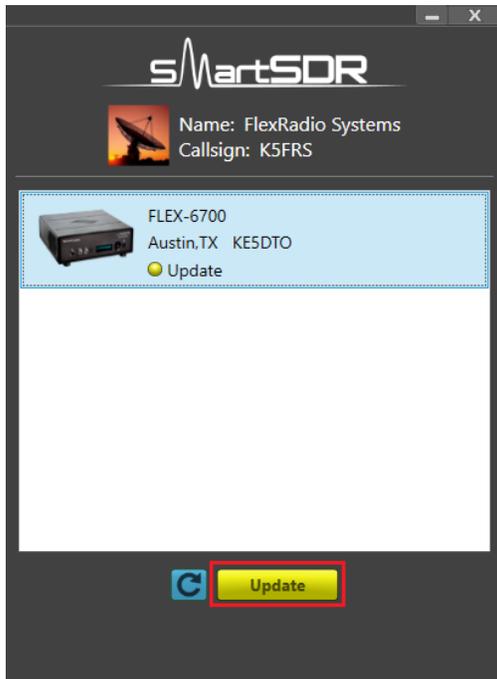
Removing the DAX and FlexVSP drivers are not recommended unless explicitly instructed to do so in the Release Notes or by FlexRadio Support.

Known Issues

- **If you revert from SmartSDR v2.6.2 to SmartSDR v2.4.9 and below, you must perform a factory reset of your radio.** The database used with SmartSDR v2.7.5 is not compatible with SmartSDR v2.4.10 and below. If a factory reset is not performed after downgrading, anomalous behavior will be experienced. After performing a factory reset, it is permissible to import profiles that were created using SmartSDR v2.4.10 and below.
- During alpha testing, after the initial installation of the updated DAX drivers provided in SmartSDR v2.6.0, a handful of users reported a Windows "stop error" (colloquially known as the Blue Screen of Death or BSoD). In most cases, the error occurred once and after a subsequent PC reboot, the error did not occur again or impact proper DAX operations. We are working to identify the cause and resolve the behavior.
- After installing the updated DAX drivers, if you receive a DAX error where all the DAX channels are red, the most common reason for this is due to the lack of a default Windows audio playback device (speakers). To identify this error condition, look at the speaker icon in the Windows Task Bar. If it has a red "X" on it, this indicates a missing default audio playback device. To resolve this issue, simply connecting a pair of PC speakers or a headset to the PC will cause Windows to find a suitable default audio playback device and upon restarting DAX, the error condition should be resolved.
- FLEX-6700 only: There is a known issue (#280, #1527) where changing bands on one panadapter may change the frequency of another panadapter when going to or from 2m (or an XVTR using 2m as an IF). This happens due to hardware constraints that require each Antenna to be on only one of 2 possible Nyquist zones (below or above 122.88 MHz) and interaction with persistence when recalling the antenna selection of the selected band. One way to work around this issue is to use the Band buttons instead of setting the Antenna on the Panadapter or Slice, and then entering the desired frequency into the Slice to tune into (or out of) the 2m band (or an XVTR using 2m as an IF).
- (#7142) The "Mute local Audio When Remote" feature does not currently work in v2.5 and greater.
- (#6938) Operation with Pactor modems will not work in v2.5 and greater. Pactor operation is functional in v2.4.10.

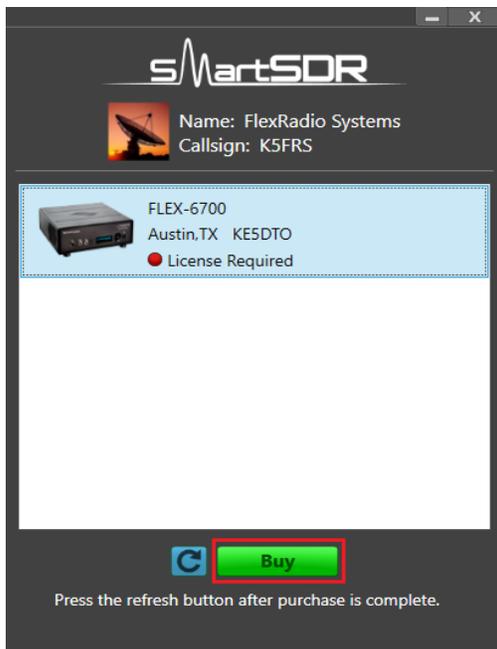
Purchasing a SmartSDR Software License for your FLEX-6000 using SmartSDR for Windows

Obtaining a SmartSDR software license is easy and convenient. Download the latest software installer for SmartSDR and run it to install the software on your PC. Using the new software, update the radio with the new firmware. Start SmartSDR then select the radio in the radio chooser window and press the yellow Update button.



Once the update completes, if the radio you are upgrading requires a license, the radio status will show "License Required" and you will be presented with a Buy button that will launch a web browser, which will take you through the steps to purchase the license.

Note: New radios purchased include a SmartSDR license for the current major version and will not see the "License Required" indicator.



Once you have purchased a SmartSDR license for your radio, click the blue circular refresh button in the radio chooser window to update the license information for the radio. It may take up to a minute after the purchase completes before the radio acquires its license and cycling the power on the radio may be required.

Note: The radio (not just the computer) will need internet access to obtain the newly acquired license. Please ensure that the radio is plugged into a network that gives internet access.

SmartSDR Documentation Available from www.flexradio.com

The following documentation and how-to guides for SmartSDR v2.6.2 are available as a convenient download from the FlexRadio website.

SmartSDR for Windows Software User's Guide

<https://www.flexradio.com/downloads/smartsdr-software-user-guide-v2-pdf/>

FLEX-6400M and FLEX-6600M User's Guide

<https://www.flexradio.com/downloads/flex-6400m-and-flex-6600m-user-guide-v2-pdf/>

SmartSDR CAT User Guide

<https://www.flexradio.com/downloads/smartsdr-cat-user-guide-v2-pdf/>

FLEX-6000 Signature Series Hardware Reference Manual

<https://www.flexradio.com/downloads/flex-6000-hardware-reference-manual-pdf/>

FLEX-6400 and FLEX-6600 Hardware Reference Manual

<https://www.flexradio.com/downloads/flex-6400-and-flex-6600-hardware-reference-manual-pdf/>

FLEX-6000 Signature Series Quick Start Guide

<https://www.flexradio.com/downloads/flex-6000-family-qsg-single-page-pdf/>

SmartLink for SmartSDR Quick Start Guide

<https://www.flexradio.com/downloads/smartlink-quick-start-guide-for-smartsdr-pdf/>

FreeDV Waveform How-to Guide

<https://www.flexradio.com/downloads/freedv-waveform-how-to-guide-pdf/>

USB Cable Interface Guide

<https://www.flexradio.com/downloads/usb-cable-interface-guide-pdf/>

SmartSDR v2.5.1+ Changelog

https://www.flexradio.com/downloads/smartsdr_v2_changelog/

Obtaining Technical Support

If you encounter any issues installing or operating SmartSDR for Windows with your FlexRadio Systems' Signature Series software defined radio, please use our online [Community](#) to search for information about SmartSDR and the FLEX-6000. If you need assistance using the Community, please refer to the [Community Message Board](#) for additional information.

If you are unable to find an existing answer to your issue via the Community, please contact FlexRadio Systems Technical Support by opening a [HelpDesk support ticket](#) online.

For details on how to submit a HelpDesk support ticket, please refer to the HelpDesk article [How to Submit a Request for Technical Support](#).

Hours of Operation: Our Technical Support engineers are available Monday-Friday from 7:00 AM-4:00 PM Central Time. If you open a HelpDesk ticket after business hours, on a holiday, or weekend, we will respond to your request for assistance during regular business hours in the order your HelpDesk ticket was received.

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