SmartSDR™ for Windows v2.4.9 Release Notes

September 25, 2018

This is a general release intended for use with the FLEX-6400™, FLEX-6400M™, FLEX-6600™, FLEX-6600M™, FLEX-6300™, FLEX-6500™, FLEX-6700R™ and FLEX-6700™ software defined radios which contains new features and software defects introduced in previous versions of SmartSDR.

Please consult the SmartSDR Software Users Guide for details on using the new and updated features of SmartSDR for Windows for the optimal operating experience.

Please see the "Important Release Details" section before upgrading. There are also several best practice recommendations that will facilitate a smooth transition to the new version of SmartSDR for Windows.

What's New in SmartSDR v2.4.9

DAX is Supported When Using SmartLink: DAX has been optimized for efficient network operation, which allows it to be used in conjunction with SmartLink. Like using SmartSDR CAT, the SmartLink or locally connected radio must be selected from the Radio Chooser. Please note that due to DAX bandwidth optimizations, you will need to adjust your DAX TX and RX levels the current setting will be slightly lower in gain than with previous versions of DAX. #6511.

Occasional Invalid "Radio in Use" Message Corrected: A logic defect would occasionally disconnect a radio from a client with a "Radio In Use" message when the radio was not actually in use. This defect has been fixed in SmartSDR v2.4.9. #5115

Multicolored S Meter: The S-meter how visually indicates signal strength by color from green progressing through yellow to red. #6323

Radio Nickname and Software Version Shown on SmartSDR the Console: The radio nickname and oftware version number are now displayed on the bottom bar. #5845 & #6508

USB Cables Adds new CAT Commands: Three new CAT commands (MD, RX, TX) have been added to the USB Cable feature to support ACOM600s and Tuner 04AT. #6382

Default Mic Profiles added for Inrad Microphones: New default microphone profiles for the Inrad M650 and M629 microphones. #6268

TNF Remove All Option Added: An option to remove all previously created TNFs has been added to SmartSDR v2.4.9 #6541

Bug Fixes: There have been other bug fixes in this release. Please see the SmartSDR ChangeLog for a complete listing.

Important Release Details

Upgrading FLEX-6400M and FLEX-6600M Front Panel: If you are upgrading a FLEX-6400M or a FLEX-6600M using SmartSDR for Windows, ***this process will not upgrade the Front Panel software***. To upgrade the Front Panel software, the radio must be connected to your network in such a manner that it has Internet access. After upgrading the radio firmware, shut down SmartSDR for Windows, connect to your radio from the Front Panel. The Version select screen should be displayed. Select SmartSDR v2.4.9 to download and install SmartSDR for the M Model Front Panel. After upgrading the Front Panel to SmartSDR v2.4.9, all radio and client components will have been upgraded to SmartSDR v2.4.9.

For a detailed description of the SmartSDR for Windows software upgrade process, please refer to the SmartSDR Software Users Guide

Updated Ethernet MAC: Starting in v2.1.30 and going forward, the Ethernet MAC address used by the radios and Maestro in the radio will all start with a FlexRadio OUI (00:1C:2D). **Due to this change, any existing Static DHCP assignments in Local Area Network routers that rely on the old MAC address will need to be revisited.** If a static IP address is assigned to the FLEX-6000, a reboot of your router may be needed to clear routing and ARP tables. Also, if the IP address of the radio changes as a result of this (which is very likely), **be sure to check any manual Port Forwarding settings related to SmartLink.**

SmartSDR v2 requires a software license installed on the radio before it can be used with a FLEX-6000: The following have been pre-authorized for SmartSDR v2 and do not require the purchase of a license:

- Limited Edition (LE) FLEX-6700 and FLEX-6500 radios
- All radios sold after May 19, 2017

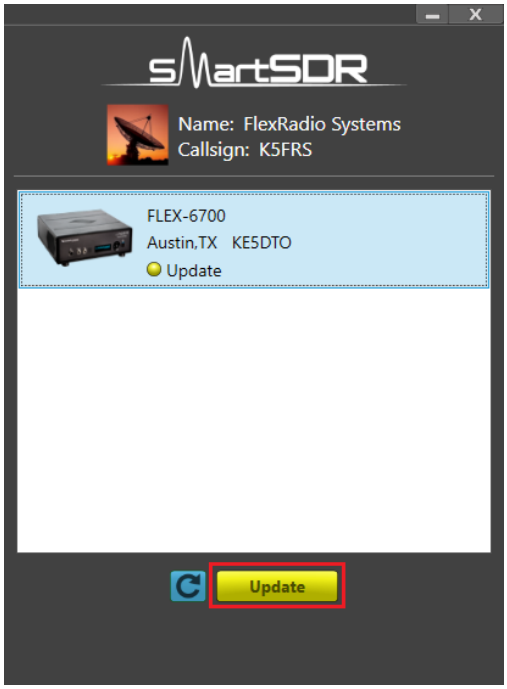
All other radios require the purchase of a software license for the radio. Please see the section "Purchasing a SmartSDR Software License for your FLEX-6000" for instructions on how to purchase a license.

Backup your profiles before upgrading: This is covered in detail below in the *Best Practices for Installing / Uninstalling SmartSDR* v2 section. Having a good backup of your profiles is always a best practice before doing *any* SmartSDR software upgrade in the event you must revert to a previous version of the software or need to do a factory reset of the radio.

Cold boot the radio after upgrading to SmartSDR v2.4.9: A "cold boot" is accomplished by shutting down the radio and then removing DC power from it momentarily. This process is covered in detail in the *Best Practices for Installing / Uninstalling SmartSDR v2* section but is added here for emphasis. There are several internal processor subsystems that may be upgraded by SmartSDR v2.4.9 and it is imperative that they all restart properly after the upgrade.

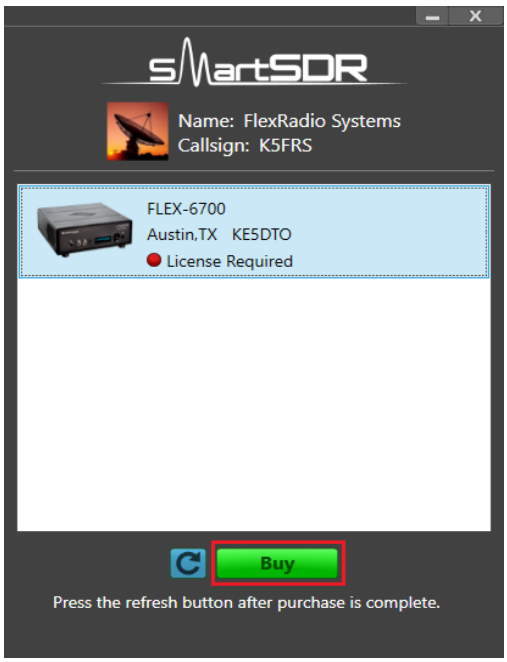
Purchasing a SmartSDR Software License for your FLEX-6000

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 in order to obtain the newly acquired license. Please ensure that the radio is plugged into a network that gives internet access.

Best Practices for Installing / Uninstalling SmartSDR

Best Practices for Installing a New Version of SmartSDR for Windows

In preparation for the upgrade to SmartSDR for Windows, *always* backup your Global, TX 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. Whenever you upgrade to a newer version of SmartSDR for Windows, a database conversion program runs automatically to convert an older version of the Profile database to the new format or schema. *However, the reverse is not true.* If you must revert to a previous version of SmartSDR for Windows, the older version may not be able to downgrade the database schema. To recover your previously created profiles after a software version downgrade, an import of profile data created using the version of SmartSDR for Windows you are downgrading to is required for proper operation of your radio.

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 Windows operating system including the root security certificate. It is highly 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 Maestro or 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 before installing new a new version SmartSDR for Windows. To ensure a seamless upgrade of the entire SmartSDR software ecosystem, it is recommended that you power cycle your radio *before* installing the SmartSDR for Windows software on your PC.

"Cold Boot" your FLEX-6000 after upgrading the radio firmware. When upgrading the radio firmware, there may be updates to various internal subsystems. Powering off the radio, disconnecting it from DC power for several seconds, reconnecting DC power and then powering up the radio normally after updating the firmware ensures that all processors reboot properly. This process is known as a "cold boot".

What to do if the firmware updates do not finish after 5 minutes? On rare occasions, the update status may not recognize the completion of the firmware update. If the radio has not successfully completed the firmware updates after 5 minutes, power off the radio by pressing the power button. The firmware update should complete normally.

Note: It would be rare that a single press on the power button did not shut down the radio. If this occurs, remove the DC power cable from the radio to force a power down to reset all processors. Wait about 5-10 seconds and restore DC power and reboot the radio. The firmware update should complete successfully.

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

This frequently asked question does not have a simple "yes/no" answer.

In general, the answer is no, but there are some special considerations:

Each version of SmartSDR for Windows is installed in such a manner that running a previous version is a simple matter of running an older version of SmartSDR for Windows and allowing the radio firmware to downgrade automatically when prompted. This method of installing unique versions of software on your PC rather than upgrading a previous version provides an easy and convenient way to switch to a previous version if you so desire.

Unfortunately, there are exceptions that result in release specific caveats. In the case of SmartSDR for Windows v2.4.9, there are **no** release specific caveats that require removing previous versions of SmartSDR for Windows.

In addition to any release specific caveats, there are shared components of the SmartSDR ecosystem used by multiple versions of SmartSDR for Windows. Operationally this typically does not result in any issues, but if a previous version of SmartSDR for Windows is uninstalled while there is a newer version installed, the possible removal of one or more of these shared components may make newer versions of SmartSDR for Windows inoperable. ***Therefore, if you desire to uninstall older versions of SmartSDR for Windows, it is highly recommended that you uninstall all older versions of SmartSDR for Windows 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.

If you chose to uninstall several previous versions of SmartSDR for Windows prior to installing a new version, you may want to perform a comprehensive removal of the SmartSDR ecosystem from your PC. This is not a requirement, but it will ensure that all SmartSDR for Windows applications and hardware drivers have been removed allowing for a clean install of SmartSDR.

This is a multi-step process that is outlined in the HelpDesk article How to do a Complete uninstall of SmartSDR for Windows from your PC.

Known Issues

1. For users running SmartSDR on Windows 10 PCs, It has been reported that the twice-annual Feature Updates result in DAX device corruption. The source of this problem is rooted in problems upgrading virtual devices like the DAX virtual sound card drivers. Microsoft is aware of the problem but to date has not provided a resolution. The only way to prevent DAX driver corruption is to completely remove all versions of SmartSDR for Windows, including the removal of the DAX drivers (an option in the uninstaller) from your PC before performing a Windows 10 Feature Update. Once the feature update is complete, install the latest version of SmartSDR that your radio is licensed to run.

2. 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 an 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 in order to tune into (or out of) the 2m band (or an XVTR using 2m as an IF).

SmartSDR Documentation Available at www.flexradio.com

The following documentation and how to guides for SmartSDR v2.4.9 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-pdf/

FLEX-6400M and FLEX-6600M User's Guide
https://www.flexradio.com/downloads/flex-6400m-and-flex-6600m-user-guide-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/

SmartSDR CAT User Guide
https://www.flexradio.com/downloads/smartsdr-cat-user-guide-pdf/

SmartLink for SmartSDR Quick Start Guide
https://www.flexradio.com/downloads/smartlink-quick-start-guide-for-smartsdr-pdf/

D-STAR Waveform How to Guide
https://www.flexradio.com/downloads/d-star-waveform-how-to-guide-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/

Obtaining Technical Support

If you encounter any issues installing or operating SmartSDR for Windows with FlexRadio Systems' Signature Series software defined radios, please use our online Community (https://community.flexradio.com/) to query for information about SmartSDR for Windows and the FLEX-6000. If you need assistance using the Community, please refer to the community topic "How to use the FlexRadio Systems Support Community".

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 at https://helpdesk.flexradio.com/

For details on how to submit a HelpDesk support ticket, please refer to the following URL: https://helpdesk.flexradio.com/hc/en-us/articles/202118688-How-to-Submit-a-Request-for-Technical-Support.

Hours of Operation: Our Technical Support engineers are available Monday-Friday from 7:00am-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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