SmartSDR™ for Windows v3.0.27 Release Notes

June 11, 2019

SmartSDR v3.0.27 is a maintenance 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 resolved software defects introduced in previous versions of SmartSDR.

This document covers SmartSDR for Windows, SmartSDR for the "M" Model FLEX-6000s and Maestro. 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 v3.0.27

ATU Fixes: Fixed issue that resulted in a false positive match without actually tuning an antenna and the power level sliders now accurately reflect RF power used when ATU is tuning. (#7429,#7370)

Fixed Persistence Restoration over a SmartLink Connection: Fixed issue where SmartLink connections would not restore persistence when using a Maestro or M Model SDR. (#7376)

Quick Record/Playback defect Fixed: Quick Record/Playback now works properly when using PC Audio (Remote Audio RX Streams) (#7344)

Problems with transmitting out of band on 60m: Fixed issues with out-of-band 60m transmit (#7377)

Full Duplex Operation (FDX) Fixed: Issues with FDX not working properly have been resolved (#7457)

SSB Monitor Audio feature Fixed: SSB MON Audio now works properly with PC Audio (can also hear other clients transmit when using multiFLEX) (#7358)

Bug Fixes: There are 40+ bug fixes in this release since v3.0.19. Please refer to the SmartSDR ChangeLog for a complete listing.

Important Release Details

SmartSDR v3 requires a software license installed on the radio before it can be used with a FLEX-6000: If you purchased your radio or SmartSDR v2.x on or after Oct. 1, 2018 no additional payment is required. If you purchased a FLEX-6000 series radio or 2.X license upgrade prior to Oct. 1, 2018 there is a $199 fee (U.S.) to upgrade to this latest major version release. All subsequent point releases (v3.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.

Backup your profiles before upgrading: Moving back and forth between v3.x and versions of SmartSDR v2.4.9 and below will result in loss of data. If using SmartSDR v2.4.9 and below please export your profiles before upgrading to v3.0.27, and backup any profiles again before going back to previous versions. This is covered in detail below in the *Best Practices for Installing / Uninstalling SmartSDR* v3 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.

Upgrading FLEX-6400M and FLEX-6600M Front Panel: If you are upgrading a FLEX-6400M or a FLEX-6600M using SmartSDR for Windows, *upgrading using SmartSDR for Windows will not upgrade the SmartSDR for "M" Model (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 v3.0.27 to download and install SmartSDR for the M Model software. After upgrading the Front Panel to SmartSDR v3.0.27, all radio and client components will have been upgraded to SmartSDR v3.0.27.

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

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 procedure 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 and then restart the radio. 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. However, 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.

Best Practices for installing a new version of SmartSDR for and "M" Model FLEX-6000 or Maestro

In addition the Best Practices listed above, the following are applicable when installing a new version of SmartSDR in a Maestro.

Note: both the Maestro and an M Model FLEX-6000 must have network access that allows connectivity to the Internet in order to download the new SmartSDR software.

Ensure your Maestro has a reliable power source. When upgrading your Maestro, make certain that the AC power adapter is used to power the unit to prevent the Maestro from powering down during a software update.

Ensure your Maestro has a reliable network connection. The Maestro and radio firmware are upgraded entirely through the network connection. When upgrading a Maestro, a wired Ethernet connection is recommended. A wired connection from the Maestro to your Ethernet network is faster and more reliable than a Wi-Fi connection.

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 using 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 v3.0.27, 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.
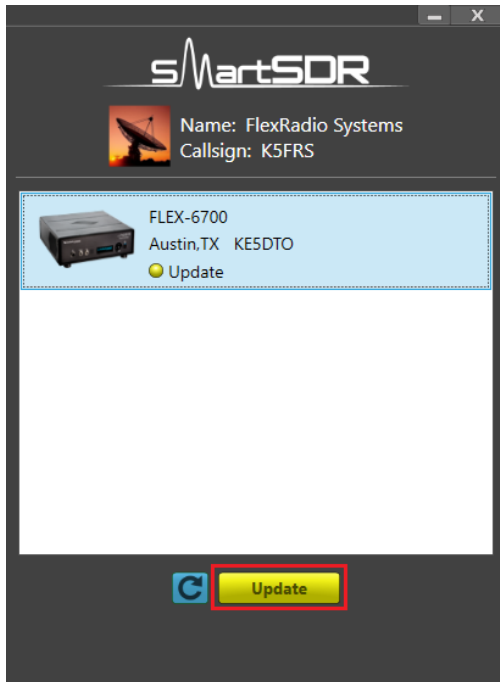
This is a multi-step process that is outlined in the HelpDesk article [How to do a Complete uninstall of SmartSDR for Windows from your PC](#).

Known Issues

- **If you revert from any version of SmartSDR v3 to SmartSDR v2.4.9 and below, you must perform a factory reset of your radio.** The database used with SmartSDR v3.x is not compatible with SmartSDR v2.4.9 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 v2.4.9 and below.
- 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. 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.
- 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).
- (#7142) The "Mute local Audio When Remote" feature does not currently work in v3.0.27
- (#6938) Operation with Pactor modems will not work in v3.0.27. Pactor operation is functional in v2.4.9.
- (#7310) When using a Power Genius XL amplifier with SmartSDR v3.0.27, the transition from receive to transmit may take longer than expected. This can result in clipping the front of the CW transmission causing shortened dots or turning dashes into dots. This can also happen in phone modes, but it is less noticeable since the timing typically isn't as critical. There are several ways to work around this problem:
    - We recommend using a TX Delay setting of 40 ms (see Settings Menu -> Radio Setup -> TX Tab).
    - A similar value for CW Delay will keep from dropping out of CW transmit in between characters.
    - When using CWX, turning off QSK (See CWX Setup) will prevent dropping out of transmit until the buffer has completed sending.
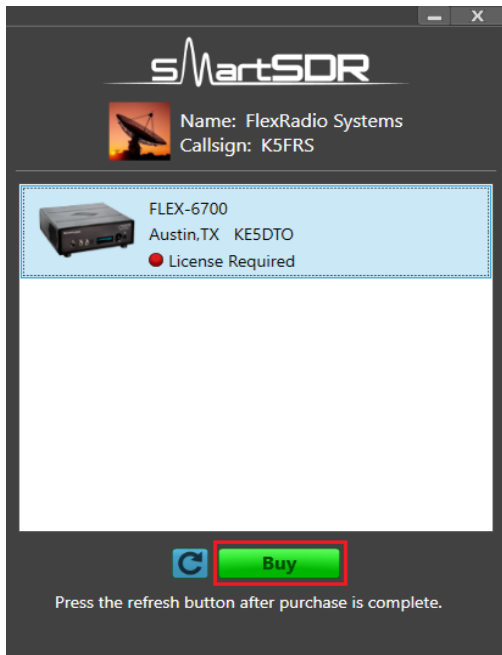
Purchasing a SmartSDR Software License for your FLEX-6000 using SmartSDR for Windows

Obtaining a SmartSDR software license using SmartSDR for Windows 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.
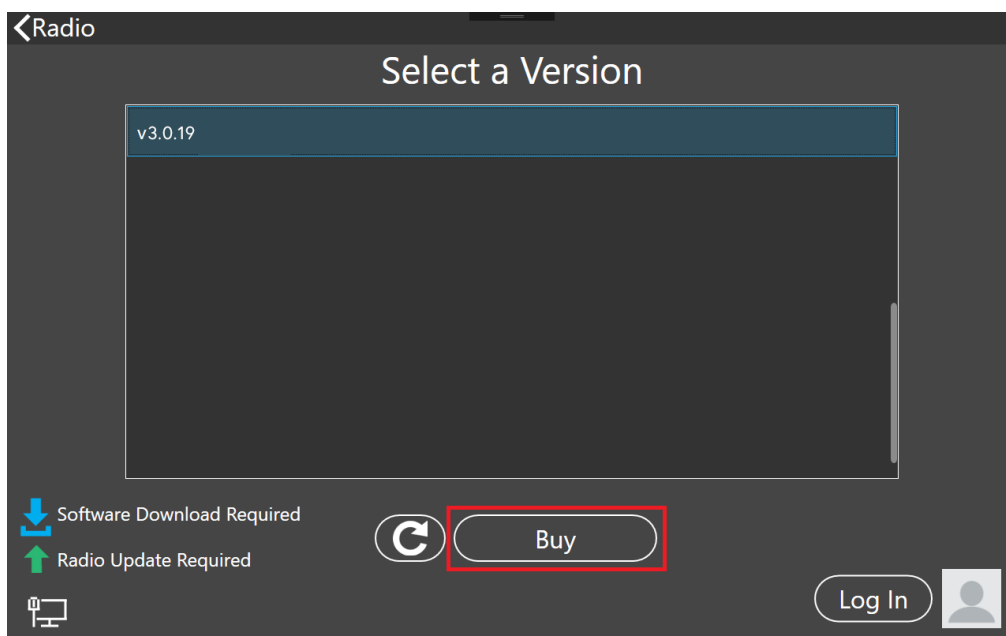
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Once you have purchased a SmartSDR license for your radio, click the blue circular refresh button in the radio chooser window to update the license information for the radio. It may take up to a minute after the purchase completes before the radio acquires its license and cycling the power on the radio may be required.
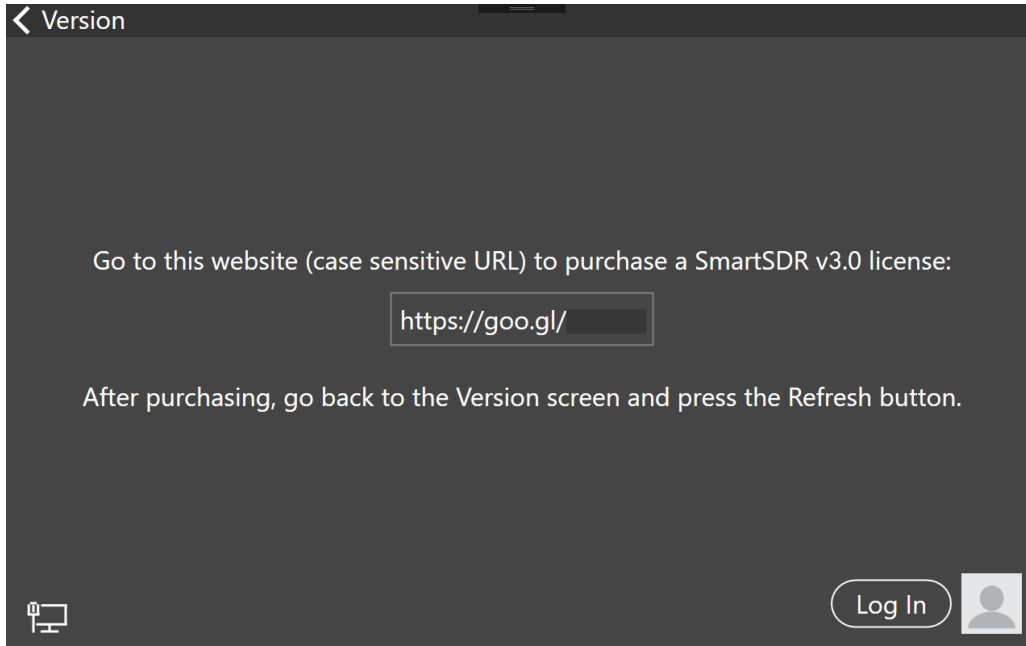
Note: The radio (not just the computer) will need internet access in order to obtain the newly acquired license. Please ensure that the radio is plugged into a network that gives internet access.

Purchasing a SmartSDR Software License for your FLEX-6000 using an "M" Model FLEX-6000 or a Maestro
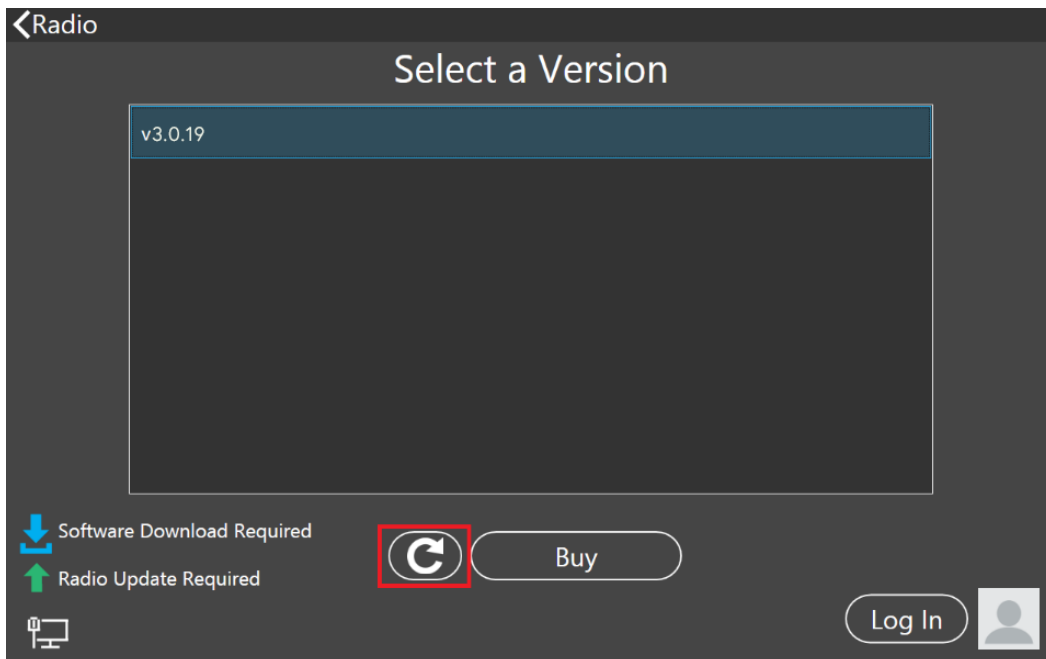
Obtaining a SmartSDR software license using an M model FLEX-6000 or a Maestro is easy and convenient. After downloading and installing a 3.x software version, At the Select, a Version screen select the version 3 software just installed. If you need to purchase a license to run the software, the Buy button will appear as shown below.

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Tapping the Buy button will generate and show a shortened URL that must be plugged into a browser manually. Note that the URL is case sensitive and unique for each radio.

When the license purchase is complete, tap the Version link at the top left corner of the screen to go back to the Select a Version screen. At the Select, a Version screen, tap the refresh button (circular icon) to update the license information for the radio. It may take up to a minute after the purchase completes before Maestro finds the new license.

When the license is updated, the refresh button will disappear and the Buy button will change to a Run button. Tap the Run button to connect SmartSDR v3 for an M Model FLEX-6000 or Maestro to your FLEX-6000.

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SmartSDR Documentation Available from www.flexradio.com

The following documentation and how to guides for SmartSDR v3.0.27 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/

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 v3 with multiFLEX Installation Video
https://www.youtube.com/watch?v=zO90kVkIYM8

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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