SmartSDR™ for Windows v1.11.12 Release Notes

September 7, 2017

What's New in SmartSDR v1.11.12

SmartSDR for Windows v1.11.12 is a general release intended for use with the FLEX-6300™, FLEX-6500™, FLEX-6700R™ and FLEX-6700™ software defined radios that include feature enhancements and addresses software defects identified in the previous versions of SmartSDR for Windows v1. 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.

A cumulative and inclusive **ChangeLog** file listing all of the modifications to SmartSDR for Windows v1, SmartSDR CAT, DAX, the firmware and SmartSDR for Maestro can be found in the Program Files\FlexRadio Systems\SmartSDR\Documentation folder.

It highly recommended that you refer to the Important Release Details section below before upgrading. Also, there are several "best practices" recommendations that will facilitate a smooth transition to the new version of SmartSDR for Windows.

Improved Dynamic Range for FLEX-6300: The IMD dynamic range performance of the FLEX-6300 has been improved in this release by a software modification. This change benefits all FLEX-6300s.

Additional RF Preamp Gain for FLEX-6700 and FLEX-6700R: An additional +10 dB of RF preamp gain has been enabled in the FLEX-6700 and FLEX-6700R. When operating on higher frequency bands where the antenna is not noise limited (a low noise floor), you can enable up to +40 dB of RF gain. Please refer to the HelpDesk article How to determine the amount of RF Preamp gain to apply for band conditions for configuring the RF preamp for maximum SNR performance.

New TURFs: New region/entity specific TURF files have been added for IARU Region 2 and Australia (Update #4529 and #4951).

New FlexVSP driver: A new and updated FlexVSP driver (v1.0.5) used with SmartSDR CAT is included in SmartSDR v1.11.12. The driver installs automatically. This virtual serial port driver has better performance and stability characteristics than the previous version, especially when used on Windows 10. This updated FlexVSP driver also corrects an existing defect #4394, Serial Ports left "in use" when CAT is shut down. *After installing SmartSDR v1.11.12, you will have to manually reset and clear any com ports currently in use by using the HelpDesk procedure* Removing "In Use" Com Ports for Available Com Ports

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Important Release Details

The following information is specific to SmartSDR v1.11.12. Please read the following Important Release Details before installing this version of SmartSDR for Windows or SmartSDR for Maestro.

Requirements and Recommendations for Installing SmartSDR for Windows 1.11.12

When upgrading to a new major version of SmartSDR, several considerations should be taken to ensure a trouble-free upgrade.

Backup your profiles before upgrading. This is covered in detail below in the *Best Practices for Installing / Uninstalling SmartSDR* v1 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.

Upgrade from SmartSDR v1.10.16. To ensure that previous release dependencies are met, it is recommended that you upgrade to SmartSDR v1.10.16 before upgrading to SmartSDR v1.11.12

The new FlexVSP driver will automatically be installed as part of the installation process if an upgrade is needed. **There is no need to uninstall the existing FlexVSP driver before installing SmartSDR v1.11.12**. You may notice that the installation process is taking a little longer than usual to complete and this is due to installing the new FlexVSP driver**. It is highly recommended that you reboot the PC when prompted at the end of the SmartSDR for Windows installation process.**

Cold boot the radio after upgrading to SmartSDR v1.11.12. 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 v1* section but is added here for emphasis. There are several internal processor subsystems that are upgraded by SmartSDR v1.11.12 and it is imperative that they all restart properly after the upgrade.

Best Practices for installing a new version of SmartSDR for Windows

The following "Best Practices" are highly recommended to ensure a seamless and trouble-free upgrade to SmartSDR for Windows.

In preparation for the upgrade to SmartSDR for Windows, *always* backup your current Global and TX 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.

Shut down all third-party programs running on your PC that utilize a sound card. If necessary, the SmartSDR for Windows installer may install or upgrade the virtual sound card DAX drivers. As part of this process, it will uninstall the older drivers first. If there is an application open on your PC that is using one of the DAX drivers, uninstalling of the existing DAX driver will fail which may result in issues installing the updated DAX drivers. Examples of these types of programs include, but are not limited to digital mode programs, Windows Media Center, web browsers and audio players.

Shut down all third-party programs utilizing virtual com ports. The installation of SmartSDR CAT may also install new or recreate existing virtual com ports as part of the installation process. Please shut down any program that may use the FlexVSP virtual serial port driver. Examples of these include but are not limited to any digital mode programs, loggers, spotting programs and hardware devices that interface through a virtual com port

Managing SmartSDR for Windows installed on other PCs connected to your network. If you have installed SmartSDR for Windows on other PCs that are connected to the same network as the FLEX-6000, these PCs may be running SmartSDR CAT and DAX since these applications auto-start when the PC is booted. Running these applications while upgrading SmartSDR for Windows may result in installation issues, therefore it is recommended that these PCs be shut down or remove SmartSDR from Windows from the PCs prior to installing a new version of SmartSDR for Windows. In addition, these PCs will need to be upgraded to the same version of SmartSDR after the FLEX-6000 firmware has been upgraded to ensure a consistent operating experience.

Power off the FLEX-6000 before installing new SmartSDR for Windows on your PC. To ensure a seamless upgrade of the entire SmartSDR software ecosystem, it is recommended that you power off your radio before installing the SmartSDR for Windows software on your PC.

Power Cycle your Radio after upgrading the firmware. When upgrading the radio firmware, there may be updates to several of the internal subsystems. Powering off the radio, disconnecting it from DC power for several seconds, reconnecting DC power and powering up the radio after updating the firmware ensures that all processors reboot properly.

What to do if the firmware update does not finish after 5 minutes? On rare occasions, the FLEX-6000 may not respond to the reboot signal after doing a firmware update. If the radio has not successfully completed the firmware updates after 5 minutes, power off the radio by pressing and holding the power button until the radio shuts down. Remove the DC power source from the radio to power down all processors. Restore DC power and reboot the radio. The firmware update should complete normally.

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

This is a frequently asked question that does not have a simple "yes/no" answer. **In general, the answer is no, but there are special considerations to consider.**

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. This method of installing unique versions of software on your PC rather than upgrading a previous version allows for 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 v1.11.12, 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 of 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. In some situations, due to some deficiencies with Windows, the FlexControl may choose a COM port that has already been assigned to a virtual COM port or another device. It may be necessary to move the FlexControl to a different COM port and disconnect/reconnect the FlexControl to resolve this issue. Follow these instructions: https://helpdesk.flexradio.com/hc/en-us/articles/202479329-How-to-Change-the-Com-Port-Assignment-for-a-FlexControl

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 v1.11.12 are available as a convenient download from the FlexRadio website.

SmartSDR for Windows Software User's Guide
http://www.flexradio.com/downloads/smartsdr-software-users-guide-pdf/

FLEX-6000 Signature Series Hardware Reference Manual
http://www.flexradio.com/downloads/flex-6000-hardware-reference-manual-pdf/

FLEX-6000 Signature Series Quick Start Guide
http://www.flexradio.com/downloads/flex-6000-family-qsg-single-page-pdf/

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

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

FreeDV Waveform How to Guide
http://www.flexradio.com/downloads/freedv-waveform-how-to-guide-pdf/

USB Cable Interface Guide
http://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 on 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 9:00am-5:30 pm Central Time. If you contact Support 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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