

PowerSDR[™] v2.5.3 Release Notes

December 10, 2012

IMPORTANT: Please read this document in its entirety before installing the new release of PowerSDR 2.x.

PowerSDR v2.5.3 is a general release intended for use with the SDR-1000[™], FLEX-1500[™], FLEX-3000[™] and FLEX-5000[™] software defined radio transceivers.

Table of Contents

PowerSDR 2.x Software Installation/Upgrade Recommendations and Guidelines

Please read all of the following guidelines and follow the recommendations to ensure a trouble free upgrade of your software defined radio to PowerSDR v2.5.3.

The instructions below are applicable for users that already have *a previous version of PowerSDR v2.x* installed on their PC. If you have the older PowerSDR v1.x installed, please see the <u>Prerequisites for</u> <u>FLEX-x000 Users Upgrading from PowerSDR 1.x to PowerSDR 2.x</u> in the section below.

- Minimum required CPU for PowerSDR v2.5.3 and greater is an Intel Pentium IV and an AMD Athlon 64 / Operon and greater. Lesser processors do not have the necessary SSE2 compatibility needed for the DSP.
- 2. The minimum version of Windows supported by PowerSDR v2.5.x and above is Windows XP Service Pack 3 (SP3). If your Windows XP PC has not been upgraded to SP3, you must do so before installing PowerSDR v2.x. See <u>Minimum Windows and .NET Requirements</u> below for obtaining Win XP SP3.
- 3. It is not necessary or recommended to uninstall any previous versions of PowerSDR 2.x before installing PowerSDR v2.5.3. In fact, it is not recommended that you uninstall previous versions of PowerSDR unless you uninstall all previous versions so that files and drivers installed as dependencies with previous versions are all properly removed before installing PowerSDR v2.5.3
- 4. It is **not necessary or recommended** to manually remove the Firewire driver before installing PowerSDR v2.5.3. Doing so after PowerSDR v2.5.3 is installed will make your FLEX-5000 / FLEX-3000 inoperable. Do not install any standalone versions of the Firewire driver either.
- 5. The PowerSDR v2.x installer requires administrator level rights to install the kernel mode device drivers for the various SDR radios. The Installer should automatically elevate to this level of rights when run regardless of the current user rights, but if you are in doubt that your login has full administrator rights or you are getting errors indicating files cannot be found, you need to right click on the PowerSDR v2.x Integrated Installer icon and select the "Run As..." option and run the Installer with the administrator account, and not your login account ID.
- 6. The PowerSDR v2.x Installer no longer prompts the user for radio options. All drivers are now preloaded to eliminate the need to re-install a version of PowerSDR in order to load a device driver.
- Firmware updates, if needed, are applied automatically when running the new version of PowerSDR for the first time. Do **not** stop the firmware installation until it has fully completed or your radio may not operate properly thereafter.
- 8. See additional operation notes regarding your specific model radio later in this document.
- 9. If you are installing a FlexControl with PowerSDR v2.5.3 for the first time, please read the *FlexControl Installation Errata Sheet* shipped with the FlexControl regarding use with Virtual Serial Port software prior to installation. You may need to remove any existing virtual com port pairs you have defined before installing PowerSDR and the FlexControl drivers. This is not necessary if you have an existing operational FlexControl connected to your PC.

Minimum Windows and .NET Requirements

PowerSDR 2.x is a Windows 32-bit .NET application designed to operate on Windows XP SP3, Vista, Windows 7 and Windows 8. The .NET 3.5 SP1 Framework is required.

As of July 13, 2010, Windows XP SP2 (service pack 2) is no longer supported or actively updated by Microsoft, therefore if your PC is running Windows XP SP2, you must install Service Pack 3 (SP3) before installing PowerSDR v2.5.3. The PowerSDR 2.x Integrated Installer will check for this dependency and inform you if your PC does not meet the minimum XP Service Pack requirements.

For more information regarding upgrading your PC to Windows XP SP3, refer to <u>Learn how to install</u> <u>Windows XP Service Pack 3 (SP3)</u> (<u>http://windows.microsoft.com/en-US/windows/help/learn-how-to-install-windows-xp-service-pack-3-sp3</u>) on the Microsoft web site.

If you need to install the .NET 3.5 SP1 Framework, the PowerSDR 2.x Integrated Installer will try and download the necessary software from the Internet or the installation CD. Alternately, you can download it directly from Microsoft using this web link before running the PowerSDR Integrated Installer: http://www.microsoft.com/en-us/download/details.aspx?id=25150

Obtaining Technical Support

If you encounter any issues installing or operating PowerSDR v2.5.3 with FlexRadio's software defined radios, please contact FlexRadio Systems technical support by opening a HelpDesk ticket on-line at <u>http://helpdesk.flexradio.com</u> or by phone at +1 (512) 535-4713 extension #2. Please leave a voice mail message if you don't get an answer as all of our engineers are probably busy on existing calls.

Hours of Operation. Our Technical Support engineers are available Monday – Friday from 8:00am-5:30pm Central Time. If you call after business hours, on a holiday or weekend, please leave a detailed message and we will return your call in the order it was received during regular business hours.

You may always submit a HelpDesk support ticket at any time.

If you need assistance opening a HelpDesk ticket, please refer to the following web page for detailed instructions. <u>http://support.flexradio.com/</u>

NOTE: A detailed changelog.txt file can be found in the Documentation folder under the FlexRadio Systems Windows Start menu for PowerSDR v2.5.3

New Features

- 1. New FlexControl Basic and Advanced Operation Modes. A new basic operation mode for FlexControl operation has been added for users that desire a single action assigned to each AUX button and the knob on the FlexControl knob, so that a single click of an AUX button modifies the assigned radio control that the knob changes. If XIT or RIT is assigned to an AUX button, double clicking that AUX button will reset XIT or RIT back to a zero (0) Hz offset. In Basic mode, the LED indicators above the AUX buttons will illuminate if that specific control is selected. If no LEDs are illuminated then the action assigned to the knob is active. The FlexControl Basic mode is now the default mode.
- 2. Waterfall Low/High Levels by Band. When you set the waterfall low/high levels in the Setup form, those levels are saved in the database for the active band and recalled when you select that band again. The waterfall low/high level settings are saved for 160-6m, WWV, Gen and all transverter bands. For users with a FLEX-5000 + RX2, since the RX1 and RX2 waterfall displays are not independent, the RX2 band's waterfall settings are inherited from the settings saved for RX1 and are set based on the current RX1 band.
- 3. Windows 8 Compatibility. Necessary changes have been made to ensure that the PowerSDR Integrated Installer properly installs PowerSDR v2.x on Windows 8.
- 4. Audio File Name Enhancement. Whenever you create a pre-processed or IQ audio file using the Wave form, the designation "IQ" is now included in the file name.
- 5. **New Keyboard Commands.** A new keyboard command has been added to control the Drive setting (ALT+ "+" to increment / ALT + "-" to decrement). Note you must use the "+" and "-" keys located in the keyboard number pad to activate this control.
- 6. **Disable Split on Mode Change.** A new user selectable Setup option has been added to disable Split if you change modes. The default setting is unselected (unchecked).
- 7. **Disable NR, ANF and Noise Blankers for Digital Modes.** When selecting DIGU or DIGL, if NR, ANF, NB or NB2 are enabled, they will be turned off to prevent adverse interaction with ASFK digital mode programs.
- 8. **Default AGCT Settings Refactored by Band for Better SNR.** The default AGC-T settings by band have been refactored (changed) to provide a better AGC performance (improved SNR) due to natural noise floor characteristics of the different bands.
- 9. New FHM-1 TX Profiles. Two new default transmit profiles have been added specifically created for the new FlexRadio FHM-1 hand microphone. The FHM-1 profile is intended for use with FHM-1 microphone's tone setting in position 1 (default) which delivers a full range audio frequency response, whereas the FHM-1 DX profile is intended for use with the FHM-1 microphone's tone setting in position 2 producing communication quality audio for DX and contesting.

Enhancements and Bug Fixes Incorporated in Release v2.5.3

DE759: 1500: Fixed defect where RF frequency would not changed when changing VFO during TX DE762: AGC: AGC-T value not set properly when AGC setting changed to Fixed. Default now 75 DE745: Bandplan: Fixed defects on 60m band text and band stack for Norway 60m operation DE749: CAT: Fixed a UHE when using the ZZSA / ZZSB / ZZSG / ZZSH commands DE750: CAT: Fixed Preamp setting Pre2 not supported through CAT Interface for the FLEX-3000 DE755: CAT: Fixed a bug where the ZZBA and ZZBB commands were not working properly DE707: CAT: Fixed ZZPC to prevent drive setting change if tuning US1279: CAT: Added PR command to prevent a race condition with HRD US448: Console: Default AGC-T settings by band are refactored for better SNR US517: Console: Selecting DIGU or DIGL turns off NR, ANF and NBx that may interfere with ASFK US1250: Console: Added keyboard commands to increment and decrement the DRIVE control DE748: Console: Fixed a bug where BIN not re-enabled after using AM, SAM or FM if TX VFO-B active for RX1 US1286: DSP: Changed default NR and ANF settings for improved performance US1255: FlexControl: Added new Basic operation mode that simplifies setup and operation DE764: FlexControl: Fixed FlexControl auto detect state not being saved in the database DE761: Installer: Modified 1500 & FC driver install/uninstall batch files to run autonomously on Win8 DE758: Panadapter: Fixed frequency heading display rounding error at 1,2,4,8 MHz, etc.. US1285: Profiles: Added new FHM-1 profile for the FlexRadio hand microphone (FMH-1) US93: Setup: The waterfall high/low levels now saved by band US1276: Setup: Option added to disable Split on mode changes DE739: Setup: Fixed a bug where the default TX profile could be deleted resulting in a UHE DE746: VAC: Fixed VAC1 Auto enable on digital modes did not include DRM DE747: VAC: Audio streams reset on TX change to VFO-A for DIGx & DRM if VAC auto enable is set US1249: Wave: Added text "IQ" to wave file name to indicate the file is a pre-processed recording DE744: Wave: Fixed a bug that would corrupt WBIR and hang QR/P if MOX was disabled before the wave file finished playing

DE751: Wave: Fixed a bug where Quick Playback turns on MON for AM, FM and SAM modes

DE740: Fixed logic that would cause some TRX calibrations to fail on 60m on non-US SDRs

Firmware Update Information

PowerSDR v2.5.3 does not require updated firmware for the FLEX-5000, FLEX-3000 or FLEX-1500

OPERATIONAL NOTICE: Starting with PowerSDR v2.4.4, a new 4.0 Firewire driver is utilized whose architecture is completely different from the previous 3.x driver family. There is also a 4.0 firmware dependency for the FLEX-5000 and FLEX-3000 which is <u>NOT</u> backwards compatible with previous versions of PowerSDR. Once you install PowerSDR v2.4.4 or greater you will not be able to run any versions of PowerSDR previous to PowerSDR 2.4.4 that utilized the older 3.x Firewire driver and firmware.

You can however revert back to the previous 3.0 driver. If you need to revert to a previous version of PowerSDR (less than v2.4.x), then follow the procedure #1 listed below in the <u>FLEX-5000 and FLEX-3000</u> <u>Operation Notes</u> section of these release notes.

Beginning with PowerSDR v2.0.22, drivers and firmware specific for the model of SDR you are operating are automatically installed as part of the software installation & startup process. Do not attempt to manually install a hardware driver or firmware update unless specifically requested by FlexRadio Customer Support. Do **not** power off your radio or shut down PowerSDR if a firmware or device driver installation is being executed.

Database Import Recommendations and Cautions

Do NOT import via the Setup from a database that was created from a different radio type. This is prohibited in PowerSDR v2.3.5 and greater. Using a database created with a different radio model than the one you are using can damage your radio will void your warranty!

There are no significant database schema changes with PowerSDR v2.5.3 so importing a database from v2.4.4 should not pose any operational issues. You will have to uncheck the "Strict DB Import Compliance" option in Setup before importing a PowerSDR v2.4.4 database.

It may be possible to import selected database settings from previous database versions using the thirdparty K9DUR SDR Data Transfer Utility. Please verify PowerSDR version compatibility before using. For more information regarding the K9DUR SDR Data Transfer Utility and its compatibility with PowerSDR v2.5.3 please refer to the following KB article: <u>http://kc.flexradio.com/KnowledgebaseArticle50327.aspx</u>

If your experience *any* anomalous behavior with your radio after importing data from a database that was created from an earlier version of PowerSDR v2.5.3, **reset your database immediately** using the Factory Defaults feature in the Setup form **and do not re-import any data** or contact FlexRadio Systems support.

Known Issues or Recommendations with New Features Included in this Release

Waterfall Low/High level Settings by Band: The waterfall's low/high level settings per band are stored in the PowerSDR database. Importing a database from a version of PowerSDR previous to v2.5.3 will reset the waterfall's low/high levels to the default settings.

FHM-1 TX Profiles. FlexRadio Systems has introduced a new hand microphone, the FHM-1 for the FLEX-1500, FLEX-3000, FLEX-5000 and FLEX-6000 family of SDRs. On the back of the FHM-1 microphone there is a 2-position switch labeled Tone "1" and "2". Position 1 is the wide frequency response setting whereas position 2 is a narrower frequency response setting. The new FHM-1 TX profiles have been specifically tailored for the Tone 1 (wide frequency response) setting for best audio fidelity. Before using the FHM-1 microphone, check to make sure the TONE switch is in the "1" or left hand side position. You may choose to set the TONE switch to the "2" position for extra punch if operating conditions call for communication quality audio and more effective talk power.

FLEX Firewire Driver 4.0.0: The FLEX Firewire driver will be updated to version 4.0.0 with PowerSDR v2.5.3 if PowerSDR v2.4.4 or greater has not been previously installed or your FLEX-5000/FLEX-3000 had been reverted to PowerSDR v2.3.5 or earlier. There is no need to uninstall the previous Firewire driver version before installing version 4.0.0.

Due to the significant changes in the driver architecture, once you update to PowerSDR v2.4.4 or greater with the new v4.0.0 Firewire driver, *you will not be able to run previous versions of PowerSDR* since the abstraction layer DLL is *not* backwards compatible with the previous v3.x version of the Firewire driver.

Trying to run a version of PowerSDR less than 2.4.4 will result in errors when you start PowerSDR indicating that a firmware update is needed when the updated the firmware has already been installed by PowerSDR v2.5.3. Click **NO** to exit the initialization of PowerSDR.

This caveat is only applicable to the Firewire based FLEX-5000 and FLEX-3000

If you need to revert to a previous version of PowerSDR (less than v2.4.x), then follow the procedure #1 listed below in the <u>FLEX-5000 and FLEX-3000 Operation Notes</u> section of these release notes.

FLEX-5000 and FLEX-3000 Operation Notes

- 1. If you need to revert your FLEX-5000 or FLEX-3000 back to a version of PowerSDR less than v2.4.x which uses the 3.x version of the Firewire driver, follow the procedure below:
 - A. Shut down PowerSDR and power off your software defined radio.
 - B. If the FLEX Firewire control panel is open, close it.
 - C. Un-install PowerSDR v2.4.x (or greater) using either the Control Panel method or by using the uninstall PowerSDR option in the Start Menu (FlexRadio Systems->PowerSDR v2.4.x folder)
 - D. Using the Windows Control Panel, select the Remove Program applet.
 - E. Look for any instances of the FLEX Firewire driver. They will be listed as a variant of FlexRadio 3.x.x and or 4.x.x. Remove all instances of the FlexRadio Firewire driver.
 - F. Uninstall PowerSDR v2.3.5 using the Control Panel's Remove Program applet
 - G. Reboot your PC.
 - H. Download the applicable manual Firmware Installation program for your radio.
 - Do not run the manual firmware installer at this time
 - a. FLEX-5000 Firmware: v1.3.0.8 <u>http://support.flexradio.com/Downloads.aspx?id=287</u>
 - b. FLEX-3000 Firmware: v1.2.5.6 <u>http://support.flexradio.com/Downloads.aspx?id=289</u>
 - I. Download PowerSDR v2.3.5 <u>http://support.flexradio.com/Downloads.aspx?id=393</u>
 - J. Run the PowerSDR 2.3.5 Installer setup program. This will install the v3.5.5 Firewire driver. Reboot your PC when prompted.
 - K. After the PC has completely booted up, power on the FLEX-x000 and allow the Firewire driver to complete its installation. For Vista and Win7 operating systems this is performed silently without any user intervention. For XP systems, the user will have to confirm three sub-driver installations.
 - L. **DO NOT START PowerSDR v2.3.5.** Run the manual FLEX-5000 or FLEX-3000 firmware installer downloaded in Step H. Wait for the relay click after the firmware loads. (you can power cycle the radio if you are unsure that the relay clicked)
 - M. Verify that the Firewire driver is properly installed by opening the FLEX Firewire Driver Control Panel. The FLEX-x000 should be a recognized device.
 - N. Start PowerSDR v2.3.5 and proceed with the initial setup wizard. You will be prompted to do a firmware update. Click OK to do the firmware update. Also you will be prompted if your radio is a FLEX-5000, if it is, acknowledge that prompt. If your radio is a FLEX-3000, click NO until you are prompted if your radio is a FLEX-3000, then acknowledge that prompt.
 - O. After the firmware install has completed, PowerSDR will be shut down. Restart PowerSDR v2.3.5
 - P. You should see the EEPROM data transfer dialog boxes indicating your radio is working properly. PowerSDR v2.3.5 will start normally. You may have to toggle the stop/standby button to get the audio stream to initialize the first time you start it.
- 2. You can run a FLEX-x000 SDR and a FLEX-1500 on the same PC at the same time. A radio "Chooser" will appear to allow you to select which radio you would like to operate. The software now keeps track of the database files for you. Just click "USE" next to the radio you want. If USE is grayed out, then check to make sure the radio is properly powered up.

NOTE: Currently you must start the FLEX-1500 FIRST for multiple radios to operate properly. Also, you can only have one (1) USB-based radio and one (1) Firewire based radio operating at one time.

 To prevent the possibility of a conflicted hardware state with the Firewire card and the FLEX-5000 or FLEX-3000 resulting in a system crash or hang, set your Windows Power Options for High Performance so the PC does not go to "sleep" or into hibernation mode while the SDR is connected and powered up.

FLEX-1500 Operation Notes

- 1. Do not boot your computer with the FLEX-1500 powered up or the streaming USB drivers may not properly load. Us the following Power Up / Power Down sequence
 - a.) Power off or make sure the FLEX-1500 is powered off
 - b.) Boot the PC and allow Windows to completely initialize
 - c.) Power on the FLEX-1500 and wait several seconds for Windows to load the drivers
 - d.) Start PowerSDR
 - e.) Shut down PowerSDR and wait several seconds for the database to close.
 - f.) Power off the FLEX-1500
 - g.) Shut down Windows
- 2. Performance optimization: The FLEX-1500 utilizes a real time driver to communicate between PowerSDR and the radio via USB. There are two steps to optimize the streaming performance of the USB interface. This varies by PC. Just because you have the fastest processor out today does not automatically mean that your PC's USB controller will achieve maximum performance. We have created a control to match the USB driver buffer streaming to your specific hardware. There are two steps to this process.
 - a. USB Driver Buffer control: The USB Driver Buffer control allows optimization of the low level USB stream. This control is found on the Setup/General/Options form as seen below. Note that PowerSDR must be in standby in order to change this control. The default setting has been chosen to allow successful startup of PowerSDR on most machines but may not provide optimal performance on your specific PC. More aggressive settings reduce latency and improve keying performance in CW. More conservative settings will allow lower performing USB controllers and/or CPUs to function smoothly. Choose the most aggressive setting that provides stable operation without popping or distortion of the received signal.

NewerSDR Setup	
General Audio Display DSP Transmit PA Se Hardware Config Options Calibration Filters R2 Options Spur Reduction Disable PTT All Mode Mic Disable Split on Band Change Click Tune / Filter Offsets DIGU (Hz): 1500	ettings Appearance Keyboard CAT Control Tests K2 Navigation USB Driver Buffer Process Priority USB Driver Buffer Normal Conservative Aggressive Miscellaneous Conservative Aggressive Always On Top Disable ToolTips Keyboard Snap Click Tune Enable Shortcuts Quick QSY Zero Beat - RIT Custom Title Text
DIGL (Hz): 2210 🗢	VFOB (red x-hairs)
Reset Database Import Database Export Database OK Cancel Apply	

- b. Audio Buffer Size: We recommend use of the smallest audio buffer setting on the Setup/Audio/Primary form that provides un-distorted audio and smooth CW keying. These will reduce latency to a minimum. The exact settings are dependent on your computer hardware but will usually be 512 or 256.
- 3. Using the FLEX-1500 on the same USB controller as low-speed devices, such as a mouse or keyboard will result in the FLEX-1500 be forced to a lower data transfer rate which will *significantly* affect the performance of the radio in regards to latency which is most evident when operating CW. Refer to this KB article regarding the use of USBDeview to determine if the FLEX-1500 is using the same USB controller as other USB devices (<u>http://kc.flexradio.com/KnowledgebaseArticle50459.aspx</u>)
- 4. The IF offset default is set to 9 kHz in this software release. This causes the centering of the received passband to be slightly off to the side. If you want better centering, you may check the "Expert" box in Setup/General/Hardware Config and set the IF in Hz to some value between 500 Hz and 4500 Hz for better centering.
- 5. The SPUR REDUCTION (SR) control is default "ON." The frequency span of the Panadapter screen will be wider with SR turned off. Since there are extremely few spurs visible on the FLEX-1500, the recommended normal use of SR is "OFF."
- 6. You can run a FLEX-x000 SDR and a FLEX-1500 on the same PC at the same time. A radio "Chooser" will appear to allow you to select which radio you would like to operate. The software now keeps track of the database files for you. Just click "USE" next to the radio you want. If USE is grayed out, then check to make sure the radio is properly powered up.

NOTE: Currently you must start the FLEX-1500 FIRST for multiple radios to operate properly. Also, you can only have one (1) USB-based radio and one (1) Firewire based radio operating at one time.

7. To prevent the possibility of a conflicted hardware state with the USB controller and the FLEX-1500 resulting in a system crash or hang, set your Windows Power Options for **High Performance** so the PC does not go to "sleep" or into hibernation mode while the SDR is connected and powered up.

SDR-1000 Operation Notes

- The new CW keyer provided in PowerSDR versions starting with v2.0.22 <u>require</u> a microprocessor inside the radio to achieve the real time performance levels needed for break-in CW using attached paddles. The SDR-1000 does not incorporate such a microprocessor. Therefore, beginning with v2.0.22, attached paddles are no longer supported on the SDR-1000. From this point forward CW paddles are supported on the SDR-1000 only through the use of COM port keying. Please refer to the SDR-1000 Operating Manual pages 138-140 for setup and operation using this method.
- To prevent the possibility of a conflicted hardware state with the parallel port/USBIO adapter and the SDR-1000 resulting in a system crash or hang, set your Windows Power Options for **High Performance** so the PC does not go to "sleep" or into hibernation mode while the SDR is connected and powered up.
- If you plan to operate the SDR-1000 on a new PC or newly installed operating system with PowerSDR v2.x, it is recommended that you install PowerSDR v1.18.6 first and get your radio fully operational before installing any PowerSDR v2.x version.
- 4. The SDR-1000 is not supported running on any 64-bit versions of Windows. Windows XP is the recommended operating system for using the SDR-1000 due to possible third-party sound card driver incompatibilities.

How to Upgrade from PowerSDR 1.x to PowerSDR 2.x

Prerequisites for FLEX-x000 Users Upgrading from PowerSDR 1.x to PowerSDR 2.x

If you have previously installed and run any 2.x version of PowerSDR with your software defined radio, the following steps are <u>NOT</u> required.

If you are upgrading to PowerSDR v2.5.3 from a 1.x version of PowerSDR, the following prerequisites are **REQUIRED** to ensure that your upgrade will be successful. The following software and firmware components must be installed before attempting the upgrade to PowerSDR v2.x for FLEX-5000 and FLEX-3000 users.

- PowerSDR v1.18.6
- Firewire Driver: v3.5.0.7171
- FLEX-5000 Firmware: 1.3.0.8
- FLEX-3000 Firmware: 1.2.5.6

Upgrade to the Latest 1.x Version of PowerSDR.

Before upgrading to PowerSDR 2.x, you must install PowerSDR v1.18.6 following all of the default installation options.

You can download PowerSDR v1.18.6 from the FlexRadio Systems web site. http://support.flexradio.com/Downloads.aspx?id=322

Upgrade to Firewire Driver v3.5.0.7171

If you are not running version v3.5.0.7171 of the Firewire driver for PowerSDR v.18.6, you will need to upgrade your Firewire driver. This is to ensure that the firmware upgrade performed in the next step is successful. **Do not install this version of the Firewire driver if you have loaded PowerSDR v2.x**

You can download the Firewire v3.5.0.7171 driver from the FlexRadio Systems web site http://support.flexradio.com/Downloads.aspx?id=306

Upgrade your FLEX-x000 Firmware to the Latest 1.x Version

After you have confirmed that the Firewire driver is version 3.5.0.7171 or upgraded the Firewire driver to 3.5.0.7171 you must upgrade your radio's firmware to the latest 1.x version. You can download the firmware from the FlexRadio Systems web site.

- FLEX-5000 Firmware: 1.3.0.8 <u>http://support.flexradio.com/Downloads.aspx?id=287</u>
- FLEX-3000 Firmware: 1.2.5.6 <u>http://support.flexradio.com/Downloads.aspx?id=289</u>

Once you have brought up your FLEX-5000 and/or FLEX-3000 to the latest versions of 1.x firmware and software, follow the recommendations above in the <u>PowerSDR 2.x Software Installation/Upgrade</u> <u>Recommendations and Guidelines</u> section.