



PowerSDR™ v2.4.4 Release Notes

September 5, 2012

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

PowerSDR v2.4.4 is an official release intended for use with the SDR-1000™, FLEX-1500™, FLEX-3000™ and FLEX-5000™ transceivers.

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PowerSDR 2.4.4 Installation Information

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.x.

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 Prerequisites for FLEX-x000 Users Upgrading from PowerSDR 1.x to PowerSDR 2.x in the section below.**

1. It is **not necessary or recommended** to uninstall any previous versions of PowerSDR 2.x before installing PowerSDR v2.4.4. 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 v2.4.4
2. When upgrading from an older 1.x version of PowerSDR, the radio will perform an automated RX image calibration. **Disconnect all antennas before performing the installation of PowerSDR 2.4.4 so that signals on the antenna do not affect proper image calibration.** STOP and START PowerSDR after the RX image calibration has completed.
3. It is **not necessary or recommended** to manually remove the Firewire driver before installing PowerSDR v2.4.4. Doing so after PowerSDR v2.4.4 is installed will make your FLEX-5000 / FLEX-3000 inoperable.
4. 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.
5. The PowerSDR v2.x Installer no longer prompts the user for radio options. All drivers are now pre-loaded to eliminate the need to re-install a version of PowerSDR in order to load a device driver.
6. 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.
7. See additional operation notes regarding your specific model radio later in this document.
8. If you are installing a FlexControl with PowerSDR v2.4.4 **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.

Obtaining Technical Support

If you have issues installing or operating PowerSDR v2.4.4 with FlexRadio's software defined radios, please contact FlexRadio Systems technical support by opening a HelpDesk ticket on-line at <http://helpdesk.flexradio.com> 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 or on a holiday or weekend, please leave a detailed message and we will return your call 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. <http://support.flexradio.com/>

Major New Improvements and Changes in PowerSDR v2.4.4

NOTE: A detailed changelog.txt file can be found in the Documentation folder under the FlexRadio Systems Windows Start menu for PowerSDR v2.4.4

New Features

1. **New Firewire Driver.** This release of PowerSDR includes the new 4.0.0 streaming Firewire driver for the FLEX-5000 and FLEX-3000. This new driver has been shown to be more stable and in most cases, resolves the issue of distorted audio when the PC experiences a long duration Deferred Procedure Calls (DPCs). In addition to the bug fixes and performance enhancements, the new driver has additional safeguards to prevent the possibility of excessive RF output by applications using an improper audio input device which bypasses the ALC. **Please see the new driver dependencies regarding running versions of PowerSDR less than 2.4.4 listed below.**
2. **Improved CW performance.** Improvements in Firewire driver efficiency and optimizations in code generation for the DSP libraries have achieved better RX->TX->RX transition times (timing) and better wave form quality. These improvements are not just specific to CW but are applicable to all other modes as well.
3. **Harmonized Band Text, Band Stack and Band Edge Indicators for IARU Region 1 SDRs.** SDRs purchased for use in the EU (Region 1) that have modified transmit ranges due to regulatory compliance for entity specific use will now display IARU Region 1 band text information under the VFO read out for your operating entity and have new IARU Region 1 aligned Band Stack registers and red band edge markers indicating IARU Region 1 band edges.
4. **Channelized 60m Operation for UK.** SDRs that have been modified for operating in the UK on 60m now utilize the channelized mode of operation for the seven (7) 60m channels.
5. **VAC Buffer Latency Optimizations.** Changes in VAC functionality have optimized latency by better aligning buffer latency parameters with the VAC driver types. For the least amount of VAC latency, you must use the *Windows WDM-KS* driver and set the buffer latency to a value less than the default of 120ms. On fast PCs with low DPC latency, a VAC buffer latency value of 0ms is achievable.
6. **Auto Save TX Profile on Program Close.** TX Profiles now have a user selectable feature to automatically save the current TX Profile data when PowerSDR is closed to ensure all modified TX parameters contained in the TX Profile are saved. This feature is disabled by default.
7. **PowerSDR can be Used with Different Windows User Accounts.** Previous versions of PowerSDR only allowed the program to operate properly using the same user account that was utilized for installing PowerSDR. This restriction has been lifted. You must still install PowerSDR with elevated Admin rights (this is done automatically by the installer), but once PowerSDR is installed, you can log on with a user account that has less rights than an Admin user account. This is beneficial for operating the radio where you do not want the operator to have full admin rights to the PC for security reasons.
8. **Main Database Automatic Recovery Capabilities.** When PowerSDR starts, if it detects any database schema corruption, it will attempt to utilize one of the previous backed up databases as a safeguard.

9. **Audio Files Now Saved in the Default Windows Media Folder.** Whenever you create a user accessible recording using PowerSDR, the resulting audio file (aka “wave file”) is now stored in the Windows default media folder rather than in the hidden user application data folder for easier access. This folder is usually labeled as “My Music” or “Music” contained in the My Documents root folder or in your Libraries folder for Vista and Win7 operating systems.
10. **Audio File Name Enhancement.** Whenever you create an audio file using the Wave form, the sampling rate used to record the file is now included in the file name.
11. **Master Database Error Recovery.** When PowerSDR starts, if an error is detected in the Master database schema, the Master database is reset to its default state rather than generating a “root element missing” error and halting.
12. **Improved FLEX-5000 Transverter Operation.** Band edge checking for the transverter IF has been relaxed, allowing out of ham band IF transmit on the transverter TX port. Also the 10m IF TX filter switch point has been moved to 32 MHz to allow for a wider IF transmit capabilities.
13. **Improved ATU Automatic mode for FLEX-5000.** There is a new user selectable option to keep the FLEX-5000 ATU enabled after a band change and do an automatic memory tune. Use caution when enabling this mode as you may inadvertently select an antenna what you do not want to use the ATU with if using the Expert mode in the Antenna form.
14. **New Keyboard Commands.** Two new keyboard commands have been added to control the VOX Threshold (ALT+ Right Arrow to increment / ALT + Left Arrow to decrement) and for Mic Gain (ALT+ Up Arrow to increment / ALT + Down Arrow to decrement)

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US438: ATU: Persistent memory tune operation on band changes for FLEX-5000
US1021: Bandplan: Harmonize band edge markers to IARU Region 1 for entity specific SDRs
US1020: Bandplan: Harmonize Band Stack registers to IARU Region 1 for entity specific SDRs
US1019: Bandplan: Harmonize BandText data to IARU Region 1 for entity specific SDRs
US1017: Bandplan: Adapt Channel Mode for UK 60m operation
US1147: Bandplan: Added 2200 and 600m band text data
US1146: Console: Added "Show TX Filter" in mode specific controls for DIGx modes
US1048: CW: ANF is turned off if on when switching to CW mode
DE733: DB: fixed program crash if imported DB XML file structure is corrupted
US996: DB: Added a DB recovery mechanism if the XML schema is corrupt
US997: DB: Added a Master DB reset mechanism if the XML schema is corrupt
US1218: DB: Increased the number of generational DB backups to 4
US1000: Driver: Integrate Firewire driver 4.0.0 into PowerSDR 2.x
DE719: DSP: Fixed memory leak in DSP resampler logic
DE715: Firmware: Fixed baud rate mismatch in internal UART that was causing F5K ATU problems
DE723: Firmware: Fixed UHE when doing an auto firmware load with the new 4.0.0 Firewire driver
US1006: Installer: Changes to support new PowerSDR v2.4.x features
US1111: Installer: Added Release Notes to PowerSDR documentation folder
DE650: Memory: Trapped error condition where RX and TX frequency do not match when Split is not enabled
US1010: Profiles: Added a feature to auto save the current TX profile when PowerSDR is closed
DE720: RX2: Fixed incorrect peak display on Panadapter when RX2 was enabled
DE725: RX2: Fixed FM and AM modes so that BIN and MON are not enabled
US1087: Skin: New 2D skin added - WB6RQN 2D
US1095: Skin: Removed FRS logo from Panadapter
DE709: VAC: Fixed VAC output on TX when MON is off on the FLEX-1500 and SDR-1000.
DE721: VAC: Fixed VAC2 stereo output
DE701: VAC: Fixed issue with VAC to prevent the use of the FLEX ASIO driver
DE736: VAC: Refactored buffer latency to provide the ability to optimize performance
DE737: VAC: Removed 6k sampling rate option to prevent PA errors from misconfigured VAC cables.
US1110: Wave: Added recording sample rate info to wave file's file name
US1012: Wave: User accessible audio recordings from PowerSDR are now located in the user's media (Music) folder
DE704: Wave: Modified Quick Record and Playback to prevent WBIR failure
DE705: Wave: Fixed Quick Record and Playback not returning WAVE back to previous configuration state
DE706: Wave: Modified Quick Record and Playback from recording RX2 audio that was not utilized in playback.
DE722: XVTR: Fixed inconsistent power settings on the 1500 after switching to a HF band
US1217: Optimized code generation to use SSE for C/C++ projects.
US1005: Added the ability to use PowerSDR with different user logon accounts and privilege levels
US1143: Added a warning screen if running PowerSDR on a PC with 1GB or less RAM
US1121: Added keyboard commands to increment and decrement VOX Threshold
US1121: Added keyboard commands to increment and decrement MIC gain.
US1053: Added high temperature and max voltage thresholds to Info form
DE693: Fixed small scaling defect in AM carrier wattage calculation
DE702: Fixed RX/TX Filter test leaving F5K preamp in an inconsistent state
DE712: Fixed text formatting issue in "Expert" dialog boxes
DE333: Fixed issues with transmitting at band edges on FLEX-3000 and FLEX-5000

Firmware Update Information

PowerSDR v2.4.4 requires updated firmware for the FLEX-5000 and FLEX-3000

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

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 form 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 v2.4.4 so importing a database from v2.3.5 should not pose any operational issues. However there are some significant changes in the default database BandText and BandStack information for certain Region 1 radios. See the **Harmonized IARU Region 1 Updates** information below in the Known Issues or Recommendations with New Features Included in this Release section.

It may be possible to import some database settings from previous versions using the third-party 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 v2.4.4 please refer to the following KB article: <http://kc.flexradio.com/KnowledgebaseArticle50327.aspx>

If your experience *any* anomalous behavior with your radio after importing data from a database that was created from an earlier version of PowerSDR v2.4.4, **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.

FLEX Firewire Driver 4.0.0: The FLEX Firewire driver will be updated to version 4.0.0 with PowerSDR v2.4.4. 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 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 v2.4.4. 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 [FLEX-5000 and FLEX-3000 Operation Notes](#) section of these release notes.

Audio Recordings File Location: Starting PowerSDR v2.4.4 all audio recording made using PowerSDR are located in the Windows default media folder rather than the PowerSDR application specific user data folder located in the normally hidden %APPDATA% folder location. This folder may be named “Music” or “My Music” depending on the version of Windows you are running.

Harmonized IARU Region 1 Updates: If you are using a radio that is modified to meet region or entity specific regulatory compliance in IARU Region 1, the BandText data, BandStack Registers and band edge markers on the Panadapter are now aligned or “harmonized” with IARU Region 1 in general and when applicable, your specific country or entity. To get the new updated BandText and Band Stack registers, you must use a database created by PowerSDR 2.4.4. If you import a database from a previous version of PowerSDR, the harmonized data will be overwritten.

VAC I/O Device Enumeration: A change was made in the VAC audio device enumeration logic that may change the previously configured VAC input and output cable configurations. If you import a previous database into PowerSDR v2.4.4 verify that the VAC input and output cable configurations for VAC1 and VAC2 for RX2 enabled FLEX-5000s.

VAC Buffer Latency Settings: The VAC buffer latency settings have been changed so that an improper buffer latency setting when using the MME and Windows DirectSound audio drivers can no longer be used. Using a buffer latency value smaller than the minimum of 120ms for MME and Windows DirectSound could result in unreliable audio producing pops and glitches. Buffer latency values of 119ms and less are usable for the *Windows WDM-KS* audio driver for optimized RX->TX->RX transition times. If while using very small buffer latency values with the WDM-KS driver you experience unreliable audio, change the buffer latency value to a longer latency (a higher number).

NOTE: If you import transmit profile data from a previous version of PowerSDR, since the TX Profile stores the VAC Buffer Latency parameter, you may receive an error if the imported buffer latency value is invalid for the selected VAC driver. These errors can occur for VAC1 and VAC2 even though you are using a FLEX-5000 that does not have an RX2 because the data is validated at profile load time. To correct this issue, select a valid VAC Buffer Latency value and save your TX profile to make the change persistent.

FLEX-5000 and FLEX-3000 Operation Notes

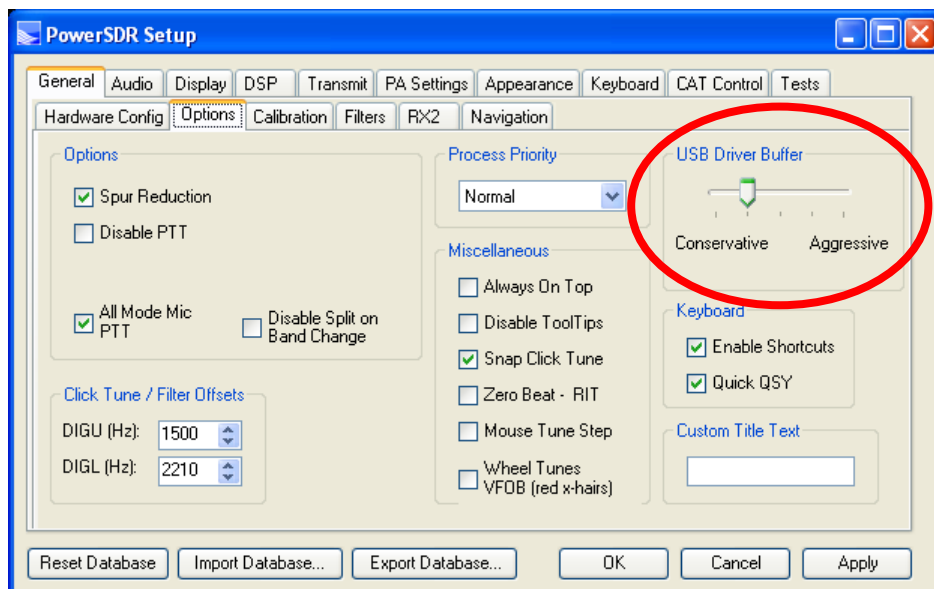
1. If you need to revert your FLEX-5000 or FLEX-3000 back to a version of PowerSDR less than v2.4.x which uses the 3.x version of the Firewire driver, follow the procedure below:
 - A. Shut down PowerSDR and power off your software defined radio.
 - B. If the FLEX Firewire control panel is open, close 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 <http://support.flexradio.com/Downloads.aspx?id=287>
 - b. FLEX-3000 Firmware: v1.2.5.6 <http://support.flexradio.com/Downloads.aspx?id=289>
 - I. Download PowerSDR v2.3.5 <http://support.flexradio.com/Downloads.aspx?id=393>
 - 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 (see the PowerSDR v2.0 Quick Start Guide for your particular SDR for additional details on installing the Firewire driver).
 - 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.

3. 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. Use 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.



- 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 (<http://kc.flexradio.com/KnowledgebaseArticle50459.aspx>)
- 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.

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SDR-1000 Operation Notes

1. The new CW keyer provided in PowerSDR versions starting with v2.0.22 require 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.
2. 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.
3. 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.

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Preparing to Upgrade from PowerSDR 1.x Information

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 NOT required.

If you are upgrading to PowerSDR v2.4.4 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 v1.18.6, you will need to upgrade your Firewire driver. This is to ensure that the firmware upgrade performed in the next step is successful.

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

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 [PowerSDR 2.x Software Installation/Upgrade Recommendations and Guidelines](#) section.