NetSDR Update Proceedure

Rev. 1.01

Oct 20, 2011

This document describes the proceedures needed to update the NetSDR's firmware and/or FPGA code.

Table of Contents

1. Introduction

From time to time new features will be made available to the NetSDR user that will require an update to the internal NetSDR firmware.

The NetSDR internal code can be updated by the user to add features or enhancements. There are two types of updatable code in the NetSDR. The operational firmware runs on a microprocessor and controls the overall functionality of the device and various modes of operation. The FPGA code contains code that implements hardware functionality and is loaded into a Field Programmable Gate Array.

Both code sections can be updated by the user with the SpectraVue control program. This program is a Windows program and can be downloaded and installed for free. It also is included with the NetSDR when purchased but it is recommended to download the latest version since the original included CD may be out of date.
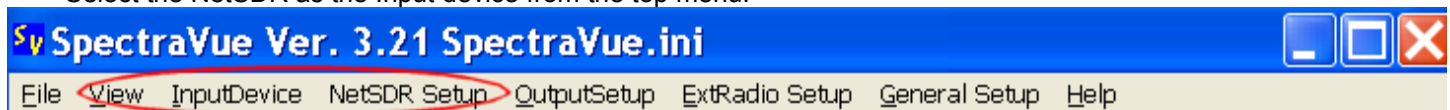
http://www.moetronix.com/files/spectravueinstall.zip

2. Updating NetSDR Firmware and FPGA Configuration
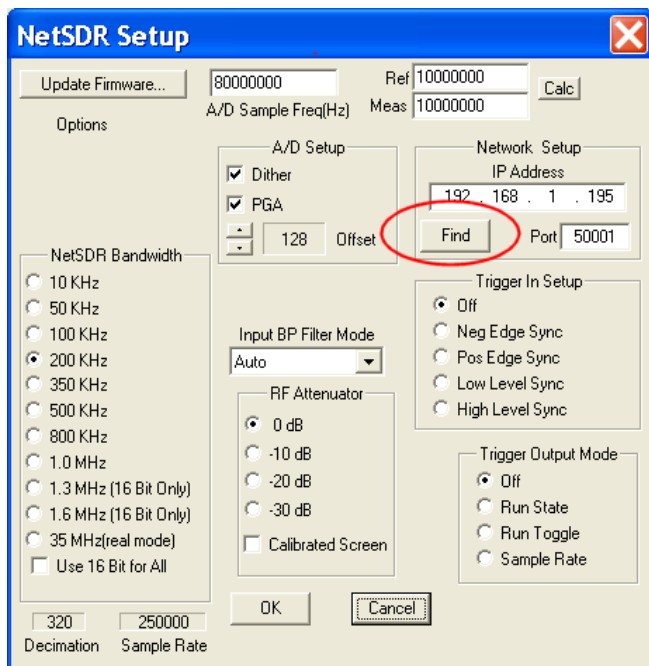
2.1. Setup and Run Spectravue

The first step is to install Spectravue if it is not already installed. Simply run the .exe file in the spectravueinstall.zip file and follow the install steps. (If already using SpectraVue and the NetSDR is connected and working, skip to Step 2.2)

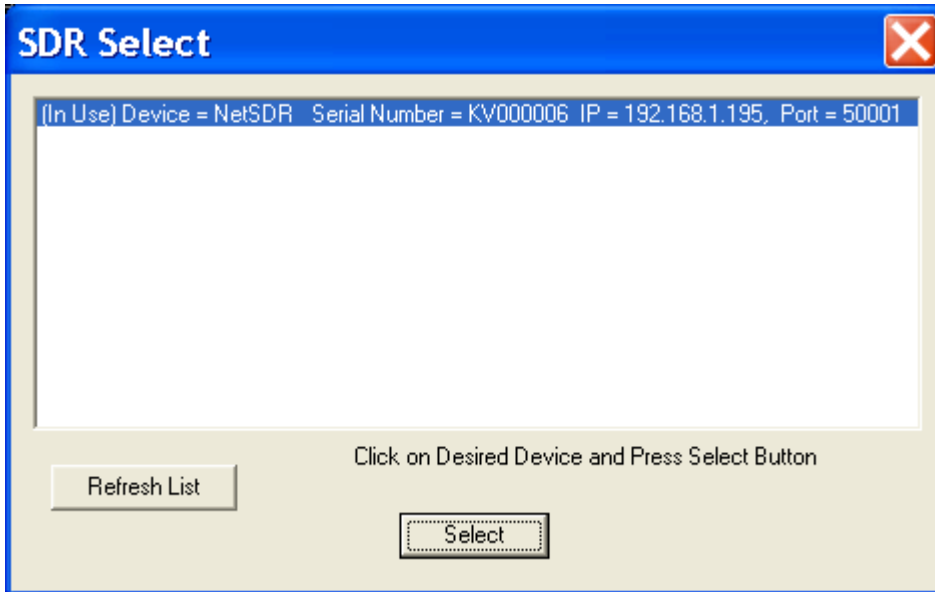Connect the NetSDR to your network and power it up.

Select the NetSDR as the Input device from the top menu.

Click on the "NetSDR Setup" Menu then click on the "Find" button.

The following menu should pop up listing the NetSDR that is on your network.   Select and press Select to exit the menu.

 If it does not show up then one needs to make sure the NetSDR is configured correctly for your network. The default NetSDR uses DHCP to automatically be assigned an IP address. A setup utility "SdrNetSetup" can be used to change or examine the NetSDR network settings.
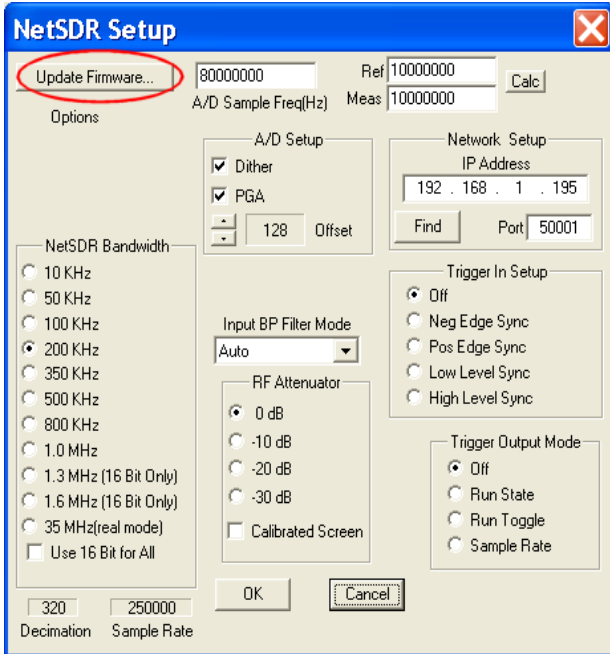http://sourceforge.net/projects/sdrnetsetup/

Pressing down on the switch on the back of the NetSDR will provide a voice output of its current IP address and Port.

After the NetSDR is found and selected, click on "OK" and make sure the NetSDR is connected and runs correctly.
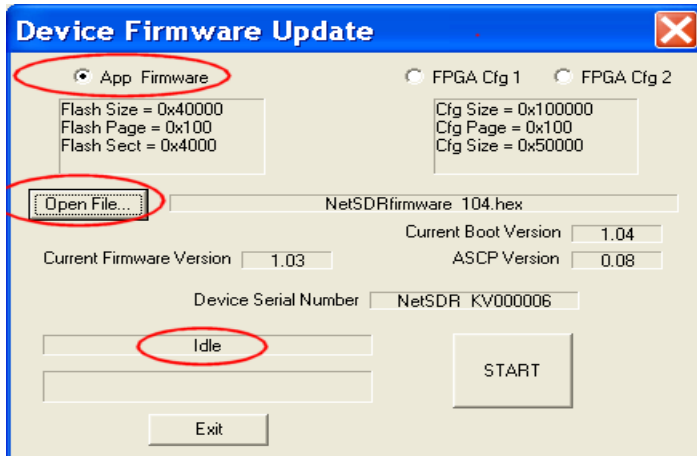
2.2. Update Proceedure Using SpectraVue

2.2.1 Bring up the "NetSDR Setup" Menu
Click on the "Update Firmware" button.
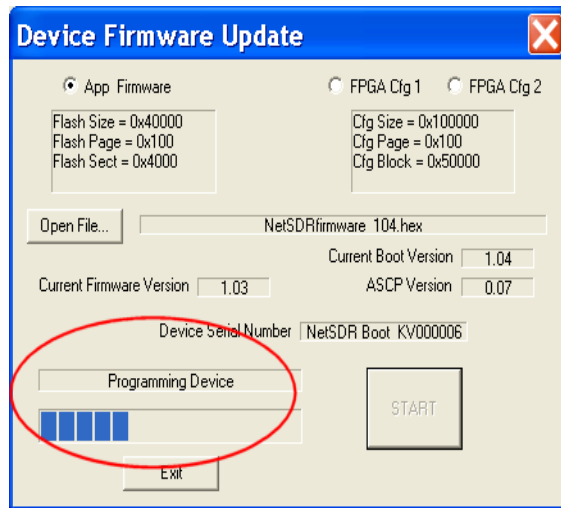

2.2.2 Update Application Firmware
If updating the Application Firmware, click on the "App Firmware" selection.

Make sure the status is "Idle" then click on the "Open File..." button to select the new firmware file to use.
Browse to wherever the new firmware file has been stored. The file will have a suffix of .hex and a name such as "NetSDRfirmware_xxx.hex" where xxx is the version number.

After selecting the file, its name should appear in the menu. If not then either it is the wrong file or the NetSDR is not connected. The "Start" button should now be active and you can press it to begin the update proceedure.

After programming, the NetSDR will disconnect then reconnect. Press exit and the code should be ready to use. (Note the "Current Firmware Version" displayed in the menu is not updated until you exit and go back into the menu)

2.2.3   Update FPGA Configuration Code

If updating the FPGA Configuration code, click on either "FPGA Cfg 1" or "FPGA Cfg 2" selection.

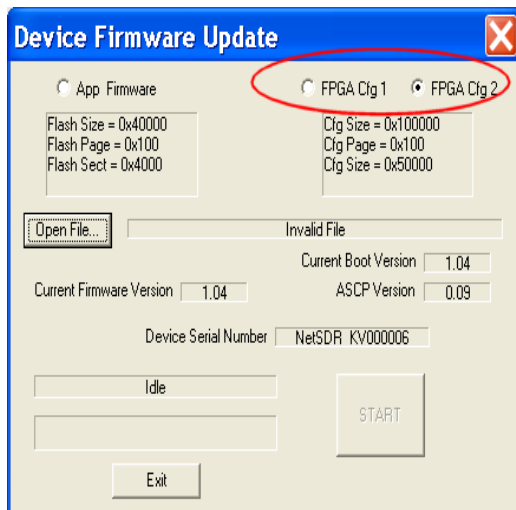The NetSDR holds three separate FPGA configurations.

Config 0 is fixed and not upgradeable and is useful as a known good backup in case the other configurations are not programmed or programmed incorrectly.

Config 1 is the factory default but can be upgraded by the user.
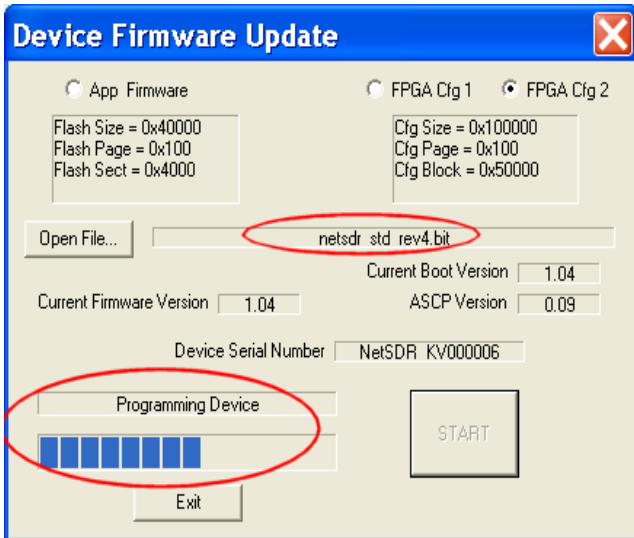
Config 2 can be updated by the user.

Config 1 and 2 can hold two different FPGA configurations either being selectable using the SDRNetSetup program.

The default setup uses FPGA Cfg 1 so one could program the new version into "FPGA Cfg 2" and be able to go back to the old version if desired. Be sure to select Config 1 or Config 2 using SDRNetSetup to insure you are using the configuration that you desire.

Make sure the status is "Idle" then click on the "Open File..." button to select the new fpga configuration file to use.
Browse to wherever the new configuration file has been stored. The file will have a suffix of .bit and a name such as "netsdr_std_revxxx.bit" where xxx is the version number.

After selecting the file, its name should appear in the menu. If not then either it is the wrong file or the NetSDR is not connected. The "Start" button should now be active and you can press it to begin the update proceedure.

After programming, the NetSDR will disconnect then reconnect. Press exit and the code should be ready to use. (Note the FPGA configuration Version is not displayed in this menu) Run the SdrNetSetup program to select and verify that the new FPGA configuration is selected.

2.3. Change Log

Revision 1.00   Initial release.
Revision 1.01   Fixed a few typos.