



Spots Integration

Spots Integration for the FLEX-6000

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Introduction

SmartSDR v2.3 for Windows and Maestro introduces a feature that allows Spots, supplied by third party programs, to be displayed directly in the Panadapter window. Some of these programs include N1MM, FRStack, Slicemaster, DXLabs, and Logger32. While there is no capability in SmartSDR to directly connect to a cluster server via telnet today, spots can be provided using these programs as well as any other third party program that uses the new Spot API commands in the radio. This document explains the various Spot controls that are available in SmartSDR. N1MM integration steps are also provided. For more information regarding the API, contact devhelp@flexradio.com.

Spots in SmartSDR for Windows

When enabled, spots will appear in SmartSDR as shown below:



When a spot is clicked, the Active Slice will automatically tune to the spot frequency. When there are many spots in a single area, they collapse into a number value. In the figure above, the “+3” is such a collection of spots. When this collection is clicked, the list of the spots expands, showing the spots in this area, as shown below:



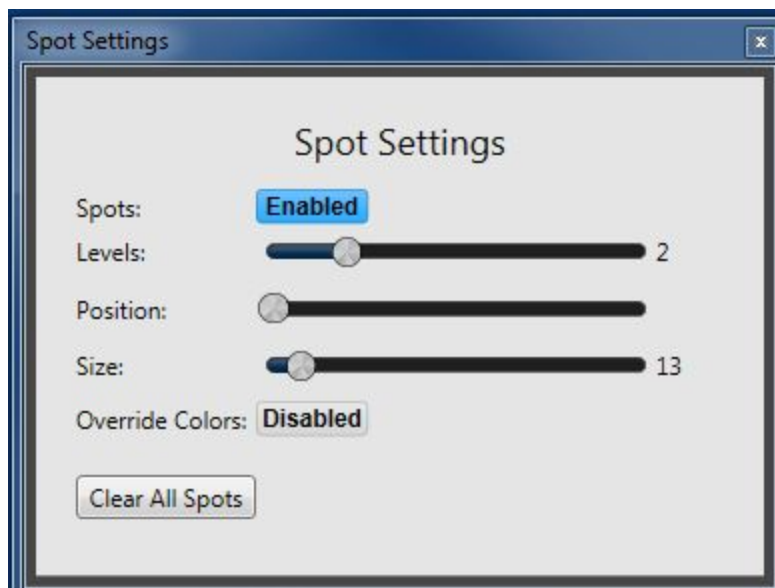
Clicking any of these spots will tune the Active Slice to the spot frequency. Hovering the mouse cursor over a spot will show the spot timestamp as well as any comments associated with the spot, if available. This is shown below:



A specific spot can be deleted by right-clicking on a spot, as shown below:



The spot settings menu can be found by going to **Settings** → **Spots...** in SmartSDR. This window is shown below:



The **Spots** button enables or disables the Spots feature.

The **Levels** slider changes the depth of the displayed spots before collapsing them into a list of spots.

The **Position** slider determines the location in the Panadapter where spots will be rendered. The lowest setting places spots at the bottom of the Panadapter. Increasing this value will raise the starting position closer to the top of the Panadapter. This setting can be useful for users that prefer that spots appear above signals that appear in the Panadapter.

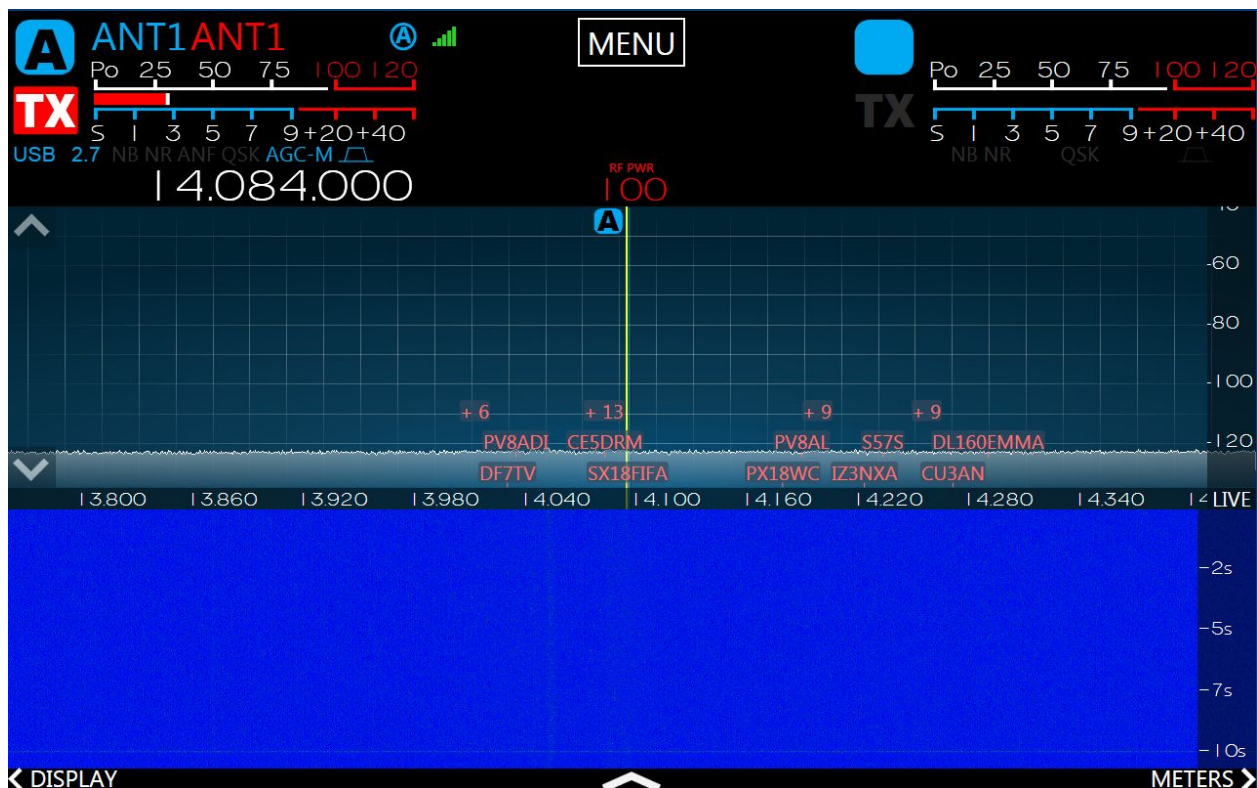
The **Size** slider changes the font size of the spots.

Enabling **Override Colors** will provide an option to set the colors of all spots to the color of the user's choice, as opposed to colors specified by the application providing the spots.

Pressing the **Clear All Spots** button clears all currently collected spots in the radio.

Spots in SmartSDR for Maestro and the 6400M/6600M

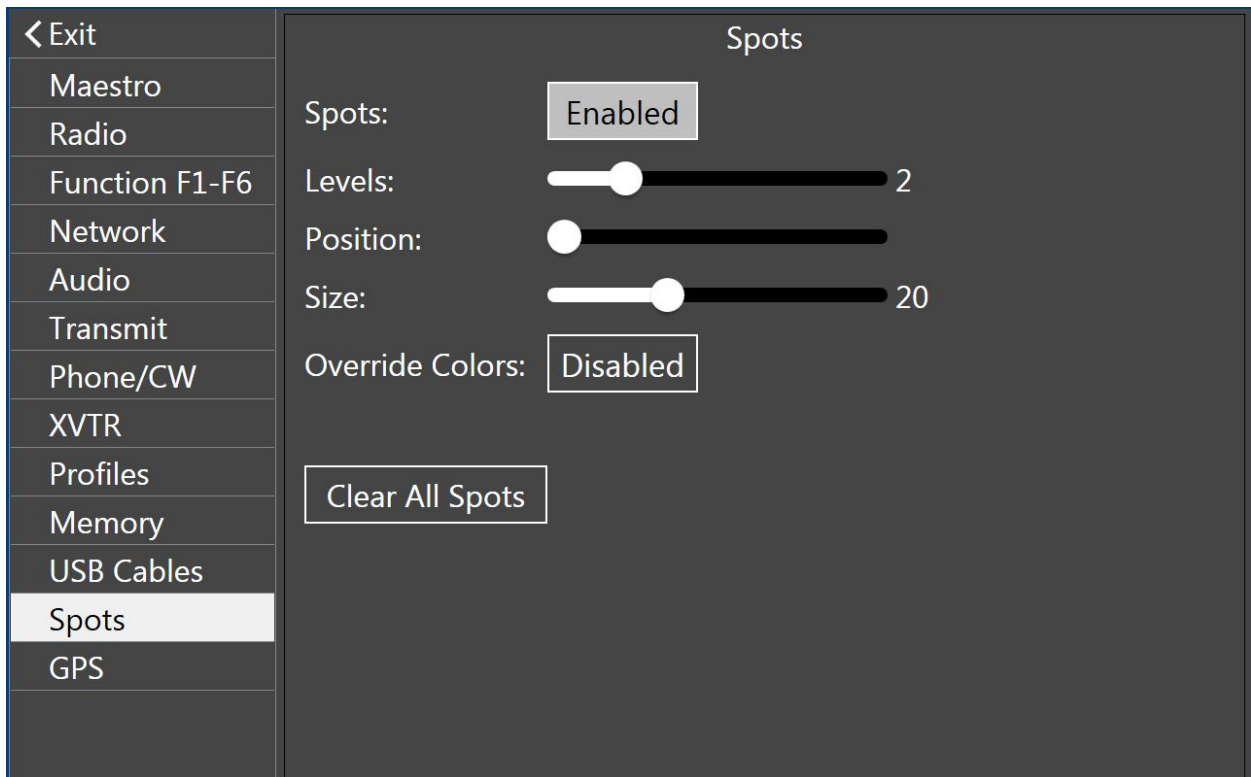
Spot operation in SmartSDR for Maestro and the 6400M/6600M radios is very similar to SmartSDR for Windows. Spots will appear as shown below:



To see the timestamp, additional comments, and deletion option, simply touch and hold a spot. A menu will appear, as shown below:



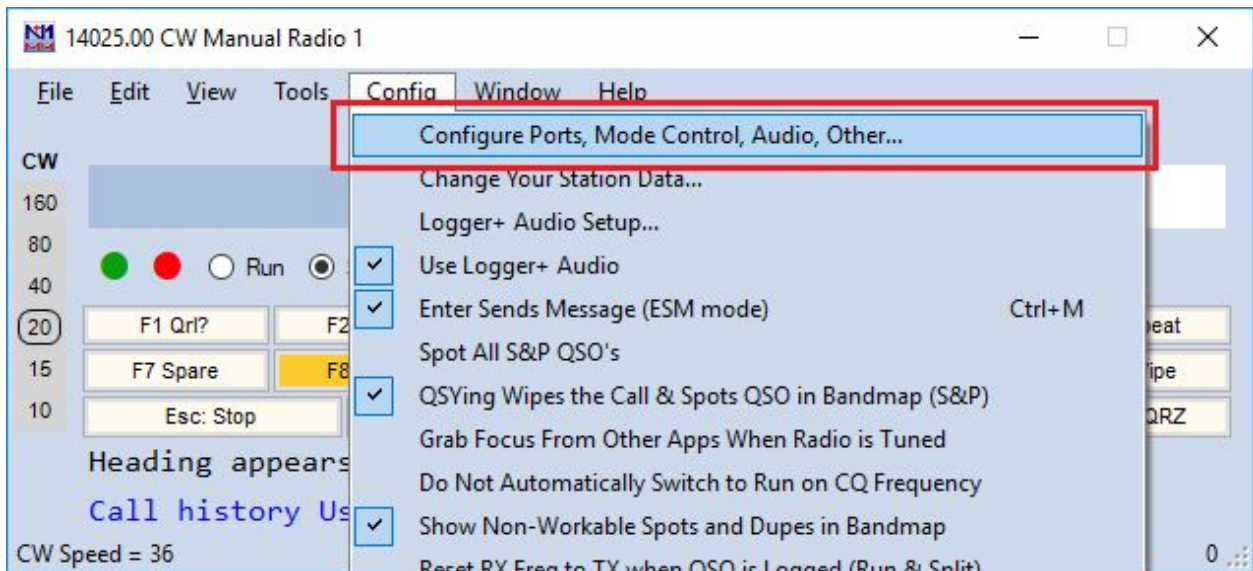
The Spot settings menu can be reached by going to **Menu** → **Spots**. This menu shows the same controls as are presented in SmartSDR for Windows.



N1MM Integration

While our Spots API is available for use by any application, we also wanted to provide a way to get the data directly from N1MM as it has a well-known UDP protocol for announcing Spots.

In order to set this up, N1MM must be configured to output the Spot data to a particular UDP port. This can be setup in the **Config -> Configure Ports, Mode Control, Audio, Other...** Menu.



Then, on the Broadcast Data Tab, make sure that the Spots checkbox is marked. Note the IP address (typically 127.0.0.1, meaning on the same machine) and the port number.

NOTE: We recommend use of separate ports for the Radio broadcast and the Spots broadcast functions as shown in the screenshot below (12061 vs 12060). This will allow the Focus Helper to work side by side with an N1MMSpot Port.

The screenshot shows the 'Configurer' dialog box with the 'Broadcast Data' tab selected. A text box at the top provides instructions: 'Select the type of data you wish to broadcast, and the the IP Address(es) and port(s) for the receiver(s) of the data. Use 127.0.0.1 for the local machine. Use 12060 as the port unless the receiving application requires a different port. 255 in the low order octet will broadcast to your current subnet.'

Type of data	IP Addr:Port IP Addr:Port...
<input checked="" type="checkbox"/> Application Info	127.0.0.1:12060
<input checked="" type="checkbox"/> Radio	127.0.0.1:12060
<input checked="" type="checkbox"/> Contacts <input checked="" type="checkbox"/> All Computers	127.0.0.1:12060
<input checked="" type="checkbox"/> Spots	127.0.0.1:12061
Rotor	127.0.0.1:12040
<input type="checkbox"/> Score	127.0.0.1:12060

WSJT and JTAAlert connection settings. IP Address and port must match each programs settings. Allows direct logging from each program into N1MM.

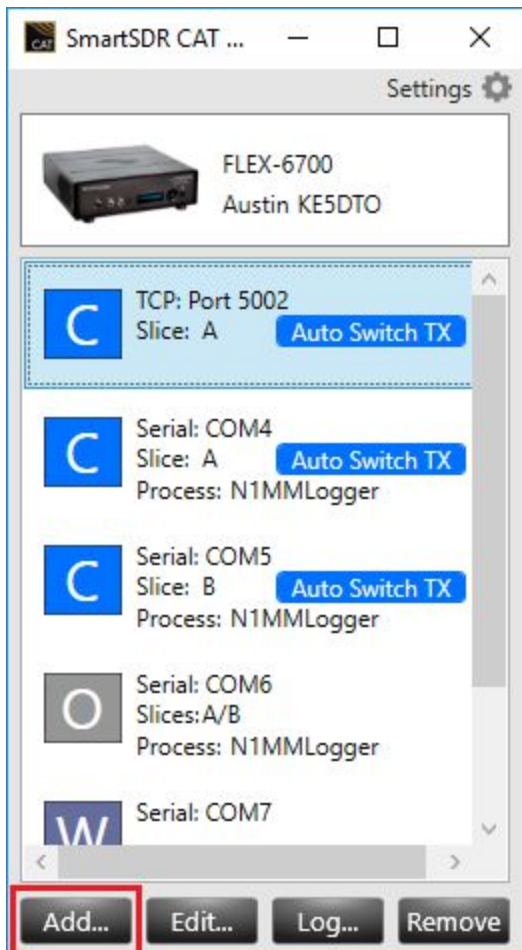
Enable	IP Address	UDP Port
<input type="checkbox"/> Enable	127.0.0.1	2333

Sets the IP Address and port that an external program can connect to N1MM+ via TCP Port for logging purposes. (JTDX)

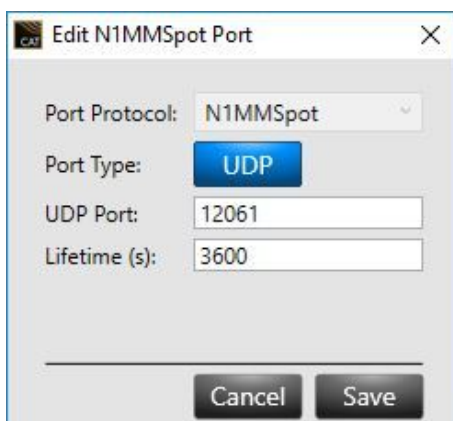
Enable	IP Address	TCP Port
<input type="checkbox"/> Enable	127.0.0.1	52001

Buttons: OK, Cancel, Help

The next step is to set up the Flex software to receive the spots.. We do this in the SmartSDR CAT application. From the SmartSDR CAT main window, click the **Add...** button.



Select the N1MM Spot type and input the port number that you configured in N1MM (12061 in our example).



Click **Save**.

At this point, the Spots that are collected by N1MM and sent out via UDP should be added to the Radio and will be reflected in the Panadapter.

Note that the Log option can be used on the N1MMSpot Port to verify that the Spot data is making it from N1MM to CAT (and subsequently, to the radio).

Note: Configuring N1MM to gather Spots is beyond the scope of this document, but instructions may be found on the N1MM website here:

<http://n1mm.hamdocs.com/tiki-index.php?page=Telnet+Window>