

# SDR PLAY SDR REVIEW

Posted by Mike Bugaj | October 3, 2014/updated March 23,2015

NOTE: SDRPlay is now supported by SDR Radio Console V2.3. If you are a SDR Console fan, you can download v2.3 build 1928 from the SDR Console website at <http://v2.sdr-radio.com/Download.aspx>. To see a screenshot from SDR Console, [click here](#). SDRPlay is now also supported by HDSDR. The price has recently been reduced to \$150USD (03/2015).

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There's one more software defined radio on the market. It's made by SDRPlay in the UK and they call their SDR an RSP, which stands for radio spectrum processor. In this article I will use the term SDR most of the time.

The SDR is a little blue and white box that goes between your antenna and your computer. It's only about 4" long by 3" wide and about 1.5" tall. It weighs about 4oz. On one end of the box is a Female F fitting for your antenna coax and on the other is a port for a USB connector.

SDRPlay's SDR can receive signals from 100khz through 2ghz with the proper antenna. I have tried it on UHF (460mhz police frequencies) and on 162mhz NOAA frequencies and it works. It also works on medium wave although I think it would work better on AM with software designed for that purpose, like HDSDR. But the scope of this article is on FM so I'll just talk about FM reception.



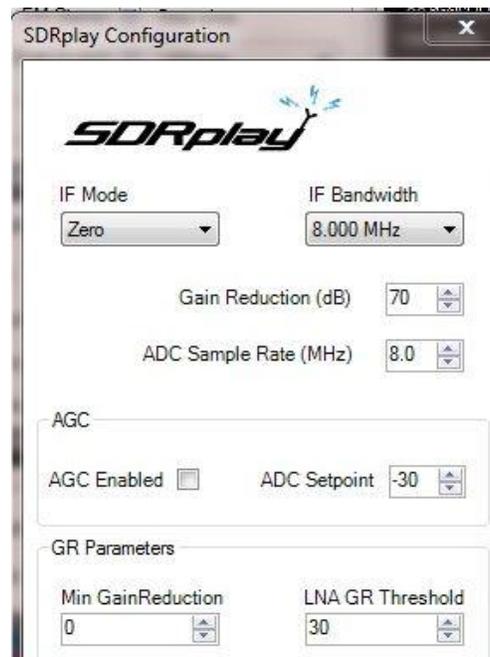
## INSTALLATION

My SDR came with a CD that contained four files but you can find these files on their website's download page (<http://www.sdrplay.com/downloads.html>). The two important files are

1. MiricsSDRAPIInstaller\_1.01.exe
2. SDRPlay\_SDRSharp\_Pllugin\_v.10(1).exe

The first one is the installer that installs the SDR on your computer. The second file is the plugin that adds the SDR to the menu of the list of devices that SDR Sharp will support.

First, install the SDRPlay driver. Then install SDR# on your computer if you don't already have it installed. Then double click on the plugin .exe file and when you are finished, check the configure menu on SDR Sharp and you should see this...



Your IF bandwidth should be set for 8Mhz. If it is not, reset it. Your Gain reduction setting may be as low as 20db. A setting that low may overload your receiver severely, so reset it to 60 or 65 then fine tune it later. Leave everything else alone.

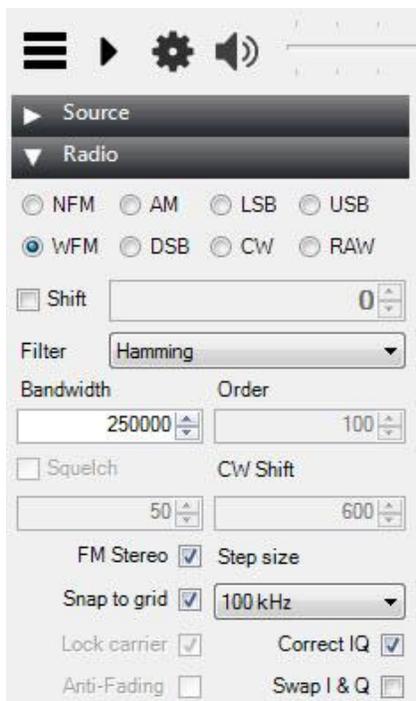
Now that SDR is set up and SDR# is installed, here are my experiences with SDRPlay's SDR after using it for almost two weeks.

## **OBSERVATIONS**

First of all, I am located in a high RF area. I have two 50kw FM stations locally; one on 94.7 (WMAS) is ten miles north of my location and the other on 102.1H (WAQY) is about the same distance to my west. I have very strong (20-50kw) locals in the 15-30 mile range on 88.5H, 88.9, 90.5H, 90.7H, 91.3, 92.5H, 93.1H, 93.7H, 95.7H, 96.5H, 97.9H, 99.1H, 100.5H, 101.3H, 102.9H, 104.1H, 105.5H, 105.9H, 106.9 and 107.7 (H means the stations broadcasts in hybrid HD radio).

My first attempt at using the SDR was met with frustration as the FM band was severely overloaded. After playing with the unit I found that the gain reduction could be adjusted to eliminate the overload without decreasing the sensitivity of the radio. I have compared SDRPlay's SDR to both my Elad FDM-S2 and to my Onkyo T450 RDS modded with 110khz filters by splitting the input from my APS13 to the SDRPlay unit and either the Elad or the Onkyo. My observation with the Onkyo and SDRPlay unit is that with a gain reduction setting of about 65, the sensitivity of both units is about equal. In some cases, signals come up out of the mud quicker with the Onkyo but in other cases SDRPlay's brings them up quicker. As for selectivity, my Onkyo can't compete with the SDRPlay SDR. The selectivity of their SDR can be varied from 250khz all the way down to zero, but in reality 80 or 90khz is the lowest you'd ever want to go since audio will suffer and the RDS will quit decoding.

An SDR is only as good as its software. SDRPlay currently uses SDR# (Sharp) but other plugins may be available in the future, based on users' suggestions. I have used SDR# with the RTL-SDR dongles and I have never really been impressed with it, preferring to use HSDR if possible. However, for FM use, SDR# is just fine, especially the newer versions of SDR#. SDR# has adjustable DSP noise reduction which works really well with hissy stereo signals. Stereo can be defeated if necessary.



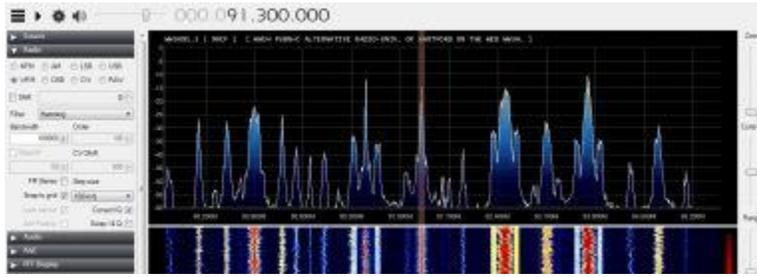
As you can see from the graphic to the left, you have complete freedom to select whatever bandwidth you want, turn stereo on and off, select snap-to-grid (a feature that makes tuning easier) and select your step size (100khz or 200khz is best for FM but you can change it to 1khz for super fine tuning if you really need to).

The three horizontal lines hide or show the menu. The solid triangle turns the radio on and off. The gear brings up the configure menu and the speaker mutes and unmutes the audio. For FM you select WFM (wide FM). The rest you can ignore.

Another great feature gives you the ability to record 8mhz of spectrum and then play it back, just as the Elad FDM-S2 does. If all you want to record is audio, then you can do that also.

Also I'll mention again that SDR# will decode RDS and will decode it quickly. First to decode is the PI code and then the PS information and Radiotext. The information is out in the open and you don't need to open another dialog box to see it as you must do with the Elad.

If you've been playing around with the RTL-SDR dongles, you most likely have SDR# installed on your computer. If you do, you're ahead of the game. Install the plug in for the SDRPlay SDR and away you go.



## **TUNING THE SDR**

There are two ways to tune the SDR. One way is to change the digits on the frequency readout by clicking on the upper or lower portion of the digit with your mouse. With this method, the tuning bar does not move but the spectrum moves left or right.

The other way is to select your spectrum first, then use your mouse to click on the spectrum itself. The spectrum doesn't move but your tuning bar does. If I select 88.1 for the left side of the display, 95.1 will be on the right side. I can see everything between 88.1 and 95.1.

The first method was a bit quirky for me. I would try changing 91.3 to 92.3 but the readout would read 92.3 with the tuning bar sitting on 92.2 instead. This happened enough times that I quit and went to method two where I found happiness.

## **QUIRKS?**

Occasionally when aiming my antenna directly into WCCC (106.9) I noticed a weak image of WCCC on 107.5. Once or twice I noticed a weak image of WMRQ (104.1) on 104.7. Shifting the spectrum over 200khz or 400khz would cause those to go away. Much of the time, though, I didn't see these. The graphic above containing the spectrum of 88.1 through 95.1 was captured with my antenna aiming directly SSW into the Hartford RF and IBOC hades.

## **YOUR COMPUTER**

The SDRPlay SDR will not work well on a single core computer. The processor in my Dell is an Intel Core 4 Quad CPU 2.66mhz with 4mb of RAM. When viewing 8mhz of spectum my CPU usage runs between 30% and 35%.

## **COMPUTER GEEK CHALLENGE**

Want to write your own software for the SDRPlay SDR? All of the API documentation is available at the Downloads section of the SDRPlay website, allowing for additional hardware control not available with off-the-shelf SDR software. SDRPlay also plans to make available broadcast decode software from Mirics shortly via their website.

## **IN CONCLUSION**

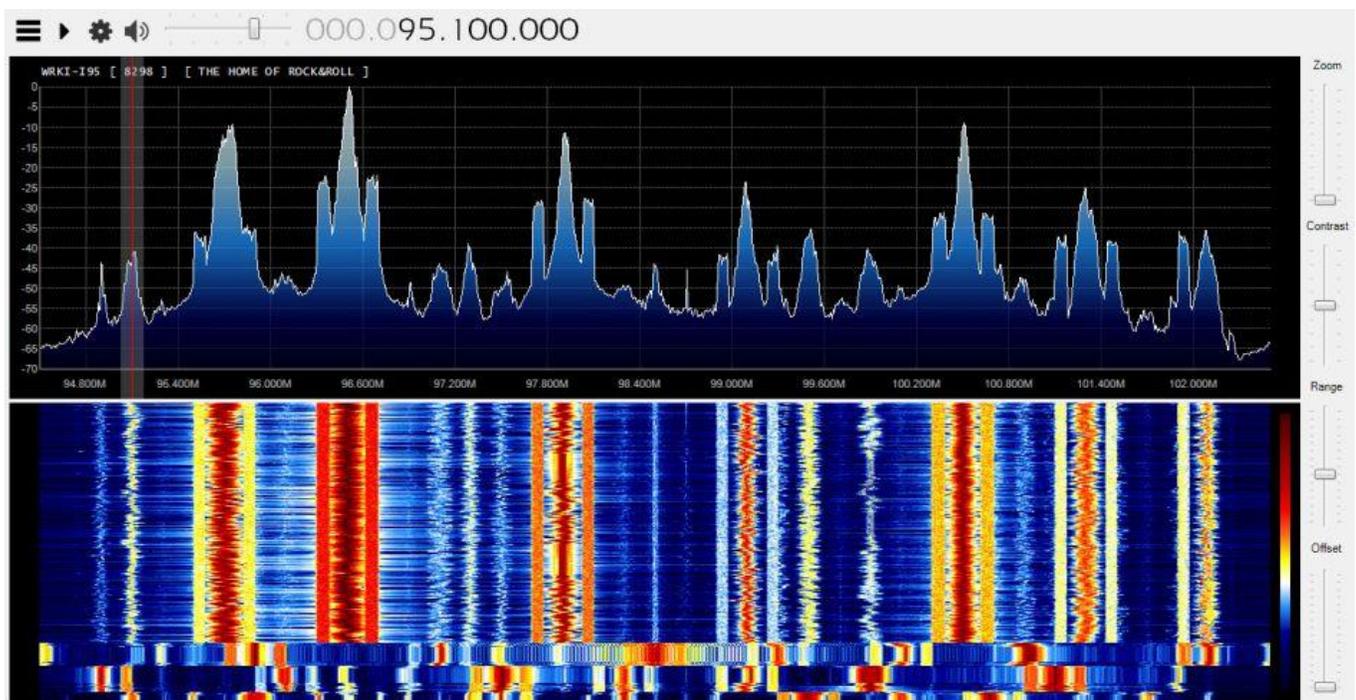
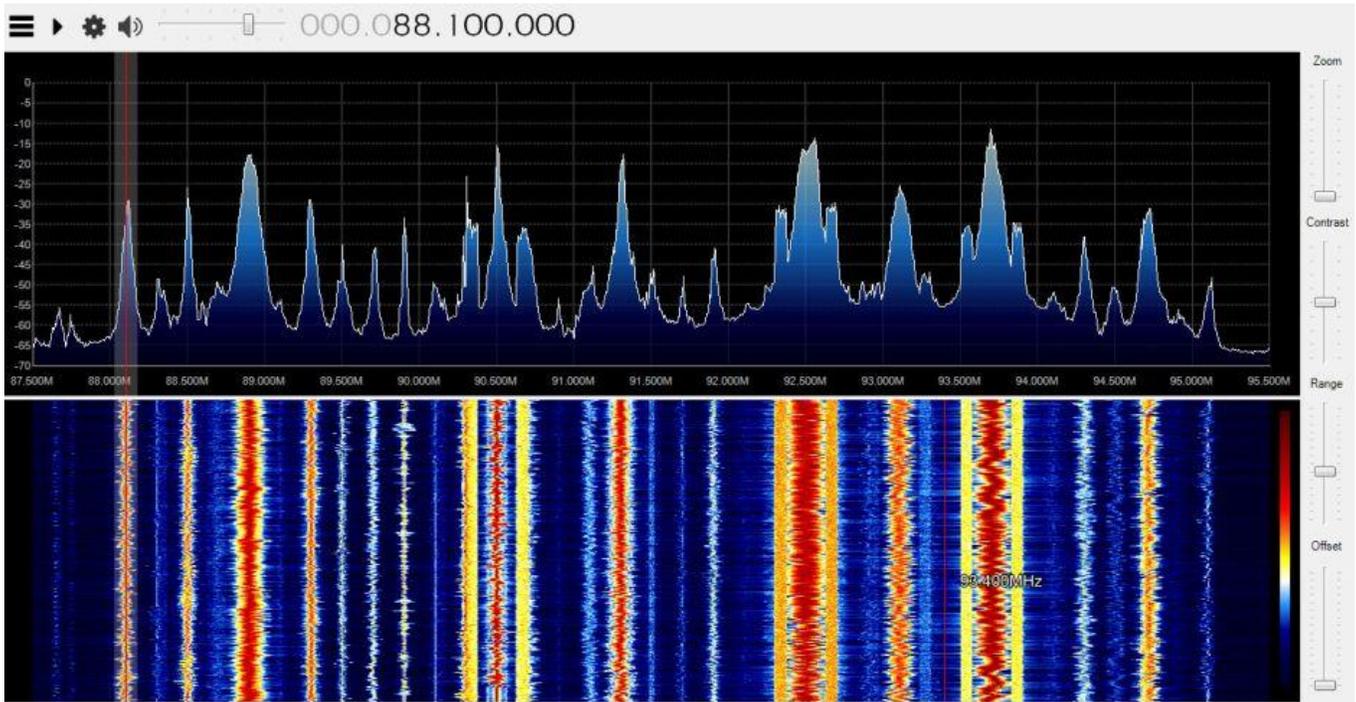
In my location, the unit works very well. It works so well that I bought the unit they gave me to play with. My greatest fear, the fear of the SDR overloading (as happened with all of the RTL-SDR dongles I've used) was

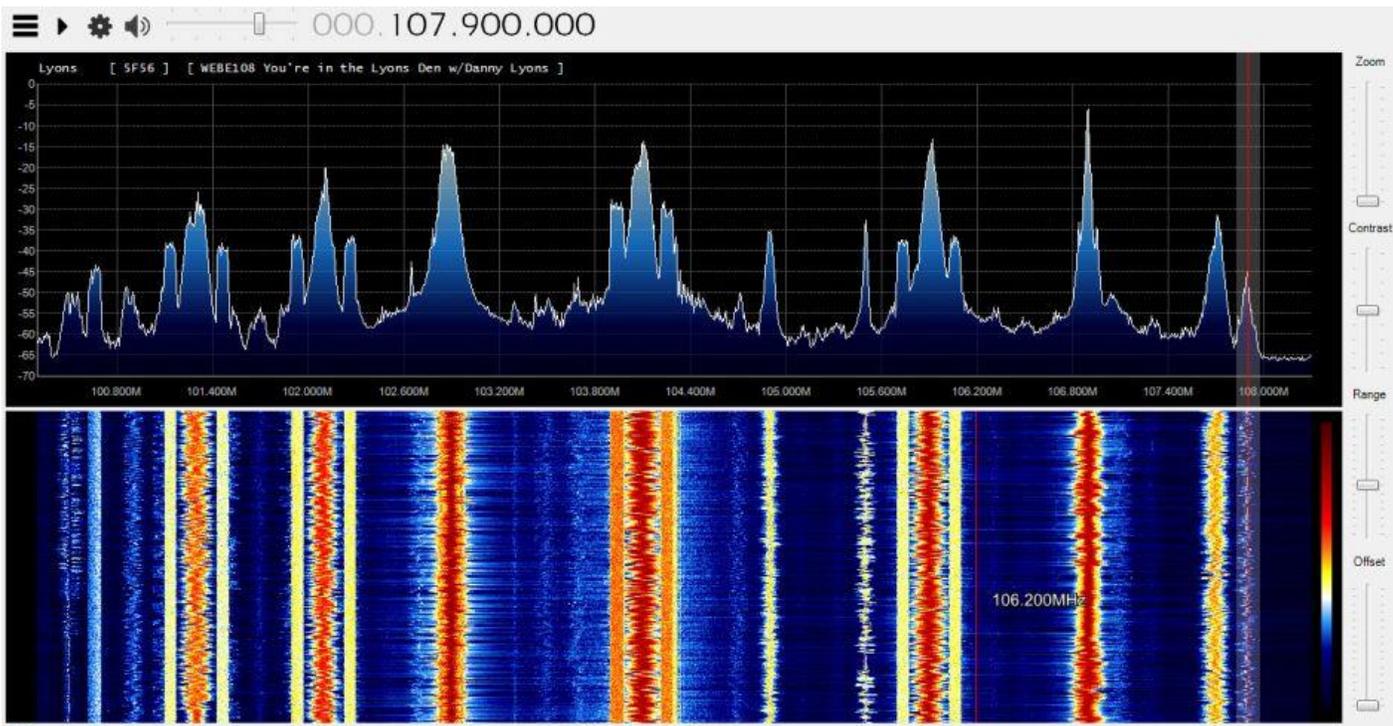
unfounded. Overloading is not an issue. SDR# is a very capable GUI to use for FM DXing with this SDR. SDRPlay's SDR is a great addition to my DX equipment and I think it will be to yours also.

[The SDRPlay website.](#) Read about SDR Play's SDR, purchasing info and return policy. Paypal is accepted.

The opinions expressed on this page are those of myself and no one else.

And finally I have three screenshots of my FM spectrum from 88 to 108mhz.





And there you have it. Thanks for reading.

Mike Bugaj

Enfield, CT USA

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