Back in the winter my fellow EMF Engineer Scott NØBST mentioned a friend of his who built a sniffer that could detect RF leakage from a transmitter that could cause interference to LTE phone providers. Simply ingenious! Made out of a coffee can, N connector, and a resistor.

The resistor (sensor) inside the can
According to Scott, this worked very well and showed the RF leakage connected to a field spectrum analyzer and solving the issue then followed pretty easily. Great Job Scott! This should be a useful tool in our engineering arsenal as cell phone signals are so prevalent these days! Scott also provided the resistor value information from Mouser Electronics.

<table>
<thead>
<tr>
<th>Line No.</th>
<th>Mouser Part Number</th>
<th>Description</th>
<th>Quantity Ordered</th>
<th>Quantity Shipped</th>
<th>Quantity Pending</th>
<th>Unit Price (USD)</th>
<th>Extended Price (USD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>71-CFF1-B-50</td>
<td>CFF150R000BHB14</td>
<td>25</td>
<td>25</td>
<td>0</td>
<td>0.620</td>
<td>15.50</td>
</tr>
<tr>
<td></td>
<td>MFG Part No:</td>
<td>Vishay / Dale 1watt 50ohms 0.1%</td>
<td>Metal Film Resistors Through Hole</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

We now have the old higher gain antenna up at the 449.625 Fusion/analog repeater up at the Lookout Mountain site above Golden Colorado site. Some tuning of the line and filtering for the repeater is needed for optimization. Scott WØKU and I will be working on this soon in the future. As it is the repeater coverage is pretty good east, northeast, and north of Denver.

And I have my WiresX node setup at home to send the WiresX link to the repeater. I am using a small UHF Yagi (provided by Dunnigan K1DUN), thanks Dunnigan! As shown in an earlier newsletter article [http://www.ke0vh.com/hamshack/archives/TheKE0VHHamshack201903Mar.pdf](http://www.ke0vh.com/hamshack/archives/TheKE0VHHamshack201903Mar.pdf) a Yaesu FTM-100 is serving as the link radio to this antenna. Here is the 3 element yagi link radio antenna.
The latest radio to the KEØVH fleet of radios, the Yaesu FT-2DR!

This radio is the equivalent of the mobile FTM-400 in handheld 5 watt HT form. Does all the same things, touch screen, true DUAL band, APRS capable radio with GPS. No color screen though, that will show up in the now for sale FT-3DR. Will be using the FT-2DR to beacon my position on my motorcycle trip to ride the Blue Ridge Parkway in Virginia and North Carolina as KE0VH-9 beginning August 7 on APRS.fi
Monitoring 449.450 K1DUN in Denver and APRS on the B channel

The FT2D on the Motorcycle, ready for the test drive beaconing APRS as KEØVH-9
I am really having fun keeping touch with friends back in Denver on the SkyHub system using my hotspot and now the FT-2DR when traveling. I will be using the same system on my motorcycle trip upcoming plus using the AllStar phone portal to connect back. The system is easy to setup and use. This raspberry Pi3 connects to my iPhone or hotel wifi for internet access to make the connection.

Motel comms in Steamboat Springs back to the DenverSkyhub System talking to Shane KØSDT, Rich W9BNO, and Matt KEØLNU

SO TUNING the PI-Star for minimum BER (Bit Error Rate) (any mode) is quite the topic on the DMR Talkgroups and Wires-X rooms. You can get into the SSH the sites below describe by clicking on the following under “Configuration” 1st is “Expert”

Then MMDVM Host

**Pi-Star Digital Voice - Expert Editors**

<table>
<thead>
<tr>
<th>Quick Edit:</th>
<th>DStarRepeater</th>
<th>ircDDBGateway</th>
<th>TimeServer</th>
<th>MMDVMHost</th>
<th>DMR GW</th>
<th>YSF GW</th>
<th>P25 GW</th>
<th>NXDN GW</th>
<th>DAPNET GW</th>
</tr>
</thead>
<tbody>
<tr>
<td>Full Edit:</td>
<td>DMR GW</td>
<td>PiStar-Remote</td>
<td>WiFi</td>
<td>BM APT</td>
<td>DAPNET API</td>
<td>System Cron</td>
<td>RSSI Dat</td>
<td>Tools: CSS Tool</td>
<td>SSH Access</td>
</tr>
</tbody>
</table>

Dashboard | Admin | Update | Upgrade | Backup/Restore | Configuration
Then “SSH Access”

Log in using “pi-star” and whatever password you may have chosen and you will see this:

Then follow the directions on the websites listed below:

https://riku.titanix.net/wordpress/dmr/mmdvm-ber-error-rate-tuning/


I will write up a full tutorial on this next month, I couldn’t believe how easy it was!
It was great fun to help my buddy Harold W6IWI raise his new multiband beam up at his QTH this month. Harold now has quite the signal on the air from Arvada CO, just NW of Denver, north of Wheat Ridge. Nice job Harold!
So one day monitoring 449.450 and the SkySystem Hub as seen above I heard PW8PM from Brazil come in over the system. Evidently Jose had been trying different Echolink connections and showed up one morning thru the WØSKY-L link. Working “DX” on the UHF repeater…. Very cool, you never know what or who may turn up! Check out “America Link” on WiresX and you also can work the world!

The Hamshack Archive Links

http://www.ke0vh.com/hamshack/archives/TheKE0VHHamshack201701Jan.pdf
http://www.ke0vh.com/hamshack/archives/TheKE0VHHamshack201702Feb.pdf
http://www.ke0vh.com/hamshack/archives/TheKE0VHHamshack201703Mar.pdf
http://www.ke0vh.com/hamshack/archives/TheKE0VHHamshack201704April.pdf
http://www.ke0vh.com/hamshack/archives/TheKE0VHHamshack201705May.pdf
http://www.ke0vh.com/hamshack/archives/TheKE0VHHamshack201706June.pdf
http://www.ke0vh.com/hamshack/archives/TheKE0VHHamshack201707July.pdf
http://www.ke0vh.com/hamshack/archives/TheKE0VHHamshack201708Aug.pdf
http://www.ke0vh.com/hamshack/archives/TheKE0VHHamshack201709Sep.pdf
http://www.ke0vh.com/hamshack/archives/TheKE0VHHamshack201711Nov.pdf
SBE VHF/UHF Chapter 73’ of the Air HAMnet

The SBE Chapter 73 of the air UHF/VHF Hamnet is every Monday at 9 p.m. ET (6 p.m. PT) worldwide via Echolink KG0SKY-L, node 985839 (available via computer and radio), Allstar node 46079, DMR Talkgroup 310847, AND try it with your hotspot on YSFtoDMR then TalkGroup 310847. The SBE UHF/VHF Hamnet is based in Denver on 449.450, pl 103.5, and the 449.625 Fusion repeater, linked to WiresX room “DenverSkyhubLink” node 46361

And Soon on the network: KDØSSP-RPT 448.350, Fusion/Analog pl 225.7

You can listen on the LIVE STREAM thru Broadcastify at:

https://www.broadcastify.com/listen/feed/25448/web

or https://hose.brandmeister.network/group/310847/

We hope you'll join us.

See the latest edition of "The KE0VH Hamshack" for more information at www.ke0vh.com.
73’ from the “Shack”