



The VHF Transmitter

Keystone VHF Club, Inc.

W3HZU

Founded 1955 – York, PA

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April, 2014

This was about the most miserable Winter that I can remember. Usually, there's a good bit of activity at the club during the Winter months but conditions have been so bad that very few of us have had the desire to spend time there. While we haven't had record breaking snow, it's just been plain treacherous walking around outside the clubhouse.

March has given us a little relief. Right now we are in the process of completely remodeling all of the operating positions. During the first half of March, we had removed all of the equipment and Jeff Patterson, KB3RCT was working on refinishing some of the counter surfaces that had been damaged. We have our new replacement 55 inch flat screen TV installed. With this, we can of course watch television, but can also do a lot more. Any club member wishing to share a video can simply bring it on a Thumb Drive and plug it directly into the TV. We also have the TV interfaced to all 3 of our computers and can display whatever any of the computers is running. We would like to have tech and training sessions using PowerPoint presentations on various aspects of Amateur Radio. Additionally, it would be a superb method of demonstrating all of the digital modes.

There's still a long way to go but the club looks better now then it has in years. One of the enhancements to our operating positions was to relocate the computers under the counter at each operating position rather than to have them centrally located together on the upper shelf. We have built shelves under the counters at each position and the computers are now located there. As well as being much more accessible, the PC's are in a position where it is much handier for to plugging in thumb drives and other peripherals.

Additionally, we are in the process of relocating all of the radios from the counter surface to shelves that will be suspended under the upper counter. The only things that will be sitting directly on the main counter will be the computer monitors, keyboards, mice, and microphones. Incidentally, all of the keyboards & mice have been replaced with wireless versions which has really cleaned things up.

This should be totally finished up by the end of April. We will have an operating position optimized for operating HF, 160 through 6 meters. This will use our Yaesu FT-920. I feel that this is one of the best HF radios ever made. All modes will be available including all of the digital modes.

Next to this will be our new Yaesu FT-897. This radio covers from 160 meters all the way through 70 CM ... all modes! This will be primarily used on 432 MHz SSB & CW during VHF contests but may be used on a second HF band if we are taking part in a HF contest.

To the right of this is our Kenwood TS-2000. This will be used for 2 meter SSB & CW during contests. This will also be used to run all of the digital modes.

All three operating positions have a dedicated computer for logging or running the digital modes. The fact that both the FT-897 & TS-2000 cover all amateur bands from 160 meter through 70 CM gives us enormous flexibility.

The repeater room has also undergone considerable change. The work benches have been cleaned up and the repeaters have been moved around to make them more accessible. Bob Poff, WB3AWJ has put considerable work into both the 6 meter and 70 CM repeaters and they are both up and running with connectivity to AllStar & Echolink.

Our 2 meter machine is working quite well and shortly we will have a new controller added to it. This will allow us to have a courtesy beep that may be programmed to tell us when someone is up at the club. It will also enable EchoLink to be added.

Chris Shover, KB3TWW has built a back up repeater for us. It is currently on hot standby at the QTH of Greg Hagens, KE3CW at his site up atop Conewago Mountain near Dover. If we ever have another instance of catastrophic damage like our lightning hit last September, all that has to be done is to apply power to this repeater. It is already programmed on 146.97. Users will have to program a different tone in their radio to access it ... not a big deal. Startup may be done over the Internet ... no one has to drive to the of the mountain to turn it on. We had both our main 146.97 repeater at the

club and the backup repeater at Greg's site on line at the same time for about a month. They each used a different tone for access. There were times when two people were talking with one using the main site machine and the other using the Conewago repeater with no interference. For the time being however, we will probably keep the Conewago machine turned off.

Scott, KC3BKY informed me that the Civil Air Patrol (CAP) was replacing all of their analog repeaters with digital capable units. Further, he told me that the analog repeaters were to be given to appropriate non profit 501©3 organizations. Scott was my point of contact between from the club and the CAP. To make a long story short, the Keystone Club is going to get one of the repeaters. It is a Kenwood unit and it comes complete with duplexers! Scott estimates that we should have it within a month. This should make a great on-site backup machine for our 2 meter repeater.

Our goals or 2014 are to finish the remodeling of the inside of the club house (which I think will be done by the end of this month) and to get some antennas replaced. Ralph Brandt, K3HQI donated a small 5 band MA-5B HF beam to us. We need to get that and our original 6 meter beam up on the 60 foot tower attached to the clubhouse. That should be an easy one day work party taking no more then 3 or 4 hours. Our VHF & UHF antennas on the 100 foot tower will take a bit longer but should be able to be replaced with a single day work party. We already have a new 2 meter antenna. Everything will be put back up on a single vertical mast with no outriggers.

Finally, to all of you members who stood by and helped us through this year THANK YOU. Our new Tech committee is getting things done! We also have several members who have donated money to get us back on line.

Our insurance company really came through with a fair settlement for the lightning damage. We were able to get a very fair price for the TH-7 beam that Jim Walsh donated. Finally, we got a complete refund for the new 6 meter antenna that didn't work. Coupled with this and the generosity of our members, we came out quite well.

I look forward this year to having more operating events at the club then ever before. To get our new Hams learning about and operating different modes on all of the bands. I would also like to see us get together and do more things with the Red Lion and other area clubs.

On an entirely different subject, check out pages 3, 4 and 5 of this newsletter for equipment reviews that Jim Walsh, K3JIM and Bob Riese, K3DJC wrote. Jim wrote a great article on those little \$20.00 SDR receiver dongles that covers from about 30 MHz through 1.7 GHZ all modes! Think about it ... for 20 Bucks (and your computer) you get a receiver that will copy all of the Ham bands from 6 meters all the way up through 1.2 GHz. If you spend an extra \$50.00 and get the upconverter board, it will cover from 100 KHz all the way through 1.2 GHz ... that's all of HF, VHF, and UHF! I think that Jim even found a way to make just the little \$20 dongle cover all of these frequencies without the extra \$50 upconverter board (but the upconverter has better performance).

Bob Riese, K3DJC bought one of the newer Chinese hand helds. It's the Baofeng UV-8A. It covers both 2 meters and 70 CM. The cost is \$40.00 and Bob reports that it seems to be an order of magnitude better than the older generation of Chinese HT's. The previous HT's like the UV-5R were plagued with interference issues when operated in an area with transmitters operating on adjacent frequencies (eg: pagers). Bob lives right next to the York hospital which is rife with Pagers. He says that he receives very minimal interference. Could the Chinese have made substantial improvements on their radios? Read Bob's article and find out!

By Dick, WA3USG

NEXT MEETING
Thursday, April 3rd, at the York County EOC
on Davies Road

Scheduled Club P.S. Events for 2014

- * **March 29 - YARS Spring Functional Exercise at the County EOC**
POC: Sandy Goodman, N3ECF slgoodman@verizon.net
- * **April 6 - Buckridge Burn Hike Pine Grove Furnace S.P.**
POC: Dick Goodman, WA3USG wa3usg@verizon.net
- * **April 8 & 9 - Peach Bottom Drill**
POC: Sandy Goodman, N3ECF slgoodman@verizon.net
- * **April 27 - The Ironmasters Hike series at Pine Grove Furnace S.P.**
POC: Dick Goodman, WA3USG wa3usg@verizon.net
- * **April 27 - March of Dimes March for Babies**
POC: Jack Dellinger, KC3JD jkdelli@aol.com
- * **May 3 - Full YARS Spring Exercise in the field**
POC: Sandy Goodman, N3ECF slgoodman@verizon.net
- * **May 4 - York MS Walk**
POC: Sandy Goodman, N3ECF slgoodman@verizon.net
- * **May 25 - Bob Potts Marathon**
POC: Jack Dellinger, KC3JD jkdelli@aol.com
- * **June 28 & 29 - PA Hope Ride for Cancer**
POC: Marty Gutekunst, KB3BAA mpgutekunst@comcast.net
- * **July 13 to 20 - CAN-AM Police Fire Games**
POC: Sandy Goodman, N3ECF slgoodman@verizon.net
- * **July 26 & 27 - MS Bike Tour Gettysburg**
POC: Sandy Goodman, N3ECF slgoodman@verizon.net
- * **September 6 - KTA Superhike**
POC: Ken Wiggins, N2DYK n2dyk1940@yahoo.com
- * **September 20 - Three Creek Century Bike Tour**
POC: Sandy Goodman, N3ECF slgoodman@verizon.net
- * **October 19 - Hershey Half marathon**
POC: Marty Gutekunst, KB3BAA mpgutekunst@comcast.net
- * **October 26 - Michaux Team Challenge**
POC: Dan Mcglothlin, KB3MUN kb3mun@mcglothlin.us
- * **December 7 - Jingle Bell Run**
POC: Jack Dellinger, KC3JD jkdelli@aol.com
- * **December 24 - Glen Rock Carolers**
POC: Stan Walters, AB3EM abacuspc@comcast.net

NCS SCHEDULE FOR YORK COUNTY NET

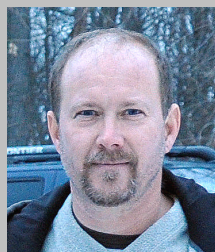
NCS	CALL	2014 DATES			
Walt	K3DQB	Jan 06	Apr 07	Jul 07	Oct 06
Micah	KB3TGY	Jan 13	Apr 14	Jul 14	Oct 13
Jon	KB3IGH	Jan 20	Apr 21	Jul 21	Oct 20
Lorna	KB3SST	Jan 27	Apr 28	Jul 28	Oct 27
Ralph	K3HQI	Feb 03	May 05	Aug 04	Nov 03
Tom	KB3ETG	Feb 10	May 12	Aug 11	Nov 10
Fran	WA3GYW	Feb 17	May 19	Aug 18	Nov 17
Jack	KC3JD	Feb 24	May 26	Aug 25	Nov 25
Dick	WA3USG	Mar 03	Jun 02	Sep 01	Dec 01
Stan	AB3EM	Mar 10	Jun 09	Sep 08	Dec 08
Rich	KR3EE	Mar 17	Jun 16	Sep 15	Dec 15
Nate	WN3I	Mar 24	Jun 23	Sep 22	Dec 22
Sandy	N3ECF	Mar 31	Jun 30	Sep 29	Dec 29



Tim, W3TWB



Thierry, KB3TPX



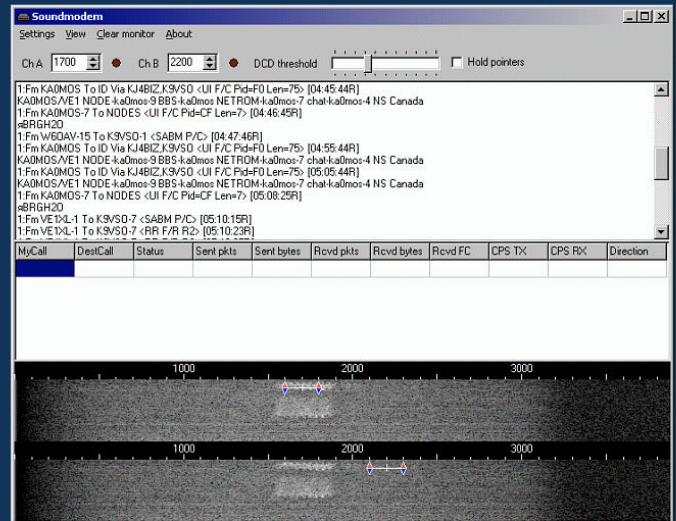
Jeff, KB3RCT

Once again it is time for the semi-annual W3HZU Spring clean-up. Mark your calendars for Saturday April 19, 8 AM at Stony Brook restaurant for breakfast. Work to begin at 9 AM.

The software Packet-Radio TNC

I am developing a software Packet-Radio TNC that uses a soundcard as a modem and supports AX.25 protocol at 300 and 1200 baud with dual port operation. The software Packet-Radio TNC uses the AGW Packet Engine API and emulates the AGW Packet Engine TCP interface in operation. It has been tested on Windows XP, Vista, 7, 8 and has proved stable in operation.

UZ7HO Soundmodem



Below you can find a list of required files for download:

Who remembers Packet Radio? It initially came out in the very early 1980's and promises were made that it would revolutionize Amateur radio digital communications. Claims were made that it would offer "error communications" due to the fact all data underwent a Cyclic Redundancy Check (CRC) at the destination. If the CRC failed, or the transmitting station did not receive a successful notification of a CRC within a specified time, the data packet was automatically resent.

This protocol worked great on computer networks where data was transmitted over nice quiet wired cables but failed when transmitted over paths that had less than pristine signal to noise ratios. Even over a 2 meter FM link when both stations were full quieting to each other, there was a 30% chance that the data packet would have to be resent. By trying to connect to another station through even a single digipeater, the chances of failure for each packet, went up to 60%.

Part of the problem was that back in the early 1980's, we didn't have efficient & robust transmission protocols such as MT-63 and the many other digital modes that we do now. Many of these new modes would ensure that the data got through error free before the CRC was calculated by the destination station. The transmission mode used in the heyday of Packet radio were what is known as Bell 202 tones. These worked well over wired connections but failed miserably when exposed to the over the air noise from even a quiet radio path.

Another problem was that the computers used for Packet Radio were only being used as ASCII terminals. They were not developed enough to provide filtering of the noise on the RF path. If the received Bell 202 tones could have been filtered and had some processing done on them, the results might have been quite better (but still not as good as using some of the modern digital modes which were designed to be received through the noise).

This new program uses your computer soundcard to directly receive the packet tones. It also will provide a degree of filtering and processing that was never available in the past. It still uses the same AX.25 protocol that promised error free communications. From what I understand, speed may be set up to be as high as 2400 bps ... really super slow in the networking world but "not too bad" for transmission over a voice grade radio path. I certainly want to give this a try ... even if it doesn't work very well it will be a trip down memory lane!

Thanks to Chad, N3UOO for telling me about this and sending a link to the software.



THE QCWA CHAPTER 165 NEWSLETTER FOR APRIL 2014

By Ray Shauib, W3AXC

Our next meeting will be held on Saturday April 12, 2014 at our usual time and place. Noon at Hoss's on White Street, York. This will be the same day and time as the York Hamfest, I plan to attend both.

At our last meeting in February we only had 6 members attending so there was no business meeting but we had a great time shooting the breeze. So at this meeting we will discuss some things we left drop at the last meeting. The Wednesday night net, some think we should continue with the net. If you are in favor of the net would you be one of the rotating net controls? Should we change our meeting place?

I have not sent a chapter report to national for the Journal for about a year. I'd like to know if you read the monthly Journal on the QCWA web site. There is a wealth of information on the QCWA web site, if your national dues is up to date you can access your own personal information page. You can find out what awards you are eligible for and how to request them. You can read the latest Journal or any back issues. You can access a list of chapter 165 members.

If you have not paid your chapter dues it is due and may be paid at the meeting or sent to me at 2331 Locust Rd. Dover 17315. make checks payable to CHAPTER 165 QCWA.

If you have paid your dues and have not received a membership card for 2014 please let me know. I think I have sent cards to all those that have paid their dues. But maybe not. I hope to see you all at the meeting, but if you can't attend send me an email with your ideas for the net and any other items for discussion.



The VHF Transmitter

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ADDRESS LETTERS TO THE EDITOR and ARTICLES TO

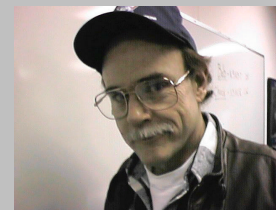
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The Baofeng UV-8A Uual Band Hand Held

By Bob Riese, K3DJC



WOW one of the latest radios from China the UV-8A is one amazing 40 buck radio. It comes with a dual band antenna, belt clip and a kinda good manual, more on that later. The battery supplied is a 1800 mill battery and you can get additional batteries. They clip on and off the back of the radio and are quick to change. One interesting feature is the audio response when using the menu As you enter a change it tells you what you are doing, and the audio quality is great. The power is either 1 or 5 watts and it has over 100 channels which are easy to program. The Menu has all the options for whatever band / function you are going to use. The only problem was finding how to add/change the CTSS tones.

Ended up using Google. Try as I could, I could find no reference to the CTSS although it had T Code and R Code under menus you needed to go one step lower in the menu under T Code or R Code to find and set CTSS. I live in Mr. Intermod Neighborhood next to the York Hospital with all their pagers and they can pretty much wipe out 2 meters. I was really surprised that the UV-8A doesn't appear to be bothered by them. It has an improved front end which is harder to overload. New to me is setting the squelch as a function from the menu.

It is adjustable from 1 to 10, factory default was at a 5, I reset to it to 3. There is a squelch release button so a weak signal that may not break squelch can be copied. The radio will cover/transmit on 136 to 174 MHz and 400 to 470 MHz. I suspect the FCC may at some point limit their sale. It also covers the standard FM 88 to 108 MHz band. I haven't tried an external speaker mike and that feature is available for less than 10 bux

I have a standard UV-5 which is a good little dual band rig but never handled the York hospital well and was subject to inter mod. The UV-8A is much better.

The issue could be how well it holds up. For 40 bux the electronics are probably going to be OK but will the switches and other mechanical parts hold up ??

So IMHO the best hand held in dollar / watt has to be the Baofeng UV-8A. **This is a lot more than an entry level hand held.**



The gang welcomed Buzz Kutcher, K3GWK back to the York area for a visit. In this image he is sitting down for breakfast at our favorite eatery "The Round the Clock Diner" off of route 30. Buzz is a Life member of the Keystone VHF Club and moved to Jenkinsburg, Georgia about 15 years ago (is this right Buzz?). Buzz is still very active in Amateur Radio from the deep south and heavily involved in RACES and EmComm. He can often be heard on our 75 meter net in the Winter months and comes to York about once a year to visit his family.

Schedule of Keystone VHF Club Sponsored VE Testing for 2014

Laurel VE Group Testing sponsored by Keystone VHF Club are held the second Saturday of the odd months. All tests are at 10 AM, pre-registration is appreciated except the Hamfest. Contact, Ralph Brandt at ralph.brandt@comcast.net or phone 717-792-1017.

Locations are York EMA Office at 120 Davies Road, York, or Keystone VHF Club on Deininger Road, York, near the Rocky Ridge Park

Testing dates:

Keystone VHF Club sponsored testing by the Laurel V.E. Group. These sessions are held in the Training Room at the York County EOC, 120 Davies Rd., York, PA. Testing starts at 10:00 AM. Preregistration is appreciated. Contact Ralph Brandt at:

Ralph.brandt@comcast.net or phone 717-792-1017 to register.

May 10 July 12 September 13 November 8

VE exams will be sponsored by Southern Pennsylvania Communications Group (SPCG). These sessions are held held at the Shrewsbury Borough Building, 35 Railroad Ave., Shrewsbury, PA. Testing starts at 9:30 AM. The point of contact for these sessions is the same as above.

April 12 June 14 August 9 October 11 December 13

An Interesting tidbit from Ray Shaub, W3AXC:

I was digging around in my downstairs shack and found a yellowing piece of paper. Upon examination I found it was my net call list from 1985/86 from when I called the Monday night net. Believe it or not, there were 71 active stations on the list. How does that compare with today? ... W3AXC

Ray - We currently have 60 stations on the list today with an average of 25 to 30 check-in's Not too bad! ... WA3USG

Local area nets:

Capitol Area Traffic Net starts **Monday at 8 PM** on the South Mountain Radio Amateurs (SMRA) repeater on 146.46 (67.0 tone), 1 MHz offset. All properly licensed radio amateurs are invited to check in.

The Combined Club ARES/RACES Net meets **Monday at 8:30 PM** on the Keystone 146.97 Repeater (Tone: 123 Hz).

South Mountain Radio Amateurs (SMRA) Net on **Monday at 9 PM** on the 145.43 (Tone: 67 Hz) repeater located in Mt. Holly Springs. **After the normal FM net, a group moves off to 144.210 MHz. and operates SSB.**

The Keystone VHF Club Digital Net on **Tuesday at 8 PM** on the York 146.97 Repeater.

The Digital Familiarization Net on **Wednesday at 8 PM** on the SMRA 145.43 Repeater.

The Keystone 75 meter net on **Tuesday at 9 PM** on a frequency to 3820 to 3840 KHz (+ or - the QRM). In the Summer, the net is suspended.

The Quarter Century Wireless Association (QCWA) net meets on **Wednesday 9 PM** on the York 146.97 repeater. **(Net currently not held)**

A local FM Simplex Net runs **Thursday at 8:30 PM** on a frequency of 146.55 MHz.

The South Central PA 10 Meter Net **Friday at 8 PM** on 28.495 MHz USB

**** Listed below are some local 10 meter nets ****

Ham Shack Talk Net - Monday at 9 PM: 28.335 MHz.

Delaware Lehigh Valley ARC Net - Sunday 4:00 PM: 28.430 MHz

Do Drop In net - Sunday 8:30 PM: 28.450 MHz

Penn- Mar Club net - Friday. 8:30 PM: 28.495 MHz.

10 Meter Ragchew Net - Every evening starting 7:30PM: 28.600 Mhz



The 20 Dollar VHF/UHF Receiver Using the RTL DVB-T Dongle

By Jim Walsh K3JIM

In Europe and the Middle East cable companies are using short distance over the air signals to deliver broadcasts to large areas without the need for running a cable to each apartment. This technology is referred to as DVB-T short for "digital video broadcast - terrestrial". They have come out with dongles (small USB hardware devices) to deliver these signals to PC's, tablets and other consumer electronic gadgets. The dongles are essentially complete receivers covering 25 MHz to about 2 GHz (varies by model). The demodulator chip is an RTL-2832U and the RF detection chips are a variety of devices such as Elonics E4000 or Rafael Micro R820T and others see <http://sdr.osmocom.org/trac/wiki/rtl-sdr>. The software and drivers that come with these dongles are pretty useless for our purposes so we are lucky that the computer/ham community has developed a number of programs to utilize the DVB-T dongles.

The DVB-T dongles are available from various online stores and cost between 12 and about \$25. I have two dongles to test, one uses the R-820T RF chip and the other the E-4000 RF chip.

The first DVB-T dongle is an E-4000 based receiver called EZ-CAP available at <https://www.google.com/search?q=e-zcap+dvb-t+dongle&tbm=shop&spd=0&cad=h> for about 12-15 dollars (Figure 1 and 2).



Figure 1



Figure 2



Figure 3

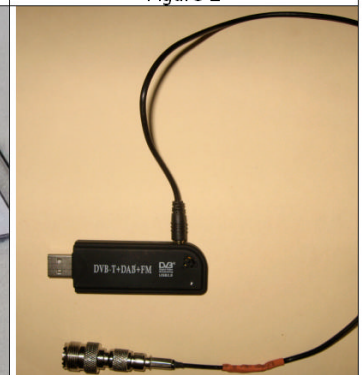


Figure 4

All that you use from the package is the dongle and the small antenna (figure 1). The antenna is useless except it has the odd European PAL or Belling-Lee connector. You need the antenna to make a patch cable for RF input with it. (Figure 2) DO NOT USE or LOAD THE SOFTWARE INCLUDED with the dongle it will make it impossible to load the drivers you will need later.

The second Dongle I got is based on the R820T. See figure 3. "RTL-SDR, FM+DAB, DVB-T USB Stick Set" cost \$ 14.00 It has the same accessories

Continued on Page 5

but uses a different RF connector Type MMCX rather than PAL. I again made an RF patch cable by cutting off the antenna and putting a more common Type SO-239 RF female on the end. Available at http://www.amazon.com/gp/product/B00C37AZXK/ref=oh_details_o04_s00_i00?ie=UTF8&psc=1

You may also purchase RF connector adapters from the online stores instead of making patch cables. Many of them are carrying the ones you need since the dongle project has become very popular. Examples are <http://www.ebay.com/itm/like/160605564013?lpid=82> for the MMCX to BNC and <http://stores.ebay.com/Rf-Cable-Assemblies/MMCX-BNC-/i.html?nkw=pal+to+bnc&submit=Search&fsub=1639468013&sid=992384393> for the Pal to BNC.

The first thing you need to do is determine if the Dongle you want to purchase is compatible with the software. Most are but many are not so check this Web page for compatibility.

www.reddit.com/r/RTLSDR/comments/s6ddo/rtlsdr_compatibility_list_v2_work_in_progress/. Compatible dongles are based on the following RF chips:

Tuner	Frequency range
Elonics E4000	52 - 2200 MHz with a gap from 1100 MHz to 1250 MHz (varies)
Rafael Micro R820T	24 - 1766 MHz
Rafael Micro R828D	24 - 1766 MHz
Fitipower FC0013	22 - 1100 MHz (FC0013B/C, FC0013G has a separate L-band input, which is unconnected on most sticks)
Fitipower FC0012	22 - 948.6 MHz
FCI FC2580	146 - 308 MHz and 438 - 924 MHz (gap in between)

Once you have the compatible dongle you will need to download the software packages needed to interface and turn the dongle into a VHF/UHF receiver and spectrum analyzer.

There are at least 4 Windows programs and a few Linux programs that will work. The only one I would suggest to use, at least initially, is SDR Sharp written as "SDR#".

The program is freeware (GNU) licensed but because many of the programmers don't agree on the rules you must go to three sites to download the software and drivers that are needed. However, a kind programmer has written a script that will do it automatically. You can use this quick installation script to test the latest development version: <http://sdrsharp.com/downloads/sdr-install.zip>

Step by step installation instructions can be found in the community website: <http://rtlsdr.org/softwarewindows> and <http://rtlsdr.org/softwarelinux>.

The hardest part of this installation is getting the drivers to load using the automated program called ZADIG.exe.. You may have to try a few times and you must follow the install instructions very carefully. Once you have the program open you can check to see that the RTL Dongle is recognized. If you don't see "RTL-SDR/USB" on the list run the ZADIG.EXE again (fig 5). You can use the short supplied whip antenna for initial testing but only with very strong stations such as FM broadcast or the 162.55 MHz weather channel.

You should see the following (figure 5) by clicking the small down arrow in the small window next to the configuration tab.

You should now see what I have in Figure 6. It is the FM band listing to WITF 89.5 (red line) and seeing WXPX 88.7 Mhz on the Spectrum scope to the left.

If you see the display but don't hear any audio you may have to trouble-shoot the audio path in the computer.

The **Modes Available** are : AM, USB, LSB , FM NARROW (ham Public safety), FM Wide (broadcast), DSB , CW and Raw base band.

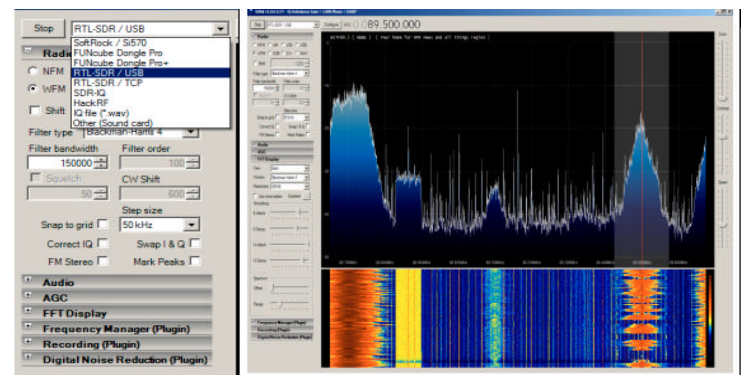


Figure 5

Figure 6

1. Select the RTL-SDR / USB menu item. (Fig 5)
2. Click on the play button in the upper left corner. (Fig 6)
3. Select WFM Mode and tune to a local Commercial FM station and you should hear and see it on the spectrum scope and the waterfall. (Fig 6)
4. Also you can adjust the gain in the "configure" menu window. it should be adjusted to maximize sensitivity while minimizing intermod and distortion. The sample rate can also be adjusted, the greater the sample rate the more computer resources you will use so there is a maximum the MSPS for your particular computer. The higher the MSPS the greater the width of the frequency range of the Spectrum analyzer. (See figure 7).

Figure 7

What can you do with the Dongle ?

Other than listen to any analog transmission within the frequency range a number of projects are being worked on by various programmers around the world.

1. Receiving P-25 digital signals such as used by most (including York county) Public safety agencies. (500 Mhz range)
2. Decode POCSAG paging as used in York County. * (450 Mhz) range
3. Decode ACARS data packets from aircraft (135 mhz range) *
4. Decode ADSB 1.6 GHz signals from aircraft putting them on a radar type position map.
5. A radio Astronomy app.
6. Receive DRM (digital HF broadcast) http://sourceforge.net/apps/mediawiki/drm/index.php?title=RTL2832U_Guidance (requires HF convertor)
7. NOAA Weather satellite <http://www.wxtoimg.com/> (136 Mhz range)
8. All amateur digi modes using FLDIGI * (all amateur bands)
9. AIS ship location data. (162 Mhz marine band)
- 10 HF WEFAX (requires HF convertor) (various HF frequencies 5, 11, 13, 17 Mhz)

(* programs that I have gotten to work and have used)

NOTICE: SDR receivers can if interfaced with certain decoding software that can be used to monitor cell phones or other prohibited emissions.

Hackers are working (and reportedly succeeded) on this but I don't advise experimenting with this as it would be a violation of Federal Law (ECPA).

Main sites to check for software and apps:

<http://sdr.osmocom.org/trac/wiki/rtl-sdr#KnownApps>

<http://www.reddit.com/r/RTLSDR/wiki/software>

<http://www.rtl-sdr.com/>

Good luck with this project. There are a few of us on WA3USG, K3HQT and myself who have been playing with this project. Remember there are no hard and fast rules or instructions. This is experimentation and the fun is in trying various things and getting it to work.

The next part to this series will be using and packaging the DVB-T dongle on VLF, MF and HF using an up-converter board at a cost of about \$50 and experiments with other software including a Linux-live USB drive.



Keystone VHF Club General Meeting Minutes of March 6, 2014

By Kathy Dellinger, KA3THC – Acting Secretary

The General Meeting of the Keystone VHF Club was called to order by 1st Vice President, Joe Imgrund, KB3TCM at 19:00. Joe recognized Kathy Dellinger, KA3THC, as Assistant Secretary and Dan Melato, KB3JSV, as Assistant Treasurer. The Goodmans are in Savannah, Georgia, and Linda Warner is in Florida.

There were 33 members present and 2 guests. Guests: Jeff Grove, KC3BKX and Brian Klimes. Jeff was licensed in 2013 and is on the staff of York Township EMA. Brian became interested in Amateur Radio after participating in a Scouting event at the Club. Brian will be taking his licensing exam on Saturday, March 8, 2014

TECHNICAL HAPPENINGS: Tim Barefoot, W3TWB, did a presentation on JT-65 and Ham Radio Deluxe. Dick Goodman, WA3USG, called via cell phone during the presentation and Tim was able to “plot” Dick’s location on the map and show everyone’s locations that had heard Dick in the past 15 minutes.

Jim Walsh talked about the Box he had made that can be used for HF/VHF/UHF/Microwave. This receiver and analyzer box can be created for about \$60.00. If interested, [SDR RADIO USING USB DVB - Google Search](#) or [OsmoSDR](#)

SECRETARY REPORT: Steve Steffan, WB3EFA, made a motion to accept the minutes as published in the newsletter and Mike Sullivan, WS3C, seconded the motion. Motion carried.

TREASURER REPORT: Dan, Assistant Treasurer, reported for February from report sent to him by Treasurer Linda Warner.

Income: \$2,729.38 ; Expenses: \$1,833.93 .
Balances: Club CD \$7,619.47; Checking Acct \$6,078.72; Trustee Acct \$394.79 ;
Total \$14,095.87.

Treasurer’s Report was accepted as reported with motion by Jeff Patterson, KB3RCT, and seconded by Steve Steffan, WB3EFA. Motion carried.

Audit committee has met and everything was OK

A donation to the club was received for \$1690.00. The donor wishes to be anonymous.

COMMITTEE REPORTS

TRUSTEE REPORT: It was announced that the 3rd Saturday in April will be a Spring Cleanup at the Club.

TECHNICAL COMMITTEE REPORT: Tim Barefoot, W3TWB, reported the work that has been going on in the Clubhouse. Equipment on benches (stations) has been removed and will be put back this Saturday. Anyone that can help should be at the Clubhouse at 8 AM on Saturday for a work party. Most notable is that computers will now be under the bench at each station.

Tim made a motion to purchase the following up to \$450.00: Signal Link with Cable (already approved), 3 cameras (1 outside, \$129.00) and 2 inside, \$100.00 each), 160 Inverted V for North and South with polystrand at 7’-9”-\$50.00, and black nylon cord at \$56.00. Brad Kline, KO3T, seconded the motion. Motion carried. Jeff Patterson, KB3RCT, will donate a 40, 80, 160 antenna.

OLD BUSINESS

Second Readings for: Tim Stumpo (KC3BWP), Mark Moure (N3DOA), Darlene Waldrop and Dan Waldrop. Only Mark was present so he was asked to step out of the room. All were voted into membership.

It was announced that the check was received for the 6-meter antenna.

NEW BUSINESS none

RACES/ARES –Public Service:

March 29 – testing for the YARS Flooding Exercise and actual exercise on April 5. Alan, WB3FTD, has tested the 97 repeater at all sites that will be manned during the Exercise.

Jack Dellinger, KC3JD, announced that the April 8 Delta/Peach Bottom Drill will have manned sites at Fawn, Delta Peach and Airville. There will be no out of sequence and therefore no DeCon support. The drill could start as early as 4 PM in the afternoon. Contact Sandy Goodman, N3ECF, if interested in participating.

Jack also mentioned the CanAm Games. Go to their website to sign up as volunteer. This is not to volunteer specifically as an amateur radio operator. Radio support has not been asked for at this time.

Many other events are listed on the website and in the newsletter. Notable events are April 27, IronMasters Hike and May 25, Bob Potts Marathon. Check the website and/or newsletter to see who to contact to help with Special Events.

VE/Public Education Report:

Steve Steffan, WB3EFA, announced testing at York County OEM this Saturday, March 8 with registration at 9:30 AM and testing at 10:00 AM. Nate Kirschman, WN3I, said the technician class is going well, two students have already been licensed but continue to attend the class. The class is now meeting two times a week to make up snow day cancellations. Nate and Walt Bilius, K3DQB, are working on a syllabus for a General Class Licensing Class. An Extra License Class is also being requested.

Contesting Committee Report

Last weekend contest, Nate had 165 contacts. Brad reported that the Hilltoppers had 976 contacts reached by 5 persons over 28 hours. Hilltoppers is at 4th place in the US.

Newsletter Report

It is out. Jack had a copy of the new Brochure that Dick created.

50/50 Drawing

There were no tickets so there was no 50/50 Drawing.

Good of the Order

Cecil Mundorff, K3DCU, talked about what lightening can do to your radio equipment. He showed a glass jar with burn marks in the glass. He suggested you disconnect coax and put ends in glass jar.

Meeting was adjourned at 7:42 PM by motion made by Joe Imgrund, KB3TCM and seconded by Rich Reese, KR3EE.

RigBlaster Blue - A New Digital Interface that uses Bluetooth Connectivity \$200.00

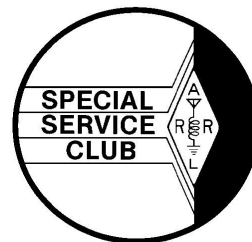


Chad, N3UOO was using one of these on the digital net last night. If your computer has bluetooth, you can use this to connect to your radio wirelessly! No cable between the interface unit and your computer! It worked GREAT for Chad.. More on this later.

KEYSTONE VHF CLUB OF YORK, PA



W3HZU



Membership Application

Name: _____ Phone: _____ - _____

Address: _____ Callsign: _____ Expires: _____

City: _____ State: _____ Zip: _____ Lic Class: _____

Occupation: _____ E-Mail: _____

Membership Desired

Full → Full Club Privileges
\$20.00 annually & one time \$5.00 Application fee

Family → Sponsoring members call: _____
Privileges same as Full membership
\$5.00 annually & a one time \$5.00 Application fee

Associate → Repeater Support
\$20.00 annually & a one time \$5.00 Application fee

Are you a member
of:

ARRL Y-N

ARES Y-N

RACES Y-N

QCWA Y-N

Special Areas of Interest (circle all that apply)

AM Antenna building ATV Contesting CW Digital (Packet, RTTY, PSK-31, etc)
DX FM HF QRP Satellites SSB SSTV SWL Tower climbing LF DSP
UHF/Microwaves VHF Astronomy Photography Other: _____

Application & Dues Mailing Address:

Make checks payable to: **Keystone VHF Club Inc.** Mail to: **PO Box 20143**

York, Pa. 17402-0140

FOR CLUB USE ONLY

First Reading Date: _____ Second Reading Date: _____

Date voted IN-OUT: _____ Date Dues Collected: _____

Applicant Sponsored by: _____