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Harrisburg Radio Amateur's Club Newsletter

HRAC meets the second Wednesday of each month at 7:00 pm at HACC, Shumaker Public Safety Center, Gate 5 on Industrial Road in Harrisburg (Elmer Time starts at 6:30PM)

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From The Desk of The President.....

First off, I want to congratulate our Ham of the Year, Pete, KB3WIH. His feet finally came back down to earth sometime Friday, I think. His mother and I were beginning to think that we would have to get him a pilot's license. (HI) He is extremely proud of his plaque and has given it an honored place in his room.

I would also like to congratulate those who received certificates of recognition for the years that they have been licensed; especially Dick, K3AM. Dick wasn't able to make it to the dinner so we presented his certificate at the Homeland Center a few days after the Ham Feast. There was a group of about 25 fellow hams and family members present. We had hoped to have a camera crew there from WHTM news, where he worked as their chief engineer until his retirement. The crew wasn't able to make it, but they did give him a spot on their Hometown Heroes feature.

The Hamfeast is over and now we have some time to slow down and catch our breath. The next big event on the horizon is Field Day closely followed by Firecracker Hamfest. Both of these are a lot of fun, although it does take a lot of teamwork to make the hamfest happen.

I would encourage all of you to get involved in the hamfest in some way. There are lots of things that can be done without ever having to leave the comfort of your shack. A lot of the prep work involves making contact with vendors and suppliers. Mostly calls to vendors, inviting them to participate or calling suppliers and requesting donations such as catalogs and brochures that we put in goodie bags to give out at the gate.

We are always looking for new and interesting topics for our Elmer Time and entertainment presentations. Is there some aspect of the hobby that you have always wondered about but never quite got around to researching? Have you or someone you know had an interesting radio-related experience? Maybe, a Dxpedition, or operating from some exotic location while on vacation. Perhaps you visited ARRL headquarters or a well-known contest station. If so, let me or one of the other officers know and we will work on getting a presentation together or scheduling time for you to tell us about your adventures. I know I would love to hear about it and I'm sure others would as well.

So, enough of my ramblings for now. I hope to see you at the next meeting, March 11, at HACC.

73,

Tim KB3OZA

President



February Meeting Minutes

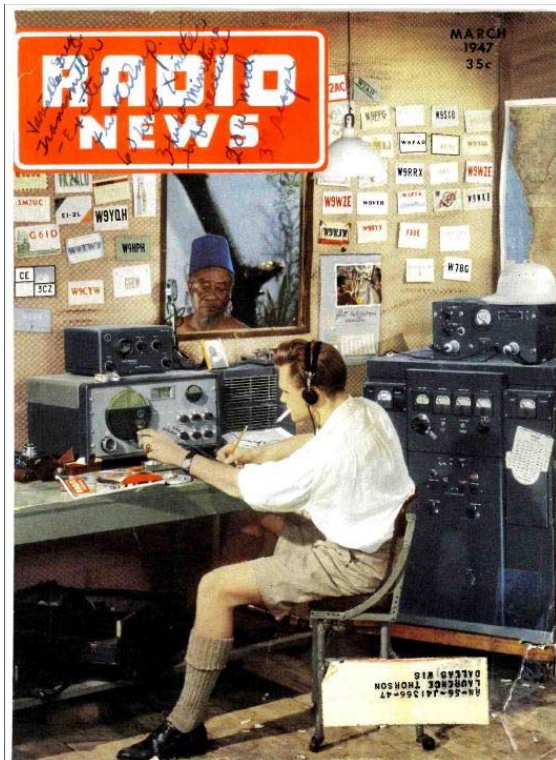
The February 11, 2014 meeting of the Harrisburg Radio Amateurs Club was called to order by the president, Tim (KB3OZA).

There was a motion made by Chuck (N3WL) to suspend the business portion of the meeting until the March meeting, seconded by Steve (KA3PDQ)

Good of the Club – Tim (KB3OZA) stated:

- There was an idea to purchase a trailer for the club to store and transport radio equipment.
- There will be a presentation of Dick's (K3AM) license commemorating 75 years in amateur radio on Sunday February 15th at Homeland Nursing Home.

Adjournment – There being no further business to conduct, Chuck (N3WL) made a motion, seconded by Milian (KC3AYU), to adjourn. Motion PASSED



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Weekly HRAC Net

The weekly information net is held every Wednesday at 8:00 PM on the 146.760 repeater, except for the second Wednesday of the month, which is club meeting night.

The next VE Testing session will be on Saturday April 18, 2015 in the HACC Shumaker building at Gate 5 on Industrial road, Harrisburg, PA. Pre-Registration is requested. Please arrive by 8:30am

Contact: Steven Gobat [717-938-6943](tel:717-938-6943) Email: KA3PDQ@arrl.net.

We had a great session hope everyone had a safe trip home.
We had 8 applicants.
7 Tech and 1 Extra all passed!

Thanks to
Bill, KE3YC
Steve, N3FWE
Tim, KB3OZA
Michael, N3HLK
Steven, KA3PDQ

Next Session April 18, 2015

Thanks to all who helped.

Please send any articles for the newsletter to hrac.newsletter@Yahoo.com



K3AM Honored for 75 years in Amateur Radio

by [W3JY](#)

February 16, 2015

Dick Kerlin K3AM, 91, was honored by the Harrisburg Radio Amateur's Club this past Sunday, February 15, 2015, celebrating his seventy-five years as a radio amateur. A past president of HRAC, Kerlin passed his first examination in 1939, sitting before the F.C.C. at Fort McHenry, Baltimore, Maryland and issued call sign W3JGW.

A U.S. Navy veteran of the Second World War, Kerlin served in Alaska, repairing high-power high-frequency radio transmitters, which was a great job for a young ham operator. Afterwards, he was the long time broadcast engineer for WTPA-TV, later WHTM-TV, in Harrisburg, eventually retiring as the station's chief engineer.

An active operator, Kerlin is described by his long-time friend Greg Kurzenknabe K3SWZ as "a gentleman always eager to help". He has many children, grandchildren and great-grandchildren and meets the local radiomen at their monthly luncheon when he's not ragchewing on 2-meters. A move to his new QTH lost simplex coverage to his on-air friends, so they made a copper J-pole from an umbrella stand. Now the 210 repeater lets him continue his nightly seven o'clock ragchews.

In spite of brutally cold, arctic weather, twenty-five friends, family, and well wishers made the trek to "The Diner" at the Homeland Center to congratulate him. Tim Lehman KB3OZA is the club's current president and presented Kerlin with a beautiful plaque and accompanying certificate of appreciation. All present enjoyed a delicious lunch with a specially decorated cake for dessert.

Reporting by Richard Lenker and Greg Kurzenknabe. Photos courtesy of Greg Kurzenknabe K3SWZ; Visit the Harrisburg ARC at www.w3uu.org.



KB3OZA presents K3AM with 75 years of service plaque and a certificate of appreciation Feb 15 2015.

Fake News:

NEW YORK CITY — Some amateur radio operators are questioning claims by NBC News anchor Brian Williams that he is a newly licensed ham radio operator. Branching out from the “professional” broadcasting ranks into the “amateur” radio hobby is something Williams said he has wanted to do “since interviewing Hiram Percy Maxim in 2009.”

“I was thrilled to take and pass the Advanced license class exam earlier this week,” said Williams. “I ordered my first Heathkit straight from the factory on Tuesday.”

The newsman said he passed the exam in his hometown of Ridgewood, New Jersey.

“In addition, it was only a few minutes after receiving my vanity callsign K2FIB that I earned my DXCC certificate,” said Williams.

Williams announced that he had his license in an amateur radio online forum, when he posted in the “Wanted To Buy” section, looking for “one of those cheap handheld Chinese radios.”

“I don’t recall you being in my test session,” said Renee Spangledorf in reply to the forum post. He is the Volunteer Examiner in charge of testing for the Ridgewood Radio Rangers.

Williams posted a reply saying he may have misremembered some of the facts. “I might be a no-code Tech. I’m not sure,” he said.



Hams in Haiti to Build Tower, Promote International Goodwill

Dale Long, N3BNA, and others are back in Haiti to oversee the construction of a 300-foot broadcast station antenna and to do a little hamming while there. Long, from Pennsylvania, has been on the air as HH2/N3BNA, and he expects to operate as 4V1JR during the ARRL International DX Contest (CW) over the February 21-22 weekend. The antenna raising is a project of the [Haiti International Friendship Amateur Radio Club](#).

"Our mission is to foster international friendship and promote Amateur Radio in Haiti," the club's website states.

The 300-foot tower was shipped from the US to Haiti in sections, each weighing about 340 pounds. It is being installed on a 9-acre semi-marsh near the ocean. Once up, the tower, which will have a complete radial field, will serve a popular radio station that has played a role in disaster relief efforts in Haiti. Long said the radio station has agreed to let the ham radio group use the tower for 160 meters -- presumably during periods when the radio station is off the air -- in exchange for helping to put it up. The entire project is largely supported by donations, and the work is being done by volunteers.

Since no trees or a crane were available, the tower team needed to build a second, smaller tower to winch the big tower into place. A lot of the work is being done with rudimentary tools. Long has traveled to Haiti and to Central America to work on similar projects in the past.

[Contact](#) the club for more information or to volunteer for future projects.



Art Bell age 13. W6OBB and 4F1AB Late night talk show host.

Long Delayed Echoes

*Looking back through the rich history of the Harrisburg Radio Amateur's Club
Compiled by Mark Robinson WB3JIS*

Time to think warm thoughts, and reading about heat exhaustion may help. There was a lot going on in the club during August 1995 that has provided fodder for this column. This month is no exception as we look back at the August 9, 1995 meeting minutes.

Public Service Activities

MS Bike Tour: Nick, AA3T reported that all went well even with a repeater problem. The event switched to another repeater (147.315) and all was well. Most of the action was at the end of the tour on Saturday. There was a lot of heat exhaustion. On Sunday, due to debris in the streets caused by a rain storm, adjustments to the course had to be made.

Governor's Cup: Bob, K3BHZ said that all was well. There were no communication problems.



This picture is not related to the article and is NOT Nick AA3T

Camp Muckleratz Horse Ride

I know it's only March, but the Camp Muckleratz horse ride is coming up on 25 & 26 July and you know how time flies when you're not paying attention. They are anxious to have ham radio support for their event this year. If you're up for a day (or two) of fresh air and sunshine, operating in the great outdoors, I encourage you to give this event a try. Both of my sons and I have participated in the past and had a great time.

Contact Paul, WQ3P at colemanp2@comcast.net if you're interested in supporting this event.

As more information becomes available I will pass it on to you.

73,

Tim KB3OZA



FCC "Paperless Amateur Radio License Policy Now in Effect

Effective February 17, the FCC no longer routinely issues paper license documents to Amateur Radio applicants and licensees. The FCC will continue to provide paper license documents to all licensees who notify the Commission that they prefer to receive one, but what arrives in the mail now will be printed on plain white recycled paper, instead of the more distinctive stock the FCC had been using until recently. All of this is part of the FCC's efforts to streamline procedures and save money.

"We find this electronic process will improve efficiency by simplifying access to official authorizations in ULS, shortening the time period between grant of an application and access to the official authorization, and reducing regulatory costs," the FCC Wireless Telecommunications Bureau (WTB) said. According to the WTB, the new procedures will save more than \$300,000 a year, including staff expenses.

The Commission has maintained for some time now that the official Amateur Radio license authorization is the electronic Universal Licensing System ([ULS](#)) record, although the FCC had routinely continued to print and mail hard copy licenses until this week.

In mid-December, the FCC [adopted final procedures](#) to provide access to official electronic authorizations, as it had [proposed](#) in WT Docket 14-161 as part of its "process reform" initiatives. Under the new procedures, licensees will access their current official authorization ("Active" status only) via the ULS License Manager.

Licensees can also print an official license authorization -- as well as an unofficial "reference copy" -- from the ULS License Manager.

The ULS License Manager now permits licensees to change the default setting, so that the Bureau will print and mail a license document.



FM Signal Reporting

On VHF FM, signal reports are often given in terms of FM quieting. A strong FM signal is said to "quiet the receiver" since there is virtually no noise present in the received audio. As the signal strength is decreased, noise starts to appear on the received signal. At some signal level, the noise increases dramatically and the signal becomes unreadable. This dramatic increase is called the threshold effect, meaning that FM signals do not gradually fade out, they suddenly crash into the noise.

Quieting is a function of the limiter stage of the FM receiver. Once the RF signal goes into limiting, any extraneous amplitude noise riding on the signal is stripped off (think of static caused by lightning on the AM broadcast band). If the RF level is below the limiter level, the amplitude noise comes through as "hiss" or "frying" noise.

The key idea here is that you want your signal to be strong enough to be above this noise threshold. In terms of a signal report, a strong signal may result in a "full quieting" report. In some areas, it is common to hear the term "DFQ" - or "dead full quieting" for a 100% quiet signal.

If the signal is less than full quieting, you may hear a report like "90 percent quieting" or "you have about 10% noise", which both describe the amount of noise present in the signal. If the signal is really noisy, the report might be "50% quieting."

WSPRnet: Weak Signal Propagation Reporter Network

By Gary, KV3Q

Introduction

Interested in HF propagation, particularly weak signal propagation? Check out the Weak Signal Propagation Reporter Network (WSPRnet). For the sake of brevity, this article necessarily assumes some basic understanding of configuring a PC and rig for digital operation. With the wide range of computer operating systems, OS versions, rigs and cabling configurations, it is impossible to construct a step-by-step manual that fits all situations.

Getting Started

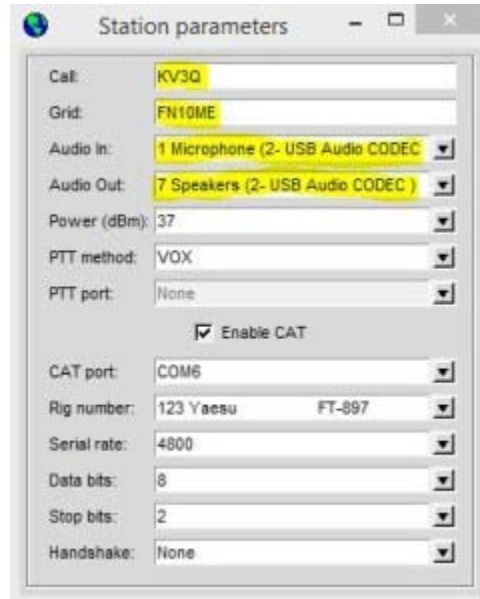
First things first. We need some software. I grabbed the most recent Windows version of WSPR (pronounced "whisper") from the "Downloads" section of K1JT's website near the bottom of this page: <http://physics.princeton.edu/pulsar/K1JT/wspr.html>. For the more adventurous, a Linux .deb package is also available. The software is very simple to operate and uses K1JT's MEPT_JT digital mode. This compressed data format uses 4-FSK modulation with strong forward error correction. It is effective at signal-to-noise ratios as low as -28 DB in a 2500 Hz bandwidth. A transmission consists of a two minute sequence, beginning on even minutes, which contains a callsign, maidenhead grid and the declared transmitter power in dBm. Run the installer and you're one third of the way there.

Radio Interface and Audio Considerations

For digital operation, audio and rig configuration is different for everyone, depending on the hardware and computer operating system. In my case, I used a SignalLink USB interfaced to the data jack of my Yaesu FT-897d, just as I would for other digital modes like PSK, RTTY, JT-65, Olivia and the like. If you have used digital modes before, you are basically ready to try WSPR. I also made it a point to monitor the ALC meter on the rig to roughly evaluate my audio output, so as to create a proper waveform and to prevent over-driving and potential splatter. I did this by bringing the transmit audio down on the computer until there was virtually zero ALC action on the rig. This digital mode is inserted USB on all bands. On my particular rig, I used the DIG (Digital) mode, which is set to USB insertion and also turns off all the pesky DSP, filters and noise processing circuits which wreak havoc with receiving and decoding digital modes.

Software Settings

There are few, but let's get them entered correctly. If the below "Station parameters" box is not presented to you automatically, click "Setup" and then "Station Parameters". Enter your callsign, maidenhead grid and be sure to select the correct Audio In and Audio Out devices.

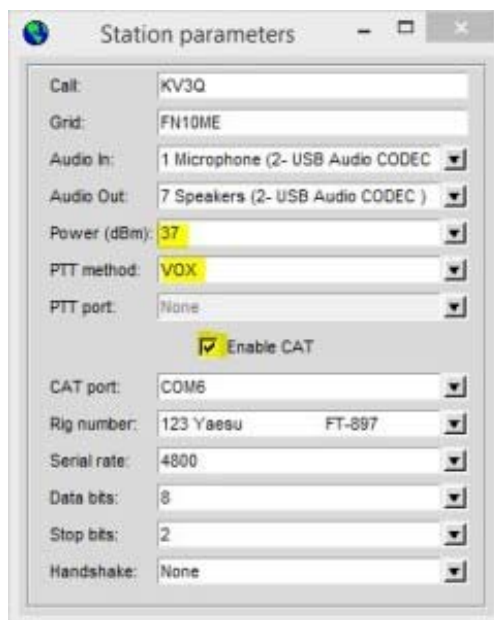


Since we will be reporting our transmit power in dBm instead of watts, you can use this simple chart taken from the software manual:

Appendix A: Conversion Table, Watts to dBm

0	dBm = 0.001 W
3	0.002
7	0.005
10	0.01
13	0.02
17	0.05
20	0.1
23	0.2
27	0.5
30	1
33	2
37	5
40	10
43	20
47	50
50	100
53	200
57	500
60	1000

While I would prefer the purist QRP experience of one watt or less, the rig I am using won't go below five watts. Therefore, I will select 37dBm, which equates to the five watts that I will be using. Since I am using the SignalLink USB with built-in soundcard, it will handle my PTT through its VOX circuit. PTT can also be communicated to the rig via CAT and DTR / RTS over the correct COM port. Though not a requirement to use this software, I do have a USB to serial adapter connected to the CAT control port on my rig. I found that enabling CAT control for my specific rig and selecting the correct COM port for that adapter allows the software to change the band and frequency to each of the common WSPR frequencies.



Even if you can't get PTT, audio levels and other transmission considerations correct at first, it doesn't mean you can't proceed for now by decoding the transmissions of others and sharing that information with the WSPRnet. So what are the common WSPR frequencies? Here you go:

Frequencies

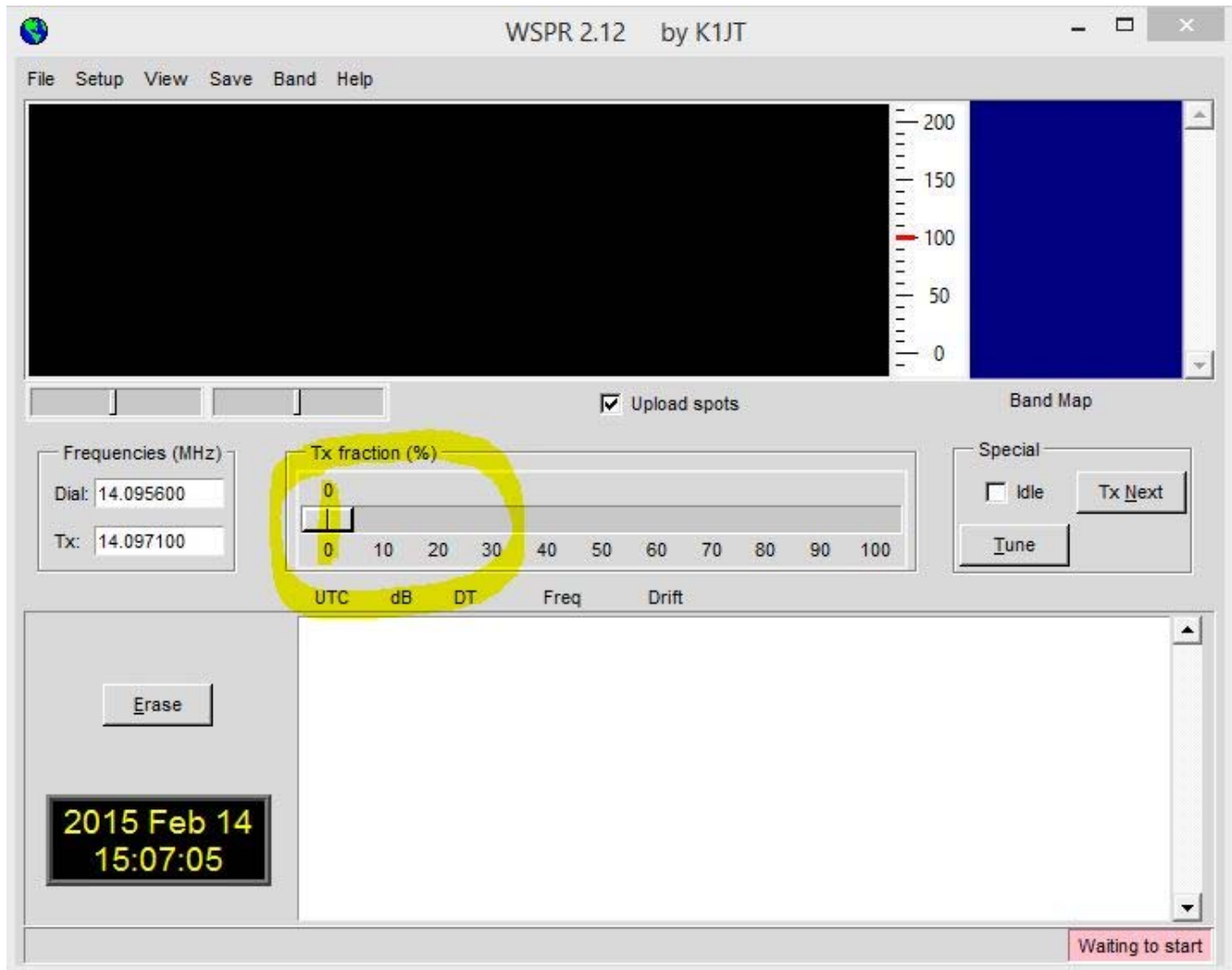
USB dial (MHz): 0.136, 0.4742,
1.8366, 3.5926, 5.2872, 7.0386,
10.1387, 14.0956, 18.1046,
21.0946, 24.9246, 28.1246,
50.293, 70.091, 144.489,
432.300, 1296.500

Spot Count

260,557,548 total spots
269,498 in the last 24 hours
12,524 in the last hour

Using the Software

Before we continue, I found that the software was periodically attempting to transmit before I even completed my setup. We don't want this to happen on the wrong frequency or when we aren't tuned yet! Take a moment to adjust the slide control highlighted below to the "0" or zero position. While you are there, make sure the "Upload spots" box just above that area is checked and that you are connected to the Internet.

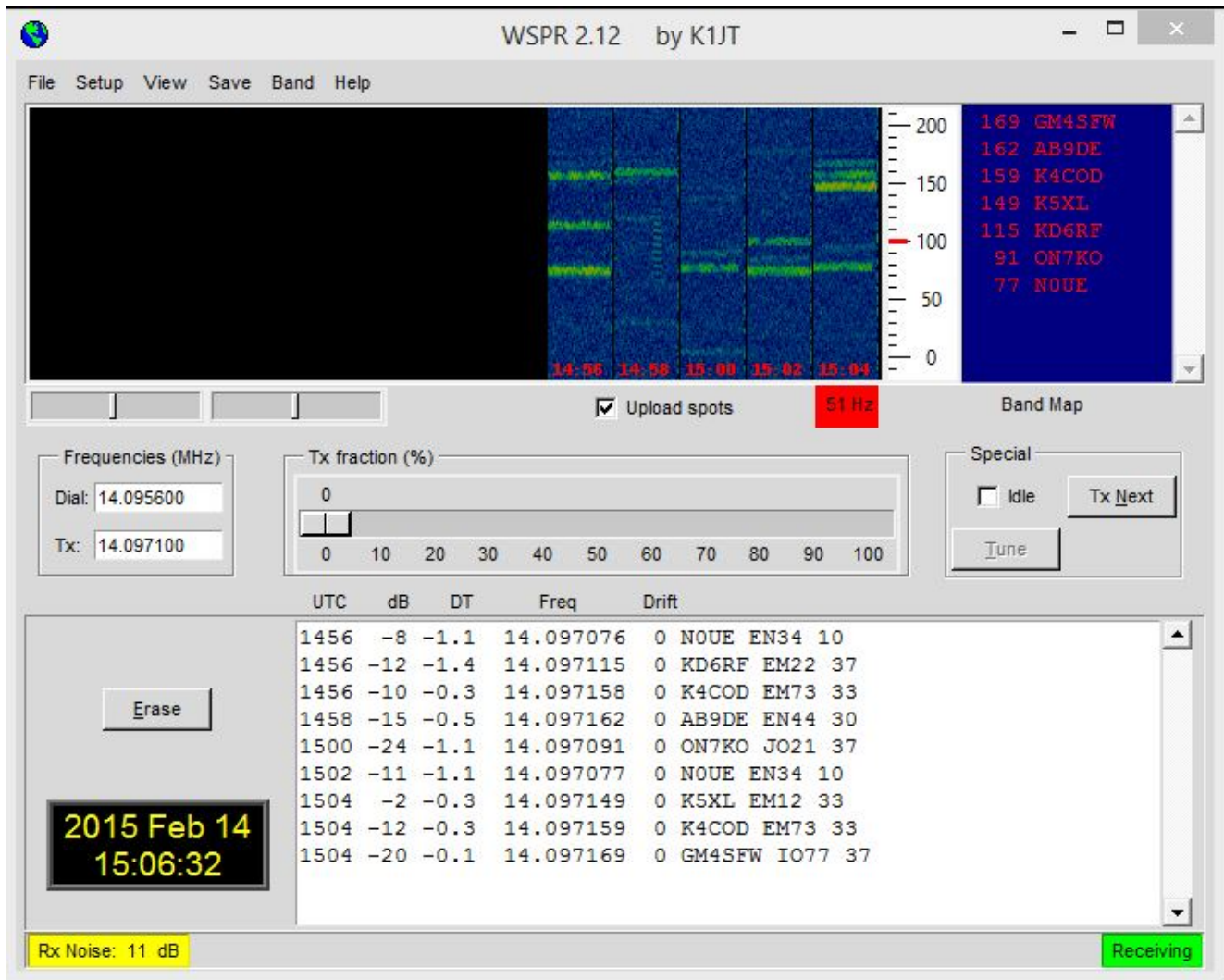


Because the transmission cycles are timed, all parties must have a common clock reference. Before beginning, you may wish to synchronize your clock to an atomic time standard. This will ensure your cycles match those of, well, everyone else!

In Windows 7: Left-click the clock in your task bar. Click "Change date and time settings...", click the "Internet Time" tab, click "Change Settings", make sure the "Synchronize..." box is checked and then click "Update now". If it fails to update, try a few more times.

Keep in mind that transmit/receive cycles take place over 2 minute periods. If you keep an eye on the bottom right corner of the application after you open it, you may see "Waiting to start" for a couple of minutes. This is proper operation. Eventually, it will change to "Receiving" at the start of a cycle.

Over the last ten minutes of plucking away at the keyboard, we see that I have received a number of WSPR transmissions. Each two minute receive cycle is displayed visually in the form of a horizontal waterfall "slice" and each station is listed in the chart. Note that this is truly a QRP endeavor. The highest power a station declared is 37dBm or five watts.



Adjusting the receive audio level is also important to ensure proper decoding and reporting. You can see in the bottom left corner of the graphic above that the Rx Noise value is 11dB and that the area has turned warning yellow. We need to turn down the rig receive audio. Note that if you are using a rig data jack, the regular RF Audio knob may only adjust the external rig speaker - and have no effect on the audio level passing to your computer or external sound card device. I accomplished an audio reduction by turning down the Rx audio knob on the Signalink. To accomplish this on the computer, we would turn down our microphone level. Remember that from the computer's perspective, it is the computer's microphone that is "listening" to your receive audio. Turning down the microphone level reduces the receive audio level. Our target value for Rx Noise is zero.

Okay - I'm Bored - What's the Point?

Well, let's try sending out a transmission and get to the fun part. Let's adjust the slider that we previously set to zero to some percentage of transmit cycles and click the "Tx Next" button to force transmission on the next cycle.

The screenshot shows the WSPR 2.12 software interface. At the top, the title bar reads "WSPR 2.12 by K1JT". Below the title bar is a menu bar with "File", "Setup", "View", "Save", "Band", and "Help".

The main display area is a waterfall plot showing frequency (MHz) on the x-axis (from 15.00 to 15.30) and power (dB) on the y-axis (from 0 to 200). A vertical red line indicates the current frequency, which is 14.097100 MHz. To the right of the waterfall plot is a list of stations with their call signs and signal strength:

- 118 KD6RF
- 115 NOCXX
- 103 WA4RG
- 92 ON7KO
- 80 KD4YDD
- 79 NOUE
- 66 K4EH
- 62 VE1MDO
- 33 G8FIK

Below the waterfall plot, there are several control panels:

- Frequencies (MHz):** Dial: 14.095600, Tx: 14.097100
- Tx fraction (%):** A slider set to 2%
- Special:** Idle, Tx Next,
- Upload spots:** Upload spots, 121 Hz

At the bottom, there is a log of received spots with columns for UTC, dB, DT, Freq, and Drift:

UTC	dB	DT	Freq	Drift
1522	-26	-1.0	14.097092	0 ON7KO JO21 37
1522	-19	1.3	14.097103	0 WA4RG EM82 27
1522	-13	-1.3	14.097118	0 KD6RF EM22 37
1522	-6	-0.4	14.097151	0 K5XL EM12 33
1522	-2	-1.0	14.097170	0 K9AN EN50 33
1524	-24	-0.4	14.097033	0 G8FIK IO92 37
1526	-15	-1.1	14.097062	0 VE1MDO FN84 37
1526	-12	-0.3	14.097161	0 K4COD EM73 33
1528	-10	-1.1	14.097079	0 NOUE EN34 10
1530	-22	-0.3	14.097164	0 AB9DE EN44 30

On the left side, there is an "Erase" button and a digital display showing "2015 Feb 14 15:32:22". At the bottom right, a yellow box displays "Txing: KV3Q FN10 37".

After our transmission is complete, we click the link below to visit the WSPRnet map and see who heard our transmission!

(<http://wspnnet.org/drupal/wspnnet/map>)

Just below the map are some settings we can adjust. Let's see who heard my station on 20 meters in the last 10 minutes by filling in the form and clicking "Update":

Spot Count
 260,557,548 total spots
 268,123 in the last 24 hours
 13,564 in the last hour

Navigation
 ▶ Forums

Who's online
 There are currently 88 users online.

- HB9FKP
- wb5b
- DG8JA
- DK5HH
- N0UE
- GM4SFW
- KF2AT
- DL6NL
- WG2XKA
- N1FF
- G4BOO
- ZS6KMD
- G7JVN
- PA0O
- OH6LSL
- WB5WPA
- n3ckf
- OH6GAP
- DL4OBE
- M0BOB
- on7kb
- IZ3ATV
- G4NRG
- WA4AMG
- WH2XND
- DH5RAE
- N1ETS
- VK2XN
- KA1ULN
- LA3JJ
- RA3APW



Update

Band
 20m ▾
 Show only spots on this band.

Call
 KV3Q
 If non-blank, show only those spots involving the specified call

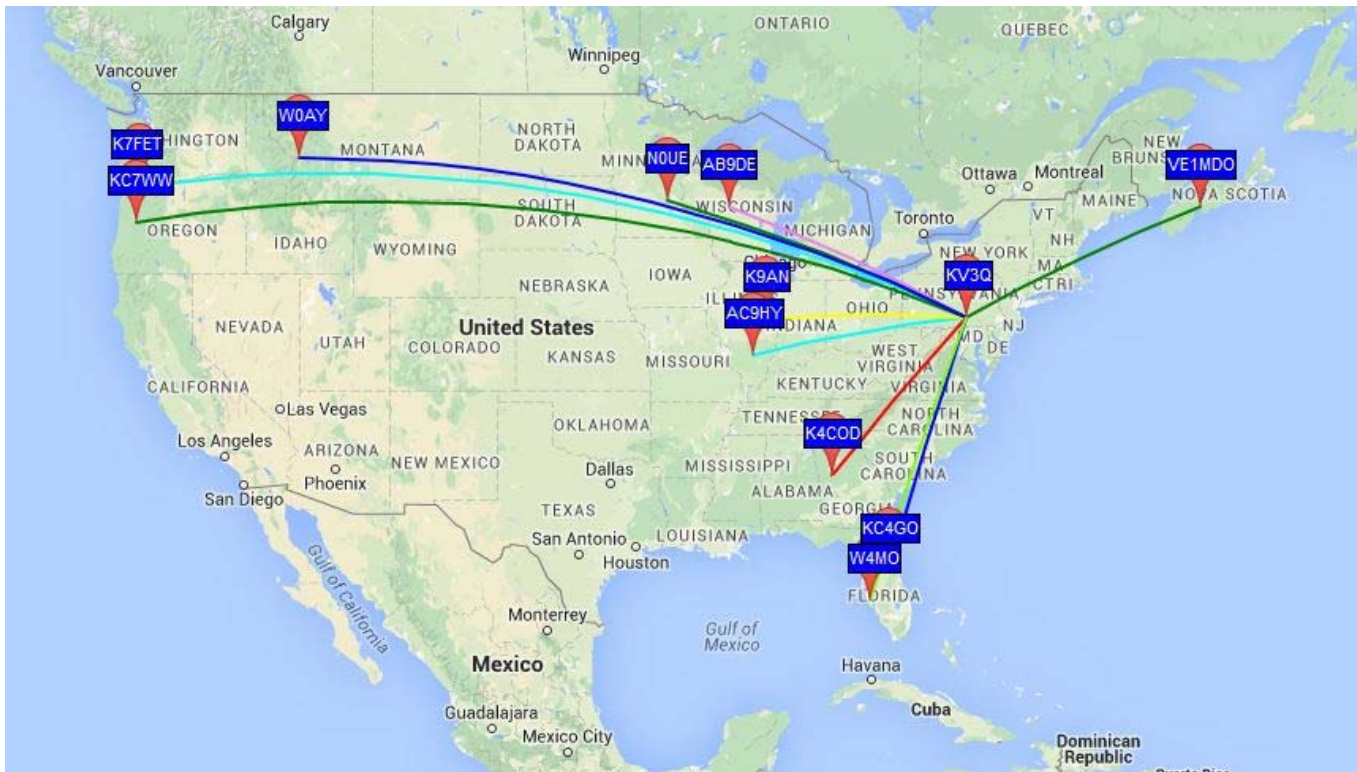
Latitude
 20
 Center of map latitude

Longitude
 20
 Center of map longitude (east positive, west negative)

Time period
 10 minutes ▾
 Show spots in this period of time

Day/Night overlay
 Shows which areas of the earth are in daylight. Not currently working!

Well, not too bad, but not so hot either. Of course, other stations that might have heard me could have been transmitting that cycle. Here's a better view of the map of my results:



I let the program run for a few more cycles and more station appeared. You can also click on individual stations to see if you heard them, if they heard you, or both:



Better statistics are gathered by letting the program run for longer periods of time. Try setting the slider to a “Transmit fraction” of about 20% and letting the program run for an hour.

The experimentation value of this software should by now be obvious. Try different power levels, different antennas and different bands at different times of the day. Understand weak signal propagation in a whole new way.

Enjoy and 73 de KV3Q

HamFeast 2015





An afternoon with Dick Kerlin K3AM

Monthly Ham Radio Lunch

The last Thursday of each month there is a Ham Radio Lunch at the "Old Country Buffet" at noon (unless it is a major holiday).

This restaurant is located on Route 22 in Colonial Park in the vicinity of Value City Furniture, K-Mart and Home Depot.

It's a great way to meet new people!

From the Editor's Desk

I sure am looking forward to the warmer weather. I just hope it arrives soon. I always think that I will get lots of DX during winter months, but I seem to get busy with other things and ham radio takes a back seat. Maybe the longer daylight days, and warmer weather will bring more outdoor ham radio activities with the club. Watch for events to be announced.

I welcome and encourage submissions to be published. I am just asking for you all to understand and follow a few guidelines. As an editor, my job is to compile stories as submitted to me, and to check for misspelled words, and grammar problems. Your job is to submit a ready to print article. If you have pictures, please add them to your email and they will be placed into the article. If your story is only fragmented sentences, or just copy points, it will be returned to you to correct. This is not because I am a bad guy, but because it takes valuable time to decipher the meaning intended. Please write any articles from the viewpoint of a reader who knows absolutely nothing about the subject.

Please do not wait until a day before publication date to submit things. If that is done, it will not be included. Most, if not all regular information is known by the middle of any month, and should be submitted immediately. If you are writing an article about an event, write it while the event is fresh in your mind, and submit it. Don't wait until the end of the month. Send articles to HRAC.newsletter@Yahoo.com.

Tnx 73

Terry WB3BKN (Editor)

Jim Hoffman WF3J (Proof Reader)



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HRAC MEMBERSHIP APPLICATION

MAIL TO:
Tim Lehman (KB3OZA)
PO Box 453
Hummelstown, PA 17036
717-982-8550

Make checks payable to HRAC—Membership is \$15.00 (\$7.50 if over 65) per year.
Family Membership is \$25 (Hams must reside in the same household)
Dues end December 31st.

NAME _____ CALL _____

ADDRESS _____

CITY _____ STATE _____ ZIP _____

PHONE _____ E-MAIL _____

ARRL Member: Y _____ N _____ * YEAR FIRST LICENSED _____

SIGNATURE _____

I agree to abide by the guidelines of the membership and The Harrisburg Radio Amateur's Club, Inc.



Heathkit SB-220 (Wearing the Green for St. Patty's Day)