QST NFL

Sharing information of interest to Radio Amateurs in North Florida

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2020 Hurricane Season

Karl K4HBN, k4hbn@arrl.net , SEC Northern Florida Section

Hello NFL Section,

Monday is the start of the 2020 hurricane season. We have had a relatively quiet hurricane season in the past few years. This year promises to be a very active year with the National Hurricane Center predicting 13-19 Named storms, 6-10 hurricanes and 3-6 becoming major hurricanes.

We, as amateur radio operators and communicators need to be prepared before being called to support our communities. The 2020 hurricane season will be different than in the past, with COVID-19 playing a large part in our planning and preparations. We need to include the guidelines provided by the Centers for Disease Control CDC, Florida Health department, and your local health department when we shop for supplies. Gloves, masks, and hand sanitizer are just a few items you should get.

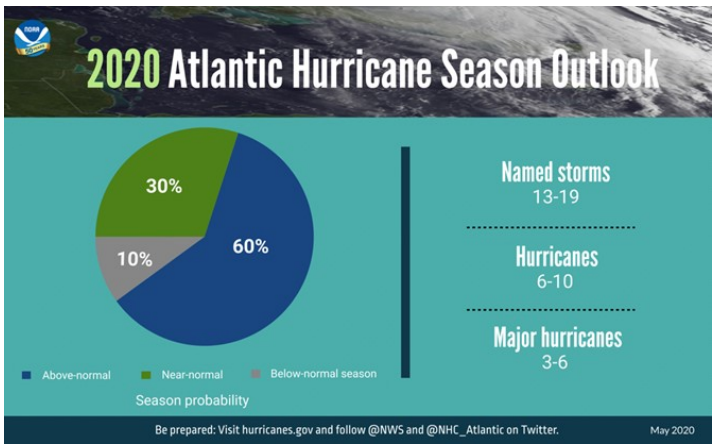
Remember, don't wait until a few days or weeks before a storm. By then, it will be too late and there will be no supplies. When you go on your regular shopping trips, grab a box of gloves later next week, grab hand sanitizer. That way, you have all the supplies you need and won't have to fight for them while everyone else is shopping for the same things.

During this 2020 summer season keep your skills sharp and practice by participating in an exercise with your local club or ARES group. Have an on-air discussion of topics, what is the best portable ground, what are the net procedures on a local net or an HF net. These might seem like simple subjects, but we have new operators getting their licenses and haven't had the time to learn.

Remind new and old amateurs on proper repeater operation. Don't use 10 codes. They are unprofessional and illegal under FCC rules by hiding the meaning of the message. Don't key up a repeater and not identify, that's transmitting and not identifying.

"Don't practice until you get it right, practice until you can't get it wrong."

If anyone has questions or recommendations, please feel free to contact me. Thank you, stay safe this season and enjoy your summer.



What's Inside….

Email your QST NFL input to **n4gl.marty@gmail.com**
Marty Brown, N4GL, Editor

Jacksonville Amateur Radio News

Billy Williams, N4UF

The big news here in May was continued pent-up demand for FCC license exams in northeastern Florida and a successful, innovative outdoor drive-in session on Saturday, May 16th in a large Jacksonville city park (near golf course). According to VE Ross Goodall, WD4NJV "testing has been a learning curve for all VEs during the outbreak. The Laurel Group successfully navigated through CDC, state and local regulations. Rajesh Verma K4SK, Brandi Kiehl K4PL and twelve other VEs participated in four testing sessions under almost-Field Day conditions (82 degrees, cloudy and windy weather).

"We had 27 candidates, administered 37 exam elements and gained 16 technicians, 6 generals (4 from zero to general) and 3 extra class licenses."

A more detailed article on the logistics, steps taken to ensure exam integrity and safety considerations is being prepared for July CQ Amateur Radio.

The next North Florida Amateur Radio Society (NOFARS) meeting is Thursday, June 11th. If our regular meeting place, Hogan Baptist Church, isn't available--we will meet again online or on the W4IZ/R 146.7 repeater. Unless the virus threat unexpectedly increases, chances are probably good for an in-person meeting.

ANOTHER ONLINE MEETING: On May 14th, members and guests covered the screen when NOFARS met online for the second month. One called it a remake of Hollywood Squares. Topics included:

****Jacksonville Radio FREE Flea** is cancelled. Fast-approaching hot weather and several other concerns led to a decision to hold our next gathering on October 24th.

****Wayne, WB4YTJ** reported on the WWD 146.7 net held each Monday at 8PM. Participation is up and additional check-ins are encouraged.

****Brandi, K4PL** said Ladies Nets are set for Thursday, May 21st and Sunday, May 31st on W4IZ 146.7. Angela, N4VCX will be net control. Topics include how to deal with inappropriate transmissions on ham radio.

****Peter, AC4PS** spoke about Contest University. Originally scheduled the day before the Dayton hamfest, organizers moved CTU online and made sessions free. Peter recommends it to those interested in participating in contests. Much of Contest University 2000 is now on YouTube.

****Jim, W1JJK** explained handouts that can be downloaded from his page on grz.com These are especially helpful to newcomers in northeastern Florida. Put W1JJK in the "enter inquiry by callsign" block at upper left.

****Jack, KB4B** reported on plans to provide streaming of NOFARS meetings. Some meetings offered by groups doing live streaming have poor audio and low quality video. (off-mic audio, stagnant video, etc.) Good streaming is not easy to produce and many factors must be considered. A reliable crew will be needed. If you can assist, contact Jack.

****Steve, WA4B and Henry, WB4LEQ** spoke about using the two different receivers to access 146.7. It involves programming separate memory channels with different transmit CTCSS tones. W4IZ 146.7 began continuous operation during Memorial Day weekend 1999 and it begins the 22nd year soon.

****Rajesh, K4SK and Brandi, K4PL** described plans for drive-in FCC testing in a large park on Saturday, May 16th. Thirty to forty applicants are expected during four time blocks.

****John, W4IJJ** spoke about Duval ARES. When access is possible, ARES operators will be checking out antenna installations at potential shelters to prepare for upcoming hurricanes. He is optimistic about prospects for Field Day on June 27-28.

Northern Florida Section SEC Report Karl Martin, K4HBN, SEC NFL, k4hbn@arrl.net		**April 2020**
Report	Counties Reporting	Counties in NFL
Number of Counties Reporting	16	43
Total Number of ARES Members		577
	Number of Events	Hours
Exercises & Training Sessions	115	1482
Public Events	5	38
Emergency Operations	25	135
Skywarn Operations	8	55
Total	153	1710
Comments		
June 1st is the start of the 2020 hurricane season. COVID-19 is causing shortages of supplies. You should have already started packing your hurricane kits and created your family plan. for more information visit https://www.floridadisaster.org/planprepare/ and https://www.cdc.gov/disasters/hurricanes/covid-19/prepare-for-hurricane.html		

Field Day Bandpass Filters

by Gordon Gibby KX4Z

Our ARES® group / NFARC club is planning a COVID-19-compliant Field Day effort at our EOC, as per the ARRL decisions. We wondered if we could create some homebrew bandpass filters that would better allow two transmitters on different bands to simultaneously communicate. The ARRL has a great design for Butterworth filters: https://www.arrl.org/files/file/Technology/tis/info/pdf/8809017.pdf Then John Trites NO5X designed Chebyshev filters that provide some isolation between the top and bottom ends of the 3.5-4.0 MHz band.

Physically assembling these filters and providing proper shielding requires some effort. To make that task easier, I created double-sided printed circuit board design, with a ground plane, designed to connect to two SO-239 connectors and mounted on the underside of an empty paint-can lid. Sanding the protective coating of the paint can lid rim should allow good contact with the inexpensive can and provide a good shielding system. Boards have been manufactured in China and delivery is expected soon. The Gerber files needed to have your own boards made by the fabricator of your choice are freely available at: http://qsl.net/nf4rc/Tech/BandpassFilterPCB.zip (Editor: Clicking on this link will automatically download the zip file.)

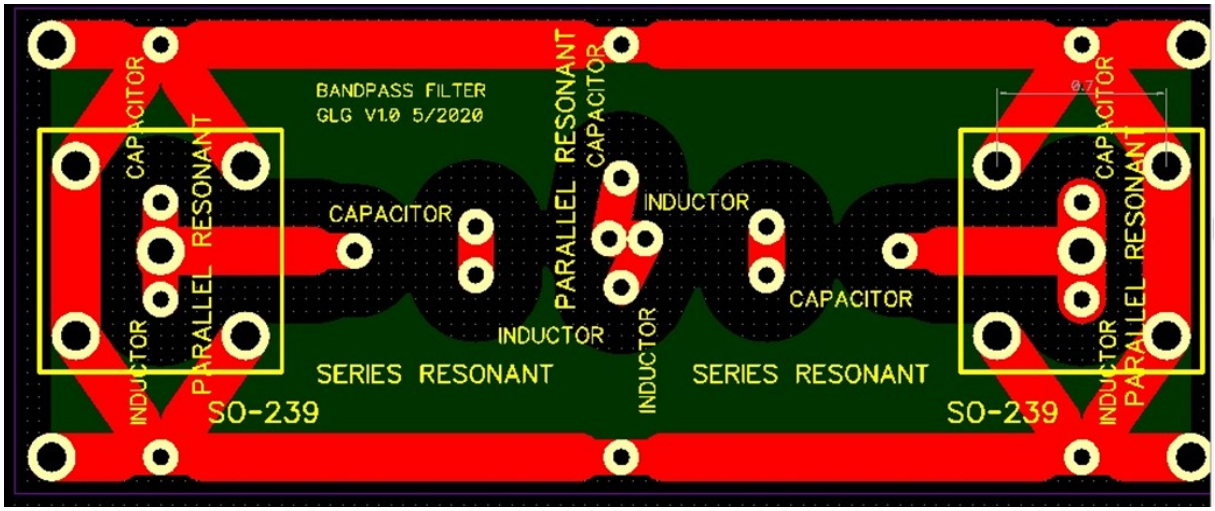


Figure. Top (red) and Bottom (dark green) connections on filter board.

Reverse Beacon Network

by Bert Garcia N8NN

During the bottom of the sunspot cycle, it's nice to have tools available to help you make contacts on HF. One of those tools is the Reverse Beacon Network (RBN). "The RBN is a network of stations listening to the bands and reporting what stations they hear, when and how well."(1) Beginning in 2008 and growing out of CW Skimmer software (2) and the development of Software Defined Radio (SDR) receivers (3), a world-wide network of receiving stations are now listening and reporting to RBN. Today May 21, 2020, there are 156 skimmers online, and there have been 222 skimmers active in the last seven days. On an average day RBN sends out 120 spots per minute, and during a contest, the flow can be 20 spots per second on average (4).

The RBN works by listening to stations calling CQ on CW, RTTY, PSK, FT8/4. By default, spots are shown for CW. Stations heard calling CQ are reported by callsign with their frequency, signal-to-noise-ratio (SNR) and CW speed. The station making the spot is also shown. The spots are refreshed every 30 seconds.

The RBN website is at http://www.reversebeacon.net/main.php. The Main page is shown at Figure 1.

REVERSE BEACON NETWORK

welcome | main | dx spots | nodes | FT8 | downloads | about | contact us

show/hide my last filters

no filter selected, showing all spots

search spot by callsign

rows to show: 25

de	dx	freq	cq/dx	snr	speed	time
DJ9IE	SM5CA	14033.2	CW CQ	33 dB	23 wpm	1507z 21 May
DJ9IE	IW4EIR/B	28193.9	CW BCN	17 dB	11 wpm	1507z 21 May
DJ9IE	F8FAZ	18082.9	CW CQ	47 dB	26 wpm	1507z 21 May
HB9BXE	SP5GDL	21025.1	CW CQ	17 dB	20 wpm	1507z 21 May
HB9BXE	SM5C	14033.3	CW CQ	11 dB	23 wpm	1507z 21 May
HB9BXE	RA7A	18084.9	CW CQ	14 dB	28 wpm	1507z 21 May
F5MUX	RA7A	18085.1	CW CQ	25 dB	28 wpm	1507z 21 May
W3LPL	SM5CA	14033.3	CW CQ	24 dB	23 wpm	1507z 21 May
IK4VET	LX1NO	28035.8	CW CQ	5 dB	30 wpm	1507z 21 May
DJ2BC	F8FAZ	18082.9	CW CQ	14 dB	26 wpm	1507z 21 May
W1NT-6	KD0UN	14045.2	CW CQ	16 dB	19 wpm	1507z 21 May
W1NT-6	F8FAZ	18082.9	CW CQ	16 dB	26 wpm	1507z 21 May

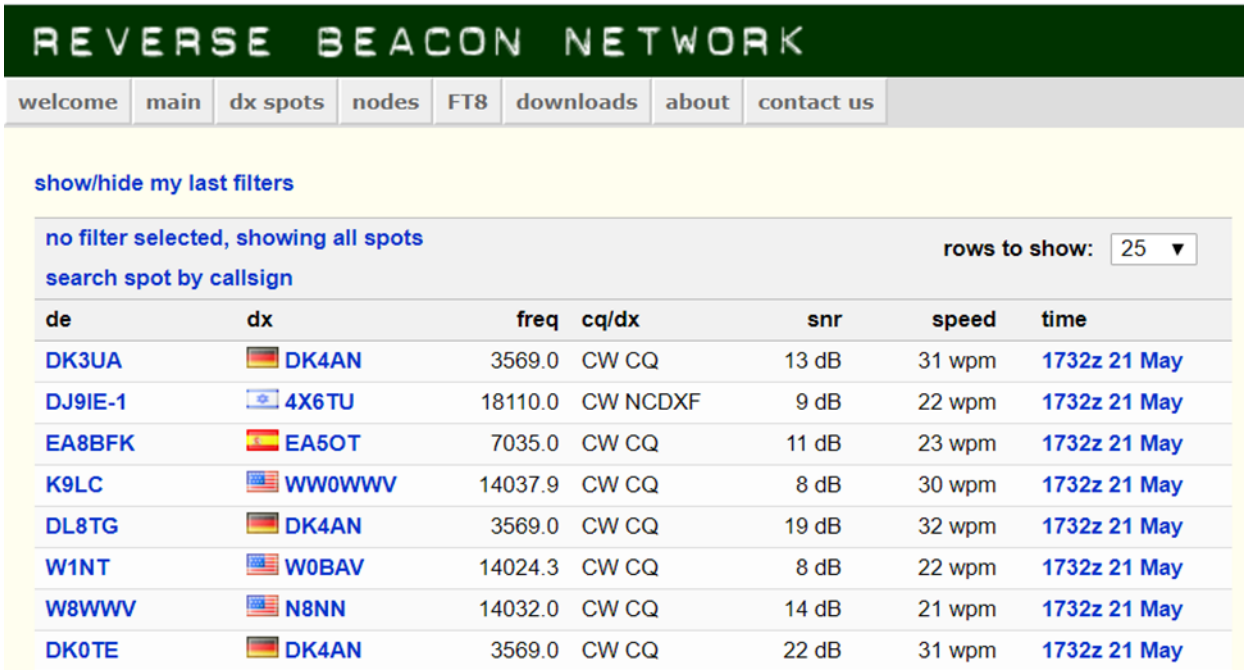
Figure 1: Reverse Beacon Network Main Page.

The spots show which bands are open, who is calling CQ and where they are being heard. The SNR number indicates how strong the caller is heard, with larger numbers being stronger signals. You can think of each spot as a connection between the sender and receiver. Looking at the callsigns you can infer the location of each station and determine the current propagation paths available. Unfortunately, the map function is not working at this time.

Continued on next page...

In Figure 1 European stations are reporting spots on 20/17/15/10 meters, but all the spots are short skip within Europe. The two USA stations are reporting 20 meter skip to Sweden and 17 meter skip to France. As an aside, the Swedish station SM5CA is listed in QRZ as a silent key, so you can speculate on who is actually using that callsign!

Next, let's use RBN to report on our station. I called CQ on 20 meters, first with 200 watts and a second time with 1 KW. Figure 2a and Figure 2b show the results.



REVERSE BEACON NETWORK

welcome | main | dx spots | nodes | FT8 | downloads | about | contact us

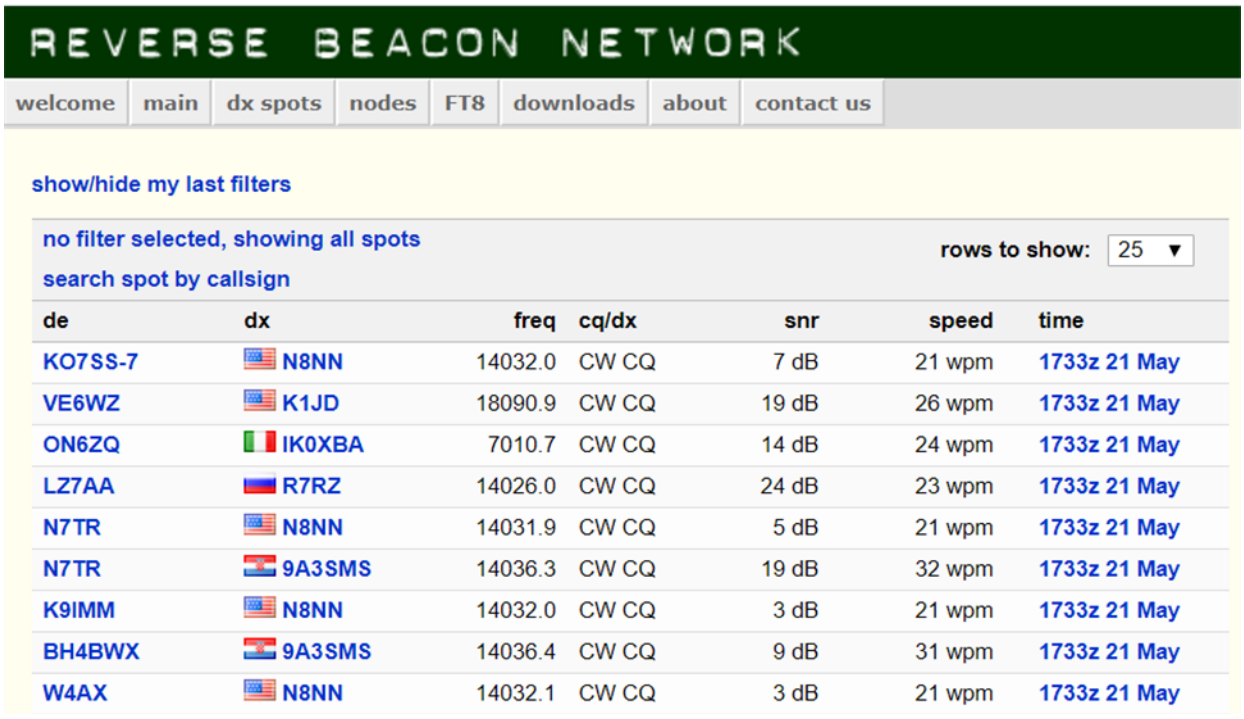
show/hide my last filters

no filter selected, showing all spots
search spot by callsign

rows to show: 25

de	dx	freq	cq/dx	snr	speed	time
DK3UA	DK4AN	3569.0	CW CQ	13 dB	31 wpm	1732z 21 May
DJ9IE-1	4X6TU	18110.0	CW NCDXF	9 dB	22 wpm	1732z 21 May
EA8BFK	EA5OT	7035.0	CW CQ	11 dB	23 wpm	1732z 21 May
K9LC	WW0WWV	14037.9	CW CQ	8 dB	30 wpm	1732z 21 May
DL8TG	DK4AN	3569.0	CW CQ	19 dB	32 wpm	1732z 21 May
W1NT	W0BAV	14024.3	CW CQ	8 dB	22 wpm	1732z 21 May
W8WWV	N8NN	14032.0	CW CQ	14 dB	21 wpm	1732z 21 May
DK0TE	DK4AN	3569.0	CW CQ	22 dB	31 wpm	1732z 21 May

Figure 2a: 200 watts, 20 meters.



REVERSE BEACON NETWORK

welcome | main | dx spots | nodes | FT8 | downloads | about | contact us

show/hide my last filters

no filter selected, showing all spots
search spot by callsign

rows to show: 25

de	dx	freq	cq/dx	snr	speed	time
KO7SS-7	N8NN	14032.0	CW CQ	7 dB	21 wpm	1733z 21 May
VE6WZ	K1JD	18090.9	CW CQ	19 dB	26 wpm	1733z 21 May
ON6ZQ	IK0XBA	7010.7	CW CQ	14 dB	24 wpm	1733z 21 May
LZ7AA	R7RZ	14026.0	CW CQ	24 dB	23 wpm	1733z 21 May
N7TR	N8NN	14031.9	CW CQ	5 dB	21 wpm	1733z 21 May
N7TR	9A3SMS	14036.3	CW CQ	19 dB	32 wpm	1733z 21 May
K9IMM	N8NN	14032.0	CW CQ	3 dB	21 wpm	1733z 21 May
BH4BWX	9A3SMS	14036.4	CW CQ	9 dB	31 wpm	1733z 21 May
W4AX	N8NN	14032.1	CW CQ	3 dB	21 wpm	1733z 21 May

Figure 2b: 1 KW, 20 meters.

Continued on next page...

At 200 watts I was spotted by one station in Ohio. At 1 KW I was spotted by four stations in Arizona, Nevada, Wisconsin, and Georgia. Obviously, the higher power caught the attention of more stations. To draw meaningful conclusions about propagation, several CQ calls should be made to observe the results.

The RBN can be used to compare antennas at your station. You can call CQ on one antenna, observe the results, and then call CQ again with the second antenna to compare results.

You can set filters on the RBN to only receive spots for stations, bands, and modes of interest by clicking on "no filter selected". Figure 3 shows the filter selection page. Use the filter to change the mode to RTTY or other modes. Click on "proceed" to see the filtered spots.

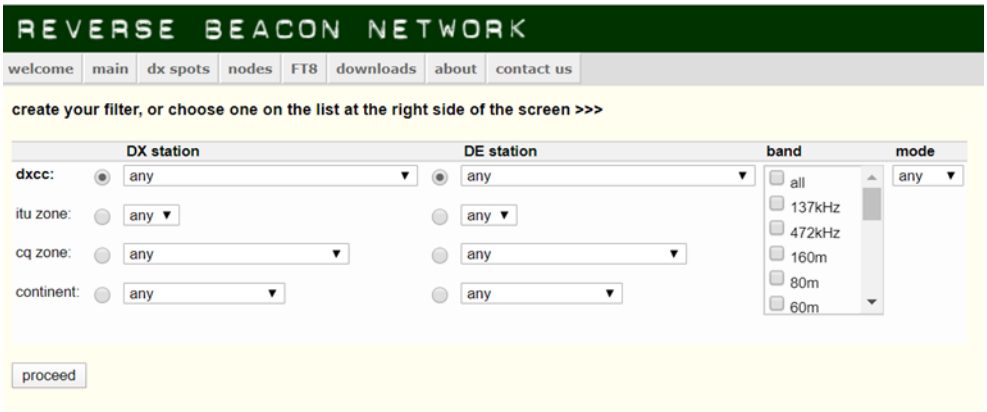


Figure 3: Filter selection page.

RBN keeps a database of past spots. You can search the database from the drop-down menu under "dx spots". You can search for specific callsigns, beacon reports, and other choices in the menu. You can even download all the spots for a specific day into an Excel spreadsheet and perform your own search or analysis. If you are looking for a specific DX entity, this is a good way to find out which bands he operates and when.

By poking around the RBN website, you will discover what it has to offer. Here are some hints. If you hover your mouse above a callsign, all the spots for that callsign will be highlighted on the page. While hovering on a callsign, the entity, continent, ITU zone, and CQ zone will be displayed. When you click on a callsign, a data page for that callsign will open. For USA calls you will see the information if you have registered with DXWatch.com, the sponsor of RBN; and you will find a link to QRZ.com for more information. Unfortunately, if you click on a European callsign, you will discover that nothing is displayed due to the European General Data Protection Regulation. DX callsigns outside Europe will have their information displayed.

Finally, why not compare your signal to your friends using the RBN? Operate at the same time, such as during a CW or RTTY contest, and you can compare the SNR report for yourself and your friends to see who is getting the best reports! The EWEphoria Radio Club in Summerfield, FL did this to compare antennas during our Antenna Day in March 2020. One transmitter was switched among several portable antennas so see which antenna got the best reports. Enjoy using the Reverse Beacon Network!

References:

(1) Reverse Beacon Network Welcome: http://www.reversebeacon.net/index.php
(2) CW Skimmer: http://www.dxatlas.com/CwSkimmer/
(3) Software Defined Radio:
https://www.hamradiosecrets.com/ham-radio-receiver.html,
https://www.sdrplay.com/,
http://www.rfspace.com/RFSPACE/CloudIQ.html
(4) Using RBN: http://www.reversebeacon.net/pages/Using+the+RBN+33

Contesting in Slow Motion

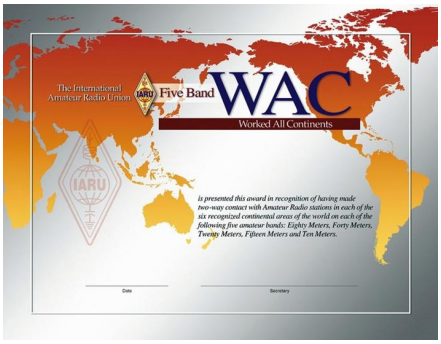
by Bert Garcia N8NN

There is an active ham radio contest every single day of the week. Don't believe it? Just go to https://www.contestcalendar.com/ and look at the list of hundreds of contests each month. Contesting is a competitive radio sport where individual hams or teams try to make as many contacts as they can within a time limit and within other parameters set by each contest sponsor. Contests are fast paced, even brutal if you want to be the top scorer. Winning contesters have great skill, large antennas, and top-notch equipment. Winning contesters practice, practice, practice.

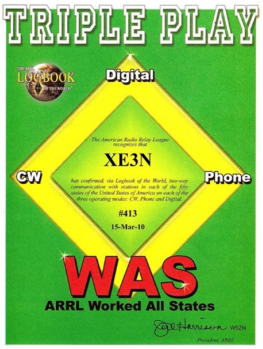
But what if you don't enjoy that frenzied "59 05" contact repeated over and over all weekend long? Isn't there something else you can do in a competitive way and win something without having a nervous breakdown? Yes, there is! You can compete with yourself; set your own pace; set your own goals; and take your own sweet time getting there. I call that *Contesting in Slow Motion*.

OK, but I want to WIN something. I'd like to have a little recognition for all my slow-paced hard work. I don't have a big antenna or the most expensive rig or an amplifier. Well, it turns out there are a lot of self-paced contests out there. They are called Awards. You keep your own score, compete against yourself, or more accurately, compete within the rules of the Award, and eventually you WIN. You can actually receive a certificate (called wallpaper by some) or a plaque to proudly display your *contest* win. Here are some of the *contests* you can enter and win in slow motion.

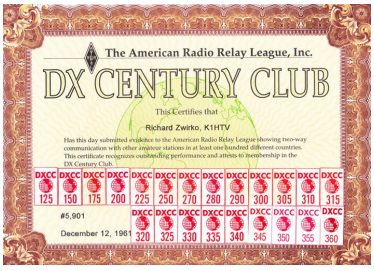
Worked All Continents (WAC): The WAC award is issued for working and confirming all six continents of North America, South America, Oceania, Asia, Europe, and Africa. (OK, so Antarctica is also a continent, but the rules say there are only six for this award.) To increase the challenge, work all six on 80/40/20/15/10 meters for the Five-Band WAC award. This award is sponsored by the International Amateur Radio Union (IARU). See the References below for the details of this award and the other awards in this article.



Worked All States (WAS): The WAS award is ARRL's most popular award and is issued for working and confirming all 50 states in the USA. You must be a member of the American Radio Relay League (ARRL) to apply for this award, and all contacts must be made from locations not separated by more than 50 miles. So, if you moved to Florida from up north, you need to start all over again! The WAS comes in many flavors which adds to the challenge. You can earn endorsements for phone, CW, Digital, RTTY, FT4, FT8, PSK31, JT65, and mixed modes. The WAS award can be endorsed for all bands 160 to 6 meters (excluding 60 meters). If you work all 50 states on phone, CW, and digital modes, you qualify for the Triple-Play award plaque. The WAS award(s) presents a real challenge to the slow motion contester. This award is sponsored by ARRL.



DX Century Club (DXCC): DXCC is probably the most prestigious and widely recognized award in ham radio. The basic DXCC award is earned by working and confirming 100 discrete geographical or political entities, commonly but incorrectly called countries. There are currently 340 entities on the list to work. Over time, entities are deleted from the list as their eligibility changes, usually due to political situations, and only current entities count for DXCC. Many would consider DXCC to be a lifetime slow motion *contest* as it can take years to contact all 340 entities, mainly because some entities are uninhabited locations waiting for a Dxpedition to arrive. Your personal entity total includes current and deleted entities, so your total may exceed 340. Like WAS, DXCC comes in many flavors – phone, CW, digital, mixed, 160 to 6 meters (excluding 60 meters), 5-Band DXCC for 80/40/20/15/10 meters with endorsements for 160/30/17/12/6/2 meters. There is also a DXCC Challenge award plaque for confirming 1,000 band-entities with endorsements in increments of



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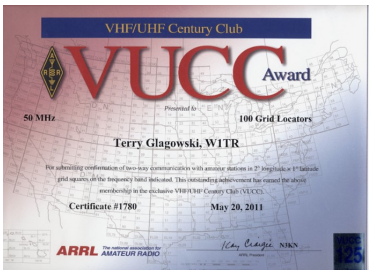
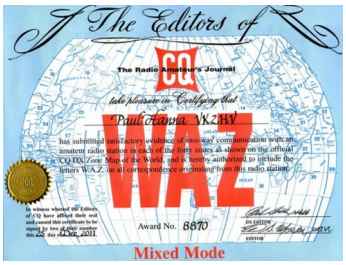
500 to a total of 3,000. DXCC is truly a slow motion *contest* as you wait for an entity to arrive on the air. The DXCC Honor Roll recognition is for confirming an entity count within the top ten of the current list. For example, with 340 entities available, you must confirm 331 to make the Honor Roll. Confirming all current 340 entities earns you #1 Honor Roll status and a plaque. DXCC is sponsored by ARRL.

Worked All Prefixes (WPX): The WPX award is earned by confirming callsign prefixes numbering 400 for mixed modes and 300 each for CW, SSB and digital. Prefixes are the letter/numeral combinations that form part of an amateur callsign. Examples of prefixes are K6, N6, WD4, HG1, HG19, ZS66, and so on. Endorsements are available for bands 160 to 6 meters (excluding 60 meters), and for the six continents at levels listed in the rules. A minimum of 600 prefixes are required for the WPX Honor Roll. The WPX Award of Excellence requires 1,000 prefixes plus 600 in SSB plus 600 in CW plus all six continental endorsements plus endorsements for 80/40/20/15/10 meters. Whew…! When you win that WPX Award of Excellence, you know you have won the *contest*, and of course, a WPX Award of Excellence plaque is awarded to you. WPX is sponsored by CQ Amateur Radio magazine.

VHF/UHF Century Club (VUCC): The VUCC award is earned by confirming a minimum number of Maidenhead grid locators per band as listed in the rules. All amateur bands from 6 meters to 241 GHz plus Laser and Satellite contacts. If you don't know your grid locator, there are Internet services to determine your grid, see References. Six and two meter bands require a minimum of 100 grids for the VUCC award and lesser numbers for the higher bands. Endorsements for higher counts are available. VUCC is sponsored by ARRL.



Worked All Zones (WAZ): The WAZ award is earned by confirming all 40 CQ Zones. The zones are determined by the Official CQ WAZ Zone MAP and the printed zone list maintained by CQ Amateur Radio magazine, see References. WAZ awards are available for AM, SSB, CW, RTTY, SSTV, Digital, Satellite, and EME. WAZ band awards are available for 160 meters in mixed mode, 80 to 10 meters in any single mode, and 6 meters in mixed mode. A 5-Band WAZ award is available for 80/40/20/15/10 meters along with a plaque. WAZ is sponsored by CQ Amateur Radio magazine.



Logbook of The World (LoTW): LoTW is not a contest or award. It is an online service that enables you to electronically submit QSO information that will be matched with information submitted by other hams to result in a confirmation or electronic QSL. While LoTW does not replace paper QSLs since all hams do not use LoTW, it certainly does simplify the QSL process for those hams who use this free service maintained by ARRL. If you want to do your contesting in slow motion, you should use LoTW. Using LoTW you can apply for the WAS, DXCC, WPX, VUCC, and WAZ awards online. If you have paper QSLs to add to your LoTW totals, these can be verified by ARRL card checkers or by mailing the cards to ARRL or CQ magazine as required. The WAZ award can only be applied for by mail to ARRL. LoTW takes almost all of the paperwork out of slow contesting, so I highly recommend you apply for a LoTW account. After all, we want this *contesting* effort to have minimal stress on the operator.

And the cost?: Well, LoTW may be free to use, but you will need to pay for your certificates and plaques. The rules for each award will explain the cost. For the awards in LoTW the cost will be shown online, and as you would suspect, LoTW will take credit cards! There's no free lunch here.

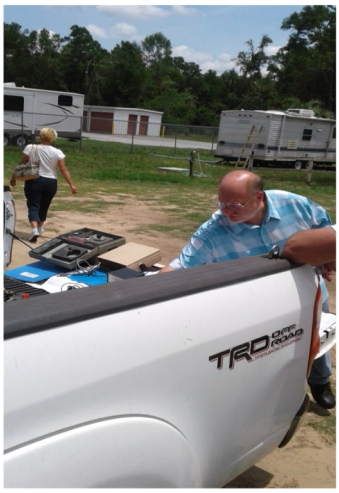
The six awards described above only scratch the surface of the numerous awards available from many sponsors. I would estimate that there are almost as many awards as there are contests, maybe more. For example, you can chase the CQ USA-CA award for confirming all 3,077 counties in the USA; collect IOTA island identifiers, collect confirmation for Parks, Summits, Beaches; collect Lighthouses or Castles. There are annual awards for working the special 13 Colonies or the Route 66 stations. Many foreign countries have awards for working their states or cities. The variety of slow motion *contests* seems endless. You can literally paper the walls of your shack with award certificates. Try it. It's addictive…!

Pensacola-Pace-Milton Holds Events

Gene Bannon, KB4HAH

We held our local area Tail-gator here in Pensacola-Pace-Milton Area on Friday, May 29th at the Pace Flea Market. We also did a VEC exam session at Bob's (W5CL) Emporium, the local ham store in Pace, FL. The session was conducted by Gene KB4HAH, Chuck N4QEP, Larry K4LWC, and Cookie N4GYS as our Clerk. We did 14 tests with only one failure which was an individual attempting upgrading to General after completing his Tech exam. We had a LOT of folks Scoring 100's their exams, so the stay at home did appear to do something good I believe.

Tail-gators



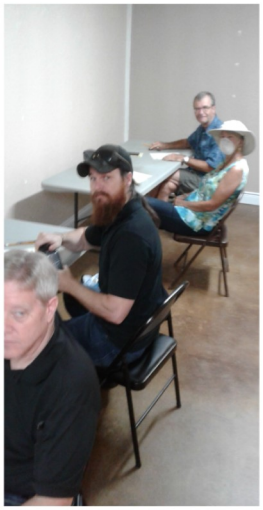
Tail-gator attendee finds good stuff in Bill's KC4UBC truck

Brian KN4GPY BBQ Master

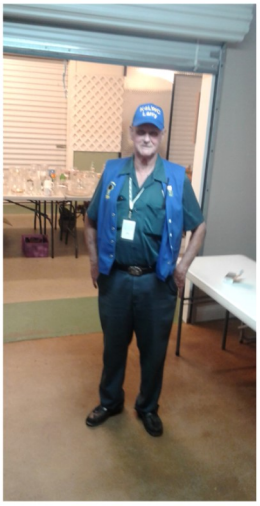
Steve KF4JI (forward)

VE Testing

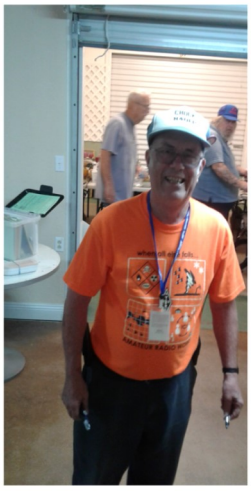
1st Round New Techs



Upgrades and more new Techs.



Larry K4LWC VEC

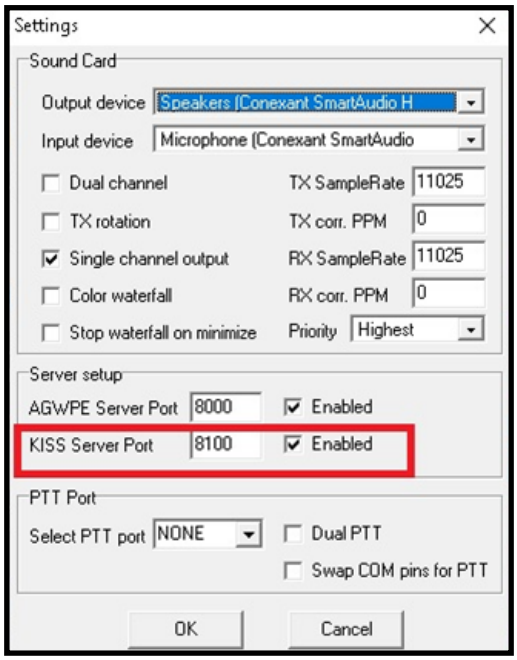


Charles—N4QEP VEC

New WINLINK VHF GATEWAY Columbia County

Much Easier Way to Set Up VHF Gateway

Gordon Gibby, KX4Z

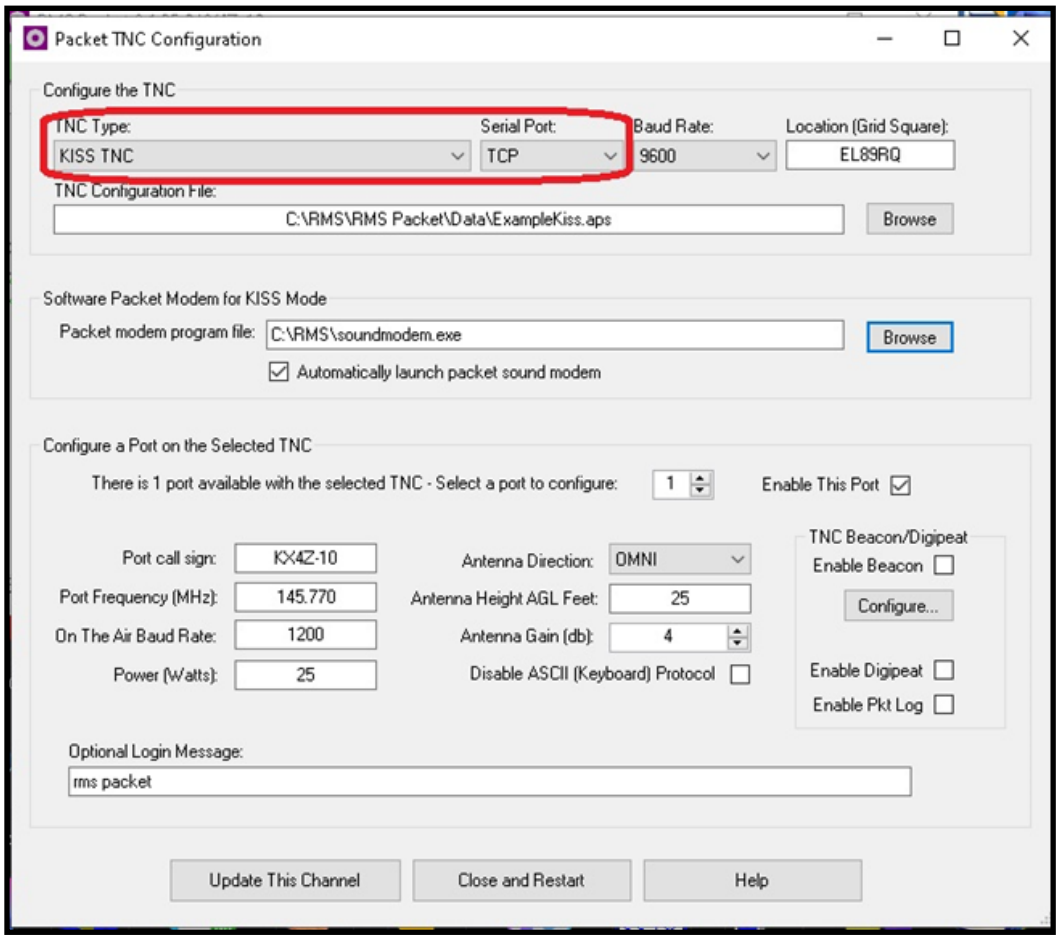


On Memorial Day, May 25, Mike Harding KN4YGT turned on a 2nd VHF WINLINK gateway for Colombia County, Florida, assisting Brad Swartz' N5CBP-10 gateway in their training and service assets for Colombia County.

While Brad's system runs on a raspberry pi, Mike has initially gone with RMS_PACKET, a free windows product from winlink.org, running on Windows 10. In a marathon setup effort, he and I learned the setup has gotten a LOT easier – if you know a little trick.

First, direct tcp/ip connection to a KISS-interfaced soundcard system is now easy. The one most of us use on Windows is soundmodem.exe, available at: http://uz7.ho.ua/modem_beta/soundmodem105.zip. Click on Settings | Devices and then (after selecting the proper soundcard interfaces and other items) be certain to enable the KISS interface; I recommend using the port number 8100 as shown in the accompanying figure.

After receiving gateway authorization from the winlink folks, and downloading RMS_PACKET (see: https://downloads.winlink.org/Sysop Programs/ do the basic setup at Settings | Site Properties, and select "Use Direct Access to TNC". Then select Settings | PacketChannels and fill in the following dialog box:



For the TNC Type, select from the drop-down list, KISS TNC; for the Serial Port, select TCP. I believe the baud rate is immaterial. Fill in the remainder of the page appropriately.

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Where do you fill in the KISS tcp/ip port? That was our mystery – and it turns out that it is filled in within the RMS_PACKET.ini file, in the section labeled [TNC Properties]

[TNC Properties]
TNC Type=KISS TNC
Serial Port=TCP
Serial Baud Rate=9600
TNC Config File=C:\RMS\RMS Packet\Data\ExampleKiss.aps
AGW IP Address=localhost
AGW ID=
AGW Password=
AGW Path=C:\agwpe\
AGW Call sign=KX4Z-10
Grid Square=EL89RQ
Number of Ports=1
AGW IP Port=8000
BPQ Sessions=0
BPQ ApplMask=1
AGW Remote=False
Log Initialization=False
TCP Host=127.0.0.1
TCP Port=8100

Those last two lines are the important part, where the host is designated as your own computer (127.0.0.1) and the Port is set to 8100. (Of course, if you wished to run your sound modem on a different computer, you could try it here.)

If you set it up that way, you are likely to be rewarded with a Packet Channel Events sub-window of RMS_Packet that happily shows:

*** TNC port 1 enabled.
*** 1 Direct TNC port(s) enabled.
*** Initializing KISS TNC - Please standby...
*** ax.25 driver version 1.1.0.22 initialized
*** Initialized Channel:1 [KX4Z-10]
*** KISS TNC initialization successful @ 2020/05/26 18:43:41
*** Ready.

From that point, you can optimize your new VHF gateway with additional research into web pages and YouTube videos. There is a bit of learning curve to being a sysop of such a valuable training and service resource!

Homebrew Uninterruptible Radio Supply – Alachua County

by Gordon Gibby KX4Z

We're trying an ARES® project to create a low-cost, educational version of "uninterruptible radio supply" similar to the commercially manufactured power-gate type devices that automatically switch instantaneously between normal 13.8VDC power supplies, and storage batteries in the event of a utility power loss. Such systems can keep digipeaters, winlink gateways, repeaters etc, going without reboots in the event of power hiccups. The best of these commercial devices also **charge** and **top up** the storage battery, but all this comes at a significant $$.

With the knowledge gained in the "ventilator project" I embarked on creating an Arduino Nano and P-channel MOSFET design that would provide all the backup functions, and also give our members more electronics and construction experience….for a tiny fraction of the commercial device costs (but lots of sweat equity). As usual, there have been a few "bumps" along the way.

The idea was to use the popular IRF4905 p-channel MOSFET as a series switch on both power supply and battery lines, and also in-between, to function as a charger. Then to tap into the negative supply wires a few inches from connection to common ground to measure the charging current to the battery, and to measure the current actually consumed by the radio gear. A MCP6002 dual op-amp that can sense very near ground, tapped into 6" or 18" of negative lead worked fabulously – we can measure charging currents and radio currents quite well into dozens of amps if needed.

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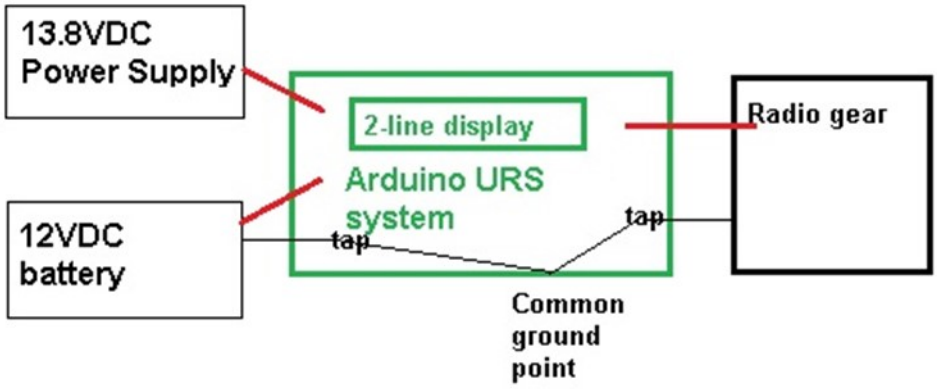
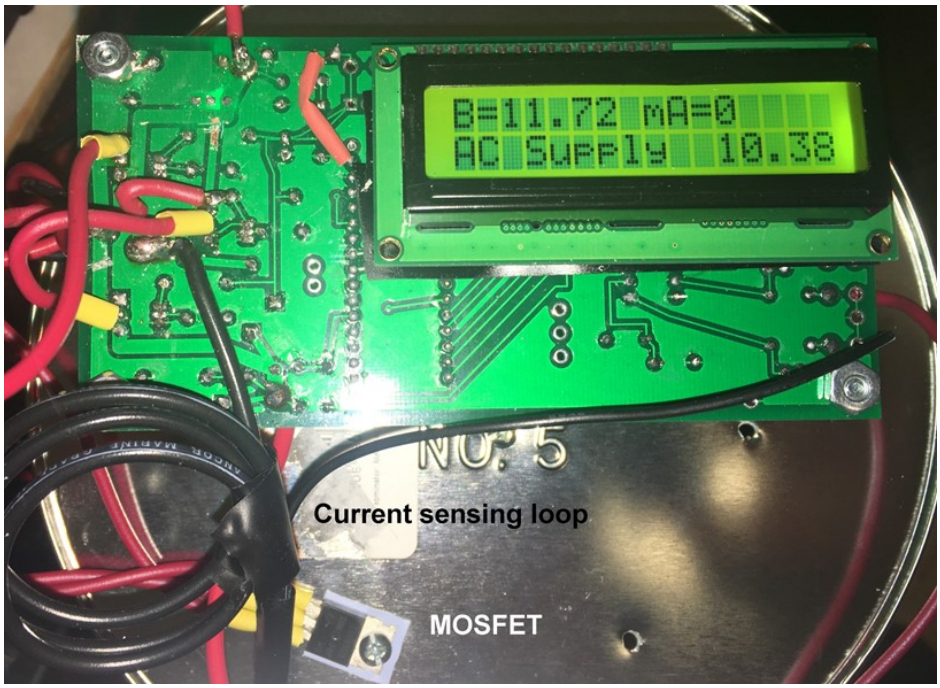


Figure 1: Block diagram of the connections. Arduino URS system chooses which supply drives the radio gear, manages charging of the battery, and measures two currents by sensing the voltage on taps on the negative wires a few inches from common

Things Got Hot

The switching section proved more difficult – these P-channel devices have an in-built DIODE from source to drain, and my failure to recognize that led to some surprises on the prototype, and a need to have TWO series MOSFETs in the battery line, one with source toward the battery and the other with drain toward the battery. That worked fine, and using the Arduino pulse-width-modulation digital outputs allows very fine control of the charging current. The Arduino has plenty of accurate A/D converters, making it easy to measure the battery voltage and power supply voltage to determine which one is "up" and also to monitor charging of the battery. A bit of software and all that was working nicely. The cheap 2-line display constantly reads out (i) which source in use and (ii) the battery charging current (if it in charge), (iii) battery voltage, and (iv) instantaneous radio current.

Figure 2. Photo of prototype (hence messy wiring to fix original errors) providing over 10A to HF transceiver sending a long "dash". AC-based supply is in use, and there isn't actually a battery connected at this moment, so voltage is spurious and zero charging current. Arduino and components are on the other side of the board; mounting the LCD display on the backside is space-saving. An 18" battery charging current sensing loop ("resistor") is visible, coiled up. Large metal pail being used as test heatsink.



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With a bit more software wizardry (and luck) the board should be able to monitor total battery Amp-Hrs consumed in battery mode, and predict "state of charge" – and even increment state of charge, when it gets back to being charged. This isn't written yet, however.

The problem turned out to be the thermal characteristics of the IRF4905, which is in a TO-220 case and not all that easy to get good heatsinking. At the time of this writing, the system works well even at continuous 10A current --- but not higher. The junction apparently heats up, the voltage drop increases unacceptably, and a vicious cycle starts. The 20 milliohm on-resistance of the IRF4905 doesn't seem to be good enough, combined with the thermal resistance from junction to case, to allow me to easily get to 25 Amps.

Solutions

Two solutions are under consideration: (a) switch to a similarly-priced 6.5 milli-ohm Vishay SQP90P06-07L MOSFET device that should be able to handle 3 times the current and also has lower thermal junction-to-case thermal resistance, or (b) use the MOSFETS for instantaneous switching and simultaneously actuate parallel cheap 30Amp automotive relays that will arrive like the "cavalry" and subsequently take all of the load from the MOSFETs. Parts to try these ideas are in route.

The printed circuit board was created in a free version of DIPTRACE and Gerbers will be made available to any group interested in a group project, as well as the final code when the project is finished.

Ocala Chapter 62 QCWA

Ken Simpson, President

As with most QCWA chapters, Chapter 62, based in the Ocala Florida area has not held a meeting for a while. We are hoping that we will be able to hold our August 27 meeting. This will be a lunch meeting, but beyond that, everything is unknown. It appears that the China Lee Restaurant where we have been meeting is no longer in existence. This means we will need to find a new place to meet. This may end up being a temporary location, depending on what we can find. Bottom line, is watch for announcements, or contact Ken, W8EK, at W8EK@flham.net, closer to our August 27 meeting date.

Chapter 62 also holds a net every Saturday morning at 9 AM local time on 3940 KHz. All are welcome and encouraged to check in.

West Volusia Amateur Radio Society

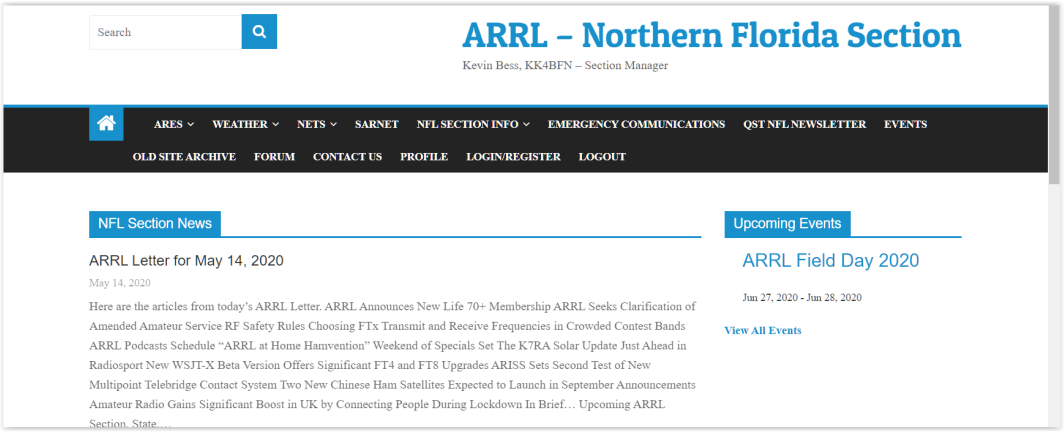
Ken Peck, AE2KP

West Volusia Amateur Radio Society held the regular monthly meeting for April and May via Zoom. We will hold our June meeting in person, with a virtual option for those who prefer to remain at home. A special election will be held in June to fill the office of Vice President which was vacated when Mike, W4MJF, became a SK in late March.

Field day planning is well underway. A number of club members will be involved in hosting the Field Day activities tentatively scheduled for the Elks Lodge in Deland.

WestVARS is planning the addition of a UHF DME repeater to the current repeater installation in Deland. We are thankful to one of our members, Scott KN4EHC, for providing equipment. Installation will be scheduled as soon as the Covid-19 guidance permits access to the repeater location, likely toward the end of Summer or early Fall.

Check out the NFL Website, Brian McClure, NW4R, web master!



FCC Testing Information

4 Corners Radio Club, Davenport FL

- First Saturday
- 10:00 AM
- Polk County Firehouse, 50945 US 27
- Walk-ins welcome
- Info: WA2FRW@aol.com

Hog County Amateur Radio Association, Bushnell FL

- First Saturday, 11:00 AM, starting September 1, 2018
- Cross Connection Church, 1451 West County Road 476, Bushnell, FL 33513
- Info: sumterVE@gmail.com

Lake ARA, Leesburg FL

- Monthly on the 3rd Saturday, prior to monthly meeting. (Except December)
- 8:00 AM
- LARA Clubhouse (11146 Springdale Ave, Leesburg – off of CR 473)
- For more information and registration, contact: Dave Templeton N4NG, 386-804-2806 n4ng@icloud.com in advance of the meeting.

Lake Monroe ARS FCC Testing, Sanford FL (LMARS)

Cancelled until further notice due to loss of venue because of COVID 19

- For more information and registration, contact Bob Cumming, W2BZY, 407-333-0690 or w2bzy@cfl.rr.com

Milton Amateur Radio Club, Milton FL

- Second Thursday of each even numbered month
- 6:30 PM
- Walk-in
- West Florida Hospital Rehab Institute, 8383 N Davis Hwy, Close to Johnson and N. Davis
- Info: Robert Speser, nb8s@icloud.com

Orlando ARC FCC Testing (OARC)

Cancelled until further notice due to loss of venue because of COVID 19

- Info: https://oarc.org/events-ve-testing

QCWA Chapter 45, Orlando FL

- Second Thursday
- 11:00 AM
- Golden Corral, 5535 S. Kirkman Ave, Orlando
- Walk-ins welcome
- Info: WA2FRW@aol.com

Silver Springs Radio Club, Ocala FL (SSRC)

- Go to http://k4gso.us/class/ to signup for classes
- Go to http://k4gso.us/test-signup/ for testing. Testing is held on the 2nd Tuesday of odd months at 7 PM.
- Note http://k4gso.us/ncvec605/ is requested to be filled out before you show for testing. It is best to download the form and open it as a PDF so you can fill in the blanks.

Suwannee ARC, Live Oak, FL

- First Tuesday of the month prior to the meeting
- Saturdays available with advanced notice
- N4SVC, 9707 58th Street, Live Oak, FL 32060
- www.suwanneearc.org for more information

Tallahassee Amateur Radio Society (TARS)

- First Tuesday of each even numbered month
- 7:00 PM
- American Red Cross, 1115 Easterwood Drive, Tallahassee, FL
- Contact TARS : tallyamateuradio@gmail.com with questions
- Info: http://www.k4tlh.net

West Volusia Amateur Radio Society

- Second Saturday of each odd numbered month
- 9:00 AM
- Elks Lodge, 614 S. Alabama Avenue, Deland, FL
- Info: https://westvars.org/testing

Due to the COVID 19 restrictions on gatherings, please check with the organizations listed for changes or cancellations.

Remember: Bring photo ID, CSESs, copy of current license, exam fee in cash, $15 exact change. Large print exams are available.

NFL Web Site

For net, hamfest and other events go to www.arrl-nfl.org. Webmaster Brian McClure, NW4R, maintains an up-to-date and detailed listing of all NFL nets and activities. If you need to make a change to an existing net or activity, or add a new one, you can contact Brian on the website.

NFL Officials

Section Manager – *Kevin Bess, KK4BFN*

Assistant Section Managers

Joseph D. Bushnel W2DWR
John C Reynolds W4IJJ
Dave Davis WA4WES
Jeff Capehart W4UFL
Neil Light KK4VHX
Ray Crepeau K1HG
Steve Szabo WB4OMM

Section Emergency Coordinator – *Karl Martin K4HBN*

Section Public Information Coordinator— *Scott Roberts KK4ECR*

Assistant SE Coordinator – *Robert A. Mitchell W4HKG*

Section Technical Coordinator – *Frank Haas KB4T*

Affiliated Club Coordinator – *Appointment Pending*

Section Traffic Manager – *Helen Straughn WC4FSU*

Official Observer Coordinator – *Robert Leasko, WB8PAF*

State Government Liaison – *Darrell Brock N4GOA*

QST NFL

Newsletter of the Northern Florida Section of the ARRL

1.Spread the word about our website www.arrl-nfl.org and ***QST NFL*** on your club web-site, in a newsletter or at a meeting.
2.Send a write-up and picture of your next activity.
3.Make sure you, or the appropriate member of your club is on the email reminder list.
4.Contact: Marty Brown N4GL, n4gl.marty@gmail.com

QST NFL *is a monthly publication of the ARRL Northern Florida Section.* ***QST NFL*** is intended for wide distribution within the NFL Section, including club Leaders and all licensed Amateurs in Florida. A current issue of this publication can be found at the ARRL Southeastern Division web site, Northern Florida Section. www.***ARRL-NFL.org*** Opinions expressed by writers are their own, and may not express the positions of the ARRL. Submissions may be made to the editor, Marty Brown, N4GL.MARTY@gmail.com.