



SIGNAL

A club since 1992



Since 1993



Since 1996

de N1NC

September 2020

Volume 29 Number 9

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Last Month's Meeting

At the August meeting, Paul, W1GHZ, renowned VHF/UHF author and QST/QEX columnist spoke on VHF/UHF operations.

This Month's Meeting

The September meeting will feature Phil, W1PJE, speaking on "A history, and an Inside Tour, of NIST Station WWV".

Next Month's Meeting

The October meeting will feature George, K1IG, discussing Astron Power Supplies.

From The Prez

de Jessica, WU3C

Thanks to everyone who came to the picnic, we had a



really great time - or at least I did! It was a rare treat for these times.

We stoked up a good fire to keep the mosquitoes away, and the last revelers left somewhat after dark.



I was really happy to be able to share my garden corn harvest!

Ragnar really loved seeing you all also. He is doing really super well - thanks everyone again for the help with his ginormous bill!

I am trying to settle in for the fall and another 4 months of remote work. Somehow it feels like I have less time than I used to, even though I am pretty sure I have more?

I hear a lot of the members talking about kit building - Phasers, 630M transverters and other things. That makes me super happy!

I am working on a couple of transverter construction projects and a 811A 630M grid drive linear here.

For people doing design, I just looked at the latest version of QUCS-Studio - it has been massively improved!

It is a very capable circuit simulator that has S parameter capability and nonlinear analysis. Check it out!

I also got an update from the "utracer" project, (https://www.dos4ever.com/uTracer3/uTracer3_pag0.html) there is a version 6 kit coming out. If you don't know what that is, look it up! It is a computer controlled vacuum tube curve tracer with a suite of software, including parameter extraction for spice models. Very awesome! You can use the models in LT spice or QUCS studio!

I am looking forward to getting back on the air more this fall - I hope everyone else does too!

Thank you.

-de Jessica, WU3C; photos by Jim N8VIM

A Tech Note:

Adding Rigs Can Cause PC Operating Systems to Change Existing Rig Interface Settings
de Joe, K1YOW

As I reconfigured some rigs in the shack, PC communications to other rigs on the same computer stopped working somewhere, somehow. In this article I hope to share my experiences and discoveries, should other folks fall into the same computer black holes.

My main configuration is a TS-590SG connected to a Dell quad core computer running Ubuntu 18.04 Linux. It also has Windows 10 as an alternate bootable OS.

For the digital mode, I run both WSJT-X and fldigi software under Linux. Unlike in Windows, when you connect something to a Linux computer, it installs the drivers automatically (and the O/S NTP time is spot on!).

In this case Linux assigned tty0 (COM ports in Linux use the old tty name). I had also installed the "pavucontrol" for sound.

Then I just set baud rates to match the rig and matched up the sound card via pavucontrol and all was fine for WSJT-X and fldigi under Linux.

Note that with fldigi there are several ways to configure the CAT for rig control and multiple ways may work.

Then I decided to put my old IC-746PRO onto the computer, but I decided to do it on the Windows 10 side of the dual boot machine.

So, I bought a RIGBlaster Advantage some years back with all the cables and got it installed.

A new COM port got created, and Windows 10 saw the RIGBlaster as an external sound card. All worked great.

But when I rebooted back into the Linux side, the TS-590SG CAT control had stopped working. Oh Foo.

It turns out that when you plug in another USB cable, Linux assigns tty ports as it finds them, so it put the IC-746PRO onto tty0 where the TS-590SG used to be, and assigned tty1 to the TS-590SG.

So, I went into WSJT-X and fldigi and changed the tty0 to tty1 and all was working again.

Things were good: using the TS-590SG on Linux for 80m thru 6 m and the IC-746PRO on Windows 10 as a backup HF rig and for 6m and 2m weak signal stuff.



Because my VHF antenna is a short boom log periodic, covering 50 MHz to 1.3 GHz, I decided to move up in the world, in frequency that is, and I picked up an IC-9700 that also gives me 432 MHz and 1296 MHz.

I downloaded the iCom COM port driver for Windows and installed it and fired up the IC-9700 on Windows 10.

The next step was to set up fldigi and WSJT-X for the new rig, COM port and sound card, and all was fine.

I then rebooted into Linux to use the TS-590SG on 6m and HF and the CAT control worked but the sound did not work. <!!>

Again, it turned out that when Linux was booted, it created a new tty2 for the IC-9700 (because it saw the new 9700 rig and kept the TS-590SG on tty1 and kept the old IC-746PRO on tty0).

So, the CAT still worked but it changed the sound card settings for the TS-590SG. After I changed the sound card settings, both in WSJT-X and fldigi, all was working again with the TS-590SG and Linux.

So, the moral of the story is this: anytime you change a rig or add a new rig to your computer, Windows 10 or Linux, the existing rig that you had configured most likely will no longer work until you recheck both the COM (tty) ports and sound card settings.

All is now well again with the world. I am running the IC-9700 on Windows 10 on 144, 432 and 1296 and I am running the TS-590SG on Linux on HF and 6m.

Life is 98% maintenance.

-de Joe, K1YOW

NVARC is on Facebook

The Nashoba Valley Amateur Radio Club now has a Facebook page! Just search in your browser for “NVARC Facebook” to find the page. Searching on just “NVARC” will get lots of hits for other sites.

If you are a Facebook member, please log in, send us a “like”, if you like, and post a comment or question.

Saturday Morning NVARC Breakfast

John, K1JEB, has been hosting Saturday morning “NVARC Zoom Breakfasts” that do a good job at recreating the conversational benefits that some of us miss not having Tiny’s at which to congregate

John sends instructions on how to join via the NVARC mailing list. Keep an eye out!

Also: your Editor hears word that three to five of our more venturesome souls *have* been meeting at Tiny’s.

NVARC to offer Technician License Classes

de Bruce, K1BG

Last month, I announced that I would be leading an effort to conduct Technician license classes. I’ve been procrastinating, but we will begin classes on Monday, October 12 at 7PM.

Classes will meet on Mondays and Wednesdays for four weeks, 2 hours on each night.

More information will be available at the NVARC General Meeting on Thursday 17SEPT, or you can contact me directly.

This will be a learning experience for me, and the other helpers, so I will be limiting the class to approximately 12 students.

It is being offered to family and friends of NVARC members first, then to members or Pepperell Public Safety and CERT organizations, and then the general public.

If you know of someone who is interested, it is important that you get them signed up ASAP before spots fill up.

Because we are avoiding group gatherings, classes will be held using the on-line webinar services generously offered by Jim N8VIM and Medtronic (his employer).

Plans are to follow up the classes with a VE session to get the students licensed (and we will have to plan for dealing with social distancing at that session).

Several people have volunteered to help with the classes, but we can always use more help. If you are in-

terested, please let me know. And if you have any questions at all, please contact me at K1BG.Bruce@gmail.com, or call me at 508-341-5124.

-de Bruce, K1BG

A Tropo Scatter Tip

de Joe, K1YOW

[Ed: This and the following quite interesting article were originally eMails sent to NVARC members. They are reprinted here so that they reach Signal’s significantly wider audience.]

My niece when driving home from her evening shift to southern NH late last night said a Connecticut FM station came in on her radio!

We have been having some tropo lately with these humidity fronts. When I usually work tropo it is on 2m FT8 in the morning after the sun gets up a little and causes temperature layers in the atmosphere, currently around 7:30 to 9 AM. Then it vaporizes as the sun gets higher.



But last night at midnight I looked at the Taunton weather radar and it was awash from a strong tropo layer.

That is not rain – it is tropo making a real mess of things. Sometimes, but not this time, one can see outlines of the Mass coast line in the “clouds” mirror imaged due to how the tropo layer reflects the radar downwards and the different reflections back if the beam hit the ocean or land.

This morning I checked the radar again and the tropo was still there, but nowhere as strong as last night. I got on 2m FT8 this morning and worked stations in VA, NJ, NY, Nova Scotia.

So, I am passing along one of my “secret” tropo spotting tools – the Taunton weather radar. 73!

-de Joe, K1YOW

A Comment on Tropo

de Les, W1SV

Thanks to Joe for pointing out this Tropo tool! Another good source for tropospheric ducting forecast is the Hepburn index, found here:

["http://www.dxinfocentre.com/tropo.html"](http://www.dxinfocentre.com/tropo.html).

If you look at the map for Wednesday, Sept 9, you can see the duct all the way from MA to VA.

If you can cobble together a simple VHF FT8 setup you might be amazed at how far away you can work. I remember one January years ago before I had the VHF tower where I taped a home-made 2m dipole to my deck railing and worked all the local grids with 50w. Now it's a heck of a lot easier with FT8.

-de Les, N1SV

An Exercise in Procrastination

de Dan, K1RAU

Back in March of 2019 the YCCC was having a raffle to support their scholarship fund.

I'm a sucker for good fund raisers like that so I committed to purchase 5 tickets.

After some minor pushback from some YCCC members about selling tickets to (gasp!) OUTSIDERS it was determined that yes; a non-YCCC member could buy tickets. I didn't care if I won any prize because I like to support ham radio, especially scholarships.

I completely forgot about the tickets until one day in the first part of June 2019 I got a call asking if I was K1RAU. Well of course I am. (Got my last name as my vanity sign so I wouldn't forget my call). Anyway, the caller asked if I remembered purchasing YCCC raffle tickets. Well of course I did. He then informed me that I won the grand prize which was a brand new ICOM 7610! WOW! I won a super duper double throw down E-flat radio. FANTASTIC!

A couple of weeks later a big box showed up by courier and it was the 7610 directly from ICOM. HOWEVER, I really didn't have the time to un-box the radio and set it up so I parked it in the tool side of the shack. FOR OVER A YEAR! About 6 weeks ago I started cleaning the shack and I made room for the (now 14 month old) ICOM 7610, and boy is it nice!

Of course, it was a couple of more weeks before I hooked it up and discovered the power of a hybrid analog/SDR radio. Before the 7610 I 'dabbled' in HF but

now I am on several times a day enjoying the experience of talking around the world!

-de Dan, K1RAU

[Ed: Dan, K1RAU is a current member and Secretary of the Central Massachusetts Amateur Radio Association (CMARA)¹.]

From the Shack

de George, KB1HFT

HamAlert

Last month, Bruce, K1BG, extolled the virtues of a spotting website, hamalert.org. I had been looking for just such a tool for a while, so I tried it out.

One creates an account and sets "filters" that define on-air events of which one would like to be informed. There are too many filters to mention here, except for the one titled "Callsign".

I entered the callsigns of several friends, and my own, and then set the software to send a text to my iPhone when a filter "triggered".

It's quite cool, and timely: there was usually less 90 seconds latency from the time I sent a CQ to the time that I got a text alert.

Today 7:22 AM

(RBN spot K1BG (7.0287 CW)) DX de
K14PAD-#: 7028.7 K1BG CW 21
dB 29 WPM CQ 1121Z

Call: K1BG
Frequency: 7.0287
Mode:

(RBN spot K1BG (14.0263 CW)) DX de
N5RZ-#: 14026.3 K1BG CW 15
dB 24 WPM CQ 1220Z

Call: K1BG
Frequency: 14.0263
Mode:

The text alerts are quite informative, listing the spot's source, the caller, their frequency, mode, power, if CW, their speed, and the time of spotting.

I see that Bruce has been on 80, 40, and sometimes 20m CW in the morning hours, and that Bob, W1XP has been racking up JT9 contacts around midnight at 475.5 KHz.

I'd join in, and call back, but it seems that the alerts I get from these guys are always at times when I am deep into something other than Radio (like making dinner, or fast asleep), so I have not yet attempted a "pounce".



¹ <https://cmara.org/>

Phaser Kit

Both Peter, N1ZRG, and I are building versions of the Phaser FT8 4w transceiver from Electronics Goldmine, recently featured in QST and CW magazines. I'm doing the 20m version, Peter is doing the 40m one, and Bob, W1XP, has on hand the 17m version, but has yet to begin construction. Too Many Projects!

I'm about halfway done with my kit, with maybe a total of 4-5 hours of inventorying, placing, and soldering.

Here's my 20 m version with the VOX and receiver portions functional.



If you look closely, you can see the eight surface-mount parts that are provided with the otherwise bare board.

The kit is very intelligently packaged and the

instruction manual is awesome.

Assembly is divided into six functional "assemblies". Each one concludes with a functional test to assure that what you just did, works. What a great idea!

The parts are neatly pre-sorted, packaged, and labelled on 4x5 cards, which makes inventory and parts-picking a breeze.

This is without a doubt the easiest "complex" kit I have ever built, and I've been building kits ever since my Allied Electronics' "KnightKit" Walkie Talkie kits bought with paper route money for under \$15 (in 1963).

I highly recommend the Phaser Kit on an ease of assembly basis.

When it is complete, I'll report on its performance.



That Inverted Vee

Well, you know how projects multiply? I've still got that inverted Vee hanging out of the 3rd floor attic window, not connected to any RF source, with passers-by asking, "what *is* that wire in your front yard?". I was hoping to use it on 80m, but to be really usable, first off, it needs to be quite a bit longer – the formulas say about 132 feet, for 3.562 MHz. Of course, being so close to the ground, it'll want to be different. I'll cut it long.



I'm thinking that the above illustrated layout would be worth trying, but I have yet to model it in EZNEC.

The 25-foot arm would drop down at a 45 degree angle, ending ~10 feet up off the ground; the 106 foot section would be supported by a series of ~24 foot "flagpole" masts along the property's fence line. Very definitely a SUB-optimal configuration for 80m, but it's what I have to work with, and as several old hands have reminded me: "anything will radiate". Yeah, but...

Also, Bob, W1XP, has been gently lobbying for me to try configuring it as an OffCenterFed halfwave 80m dipole, fed from the attic window. Bob tells me that if it is fed at ~20% from an end of one of the arms, analysis sez that it'll exhibit ~200-ohm impedance at "resonance" within the 80, 40, and 20m bands. This could be straightforwardly matched to 50 ohms by a 4:1 Balun.

Well, whaddya know: that is pretty much what I have diagrammed. I'll try it. I just have to get thru all the other projects! :--}

de George, KB1HFT

Board Meeting 10SEPT2020

Attendees:

Jessica, WU3C	Jim, N8VIM
John, KK1X	Bruce, K1BG
Jim, AB1WQ	Ralph, KD1SM
George, KB1HFT	Skip, K1NKR

- 18650 Challenge underway - Jessica designing power supply
- Looking into pushing meeting videos to the web (our site or Youtube).
- No new members.
- Nothing happening on the Youth front.
- License classes October to November using hamstudy.org materials along with ARRL Tech license manual. Test class will open to up to 12-15 people.
- No activity on the net. Is anybody interested?
- October - K1IG about Astron power supplies. February - W3NOZ? on radar and stealth tech. Award certificate for WAMC to SP3MEY.
- Jessica to respond to satellite students, denying their request for our approval of their methods.

-de John, KK1X

Treasurer's Report

Income for August was \$15 in membership renewals and \$4 from ARRL renewals.

Expenses were \$1.72 for PayPal fees and \$101.75 for the recognition award presented to Stan KD1LE, leaving a net expense of \$84.87. Field Day expenses had not yet been submitted as of 10 September.

Current balances:

General fund	\$2,348.91
Community fund	\$5,948.25

As of 10 September we have 53 members who are current with their dues and 11 renewals outstanding. Thank you to those of you who mail your renewals or use PayPal. Renewal months are in the member list on www.n1nc.org in the Member's area.

To pay membership dues via PayPal see the instructions in the same Members area.

Please remember to **UNCHECK** "Paying for goods or a service" **before submitting** your payment via PayPal. **If you neglect to do so, you are costing the club an**

unnecessary PayPal fee. (Besides, you are not paying for goods or a service.)



If you are joining ARRL or renewing your membership please consider letting Ralph send in the paperwork for you. The Club will buy the stamp and will get a commission from ARRL.

ARRL membership checks should be made payable to NVARC; Ralph deducts the Club commission before forwarding your paperwork to Newington. As an Special Service Club, the ARRL expects a majority of Club members to also be ARRL members.

de Ralph KD1SM



When asked what the time was, Yogi Berra Replied: "You mean right now?"

A Hams Reply: "You mean right here or UTC"

Calendar

W1AW Schedule

PAC	MTN	CENT	EAST	UTC	MON	TUE	WED	THU	FRI
6 AM	7 AM	8 AM	9 AM	1400		FAST CODE	SLOW CODE	FAST CODE	SLOW CODE
7 AM-1 PM	8 AM-2 PM	9 AM-3 PM	10 AM-4 PM	1500-1700 1800-2045	VISITING OPERATOR TIME (12 PM-1 PM CLOSED FOR LUNCH)				
1 PM	2 PM	3 PM	4 PM	2100	FAST CODE	SLOW CODE	FAST CODE	SLOW CODE	FAST CODE
2 PM	3 PM	4 PM	5 PM	2200	CODE BULLETIN				
3 PM	4 PM	5 PM	6 PM	2300	DIGITAL BULLETIN				
4 PM	5 PM	6 PM	7 PM	0000	SLOW CODE	FAST CODE	SLOW CODE	FAST CODE	SLOW CODE
5 PM	6 PM	7 PM	8 PM	0100	CODE BULLETIN				
6 PM	7 PM	8 PM	9 PM	0200	DIGITAL BULLETIN				
6 ⁴⁵ PM	7 ⁴⁵ PM	8 ⁴⁵ PM	9 ⁴⁵ PM	0245	VOICE BULLETIN				
7 PM	8 PM	9 PM	10 PM	0300	FAST CODE	SLOW CODE	FAST CODE	SLOW CODE	FAST CODE
8 PM	9 PM	10 PM	11 PM	0400	CODE BULLETIN				

W1AW's schedule is at the same local time throughout the year. From the second Sunday in March to the first Sunday in November, UTC = Eastern US time + 4 hours. For the rest of the year, UTC = Eastern US time + 5 hours.

♦ Morse code transmissions: Frequencies are 1.8025, 3.5815, 7.0475, 14.0475, 18.0975, 21.0675, 28.0675, 50.350, and 147.555 MHz.

Slow Code = practice sent at 5, 7½, 10, 13, and 15 WPM.

Fast Code = practice sent at 35, 30, 25, 20, 15, 13, and 10 WPM.

Code bulletins are sent at 18 WPM.

For a very detailed look at amateur radio happenings, check out <https://www.contestcalendar.com/perpetualcal.php>

NVARC Calendar

September

17 Phil, W1PJE will speak on "A History and An Inside Tour of NIST Station WWV"

October

15 K1IG discussing Astron Power supplies.

November

19 ~~Card Sort~~ **CANCELLED** by Eric, KV1J, QSL Bureau Co-Manager, due to COVID concerns.

December

17 NVARC Monthly WebEx Meeting: Homebrew Night

January

15 NVARC Monthly WebEx Meeting: Member's Short Subjects Night

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**Nashoba Valley
Amateur Radio Club**

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President: Jessica Kedziora, WU3C

Vice President: Jim Hein, N8VIM

Secretary: John Griswold, KK1X

Treasurer: Ralph Swick, KD1SM

Board Members:

Bruce Blain, K1BG, 2018-2021

Jim Wilber, AB1WQ, 2019-2022

Skip Youngberg, K1NKR, 2020-2023

Property Master: John Griswold, KK1X

Librarian: Peter Nordberg, N1ZRG

Emergency Coordinator: [open]

N1NC Trustee: Bruce Blain, K1BG

Join NVARC! Annual membership dues are \$15; \$20 for a family.

NVARC general meetings are scheduled for the third Thursday of the month at 2330 UTC (7:30pm, Eastern Time).

Non-members interested in attending may send an email to meetings@n1nc.org requesting the teleconferencing details. NVARC thanks Medtronic, Inc for providing the teleconferencing services under their employee volunteer support program for non-profit organizations.

Contact us on the N1MNX repeater.

442.900 (+), 100Hz

147.345 (+), 100 Hz

53.890 (-), 100Hz

This newsletter is published monthly. Submissions, corrections and inquiries should be directed to the newsletter editor:

editor@n1nc.org.

Articles and graphics in most PC-compatible formats are OK.

Editor: George Kavanagh, KB1HFT

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