



SIGNAL

A club since 1992



Since 1993



Since 1996

de N1NC

June 2020

Volume 29 Number 6

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Last Month's Meeting

The May meeting was another nicely done virtual conference thanks to Jim, N8VIM, and Medtronic. 24 people attended.

Jessica opened the meeting with the traditional Old Business/New Business protocol, and then offered up a slew of new ideas for fun stuff to do¹.

The main event was a very fine presentation by Sanjeev Mehta, KC1LUF, and his associates from UMASS Lowell, on their involvement in the "Science Program Around Communications with High Achieving Undergraduate Cadres" (SPACE HUAC), wherein undergraduate students from several disciplines col-

¹ The May NVARC Meeting Agenda may be found at:
<http://lists.n1nc.org/private.cgi/nvarc-n1nc.org/attachments/20200520/069f0ea2/attachment-0001.pdf>.

You must log in with your email address, and can look up a forgotten password.

laborate on designing and operating a UHF CubeSat satellite. Their website is:

<https://www.uml.edu/research/locsst/research/spacehauc/>

This Month's Meeting

The June NVARC general meeting will again be a Virtual, On-line meeting via WebEx, thanks to Medtronic. Members: keep your eyes out for an eMail invitation from the club!

To non-members: NVARC general meetings are open to all interested participants.

The general meetings are scheduled for the third Thursday of the month at 2330 UTC.

For the duration of the COVID distancing guidelines, the NVARC monthly meetings have been held in distributed on-line form via WebEx.

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

The President's Corner

de Jessica, WU3C

Many of you know that these past few weeks were challenging for Ragnar (and for me!).

He just came back home tonight [Ed: Monday, June 8], and is doing pretty well. There are still a few kinks to work out pending some tests, but fingers are crossed!

While not news about radio, the club's response to my ask for help was overwhelming and so very wonderful.

Amateur radio and now NVARC is my community, such a special and wonderful group.

This was an important part of why I agreed to try to be president, simply to keep our wonderful club active, involved, and to help make sure that community

will thrive in ways that will benefit all our members. That we can trust and depend on each other is so very special.

It is extra special that so many people reached out to help Ragnar. Thank you so very much! Husky Love!



I was excited to see all the chatter about the 6M opening on the reflector. I am a little sad I am missing this amazing band opening, but otherwise engaged with Mr. Ragnar.

I hope many of you were able to experience the band opening. Perhaps these conditions will continue for field day? Jim Wilber, AB1WQ, and Bruce Blain, K1BG, will have more to say on that. [Ed: later in this issue of Signal]

For now, we are only planning FD contingencies, to be ready for whatever we are able to do.

I hope everyone has dusted off their stations and made sure to be ready for Field Day.

No matter what the members and possible club activity, individual participation of all forms will help continue the spirit and intent of emergency preparedness at which amateur radio has always excelled.



Thank you to John Griswold, KK1X, and all the others who have worked on updating the NVARC Constitution².

There will be a special meeting, concurrent with the regular members meeting this month, to vote on the New and Improved wording!

The Constitutional update will go together with our increased social outreach, new youth committee activities, and Bruce's work on getting license classes together.

We really want to be able to welcome all potential new members, so I am glad our Constitution will reflect that sentiment. I am really seeing a head of steam building here - it is awesome!



Also, a Thank You to George Kavanagh, KB1HFT, for stepping up to take on the role of social promotion of NVARC. This is a really important task that will help actively promote NVARC and provide a means for growth.

² The NVARC Constitution may be found at: <http://www.n1nc.org/Members/Constitution%20and%20Bylaws>

Every aspect of our club will benefit from growing the membership. George's work; along with Owen Salter's, KC1KZT, acceptance of the Youth outreach role; will be a great positive force. I hope their volunteering will also energize more members to take on generating and executing their ideas for really excellent club activities as NVARC has always had.

I will of course continue to beat my drum to get more participation, and find ways to enable those who step up to the task.

Last, a seed: Let's start thinking about fund raisers. I'll keep putting water and sun on this, and see what grows!

Stay tuned for more and more!

de Jessica, WU3C

ARRL Field Day 2020 Rule Waivers de Bruce, K1BG

Due to pressure from the membership, the ARRL (American Radio Relay League, the National Association for Amateur Radio) has made several temporary rule waivers³ for the 2020 Field Day⁴.

The long-standing Rule 4.6 states that stations operating Class D⁵ (home stations) may not count contacts with other Class D stations for points.

It's anticipated that there will be many more Class D stations participating this year because their traditional club operations will be cancelled due to the COVID-19 situation. Therefore, the ARRL has decided that for 2020, contacts between Class D stations will count for points.

In addition, for 2020 only, an aggregate club score will be published, which will be the sum of all individual entries that indicate a specific club in their submitted log (this is similar to the aggregate score totals used in ARRL affiliated club competitions).

Ordinarily, club names are only published in the results for Class A and Class F entries, but the temporary rule waiver for 2020 allows participants from any Class to optionally include a single club name with their submitted results following Field Day.

For example, if NVARC members Phil, W1PJE, and Jim, N8VIM, both participate in 2020 Field Day; Phil from his Class D home station; and Jim from his

³ <http://www.arrl.org/temporary-rule-waivers-for-arrrl-field-day-2020>

⁴ <http://www.arrl.org/field-day>

⁵ <http://www.arrl.org/field-day-rules#class>

Class C mobile station, both can include the radio club's name when reporting their individual results.

The published results listing will include individual scores for Phil and Jim, plus a combined score for all entries identified as the Nashoba Valley Amateur Radio Club.

We all should be very specific when including the club name in our score submissions. Please use "Nashoba Valley Amateur Radio Club". Not NVARC, or Nashoba Valley ARC.

de Bruce, K1BG

Plans for NVARC's participation in 2020 Field Day de Jim, AB1WQ

Due to Massachusetts's current Corona virus distancing guidelines, and the projected rate of infections, it is clear that 2020 Field Day cannot be conducted as a "normal" NVARC field day.

However, hoping for the best, planning is in progress for some kind of field exercise, the scale of which is to be determined.

While we see group participation in this preparedness exercise as a key aspect of the event, we realize that modifications to our deployment will be required.

It is clear now that for the vast majority of NVARC members, the means of participating in this year's Field Day will be operating a Class D or E home QTH station while continuing quarantine. Further instructions will be provided.

Please watch the N1NC reflector for updates.
de Jim, AB1WQ

Tech Morning CW Net

The Tech Morning CW net continues, mornings at 09:30 eastern time, at 3.562 MHz. Stan, KD1LE acts as NCS, with several folks joining in for 30 minutes of idle chatter on the day's doings at 10 – 15 wpm. Join us!

On a related note, Stan received the following letter from the ARRL, commending his/our net operating procedures:



ARRL The national association for
AMATEUR RADIO®
Advancing the art, science, and enjoyment of Amateur Radio

ADVOCACY
MEMBERSHIP
PUBLIC SERVICE
EDUCATION
TECHNOLOGY

May 6, 2020

Mr. Stanley Pozerski, Jr., KD1LE
P. O. Box 527
Pepperell, MA 01463

RE: Good Operator Notice

Dear Mr. Pozerski:

The ARRL takes great pleasure in informing you that one of our Volunteer Monitors has nominated you to receive this **Good Operator Notice**. You were selected due to your exemplary Amateur Radio operation March 8, 2020 on 80 Meter CW, at 14:20 UTC.

The Volunteer Monitor Program is a joint program between the ARRL and the Federal Communications Commission (FCC) to enhance rule compliance in the Amateur radio Service.

Thank you for setting a great example for all Amateur Radio operators and for your contribution to Amateur Radio!

Sincerely,

W. Riley Hollingsworth
W. Riley Hollingsworth, K4ZDH
Program Coordinator
ARRL Volunteer Monitor Program

ARRL Headquarters: 225 Main Street, Newington, Connecticut, USA 06111-1400
Telephone: 860-594-0200 ■ FAX: 860-594-0269 ■ www.arrl.org
AMERICAN RADIO RELAY LEAGUE, INC.—International Secretariat of the International Amateur Radio Union

Ham Radio Web Resources -or- My Favorite Web Sites de Bruce, K1BG

While this month's links aren't exactly web resources, they are a source of great entertainment to me – related specifically to Amateur Radio.

Jean Shepherd, K2ORS (July 26, 1921 – October 16, 1999) was an American storyteller, humorist, radio and TV personality, writer and actor. He hosted late night talk shows in the 1950s, 60s, and 70 at several stations, most notably WOR in New York City.

Gene was a storyteller, and often told stories about his childhood. He wove his experiences with Amateur Radio while growing up into many of his stories.

He received his license as a teenager in the mid 1930's: well before a relatively easy novice license was offered by the FCC.

I had heard stories about Jean's stories for years (from both hams and non-hams), but never listened in as a kid. I recently read several posts about Jean in a thread I monitor, and almost immediately got hooked. This month, I'd like to share two of his sto-

ries in particular – Heising Modulation⁶ and Ham Radio Bootleggers⁷. [Ed: see footnotes for links.]

When I was growing up in the 1960s, hams (particularly novices) were afraid of two things – having someone “bootleg” your call (meaning having someone unlicensed illegally using your call), and having the FCC knock on your door (which they did in those days).

“Ham Radio Bootleggers” is a great story by Jean about both.

“Heising Modulation” should be interesting to most of you, who like me, received their novice license as a teenage boy. You have to wait for the punch line – it comes at the very end of the story.

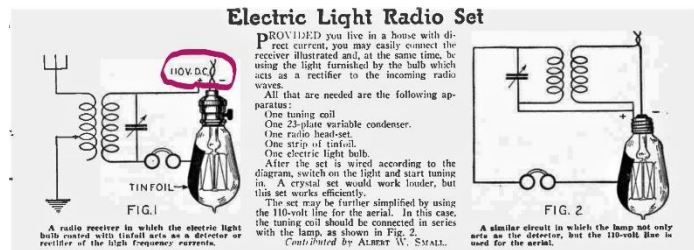
If I find more interesting Jean Shepherd stories, I’ll let you know next month. If you find any that you find particularly entertaining – please let me know.

de Bruce, K1BG

On Bruce’s 110VDC Question de Skip, K1NKR

In the April issue of *Signal*, Bruce, K1BG, wondered about the historical background of 110 Volt DC service used in a unique radio receiver that he shared. Here’s a follow-up.

Bruce referred to this illustration from The Experimenter:



Note the 110 VDC supply.

One of the dramatic episodes in the saga of electrification is the battle between Thomas Edison (who championed DC) and Nikola Tesla (who championed AC). There’s an interesting article about it at:

https://en.wikipedia.org/wiki/War_of_the_currents.

Essentially, Edison started to electrify the New York City area with DC generators, which meant (because of voltage drop) that his customers had to be within about a mile of the power station.

Tesla had developed such handy things as transformers and brushless motors—all AC devices—and found backing with the industrialist George Westinghouse. By introducing a transformer-based distribution system, Tesla’s ideas eventually won out “downstate”

So, the 110 VDC reference that Bruce came upon must have had some ties to downstate New York, pre-Tesla.

The Experimenter, from which Bruce quotes, was a Hugo Gernsback publication, and Gernsback’s empire was centered in NYC. Hmmm.

Here’s an interesting related tidbit: The General Electric Company, GE, founded in 1892 in Schenectady NY, traces its roots to none other than Thomas Edison.

As electrical distribution “downstate” standardized on Tesla’s 60 cycles, Edison’s GE proceeded to electrify the somewhat “upstate” Capital District of Albany, Schenectady, and Troy with their own alternating current systems. During the teens and early 20s (to approximately 1927) local AC power in those locales was 40, not 60 cycle. GE apparently couldn’t see using the standard set by their competitor!

People moving into the Capital District who had 60-cycle equipment, such as battery chargers, provided a booming business for the local radio and electrical retailers.

An aside: Due to the technology of spark stations, they emitted a tone determined by the speed of rotation of the gap motor. Even early continuous wave (meaning “tube oscillator”) equipment, usually had a tone because of ineffective DC power supply filtering. Because of this, you could tell Capital District stations from others by their characteristic tone.

Among my collection of Atwater Kent receivers, I have three vintage 1928 Model 40 AM broadcast band receivers. These receivers have drop-in power supplies. (Why I picked them up I’ve forgotten. I intended on only collecting A-K battery sets.)

Remember, though, the lower the frequency the more iron it takes to make a transformer. One of my collection is marked “Model 40F 25 cycles.” It’s a LOT heavier than the other two!

⁶ Heising Modulation:

<http://www.kn3c.com/Shep/Ham%20Radio%20And%20Chicks.mp3>

⁷ Ham Radio Bootleggers:

https://www.youtube.com/watch?v=wlnxW9Ux_KA



Photo by K1NKR

Here are a few more references you can peruse while you're waiting for the quarantine to be ended:

https://www.americanradiohistory.com/The_Experimenterr.htm

https://en.wikipedia.org/wiki/General_Electric

https://en.wikipedia.org/wiki/Mains_electricity

<https://learn.sparkfun.com/tutorials/alternating-current-ac-vs-direct-current-dc/all>

<https://www.allaboutcircuits.com/news/why-is-the-us-standard-60-hz/>

<https://www.worldstandards.eu/electricity/why-no-standard-voltage/>

<https://www.djlectricaltraining.co.uk/downloads/50Hz-Frequency.pdf>

<https://edisontechcenter.org/Mechanicville.html>

Parts of this article are from an unpublished manuscript of mine on the history of W2SZ, held in the archives of Rensselaer Polytechnic Institute.

de Skip, K1NKR

[Ed: Check out the hand-tested, dated, & labelled valve to the right of the nameplate in Skip's photo. Cool! It looks like a Sylvania technician tested it on September 14, 1930-something. Again, cool! Thanks Skip!]



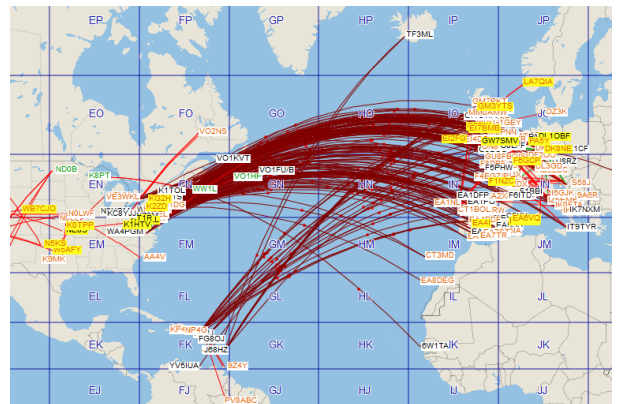
From the Shack de George, KB1HFT

WoW! 6 meters is hot these days.

Les, N1SV, Joe, K1YOW, Skip, K1NKR, myself, KB1HFT, and others are reporting somewhat phenomenal 6-meter DX.

Les writes:

"Here is a screenshot of what DXPMAPS displayed of 6M activity at 22:22 on 6/8. Over in EU it was around midnight and there was still plenty of activity.



In the end I managed 21 QSOs and 8 DXCC (G, CT, F, DL, EI, EA, GU, and ON) from 2100-2220z. Heard but not worked were IS0, GW, GD, and TZ.

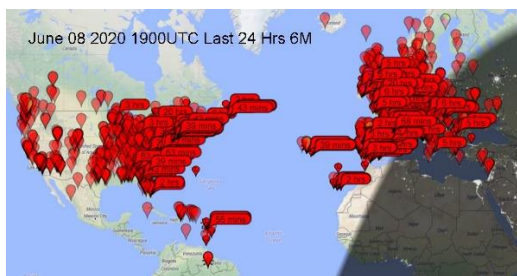
Ironically in all this there was no new 6m DXCC for me. Let's hope we get at least one more opening like this before the season is gone."



Joe writes:

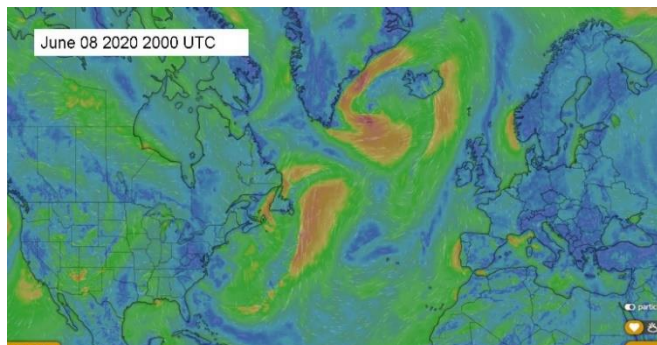
"Yes, things are humming again. Worked Hungary, Bulgaria, and Canary this morning (6/8). 90W, short boom LP on the chimney"

Joe forwarded this image of 6-meter FT8 activity on June 8:



Joe added:

"This picture may show some of what is going on:



Brown areas depict wind shear in the atmosphere.

My thoughts are that North Atlantic storms have Es clouds formed way above them, and that the wind shear frontal line is giving us here in New England an Es launch point to get us into the large Es area over Europe.

Not shown over Europe is their regular summer dense sporadic E cloud.

We have already had some of those over North America. But the transatlantic paths started a while back when that brown wind frontal area formed off of New England and has been slowly drifting North.

Some of the transatlantic Es openings late last week were only from New England, NY and NJ and from the Caribbean. Here are four very useful links^{8,9,10,11}.

⁸ DX Maps:

<https://www.dxmaps.com/spots/mapq.php?Lan=&Frec=&ML=&Map=&HF=&DXC=ING2&GL=>

⁹ PSKReporter: <https://pskreporter.info/pskmap.html>

¹⁰ Wind Model: <https://www.windy.com/?42.499.-71.575.4>

¹¹ Another Wind Model:

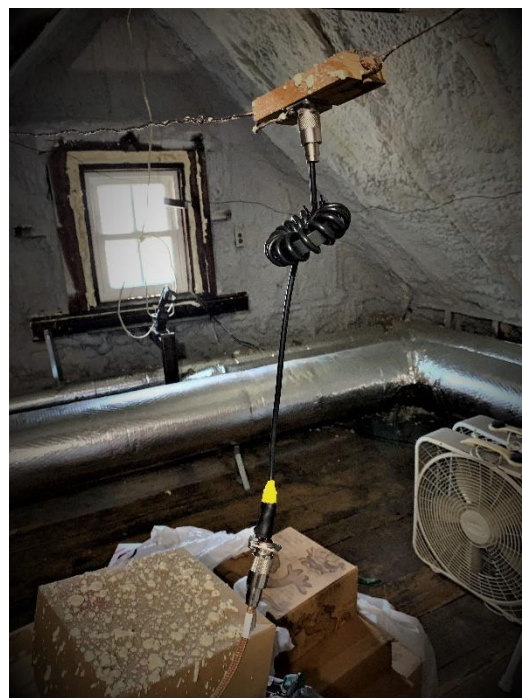
<https://earth.nullschool.net/#current/wind/surface/level/orthographic=-84.96,40.11,281>



Your Editor has been so moved by all this chatter that he has resurrected his interest in 6m.

The last time that I was active on 6 was in 1964 or so, as a Technician, K3FUV. At the time, 6m DX to me was working Des Moines from Maryland on AM with a borrowed HeathKit Sixer (5w out). Thrills!

So, last week, I rigged up a very Homebrew 6-meter dipole in the recently foam-insulated attic:



It is oriented NE/SW.

On June 8, using PSKReporter.com, I saw that Jaime, CU3AK, in The Azores, 2,300+ miles out, could hear my CQs on 6m FT8, and I could hear him, and that he was quite active but not calling CQ.

So, I called him, 50 Hz down from his signal.

Several times.

No answer.

So, I went about fooling around with other stuff in the shack.

I looked up a minute or two later, and there he was calling me!

From 2 to 5pm on Saturday June 8, I worked several DX stations, plus a couple of domestics, with average range being ~ 1900 miles. Not bad for 50w into a simple wire in the attic.

Nope, Ham Radio is not dead, or dying, it is evolving. The newer modes make it a new ballgame. Yes, it is not your father's Ham Radio, but it is still Radio. One still must understand tuning, antennas, propagation, and QSO strategies, etc. Plus, the Thrill of the Chase is still there!

¡Mucho excitación! Even at solar minimum!

de George, KB1HFT

Board Meeting Notes

Attendees:

Jessica, WU3C	Jim, N8VIM,
John, KK1X	Bruce, K1BG,
Ralph, KD1SM	Skip, K1NKR,
Ed, N1YFK	George, KB1HFT
Phil, W1PJE	Owen, K1KZT
Peter, N1ZRG,	Jim, AB1WQ

- George volunteered for public outreach.
- Current balances:

General fund	\$2,592.92
Community fund	\$5,948.25

- Property and Library lists being checked and updated.
- Are we interested in doing kits?
- Owen expressed thoughts on Youth Liaison, science fairs. Bruce to mentor Owen on subject.
- Suggestion of new hams/youth pages on web page.
- Bruce has done research on licensing class logistics - how other local clubs run theirs.
- Difficulty arranging a location for Field Day. AB1WQ still working on what we can do to have a "real" Field Day.
- Proposed Field Day Budget: TBD - Jim getting info on Portlet and Handwashing Station expenses
- Voting on \$200 allocation: passed. Voting: John, Bruce, Jess, Ralph, Jim, Skip, Jim
- Ralph & Jess to sign cards at bank.
- Jess to call special meeting and John to send out club email blast.
- John to update NVARC's page on the ARRL website¹².

- Ralph to create a history of the Community Fund
- Bruce contacted Ed Hare W1RFI about the request we got for the May presentation.
- Any proposals for the Annual Picnic?

-de John, KK1X

Treasurer's Report

Income for May was \$15 in membership renewals. Expenses were \$24.75 for the outgoing QSL bureau.

Current balances:

General fund	\$2,592.92
Community fund	\$5,948.25

As of 3, June, we have 45 members who are current with their dues and 19 renewals outstanding. Thank you to those of you who mail or hand in your dues before Ralph comes to you. If you have forgotten your renewal date, just ask Ralph. (As we don't currently have the option to circulate a roster at the monthly meeting.)

Remember that membership dues can now be paid via PayPal:

Go to <https://www.paypal.me/nvarc>

- **Please remove the checkmark in the box "Paying for goods or a service"**, as PayPal deducts a fee for their "purchase protection" if you leave this checked. If your "shipping address" is still displayed, then the box is still checked, adding an expense to the Club.
- (Optional) enter your callsign in the "Add a note" field.

Please remember to uncheck "Paying for goods or a service" before submitting your payment.

If you are joining the 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;

¹² <http://www.arrl.org/Groups/view/nashoba-valley-arc/type:club>

Ralph deducts the Club commission before forwarding your paperwork to Newington. As a Special Service Club, the ARRL expects a majority of Club members to also be ARRL members.

de Ralph KD1SM



Apropos of Skip's article on the AC/DC wars, this was seen recently for sale on the Internet:



From the Archives:

Marconi
Wireless Telegraph Company
of America

World Wide Wireless
Spanning the Atlantic and Pacific
Public message service is
now in successful operation
AT GREATLY REDUCED RATES BETWEEN
AMERICA, GREAT BRITAIN
JAPAN, HAWAII, ALASKA

Universal communication with ships at sea
Commercial office—42 Broad St., New York

Builders of every type of Wireless Apparatus
Works at Aldene, New Jersey

School of Instruction for Operators—
25 Elm St., New York

John W. Griggs, *President*
Edward J. Nally, *Vice-President & General Manager*
George S. DeSousa, *Traffic Manager*

Executive offices
WOOLWORTH BUILDING, NEW YORK

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.

June

- 13-15 ARRL June VHF Contest. 1800Z, Jun 13 to 0259Z, Jun 15.
50MHz & up. All Modes. <http://www.arrl.org/june-vhf>
- 20 ARRL Kid's Day. 1800Z-2359Z. 80, 40, 20, 17, 15, 12, 10, 2m
repeaters. <http://www.arrl.org/kids-day>
- 27-28 ARRL Field Day. 1800Z 6/27 – 2100Z 6/28. All bands except
60, 30, 17, 12m. See new COVID-19-based rule changes for
home and club operation. www.arrl.org/field-day

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480 King Street
Littleton, MA. 01460

fpurcell@electronicsplus.com
Hours: M-F 9-6, Sat. 9-5

(978) 486-3375

Your ad could appear here. Email the editor for details: editor@n1nc.org



**Nashoba Valley
Amateur Radio Club**
PO Box # 900
Pepperell Mass 01463-0900

<http://www.n1nc.org/>

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.

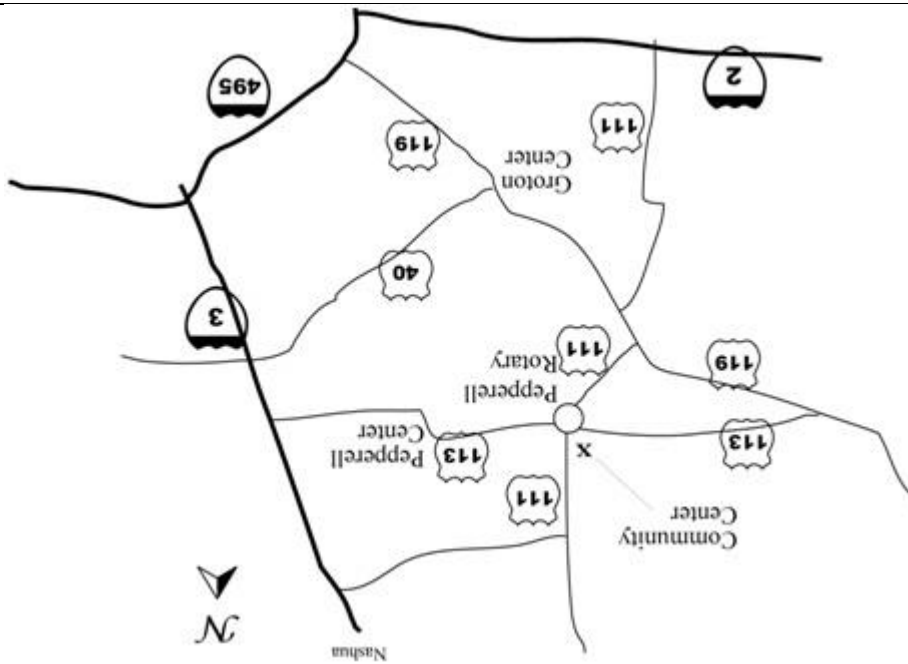
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email to meetings@n1nc.org requesting the telecon-
ference details. NVARC thanks Medtronic, Inc for
providing the teleconferencing services under their
employee volunteer support program for non-profit
organizations.

Contact us on the N1MNX repeater.
442.900 (+), 100Hz
147.345 (+), 100 Hz
53.890 (-), 100Hz

This newsletter is published monthly. Submis-
sions, corrections and inquiries should be directed to
the newsletter editor:
editor@n1nc.org.

Articles and graphics in most PC-compatible for-
mats are OK.

Editor: George Kavanagh, KB1HFT
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