

SIGNAL

October 1995 Volume 4 Number 10

This Months Meeting at the Pepperell Community Center.

From The President's Desk

I know sunspots affect propagation, but I wonder whether the physics of it has more or less to do with the quiet bands than does the



psychology of low sunspot numbers. The bands have been quiet, that is with the exception of Hams chasing XRO Y or the Scandinavian Activity Day Contest. But I had little trouble working XRO Y using two modes on three bands. I don't have a lot

of aluminum in the air. In fact on the HF bands I have none. I have put up a number of wire antennas to try different things. But in the past week of operating for both of these events I have used my original all band dipole. In the Scandinavian contest there was no value to the Europeans to work stateside, so I did not make any contacts with them. But, I worked all the Scandinavian countries and some of the Scandinavian Islands that have their own prefix. In fact I worked one French QRP station that was running five watts. You'll have to give me a better excuse for not making DX contacts than low sunspot numbers.

The Septemberfest finally went off in Groton after a weeks rain delay. We had a good day although it really cools off quickly when the

sun disappears behind a cloud this time of year. It was good to see a lot of interest in what we were doing.

We still need some organizers for the Field Day stations. We have about half the people we need for the initial planning. This is a job that most anyone can do. You don't have to be some crack contester or anything, just do some preliminary planning. Stan KD1LE

This Month and Beyond



This months meeting will be held at the Pepperell Community Center. Just off the Rt. 111/Rt. 113 Rotary.

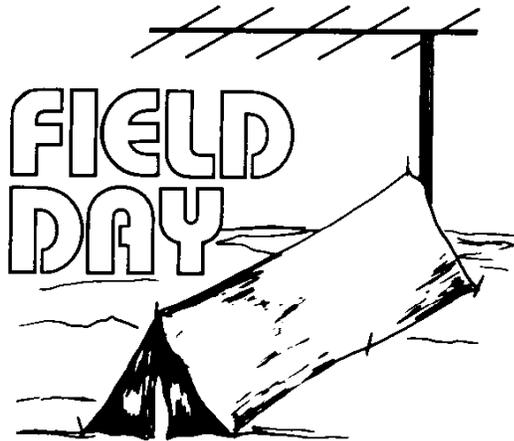
This months speaker will be Phil Temples K9HI the ARRL Eastern Massachusetts Section Man-

ager. See you there Stan

Field Day

To prevent a recurrence of last years Field Day problem, we are starting early this time.. We have decided to try to run 2A this year. That means we should staff an HF CW, HF Phone, a Novice Station, and a Satellite Station. In addition a group for Power and a one for arranging Field Access and Publicity were iden-

tified. Sign up lists were available at the last meeting. Several people signed up to head a group, but we need three or four more just to get a coordinators for each activity.



Since the last meeting several more people have taken a position for field day. The two spots left to fill are for a HF Phone Station and a Satellite Station.

While perusing the world of packet I ran into a club challenge from Bruce K1BG to the rest of the world for next Field Day. Maybe he'll have something to report later?

NVARC Resource List

It was brought to my attention that it may not be clear to everyone why we have a list of people and phone numbers at the end of the newsletter under the title "Resource List". The intent of the list is to help someone identify a club member who is likely to be able to answer a question or solve a problem in their particular area of interest.

We certainly haven't been over burdened with inquiries. If we had considered it a burden at all we would not have had our names listed at all. Instead, we offer our names because we want to help, be challenged with questions, to teach, or whatever. None of us think of it as a burden or work, and so you shouldn't think of it as an imposition or bother. In fact, if your not going to ask us questions or ask for help doing things, your depriving us of some of our fun!

Stan

At The Last Meeting

At the last meeting Ed Weiss W1NXC spoke on electrical safety. He discussed "do's and don't" of wiring and working around electricity. Ed brought a display of different types of electrical receptacles, plugs, and devices to cover particular safety issues. He had different type of testers to check wires for power, circuits for proper wiring configuration, and GFCI for proper operation. Thanks Ed for the interesting and potentially life saving presentation.

This was our first meeting at the Pepperell Community Center. The hall worked out very nicely and once we decide how to set ourselves up we will be all set. The hall is quiet and everyone can see and hear. We had refreshments after the meeting and everyone chatted for a while. The location will work well for us.

We have sent the VFW a letter thanking them for their generosity in allowing us to meet there for the past three years and have canceled our reservation for the members room.

Radio support for the Fall Soccer Tournament was asked about at the meeting. We contacted them but did not receive an official reply, so we did not plan any support. They have failed to contact us in advance year after year and it takes a reasonable amount of time to get together the support for the three day activity. So, for the present we are not participating.

NVARC Slow Speed Net

As was announced at the last meeting, we have resumed a slow speed CW net. The net meets Tuesday and Thursday at 8:00 P.M. on 28.123 MHz. We passed out a brief description of how a net starts with a couple of the "Q" signals defined. Don't worry about the details too much. It all falls into place once you do it a couple of times. The real purpose it to help you get on the air and develop your CW skills.



When a net starts the things that need to be announced are the name of the net (so you can tell if this is where you want to be), who the Net Control Station is (NCS). Then its just a matter of getting the stations checked into the

net. Once the net is running the NCS will occasionally ask for additional check ins. At the end of the net, or if someone needs to secure earlier, the NCS will release the stations. After which the net will be closed.

There are as many ways to run a net as there are NCS's, and you will see some of that here I'm sure. Formal nets have more structure which makes it easier to do things faster since everyone knows what's happening with much less explanation. For example, to speed things up they may use only their suffix once they are checked in. By the way, you still need to identify to satisfy the FCC. But that only needs to be done at the end of an complete exchange since that is seldom more than a few minutes long you can go back and forth with just a BK or K.

We have been running informally in a round robin fashion of passing it around for everyone to take a turn talking. I did want to mention that if no one starts the net, don't be afraid to jump right in there. Just send CQ NVARC De and your call. There's probably someone else out there waiting to chat. Also, everyone who checks in should try to send at the speed everyone is using...no speed demons. Since everyone is trying to copy what is going on its not right to keep changing the speed or go too fast.

If you have the ARRL Operating Manual there are descriptions of net operations under the Traffic Handling chapter. This book is in the Pepperell Library.

If there are any questions about net operations for this net or net operations in general I would be happy to answer them.

The net has been running for a while now and there have been quite a few checkins; N1UPQ, N1TVC, KB1FJ, K1BG, KD1LE, KD1SM, WR1Y, WQ1T, WB1HBE to name some.
Stan KD1LE

Converting CB Whips to 2 Mtrs

Priced a 5/8 wavelength mag-mount two meter antenna lately? Like to have one for ten dollars, five dollars, or even less? Spend a morning checking the flea markets or yard sales for a base loaded CB mag-mount antenna. The plastic cylindrical section at the bottom is the loading coil for the CB band (27 MHz or 11 meters).

A 5/8 wavelength antenna has approximately 3 dB of gain over a 1/4 wavelength antenna and a lower vertical radiation angle. That's the good news. The bad news is that it has a lousy match. The impedance of the 5/8 wavelength antenna has a real part (radiation

resistance) much higher than 50 ohms, and a capacitive imaginary part.

The capacitive reactance can be tuned out by a series inductance, while the radiation resistance is made to look like 50 ohms using an auto-transformer. All of this technical talk reduces to a circuit as shown in the schematic.

So, when you acquire your CB antenna, remove the protective plastic coating around the base loading coil. This will prove to be the toughest part of the conversion, as you don't want to break the coil form. Rewind the coil using the values in the following chart. The whip part of the antenna will probably be pretty close to the desired dimension, but check it to make sure.

	Whip 1	Whip 2
A	2"	1-1/2
B	6-1/2 turns (1-1/2")	7-1/2 turns (1")
C	3 turns (1/2")	3 turns (1/2")
D	44"	44"
E	5/8"	1/2"

The match can be optimized three ways, all of which are independent of each other. The length if the whip is by far the easiest and should bring the match to within 2:1 by itself. The inductance of the loading coil can be varied by squeezing the turns together or spacing them further apart. The inductance goes up as the turns are brought together. Finally, the tap can be moved up or down the coil for best feedpoint match. In the final analysis, the car roof and nearby conductors will have a bigger effect than the tuning, but it's fun to try for the best match possible mounted on the car. It doesn't have much effect on your signal, but it is fun.

OK, it's working FINE BUSINESS, what next? Spray the coil with some sort of sealer,

maybe Krylon. Give it a few coats to thoroughly saturate the windings. Tape is not a good idea because it can trap water. Rain water has a dielectric constant of 80 and is very lossy. There are many plastic based paints on the market that might even match the color of your car. The only problem with leaving the coil unsealed is the exposure of the solder connections to the weather. This problem is easily solved by putting a dab of "GOOP", sold in the auto parts section of any discount store, on the connections.

When you are complimented on your signal strength, and you will be, tell the other Ham you are using a secret design, developed at enormous cost, and using exotic materials not found locally.
Russ WR1Y

Septemberfest

The Septemberfest took place in Groton on September 24th. We had a good showing and a lot of interest. We will have to see if that translates into students for the class that started in Groton on the 26th of September.

We had on display a number of old receivers that the crowd could tune around on. This seemed to be of most interest to the kids.

We also had code practice oscillators set up and a certificate was awarded to those who learned how to send their name in Morse Code.



An HF station was set up on 20 Meters using the nearby flagpole to support an inverted Vee antenna. We made quite a few contacts, domestic and foreign, using both USB and CW.

A packet station was set up and we also took some NTS message traffic.

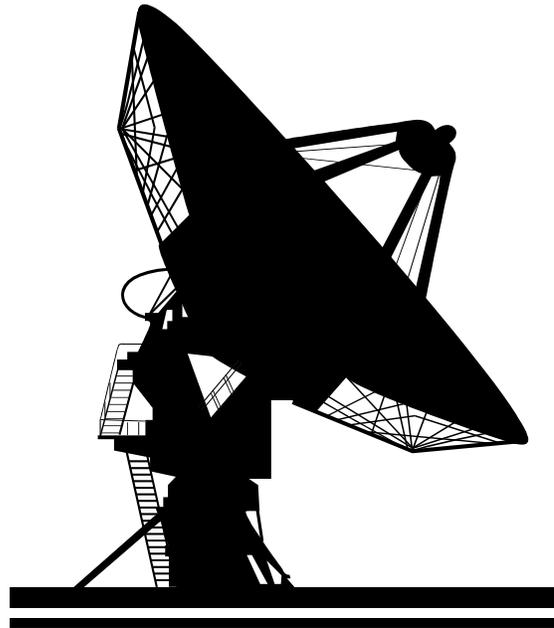
I think everyone had a good time and that's what its all about. Many thanks to those who participated and those who visited with us for awhile.

N1UPQ Bob, K1BG Bruce, KD1LE Stan, WR1Y Earl, KA1JVU Karen, N1PBL Lynda, WA1DKH Jack, N1TVC Herm, N1LLG Dan, KD1PI Jim, N1NXQ Rayna, WA1TAC Rodney, KA1RV Erik, N1PIP Allyn.

SETI League

Special Bulletin 50 ARLX050
From ARRL Headquarters

Newington CT September 12, 1995
To all radio amateurs



A name and starting date have been chosen for a radio astronomy project that aims to involve large numbers of radio amateurs.

The SETI League has chosen "Project Argus" as the name for its upcoming search for extraterrestrial intelligence (SETI). The SETI League hopes eventually to involve 5000 amateurs worldwide in scanning the sky. Earth Day, April 21, 1996, is the target date for beginning the project.

The name Argus was chosen in 1971 at Stanford University for a proposed ultimate SETI receiver that was never funded. Argus was a mythological figure with 100 eyes that could look in all directions at once.

Dr. Robert Dixon, W8ERD, a SETI League advisor and assistant director of the Ohio State University Radio Observatory, hopes to share technology with the SETI League, according to SETI League Executive Director Paul Shuch, N6TX.

More information on amateurs' role in radio astronomy was in August 1995 QST, page 37.

Antennas and Covenants

From ARRL Headquarters
Newington CT September 21, 1995
To all radio amateurs
ARLX054 Antenna page on Internet

Amateurs with Internet access may wish to check out the Restrictive Antenna Covenants Home Page, maintained by Don Stoner, W6TNS. It features not only information on Stoner's own battle with his condominium association in Clearwater, Florida, but also lists other resources for information of interest to radio amateurs. Stoner's home page is at:



<http://www.hamweb.com/~sjl/STONER/ANTENNA.html>

\$The Treasurer's Report\$

Income for September was \$190.00. Total expenses were \$248.47, as we bought a punch to make the club badges, laser labels, books for the class, and the usual newsletter postage.



Current fund balances are
 General Fund: 380.47
 Education Fund: \$207.34

Is your ARRL membership up for renewal? If so, do we have a deal for you! Just hand me your renewal form with the check made out in the full amount to NVARC. The club will supply the stamp and the ARRL rebates part of your dues back to the club. A good way to help all the way 'round. 73 de Ralph KD1SM

Briefs from the League

LETTER SIGNALS DEMISE OF CW ON MARS CIRCUITS

According to a letter released in early August by the US Department of Defense's Emmett Paige Jr, assistant secretary of defense for command, control, communications and intelligence: "Effective October 1, 1996, it is directed that the CW mode of communications will no longer be used on any Department of Defense (DoD) MARS circuits, networks, or frequencies. "MARS has been steadfastly evolving to newer technologies to improve service. Technology such as single sideband replaced amplitude modulation to provide greater frequency efficiency. Likewise, packet radio, AMTOR, PACTOR, GTOR, and CLOVER modes of operation have replaced

radio teletype. "CW use and need in MARS communications has diminished over the years. It is recognized that CW can no longer compete with the rapid developments in radio technology. Therefore, CW is to be retired from use within the DoD MARS." The use of CW on MARS circuits has been declining for some years.

The area code for Newington has changed to 860 but the previous area code, 203, will continue to work until September 1996. New direct HQ telephones include: ARRL/VEC 860-594- 0300; and ARRL Educational Activities Department 860-594-0301.

* There's still time to submit DXCC applications to make the DXCC Annual List: get them to HQ by September 29.

10 years ago in The ARRL Letter (August 29, 1985):

This entire issue 10 years ago was devoted to Amateur Radio from the space shuttle. The shuttle Challenger landed safely with amateurs Owen Garriott, W5LFL, and Tony England, W0ORE, reporting more than a hundred contacts during the mission. They also transmitted slow-scan television on an automated downlink.



Operations were limited by problems with the Challenger's propulsion system and the on-board Spacelab systems. After the flight discussions began on how to make Amateur Radio in space more available to more ground stations--the use of a handheld transceiver was one possibility, as well as a better antenna.

40 Meter Band Discussions

From ARRL Headquarters
 Newington CT October 4, 1995
 To all radio amateurs
 ARLB090 Confab targets 40 meters

Amateur Radio societies in the Western Hemisphere have concluded their triannual meeting, where important topics considered included band planning (especially on 40 meters); growing Internet use by amateurs; electromagnetic compatibility of consumer devices; improved communication between the Interna-

tional Amateur Radio Union and its member societies; and implementation of the hemisphere's Interational Amateur Radio Permit.

Twenty-nine national Amateur Radio organizations from throughout the Americas were represented at the week-long conference in Niagara Falls, Ontario, hosted by the Radio Amateurs of Canada (RAC). Canada announced at the meeting that it has agreed to adhere to the IARP (the fourth country to do so) and had issued the first two permits to RAC President Farrell Hopwood, VE7RD, and IARU Region 2 Vice President Tom Atkins, VE3CDM.

Distinguished guests included Robert Jones, Director of the Radiocommunication Bureau, International Telecommunication Union (who is VE3CTM); Michael Binder, Assistant Deputy Minister, Spectrum Information Technologies and Telecommunications Sector, Industry Canada; Roberto Blois Montes de Silva, Executive Secretary, Inter American Telecommunication Commission (CITEL) of the Organization of American States (OAS); and Wayne Thompson, Mayor of Niagara Falls, Ontario.

Addressing continuing problems of interference between users of different modes in the 7000 to 7100 KHz range, the conference adopted a resolution calling for greater use of frequencies above 7100 KHz for communication within Region 2, particularly by digimodes in the band 7100 to 7120 KHz. Reduced dependence on frequencies between 7050 and 7100 KHz by digimode stations, and by SSB stations for communication within Region 2, was urged. The conferees also agreed to discourage SSB operation below 7050 KHz, to discourage digimode operation between 7035 and 7050 KHz except for communication with amateurs in other Regions, and to renew their commitment to the IARU goal of achieving a worldwide allocation of at least 300 KHz in the vicinity of 7 MHz.

Member-societies also were encouraged to make greater use of the 10-MHz band for digital communication, since radiotelephone is not allowed there.

The group urged that member societies obtain Internet access and possibly establish their own Home Pages on the World Wide Web. Amateurs were encouraged to include their call signs as a part of their Internet addresses.

Region 2 President Alberto Shaio, HK3DEU, has now retired, and Thomas B. J. Atkins, VE3CDM, was elected to replace him as president. Reinaldo Szama, LU2AH, was elected vice president, and three new directors also were elected.

The 1998 IARU Region 2 conference will be held in Venezuela, hosted by the Radio Club Venezolano.

FCC/License Renewals

The FCC has begun mailing notices of Amateur license expirations. They plan to make weekly mailings about 90 days before the licenses would expire. The mailing will include a computer generated Form 610 short form. If there are no changes, the form need only be signed, dated, and returned. For changes beyond spelling corrections, a regular Form 610 must be filed.

DX Report

From ARRL Headquarters
Newington CT October 12, 1995
To all radio amateurs
ARLD053 DX news

This week's bulletin was made possible with info provided by Isao, JR1ROJ, Joe, NJ1Q, Tedd, KB8NW, the OPDX Bulletin, the Yankee



Clipper Contest Club PacketCluster network and Contest Corral from QST. Thanks to all.

ROTUMA, 3D2/R. The Yamato Amateur Radio Club of Japan will make another try with plans for a November 4 to 7 operation. A typhoon ruined their 1994 attempt. Listen for 3D2AA, JA1JQY as 3D2SH, JA1KJW as 3D2HI, JE1XXG as 3D2ID, JR1LVB as 3D2HK, 7M1QAP as 3D2MU and JA8VE as 3D2KZ. For CW try 1910/1810, 3507, 7007, 10007, 14007, 18007, 21007, 24897 and 28007 KHz. SSB will be around 3797, 7077, 14197, 18147, 21277, 24937 and 28497 KHz. Satellite operating will be via AO10 and A013 on 145.885 MHz.

TUNISIA, 3V. YT1AD will be in Tunisia October 26 to November 3 and will sign as

3V8MM. He will also be in both CQ WW DX Contests as 3V5A. QSL via YT1AD.

QATAR, A7. Thomas, DL9FCQ will be active December 30 to January 14 on 40 through 10 meters. The call sign A71AN/DL9FCQ has been mentioned. QSL via DL9FCQ direct or bureau.

AFRICAN DXPEDITION. Roger, G3SXW, will travel to Ghana, 9G, and Benin, TY, during November. He recently made over 5,500 CW QSOs as 9N1SXW from Nepal.

IRELAND, EI. The East Cork Radio Group, EI7M, will be in the CQ WW SSB Contest on all bands. QSL via EI6HB, Denis O'Flynn, Ladysbridge PO, Castlemartyr, Co. Cork, Ireland.

MOUNT ATHOS, SV/A. Apollo, SV2ASP/A, was heard on 14084 KHz RTTY around 1530z and again around 1930z.

MARSHALL ISLANDS, V7. Tom, AL7EL, has canceled his KH9 Dxpedition but will be active as V7/AL7EL October 18 to 25.

PACIFIC DXPEDITION. Here is the schedule of Fumio, JA3JA, for his all band, CW/SSB/RTTY jaunt. V73JA October 13 to 19. T30JA October 20 to 27. C21/JA3JA October 28 to 30.

CHATHAM ISLANDS, ZL7. Leo, K8PYD, and Jon, WB8YJF, are planning both recreational operating and an entry in the CQ WW CW Contest. Listen for ZL7PYD and ZL7CW, respectively.

PUERTO RICO, KP4. Ramon, KP4VP, will operate PacTOR, AMTOR and RTTY daily from 2200 to 0030z, or perhaps even later. Activity is limited to 20 meters from 14065 to 14099 KHz. Other bands may be added in the future. QSL via KD8IW with SASE, please.

ARUBA, P4. Mike, K4PI, will sign P49I October 24 to 30. He will be in the CQ WW SSB Contest operating 160 meters Single Band. Low bands, WARC and CW will be operated outside of the contest. QSL via K4PI.

SILENT KEY NOTE. QSL Manager Isao, JR1ROJ, sadly reports the passing of Harris, 9M6HF. Harris, an active contester and kind host to many hams visiting 9M6, died September 20 of cancer. JR1ROJ will continue duties as QSL Manager.

Board Meeting Notes

This month's board meeting was held October 12. We discussed or acted on the following subjects;

Bills, club financial status, and payments for the text for the class.

The need to finalize the letter to the VFW thanking them for the use of the hall for the past several years.

The possibility of a spring Novice/Tech class was discussed, as was the progress of the current class.

Some possible future speakers were suggested, and will be contacted.

The great snacks at the last meeting were also commented on.

NVARC QSL BUREAU

Well with a few contests last month I have about 1/2 of a pound of cards to go to the bureau myself. So with contributions from a few more people at or before the next meeting we will have enough to send out another shipment after the meeting.

Anyway, bring your cards and QST label to the meeting or to breakfast and the club will take care of the shipping and bureau fee. Stan

NMRHS Radio

Things continue to move along slowly.. The last time I looked they had mounted masts at two points to support their HF dipole. I'll keep you posted on the progress. Stan

Flea Markets

I have been listing local flea markets/hamfests here. I looked up the New England area list which is quite long. There were 16 listings for October and November. Instead of putting them here I will list them on the Calendar since that doesn't take up any additional space. I have taken some liberty in shortening the names trying to show "where" it is rather than "who" is running it. I have used the NE and NY listings. I would like to hear if this is suitable for you bargain hunters. I will bring the full listing to the meetings. Stan

From the Video Library

The Video Library has seven titles to loan.

- **The Last Voice From Kuwait**
- **The all China DF Competition**
- **Your League at Work**
- **Signal to Noise Story**
- **Gonzaga Prep HS Radio Club Satellite Communications**
- **The New World of Amateur Radio**

You can get them anytime you can catch me at home, and I will bring the available tapes to each meeting. Stan

Resource List

Construction	Earl Russell	448-5822
DX	Bruce Blain	772-4138
NTS, MARS	Stan Pozerski	433-5090
RACES	Ben Akins	433-9227
TCP/IP	Ralph Swick	582-7351



Nashoba Valley Amateur Radio Club

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PIO: Earl Russell WR1Y

Meetings are held on the 3rd Thursday of the month - 7:30 p.m. - Pepperell Community Center
Talk-in 146.490 simplex

This newsletter is published monthly. Submissions, corrections and inquiries should be directed to the newsletter editor. Articles and graphics in most IBM-PC formats are OK.
Packet address: PEPMBX (145.09 MHz)