



# SIGNAL

December 1995 Volume 4 Number 12

## From The President's Desk

Conditions may not be the best For DX out there but you have to work with what you get. I've been plugging away one contact or one country



at a time. Believe it or not they add up after a while. Last week I got a card in the mail from the Turks and Caicos Islands. Where is that you ask? Well they are just a couple of specks on my globe. I had to break out the New York Times Atlas to actually

find them. Then this week a nice card and letter came from Gibraltar. But now I'm off on a tangent. The point I was making is that one country at a time you plug along and WALA, one day you look at your log and you have 101 countries confirmed. I even missed the magic DXCC when I hit 100.

With all the contests going on its even easier to log some new country. You may not have the luxury of a long QSO for the contact, but then that can happen another time. I remember the QSO with Ernie, from Gibraltar. We chatted for a half hour or more. I could just feel all those anxious keys just waiting to pounce. But he wanted to chat and I was enjoying it also. I felt a little guilty tying him up, but then he was the one that chose the change of pace. When we finished they did all jump on him. I listened for a while as he answered call after call. It was nice to give him a opportunity to chat in a relaxed way for a change.

Another thing I was watching with interest was my total QSO count. That is just the raw count not relating to any particular award or even

whether they are domestic or foreign contacts. When I first got my license I decided I should make two contacts a day. Don't ask me where the number came from. It was just a guess of what average level of activity I thought I should have. Well, That was three and one half years ago. At two contacts a day at the end of December I should have 2555 contacts according to my calculations. At the beginning of November I was within fifteen contacts of the 2495 November target. The contests in late November and December have really run up the totals. Its mid December now and the total is around 2700 QSO's logged, so I'm a bit ahead. But I thought it was interesting that after three and one half years on the air, operating a lot some times and not so much others, that on the average I fulfilled that two contact per day guess. I should also point out that at **only** two contacts a day (2700 contacts later), I'm really glad I have a computer logging program.

Stan KD1LE

## Bring Some Cookies

In the spirit of the holiday season the donation basket on the refreshment table will be put away for this month's meeting. Instead of doughnuts I would like to have members bring a small plate sized container with goodies on it. Please call and let me know if you plan to bring something. If I get no calls I'm going to have to do some serious baking the day of the meeting!

Lynda - N1PBL

## Meeting notes from October 19th

At the November meeting we had several displays and speakers. Stan KD1LE demonstrated a portable packet station along with Windows 95. Russ WR1Y talked about converting a salvaged garage door opener into an antenna rotator. The regular meeting was followed by refreshments.

## Licenses/Upgrades

Congratulations to the following students and members for the licenses and upgrades listed.

John Ritchie	Tech +
Ingrid Hersh	Novice
Luigi Calisto	Novice Written
George Johnston	Novice Written
Herm Raymond	13 WPM
Bob Purcell	Tech

## Kenwood/Icom Videos

Kenwood has sent us a video on the new TS-870S transceiver. Its thirteen minutes long and covers some of the new features of the rig. This is one of the new generation rigs with DSP in the IF stages. If we submit a list of everyone who attended and watched the video, they will send a Kenwood World Map for each person. There are a limited number of maps available to the offer, but Oh well. We also have an Icom video on the IC706 and other rigs. I'll show it after the next meeting for those that are interested.

## This Month and Beyond

This month's (December.) meeting is at the Pepperell Community Center. The theme of the meeting will be Homebrew Nite. We will have the entrants give a short explanation of their entry. Time is growing short to build something. We have a Kenwood video on the new TS-870 and an Icom video on the IC-706 for those that are interested. More about that elsewhere in the newsletter.

### Callsign Keytags

The postman just brought us an offer from a mail order company for "license plate key tags" at wholesale prices. If at least 10 people want these keytags we can get them for \$3.00 each with a little bit of that amount going into the club treasury. The tags are three color with "Massachusetts" and "The Spirit of America" in blue and your callsign (or whatever message of up to ten letters or numbers you wish) in red on a white background. Sign up at the meeting.

Next Month (Jan.) the speaker will be Jim Morris K1UGM the king of packet mountain in Wakefield. Jim's site is the hub of NTS packet traffic in and out of Eastern Massachusetts. Jim will speak on lightning. He has had some first hand experience with it, since his site has been hit several times.

## Space Shuttle/MIR and NVARC

Just to let you know that things get around. I was looking at the East Massachusetts Section Managers Home page on the WWW. He had picked up on our shuttle/ QSL card involvement and put it on the web page. So we are getting publicity even now on this.

Stan

## Field Day

We still need some people to head up the H.F. phone station and a satellite station. Remember, this is for planning purposes. It doesn't mean that's all you can do. This is the list right now.

### HF CW STATION

Bruce K1BG, Bob N1UPQ, Stan KD1LE

### POWER

Craig N1ABY, Ben KB1FJ

### NOVICE STATION

John KA1ZTU, Wolfgang WA1VOU



### SITE PERMISSIONS/PUBLICITY / SIGNS

Earl WR1Y, Dave N1MNX

### HF PHONE

open

### SATELLITE

open

If there is no interest in the last two stations I will drop them from the list. Stan

## H-2782/PRB1

ARRL State Government Liaison K3HI

American Radio Relay League  
State Government Liaison  
last updated November 29, 1995, AM

### VICTORY!

H-2782 is now Massachusetts law! Details below.

H-2782... What's that? H-2782 was a PRB-1 bill in the Massachusetts legislature designed to put the language of CFR 47 part 97.15(e) into Massachusetts law. Governor William Weld signed the bill into law on November 21. This completes the three-year process started by ARRL Volunteer Counsel Thomas Carrigan, WA1NVS, who wrote and filed the bill in 1991.

The bill was passed by both chambers of the legislature earlier this year. Governor Weld's staff thought that the bill needed to be reworded, however, and sent it back to the legislature for fine tuning. In the last week of this year's legislative session, both chambers enacted the bill. Governor Weld's signature now means that the bill becomes law in 90 days. For future reference, the bill is assigned to Chapter 225 of the Massachusetts General Laws.

The text of the bill is as follows:

#### Chapter 225 (H-2782)

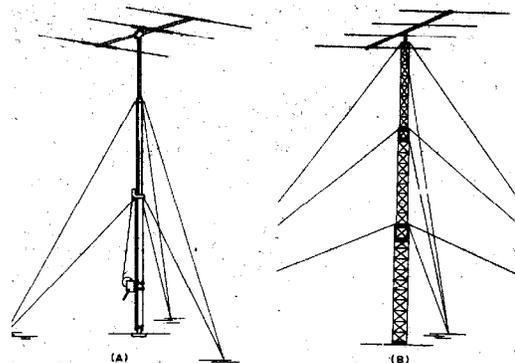
SECTION 1. No zoning ordinance or by-law shall prohibit the construction or use of an antenna structure by a federally licensed amateur radio operator. Zoning ordinances and by-laws may reasonably regulate the location and height of such antenna structures for the purposes of health, safety, or aesthetics; provided, however, that such ordinances and by-laws reasonably allow for sufficient height of such antenna structures so as to effectively accommodate amateur radio communications by federally licensed amateur radio operators and constitute the minimum practicable regulation necessary to accomplish the legitimate purposes of the city or town enacting such ordinance or by-law.

SECTION 2. Nothing in this act shall be construed as limiting the authority of any architectural or historic district commission established pursuant to any general or specific law.

What's next? The bill does not become law until 90 days after signing, so don't start pouring concrete yet. Like PRB-1, the new Chapter 225 does not give amateurs a green light to do anything they want to do with their antennas. You are still bound by the zoning laws of your city or town, and you will still have to go through the same process

for approval that you have to go through now. So what's the difference? Now when you go to your town hall, you can point to Chapter 225 as requiring that local regulations be reasonable.

If you should find it necessary to go to court for satisfaction, you can choose to go to state court or federal court. State court trials



would be less expensive, but the precedents set in PRB-1 cases do not transfer to Massachusetts courts.

What can I do?

Learn what the law says. Tom Carrigan, WA1NVS, has written a primer for Massachusetts hams on what the new law means.

Another thing you can do is show your appreciation. Those of you who contacted your representatives and senators to send a note thanking them for their support of H-2782. Express some gratitude, and maybe they'll remember you the next time you write.

For information on the bill, contact me at "mailto:shawn@ultranet.com"

You can also check out

"<http://www.magnet.state.ma.us/massgov.htm>"

>your state government's web site.

For information about who your state representative or senator is, call town hall or call me.

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Framingham, MA 01701  
508 877 7635 (voice, 9AM-9PM)  
508 877 2035 (fax)

#### Over 50 Repeater Society

442.900+ PL 100  
KB1FJ

53.89- PL 100  
N1MNX

Location:

Latitude 42-38-36

Longitude 071-37-25

Elevation above Sea Level 460 Ft.  
Tower 135 Ft.

442.9 power output 50 watts peak  
53.89 power output 50 watts peak  
Packet node 145.09 power output 45 watts peak  
Standby power average 2 day duration.

Donations Appreciated. Send to:  
David Peabody N1MNX  
PO Box 1309  
Pepperell, Ma. 01463-1309

### NVARC Slow Speed Net

The net meets Tuesday and Thursday at 8:00 P.M. on 28.123 MHz. Except the third Thursday of the month. that being the club meeting night. Also, since I am committed to the Board meeting the second Thursday I would hope someone will pick up the job of net control on that night.



### Contest Operating

Definitely not to be confused with contesting. This is a nice time of year for these activities. If you have a little free time because of the weather, you can spend it by the radio filling in those missing states, counties, or countries.

I operated in the ARRL 160 Meter Contest the beginning of the month. I had a good time and worked forty states over the course of the weekend with three or four hours of operation. That geared me up for the ARRL Ten Meter Contest the next week. I even built a six element Yagi and put it up just for the contest. The only problem was that conditions on ten meters were poor and many stations reported being able to make very few QSO's. Although I did not work all the states, which I thought I should be able to do, I worked twenty states in about three hours of operation. The new antenna really helped out as I could hear very little on my regular dipole. I'll be looking forward to these contests next year now that I have a little practice. I've set the goal of working the forty-eight continental states two weekends in a row on one hundred sixty meters and then on ten meters.

And yes, I know this is not contesting, so what.  
Stan KD1LE

### \$The Treasurer's Report \$

Income for November was \$30.00 from dues. Total expenses were \$37.00.



Current fund balances are

General Fund: \$382.87  
Education Fund: \$207.34

Don't forget to renew your ARRL membership through the club.  
73 de Ralph KD1SM

### Grounds

Always provide a good ground for your equipment. We've all heard this advice since we first were interested in Ham radio. What is a good ground? How much resistance and inductance can we tolerate in the conductor used between our equipment and that eight foot stake driven in the ground. Are we looking for a power frequency ground or an RF ground?

Terman's Radio Engineers Handbook states that the self inductance of a straight wire of the gauge we would use runs between 0.3 and 0.4 microhenries per foot. This value remains about the same for all practical wire sizes. An easier number is 350 Nanohenries or  $350 \times 10^{-9}$ . That's a pretty small number, for a foot of #10 copper wire.

The wire tables say that our #10 wire only has 1 ohm of resistance per 1000 ft. With a large wire like #10, we can safely ignore the resistance, but let's take another look at that inductance. As a practical starting point let's say we have a 10 ft. ground lead. Simple math tells us that our inductance is 3.5 Microhenries or  $3.5 \times 10^{-6}$ . Let's see what this amount of inductance looks like at the frequencies we use in Ham radio.

We know that our inductive reactance is ( $2 \times \pi \times \text{freq.} \times \text{the inductance}$ ). Lumping constants and re-writing this expression, the reactance becomes about 22 times the frequency in MHz. Now we're getting somewhere. Let's try a few of the ham bands and see what happens. Eighty Meters is a nice evening band, how good is our ground? Multiplying 3.5 (the frequency in MHz) times 22 gives about 77 Ohms. How's it look at 28.5 MHz in the ten meter band? My gosh it's over 600 ohms, 627 to be exact. How about 2 Meters? At a frequency of 147 MHz, the inductive reactance is over 3,000 ohms in our ten foot piece of #10 wire.

How about at the power frequencies? Power line frequency is 60 cycles, or 60x10<sup>6</sup> MHz. Our inductive reactance is .013 Ohms. Our ground is certainly doing the job at this frequency. The inductive reactance is only slightly higher than the resistance.

So what's the bottom line to all of this? There are at least two different ground problems, one at power line frequencies and the other at our operating frequencies. Can we provide a ground that satisfies both requirements? Probably not without some compromise. In next month's newsletter we'll suggest some of these compromises and some vintage tricks to accomplish them. We'll really get down to earth.

RUSS

### A Kind Word (the Scott Adams)

What is the value of a kind word?

In January of 1986 I was flipping through the channels on TV and saw the closing credits for a PBS show called "Funny Business," a show about cartooning. I had always wanted to be a cartoonist but never knew how to go about it. I wrote to the host of the show, cartoonist Jack Cassady, and asked his advice on entering the profession.

A few weeks later I got an encouraging handwritten letter from Jack, answering all of my specific questions about materials and process. He went on to warn me about the likelihood of being rejected at first, advising me not to get discouraged if that happened. He said the cartoon samples I sent him were good and worthy of publication.

I got very excited, finally understanding how the whole process worked. I submitted my best cartoons to Playboy and New Yorker. The magazines quickly rejected me with cold little photocopied form letters. Discouraged, I put my art supplies in the closet and decided to forget about cartooning.

In June of 1987 -- out of the blue -- I got a second letter from Jack Cassady. This was surprising, since I hadn't even thanked him for the original advice. Here's what his letter said:

Dear Scott

I was reviewing my "Funny Business" mail file when I again ran across your letter and copies of your cartoons. I remember answering your letter. The reason I'm dropping you this note is to again encourage you to submit your ideas to various publications. I hope you have already done

so and are on the road to making a few bucks and having some fun too.

Sometimes encouragement in the funny business of graphic humor is hard to come by. That's why I am encouraging you to hang in there and keep drawing. I wish you lots of luck, sales and good drawing.

Sincerely  
Jack

I was profoundly touched by his letter, largely I think because Jack had nothing to gain -- including my thanks, if history was any indication. I acted on his encouragement, dragged my art supplies out of storage and inked the sample strips that eventually became Dilbert. Now, seven hundred newspapers and six books later, things are going pretty well in Dilbertville.

I feel certain that I wouldn't have tried cartooning again if Jack hadn't sent the second letter. With a kind word and a postage stamp, he started a chain of events that reaches all the way to you right now. As Dilbert became more successful I came to appreciate the enormity of Jack's simple act of kindness. I did eventually thank him, but I could never shake the feeling that I had been given a gift which defied reciprocation. Somehow, "thanks" didn't seem to be enough. Over time I have come to understand that some gifts are meant to be passed on, not repaid.

I expect at least a million people to read this newsletter. Each of you knows somebody who would benefit from a kind word. I'm encouraging you to act on it before the end of the year. For the biggest impact, do it in writing. And do it for somebody who knows you have nothing to gain.

It's important to give encouragement to family and friends, but their happiness and yours are inseparable. For the maximum velocity, I'm suggesting that you give your encouragement to someone who can't return the favor -- it's a distinction that won't be lost on the recipient.

And remember there's no such thing as a small act of kindness. Every act creates a ripple with no logical end.

Have a great holiday. Thanks to all of you for giving me a spectacular year.

Scott Adams

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### Board Meeting Notes

This month's board meeting was held December 14th. We discussed or acted on the following subjects;

Bills and club financial status.  
Keytag offer.

Plans for the next meeting.

Special Service Club paper work was completed and sent out.

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

Then we sat around drinking hot drinks and eating cookies as the snow fell.

### NVARC QSL BUREAU

We shipped out almost a pound of QSL cards last month. Since there were several contests in December I have accumulated quite a few myself. So if a couple of people were active this month, and bring in their cards, we will have another pound to go to the bureau right 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

### Wanted

Home for an HP computer. Good to use for packet. Call Russ WR1Y

### Computer Corner

Just a few words on the current state of things. The fanfare around Windows 95 has subsided now and its down to working with it. I have about forty installations that I am familiar with. Four which are mine personally. All are working fine and there have been very few problems. Another current issue is viruses. There are a number of identified viruses (over 3000) in the PC world. The current problem though is the "macro viruses". These are attachments to documents and are not limited to a PC or a MAC, but can cross platforms attached to a document. I'd be glad to cover this in more detail if there is interest.

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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V Pres.: Bruce Blain K1BG  
Secretary: Jeremy Bisbo KB1AWE  
Treasurer: Ralph Swick, KD1SM  
Editor: Stan Pozerski KD1LE  
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)