



# PROSPECT HILL INTERMOD

THE OFFICIAL NEWSLETTER OF THE WALTHAM AMATEUR RADIO ASSOCIATION  
& THE HEAVY HITTERS

[www.wara64.org](http://www.wara64.org)

SUMMER 2016

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## EQUIPMENT LOAN TO MEMBERS

WARA owns a couple HF and 2 meter transceivers for Field Day use and is not for sale, however will make available to loan members if needed on a temporary basis. Please contact John, N1JAF for details.

## 146.64 REPEATER RX ISSUES

*Eliot Mayer, W1MJ*

### Part 1 - April 9, 2016

The WARA flagship repeater on 146.64 MHz had been suffering from intermittent "poor hearing" for the past few months. On April 9, we had a work party to attempt a fix. Will N1PXA suspected a problem with our antenna's connector, and had obtained a replacement part. This plan was to lower the antenna to the ground, change the connector, and then put the antenna back up. However ...

When we got up to the antenna and did some cable wiggling and other tests, the results were not as expected. The connector seemed fine, but the antenna mounting bracket became suspect. It was quite rusty, and rusty metal junctions can act as rectifiers, mixing different RF signals and producing sums and differences. There are many antennas on the tower, so mixing might result in some products on our receive frequency, 146.04 MHz.

We changed the mounting bracket, and performance seemed to be much better

afterward. But intermittent problems are tricksters. The problems reappeared. The rusty hardware may indeed have been a source of trouble, but not the only source.

The April 9 work party included Will N1PXA, Bill KB1QMY, Rich K1RBC, Bob K1REM, John K1BOS, Tom, KA1GXR, Eliot W1MJ.

Here are some photos from the April 9 work party:



*Eliot W1MJ, Will N1PXA, Bill KB1QMY*



*Part of the ground crew: Bob K1REM, and John K1BOS*

## Part 2 – July 23, 2016

One clue is that the repeater's hearing problem seems to be worse when it rains. This clue does not completely narrow down the problem. It might indicate an antenna problem, or even a problem with someone else's antenna at the site. At the May club meeting, we voted to buy a new antenna. If that fixes the problem, great. If not, we keep at it. Even if the antenna seems to be the issue, Will N1PXA plans to open up our present antenna to see if it is repairable. It should still have some life remaining.

But wait – what should we buy for our new antenna? We have always used the “Super Station Master”, now known as the Commander Technologies 220-2N. But Roger WA1NVC raised a question about whether these antennas, which are now made with lead-free solder, are still reliable. He said that the Minuteman Repeater Association (MMRA) has switched to “exposed dipole arrays”. I checked with MMRA's Bob K1IW, and he highly recommended the exposed dipole array, which have never failed in his group's experience. Bob even sent me a direct link to the model they buy on the distributor's web site, and offered to handle the purchase if WARA was not able to get the same price as MMRA (though we did get the same price). Harry WA1VVH also informed us that he had a 220 MHz Station Master develop “the crunchies” after only 3 years, and now his repeater is operating trouble-free with an exposed dipole array. We were convinced.

Here are some photos of the July 24 work party. The work was done by tower crew Will N1PXA, Bill KB1QMY, Ron KG1T and ground crew Ken W1IB, Tom KA1GXR, and Eliot W1MJ.

As of press time (mid-August), the new antenna seems to be working well. Even when it rains, though that hasn't happened much since the antenna installation.



*Will and Bill taking down the old antenna*



*Ron and Bill with the new antenna*





*Measuring forward and reflected power; Tom KA1GXR, Ken WI1B*



*Eliot W1MJ dug out his old "Heavy Hitters" t-shirt for the occasion*



## RTTY FOR NEWBIES

Mark Bolls, K1KGG

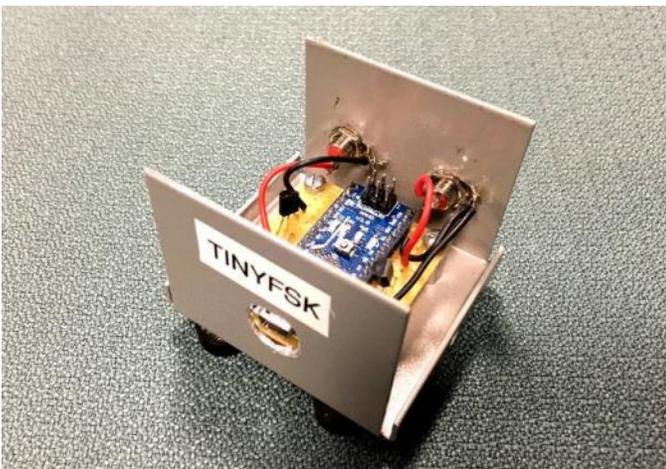
Dennis Egan, W1UE gave members an informative presentation on RTTY for newbies at the March 30<sup>th</sup> meeting. Dennis covered several aspects of the digital communication world such as common digital modes, interfaces, frequencies, free software and web links to help anyone breaking into the digital scene to get started.



Dave, K1PRE caught on DMR QSO



K1PRE and Ron KG1T setting up



## WARA FIELD DAY ON THE HILL

WARA participated in the annual ARRL Field Day event from Prospect Hill Park. Here are some photos provided by Rich, K1RBC.



John, N1JAF shows one of his children how to work the rig.



*Charles KG6EID and Ken W11B setting up a Buddipole antenna*



*Another portable antenna at WARA FD*

## **A BACKPACK FIELD DAY (AGAIN)**

*Eliot Mayer, W1MJ*

Back in 1983, my best friend (also QST columnist and former PHI editor) Rick "Bones" K1CE and I operated Field Day near Galehead Hut in the White Mountains. The hut is run by the Appalachian Mountain Club (AMC), and the hutmaster at the time was another 64 type, Al "AD", W1SA (then WA1UWF). The equipment that we had to lug uphill 4.7 miles was so heavy that I said that I would never do this again. But this year, despite being much older, we returned to the scene of the crime. This change of heart was due to the amazing weight reduction in portable equipment since the first slog up the trail - lithium batteries instead of lead acid, etc. Unfortunately, I forgot that we had a 3<sup>rd</sup> person helping carry the gear last time, that water is no lighter, etc. So the packs were still close to 40 pounds each!

Ironically, old hutmaster W1SA was fulfilling a lifelong dream during this FD, hiking the entire Appalachian Trail (AT) from Georgia to Maine. He made amazing progress, we thought he might arrive at Galeheat Hut - which is on the AT - by Field Day. That didn't quite happen - Al actually reached the hut 3 days after we left. He finished his AT hike on July 24. See: <http://www.trailjournals.com/akamman/>

For this FD, we operated a 5 watt ham radio station on the summit of Galehead Mountain, an 18 minute hike from the hut. We made 126 CW contacts and 2 RTTY contacts using battery and solar power.



*Charging one of the batteries from the sun*



*Inverted-Vee dipole, fed with TV twin lead, supported by 30-foot extendable fiberglass mast*



*Bones and Eliot near the hut. Note that the 30-foot mast stows away into a fairly short tube, only snagging the occasional low branch on the trail.*



*Good thing we brought this tent, which served as a screen house, keeping out the black flies.*



*We posted information about Field Day on the mast for hikers "bagging" this NH 4000 footer*



*Testing the gear at home prior to FD: Elecraft KX3, LDG balun, Palm Radio keyer paddle, Goal Zero solar charger.*



**WARA OFFICERS**

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**VICE PRESIDENT** – Richard Amirault **N1JDU**  
**TREASURER** - Bob Martinson **K1REM**  
**ASSISTANT TREASURER** - Eliot Mayer **W1MJ**  
**SECRETARY**- Ron Senykoff **KG1T**

**W.A.R.A. REPEATERS**

Input	Output	PL in	PL out	Call
146.04 **	146.64	136.5	136.5	W1MHL
223.34	224.94	none	none	W1MHL
444.075	449.075	88.5	none	W1MHL
902.1375	927.1375	131.8	100	W1MHL

\*\*2 Meter EchoLink Node 490278  
 2 Meter Apco P25 NAC is 293

*Thank you to all who have contributed to this issue of PHI. We greatly appreciate the time you took in sharing your knowledge! We are always looking for articles and new material to publish. Please send in your photos, announcements, story or short article (technical or not) at any time, for the next issue of PHI !*

**PHI NEWSLETTER STAFF**

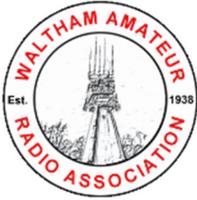
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*Submit all articles to k1kgg@yahoo.com*

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The Waltham Amateur Radio Association is affiliated with the A.R.R.L





# WALTHAM AMATEUR RADIO ASSOCIATION

[www.wara64.org](http://www.wara64.org)

## MEMBERSHIP AND CHANGE OF ADDRESS FORM

The Waltham Amateur Radio Association operates repeaters on 2 Meters, 220 MHz, 440 MHz, and 900 MHz. The repeaters are free and open for everyone to use. But repeaters have bills to pay, just as you do. Your membership dues help support these repeater expenses, as well as help to keep you informed about club activities and other aspects of ham radio. Individual membership is \$20 annually. Family membership (members all in same household) is \$30.00 annually. If you cannot afford the annual dues, please send what you can. If you are inclined to donate more, we will put it to good use. If you are over 64 years of age, membership is FREE! However, you must still submit your application.

You can join or renew at [www.wara64.org/membership.htm](http://www.wara64.org/membership.htm) or complete this form legibly, and return it to:

**Waltham Amateur Radio Association, PO Box 411, Waltham, MA 02454**

### Member 1:

Name \_\_\_\_\_ Call Sign \_\_\_\_\_

Street \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_

Telephone # \_(\_\_\_\_\_) \_\_\_\_\_ Are you an ARRL member? \_\_\_\_\_

Email (for newsletter) \_\_\_\_\_

### Member 2:

Name \_\_\_\_\_ Call Sign \_\_\_\_\_

Telephone # \_(\_\_\_\_\_) \_\_\_\_\_ Are you an ARRL member? \_\_\_\_\_

Relationship to Member 1: \_\_\_\_\_

Email (for newsletter) \_\_\_\_\_

*For additional family members please attach their information to this form*

### Payment Enclosed:

Individual Membership for \_\_\_\_\_ year(s) @ \$20/year nominal: \$ \_\_\_\_\_

Family membership for \_\_\_\_\_ year(s) @ \$30/year nominal: \$ \_\_\_\_\_

Over Age 64 Membership for \_\_\_\_\_ year(s) @ FREE \$ NO CHARGE\*

*Please remember to keep your membership up to date by renewing and don't forget to notify us if you have moved. Thank you for joining WARA.*