



# PROSPECT HILL INTERMOD

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

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

FALL 2017

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### BOXBORO 2017

*Eliot Mayer, W1MJ*

Hats off to the crew that runs the New England Division ARRL Convention, usually referred to simply as "Boxboro". I served on the convention committee years ago, as the Exhibits Coordinator, and got burned out after a while. So I'm impressed that the present committee changed from the long-standing every-other-year schedule to an annual event.

I had a lot of fun at Boxboro 2017, mostly socializing with ham friends old and new. I also learned a few things at the technical forums such as programming with CHIRP, antenna modeling with EZNEC, and PAVE PAWS. The PAVE PAWS forum was about their normal operations with satellite tracking and such, at least the non-classified parts. They did really not go into the issues with ham radio 440 MHz interference with their system.

At the end of the Saturday banquet, I had fun introducing a "Weird Al Yankovic"-style rewrite I did of the Queen song "We Will Rock You". My version was about the inclusivity of the ham radio community, called "We Will Work You". Group participation was great, with rhythm led by the kids of the Clay Center ARC. You can watch it at <https://youtu.be/8lvwA2uYfwg>. Following the banquet, we had a nice jam session.

Here are some photos I took at Boxboro. The full album is available at <https://photos.app.goo.gl/dvio0yB530unL6V52>.

John N1JAF reserved a booth for WARA, and Ron KG1T scheduled volunteers to staff it. Here are booth volunteers KG1T, N1GAS, and K1RBC.



Ted K1QAR outside the exhibit hall, showing Tim WA1HLR his magnetic loop antennas, one of which was connected to a rig at his Aesop Engineering Clinic booth inside.



A while back, the Clay Center ARC, a school club in Brookline, wanted to partner with an experienced group to learn how to operate during the ARRL Field Day event. WARA was looking for a place to operate and a great partnership ensued for about 5 or 6 years. Now CC-ARC and WARA have parted ways. Here is their mobile communication van, a donated TV news van, with a tri-band Yagi on a 45-foot pneumatic mast. Wow!



Andrea K2EZ shows convention goers “rover” setup for VHF contests.



While the convention’s special event station, W1A operated in the hotel, Carl WA1ZCQ operated special event station W1B out in the parking lot.



**The Jam Session.** This is the first time I ever played with a pedal steel guitar player (Boyd KB5JR, wear the light blue shirt). That was really cool. Even convention chairman Mike K1TWF sang a few songs with us. It’s hard to see in the photo, but I was wearing my battle-scarred (well, Field Day scarred) WARA shirt.



For some more photos of Boxboro 2017, and eventually info about Boxboro 2018, check out [www.boxboro.org](http://www.boxboro.org).



## YAESU ATAS-120A ANTENNA OVERVIEW, CARE & CLEANING

Ned Bannan W1NED

ATAS means Automatic Tuning Antenna System! Coupled with a Yaesu compatible model and getting HF mobile is fairly straight forward. One very handy feature of the ATAS is it needs no extra control line, as many others require. Power is supplied over the coax. +7.5VDC=Down +10.5VDC=Up and this is all handled by the radio with the touch of a button or two. You can also use an ATAS with almost any other HF rig provided you get a controller to help tune the antenna properly. Many vendors make controllers as shown below.



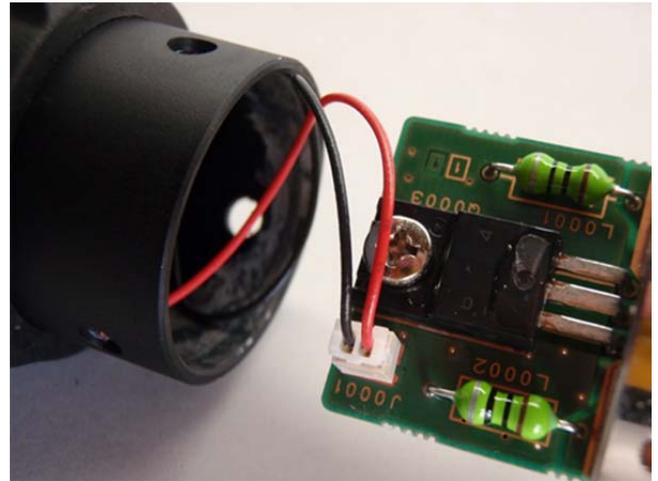
Like any product that travels roadways and highways, the antenna system will require some routine maintenance.

### 4 key items to the antenna longevity

- Prevent water incursion as much as possible (Coax seal top /screws)
- Clean and coat bi-metal base connection (Copper anti-seize)
- Disassemble clean and inspect antenna coil area (Dry cloth or 91% Isopropyl on rag)
- Re-form metal W-springs if pressure against coil is weak or wobbling (Flutter signals)

Use great caution while separating the lower brass section from the lower aluminum tube or you could damage the motor wires or circuit board! This is especially true for the first time the assemblies are separated! Note, in the photo below, the white corrosion inside the black tube. This corrosion tends to bond the two parts together and results in a sudden jerking removal during separation that

can cause the damage! Lint free cloths and 91% Isopropyl alcohol work well for most cleaning. Heavy corrosion can be removed with scotch-brite pads.



Picture of the two sections separated. Note the corrosion inside the aluminum tube (White powder build-up inside the black tube) This will require cleaning! I recommend using Copper Anti-Seize to coat the parts before reassembly.

Most of this material has been gathered from other ATAS users and there is a wealth of information on the internet:

KB5WIA Has an excellent post:

<http://kb5wia.blogspot.com/search?q=atas>

W0EAJ has a repair business:

[http://www.daileyservices.com/vintage\\_radios/atas.htm](http://www.daileyservices.com/vintage_radios/atas.htm)

VK3KBC posted repair of a waterlogged ATAS:

<http://www.radcomms.net/ATAS120.html>

The full set of my presentation slides can be obtained here:

[http://copylink.dhs.org/atas/ATAS-Motion-Demo\\_R4.pdf](http://copylink.dhs.org/atas/ATAS-Motion-Demo_R4.pdf)

## HAM CORNER



Photo courtesy of KG1T

Ken, KA10XQ nestled deep inside the shack in good company with all of his Made in USA radios.

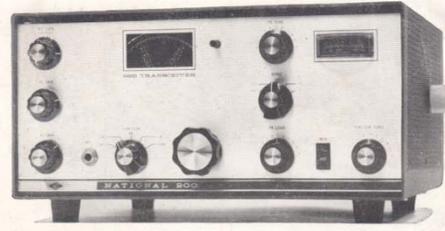
## WARA HOLIDAY DINNER

Ron Senykoff KG1T

The Waltham Amateur Radio Association invites all Ham's and friends for a festive Holiday Dinner! It's a great time to get that "eyeball" QSO with some of the folks we've been talking to all year. Spouses / friends / prospective Hams are all welcome! No RSVP necessary.  
 When: Wednesday, December 20th @ 6:00 PM  
 Sichuan Garden  
 411 Waverley Oaks Rd, Waltham, MA 02452  
 Cost is \$25 per person at the door which includes the buffet and 1 ticket for the door prizes.  
 Membership renewal will also gain you an extra ticket for the door prize.  
 See you there!



## Join the National 200 club



Own the most versatile 5-bander on the market ...priced even lower than a kit rig!

National's new 200 is fast becoming the most popular 5-bander on the market... and it's no wonder! Here's an ideal rig for mobile, portable, or home operation... the fastest way to move up from single band or triband. The price? ... an amazingly low \$359! Performance? ... here's what Jim Fisk WIDTY said in a recent issue of a noted amateur radio publication: "When National came out with their new model 200 transceiver a few months ago at a lower cost than any other five band transceiver on the market, I just couldn't believe that it would perform as well as the more expensive models. But — after using it for several weeks in chasing DX, I find that they have done a superb job and it performs right along with the best of them. The sensitivity is fine, the selectivity afforded by the steep-sided crystal filter is excellent, and the audio reports, if I am to believe the fellows on the other end, have all been good. Reports of, 'tremendous audio quality,' 'really sounds good,' and 'very clean and crisp,' have been normal reports during the time I have had the 200 on the air."

Feature this for \$359! ■ Complete coverage of the 80 through 10 meter bands. ■ 200 Watt PEP input on SSB, plus CW and AM. ■ Separate product and AM detection plus fast-attack slow-release AGC. ■ Crystal-controlled front end and single VFO for high stability, and identical calibration and tuning rate on all bands. ■ Crystal lattice filter for high sideband suppression on transmit, and rejection of adjacent QRM on receive... plus solid-state balanced modulator for "set-and-forget" carrier suppression. ■ Operation from new low-cost AC-200 supply or from NCX-A or mobile power supplies. ■ ALC. ■ 45/1 planetary/split gear tuning drive. ■ Automatic carrier insertion in AM and CW modes. ■ Panel meter automatically switched to S-units on receive. ■ Universal mobile mount included.

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 37 Washington Street, Melrose, Massachusetts 02176

### WARA OFFICERS

**PRESIDENT – OPEN**  
**VICE PRESIDENT – Ron KG1T**  
**TREASURER – Rich K1RBC**  
**ASSISTANT TREASURER - Eliot W1MJ**  
**SECRETARY- Ned W1NED**

### WALTHAM A.R.A. REPEATERS

Input	Output	PL in	PL out	Call
6m off	6m off	6m off	6m off	off
**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 Apco25 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!

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**a complete amateur radio station**

**in one portable package**

**SWAN Cygnet**

**A 5 BAND 260 WATT SSB TRANSCEIVER WITH BUILT-IN AC AND DC SUPPLY AND LOUDSPEAKER \$435**

The new Swan Cygnet is a complete SSB transceiver, with self contained AC and DC power supply, microphone and loudspeaker in one portable package. The Cygnet features full frequency coverage of the 10, 15, 20, 40 and 80 meter bands with a power input rating of 260 watts P.E.P. in single sideband mode, and 180 watts CW input. A crystal lattice filter at 5500 Kc is used in both transmit and receive mode, and provides excellent selectivity with a 2.7 Kc bandwidth at 6 db down. Superior receiver sensitivity of better than 1/2 microvolt makes it easy to pull in those DX signals, and with the Cygnet, if you can hear them, you can work them. Audio fidelity is in the well known Swan tradition of being second to none, providing smooth, natural sounding voice quality. The Cygnet is temperature compensated on all bands, featuring solid state oscillator circuitry with zener regulation which permits wide variation in supply line voltage without frequency shift.

Unwanted sideband suppression is 45 db, carrier suppression 60 db, and distortion products are down approximately 30 db. The new Cygnet is designed to provide efficient, high quality communications in the 5 most commonly used amateur bands. Its low cost is a tribute to Swan's well known techniques in value analysis, and simple, direct circuit design. Above all, these techniques lead to a high degree of reliability and foolproof performance. Dimensions are 13" wide, 5 1/2" high, and 11" deep. Weight is 24 lbs. The transceiver comes complete with AC and DC input cords, and carrying handle, thus making it the most versatile and portable set on the market, and certainly the best possible value. Amateur net ..... \$435

P.S. Yes, for our customers who require some of the extra features, there will be a deluxe version of the Cygnet coming soon, which will sell for approximately \$495.

**ASK THE HAM WHO OWNS ONE**

**SWAN**  
 ELECTRONICS  
 OCEANSIDE, CALIFORNIA  
 A Subsidiary of Cubic Corporation

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



**THIS CAN BE YOUR "BIG BREAK"**  
 if you're a man who's ever said ...

**"I'm sick and tired of my Job!"**

DON'T FORGET, DEAR, WE'VE GOT A DATE FOR THE MOVIES WITH JIM AND HELEN TONIGHT

AW, HONEY, I'M BUSHED, THAT LOUSY JOB OF MINE...

PLEASE, DEAR, BESIDES, WE DON'T GET OUT THAT OFTEN...

OH, ALRIGHT

SAY, JIM AND HELEN HAVE A NICE PLACE HERE. WONDER WHERE HE GETS THE MONEY?

OH, JIM IS IN ELECTRONICS NOW

YOU SEEM MIGHTY HAPPY IN ELECTRONICS, JIM. LEVEL WITH ME-HOW'D YOU BREAK IN?

EASIER THAN YOU MIGHT THINK, WITH CIE TRAINING, I LEARNED EVERYTHING I NEEDED RIGHT AT HOME... IN MY SPARE TIME!

BUT DON'T I NEED COLLEGE...?

NOT WITH CIE. THEY TEACH YOU THE EASY WAY. ALSO HELP GET YOU A GOOD JOB!

HOW ABOUT YOU? WANT A GREAT JOB IN ELECTRONICS, TOO? GET FULL FACTS IN CIE'S 2 FREE BOOKS, SEND COUPON NOW!

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Please send me 2 FREE books describing opportunities in Electronics and how to prepare for them.

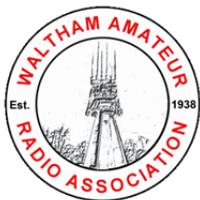
Name \_\_\_\_\_ (please print) Age \_\_\_\_\_

Address \_\_\_\_\_

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

Veterans & Servicemen: check here for G.I. Bill Information  
 Accredited Member National Home Study Council CQ-45





# 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 6 Meters, 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** \*See note below

*\*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*