

The

Modulator

Newsletter of the Newport County Radio Club, May 2017

NCRC Outreach

Service and outreach activities are points of pride for our club and education is a big piece of those activities. Bob Beatty, WB-4SON, estimates that about ten per cent of all Rhode Island hams are graduates of his TECH licensing classes.

Jack Garforth and his VE team have administered licensing exams for all comers four times each year plus special sessions.

In addition to his All Saint's Steam Academy activities, Mike Cullen, N1NPT, is now guiding ham licensing and the establishment of a radio club at Bishop Hendriken High School.

Charlene Tuttle's Jamestown School sixth graders are building remote controlled submersibles, but needed help with soldering technique. Paul Fredette, K1YBE, Mike Cullen, N1NPT, and Jim Sammons, KA1ZOU, joined multiple classes to train expert assemblers.

These are rewarding experiences, why not join one soon?



Paul, K1YBE, and Soldering 101

Great Happenings At AS²A

Five New Hams

After the success of last year's Amateur Radio on the International Space Station contact session, you might think that Mike Cullen, K1NPT, would relax a bit. But no, he has been quietly nurturing his students at All Saints Steam Academy in electronics and Amateur Radio. Then in March, Jack Garforth, N1JK, got the request for a VE session for a group of TECH license candidates.

On May 2nd, eight AS²A students, ranging from fourth through eighth grade sat for their exams.



Exams underway at AS²A

When the dust settled, five students were holding Certificates of successful Completion of Examination for their new TECH licenses.

- Ceceilia Angell
- David Lara-Smith
- Olivia Ruggiero
- Emilee Sullivan
- Alexander White



The moment of truth

All five TECHs have elected to become Junior Members of NCRC and were voted aboard at the May meeting. They have elected to exercise the two-year option and gain a Baufeng HT, so keep a sharp watch for young voices on the W1SYE repeater.



Smiling TECHs and VEs

Several other NCRC Junior Members are students at Bishop Hendriken HS. Perhaps we'll see some kind of net form between both schools. And then there is the upcoming second Rhode Island ARISS contact at Bishop Hendriken HS coming this fall. A tip o' the hat to you Mike Cullen, for making youth radioactive!

Emergency Expenditure

In reviewing our equipment for Field Day, we discovered that several of our tower sections had deteriorated over the winter. Unfortunately, because they no longer met our safety standard, they had to be condemned.



Note the rusted top section

Replacements are needed for three Rohn tower sections and three Rohn top sections costing about \$1,500.

This posed a dilemma for the Executive Committee: Field Day is one of our biggest club activities and involves more members than any other. But the May meeting had just passed and the June meeting would not allow enough lead time to make the replacements.

In view of these circumstances, your Executive Committee met and discussed the options available and then voted unanimously to authorize the purchase of the required replacement tower sections and tops along with the required hardware.

Full details will be presented to the membership at the June meeting for your consideration. The membership will be asked to ratify the EC action with a vote of approval.

Field Day 2017!

Ham Radio's Open House

Days are getting longer, sun's higher in the sky—must be Field Day time! The fourth weekend in June, the 24th and 25th this year, is when more than 40,000 hams throughout North America will set up temporary transmitting stations in public places to demonstrate ham radio's science, skill, and service to our communities and our nation. Field Day combines public service, emergency

preparedness, community outreach, and technical skills all in a single event. An annual event since 1933, FD remains the most popular event for NCRC and ham radio. Although home stations may participate, the emphasis is on temporary stations set up "in the field" and off the power grid.

The Little Club That Could

The amazing thing is that NCRC, at just under a hundred members, is small compared to many in the country. But like Dynamite, great things come in small packages. When the dust settles each year, NCRC consistently places near the top of the most competitive 2A category! Did I mention that we were second in the US last year?

Something for Everyone

If you have not participated in our Field Day, you might assume

that this is an event for vacuum tube old timers, but wait:



John Haeefele working GOTA

Our fanciest setup is the Get On The Air tent—GOTA. With full equipment, excellent antenna, lights and other amenities, including an *experienced coach*, the GOTA station is expressly for getting new or inactive hams on

the air. And that includes anyone without any experience at all! And then there is the family picnic bar-b-que Saturday evening. Some folks come just to help with setup and tear down at beginning and end. There really is something for everyone.

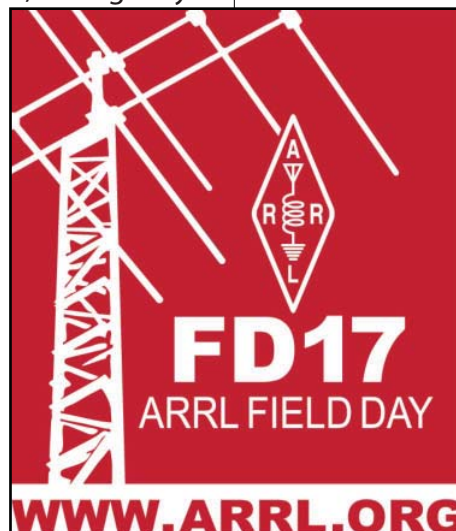
Here's How to Sign Up

Contact John King, WA1ABI, to plug into any of the Field Day operations.

wa1abi@cox.net

Contact Ed Gosling to reserve seats for the family picnic:

edward.gosling@cox.net



Island activations

Several of the Island activators met April 25th at the Coddington Brewing Company to consider activations for the coming summer. Chuck Kesson, N1CKT, represented the Upland Activators—those who approach by boot, kayak, or waders. The others were Island Activators, those who approach by power boat.

Least anyone fear that we're running out of islands, here is a listing of activations we considered:

- Beach Island - Point Judith
- Plato Island - Point Judith
- Walker Island - Bristol Harbor
- Little Gould - Sakonnet River
- East Island - Sakonnet Point
- West Island - Sakonnet Point
- Gooseberry - Ocean Drive
- Bassetts Island - Cataumet
- Bird Island - Buzzards Bay
- Penekese - Buzzards Bay
- Bird Island - Buzzards Bay
- Nashawena - Elizabeth Is.
- Weepeeket - Elizabeth Islands
- Bull Island - Woods Hole
- Nonamesset - Woods Hole
- Uncatena - Woods Hole

This year's first activation, Gooseberry Island, is tentatively scheduled for June 17th. Activation operating is casual with time to add more to exchanges beyond calls. And yet we usually make more than 100 contacts in a short day. Interested? All are welcome to join in on a first come, first served space available basis.

W1SYE Repeater News

Although the W1SYE repeater remains with reduced coverage during maintenance, John King, WA1ABI, has taken advantage of this time to build resiliency into the repeater enterprise. Here is his report:

Several of our club members have been trained on the operation and maintenance of the new W1SYE VHF repeater. The training course consisted of four 2-hour classroom sessions augmented by hands-on exercises using the actual repeater hardware. This was a unique opportunity, as the repeater is temporarily installed at the Portsmouth EOC and therefore easily accessible.

The first training module was a basic "Repeaters 101" ramp-up, the following three modules were specific to the W1SYE GE MASTR II repeater.

Trainees included:

- Bob Beatty WB4SON
- Dave Brown KC1GPA
- Brian Cottle N1TBT
- Ed Gosling W1NQH
- Chuck Kesson N1CKT
- Paul Mankofsky KC1AQP
- Paul Silverzweig N1PSX

We now have a strong bench of qualified repeater technicians who should be able to keep the W1SYE repeater running well for many years. Additionally, the old Maggiore repeater and the Wacom duplexer will be kept as ready reserve drop-in replacement spares.

With assistance from Paul Silverzweig, N1PSX, and Dave Brown, KC1GPA, John performed full duplex weak-signal receive tests and tuned the PA Z-Match into the duplexer.

To perform the receive duplex tests a "leaky tee" connector was inserted into the receive line between the duplexer and the receiver and an FM modulated signal was injected. With the repeater transmitter off, the signal generator's RF output level was adjusted to produce a very noisy weak signal into the receiver, just strong enough to hold the squelch open. Then the repeater transmitter was turned on and we were delighted to observe no degradation whatsoever of the weak signal. We repeated the test many times with the same excellent result.

This configuration also allowed us to measure the insertion loss of the duplexer. The duplexer exactly met its 1.5 dB insertion loss specification.

We then tuned the PA's Z-Match into the duplexer/dummy load. Initially the PA final stage drew 14 Amperes when transmitting. After adjustment, the PA drew 13 Amperes at the same output. That's an improvement of 12 Watts of waste heat not being generated by the PA. This adjustment might change slightly when the real repeater antenna is connected.

Many thanks Dave and Paul for your help.

John King, WA1ABI

The Consortium

Rhode Island's ARRL Section Manager and long-time DXer, Bob Beaudet, started The Consortium eight years ago. Here's his description of the how and why:

Back then, I felt that despite having passed their FCC exams, a great many hams held beliefs about setting up and operating a station that were incorrect. I had the choice of complaining about it or trying to do something. The result was The Consortium.

Originally it was an independent agency with the idea of promoting basic radio knowledge concerning antennas, transmission lines, operating procedures, grounding and other primary issues. Then three years ago, my club, Blackstone Valley Amateur Radio Club embraced The Consortium as a club program, but as in the beginning, attendance remains open to all.

Invitation to all

The Consortium is held at the Asia Grille on Washington Highway Rte. 116 in Lincoln, starting at 6:30 PM. If you wish to enjoy dinner with the group, please plan to arrive about 5:00 to 5:30. The following link takes you to an excellent short video about *The Consortium*. Look for our Bob Beatty, WB4SON:

<http://www.w1ddd.org/consortium.html>

For more information about *Blackstone Valley Amateur Radio Club*:

<http://w1ddd.org>

ARISS at Bishop Hendriken

Mike Cullen, K1NPT, reports that the second Rhode Island Amateur Radio on the International Space Station exchange is on track for this fall.

ARISS has asked Mike to focus planning on the week of October 16th through 20th. About mid-September Mike will rank five date/time options for the actual exchange.



Setting up the tracking antenna

You will recall the number of helping hands that were needed last year for the All Saints Steam Academy exchange. Mike indicates that much of the support services will be provided by BH, but skilled NCRC hands will still be needed to set up the station.

In the mean time, classes have been asked to highlight space research. Bishop Hendriken has prepared a website dedicated to the ARISS exchange:

www.rispacestation.com

W1ADD Repeater News

Bob Beatty, WB4SON, reports that W1AAD DSTAR repeater is back on the air running the latest Icom G3 controller software. This proves out all the new hardware that the gang has been working on for the past several months. Over the next couple of days, once we are sure the G3 system is working fine, additional software features will be added. So it may be up/down a bit for a few more days before all the non-icom features are added back in.

Bob thanks everyone who has worked on this upgrade.

Pixie News

For those interested, Super Pixie kits with acrylic cases remain available. Also available are crystals at various frequencies and crystal holders.

Newport Bridge Woes

Unless you live in a cave, you know that there are dark times a-coming due to major maintenance on the Pell Bridge. The first few days caused such horrendous delays that the Bridge Authority has changed their schedule, now to begin Tuesday, May 30th, and run 24/7!

It remains to be seen what will happen to our informal weekly breakfasts at Chelsea's, perhaps something in the evening?

Radio Over Time

Radio history can be divided according to how transmitters are positioned. My father was an Air Force communications officer and ham and I was known as *Chassis Lad*. With drills, files, and a Greenlee punch, I was in charge of converting aluminum boxes into huge chassis for various transmitters.

In the late 50s, we built a six-foot tall behemoth. The power supply in the bottom sported a chrome plated hand wheel that varied input power. Full over, it lit up a string of 100-watt light bulbs as bright as midday. This quarter ton gym locker had wheels, but they only allowed turning for rear access.

Table Top Convenience

The behemoth had to be abandoned in a move to France, but not long after we built a Heathkit TX-1 *Apache*. This table top transmitter ran AM at 150 watts input. Two things had changed since the 500-watt bulb burner: Even though the *Apache* weighed 105-pounds, it was small enough to sit on a sturdy bench. And our sense of power needed had scaled down.

This marked the beginning of table top transmitters. TV fans everywhere breathed a sigh of relief as those TVI-prone beasts retreated. Floor model transmitters were still around, but the trend was clear.

Transmitters in Your Hand

Up to this point, transmitters used vacuum tubes; voltages

Of Transmitters and QRP

were high and circuits were built of heavy point-to-point wire. Hams were well familiar with "One hand for the radio, the other in your pocket." But things were changing fast. The first transistors were wired into the same point-to-point architecture, but it wasn't long before printed circuit boards took over allowing miniaturization and ever lower operating voltages.

Pixies and Other QRP Radios

Along with the reduction in size has been a growing appreciation of skill over brute force. The recent club Super Pixie build project is an example of a tiny transmitter that is capable of the same things that their QRO cousins can do. Operating QRP requires patience because usually it takes more time and effort to make contacts. But the sense of accomplishment is well worth the effort. With the arrival of pocket radios, a new operating mode evolved—backpack mobile. It would have taken a Cecil B. DeMille epic to take even the modest *Apache* into places that are routine operating venues for QRP rigs.

QRP at W1LY

Willy MacLean has been having great QRP fun with his Super Pixie and a new SSB kit. Here are some of his reports:

I had a ten-minute QSO at 00:46Z on 7.023 MHz. After calling CQ CQ CQ QRPP several times, Jim, W9NJP, came back to me with congrats on QRPP, his name, QTH, and RST (449). He was Managing Editor

of QRP ARCI Quarterly for two years and holds ARCI number 7153. He said he was running an FT-890 into a doublet with 100 watts.

I told him that I was running 200mw into an inverted V at 50 feet and that he was my second QSO on my just-completed third Pixie. He responded that he likes to respond to QRPs (I think my QRPP CQ is why he called me) and that he was honored to be my 2nd contact. After telling me he was 70 and had been a ham for 57 years, he turned it back to me with his 73s and I responded that I was 73, sent my 73s also and we signed.

I have worked TX,AR, and OK this way with the Pixie. More XTALs would be helpful. I would like to have an XTAL for each KC over 12KC or so or a VFO. 7.040 MHz is almost useless as so much digital activity is located there. I understand that there is a lot of slow CW around 7.114 MHz. I think we should check out that band segment

QRP ARCI sponsors an award for contacts made over one thousand miles per watt. Willy's QSO with Jim works out to 4,300 miles per watt—slam dunk!

Note Just Code

Willy reports that his latest QRP radio is a SSB kit with an incredibly quiet receiver. He just had a voice QSO with a ham in Russia! Clearly QRP is a viable operating mode packing lots of fun.

QRP Amateur Radio Club
International.

<http://www.qrparci.org>