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Messenger 2.0



Blackstone Valley Amateur Radio Club's Quarterly Newsletter

W1DDD.org

ONE BIG HAM PARTY



By RONALD R. BLAIS, KB1RYT

Freed from the shackles of the COVID19 pandemic restrictions, BVARC members returned to the grounds of the Scituate Senior Center, after a year's hiatus, for Field Day 2021.

This year's exercise proved more than a test of the club's readiness to provide emergency communication, simulating a national emergency or disaster. Unable to gather together in Scituate in 2020, this year's observance enabled club members to renew acquaintances, as well as share experiences and camaraderie in a group setting.

The visitors log reveals 20 individuals attended Field Day 2021. Club members provided tours of the facility, with visitors offered the opportunity to operate radios and make contacts at the GOTA station, which featured Mickey Callahan's, K1WMC,

* NOTICE *

BVARC MEETING

September 27th @ 7:00PM
Polish National Church
500 Smithfield Road,
Woonsocket, RI.

CONSORTIUM

October 4th @ 5:00pm
Manville Sportsman's Club
250 High Street
Lincoln, RI



FT8 AND FOOD... LOTS OF IT!

home-brewed "QSO-a-go-go" radio trailer.

The CW station also made its reappearance this year manned by Bill Rossi, KA1QYP, and Marc Hofstra, KA1YQC. Rossi's home-brewed "cootie" CW key drew particular interest.

The club's third station was devoted to voice and FT8.

Two field demonstrations were woven into this year's program. On Saturday, Mike Kenney, K1ETA, described the equipment required for portable operation and QRP. The Sunday program featured Bruce Wood, W1BRU, demonstrating how to make contacts utilizing satellites.

A trademark of BVARC field days has been a smorgasbord of food. Anne Johnson served homemade sandwiches and Carol Trudel provided a homemade fruit salad for Saturday's lunch. Saturday night saw Jon Foster, KC1FUU, and Al Meyer, KD2HPP, manning the grill in serving hot dogs and hamburgers.



ANTENNA...UP, UP AND AWAY!





The club's field day committee and volunteers are the backbone of field day activities. Preparations begin months ahead of the actual event. This year's preparations proved especially trying because of pandemic protocols requiring virtual, rather than in-person meetings.

One task involved assembling and testing the club's new beam antenna prior to field day.

The committee and volunteers also gathered the day before field to prepare the site and raise the new beam and dipole antennas.

Field Day Committee members are: Chairman Mickey Callahan, K1WMC, Tim Connell, WA1GLY, Marc Caouette, W1MCX, Club President Ken Trudel, N1RGG,

Mike Kenney, K1ETA , Jon Foster, KC1FUU, Bruce Wood, W1BRU, Ed Fox, N1JIL, Jim Johnson, K1GND, Teri Diiorio, W1PUP, and new club members Paul Fontana, KC1IEN, and Mark Hofstra, KA1YQC.



HOW TO'S & HOME BREWS

From our President

Hello Fellow BVARC Members,

I don't know about you, but I'm amazed how the older I get the faster time seems to slip away. It seems like only yesterday that we were talking about *Field Day 2021* and now it's in the rearview mirror! It was indeed a fantastic and very successful weekend for everyone who attended and for the general public who stopped by.

Some of my observations were the number of new BVARC members stepping up to help out and as always the seasoned Field Day veterans setting the course to guide our newest members. The quantity, quality and variety of informative demonstrations and learning events, the follow-up articles to be seen in this edition of The Messenger, the operation of a portable fully contained radio station trailer, low-power (QRP) operation and homemade antennas, a demonstration of live satellite tracking and use of digital modes such as FT4, FT8 and APRS. The delicious food preparation to the overwhelming numbers of enthusiastic hams showing up to help take all of the equipment down, it was in my opinion a complete and total success! Thank you to all in front and behind the scenes in making this such a memorable success.



On September 27th we hold our first “in-person” monthly BVARC meeting at the Polish National Church, 500 Smithfield Road, Woonsocket, RI. The meeting starts at 7 p.m. It's expected to be a full meeting so please make every attempt to be on time so you don't miss anything exciting. The BVARC officers and Board of Governors have worked very hard to develop the new By-Laws which will help guide our organization both now and into the future. Look for a discussion on this at this meeting.

While the Consortium is a separate entity from BVARC, we often provide assistance to them in getting announcements out. Following in that tradition, we want to bring to everyone's attention that the **Consortium will be holding classes at the Manville Sportsman's Club located at 250 High Street in Manville which is part of Lincoln, RI, on the following dates.**

October 4th, November 1st, and December 6th. Doors will open at 5:00pm.

The Consortium will endeavor to get back to the Asia Grille starting in January assuming the restaurant has a sufficient wait-staff. Look for future announcements on this from either Bob Beudet, W1YRC or Jim Johnson, K1GND.

Three quarters of 2021 is already behind us. I'm eager to once again see everyone at the September 27th BVARC meeting and I'm anticipating an informative meeting.

*73, N1RGK
Ken Trudel
President, BVARC*

HAMing It Up Crossword

BY BOB JANUS—KA1EMH

ACROSS

- A3 An un-driven antenna element or an unwanted resonance
- A13 The father of dits & dahs
- C3 Type of solid state display
- C13 Name of tuned circuit in the final stage of a radio transmitter
- D7 Type of resistive load
- F1 Frequency shift due to relative motion between source and receiver
- F10 Type of high voltage capacitor
- H1 If you are a HAM you probably own one or more of these
- I5 milli, micro, nano, ____
- I10 A HAM license class no longer issued by FCC
- K5 Type of microwave radio component
- M1 Produced when two sinusoidal waves of nearly the same frequency are combined
- M9 The "U" in UTC
- P3 Types include watt, voltage, and S level
- P9 Type of waveform

DOWN

- B1 Home of WWV
- H2 Type of electrical power
- A3 DX traffic jam
- M4 Put your monster beam antenna on top of this
- F5 Type of fox hunting antenna
- A7 60-40, rosin core, no-lead
- I7 Type of polarization
- D10 Amplitude, frequency or phase
- A13 Extraterrestrial object produces occasional radio contacts
- L13 Type of diode
- K16 Stay on frequency, don't touch that ____

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WORKING THE SATELLITES

BY BRUCE WOOD—
W1BRU

Hello to the BVARC community, it was great to be able to demonstrate satellite communications this past field day. Although I was not successful in making an actual contact, at least those attending got to hear a satellite as it made a pass overhead and many hams attempting to make a contact including myself, but it is difficult to do at times for sure, but



persistence does pay off.

I wanted to share with the group my favorite QSL card. I made this contact back in 2011. It was a maritime mobile station aboard a container ship from the Ukraine somewhere in the area of nova-scotia. I worked Yuri on satellite ao-51, and shortly after we exchanged QLS cards. My satellite log book contains close to 200 entries to date. It's a fun part of amateur radio but like anything else you have to work at it for the end result.



SATELLITE AO-51



WE MADE THE NEWS



POTA 101

BY MIKE KENNEY— K1ETA

So you say what is POTA? For those who never heard of it POTA is a program called:

It was developed to promote

This article is an introduction to POTA is a brief description of what it is about and how to get involved. The challenge is to visit



Parks On The Air.

emergency awareness and communications from national/federal and state/provincial level parks with the intent of having fun similar to Field Day. It is spin-off from an ARRL program called National Parks On The Air that took place back in 2016 to celebrate the National Park Service 100th anniversary. You were encouraged to travel to National Parks and operate portable bringing attention to National Parks and Amateur Radio. POTA is similar. It is brought to you entirely by volunteers, is free with no obligations and is open to all licensed amateur radio operators.

a park, set up and operate from the park making contacts. Keep a log or not. Qualifying parks are listed on the POTA website and are easy to find. Each park is shown on a map and has a unique number designation. You must operate from a qualifying park so check before you go out.

When you go to the park to operate you have become an “activator”. When you make ten contacts you have “activated” the park. You can stop at ten or you can keep going as long as you like. There is nothing too spectacular about activating a park except for the sense of accomplishment in doing it. It is

especially satisfying when you are the first one and or when someone says “Wow, thanks for RI” (Assuming you are in RI). You can activate the same park many times and more than one person can activate any park on any given day. Some activators activate multiple parks in one day. You keep your log, upload it to POTA where your QSO’s are confirmed much like LOTW and a few days later, low and behold you show up on the list of activators for that park just like that.

Did you know you can also do POTA from the comforts of your shack? It’s true. You can listen up and down the bands looking for activators calling “CQ POTA” on any given day or evening (mostly days) and try to contact them. That makes you a “hunter”. If you don’t want to scan the bands the old fashioned way then you can also go the POTA website where they have a spotting page to list current activators by call sign, park designation, last heard and mode. That gives you a clue on where to tune and where activators are located on the bands. If you are an activator



Rhode Island’s Own Slater Mills National Park

Across THE Spectrum

NORTHEAST HAMXPOSITION

Sept. 10 to 12 at the Best Western Royal Plaza,
Marlborough, Ma.

BVARC SIMPLEX NET

Every Wednesday at 7 p.m. on 146.565.

AMATEUR RADIO LICENSE TEST SESSION

October 9, at 9 a.m. in the downstairs room of the Polish National Catholic Church, 500 Smithfield Road, Route 146A, Woonsocket. For more information, contact Bob Jones at bjones949@gmail.com. Complimentary coffee and donuts available at 8:30 a.m.

Pre-registration preferred and Pre-completed 605 form.

Download form at: <https://transition.fcc.gov/Forms/Form605/605.pdf>

General Instructions for ARRL VE Exams:

Candidates should bring a **COPY** of your current amateur license. Though not required by the FCC, the ARRL/VEC requests that one be provided. The lack of a copy could slow the processing of your test results.

You must prove identity by means of two different ID's, one with a picture.

You should have with you all **original** and **copies** of your Certificates of Satisfactory Completion of Examination (CSCE) issued to you at any previous VE session **ONLY** if you have **NOT** received your most recent license upgrade. Again, the CSCE is not needed if the passed element credit has already been reflected in your present license upgrade from the FCC.

We forward your copies of the above information to the ARRL/VEC along with your examination papers. All copies of documents should be made before arriving at the test session. We have no copying facilities at the test site.

The current test fee is **\$15.00**. The exact amount would be appreciated or a check made out to the **ARRL/VEC**.

RI SWAP AND SELL NET

Net: Saturdays 9 a.m. on the NB1RI repeaters

Website: RISWAP.NET

A place where RI amateur radio operators can swap and sell items free!

The net runs on Saturday mornings at 9 a.m. on the NB1RI network.

Weekly listings of VE sessions, club meetings, nets on the air, bulletins, flea markets, used and wanted ham radio equipment for sale and weekly ARRL audio news.

you can spot yourself so others will know what park you will be working from, what band you will be on and what mode you will be working.

The only catch in being an active participant is that you have to sign up. There is no cost or obligation to sign up but you must sign up if you want to obtain credits as an activator or hunter. You can be an activator, hunter, both or one or the other. Your QSO's will then be tracked and will make you eligible for one of their many awards if you like. Many people never activate at all and become only hunters. Without hunters there would be no POTA so if that's your thing then go for it.

I have to say it is a lot of fun. You can work SSB, CW and digital if you like. If you are the contesting type and are interested in awards there are many milestone certificates for both activators and hunters. A lot of people think POTA it is only QRP. That is not true. Most activators work 100 watts with rigs like the Yeasu FT-891 and the ICOM 7300 like we used on BVARC Field Day. All you need is a radio, battery and a piece of wire.

Over the last few years POTA has really taken off and has expanded from only North America (US and Canada) to 49 other countries throughout the world. If you would like to see some activators in action I suggest you do a search on YouTube for POTA and you will be deluged with information. Try searching for "K8MRD Radio Stuff", "Outdoors on the Air", "Tom Witherspoon" or "Tango Oscar Mike" to name a few or reach out to me at K1ETA@ARRL.NET and I would be happy to answer any questions that you may have or catch up with me at the next BVARC meeting.



*Bryce Canyon National Park
- Courtesy of Getty Images*

The Challenges and Joy of Portable Operation

BY BILL ROSSI — KA1QYP

Getting out of the shack and operating away from home is challenging, and

fun. It may even be possible to make some contacts that you can't from home. Also, it will help develop your skills as an operator and help prepare you for emergency communications.

Operating portable can mean different things to different people. Some think of portable operation as taking a truckload of gear out to the field and setting up a station like we do at Field Day. Some think of it as operating from a mountain top, or a vacation destination. One thing these all have in common is that you will be carrying your gear and antennas. Because of this the weight of our gear is important.

One of my first portable adventures was activating the summit of Mt. Wachusett. I brought my Yaesu FT-897D and a fiberglass mast to set up a vertical antenna. The radio gear alone weighed almost 20 pounds, plus some more for food and water, etc, so I was carrying a 30-pound pack up the mountain. After reaching the summit and being quite tired, I realized that the weight of my gear was important and needed to be minimized next time.

That trip up Mt. Wachusett was 7 years ago, and I've learned a lot since. Carefully selecting your gear, knowledge of propagation, choice of location and choice of mode can make a big difference

in how successful you are on a portable operation.

CHOICE OF LOCATION

Most people know that mountain tops are good for radio as they allow you to get your antenna high above the surrounding terrain, even if its only a few feet off the ground. But operating near bodies of water is also quite effective. Water increases ground conductivity, which reduces the amount of signal you lose into the ground. Being on the seashore gives very good results, but operating near a pond is good as well. In general,

I try to find the highest ground I can, or near a body of water.

CHOICE OF MODE

When I went up Mt. Wachusett the first time, I was operating SSB. While SSB may be fine when operating portable from a vacation home, it's not ideal from a mountain top. I barely knew CW at that time, but portable operating was a major motivation for learning it again. There are real advantages to operating CW which makes making contacts easier. First of all, you can get by with less power on CW as compared to SSB, and less

power means less weight to carry. Low power gear weighs less because all the components are smaller. Lower power also means carrying smaller



Let BVARC forward your DX QSL cards at no cost to you!

BY BOB BEAUDET—W1YRC

Many of us, especially the active DX chasers and contesters, receive large quantities of QSLs through the so called “bureau” system. The incoming bureau is made up of volunteers within different clubs in the various call areas. There is a very small fee involved to receive your cards. Details may be read at <http://www.arrl.org/incoming-qsl-service> .

Here in the first call area, the common practice is to maintain a small cash balance, usually \$5-10, from which the cost of postage and envelope necessary to forward your cards to you will be taken. Your cost per card is a few cents. Mailing your QSL directly to a DX station or a foreign QSL Manager plus providing payment of postage to send the DX QSL card back to you is generally between \$3 and \$5 per card.

Obviously, if the QSL in question is a new one for DXCC or one required to attain DXCC Honor Roll status or some other special reason, we’re happy to send directly. But when we’re active and make dozens or hundreds of DX contacts, we’re going to receive lots of QSL cards that generally request one of your QSL cards in return. The bureau system is your practical method to answer these cards.

BVARC provides its members with some help in sending your cards. Members may combine their cards and have BVARC send the combined cards to the outgoing bureau which is located in ARRL

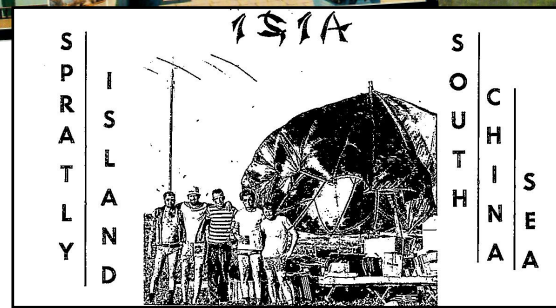
SAPPORO JAPAN
JH8ISO

ZONE 25
JCC# 010107
GL:QN03PC



P29ZL

Papua New Guinea
Eastern Highlands
QI23wp
IOTA OC-34



HQ in Newington, CT. Details of the outgoing QSL process may be found at <http://www.arrl.org/outgoing-qsl-service> .

If you are a BVARC member, all you need to do is gather up your completed cards, put them in alpha/numeric order and get them to Bob, W1YRC who is BVARC’s point person for this process. He will combine the cards from all members, weigh them and get them to ARRL by mail, UPS or hand carry. The cost per card is less with greater quantity, so BVARC does not forward cards until a pound or more is reached. So, if you are sitting on some cards that need to be answered, please get to it and get the completed cards over to Bob.

Some countries have no QSL Bureau, therefore cannot accept any cards. This list is provided under the title “Countries Not Served By the Outgoing QSL Service” at the website above. Do not include cards for these destinations since BVARC has no way to deliver them for you. However, sending your cards via the bureau can save you a considerable amount of money while maintaining your obligation to confirm your contacts. Of course, delivery is far slower than direct mailing but a great deal less expensive.

batteries, which weigh less. This weight difference can be quite significant. A modern 100 W transceiver can weigh 10 pounds, compared to an Elecraft KX2 at 13 ounces. In addition to the rig itself, low power antennas and batteries also weigh much less.

The modern digital modes offer some of the same advantages as CW as far as getting through the noise are concerned, but they require having to carry a computer or tablet, and a SSB capable transmitter. SSB transmitters consume more power and weigh more than CW-only rigs because they have linear RF amplifiers. These linear amplifiers require a bias current that consumes power even when they aren't doing anything, and thus have bigger and heavier heat sinks.

CW only rigs really shine when it comes to portable operation, as they can be much simpler designs and thus consume less power. Less power consumption means less weight in batteries. Some have receive standby current consumption as low as 70 mA, such as the QRP-Labs QCX mini. Compare that to the 400 mA on the KX2 or the 1A of most other ham rigs not built for portable operation.

While I sometimes take my FT-897 for portable operations where I'll be sitting at a picnic table not too far from my car, it's less than ideal from a weight and power consumption standpoint. It draws at least 700 mA on receive, and 4A when transmitting a 5-watt CW signal! Why so much on transmit? Well its designed as a 100W SSB rig, and that linear PA requires a bias current suitable for a 100-Watt signal even if you have it turned down to 5 watts.

ANTENNA CHOICE

If you're going to be operating low power, then you need to minimize

losses wherever you can. So its very important to have an efficient antenna system that's radiating in a useful direction. Lets review a few popular antennas for portable operation.

- **Center fed Dipole.**

The dipole is an efficient antenna, but only if you can get it high off the ground, at least a $\frac{1}{4}$ wavelength. This can be quite a challenge in the field, even if you have tall trees to use. The center of the dipole is where most of the radiation comes from, so it's important to have this up high. Your support will also need to hold up the weight of the feedline, and you have to bring enough feedline to reach that high. Also it's important to have a balun to prevent feedline radiation. This can be done in the field simply by making a small coil of feedline up near the feed point of the antenna. Just a couple of turns will do the job. Because of all of these requirements, I rarely use a center-fed dipole as a portable antenna. If I can't get it high enough, I end up losing power into the ground, and the radiation pattern is then mostly straight up.

- **Vertical antenna.** On 20M and higher frequencies its fairly easy to set up a $\frac{1}{4}$ vertical antenna. I've also been successful with a vertical antenna with a loading coil on 40 and 30 meters. These antennas require radials to be efficient, and $\frac{1}{4}$ wavelength elevated radials work best. The vertical antenna only requires one support point, and offers a low radiation angle. Because the feed point is down near the ground, you don't need to carry much coax, and that minimizes feedline losses. A lightweight



fiberglass pole can be used for the support if trees aren't available.

- **End-fed Half Wave.** This antenna is a resonant multiple of a $\frac{1}{2}$ wavelength that's fed at one end. It does require a special transformer for impedance matching but offers some significant advantages. Since the wire can be any multiple of $\frac{1}{2}$ wavelength, it can be used on multiple bands. A 66 foot wire will work on 40, 20, 15, and 10 meters for example. A single $\frac{1}{2}$ wave length of wire is like a dipole, but having a full wavelength or more will offer some gain and a lower radiation angle.

- **Magnetic loop.** These can sit right on the ground with a small tripod. They don't require any other vertical support. They can be tuned across multiple bands, but will be heavier to carry than the alternatives. They also have extremely narrow bandwidth, which may or may not be a problem. These are quite useful on treeless mountain tops where there are no supports or ground anchors.

BATTERIES

- **Gelled Lead Acid batteries** are common and inexpensive. They come in an appropriate voltage, and are easy to charge. They are

however, fairly heavy.

- Lithium Ion batteries are lightweight but require more sophisticated chargers and aren't available in a nominal 13-14 volt range. They come in 11.1 volt which is a bit too low, and 14.8 which is a bit too high. For QRP operation, I use lithium ion combined with a DC-DC boost converter that gives me 13.8 volt out from my 11.1 volt battery.

- Lithium Iron Phosphate (LiFePO4) batteries seem to be

the best of both worlds. They come with appropriate voltage, are light weight and are almost as easy to charge as lead-acid batteries. This is what I use for higher power portable operations.

OPERATING TIPS.

The *Parks on the Air* (POTA) and *Summits on the Air* (SOTA) can make your portable outings more fun as well. In these programs, you can advertise your portable operation online and then other stations will be looking for you. This makes it much easier to make a bunch of contacts in the

short amount of time you may have outside.

Calling CQ may not always work well since your signal may be weaker. Instead try answering other stations calls, or tail-ending another QSO. The strongest stations often have big antennas and are better able to hear your signal.

Chicken Soup for Field Day

