

FeedPoint

VOLUME 1, ISSUE 2

MAY 2020

ST JOHN VALLEY
AMATEUR RADIO
ASSOCIATION

WHAT'S IN THIS ARTICLE:

- ◆ Monthly Meeting Review
- ◆ What's New in Amateur Radio
- ◆ Club or Member Projects
- ◆ Reader Submission
- ◆ Upcoming Events
- ◆ Quick Tips
- ◆ Swap - Buy - Sell
- ◆ Random Stuff
- ◆ Info / Links



Watch for the Tesla coil to see where you can contribute to the newsletter!

Mailing Address

SJVARA
Attn: Travis Devoe
3191 Aroostook Rd
Eagle Lake. ME 04739

Our New Monthly Newsletter Is Here!

The purpose of this publication is to keep you updated on club events and news as well as everything new in ham radio. It includes thoughts and ideas from our club meetings and events as well as new tech and news in the amateur radio community.

If your not already subscribed,
email sjvarafk@gmail.com Attn: newsletter



Photo of the Month

Old Rocky Mountain Fire Tower (cab has since blown off the metal structure)

To submit a photo, email it to sjvarafk@gmail.com Attn: photo of the month



Monthly Meeting Review

The May meeting was held once again online, hopefully that will be the last time we have to do an online meeting. We will plan on doing the meeting for June in person, most likely at an outdoor venue. The Soldier Pond rest area was one suggestion made as well as 10th mountain parking lot. If anyone has another idea let us know.

Our one day tech class is a go! So far we have 13 signed up for the 20th of June. This will be a one day 8-4 class with the tech exam administered around 3pm. This class is being organized by the SJVARA and AARA

and is being hosted/sponsored by the Aroostook EMA. Thank you Darren for offering to cover the costs for the students!

The former Eagle Lake Fire Department Rescue/Jaws unit is officially ours! The ELFD/Town of Eagle Lake donated the 1993 E350 Ambulance, to the club. See club project section for more. The box from the box van was in too poor condition so we didn't take it.

At some point this summer, I would like to host a Summer Radio Day. This would be a great opportunity to get some publicity. This would be an all day event to showcase ham radio to the public. If you have any ideas or gear to assist in this event email us at sjvarafk@gmail.com

Another summer event I would like to host is a Fox Hunt, although we would have to come up with a cheap way to make a couple different foxes. I would like to have at least 3 or 4 different beacons to hide. The first team to find all of them and get a picture of themselves with each beacon wins. More on this to come.

Membership
Payment Links



What's New With Amateur Radio

DMR has become quite popular in the last year and the last month or two specifically has seen a huge increase in DMR usage. The virus has a big part to play in this uptick of traffic I'm sure, and it means more and more people are buying DMR radios and hotspots to get in on all the fun.

These are a few budget radios and gateways that will allow you to access any talk group on the DMR-MARC or BrandMeister networks with only a few clicks of your mouse.

The best radio according to customer and amateur opinions is the TYT MD-380. This is a single band (vhf **OR** uhf) digital radio and is by far the most popular on the air today. If you want a dual band HT get the TYT MD **UV**-380. The outside is almost exactly the same, however the internals are very different. Both the single band and dual band versions go for around \$100 on amazon. Without getting too much into it, most single band radios use superhet receivers while **all dual band DMR** radios at this time use direct conversion.

Next up is the Ailunce HD-1. While a little more expensive at just under \$200 from amazon, it offers better styling in my opinion and has more frequent updates to fix bugs or unleash new features. And, although it may not matter much, the Ailunce HD-1 puts out a whopping 8.2 watts on VHF and 8 on UHF. (power figures from www.miklor.com)

The last radio on my list is the AnyTone D878UV. This is the most expensive radio here but for good reasons. Although the display is on the small side it has the best customization options of them all. It also has a very large user base and, as with the HD-1 above, the manufacturer actively works with hams

to develop and expand on the firmware. The D878UV is available on amazon for around \$210.

Hotspots are nothing more than a gateway to connect your radio to a particular talk group via the internet. This is useful if you don't have a DMR repeater nearby but it is also the only way to access every talk group available on the DMR-MARC or BrandMeister systems. Of the 71 available talk groups on the DMR-MARC system, repeaters can only access 16 at any one time. This is a limitation of the programming software and or hardware. A hotspot can access any talk group, on any system, (DMR-MARC and BrandMeister are not the only ones) at any time. All it takes is a computer or smartphone browser and a few clicks.

Personally I have no first hand experience with these hotspots. What I can tell you is the openSPOT by SharkRF seems to be the most popular and simplest to set up, but are hard to get and extremely pricy. ZUMspot is the next best thing and is what's referred to as an MMDVM board or Multi Mode Digital Voice Modem. Paired with a Raspberry Pi and Pi-Star software it not only does DMR but it also supports YSF, D-Star, P25, NXDN, and other digital modes. The trade off is they are more labor intensive to set up but there are very detailed write ups and videos online to get you up and running relatively smoothly. Check out [this video](#) by KJ4YZI for more on MMDVM and Pi-Star.

HRO has both the UHF only and dual band VHF/UHF versions available for \$120 and \$155 respectively. If you have a single band VHF (TYT MD380) radio you'll want the dual band ZUMspot.



MD-380



MD-UV380



HD-1



D878UV



Single Band ZUMspot



Dual Band ZUMspot



Club / Member Projects

Club Trailer Build

We (the club) have taken ownership of one 1993 Ford Econoline E350 Ambulance. I've since cleaned out all the trash and vacuumed the floor. The inside is much cleaner than I originally expected and won't take much work to get it operational as a "radio trailer".

After looking at the whole vehicle the best solution I've come up with is to remove the cab completely. I originally was hoping to save it and just remove the engine, but the weight of the cab would be too much on the tow rig. The ceiling in the cab is low also so its not really a big loss. This will leave us with some room on the "A" frame of the trailer to mount the Briggs motor and alternator and other accessories such as spare tire or tool box. This rig also has a 2000 watt surge, 1000 watt RMS power inverter built in with outlets already wired

in. Its also got interior and exterior lighting built in and although the light flasher will have to be removed and the red lights changed to white, more than half the lighting battle is over. The body is mostly fiberglass and is in pretty decent shape. Once completed the club should expect to see a good number of years of use out of it, provided the salt doesn't do too much damage.



To submit your project send an email to sjvarafk@gmail.com Attn: projects

Reader Submission

- "Internet is killing ham radio"
- "Cell phones are killing ham radio"
- "Millennials are killing ham radio"
- "Joe Taylor is killing ham radio"

Is ham radio really dying?

As I browse the online forums for information on

whatever problem I'm currently facing, I see more and more people complaining that amateur radio is dying and it's so-and-so's fault. Most recently its digital bashing, specifically DMR and FT8. Most of the time it's some salty old fart that's had a stick across his ass since the code requirement was lifted, and wants everyone to go back to HF CW. If this is you I apologize this is not meant to pick on anyone, only to make people think about what this hobby is about, where its at, and where it's going.

What most people fail to realize is amateur radio at its core is about experimentation and invention. New modes and system

designs should be embraced and expanded on, not shunned and discarded. This isn't to say that CW is useless and should be forgotten, it has its place just as every other mode does.

We also have to remember, not everyone enjoys every part of the hobby. There are so many different aspects and avenues to take, one couldn't possibly expect every new ham to learn code, or get an HF rig and start logging contacts. It's up to each new ham to decide what part or parts of the hobby he or she wants to elaborate on and connect with others who have the same interests. It's also up to each experienced ham to either help them on the aspects they are interested in or point them to someone who can. If someone comes to me and says "hey I would like to learn more about digital HF modes" and I tell them they should get a Baofeng and get on two meter analog, well I'm not really helping anyone am I?

New radios are being developed, gone are the days of vacuum tubes and through hole components. Microprocessors and computers are automating many of the processes that were once manually controlled. Gear that used to take up the entire desktop now fits in your pocket. Advanced digital signal processing makes it sound like your contact is standing next to you.



If you would like to submit something, email it to sjvarafk@gmail.com Attn: reader submission

What are you working on? Let us know what projects your starting as the snow disappears!

This section relies on you! Do you have a new invention or idea you want to share?

Did you buy a new piece of gear you want to review, or just brag about?

Have a funny story or personal experience?

If you would like to put together a short write up about it, send it in!



Reader Submission Cont.

Ham radio is changing every day. It's much different than 50 years or even just 20 years ago. The internet is much more prevalent in amateur radio and like it or not it's here to stay. Access to this high speed data highway is changing the game of amateur radio. My first ever home computer had a 56k dial up modem and you were lucky if you could get even half of that speed reliably. Today we have an internet connection that serves tens of wireless devices and is capable of over 100 Mbps! These connections allow us to run remote stations, link repeaters together, or synchronize clocks for digital modes. How many of you use QRZ to look up a call sign the moment you hear it, instead of asking the person his name and location over the air? The Internet makes this possible.

My personal experience with HF is, it's finicky. You need to devote a whole weekend or possibly two to set it up and make it work. I've had three different setups on three different houses in three different locations and every one was a bear to set up. Don't get me wrong once it's dialed in, I've had contacts from Japan, UK, Sweden, France, and India, but to get to that point was not easy. Today for less than a quarter the price of an HF setup I can hook a DMR, Fusion, or D-Star hotspot to the internet and talk around the world with a handheld. It doesn't weigh 500 pounds, didn't take two days to set up, didn't cost half my yearly income, and does exactly the same thing with one major benefit, 200% better audio quality. Now before you go off about "the internet isn't reliable", refer to my previous statement about what this hobby is about, experimentation and invention. Just imagine if Nikolai Tesla had access to the internet. We would all be chatting telepathically by now, not to mention we wouldn't be pissing money away to Emera.

Network 44, Broadband-HamNet, AMPRnet, and AREDN are all amateur radio internet networks. They're all running on off the shelf hardware, totally independent of "The Internet". There are Broadband-HamNet networks all over the US. They allow data, VoIP, IRLP, everything a normal IP network provides only in a closed system. All the hardware to make it possible can be run for days on just a car battery. You can even run a linked DMR system on HamNet.

FT4, FT8, JT65, and JS8CALL (formerly FT8CALL), are all digital, weak signal modes that allow contact where no other mode permits. FT8 can pull an S4 signal out of an S9 floor, even CW can't do that. JS8CALL is basically FT8 but with the addition of allowing 23 character messages, instead of just a signal report. All of these weak signal modes can help us make contacts where never before possible.

We also can't forget all the other aspects to the hobby that don't even involve voice. Weather balloons, telemetry, amateur Wi-Fi, all fall into the part of the hobby that deals with experimentation and invention. Just because no one is talking on 80 meters doesn't mean the hobby is dwindling.

"I don't want to talk to anyone nor do I want to listen to some boring conversation."

I want to LEARN, UNDERSTAND THE CONCEPTS, BUILD MY OWN SOFTWARE/HARDWARE. Just for the sake of it.

And this spirit still exists. People just don't have a radio shack in the backyard with a 2,000 Euro/Dollar Yaesu or Icom transceiver.

Instead they have a HackRF, ADALM Pluto or other SDR hardware. They use GNU Radio and listen to ISS or other services with 8 Euro RTL2832U dongles."

--Bicurico

If you take away nothing else from this, please let it be this. Our duty as licensed amateur radio operators is to further develop and expand on our hobby. This includes remaining open and inviting to new hardware, software, and modes of transmission.

Today there's over 750,000 licensed active hams just in the US. Ham radio isn't dying, it's changing, rapidly. Don't let it leave you behind... 73 kb1zpp



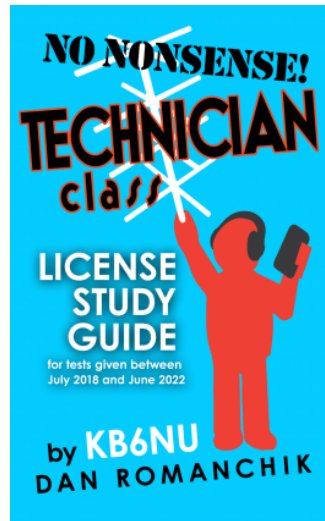
If you would like to submit something, email it to sjvarafk@gmail.com Attn: reader submission



Upcoming Events

The SJVARA / AARA one day tech class is on schedule for June 20th thanks to Darren Woods at the Aroostook EMA and Dan Romanchik, KB6NU, for his advice and study guide.

This will be one full day (8-4) class, designed to cram all the information required to pass the test. Students have been given access to the tech class study guide written by Dan, which is the best guide I've seen yet. If your thinking of upgrading to any class, Don has the study guide for you. The Technician class guide is free as a PDF and the General and Extra study guides are \$9.95 on amazon.



The June 20 class is now full but we will be doing another class this summer so stay tuned to find out more.

Stay tuned for the SJVARA Summer Radio Day, it's a work in progress and it will most likely happen towards the end of the summer, late July - mid August.



To submit an event, email the description, date, and other pertinent info to sjvarafk@gmail.com Attn: projects

DMR Code Plug Programming

What is a code plug? It's nothing more than a computer file that holds all the information required to configure the radio to transmit and receive. It contains, among other things, the Tx and Rx frequencies, Color Code (CTCSS), talk groups and power output settings.

Although it may seem overwhelmingly complicated, programming a DMR radio is actually quite simple. Once you are familiar with the terms and operations of the system it begins to all make sense.

The main reason for DMR is, like any digital mode, audio quality. The reason to choose DMR over System Fusion or D-Star is the dual time slots. This basically means each DMR repeater allows for two independent transmissions to happen concurrently without interference to each other.

The Color Code is your PL or CTCSS. Why its called a color code when it's a number between one and twelve is beyond me but also besides the point.

Channels are the same as any other analog radio, insert frequency information for each repeater here.

If you are familiar with Motorola or Icom radios then you know what zones are, Icom calls them banks. Zones are a list of channels or talk groups. They can be set up however you want them, its entirely up to the user. Some, like myself, put each repeater with its 16 talk groups

in a zone. Others put every repeater that carries a specific talk group in a zone. This is handy when travelling. Put every repeater that has the statewide talk group in one zone then just switch repeater as you move location.

Talk groups are basically "rooms" that the repeater owner or trustee sets for each repeater. Each repeater is capable of handling up to 16 talk groups (TG's). Normally two TG's are set as static, one for each time slot. These TG's are always active when the repeater is at idle. When someone keys up their radio on one of the other 14 TG's that are not active, the repeater puts the current TG on standby and brings up the TG your calling as active. After traffic stops and a set timeout period expires, the repeater reverts to the default static talk group.

The last major or required setting is the Admit Criteria section. Some analog radios call it a busy lock out and it sets the transmit criteria for each channel.

Color Code - This is the preferred method and only allows transmission to the repeater if you have the correct CC set.

Channel Free - This allows Xmit if the talk group is free although someone may be using the time slot on another TG.

Always - This allows transmission regardless of carrier status and is not only impolite, but use of this mode is discouraged.

For a more complete guide and more info on DMR, including DMR radio reviews visit www.miklor.com/DMR.



If you would like to submit your tips or tricks, email them to sjvarafk@gmail.com Attn: just the tip

Quick Tips

Send Us Your
Tips & Tricks
Hacks & Mods



Swap / Buy / Sell

Swap

Buy
Sell

The SJVARA is looking for donations for their club event trailer and "go box" Any gear you would like to donate or let us borrow would be greatly appreciated.



This is the club's new station!

Lets fill these shelves with equipment!



ISO

Free Trade



To get your gear listed or to list what your in search of email sjvarafk@gmail.com Attn: swap buy sell

Random Stuff

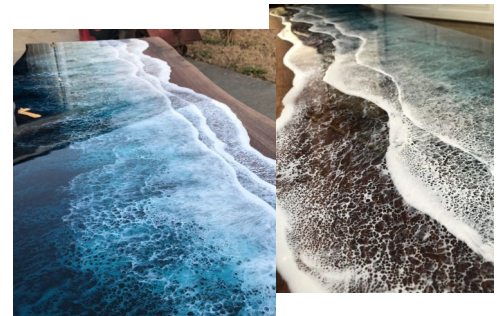
You'll find anything unrelated or off topic here.



Once a year, Ginkgo trees turn a stunning shade of yellow and ultimately form a carpet of gold beneath them. This particular tree resides within the Gu Guanyin Buddhist Temple area in the Zhongnan Mountains, China.



Now that's a coffee table. The things people are doing with epoxy are incredible. Although these tables are relatively easy to make, the epoxy used is quite pricy.



If you would like to submit your random stuff, email it to sjvarafk@gmail.com Attn: uh, that's random



A Few Words From KB6NU

A modest proposal (for the next Extra Class question pool)

By Dan Romanchik, KB6NU

At our last club meeting, I was discussing the changes to the Extra Class question pool with someone, and the topic of memorizing the answers popped up. As I always do, I mentioned that many of the questions you can only get right by memorizing the answer. At that point, someone down the way piped up. "Not me," he said, "I studied the material so that I didn't have to memorize the answers."

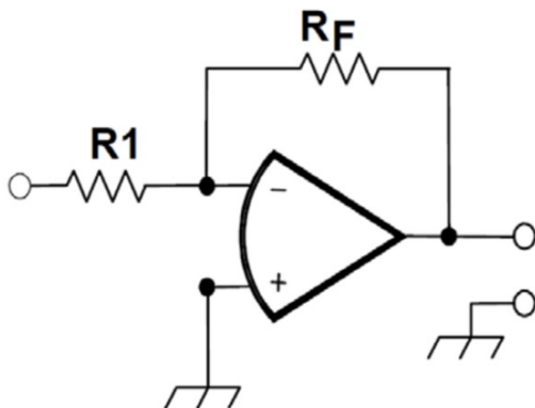
At that point, the president called the meeting to order, so I didn't get to challenge him on that point, but that statement is just plain wrong. First of all, it's true that some questions you can only get right by memorizing the answer. Almost all of the rules questions are that way, for example.

Secondly, there is no way to study the rest of the material in any depth and still have time to actually be an amateur radio operator. The amount of material that the Extra Class question pool covers takes an electrical engineering student four years or more to study thoroughly. And even then, some topics are bound to get short shrift.

So, we're back to memorizing. I would say that even an "engaged" person will memorize about half the answers. I'd go even further and say that those that "study" the technical topics, don't study it as thoroughly as a college student would.

For example, there are a dozen questions in Section E7G – Active filters and op-amp circuits: active audio filters; characteristics; basic circuit design; operational amplifiers. Despite the name, you don't need to know how to design or build an op-amp filter. All you really need to know is that op-amps are high gain devices and if you have a circuit like the one shown below, $V_{out}/V_{in} = R_F/R_1$.

Figure E7-3



These concepts are relatively easy to learn, but there are also two questions on filter "ringing." Honestly, you're better off just memorizing the answers to those questions unless you have a real interest in active filters that use op amps. Wading into the mathematics isn't all that hard, but when you consider this is only one of dozens of topics, you can see where doing any kind of in-depth study is going to take you months, if not years, to accomplish.

A modest proposal

The end result of this approach to testing is that we have many Extra Class licensees who know about a lot of things, but not in very much depth. Perhaps that's OK. Perhaps that's just what the question pool committee of the National Council of Volunteer Examiner Coordinators (NCVEC) was shooting for. If, however, we want an Extra Class license to denote that the licensee has some real technical expertise, I have a modest proposal.

Basically, my idea is that instead of testing on an incredibly wide range of topics, we test applicants on a set of basics, plus one or two particular topics. These would be topics that the person has expertise in already or enough of an interest in to study the topic in some depth.



A Few Words From KB6NU

Below are the topics that I would consider to be basic and some that I consider to be more specialized. This is, of course, not an extensive list.

Basic questions (20 questions, everyone takes this part of the exam)

Safety

Rules and regulations

Electrical principles/basic circuits

Technical Interests (Choose two, 20 questions each)

Antennas and transmission lines

Radio wave propagation

EMI/RFI

Analog and digital design

Digital communications and networking

Software/software-defined radio

Operating: contests, DXing, direction finding, etc.

VHF/UHF

The questions in each of the technical interest question pools would be designed to really test the knowledge of the person taking the test. We'd have to figure out a way to make them difficult enough so that one couldn't just simply memorize the answer. Questions could appear in one or more technical interest test. For example, a question on VHF/UHF propagation could appear in both the Radio Wave Propagation and VHF/UHF question pools.

Having said all this, I realize that this would not be easy to implement. You'd have to first decide on the topics and then enlist experts for each of the topics and get them to come up with a list of 80 – 100 questions each.

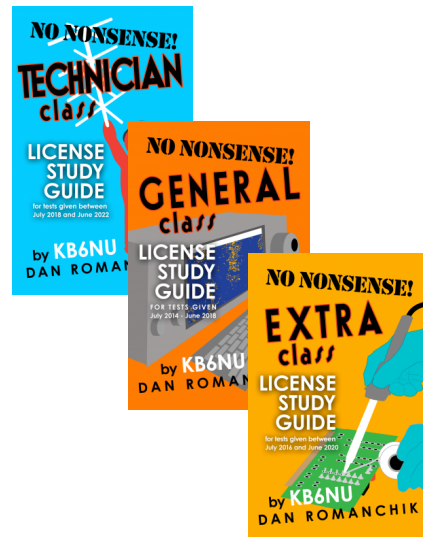
I realize that this has very little chance of being adopted, but it's interesting to think about, no? And, we have four years to do this, so it could be possible.

=====

Dan Romanchik, KB6NU, is the author of the KB6NU amateur radio blog (KB6NU.Com), the "No Nonsense" amateur radio license study guides (KB6NU.Com/study-guides/), and often appears on the ICQPodcast (icqpodcast.com). When he's not thinking up ways to make the lives of the NCVET question pool committee more difficult, he likes to build stuff and operate CW on the HF bands.

Check out Dan's website for [study guides](http://www.kb6nu.com), (Tech guide is free!) ham shack gear recommendations, and a daily blog.

www.kb6nu.com

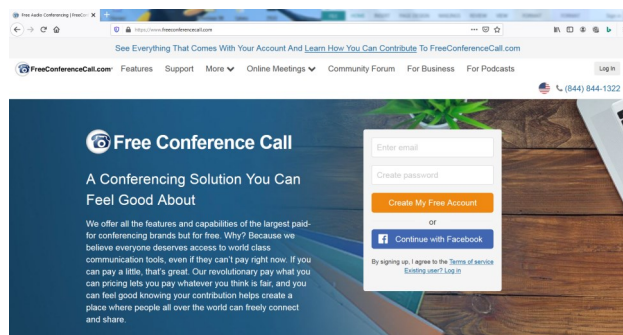


Online Meetings Via Freeconferencecall.com

We've been using this app for the past few months to conduct our monthly meetings. It worked well and seemed to suffice for what we needed it to do. It allows users multiple ways to attend such as PC software or browser versions, Android or IOS app, and also a dial in phone number (email me if phone is your only option). This month's meeting was run the same way as you may have read in the meeting review above.

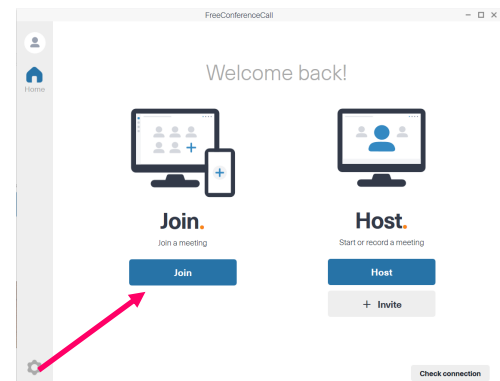
Create Account

- 1) Point your browser to freeconferencecall.com
- 2) Enter your email and a password to create your free account.
- 3) Close the box that opens and asks you to host a conference.
- 4) All done! You should be at your dashboard.

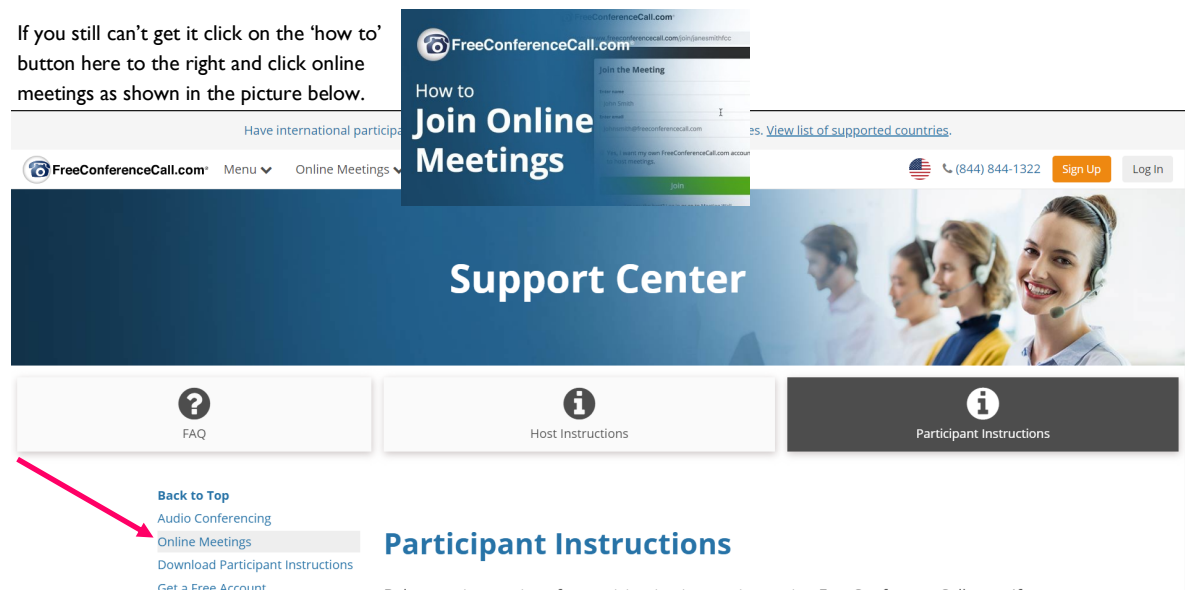


Join Meetings

- 1) Open the app or browser window (I suggest downloading the [app here](#). Scroll down to see different platforms).
- 2) Click join meeting.
- 3) Enter the meeting ID as provided in the email.
- 4) When you see welcome to the meeting lobby click computer audio towards the bottom



If you still can't get it click on the 'how to' button here to the right and click online meetings as shown in the picture below.



Info / Links

Fort Kent Repeater - 146.640- 100hz

Eagle Lake Repeater - 146.715- 100hz

Echolink Node - Not working

Facebook - www.facebook.com/sjvara

Website - www.sjvara.com

[Google Drive](#)

Exam Study Guides - www.kb6nu.com/study-guides

Flash Cards and Practice Exams - www.hamstudy.org

Online Meeting App - www.freeconferencecall.com

Affiliates

Aroostook Amateur Radio Association

www.k1fs.org

Maine Amateur Radio Foundation

www.mar.foundation

Amateur Radio Relay League

www.arrl.org

Can Am Crown

www.can-am-crown.net

The **SJVARA** is a membership of hams with the similar interest of promoting radio knowledge as well as advancing the general interest and welfare of amateur radio in the community. Monthly meetings are held in Fort Kent but membership spans the entire valley and more.

Check out the club [website](#) or [Facebook](#) page for other info or events.

Mailing Address

SJVARA
Attn: Travis Devoe
3191 Aroostook Rd
Eagle Lake. ME 04739



Why Become An Amateur Radio Operator?

“Ham” radio is a fun, exciting hobby that allows you to talk to the world using different technologies and modes of transmission. It’s also a great way to meet people in your area with the same hobbies or interests, and exchange information and experiences.

Officer Contact List

	Club Email	sjvarafk@gmail.com	N1SJV
President	Travis Devoe	coolman1987us@gmail.com	KB1ZPP
Vice President	Derrick Ouellette	kw1a@arrl.net	KW1A
Treasurer	Carl Pelletier	cjpmail211@gmail.com	N1EVO

