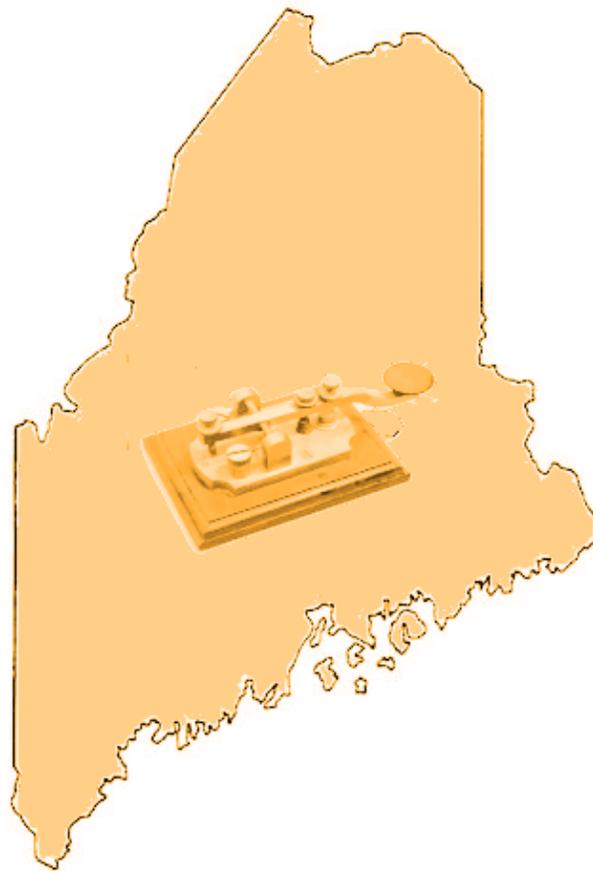


The Maine Telegraph
NEWSLETTER

June 2021

Statewide Newsletter for Maine Amateur Radio Operators



Submit Articles to: Cory Golob - KU1U by emailing ku1u@arrl.net

A Message to the New Ham

Cory Golob, KU1U

Lao Tzu famously penned ‘the journey of a thousand miles begins with one step’. Amateur radio is exhausting when you think of all it has to offer. Where do you start!? The simple answer is to start somewhere! Anywhere! Don’t overthink it, just have fun and learn, then learn some more. Ask questions. Don’t be afraid if you screw up or sound foolish. Everyone knows that your nerves will be like spaghetti. We were there at one point in our ham radio careers so don’t sweat the small stuff.

My initial recommendation is to find a local club. This will be a catalyst that can propel you further into the hobby. Attend a local meeting. Get involved with the club. Find how you can help the club while also seeing how the club can help you. See if somebody stands out among the crowd and have this person “adopt” you so to speak. Have them take you under their wing and be your Elmer. Learn from what your Elmer has to offer. Be bold in letting your interests be known. Does the entire club need to share your interest? No. Should a club foster and promote your interest and help get you on your way to enjoy your interest? YES. Sometimes, satisfaction is not sharing a common interest, but seeing the enjoyment somebody derives from having that “light bulb goes on” moment and the smile on your face from enhancing your knowledge and experience. That is the difference. Anyone who has ever read Plato’s “The Republic” will understand and appreciate the concept of “The Greater Good”. People do things, not because of self-interest, but because it benefits others. Get involved, get active and see how your local clubs can assist you in enjoying the hobby.

My second recommendation is to get a radio, don’t go gaga over it, or should you? Queen might argue otherwise, don’t worry radio, someone still loves you. The big rookie question: What radio should I get? This is probably the first question a new ham asks themselves or others. It is ok to admit when you don’t know what you don’t know. I always tell people that I consider myself pretty vendor agnostic. I own equipment that runs the gamut: Alinco, Baofeng, Icom, Kenwood, Motorola, Radioddity, RadioShack, TenTec, TYT and Yaesu. The answer to the question on a first radio is not an easy one and some people get mad at my initial answer, which is ‘It depends’. It depends on what somebody wants to do and what is in their area. I will confess that I am D-Star fan, it happens to be my favorite digital voice mode, however, I am not going to recommend a VHF/UHF mobile or HT to a newly licensed technician if they do not have a D-Star repeater nearby. If they live near Fusion repeaters, I may recommend a radio that does C4FM. Each radio has its own ups and downs. If there was one perfect radio out there then we would all be using it. Where do you plan on using the radio? Would a handheld be appropriate or a mobile (even a mobile that you can use a base

station)? There are radios that have all the bells and whistles, but do you need all the bells and whistles?? Make a checklist on what you want in a radio, prioritize your radio needs.

Money is always a factor when figuring out your radios. What does your budget allow? Expense is in the eyes of the beholder. Everything is relative. \$100 can be considered a lot for a radio that you never turn on and use. What good is a \$100 paperweight? You can get a rock that achieves the same result. Conversely, \$700 may not be a lot of money if you use that radio every day or several days a week for years. It comes down to utility folks. Take your time and do some research. There are sites like eham that have reviews. Ask locals if they have ever had experience (good or bad) with a certain brand or model. How well known is the brand name? Does it have a good track record or is it known to be problematic?

Once you have settled on your first radio, read the manual. Keep a copy of your instruction manual in your go-kit. I would recommend having both a paper copy and electronic copy of all manuals for your equipment (radios, antennas, tuners, etc.). Learn how to program your radio and start getting local repeaters or known gathering frequencies. You do not have to conquer mountains in a day. Start small and expand your knowledge base and experience a little more every day. I have been a ham for 26 years and still learn something new all of the time.

The hobby is fun. Never lose sight of that. For the new hams, go ahead and take that first step as the hobby is the event that comprises a thousand miles. If you still have questions on how to get started, contact me by email ku1u@arrl.net and I will help get you on the right path.

REPEATER STATUS: Kibby Mountain (New DMR Repeater)

Contribution from Bill Barber, NE1B

A new addition to the network! Thanks go to Tom, AA1SM and Franklin Co. Emergency Management.

The site covers an area of poor and non-existent cellular. It will be an aid to seasonal travelers in the Winter for snowmobiling and other seasons for those with cabins and frequent the lakes of Western Maine. Much coverage into Quebec and NH too. Jackman, Maine to Carrabassett Valley (Sugarloaf area).

Here are some of the remarks from Tom:

"On Wednesday, we were able to get the repeater installed on the Kibby site. It was a full day, and the weather was beautiful. We got a solid signal while driving south on route 27 down to Carrabassett Valley, but it faded by the time we got to Kingfield. I imagine it would cover the Flagstaff Lake area well and have no problem reaching the Canadian border in the route 27 area and beyond. A coverage map is attached."

Frequency data is on NEDECN.org website.

Callsign: W1FCA

Frequency: 145.12000

Offset: -0.600

ColorCode: 11

NEDECN

Kibby Township, Maine

Time Slot #1 - Group Call 759 = SKYWARN

Time Slot #1 - Group Call 9998 = Parrot*

Time Slot #1 - Group Call 3172 = Northeast

Time Slot #1 - Group Call 8801 = NETAC 1*

Time Slot #2 - Group Call 8802 = NETAC 2*

Time Slot #2 - Group Call 3181 = New England Wide

Time Slot #2 - Group Call 8 = Region North

Time Slot #2 - Group Call 3123 = ME Statewide

Time Slot #2 - Group Call 9 = Local Site

* PTT Activated

INTRO TO ANTENNAS CLASS

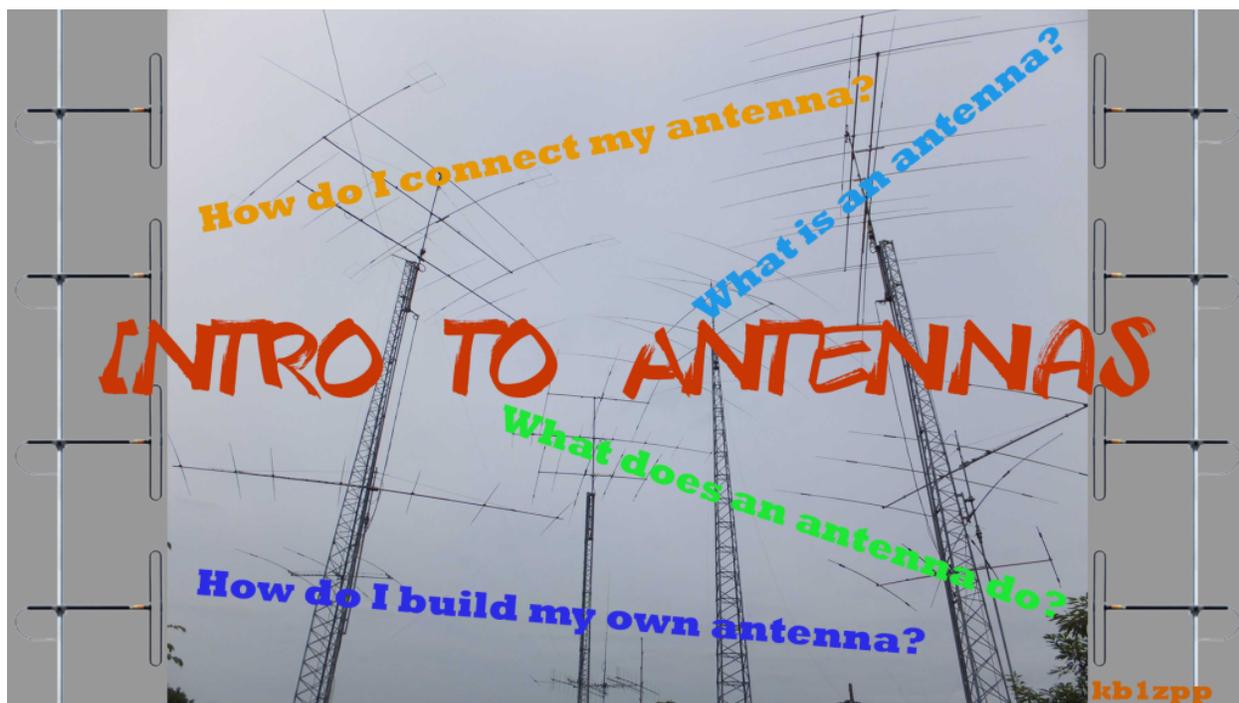
Sponsored By: St. John Valley Amateur Radio Association (N1SJV)

The next class sponsored by the SJVARA is the Intro to Antennas Class! This class will be held IN PERSON and ONLINE via freeconferencecall.com. If you would like to attend either in person or online sign up at the link or click the 'Intro to Antennas' poster below. Time and date is TBA, but location will most likely be the Northern Door Inn.

No need to be a member, Open to All!

To make sure you get the updates, sign up below!

<https://forms.gle/Z8bQKKhLosHbKzwK8>



Knox County 2Q21 Quarterly Exercise

May 22, 2021 0900-1200

Michael Courtenay, KB1DBL
Knox County ARES/RACES-CERT Team Leader

Each year, the Knox County ARES/RACES-CERT Team endeavors to conduct or take part in four functional radio exercises, typically spaced quarterly. The last exercise we took part in was the 2020 ARRL Maine SET exercise on October 24. The intention of this exercise is to build upon the objectives of the SET and address specific areas of weakness revealed during the SET.

In the wake of the SET, an Improvement Plan was developed by the Waldo County EMA that outlined several areas of deficiency. Among the items identified that pertained to the amateur radio service were the following:

1. Some radio operators felt they were not familiar enough with various amateur radio equipment and the different modes of transmission.
2. Many radio operators used non-standard phonetic terminology, which caused confusion.
3. Lack of experience and familiarity with the Radiogram traffic handling process.
4. Lack of experience and familiarity with the Winlink radio email process.
5. The Maine Amateur Radio packet system should be reviewed for improvement.

With that AAR in mind, the Knox ARES/RACES-CERT Team undertook a quarterly exercise to work on some of these. The intent of the exercise was to provide an opportunity to address several, but not all, of those deficiencies. Due to the ongoing COVID-19 pandemic, team members felt that it would be easiest to conduct the exercise from each operator's QTH rather than from the stations located in each participating town. Since the intent is to improve specific operator skills with respect to the items listed above, operating from the town stations was not necessary and would introduce significant exercise complexity. The exercise was therefore intended as a training opportunity and not intended to simulate an emergency scenario.

As the exercise plan was developed, we discussed inviting adjacent counties to participate. This always enhances our exercises, and we always welcome any opportunity to engage with other statewide EMCOMM organizations. Operators from Lincoln, Waldo, and Kennebec counties, regulars in our little midcoast EMCOMM community, all expressed interest in participating.

The exercise was intended to have two main functional components:

1. Radiogram traffic handling
2. Packet network testing

1. Radiogram Traffic Handling

The intent of this was to provide exercise and evaluation opportunities for items 2 & 3 of the corrective action table. The key purpose was to practice the formatting and passage of formal traffic by voice using proper introducers and phonetics, ensuring that the message was passed with no errors. KBITCE spearheaded this part of the exercise, accepting voice radiogram traffic on three repeaters for passage on to the national traffic system:

Table 1: Radiogram Exercise Summary

Date	May 22, 2021
Time	0900-1000: KC1CG repeater, Washington, 145.490-91.5 1000-1100: K1LX repeater, Dresden, 146.985-136.5 1100-1200: W1EMA repeater, Knox, 147.270+136.5 Note: Operators are not restricted to their own county's repeater
Frequency/ Mode	See frequency list above, mode will be FM voice.
Scenario	KBITCE will operate on several areas repeaters at the times listed above and will accept radiogram traffic for injection into the Digital Traffic System.
Objective	Each participating team member will prepare a radiogram addressed to someone out of state that they know or to one of the traffic handlers that have agreed to accept and reply to practice or exercise messages (see Appendix B).

A 4-part series on radiograms was published in the November through January issues of this very newsletter. The series covered the architecture of the traffic system, composition of a radiogram, tools to aid in composition and useful references. The series also included a listing of local and section traffic nets in Maine. Use of these nets for practice purposes was encouraged. IN addition, participants were referred to the RRI "pink card" available online at <http://radio-relay.org/wp-content/uploads/2017/05/RRI-TRAFFIC-OPERATIONS-AID-1720r3.pdf>.

For the exercise, all radiograms were to be prepared in the correct text format with Routine precedence and HXE (reply requested) handling instructions. If sending the message to a private party or non-ham, complete contact information with phone number and, if possible, email address, was required.

KB1TCE accepted the traffic and then injected the messages into the Digital Traffic Network that afternoon. An OP NOTE was included with all traffic for the response to come back via KB1TCE for testing and verification purposes.

In the end, Steve accepted ten radiogram messages:

Table 2: Voice Radiogram Traffic (with times)

System	KC1CG Repeater (Knox County)			K1LX Repeater (Lincoln County)			W1EMA Repeater (Waldo County)		
Traffic	0905	N1PBY	1	1005	K1LX (KB1TCD)	1	1101	KB1ZUN	1
	0901	K1IRK	1	1012	AB1YO	2			
	0916	NY1B	1						
	0926	KB1DBL	2						
	0956	KB1DBL	1						
Total Msgs	6			3			1		

Steve reported that overall, each of the radiograms was properly formatted. There were some voicing errors, but none were fatal. He did offer the following helpful notes and corrections based on his observations during the exercise:

1. In the preamble, R should be voiced as “Routine.”
2. The precedence should be voiced as (e.g.) “HX Echo” not “HXE.”
3. Be sure the name of the state is sent after the town, and not omitted.
4. Saying “Break” between the preamble and the message body is incorrect. Just pause before continuing with the body of the message.
5. The signature is sent after the break following the message, not before. Don’t be fooled by the ARRL forms stating otherwise – they are wrong.
6. The sender’s name should be omitted from the body of the message if it is the same as the signature.
7. No X (final/closing punctuation) is sent at the end of the message text.
8. There was one improper use of phonetics. Send K as Kilo and not kilowatt.

2. Packet Network Capability Testing

The second exercise component was separate, and not related to the radiogram component. The intent was to test the ability of operators to use the packet network as well as to test the capability of the statewide packet network. The October SET exposed vulnerabilities in the

network, and multiple changes were made to address these. Significant efforts have also been made to expand the network.

Table 3: Packet Exercise Summary

Date	May 22, 2021
Time	0900-1200, but messages could be originated prior to the start of the exercise
Frequency /Mode	A frequency list was provided in an appendix. Mode was AX.25 1200 baud packet. Participants were reminded to be sure to connect to the BBS (-2) on each node and not to Winlink (-10).
Scenario	<ol style="list-style-type: none"> EOCs send a short to intermediate message to each other participating EOC. A list of EOC callsigns was provided in an appendix. EOCs should also cc WD1O, or send a separate message to WD1O. Other participating packet stations should send messages to WD1O, N1XP, and KB1DBL. The contents of their message should be their home BBS callsign, Winlink address, or commercial email address. Following the exercise, KB1DBL will reply to each message with confirmation of receipt.
Objective	This exercise was not intended to inject a large volume of traffic into the packet network, but rather to measure whether network capacity is improved, and to check for other points of network failure.

Equipment and Software: Participants could use any VHF/UHF hardware to access the packet network. Either a hardware TNC or TNC emulation software such as UZ7HO (<http://uz7.ho.ua/packetradio.htm>) or Direwolf (<https://github.com/wb2osz/direwolf/releases>) could be used. Messages should be passed using the Winlink Express software (<https://winlink.org/WinlinkExpress>).

Participating stations were directed to connect to their home BBSes frequently to monitor for traffic, and also to attempt to send messages via multiple nodes to test network routing capability. See <http://kx1ema.org/infrastructure.html> and <https://www.mainepacketradio.org/> for instructions and a current network map.

In the event of a network failure, participants were directed to make note of operating conditions, specific points of failure, and other relevant information and submit it along with a message log by any reliable means.

After the exercise, all participants were directed to generate a Winlink ICS-309 message log of all their digital traffic during the event and submit it along with any other notes to KB1DBL@winlink.org.

To date, I have received the following traffic reports and other communications (not necessarily complete, and in no particular order):

Table 5: Exercise Packet Traffic Summary

Exercise Participant	Sent Traffic TO:	Received Traffic FROM:
KB1DBL	W1EMA, N1REX, KB1TCE, WD1O, W1CYA, KC1GOT, K1LX, CCEMA	KB1TCE, N1REX, K1IRK, K1KSR, WD1O
K1IRK	KB1DBL, WD1O, N1XP	WD1O
K1KSR	AB1YO, KC1DGG, K1GAH, KB1DBL	KC1DGG, K1GAH, AB1YO, N1STN
WD1O	KB1DBL	
KB1TCE	KB1DBL	
WS1EC/CCEMA (via KC1JMH)	KB1DBL, WD1O, W1EMA, K1LX, KX1EMA	W1EMA, K1LX, KX1EMA

Summary

The exercise was organized primarily on our weekly voice ARES/RACES-CERT net. (This net takes place each Tuesday evening at 7:00 PM on the KC1CG repeater, 145.490-91.5, and all are welcome to check in). As such many participants outside Knox County had little notice of the formal exercise plan and objectives until the week before the exercise. Nevertheless, they sprang into action when the exercise plan was distributed and were prepared to take part. This is a testament not only to their capability but also the level of interest.

KB1TCE operates a weekly traffic net on the KC1CG repeater each Saturday evening at 7:30 PM, before the semi-weekly Chimes Net. This is a great opportunity to practice radiogram messaging, and some of our operators have become quite proficient at it. Alas, most of the

exercise participants, such as myself, do not quite fall into that category but are still semi-competent. The net stands willing to help all operators develop their skills, though, and can even help find participants for traffic if you do not have an out-of-state ham or family member to send traffic to. All are welcome and encouraged to take part in that net.

While this exercise was intended primarily to involve Knox County, interest among other statewide participants was very high. We are grateful for all the participation we received, and we hope that participants outside Knox County derived some benefit from their participation.

We note that there has recently been a tremendous amount of development taking place in the packet network in the southern part of the state. The exercise showed that this system is very capable and is reliably connected to the midcoast packet network. I would like to thank the southern Maine hams and WD1O for all their effort to build out the system and to integrate it into the existing packet infrastructure.

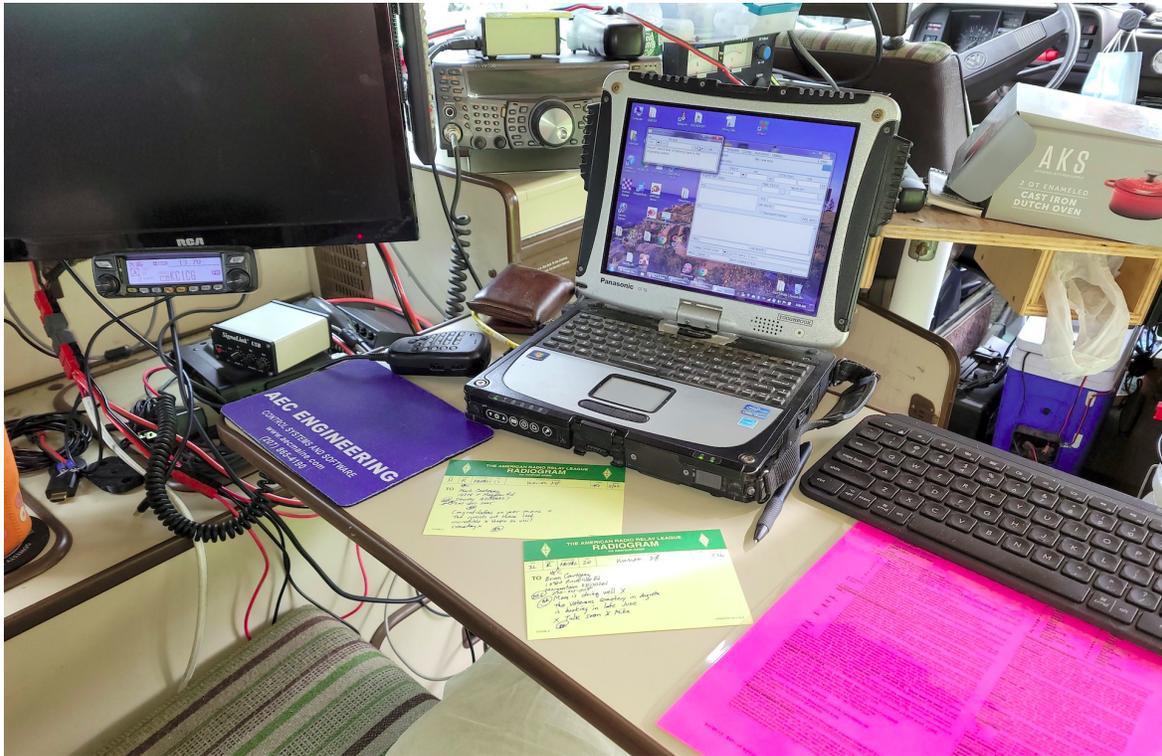
The Knox County quarterly exercises usually practice voice or digital skills on an intra-county scale: testing communications and collaboration between Knox communities and within our own CERT team. But we increasingly have participation or participants in neighboring Waldo & Lincoln Counties during those events. The statewide ARRL SET exercise, usually scheduled for September/October, has become perhaps *the* key opportunity for EMCOMM-oriented hams statewide to collaborate, network, and practice together.

But I think this small quarterly exercise demonstrated that we as a community should start to think larger than one statewide exercise per year. Resources such as this newsletter, the packet network, and our general interconnectedness, communication, and collaboration show that such training opportunities can easily develop organically on a statewide scale. The Knox County ARES/RACES-CERT Team welcomes the opportunity to take part in future exercises spearheaded by other counties or organizations, and we will endeavor to include you all in as many of our exercises as possible. Thank you all very much for your participation.

73,
KB1DBL



Ham Radio room located inside Waldo County EMA, Belfast



KBIDBL's station - Kenwood TS-2000 and FTM-100DR in his 1982 VW Westfalia Camper Van



Waldo County EMA Communications Trailer

Vacuum, Plasma and the Amateur

Contribution By: Steve Hansen KB1TCE

<http://belljar.net>

My Life in a Vacuum

Without vacuum technology we ham radio operators would still be using spark gap transmitters. Vacuum technology began to have commercial interest in the mid 1800s. The Crookes tube was the predecessor of the x-ray tube and the particle accelerator. Edison needed vacuum for his incandescent lamp. A bit later on we got the thermionic valve or vacuum tube. Vacuum deposited films went large-scale in the late 1930s and 1940s with the aluminizing of the Mt. Wilson and Mt. Palomar telescope mirrors. By the 1950s vacuum processes began to be used in the manufacture of semiconductors and also for surface science. In traditional industries, clean vacuum processes have been replacing wet chemical methods at a rapid pace. In short, vacuum is involved in just about everything we touch.

My first dive into vacuum took place in the early years of high school, around 1963. My biology teacher recommended to his classes that we get subscriptions to *Scientific American*. I did and immediately fell in love with the vacuum related projects in C.L. Stong's *The Amateur Scientist* column. There I learned about the conversion of some types of refrigeration compressor for vacuum use and how to build a particle accelerator and gas laser. Many of these projects were contributed by Franklin Lee who was an instructor at the Erie County Technical College in Buffalo, NY. He also sold some parts and I scraped enough money together to purchase bits and pieces for a van de Graaff generator and a Hickman oil diffusion high vacuum pump. The goal was to make a proton accelerator. The project took until my college years to (sort of) complete. It scared me.

Meanwhile, my fixed-up Coldspot compressor was my general purpose pump for things like discharge tubes. By 1968 I had found some "real" vacuum pumps at a surplus dealer in Salem, MA. The mechanical pump looked like it had been on a diet of broken glass (it came from a vacuum tube plant). Now I was in the big time and started to play with things like coaxial plasma accelerators and high current pulsed electron sources. All of this involved a mix of vacuum and plasma physics (vacuum by itself is, of course, nothing).

At the end of 1991, I decided to start up a quarterly print newsletter (*the Bell Jar*) in hopes of finding other lonesome experimenters who played with this sort of thing. I placed advertisements in a couple of electronics magazines and Don Lancaster wrote a nice mention in *Nuts and Volts*. To my surprise, I quickly amassed a subscriber list of several hundred. Best of all, I got a lot of great contributions from amateurs, educators and researchers from all over the world. It even achieved a place on the American Vacuum Society's *Vacuum Science & Technology Timeline: 1500-2007* (<https://avs.org/about-avs/history/vacuum-science-and-technology-timeline/>).

The transition to the internet started in the mid 1990s but the print newsletter continued through its tenth year. I let the newsletter rest until the end of 2019 when I restarted it as a monthly that can be downloaded from my site's *Articles* page at <http://www.belljar.net/articles> All of the original print newsletter articles are available in two compilations.

The huge changes over this period of time included the standardization of vacuum components and the plentiful availability of professional quality surplus gear through outlets like eBay. This largely did away with the need to adapt copper and brass plumbing fittings, not to mention a fair amount of machine work. .

On the professional side, while I had made use of vacuum process equipment in my semiconductor days, I got much closer when, in 1995, I moved to MKS Instruments, a manufacturer of process measurement and control instrumentation. The company also manufactures RF power supplies for plasma processes, ozone generation and MRI equipment. These cover the frequency range from tens of kHz to microwave.

Not surprisingly, many of the techs and engineers involved in this line of work are hams. The use of RF in vacuum plasma processes gained serious momentum in the 1960s. At that time, there were none of the specialized RF generators that we have today. It was common to see designs for matching networks for use with ham gear in the professional literature. Henry Radio, on their brief history page (<https://www.henryradio.com/ourhistory.html>) notes:

Also, in 1962, Ted saw the opportunity to supply tube type power amplifiers for the ham radio market. He opened a manufacturing business to build the original Henry 2K. The "plant" thrived and expanded into the new market for RF Industrial equipment which required high power RF for sputtering and scientific applications.

Researchers on a budget still use ham gear for powering plasma devices.

One of my specialties was the creation of vacuum and plasma training equipment for tech colleges and universities. I continue to develop educational equipment and provide support to the schools that have the trainers that I had developed. The Northeast Advanced Technological Education Center (NEATEC) is a NSF-funded program under SUNY Polytechnic. The program is using adaptations of these training systems. For the powering of their plasma demonstrations, they have been using a CB transmitter.

I did somewhat repay Scientific American by making two contributions to *The Amateur Scientist* in the 1990s before the publisher canceled the column and began the process of turning the magazine into a "popular" (in the pejorative sense) magazine. I also got to meet Frank Lee at his home shortly before his death, mostly just to say "thanks."

Levels of Vacuum

Vacuum is basically any pressure that is less than atmospheric pressure. 1 standard atmosphere is 760 mmHg (Torr). What can be done with vacuum is dependent upon the density of molecules. Since molecules move around as long as their temperature is above absolute zero, this density translates to how the molecules interact with other molecules and with the walls of the containing vessel. There are strikingly different characteristics between modest levels of vacuum and the environment below 10^{-8} Torr (ultra high vacuum). The result is that the spectrum of vacuum is broken into a number of regimes. Each regime has different properties and places

different requirements on pumps, gauges and other hardware. One of my favorite sayings is by Norman Milleron who, in 1970, stated “one man’s vacuum is another man’s sewer.”

Rather than going into details here on vacuum regimes, pumps, applications, etc. I’ll refer the reader to a pair of articles in *Vacuum Technology & Coating* magazine in the June and July 2015 issues. These are listed on my site at the previously cited *Articles* page under *Tutorials*.

As it turns out, atmospheric pressure processes are really gaining momentum. Over the past several decades researchers have found that many processes for surface modification, deposition, sterilization and so forth can be done with atmospheric pressure plasmas. These are called cold plasmas as the temperatures are barely above room temperature.

The photo to the right shows the plume from an atmospheric pressure plasma jet (APPJ) impinging on my finger. The plasma is excited by about 10 kV at 60 kHz applied to capacitively coupled copper foil electrodes that are wrapped around a quartz capillary tube. The working gas is argon. This type of plasma is used for things as diverse as wound healing to coating implants with biocidal coatings to inhibit rejection.



My Lab

As with most hobbyists, my stock of equipment bits and pieces exceeds my usable space. In my basement are hundreds of stainless steel fittings of various types as well as pumps I no longer use. My active equipment is consolidated into one stand that has a mechanical pump and two turbo-molecular high vacuum pumps. Along with those are a variety of gauges, pressure & gas flow control devices, DC and LF power supplies, etc. Some of this gets swapped out depending on what I’m working on at the moment. I also have space set aside for atmospheric pressure plasma experiments which I’ve found to be a truly fascinating field.



The photograph shows the upper portion on my stand. At the center are, from bottom to top, a turbo pump, isolation valve, Pirani gauge and what’s called a saddle field ion source, a current project. To the left is the atmospheric pressure plasma jet set up. Below and not shown are the rotary vane pump, argon cylinder and some other stuff that I cleared away to make the stand presentable.

To conclude, if any of this is remotely interesting, feel free to contact me.



- **HERMON HAMFEST 6/5**
Hermon Ski Area
441 Newburgh Rd, Hermon, ME
- **HAM XPOSITION 9/10-9/12**
Best Western Royal Plaza
181 Boston Post Rd W, Marlborough, MA
- **WINDSOR HAMFEST 9/18**
Windsor Fairgrounds
82 Ridge Rd, Windsor, ME
- **ST. CROIX VALLEY CLUB HAMFEST 9/25**
Alexander Grange Hall
70 Cooper Rd, Alexander

TESTING SESSIONS

Saturday, June 5th 9 am at the Hermon Mountain Ski Area, 441 Newburgh Rd
Hermon Pre-registration is required. contact Peter Bither, AI1O redbeard104@aol.com
Masks and social distancing are required.

Monday June 14th at 4PM Henry D. Moore Library, Steuben Registration is required
Contact Phil Duggan N1EP **Masks and social distancing are required.** FCC
Registration Number (FRN) required, available at fcc.gov for free. ARRL exam fee \$15.
Legal photo ID required. Sponsor: Maine Ham Radio Society Contact for more
information and to register Phil Duggan N1EP n1ep@yahoo.com

Saturday, June 26th 9 am Whitefield Fire & Rescue, 24 Town House Rd, Whitefield
Must pre-register by email or phone call Sponsor: LCARC Contact: Joseph G.
Devonshire, 549-0061 trainbee@aol.com **Masks and social distancing are required.**



Field Day - Then and Now

Cory Golob, KU1U

Field Day has grown and adapted over the decades, just as any hobby must do to stand the test of time. Last year there were 18,886 participants! That is quite the deal, especially when compared to the first Field Day that emerged during the infancy years of FDR's New Deal (1933 if anyone was wondering). The initial Field Day hosted 50 participants who ventured out to make contact with one another and submit their paper logs for verification. This event has evolved and expanded tenfold. Logs are now available, and encouraged, electronically and it has become quite organized with multiple categories available (Club, Battery Power, Mobile, Home and Emergency Operation stations available). The categories are further subdivided by the number of transmitters in the operation. The rules are now quite detailed, spelling out every aspect of this on-air operation. There are bonus points that you can earn that gets people involved in reaching out to their communities (being set up in a public place, having a visit from an elected official, setting up an information table for the public, sending radiograms to their respective Section Manager, working a satellite affectionately known as a "bird", etc.).

Field Day exists to showcase our beloved hobby, get us out in the field and operate in the public eye. This may be the "Superbowl" for amateur radio operators. It may be the most well known event to the public who may recall seeing clubs set up at a campground, parking lot, lighthouse or some other venue that is visible to passersby. The beauty of FD is that everyone takes a different experience from it. There are many competitive operators out there, but some use this as more of a socialization event or opportunity to encourage people to get their license. What better way to get bitten by the bug (no, not the high speed morse code paddle) than to actually be able to sit down and operate the radio under the supervision of a ham!? Once you make that first contact, you are hooked! Slip your giddy guest a pamphlet on how to get started in ham radio, how to study for their test and when your club meets with the date and time of the in-person meetings.

One should always familiarize themselves with the current Field Day rules as there are typically slight changes and modifications from year to year (the past two years have had changes to work with COVID related restrictions). I encourage others to visit the American Radio Relay League page on Field Day: <http://www.arrl.org/field-day> as there is a lot of information available, not just rules. This is our golden opportunity to have fun with this on-air event that dates back to the construction of the Golden Gate Bridge. Field Day is held on the 4th Full Weekend of June (June 26-27, 2021).

Pen Bay ARC (W1PBR) ARRL Field Day Station
June 26-27, 2021
South Thomaston, Maine

This year the Penobscot Bay Amateur Radio Club will hold its annual Field Day at the QTH of long-time club member Karl Niemi, KA1EJ. His address is 358 St. George Road, South Thomaston. This is at the junction of Route 131 and Westbrook Street, just south of Montpelier and Riverside Market (<https://goo.gl/maps/VHrVjADDccFe1bFcA>). Uncertainty surrounding access to public spaces made using a private space more attractive this year, but any Maine COVID-19 protocols in place at the time of the event will be followed.

A few of us visited the site this past weekend and we believe we will be able to set up multiple wire antennas without much trouble. Based on broadcast AM reception at the site it sounds like it has very low RF noise as well. Sunset views over the river look to be a good possibility too if the weather is good.

We will be operating with club call W1PBR. We usually operate 2A with a GOTA station, but we will decide how many transmitters to use based on turnout once we get closer to the event. Last year's menu included all-you-can-eat lobster as well as a smoked prime rib, but that is up in the air too. We intend to set up and camp on site and operate into the night though.

All are welcome to attend. We especially welcome non-hams and new hams, but anyone interested in visiting a site that employs bandpass filters and a networked N3FJP logging environment may want to drop by. We will monitor the KC1CG repeater (145.490-91.5) as well if you need a talk-in and will also NCS the Chimes Net from that location on Saturday evening.

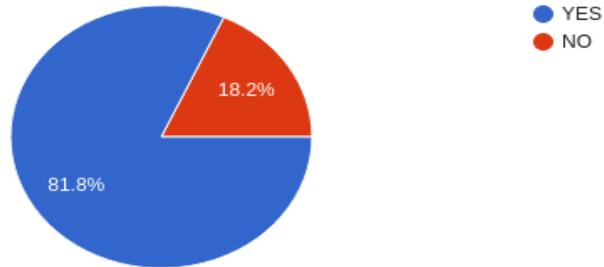
For more information, please get in touch via Facebook Messenger (<https://www.facebook.com/PenBayARC>) or contact me at the address below. 73, and have a great Field Day no matter where you take part in it.

Michael Courtenay, KB1DBL
President, Pen Bay Amateur Radio Club
michael04864@gmail.com
<http://www.penbayarc.org/>

MAY POLL QUESTION:

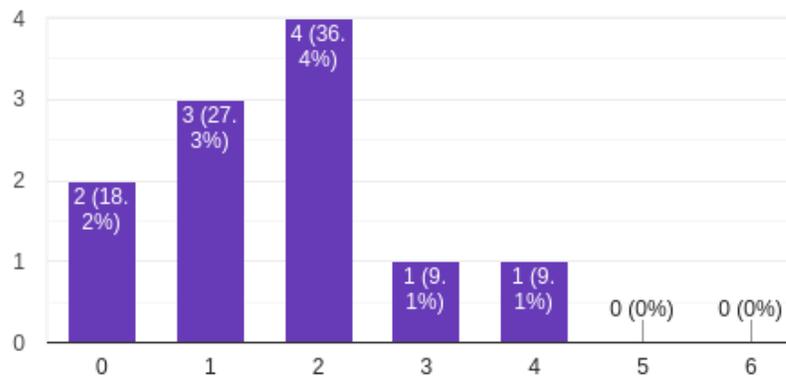
DO YOU PLAN ON OPERATING FIELD DAY?

11 responses



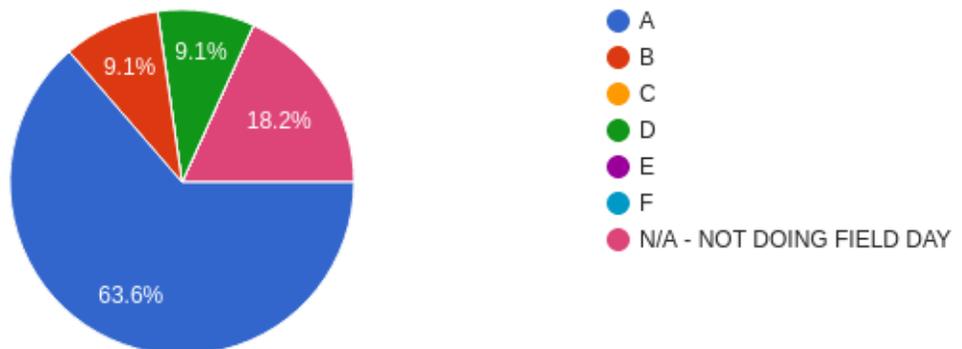
HOW MANY TRANSMITTERS DO YOU PLAN ON RUNNING?

11 responses



WHAT CATEGORY DO YOU PLAN ON RUNNING?

11 responses





If your CLUB is operating 2021 Field Day please add your information to the Field Day Locator Map (This is not for Individuals who are operating as a Home Station**)**

http://www.arrl.org/field_days/add

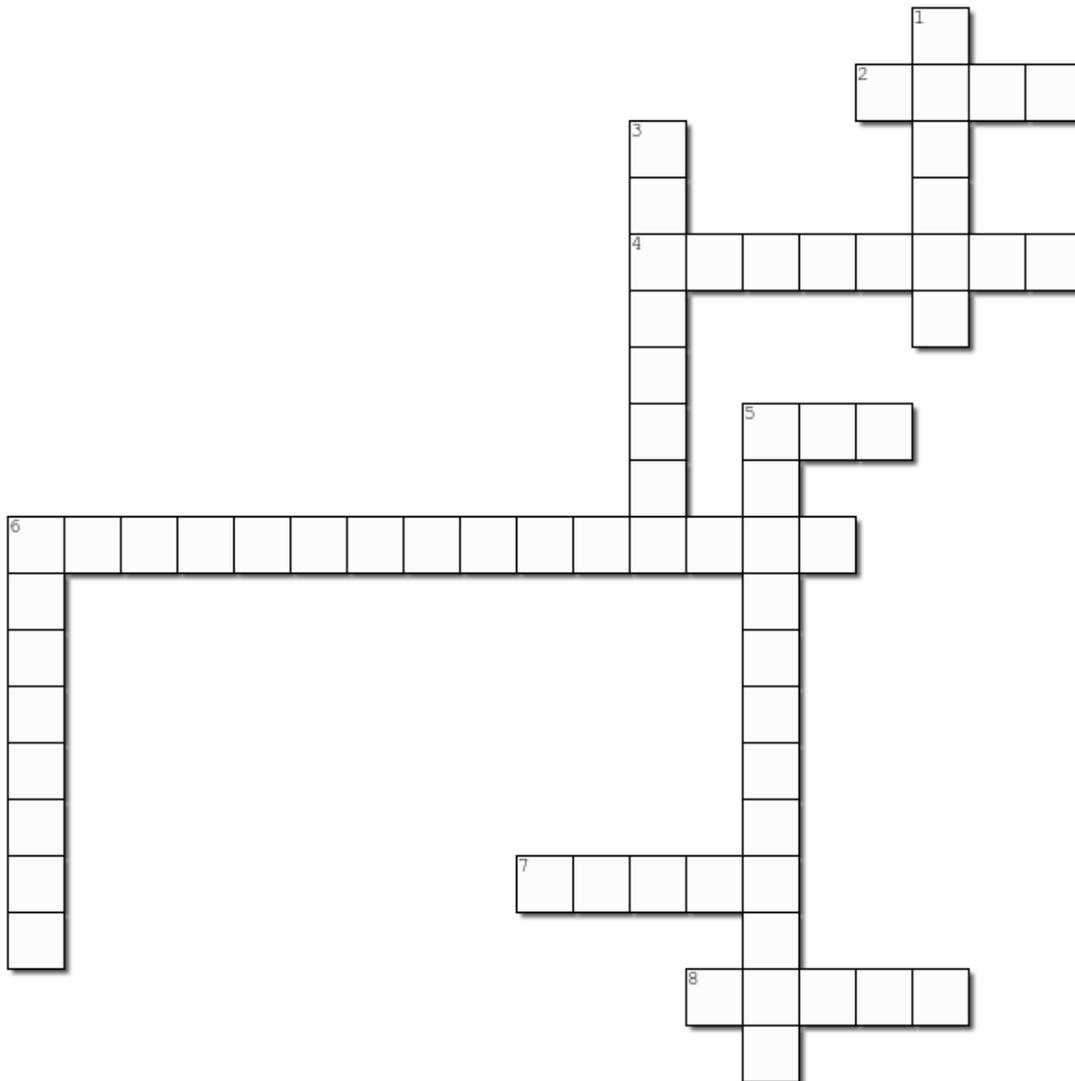
If you are looking for clubs who have posted their field day location:

<http://www.arrl.org/field-day-locator>

Name: _____

JUNE TELEGRAPH CROSSWORD

Complete the crossword puzzle below



Created using the Crossword Maker on TheTeachersCorner.net

Across

2. STATION CAN MAX AT 1000 QSOS AND OPERATED BY A NEWER HAM
4. TRANSMISSION FROM W1AW THAT CAN EARN YOU 100 POINTS
5. CLASS B CAN BE OPERATED BY NO MORE THAN ___ PERSONS
6. WHAT SETS A CLASS E STATION APART FROM CLASS D (2 WORDS)
7. THESE TYPE OF POINTS COUNT AS ONE POINT EACH
8. ___ PUBLICITY, 100 POINTS, INCLUDE COPY OF NEWS RELEASE OR PUBLICITY RECEIVED

Down

1. THIS FULL WEEKEND IS WHEN FIELD DAY IS HELD
3. THIS FORMAT LOG IS ACCEPTED IN LIEU OF DUPE SHEETS
5. CLASS A OR B WHO DO NOT SET UP BEFORE 1800Z SATURDAY CAN OPERATE THIS MANY HOURS (2 WORDS)
6. 4A ME OR 2F SCV ARE CONSIDERED THIS

May Crossword Answers

1. DXPEDITION, 2. LOOP, 3. IAMBIC, 4. IMPEDANCE, 5. FARNSWORTH, 6. FIELD DAY, 7. EIGHTY FOUR, 8. RADIOGRAM, 9. PECUNIARY, 10. EMITTING.

JUNE WORDSEARCH

R	O	N	L	G	N	G	F	L	A	G	D	A	Y
A	Y	G	E	C	E	A	O	Y	O	A	T	N	A
F	A	E	L	A	L	R	L	M	I	R	I	A	K
O	D	M	E	P	Y	A	D	D	L	E	I	F	H
R	S	I	T	E	F	M	C	M	R	R	Y	E	O
N	R	N	L	A	N	D	S	G	L	G	A	N	N
Y	E	I	I	R	O	M	U	U	E	S	A	T	E
S	H	R	E	L	R	F	M	O	N	O	E	Y	Y
F	T	O	Y	C	M	M	M	F	F	K	L	A	S
S	A	H	M	I	A	E	E	D	E	F	L	E	U
I	F	O	D	E	N	E	R	A	Y	I	A	A	C
A	Y	F	E	P	D	R	T	E	Y	H	G	L	K
R	Y	E	S	L	Y	I	O	A	H	H	L	Y	L
O	I	S	O	L	S	T	I	C	E	R	C	C	E

PEARL
SOLSTICE
NORMANDY
SUMMER
FLAG DAY
FIELD DAY
GEMINI
FATHERS DAY
HONEYSUCKLE

Play this puzzle online at : <https://thewordsearch.com/puzzle/2458627/>

<https://thewordsearch.com/puzzle/2458627/june-wordsearch/>



Swap \$hop

Amateur Radio Equipment For Sale or Trade

Yaesu FL-7000 HF solid state , automatic tuning QSK linear amplifier with built in power supply. Provides up to 1.2 kilowatt RF input power on the 160 through 10 meter HF bands. Power transformer connected for 117 VAC. In very good to excellent condition. Instruction manual included. \$700

Contact: Suny@roadrunner.com

TRADE for HAM GEAR. Aquariums. 40 gallon set up for fresh water w/outside & undergravel filters; black gravel; rock background. Ready for fish. Also 20 gallon salt, w/undergravel filter, and 10 gallon breeder tank. Could use maybe a baofeng dual band DMR?, \$200.

Contact: Robert Stessel; K1WXY; 827-8733; stessel@maine.edu

MFJ 993 Automatic Antenna Tuner 1.8-30MHz, \$145

FA-VA4 100 kHz to 100 MHz Vector Antenna Analyzer (assembled), \$90

Contact: Chip 207-370-2437 lightdazzled@gmail.com

Kenwood TS-940SAT, \$450

For sale- Kenwood TS- 940s, very clean condition, built in power supply, auto antenna tuner and 24 hour clock, Hand mic included, \$400.

Contact Rex K1PN at cqdek1pn@gmail.com

SWAP SHOP (Continued)

For Sale: Yaesu FL 2100B Amplifier , Great for 75 Meter Nets. Includes Manual, \$200

Contact: Peter McCrea KC1IPZ 207-354-2314. panacea35@gmail.com

[CLICK HERE TO SUBMIT SWAP SHOP ITEM](#)



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