May 2019
Our 100th Year
Volume 57, Issue 5

Website:
http://www.mvara.org/

The Voice Coil
Award-Winning Newsletter of the Mahoning Valley Amateur Radio Association
Established 1919

The Voice Coil

Prez Sez

Spring is springing up all over, grass to cut flowers to plant, gardens to till and pollen to wash off everything. The upside is the weather is getting warmer. One thing about spring in this area it changes day to day.

This is time of year to keep your eye on the sky, as we recently had a Skywarn activation. Skywarn spotters, if activated, should listen on the W8QLY repeater, 146.745 MHz to find out what is going on and where. Be prepared--get out those handie talkies and weather radios.

This is a good time to check for winter wear and tear at your station. Antennas and coax are the link to the world, check them–and don't forget the support structures.

Dayton Hamvention is almost upon us. If you never been there you should plan on going. There is much information that can be gathered there about ham radio. You can find new gear or that rare piece of gear you would like have or complete your collection. You will see people from all corners of the globe, and you may even see a DX station that you have worked.

Field day is almost here, the W8QLY field day is held at the Mill Creek Metro Farm, on route 46 across from the Canfield Fairgrounds. If you're new to amateur radio, come out find what field day is all about and talk to some of the MVARA members. The best way to learn is to come out and help set things and take some time to operate on the air.

We have some of best amateur operators in the area, who are willing to help you on your way to your goal in amateur radio. Information about the MVARA meeting and activities are listed on our web pages in the Voice Coil.

73,
Jim, WB8UJS

Next Meeting:

May 9, 2019, 7 pm
GOP Headquarters meeting room. 8381 Market St., Boardman, OH
(in Adamas Plaza)

2019 Officers

President: Jim Stiffler, WB8UJS
Vice President: Wes Boyd, W8IZC
Secretary: Dave Salmen, WB8IBA
Treasurer: Nancy Brett, KD8QNY
Trustees: Dean DeMain, W8YSU
Gene A. Boccia, WQ8H
Jerry Goddard, KC8EFO

Newsletter Editor: Mark Haverstock, K8MSH

Awards Manager: Dave Fairbanks, N8NB, 330.759.6993, 4770 Logan Ave. Youngstown, OH 44505

The Mahoning Valley Amateur Radio Association, Inc, meets the second Thursday of every month. Location and time are subject to change. Dues are $20.00 per year, $10.00 each for additional family member. Contact Nancy, kd8qny@zoominternet.net for membership details.

The club call is **W8QLY**; equipment operated under this call includes a two meter voice repeater at 146.745 (-600, 110.9 PL). Club email: mvara.w8qly@gmail.com

MONDAY NIGHT NET operates every Monday at 9:00. PM on 146.745 MHz.

SKYWARN NET - First Wednesday of the month at 8:30 PM on 146.745 MHz as weather warrants.

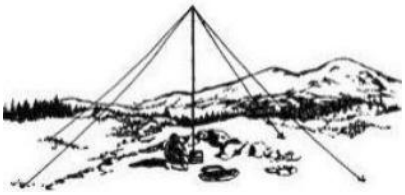
ARES NET- First and third Mondays of each month at 8:30 PM on 146.745 MHz; prior to the Monday Night Net.

VE Testing—*Note Changes*

Due to some scheduling conflicts, the May VE session will be held on Wednesday, May 1 at the Boardman Library, 7680 Glenwood Ave, Boardman, OH 44512. Please arrive at 6:30 pm, and testing will begin by 7pm. You'll need a photo ID, $15 fee, and a copy of your present license if you are upgrading.

All certified ARRL VEs are welcome to attend. Questions or need additional information? Contact Dave, kd8nzf@zoominternet.net or Mark, mh@zooominternet.net

Ohio NVIS Day



NVIS Day April 27, a Saturday, from 10-4 will be this year's NVIS Day in Ohio. This has become a tradition, and the importance of easily deployed portable antennas was brought to the spotlight after Hurricane Michael and others this past year.

The devastation took down ALL commercial, safety and amateur communications. There were no towers, no repeaters, and very little formal generator power. 80- meter sideband was one of the most-used forms of emergency communication. It worked well for them and would work well for Ohio in a wide-spread "flatearth" situation. We got a taste of that during "Snow Net" where operators in 44 counties participated both on 80 and on DMR Ohio. This makes NVIS practice even more important.

The real purpose of NVIS day is to test antenna performance compare signals and try different configurations. There is a contest type ranking for how many contacts you can make, that just creates a more fun atmosphere. The suggestion is that the DMR Ohio Talk Group be used to coordinate contacts, and to advertise that a station is operating on a certain frequency. That can help to remove the searching and some frustration since everyone is all over the bands that day.

Using DMR Ohio similar to a spotter type operation would make it much more fun and provide better ways to find other participating stations for testing. Thanks to Alan Rothweiler KD8TNS for the idea! Check the Ohio Section web site for the latest details: http://arrl-ohio.org/

License refteshser answers: E4B01 (B), E4B02 (C), G4C01 (B), G4C02 (C)

Current Activities

April 27: Ohio NVIS Day, Lake Milton, Harry Meshel Park--see page 2.

May 1: VE Testing at Boardman Library—see page 2.

May 4: MVARA centennial special event station 9am-9pm

May 9: Monthly MVARA meeting.

Contact Us:

Email: **mvara.W8QLY@gmail.com**

Snail-mail: MVARA, P.O. Box 14141, Poland, OH 44514

Meeting ideas/ suggestions? Contact Dave, KD8NZF, KD8NZF@zoominternet.net

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Hamfest Calendar

05/17-19/2019 - 2019 ARRL National Convention at Dayton Hamvention® - **Location:** Greene County Expo Center - 120 Fairgrounds Road - Xenia, OH 45385 - **Website:** http://hamvention.org - **Sponsor:** Dayton Amateur Radio Association - **Public Contact:** Henry Ruminski, W8HJR - PO Box 964, Dayton, OH 45401 - Phone: 937-232-9272 - **Email:** media@hamvention.org

06/01/2019 - BreezeShooters Amateur Radio Club - **Location:** Big Butler Fairgrounds - 1127 New Castle Road - Prospect, PA 16052 - **Website:** http://www.breezeshooters.org - **Contact:** Cathy Heiles, KB3OYS - 134 Easley Road Pittsburgh, PA 15237 - Phone: 412-600-3846 - **Email:** kb3oys@breezeshooters.org

08/03/2019 - Columbus, Ohio Hamfest - **Location:** Aladdin Shrine Center - 1801 Gateway Circle - Grove City, OH 43123 - **Website:** http://www.columbushamfest.com - **Public Contact:** John Lehman, K8PJ - 7415 Hagerty Road Ashville, OH 43103 - Phone: 614-571-5179 - **Email:** k8pj.john@gmail.com

Know of any regional events that should be included in the Voice Coil? Send the information to: **MVARAVoiceCoil@gmail.com**

Can Indoor Antennas Work? Yes!

By Dan Romanchik, KB6NU

Recently, a reader asked:

"I am studying your No Nonsense book as I prep for the Technician test. I am also learning CW. I am going to buy a Yaesu FT 450D as my first radio, and I want to use an indoor antenna as my first antenna. What do you recommend for CW?"

I replied:

To be honest, I've never had a lot of luck with indoor antennas. Don't let that dissuade you, though. I have worked many hams with indoor antennas. Just recently, for example, I worked a guy who was using a Buddipole (http://www.buddipole.com/) inside his apartment.

If you have an attic, you could easily install a dipole up there. The ARRL web page on indoor antennas (http://arrl.org/indoor-antennas) notes, "Attics are great locations for indoor antennas. For example, you can install a wire dipole in almost any attic space. Don't worry if you lack the room to run the dipole in a straight line. Bend the wires as much as necessary to make the dipole fit into the available space....Ladder-line fed dipoles are ideal for attic use—assuming that you can route the ladder line to your radio without too much metal contact. In the case of the ladder-line dipole, just make it as long as possible and stuff it into your attic any way you can. Let your antenna tuner worry about getting the best SWR out of this system."

There are plenty of remote tuners now, too. You could install a doublet with elements as long as you can make them, connect them directly to the remote tuner, and then run coax to your shack.

I have also worked guys who have used Slinky antennas inside a house. The advantage of using a Slinky is that it is electrically longer than a wire of the same length.

An attached garage might also make a good location for an indoor antenna. VE3SO, who I've worked several times, uses a magnetic loop antenna installed in his garage (https://www.kb6nu.com/magnetic-loop-antenna-at-ve3so/). If you do a web search for "indoor amateur radio antennas," you'll get many more ideas. Here are a few that looked promising to me:

* Indoor antenna for 7 Mhz (http://www.iw5edi.com/ham-radio/37/indoor-antenna-for-7-mhz)
* An Indoor Reduced Size Rectangular Loop (http://hamuniverse.com/kl7jrindoorloop4010.html)

Another option might be to load up your gutters! I've worked a couple of guy who use gutter antennas, including WA8KOQ (https://www.kb6nu.com/operating-notes-gutter-antenna-rac-contest-161-countries-worked/) and K3DY (https://www.kb6nu.com/operating-notes-computer-virus-club-net-gutter-antenna/)."

This blog post garnered a couple of interesting comments. K2MUN wrote, "For many years I've used an attic mounted off-center fed 40 meter dipole. With an automatic antenna tunner and a 4:1 balun I've worked lots of DX with both QRP and, more easily, 100 watts! Certainly, outdoors is much superior but an attic is a nice location in bad weather making playing with your antenna a pleasure :-)."

John, KD0JPE, said, “If you have an attic available, check out the following 6-band coax trap-based antenna: http://degood.org/coaxtrap/. I constructed one of these 9 years ago and have had great results with it.”

The bottom line is that indoor antennas can definitely work. They may take more work to put up than outside antennas, but as the saying goes, “Any antenna is better than no antenna.”

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 one of the hosts of the No Nonsense Amateur Radio Podcast (NoNonsenseAmateurRadio.Com).

HAM HUMOR: HAM SAYS FT8 NEEDS TO TAKE RUINING HAM RADIO MORE SERIOUSLY

LITTLE FORK, MINN. — A local amateur radio operator says FT8 needs to do more to live up to its reputation of destroying ham radio.

“Who are they trying to kid? FT8 needs to step it up if it’s going to ruin ham radio like everyone says,” said Cecil Donahue.

The popular digital mode is being perceived by some as taking away from sideband and CW activity.

“Here’s the deal – the mode involves a radio, RF, logging the contact, and many other facets of normal everyday operation in any other mode,” says Donahue. “They really missed the mark if they’re trying to destroy the hobby.”

Not one to complain without offering a solution, he suggests a better way.

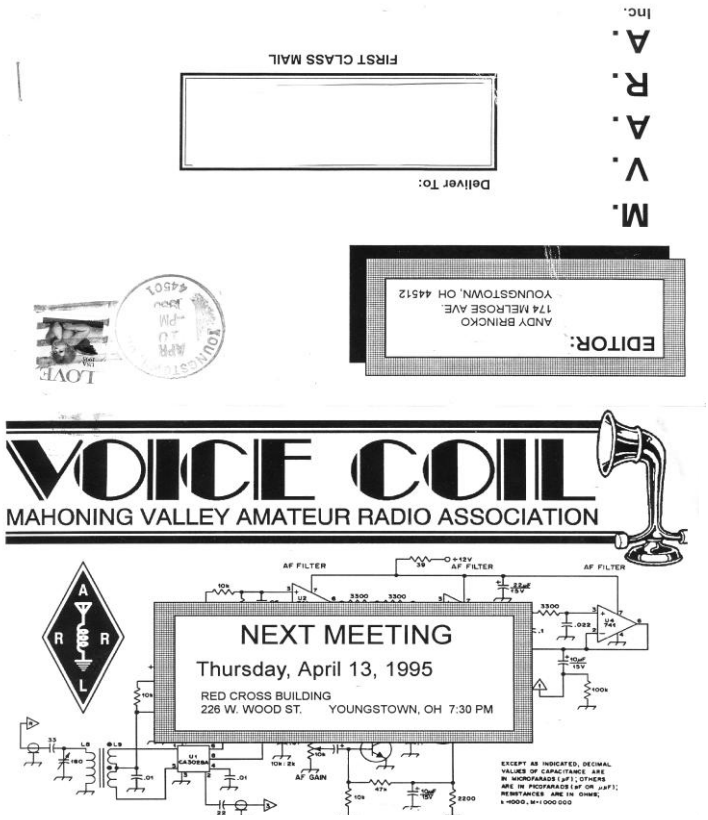
“What they should have done is connect a computer to the internet and let people talk to each other that way. See? That’s not ham radio at all.”

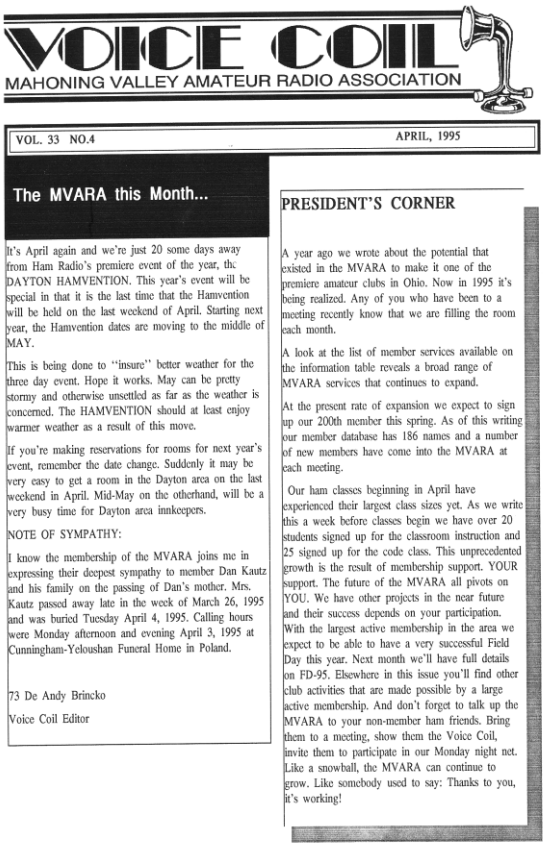
By K5KVN, on the scene

MOMENTS IN MVARA HISTORY

This April 1995 edition of the *Voice Coil* was published when snail mail was still the way our newsletter was distributed. Here are a few pages—click the + button on your Adobe Reader for a close-up view.

Times have changed, along with the format of the newsletter, which is now sent by email due to the high cost of postage.





VOICE COIL

MAHONING VALLEY AMATEUR RADIO ASSOCIATION

VOL. 33 NO.4 APRIL, 1995

The MVARA this Month...

It's April again and we're just 20 some days away from Ham Radio's premiere event of the year, th DAYTON HAMVENTION. This year's event will be special in that it is the last time that the Hamvention will be held on the last weekend of April. Starting next year, the Hamvention dates are moving to the middle of MAY.

This is being done to ''insure'' better weather for the three day event. Hope it works. May can be pretty stormy and otherwise unsettled as far as the weather is concerned. The HAMVENTION should at least enjoy warmer weather as a result of this move.

If you're making reservations for rooms for next year's event, remember the date change. Suddenly it may be very easy to get a room in the Dayton area on the last weekend in April. Mid-May on the otherhand, will be a very busy time for Dayton area innkeepers.

NOTE OF SYMPATHY:

I know the membership of the MVARA joins me in expressing their deepest sympathy to member Dan Kautz and his family on the passing of Dan's mother. Mrs. Kautz passed away late in the week of March 26, 1995 and was buried Tuesday April 4, 1995. Calling hours were Monday afternoon and evening April 3, 1995 at Cunningham-Yeloushan Funeral Home in Poland.

73 De Andy Brincko

Voice Coil Editor

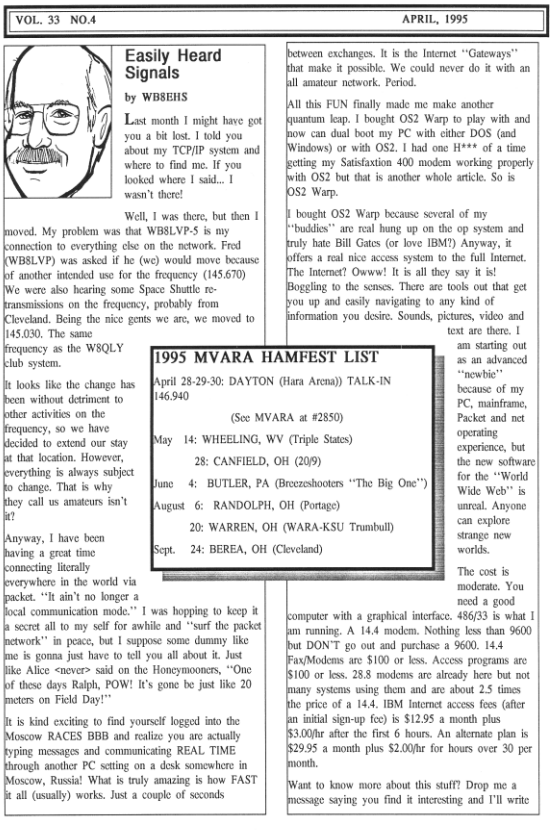
PRESIDENT'S CORNER

A year ago we wrote about the potential that existed in the MVARA to make it one of the premiere amateur clubs in Ohio. Now in 1995 it's being realized. Any of you who have been to a meeting recently know that we are filling the room each month.

A look at the list of member services available on the information table reveals a broad range of MVARA services that continues to expand.

At the present rate of expansion we expect to sign up our 200th member this spring. As of this writing our member database has 186 names and a number of new members have come into the MVARA at each meeting.

Our ham classes beginning in April have experienced their largest class sizes yet. As we write this a week before classes begin we have over 20 students signed up for the classroom instruction and 25 signed up for the code class. This unprecedented growth is the result of membership support. YOUR support. The future of the MVARA all pivots on YOU. We have other projects in the near future and their success depends on your participation. With the largest active membership in the area we expect to be able to have a very successful Field Day this year. Next month we'll have full details on FD-95. Elsewhere in this issue you'll find other club activities that are made possible by a large active membership. And don't forget to talk up the MVARA to your non-member ham friends. Bring them to a meeting, show them the Voice Coil, invite them to participate in our Monday night net. Like a snowball, the MVARA can continue to grow. Like somebody used to say: Thanks to you, it's working!



VOL. 33 NO.4 APRIL, 1995

Easily Heard Signals

by WB8EHS

Last month I might have got you a bit lost. I told you about my TCP/IP system and where to find me. If you looked where I said... I wasn't there!

Well, I was there, but then I moved. My problem was that WB8LVP-5 is my connection to everything else on the network. Fred (WB8LVP) was asked if he (we) would move because of another intended use for the frequency (145.670) We were also hearing some Space Shuttle re-transmissions on the frequency, probably from Cleveland. Being the nice gents we are, we moved to 145.030. The same frequency as the W8QLY club system.

It looks like the change has been without detriment to other activities on the frequency, so we have decided to extend our stay at that location. However, everything is always subject to change. That is why they call us amateurs isn't it?

Anyway, I have been having a great time connecting literally everywhere in the world via packet. ''It ain't no longer a local communication mode.'' I was hopping to keep it a secret all to my self for awhile and ''surf the packet network'' in peace, but I suppose some dummy like me is gonna just have to tell you all about it. Just like Alice <never> said on the Honeymooners, ''One of these days Ralph, POW! It's gone be just like 20 meters on Field Day!''

It is kind exciting to find yourself logged into the Moscow RACES BBB and realize you are actually typing messages and communicating REAL TIME through another PC setting on a desk somewhere in Moscow, Russia! What is truly amazing is how FAST it all (usually) works. Just a couple of seconds between exchanges. It is the Internet ''Gateways'' that make it possible. We could never do it with an all amateur network. Period.

All this FUN finally made me make another quantum leap. I bought OS2 Warp to play with and now can dual boot my PC with either DOS (and Windows) or with OS2. I had one H*** of a time getting my Satisfaxtion 400 modem working properly with OS2 but that is another whole article. So is OS2 Warp.

I bought OS2 Warp because several of my ''buddies'' are real hung up on the op system and truly hate Bill Gates (or love IBM?) Anyway, it offers a real nice access system to the full Internet. The Internet? Owww! It is all they say it is! Boggling to the senses. There are tools out that get you up and easily navigating to any kind of information you desire. Sounds, pictures, video and text are there. I am starting out as an advanced ''newbie'' because of my PC, mainframe, Packet and net operating experience, but the new software for the ''World Wide Web'' is unreal. Anyone can explore strange new worlds.

The cost is moderate. You need a good computer with a graphical interface. 486/33 is what I am running. A 14.4 modem. Nothing less than 9600 but DON'T go out and purchase a 9600. 14.4 Fax/Modems are $100 or less. Access programs are $100 or less. 28.8 modems are already here but not many systems using them and are about 2.5 times the price of a 14.4. IBM Internet access fees (after an initial sign-up fee) is $12.95 a month plus $3.00/hr after the first 6 hours. An alternate plan is $29.95 a month plus $2.00/hr for hours over 30 per month.

Want to know more about this stuff? Drop me a message saying you find it interesting and I'll write

1995 MVARA HAMFEST LIST

April 28-29-30: DAYTON (Hara Arena)) TALK-IN 146.940

(See MVARA at #2850)

May 14: WHEELING, WV (Triple States)

28: CANFIELD, OH (20/9)

June 4: BUTLER, PA (Breezeshooters ''The Big One'')

August 6: RANDOLPH, OH (Portage)

20: WARREN, OH (WARA-KSU Trumbull)

Sept. 24: BEREA, OH (Cleveland)

Cleaning Up Leaky Batteries

Many hams have had the unfortunate experience of Finding old batteries leaking in a piece of gear or a flashlight, creating a mess. Business technology news site ZDNet recently offered its procedure for cleaning it up.

The brief online presentation recommends taking some precautions about coming in contact with the white discharge -- specifically potassium hydroxide in the case of alkaline cells, a caustic irritant. An old toothbrush or something similar can start the project, along with a small scraper, and cotton swabs dipped in water. Start by removing and properly disposing of the bad cells and then brushing out theworst of the material -- preferably outdoors or over a container to catch the remnants.

The article advises against using any sort of acid such as vinegar or lemon juice—it could cause corrosion problems of its own. It suggests a fiberglass scratch brush for scrubbing the battery compartment contacts clean, although other tools may work as well. Deoxit D5 or similar contact cleaner also comes in handy, with a tiny dab of dielectric grease or silicone paste as a finishing touch to inhibit future corrosion if a leak occurs.

Tips to head off problems include using only name-brand batteries, avoiding mixing old and new batteries, removing batteries from devices not in use, avoiding exposing batteries to extreme heat or cold, and minding battery expiration dates.

FCC Invites Comments on ARRL Technician Enhancement Proposal

The FCC has invited public comments on ARRL's 2018 ***Petition for Rule Making***, now designated as RM-11828, which asks the FCC to expand HF privileges for Technician licensees to include limited phone privileges on 75, 40, and 15 meters, plus RTTY and digital mode privileges on 80, 40, 15, and 10 meters. Interested parties have 30 days to comment. The Technician enhancement proposals stemmed from the recommendations of the ARRL Board of Directors' Entry-Level License Committee, which explored various initiatives and gauged member opinions in 2016 and 2017.

"This action will enhance the available license operating privileges in what has become the principal entry-level license class in the Amateur Service," ARRL said in its *Petition*. "It will attract more newcomers to Amateur Radio, it will result in increased retention of licensees who hold Technician Class licenses, and it will provide an improved incentive for entry-level licensees to increase technical self-training and pursue higher license class achievement and development of communications skills."

Filing Comments

Those interested posting brief comments on the ARRL Technician Enhancement proposal (RM-11828) using the Electronic Comment Filing System (ECFS) should access FCC Electronic Comment Filing System Express. In the "Proceeding(s)" field, enter the number of the PRM, i.e., RM-11828 (using this format), complete all required fields, and enter comments in the box provided. You may review your post before filing. All information you provide, including name and address, will be publicly available once you post your comment. For more information, visit "How to Comment on FCC Proceedings."

Specifically, ARRL proposes to provide present and future Technicians with:

--phone privileges at 3.900 to 4.000 MHz, 7.225 to 7.300 MHz, and 21.350 to 21.450 MHz.

--RTTY and digital privileges in current Technician allocations on 80, 40, 15, and 10 meters.

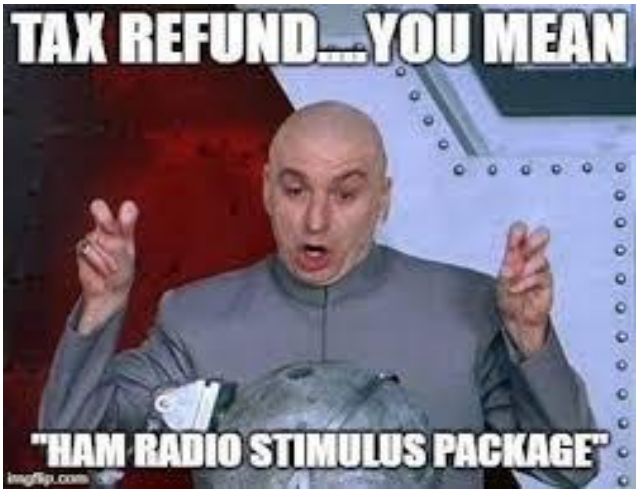
The ARRL petition points out the explosion in popularity of various digital modes over the past 2 decades. Under the ARRL plan, the maximum HF power level for Technician operators would remain at 200 W PEP. The few remaining Novice licensees would gain no new privileges under ARRL's proposal.

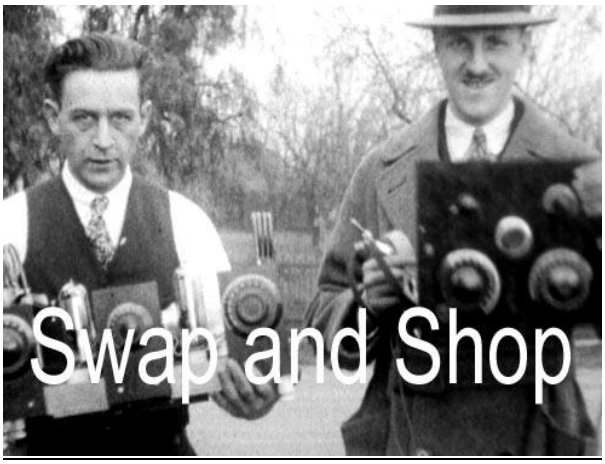
ARRL's petition points to the need for compelling incentives not only to become a radio amateur in the first place, but then to upgrade and further develop skills. Demographic and technological changes call for a "periodic rebalancing" between those two objectives, ARRL maintained in his proposal. The FCC has not assessed entry-level operating privileges since 2005.

The Entry-Level License Committee offered very specific data- and survey-supported findings about growth in Amateur Radio and its place in the advanced technological demographic, which includes individuals younger than 30. It received significant input from ARRL members via more than 8,000 survey responses. "The Committee's analysis noted that today, Amateur Radio exists among many more modes of communication than it did half a century ago, or even 20 years ago," ARRL said in its petition.

Now numbering some 384,500, Technician licensees comprise more than half of the US Amateur Radio population. ARRL stressed in its petition the urgency of making the license more attractive to newcomers, in part to improve upon science, technology, engineering, and mathematics (STEM) education, "that inescapably accompanies a healthy, growing Amateur Radio Service."
ARRL said its proposal is critical to develop improved operating skills, increasing emergency preparedness participation, improving technical self-training, and boosting overall growth in the Amateur Service, which has remained nearly inert at about 1% per year.

The Entry-Level License Committee determined that the current Technician class question pool already covers far more material than necessary for an entry-level exam to validate expanded privileges. ARRL told the FCC that it would continue to refine examination preparation and training materials aimed at STEM topics, increase outreach and recruitment, work with Amateur Radio clubs, and encourage educational institutions to utilize Amateur Radio in STEM and other experiential learning programs.

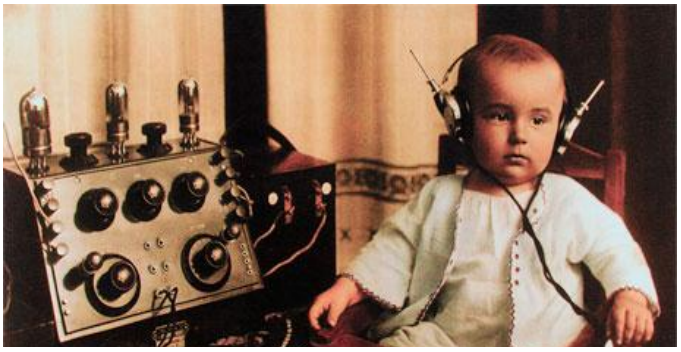




40-6m OCF

New version. This off-center fed antenna is convenient, small and easy to set up for portable use. 125w PEP power rated, 66' total length. Operates on 40, 20, 10, 6 meters *without* tuner. An antenna tuner is needed for 30, 17, 12 meters for best match. 2 available @ $36 each. Contact Mark, K8MSH, mh@zoominternet.net

Swap and Shop information/policies are listed on the last page of the newsletter.



Station Loaner Program

If you're a new ham/newly upgraded and want to get on the HF bands, MVARA has a loaner program for club members. The club has two complete stations with radio, power supply, microphone, CW key, and antenna tuner. All you need to do is supply your own coax, antenna, and keep the equipment in good condition while you have it.

Loan period is up to 6 months. However, you will be responsible for returning the station temporarily for use during Field Day weekend in June.

With the new ARRL proposal, it looks like even Tech class amateurs may soon have more phone privileges on some of the HF bands. Contact MVARA at our email address: **mvara.W8QLY@gmail.com**

OhmY GOD! Another stupid pun

World Amateur Radio Day 2019 Marks International Amateur Radio Union Founding

Thursday, April 18, was World Amateur Radio Day (WARD), this year marking the 94th anniversary of the International Amateur Radio Union (IARU), which was founded in Paris in 1925. Each year, WARD celebrates Amateur Radio's contribution to society. Groups in the US and around the world will celebrate WARD 2019 with on-air activities.

"I am pleased to extend my greetings for World Amateur Radio Day," IARU President Tim Ellam, VE6SH, said. April 18 is the day for all of Amateur Radio to celebrate and tell the world about the science we can help to teach, the community service we can provide, and the fun we have. I would encourage all radio amateurs to join in the celebrations and promote Amateur Radio on the air or in your community."

Amateur Radio experimenters were the first to discover that the shortwave spectrum was not the wasteland experts of the time considered it to be, but a resource that could support worldwide propagation. In the rush to use these shorter wavelengths, Amateur Radio was "in grave danger of being pushed aside," the IARU's history notes. Amateur Radio pioneers met in Paris in 1925 and created the IARU to support Amateur Radio around the globe.

Two years later, at the International Radiotelegraph Conference, Amateur Radio gained allocations still recognized today -- 160, 80, 40, 20, and 10 meters. More bands have followed, and the IARU has been working to defend and expand Amateur Radio frequency allocations ever since.

From the 25 countries that formed the IARU in 1925, the IARU has grown to include 160 member-societies in three regions. IARU Region 1 includes Europe, Africa, the Middle East, and northern Asia. Region 2 covers the Americas, and Region 3 is comprised of Australia, New Zealand, the Pacific island nations, and most of Asia.

The International Telecommunication Union (ITU) has recognized the IARU as representing the interests of Amateur Radio. Groups are encouraged to promote their WARD activity on social media by using the hashtag **#WorldAmateurRadioDay** on Twitter, Instagram, and Facebook. Visit the IARU World Amateur Radio Day web page for a listing of on-the-air activities.

From the ARRL

Amateur License Refresher

Dave, KD8NZF

It's probably been awhile since you took your Amateur License exam. Here are a few sample questions from the current question pools just to keep those synapses firing.

Extra Pool

E4B01
Which of the following factors most affects the accuracy of a frequency counter?
A. Input attenuator accuracy
B. Time base accuracy
C. Decade divider accuracy
D. Temperature coefficient of the logic

E4B02
What is an advantage of using a bridge circuit to measure impedance?
A. It provides an excellent match under all conditions
B. It is relatively immune to drift in the signal generator source
C. It is very precise in obtaining a signal null
D. It can display results directly in Smith chart format

General Pool

G4C01
Which of the following might be useful in reducing RF interference to audio frequency devices?
A. Bypass inductor
B. Bypass capacitor
C. Forward-biased diode
D. Reverse-biased diode

G4C02
Which of the following could be a cause of interference covering a wide range of frequencies?
A. Not using a balun or line isolator to feed balanced antennas
B. Lack of rectification of the transmitter's signal in power conductors
C. Arcing at a poor electrical connection
D. Using a balun to feed an unbalanced antenna

(Answers pg. 2)

Contest and Special Event Operating Information

Dave Fairbanks N8NB

Data below as well as more information courtesy of the following website: http://www.hornucopia.com/contestcal/index.html.

May 2019	
Phone Fray	0230Z-0300Z, May 1
CWops Mini-CWT Test	1300Z-1400Z, May 1 and 1900Z-2000Z, May 1 and 0300Z-0400Z, May 2
AGCW QRP/QRP Party	1300Z-1900Z, May 1
NRAU 10m Activity Contest	1700Z-1800Z, May 2 (CW) and 1800Z-1900Z, May 2 (SSB) and 1900Z-2000Z, May 2 (FM) and 2000Z-2100Z, May 2 (Dig)
SKCC Sprint Europe	1900Z-2100Z, May 2
NCCC RTTY Sprint	0145Z-0215Z, May 3
NCCC Sprint	0230Z-0300Z, May 3
Araucaria World Wide VHF Contest	0000Z, May 4 to 1600Z, May 5
10-10 Int. Spring Contest, CW	0001Z, May 4 to 2359Z, May 5
SBMS 2.3 GHz and Up Contest and Club Challenge	0600 local, May 4 to 2359 local, May 5
Microwave Spring Sprint	0800-1400 local, May 4
ARI International DX Contest	1200Z, May 4 to 1159Z, May 5
7th Call Area QSO Party	1300Z, May 4 to 0700Z, May 5
Indiana QSO Party	1500Z, May 4 to 0300Z, May 5
FISTS Spring Slow Speed Sprint	1700Z-2100Z, May 4
Delaware QSO Party	1700Z, May 4 to 2359Z, May 5
New England QSO Party	2000Z, May 4 to 0500Z, May 5 and 1300Z-2400Z, May 5
MIE 33 Contest	2300Z, May 4 to 0300Z, May 5
ARS Spartan Sprint	0100Z-0300Z, May 7
Phone Fray	0230Z-0300Z, May 8
CWops Mini-CWT Test	1300Z-1400Z, May 8 and 1900Z-2000Z, May 8 and 0300Z-0400Z, May 9
NCCC RTTY Sprint	0145Z-0215Z, May 10
NCCC Sprint	0230Z-0300Z, May 10
VOLTA WW RTTY Contest	1200Z, May 11 to 1200Z, May 12
SKCC Weekend Sprintathon	1200Z, May 11 to 2400Z, May 12
CQ-M International DX Contest	1200Z, May 11 to 1159Z, May 12
Arkansas QSO Party	1400Z, May 11 to 0200Z, May 12
FISTS Spring Unlimited Sprint	1700Z-2100Z, May 11
50 MHz Spring Sprint	2300Z, May 11 to 0300Z, May 12
WAB 7 MHz Phone/CW	1000Z-1400Z, May 12
4 States QRP Group Second Sunday Sprint	0000Z-0200Z, May 13
RSGB 80m Club Championship, SSB	1900Z-2030Z, May 13
Phone Fray	0230Z-0300Z, May 15
CWops Mini-CWT Test	1300Z-1400Z, May 15 and 1900Z-2000Z, May 15 and 0300Z-0400Z, May 16
NAQCC CW Sprint	0030Z-0230Z, May 16
NCCC RTTY Sprint	0145Z-0215Z, May 17
NCCC Sprint	0230Z-0300Z, May 17

+ Portuguese Navy Day Contest	0900Z, May 17 to 1700Z, May 19
+ UN DX Contest	0600Z-2100Z, May 18
+ NZART Sangster Shield Contest	0800Z-1100Z, May 18 and 0800Z-1100Z, May 19
+ Aegean RTTY Contest	1200Z, May 18 to 1200Z, May 19
+ His Maj. King of Spain Contest, CW	1200Z, May 18 to 1200Z, May 19
+ EU PSK DX Contest	1200Z, May 18 to 1200Z, May 19
+ Feld Hell Sprint	1600Z-1759Z, May 18 and 2000Z-2159Z, May 18
+ Baltic Contest	2100Z, May 18 to 0200Z, May 19
+ Run for the Bacon QRP Contest	0100Z-0300Z, May 20
+ SKCC Sprint	0000Z-0200Z, May 22
+ Phone Fray	0230Z-0300Z, May 22
+ CWops Mini-CWT Test	1300Z-1400Z, May 22 and 1900Z-2000Z, May 22 and 0300Z-0400Z, May 23
+ RSGB 80m Club Championship, Data	2000Z-2030Z, May 22
+ NCCC RTTY Sprint	0145Z-0215Z, May 24
+ NCCC Sprint	0230Z-0300Z, May 24
+ CQ WW WPX Contest, CW	0000Z, May 25 to 2359Z, May 26
+ QCX Challenge	1300Z-1400Z, May 27 and 1900Z-2000Z, May 27 and 0300Z-0400Z, May 28
+ Phone Fray	0230Z-0300Z, May 29
+ CWops Mini-CWT Test	1300Z-1400Z, May 29 and 1900Z-2000Z, May 29 and 0300Z-0400Z, May 30
+ RSGB 80m Club Championship, CW	1900Z-2030Z, May 30
+ NCCC RTTY Sprint	0145Z-0215Z, May 31
+ NCCC Sprint	0230Z-0300Z, May 31

DX Operating Information

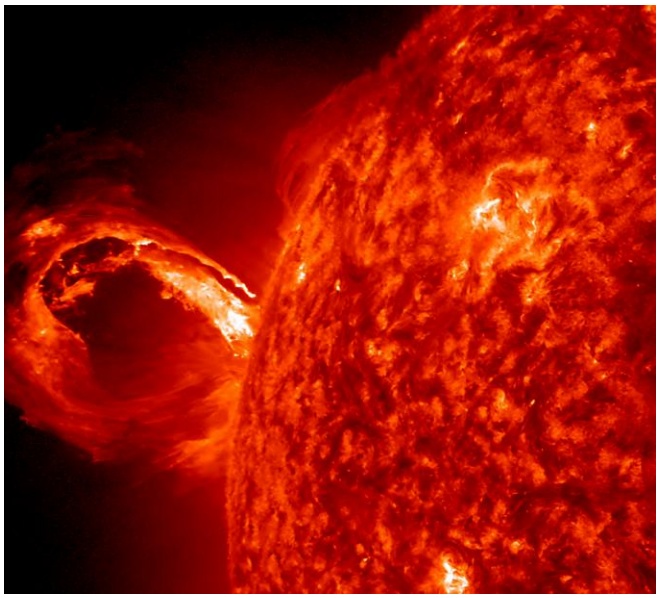
Dave Fairbanks N8NB

Credit for the below information and further information on these operations and others can be found at the following website: http://www.ng3k.com

May						
2019 May01	2019 May01	**Belize**	**V31D**	LoTW	TDDX 20190401	By Medical Amateur Radio Council ops; 20 17m; CW SSB FT8; 16-21z; QSL also OK via AA4FL
2019 May02	2019 May02	**Honduras**	**HQ9D**	LoTW	TDDX 20190401	By Medical Amateur Radio Council ops; 20 17m; CW SSB FT8; 16-19z; QSL also OK via AA4FL
2019 May02	2019 May05	**Fiji**	**3D2AS**	M0OXO	G0VJG 20181226	By G0VJG; 40-10m; SSB FT8; 300w; Hexbeam
2019 May03	2019 May03	**Cayman Is**	**ZF2D**	LoTW	TDDX 20190401	By Medical Amateur Radio Council ops; 20 17m; CW SSB FT8; 17-21z; QSL also OK via AA4FL

2019 May05	2019 May11	**Peru**	**OA**	LoTW	TDDX 20190322	By AC0PR as OA3/AC0PR; 40-15m; CW; QRP; limited spare time operation
2019 May06	2019 May15	**St Vincent**	**J88PI**	GW4DVB Direct	TDDX 20190211	By GW4DVB fm Palm I (IOTA NA-025, FK92ho); 40 20 17 15 10m; SSB FT8 SSTV; 100w; QSL: PO Box 20:20, Llanharan, Pontyclun, Wales, UK CF72 9ZA
2019 May07	2019 May14	**St Vincent**	**J88PI**	GW4DVB	DXNews 20180831	By GW4DVB fm Palm I (IOTA NA-025, FK92ho); 40-6m; SSB FT8 SSTV
2019 May07	2019 May15	**Dominica**	**J7** NEW	M0OXO	SM0CXU 20190419	By SM0CXU as J79U and SM0T as J79TA; 160-10m, focus on low bands; mainly CW
2019 May08	2019 May22	**Wallis & Futuna**	**FW**	M0OXO	G0VJG 20181226	By G0VJG as FW/G0VJG fm Wallis I (IOTA OC-054); 40-6m; SSB FT8 (f&h); 300w; Hexbeam
2019 May10	2019 May12	**Luxembourg**	**LX8SAR** NEW	LX8SAR Buro	LX1KQ 20190416	By F/DL/PA/LX team; HF; SSB CW FT8
2019 May11	2019 May16	**Fiji**	**3D2**	KD7WPJ	KD7WPJ 20190308	By KD7WPJ as TBD fm Viti Levu I (IOTA OC-016); 40-12m; SSB CW; 100w; dipoles
2019 May13	2019 May19	**Vietnam**	**XV9BO**	LoTW	TDDX 20190319	By DL7BO fm Mui Ne; 160-10m; SSB CW RTTY FT8; 500w; QSL also OK via DL7BO
2019 May15	2019 Jun05	**Reunion**	**FR** NEW		TDDX 20190417	By F4HPX as FR/F4HPX; 40 20 15m; mainly SSB FT8, perhaps CW; 100w; wires; holiday style operation; dates approximate
2019 May20	2019 May22	**Fiji**	**3D2AS**	M0OXO	G0VJG 20181226	By G0VJG; 40-10m; SSB FT8; 300w; Hexbeam
2019 May20	2019 Jun19	**Guatemala**	**TG9BBV**	LoTW	TDDX 20181128	By VE7BV fm EK44qk; HF; mainly CW, also SSB FT8; holiday style operation; QSL also OK via VE7BV (VE Buro or direct) and eQSL
2019 May23	2019 May28	**East Malaysia**	**9M6NA**	LoTW	TDDX 20190410	By JE1JKL fm Labuan I (IOTA OC-133); focus on 6m FT8 on 50.313 and 50.323, also f/h mode on 50.318; QRV for CQ WPX CW; QSL also OK via Club Log

Experts Predict a Long, Deep Solar Minimum Solar Cycle 25 to Have Below Average Sun Activity



Scientists charged with predicting the Sun's activity for the next 11-year solar cycle say that it's likely to be weak, much like the current one. The current solar cycle, Cycle 24, is declining and predicted to reach solar minimum - the period when the Sun is least active - late in 2019 or 2020.

Solar Cycle 25 Prediction Panel experts said Solar Cycle 25 may have a slow start, but is anticipated to peak with solar maximum occurring between 2023 and 2026, and a sunspot range of 95 to 130. This is well below the average number of sunspots, which typically ranges from 140 to 220 sunspots per solar cycle. The panel has high confidence that the coming cycle should break the trend of weakening solar activity seen over the past four cycles.

"We expect Solar Cycle 25 will be very similar to Cycle 24: another fairly weak cycle, preceded by a long, deep minimum," said panel co-chair Lisa Upton, Ph.D., solar physicist with Space Systems Research Corp. "The expectation that Cycle 25 will be comparable in size to Cycle 24 means that the steady decline in solar cycle amplitude, seen from cycles 21-24, has come to an end and that there is no indication that we are currently approaching a Maunder-type minimum in solar activity."

The solar cycle prediction gives a rough idea of the frequency of space weather storms of all types, from radio blackouts to geomagnetic storms and solar radiation storms. It is used by many industries to gauge the potential impact of space weather in the coming years. Space weather can affect power grids, critical military, airline, and shipping communications, satellites and Global Positioning System (GPS) signals, and can even threaten astronauts by exposure to harmful radiation doses.
Solar Cycle 24 reached its maximum - the period when the Sun is most active - in April 2014 with a peak average of 82 sunspots. The Sun's Northern Hemisphere led the sunspot cycle, peaking over two years ahead of the Southern Hemisphere sunspot peak.

Solar cycle forecasting is a new science

While daily weather forecasts are the most widely used type of scientific information in the U.S., solar forecasting is relatively new. Given that the Sun takes 11 years to complete one solar cycle, this is only the fourth time a solar cycle prediction has been issued by U.S. scientists. The first panel convened in 1989 for Cycle 22.

For Solar Cycle 25, the panel hopes for the first time to predict the presence, amplitude, and timing of any differences between the northern and southern hemispheres on the Sun, known as Hemispheric Asymmetry. Later this year, the Panel will release an official Sunspot Number curve which shows the predicted number of sunspots during any given year and any expected asymmetry. The panel will also look into the possibility of providing a Solar Flare Probability Forecast.

“While we are not predicting a particularly active Solar Cycle 25, violent eruptions from the sun can occur at any time,” said Doug Biesecker, Ph.D., panel co-chair and a solar physicist at NOAA’s Space Weather Prediction Center.

An example of this occurred on July 23, 2012 when a powerful coronal mass ejection (CME) eruption missed the Earth but enveloped NASA’s STEREO-A satellite. A 2013 study estimated that the U.S. would have suffered between $600 billion and $2.6 trillion in damages, particularly to electrical infrastructure, such as power grid, if this CME had been directed toward Earth. The strength of the 2012 eruption was comparable to the famous 1859 Carrington event that caused widespread damage to telegraph stations around the world and produced aurora displays as far south as the Caribbean.

The Solar Cycle Prediction Panel forecasts the number of sunspots expected for solar maximum, along with the timing of the peak and minimum solar activity levels for the cycle. It is comprised of scientists representing NOAA, NASA, the International Space Environment Services, and other U.S. and international scientists. The outlook was presented on April 5 at the 2019 NOAA Space Weather Workshop in Boulder, Colo.

For the latest space weather forecast, visit https://www.swpc.noaa.gov/

2019 State of the Hobby Results

Dustin, N8RMA | Gregory Drezdzon, WD9FTZ

Radio amateurs have spoken and the results are in! I truly hope you read and enjoy the report below. It represents approximately 120 hours of blood, sweat and tears each spring, donated out of love for amateur radio and a sense of duty to help in some way.

Share these results with your clubs, ham friends and family, and most importantly challenge them (and yourself) to use the information to enact positive change. We all know this hobby isn't one we can do solo - it's in our best interest to improve and grow it each and every year. It doesn't have to be a grand gesture either - to quote the greatest movie ever, Contact, starting the marvelous Jodie Foster, "small moves Ellie, small moves". Do something small within your community or club to positively promote the hobby and create that ripple.

As always, if you are interested in receiving email updates please subscribe to the blog. The yearly survey, results and information will be posted there and by subscribing you won't miss a single update. Now, on to the report! 2019 State of the Hobby.

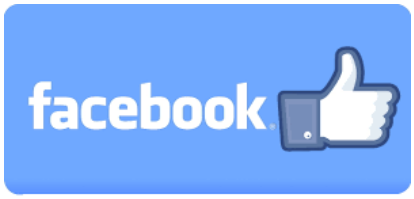
The Last Word

Reputation is Everything

It's always interesting to see how small things have such a big impact on our lives. Take something as simple as doing the right thing. We call that ethics. It's our internal guide to what's right and what's wrong.

Usually we learn this key concept at an early age. When we do the right thing (even when no one is watching) we can be trusted by others. When we can be trusted by others we have a "good reputation" and others will do things with us. If we can't be trusted, well, you get the picture. So, your reputation is very important.

How does that impact our club? Simple—always do the right thing and your reputation with other members will be just fine and our Club will maintain a good reputation. Small things can have a positive impact.



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MVARAVoiceCoil@gmail.com

Submissions must be received **no later than the 24th** of the month prior to the month of issue, unless otherwise specified. **Submissions should be in MS Word format or ASCII text—no PDF, please!** Material received after the deadline will be used in the next month's VOICE COIL if it is still current and /or newsworthy.

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