



January 2019
Our 100th Year
Volume 57, Issue 1

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

The Voice Coil

Prez Sez

Once again I hope this holiday season finds you all well. By the time your reading this Christmas day will have passed. Hope all your Christmas dreams have come true

Well at this point, my latest project has been finished and working well. I hope that anything you have planned is working out.

I went to the Christmas party and had a great time. Food was good. The gift exchange went well, lots of goodies were passed out. There were more than 20 people there and all seemed to have a good time.

Mike, K8PRR, passed the orders for clubwear—lots of good-looking shirts, hats and hoodies. If you're interested in showing pride in your club, get in touch with Mike for order forms.

There is group that is trying to get a simplex net going. This we be a informal net, and we want to find out how far and who we can make contact with on simplex. About seventeen stations took part. I took part, made contact with all but one who I could hear, but he could not hear me

Everybody that took part seemed to have fun. As of right now it will be held on the 2nd and 4th Monday



about 8:30 pm local time. For more information get in touch with Wes ,W8IZC. So if you received a new FM radio or have one get on and make some noise. In case of an emergency, there may not be a repeater to use, so this should be a benefit to know.

As we have passed in to the winter season, keep your batteries charged, you just never know.

73 for now---Jim WB8UJS

Next Meeting:

January 10, 2019
GOP Headquarters
meeting room. 8381
Market St., Boardman,
OH
(in Adamas Plaza)

Come early for dinner at
Bruno Bros. (in the Plaza),
for pizza, drinks, and
social time.

2019 Officers

President: Jim Stiffler, WB8UJS

Vice President: Wes Boyd,
W8IZC

Secretary: Becky Albrecht,
KD8SCF

Treasurer: Nancy Brett, KD8QNY

Trustees: Dean DeMain, W8YSU

Doug Sage, KB8TPG

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.w8qlly@gmail.com

For License Classes and VE testing,
Contact Wes Boyd, W8IZC,
W8IZC@yahoo.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.

OPERATORS NEEDED

Our first special events stations for the 100th anniversary will be on the air from Saturday February 16 at 6pm local time until Monday, February 18 at 6pm local time. You can find information on the ARRL Site, <http://www.arrl.org/special-event-stations> It should also be published in the February 2019 issue of *QST*.

We need operators to be on the air. To make this easy for everyone, you can operate from your home station using the club callsign. For this event, we'll be operating 80, 40 and 20 meters phone.

Techs may team up with general/advanced/extra class club members if they want to operate for this event. We hope to add 10, 6, or 2 meters for events during the summer/fall when band openings are more likely.

If you're interested in operating for the event, please contact Mark, K8MSH, mh@zoominternet.net or Nancy, KD8QNY kd8qny@zoominternet.net to schedule times during the event weekend.

More detailed information including operating procedures, frequencies, and contact info for QSLs and certificates will be published in the February Voice Coil.

We need your participation to make these special events stations a success!

Next Centennial Meeting

Wednesday - January 23, 2019 – 6:30 pm
Boardman Library
7680 Glenwood Ave
Boardman, OH 44512

If you plan to attend – email kd8qny@zoominternet.net

We're still looking for history co-chairs.

License refresher answers: E3B01 (A), E3B02 (C), G3C01 (A), G3C02 (A)

ANNOUNCING....

THE MONDAY NIGHT MAHONING AND TRUMBULL SIMPLEX NET

8 pm local time, 2nd and 4th Monday on
147.540 MHz

Why?? Because a lot of us are bored!
This might be something fun to do over the
winter. And if there is enough
interest...year round! At least you can
listen and see who you can hear.

The signal from modest antenna, such as a
mag mount hanging from your house
downspout might surprise you!

Current Activities

January 3: VE session at Red Cross, 3530
Belmont Avenue, Youngstown. Doors open at
6:30pm. Testing begins at 7pm.

January 10: Club meeting, 7:00 pm

January 23: Centennial committee meeting,
Boardman Library, 6:30 pm.

February 16-18: W8QLY HF special event #1

Contact Us:

Email: mvara.W8QLY@gmail.com

Snail-mail: MVARA, P.O. Box 1414, Poland,
OH 44514

Hamfest Calendar



01/27/2019 Tusco ARC Hamfest. **Location:** Wallick Auctions, 965 North Wooster Avenue
Strasburg, OH 44680. **Website:** <http://www.tuscoarc.org> **Talk-In:** 146.730- (no PL tone)
Public Contact: Janice Green , KB8YDK, 32210 Norris Road Tippecanoe, OH 44699
Phone: 740-922-4454 **Email:** k8wfn@tusco.net

02/17/2019 Mansfield Mid Winter Hamfest. **Location:** Richland County Fairgrounds, 750 North
Home Road, Mansfield, OH 44901. **Website:** <http://W8WE.ORG> **Sponsor:** Intercity Amateur Radio
Club **Talk-In:** 146.94 (PL 71.9) **Public Contact:** Danny Bailey , W8DLB, 70 Euclid Street Shiloh, OH
44878 Phone: 419-896-2165. **Email:** W8DLB113@gmail.com

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

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

Digital Class

Andy, WB8HYO, hosted a digital radio introduction class at Youngstown Radio Service on December 18. More than a dozen local hams learned about our local digital repeater, as well as general information about DMR radio from guest speaker, Ken "Digital" Dorsey of DX Engineering.

For those interested in using the repeater, here is some basic information:

TX-443.250

RX-448.250

PL 110.9 for analog operation

Digital settings:

Color code 7

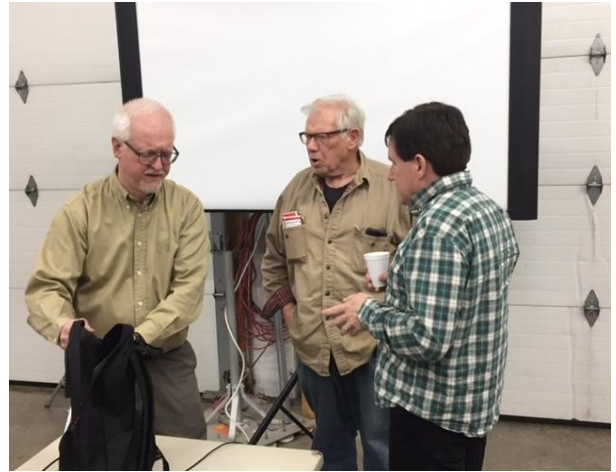
Local talk groups-Local2 (TG2) and Local9 (TG9)

Brandmeister code 313979

Your DMR radio needs to be Tier 2 compliant.

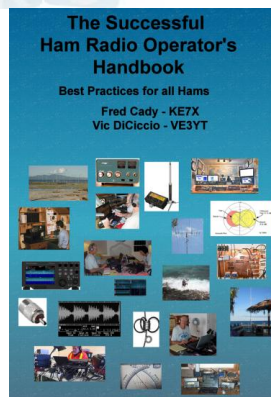
If you missed the presentation, a PowerPoint from Ken is available to club members (4MB). A copy will be sent upon request--please send your request to the Voice Coil email address:

Mvaravoicecoil@gmail.com



The Successful Ham Radio Operator's Handbook

This new book is aimed at new or returning hams to help them understand the practical aspects of the hobby, how to use their radios, build antennas and baluns, and get on the air successfully.



Pdf and spiral-bound printed versions available from Lulu.com; print copy sold by DX Engineering.

<http://www.ke7x.com/successful/ordering-the-successful-ham-radio-operator-s-handbook>

Grey Line Map

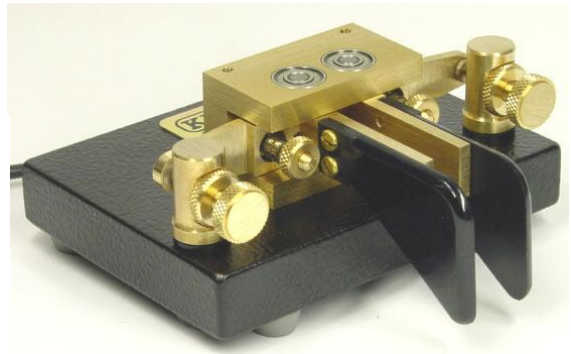
The "grey line" is a band around the Earth that separates daylight from darkness. Propagation along the grey line is very efficient. One major reason for this is that the D layer, which absorbs HF signals, disappears rapidly on the sunset side of the grey line, and it has not yet built upon the sunrise side. H

Ham radio operators and shortwave listeners can optimize long distance communications to various areas of the world by monitoring this band as it moves around the globe. This map will automatically refresh every 5 minutes.

<https://dx.qsl.net/propagation/greyline.html>

The CWops CW Academy

The CWops is an international organization of amateur radio operators who celebrate the art of Morse code and enjoy using it to communicate. They promote CW by sponsoring 3 CWT (CW Test) sessions every Wednesday, an annual CW Open contest, various operating awards, and the CW Academy whose unique training program has helped over 4,000 students increase their CW proficiency.



The CW Academy is free and open to all amateurs who would like to learn or improve their CW skills. Semesters are eight-weeks long and held three times per year (Jan-Feb, Apr-May, and Sep-Oct). Twice weekly sessions are held on Mondays and Thursdays at 7:00 pm. Students are given daily assignments prior to each meeting, and the twice weekly meetings are held online using Skype group calling (audio/video). During the online meetings students and advisors can all see and hear each other, as well as Morse being sent by any of them. Using Skype creates, in effect, a virtual training room.

Students are grouped into 3 levels:

Level 1 Beginners, 0 to 10 wpm code speed, meetings are held online

Level 2 Intermediate operators, 11 to 15 wpm code speed, meetings are online and on-the-air

Level 3 Advanced operators, 16 to 20 wpm code speed, meetings are online and on-the-air

Students will need the following essential equipment:

- Broadband Internet access
- Computing device (desktop, laptop)
- Webcam (camera, microphone) either built-in or USB add-on
- Keyer paddle (single lever or dual lever)
- Keyer with sidetone or radio with built-in keyer and sidetone

The innovative lesson plans which emphasize head copy instead of writing things down, and the virtual meeting room where students interact with each other and the elite team of advisors has made the CW Academy a highly successful CW training program. I would recommend it to anyone interested in CW. Please contact me if you have any questions.

You can get more information or sign up for CW Academy at CWOPS.org

Rich KB8GAE
CWops #2123

Are HF digital modes a national security risk?

by Dan Romanchik, KB6NU

According to [an article on the website Mission Critical Communications](#), a noted amateur radio operator and electrical engineering professor, Theodore Rappaport, N9NB, thinks that “the FCC is putting national security at risk by not enforcing amateur radio rules.”



In a filing on the Notice of Proposed Rulemaking (NPRM) 16-239, which would remove baud rate limits for digital modes on the HF bands, Rappaport says that the FCC should first address ongoing amateur radio rule violations, specifically, the use of obscured, private messaging, as they create national security concerns.

N9NB writes, “If allowed, NPRM 16-239 would perpetuate the current violations and would authorize obscured transmissions of unlimited bandwidth over the global airwaves, further increasing the danger to our national security, since these transmissions cannot be intercepted or eavesdropped by other amateur radio operators or the FCC.”

The article also notes:

The filing said public records clearly show how the evolution of undocumented, proprietary transmission technologies such as PACTOR and Winlink, ARDOP, Winmor, STANAG and other HF transmission schemes that use controlling software have created a national security problem in the amateur radio service. Third parties, including other ham radio operators or the FCC listening stations, cannot intercept and decode over-the-air transmissions when used in the popular automated repeat request (ARQ) mode.

There’s a [heated debate](#) about this over on Hackaday, but there the debate seems to be centered on the proprietary (or not) nature of PACTOR. There’s also been some discussion of this issue on the CWOps mailing list. There, the discussion seems to be centered on the possibility of all these unattended, automatic, wide-bandwidth digital stations being unleashed on and taking over the CW portion of the bands. And for what purpose? So, some boaters can send email.

I think that some of these concerns have some merit. If these transmission really can’t be monitored, then they could be put to nefarious use. But, if there was any evidence of that happening, I’m sure that the FCC and other agencies could quickly obtain that capability.

I’m also not too keen on unattended digital stations taking over the CW bands. Call me naive, but I don’t really see that happening. Much of the band is going unused, and certainly there s room for more digital communications. And, if it does prove to be a problem. we could petition for the rules to be changed again.

Having said that, there is some merit in allowing wider bandwidth digital communications. Much of the emergency communications provided by amateur radio operators in the wake of Hurricane Maria in Puerto Rico last year was conducted using WinLink.

What do you think? Should I be up in arms about this? Is this actually going to kill ham radio, or is it much ado about nothing?

HAMS AWED BY MAJESTY OF 80 METER NATIVITY NET



By [WBØRUR](#), on the scene

ORANGE PLAINS, Kansas — Amateur radio operators listening in on 3.875 MHz may have been surprised at what they heard crackling through the airwaves as hams across the country celebrate the yuletide season.

For weeks, Robert Von Werther and members of the Sunflower State Amateur Radio Club have been planning a “Nativity Scene Net” on 80 meters as part of their Christmas holiday observances.

“One year, we sent QSL cards from Christmas City, Kansas,” says the 58-year-old beet farmer. “Another year, we activated a special event aboard a Christmas parade float. But we really knocked it out of the park with this live nativity net.”

Enlisting the help of ham radio operators across the United States, amateurs were assigned various “roles;” each required to send specific transmissions “to tell the nativity story” as recounted in the New Testament Gospel of Luke.

“It was heartwarming,” says Von Werther. “I cranked up my vintage Hammerlund HXL-1 and blasted over 1500 watts PEP of Baby Jesus across the ionosphere.”

Participants recited their designated lines, but ended each transmission with a callsign to keep the net “legal.”

But not all went as planned.

Ham operator Gregory Boatwright in Salisbury, Pennsylvania says he was listening into the “nativity net” as the ham portraying The Angel Gabriel concluded his monologue to the shepherds...and finished his transmission with a series of off-color comments when his PTT stuck open.

Worse, one ham says he received an FCC citation.

“I got a pink warning slip in the mail from an Official Observer,” says Winston Northridge of rural Manchester, Utah. “I had to call the OO on the phone and explain that the word ‘ass’ referred to a donkey-like animal and was mentioned in the Bible.”

Von Werther says his club is now working on an 80 meter “Passion Play” for the Easter season.

[hamhijinks.com](#)

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>.

January 2019

+ AGB New Year Snowball Contest	0000Z-0100Z, Jan 1
+ SARTG New Year RTTY Contest	0800Z-1100Z, Jan 1
+ AGCW Happy New Year Contest	0900Z-1200Z, Jan 1
+ AGCW VHF/UHF Contest	1400Z-1700Z, Jan 1 (144) and 1700Z-1800Z, Jan 1 (432)
+ QRP ARCI New Years Sprint	1500Z-1800Z, Jan 1
+ QRP Fox Hunt	0200Z-0330Z, Jan 2
+ Phone Fray	0230Z-0300Z, Jan 2
+ CWops Mini-CWT Test	1300Z-1400Z, Jan 2 and 1900Z-2000Z, Jan 2 and 0300Z-0400Z, Jan 3
+ UKEICC 80m Contest	2000Z-2100Z, Jan 2
+ AWA Linc Cundall Memorial CW Contest	2300Z, Jan 2 to 2300Z, Jan 3 and 2300Z, Jan 5 to 2300Z, Jan 6
+ NRAU 10m Activity Contest	1800Z-1900Z, Jan 3 (CW) and 1900Z-2000Z, Jan 3 (SSB) and 2000Z-2100Z, Jan 3 (FM) and 2100Z-2200Z, Jan 3 (Dig)
+ SKCC Sprint Europe	2000Z-2200Z, Jan 3
+ NCCC RTTY Sprint	0145Z-0215Z, Jan 4
+ QRP Fox Hunt	0200Z-0330Z, Jan 4
+ NCCC Sprint	0230Z-0300Z, Jan 4
+ PODXS 070 Club PSKFest	0000Z-2400Z, Jan 5
+ WW PMC Contest	1200Z, Jan 5 to 1200Z, Jan 6
+ RSGB AFS Contest, CW	1300Z-1700Z, Jan 5
+ ARRL RTTY Roundup	1800Z, Jan 5 to 2400Z, Jan 6
+ ARRL Kids Day	1800Z-2359Z, Jan 5
+ EUCW 160m Contest	2000Z-2300Z, Jan 5 and 0400Z-0700Z, Jan 6
+ IQRP Quarterly Marathon	0800Z, Jan 7 to 2000Z, Jan 13
+ ARS Spartan Sprint	0200Z-0400Z, Jan 8
+ QRP Fox Hunt	0200Z-0330Z, Jan 9
+ Phone Fray	0230Z-0300Z, Jan 9
+ CWops Mini-CWT Test	1300Z-1400Z, Jan 9 and 1900Z-2000Z, Jan 9 and 0300Z-0400Z, Jan 10
+ NCCC RTTY Sprint	0145Z-0215Z, Jan 11
+ QRP Fox Hunt	0200Z-0330Z, Jan 11
+ NCCC Sprint Ladder	0230Z-0300Z, Jan 11
+ YB DX Contest	0000Z-2359Z, Jan 12
+ Old New Year Contest	0500Z-0900Z, Jan 12
+ UBA PSK63 Prefix Contest	1200Z, Jan 12 to 1200Z, Jan 13
+ SKCC Weekend Sprintathon	1200Z, Jan 12 to 2400Z, Jan 13
+ North American QSO Party, CW	1800Z, Jan 12 to 0559Z, Jan 13
+ NRAU-Baltic Contest, SSB	0530Z-0730Z, Jan 13
+ NRAU-Baltic Contest, CW	0800Z-1000Z, Jan 13
+ DARC 10-Meter Contest	0900Z-1059Z, Jan 13

+ DARC 10-Meter Contest	0900Z-1059Z, Jan 13
+ Midwinter Contest	1000Z-1400Z, Jan 13
+ RSGB AFS Contest, Data	1300Z-1700Z, Jan 13
+ Classic Exchange, CW	1300Z, Jan 13 to 0700Z, Jan 14 and 1300Z, Jan 15 to 0700Z, Jan 16
+ 4 States QRP Group Second Sunday Sprint	0100Z-0300Z, Jan 14
+ QRP Fox Hunt	0200Z-0330Z, Jan 16
+ Phone Fray	0230Z-0300Z, Jan 16
+ CWops Mini-CWT Test	1300Z-1400Z, Jan 16 and 1900Z-2000Z, Jan 16 and 0300Z-0400Z, Jan 17
+ NAQCC CW Sprint	0130Z-0330Z, Jan 17
+ NCCC RTTY Sprint	0145Z-0215Z, Jan 18
+ QRP Fox Hunt	0200Z-0330Z, Jan 18
+ NCCC Sprint Ladder	0230Z-0300Z, Jan 18
+ LZ Open Contest	1800Z-2200Z, Jan 18
+ Hungarian DX Contest	1200Z, Jan 19 to 1159Z, Jan 20
+ RSGB AFS Contest, SSB	1300Z-1700Z, Jan 19
+ NA Collegiate Championship, SSB	1800Z, Jan 19 to 0559Z, Jan 20
+ North American QSO Party, SSB	1800Z, Jan 19 to 0559Z, Jan 20
+ WAB 1.8 MHz Phone	1900Z-2300Z, Jan 19
+ ARRL January VHF Contest	1900Z, Jan 19 to 0359Z, Jan 21
+ Feld Hell Sprint	2000Z-2359Z, Jan 19 (EU-AF) and 2300Z, Jan 19 to 0259Z, Jan 20 (ENA-ESA) and 0200Z-0559Z, Jan 20 (WNA-OC-AS)
+ Run for the Bacon QRP Contest	0200Z-0400Z, Jan 21
+ SKCC Sprint	0000Z-0200Z, Jan 23
+ NAQCC CW Sprint	0130Z-0330Z, Jan 23
+ QRP Fox Hunt	0200Z-0330Z, Jan 23
+ Phone Fray	0230Z-0300Z, Jan 23
+ CWops Mini-CWT Test	1300Z-1400Z, Jan 23 and 1900Z-2000Z, Jan 23 and 0300Z-0400Z, Jan 24
+ NCCC RTTY Sprint	0145Z-0215Z, Jan 25
+ QRP Fox Hunt	0200Z-0330Z, Jan 25
+ NCCC Sprint Ladder	0230Z-0300Z, Jan 25
+ CQ 160-Meter Contest, CW	2200Z, Jan 25 to 2200Z, Jan 27
+ REF Contest, CW	0600Z, Jan 26 to 1800Z, Jan 27
+ BARTG RTTY Sprint	1200Z, Jan 26 to 1200Z, Jan 27
+ UBA DX Contest, SSB	1300Z, Jan 26 to 1300Z, Jan 27
+ Winter Field Day	1900Z, Jan 26 to 1900Z, Jan 27
+ QRP Fox Hunt	0200Z-0330Z, Jan 30
+ Phone Fray	0230Z-0300Z, Jan 30
+ CWops Mini-CWT Test	1300Z-1400Z, Jan 30 and 1900Z-2000Z, Jan 30 and 0300Z-0400Z, Jan 31
+ UKEICC 80m Contest	2000Z-2100Z, Jan 30

DX Operating Information

Dave Fairbanks N8NB

The Bouvet Dxpedition is still in the preparation process. You can follow at:

<https://www.rebeldxgroup.com/>.

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

January						
2019 Jan05	2019 Feb02	Seychelles	S79AA	LotW	TDDX 20171213	By OE6MBG fm Baie Lazare and Anse Boileau; 160 80 40 20 15 10m, perhaps 6m; CW SSB; 400w; wires, verticals, perhaps a yagi for the high bands
2019 Jan08	2019 Jan20	St. Kitts and Nevis	V47UR	LotW	TDDX 20171121	By W3UR N3OSH fm Calypso Bay (@V47JA); 160-6m; 100w; verticals; holiday style operation; QSL also OK via Club Log and W3UR (preferably via Buro)
2019 Jan09	2019 Jan21	Sierra Leone	9LY1JM	LotW	DXW.Net 20181030	By F4AJQ F1ULQ F2DX DL3GA F4DLM F5TVG ON4QX ON7RN fm Banana I (IOTA AF-037); 160-10m; CW SSB RTTY PSK FT8; 4 stations; QSL also OK via F5GSJ and Club Log
2019 Jan14	2019 Jan31	Guadeloupe	FG	F6ITD	TDDX 20171213	By F6ITD as FG/F6ITD fm Desirade I (IOTA NA-102); 80-6m; CW SSB + digital (incl FT8); 400w; dipoles; will use TO7D during contests; operation to continue until Mar 13
2019 Jan17	2019 Jan20	Cayman Is	ZF2PG	LotW	AD1C 20181126	By K8PGJ fm Grand Cayman I (IOTA NA-016, EK99hh); 160-10m; QRV for NAQP SSB; QSL also OK via K8PGJ direct and eQSL
2019 Jan17	2019 Jan29	Chatham I	ZL7	LotW	425DXN 20181201	By JA0JHQ as ZL7/JA0JHQ fm IOTA OC-038; focus on 160m CW and 6m FT8; also 40-10m; CW FT8; QSL also OK via JA0JHQ direct
2019 Jan18	2019 Feb14	Rwanda	9X2AW	LotW	TDDX 20181031	By DF2WO fm Kigali; focus on 160 80 60m; CW SSB RTTY FT8; hexbeam, verticals; also WJ2O w/ his own call; QSL also OK via N2ZN
2019 Jan25	2019 Jan28	Palau	T88PB	LotW	TDDX 20181130	By JA0JHQ; focus on 160m CW; QRV for CQ 160m CW Contest; will watch 6m FT8 during daylight offtimes; QSL also via JA0JHQ direct: Nobuaki Hosokawa, 1458-25 Okagami, Asao-ku, Kawasaki, Kanagawa 215-0027, Japan; LotW preferred

- 1) What electrical function was performed by a "slop jar"?
 - a. Accumulate grid leaks
 - b. Rectify ac
 - c. Artificial ground
 - d. Transient clamping

- 2) Poulsen invented what device used in early transmitters?
 - a. Multiplier
 - b. Transformer
 - c. Arc
 - d. Tuner

- 3) What type of device was the "audion"?
 - a. Vacuum tube
 - b. Speaker
 - c. Headphones
 - d. Detector

- 4) To what was the nickname "Old Betsy" given?
 - a. Transmitter
 - b. Receiver
 - c. This was the term for "Murphy" before Murphy's Law was popularized.
 - d. QRN

- 5) Who is most widely credited with first describing vacuum-tube rectification?
 - a. Hertz
 - b. Maxwell
 - c. Armstrong
 - d. Fleming

- 6) Who invented the "single-signal" crystal filter?
 - a. Armstrong
 - b. Lamb
 - c. de Broglie
 - d. Marconi

- 7) A "TRF" is a type of what?
 - a. Antenna
 - b. Battery
 - c. Early coaxial connector family
 - d. Receiver

- 8) In a spark transmitter, what determined the strongest wavelength of the transmission?
 - a. Antenna system
 - b. Rotational speed
 - c. Gap spacing
 - d. All wavelengths were of equal strength

9) What was the original name for radio waves?

- a. Cathode rays
- b. Ethereal waves
- c. Alpha particles
- d. Hertz or Hertzian waves

10) Who discovered the electron and in what year?

- a. J J Thomson (later, Lord Kelvin) in 1897
- b. Dimitri Mendeleev in 1859
- c. Ernest Rutherford in 1915
- d. Albert Einstein in 1904

Bonus: What was the first solid-state device used in wireless communication?

Answers page 14



Santa Net



On Wednesday December 19, 2018, The Mahoning Valley Amateur Radio Association in conjunction with Akron Children's Hospital, Boardman Campus participated in the 18th Annual Santa Net.

For those of you that don't know Amateur Radio operators from the MVARA take 2-meter handheld radios into the rooms of the children in the hospital (with the parents' permission) and with the cooperation of the Child Life Department.

Ten children got to talk to Santa at the North Pole over amateur radio. The MVARA members participating were: Dean DeMain W8YSU, Doug Sage KB8TPG, Dave Brett KD8NZF, Nancy Brett KD8QNY, and Brenda Sole KD8RSN.

Thank-you to all who came out and checked-in to the net.

DEAN DeMAIN, W8YSU

From the Affiliated Club Coordinator Tom Sly, WB8LCD

tomsly29@gmail.com

We had a recent experience at PCARS which really made me wonder about the future of our hobby. We had a VE session on a Saturday morning that had 7 people show up for their tests. Five of the 7 were there for the Technician class test, and the other 2 were there to try for an upgrade. Seven out of 7 left with either a new license, or an upgrade. Every one of them there that day was age 55 and older!



That seems to be a common phenomenon. I talked with every one of them and their stories were all pretty similar – “I was a novice back in the (50’s, 60’s or 70’s) but I let it go. I’ve always been interested but now that I’m retired, I have the time for it”. When you think of all the ways that people spend their leisure time, why is it that they only have time for it now?

Obviously Amateur Radio has a Public Relations problem. It’s all about our Image. But who’s responsible for that? A lot of it has to do with our culture and society. The early 1900’s up until the 1970’s our society was fascinated with scientific and technological advancement. A lot of which happened in basements, garages and back yard outbuildings at an individual’s residence. As it got more advanced, more complicated, much of the technical stuff had to be done in the industrial labs.

As a society we looked for other ways to entertain ourselves and left the “scientific” stuff to the professionals. We shifted our leisure time activities to more fields of “pure entertainment”. Amateur sports, watching professional sports, movies, TV programming, video gaming..... For the most part endeavors that don’t require too much intellectual/scientific/mathematical involvement. There are exceptions, but not many.

These are just my observations and opinions, you may agree or disagree, but the point remains that Amateur Radio has not positioned itself to where many people in our society are aware of, or have a real perception of, what Amateur Radio really is. This is “OUR” fault. After the 1970’s is about the time period that Ham Radio began to disappear from the mainstream of hobbies and personal entertainment. People retiring who “always wanted to do Ham Radio” but didn’t have the time to, will no longer exist if they haven’t been exposed to it. If we want the hobby to survive, we need to start recruiting a younger generation and we need to start building a “public perception” of what Amateur radio is and why it’s a valuable piece in our society.

As we move into the New Year, let’s make a resolution to personally be a part of the solution! Here’s a simple way to start: smile, be positive and be open to all new hams and people who have an interest. Look past age, gender, technical ability, social status, personal issues, whatever. Concentrate on the art, science and activities of Ham Radio! Never should be heard a discouraging word. Let everyone know that they are welcome, and we want them to be a part of us

Local clubs can be instrumental to bringing new people into the hobby. We all have club meetings every month. Those should be opportunities for showcasing our hobby! You do have interesting meetings, don’t you? If you do, then you should advertise and invite. I’ve seen many club meeting announcements that

certainly wouldn't pull me off the couch to show up. The announcement should include an invitation to nonmembers along with the information that there will be something of interest going on at the meeting! If not, how are you even going to get your members to show up? So maybe your meetings should have a presentation that would be interesting to both hams, and ham wannabes?

All of our club activities should include an invitation to those who are not hams. Let's try to build some interest in the things that we are doing. I've already mentioned our monthly meetings, how about operating events? Field Day, OSPOTA, Sweepstakes, DX Contests, State/Section QSO parties – we do a lot of operating! Set up at public locations and invite the public to come check it out. Better yet, invite them to sit in the chair and get on the air. Add in some digital modes, satellite q's and maybe even a Space Station contact and now you've got some people interested in what we do. Like to build things? Next build day invite the public (especially the kids) and offer a couple simple, inexpensive projects along with simple training on how to use hand tools, how to solder, how to identify electronic components. Send them home with something they built themselves and I guarantee they'll have a smile on their face when they leave!

What has your club done? What ideas do you have? Send them along to either Scott or myself so we can share them with the other clubs in the section! The Ohio Section is already the largest Section in the ARRL. All I want for Christmas is this: By the end of 2020, I would like to see the OH Section recognized for being the fastest growing Section in the ARRL, and, for bringing down the average age of a ham in the section. If we could make a dent in those two issues, it would go a long way to keeping Ham Radio alive for future generations. I want to wish you all a Merry and Blessed Christmas with your family and friends, and I hope that the New Year brings you Joy, Happiness, low SWR's and High Sunspot numbers!

73, Tom WB8LCD

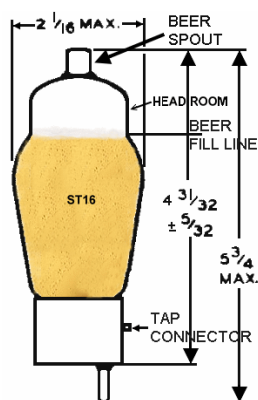
Quiz Answers

1. b -- Consisting of strips of dissimilar metals in a caustic lye solution, you can see where the rectifier got its name.
2. c -- A Poulsen arc, also called an arc converter, converted dc into RF.
3. a -- A triode amplifier, manufactured by Lee DeForest.
4. a -- Old Betsy was Hiram Percy Maxim's rotary spark-gap transmitter, on display at W1AW.
5. c -- Fleming made use of the Edison Effect to create the first electronic device, the thermionic diode.
6. b -- Lamb applied the quartz crystal as a filter to limit receiver bandwidth.
7. d -- Tuned Radio Frequency receivers preceded the superheterodyne.
8. a -- The combination of the antenna's natural resonance and the coupling circuit from the spark gap acted formed a low-Q tuned circuit.
9. d -- For the physicist Hertz who conducted the first experiments with electromagnetic waves in 1887.
10. a -- Only four years later, Marconi spanned the Atlantic, 14 years before the discovery of the atomic nucleus!

Bonus: The Branly coherer consisted of an insulating tube filled with fine metallic particles -- usually iron filings -- squeezed between an electrode at each end. When a radio wave passed through the filings, their conductivity increased, allowing an external circuit to respond, creating a radio wave detector. Interestingly, vacuum tubes quickly replaced the coherer as a detector, delaying an understanding of the physics of its operation until 2005! The full story is told in the September 2009 issue of *IEEE Communications Magazine* by Jean-Marie Dilhac.

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

E3B01

What is transequatorial propagation?

- A. Propagation between two mid-latitude points at approximately the same distance north and south of the magnetic equator
- B. Propagation between any two points located on the magnetic equator
- C. Propagation between two continents by way of ducts along the magnetic equator
- D. Propagation between two stations at the same latitude

E3B02

What is the approximate maximum range for signals using transequatorial propagation?

- A. 1000 miles
- B. 2500 miles
- C. 5000 miles
- D. 7500 miles

General Pool

G3C01

Which ionospheric layer is closest to the surface of the Earth?

- A. The D layer
- B. The E layer
- C. The F1 layer
- D. The F2 layer

~~

G3C02

Where on the Earth do ionospheric layers reach their maximum height?

- A. Where the Sun is overhead
- B. Where the Sun is on the opposite side of the Earth
- C. Where the Sun is rising
- D. Where the Sun has just set

Answers pg. 2

MVARA - celebrating 100 years of amateur radio

Moments in History....
Youngstown Vindicator article
December 15, 1925

Radio Clubhouse Is Authorized

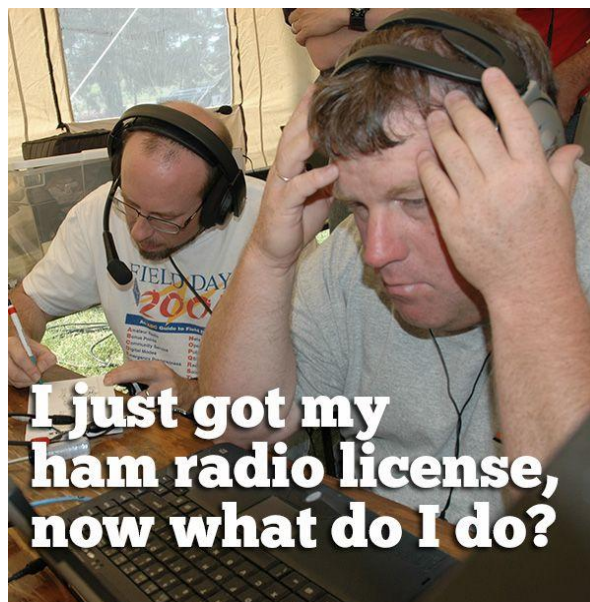
The Mahoning Valley Amateur Radio Club, meeting at the home of Earl Bauman in Warren last night, decided to go ahead with previous plans for a clubhouse in a building already rented by the club near McKinley Heights. It has been suggested that the clubhouse plan be laid aside in favor of meeting places in Youngstown and Warren.

These officers were elected for the coming year: David McFarlin, Youngstown, president; C. R. Downs, Warren, vice president; Harry Hahn, Youngstown, secretary; Ray Wardle, Youngstown, treasurer.

Work on putting the clubhouse into condition will begin next week-end.

YV 12-15-1925 11-3

Memories of Field Day Past . . .



Station Loaner Program

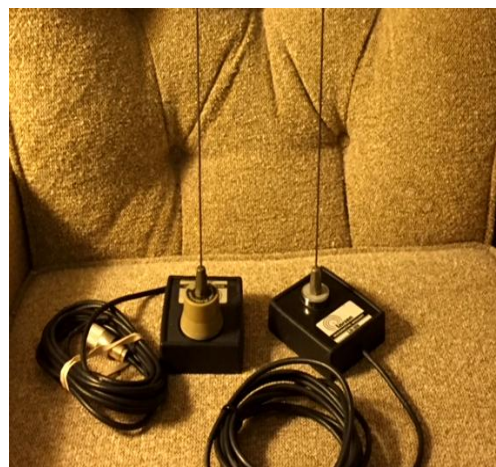
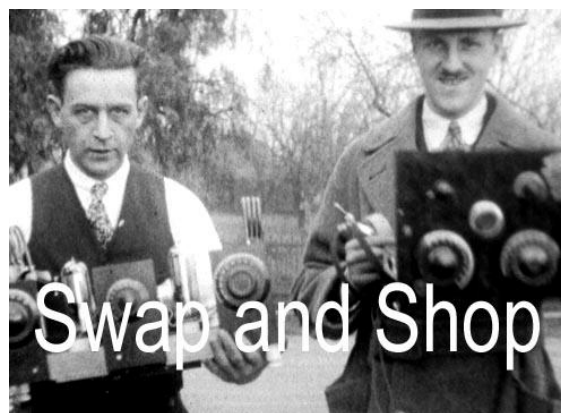
If you're a new ham/newly upgraded and want to get on the HF bands, MVARA has a loaner program for club members. The club has two complete stations with radio, power supply, microphone, CW key, and antenna tuner. All you need to do is supply your own coax, antenna, and keep the equipment in good condition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



2019 Christmas Party



(2) Larsen 2meter mag mount

Both tested & tuned. Your choice, \$10 EACH
or both for \$16. PL-259 on ends of coax.
Contact Mark, K8MSH, mh@zoominternet.net

Estate Items—Contact Frank, WB8YHD,
youngshotdog@yahoo.com

20a 12v Homebrew supply	\$10
5 gal plastic gas can & spout	\$5
ARRL Ham Manual 1975	\$2
Bird Model 43 Watt meter no slug	\$150
B&K Precision PS-500 Prescaler	\$5
Devry Institute VTVM	\$5
Eico Mod 1064S variable bench supply	\$10
Fluke Mod 8030A Digital Multi Meter	\$10
Heathkit capacitor checker IT-11	\$75
Heathkit FET checker IT-121	\$20
Heathkit HW-2036 2mtr & pwr supply	\$20
Heathkit IM 5228 VTVM	\$5
Heathkit Oilloscope calibrator IG-4505	\$10

(continued pg. 19)

MVARA Celebrates Ohio Bicentennial

In celebration of the MVARA, Centennial little snippets of club history are being published here in the Voice Coil, hopefully on a monthly basis.

Regarding this, Nancy Brett called me wondering if I had any record or copies of old MVARA OSL Cards.

I had to tell her, that other than the special event station card I had designed for our Ohio Bicentennial celebration in 2003, I did not.

Nancy thought that card would be a good start. It perhaps might spark others into checking their archives, and if they're out there we might rediscover some of those older cards.

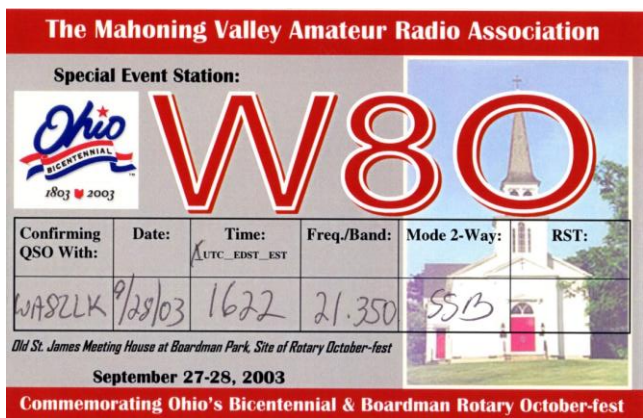
So here goes.

Pictured above is the QSL card I came up with and which we used for our special event station operations, commemorating both the Ohio State Bicentennial and the 2003 Boardman Rotary October-Fest. The card pretty much speaks for itself. I still have the original artwork done in MS Publisher on a CD. As you can see the pictured card confirmed my 15 meter contact.

We used the special event call W8O on both days, operating from the October-Fest grounds at Boardman Park. I recall that the weather on both Saturday (Saturday was October-Fest set-up day but we were there and operated some) and Sunday was quite nice and the band conditions were okay but not great. From my home QTH, I worked W8O on both 20M and 15M and Diane (KB8DOJ) worked us on 2M FM.

I can't remember all the MVARA members who came out to operate but I was there, as was Dean, W8YSU and Jerry Gratz, KC8NBL. I know there were several others because we had a pretty good time and logged more than 100 calls. I think it was something like 137 or 173 (time fog you know). If you were there let Nancy or I know and we may do a follow-up on this sometime during our Centennial Celebration.

I don't know what became of the logs but they may still be in some members' archives or on someone's computer. I believe I had a copy, because I remember addressing cards. But what's become of them, I don't recall. It would be fun to see these again, so if anyone has a record of this 2003 operation let us know.



Andy Brincko ~ WA8ZLK

Swap and Shop Cont'd

Icom 02AT with batteries, mic, ant	\$20
Icom 02AT with batteries, mic, ant	\$20
Icom 2AT with batteries, ant	\$10
Icom 2AT with batteries, ant	\$10
Icom 4AT with batteries	\$10
Icom IC-756 Pro II service manual	\$10
Micronta VOM	\$5
Olson SWR & Power meter	\$5
Power Sonic 6v battery charger	\$5
Realistic HTX 202 2 meter HT	\$20
Timex Sinclair 1000 computer	\$15
WinRadio WR-G31DDC Excalibur SDR rcvr	\$500
Hewlett Packard 5381A freq counter	\$40
Daiwa CN-101L swr/pwr meter 1.8-150 mhz	\$45
Ten Tec Argonaut II	\$400
Kenwood TM-241 moblie 2 meter xcvr	\$40
Realistic Pro-2005 400 chan scanner rcvr	\$40
Kent Single Paddle CW key	\$100
DSI Model 3550 550mhz frequency counter	\$30
Large 12 inch quartz 24 hour clock	\$10



65 Great Things About Ham Radio

1. It works when nothing else does
2. It makes you part of a worldwide community
3. The opportunity to help neighbors by providing public service and emergency communications
4. Some of the nicest people you'll ever meet
5. Some of the smartest people you'll ever meet
6. Some of the most interesting people you'll ever meet
7. Some of the most generous people you'll ever meet (along with some of the cheapest!)
8. Lifelong friendships
9. Friends around the world (including those you haven't met yet)
10. The opportunity to go interesting places you might not otherwise go to
11. The opportunity to do interesting things you might not otherwise get to do
12. The opportunity to expand your knowledge of geography
13. The opportunity to expand your knowledge of earth and space science
14. Practical uses for high school math
15. Practical uses for high school physics
16. A good way to practice a foreign language
17. A good way to keep in touch with faraway friends and relatives
18. A good way to get driving directions when visiting someplace new (with or without GPS)
19. A good way to find the best places to eat when visiting someplace new (with or without GPS)
20. Finding "non-touristy" off-the-beaten-path places to stay, eat, visit, etc.
21. A good way to learn about virtually any topic
22. A good way to bridge the generation gap
23. A good way to keep tabs on elderly/infirm people
24. People named Joe (Walsh, Rudi, Taylor)

(more to come)

Renewals due now! Memberships expire January 31, 2019



Mahoning Valley Amateur Radio Association 2019 Membership

Name: _____ Call: _____

Spouse: _____ Call: _____

Mailing Address _____

City: _____ State: _____ Zip: _____

Home Phone # _____ Cell # _____

Email: _____
(The MVARA Voice Coil, the club newsletter, will be emailed to this address)

ARRL member? ☐ Yes ☐ No

Do you want the following to be included in the membership list available to all members?

Name and Call	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Address	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Phone	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Email Address	<input type="checkbox"/> Yes	<input type="checkbox"/> No

Membership

-Single Membership \$20.00	<input type="checkbox"/> Renewal	<input type="checkbox"/> New Member	\$ _____
-Additional Family Members \$10.00 each	<input type="checkbox"/> Renewal	<input type="checkbox"/> New Member	\$ _____

W8QLY Repeater Support

\$12.00	Basic Support Donation	\$ _____
\$50.00	Gold Level Support Donation	\$ _____
\$ _____	Other Support Donation	\$ _____

Total \$ _____
Enclosed

***Make checks payable to: Mahoning Valley Amateur Radio Association.
Please bring this form and your payment to the next meeting or mail to:***

Mahoning Valley Amateur Radio Survey

Name	Call Sign
What license do you have?	Tech <input type="checkbox"/> General <input type="checkbox"/> Extra <input type="checkbox"/>
How old were you when you received your first license? 10-20 <input type="checkbox"/> 20-30 <input type="checkbox"/> 30-40 <input type="checkbox"/> 40-50 <input type="checkbox"/> 50-60 <input type="checkbox"/> 60-70 <input type="checkbox"/> 70-80 <input type="checkbox"/>	
What year(s) did you get your license?	
When does your ARRL member expire?	
Why did you get your license?	
Did someone mentor you? Who?	
Do you listen or participate in local nets? Yes <input type="checkbox"/> No <input type="checkbox"/>	
Are you involved in ARES -Amateur Radio Emergency Services? Yes <input type="checkbox"/> No <input type="checkbox"/>	
Do you take your radios with you on vacation? Yes <input type="checkbox"/> No <input type="checkbox"/>	

Thank you – please email your responses to mvara.w8qly@gmail.com
 or mail to MVARA - P.O. Box 14141, Poland, Ohio 44514

THE LAST WORD

If you want to be respected by others, the great thing is to respect yourself. Only by that, only by self-respect will you compel others to respect you. *Fyodor Dostoyevsky*



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<https://www.facebook.com/mahvalradio>

The **VOICE COIL** is the monthly publication of the Mahoning Valley Amateur Radio Association, Inc. (MVARA) and is intended to present news, issues and opinions of interest to MVARA members and the Amateur Radio Community. We encourage contributions of articles, letters to the editor, etc. and welcome newsletter exchanges with other clubs from around the country and around the world. Permission is granted to reprint material contained herein as long as proper credit is given to this newsletter and the author. Ideas for and contributions to the VOICE COIL should be submitted to:

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.

The **VOICE COIL** is published by the MVARA. All material contained herein is considered the opinion of the author and not necessarily that of the MVARA. Announcements of events are for informational purposes and do not necessarily constitute an endorsement by the MVARA. No responsibility for accuracy is assumed by the editor or newsletter staff. Typos are included for the entertainment of those who enjoy looking for them and should be reported immediately to any nearby MVARA member :-)