



April 2021
Our 102th Year
Volume 59, Issue 4

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

**The Voice Coil
Newsletter of the Mahoning
Valley Amateur Radio
Association**

The Voice Coil

Prez Sez

First I have to apologize for not having an article last month unfortunately the Wilton / Lenyo household had a really bad week with computers.

I had been in the office with the computer on working winter field day I came out in the living room and when I went back in the office the monitor was black and no matter what I did the computer would not boot up. The crash took out both the motherboard and the hard drive.

Then within a few days the laptop started to act up and would not stay up and running more than ten minutes. I seem to have the laptop up and running again but it looks like it is computer time again.

Spring is in the air in Northeast Ohio and not only is it time to starting picking up the tree damage and branches that are on the ground but it should be time to look at those antenna connections and coax cables for damage or wear and tear. As soon as I can get away from the honey-do's and avoid the rain drops I know that's what I will be doing. I already see that I have some slack in my multi band wire that I need to take up before something happens to it.

I hope all of you that have been eligible have gotten your Covid-19 shots. Maybe we will get to do some of our events that we usually



look forward to, such as Field Day. I am really hoping that we will get to do that this year.

We have another antenna project going on right now. We will be doing the second part of a 3 part build thanks to Mark Haverstock, K8MSH. It's a good thing when a guy with so much antenna knowledge is willing to share that information.

73,
Scott, KE4UHC

Next Meeting:

April 8, 2021, 7 pm
Online check-in on
146.745 repeater.

Monthly program April 21.
Craig Thompson, K9CT,
Pitcairn and other
DXpeditions he has
participated in.

2021 Officers

President: Scott Wilton, KE4UHC

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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 Dean, W8YSU@arrl.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

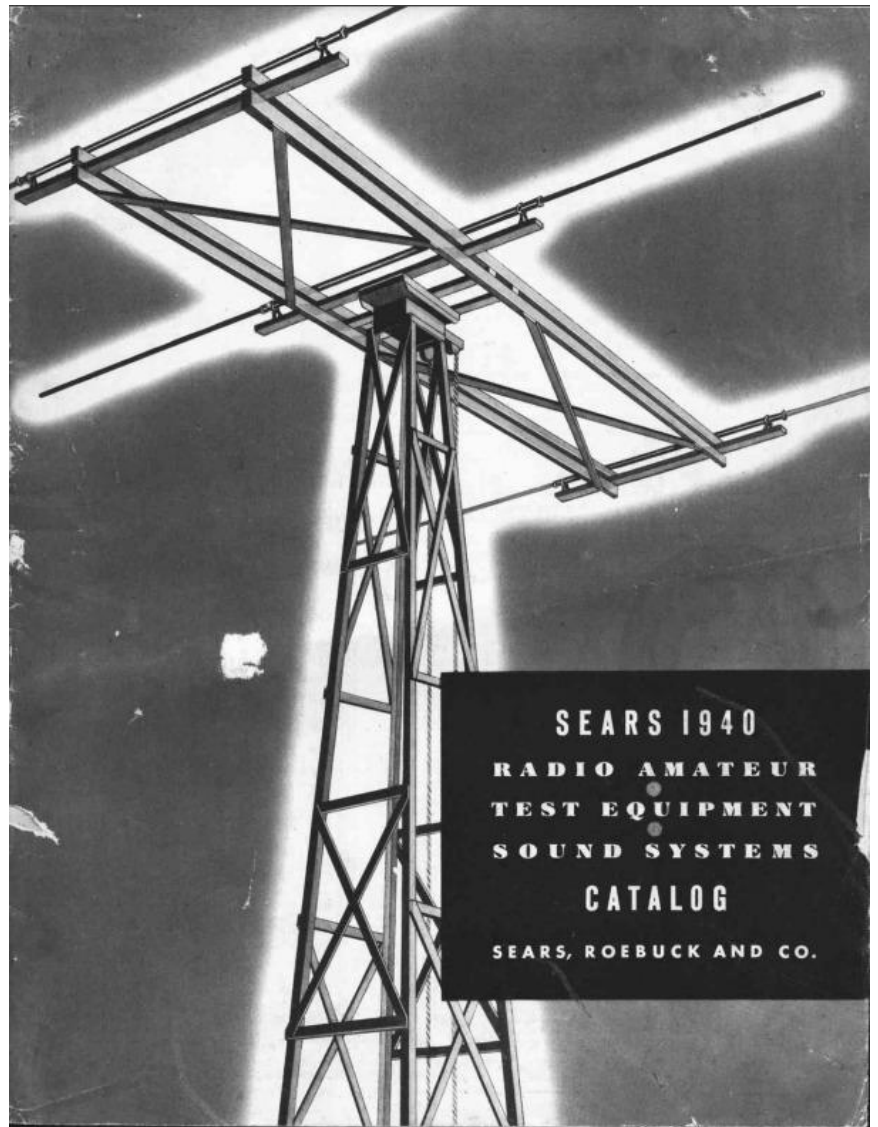
MONDAY NIGHT NET operates every Monday at 9:00. PM on 146.745 MHz.

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.

MVARA group.io topics—have you checked in lately?

Did you know Sears used to sell ham radio gear? Catalog URL: https://winlinkwednesday.net/docs/Sears_1940_Amateur_Radio_Catalog.pdf?fbclid=IwAR3Egoq1MpROtwOptwjDnDBI723XSLmXTnCL8s67nCs0oXP68PINZiGQawc



The catalog featured gear from a lot of major manufacturers of the day, including:

- Hallicrafters
- National
- Meissner
- Hammarlund
- Stancor

Current Activities

March 23-April 27, Tuesdays: Technician license classes, 7pm. Zoom link will be sent to participants. Contact Scott, KE8UHC, if you want to join the class. Testing date will be announced later.

April 14: Part 2, antenna build. Help and question session, 7pm. Zoom link will be posted on website and MVARA Group.io

April 8: Monthly meeting check-in, 7pm on 146.745 repeater.

April 21: April Program, Craig Thompson, K9CT, 7pm. Zoom link will be posted.

Comments, Questions?

Email: mvara.W8QLY@gmail.com **Snail-mail:** MVARA, P.O. Box 14141, Poland, OH 44514

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

Swap and Shop

- 1--W2NAN: True-Talk G5RV Jr. [51-ft]
(company assembled w/17-ft 300-ohm and 70-ft cable & conn)
 - 2--ALPHA DELTA: dx-40
 - 3--HY POWER: (two) fsd40
 - 4--HY POWER: triwarc (only 30 & 17m/NO 12m)
 - 5--HY POWER: tri1020
 - 6--HY POWER: 2b40801 (90-ft, greatest bandwidth)
 - 7--PAR ELECTRONIC: ef-30, ef-20 & ef-17
 - 8--ARROW: osj-144/440 j-pole
 - 9--MFJ: mfj-1724B vhf/uhf mag. mnt. (dual band, 144/440)
 - 10--MFJ: mfj-259c analyzer
 - 11--YAESU: sp-101b speaker (6-in H/8-in W/11-in D)
 - 12--ICOM: ic-7300 xcvr w/accessories
 - 13--ICOM: sm-50 desktop microphone
 - 14--PALSTAR: at-500 antenna tuner
 - 15--PALSTAR: dl-1500 dummy load
 - 16--ASTRON : rs-35a power supply
- Contact Ken, KC8Y, by email: cct66000@gmail.com

Jetstream JTWXVHF Watt/SWR Meter

Excellent condition, includes original box and 12v cable for backlight. Large dual needle meter covers 1.6-200MHz, power scales 20, 200, and 2000 watts. Selectable avg/peak power readings. \$110 new retail, yours for \$50.

Contact Mark, K8MSH: mh@zoominternet.net



HAM HUMOR: HAM RADIO MAFIA ON PROWL



PETALUMA, Calif. – An area man returned home after running errands and made a strange discovery: the corroded chassis of a Hallicrafters SX-101 receiver had been placed in his bed.

Rob Smithson, 402 Main Street, believes it's the work of the notorious Ham Radio Mafia. The group – well known on the East Coast for their hamfest “street brawls” – is dedicated to exacting revenge on those they see as operating ‘carelessly and with abandon.’

“The SX-101 was a fine dual conversion receiver in its day,” says Smithson. “Well, maybe the VFO drifted some, but that was really just until it warmed up. It's plain disconcerting to find one in my bed, though.”

Smithson, a retired plumber, has been an amateur radio operator since 1979. “Last night, I accidentally tuned up my Alpha on the air. I thought I flipped over to the dummy load, but guess I was still connected to the dipole. I QRM'd the Roundtable Net pretty bad on 80 meters. Pardon the phrase, but I think they're ‘sending me a signal’,” he states flatly.

For now, Smithson says he'll keep a wary eye on the antenna switch and consider rebuilding the vintage receiver.

By [WBØRUR](#), on the scene

www.hamhijinks.com

Antenna Build, Part 2

If you remember last month's project, we built a W2DU 1:1 balun and placed it inside a PVC housing. This month, we'll be building a working antenna with the balun.

You can provide your own parts for the this section of the project (listed below) or obtain a complete kit. All kit parts are ready to assemble.

Tools needed: open end wrenches/ nut driver, soldering iron and solder, wire cutters, crimper, wire stripper, electrical tape, heat gun or hair dryer.

Parts List:

Approx. 66 feet of wire, 16 or 14 AWG
(2) end insulators
(4) aluminum wire crimps
(4 or more) small zip ties
50 ohm coaxial cable—RG-8x recommended—with connector(s)
(2) #10 ring connectors (already on balun)
3/8" shrink tubing

Cut 2 lengths of wire, 33ft. long (If you have the kit, cut into two equal pieces)

(Figure 1) Thread aluminum crimp onto wire. Loop one end of the wire through the eye hook as shown. Pass wire through other side of crimp. Strip wire end 1/4", slide shrink tubing down wire, and attach ring connector with crimping tool. Solder. Cover connection with shrink tube and heat.

(Figure 2) Place ring connector on terminal, finger tighten nut. Pull enough wire (4-5") through the aluminum wire crimp so there is no strain on the connection. Crimp aluminum wire crimp so wire is tight and doesn't move. Alternate method—put crimp on flat part of a vise and carefully tap with a hammer until it is secured. Tighten nut. Repeat for other side.

(Figure 3/3a) Pass end of wire through hole in end insulator, pulling an extra 6" through as shown. Secure wire end with one or two wire ties. I find that wrapping electrical tape next to the wire tie helps keep the wire from pulling through. The dangling wire will be the part that's trimmed to tune the antenna. Also see close-up detail in figure 3a on next page. Repeat for other side.

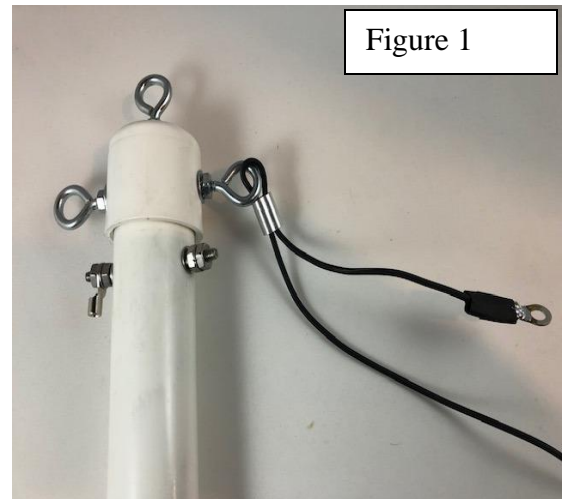


Figure 1

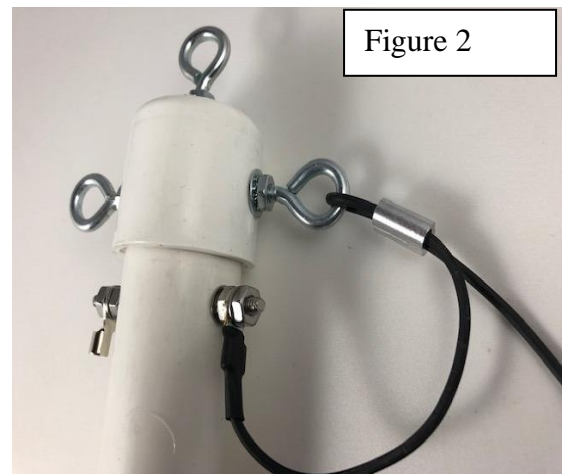


Figure 2



Figure 3

Tune the antenna. Attach a length of coaxial cable to the balun, enough to reach the ground. Temporarily install the antenna, pulling the center and ends up in the air—up to 30 ft. or so if possible. Attach the other end of the coax to an antenna analyzer and check for the resonant frequency.

--If it is too low, shorten dangling wire both ends equally. Start in 1 inch increments. Too high (unlikely), add wire.

If you want to use this antenna on both 40 and 15m, you should tune it just below the center of the 40m band, around 7100 to 7125 KHz.

You can use the antenna *as-is* if you have an external antenna tuner or one built into your radio. If you want to fine tune it, we'll be arranging for a meet at Boardman Park and will have antenna analyzers available.

(Figure 4) This is the final step if you're just doing parts 1 and 2. Once the antenna is tuned, secure it with an aluminum crimp. **If you're planning to add step 3 to your antenna, we need to remove the wire later. Just secure with a zip tie and mark wire length.**

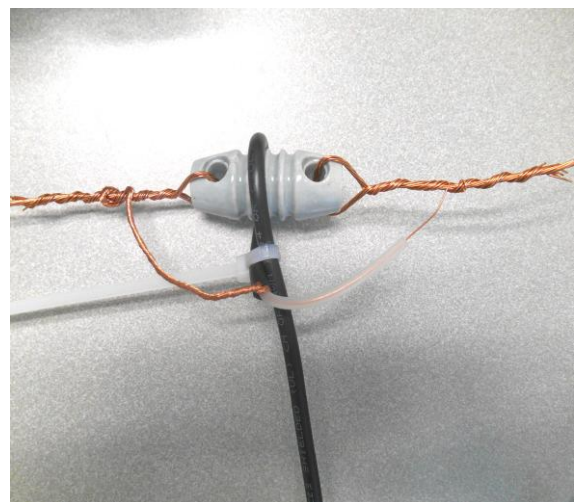
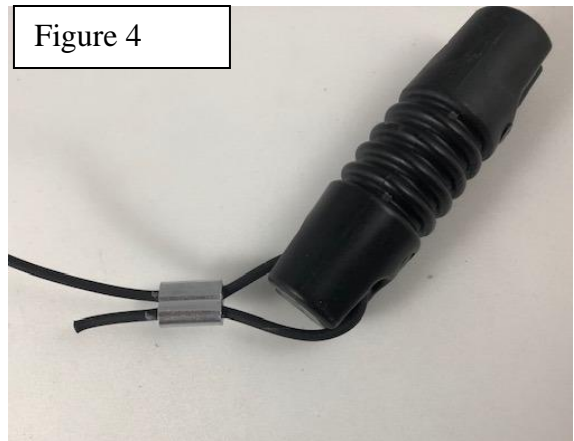
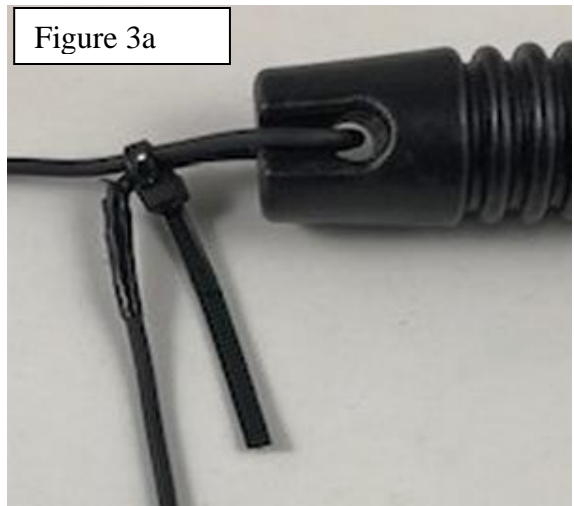
If you didn't build the balun . . .

You can still make the 40/15 meter antenna. A balun isn't absolutely necessary, but it prevents the coax from radiating signal—and acts as the center connection.

The picture on the right shows how to make a simple center connection using an antenna insulator—you can substitute PVC pipe if you want. Strip about 3 inches of coax and separate the wires. Wrap the coax cable around the insulator, secure with a zip tie. Commercially made center insulators can also be purchased from most ham radio dealers, ebay or Amazon

If you already have a 1:1 balun, start here and add the wire elements. Baluns can also be purchased from most ham radio dealers, ebay or Amazon.

Next month, Part 3--adding more bands to your antenna.



A kit with all balun parts listed above is available at cost, \$6, if picked up locally. If you want it mailed add \$5 for postage, total \$9. Contact Mark, mh@zoominternet.net for details or to order a kit. Understand that kits will not be “parted-out” and are sold as a complete set.

FCC Not Yet Collecting \$35 Application Fee

The majority of the FCC's revised Part 97 rules (adopted in December 2020) establishing new license application fees become effective April 19, but the new amateur radio license application fees will NOT become effective on April 19, 2021. The FCC announced on March 19, 2021 that the amateur radio license fees, including those associated with Form 605 filings, would not become effective until the "requisite notice has been provided to Congress, the FCC's information technology systems and internal procedures have been updated, and the Commission publishes notice(s) in the *Federal Register* announcing the effective date of such rules."

The \$35 license application fee, when it becomes effective, would apply to new, modification (upgrade and sequential call sign change), renewal, and vanity call sign applications, as well as applications for a special temporary authority (STA) or a rule waiver. All fees will be per application. Administrative updates, such as a change of mailing or email address, are exempt.

It is expected that such fees will not become effective before summer 2021. The FCC has stated that amateurs will have advance warning of the actual effective date, because it will publish such date in the Federal Register.

North Carolina Radio Amateurs Adapt Tailgating Hamfest to the COVID-19 Pandemic

With most hamfests canceled due to the COVID-19 pandemic, some radio amateurs in Raleigh, North Carolina, have come up with a way to adapt with a tailgate hamfest in an unused shopping center parking area. The event grew out of the so-called [Ham Radio Taco Thursdays](#), begun many years ago by ARRL Life Member Alan Pitegoff, AB4OZ.

Pitegoff had to put his event on hold when the pandemic erupted. It was suggested that hams could gather and socialize at a safe distance by having a Taco Thursday with the taco truck outside in an adjacent empty parking lot. That event was a success, with participants remaining at their vehicles and bringing their own chairs. That success inspired holding a tailgate hamfest in the same spot, and it's now turned into a monthly event, called the [AB4OZ Hamfest](#).

Pitegoff said Taco Thursday started collecting more people — up to 15 or so — at Taco Thursday, and when Taco Bell closed due to the pandemic, the event moved to a Thursday on-the-air net, with one requirement — that participants could not talk about COVID-19.

The tailgate hamfest was established at the new location and held once a month on Saturday at 10 AM.

"I think this is a great, uplifting, and positive experience for all of us hams to get out and socialize," participant Charles Murray, KI4DCR, said. "We might not be able to have a big hamfest, but these micro tailgate hamfests might be the future for a good while. I've met a lot of good people. There's a lot of cool stuff out here, the weather's great, you know, there's plenty of space for everybody to be socially distanced. I think it's fantastic."

— *Thanks to Martin Brossman, KI4CFS*

Contest and Special Event Operating Information

Data below as well as more information courtesy of the following website:

<http://www.hornucopia.com/contestcal/index.html>.

April 2021

+ CWops Mini-CWT Test	0300Z-0400Z, Apr 1
+ RTTYOPS Weeksprint	1700Z-1900Z, Apr 1
+ SARL 80m QSO Party	1700Z-2000Z, Apr 1
+ NRAU 10m Activity Contest	1800Z-1900Z, Apr 1 (CW) and 1900Z-2000Z, Apr 1 (SSB) and 2000Z-2100Z, Apr 1 (FM) and 2100Z-2200Z, Apr 1 (Dig)
+ SKCC Sprint Europe	1900Z-2100Z, Apr 1
+ QRP Fox Hunt	0100Z-0230Z, Apr 2
+ NCCC RTTY Sprint	0145Z-0215Z, Apr 2
+ NCCC Sprint	0230Z-0300Z, Apr 2
+ K1USN Slow Speed Test	2000Z-2100Z, Apr 2
+ PODXS 070 Club PSK 31 Flavors Contest	1000Z, Apr 3 to 0400Z, Apr 4
+ Florida State Parks on the Air	1400Z-2200Z, Apr 3 and 1400Z-2200Z, Apr 4
+ Mississippi QSO Party	1400Z, Apr 3 to 0200Z, Apr 4
+ Louisiana QSO Party	1400Z, Apr 3 to 0200Z, Apr 4
+ SP DX Contest	1500Z, Apr 3 to 1500Z, Apr 4
+ EA RTTY Contest	1600Z, Apr 3 to 1600Z, Apr 4
+ North American SSB Sprint Contest	0000Z-0400Z, Apr 4
+ DARC Easter Contest	1500Z-1730Z, Apr 4
+ K1USN Slow Speed Test	0000Z-0100Z, Apr 5
+ OK1WC Memorial	1630Z-1729Z, Apr 5
+ 144 MHz Spring Sprint	1900 local - 2300 local, Apr 5
+ Worldwide Sideband Activity Contest	0100Z-0159Z, Apr 6
+ ARS Spartan Sprint	0100Z-0300Z, Apr 6
+ RTTYOPS Weeksprint	1700Z-1900Z, Apr 6
+ Phone Weekly Test - Fray	0230Z-0300Z, Apr 7
+ CWops Mini-CWT Test	1300Z-1400Z, Apr 7
+ VHF-UHF FT8 Activity Contest	1700Z-2000Z, Apr 7
+ RSGB FT4 Contest Series	1900Z-2030Z, Apr 7
+ CWops Mini-CWT Test	1900Z-2000Z, Apr 7
+ UKEICC 80m Contest	2000Z-2100Z, Apr 7
+ CWops Mini-CWT Test	0300Z-0400Z, Apr 8
+ RTTYOPS Weeksprint	1700Z-1900Z, Apr 8
+ NCCC RTTY Sprint	0145Z-0215Z, Apr 9
+ NCCC Sprint	0230Z-0300Z, Apr 9
+ K1USN Slow Speed Test	2000Z-2100Z, Apr 9
+ QRP ARCI Spring QSO Party	0000Z-0600Z, Apr 10
+ JIDX CW Contest	0700Z, Apr 10 to 1300Z, Apr 11
+ DIG QSO Party, CW	1200Z-1700Z, Apr 10 (20m-10m) and 0700Z-0900Z, Apr 11 (80m) and 0900Z-1100Z, Apr 11 (40m)
+ IG-RY World Wide RTTY Contest	1200Z, Apr 10 to 1800Z, Apr 11

+ SKCC Weekend Sprintathon	1200Z, Apr 10 to 2400Z, Apr 11
+ OK/OM DX Contest, SSB	1200Z, Apr 10 to 1200Z, Apr 11
+ FTn DX Contest	1200Z, Apr 10 to 1200Z, Apr 11
+ Nebraska QSO Party	1300Z, Apr 10 to 0100Z, Apr 11 and 1300Z-2200Z, Apr 11
+ New Mexico QSO Party	1400Z, Apr 10 to 0200Z, Apr 11
+ North Dakota QSO Party	1800Z, Apr 10 to 1800Z, Apr 11
+ Georgia QSO Party	1800Z, Apr 10 to 0359Z, Apr 11 and 1400Z-2359Z, Apr 11
+ Yuri Gagarin International DX Contest	2100Z, Apr 10 to 2100Z, Apr 11
+ WAB 3.5/7/14 MHz Data Modes	1000Z-1400Z, Apr 11 and 1700Z-2100Z, Apr 11
+ Hungarian Straight Key Contest	1500Z-1600Z, Apr 11
+ RSGB RoLo SSB	1900Z-2030Z, Apr 11
+ K1USN Slow Speed Test	0000Z-0100Z, Apr 12
+ 4 States QRP Group Second Sunday Sprint	0000Z-0200Z, Apr 12
+ OK1WC Memorial	1630Z-1729Z, Apr 12
+ RSGB 80m Club Championship, CW	1900Z-2030Z, Apr 12
+ Worldwide Sideband Activity Contest	0100Z-0159Z, Apr 13
+ RTTYOPS Weeksprint	1700Z-1900Z, Apr 13
+ 222 MHz Spring Sprint	1900 local - 2300 local, Apr 13
+ NAQCC CW Sprint	0030Z-0230Z, Apr 14
+ Phone Weekly Test - Fray	0230Z-0300Z, Apr 14
+ CWops Mini-CWT Test	1300Z-1400Z, Apr 14
+ VHF-UHF FT8 Activity Contest	1700Z-2000Z, Apr 14
+ CWops Mini-CWT Test	1900Z-2000Z, Apr 14
+ CWops Mini-CWT Test	0300Z-0400Z, Apr 15
+ RTTYOPS Weeksprint	1700Z-1900Z, Apr 15
+ NCCC RTTY Sprint	0145Z-0215Z, Apr 16
+ NCCC Sprint	0230Z-0300Z, Apr 16
+ K1USN Slow Speed Test	2000Z-2100Z, Apr 16
+ Holyland DX Contest	2100Z, Apr 16 to 2100Z, Apr 17
+ ES Open HF Championship	0500Z-0559Z, Apr 17 and 0600Z-0659Z, Apr 17 and 0700Z-0759Z, Apr 17 and 0800Z-0859Z, Apr 17
+ Worked All Provinces of China DX Contest	0600Z, Apr 17 to 0559Z, Apr 18
+ YU DX Contest	0700Z, Apr 17 to 0659Z, Apr 18
+ CQMM DX Contest	0900Z, Apr 17 to 2359Z, Apr 18
+ VERON PACCdigi Contest	1200Z to 2359Z, Apr 17
+ Texas State Parks on the Air	1400Z, Apr 17 to 2000Z, Apr 18
+ Michigan QSO Party	1600Z, Apr 17 to 0400Z, Apr 18
+ EA-QRP CW Contest	1700Z-1800Z, Apr 17 (10m) and 1800Z-1900Z, Apr 17 (15m) and 1900Z-2000Z, Apr 17 (20m) and 2000Z-2100Z, Apr 17 (40m) and 2100Z-2300Z, Apr 17 (80m) and 0700Z-0900Z, Apr 18 (40m) and 0900Z-1000Z, Apr 18 (20m) and 1000Z-1100Z, Apr 18 (15m) and 1100Z-1200Z, Apr 18 (10m)

+ Ontario QSO Party	1800Z, Apr 17 to 0500Z, Apr 18 and 1200Z-1800Z, Apr 18
+ Feld Hell Sprint	1800Z-2159Z, Apr 17
+ ARRL Rookie Roundup, SSB	1800Z-2359Z, Apr 18
+ Run for the Bacon QRP Contest	2300Z, Apr 18 to 0100Z, Apr 19
+ K1USN Slow Speed Test	0000Z-0100Z, Apr 19
+ OK1WC Memorial	1630Z-1729Z, Apr 19
+ Worldwide Sideband Activity Contest	0100Z-0159Z, Apr 20
+ RTTYOPS Weeksprint	1700Z-1900Z, Apr 20
+ Phone Weekly Test - Fray	0230Z-0300Z, Apr 21
+ CWops Mini-CWT Test	1300Z-1400Z, Apr 21
+ CWops Mini-CWT Test	1900Z-2000Z, Apr 21
+ 432 MHz Spring Sprint	1900 local - 2300 local, Apr 21
+ RSGB 80m Club Championship, SSB	1900Z-2030Z, Apr 21
+ CWops Mini-CWT Test	0300Z-0400Z, Apr 22
+ RTTYOPS Weeksprint	1700Z-1900Z, Apr 22
+ NCCC RTTY Sprint	0145Z-0215Z, Apr 23
+ NCCC Sprint	0230Z-0300Z, Apr 23
+ K1USN Slow Speed Test	2000Z-2100Z, Apr 23
+ 10-10 Int. Spring Contest, Digital	0001Z, Apr 24 to 2359Z, Apr 25
+ QRP to the Field	0800-1800 local, Apr 24
+ SP DX RTTY Contest	1200Z, Apr 24 to 1200Z, Apr 25
+ Helvetia Contest	1300Z, Apr 24 to 1259Z, Apr 25
+ Florida QSO Party	1600Z, Apr 24 to 0159Z, Apr 25 and 1200Z-2159Z, Apr 25
+ International Vintage Contest HF	1200Z-1800Z, Apr 25
+ BARTG Sprint 75	1700Z-2059Z, Apr 25
+ K1USN Slow Speed Test	0000Z-0100Z, Apr 26
+ QCX Challenge	1300Z-1400Z, Apr 26
+ OK1WC Memorial	1630Z-1729Z, Apr 26
+ QCX Challenge	1900Z-2000Z, Apr 26
+ Worldwide Sideband Activity Contest	0100Z-0159Z, Apr 27
+ QCX Challenge	0300Z-0400Z, Apr 27
+ RTTYOPS Weeksprint	1700Z-1900Z, Apr 27
+ SKCC Sprint	0000Z-0200Z, Apr 28
+ Phone Weekly Test - Fray	0230Z-0300Z, Apr 28
+ CWops Mini-CWT Test	1300Z-1400Z, Apr 28
+ CWops Mini-CWT Test	1900Z-2000Z, Apr 28
+ UKEICC 80m Contest	2000Z-2100Z, Apr 28
+ CWops Mini-CWT Test	0300Z-0400Z, Apr 29
+ RTTYOPS Weeksprint	1700Z-1900Z, Apr 29
+ RSGB 80m Club Championship, Data	1900Z-2030Z, Apr 29
+ NCCC RTTY Sprint	0145Z-0215Z, Apr 30
+ NCCC Sprint	0230Z-0300Z, Apr 30
+ K1USN Slow Speed Test	2000Z-2100Z, Apr 30

License refresher answers: E2B01 (A) E2B02 (C) G5A01 (C) G5A02 (B)

Mahoning Valley Amateur Radio Association 2021 Membership

Date: _____

Name: _____ Call: _____

Spouse/Family : _____ 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** Expiration Month & Year _____ **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

<input type="checkbox"/> <i>Renewal</i>	<input type="checkbox"/> <i>New Member</i>	Single membership \$20.00	\$ _____
<input type="checkbox"/> <i>Renewal</i>	<input type="checkbox"/> <i>New Member</i>	Additional family members, \$10.00 each	\$ _____

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: MVARA,
P.O. Box 14141, 125 West McKinley Way, Youngstown, Ohio 44514***

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

E2B01

How many times per second is a new frame transmitted in a fast-scan (NTSC) television system?

- A. 30
- B. 60
- C. 90
- D. 120

E2B02

How many horizontal lines make up a fast-scan (NTSC) television frame?

- A. 30
- B. 60
- C. 525
- D. 1080

General Pool

G5A01

What is impedance?

- A. The electric charge stored by a capacitor
- B. The inverse of resistance
- C. The opposition to the flow of current in an AC circuit
- D. The force of repulsion between two similar electric fields

G5A02

What is reactance?

- A. Opposition to the flow of direct current caused by resistance
- B. Opposition to the flow of alternating current caused by capacitance or inductance
- C. A property of ideal resistors in AC circuits
- D. A large spark produced at switch contacts when an inductor is de-energized

Answers pg. 10

DX Operating Information

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

April						
2021 Apr01	2021 Apr01	Marshall Is	KH9	WW6RG	TDDX 20210305	By WW6RG; 20m; SSB; QRP; mag loop; 0400-0730z
2021 Apr17	2021 Apr18	Paraguay	ZP4KFX NEW	LoTW	PY4WAS 20210325	By ZP4KFX fm GG15lv; QRV for CQMM DX Contest; QSL via IK2DUW (B/d)
2021 Apr17	2021 Apr18	Surinam	PZ5JW NEW	LoTW	PY4WAS 20210325	By PZ5JW; QRV for CQMM DX Contest; QSL via EA5GL
2021 Apr26	2021 May09	Svalbard	JW6VDA	LoTW	DXNews 20210223	By LA6VDA fm IOTA EU-026 (JQ78tf); HF; SSB; QSL via Club Log OQRS, eQSL

Checking the DX

Looking for DX stations and world-wide contacts? Here's a sample of what you'll find on the DX SUMMIT site <http://dxsummit.fi/#/>. You can filter by band, frequency and mode.

Spotter	Freq.	DX	Time	Info	Country
K8WHA	14019.0	F5IN	15:26 26 Mar	CQ DX	France
NS9X-@	14017.8	PA1FP	15:26 26 Mar	Frank CQn	Netherlands
EA4DXP	7170.0	EA3URL	15:26 26 Mar	DME-25183	Spain
IU8KUT	7060.0	IU8KUT	15:26 26 Mar	Propagation Test Award	Italy
HF3P	14200.0	YB0AZ	15:26 26 Mar	tnx qso 5/9	Indonesia
KX2S	14017.1	DK2FE	15:25 26 Mar		Fed. Rep. of Germany
DM2TS	21074.0	V51MA	15:25 26 Mar	tnx FT8 QSO	Namibia
F4HXJ	14219.0	W/LB5SH	15:25 26 Mar	USB	Svalbard

RADIO SIGNALS FROM MARS

(from Space
Weather.com)



Ham radio operators are doing something that until recently only big Deep Space Networks could do. "We're monitoring spacecraft around Mars," says Scott Tilley of Roberts Creek, British Columbia, who listened to China's Tianwen-1 probe go into orbit on Feb. 10th. The signal, which Tilley picked up in his own backyard, was "loud and audible." [Click to listen.](#)

The signal Tilley received from Tianwen-1 is dominated by a strong X-band carrier wave with weaker side bands containing the spacecraft's state vector (position and velocity). Finding this narrow spike of information among all the possible frequencies of deep space communication was no easy task.

"It was a treasure hunt," Tilley says. "Normally a mission like this would have its frequency published by the ITU (International Telecommunications Union). China did make a posting, but it was too vague for precise tuning.

After Tianwen-1 was launched, observers scanned through 50MHz of spectrum and found the signal. Amateurs have tracked the mission ever since with great accuracy thanks to the decoded state vector from the probe itself."

So far, Tilley has picked up signals from China's Tianwen-1 spacecraft, NASA's Mars Reconnaissance Orbiter, and the United Arab Emirates' Hope probe--all orbiting Mars approximately 200 million kilometers away.


How is such extreme DX'ing possible? "It helps to have a big antenna," says Tilley, who uses a 60 cm dish, pictured above. "But the real key," he says, "is the advent of Software Defined Radios (SDRs), which have become the norm for hams in the past decade or so."

In a Software Defined Radio, computers digitally perform the signal mixing and amplification functions of circuits that used to be analog; software has replaced hardware. SDRs are cheap, sensitive, and they give hams the kind of exquisite control over frequency required to tune into distant spacecraft.

NEW THIS MONTH!



The New Tesla DX - Radio Operator Edition
Completely Self Driving So You Can Concentrate On What You Love - From Origin To Destination



BAOFENG
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VHF/UHF
ALL MODE

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All Mode
Tetra®, D-Star®, Fusion®, MOTOTRBO®
Built In Clarifier
Crossband Repeat
Dual Monitor
Dual Antenna
External Antenna Socket
1000 Channels / 50 Zones
GPS Function
FM Radio / Airband Receive

CE

Ads--Top: courtesy of N1SPY, bottom: courtesy of K4ISR

Electrical Smoke Re-concentrator



Poof. Whoops. Is red positive? A well-known principle of electronic devices is the fact that they operate on a distinctive type of rather pungent smoke. As long as it's retained within the componentry of the gadget in question, all is well. However, the slightest bungle or confusion (polarity mis-match, over voltage event) often results in it escaping.

Never fear such an occurrence again with the genuine E.S.R. unit. This hand-cranked unit (no electricity!) will quickly scavenge all the odiferous matter wafting around the area and will then store and concentrate it in the quartz-lined receptacle in the middle of this flashlight-sized unit. The other end of the unit provides a titanium-tipped, multi-component compatible injection device for replacing the smoke into the semiconductor, capacitor, or inductor in question. A must-have item for any shop-idiot. *Order from Thomas Chong Associates—use the coupon code “Up in Smoke.”*



Dave, KD8NZF

SEA PAC, is among the major hamfests that occur across the US each year and like most has had to cancel their 2021 event. Also like most they are doing alternate activities to keep the event alive for 2021. As the name suggests, this is a West Coast forum that bills itself as the Northwest's Largest Ham Convention and usually convenes in Seaside Oregon. For most of us, even in a normal year, the location makes it unlikely we would ever attend. But this year we have an opportunity to at least participate virtually.

June 5 & 6 SEA PAC is providing a number of Zoom seminars available to all by registration. The theme for the seminars is Preparedness. They have already lined up some of the well known names from West Coast Em-Com and are working on more. You can register for free at the SEA PAC website shortly as they are editing the website for online registration and to remove the ticket sales information. The website is <https://www.seapac.org/> and look on the left side for the registration link. Or you can keep up by registering for their emailed newsletter by sending an email with your name and callsign to info@seapac.org.

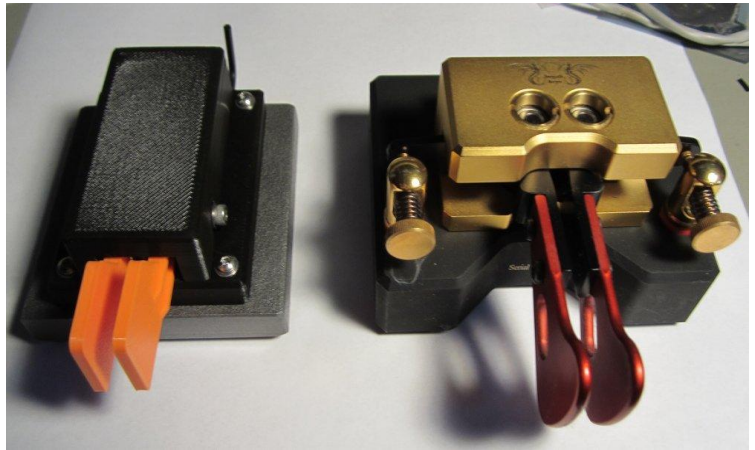
Coinciding with the annual convention is a national QSO party that will run the 5th and 6th also, 9:00-9:00 Pacific time each day.

(Not to be confused with CPAP)_____

It's not a Begali, but....

By Dan Romanchik, KB6NU

One of the questions I'm most frequently asked is, "What is a good paddle for a beginner?" My usual answer to this question is to look for a used Bencher BY-1 at a hamfest or on one of the online venues.



You used to be able to get them for \$60 or less. Now, however, there are few hamfests and the price has gone up. Now, used Benchers are close to \$80.

Another option that newcomers might consider is the [CW Morse](#) paddle (shown in photo below). They cost \$60 with a steel base (\$43 without), and are available from [3rd Planet Solar](#) and [Gigaparts](#). I purchased one recently, and used it for a couple of days. To be honest, I was prepared to hate it, but it actually works pretty well. It's not a Begali, but it's good enough that I'd recommend it as a starter key.

These keys are mostly made from 3D-printed plastic parts. You can tell this from the finish. While not as bad as some 3D-printed parts, they do look a little rough. I wouldn't be surprised if they go to molded parts, though, at some point. In high volumes, it has to be cheaper to mold the parts rather than print them.

The key does have metal parts where it counts, though. The contacts are all brass, the base is made from 1/2-in. cold-rolled steel, and the levers pivot on sealed ball bearings. My key weighed 22.5 oz (1.4 lbs.), and was quite stationary on the silicone mat that I use for my keys. The Begali is, of course, a lot heavier at nearly 60 oz. (3.75 lbs.).

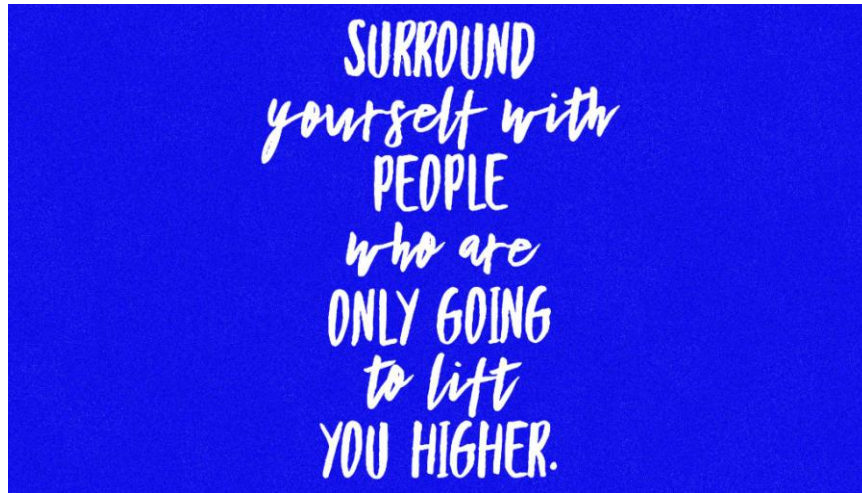
A spring between the levers provides the tension. Two screws allow you to adjust the contact spacing. Unlike the Begali, whose adjustment screws have a very fine thread to give you plenty of adjustability, these screws are standard thread screws. What this means is that it can be a bit tricky to set the contact spacing. The screws are spring-loaded to prevent the adjustment from changing, but the springs don't seem to be very beefy, and I can see where the adjustment might change after a lot of use.

The ball bearings give the key a nice action. During my tests, I had the speed cranked up to 23 wpm, and this key performed well at that speed. One thing I didn't like very much is that the arms tend to flex more than I like, but I actually have the same problem with the plastic Begali finger pieces. That's why I use the aluminum finger pieces on the Begali.

Overall, though, I'm quite happy with this key. And, for sixty bucks, which is about one-fifth of the price of a new Begali Magnetic Pro, I can certainly recommend this key to newcomers getting started in CW.

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Dan Romanchik, KB6NU, is the author of the KB6NU amateur radio blog ([KB6NU.Com](#)), the "No Nonsense" amateur radio license study guides ([KB6NU.Com/study-guides/](#)), and often appears on the ICQPodcast ([icqpodcast.com](#)). When he's not testing new keys, he teaches online ham radio classes and likes to work special event stations and state QSO parties.

THE LAST WORD



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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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