



The RELAY)))

DECEMBER 2020



The Official Publication of the Arrowhead Radio Amateur Club

A.R.A.C. Inc.

P.O. Box 7164 Duluth MN 55807-7164

<http://www.thearac.org>

Dues: Member \$20/Family \$25

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GIVING BACK

ARAC Tradition Continues as We Donate to Area Food Shelves

This year has been full of changes, adaptations and re-invention of how we lead our everyday lives. Like other organizations, the ARAC has changed the way we meet and have events for the time being, including cancelling our much-loved Annual Christmas Party. We won't be able to share our traditional pot-luck favorites amid the backdrop of beautiful Christmas carols & gift table drawings, to be sure. But our virtual Zoom gathering on December 10th after our general meeting will still be nice, marking our 91st year as a club.

One thing that doesn't have to change, however, is our club's commitment to giving non perishable food to our community food shelf. There are always families in need every year—and this year, more than usual. That's why it's so important that each of us remembers to donate food—or money for food—to area food shelves. No family should struggle with hunger, especially at Christmas.

Many churches, clubs and schools offer food pantries for their members and students. If you are involved with such an organization, donate what you can to brighten a hurting family's Christmas.

For those who don't already have relationships with a food shelf organization, here's just a few organizations that serve our community that would greatly appreciate your help:



Second Harvest Northern Lakes Food Bank

4503 Airpark Blvd
(218) 727-5653

<https://northernlakesfoodbank.org>

The largest hunger-relief organization in the Northland, each year they rescue and distribute over 6.4 million pounds of nutritious food, enough food for 5.1 million meals, to approximately 44,000 people in need. Their distribution occurs through a network of effective regional agency partners and through their own direct service programs including: Food Shelf, Mobile Food Pantry, Nutrition Assistance Program for Seniors (NAPS) and Backpack Program. They serve NE Minnesota and NW Wisconsin.



Join us on facebook!

Co-Editors:

Kim & Steve Waller

Kim - KEØNQS • Steve - KEØNQT

KEØNQS.mn@gmail.com
KEØNQT@gmail.com

DONATE FOOD

You can feed our Northland neighbors in need with your donations of quality food.

DOUBLE YOUR IMPACT

Gifts are being matched by the Joan M. Wismer Foundation!

Second Harvest's Double Your Impact Campaign

This holiday season the Joan M. Wismer Foundation matches your financial donation, so it goes twice as far!

Continued on page 29

ARAC Board of Directors

PRESIDENT



NØVRM
Gene Ellefsen
371Ø Chambersburg Ave
Duluth, MN 55811
218-39Ø-3272
lspitech@mail.com

VICE PRESIDENT



NØPDG
Mike Lovold
386Ø Birchwood Rd
Downtown Arnold, MN
558Ø3
lovoldm@gmail.com

SECRETARY



NØCALL
Robin Davis

218-391-3Ø77
davisfam2858@yahoo.com

TREASURER



KEØNIT
Bruce Carlson
9Ø6 Anderson Rd
Duluth, MN 55811
763-315-2967
carlsbr@gmail.com

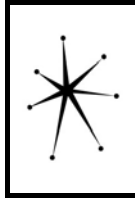
3RD YEAR BOARD



AAØAC
Dave Davis

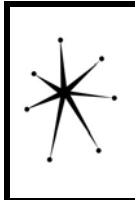
218-348-6649
aaØac@outlook.com

2ND YEAR BOARD



AAØME
Randy Johnson
randy@nsw4x4.com

1ST YEAR BOARD



KD9ABS
Gary Minter
1621 N 26th St
Superior WI 5488Ø

**It's time to elect our
ARAC Board Members for 2021!**

Nominations for Club Officers

PRESIDENT
Gene Ellefsen- NØVRM

VICE PRESIDENT
Mike Lovold- NØPDG

SECRETARY
Robin Davis

TREASURER
Bruce Carlson- KEØNIT

FIRST YEAR BOARD MEMBER
Dave Davis- AAØAC

**Attend the December 10th Club Meeting
at 7:00 p.m. on the 94 Repeater to vote.**

**The Thomas J Reibold Award
honors outstanding service to the Club
and to the hobby of Ham Radio.**

**The 2020 Award will be announced on
the 94 Repeater at the December 10th
meeting.**

**ALSO: Even though we aren't gathering
in-person this year, don't forget to
donate non-perishable food items to
local food shelves for families in need
this holiday season!**

ARAC Board Meeting Minutes – November 3, 2020

PRESIDENT



NØVRM
Gene Ellefsen
371Ø Chambersburg Ave
Duluth, MN 55811
218-39Ø-3272
lspitech@mail.com

VICE PRESIDENT



NØPDG
Mike Lovold
386Ø Birchwood Rd
Downtown Arnold, MN
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SECRETARY



NØCALL
Robin Davis

218-391-3Ø77
davisfam2858@yahoo.com

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Bruce Carlson
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763-315-2967
carlsbr@gmail.com

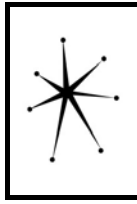
3RD YEAR BOARD



AAØAC
Dave Davis

218-348-6649
aaØac@outlook.com

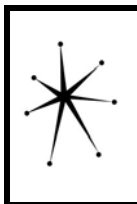
2ND YEAR BOARD



AAØME
Randy Johnson

randy@nsw4x4.com

1ST YEAR BOARD



KD9ABS
Gary Minter
1621 N 26th St
Superior WI 5488Ø

Present: Gene Ellefsen-NØVRM, Mike Lovold-NØPDG, Robin Davis, Dave Davis-AAØAC, Gary Minter-KD9ABS, Randy Wabik-KRØB, Grant Forsyth-KCØWUP, Doug Nelson-AAØAW

Guests: Del Minter-KEØCLI

Meeting called to order by President Gene-NØVRM at 6:34 pm

Minutes:

Minutes posted in newsletter and on the web site. Motion to accept by Gary-KD9ABS, seconded by Dave-AAØAC motion passed

Treasurer's Report:

Checking	1,374.43
Savings	2,173.57
Cash Subtotal.....	\$3,048.00

Outstanding Checks:

Mahtowa Repeater	-1,100.00
Bob Boyd-KDOLYN Memorial	-1,020.00
Subtotal Checks	-\$2,120.00

Winter CD	1,714.03
CD Subtotal.....	\$1,714.03

Grand Total\$3,142.03

Any questions? Motion to accept by Dave-AAØAC, seconded by Gary-KD9ABS, motion passed

Committee Reports:

Christmas Party:

No Christmas party this year due to COVID restrictions. Gene-NØVRM went to the church and talked to the new staff person. The church received a Directive from the Bishop of the Methodist Church - no groups larger than ten (10) people. Churches are still locked down

Testing:

COVID compliant testing on December 15, 2020, one (1) session at 3:00 pm and one (1) session at 5:30 pm. We can test ten (10) people plus VEs (Voluntary Examiners) at one time at the church, following COVID guidelines. Looking for VEs to proctor the tests. Send Doug-AAØAW an email if you are available

Repeater:

Gene-NØVRM got a text from Randy Haglin-NØBZZ and he is making time for Ham Radio this week so he will be taking care of the Mahtowa Repeater. Update on plans for the 94 Repeater, we need to get in to look at the wiring. Gene-NØVRM left a message for Larry Anderson-NØXPB's replacement. They called back and made an appointment next Wednesday, at 11:30 am to go to WDSE. Gene-NØVRM, Doug-AAØAW and Randy-KRØB will meet with him. Randy-KRØB has been emailing back and forth with John Kruk-N9UPC. He has done twelve (12) to fourteen (14) Repeater upgrades already and each one is different. We are not doing Wires X. The Yaesu will plug right into the S Com 3770, 7330 is at Mahtowa. WDSE has an old S Com 3770. It should be easy as it is just programming. Pin out on the Repeater, on the Dim and, you will have everything you need. You will know more when

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ARAC Board Meeting Minutes – Nov. 3 2020, continued

Continued from page 3

you look at it. Important to meet the new Engineer at WDSE, contact is the key for communication. Someone else can do the programming. Randy-KR0B will set it up. The controller has to be programmed at the sight of the Repeater. Is there an easier, simpler controller that we can use – Randy-KR0B will ask, one without touch-tone, easier to program. Randy-N0BZZ plans to dump the controller in Mahtowa and reprogram it. That could be done at the 94 site. It will be time consuming because of the multi-digit touch-tones. Randy-KR0 doesn't have the time to do it. Download the manual to study how to do it now. S Com 7 at the main site, S Com 7330 at Mahtowa. Built in basic controller on the Repeater, very basic

Fusion Repeater - strictly digital or analog? If we went strictly digital, that will exclude a lot of people who are analog. Why spend the money for a Fusion if we're never going to use it? It is inevitable we will be going digital, getting ready for the future. Biggest part is that our Repeaters are forty (40) to fifty (50) years old and still working. We have a good plan going. The current Repeaters are reliable and will last for the most part but like all things, they do have an end date. Stick the money in it now so that we can get everything works before things crash. There is a complete, spare 94 Repeater, ready to plug it in, at the WDSE Repeater Site. Technology will be improving, just as it has in the past

Elections:

A member was nominated for each Office, with all unopposed as of today, November 3, 2020. Nominations are accepted until the November 12, 2020, Membership meeting. At the December meeting, per the Parliamentarian, the Board member in charge should make an announcement that we can do a White Ballot for the entire slate. Gary-KD9ABS, as the Board member in charge of the Election, can make that statement on the air – get it motioned, seconded, call for vote and a White Ballot is declared. Ask for any one opposed instead of approvals, as it is a smaller list. Yes, speak now or a White Ballot will be cast

Thomas J Reibold Award W9IBM Memorial Award:

No nominations for this year's award from the membership. Gary-KD9ABS thought we put somebody on deck from last year's nominations. Suggestion to consider Elmer Berg-KC0NGY as a good candidate for this year's award. The three (3) Board members will confer to make a selection

Net Operators:

Gene-N0VRM put out a request for Net Control Operator for the local nets. No one has responded as of today but we have lost several Net Control Operators

Programs:

Tom Ferguson-WB0DHB, is an antenna expert and he would be interested in doing a program on antennas for the Club. Mike-N0PDG will contact him to set up a program date. He is the person that started the UMD Ham Radio club

Program in November will be Astro Bob, who is enjoyed by so many of the members

Motion to adjourn by Dave-AA0AC, seconded by Gary-KD9ABS, motion passed at 7:20 am





ARAC Club Meeting Minutes

November 12, 2020

Present:

President Gene Ellefsen-N0VRM
Vice President Mike Lovold-N0PDG
Treasurer / Membership Bruce Carlson-KE0NIT
Secretary Robin Davis
Third Year Board Dave Davis-AA0AC
Second Year Board Randy Johnson-AA0ME
Parliamentarian Grant Forsyth-KC0WUP
Special Events – Open / Gene Ellefsen-N0VRM acting
Ham Fest / Education Bob Schultz-KC0NFB
Property / Picnic Scott Ahlgren-N0BYU
Testing Doug Nelson-AA0AW

Absent:

First Year Board Gary Minter-KD9ABS
Chaplain (Visiting) Rolland Bockbrader-KB0CK
Newsletter / Historian Kim Waller-KE0NQS
Newsletter Steve Waller-KE0NQT
Repeater Randy Wabik-KR0B
Repeater Derek McCorison-W0DNF
Repeater Randy Haglin-N0BZZ
Web Site Thomas Dorr-KE0RHA

Meeting called to order by President Gene-N0VRM at 7:01 pm via 94 Repeater

Minutes:

Minutes posted in newsletter and on the web site. Motion to approve by Mike-N0PDG, seconded by Bruce-KE0NIT, any objections? Consider it passed

Treasurer's Report:

Checking	1,774.43
Savings.....	2,173.57
Cash Subtotal.....	\$3,548.00
Outstanding Checks:	
Mahtowa Repeater	-1,100.00
Bob Boyd-KD0LYN Memorial	-1,020.00
Subtotal Checks.....	-\$2,120.00
Winter CD.....	1,714.03 (Due around Christmas time to renew)
CD Subtotal.....	\$1,714.03
Grand Total	\$3,142.03

Any questions on the Treasurer's Report? Randy-AA0ME motioned to approve, Scott-N0BYU seconded, consider it passed

Dave-AA0AC, since Gary-KD9ABS is not here, could you take the nominations and the Reibold Award?

Dave responded I can do the Reibold Award but not the nominations as I am an outgoing board member and nominated for a new term

Thomas J Reibold Award W9IBM Memorial Award:

Every year we select a member to honor for promoting the Amateur Radio hobby, someone who give outstanding service to our Club, a member who deserves recognition for their behind the scenes work. Please give your recommendation to myself, Dave-AA0AC, Randy-AA0ME or Gary-KD9ABS

Elections:

Randy-AA0ME, since you are filling out Bob Boyd-KD0LYN's term and not up for reelection, could you take the nominations for the Board? Yes. Accepting nominations for the follow ARAC Board:

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ARAC Club Meeting Minutes

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First Year Board Member:

Going in the order given, Nominations for the First Year Board is open. Any current nominations? Yes, Dave Davis-AA0AC. Second call for further nominations. Third call for 1st year Board, call AA0ME

President:

Any current nominations? One nomination is for Gene Ellefsen-N0VRM. Any nominations for President, please call AA0ME. Call two (2), for nominations for President Position of ARAC, call AA0ME. Final call for President Position, call AA0ME

Vice President:

Any nominations for Vice President? Mike Lovold-N0PDG. Second call, for Vice President? Last call, for Vice President? N0PDG will retain the position

Treasurer:

Nominations for Treasurer, call AA0ME? Bruce Carlson-KE0NIT was previously nominated. Second call for Treasurer of ARAC Radio Club? Last call for nominations for ARAC Radio Club Treasurer, call AA0ME. Hearing no additional nominations, we will move on

Secretary:

Any nominations, please call now. Robin Davis was nominated. Call two (2) for the Secretary of the Club? Final call for nominations for the position of Secretary of the ARAC Radio Club, please call now

I believe that closes nominations for the ARAC Board Offices. Thank you, Randy-AA0ME. We will do the vote in December, a white ballot for all the ARAC Board offices. Thank you for your patience

Committee Reports:

Testing:

Next test session will be December 15, 2020, at House of Refuge, with two (2) testing sessions, one (1) at 3:00 pm and one (1) at 5:30 pm. Asking for anyone testing to indicate which session you will be attending to test. Preregistration would be appreciated. Two (2) folks have already preregistered. Information needed is the same \$15.00 testing fee, current ID and a copy of your Ham Radio License if you're testing to upgrade

Winter Field Day:

Joe Meese-W0LWU with an announcement concerning Winter Field Day. We will be setting up a schedule for operating and logging **only** at the upcoming Winter Field Day. There will not be a social event this year. This is to protect myself (Joe-W0LWU) and anybody else that would come out. You can come out if you are scheduled to operator or log but there will be no socialization in or around Joe-W0LWU's home. Please get a hold of Joe-W0LWU via the Morning 52 Net or via email. Joe-W0LWU's email address is current in the ARAC newsletter. This will be different event this year due to COVID, so we will do it safely

Christmas Party:

There will not be a Christmas Party this year. Gene-N0VRM went to the First Methodist Church and talked with the new Operations Director at the church to ensure they know we are interested in keeping the Second Thursday of each month open for our monthly meeting. The Church has received a directive from the Methodist Director to have no meetings with more than ten (10) people in attendance. We couldn't hold our picnic and following that, we will have no Christmas party this year. The December monthly meeting will be on the 94 Repeater as we have the last few months

Education:

Technician class will start January 19, 2021, through April, with testing tentatively April 19, 2021. We will advertise it nation-wide as the class is being held via Zoom

Bylaws:

We need to review the Bylaws to update them but that can be handled in December

Ham Fest:

What about the Ham Fest? Do we want to put in a reservation for the Superior or the Four Seasons in 2021? Consensus is to contact the Superior Fairgrounds and reserve for the first Saturday in May 2021

Program:

Program tonight will be Astro Bob. If you wish to join the Zoom meeting, please call Bob-KC0NFB at: 218-390-5000

Remember if you hear someone new on the air, give a shout back to him or her and help them work through their mike fright. We are clear with a thank you to all

Motion to adjourn by Joe-W0LWU moved, seconded by Grant-KC0WUP seconded, any objections? Closing the November meeting at 7:27 pm. Everybody have a safe Thanksgiving!





Prez Sez...

Hi everyone!

It is that time of the year to pay club dues. Because of the Covid virus we can't have our regular club meetings, so we ask that you mail them in. You can send them direct to Bruce Carlson or the Club P.O. Box. Thank you !!

**Bruce Carlson
906 Anderson Rd.
Duluth, MN 55811**

**A.R.A.C
P.O. Box 7164
Duluth, MN 55807-7164**

With this year coming to a close who would have thought we would not have a Hamfest, and have no picnic or club meetings? This Covid virus has affected us and our families, but don't let it spoil your Holidays. I wish you all a very Merry Christmas and a Happy New Year !!

73 Gene Ellefsen NØVRM

SILENT KEY

Ken Douglas N9UCJ, Amateur Extra from Superior, Wisconsin, has become a silent key.

Ken wore the white hat (control operator) of the early morning "Greyline" net at 7:00 AM daily.

Please keep Ken's family in your thoughts and prayers.



U.S. AIR FORCE MILITARY AUXILIARY RADIO SYSTEM

Minnesota State MARS Director
Reginald B. Cass / AFS5MN

Gene Ellefsen
NØVRM

Thank you for your time and interest.

Air Force MARS membership could be for you. We do hope that it is.

If you have the following interests, and capabilities, we are interested in recruiting you to become an Air Force MARS member. Completion of the following on line training is mandatory:

Personally, Identifiable Information (PII) <https://iatraining.disa.mil/eta/piiv2/launchPage.htm>
Cyber Awareness https://iatraining.disa.mil/eta/disa_cac2018/launchPage.htm

If you have completed: [Incident Command System](#) (ICS) -100, 200, 700, and 800 training, and have obtained certification for Air Force MARS or are willing to obtain this training, again, Air Force MARS could be for you.

You must be interested in joining a group of individuals that are dedicated to amateur radio, emergency communications, and willingness to learn and used military communications procedures for voice and digital communications.

You must have equipment that will meet the minimum requirements for voice and digital operation. The equipment will be: transmitter, receiver, (transceiver) modified to operate out of amateur radio bands, computer, modem, and antenna's that are designed to operate on military assigned frequencies. (The best antennas will be a dipole cut to the operational frequency. NVIS antennas work best. You will not need a linear amplifier, however if you have one that will operate on out of amateur radio bands that will be a plus)

You must go through and complete training. You are allowed up to 180 days to do so.

Air Force MARS operation's and procedures are based upon "MARS Operating Instruction", (MOI). The MOI manual uses as its basis for instruction a series of Allied Communications Publications (ACP's), Department of Defense Directives, Department of Defense Instructions, and Department of Defense Manual.

If you already belong to a MARS program and would like to consider Air Force MARS, please contact one of the recruiting team members.

Our recruitment team is as follows:

AFA5XK Dave, WB7DRU wb7dru@gmail.com

AFA5ZV Randy, KRØB afa5zv@gmail.com

AFA5JY Reg, KAØRJY reg_cass@msn.com



CW Abbreviations

- AR End of Message
- TU Thank You
- QST Calling all Amateurs
- QRV Are You Ready?
- AS Pse QRX
- PSE Please
- QRL Are You Busy?
- QRX Standby
- BK Back to You
- K Invite to Transmit
- QRU Have anything for me
- QRS Transit Slower
- SK End of Contact

A	●■■■	M	■■■■	Y	■■■■●
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US Amateur Radio Bands

US AMATEUR POWER LIMITS

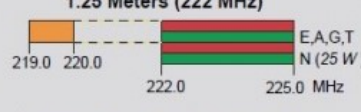
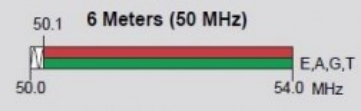
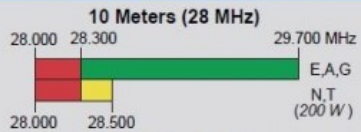
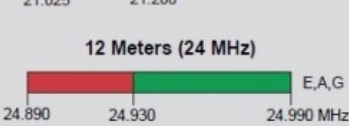
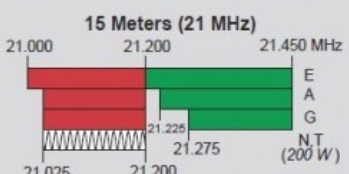
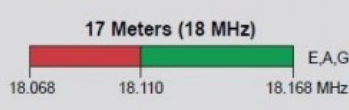
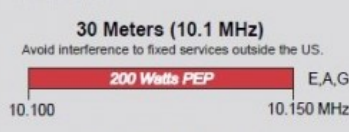
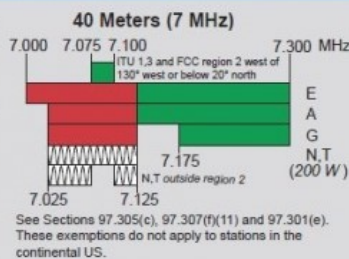
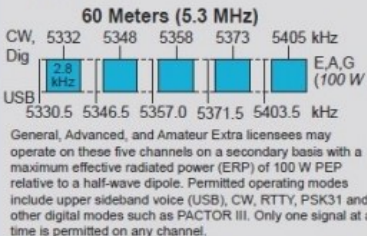
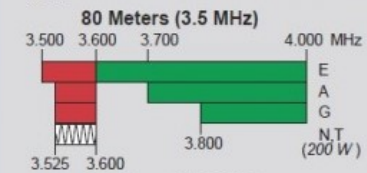
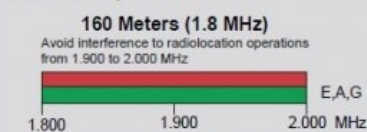
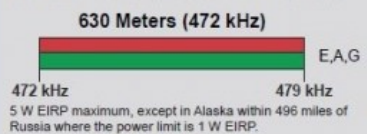
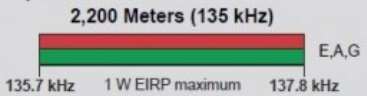
FCC 97.313 An amateur station must use the minimum transmitter power necessary to carry out the desired communications. (b) No station may transmit with a transmitter power exceeding 1.5 kW PEP.

Effective Date for
2,200 and 630 Meters
to be announced

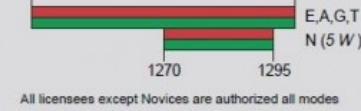
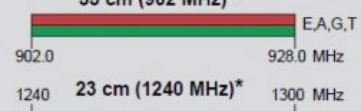
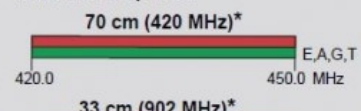


The national association for
ARRL AMATEUR RADIO

On March 28, 2017, the Federal Communications Commission adopted rules that will allow Amateur Radio access to 472-479 kHz (630 meters) and to 135.7-137.8 kHz (2,200 meters). However, amateurs cannot use these frequencies until 30 days after the Report and Order is published in the Federal Register and the final procedures for registering stations with the Utilities Telecom Council (UTC) have been approved and announced. At the time this chart was created, the Report and Order had not been published and the UTC online registration site is not yet available. Follow ARRL news for further information. New charts will be published at www.arrl.org/graphical-frequency-allocations when the bands are fully available for use.



*Geographical and power restrictions may apply to all bands above 420 MHz. See *The ARRL Operating Manual* for information about your area.



All licensees except Novices are authorized all modes on the following frequencies:

2300-2310 MHz	10.0-10.5 GHz ‡	122.25-123.0 GHz
2390-2450 MHz	24.0-24.25 GHz	134-141 GHz
3300-3500 MHz	47.0-47.2 GHz	241-250 GHz
5650-5925 MHz	76.0-81.0 GHz	All above 275 GHz

‡ No pulse emissions

KEY

Note: CW operation is permitted throughout all amateur bands.

MCW is authorized above 50.1 MHz, except for 144.0-144.1 and 219-220 MHz.

Test transmissions are authorized above 51 MHz, except for 219-220 MHz

- = RTTY and data
- = phone and image
- = CW only
- = SSB phone
- = USB phone, CW, RTTY, and data
- = Fixed digital message forwarding systems only

- E = Amateur Extra
- A = Advanced
- G = General
- T = Technician
- N = Novice

See *ARRLWeb* at www.arrl.org for detailed band plans.

ARRL We're At Your Service

ARRL Headquarters:
860-594-0200 (Fax 860-594-0259)
email: hq@arrl.org

Publication Orders:
www.arrl.org/shop
Toll-Free 1-888-277-5289 (860-594-0355)
email: orders@arrl.org

Membership/Circulation Desk:
www.arrl.org/membership
Toll-Free 1-888-277-5289 (860-594-0338)
email: membership@arrl.org

Getting Started in Amateur Radio:
Toll-Free 1-800-326-3942 (860-594-0355)
email: nowham@arrl.org

Exams: 860-594-0300 email: vec@arrl.org



Have a favorite HF/6m/2m/1.25m/70cm net that you check into or listen in on? Also, please send corrections and we will add it to the list below - Kim KEØNQS at my email KEØNQS.mn@gmail.com.

- **Northland Weather Group Net:** Mondays 2000 on the ARAC repeater (146.940 MHz with a tone of 103.5 and standard offset).
- **Minnesota D-Star Net:** Sundays at 19:30 on Reflector 53A
- **Minnesota Section Net** 1200 and 1730 on 3.860 [Net Manager: NØYR] http://www.mn-section.org/dept_stm.html
- The non-non-net: Evenings 2000 144.200 USB except for Sunday evenings.
- Badger WX Net: 0500-0715 on 3.985. Give 24 hour high/low/current temperature, precipitation and snowfall.
- **PICONET:** 3.925 from 0900-1100 CT Mon-Sat and 1600-1700 CT Mon-Fri. Info at: <http://www.piconet3925.com>
- Michigan Upper Peninsula Net: 1600 (CST) on 3.921 MHz Sun-Sat and 1200 Sun. Info: <http://www.michupnet.com>
- Great Lakes Marine/Maritime Mobile Net: Morning 07:30 - 3.932; 08:15 - 7.261 MHz and evening 18:30 - 3.1730927; 19:15 - 7.268 MHz. Weekend extra net: 10:00 - 7.261/7.268 MHz. All CST, LSB and +/- QRM. See: <http://www.sailblogs.com/member/glimmnet/>
- MIDCARS: 07:30-13:00 - 7.258 MHz. See: <http://www.midcars.net>
- Iowa snowbird net on 14.257MHz, M-W-F at 10:00 am Local Time. This is an open net.
- Spider Web Net (Marco Island FL) on 14.347 every morning at 0730 CST/CDT: <http://www.spiderwebnet.net>
- Maritime Mobile Service Network: Daily at 1100—2100 Central on 14.300. <http://mmsn.org> and <http://www.14300.net>
- RV Radio Network: Every day at 1900 Central on 7.265 MHz. Web site: <http://www.rvradionetwork.com>
- Upper Midwest Ten Meter Net: Every Thursday Evening @ 8 PM – 28.480 MHz USB
- Wisconsin Sideband Net: Daily @ 5:15 PM – 3985 [or 3982.5] KHz LSB
- Upper Midwest Ten Meter Net: Every Thursday Evening @ 8 PM – 28.480 MHz USB
- Hobby Helpers Net - Tuesday @ 8 PM – 28.330 MHz USB (Isanti MN) LSB [Net Manager: WOØA].
- Northstar Trader Net: 3.908 +/- at 0830 CST Sundays
- WARFA: 3.908 +/- Sun/Tue/Thu nights at 2200 CST, <http://warfa.org/>
- Youth Net: 14.320-14330 Sundays 1800-1900 UTC, Net Control: AC8PI
- YACHT: Saturdays 1900 CST on EchoLink #481872, <http://yachthams.webstarts.com>
- Northwestern Ontario ARES Net: Evenings at 20:15 (Central) on +/- 3.750Mhz
- The Iron Range Net: Saturdays at 0800 Central time on or near 3.919 Mhz. Look them up on Facebook!
- FORX Net: Mondays at 1900 Central at 3.941 Mhz +/- QRM. WAØJXT — Grand Forks, North Dakota
- HF CW: Fridays 08:00 CST, 7.112 MHz. Informal slow speed CW Net. W8IRT NCS. Email: w8irt@aol.com
- Minnesota ARES Digital Net: Thursdays at 2000 CST, 3.5835 MHz USB +/- QRM, Mode: Olivia 8/500.
- SARA Digital Net: Sundays at 1900 Local, 3.582.150 MHz USB +/- QRM, Mode: BPSK31/BPSK63
- Spider Web Net (Marco Island FL): 14.347 every morning at 0730 CST/CDT: <http://www.spiderwebnet.net>
- Broadcaster Net: 7.231 or 3.855 M/W/F @ 1500 UTC. 14.255 M-F @ 2130 UTC. <http://www.cbsretirees.com/ham.htm>
- Old Military Radio Net: 7.268 +/- nightly at 0200z. Other times/Frequencies too. See: <http://www.mrca.ar88.net/>
- Rag Chew Crew/Tailgaters/Freewheelers Nets: 3.916 +/- nightly at 1900 CST, <http://www.tailgatersnet.com>
- North South Net: 7.214.6 +/- at 0700 CST, Monday-Saturday



Next ARAC Board Meeting

Tuesday, December 1, 2020
@ 6:30 p.m.
House of Refuge

Next ARAC Club Meeting

Thursday,
December 10th
7 p.m.
on the 94 Repeater

Tune into the Sunday Night Net for more info on program activities!

NEXT MONTH'S PROGRAM

January 14, 2021

DX Engineering Zoom Presentation

- ♦ soldering pl259 connectors
- ♦ crimping on connectors from mini cable to rg58 and rg8 coax.

You do not need a Zoom account to participate!

Interested in providing a program, or have an idea for one?

Contact Mike NØPDG at
lovoldm@gmail.com

Amateur Radio License Testing Sessions!

Tuesday December 15
3 p.m. & 5:30 p.m.

House of Refuge
115 W Myrtle St, Duluth

- ♦ Please contact Doug Nelson AA0AW at aa0aw@arrl.net to sign up for your test session time if possible
- ♦ Walk-ins always welcome, with no prior reservation!

Cost: \$15



NATIONAL WEATHER SERVICE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

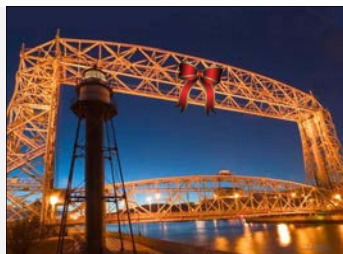
SKYWARN RECOGNITION DAY Dec. 5, 2020 0000z - 2400z

SKYWARN™ Recognition Day celebrates the contributions that SKYWARN™ volunteers make to the NWS mission, the protection of life and property.

During the day, operators visit NWS offices and contact other radio operators across the world. Amateur stations exchange QSO information with as many National Weather Service Stations as possible on 80, 40, 20, 15, 10, 6, and 2 meter bands plus the 70 centimeter band. Contacts via repeaters are permitted.

- ♦ Modes: NWS stations will work various modes including SSB, FM, AM, RTTY, CW, and PSK31. While working digital modes, special event stations will append "NWS" to their call sign (e.g., N0A/NWS). NWS offices may also participate via Social Media platforms throughout the 24 hour period.
- ♦ Exchange: Call sign, signal report, QTH, and a one or two word description of the weather occurring at your site ("sunny", "partly cloudy", "windy", etc.
- ♦ To Register visit www.weather.gov/crh/skywarnrecognition

Duluth Area Repeaters



ARAC System WØGKP

Freq. Offset Tone Location

146.940	minus	103.5	Duluth
146.940	minus	107.2	Lakeside (rcv)
146.940	minus	151.4	Two Harbors (rcv)
146.940	minus	100.0	Gary-New Duluth (rcv)
146.940	minus	123.0	Solway (rcv)
146.940	minus	110.9	Cloquet (rcv)
147.000	minus	103.5	Mahtowa
444.100	plus	103.5	Duluth UHF Link

N9MMU/N9QWH System (WI)

145.310	minus	110.9	Duluth
145.490	minus	110.9	Solon Springs
147.255	plus	110.9	Hayward
145.110	minus	110.9	Rice Lake
147.345	minus	136.5	Holcombe
145.230	minus	110.9	Eau Claire

WECOMM – WI Statewide Linked System WE9COM

147.075 plus 110.9 Meteor Hill (closest repeater to Duluth)

LSAC System #1

147.330	plus	151.4	Proctor
147.330	plus	103.5	Duluth (rcv for Proctor)
147.330	plus	156.7	Duluth (North) (Fish Lake)
147.270	plus	114.8	Two Harbors
147.270	plus	103.5	Wales
147.090	plus	114.8	Silver Bay
145.410	minus	114.8	Finland
147.300	plus	114.8	Isabella
145.150	minus	103.5	Washburn, WI
146.700	minus	103.5	Bayfield, WI
443.850	+5.00	none	Bayfield, WI
147.165	plus	110.9	Hurley, WI
146.640	minus	151.4	Ely
443.500	+5.00	141.3	Gilbert
147.060	plus	103.5	Virginia
147.360	plus	162.2	Cook
147.165	plus	114.8	Coleraine
443.925	+5.00	110.9	Brainerd
443.200	+5.00	114.8	Tamarack
147.360	plus	203.5	Aitkin
146.865	minus	146.2	Giese
147.570	simplex	146.2	Hinckley
444.575	+5.00	146.2	Hinckley
443.325	+5.00	146.2	Isanti

NARC System NAØRC

145.45Ø	minus	1Ø3.5	Solway Twp
145.45Ø	minus	114.8	Park Point (rcv)
147.135	plus	114.8	Park Point (rcv)
147.135	plus	1Ø3.5	Knife River

Stand Alone Repeaters

145.21Ø	minus	11Ø.9	Clam Lake, WI
146.88Ø	minus	123.Ø	Grand Rapids
146.91Ø	minus	146.2	Duxbury, MN

Fusion and D Star

Fusion (Analog has tone and C4FM digital with no tone)

147.15Ø	plus	151.4	NTØB Gilbert Fusion Rptr
145.17Ø	minus	11Ø.9	WA9KLM Superior –
Douglas County RACES/ARES Fusion Repeater			
443.1ØØ	+5.ØØ	1Ø3.5	KBØYHX Cloquet –
Carlton County RACES/ARES Fusion Repeater			
444.3ØØ	+5.ØØ	1Ø3.5	NØEO Spirit Valley Amateurs Fusion
Repeater WIRES-X NØEO (Analog only) Fusion Room 40494			
147.375	plus		NØEO D Star
442.2ØØ	plus		NØEO D Star

Repeater list compiled by Dr. Frequency—KCØWDQ

ST. Louis County Department of Emergency Services Net Control Roster

N9DMG	Scott Swanson	NØVRM	Gene Ellefsen
AAØAW	Doug Nelson	KCØWDQ	Paul Dallavia
WØNWO	Dave Miller	WØDIO	Dennis Anderson
KØDSL	Diane Saunders	AAØME	Randy Johnson

*Sunday Nights at 21ØØ on the ARAC System
(See Calendar for net control schedule)*

Ten Meter SSB Net Control Roster

AAØAW	Doug Nelson	WØLWU	Joe Meese
NUØW	Gary Hanson	K9KDK	Al Babcock
WØDIO	Dennis Anderson	NØVRM	Gene Ellefsen
AAØME	Randy Johnson	KØDSL	Diane Saunders

Sunday Nights at 2ØØØ on 28.45Ø MHz USB

Ten Meter CW Net Control Roster

AAØAW	Doug Nelson	NØPDG	Mike Lovold
--------------	--------------------	--------------	--------------------

Sunday Nights at 193Ø on 28.125 MHz

Northland Weather Group Net Control Roster

KCØMKS **Jeff Nast**

Monday Nights at 2ØØØ on the ARAC System

Douglas County Net

Tuesday Nights at 2ØØØ on 145.49Ø (N9QWH System)

Central Carlton County Net

Tuesday Nights at 2Ø3Ø on the ARAC System

Lake County RACES/ARES Net

2nd & 4th Wednesday Nights at 19ØØ on the LSAC 1 System



Elmers

El-mer / el-mær/ [el-mer]

1. a male given name: from Old English words meaning "noble" and "famous."
2. an adhesive used to bond like or unlike materials
3. An experienced ham radio operator who mentors new and prospective hams.

<u>Name</u>	<u>Call</u>	<u>Expertise</u>
Jeff Nast	KCØMKS	APRS, EchoLink, WinLink, Fusion, Contesting
Bob Schulz	KCØNFB	Contesting
Jim Anderson	NØJWA	QsoNet
Doug Nelson	AAØAW	HF, VHF/UHF, Contesting, Packet, APRS, Morse Code, VE testing, Echolink, Allstar, EmCom...

Membership E-mail Directory

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Contact Kim or Steve Waller to include your name in this listing!

Contact Kim or Steve Waller to include your name in this listing!

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Wulf Gar WU1FGR
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Members, please check your name and email address for accuracy. If you are not on this list and want to be on the list, contact us with your info. If you need to make a change, please let us know at KEØNQS.mn@gmail.com Or KEØNQT@gmail.com

Co-Editors,
Kim & Steve Waller
KEØNQS & KEØNQT



SUNDAY NIGHT NETS
 1930 - CW - 28.125 MHz USB-CW
 2000 - USB 28.450 MHz
 2100 - Southern St. Louis County
 Emergency Services Net
MONDAY NIGHT NETS
 2000 - Northland WX Net - ARAC Repeater

DECEMBER



CLUB EVENTS

TUESDAY NIGHT NETS
 2000 - Douglas Cty 145.490 MHz
 2030 - Central Carlton County
WEDNESDAY NIGHT NETS
 1900 - Lake County - LSAC1
 2nd & 4th Wednesdays
 2100 - BWAR

Sun	Mon	Tue	Wed	Thu	Fri	Sat
		1 ARAC BOARD MEETING - 18:30 House of Refuge DC Net 2000 CC Net 2030	2	3	4	5 Skywarn Recognition Day 0000z-2400z
6 CW 1930 NØPDG USB 2000 WØLWU ES 2100 KCØWDQ	7 DC ARES/ RACES Mtg 1900 DC EOC WX 2000 KCØMKS	8 DC Net 2000 CC Net 2030	9 Lake County ARES/RACES Meeting 1800 Lake County Net 1900 2100 - BWAR	 10 ARAC Club Meeting 94 Repeater 7 pm	11	12
13 CW 1930 AAØAW USB 2000 K9KDK ES 2100 WØNWO	14 WX 2000 KCØMKS	15 DC Net 2000 CC Net 2030	16 St. Louis County ARES/ RACES Mtg 1630 Pike Lake EOC 2100 - BWAR	17	18	19
20 CW 1930 NØPDG USB 2000 ES 2100 NØVRM	21 WX 2000 KCØMKS	22 DC Net 2000 CC Net 2030	23 Lake County Net 1900 2100 - BWAR	24 Carlton County ARES/RACES Meeting 1900 CC EOC	25 	26 Club Breakfast @ The Chalet 0800-0900
27 CW 1930 AAØAW USB 2000 NØVRM ES 2100	28 WX 2000 KCØMKS	29 DC Net 2000 CC Net 2030	30 2100 - BWAR	31		

Get this newsletter *faster*
via email!
Email Doug AAØAW at
aa0aw@arrl.net

Next Meeting: Thursday,
December 10, 2020 - 7 pm
On the 94 Repeater

ARAC Committee Chairs



Club License Trustee:

Ray Barnes KEØZN

Control Operators:

AAØAW - NØKXT - KCØNFB

Newsletter/Historian:

Kim KEØNQS & Steve KEØNQT
Waller

Education Chair:

Bob Schulz KCØNFB

Hamfest Chair:

Bob Schulz KCØNFB

Chaplains:

Visiting Chaplain:

Denny Anderson WØDIO

Parliamentarian:

Grant Forsyth KCØWUP

Website:

Thomas Dorr KEØRHA

Membership:

Bruce Carlson KEØNIT

Property Chair:

Wulf Gar WU1FGR

Testing:

Doug Nelson AAØAW

Field Day:

Dennis Anderson WØDIO

Picnic Chair:

Scott Ahlgren, NØVYU

Repeater Chairs:

Randy Haglin NØBZZ
Randy Wabik KAØJZV

Contest Calendar at www.contestcalendar.com

National Contest Journal at www.ncjweb.com

QSO Party Note: State/Province/National QSO Parties are abbreviated with the 2 or 3 letter abbreviation for the state/province/national designation followed by QP for QSO Party:

Examples: Minnesota QSO Party is MNQP
British Columbia QSO Party = BCQP

QRZ web site at www.qrz.com

VHF Propagation site at www.aprs.mountainlake.k12.mn.us

Reminder: The Contest Corral monthly listing of contests can be found in each issue of QST. ARRL sponsored contests can be found in Contest Corral, highlighted, or on the ARRL's web site at arrl.org.



ATTENTION MEMBERS: URGENT CALL TO ACTION!

As you may have heard, the FCC has made a proposal to add service fees on Amateur Radio transactions. Please read the detail below and go to <https://www.fcc.gov/ecfs/filings> to express your opposition to this Proposal during the official comment period.

FCC Proposes to Reinstate Amateur Radio Service Fees

08/28/2020

[UPDATED 2020-09-01 @1845 UTC]

Amateur radio licensees would pay a \$50 fee for each amateur radio license application if the FCC adopts rules it proposed this week. Included in the FCC's fee proposal are applications for new licenses, renewal and upgrades to existing licenses, and vanity call sign requests. Excluded are applications for administrative updates, such as changes of address, and annual regulatory fees.

The FCC proposal is contained in a *Notice of Proposed Rulemaking (NPRM)* in MD Docket **20-270**, which was adopted to implement portions of the "Repack Airwaves Yielding Better Access for Users of Modern Services Act" of 2018 — the so-called "**Ray Baum's Act**."

The Act requires that the FCC switch from a Congressionally-mandated fee structure to a cost-based system of assessment. In its *NPRM*, the FCC proposed application fees for a broad range of services that use the FCC's Universal Licensing System (ULS), including the Amateur Radio Service that had been excluded by an earlier statute. The 2018 statute excludes the Amateur Service from annual regulatory fees, but not from application fees.

"[A]pplications for personal licenses are mostly automated and do not have individualized staff costs for data input or review," the FCC said in its *NPRM*. "For these automated processes — new/major modifications, renewal, and minor modifications — we propose a nominal application fee of \$50 due to automating the processes, routine ULS maintenance, and limited instances where staff input is required."

The same \$50 fee would apply to all Amateur Service applications, including those for vanity call signs. "Although there is currently no fee for vanity call signs in the Amateur Radio Service, we find that such applications impose similar costs in aggregate on Commission resources as new applications and therefore propose a \$50 fee," the FCC said.

The FCC is not proposing to charge for administrative updates, such as mailing address changes for amateur applications, and amateur radio will remain exempt from annual regulatory fees. "For administrative updates [and] modifications, which also are highly automated, we find that it is in the public interest to encourage licensees to update their [own] information without a charge," the FCC said.

The FCC also proposes to assess a \$50 fee for individuals who want a printed copy of their license. "The Commission has proposed to eliminate these services — but to the extent the Commission does not do so, we propose a fee of \$50 to cover the costs of these services," the FCC said.

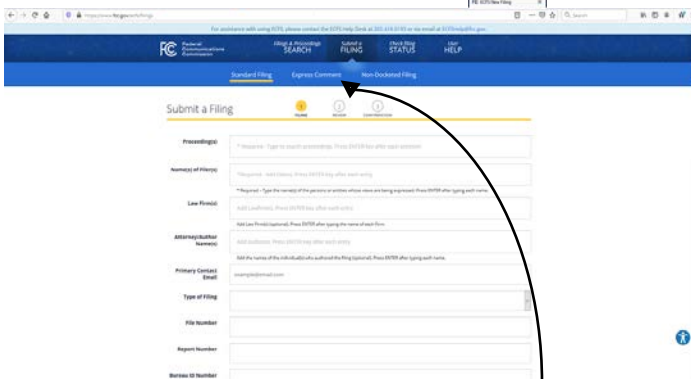
The Ray Baum's Act does not exempt filing fees in the Amateur Radio Service. The FCC dropped assessment of fees for vanity call signs several years ago.

Continued on Page 17

URGENT CALL TO ACTION, continued from p 16

Deadlines for comments and reply comments will be determined once the *NPRM* appears in the *Federal Register*. Interested parties may file comments by using the FCC's Electronic Comment Filing System (**ECFS**), posting to MD Docket No. **20-270**. This docket is already open to accept comments, even though deadlines have not yet been set.

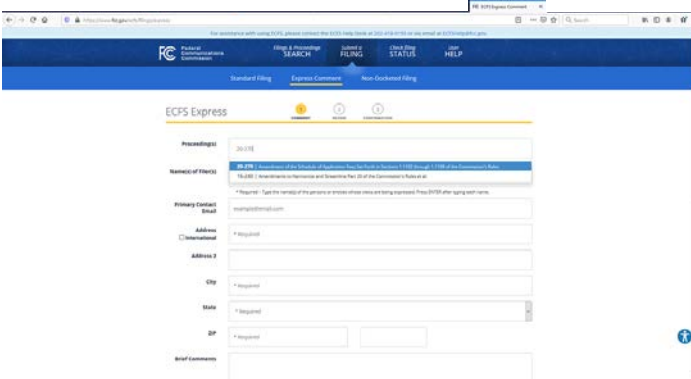
To comment, go to the FCC ECFS at <https://www.fcc.gov/ecfs/filings> and do the following:



1. Go to the web address <https://www.fcc.gov/ecfs/filings> and you will see the FCC "Submit a Filing" page first, per the ARRL. Do not enter anything on this page. Click on the "Express Comment" text.



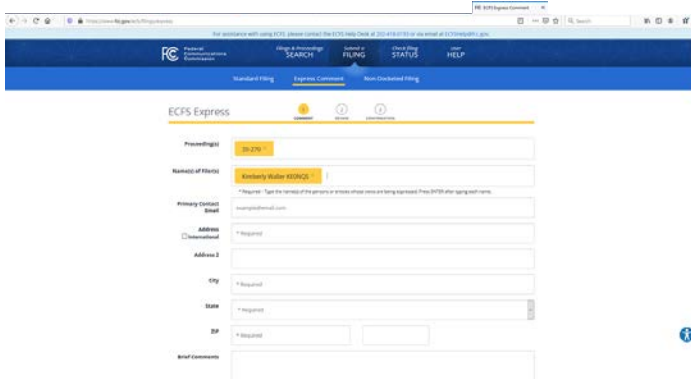
2. You will now be at the FCC's official page to express your comment. Be sure "Express Comment" is underlined in amber.



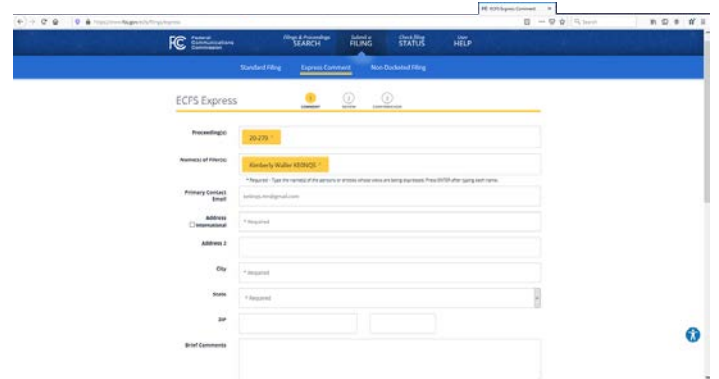
3. In the "Proceeding" box enter the official docket number only, which is 20-270. A drop down menu will appear, then click 20-270.



4. The docket number should now turn to amber. Click the enter button on your keyboard to lock it in & go to the next line.



5. Enter your name & call sign, then click your enter button when it turns amber.



6. Enter your email address. This will stay a white background as shown, then move your cursor each time to fill out the remaining address fields, which will remain as a white background.

7. Express your opinion in "Brief Comments" section and then click the tiny "Email Confirmation" box to be sure the FCC sends you a confirmation they've received your comments. Now click the Aqua box at the bottom to continue to the review screen. Double check that everything is right and submit your official comment.

We hope all of you take a few minutes to make your voice known to the FCC in this matter! Family members who are not hams can comment too. It is important that they understand that Amateur Radio operators perform a tremendously important role in public safety, including during emergencies, and should be free of additional financial encumbrances in executing this valuable voluntary public service.★

FOR SALE



Our thanks to the family of Bob Boyd KDØYLN, who have graciously donated Bob's ham shack equipment to the ARAC.

Bob became a silent key on May 31, 2020 & was serving the club as a 1st Year Board Member. N0PDG found sales for 3 items totaling \$970 thus far.

The Board has voted to earmark all proceeds from Bob's equipment toward replacement of our aging repeater.

THE FOLLOWING ITEMS ARE AVAILABLE FOR SALE:

We are taking offers on non-priced items & will present offers for discussion on all items for consideration as appropriate. Contact N0PDG at lovoldm@gmail.com to make offer.

YAESU 767GX, built in power supply. Comes with matching speaker (no cables to hook up the speaker). This radio has an issue with all the lights coming on all the time. Sometimes they come on, sometimes not.

MAKE OFFER

KENWOOD TS-940S Receives Great! No mic, built in power supply, power button missing. Unit powers up by pushing the display button, likely had work done to it. Unknown on power output.

MAKE OFFER

ICOM 718 RADIO with mic and power cord. No manual. New are selling for \$625.

ASKING \$400

Morse code book with a cd for learning. Also oscillator, no keyer.

ASKING \$20

ICOM IC-Z1A Handheld dual band. Comes with manual. Unknown if works as there is no power cord or charger. Worked fine when gifted to Bob by Randy Johnson AA0ME.

MAKE OFFER

ADDITIONAL ITEMS FOR SALE ON PAGES 19 & 20!

FOR SALE



Larry Mattfield KEØPJW, of Bovey, Minnesota became a silent key July 25, 2020. NØVRM was contacted by Minton Miller NØNWO who is handling the sale of the radio equipment benefiting Larry's wife of 48 years, Betsy.

Please contact Minton Miller NØNWO at mdfamily@mchsi.com or 218-256-6708 with questions or offers on the following items:

Icom 7300 \$935.00

Icom sm30 desk mic \$119

Samlex sec1235m \$110.50

LDG AT 600 Prow II auto tuner for Icom \$ 314.50

Yaesu 857d hf/vhf/uhf \$680

Yaesu ft70d 2m ht \$148.75

Yaesu SBH-28 rapid charger \$25.50

Yaesu SBR-24Li batteries (2X) \$34 each or \$68 for both.

MFJ 941E manual antenna tuner \$119

Ameritron ALS 500m mobile 500 watt amp \$850

Ameritron ALS 500 rc mobile amp remote \$55.25

Ameritron SPS 75MV switching power supply \$246.50

vantage pro 2 weather station. \$990.25

diamond 2m/440 X50A bass antenna \$80.75

Solarcon A 99 cb antenna with GPK-1 Ground Plane \$123.25

Alpha Delta DELTA 4b coax switch. \$89.25

**MORE ITEMS
FOR SALE on p.20!**

FOR SALE

Denny Burt KB0SPA has a close friend—Lynn Johnson KB9PFF of Siren, WI—who became a Silent Key. KB9PFF's radio equipment is now located in Barnum at the house of KB0SPA.

For those interested in the following items, please send texts to KB0SPA
at **218-341-4033**

1. a pair of uniden frs or gmrs radios, with cradle charger 20.00
- 2.lafayette swr field strength meter. with box. 30.00
- 3.radio shack 2 meter mobile radio model htx-242 60.00
4. ic-2000 2 meter mobile lcom, 65.00
- 5.ic-2100 2 meter mobile icom 65.00
- 6.Yaesu 2800 2 meter mobile 65.00
7. yaesu 2900 2 meter mobile 75.00
8. Kenwood ts-480 200 watt radio hf-6 meters. 500.00
- 9.palamar tx-100 3-30 mhz mobile hf amp 50.00
10. hygain 2.5 amp power supply 15.00
11. yaesu 757gx hf radio 200.00
12. astron ss-25m with meters built in, 45.00
- 13.kenwood at-200 tuner. 60.00
14. astron rs-20a power supply. 65.00
15. mirage 35 watt 2 meter fm amp 30.00
- 16.uniden 40 channel cb radio 10.00
17. sears roadtalker base mic 30.00
18. realistic pro 2023 scanner 10.00
19. mfj 259 analyzer 150.00
20. mfj 862 144/220/440 swr watt meter.25.00
- 21.realistic 2024 scanner 10.00
22. bc60xlt handheld scanner x2 of these 20.00 a peace.
- 23.tv antenna rotor with 3 wire wire. 35.00
24. realistic pro 2003 scanner. 15.00
25. 2 vintage regency scanners crystal operated. 10.00 each.
26. auto rotator tra rotor with control box 45.00
27. lil tarheel screwdriver 225.00
28. 50 feet raw coax on a spool 10.00
29. 1/4 inch guy wire cable 80-100 feet. 20.00



Contest Calendar - December 2020

+ Worldwide Sideband Activity Contest	0100Z-0159Z, Dec 1
+ QCX Challenge	0300Z-0400Z, Dec 1
+ RTTYOPS Weeksprint	1700Z-1900Z, Dec 1
+ QRP Fox Hunt	0200Z-0330Z, Dec 2
+ Phone Fray	0230Z-0300Z, Dec 2
+ CWops Mini-CWT Test	1300Z-1400Z, Dec 2
+ VHF-UHF FT8 Activity Contest	1700Z-2000Z, Dec 2
+ CWops Mini-CWT Test	1900Z-2000Z, Dec 2
+ QRP ARCI Topband Sprint	0000Z-0300Z, Dec 3
+ CWops Mini-CWT Test	0300Z-0400Z, Dec 3
+ RTTYOPS Weeksprint	1700Z-1900Z, Dec 3
	1800Z-1900Z, Dec 3 (CW) and
	1900Z-2000Z, Dec 3 (SSB) and
+ NRAU 10m Activity Contest	2000Z-2100Z, Dec 3 (FM) and
	2100Z-2200Z, Dec 3 (Dig)
+ SKCC Sprint Europe	2000Z-2200Z, Dec 3
+ NCCC RTTY Sprint	0145Z-0215Z, Dec 4
+ QRP Fox Hunt	0200Z-0330Z, Dec 4
+ NCCC Sprint	0230Z-0300Z, Dec 4
+ ARRL 160-Meter Contest	2200Z, Dec 4 to 1600Z, Dec 6
	0500Z-0800Z, Dec 5 and
+ UFT Meeting	1500Z-1800Z, Dec 5 and
	0700Z-1000Z, Dec 6
	0600Z-0629Z, Dec 5 and
	0630Z-0659Z, Dec 5 and
+ Wake-Up! QRP Sprint	0700Z-0729Z, Dec 5 and
	0730Z-0800Z, Dec 5
+ PRO CW Contest	1200Z, Dec 5 to 1159Z, Dec 6
+ RTTYOPS Weekend Sprint	1600Z-1959Z, Dec 5
+ FT Roundup	1800Z, Dec 5 to 2359Z, Dec 6

Continued on Page 22

Contest Calendar - December 2020, Continued

+ K1USN Slow Speed Test	0000Z-0100Z, Dec 7
+ OK1WC Memorial	1630Z-1729Z, Dec 7
+ Worldwide Sideband Activity Contest	0100Z-0159Z, Dec 8
+ ARS Spartan Sprint	0200Z-0400Z, Dec 8
+ RTTYOPS Weeksprint	1700Z-1900Z, Dec 8
+ NAQCC CW Sprint	0130Z-0330Z, Dec 9
+ QRP Fox Hunt	0200Z-0330Z, Dec 9
+ Phone Fray	0230Z-0300Z, Dec 9
+ CWops Mini-CWT Test	1300Z-1400Z, Dec 9
+ VHF-UHF FT8 Activity Contest	1700Z-2000Z, Dec 9
+ CWops Mini-CWT Test	1900Z-2000Z, Dec 9
+ CWops Mini-CWT Test	0300Z-0400Z, Dec 10
+ RTTYOPS Weeksprint	1700Z-1900Z, Dec 10
+ NCCC RTTY Sprint	0145Z-0215Z, Dec 11
+ QRP Fox Hunt	0200Z-0330Z, Dec 11
+ NCCC Sprint	0230Z-0300Z, Dec 11
+ ARRL 10-Meter Contest	0000Z, Dec 12 to 2400Z, Dec 13
+ PODXS 070 Club Triple Play Low Band Sprint	0000Z, Dec 12 to 2359Z, Dec 14
+ TRC Digi Contest	0600Z, Dec 12 to 1800Z, Dec 13
+ SKCC Weekend Sprintathon	1200Z, Dec 12 to 2400Z, Dec 13
+ RTTYOPS Weekend Sprint	1600Z-1959Z, Dec 12
+ International Naval Contest	1600Z, Dec 12 to 1559Z, Dec 13
+ QRP ARCI Holiday Spirits Homebrew Sprint	2000Z-2300Z, Dec 13
+ CQC Great Colorado Snowshoe Run	2100Z-2259Z, Dec 13
+ K1USN Slow Speed Test	0000Z-0100Z, Dec 14
+ 4 States QRP Group Second Sunday Sprint	0100Z-0300Z, Dec 14
+ OK1WC Memorial	1630Z-1729Z, Dec 14
+ Worldwide Sideband Activity Contest	0100Z-0159Z, Dec 15
+ RTTYOPS Weeksprint	1700Z-1900Z, Dec 15
+ NAQCC CW Sprint	0130Z-0330Z, Dec 16
+ QRP Fox Hunt	0200Z-0330Z, Dec 16
+ Phone Fray	0230Z-0300Z, Dec 16

Continued on Page 23

Contest Calendar - December 2020, Continued

+ CWops Mini-CWT Test	1300Z-1400Z, Dec 16
+ CWops Mini-CWT Test	1900Z-2000Z, Dec 16
+ CWops Mini-CWT Test	0300Z-0400Z, Dec 17
+ RTTYOPS Weeksprint	1700Z-1900Z, Dec 17
+ NCCC RTTY Sprint	0145Z-0215Z, Dec 18
+ QRP Fox Hunt	0200Z-0330Z, Dec 18
+ NCCC Sprint	0230Z-0300Z, Dec 18
+ AGB-Party Contest	1600Z-1700Z, Dec 18
+ Russian 160-Meter Contest	2000Z-2400Z, Dec 18
+ RAC Winter Contest	0000Z-2359Z, Dec 19
+ Feld Hell Sprint	0000Z-2359Z, Dec 19
+ OK DX RTTY Contest	0000Z-2400Z, Dec 19
+ Padang DX Contest	1200Z, Dec 19 to 1159Z, Dec 20
+ Croatian CW Contest	1400Z, Dec 19 to 1400Z, Dec 20
+ RTTYOPS Weekend Sprint	1600Z-1959Z, Dec 19
+ ARRL Rookie Roundup, CW	1800Z-2359Z, Dec 20
+ Run for the Bacon QRP Contest	2300Z, Dec 20 to 0100Z, Dec 21
+ K1USN Slow Speed Test	0000Z-0100Z, Dec 21
+ OK1WC Memorial	1630Z-1729Z, Dec 21
+ Worldwide Sideband Activity Contest	0100Z-0159Z, Dec 22
+ RTTYOPS Weeksprint	1700Z-1900Z, Dec 22
+ SKCC Sprint	0000Z-0200Z, Dec 23
+ Phone Fray	0230Z-0300Z, Dec 23
+ CWops Mini-CWT Test	1300Z-1400Z, Dec 23
+ CWops Mini-CWT Test	1900Z-2000Z, Dec 23
+ CWops Mini-CWT Test	0300Z-0400Z, Dec 24
+ RTTYOPS Weeksprint	1700Z-1900Z, Dec 24
+ NCCC RTTY Sprint	0145Z-0215Z, Dec 25
+ NCCC Sprint	0230Z-0300Z, Dec 25



Merry Christmas

Continued on Page 24

Contest Calendar - December 2020, Continued

+ Gedebage CW Contest	0000Z-2359Z, Dec 26
+ DARC Christmas Contest	0830Z-1059Z, Dec 26
+ Stew Perry Topband Challenge	1500Z, Dec 26 to 1500Z, Dec 27
+ RTTYOPS Weekend Sprint	1600Z-1959Z, Dec 26
+ RAEM Contest	0000Z-1159Z, Dec 27
+ K1USN Slow Speed Test	0000Z-0100Z, Dec 28
+ QCX Challenge	1300Z-1400Z, Dec 28
+ OK1WC Memorial	1630Z-1729Z, Dec 28
+ QCX Challenge	1900Z-2000Z, Dec 28
+ Worldwide Sideband Activity Contest	0100Z-0159Z, Dec 29
+ QCX Challenge	0300Z-0400Z, Dec 29
+ RTTYOPS Weeksprint	1700Z-1900Z, Dec 29
+ QRP Fox Hunt	0200Z-0330Z, Dec 30
+ Phone Fray	0230Z-0300Z, Dec 30
+ CWops Mini-CWT Test	1300Z-1400Z, Dec 30
+ CWops Mini-CWT Test	1900Z-2000Z, Dec 30
+ CWops Mini-CWT Test	0300Z-0400Z, Dec 31
+ Bogor Old and New Contest	0900Z-2359Z, Dec 31
+ RTTYOPS Weeksprint	1700Z-1900Z, Dec 31

Our thanks to **Bruce Horn, WA7BNM** for use of this calendar!

Please visit Bruce's site at
www.contestcalendar.com/contestcal.html





HOLIDAY GIFT IDEAS & BUYING GUIDE

SIGNS, POSTERS, & PLAQUES



Vintage-look Sign, 11X17 \$17.78 from Amazon.com



Parking Only Sign, 8X12 \$15.99 from Etsy.com



LED Call-sign display sign, \$34.99 each from Etsy.com or Hamcrazy.com



Vintage-look unframed poster, 11X14 \$21.99 from Teesdily.com



Custom Amateur Radio License Ham Plaque, Oak, 5X7 \$31.99 from Etsy.com



Reproduction of 1952 Metal sign, 10X14 \$26.95 from Walmart.com



World Map with DXCC Country List, 24X36 \$26.49 from Amazon.com



Mahogany wood & painted custom desk sign with radio tower \$20.00 from Etsy.com

Continued on Page 26



HOLIDAY GIFT IDEAS & BUYING GUIDE *continued*

APPAREL



Hat with Custom Call Sign, \$20.95 from Etsy.com



Tee, Multiple sizes, \$13 & up from Teepublic.com



Hoodie- \$35, Tee - \$13, assorted colors & sizes from Teepublic.com



Alpha Tee - \$13, available in 15 assorted solid colors & 8 sizes up to 5XL, from Teepublic.com



"Proud to be 0.2%" Tee - \$15.99, available in 10 colors & 6 sizes from Amazon.com



Leather-look Patch Hat with custom call sign, \$24.99 from Etsy.com



"I Love" Tee - \$13, available in 15 assorted solid colors & 8 sizes up to 5XL, from Teepublic.com



Hat with custom call sign, \$17.00 from Etsy.com



A Day without Ham Radio Tee Shirt, available in 5 solid colors & 7 sizes up to 3XL, beginning at \$19.48 from Etsy.com





HOLIDAY GIFT IDEAS & BUYING GUIDE *continued*

Accessories



Ham Radio Pop Socket grip for phones & tablets, \$14.99 from Amazon.com



Pro Max Ham Radio iPhone case, \$17.99



Motorola Adjustable Chest pack for portable radios- \$39.90 from Amazon.com

Drinkware



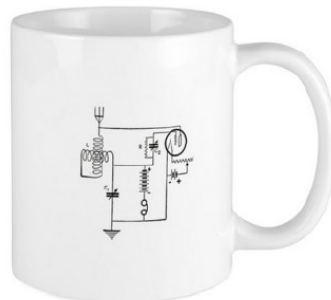
"I Think Therefore I HAM" stemless wine glass - \$18.95 and "I Think Therefore I HAM" rocks glass - \$18.00 from Amazon.com



Insulated Mug \$24.95 from Amazon.com



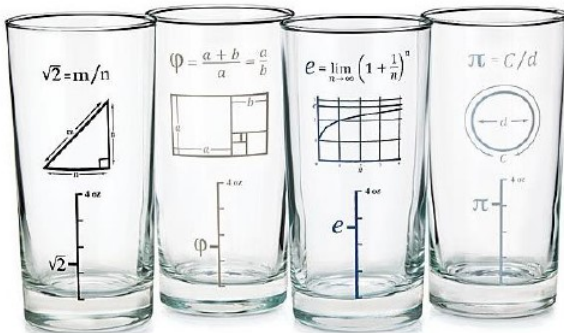
"May The Morse Be With You" Mug, \$14.95 from Etsy.com



"Ham Radio Operator" Mug, \$7.50 & Regenerative Radio Receiver Mug, \$7.50 from CafePress.com



Set of 4 Mathematical Glasses, \$38 from uncom mongoods.com



Ham Radio Call sign Antenna Tumbler 16oz with Leatherette Wrap, \$18.99 from Etsy.com

Continued on Page 28



HOLIDAY GIFT IDEAS & BUYING GUIDE *continued*

MORE FUN GIFT IDEAS ...



Desk Organizer, made to look like a vintage shortwave ham radio, \$17.94, from zazzle.com



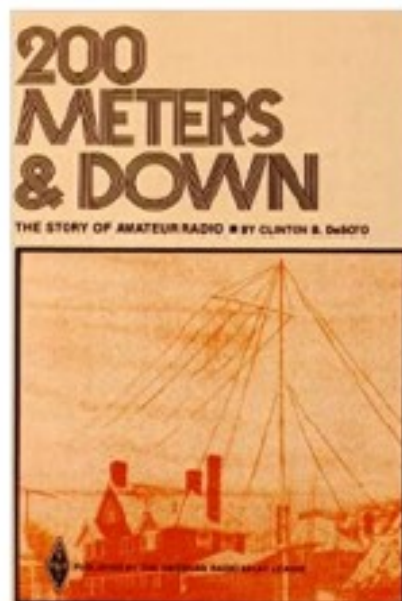
Actual Vintage CBS-Columbia 541 Radio from 1953. Works perfectly; Not a reproduction! \$237.00 from Etsy.com



“Bench Mount Rack Stack”
Clean up your desktop by going UP instead of out! Sturdy & made in USA with 8 choices of side color; tops are choice of white or wood-grain look. \$29.99 from Ebay.com



Tram 11861
Amateur
Dual Band
Hi-Gain
Hi-Power
Magnet
Antenna,
\$40.49 from
Amazon.com



A Pivotal must-read for all Hams!

Author Clinton Desoto chronicles the exciting evolution of Amateur Radio, from the pioneers who perfected the wireless art, through the technical advances of the mid-1930s. Paperback book, \$15.99, from Amazon.com



HAVE A VERY MERRY CHRISTMAS!



CHUM is people of faith working together to provide basic necessities, foster stable lives and organize for a just and compassionate community.

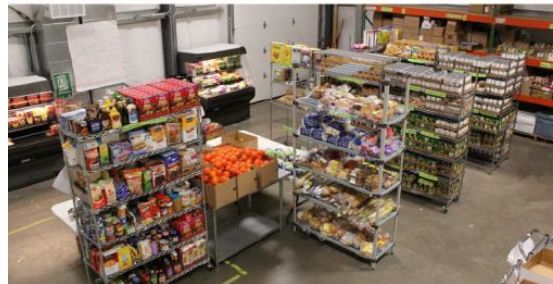
CHUM Food Shelf
120 N 1st Ave W, Duluth, MN 55802
218-727-2391
<https://www.chumduluth.org>

CHUM Emergency Food Shelf West
4831 Grand Ave, Duluth, MN 55807
218-624-0333

CHUM is a 501(c)(3) nonprofit human services agency in Duluth, MN sponsored and governed by an interfaith coalition of 40 faith communities. CHUM was founded in 1973 when 10 churches located in Duluth's Central Hillside neighborhood pooled their resources to meet the needs of the neighborhood's many low-income residents more effectively. CHUM now offers emergency food, shelter, advocacy, support, and outreach throughout Duluth.

Fruit of the Vine Food Shelf is open to the entire community.

The food pantry offers a variety of canned food, such as soup, vegetables, and fruit. It also needs boxed dinners, pasta and pasta sauce, as well as cereal and juice. Fresh produce, meat, and dairy items are donated by local food service businesses or purchased with your cash donation. Families receive about a week's worth of food for their household size.



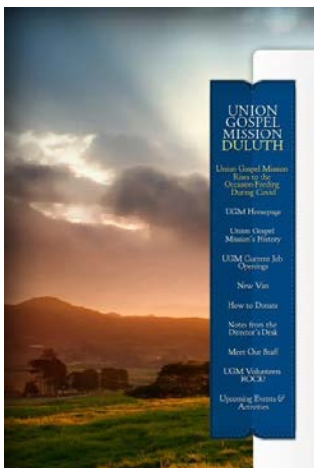
Fruit of the Vine Community Food Shelf
1533 W Arrowhead Rd, Duluth, MN 55811

218-525-3462
<https://duluthvineyard.org/ministries/fruit-of-the-vine>

Additional Location in Superior!

Freshwater Vineyard Food Distribution Center
603 Faxon St, Superior, WI 54880

The Duluth Salvation Army & The Superior Salvation Army believe in faith put into action and making life better for others. Their services meet physical, emotional and spiritual needs to rebuild lives and create lasting change. Help is given freely and without discrimination, while preserving the individual's dignity. They like to say "We're here to change lives, one at a time." Both locations are eager to help hungry families in their community and would so appreciate your donation.



Union Gospel Mission

has been serving full, hot, nutritious meals since day 1 of Covid-19! **UGM** was dine-in only, and in a heartbeat they had to go curbside. Area businesses and individuals stepped up to supply them with emergency to-go containers and bottled water. This enabled **UGM** to provide nutritious, hot meals and hydration for people in need immediately. They continue to meet the needs for hungry families and individuals and need our help to do so this holiday season.

Union Gospel Mission
219 E 1st St, Duluth, MN 55802

218-722-1196
<https://www.duluth-ugm.org/>

