



The RELAY)))

JUNE
2022

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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Kim & Steve Waller

Kim - KEØNQS Steve - KEØNQY
KEØNQS.mn@gmail.com KEØNQY@gmail.com



SUMMER 2022



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All About Field Day 2022 New ARRL Rule Changes & More

If you've been a Ham radio operator for awhile, you are well-acquainted with **ARRL Field Day**, held annually the fourth Saturday/Sunday in June. The **American Radio Relay League** says Field Day is the single most popular on-the-air event in the US and Canada, when thousands of radio amateurs gather with their clubs, groups (or simply with friends) to operate from remote locations.

Recognizing that modern families have different needs and goals, ARRL emphasizes that Field Day should be whatever Hams want to make of it: "a picnic, a campout, practice for emergencies, an informal contest and, most of all, FUN!" Emergency preparedness and service to their community is certainly a core value of Amateur Radio Clubs, yet ARRL now encourages clubs to treat Field Day as a great way to share knowledge, food & fun, in addition to traditional practicing and contesting.

The contest part? ARRL says "it's simply to contact as many other stations as possible and to learn to operate our radio gear in abnormal situations and less than optimal conditions. We use these same skills when we help with events such as marathons and bike-a-thons; fund-raisers such as walk-a-thons; celebrations such as parades; and exhibits at fairs, malls and museums. These are all large, pre-planned, non-emergency activities."

While that's a general overview of Field Day contesting, of course there are specific rules to follow to acquire your Field Day score. ARRL has a **Field Day 2022 Packet** with the official Contesting Rules, Instructions and Notices you'll need to participate. To download your copy, go to: <http://www.arrl.org/files/file/Field-Day/2022/2022%20Field%20Day%20Packet.pdf> Contest rules for Field Day have certainly changed



Field Day June 25-26, 2022

Continued on Page 17

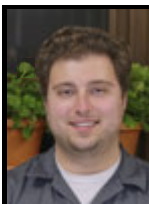
ARAC Board Meeting - May 3, 2022

PRESIDENT



NØVRM
Gene Ellefsen
3710 Chambersburg Ave
Duluth, MN 55811
218-390-3272
Ispitech@mail.com

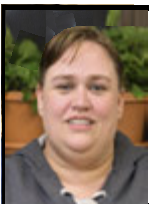
VICE PRESIDENT



KØDJP
David Pyrlík

david.pyrlík@gmail.com

SECRETARY



KFØGJW
Melinda Nelson

TREASURER



KNØNUL
Bruce Carlson
906 Anderson Rd
Duluth, MN 55811
763-315-2967
carlsbr@gmail.com

3RD YEAR BOARD



KD9ABS
Gary Minter
1621 N 26th St
Superior WI 54880

2ND YEAR BOARD



AAØAC
Dave Davis

218-348-6649
aaøac@outlook.com

1ST YEAR BOARD



AAØAW
Doug Nelson

aaøaw@arrl.net

Present:

Board Members

Gene Ellefsen – NØVRM, Bruce Carlson – KNØNUL, Doug Nelson – AAØAW, Gary Minter – KD9ABS, Melinda Nelson – KFØGJW, Dave Davis – AAØAC

Board Advisors (Non-Board Members)

Bob Schultz – KCØNFB, Kim Waller – KEØNQS, Steve Waller – KEØNQT, Randy Wabik – KRØB, Grant Forsyth – KCØWUP

Guest: Elmer Berg – KCØNGY, Del Minter – KEØCLI, Jon Nelson – NØUOZ, Rochelle Nelson

Meeting called to order by President Gene – NØVRm at 18:40 (6:40 pm)

Minutes:

Minutes were sent out to everyone via email. There were no questions or comments made. Motion to approve by Doug Nelson – AAØAW, seconded by Bruce Carlson – KNØNUL, motion passed.

Treasurer's Report:

Checking: \$1,890.26
Savings: \$1,074.44
Repeater: \$4,920.31
Subtotal Cash \$7,885.01

Winter CD : \$1,730.42
Summer CD: \$0.00
Subtotal CD: \$1,730.42

Assets Subtotal: \$9,615.43

No questions or comments. Motion to accept by Doug Nelson – AAØAW, seconded by Gary Minter – KD9ABS, motion passed.

HamFest:

Bob Schultz – KCØNFB received 3 of the Northwest Outlet gift certificates, HRO's coming in a \$50.00 and 2 \$25.00 gift certificates. ARRL 2 \$50.00 and 2 \$25.00 gift certificates. DX Engineer a \$50.00 and 3 \$25.00 gift certificates. Have not received any of the brochures from ARRL. Currently 45 tables reserved. Will be picking up the key on Thursday. Received books from Easy Way books (tech, general, extra, etc.). HRO has declined our offer to come up. John from Yasue and his dad has declined as well due to medical reasons. John Vick has 4 tables. Number on the tickets will be easier to see for the hourly drawing. Got more wrist bands and new grand prize drawing tickets which require more information to update. Hourly tickets and wrist bands were \$27.00, the grand prize tickets were \$53.00 to print and cut. (Will be submitting receipts for reimbursement). Will need the check for renting the Curling Club in, check will be made to DHL Management for \$600.00. Maybe next year talk about rising the price from \$7.00 to \$10.00. The menu prices will stay the same.

Continued on Page 3

ARAC Board Meeting - continued from page 2

Testing:

Doug Nelson – AA0AW Testing individuals when they are ready. May 7th there will be a testing session at HamFest. There are 12 people signed up and whatever walk-ins are welcomed. There is now a \$35.00 fee that applies to his fee will not apply only to applications for a new license, renewal, rule waiver, or a new vanity call sign. There is a new way for filing the test results for Technicians. Take a picture of each document for the candidate and create an PDF file. For the last group of candidates, I sent it in the paperwork in at noon and by 20:00 (8:00 pm) they had received their call sign. When the FCC receives the paperwork, the candidate will have 10 calendar days to submit the \$35.00 fee. If the applicant fails to pay within the 10-day window, the application will be dismissed by the FCC. If anyone needs testing contact Doug at AA0AW@ARRL.net and they will test individually.

Repeater:

Randy Wabik – KR0B, Mahtowa is currently down again. We are thinking that it maybe the antenna. When I was down there last the antenna was leaning. We currently have 4 options.

Tower crew from Saint Cloud - \$1,500.00 but we do not know if it the antenna or the feed line that is having an issue.

Tower crew from Saint Cloud come and look at it and purchase the antenna and a connector so they go up 1 time to get it done. Antenna roughly \$700.00 plus the connector which can be between \$40.00 to \$60.00. We are looking at roughly \$2,200.00

Randy Haglin – N0BZZ thinks that 1 of his crew is still climbing on the side. Roughly \$300 – 500 for a climb. He could go up and see what is wrong then we order the parts and he climbs again to fix it. We are looking at roughly \$1,100.00

Forget about Mahtowa and work on the 94.

Doug – AA0AW states that he thinks that we should get Mahtowa back up and running, the 94 is currently working just fine. Doug also suggested Dave Schneider to see if he could climb. Doug will reach out to see how much this will cost for him to climb. Dave Davis – AA0AC suggest purchasing the antenna as this will be the same antenna, we want to put up at the 94. This way it is on hand even if we do not need it at Mahtowa. Randy – KR0B has not received any word from the different amplifier companies.

Grandma's Marathon:

Will take about 15 minutes at the club meeting to show everyone how to register for Grandma's Marathon. Anyone who worked a spot last year it is your spot unless you contact Doug Nelson – AA0AW that you are unable to assist this year. 2022 Grandma's Marathon Volunteer Registration is ready – <http://grandmasmarathon.volunteerlocal.com/volunteer>. Password is **HAM22**. You will need to enter the password at the top of the page, otherwise the Ham Radio Volunteer position will be hidden. If you have volunteered before, can you let us know your location. The half marathon starts at 06:00 am and the full marathon starts at 07:45 am. Meeting Night will be June 9, 2022. If anyone who has not helped in the past and would like to please get ahold of Doug Nelson – AA0AW or Scott Ahlgren – N0VYU and they will get you set up in a spot.

Motion to adjourn by Doug Nelson – AA0AW, seconded by Bruce Carlson – KN0NUL, motion passed at 19:37 (7:37 pm)





ARAC Club Meeting Minutes

May 12, 2022

Present:

President: Gene Ellefsen – N0VRM
Vice President: Dave Pyrlik – K0DJP
Treasurer/Membership: Bruce Carlson – KN0NUL
Secretary: Melinda Nelson – KF0GJW
First Year Board: Doug Nelson – AA0AW
Special Events: Open/Gene Ellefsen – N0VRM (acting)
HamFest/Education: Bob Schultz – KC0NFB
Repeater: Dave Pyrlik – K0DJP
Testing: Doug Nelson – AA0AW
Parliamentarian: Grant Forsyth – KC0WUP
Property/Picnic: Scott Ahlgren – N0VYU
Repeater: Randy Wabik – KR0B

Absent:

Third Year Board: Gary Minter – KD9ABS
Second Year Board: Dave Davis – AA0AC
Chaplin:
Web Site: Thomas Dorr – KE0RHA
Newsletter/Historian: Kim Waller – KE0NWS
Newsletter/Historian: Scott Waller – KE0NQS

Meeting called to order at 19:00 (7:00 PM) by President Gene Ellefsen – N0VRM. Thirty members in attendance.

Minutes:

Posted on the web page and in the newsletter. Motion to approve by John Cavanaugh – KC0AFE, seconded by Grant Forsyth – KC0WUP, motion passed.

Treasurer's Report:

Checking: \$1,890.26
Savings: \$1,074.44
Repeater: \$4,920.31
Subtotal Cash \$7,885.01

Winter CD : \$1,730.42
Summer CD: \$0.00
Subtotal CD: \$1,730.42

Assets Subtotal: \$9,615.43

Motion to accept as presented by Doug Nelson – AA0AW, seconded by Grant Forsyth – KC0WUP, motion passed.

HamFest:

Numbers were down a little bit. We sold around 45 tables. The number of wrist bands that we sold 260. This was reported to Douglas County as we needed pay head count tax which was \$260.00 Also food cost was up quite a bit. The Thrivent card paid about 1/2 the cost of the food expenses. Cash deposit on Monday morning of \$5,110.00 after taking out the seed money we are left with \$3,310.00 before expenses. We were about average in the past 6 years. Recommend increasing the prices of tickets for next year to assist with the cost of everything going up.

Continued on Page 5



ARAC Club Meeting Minutes, continued

Testing:

We had our testing session at the HamFest this year. We had 13 candidates, plus 3 that retested so a total of 16 candidates. Out of this we ended up with 12 or 13 new or upgraded licenses. They received their call's today. Do not have anything scheduled but if you are ready please contact me. Contact Doug Nelson if you are ready at AA0AW@ARRL.net.

Education:

Currently nothing until the Fall. Next class will start in September. If you need tutoring Bob Schultz – KC0NFB is available.

Repeater:

Randy Wabik – KR0B, Mahtowa is currently down again. We are thinking that it maybe the antenna. When I was down there last the antenna was leaning. We currently have 4 options.

Tower crew from Saint Cloud - \$1,500.00 but we do not know if it the antenna or the feed line that is having an issue.

Tower crew from Saint Cloud come and look at it and purchase the antenna and a connector so they go up 1 time to get it done. Antenna roughly \$700.00 plus the connector which can be between \$40.00 to \$60.00. We are looking at roughly \$2,200.00

Randy Haglin – N0BZZ thinks that 1 of his crew is still climbing on the side. Roughly \$300 – 500 for a climb. He could go up and see what is wrong then we order the parts and he climbs again to fix it. We are looking at roughly \$1,100.00

Dave Schneider to climb and inspect to see what is currently wrong with the antenna.

Doug Nelson – AA0AW motioned that we expend funds to not exceed \$2,000.00 to fix the antenna. Grant Forsyth – KC0WUP seconded. Motion passed.

Licenses:

There is now a \$35.00 fee that applies to his fee will not apply only to applications for a new license, renewal, rule waiver, or a new vanity call sign. There is a new way for filing the test results for Technicians. Take a picture of each document for the candidate and create a PDF file. For the last group of candidates, I sent it in the paperwork in at noon and by 20:00 (8:00 pm) they had received their call sign. When the FCC receives the paperwork, the candidate will have 10 calendar days to submit the \$35.00 fee. If the applicant fails to pay within the 10-day window, the application will be dismissed by the FCC.

Grandma's Marathon:

Anyone who worked a spot last year it is your spot unless you contact Doug Nelson – AA0AW that you are unable to assist this year. 2022 Grandma's Marathon Volunteer Registration is ready – <http://grandmasmarathon.volunteerlocal.com/volunteer>. Password is **HAM22**. You will need to enter the password at the top of the page, otherwise the Ham Radio Volunteer position will be hidden. If you have volunteered before, can you let us know your location. The half marathon starts at 06:00 am and the full marathon starts at 07:45 am. Meeting Night will be June 9, 2022. If anyone who has not helped in the past and would like to please get ahold of Doug Nelson – AA0AW or Scott Ahlgren – N0VYU and they will get you set up in a spot. Doug Nelson – AA0AW did a presentation at the end of the meeting to walk everyone through how to sign up for volunteering.

Field day:

4th Saturday in June (June 25th to 26th) Event sponsored by the ARRL, nationwide for clubs and individuals to go out and operate away from home. We set up at Spirit Mountain, parking lot C. We have the reservation for this set up. We are looking for people to help set up and to help operate. Perfect for new hams to meet and learn the ropes. There will be food there as well. Looking forward to seeing you all.

Door Prize was won by Sam Frey – KE0YTM

Motion to adjourn by Doug Nelson – AA0AW, seconded by Bob Schultz – KC0NFB, motion passed at 19:24 (7:24 PM). Program: SkyWarn.





Prez Sez...

Hi everyone,

We will be having a busy month of June. First we have **Grandma's Marathon on Saturday June 18**. If you would like to help out, contact Doug Nelson AAØAW or Scott Ahlgren NØVYU . If you are volunteering for the Marathon, Grandma's would like you to register with them. To do this:

- ◆ Go to **www.GrandmasMarathon.com** then:
- ◆ Click on **Volunteer**, then:
- ◆ Click on **Volunteer Registration**, then:
- ◆ Enter the password **ham22**, then:
- ◆ Fill out **your personal information**

Volunteers: please make every effort to attend the June 9th Club meeting. The Program is "Grandma's Marathon" and Doug will be passing out the information packets then!!

Field Day is Saturday June 25 & Sunday June 26 at Spirit Mountain Parking Lot C. Set-up starts at 9:00 a.m. after the Club Breakfast, with operating time from 1:00 pm Saturday to 1:00 pm Sunday. We need people to help with the Saturday setup and takedown on Sunday!!

For you "New Hams", **Field Day** is a good time to try your hand at operating HF. There will be somebody there to guide you, so don't worry about making a mistake! This will also be a great time to meet some of us "Old Hams", and we would be happy to answer any questions you have about Ham Radio.

We will be operating multiple stations on different modes. The Club will provide Brats and Bottled water, and if you would like to bring something to share that would be appreciated. So bring a chair and come and hang out with us. We look forward to seeing you there!

P.S. Keep August 7 open on your Calendar! That's the date for the **Annual Club Picnic at Chambers Grove Park** out in Fond du Lac, the far western part of Duluth.

73, Gene Ellefsen NØVRM
Club President

CLUB REPEATER
WØGKP

146.94 (-)
CTCSS TONE



2022 FIELD DAY

The most popular on-the-air operating event in Amateur Radio.
Gear up and get in on the action!

**PARTICIPATE IN YOUR LOCAL
ARRL FIELD DAY JUNE 25–26, 2022
All are Invited!**

Saturday JUNE 25 at Spirit Mountain PARKING LOT C

- ◆ Set-up at 9:00 a.m. after the Club Breakfast
- ◆ We need people to help with set-up & take-down!
- ◆ Operating Times: 1:00 PM Saturday to 1:00 PM Sunday
- ◆ Great time for NEW HAMS to try your hand at operating HF and to meet OLDER HAMS, who are happy to answer any questions you have about Ham Radio
- ◆ The Club will provide brats and bottled water, and if you would like to bring something to share it would be appreciated very much
- ◆ Bring a chair & come hang out with us. We'll be glad to see you there!

Gene Ellefsen NOVRM

arrl.org/FieldDay

**SEE PAGE 8 FOR
MORE DETAILS!**

What is ARRL Field Day?

Field Day is a picnic, a campout, practice for emergencies, an informal contest and, most of all, FUN!

ARRL Field Day is the single most popular on-the-air event held annually in the US and Canada. On the fourth weekend of June of each year, more than 35,000 radio amateurs gather with their clubs, groups or simply with friends to operate from remote locations.

It is a time when many aspects of Amateur Radio come together to highlight our many roles. While some will treat it as a contest, other groups use the opportunity to practice their emergency response capabilities. It is an excellent opportunity to demonstrate Amateur Radio to the organizations that Amateur Radio might serve in an emergency, as well as to the general public. For many clubs, ARRL Field Day is one of the highlights of their annual calendar.

The contest part simply involves contacting as many other stations as possible while learning to operate our radio gear in abnormal situations and less than optimal conditions.

We use these same skills when we help with events such as marathons and bike-a-thons; fund-raisers such as walk-a-thons; celebrations such as parades; and exhibits at fairs, malls and museums—these are all large, preplanned, non-emergency activities.

But despite the development of very complex, modern communications systems—or maybe because they ARE so complex—ham radio has been called into action again and again to provide communications in crises when it really matters. Amateur Radio operators (also called "hams") are well known for our communications support in real disaster and post-disaster situations.

What is the ARRL?

With more than 160,000 members, the ARRL is the national association for Amateur Radio in the USA. ARRL is the primary source of information about what is going on in ham radio. It provides books, news, support and information for individuals and clubs, special events, continuing education classes and other benefits for its members.

What is Amateur Radio?

Often called "ham radio," the Amateur Radio Service is a worldwide community of licensed operators using the airwaves with every conceivable means of communications technology. It is made up of people who enjoy learning and being able to transmit voice, data and pictures through the air to places both near and far without depending on commercial systems.

The Amateur Radio frequencies are the last remaining place in the usable radio spectrum where you as an individual can develop and experiment with wireless communications. Hams not only can build and modify their equipment, but we create whole new ways to communicate via the airwaves.



The National Association for
ARRL Amateur Radio®

arrl.org/FieldDay

CW Abbreviations

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

A	M	Y
B	N	Z
C	O	1
D	P	2
E	Q	3
F	R	4
G	S	5
H	T	6
I	U	7
J	V	8
K	W	9
L	X	0

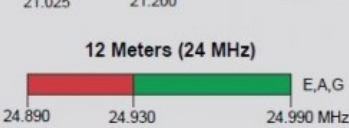
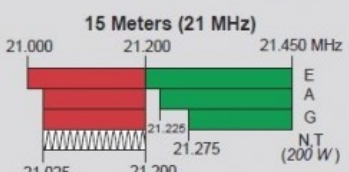
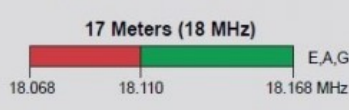
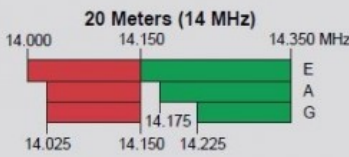
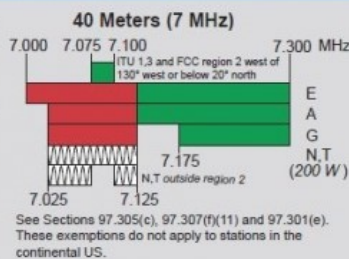
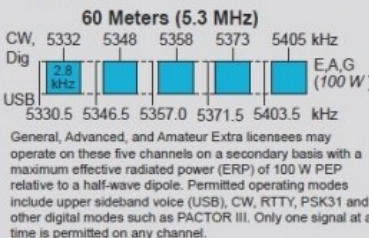
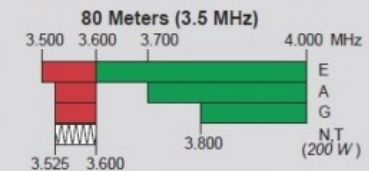
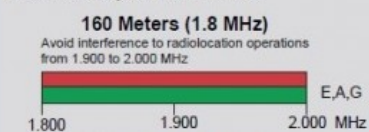
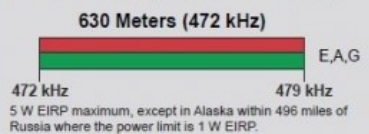
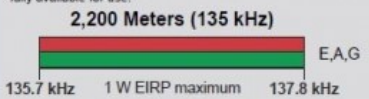


US Amateur Radio Bands

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.

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.



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



ARRL The national association for AMATEUR RADIO

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
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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: newham@arrl.org

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

NETS

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



UPCOMING EVENTS

Next ARAC Board Meeting

Tuesday, June 7, 2022

@ 6:30 p.m.

Sammy's Pizza - Spirit Valley

Next ARAC Club Meeting

Thursday, June 9th

7 p.m.

Coppertop Church!

Program:

All the latest key updates
on Grandma's Marathon

Doug Nelson

AA0AW



June 25 & 26



A Must-See Program
for All Grandma's Marathon
Volunteers!



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for an
Amateur Radio License
TESTING SESSION?

No need to wait for a class!

**Schedule your own
Testing Session TODAY!**

Contact Doug Nelson-AA0AW at
aa0aw@arrl.net or 218-391-5874



DULUTH AREA REPEATERS

ARAC System WØGPK

Frequency	Offset	Tone	Location
146.940	minus	103.5	Duluth
146.940	minus1	107.2	Lakeside (recv)
146.940	minus	151.4	Two Harbors (recv)
146.940	minus	100.0	Gary-New Duluth (recv)
146.940	minus	110.9	Cloquet (recv)
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)
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LSAC System #1

147.330	plus	151.4	Proctor
147.330	plus	103.5	Duluth (recv for Proctor)
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

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

Stand Alone Repeaters

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

Fusion

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

147.15Ø	plus	151.4	NTØB Gilbert, MN Fusion Repeater
145.17Ø	minus	11Ø.9	WA9KLM Superior – Douglas County RACES/ARES Fusion Repeater (Digital only) Fusion Room 28373
443.1ØØ	+5.ØØ	1Ø3.5	KBØYHX Cloquet - Carlton County RACES/ARES Fusion Repeater

Fusion continued

444.3ØØ	+5.ØØ	1Ø3.5	NØEO Spirit Valley Amateurs Fusion Repeater WIRES-X NØEO (Analog only) Fusion Room 40494
444.3ØØ	+5.ØØ	1Ø3.5	NØEO Spirit Valley Amateurs Fusion Repeater WIRES-X NØEO (Analog only) Fusion Room 40494
444.400	+5.00	103.5	NAØRC Knife River, MN – Wires X Connected to NØEO Room 40494
444.500	+5.00	103.5	NØLCR Two Harbors, MN– Wires X Connected to NØEO Room 40494
444.600	+5.00	103.5	NØLCR Silver Bay, MN – Wires X Connected to NØEO Room 40494

D Star

147.375	plus	NØEO D Star
442.200	plus	NØEO D Star

Revised by KCØWDQ on 4/29/2022 for The ARAC Relay

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-mør / [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.

Name	Call Sign	Expertise
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...

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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,



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

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

JUNE

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	2	3	4
			2100 -BWAR			
5	6	7	8	9	10	11
DC ARES/ RACES Mtg 1900 DC EOC CW 1930 NØPDG USB 2000 K9KDK ES 2100 N9DMG	ARAC BOARD MEETING Sammy's Pizza 6:30 pm DC Net 2000 CC Net 2030	Lake County ARES/RACES Meeting 1800 Lake County Net 1900 2100 -BWAR	ARAC Club Meeting Coppertop Church 7:00 PM			
12	13	14	15	16	17	18
CW 1930 AAØAW USB 2000 NØVRM ES 2100 AAØAW	St Louis County ARES/RACES Meeting 1800 DC Net 2000 CC Net 2030 2100 -BWAR					
19	20	21	22	23	24	25
Happy Father's Day! CW 1930 NØPDG USB 2000 AAØAW ES 2100 KCØWDQ	Carlton County ARES/RACES Meeting 1900 CC EOC	ARAC Club Breakfast The Chalet 4833 Miller Trunk Hwy Hermantown, MN 8 am	Lake County Net 1900 2100 -BWAR			
26	27	28	29	30		
CW 1930 AAØAW USB 2000 AAØAW ES 2100 WØNW	DC Net 2000 CC Net 2030 2100 -BWAR					

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

Next Meeting: Thursday,
June 9th, 2022 - 7 pm
at the Coppertop Church!

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.

FOR SALE

FOR SALE by KOGX

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4. ICOM IC-706	Mobile Transceiver 2 Meter/HF 10-160m 100w	\$475.00
5. ICOM IC-735	HF Transceiver	\$375.00
6. ICOM IC-2340H	Dual Band Mobile Transceiver UHF/VHF	\$150.00
7. ICOM IC-718	HF Transceiver 10-160m 100w	\$475.00
8. ICOM IC-7200	HF/VHF/UHF Transceiver 6-160m 2m 70cm	\$525.00
9. ICOM IC-751	HF Transceiver 10-160m 100w	\$475.00
10. DRAKE TR-4C	HF Transceiver	\$375.00
11. ALINCO DX-70	HF Mobile Transceiver 10-160m + 6m	\$350.00
12. KENWOOD TS-430S	HF Transceiver 10-160m 100w	\$325.00
13. BIRD 4300-400	Peak Reading Kit for BIRD 43	\$55.00
14. YASEU MD-100	Desk Microphone	\$95.00
15. MFJ-9020	20M QRP CW Transmitter	\$99.00

List Your **FOR SALE** items in the next ARAC Relay! Submit photos and descriptions to ke0nqs.mn@gmail.com

Field Day, continued from page 1

over the years, and on February 9th of this year, the ARRL sent out this press release regarding new rule changes for **ARRL Field Day 2022**:

“After taking a few detours over the past couple of years due to the COVID-19 pandemic, ARRL Field Day rules are being updated on a permanent basis starting this summer. ARRL conducted a Field Day community survey with invitations propagated far and wide, and direct emails sent to more than 15,000 individuals and ARRL-affiliated clubs. After sorting through, reviewing, and discussing the survey results, the ARRL Programs and Services Committee recommended a number of rule changes for ARRL Field Day, which will take place this year over the June 25 – 26 weekend.

“Starting this year, the maximum PEP output for a transmitter used by anyone submitting a Field Day log will be 100 W. The power multiplier of 2 will remain in place, and the high-power category will be removed from the rules. Until this year, the maximum low-power limit had been 150 W for most ARRL-sponsored operating events. The power multiplier will remain at 5 for QRP participants running a maximum of 5 W or less. As previously announced, **100 W is now the low-power category limit for all ARRL and IARU HF Contests, effective January 1, 2022.**

“A couple of changes instituted initially as accommodations for the COVID-19 pandemic will remain. **Class D (Home) stations will continue to be able to earn points for contacts with other Class D stations.** The club aggregate scoring change initiated in 2020 as a temporary measure will become part of the permanent rules. In the aggregate scoring plan, the scores of individual stations are combined under the score of a single club.

Continued on Page 18



New England Sci-Tech
shares photos of past Field Days
on their website at
<https://nescitech.org>

New England Sci-Tech is a non-profit STEM+ education center and makerspace in Natick, MA dedicated to project-based, hands-on learning for youth and families across the New England community.



Field Day, continued from page 17

ARRL goes on to say, “Another change, involving **Rule 7.3.2 Media Publicity, has been modified**. Rules to date have offered 100 bonus points for attempting to obtain publicity and demonstrating same. With the ease of posting via Facebook, Twitter, Instagram, and various other media websites, **Field Day participants will now be required to obtain publicity, not just try to do so. Any combination of bona fide media hits would qualify for the bonus points.** For example, posting the details of your upcoming or ongoing Field Day activity, or your Field Day results, on a club or news media site, on Facebook, or via Twitter and Instagram would meet the bonus criteria. Photos and videos are encouraged as part of media posts.”

Social media being part of Field Day scoring certainly reflects the modern context of our hobby. Though aspects of the hobby have changed, amateur radio remains a vital service of emergency readiness for public safety. ARRL says, “Despite the development of very complex, modern communications systems — or maybe because they ARE so complex — ham radio has been called into action again and again to provide communications in crises when it really matters. Amateur Radio operators are well known for our communications support in real disaster and post-disaster situations.”

So Field Day has come a long way since 1933, when ARRL’s Communications Manager Francis Edward Handy W1BDI called for an experimental contest event. In the June 1933 issue of QST Magazine, which was distributed in May, he announced, “Clubs, 56-mc. Operators, all hams with licenses for portable stations, attention!! All U.S.A. and Canadian station owner are invited to schedule ‘field activities’, excursions with concentrated operation of portable transmitters and receivers. Only portable stations, actually in the field, away from the ‘home’ address are eligible to submit field day scores.

“The object will be for each ‘portable’ station to work as many other amateur stations as possible—each to count one point toward a score. Any or all amateur frequency bands may be used, voice or c.w. telegraph likewise.”

“All amateurs with licensed portable stations are invited to take part. Each such station will please report its power and frequency band used, and its log of operation and score for the period given, within the week following Field Day.”

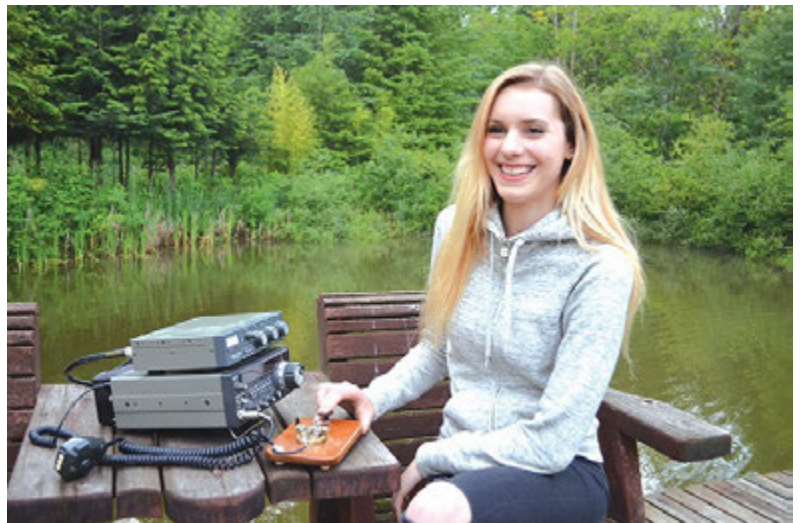
Additional scoring was explained. A credit would be given of 2 points for each contact with another portable station and 3 points for “two-way work with a foreign station. In addition, to which each foreign country prefix may be added to the number of Sections to increase the multiplier.

Handy expressed his hope for this contest to be the beginning of a tradition by saying, “Besides offering an opportunity to get out in the open in this fine spring weather, the real object of this contest is to test ‘portables’ wherever they may be available. If successful, we want to make it an annual affair.”

It **was** successful. With little advance notice of his event until amateur radio enthusiasts received the June QST issue in late May of 1933, news of the upcoming contest was re-

layed excitedly throughout the world and garnered thousands of participants. The September 1933 edition of QST published the First Annual Field Day winner as W4PAW, a non-club group in Florida. The group made 62 QSOs and had a multiplier of 28 sections/countries for a total of 1876 points. Field Day was firmly established as an annual tradition among radio amateurs that endures to this day.

We hope you have a chance to attend **ARAC Field Day on June 25&26** at Spirit Mountain’s Lot C. Whether you are a new ham or a seasoned ham, it’s a great way to get together and share our hobby. It’s also a good way to show our hobby to family and friends. Bring your tent, camper or RV and stay overnight if you’d like, or swing in one or both of the days even if you’re not into contesting. It’s really fun to watch your fellow hams in action and show your support! ★



A young Ham at Field Day in Courtenay, British Columbia, Canada



Contest Calendar - June 2022

+ Phone Weekly Test	0230Z-0300Z, Jun 1
+ A1Club AWT	1200Z-1300Z, Jun 1
+ CWops Test	1300Z-1400Z, Jun 1
+ Mini-Test 40	1700Z-1759Z, Jun 1
+ VHF-UHF FT8 Activity Contest	1700Z-2000Z, Jun 1
+ Mini-Test 80	1800Z-1859Z, Jun 1
+ CWops Test	1900Z-2000Z, Jun 1
+ Walk for the Bacon QRP Contest	0000Z-0100Z, Jun 2 and 0200Z-0300Z, Jun 3
+ CWops Test	0300Z-0400Z, Jun 2
+ CWops Test	0700Z-0800Z, Jun 2
+ RTTYOPS Weeksprint	1700Z-1900Z, Jun 2 1700Z-1800Z, Jun 2 (CW) and 1800Z-1900Z, Jun 2 (SSB) and 1900Z-2000Z, Jun 2 (FM) and 2000Z-2100Z, Jun 2 (Dig)
+ NRAU 10m Activity Contest	1900Z-2000Z, Jun 2
+ EACW Meeting	1900Z-2100Z, Jun 2
+ SKCC Sprint Europe	0000Z, Jun 3 to 2359Z, Jun 5
+ PODXS 070 Club Three Day Weekend Contest	0001Z, Jun 3 to 2359Z, Jun 5
+ FISTS Royal Platinum Jubilee Weekend Celebration	0145Z-0215Z, Jun 3
+ NCCC RTTY Sprint	0230Z-0300Z, Jun 3
+ NCCC Sprint	1900Z-1929Z, Jun 3 (40m) and 1930Z-1959Z, Jun 3 (80m)
+ HA3NS Sprint Memorial Contest	2000Z-2100Z, Jun 3
+ K1USN Slow Speed Test	0000Z-2359Z, Jun 4
+ PRG CQ Pride Contest	0000Z-2359Z, Jun 4
+ Tisza Cup CW Contest	0000Z-0159Z, Jun 4 and 0000Z-0159Z, Jun 5
+ PVRC Reunion	

Continued on Page 20



Contest Calendar - June 2022, Continued

+ 10-10 Int. Open Season PSK Contest	0000Z, Jun 4 to 2400Z, Jun 5
+ DigiFest	Cancelled for 2022
+ KANHAM Contest	0600Z, Jun 4 to 0600Z, Jun 5
	0600Z-0629Z, Jun 4 and
	0630Z-0659Z, Jun 4 and
	0700Z-0729Z, Jun 4 and
+ Wake-Up! QRP Sprint	0730Z-0800Z, Jun 4
	1300Z, June 4 to 0100Z, Jun 5
+ Kentucky QSO Party	1300Z, Jun 4 to 1300Z, Jun 5
+ UKSMG Summer Contest	1500Z, Jun 4 to 1500Z, Jun 5
+ RSGB National Field Day	1500Z, Jun 4 to 1459Z, Jun 5
+ IARU Region 1 Field Day, CW	1800Z, Jun 4 to 2400Z, Jun 5
+ ARRL Inter. Digital Contest	0000Z-0100Z, Jun 6
+ K1USN Slow Speed Test	1300Z-1400Z, Jun 6
+ ICWC Medium Speed Test	1630Z-1729Z, Jun 6
+ OK1WC Memorial	1900Z-2000Z, Jun 6
+ ICWC Medium Speed Test	1900Z-2030Z, Jun 6
+ RSGB 80m Club Championship, Data	0100Z-0159Z, Jun 7
+ Worldwide Sideband Activity Contest	0100Z-0300Z, Jun 7
+ ARS Spartan Sprint	0300Z-0400Z, Jun 7
+ ICWC Medium Speed Test	1700Z-1900Z, Jun 7
+ RTTYOPS Weeksprint	0030Z-0230Z, Jun 8
+ NAQCC CW Sprint	0230Z-0300Z, Jun 8
+ Phone Weekly Test	1200Z-1300Z, Jun 8
+ A1Club AWT	1300Z-1400Z, Jun 8
+ CWops Test	1700Z-1759Z, Jun 8
+ Mini-Test 40	1700Z-2000Z, Jun 8
+ VHF-UHF FT8 Activity Contest	1800Z-1859Z, Jun 8
+ Mini-Test 80	1900Z-2000Z, Jun 8
+ CWops Test	

Continued on Page 21



Contest Calendar - June 2022, Continued

+ CWops Test	0300Z-0400Z, Jun 9
+ CWops Test	0700Z-0800Z, Jun 9
+ RTTYOPS Weeksprint	1700Z-1900Z, Jun 9
+ EACW Meeting	1900Z-2000Z, Jun 9
+ NCCC RTTY Sprint	0145Z-0215Z, Jun 10
+ NCCC Sprint	0230Z-0300Z, Jun 10
+ K1USN Slow Speed Test	2000Z-2100Z, Jun 10
+ DRCG WW RTTY Contest	0000Z-0759Z, Jun 11 and 1600Z-2359Z, Jun 11 and 0800Z-1559Z, Jun 12
+ VK Shires Contest	0000Z-2359Z, Jun 11
+ Asia-Pacific Sprint, SSB	1100Z-1300Z, Jun 11
+ Portugal Day Contest	1200Z, Jun 11 to 1200Z, Jun 12
+ SKCC Weekend Sprintathon	1200Z, Jun 11 to 2400Z, Jun 12
+ AGCW VHF/UHF Contest	1400Z-1700Z, Jun 11 (144) and 1700Z-1800Z, Jun 11 (432)
+ GACW WWSA CW DX Contest	1500Z, Jun 11 to 1500Z, Jun 12
+ REF DDFM 6m Contest	1600Z, Jun 11 to 1600Z, Jun 12
+ ARRL June VHF Contest	1800Z, Jun 11 to 0259Z, Jun 13
+ Cookie Crumble QRP Contest	1700Z-2200Z, Jun 12
+ K1USN Slow Speed Test	0000Z-0100Z, Jun 13
+ 4 States QRP Group Second Sunday Sprint	0000Z-0200Z, Jun 13
+ ICWC Medium Speed Test	1300Z-1400Z, Jun 13
+ OK1WC Memorial	1630Z-1729Z, Jun 13
+ ICWC Medium Speed Test	1900Z-2000Z, Jun 13
+ Worldwide Sideband Activity Contest	0100Z-0159Z, Jun 14
+ ICWC Medium Speed Test	0300Z-0400Z, Jun 14
+ RTTYOPS Weeksprint	1700Z-1900Z, Jun 14

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Contest Calendar - June 2022, Continued

+ NAQCC CW Sprint	0030Z-0230Z, Jun 15
+ Phone Weekly Test	0230Z-0300Z, Jun 15
+ A1Club AWT	1200Z-1300Z, Jun 15
+ CWops Test	1300Z-1400Z, Jun 15
+ Mini-Test 40	1700Z-1759Z, Jun 15
+ VHF-UHF FT8 Activity Contest	1700Z-2000Z, Jun 15
+ Mini-Test 80	1800Z-1859Z, Jun 15
+ CWops Test	1900Z-2000Z, Jun 15
+ RSGB 80m Club Championship, CW	1900Z-2030Z, Jun 15
+ Walk for the Bacon QRP Contest	0000Z-0100Z, Jun 16 and 0200Z-0300Z, Jun 17
+ CWops Test	0300Z-0400Z, Jun 16
+ CWops Test	0700Z-0800Z, Jun 16
+ SARL Youth Sprint	1200Z-1300Z, Jun 16
+ RTTYOPS Weeksprint	1700Z-1900Z, Jun 16
+ NTC QSO Party	1900Z-2000Z, Jun 16
+ EACW Meeting	1900Z-2000Z, Jun 16
+ NCCC RTTY Sprint	0145Z-0215Z, Jun 17
+ NCCC Sprint	0230Z-0300Z, Jun 17
+ K1USN Slow Speed Test	2000Z-2100Z, Jun 17
+ SMIRK Contest	0000Z, Jun 18 to 2359Z, Jun 19
+ All Asian DX Contest, CW	0000Z, Jun 18 to 2400Z, Jun 19
+ Battle of Carabobo International Contest	0000Z-2400Z, Jun 18
+ Ukrainian DX Classic RTTY Contest	1200Z, Jun 18 to 1159Z, Jun 19
+ IARU Region 1 50 MHz Contest	1400Z, Jun 18 to 1400Z, Jun 19
+ Stew Perry Topband Challenge	1500Z, Jun 18 to 1500Z, Jun 19
+ West Virginia QSO Party	1600Z, Jun 18 to 0400Z, Jun 19
+ Feld Hell Sprint	1800Z-1959Z, Jun 18
+ ARRL Kids Day	1800Z-2359Z, Jun 18

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Contest Calendar - June 2022, Continued

+ WAB 50 MHz Phone	0800Z-1400Z, Jun 19
+ Run for the Bacon QRP Contest	2300Z, Jun 19 to 0100Z, Jun 20
+ K1USN Slow Speed Test	0000Z-0100Z, Jun 20
+ ICWC Medium Speed Test	1300Z-1400Z, Jun 20
+ OK1WC Memorial	1630Z-1729Z, Jun 20
+ ICWC Medium Speed Test	1900Z-2000Z, Jun 20
+ Worldwide Sideband Activity Contest	0100Z-0159Z, Jun 21
+ ICWC Medium Speed Test	0300Z-0400Z, Jun 21
+ RTTYOPS Weeksprint	1700Z-1900Z, Jun 21
+ SKCC Sprint	0000Z-0200Z, Jun 22
+ Phone Weekly Test	0230Z-0300Z, Jun 22
+ A1Club AWT	1200Z-1300Z, Jun 22
+ CWops Test	1300Z-1400Z, Jun 22
+ Mini-Test 40	1700Z-1759Z, Jun 22
+ Mini-Test 80	1800Z-1859Z, Jun 22
+ CWops Test	1900Z-2000Z, Jun 22
+ CWops Test	0300Z-0400Z, Jun 23
+ CWops Test	0700Z-0800Z, Jun 23
+ RTTYOPS Weeksprint	1700Z-1900Z, Jun 23
+ RSGB 80m Club Championship, SSB	1900Z-2030Z, Jun 23
+ EACW Meeting	1900Z-2000Z, Jun 23
+ QRP Fox Hunt	0100Z-0230Z, Jun 24
+ NCCC RTTY Sprint	0145Z-0215Z, Jun 24
+ NCCC Sprint	0230Z-0300Z, Jun 24
+ K1USN Slow Speed Test	2000Z-2100Z, Jun 24
+ Pajajaran Bogor DX Contest	0000Z-2359Z, Jun 25
+ UFT QRP Contest	0600Z-0900Z, Jun 25 and 1400Z-1700Z, Jun 25
+ Ukrainian DX DIGI Contest	1200Z, Jun 25 to 1200Z, Jun 26
+ His Maj. King of Spain Contest, SSB	1200Z, Jun 25 to 1200Z, Jun 26

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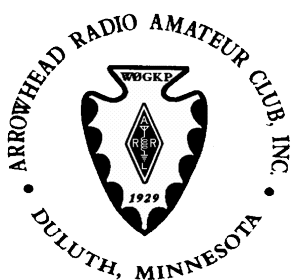


Contest Calendar - June 2022, Continued

+ ARRL Field Day	1800Z, Jun 25 to 2100Z, Jun 26
+ K1USN Slow Speed Test	0000Z-0100Z, Jun 27
+ ICWC Medium Speed Test	1300Z-1400Z, Jun 27
+ QCX Challenge	1300Z-1400Z, Jun 27
+ OK1WC Memorial	1630Z-1729Z, Jun 27
+ RSGB FT4 Contest	1900Z-2030Z, Jun 27
+ ICWC Medium Speed Test	1900Z-2000Z, Jun 27
+ QCX Challenge	1900Z-2000Z, Jun 27
+ Worldwide Sideband Activity Contest	0100Z-0159Z, Jun 28
+ ICWC Medium Speed Test	0300Z-0400Z, Jun 28
+ QCX Challenge	0300Z-0400Z, Jun 28
+ RTTYOPS Weeksprint	1700Z-1900Z, Jun 28
+ Phone Weekly Test	0230Z-0300Z, Jun 29
+ A1Club AWT	1200Z-1300Z, Jun 29
+ CWops Test	1300Z-1400Z, Jun 29
+ Mini-Test 40	1700Z-1759Z, Jun 29
+ Mini-Test 80	1800Z-1859Z, Jun 29
+ CWops Test	1900Z-2000Z, Jun 29
+ CWops Test	0300Z-0400Z, Jun 30
+ CWops Test	0700Z-0800Z, Jun 30
+ RTTYOPS Weeksprint	1700Z-1900Z, Jun 30
+ EACW Meeting	1900Z-2000Z, Jun 30

Our thanks to [Bruce Horn, WA7BNM](#) for use of this calendar! Visit Bruce at www.contestcalendar.com/contestcal.html

The ARAC RELAY



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