MARC Beacon

Volume 11, Issue 3 **The Morongo Basin Amateur Radio Club Newsletter** **MARCH 2022**

Hello Radio Operators!

Judy and I went to the Yuma Hamfest 18-19 February and we had a good time. It wasn't as big as we thought it would be but it was great to participate in a large public event again with lots of ham radio operators.

I really want to learn Morse Code, so I am building a compact Morse Code project using an Arduino Nano, so I can practice learning the code. It requires a 5−12 volt power source, like a 9 volt battery. You can adjust the volume, tone/pitch, words per minute, and character pause. You can save and playback a short message like your callsign. You can use the tiny buttons to enter dots and dashes, or you can connect you own straight key or paddle to it. It will convert character to code, and code to character. It will NOT listen to external Morse Code and convert it to characters. If you are interested, or have any recommendations, then please contact me.

Daylight saving time starts at 0200 Sunday 13 March, so make sure you move the big hand forward one hour.

Our next in person MARC meeting will be on St. Patrick's Day, 1800 Thursday 17 March 2022 at the Church of the Nazarene, 56248 Buena Vista Drive, Yucca Valley. Make sure you wear something green! If you have an announcement or presentation for the club, then please contact me so I can add it to the agenda.

Please schedule time to check in on the 7 PM Tuesday net, and if you can, please join us on the "Cawfee Tawk" net every morning at 10 AM.

Take care of yourself and enjoy each day. If you're not having fun, then you're doing something wrong.

Rob Cloutier
WO4ROB
Joshua tree
Club President
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Nets

Amateur Radio Emergency Service (ARES)
Mon @ 1915
Morongo Basin Amateur Radio Club (MARC)
Tue @ 1900
MARC Daily informal Kawfee Talk
1000-1100 DAILY

Social Media,

Club web page: http://www.w6ba.net

Facebook:
https://www.facebook.com/MorongoBasinAmateurRadioClub

Club Meeting

Every 3rd Thursday of the month at 6 PM. At the church of the Nazarene in Yucca Valley at 56248 Buena Vista Dr

Linked Repeaters

Yucca Valley, W6BA
146.790 MHz (- shift = 146.190 MHz) 136.5 Hz PL/CTCSS

Twentynine Palms, W6BA
147.060 MHz (+ shift = 147.660 MHz) 136.5 Hz PL/CTCSS

Landers, WB6CDF
447.580 MHz (- shift = 442.580 MHz) 173.8 Hz PL/CTCSS

OTHER AREA REPEATERS

IRLP Node KD6DIQ 145.770 pl 67.0
~~**ONYX Peak N6LXX 446.880 (-) pl 110.9**~~
San Jacinto TRAM one 145.480 (-) pl 107.2
~~**Snow Peak 445.160 (-) pl 67.0**~~

ALLSTAR NODE on the mesa 147.705 pl 146.2
ALLSTAR NODE in Y.V. 446.120 pl 131.8
29 PALMS rptr linked to KELLER peak
448.580 pl 146.2

WEATHER UNDERGROUND

The weather station on Paxton Hill at the W6BA repeater site is working great. It will show accurate wind speed and direction measurements for the top of the mountain .

https://www.wunderground.com/personal-weather-station/dashboard?ID=KCAYUCCA57

Glenn N6GIW

KEN HENDRICKSON, W6BZY

Some helpful you tube videos from Ken W6BZY about Linux and raspberry Pi.

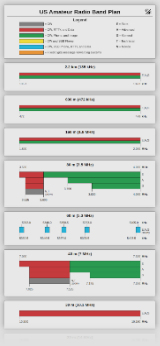
Search W6BZY on YouTube.

US Amateur Radio Band Chart

http://ham.band

- Easy to remember link
- Easy to use on desktop or mobile
- Light-mode/Dark-mode switchable
- Familiar layout

Send feature requests to Aaron@KM6IAU.net



OUR CLUB MEETING!!!!

IN THE MONTH OF MARCH, OUR LOCAL CLUB MEETING WILL BE :

6:00 P.M. MARCH 17TH

At Church of the Nazarene in Yucca Valley at 56248 Buena Vista Dr.

NEW CLUB FACEBOOK GROUP FOR THE MARC CLUB

I have created a Facebook "Group" for the Club. We currently have a FB "Page" which only allows Admins and Moderators to post directly on the Posts section.

Here is the link to the new "Group" - so if you are on Facebook, please click on this link and LIKE our new Group.

https://www.facebook.com/groups/577155023327981

The new Group will be must more user friendly. Feedback is most welcome. Thanks, Judy, N6JLL

THANK YOU JUDY N6JLL

Membership Dues

We are doing our club dues round up at the beginning of the year.

If you're not sure if your dues are up to date, please check with Glenn N6GIW and he can let you know if they are due or when they are due.

Not everyone is due at the same time of the year

Our next **QSO Today Virtua Ham Expo** will be held live from March 12**-13**, and then on-demand for 30 days afterwards. We promise an amazing learning and networking experience to help you improve your amateur radio knowledge and get exposed to new ideas, equipment, and practical techniques. No need to travel - participate from your home or office! Information can be found at https://www.qsotodayhamexpo.com.

Here are 5 reasons why you must attend:

Listen, engage with 60+ internationally recognized ham radio luminaries. Our speakers are experts and deeply know their material. Most importantly, they've worked hard to make sure that you'll understand the material and can apply it immediately to your projects.

So, so many different topics - everybody will find something of high value. There's content for everyone whether a newly licensed ham looking for next steps to using that license or a 30+ year experienced ham looking for new projects. Some of the more interesting presentations include: *Core HF Communication Concepts: Fundamentals of Shortwave Propagation; Deep Dive of An FPGA DVB-S2 Implementation; Fun With The NanoVNA; and Helically Wound Vertical for 160M.*

Click Here for Presentation List

Watch as many presentations as you want! A big limitation of in-person events is that you can't watch many of the presentations (you can only be in one room at a time). At the Expo, return anytime within 30 days to view any speakers and presentations you missed as well as explore exhibitor offerings.

Check out our live Kumospace video lounges for attendees to interact with each other and exhibitors. At the Expo we'll debut exciting but proven technology to further improve the live video interaction experience with exhibitors and fellow operators. You'll find this is a great way to meet up with friends, talk to vendors, and network on specific subject areas.

Take advantage of our calendar technology to efficiently organize your time. Once our presentations are scheduled, you can download speaker times in your local time zone directly to your Google or Outlook calendar. You'll then have a complete schedule of sessions to join to maximize your time during the Live period with speakers that are the most important.

ARRL, the national association for Amateur Radio®, is a QSO Today Virtual Ham Expo Partner. FlexRadio is the Expo's Platinum Sponsor, Elecraft is our Gold sponsor as of this time.

Early Bird Tickets will go on sale February 1st, 2022, and are just $10 (through March 6) and then $13.50 to the end of the on-demand period. Tickets include entry for the Live 2 day period and the 30 day on-demand period. Save on gas, lodging, and transit time to attend the QSO Today Virtual Ham Expo on March 12th and 13th. For more information, go to https://www.qsotodayhamexpo.com, or click on the blue button below.

Save the dates: March 12**-13, 2022 on your calendar!**

"New Sunspot Groups Appeared on February 17, 19, 20 and 21"

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New sunspot groups appeared on February 17, 19, 20 and 21, but solar activity declined, even though sunspots were seen covering the sun every day.

Average daily sunspot number declined 21 points from 75.3 last week to 54.3 in the current reporting week, February 17-23. Average daily solar flux was down nearly 15 points from 110.1 to 95.4. On Thursday, February 24 the decline in sunspot numbers continued to 23, 31.3 points below the average in the previous seven days.

Average daily planetary A index went from 13 to 9.6, and average daily middle latitude A index was off by one point to 7.3.

Predicted solar flux is:

95 on February 25, **100** on February 26-27,
105 on February 28 through March 2,
110 on March 3-4, **108** on March 5-8,
105 on March 9-11, **103** on March 12-13,
100 on March 14, **98** on March 15-16,
102 on March 17-19, **104** on March 20-22,
108 on March 23-26, **110** on March 27,
115 on March 28-29, **112** & **110** on March 30-31, then 108 on April 1-4.

Predicted planetary A index is:

5 and **10** on February 25-26,
8 on February 27 through March 3,
10 on March 4-5, **8** on March 6, **5** on March 7-10, **15, 12** & **10** on March 11-13,
5 on March 14-18, then **8, 5, 12, 18, 15** and **10** on March 19-24, **5** on March 25-29,
then 1**2, 15, 10** & **8** on March 30 through April 2, and **5** on April 3-6.

Weekly Commentary on the Sun, the Magnetosphere, and the Earth's Ionosphere, February 24, 2022 from OK1HH.

"Solar activity gradually declined to very low levels with a slight chance of Class C flares. The solar wind speed and particle density fluctuate irregularly. The geomagnetic field was quiet to minor storm levels. Total solar radiation, accompanied by an irregular occurrence of enhanced geomagnetic activity caused a subsequent gradual decrease to overall below-average shortwave propagation conditions. A slight improvement can be expected in connection with seasonal changes with the approaching Spring Equinox."

I regularly check propagation on 10-meters using FT8, low power, and a modest full wave end fed wire antenna that is mostly indoors on the second floor of my home.

Sometimes I will see my coverage on pskreporter.info/pskmap.html concentrated in an area 2000-2300 miles away in Georgia and South Carolina, which is what I saw on February 24 around 1830 UTC. 24 hours earlier I saw only two reception reports, none in the USA, with one station down in central Mexico and the other way down in Southern Argentina around 53 degrees south latitude. Very odd, but this being 10-meters, soon the coverage changed and I saw coverage across the East Coast.

Using this same modest antenna on 40 meters, where it is one quarter wave long, at 0330 UTC on February 25 I see coverage all over the United States, but only one station reporting my signal in Europe, at -17 dB from IZ1CRR in JN35td.

On IZ1CRR's QRZ.com page he says he is a shortwave listener, and not to call him on FT8 as he is listening only.

Even if you are not an FT8 operator, you could use pskreporter.info to discover propagation paths on different bands from your local area by searching for signals received from your grid square over the previous 15 minutes. This assumes there are other stations in your grid square active at the time.

In grid square CN87 in my area, there seem to be active local stations on at all times on every band. You should probably look for stronger signals with positive signal levels if you plan to use CW or SSB.

FCC: Amateur Service Licensees May Not Use Their Radios to Commit Criminal Acts

The FCC Enforcement Bureau has re-issued its earlier Enforcement Advisory that licensees in the Amateur Radio Service and licensees and operators in the Personal Radio Services are prohibited from using radios in those services to commit or facilitate criminal acts.

"The Bureau recognizes that these services can be used for a wide range of permitted and socially beneficial purposes, including emergency communications and speech that is protected under the First Amendment of the US Constitution," the FCC said. "Amateur and Personal Radio Services, however, may not be used to commit or facilitate crimes."

As it did in advisories in 2021, the Enforcement Bureau is reminding amateur licensees that they may not transmit, "communications intended to facilitate a criminal act" or "messages encoded for the purpose of obscuring their meaning."

"Likewise, individuals operating radios in the Personal Radio Services, a category that includes Citizens Band radios, Family Radio Service walkie-talkies, and General Mobile Radio Service, are prohibited from using those radios "in connection with any activity which is against Federal, State, or local law.

"Individuals using radios in the Amateur or Personal Radio Services in this manner may be subject to severe penalties, including significant fines, seizure of the offending equipment, and, in some cases, criminal prosecution.

"To report a crime, contact your local law enforcement office or the FBI, the FCC said.

Amateur Radio in Ukraine Ordered Off the Air in State of Emergency

A state of emergency was declared in Ukraine just prior to the Russian military invasion. Among other things, the February 24 decree from President Volodymyr Zelensky will remain in effect at least for 30 days and may be extended. As published on the website of the Verkhovna Rada, Ukraine's unicameral legislative body, the state of emergency includes regulation of TV and radio activities and "a ban on the operation amateur radio transmitters for personal and collective use."

The decree also imposes a ban on mass events and on strikes and authorizes checking the documents of citizens, and if necessary, conducting searches on persons, vehicles, cargo, office space, and housing. A curfew could be imposed. "The situation changes rapidly," IARU Region 1 Secretary Mats Espling, SM6EAN, said. "IARU Region 1 continues to monitor the development and expect all radio amateurs to follow their national laws and regulations."

Cutting-Edge Technology on Display at HamCation 2022

While many ham radio show visitors come for the flea market and a chance to chat with the various vendors, at least a few come to display new technology of the sort that will become mainstream in the amateur radio community going forward. Michelle Thompson, W5NYV, the CEO of Open Research Institute (ORI) attended Orlando HamCation -- also the 2022 ARRL National Convention on February 10 - 13 -- to promote the breadth of projects from ORI. She says the door is always open for additional participants.

Visitors to the ORI booth were treated to an update on ORI's successful DVB-S2X digital satellite television standard modem work and progress on the end-to-end demonstration of the entire satellite transponder chain. "At Open Research Institute, it doesn't work until it works over the air," Thompson told ARRL. "The Phase 4 Digital Multiplexing Transceiver [satellite] project is on budget, on track, and highly likely to succeed. The return on investment is high." She notes that the team continues to work toward innovating, publishing, and enabling high-tech space and terrestrial amateur radio work.

The M17 Project booth right next to ORI's represented "the future of amateur radio," Thompson said. M17 is developing a new digital amateur radio protocol for data and voice. "Ed Wilson, N2XDD, and Steve Miller, KC1AWV, from M17 brought working hardware, firmware updates, and also demonstrated several different software implementations throughout the weekend," she said. "M17 held their weekly net on Friday live from the booth, gave away stickers, magnets, and pins, and captured the hearts of all who visited."

AmbaSat-1 "re-spin" was another frequent topic of conversation, Thompson. The project is a crowd-sourced Low Earth Orbit (LEO) satellite program.

AmbaSat-1 is a tiny space satellite kit that you assemble and code yourself. "The five AmbaSat boards from ORI, which operate at 70 centimeters, have been distributed to the firmware team, and they have begun development and are seeing success in university and hobbyist labs," she reported. "The goal is to create a compelling application, put the hardware on a sounding rocket, apply for a launch license, and send this project into space in a way that makes the amateur community proud."

Thompson was also among the presenters participating in the ARRL Technology Academy, which was one of four all-day workshops organized for the ARRL National Convention program held on February 10. Her talk on Digital Communications Technology was met by a "a positive, enthusiastic, and engaged audience" and she hopes that ARRL will continue sponsoring similar events.

She invited M17 principals to speak about their work, and opened the floor for questions and comments from the many highly competent and curious technical hams that were in attendance. Subjects covered ranged from asynchronous computing to concatenated coding.

The satellite demonstration in the HamCation parking lot.

Thompson recognized ARRL for its attention on amateur satellites throughout the convention. "ARRL set the pace this year for satellite talks and satellite demonstrations, with a video providing practical examples of amateur satellite operations," she said. In the video, ARRL members Tom Gaines, Jr., KB5FHK, and Sloan Davis, N3UPS, lead viewers through making an amateur satellite radio contact from the fairgrounds parking lot. One of their satellite contacts was with Patrick Stoddard, WD9EWK, who gave a tutorial on amateur satellite operations in the ARRL Hands-On *Handbook* workshop.

Thompson said ORI is looking forward to returning to in-person events, such as the well-attended DEFCON in August. The next virtual event for ORI will be the QSO Today Virtual Ham Expo, March 12 - 13. "We will have a wide variety of work and projects represented at our booth," she said.

Field Day is Coming- Start Planning Now

It is February and Field Day is just four months away. Has your club starting to planning?

Many clubs are still operating in pandemic mode and will not have a gathering site but many will be in the field. Now is the time to get the club together, however you are meeting, and plan for what I think is the best weekend of the ham year. Field Day can be a great opportunity to operate and have fun. It can also be a great chance to work with local authorities and demonstrate the capabilities Earn extra Points - Set up an information table and a Get On The Air station - and get the new hams out for what is often their first real chance to work HF in a friendly contest-type environment. There are some updated rules and you can find them at at http://www.arrl.org/field-day-rules. This site is updated often so check back for the latest. The most important thing is to have fun and enjoy Field Day. Invite the public, local dignitaries, and media. Field Day is a great photo op for police, firefighters, and EMS. Remember, outreach to the community is one of those things that we all need to be doing.

Field Day - a chance to show the world amateur radio.

Let's Talk About Grants

Lots of interest has been raised on the new grant programs that are available to organizations today. There is also a bit of confusion about just what some of them are and what the differences are. Let's look at the details of the three major programs.

Grants are a great way to fund small and large projects that your club might be interested in. Spend a few minutes to look over the websites and talk with your club. This is a valuable resource that clubs can use to build amateur radio's future in an ever-changing technology world.

ARRL Foundation Grants

These grants are awarded by the ARRL Foundation to organizations promoting amateur radio. The maximum grant is $3000, and the specific uses of the funds are restricted to specific projects. The details of just what you can use the money for and how to apply are on the ARRL website at Amateur Radio Grants (arrl.org). There are specific times during the year to apply, and all the information is on the website.

ARRL Club Grant Program

This program is new and still in development having just been announced in January around the time of the ARRL Board of Directors meeting. This program will allow clubs to apply for up to $25,000 for specific projects. The details of how the funding can be used and how to apply have not been announced yet. Stay tuned for more information.

ARDC Grants

These grants are awarded by the Amateur Radio Digital Communications Grant Program and are not managed by ARRL. There is no maximum for the grants and full details can be found at the ARDC website at Apply for a Grant | Amateur Radio Digital Communications (ampr.org). There are specific dates to apply and requirements for the groups that wish to apply.

Lewis and Clark Trail On The Air

Clark County Amateur Radio Club, out of Vancouver, WA will be hosting a new event to start June 2022. CCARC is an active club of over 400 members. It has also received the recognition of being an ARRL Special Services Club. The club has made a big impact on the amateur radio community in the Pacific Northwest.

Lewis and Clark Trail OTA is being organized by a committee of CCARC members. The event will be from June 4-19, 2022. Lewis and Clark traveled through 16 states, and we're working on getting a club from each state to activate. There will be certificates sent out for those that contact all 16, and another certificate for those that contact less than 16.

We see this as a chance to promote the Lewis and Clark Expedition and honor them for their achievement by bringing them in to the amateur radio world of 2022. Mark your calendars for this special event and see how many contacts you can make.

LCTOTA.org

Lewis and Clark Trail On The Air on Facebook

Youth on the Air Camp 2022 Application Period Now Open

The application period for the second camp for young amateur radio operators in North, Central, and South America is now open at YouthOnTheAir.org for radio amateurs aged 15 - 25 interested in attending. The Youth on the Air Camp is set for June 12 - 17 at the National Voice of America Museum of Broadcasting in West Chester Township (North Cincinnati), Ohio. The submission deadline is March 1. Applications received before the deadline will be given selection priority.

It costs nothing to apply, but a $100 deposit is required upon acceptance. Scholarships and waivers are available. Campers are also responsible for transportation when arriving to or departing from the camp hotel. Travel during camp events is provided. Travel assistance may also be available, especially for those traveling from outside the US. Campers will be selected and notified by March 15. To encourage attendance from across IARU Region 2, slots will be held open for campers throughout the Americas. If positions become available, these will be filled from the waiting list.

Youth on the Air
Activities for the Next Generation of Amateur Radio Operators in the Americas
YouthOnTheAir.org

Changes in the COVID-19 pandemic status and CDC guidelines and restrictions between now and June may impact plans to host the camp. For additional information, contact Camp Director Neil Rapp, WB9VPG.

"At this time, we have a high level of confidence that hosting the camp June 12 - 17, 2022, will be possible," Rapp said. "Should we not be able to host the camp or need to reschedule, we will let everyone know with as much notice as possible. Appropriate requirements on masking and vaccination status will be announced as needed."

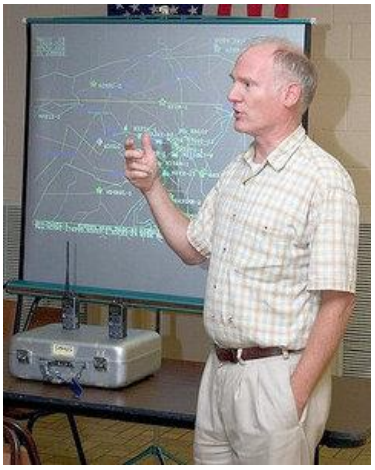
APRS Developer Bob Bruninga, WB4APR, SK

The father of the Automatic Packet Reporting System (APRS), Bob Bruninga, WB4APR, of Glen Burnie, Maryland, died on February 7. An ARRL Life Member, Bruninga was 73. According to his daughter, Bruninga succumbed to cancer and the effects of COVID-19. Bruninga had announced his cancer diagnosis in 2020. Over the years, Bruninga readily shared his broad knowledge and experience in APRS and other topics in the amateur radio and electronics fields.

While best known for APRS, Bruninga, a retired US Naval Academy senior research engineer, had an abiding interest in alternative power sources, such as solar power. In 2018, he authored *Energy Choices for the Radio Amateur,* published by ARRL, which explores developing changes in the area of power and energy and examines the choices radio amateurs and everyone else can make regarding home solar power, heat pumps, and hybrid and electric vehicles. Bruninga drove an all-electric car and had experimented with a variety of electric-powered vehicles over the years.

What became APRS had its origins in 1982, when Bruninga wrote his first data map program that plotted the positions of US Navy ships for the Apple II platform. A couple of years later, he developed what he called the Connectionless Emergency Traffic System (CETS) on the VIC-20 and C-64 platforms for digital packet communications to support an endurance race. The program was ported to the IBM PC platform in 1988 and was renamed APRS in 1992. The recognized North American APRS frequency is 144.39 MHz and APRS is linked globally via the internet. Bruninga founded the Appalachian Trail Golden Packet event, which fields APRS nodes from Stone Mountain in Georgia to Mount Katahdin in Maine each July.

ARRL Contributing Editor Ward Silver, N0AX, remembered Bruninga this way: "Bob kept pushing APRS beyond its origins as a position reporting system. He developed and helped implement numerous other uses of APRS in support of what has become the 'Ham Radio of Things,' with great potential for future amateur radio applications. Bob's far-reaching vision and imagination were as good as it gets."



Bruninga mentored US Naval Academy midshipmen in building and launching amateur radio satellites and CubeSats, beginning with PCSat in 2001. PCSat was the first satellite to report its precise position directly to users via its onboard GPS module. Subsequent USNA spacecraft included PSK-31 capability (HF to UHF) and other innovations.

Amateur Radio on the International Space Station (ARISS) ARRL liaison Rosalie White, K1STO, recalled that Bruninga attended many ARISS-International meetings and contributed "enormously" to ARISS APRS activities, leading a team in developing protocols and software for rapid message exchange via a packet "Robot."

Last year, ARRL CEO David Minster, NA2AA, on behalf of ARRL, honored Bruninga with a brick in ARRL's Diamond Club Terrace at ARRL Headquarters. Read an expanded version.

Dayton Hamvention Looks to Be a Go for 2022

Hams and vendors hoping to attend Dayton Hamvention® 2022 have been asking what, if any, COVID-19 regulations will be in place at the event. Hamvention management says it's monitoring the situation closely. Hamvention General Chairman Rick Allnutt, WS8G, issued a statement:

"We strongly anticipate that Hamvention 2022 is a go. We cannot guarantee what government may decide about unknown changes in the pandemic. It has become obvious that the State of Ohio is very unlikely to call a halt to large gatherings anytime soon. Despite a recent large spike in [Omicron-variant] COVID cases and hospitalizations, there is no move to restrict large indoor or outdoor events such as sports events," Allnutt said.

Allnutt added that he anticipates that the official state guidance may be to recommend -- not require -- face masks and social distancing, but does not expect to be checking attendees' vaccination status on site. Hamvention will support state guidance.

Some have asked whether COVID-19 testing will be available at Hamvention. At this time, there are no plans to have testing on site. Updates on Hamvention and COVID-19 regulations related to the event will be posted on the Hamvention website.

Hamvention, an ARRL-sanctioned event, will be held May 20 - 22, at the Greene County Fairgrounds and Expo Center in Xenia, Ohio.

Some New Rules Going into Effect this Year for ARRL Field Day

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.

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.

ARRL Announces New World Wide Digital Contest

The ARRL World Wide Digital Contest will debut at 1800 UTC on June 4, ending at 2359 on June 5, 2022. All non-RTTY modes are permitted. Going forward, RTTY will be the sole mode for the ARRL RTTY Roundup, which will continue to take place in January.

In broad strokes, this will be an HF to 6-meter event, on 160, 80, 40, 20, 15, 10, and 6 meters, with single-operator and multi-single entry categories. These are Single Operator, One Radio (SO1R), Single Operator, Two Radio (SO2R), and Multi-Single (MS). Overlays in the single-operator categories will include "all enclosed antennas" and "maximum of 8 operating hours." Single-operator entries may operate for 24 hours (with off times taken in one or two breaks that are at least 60 minutes long), while MS entries may operate for the full 30 hours.

Operating assistance is permitted for all operating categories.

Power categories will be:

- **QRP** (5 W transmitter output or less)
- **Low Power** (maximum 100 W PEP transmitter output)

The exchange for the World Wide Digital Contest will be a station's four-character grid square designation. Stations may work each other once per band, regardless of digital mode. Participants will earn 1 point for each contact, plus 1 point for each 500 kilometers (310 miles) between stations. So, a contact between stations 1,000 kilometers apart would be worth 3 points. The total score is total contact points.

ARRL makes available a grid-center distance calculation tool. Options include kilometers (always rounded up), distance between pairs, and points.

For instructions on how to submit logs, visit the ARRL Contest page. Logs will be due 7 days after the event has concluded.

In succeeding years, the World Wide Digital Contest will take place on the first full weekend of June.

Full details on the new operating event are on the ARRL website.

Three SpaceX Crew-4 Crew Members Hold Ham Licenses

Three of the four crew members in the SpaceX Crew-4 launch to the International Space Station (ISS) are amateur radio licensees. They are Robert Hines, KI5RQT; Kjell Lindgren, KO5MOS; and Samantha Cristoforetti, IZ0UDF. Lindgren and Cristoforetti have served previously on the ISS. Crew-4 is set to launch on April 15 for a 6-month stay. Crew-4 will be the fourth crew rotation mission of SpaceX's human space transportation system and its fifth flight with astronauts, including the Demo-2 test flight, to the space station through NASA's Commercial Crew Program. The mission will launch on a SpaceX Crew *Dragon* spacecraft and Falcon 9 rocket from Launch Complex 39A at NASA's Kennedy Space Center in Florida.

NASA's SpaceX Crew-4 astronauts participate in a training session at SpaceX headquarters in Hawthorne, California. (L - R) Astronaut and SpaceX Crew-4 mission specialist Jessica Watkins; astronaut and SpaceX Crew-4 pilot Robert Hines, KI5RQT; astronaut and SpaceX Crew-4 commander Kjell Lindgren, KO5MOS, and European Space Agency astronaut and Crew-4 mission specialist Samantha Cristoforetti, IZ0UDF.

Last week, NASA and its international partners approved crew members for Axiom Space's first private astronaut mission to the ISS. Called Axiom Mission 1 or Ax-1, the flight is targeted to launch on March 30, from Launch Complex 39A at Kennedy Space Center on a SpaceX Falcon 9 rocket. The Ax-1 crew will fly on Crew Dragon *Endeavour* to and from the space station. After 10 days in orbit, the Ax-1 crew will splash down off the coast of Florida.

Axiom Space astronauts Michael López-Alegría, Larry Connor, Mark Pathy, and Eytan Stibbe are prime crew members of the Ax-1 mission. The quartet is scheduled to spend 8 days aboard the ISS, conducting science, education, and commercial activities before returning to Earth.

"This represents another significant milestone in our efforts to create a low-Earth orbit economy," said Phil McAlister, director of commercial spaceflight at NASA.

MARCH 2022

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
		1	2	3	4	5
		MARC Net 7:00 pm NCS GLENN		ARES Meeting TODAY 6:00 pm		
6	7	8	9	10	11	12
	ARES Net 7:15 pm	MARC Net 7:00 pm NCS FRED				
13	14	15	16	17	18	19
DAYLIGHT SAVINGS	ARES Net 7:15 pm	MARC Net 7:00 pm NCS ROB		CLUB MEETING AT 6:00 PM ST. PATRICKS		
20	21	22	23	24	25	26
SPRING BEGINS	ARES Net 7:15 pm	MARC Net 7:00 pm NCS KEITH				
27	28	29	30	31		
	ARES Net 7:15 pm	MARC Net 7:00 pm NCS JESSY				