



# MARC Beacon

Volume 10, Issue 4

The Morongo Basin Amateur Radio Club Newsletter

APRIL 2021

## Good day fellow HAM radio operators!

Spring is here, time for some gardening. It's also tax season, hoping all of you receive vice owe money.

I know some of you miss the monthly meetings, so the next best thing is **Zoom**. So far we have had two successful Zoom meetings where people use their computer or smart phone to participate in a video teleconference. If you have not experienced this yet, then I think you are missing out. If you want to join us at 1800 on "Tax Day" Thursday 15 April, then send an email **to Glenn, N6GIW, at deacon733@msn.com.**

**Most MARC memberships expired on the 1st of April.** In order to renew your membership, go to <http://w6ba.net/marc.pdf> to print the Membership Application Form. Complete the form and mail it with your check to MBARC, PO BOX 1995, YUCCA VALLEY, CA 92286.

**"Field Day"** is just around the corner. We plan on setting up a few High Frequency (HF) HAM radio stations at the Yucca Mesa Community Center (YMCC) on Friday 25 June. The Field Day event starts Saturday 26 June and lasts for 24 hours until Sunday 27 June. Please schedule time to come visit us on the last weekend of June to see how we can communicate across the country to New York, or across the ocean to Hawaii on a small radio, a car battery, and a piece of wire. Contact Keith, N6GKB, at [n6gkb@live.com](mailto:n6gkb@live.com) for more information or visit <http://www.arrrl.org/field-day>.

**The "Cawfee Tawk" net celebrated its one year anniversary on 30 March 2021.** It all started when Roger, KF6BIG, contacted Rob, WO4ROB, and asked if there was a morning net for people to chat on. I thought it was a great idea to start one to allow people to let everybody know that things were well or they needed help, and of course to share knowledge about their HAM radio projects. Since the corona pandemic kept everyone inside their homes, it was a great way to allow people to communicate.

**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.

**This is WO4ROB, Rob from Joshua Tree.**

**Rob Cloutier**

**WO4ROB**

Joshua tree

Club President

(760)401-6666

[rob\\_cloutier@hotmail.com](mailto:rob_cloutier@hotmail.com)



## 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

## Nets

Amateur Radio Emergency Service (ARES)

Mon @ 1915

Morongo Basin Amateur Radio Club (MARC)

Tue @ 1900

## Social Media,

**Club web page: <http://www.w6ba.net>**

**Facebook:**

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

## Club Meeting

**(Cancelled Until Further Notice)**

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



**TOM MEDLIN W5KUB WEEKLY WEBCAST 1HAM RELATED. TUESDAY NIGHTS AT 8PM**  
<http://tmedlin.com/> OR <http://w5kub.com>



STARTING ON January 6, 2021 HAMNATION WILL BE on the **Ham Radio Crash Course YouTube channel!** Run by Josh KI6NAZ.

**Ham Radio Crash Course YouTube channel!**



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

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I also have A weather station by the high school in Yucca Valley N6GKB. Showing the temps and wind speeds in the center of Town.

[https://www.wunderground.com/dashboard/pws/KCAYUCCA35?cm\\_ven=localwx\\_pwsdash](https://www.wunderground.com/dashboard/pws/KCAYUCCA35?cm_ven=localwx_pwsdash)

Keith N6GKB



**We are still having our informal DAILY net, that starts 10AM M-SUN Join us with your own cup!**

## Preparing for an EMP Incident

With an increasing number of bad actors with EMP (electromagnetic pulse) devices these days, the disruption of the country's electronic infrastructure is tempting. Many veteran radio amateurs have older V/UHF/HF mobile radios and handhelds; it may be a good idea to store them in a small steel trash can, along with a roll of RG58, mag mount or other kind of antenna, and light line to hoist the antenna into a tree. There is little or no cost involved, and this puts older gear to potential use in an EMP incident.

While not too likely, the military and other government entities do pay attention to the possibility of such an incident that could cripple the internet, power grid, copper pair telephone, and much of the sensitive modern lower voltage circuitry.

Many hams licensed since the end of the cold war may have little or no knowledge of what an EMP blast can do, and how difficult it is to protect against. "When all else fails" means being prepared for the unlikely. -- *Doug McCray, K2QWQ, Southampton, South Jersey*

[Here is an [info sheet on electromagnetic pulse](#) from the Washington State Department of Health-- Office of Radiation Protection.]



**OUR MONTHLY CLUB MEETING WILL NOW BE HELD ON THE REGULAR THIRD THURSDAY OF THE MONTH VIA A ZOOM ONLINE MEETING AT 6:PM CONTACT GLENN N6GIW TO BE PUT ON THE EMAIL LIST .**

**OUR FEBRUARY ZOOM MEETING WAS GREAT HAD ABOUT 20 PEOPLE SHOW, WE ALL HAD A GREAT TIME SEEING AND TALKING WITH THE CLUB MEMBERS AGAIN!**

## ROB'S CORNER, WO4ROB

### Portable Charger

Most electronic devices require a 5 volt direct current (VDC) power supply to charge its internal battery. Most of these devices use charging cables that plug into a Universal Serial Bus (USB) port. Most USB ports are designed for Type-A connectors but are slowly being replaced with Type-C connectors because it's smaller, reversible, and most importantly, can charge your devices much faster. (USB 2.0 = .5A = 2.5W, USB 3.0 = .9A = 4.5W, USB-C = 3A = 15W, USB PD = 5A = 25W). USB Type-A to USB Type-C adapters are available.

Since I travel a lot, I always carry a small portable charger, to charge my cell phone in an emergency, that contains a battery connected to a USB port. Of course you could purchase a pre-made battery power bank, but what's the fun in that when you can design and create your own?

You must decide on what type of battery you want to carry around in your backpack, or purse. The smaller the better, so a large 12 volt battery would not be wise. I recommend 1.5 volt AA or AAA batteries or a 9 volt battery cell. Better yet, how about a 18650 3.7 volt rechargeable battery? The kind found in just about every rechargeable device like laptop computers.

In order to get 1.5, 3.7, or 9 volt batteries to produce 5 volts to a USB outlet, you will need a small circuit board called a USB DC-DC Buck converter. Some step up the voltage to 5 volts and some step down the voltage to 5 volts. I highly recommend the step down modules that converts 6-24 VDC to a 5 VDC USB port. You can buy these USB DC-DC Buck Step Down Modules for about \$2 on Amazon.

A plastic battery holder with an on-off switch and power leads for about \$2.50 is also required. The USB module is secured on the battery holder with double sided foam tape and the power leads from the battery holder are soldered to the USB module.

For a compact size, I recommend using a 9 volt battery, but if you want more power and the ability to recharge the batteries, then I recommend using two 18650 3.7 volt batteries. The 18650 batteries can be charged using a \$1 battery holder and a \$1 TP4056 Charging Module.

All parts can be purchased at Amazon.com. See photos for details or contact me at WO4ROB@gmail.com.



## FCC Not Yet Collecting \$35 Application Fee

The majority of the FCC's revised Part 97 rules (adopted in December 2020) establishing new application fees become effective on April 19, but the new amateur radio application fees will *not* become effective on April 19. The FCC announced on March 19 that the amateur radio application fees, including those associated with Form 605 filings, would not become effective until the "requisite notice has been provided to Congress, the FCC's information





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technology systems and internal procedures have been updated, and the Commission publishes notice(s) in the *Federal Register* announcing the effective date of such rules."



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

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

ARRL Volunteer Examiner Coordinator (VEC) Manager Maria Somma, AB1FM, said VECs and Volunteer Examiner (VE) teams will not have to collect the \$35 fee at exam sessions. Once the FCC application fee takes effect, new and upgrade applicants will pay the \$15 exam session fee to the VE team as usual, and pay the \$35 application fee directly to the FCC via the [Fee Filer System](#) or [License Manager System](#). Somma said this information was provided in a [VE Newsletter](#) distributed this past week. "Further news and instructions will follow when we have them," she said.

spectrum "while also providing a buffer to protect flexible-use operations at the lower edge of the 3.45 GHz band."

"We therefore allow secondary amateur operations to continue in the 3.4 - 3.45 GHz portion of the band," the FCC said. "We emphasize, however, that amateur licensees

remain secondary users, and those that operate on frequencies close to the 3450 MHz band edge must do so with particular caution to avoid causing harmful interference to flexible-use licensees in the 3.45 GHz Service, which hold primary status. In light of these considerations, while amateur operations between 3450 MHz and 3500 MHz must cease within 90 days of the public notice announcing the close of the auction for the 3.45 GHz Service, as specified in the *Report and Order*, amateur operations may continue between 3300 MHz and 3450 MHz while the Commission, NTIA, and the DoD continue to analyze whether that spectrum can be reallocated for commercial wireless use."

"There is no expectation that such operations will be accommodated in future planning for commercial wireless operations in this spectrum, or that amateur operators will receive more than a short period of notice before their operations must cease," the FCC said.

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## FCC Agrees with ARRL and Allows Partial Reprieve on 3.5 GHz

Pending future FCC action, amateur radio secondary use of the 3.3 - 3.45 GHz band segment may continue indefinitely. The FCC, as part of a lengthy *Second Report and Order (R&O)* for commercial licensing of 3.45 - 3.55 GHz adopted on March 17, agreed with ARRL that continued access by amateur radio to 3.3 - 3.45 GHz should be allowed until consideration of the 3.1 - 3.45 GHz spectrum in a later proceeding. The FCC action in WT Docket 19-348 represents a partial -- and temporary -- reprieve from the FCC's December 2019 proposal to remove amateur radio from the entire band, and it makes available an additional 50 MHz than an FCC proposal last fall to allow amateur temporary use of 3.3 - 3.4 GHz.



Amateur secondary operation in the 3.45 - 3.50 GHz band must cease 90 days after public notice that the spectrum auction has closed and licensing has begun. That is expected to happen early in 2022. The FCC announced the opening of 3.45 - 3.55 GHz for auction to

commercial 5G interests on March 17.

The FCC stated that "While we adopt our proposal to bifurcate the band, we adjust our proposal and set 3450 MHz as the frequency at which the band will be split." It agreed "with the ARRL's assessment that the guard band is not necessary from a technical standpoint. We also recognize that the nature of amateur equipment realities makes the 50 MHz at 3400 - 3450 MHz particularly valuable to amateur operators because it means existing equipment can continue to operate in the band for the time being."

This allows "amateur operations to continue in the lower portion of the band while the [FCC and federal government users] continue to analyze whether that spectrum can be reallocated for flexible use," the FCC said. The FCC had proposed splitting the band at 3.4 GHz, permitting amateur use in 100 MHz of spectrum "while also providing a buffer to protect flexible-use operations at the lower edge of the 3.45 GHz band."

"We therefore allow secondary amateur operations to continue in the 3.4 - 3.45 GHz portion of the band," the FCC said. "We emphasize, however, that amateur licensees remain secondary users, and those that operate on frequencies close to the 3450 MHz band edge must do so with particular caution to avoid causing harmful interference to flexible-use licensees in the 3.45 GHz Service, which hold primary status. In light of these considerations, while amateur operations between 3450 MHz and 3500 MHz must cease within 90 days of the public notice announcing the close of the auction for the 3.45 GHz Service, as specified in the *Report and Order*, amateur operations may continue between 3300 MHz and 3450 MHz while the Commission, NTIA, and the DoD continue to analyze whether that spectrum can be reallocated for commercial wireless use."

"There is no expectation that such operations will be accommodated in future planning for commercial wireless operations in this spectrum, or that amateur operators will receive more than a short period of notice before their operations must cease," the FCC said.

## Cooperative Effort Under Way to Resolve Potential 70-Centimeter Interference Issue

ARRL, the FCC, and the US Department of Defense are cooperating in an effort to eliminate the possibility of amateur radio interference on 70 centimeters to a future missile control system at White Sands Missile Range ([WSMR](#)) in New Mexico. The Defense Department's Regional Spectrum Coordinator contacted the FCC in March, seeking information on whom to contact regarding amateur transmissions operational on 70-



centimeter frequencies slotted for use on the new control system. The FCC, in turn, asked ARRL to oversee the

coordination efforts. It is to be noted that the Amateur Radio Service is a secondary service on the band.

Investigation revealed that the potential problem was not with individual operators or repeaters, but with RF control links at 420 - 430 MHz used to establish a linked repeater system within New Mexico. "Based on the investigation, and with the support of the FCC, the owners of the RF control links being used in the 420 - 430 MHz portion of the amateur allocation within a certain proximity to WSMR are being asked to re-coordinate the link frequency to a new one above 430 MHz," explained ARRL Regulatory Information Manager Dan Henderson, N1ND.

ARRL enlisted the assistance of the state's designated repeater frequency coordinator for



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information on specific links in that part of the band. New Mexico Repeater Frequency Coordinator Bill Kauffman, W5YEJ, agreed to work with the control link operators to find new frequencies that will meet the needs of the link operators.

"Time is a factor in this request,"

Henderson said.

"The new WSMR systems are in advanced testing and will become fully operational by early summer 2021." The

negotiated

deadline for the

affected control links to change frequencies is set for May 31, 2021.

"It appears a total of 32 control links will have to be addressed," Henderson said. ARRL has mailed letters to each of the RF control link operators, based on the record keeping of the frequency coordinator, to advise them of the DoD's request. "Any links with the potential to affect the identified control systems at WSMR still in operation after May 31, 2021 will be subject to action by the FCC."

Henderson said the changes should have no direct impact on the use of any local repeater, but until all the affected RF control links are transitioned to new frequencies, certain links may be temporarily inoperative. Links unable to be relocated by May 31 will have to be shut down until the situation can be resolved. ARRL will maintain contact with the FCC to advise it of the status of the coordination efforts.



## ARRL to Extend Field Day Rule Waivers from 2020, Add Class D and E Power Limit

02/10/2021

The COVID-19 pandemic-modified **ARRL Field Day** rules from 2020 will continue this June with the addition of a power limit imposed on Class D (Home Stations) and Class E (Home Stations-Emergency Power) participants. The news from the ARRL Board's Programs and Services Committee comes as many clubs and groups are starting preparations for Field Day in earnest. Field Day 2021 will take place June 26 – 27.

"This early decision should alleviate any hesitancy that radio clubs and individual Field Day participants may have with their planning for the event," said ARRL Contest Program Manager Paul Bourque, N1SFE.

### For Field Day 2021:

- Class D stations may work *all other* Field Day stations, including other Class D stations, for points. This year, however, Class D and Class E stations will be limited to 150 W PEP output.
- An *aggregate* club score will be published — just as it was done last year. The aggregate score will be a sum of all individual entries that attributed their score to that of a specific club.

ARRL Field Day is one of the biggest events on the amateur radio calendar. Last summer, a record 10,213 entries were received.

"With the greater flexibility afforded by the rules waivers, individuals and groups will still be able to participate in Field Day, while still staying within any public health recommendations and/or requirements," Bourque said.

The preferred method of submitting entries after Field Day is via the web applet. The ARRL Field Day rules include instructions on how to submit entries, which must be submitted or postmarked by Tuesday, July 27, 2021.

The **ARRL Field Day** web page contains for complete rules and entry forms, as well as any updated information as it becomes available. Join the ARRL Field Day **Facebook page**





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## FIELD DAY ON THE LOCAL FRONT INFO:

WE WILL BE HOLDING OUR LOCAL FIELD DAY AT:  
Yucca Mesa Community Center  
3133 Balsa Ave.  
Yucca Valley, California 92284

We plan on having multiple stations set up, We will start setup on Friday June 25th and we will be at the field day site through Sunday the 27th. For further involvement with field day please email me Keith at [n6gkb@live.com](mailto:n6gkb@live.com) and I will add you to the information field day emails that will start sometime in April

## World Amateur Radio Day



World Amateur Radio Day (WARD) 2021 is Sunday, April 18. On that day in 1925, the International Amateur Radio Union ([IARU](http://www.iaru.org)) was formed in Paris. Today, the IARU is a

worldwide federation of national amateur radio organizations. The IARU has chosen "Amateur Radio: Home but Never Alone" as its WARD 2021 theme, acknowledging the many ways throughout the COVID-19 pandemic that amateur radio has remained a welcome respite for its variety of activities and opportunities -- even helping overcome online fatigue and social isolation. ARRL has [information](#) to help all radio amateurs start planning for World Amateur Radio Day.

## ARISS Ham Station in Columbus Module Is Once Again Operational

Some 6 weeks after going silent following a spacewalk that installed new antenna cabling, the Amateur Radio on the International Space Station ([ARISS](http://www.ariss.org)) ham station in the Columbus module is once again operational. The

Columbus station, which typically uses the call sign NA1SS, is the primary ARISS amateur radio station used for school contacts and other activities. The problem arose after a January 27



spacewalk replaced a coax feed line installed 11 years ago with another built by the European Space Agency (ESA) and Airbus.

While the specific cause of the problem has not yet been determined, a March 13 spacewalk that restored the antenna cabling to its original configuration provided the cure. The plan to return the ARISS cabling to its original configuration had been a "contingency task" for a March 5 spacewalk, but the astronauts ran out of time. The ARISS work was appended to the to-do list for astronauts Mike Hopkins, KF5LJG, and Victor Glover, KI5BKC, to complete a week later.

During the weekend spacewalk, Hopkins swapped out a cable for the [Bartolomeo](#) commercial payload-handling platform that had been installed in series with the ARISS VHF-UHF antenna feed line, returning the ARISS system to its pre-January 27 configuration.

Hopkins raised a question concerning a sharp bend in the cable near a connector, but no further adjustments were possible.

On March 14, ARISS was able to confirm the operation's success when Automatic Packet Reporting System (APRS) signals on 145.825 MHz were heard in California, Utah, and Idaho as the ISS passed overhead. ARISS team





member Christy Hunter, KB6LTY, was able to digipeat through NA1SS during the pass. With additional confirmation from stations in South America and the Middle East, ARISS declared the radio system operational again.

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## Ham Radio Satellite Returns from the Dead

After 7 years of silence, the Delfi-n3Xt satellite is again transmitting a signal. The 3U Delfi-n3Xt nanosat, launched by Delft University of Technology (TU Delft), has not been heard since 2014, and its sponsors were surprised to learn that it was transmitting again. Delfi-n3Xt carries a linear amateur radio transponder. It was the second satellite launched by TU Delft, as part of the Delfi Program, which develops very small satellites. The first Delfi satellite, Delfi-C3, is still working as well. Now that Delfi-n3Xt is transmitting again, steps are being taken to further its mission. The Delfi-n3Xt project started in 2007, and the satellite was launched in November 2013. The satellite operated successfully for 3 months, achieving mission success. Contact with the satellite was lost in late 2014 after an experiment with the linear transponder.



When functioning properly, the Delfi-n3Xt satellite transmits telemetry on 145.870 MHz and 145.93 MHz, and high-speed data on 2405 MHz. The inverting SSB/CW transponder has an uplink passband of 435.530 - 435.570 MHz LSB and a downlink passband of 145.880 - 145.920 MHz USB. The ham transponder was a last-minute addition to the project.

On February 9, an automatic email notification was received from the satellite's ground station, indicating that a signal from the Delfi-n3Xt had been picked up. Student and ground station operator Nils von Storch said he'd programmed the ground station software so that it would continue to track Delfi-n3Xt and notify him if it ever came back to life. Relevant checks and analysis of telemetry frames prove the satellite is transmitting again.

The reason it stopped transmitting has not yet been determined, and the big question now is how it was able to resume operation.

Hypotheses include a bit flip in the software or a short circuit, given the extreme conditions in space.

"Of course, in the past, we have looked for all kinds of explanations, and we also had theories about how the contact could ever come back," nanosatellite program manager Jasper Bouwmeester, PC4JB, said. "But after so long, I hadn't counted on it anymore." Bouwmeester, who has been managing the mission since 2007, expressed confidence that the satellite can still be of use to science.

"But I am sure that we will be able to find solutions," operations manager Stefano Speretta said. "If we don't lose the signal again, there are interesting times ahead." -- *Thanks to AMSAT News Service and Delft University of Technology*

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## WWVB

- The National Institute of Standards and Technology ([NIST](#)) has announced that its [WWVB](#) transmission system is being upgraded to improve signal reliability. Many rely on the 60 kHz WWVB signal to synchronize specially equipped clocks and watches. NIST says the WWVB signal may operate on a single antenna at approximately 30 kW radiated power for several days, with periodic outages. Upgrades are expected to be complete by April 9.

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## The Amateur Radio Emergency Service® (ARES)

consists of licensed amateurs who have voluntarily registered their qualifications and equipment, with their local ARES leadership, for communications duty in the public service when disaster strikes. Every licensed amateur, regardless of membership in ARRL or any other local or national organization is eligible to apply for membership in ARES. Training may be required or desired to participate fully in ARES. Please inquire at the local level for specific information. Because ARES is an amateur radio program, only licensed radio amateurs are eligible for membership. The possession of emergency-powered equipment is desirable, but is not a requirement for membership.

How to Get Involved in ARES: Fill out the [ARES Registration form](#) and submit it to your local Emergency Coordinator.





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Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
				1	2	3
	KAFEE TAWK 10AM DAILY CLUB REPEATER			ARES Meeting 6:00 pm		
4	5	6	7	8	9	10
	ARES Net 7:15 pm	MARC Net 7:00 pm NCS ROB				
11	12	13	14	15	16	17
	ARES Net 7:15 pm	MARC Net 7:00 pm NCS LARRY		ZOOM CLUB MEETING CONTACT GlennN6GIW READ NEWSLETTER		
18	19	20	21	22	23	24
	ARES Net 7:15 pm	MARC Net 7:00 pm NCS GLENN				
25	26	27	28	29	30	
		MARC Net 7:00 pm NCS FRED				