

TORC newsletter

Eighth edition



Photo by Chris Seger

Photo by John Payton



references

Click on titles below to go there

*Clicking on **references** at the bottom of any page returns you to this area of the newsletter.*

CLUB OFFICERS

GROUPS.IO

ToRC website

TIPS, TRICKS AND LINKS

Last Man Standing

FROM OUR MEMBERS

Guidance from CDC issued this morning (3/8/2021)

ARRL's Virtual ham Expo

Field Events

TUCSON HAMFEST April 10th

Monster Dipole Can Deliver Monster Signal

Preparations for the ARRL 2021 Field Day - for FT4 & FT8 modes

PURPOSE

CLUB OFFICERS

President (K7AZT Paul Seger)



Vice President (W8TK TOM Kravek)



**Secretary (W7HD Ron Herring)
& Newsletter Editor**



Treasurer (AE9Q Dave Dostie)



GROUPS.IO

Scott K7ADX has set up a groups.io board for TORC.

They click the address ToRC+subscribe@groups.io or copy and paste that address and send an email. They have to get an account - really simple. It only takes a minute.

Once they ask to join I will accept them and off we go.

Send members here: <https://groups.io/g/ToRC>

TORTOLITA RADIO CLUB

Serving the Greater Tucson Area



Once folks get in we can start communicating that way along with email, set up some topics where folks can interact, etc.

The ToRC website is up and running and can be viewed at

<https://tortolita-rc.com>

It has the essentials on it for now. We can improve on it as things settle down.

When an email is sent to contact@tortolita-rc.com I receive it and forward it on to the appropriate person.

Comments and suggestions are welcome.

73

Frank N1UW

TIPS, TRICKS AND LINKS

<https://www.wired.com/story/how-to-tell-which-emails-track-you/>

- Your emails know more about you than you might think, like when you open them or when you forward them to others. But you can reclaim your privacy.

How Email Bombing Uses Spam to Hide an Attack

- If you suddenly start receiving an endless stream of junk email, perhaps asking for confirmation of a subscription, you're the victim of email bombing. The perpetrator is probably trying to hide their real goal, so here's what to do.
- By JP Tucson, AZ · Mar 5

Did You Know Browser Extensions Are Looking at Your Bank Account?

- Whenever you sign in to your bank account, your browser extensions watch. They can see your account balances, your transactions, and your online banking password. They see everything in your browser: passwords, credit card numbers, private messages, and the websites you visit.

Best commands for digging up information about your Linux system

- This article from TechRepublic Premium will introduce you to some of most useful commands to help you in your journey with Linux.

What is Windows Subsystem For Linux (WSL), and How Do You Use It?

- Windows Subsystem For Linux (WSL) is a tool provided by Microsoft to run Linux natively on Windows. It's designed to be a seamless experience, essentially providing a full Linux shell that can interact with your Windows filesystem.

How-To Geek Is Now on Google News

- Today, we're proud to announce that How-To Geek is now an approved content source on Google News. In addition to browsing all our latest content, you can also keep up with our coverage in categories like Windows, Mac, Linux, iPhone, Android, and more.

Last Man Standing

The Tim Allen sitcom Last Man Standing has an actual ham radio station on the set.

Ham radio is periodically highlighted on the show as Mike Baxter, Tim Allen's character, has the fictitious Amateur Radio call sign of KA0XTT.

Prior to COVID-19, each week during the show, operators would activate the station on the set in-between taping with KA6LMS, the on-set's club call sign.

Many Amateurs lined up to work KA6LMS, generating deep pile-ups.

After nine great seasons, the show is in the midst of its last production. To celebrate the end of the show and the exposure it has provided Amateur Radio, a week-long special event has been planned.

From 3/24 to 3/30, the KA6LMS special event will be on the air. If pileups from the studio activations are any indication of future participation, it should be quite a lot of fun.

Even with CQ WPX SSB, contest during this time, there will be plenty of time to get on the air and work the KA6LMS studio.

A bonus activity is planned in each call district. The Last Man Standing ARC is joining with a team of seasoned special-event operators around the United States to present a multi-band, multi-mode special event celebrating the prime-time network TV show for its positive and accurate portrayal of amateur radio. Similar to the W1AW/p operations in 2014, during the week of 3/24, KA6LMS/xx will be on-the-air from all ten call districts as well as a few W6x special event 1x1s. The intent is to operate on as many bands and modes as possible, including SSB, CW, and several digital modes.

Satellite and repeater operation is also encouraged.

Participating stations may download a QSL certificate. A special, "Clean Sweep" certificate will be available for those who qualify.

KA6LMS and a number of affiliated stations will live stream their operations. At times, the AmateurLogic.TV team will pick up video feeds from active stations to provide commentary and context.

If you are thinking of operating, 40M and 20M are your best bet to California during the day.

During the night 80M and 160M have been open to both coasts.

The event will start at 0000 UTC on 24th March 2021 and end at 2359 UTC on 30th March 2021, the last day of shooting for the show, which is concluding its long, successful run.

All operations will be spotted on-line.

RFI from an Electric Cooktop Circuit

A local ham had more than a sizzling experience when the RFI from the electric cooktop wiped out the entire HF band.

Chuck W1HIS, who solved the problem, explains that most of the RF noise power emerging from a cooktop (or other appliance wherein high current at 60 Hz AC) is switched at high speed) is carried by the balanced, or transmission-line mode of the line cord.

Therefore a common-mode choke alone has relatively little effect. The RF power in the balanced mode travels unattenuated to the load-center (the panel full of circuit breakers), where it encounters a substantially unbalanced load (at RF), so a substantial fraction of this power is

reflected back in the common mode, and a substantial fraction also propagates outward from the load-center in the common modes of all the other circuits fed from the load-center.

Chuck strongly recommends inserting BOTH a ferrite-core common-mode choke AND an L-C low-pass filter for the balanced mode of your appliance's line cord. This L-C low-pass filter must be rated (and UL-approved) for more than the maximum current drawn by the appliance from the 240 (120-N-120) VAC or 120 VAC line. You should find suitable filters in Digi-Key, Newark, and other distributors' catalogs.

A good brand is CorCom.

Chuck recommends a two- stage rather than a one-stage filter. His recommendation is not based on faith/theory. It is based on several actual successes in reducing the RFI from high-current switchers in appliances in his and his

neighbors' homes. In a recent case, Chuck installed a two- stage CorCom filter rated for 20A RMS and a series of six common-mode chokes each comprising seven turns of 3*12AWG Romex cable on a single toroid of Fair-Rite Products material #31, having o.d. = 2.4 inches.

These chokes were spaced at one-foot intervals along the Romex, to reduce stray capacitive bypassing of the chokes. The CorCom filter was in the middle, with three chokes on either side.

Chuck's filter and chokes combination reduced the level of QRN from a neighbor's appliance in the 80M band by more than 30 dB. How much more is unknown because the RFI was no longer audible in the HF receiver. Originally, it had been intolerable.

Collins Amateur Radio Club

Cedar Rapids, IA

The Shack is Back in its Century Year If you miss the days of being able to visit a Radio Shack and pick up that elusive part for your weekend project, Lee WA0UIG reports that Radio Shack sent out

a flyer announcing their comeback.

Their website is <https://www.radioshack.com/> with free shipping on orders over \$99 and hassle-free returns.

The site also lists physical locations for authorized stores. Clicking on the parts tab navigates you to a rich selection of components, like those giant drawers they had in their stores. The kits tab is a bit anemic, but they promise that the website will see improvements in 2021.

Next year they will be celebrating their 100th anniversary.

They will be offering new products and doubling down on your favorite Radio Shack classics including batteries, radios and more.

Collins Amateur Radio Club

Cedar Rapids, IA

Open Source Weekly

March 16, 2021

Is the UK becoming the open source capital of Europe?

Open source could be worth up to £43 billion to the UK economy, according to a new report from OpenUK.

ADDITIONAL TECHREPUBLIC RESOURCES

[Linux distribution Netrunner has a rocky past but a promising future](#)

[A new Linux Foundation open source signing tool could make secure software supply chains universal](#)

[Global edge computing infrastructure market to be \\$800 billion by 2028](#)

[Kanboard: A simple to deploy, easy to use Kanban board for project management](#)

[How to install and configure 2FA on AlmaLinux](#)

FROM OUR MEMBERS

Greetings All,

It is a year since Covid forced terminating our all-inclusive field radio events. Unfortunately, things have not returned to normal. It is too soon to return to sponsored group events. Some members may feel they can do at least something, especially if they have had both vaccine shots. Others may not feel as strongly about the dangers of the virus.

ToRC cannot vet members for health, nor guarantee the safety of anyone congregating. ToRC cannot sponsor or endorse any events.

Some ToRC members may choose to arrange among themselves, person to person, informal 2 or 3 person outings with whom they feel comfortable. These would not be ToRC endorsed. Participating would be at your own risk.

If you choose to have a field event:

- The ToRC groups.io site may be used to solicit other members, something like:

"Who's up for an outdoor operating event on 'date' within an hour's drive of Tucson?
If interested, email your.address or phone your.phone to discuss details."

- Details of location, equipment, antennas, etc up to participants, discussed off-line
- The callsign KT7RC may be used by prior arrangement with the trustee, Tom W8TK
- After the event details may be posted on groups.io

Do not use ToRC groups.io other than for initial solicitation:

- Please ask that they reply to you directly, off groups.io
- All arrangements must be directly among those involved, off groups.io
- To prevent uninvited attendance do not pre-announce the location on groups.io

For your safety:

- Mask and social distancing according to CDC and local precautions
- Social distancing might not help but it can't hurt
- Outdoor events are safer than indoor events
- Small groups are safer than larger groups
- Vaccines work. Which one is best? The one you can get!

These events are private events, not ToRC field events. ToRC has no control over event creation or attendance. Participate at your own risk and tolerance.

Paul, K7AZT President Tom, W8TK Vice President

Guidance from CDC issued this morning (3/8/2021):

This is the first set of public health recommendations for fully vaccinated people. This guidance will be updated and expanded based on the level of community spread of SARS-CoV-2, the

proportion of the population that is fully vaccinated, and the rapidly evolving science on COVID-19 vaccines.

For the purposes of this guidance, people are considered fully vaccinated for COVID-19 ≥ 2 weeks after they have received the second dose in a 2-dose series (Pfizer-BioNTech or Moderna), or ≥ 2 weeks after they have received a single-dose vaccine (Johnson and Johnson [J&J]/Janssen).†

The following recommendations apply to non-healthcare settings.

Fully vaccinated people can:

- Visit with other fully vaccinated people indoors without wearing masks or physical distancing
- Visit with unvaccinated people from a single household who are at low risk for severe COVID-19 disease indoors without wearing masks or physical distancing
- Refrain from quarantine and testing following a known exposure if asymptomatic

For now, fully vaccinated people should continue to:

- Take precautions in public like wearing a well-fitted mask and physical distancing
- Wear masks, practice physical distancing, and adhere to other prevention measures when visiting with unvaccinated people who are at [increased risk for severe COVID-19](#) disease or who have an unvaccinated household member who is at increased risk for severe COVID-19 disease
- Wear masks, maintain physical distance, and practice other prevention measures when visiting with unvaccinated people from multiple households
- Avoid medium- and large-sized in-person gatherings
- Get tested if experiencing [COVID-19 symptoms](#)
- Follow guidance issued by individual employers
- Follow CDC and health department travel requirements and recommendations

73 de W8TK

The Great Québec Blackout

- They call it “the day the sun brought darkness.” On March 13, 1989, a powerful coronal mass ejection (CME) hit Earth’s magnetic field. Ninety seconds later, the Hydro-Québec power grid failed. During the 9 hour blackout that followed, millions of Quebecois found themselves with no light or heat, wondering *what was going on?*

Tnx to Ron Cade W6ZQ

I've always enjoyed reading radio and electronics magazines. It's been sad to see so many vanish over the past couple of decades. I have fond memories of reading titles like Popular Electronics, 73, Popular Communications, and so many more. These days it's difficult to find magazines that cater to hobbyists and radio fans, and those that do exist seem to be struggling. I find magazines to be a good way to learn and stay current and I find them much more enjoyable, useful, and efficient than the modern trend towards youtube video bites.

In addition to QST, which I strongly recommend for every ham, and CQ, here are a couple others that I subscribe to. If anyone has other suggestions I'd like to hear about them!

The Spectrum Monitor - this one was created to pick up the void left by the departure of Pop Comm, CQ VHF, and Monitoring Times. It includes articles for both hams as well as SWL's and Scanner listeners. In fact it has a similar layout and font style Pop Comm and some of the same authors. I think it's a great magazine but unfortunately it's only available as a pdf subscription (yes I prefer a printed copy of any mag). <https://www.thespectrummonitor.com/>

Nuts and Volts - this one is a bit like the old Popular Electronics with plenty of project articles. Many of them are based on microcontrollers and some are rather quirky (do you really need a Nixie Star Clock or Levitating Castle?), but there is also a great deal of analog content and some cool articles on electronic basics and history. I think it's a fantastic magazine, but unfortunately they release them somewhat sporadically and in fact they are currently shipping out issues from 2020 - so they are about a year behind. <https://www.nutsvolts.com/>

73,

Keith KR7RK

Don't forget other ARRL publications. I subscribe to National Contest Journal, which is strictly about contesting. They also have a publication aimed at new hams: On The Air. For the technically oriented, there is QEX, which is often beyond my capability. All of these are available online to ARRL members as well as in print. There are also weekly email newsletters. One is called ARRL Letter which is emailed every Thursday and of course there is one for testers which I get every Wednesday.

ARRL.org is a great resource and all of their publications are archived there.

73 de W8TK

Hi Fellows,

I do not know how many of you signed up for and watched ARRL's Virtual ham Expo held on this past weekend.

Last year, they had a very pleasing graphical format with exhibitors and seminars. The navigation was very much intuitive. Only the presentations themselves were very basic.

This year, they changed the format and it was terrible. It was not very much pleasing and was not intuitive at all. It was hard to navigate among the seminars. The stated times were not kept. The connection and the audio were also terrible. Many times the connection dropped or the audio became blurred. The video was not better either. After several tries on Saturday, I gave up and did not even watch the Sunday portion. The subjects were also not very interesting to me as a rookie. Apparently, I was not the only one with this opinion. The organizer already sent out 3 apologies to quell the storm of complaints.

Yours,
Gabor
KM6JSR

I was one of the presenters on the QSO today Expo and I agree with everything you said. It was full of technical problems compounded by a very poor and hard to navigate interface. No one would disagree and everyone is well aware of the problem. Please, let it go. Eric, the guy who put it together, is just one of us doing all he can to enhance and make better our hobby. And, just like putting up a new antenna, now and then things go south through no fault of our own.

Aside from the technical problems, had everything worked as designed, the interface was a disaster. It was extremely difficult and confusing to migrate around. There was an endless stream of complaints that were heard loud and clear by the organizers. The Expo last time, about 6 months ago, was essentially flawless. It was very easy to move around in, the talks were right on time with great video and audio.

The problem was that the outfit that hosted this year was over their heads. They had done private corporate conferences with a closed audience with a few presentations and a couple of breakout groups. They simply got over their heads with a big convention with lots of simultaneous presentations with real time questions and answered from a large number of remote sites. The previous Expo where the provider knew how to do this, showed that it can be done. It is really too bad, it is embarrassing and frustrating for a guy who loves the hobby and is trying to do his part to make it better.

Please, don't blame Eric. If you are going to contact him, he has heard it all a thousand times. If you do contact him, please thank him. He is just one of us trying to do his best.

This weekend was very long for all of us who were involved with lots of Emailing and videoing back and forth. I got word 10 minutes before mine started that they had moved it up an hour and when I clicked on the appropriate place for me, the program crashed and it took me my 10 minutes to get it going again!!

All of the talks will be on line in a couple of days and he is putting together an easy to navigate way to pick and watch the talk of your choice. Give him a day or two to get it on line. He is absolutely overloaded right now.

Aside from that, Mrs. Lindon, how was the conference. It was actually extremely good. The talks, while there were technical problems, were very good. The discussions were well worthwhile and all in all it was way worth the cup of coffee it cost. And, I hope he does it again.

73

Ron K7RJ

I agree, but I saw two on Sunday that went off fine, and one that didn't. However, I think the one that had difficulty had a crappy Internet connection and was running a laptop that had a really crummy camera. I received this today along with a couple follow-ons. The last one stated that all of the presentations were pre-recorded just in case there was a problem. It will take a few days to get all of the videos posted.

----- Forwarded Message -----

Subject: QSO Today Virtual Ham Expo, and my apology

Date: Mon, 15 Mar 2021 14:51:34 +0000

From: Eric <eric_4z1ug@qsotoday.com>

Reply-To: eric_4z1ug@qsotoday.com

To: Carl Foster <carlfoster@cactuscomm.net>

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QSO Today Logo

Get to On-Demand Expo <<https://app.getresponse.com/click.html?x=a62b&lc=SEAVWO&mc=It&s=AgzmiC&u=Fa22&z=ESYnM6H&>>

Dear Carl,

First of all, *I would like to apologize for the poor experience that many of you had at the QSO Today Virtual Ham Expo*. After our very successful August 2020 Expo, I had a vision of combining what I loved about the vFairs platform (which is what we used last time) with a new technology that would provide a lot more interaction between attendees, speakers, and exhibitors.

Unfortunately, we had many technical issues with the Airmeet Presentations and the integration of the vFairs and Airmeet platforms. My brilliant programmer offered his resignation and to return his salary. Ridiculous, *as the failure of this project was mine alone.* I am deeply sorry for letting you down.

Fortunately for all of us, we had all the video presentations pre-recorded in the event of a technical disaster. Therefore, *all of the presentations that were to take place over the weekend are now in the final editing stages and will be available in the Expo Auditorium within 48 hours*. These videos are in glorious 1080P, high resolution, and streaming from Vimeo (a proven and strong video platform). All of the 80+ speakers gave fantastic presentations.

Please don't let the last couple of days get in the way of watching our amazing speakers. If you are blind or vision impaired, know that we have a solution for you at the qsotodayhamexpo.com website. Give us a day or two to make that preparation.

To get to the on-demand site, simply click on the following link: [_https://qsotoday.vfairs.com_<https://app.getresponse.com/click.html?x=a62b&lc=SEAVi4&mc=lt&s=AgzmiC&u=Fa22&z=EBbkIFd&>](https://qsotoday.vfairs.com_<https://app.getresponse.com/click.html?x=a62b&lc=SEAVi4&mc=lt&s=AgzmiC&u=Fa22&z=EBbkIFd&>). Use your email address to get in (the one you used to purchase your ticket). No password is required. Go into the lobby and click on the Auditorium door, or click Auditorium on the main navigation bar at the top. If you have any problem with access, and you had a ticket, let us know immediately by sending an email to _rachel@qsotodayhamexpo.com_<mailto:mailto:rachel@qsotodayhamexpo.com> for us to update the attendee list, keeping in mind that we are two hours ahead of UTC. Again, we will need about 48 hours to get all the videos up and ready. Note that while the vFairs platform at the above link will be open during the on-demand period through April 12, 2021, the Airmeet Lounge is now closed.

One of the things that we've stressed in all of our communications is that the QSO Today Virtual Ham Expo team is committed to constantly learning and improving what we do. Virtual conventions of this magnitude are new territory. We believe that there's a place for a virtual ham Expo to serve the needs of the very large amateur radio community, especially those that don't attend in-person national or regional events (or even local events). We are committed to making that happen. Our first Expo was a great success, our second one not so much. Setbacks happen but it's important to keep moving forward. As such, we are committed to getting "back on that horse", learning from our mistakes, and making sure that the next one is back on track. Please stay patient with us and we'll prove it to you.

As always, I can be reached at _eric@qsotodayhamexpo.com_<mailto:mailto:eric@qsotodayhamexpo.com>.

The QSO Today Virtual Ham Expo will return on August 14th and 15th.

Humbly yours and 73,

Eric Guth, 4Z1UG

QSO Today Virtual Ham Expo Main Website [<https://app.getresponse.com/click.html?x=a62b&lc=SEAVZb&mc=lt&s=AgzmiC&u=Fa22&z=EEHyhnK&>](https://app.getresponse.com/click.html?x=a62b&lc=SEAVZb&mc=lt&s=AgzmiC&u=Fa22&z=EEHyhnK&>)

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Field Events

Three ToRC members, [W7RMM, K7AZT, W8TK] all veterans of the old club NPOTA outings, gathered at Tumacacori National Historical Park (K-0760) which intersects with Juan Bautista de Anza National Historical Trail (K-4571) in the parking lot of Tumacacori on Saturday 3/6. We all had first shot of Moderna vaccine 3 weeks previous but we wore masks and kept our distance. We ran a Kenwood TS590 at 100 watts on a lead-acid battery with booster and laptop running N1MM Logger+. We found a gigantic tree at the end of the parking lot (see photo) which provided some shade and a great skyhook for the end-fed half wave antenna. I put the antenna over the tree using my spinning rod and reel and it worked great. Weather was too windy for the helium balloon. We arrived at 0900, were on the air by 1000, quit around 1400 after 100 QSOs, all CW but for a single RTTY contact. Operating from a POTA park seems to attract park hunters, and that kept us busy. So we were partly vaccinated, distant, masked, and outdoors. Safe as possible. A fun day. 73 de W8TK



TUCSON HAMFEST

Don Ernle KD7UIZ 4210 Camino de la Colina Tucson 85711 for \$10 seller spaces. Also via Paypal on RST website. DON@DONERNLE.COM



TUCSON SPRING HAMFEST

Saturday April 10th

7AM - 11 AM

Free Admission and On Street Parking



Elliott Electronic Supply

1301 South Tyndall Ave
Tucson, AZ

<https://www.elliotelectronicssupply.com/>

Talk -in Repeater
Frequency:
145.250- MHz,
Tone
156.7 Hz

Morning
Snacks

ARRL Awards
Checking

Seller setup starting at 5AM. All seller/vendor spaces are \$10/parking space. Coffee ready at 6 AM.

RAFFLE

Tickets: \$2 each, 3 for \$5, 7 for \$10
Need not be present to win.

PRIZES:

- ICOM IC-7300 160m thru 6m SDR Based Transceiver
- Yaesu FT70D Fusion Ready Handheld
- Daiwa CN-901V 140-525 MHz SWR / Watt Meter
- Daiwa CN-901HP 1.8-200 MHz SWR / Watt Meter
- Target Gift Cards, \$100 and \$25
- ARRL Gift Certificates \$50, \$25, and \$25

Map and information: <http://www.k7rst.org>

From the ARRL Letter: **Major ENVY!!!**

Monster Dipole Can Deliver Monster Signal

A [video](#) shows how Gary Watson, ZL3SV, in Nelson, New Zealand, installed an enormous all-band dipole with each leg extending 320 meters (about 1,050 feet). The antenna is multiple wavelengths on HF, and on 20 meters it has a gain of more than 16 dB, Watson says. It hears quite well, too.

A huge 12:1 balun resembling a utility pole power step-down transformer converts the impedance from 50 W unbalanced to 600 W balanced. The wire he uses for each leg is aluminum-wrapped, power-line cable (10-millimeter cable with wrap), and he uses power-line fittings, because they're designed to handle the wire. The line has a 60-ton breaking strength.



Watson said he made the 600 W ladder line himself and he uses the antenna on all bands, typically running only 200 W. The coaxial feed line goes to his house down a slope from the antenna via a conduit. His home is entirely off the grid, powered by solar power. The noise level is very low at his location, with power lines some distance away, although his solar power system's inverter is nearby.

Watson says he can copy stations with the "monster" antenna that remain undetectable with a half-wave dipole.

<https://youtu.be/7ah95zW9-WM>

SB SPACE @ ARL \$ARLS004
ARLS004 ARISS Ham Station in Columbus Module Is Once Again
Operational

ZCZC AS04
QST de W1AW
Space Bulletin 004 ARLS004
From ARRL Headquarters
Newington, CT March 17, 2021
To all radio amateurs

Some 6 weeks after going silent following a spacewalk that installed new antenna cabling, the Amateur Radio on the International Space Station (ARISS) ham station in the Columbus module is once again operational. The Columbus station, which typically uses the callsign

NA1SS, is the primary ARISS amateur radio station used for school contacts and other activities. 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.

"On behalf of the ARISS International Team, our heartfelt thanks to all who helped ARISS work through the cable anomaly investigation, troubleshooting, and ultimate repair," ARISS International Chair Frank Bauer, KA3HDO, said. Bauer praised NASA, the ESA, Airbus, and ARISS-Russia lead Sergey Samburov, RV3DR. While the Columbus ham station was off the air, ARISS school and group contacts were able to continue using the ham station in the ISS Service Module on the Russian side of the station.

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.

Work during the March 13 spacewalk also made Bartolomeo operational. "Yesterday was a great day for all!" Bauer exulted. "Ad astra!"
NNNN

Preparations for the ARRL 2021 Field Day - for FT4 & FT8 modes

by John Payton - N7GHZ Amateur Extra

Hello fellow TORC members,

By the time you read this here in the March 2021 TORC newsletter, Field Day (FD) will be just over 3 months from now - on June 26 & 27, 2021. It will come faster than you think.

The ARRL & TORC is continuing the social-distancing & Covid-19 safe protocols from last year, by allowing operations from home to count towards a club aggregated score. So please support the club by entering "TORTOLITA RADIO CLUB" when you complete your Cabrillo file after the end of your operations. The one major change from last year is that Class D & E stations will be limited to 150 Watts. [<http://www.arrl.org/news/arrl-to-extend-field-day-rule-waivers-from-2020-add-class-d-and-e-power-limit>]

Please refer to the FD rules at: <http://www.arrl.org/field-day-rules>

As for setup for FT8 & FT4 modes, the best setup directions are at the FT Roundup website

(<https://www.rttycontesting.com/ft-roundup/preparation/>) which gives WSJT-X setup - very easy, and other notes & screen images for preparation for these contests. These basic preparations work just as well for FD as for the Roundup.

There are some preparations with WSJT-X that should be made prior to the contest.

- You need to Set the Contest Mode, File>settings>Advanced>check special operating activity & ARRL FD boxes & fill in the FD Exch block (example: 1E AZ)
- Install the Operating Frequencies, (see below)
- Reset the Cabrillo Log,
- Make a copy of your existing wsjtx_log.adi and wsjtx.log files - ALSO COPY THESE FILES TO A THUMB DRIVE TO ENSURE THAT YOU DO NOT LOSE YOUR LOG FILES!!! If you have Google Drive, or similar, copy your files there too!
- and erase your wsjt_log.adi file. (I prefer to not delete it, but open it and select everything EXCEPT the first line & erase those entries, I say this because sometimes, and especially on wsjtx v2.2.2., there was an error in that top line that prevented the program from logging (make sure the top line ends in <eoh> if it only has <eh>, then add the 'o' ... otherwise it will not work).
- Further, I suggest that you create 2 new Configurations from the menu bar at the top & name them FD-FT4 & FD-FT8 & make install your FT frequencies that apply if they are not already there. In doing this, you will be able to quickly & smoothly jump from one mode to the other without forgetting to reset several specific setting needs for each mode. Reset the colors in these configurations. Further, you might as well uncheck the boxes for grid squares & ITU Zones, as they aren't needed on FD; no point in confusing the issue with color clutter.
- Ensure that your receive bar (lower left corner of wsjtx) is around 30 with no signals, this prevents overdriving the input.
- In FD mode, a large RED "Field Day" will appear in the lower center.
- Make sure you have the "Hold TX freq" & "Call 1st" boxes checked.

- Right before the contest – like 15 minutes before – **CHECK YOUR SYSTEM CLOCK & UPDATE IF NEEDED!**
One of the biggest issues with working these modes is that people forget that their computer clock will drift. It needs to be within 1 second, but Use time.is and ensure that is “exact”. Or check it against WWV! This will help the system communicate better and get you more OSO’s.
- After the contest you will need to Prepare your Cabrillo Log. But you can fill in the basics before hand, and I suggest you do, as you won’t be exhausted and you’ll have a clearer mind.

Example from my 2020 .cbr log:

START-OF-LOG:3.0
LOCATION: DM42
CONTEST: 2020 ARRL Field Day
CALLSIGN: N7GHZ
CATEGORY-OPERATOR: Single-Op
CATEGORY-TRANSMITTER: 1
CATEGORY-POWER: low
CATEGORY-ASSISTED: Non-Assisted
CATEGORY-BAND: ALL
CLAIMED-SCORE: 337
OPERATORS: N7GHZ
CLUB: Oro Valley Amateur Radio Club
NAME: John Payton
ADDRESS: xxxxx
ADDRESS: Tucson, AZ xxxxx

- Note that the ARRL will again have the online system for submitting your logs & docs, pretty easy entry to use.

Determine what type of operation and power level you will use. Please remember, that if you run lower power (less than 150 Watts), you’ll get twice as many points than if you use higher power. [“ 7.2.3. If any or all contacts are made using an output power up to 150 Watts or less, the power multiplier is 2 (two).”]. You also get bonus points for using battery power or emergency power (solar and/or generator). Read the rules for all of the pertinent details.

“7.3.1. 100% Emergency Power: 100 points per transmitter classification if all contacts are made only using an emergency power source”

Monitor: Use the largest monitor you can! Trying to use a 14 inch screen all day, during a 24 hour event is just going to strain your eyes and your back! I use a 32 inch monitor. Frankly, I wish I had the ability to have a second monitor for grid tracker, and other useful utilities, email, etc. Another tip to reduce eye strain, is to set both your computer and the WSJT-X program to use fonts that are San-Serifs; like Arial, or Calibri, etc.

Speaking of email: It might be handy to have your cell phone next to you so that folks can send you an email, or call if you are having an issue; i.e. time is off, you are splattering, etc.

Antennas:

Check, re-check your antenna’s for SWR. Check the mounting and hardware for any issues.

Remember that a large portion of the battle is being able to 'hear' the signals out there. With many of you living in areas that allow only 'compromised' antennas, it is very important to setup an antenna that can listen and do so by getting rid of the excess noise in (sub-)urban areas. IF you have the ability on your rig to operate with a second Antenna, or have a RX ANT port, I highly recommend setting up a temporary horizontal loop for Receive only! Remember, it does not have to be resonant, though it helps. When I set up my 17 Meter loop, I found that it helped receive better on ALL bands! Even on 80 & 40. And in switching between it and the TX ant., I found much less noise, and I got signals on the loop that just were not possible to hear on the dipole. Give it a try... again, something that you can test from now until FD to see how it works for you. I mean, it's just a bit less than 50 feet of 14 ga. Black house wire, a 4 to 1 Balun, and some support(s) & rope. Even in an HOA, most won't even see it unless they look for it, and it's temporary anyway... wink, wink... and if you have the room, go big with an 80M loop! It should also tune all standard HF bands on transmit too if you cut & tune it right. Try cutting it for 3.525 MHz. Remember, the formula is $1005/F$... $1005/3.525 = 285.1$ Feet... divided by 4 = a bit over 71 feet - 3 inches per side. That is resonant on 3.525, 7.050, 14.100, 21.150 and 28.200 MHz. Your tuner, internal or external should make up for any slight difference.

Other pre-operation tips:

As far as other tips... WATER! Have a cup of water handy. You can do coffee, but in the long run, the coffee can & will make you crash later on.

The other tip is... protect your tailbone! As I have gotten older, and already having a bad back, I put down my pillow that I bought for our outings that I use with my heavy, all-steel folding chair. Great, sturdy chair, but hard on the tailbone! The pillow helped a great deal! I was getting pretty miserable during Field Day due to my back & rear hurting; this time, I was pretty comfortable. However, to improve matters more, I went to wally-world and bought a Coccyx Cushion (located in the health section on the back wall), for about \$15. Already, I know it is very comfortable. Also, get up and stretch, walk around the station a bit... the nice thing about the digital modes is that you can move around a bit, read the screen and just bend over and make your next selection. I encourage you to do so. You can get up and walk around the cabin of a plane or train, do so during FD.

Operation Strategies: Field Day will start on Sat. June 26 at 11 AM - local - MST

CHECK YOUR CLOCK TIME with time.is a GPS or WWV! Watch your DT throughout the day, and make sure most others seem to align with you within a few tenths of a second. I also set up and use a HIGH CONTRAST clock set to UTC, GMT, ZULU so that I can quickly see the time. It is easier than trying to read the taskbar clock, and sometimes I may have the wsjtx clock covered up with log box, etc.

First of all, **don't try to LEARN how to use the FTx modes on FD! Start Now!!!** It will take you about a month to get good & familiar with the program and its "quirks". The current version (as of March 5, 2021) of WSJT-X is v.2.3.0, which seems to be stable and working well.

Secondly, if you plan on working from home, make your station as fit as possible; literally from the ground up! Look at, review and improve every part of your station. Grounding, power, radio, computer, soundcard, coax cables, tuners, and antennas. Ensure connections are tight, watertight if outside, double-check your power supply voltage & check all of your cables for wear and abuse! As to the latter, one of our fellow hams last year had set up his rig and it was working well.

Suddenly, he could barely hear anything and couldn't get out, and his SWR was all over the map. Turns out, critters outside had chewed through his coax cable as it ran behind his shed next to the house.

As Tom - W8TK would say, "always have spares, 2 is 1 and 1 is none". Have backups.

If you are planning on going into the great outdoors, the same applies as above with even more emphasis on having spare everything. Please have plenty of water, food, fully charged cell phones, etc. and be safe out there. If you are new to the desert, it can be a very dangerous place in Summer if not prepared. Be prepared! Make a list ahead of time of what you need and double-check it before you leave. It's not going to be a fun 24 hours if you leave home, drive for 3 hours to the top of your favorite mountain, only to find out - you left your battery and solar panel at home still charging, ooops!

Just before FD, there will most likely be a few practice sessions; USE THEM! Because wsjtx 'contest mode' is a bit different and it takes a bit to get used to a slightly different pace. For one, most of the time, you will NOT get a '73' in contest modes, just an RR73. That tends to throw your timing off a bit from normal day to day operation.

An important strategy, is to run primarily on FT4! Because you want to make as many contacts as possible, it makes sense to operate and work as fast as possible in the fastest mode - FT4!

A lot of times, if you watch operators during a contest, you may not see them make a CQ for a long time, that is because others are "tail-ending" on them. Meaning, as soon as they see the "RR73" from their target, they hit the "TX enable" after selecting that station. It works.

On FT4, change your "wide graph" "N AVG" value to 3 within the FT4 config. Set the FT8 to 5 in its config. I find those settings give a good resolution vertically so that you can see the signals between the green lines. Also set the wide graph to fill your entire screen width. Again, this will make it easier to see the signals and help you set your frequency.

That said, it should be noted, that by midnight, everybody seems to have abandoned FT4, so don't be afraid to swap over to FT8. When FT8 dies down, and it will - this is a good time for your sleep break - don't forget to set your alarm!

With that said, it is only when I run out of other folks calling CQ, and/or my band activity screen is green from working nearly everyone, that is when I will call CQ & 'run'. If I don't get many or any replies, it is then time to change modes, or bands to check what activity is going on elsewhere.

As such, I also run mostly a "search & pounce" mode. This is due to the fact that I can select whom I want to call; i.e. chase... and I find that when you "run" (call CQ & wait for a reply), that you often have to take several cycles for a response, and then... they all hit you at once.

IF you have the ability with extra radios/computers, try to set up a 'monitoring' station that you can use to monitor the other bands. Please remember, we can only use the Primary (non-WARC) bands of 160, 80, 40, 20, 15, and 10 on H.F.

Check on those other bands for more (or maybe too many) stations, or stronger signals.

You can also use programs like Grid Tracker, etc. to monitor what's in the air, and visually see what parts of the country, or DX are working. Don't forget to work gray-line propagation as you can.

NOTE HERE: Because WSJT-X still has some 'bugs', when a bunch of stations call you, things can get lost in the mess.

One of those bugs; that I certainly hope is fixed is that in contest mode, the logging tends to not pick up one or both of the exchange information, even though it is there. Be prepared for this, and realize that you can read the RX activity screen, see the info and manually enter it.

Be careful when changing bands, double-check that both your radio and the wsjt-x program agree as to the frequency. Also, if you change bands, especially from 80 & 40, to 20, 15 or 10; or vice-versa, and it appears you have no signals, double-check your radio's MODE, and make sure it is still on USB - Upper Side Band. ALL FTx modes work ONLY on USB, and many radios will automatically switch you to LSB if you go below 10 MHz (40 & 80 Meters).

If you don't want to drive yourself silly-nuts... turn down the audio on the radio all the way. It's just noise, and unless you are troubleshooting an issue, you really don't need to hear it.

I also strongly recommend you get one of those indoor/outdoor thermometers with the external probe and put that "outdoor" probe right on the heat sink or near your power amplifier on the radio to monitor its temperature (do this now, and not later). You don't want to 'cook' your finals, and you want to keep the power reasonable - 40 or 50 Watts maximum. Remember, that digital modes run at 100% duty cycle during the transmit portion. And since FD is during the hottest time of the year... you have to be careful and protect your gear. I also run an in-line fan (on the floor; being cooler [over the vent when the air conditioner is running]) and use a 4 inch tube to blow air across my Power Amps' heat sink!

SAFETY!!! I.E. LIGHTNING!!!!

Again, because FD is at the end of June, it is also possible for our Monsoon season to start a bit early. If you are new to the area, we get wicked thunderstorms and lightning. The latter is nothing to snort at! It WILL destroy your equipment, and hurt or kill you if it hits your station! Be prepared to disconnect your equipment from both the antenna (and other outdoor cables (rotator controls, ant. Switches, etc.); AND from electrical power! It is highly recommended that you monitor the National Weather Service and/or local TV weather, and/or obtain a personal lightning alarm, like golfers use (about \$25). These can detect lightning up to 25 miles away, to give you an early warning. Don't be lazy if inside and the alarm goes off, get up and do a 360 degree look outside - if you see it coming your way, disconnect! Save yourself and your expensive station!!!

Exiting Field Day -

On Sunday, Jun 27 at 11 AM local MST, FD will end.

No doubt, you will be tired, perhaps a bit grumpy from lack of sleep if you worked the entire 24 hours. If so, take a break, take a nap; re-energize.

Once you have recovered a bit, Close out your log; do whatever teardown you need, if needed. Again, be safe.

Finish your Cabrillo log, and get it prepared to submit online to the ARRL.

Once you have finished with all of your FD ops & log, you can return to normal operations on your wsjtx program.

Remember to now back up both of your FD log files and your Cabrillo file. Also copy those to your thumb drive, etc.

Remember, you can do so simply by changing your config back to your standard config.

Finally, remember, Field Day is about preparing for the "what if's", but it is also about having fun... please do so, & enjoy! Good luck & great hunting to all of you during your Field Day 2021.

73 - John Payton - N7GHZ Amateur Extra - Tortolita Radio Club - KT7RC

Check your times (DT) with other

UTC	dB	DT	Freq	Message	UTC	dB	DT	Freq	Message
035900	-4	0.8	1687	CQ KFSWGB EN82 U.S.A.	035930	-16	-0.2	1256	CQ IK7VJZ JN81 Italy
035900	0	0.2	1568	CQ N6HDIH C8R8 U.S.A.	035100	-13	0.1	1259	F5NBQ W8NAF EN82
035900	-5	0.1	1283	CQ K16WJ DM09 U.S.A.	035115	Tx	2101	IK7VJZ N7GHZ DM42	
035900	-1	0.1	1741	N7VDL KD0XD RR73	035130	-13	0.1	1258	F5NBQ W8NAF EN82
035900	-1	0.2	2364	FM4TI HP1AVS 73	035130	-13	0.1	1246	N7OT W83HYZ FM18
035900	-10	0.3	668	CQ J69BP FK94 St. Lucia	035145	Tx	2101	IK7VJZ N7GHZ DM42	
035900	-12	-0.7	1979	KF7DX NY3W -14	035215	Tx	2101	IK7VJZ N7GHZ DM42	
035900	-10	0.1	1817	YY1AQP KA5BJC FN31	035245	Tx	2101	IK7VJZ N7GHZ DM42	
035900	-10	0.2	2282	CQ KT3Q/2 U.S.A.	035030	-16	-0.2	1256	CQ IK7VJZ JN81 Italy
035900	-10	-0.0	1926	KDSWJV NIUMJ R+00	035315	Tx	2101	IK7VJZ N7GHZ DM42	
035900	-17	0.1	836	CQ KF0AIJ EN31 U.S.A.	035345	13	0.1	1246	K4BX N7QT RR73
035900	-13	0.1	2608	N7OT KG7HOL CN84	035415	16	0.1	1246	CQ N7OT DM42 U.S.A.
035900	-18	-0.9	2089	CQ VE2BP HRS Canada	035445	16	0.1	1246	N9VZG N7QT -17
035900	-7	0.1	1703	SX2A KE4SGH R+12	035515	13	0.1	1246	N9VZG N7QT RR73
035900	-7	0.2	495	WH6S KB1EFS FM42	035545	12	0.1	1246	CQ N7OT DM42 U.S.A.
035900	-3	0.1	1458	WH6S KF0DAB EM28	035615	12	0.1	1246	W4TKG N7QT -01
035900	-8	0.1	1608	AG5XI N3GX FM16	035630	-17	1.3	1247	N7OT W4TKG R-06
035900	2	0.2	778	KY4DAG CO2KY EL83	035645	10	0.1	1246	W4TKG N7QT RR73
035900	-8	0.8	1188	N7UJJ W9WRL RRR	035700	-13	1.3	1247	N7OT W4TKG 73
035900	-24	0.1	848	RX6DX CT1CVL +03	035815	11	0.1	1246	WA1RD N7QT -21
035900	-12	0.2	219	KA3ZLS N4TEY EL96	035845	10	0.1	1246	WA1RD N7QT -21
035900	-12	0.3	1189	W5BV VE6XY -13					

Field Day

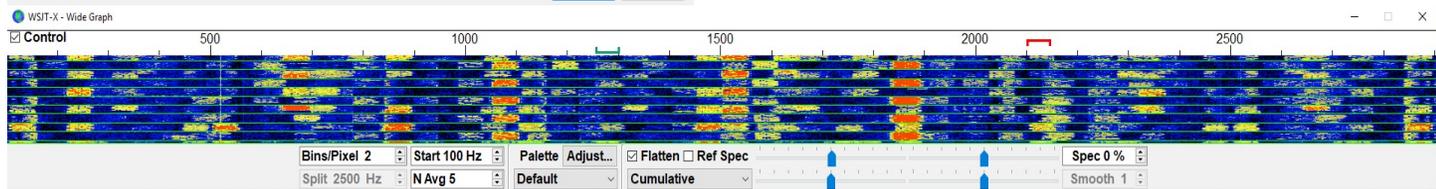
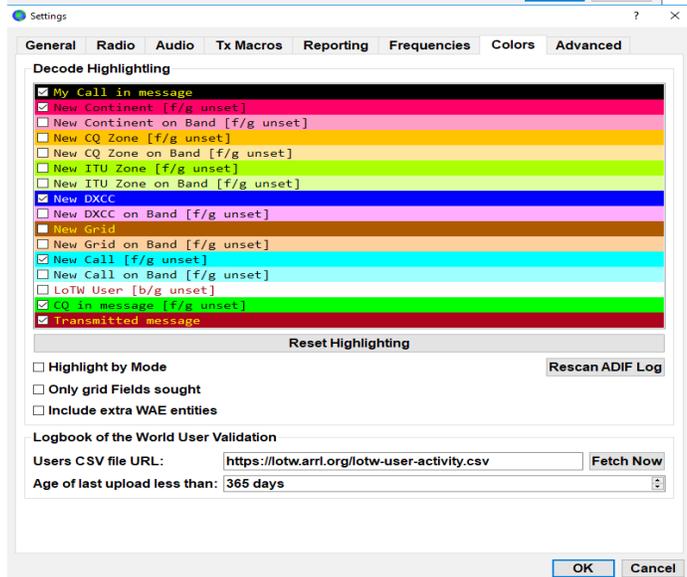
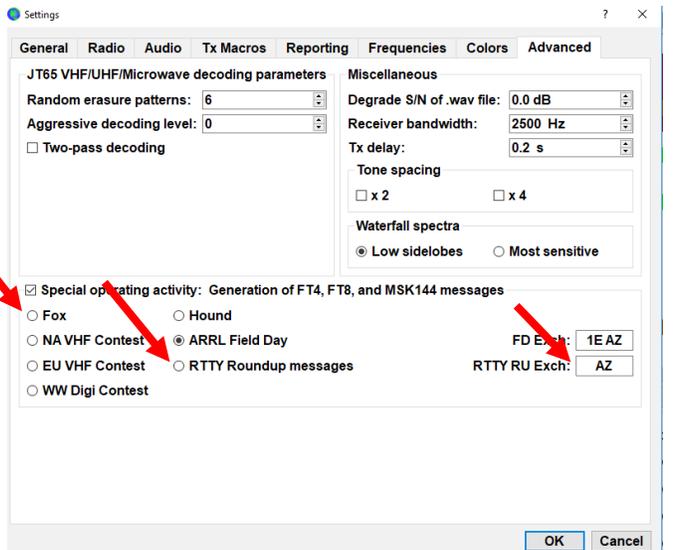
Contest Log

Band	Freq(MHz)	Mode	Date & Time(UTC)	Call	Sent	Rcvd
40m	7.074000	FT8	2021 Mar 05 03:59:18	IK7VJZ N7GHZ DM42		

7.074 000

2021 Mar 05 03:59:18

3:59:18



Bob / John,

Thanks for the reply. I have not noticed how often the noise occurs or its exact duration.

Listening to SDRs at other parts in the country is a good idea. Listening to the SDR at the University of Twente in the Netherlands (<http://websdr.ewi.utwente.nl:8901/>) will show if it global.

Jupiter radio noise is a new one to me. The audio clips from <http://www.radiosky.com/rjcentral.html> are very interesting and do sound like other noise I have heard. Whether it is or is not Jupiter, it is useful to know that Jupiter can cause noise in the amateur radio bands. The 'S Burst' audio clip sounds very much like that from my electric fence when a Prickly Pear pad touches it.

Both are good suggestions. Thanks again.

73, Paul
K7AZT

Hi Paul,

You could be right, it may not be local. In fact, it could VERY NOT LOCAL; meaning it could be that you are hearing Jupiter. No, not extraterrestrials, but the planet itself which is a radio source. If you have or someone else hears this noise, check it out with a waterfall and see if it kind of wanders around within about 5 kHz of the center frequency.

I saw this quite a bit on different frequencies on my SDR receiver, and it took a while before I found some articles on it.

<http://www.radiosky.com/rjcentral.html>

https://science.nasa.gov/science-news/science-at-nasa/2004/20feb_radiostorms

You might also want to check & see if there is a second or third harmonic, that might be coming up and causing the noise.

73 - John - N7GHZ

PURPOSE

TORTOLITA RADIO CLUB TORC
A group of amateur radio operators aiming to just have fun
located south of the Tortolita mountains near Marana
Serving the greater northwest Tucson area and beyond.
<ul style="list-style-type: none"> • No formalities • No regular meetings - just occasional weekend outings • Occasional newsletters will cover items of interest to the group • NO DUES • No repeaters • Emphasis is on having fun • No bureaucracy



Newsletter editor: Ron Herring W7HD

Material in this newsletter is public domain and may be freely shared.

Credit may be given as follows: **Courtesy of Tortolita Radio Club**

Your feedback and articles are very much wanted. Please feel free to contact me with **suggestions and articles** at w7hd.torc@gmail.com ...



If you are contributing an article, please include a photo of yourself as an attachment. The members would really like to be able to recognize you if they see you out in public (should that ever happen).

The word *tortolita* means little dove and is used here as a reference to the Tortolita Mountains north of Tucson, AZ USA.

The flag photo is courtesy of Ron Herring W7HD and was taken from my front porch.