



# Spark Gap

Vol. 38, Issue 1, January 2021 *MARC - Serving Central Indiana Communities for thirty-seven years*

## *On Our MARC .....*

This Saturday at 8 am we will be holding the monthly Mid-State Amateur Radio Club meeting by WebEx and the 2M MARC repeater. Due to the high risk of Covid-19 right now, we will not be meeting in person. There will therefore, be no testing this month. Noel W9NMM will be giving a presentation on WIRES-X.

We hold weekly Tech Discussions via WebEx on Tuesday evening's from 7-8 pm. Invitations are sent to the emails on the roster (or that have been updated manually as I get proper email addresses). If you are not receiving these emails, please email me at [President@midstatehams.org](mailto:President@midstatehams.org) so I can update my personal invitation list. Please contact Bruce K9ICP if you want to participate in Winter Field Day at the end of this month.

73,

Tim Aldridge

[President@midstatehams.org](mailto:President@midstatehams.org)



*Snoopy chasing some DX.*



## ***BIRTHDAYS FOR JANUARY***

***WA8SKY – ROY FRANCIS***

***KC5GHM – JOSH KIILU***

***KC9WLL – JOSEPH KREBSBACH***

***KB9BVN – BRIAN MURRY***

***KB9UJE – MATTHEW PAYNE***

***KD9REP – MICHAEL STRAUB***

***KU9E – JOE TALLY***

***KC9ZMV – CLIFF WHITROCK***

***N9EJR – JIM WILLIAMS***



## **Winter Field Day – 2021**

The 2021 Winter Field Day (WFD) event will be here soon. Last year MARC participated in WFD for the first and did respectably well. For those who may not be familiar with WFD, it is similar to ARRL Field Day except it is held during the winter time. The object of WFD is to prepare and focus for emergency operation under more extreme conditions.

In 2021, WFD will run for 24 hours during the last full weekend in January. This will be from Saturday, January 30 starting at 2:00 pm (EST) through Sunday, January 31 at 2:00 pm (EST). Operation will be on all Amateur bands, HF, VHF, UHF except 12, 17, 30, and 60 meters. Any mode can be used with the required exchange except FT8 and FT4. Categories of operations include indoor, outdoor, and home. Some specific rules apply to logging club participation.

As we begin to plan for MARC participation, we need to determine who is interested in being part of this effort. ***If you are interested or have further questions about WFD please contact Bruce Tisdale (K9ICP) by January 20th.*** More general details of this event are published on the WFD website ([www.winterfieldday.com](http://www.winterfieldday.com)). MARC participation information will be forthcoming as we get closer to the event.

..... K9ICP, Bruce

# How to prevent ESD damage

By Dan Romanchik, KB6NU

Here are some tips from Keysight Technologies, one of the leading electronic test equipment companies, on how to prevent ESD from damaging your electronics.



- **USE A GROUNDED WRIST STRAP** whenever you are handling equipment or boards. Using a grounded wrist strap prevents your body from building up charge and causing damage when this built-up charge discharges into your equipment or test boards. Make sure to connect that alligator clip to ground!
- **USE GROUNDED WORK SURFACES OR MATS** for your boards. Do NOT use static generating or insulating materials as a work surface. Non-grounded mats and static generating/insulated materials can inductively charge boards, especially exposed ones. When connecting a charged board to equipment, the board can cause damage by discharging into the equipment's inputs.
- **KEEP CHARGED MATERIALS AT LEAST 0.3 METERS FROM EXPOSED ASSEMBLIES.** This includes plastics, foam, or other materials that can build up charge. Having a charged material near an exposed assembly can inductively charge the assembly. The assembly can then discharge into the equipment's inputs.
- **DISCHARGE YOUR CABLES BEFORE CONNECTING THEM TO YOUR EQUIPMENT.** Electrostatic charges can build up on test probes and test leads, so it's important to discharge them before connecting them to your test equipment:
  - Ensure your device is off.
  - Connect your cable to your device.
  - Attach a 50  $\Omega$  shunt to the open end of the cable.
  - Remove the shunt and immediately attach your device to your equipment. This prevents the center conductor of your cable from discharging stored charge into your equipment. A charged assembly can charge connected cables.
- **USE BOARD STANDOFFS AS NEEDED.** In some situations, you need board standoffs to provide extra insulation for your exposed assemblies. This prevents your grounded mats from making unwanted connections on your board.

- **NEVER USE “PINK” PACKING MATERIAL FOR BOARD TRANSPORT OR AS A WORK SURFACE.** While many people think pink packing material is ESD safe, in most cases it easily builds up unwanted charge. Unless continuous, thorough testing is done, treat pink packing materials as charged.
- **CAP UNUSED EQUIPMENT INPUTS** to avoid accidental ESD and physical damage. Damage often occurs by accidentally contacting equipment inputs. Capping unused inputs protects them from incidental ESD damage.
- **USE ESD-SAFE BAGS WHEN TRANSPORTING BOARDS.** This protects boards from ESD damage while moving between ESD-safe locations.
- **DO NOT OVERDRIVE EQUIPMENT INPUTS.** Start your testing at the least sensitive input setting and zoom in on your signal. Additionally, observe the maximum input levels for your specific equipment. The least sensitive setting is the most resilient, so starting there ensures that your inputs are at safe operating levels

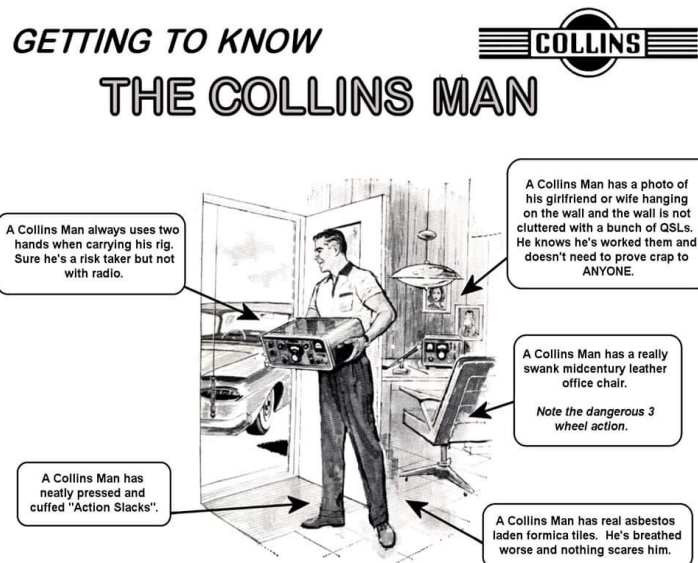
After I posted this to my blog, Dave, N8SBE offered some further tips. He writes:

- Grounded heel straps also help reduce static charge. Test them with a floor tester every time you put them on. The floor needs to be somewhat conductive—not metal, that’s a safety hazard—so use conductive wax on tiles, or conductive carpet to drain of electrostatic charges.
- Keep materials, such as styrofoam cups, that form electrostatic charges easily away from your workspace. A styrofoam cup can generate thousands of volts.
- Keep the humidity up in the workspace. That helps to keep static generation down as well.

I like to think that I follow ESD-safe procedures, but there are a couple of things here that I hadn’t thought about before. For example, I’d never really thought about discharging test equipment cables before connecting them. I think that’s a good tip

To learn more, go to <https://www.keysight.com/find/PreventESD>

Dan Romanchik, KB6NU, is the author of the KB6NU amateur radio blog (KB6NU.Com), the “No Nonsense” amateur radio license study guides (KB6NU.Com/study-guides/), and often appears on the ICQPodcast (icqpodcast.com). When he's not worrying about electrostatic discharge, he teaches online ham radio classes and operates CW on the HF bands.



## RECYCLE TECHNOLOGY FREE

Time to free up your house and garage from all that old technology. As the new year dawned, I decided it was time to clean house and unload all those old printers, backup power supplies and ancient computers. Like you I didn't want to spend a lot of money to recycle my old stuff.



Bingo...May I recommend *Technology Recyclers* at 333 South Franklin Road on the near eastside. They basically take everything for Free except TV and computer monitors. Those will cost you a \$20.00 fee each.

Check out their website [www.tech-recyclers.com](http://www.tech-recyclers.com) to see the list. Their phone is 1-800-237-3887. They offer pick up for free within 48 hours.

According to their website, "We handle all the logistics and all the problems, at no cost to you. No charge for estimates, no processing costs, and no hidden fees."



No kidding. I found this more convenient than adjusting my schedule for the infrequent county drop off sites.

-Jack, w8ish

## **Dayton HAMVENTION 2021 CANCELLED**

[Dayton Hamvention®](#) will not take place for the second year.

"Unfortunately, several setbacks in the recovery from the COVID-19 pandemic make necessary the difficult decision to cancel Hamvention 2021," a January 11 announcement from the Hamvention Executive Committee said. Sponsored by the Dayton Amateur Radio Association (DARA), Hamvention was set to take place May 21 – 23 in Xenia, Ohio.

"Hundreds of volunteers have been working to do everything necessary to bring this Hamvention to the many amateur radio enthusiasts and vendors who support the Dayton Hamvention. Vaccine distribution both in the United States and around the world is lagging behind what was planned. In addition, the emergence of a more communicable form of the COVID-19 virus increases the potential for further public health problems in the next few months. We make this difficult decision for the safety of our guests and vendors. Those who had their tickets deferred last year will be deferred again."

The committee said the show would return in 2022 and hinted at a QSO party for Hamvention weekend. In November, Hamvention had announced that “The Gathering” would be the theme for the 2021 show.

Hamvention is the largest annual amateur radio gathering in the US and was host of the ARRL National Convention in 2019. The ARRL Hamfest and Convention Calendar includes a searchable database that includes other canceled in-person events.

..... *ARRL NEWS January 2021*

## **Mount Aricebo Observatory in Puerto Rico**

The Arecibo Observatory in Puerto Rico has collapsed, after weeks of concern from scientists over the fate of what was once the world's largest single-dish radio telescope. Arecibo's 900-ton equipment platform, suspended some 500 feet above the dish, fell overnight after the last of its healthy support cables failed to keep it in place.

No injuries were reported, according to the National Science Foundation, which oversees the renowned research facility.

"NSF is saddened by this development," the agency said. "As we move forward, we will be looking for ways to assist the scientific community and maintain our strong relationship with the people of Puerto Rico."

The dramatic collapse was captured on video, showing the mammoth structure falling in the early morning, after the last of its cables unraveled. The NSF released footage taken from two cameras, one on the ground and another mounted on a drone.

The Arecibo Observatory had been [slated last month to be withdrawn from service](#), with the NSF citing the risk of an "uncontrolled collapse" because of failures in the cables that suspended the platform and its huge Gregorian dome above the 1,000-foot-wide reflector dish.

Ángel Vázquez, the observatory's director of telescope operations, says he was in the control room area when the equipment began to plummet to the ground. In an interview that was posted to Twitter by scientist Wilbert Andrés Ruperto, Vázquez says he and other staff members had been in the process of removing valuable equipment from the facility when they heard a loud bang outside.

"When we looked outside the control room, we started to see the eventual downfall of the observatory," Vázquez said. He added that strands of the remaining three cables had been unraveling in recent days, increasing the strain. And because two of the support towers maintained tension as the collapse occurred, some of the falling equipment was yanked across the side of the dish rather than falling straight down through its focal point.

The telescope's trademark dish, nestled amid thick tropical forest, was left with a huge gash in August after a cable fell and slashed through its panels. After a main cable snapped in early November, officials said they saw no way to safely preserve the unstable structure.

Instead, they were hoping to keep the visitors center and other buildings operational. But they also noted it would take weeks to work out the technical details of a plan.

In Arecibo's nearly 60 years of operation, the observatory's powerful capabilities made it a popular choice for researchers chasing breakthroughs in radio astronomy and atmospheric science. It was used for projects from sniffing out gravitational waves in space to tracking down potentially habitable planets far from Earth.

For more information and the entire article follow the link:

[https://www.space.com/arecibo-observatory-congress-report-puerto-rico-funding.html?fbclid=IwAR0kzGh4tcQ0fFRWwcf4H6sie22SMjB9FFnpW1F\\_TBXkOsEcqZtlX9nVc1U](https://www.space.com/arecibo-observatory-congress-report-puerto-rico-funding.html?fbclid=IwAR0kzGh4tcQ0fFRWwcf4H6sie22SMjB9FFnpW1F_TBXkOsEcqZtlX9nVc1U)

..... Thanks Chris, KQ9Y for finding this informative article.

## **FCC Reduces Proposed Amateur Radio Application Fee to \$35**

The FCC has agreed with ARRL and other commenters that its proposed \$50 fee for certain amateur radio applications was “too high to account for the minimal staff involvement in these applications.” In a *Report and Order (R&O)*, released on December 29, the FCC scaled back to \$35 the fee for a new license application, a special temporary authority (STA) request, a rule waiver request, a license renewal application, and a vanity call sign application. All fees are per application. There will be no fee for administrative updates, such as a change of mailing or email address.

This fall, ARRL filed comments in firm opposition to the FCC proposal to impose a \$50 fee on amateur radio license and application fees and urged its members to follow suit.

As the FCC noted in its *R&O*, although some commenters supported the proposed \$50 fee as reasonable and fair, “ARRL and many individual commenters argued that there was no cost-based justification for application fees in the Amateur Radio Service.” The fee proposal was contained in a *Notice of Proposed Rulemaking (NPRM)* in MD Docket 20-270, which was adopted to implement

portions of the “Repack Airwaves Yielding Better Access for Users of Modern Services Act” of 2018 — the so-called “Ray Baum’s Act.”

The effective date of the fee schedule has not been established, but it will be announced at least 30 days in advance. The FCC has directed the Office of Managing Director, in consultation with relevant offices and bureaus, to draft a notice for publication in the *Federal Register* announcing when rule change(s) will become effective, “once the relevant databases, guides, and internal procedures have been updated.”

..... *ARRL News December 2020*

## **From the Treasurer.....Kroger App and Club Dues**

I spoke with the Store Manager at Kroger about some issues people are facing with signing up with an organization. He recommended going through the app. He gave me the following directions:

- 1) open the app
- 2) click on the 3 bars at the top right or left
- 3) click on rewards
- 4) click on community rewards
- 5) while in enrollment click on change or select organization
- 6) type mid state in the search organization bar
- 7) scroll down look for our club
- 8) click enroll

This should help get us signed up.

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- 1) Pay dues through PayPal. Go to the website for the link.
- 2) Sign up for Amazon Smile . Go to the website for directions. Please pass along to friends and family. Amazon sends us a check.
- 3) Sign up for Kroger. Go to the website for directions. Please pass along to friends and family. Kroger sends us a check.

Chris Mazarella, KC9VGQ



**ARRL Life Member Neil Rapp, WB9VPG, is 2021 Carole Perry Educator of the Year**



Orlando HamCation® has announced that ARRL Life Member Neil Rapp, WB9VPG, of Bloomington, Indiana, is the 2021 recipient of the Carole Perry Educator of the Year Award. The award recognizes an outstanding individual contribution in educating and advancing youth in amateur radio. It was first awarded in 2018 to its namesake, Carole Perry, WB2MGP, in honor of her work as an educator teaching students about ham radio. Rapp was ARRL 2004 Professional Educator of the Year. He's an Assistant Central Division Director and an ARRL VEC certified examiner.

An educational professional for more than 28 years, Rapp currently teaches chemistry at Bloomington High School South. He's also the school's amateur radio club sponsor and has introduced 3,600 students and parents to amateur radio through his involvement in the organization. Among his educational achievements, he was able to send an experiment involving protein crystallization to the International Space Station (ISS). He also mentored 2013 *Amateur Radio Newslines* Young Ham of the Year and ARRL William R. Goldfarb Memorial Scholarship recipient Padraig Lysandrou, KC9UUS. Rapp got his license when he was 5 years old, and, at the time, was touted as the world's youngest ham. Now 50, he's the host and founder of the amateur radio podcast *Ham Talk Live!* He's also a member of AMSAT and was the youngest person to both join and be eligible for membership in the Quarter Century Wireless Association (QCWA). He contributes to the "Next-Gen Contesters" column for *NCJ*. Orlando HamCation has been sponsored by the Orlando Amateur Radio Club since 1946. HamCation 2022 will be held February 11 – 13, 2022.

..... *ARRL News January 2021*

Neil is a friend of MARC and has spoken at our club meetings many times over the years about amateur radio and his role in education. We are all proud of Neil's accomplishments and receiving this award.

..... Ed.



# 2021 Indiana ARRL Hamfest Schedule

(As of Jan 12 2021)

February 6

Hendricks County Hamfest - Canceled

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February 26

LaPorte County ARC Hamfest – Canceled

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February 26

Dugger Hamfest

Dugger Community Building - Hwy 54 W – Dugger

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April 3

Columbus Hamfest - Canceled

July 9 & 10

Indianapolis Hamfest

2021 - ARRL – Indiana Section Convention

Marion County Fairgrounds – 7300 E Troy Ave – Indianapolis

<http://indyhamfest.com>

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July 10

Auburn Hamfest

Auburn Cord Duesenberg Museum - 1600 S. Wayne Street – Auburn

<http://W9OU.ORG>

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August 7

Elkhart Hamfest Northern Indiana Event Center - 21565 Executive Parkway

- Elkhart

<http://elkharteasthamfest>

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August 14

Hendricks County Tailgate Fest

Avon United Methodist Church - 6850 E. Highway 36 Avon, IN 46123

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November 13 & 14

Fort Wayne Hamfest & Computer Expo

2021 - ARRL - Central Division Convention

Allen County War Memorial Coliseum – 4000 Parnell Ave – Fort Wayne

<http://www.fortwaynehamfest.com>

Canceled 2021 Indiana Hamfests

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February 6 Hendrick County Hamfest

February 26, 2021 - LaPorte Cabin Fever Hamfest

April 3, 2021 - Columbus Hamfest

May – Dayton, Ohio Hamvention

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ARRL Indiana Section

Section Manager: Jimmy L Merry Jr, KC9RPX

[kc9rpx@arrl.org](mailto:kc9rpx@arrl.org)



## MID-STATE AMATEUR RADIO CLUB

The Mid-State Amateur Radio Club meets the **THIRD SATURDAY** of each month at the Johnson County REMC 750 International Drive Franklin, IN 46131.

See our website, [www.midstatehams.org](http://www.midstatehams.org), for maps on how to get to our meeting.

Everyone is welcome; you do not have to be a *HAM* to attend our meetings or a member of the club.

**W9MID Repeater:**

146.835/  
146.235 MHz  
(151.4 Hz PL Tone)

**Club Officers:**

**President:** Tim Aldridge - WC9G  
**Vice President:** Jacki Frederick – KI6QOG  
**Secretary:** Chris Read – W9OQ  
**Treasurer:** Chris Mazzarella – KC9VGQ  
**Repeater Trustee -** Chris Frederick – KQ9Y

**W9MID Repeater:**

443.525/  
448.525 MHz  
(151.4 Hz PL Tone)

**Weekly Net: Sunday evening 7:00 PM ARES/RACES members and ALL RADIO AMATEURS**  
146.835/146.235 MHz (151.4 Hz PL Tone)

**The Official Newsletter of the Mid-State Amateur Radio Club**

**P.O. Box 836  
Franklin, Indiana  
46131**

**Spark Gap Editor: Robert LaGrange N9SIU**

*Please send your articles to my email: [n9siu@yahoo.com](mailto:n9siu@yahoo.com) no later than the 2nd week of the month.*



*Special thanks to Johnson County REMC for the use of their community room for meetings and testing.*