Q-Fiver

K8SCH

Official Newsletter of the OH-KY-IN Amateur Radio Society

In The News

In Person Meetings, Classes, and Hamfests remain cancelled, but don't despair, you can always

GET ON THE AIR!!

(*Thankfully, the bands are getting more and more active!!*)

In The News

Officer Elections are coming: how will YOU help out?!

Click here to learn about the positions!

In The News

Find out what's going on out there!

Check out Rick's (KD4PYR) Propagation and Weather Clock

See Page 20

Calendar of Events for September 2020

Tue Sept 01 Club Meeting (see announcement page 2)
Wed Sept 02 TechTalk Bob W8CRO
Tue Sept 08 Board of Directors meeting (see announcement page 2)
Wed Sept. 09 TechTalk Mike N8MRS
Sat Sept 12 Brunch Bunch Cancelled due to State Group Restrictions
Wed Sept 16 TechTalk Dale KC8HQS
Wed Sept 23 TechTalk George N3VQW
Wed Sept 30 TechTalk Rick KD4PYR

SEPTEMBER MEETING NEWS FROM THE PRESIDENT

Club Members and Friends,

Due to the continuing situation with COVID-19, our club meetings and board meetings will be held online & by phone via Zoom for the foreseeable future. The club meeting is the first Tuesday of each month at 7:30 PM and the board meeting is the second Tuesday of each month at approximately 7:20 or so (due to a schedule challenge). Since there is no readily available means of having an anonymous voting process, we will continue to postpone voting on the bylaws changes until a more appropriate time. You do NOT need to create an account to use Zoom.

Both events (the club meeting and the board meeting) will use the same Zoom meeting code. I hope to have the meetings opened to join at least 5 minutes before the scheduled start time and hopefully earlier. Here are some tips to ensure success for everyone:

• If you are not speaking, please keep your line muted.
• For best results, use a headset or earbuds or something similar. We've seen that iPads and higher end smart phones tend to work fine with just their built-in speakers as have newer computers, but older and/or lower end smart phones have created feedback problems. A headset or earbuds will solve that virtually 100% of the time.
• If possible, join from a computer or smartphone/tablet instead of dialing in by phone. This will allow you to see who has joined as well as view video if people are sharing their video. (For our visually challenged members, phone would be just fine and probably simpler.)
• If you are going to dial in by phone, be sure to use a phone that has free long distance. Otherwise, you will be paying for long distance charges for the duration of the call.
• If you dial in, I may call out the last four digits of your phone number and ask you to identify yourself so that we can change the display from your phone number to your callsign, to help everyone know who's on the call. If you are concerned about your phone number being displayed in the meeting, dial *67 before dialing the phone number. That will block caller ID from showing your phone number.

If you have any questions, please e-mail me and I will try to answer them.

Here is the meeting info:
If you are using a computer, follow the meeting link below and you will be prompted to install and run the Zoom client. If you are using a smartphone or tablet, install the "Zoom Cloud Meetings" app and then use the meeting ID below to join the meeting. If you are dialing in by phone (use a phone with free long distance to avoid incurring charges), dial one of the phone numbers shown and then when prompted, key in the meeting ID followed by the # sign. When asked to enter your participant code, just hit the # again. There are many, many tutorials online if you need help. Remember that you DO NOT need to create an account to use Zoom.

Here is the meeting link:
https://zoom.us/j/996062859
Meeting ID: 996 062 859
Meeting Password for both club and board meetings: 146670

One tap mobile:
+16465588656,,996062859# US (New York)
+13126266799,,996062859# US (Chicago)
Dial by your location:
+1 646 558 8656 US (New York)
+1 312 626 6799 US (Chicago)
+1 301 715 8592 US
+1 346 248 7799 US (Houston)
+1 669 900 9128 US (San Jose)
+1 253 215 8782 US

Meeting ID: 996 062 859

Password: 146670

Thanks,

Ryan AC8UJ, President

OFFICER ROLES: A BRIEF DESCRIPTION

During the August club meeting, someone requested that we provide a description of the club officer positions up for election in December.

Each year, there are five positions up for election and any current club member may nominate himself or herself for one of the positions. Each position is very important to the operation of the club, although the specific responsibilities vary considerably.

The By-Laws of the club define the responsibilities of each role. I've quoted those below for each role except Director. Below the quote, I've provided my own commentary about the position. It's important to note that while I've tried to capture the highlights of each role, all club officers step up and perform additional tasks and take on additional responsibilities when the need arises, so the brief summaries I've provided just capture key responsibilities, not everything that each officer currently does.

President

"The President shall preside at all meetings of the society and shall be a member ex-officio of all committees, and shall perform all other duties usually pertaining to the office. The President or the President's appointee will make reports relative to the activities of the members of the society, as required for affiliation of the society with the American Radio Relay League."

The role of President is probably the most visible officer position in the club since the President leads both the general membership meetings and the Board meetings. In addition to these tasks, the President also serves as a point of contact for people trying to get in touch with the club for various reasons. It's important for the President to be able to motivate club members to help with various efforts and also handle any conflicts that may arise within the club and work toward good resolutions. During Board meetings, the President does not vote on issues unless there is a tie.

Vice President

"The Vice President shall preside in the absence of the President and shall act as aide to the President."

The primary job of the Vice President is to fill in for the President in situations where the President cannot be available. Traditionally within the club, the VP has also taken on the very important tasks of coordinating our meeting programs, ensuring that "split the pot" ticket sales happen at in-person meetings and recording meeting attendance when needed. The importance of program coordination cannot be understated. Good meeting content is vital to the ongoing success of the club and keeping members engaged and attending meetings.

Secretary

"The Secretary shall keep an accurate record of all meetings of the society, and keep a roster of members. The Secretary shall conduct the official correspondence of the society and be responsible for acquiring information, and maintaining records."

The most visible role the Secretary plays is to provide meeting minutes for both the general membership meetings and the Board meetings. The Secretary is also responsible for ensuring that membership record management is being properly handled.

Treasurer

"The Treasurer shall be custodian of all the funds of the society, and shall be responsible for the safe keeping of such funds. The Treasurer shall keep an accurate itemized account of all receipts and expenditures and pay bills as authorized by the Board of Directors. The Treasurer shall render a report at each meeting of the society. The Treasurer shall be responsible for filing all necessary reports to the State of Ohio and the United States Internal Revenue Service. Such reports shall be filed at such time as stipulated by the various agencies of the above so as not to incur any penalties for late filing."

The role of Treasurer is straightforward and extremely critical. The Treasurer is responsible for managing the club's funds and providing reporting regarding the funds. The Treasurer also keeps us compliant with state and federal tax regulations.

(continued on the next page)

Director

In addition to the four officer positions listed, there are three Director positions. Directors are elected to staggered three-year terms with one Director seat up for election each year. The primary responsibility of a Director is to vote on matters brought before the Board and to provide input during Board meetings.

Hopefully this gives a general idea of the roles up for election. If you are interested in running for one of these positions, the best thing to do is to let the Nominating Committee know once the committee is appointed. You may also contact me, and I will pass your interest along to the Nominating Committee. If you have any questions about these roles, reach out to me or the person currently in the role in which you are interested, and we'll be happy to answer your questions!

Ryan AC8UJ
ac8uj@arrl.net

ARRL HEADLINE NEWS

Announcements

TECHNOLOGY AND TECHNIQUE MAKING HAM RADIO TESTING POSSIBLE DURING PANDEMIC

08/20/2020

Amateur radio license testing continues during the pandemic, with a combination of remote Volunteer Examiner (VE) test sessions and careful in-person session planning. In Hawaii, VE Team leader and Section Manager Joe Speroni, AH0A, said he and his team passed the 100-candidate mark on August 10 for video-supervised remote test sessions. Speroni said the most recent session administered exams to 10 candidates simultaneously.

"Candidates from all Hawaiian Islands, Puerto Rico, Guam, and US military bases in Okinawa have had an opportunity to sit for licenses," he told the ARRL Volunteer Examiner Coordinator. "The high pass rate of 95% is most likely due to candidates having had time to prepare for the exam." Speroni also said his VEs' willingness to contribute their time has made the program a success and available to a wide geographical range.

"Zoom meeting video lends itself to handling three candidates per session, and each requires three VEs," Speroni explained. "The 1:1 ratio of candidates to VEs makes planning important. Fortunately, the team of 15 VEs has volunteers from Oahu, Maui, the Big Island, California, and the Pacific. Often, hams from Okinawa and Guam are helping license and upgrade hams in Hawaii."

Speroni said it looks like testing opportunities for Hawaii residents will continue to be needed for a while longer. He explained, "Remote video testing is available, and all are welcome to **register** for a test." The team offers **information** on how testing is conducted.

On the other side of the US, Rhode Island Section Manager and VE Bob Beaudet, W1YRC, reports his club, the Blackstone Valley Amateur Radio Club, conducted a "pandemic-compliant" test session on August 8.

"Our governor in Rhode Island has directed citizens not to congregate in groups greater than 15 outdoors," Beaudet said, estimating that group size remained at around that number at any given time as candidates arrived and left. "Some came early and left as new people arrived," he said. "Also, we were rather widely spread out in the parking lot of Our Saviour's Parish Polish National Catholic Church in Woonsocket." Everyone wore masks and observed appropriate social distancing. The VEs grading and processing applications were also spread widely apart. "We planned to keep applicants a car width apart from one another, but many applicants came in rather large trucks," Beaudet recounted. "That changed our parking pattern a little."

The session accommodated one candidate who was severely vision impaired and successfully upgraded to a General-class license, with a VE reading the questions and recording his answers. — *Thanks to Joe Speroni, AH0A, and Bob Beaudet, W1YRC*

NEW CONTEST FOR PORTABLE STATIONS TO DEBUT IN OCTOBER

08/18/2020

A new amateur radio contest for portable operators — the Fox Mike Hotel Portable Operations Challenge (**POC**) — will debut October 3 – 4. The event is aimed at leveling the competitive playing field between fixed stations and portable stations. **Scoring** for the POC, based upon a kilometers-per-watt metric, will be handicapped in favor of the portables. The contest is the brainchild of Frank Howell, K4FMH. Sponsors include *National Contest Journal* (***NCJ***) — an ARRL publication — but the POC will not be an official *NCJ* or ARRL contest.

"*NCJ*'s role is to encourage hams who don't contest to give it a try," *NCJ* Editor Dr. Scott Wright, K0MD, said. "It will encourage activity by operators who are limited by real estate and do not have a full-blown contest station. Events like this stimulate more interest in contesting, and this will have an international scope to give chances to snare some new DXCC entities."

Other sponsors include the UK DX Foundation (**CDXC**), the Hellenic Amateur Radio Association of Australia (**HARAOA**), and the South African Radio League (**SARL**).

"I think the [POC] steering committee, consisting of both veteran DX contest participants and some of the best portable operators in the world, has come up with something worth giving a go," Howell said. "With this scoring metric, it's more about radiosport than radio gear."

According to the **contest rules**, scoring will be calculated using the distance between stations (Maidenhead grid squares) in kilometers divided by power output in watts. Fixed (QTH) stations will compete against portable (P) stations on 80, 40, 20, 15, and 10 meters. Allowable modes include phone, CW, and digital. For the 2020 event, the number of transmitters concurrently in use will be restricted to two.

Portable stations may not make use of permanently installed amateur radio equipment or facilities but may use ac mains power. The exchange is call sign, station class (P or Q), consecutive serial number, and four-character grid square. Contact **Howell** for more information.

OH-KY-IN Repeaters

146.670 (-) Clifton 146.625 *(-) Edgewood 146.925 *(-) Delhi

443.7625 *(+5) Clifton [*(*) Indicates Fusion Repeater]*

A CTCSS (PL) tone of 123.0 Hz is required for access to all OH-KY-IN repeaters.

All repeaters also transmit a CTCSS (PL) tone of 123.0 Hz

APRS on 144.390 MHz K8SCH-10 Edgewood WIDEn

Packet 145.010 MHz K8SCH-7 Digipeater (offline)– ***Looking for a new site – ideas?!***

OH-KY-IN Life Members

*John Phelps N8JTP * Kenneth E Wolf N8WYC * John W Hughes AI4DA * Karl R Kaucher KK4KRK*
*Howard Hunt NG8P * Fred Schneider K9OHE * Roger Higley W8CRK * Dan Curtin KF4AV*
*Steve Weeks AA8SW * Kelly Hoffman K8KAH * Cindy Shipp, KB8WEI * Jerry Shipp, W1SCR*
Bob Craig K8RC

Tips and Techniques – from Signal Search's *YouTube Channel*

- **Portable Ham Radio Tips & Tricks #1, Carrying Your Gear & My Favorite Portable Antennas!**
- **Portable Ham Radio Tips & Tricks #2: Powering your gear!**
- **How to install a ground rod really fast!**
- **Ham Radio Tips & Tricks Episode #1 - Cleaning Aluminum with Scotch Brite**
- **Elevated vs. Ground Mount Vertical Antennas for Ham Radio**

2020 Committee Chairs and Appointments

Technical Operations Group	Gary Coffey KB8MYC
ARPSC Representative	Jerry Shipp W1SCR
Volunteer Examiners	Brian DeYoung K4BRI
QCEN Representative	Pat Maley KD8PAT
Membership	Nathan Ciufo KA3MTT
Fundraising	Bruce Vanselow N8BV
Education	Michael Niehaus KD8ZLB
Repeater Control Ops Mgr.	Bruce Vanselow N8BV
PIO	(Position Open)
Librarian	Justin Moore KE8COY
Digital Group	Jerry Shipp W1SCR
Q-Fiver Editor	Robert Gulley K4PKM
Field Day	Eric Neiheisel N8YC
Historian	Dale Vanselow KC8HQS
Fox Hunters	Dick Arnett WB4SUV
Equipment Mgr.	(position open)
WebMaster	George Gardei N3VQW
Silent Key	Bryan Hoffman KC8EGV
Tech Talk Net Mgr.	Bruce Vanselow N8BV
K8SCH QSL Mgr.	Bob Frey WA6EZV
TV/RFI	Dick Arnett WB4SUV
HamFest	Gary Coffey KB8MYC

TechTalk Operators for September 2020

1st Wednesday Bob W8CRO
2nd Wednesday Mike N8MRS
3rd Wednesday Dale KC8HQS
4th Wednesday George N3VQW
5th Wednesday Rick KD4PYR

TECHNICALLY SPEAKING

Gary Coffey, KB8MYC, Technical Committee

Seven Tips for Better Repeater Operating

Repeaters do one thing: repeat signals. Thanks to repeaters, VHF and UHF signals that might only travel a few miles on their own can span tens and even hundreds of miles. These seven tips will give you insight into how and why repeaters work the way they do, and how you can be a courteous repeater user.

1. Recognize the Squelch Tail

When a repeater relays a signal, the repeater continues to transmit for a couple of seconds after the signal disappears. This provides a moment of silence so that another station can break into the conversation before someone else begins talking.

If you're using your transceiver's squelch to block noise when you aren't receiving signals, the repeater's transmission will keep your squelch open so you can hear other signals that might appear. This is known as a *squelch tail*. When the repeater finally stops transmitting, your radio's squelch will close with a soft "pop" or "pfftt" sound.

2. Obey the Courtesy Beep

Many repeaters send a chirp or beep as part of their squelch tails. This is a part of a system to enforce courtesy, which is why it is called a *courtesy beep*.

Some inconsiderate repeater operators will immediately begin talking at the moment the other station stops transmitting. This doesn't leave enough time for anyone else to be heard, which can be a serious issue if a station needs to interrupt with an emergency.

Waiting to transmit until the courtesy beep sounds allows time for another station to be heard. Hams who don't wait for the courtesy beep before they begin talking are being rude, and repeaters have some built-in discipline for them — the *time-out timer*.

3. Beware the Time-Out Timer

Most repeaters impose a limit on how long they will relay a given signal. A 3-minute limit is common.

When you begin transmitting through a repeater, a timer starts running. When you stop transmitting, the timer resets to zero. However, if you keep talking beyond the limit, the repeater shuts down—you've "timed out" the repeater. When you finally stop talking, the repeater will resume operation.

Timing out a repeater can be embarrassing. When the repeater resumes operation, you'll often hear that talkative ham sheepishly say, "Oops! I must have timed out the machine."

The courtesy beep also plays a role. If you start transmitting before hearing the courtesy beep, the time-out timer won't reset to zero. Instead, it keeps running, counting down to the inevitable 3-minute shutdown.

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4. Break In the Right Way

If you need to break into a conversation, take advantage of the silence in the squelch tail, but be courteous. When one station stops transmitting, and before the courtesy beep sounds, press your push-to-talk button and say your call sign. That's all you need to do.

The other operators should stop talking, acknowledge you, and allow you to continue. For example:

STATION 1: So when can you meet me at the restaurant, Charlie?

YOU: N1ND.

STATION 2: N1ND acknowledged. Go ahead.

Never use the word "break" or "breaker" unless you have an emergency.

5. Dealing with Doubling

Things sometimes go wrong, despite the best intentions. When it comes to repeaters, two stations will occasionally transmit at the same time. This is called *doubling*. A repeater responds to doubling by trying to relay both signals simultaneously!

On FM repeaters, the two signals will combine to create an incoherent screeching, growling noise that will continue until one station or the other stops talking. That's when you'll probably hear someone else say, "You guys were doubling," meaning nobody understood a word that was said!

6. Kerchunk If You Must, But...

It's understandable that you'd want to test a repeater before you attempt to make a contact, to see if the repeater is hearing you. A short transmission will cause a repeater to respond — assuming it hears you — and you'll hear its squelch tail.

Because of the sound of the squelch tail, this practice is called *kerchunking*. If you say your call sign when you conduct your test, kerchunking is legal. But if you don't identify yourself, kerchunking is illegal.

7. Stand By for the ID

Repeaters identify themselves on a regular basis, and often do so at the beginning of every hour. Many repeaters send their call signs in Morse code, while others use voice recordings.

If you're using an FM repeater that sends a Morse code or voice ID, it is courteous to stop talking until the identification is finished. Besides, it may be difficult for others to understand you if the repeater is "talking" at the same time!

MAY/JUN 2020 17

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SILENT KEY ANNOUNCEMENT

It is with much regret that I pass along that Eric Simon KC8NMP has become a silent key.

Eric's wife, Mary, called me today to inform me and the club of Eric's passing. He spent two weeks in the hospital on life support. He passed away yesterday after suffering both a major stroke as well as a heart attack. Eric was 58 years old.

73, ... Bruce N8BV

(*I will always remember Eric as a very kind and gentle soul* – ed.)

OH-KY-IN Licensing Classes

Please Contact Mike KD8ZLB for future registration and class-specific information as it becomes available: kd8zlb@gmail.com

WE HAVE A WINNER!!

ARRL FOUNDATION ANNOUNCES 2020 SCHOLARSHIP AWARDS

07/22/2020

The ARRL Foundation has announced the recipients of its 2020 scholarship awards. There were 103 awards this year, totaling $144,450. The non-profit Amateur Radio Digital Communications (ARDC) has generously awarded a grant to the ARRL Foundation to match each scholarship award on a dollar-for-dollar basis, lifting the grand total of scholarships awarded to $288,900.

And yes, our very own Nathan KA3MTU won a Scholarship!

The Old Man International Sideband Society (OMISS) Scholarship

Nathan A. Ciufo, KA3MTU, of Burlington, Kentucky

Congrats Nathan, we are all very proud of you!!

The Radiophonic Laboratory: The Bell Sound: From Alice to Amy

by Justin Patrick Moore, KE8COY

Just as the folks inside the Sound-House of the BBC's Radiophonic Workshop continued to refine their approach and techniques to electronic music, another older sound house back across the pond in America continued to research new "means to convey sounds in trunks and pipes, in strange lines and distances". Where the BBC Radiophonic Workshop used budget-friendly musique concrete techniques to create their otherworldly incidental music, the pure research conducted at Bell Laboratories was widely diffused, and the electronic music systems that arose out of those investigations were incidental and secondary byproducts. The voder and vocoder were just the first of these byproducts.

Hal Alles was a researcher in digital telephony. The fact that he is remembered as the creator of what some consider the first digital additive synthesizer is a quirk of history. Other additive synthesizers had been made at Bell Labs, but these were software programs written for their supersized computers.

Alles needed to sell his digital designs within and without a company that had been the lords of analog, and it needed to be interesting. The synthesizer he came up with, was his way of demonstrating the company's digital prowess, and entertaining his internal and external clients at the same time. What he came up with was called the Bell Labs Digital Synthesizer or sometimes the Alles Machine or ALICE.

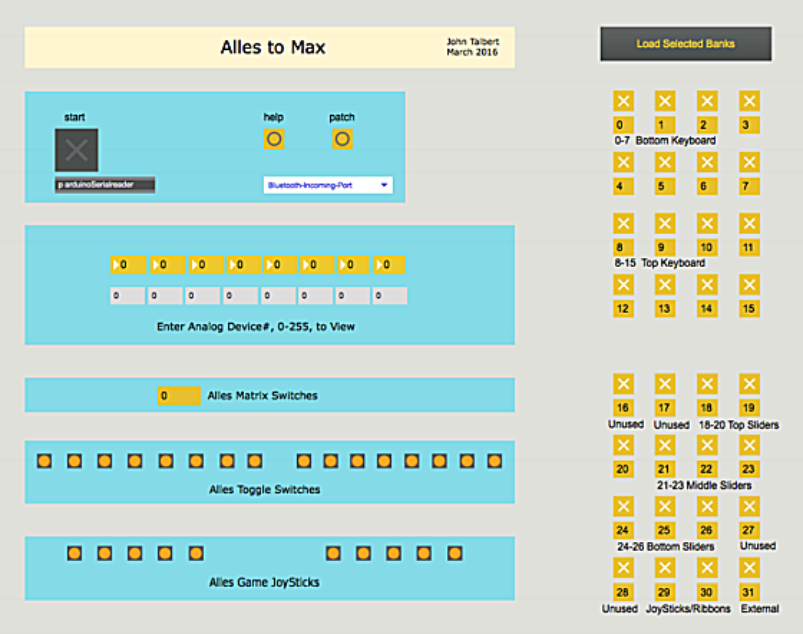


Image Courtesy disquiet.com

It should be noted that Hal bears no relation to the computer in *2001: A Space Odyssey.* The engineer recalls those heady days in the late sixties and 1970s. "As a research organization

(Bell labs), we had no product responsibility. As a technology research organization, our research product had a very short shelf life. To have impact, we had to create 'demonstrations'. We were selling digital design within a company with a 100-year history of analog design. I got pretty good at 30-minute demonstrations of the real time capabilities of the digital hardware I was designing and building. I was typically doing several demonstrations a week to Bell Labs people responsible for product development. I had developed one of the first programmable digital filters that could be dynamically reconfigured to do all of the end telephone office filtering and tone generation. It could also be configured to play digitally synthesized music in real time. I developed a demo of the telephone applications (technically impressive but boring to most people), and ended the demo with synthesized music. The music application was almost universally appreciated, and eventually a lot of people came to just hear the music."

Max Mathews was one of the people who got to see one of these demos, where the telephonic equipment received a musical treatment. Mathews was the creator of the MUSIC X series of computer synthesis programming languages. He was excited by what Alles was doing and saw its potential. He encouraged the engineer to develop a digital music instrument.

"The goal was to have recording studio sound quality and mixing/processing capabilities, orchestra versatility, and a multitude of proportional human controls such as position sensitive keyboard, slides, knobs, joysticks, etc." Mathews said. "It also needed a general-purpose computer to configure, control and record everything. The goal included making it self-contained and 'portable'. I proposed this project to my boss while walking back from lunch. He approved it before we got to our offices."

Harmonic additive synthesis had already been used back in the 1950s by linguistics researchers who were working on speech synthesis and Bell Labs was certainly in on the game. Additive synthesis at its most basic works by adding sine waves together to create timbre. The more common technique until that time had been subtractive synthesis, which used filters to remove or attenuate the timbre of a sound.

Computers were able to do additive synthesis with wavetables that had been pre-computed, but it could also be done by mixing the output of multiple sine wave generators. This is what Karlheinz Stockhausen basically did with *Studie II*, though he achieved the effect through by building up layers of pure sine waves on tape rather than with a pre-configured synth or computer setup.

That method is laborious. A machine that can do it for you goes a long way toward being able to labor at other things while making music.

ALICE was a hybrid machine in that it used a mini-computer to control a complex bank of sound generating oscillators. The mini-computer was an LSI-11, by the Digital Equipment Corporation, a cost reduced version of their PDP-11 in production for twenty years, starting in 1970. This controlled the 64 oscillators whose output was then mixed to create a number of distinct sounds and voices. It had programmable sound generating functions and the ability to accept a number of different input devices.

The unit was outfitted with two 8-inch floppy drives supplied by Heathkit; they made their own version of the LS-11 and sold it as the H11. AT&T rigged it out with one of their color video monitors. A custom converter was made that sampled the analog inputs and transferred them to 7-bit digital resolution 250 times a second. There were a number of inputs used to work with ALICE in real time: two 61-key piano keyboards, 72 sliders alongside various switches, and four analog joysticks just to make sure the user was having fun. These inputs were interpreted by the computer which in turn controlled the outputs sent to sound generators as parameters. The CPU could handle around 1,000 parameter changes per second before it got bogged down.

The sound generators themselves were quite complex. A mere 1,400 integrated circuits were used in their design. Out of the 64 oscillators the first bank of 32 were used as master signals. This meant ALICE could be expected to achieve 32 note polyphony. The second set was slaved to the masters and generated a series of harmonics. If this wasn't enough sound to play around with, ALICE was also equipped with 32 programmable filters and 32 amplitude multipliers. With the added bank of 256 envelope generators ALICE had a lot of sound potential and sound paths that could be explored through her circuitry. All of those sounds could be mixed in many different ways into the 192 accumulators she was also equipped with. Each of the accumulators was then sent to one of the four 16-bit output channels then reconverted from digital back into analog on the audio output.

Waveforms were generated by looking up the amplitude for a given time in a 64k word ROM table. There were a number of tricks Alles programmed into the table to reduce the number of calculations the CPU needed to run. 255 timers outfitted with 16 FIFO stacks controlled the whole shebang. The user put events into a timestamp sorted queue that fed it all into the generator.

Though the designers claimed the thing was portable, all the equipment made it weigh in at a hefty 300 pounds, making it an unlikely option for touring musicians. As the world's first true digital additive synthesizer, it was quite the boat anchor.

Completed in 1976, only one full-length composition was recorded for the machine, though a number of musicians, including Laurie Spiegel whose work will be explored later, played the instrument in various capacities. For the most part though the Alles Synth was brushed aside; even if the scientists and engineers at Bell Labs were tasked to engage in pure research, they still had business to answer to. A use for Hal's invention in terms of marketing was found once again in 1977.

In that year, the Motion Picture Academy was celebrating the 50th anniversary of the talkies. The sound work for *The Jazz Singer*, the first talking picture, had been done by Western Electric, with their Vitaphone system technology. The successful marriage of moving image and sound first seen and heard in that movie wouldn't have been possible without the technology developed by the AT&T subsidiary and Ma Bell was still keen to be in on the commemoration of the film. ALICE is what they chose to use as the centerpiece for the event.

A Bell Labs software junky by the name of Doug Bayer was brought in to improve the operating system of the synth and try to make the human interface a bit more user friendly. The

instrument was flown to Hollywood at considerable risk. The machine was finicky enough without transporting it. Taking it on a plane where it could get banged up, whacking out all of its components in just one bump, and potentially sending it into meltdown mode was not out of the question.

So, they hired musician and composer Laurie Spiegel, who'd already been working at the Labs without pay, to be filmed playing ALICE. This would be shown in the event that the musician they hired to play it live, Roger Powell, wouldn't be able to do so due to malfunction. This film is the only recording of it in performance left in known existence.

Yet to hear how the Bell Labs Digital Synthesizer sounds look no further than Don Slepian's album *Sea of Bliss.* Max Mathews had hired Slepian to work with the synth as an artist in residence between 1979 and 1982. Don had been born into a scientific family. From an early age he demonstrated technical talent and musical ability. He had begun making music in 1968, programming his own computers, soldering together his own musical circuits, and experimenting with tape techniques. As a member of the Defense Advanced Research Projects Agency (DARPA) Don worked as a tester on the early iteration of the Internet, and for a time he lived in Hawaii and played as a synthesizer soloist with the Honolulu Symphony. All of this made him a perfect fit as artist in residence at Bell Labs.

The historic Bell Labs Hal Alles, the first real time digital synthesizer; made famous by synth legend Laurie Spiegel.

The results of his work are on the album: epic length cuts of deep ambient music bringing relaxation and joy to the listener. It's the audio version of taking valium. Listen to it and feel the stress of life melt away.

Don Slepian described his 1980 masterpiece for the online *Ambient Music Guide*. “It’s stochastic sequential permutations (the high bell tones), lots of real time algorithmic work, but who cares? It's pretty music: babies have been born to it, people have died to it, some folks have played it for days continuously. No sequels, no formulas. It was handmade computer music."

The Bell Labs Digital Synthesizer was soon to leave its birthplace after Don had done his magic with the machine. In 1981 ALICE was disassembled and donated to the TIMARA Laboratories at the Oberlin Conservatory of Music.

Oberlin, and by extension TIMARA (Technology in Music and Related Arts) has a history that reaches back to the very beginning of electronic music, in the mid-19th century. None other than Elisha Gray was an adjunct physics professor at the college. He is considered by some as the father of the synthesizer due to his invention of the musical telegraph and his seventy-plus patents for inventions that were critical in the development of telecommunications, electronic music, and other fields. If it had not been for Gray’s electromechanical oscillator, Thaddeus Cahill would never have been able to create that power-hungry beast of an instrument, the Telharmonium.

The Music Conservatory at Oberlin dates back to 1865, and they joined the ranks of those radio and television stations who built electronic music studios with the opening of TIMARA in 1967. The department was founded by Olly Wilson as a response to the demand for classes in electronics from composition students. It became the first of a number of departments in the American higher education scene to create a space for experimentation in analog synthesis and mixed media arts.

Though ALICE is now enshrined in one of the many sound laboratories at TIMARA her influence continued to be felt not long after she was sequestered there. A number of commercial synthesizers based on the Alles design were produced in 1980s.

The Atari AMY sound chip is a case in point and was the smallest of the products to be designed. It stood for Additive Music sYnthesis. It still had 64-oscillators, but they were reduced to a single-IC sound chip. A chip that had numerous design issues. Additive synthesis could now be done with less, though it never really got into the hands of users. It was scheduled to be used on a new generation of 16-bit Atari computers and for the next line of game consoles and by their arcade division. AMY never saw the light of day in any configuration. Even after Atari was sold in 1984, she remained waiting in the dark to get used on a project, but was cut from being included in new products after many rounds at the committee table, where so many dreams wind up dead.

Still other folks in the electronic music industry made use of the principles first demonstrated by ALICE. The Italian company Crumar and Music Technologies’ of New York got into a partnership to create Digital Keyboards. Like Atari they wanted to resize the Alles Machine, make it smaller. They came up with a two-part invention using a Z-80 microcomputer and a single keyboard with limited controls. They gave it the unimaginative name Crumar General Development System and it sold in 1980 for $30,000. Since it was out of the price range

of your average musician, they marketed the product to music studios. Wendy Carlos got her hands on one and the results can be heard on the soundtrack to Tron.

Other companies got into the game and tried to produce something similar at a lower cost, but none of these really managed to find a good home in the market due to the attached price tag. When Yamaha released the DX7 in 1983 for $2,000 the demand for additive synths tanked. The DX7 implemented FM synthesis and enabled it to achieve many of the same effects as ALICE with as few as two oscillators. FM synthesis and its relationship to FM radio modulation will be looked at in detail in another article.

It had all started out as a way for Hal Alles to look at potential problems in digital communications, such as switching, distortion, and echo. It ended up becoming a tool for extending human creativity.

QRZ.COM NEWS

In the past on QRZ News there have been postings about the NIST time stations history. Here is one just published in Radio World which highlights some justifications for maintaining and expanding their services for the future.

The link to the well-illustrated full article is in the bolded headline below. In the beginning it gives general background, "*What They Have To Offer*", which has been well covered before, still worth reviewing. To save some room here the text below picks up with the main point of this post, *Why They Still Matter*, and the connection with amateur radio. Hope you find it interesting too.

73, John, WØPV

Why WWV and WWVH Still Matter

Fans of NIST signals cite benefits including understanding the near-Earth environment - By James Careless, Published: JULY 1, 2020

Why They Still Matter

The possible closing of WWV, WWVH and WWVB did not pass unnoticed. Tens of thousands of supporters signed petitions opposing the move, for a variety of reasons.

Even today, WWV and WWVH's standard time broadcasts and frequencies are a great help for engineers calibrating equipment.

"While time-of-day information can nowadays be obtained through the internet, the combination of circuits involved in internet distribution can result in delays," said Dr. Kim Andrew Elliott (@KD9XB), retired Voice of America broadcaster and audience research analyst, and now producer of the experimental broadcast Shortwave Radiogram.

"These delays usually involve fractions of seconds, but that is enough to be significant in certain endeavors such as high-speed trading. (*It's still around!* - PV) For a lack of delay, nothing beats terrestrial radio. It is held back only by that pesky speed of light."

WWV/WWVH's audio tones are also precise and thus useful.

"On WWV, the 440 Hz tone (the musical note A above middle C) is broadcast once each hour, during Minute 2 on WWV, and Minute 1 on WWVH," Elliott said. "You can tune your violin using WWV."

On a more scientific note, these reliable signals play an important role in forecasting "space weather," which can have a serious impact on the world economy whenever it gets "stormy."

"As WWV's signals move from their transmitter site in Fort Collins to shortwave receivers, they pass through the ionosphere and undergo slight delay and frequency changes," said Dr. Philip Erickson (@W1PJE) of the MIT Haystack Observatory's Atmospheric and Geospace Sciences Group.

"These changes, if measured carefully, contain much information on waves, density changes and other phenomena that form space weather known to affect national telecommunications, long-distance power grids, and human spaceflight."

Initially, these changes could only be detected using professional-grade receivers. But times have changed.

"Atomic clock signal accuracy at the Colorado and Hawaii transmission sites means that modest receivers using inexpensive, modern technology can use these time signals as beacons to sense ionospherically induced changes," Erickson said.

"This allows the formation of a distributed space weather network in the backyards of thousands of amateur radio enthusiasts across the continental U.S."

Such a concept is being realized now by the Ham Radio Science Citizen Initiative (HamSCI), which is developing a personal space weather station for use by citizen scientists.

They Would Be Missed

These benefits would come to an end should NIST's time stations ever go dark.

"The ideas I've outlined, plus other similar concepts, naturally extend WWV's 100-year historic mission into the 21st century, and form an important part of national infrastructure in both the professional and emerging citizen science field," said Erickson.

"It is vital that these signals continue to operate for the benefit of advancing human understanding of our near-Earth space environment."

It's not just WWV and WWVH that would be missed: "The general public will take notice if NIST station WWVB shuts down as its 60 kHz signal controls self-setting clocks known as 'atomic' clocks," said Thomas Witherspoon, editor of the shortwave radio website the SWLing Post.

"Many don't realize it, but a large portion of wall clocks, alarm clocks and watches, not to mention weather stations, cameras and potentially a number of other devices, have a built-in receiver that self-calibrates," he said.

"NIST notes that there are more than 50 million radio-controlled clocks in operation and another few million wristwatches that rely on WWVB for self-calibration.

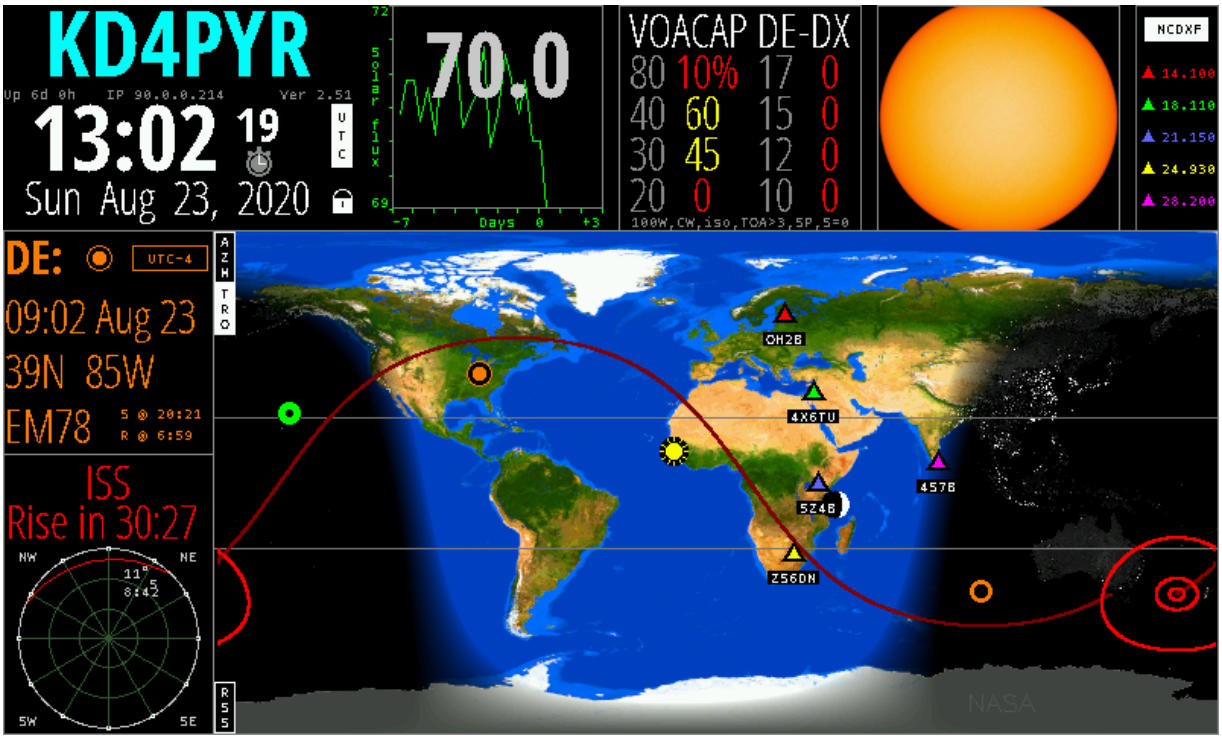
"The thing is, these devices are so embedded in our lives here in North America we scarcely notice them, and many consumers likely assume they're set by the internet. They're not."

A Defense Against Fake News?

WWV and its sister stations could also have relevance now for another reason.

"The internet has become infamous as a purveyor of false information and counterfeit sites," said Kim Andrew Elliott. "This is true even during emergencies, including the coronavirus outbreak.

"WWV and WWVH can be useful transmitters of emergency information: They are much more difficult to spoof than a website," he told RW. "If a fake station tries to transmit on WWV/WWVH frequencies, co-channel with WWV and WWVH, the listener will hear immediately that something is not right. If the fake station comes from overseas, it will usually sound distant, compared to the signal we are used to hearing in North America."



Rick, KD4PYR's Sample Ham Clock Display

HAM CLOCK DISPLAY

I have been running some free software on a Raspberry Pi with a 7-inch touch screen. The software is called HamClock and provides a wealth of information useful in the hobby. Including:

-VOACAP predictions for any path at several power levels
-Trend plots and predictions for solar flux, sunspot, X-Ray and Kp index
-Short and long path antenna beam heading and distance to any DX location
-Display next satellite rise/set times and overhead pass (not just global track)
-Display local time in HH:MM digital, analog or calendar formats
-Azimuthal world maps centered on any location
-Local weather, time, grid square, prefix and sun rise/set times at any DX location
-Live scrolling DX cluster display
-Live solar images from Solar Dynamics Observatory
-Live NCDXF beacon location, time and frequency schedule
-Live RSS feeds from popular ham web sites
-Stopwatch and station ID count down timer with optional color LED and switch control
-Show Moon rise/set and overhead passes for EME
-Adjust time forward or back to explore gray line location, satellite orbits etc
-Optional Elecraft KX3 transceiver frequency control from DX Cluster spot
-Optional local temperature, pressure and humidity sensor for real-time and 25 hour trend plots
-Optional photosensor to adjust display brightness with changes in room lighting

I have about $80 in hardware (the Pi, touch screen, and a stand) and have found it very useful. If you would like to see what the display looks like you can see a real time snapshot of my clock on my web site at: https://www.kd4pyr.net/solar.htm

If you are interested there is a link under the clock to the developer's website. 73 de Rick KD4PYR

(and check out more weather and propagation information on Rick's Homepage – great stuff, Rick!! -ed.)

WAY TO GO, STEVE!!

Today I received the CQ Magazine announcing the results of the 2020 RTTY WPX contest. As indicated in the attached certificate, in my category I scored #1 in the 8 call area, #2 in North America and #10 in the world. While I primarily operate the WSJT-X digital modes, I like to support the continued use of the traditional modes like RTTY as well. 73 to all,

Steve AA8SW

2020 CQ 2020

The Radio Amateur's Journal

Takes pleasure in awarding this Certificate of Merit to

AA8SW

World Wide RTTY WPX Contest

#1 USA - Call Area 8

Rookie Low Power ALL Bands

#2 North America
#10 World

A Total score of **104,550** *points was computed on the basis of the number of stations worked and call sign prefixes contacted. In witness of this achievement, we hereby affix our signatures on this day.*

Ed Muns, WØYK
RTTY WPX Contest Director

W2VU
Editor, CQ

YOUTH ON THE AIR CAMP IN THE AMERICAS DATES ANNOUNCED FOR SUMMER, 2021

The initial camp for young amateur radio operators in North, Central, and South America that was postponed in the summer of 2020 is now scheduled for July 11-16, 2021.

WEST CHESTER, Ohio, July 28, 2020—The summer camp for licensed amateur radio operators ages 15 through 25 that was scheduled to take

place in June, 2020 at the National Voice of America Museum of Broadcasting in West Chester Township (North Cincinnati), Ohio has been rescheduled. Mark your calendars for July 11-16, 2021.

The new dates were chosen after polling the campers who were accepted to attend the 2020 camp, the camp staff, and venue availability. Campers who were accepted to the 2020 camp will have the privilege of registering early for the 2021 camp. Once the early registration results are known, the remaining spots will be open for new registrations. The maximum number of campers was increased to thirty, thanks to additional donations from the amateur radio community.

The camp daily activity schedule will remain the same for 2021. Due to the postponement of the camp, young hams in the Americas were invited to several special online events. The main event was a virtual YOTA Day hosted on Zoom and streamed on YouTube. Virtual YOTA Day included presentations by youth for youth, as well as competitions that could be completed from home. The recording of the event is available for viewing on our YouTube Channel, at https://youtu.be/G2PX1f20ZT4. Other events included: a week long special event station, a remote station to use during Field Day, a club entry for Field Day, and participation in the YOTA Online monthly program from IARU Region 1.

More information about YOTA in the Americas can be found at https://YouthOnTheAir.org, and at the following outlets:
- Facebook: https://www.facebook.com/yotaregion2/
- Twitter: https://twitter.com/yotaregion2
- Instagram: https://www.instagram.com/yotaregion2/
- YouTube: https://www.youtube.com/channel/UC1LVWge18cxFh0SnHemQ2zQ

To schedule interviews or obtain additional information about YOTA in the Americas, please contact Camp Director Neil Rapp, WB9VPG at director@youthontheair.org

Kroger Club Rewards

We are doing even better this quarter. WOW, almost $100. Keep up the good work! Is YOUR Kroger card linked to the Kroger Community Rewards program?

73, ... Bruce N8BV

01-May-2020 to 31-Jul-2020 || 19 Households || $ 99.27 Total Donations

DX Spots & Special Events September 2020 de KA3MTT

Sun	Mon	Tue	Wed	Thu	Fri	Sat
TF - Iceland Thru 10-18 	OX3LX - Greenland Thru 9-20 	1	2 75th Anniversary of the Victory Over Japan Ending World War II Aug 30-Sep 13, 1800Z-2359Z, W2V, Ansonia, CT. VOA Radio Club and Stratford Amateur Radio Club. 21.345 14.345 7.245 3.845	3	4 9H3TI - Malta thru 9-18 	5 Return to Paradise Sep 5-Sep 7, 1800Z-1800Z, K7RDG, Sierra Vista, AZ. Cochise Amateur Radio Association. 14.285 14.070 7.255 3.890
6 ZA - Albania thru 9-17 	7 Disaster Communication Action Team Field Day Operations Sep 7, 1300Z-2300Z, KD1CAT, Birmingham, AL. Disaster Communication Action Team. 7.195 7.210 14.230 14.240	8 HB0 - Liechtenstein thru 10-2 	9 Dog Island IOTA DXpedition NA-085 K4D Sep 9-Sep 18, 0000Z-2359Z, K4D, Carribelle, FL. K5TEN (Operator). 14.275 14.074 7.190 7.074	10 19th anniversary of the attack on the World Trade Center in New York City. Sep 10-Sep 14, 0000Z-0300Z, WA2NYC, Staten Island, NY. Wireless Association of New York City. 14.390 7,238 28.450 D-Star XRF 020B	11	12 Route 66 On The Air Sep 12-Sep 20, 0000Z-2359Z, W6JBT, San Bernardino, CA. Citrus Belt Amateur Radio Club. 3.866 7.266 14.266 28.466
13	14	15 OY - Faroe Is Thru 9-23 	16 The Saving of the Liberty Bell Sep 16-Sep 25, 0400Z-2359Z, W3L, Harleysville, PA. WV2M. 14.074 14.030 7.074 7.030	17	18 Silver State Classic Challenge Sep 18-Sep 20, 0101Z-0101Z, NV7V, Las Vegas, NV. Clark County NV ARES. 147.18 145.22 145.24 446.60	19 Wisconsin Parks On The Air Sep 19, 1100Z-2300Z, W9ZL, Appleton, WI. Fox Cities Amateur Radio Club. 21.350 14.260 7.220 3.850
20	21	22	23	24 JW - Svalbard thru 9-27 	25	26 84th Anniversary, SENARC Emergency Communication Exercise Sep 26-Sep 27, 1500Z-2100Z, N0N, Johnson, NE. southeast Nebraska Amateur Radio Club. 14.230 7.180
27	28 E6AM - Niue thru 10-17 	29	30			

Thanks once again Nathan for all the hard work!

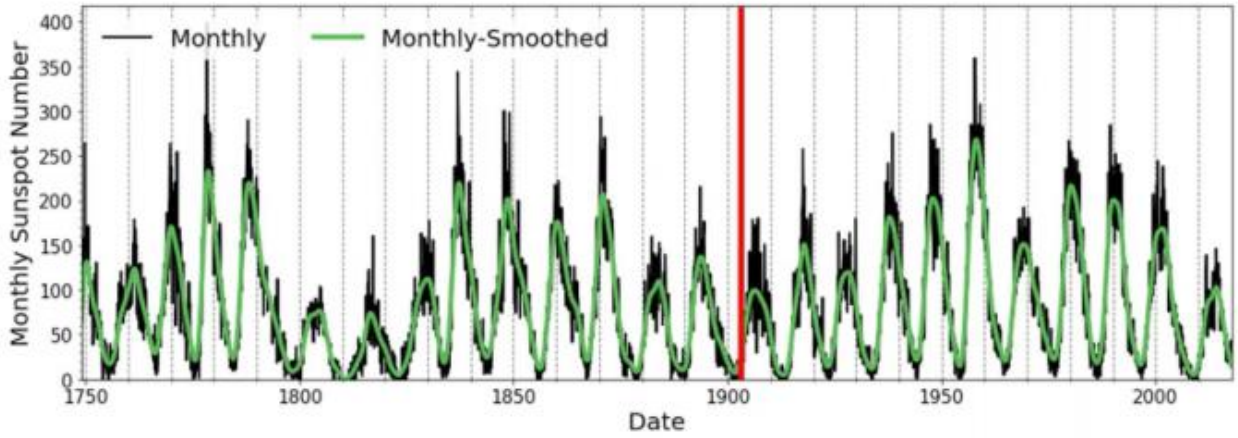
SPACE WEATHER AND PROPAGATION NEWS

The Solar Minimum Superstorm of 1903

July 29, 2020 / Dr.Tony Phillips

July 29, 2020: Don't let Solar Minimum fool you. The sun can throw a major tantrum even during the quiet phase of the 11-year solar cycle. That's the conclusion of a new study published in the July 1st edition of the *Astrophysical Journal Letters*.

"In late October 1903, one of the strongest solar storms in modern history hit Earth," say the lead authors of the study, Hisashi Hayakawa (Nagoya University, Japan) and Paulo Ribeiro (Coimbra University, Portugal). "The timing of the storm interestingly parallels where we are now–just after the minimum of a weak solar cycle."

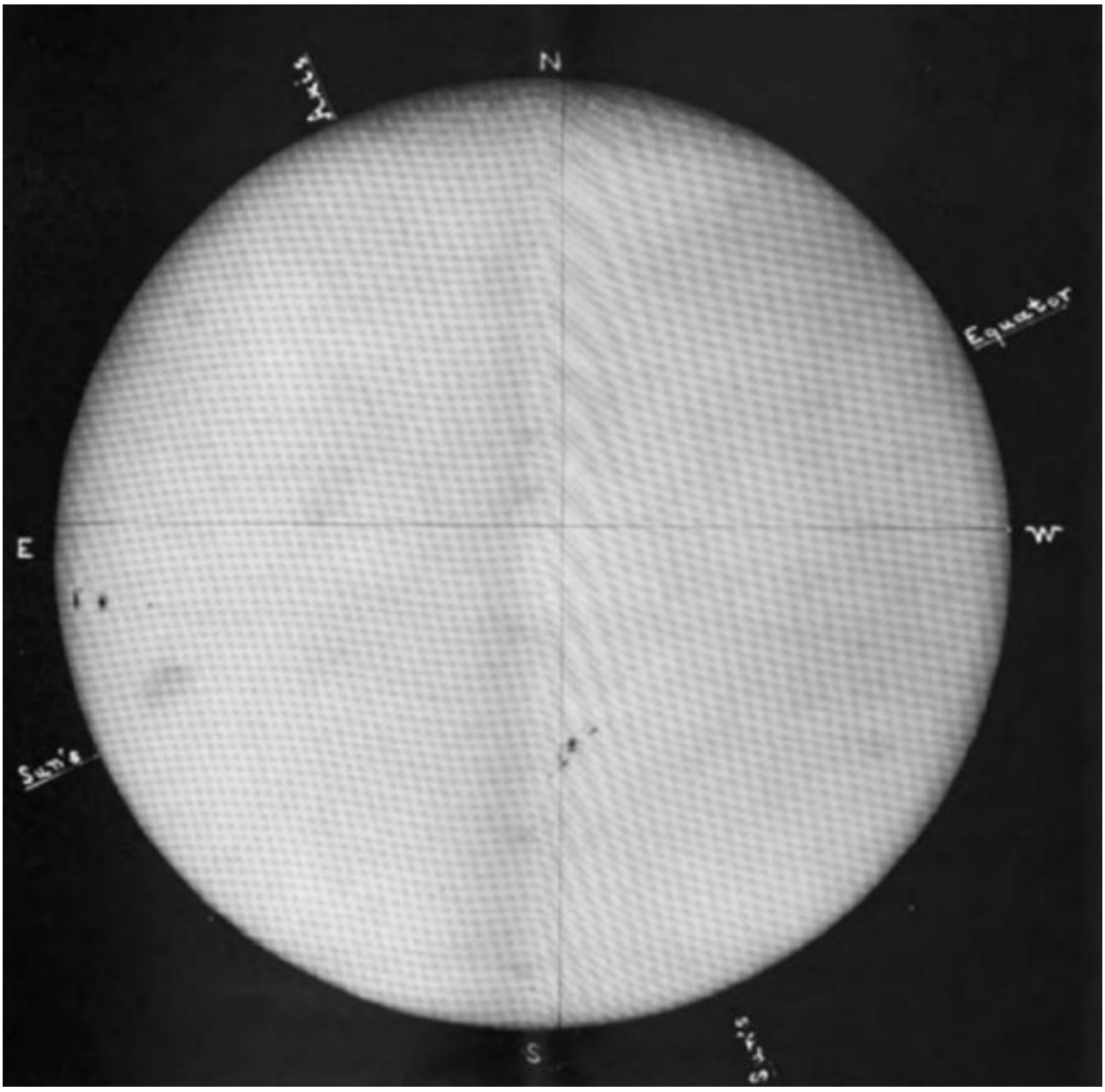


Above: The red line marks the 1903 solar superstorm in a plot of the 11-year solar cycle. [ref]

The 1903 event wasn't always recognized as a great storm. Hayakawa and colleagues took an interest in it because of what happened when the storm hit. In magnetic observatories around the world, pens scrabbling across paper chart recorders literally flew offscale, overwhelmed by the disturbance. That's the kind of thing superstorms do.

So, the researchers began to scour historical records for clues, and they found four magnetic observatories in Portugal, India, Mexico and China where the readings were whole. Using those data they calculated the size of the storm.

"It was enormous," says Hayakawa. "The 1903 storm ranks 6th in the list of known geomagnetic storms since 1850, just below the extreme storm of March 1989, which blacked out the province of Quebec."



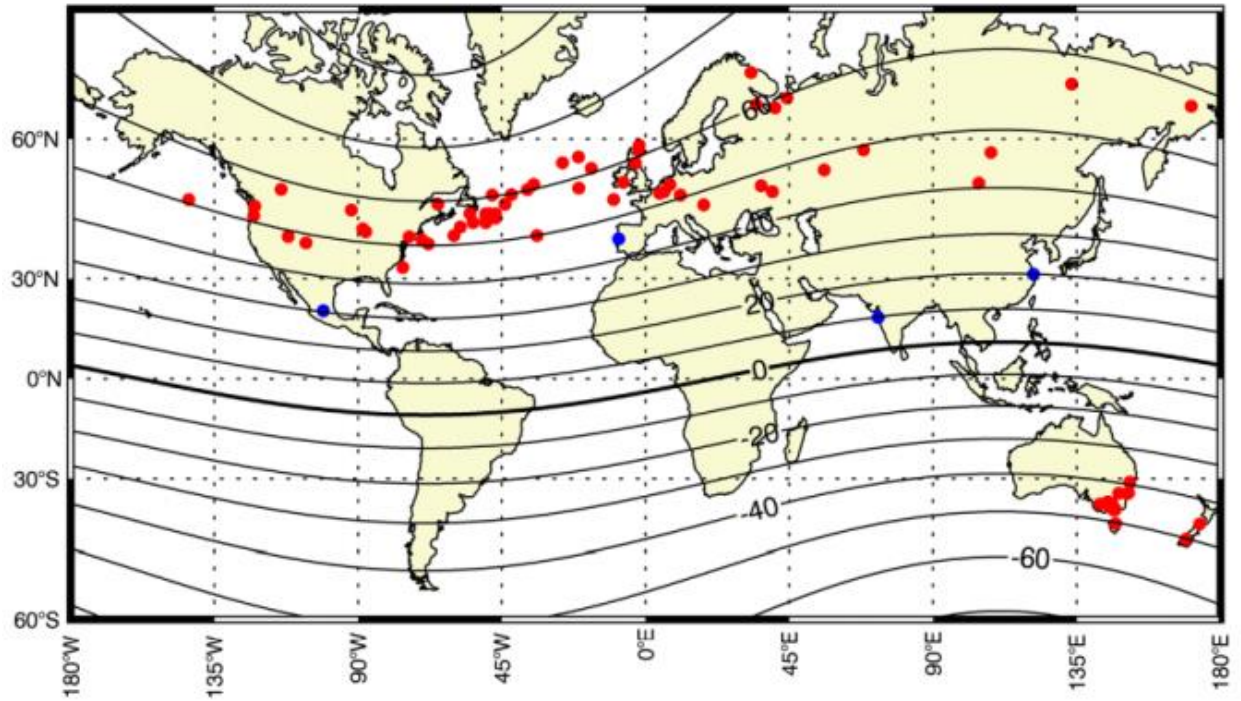
Above: A photo of the sun on Oct. 31, 1903, from the Royal Observatory in Greenwich. [ref]

In their paper, Hayakawa *et al* detail what happened. During the last week of October 1903, a moderately large new-cycle sunspot appeared. It was directly facing Earth on Oct. 30th when it unleashed a solar flare. The flare cannot be ranked using modern scales, because there were no Earth-orbiting satellites to measure its X-ray intensity. However, it must have been very strong; minutes after the explosion, Earth's magnetic field lurched (a "magnetic crochet") as radiation from the crackling sunspot caused strong electrical currents to flow in our planet's upper atmosphere.

The real action began 27.5 hours later when the CME (coronal mass ejection) arrived. A massive plasma cloud slammed into Earth's magnetic field–and pens flying off chart papers were the

least of the effects. Surging ground currents disrupted communications around the world. In Chicago, voltages in telephone lines spiked to 675 volts–"enough to kill a man" according to headlines in the Chicago Sunday Tribune. Telegraph operators in London found they could not send clear messages to Latin America, France, Italy, Spain, Portugal, and Algeria.

Meanwhile, auroras spread across both hemispheres. Southern Lights were seen directly overhead in New South Wales, Australia, while Northern Lights descended past Colorado in the United States. "Shafts of cold gorgeous light [rose] almost to the zenith and gave the impression that a frightful conflagration was raging somewhere to the north of the city [of Leadville]," eyewitnesses reported in Colorado's Herald Democrat newspaper.



Above: Red dots mark aurora sightings during the Oct-Nov 1903 superstorm. [ref]

How big was it? Space weather researchers rank storms using *"Dst"* (disturbance storm time index), a measure of geomagnetic activity that can be estimated from old magnetogram chart recordings. For the 1903 storm. Hayakawa and colleagues found *Dst* = -531 nT. For comparison, the Carrington Event of 1859 and the Great Railroad Storm of May 1921 are both in the ballpark of *Dst* = -900 nT. Arguably, this puts 1903 within spitting distance of the greatest storms in recorded history.

1903 isn't the only time strong storms have interrupted Solar Minimum. "Similar storms (but less extreme) occurred around Solar Minimum in Feb 1986 (Garcia and Dryer, 1987; Dst=-307 nT) and Sept. 1998 (Daglis et al., 2007; Dst ~-200 nT)," notes Hayakawa.

As 2020 unfolds, the sun is experiencing, and perhaps just beginning to emerge from, a century-class Solar Minimum. Also, a new-cycle sunspot (AR2767) is directly facing Earth. Sound familiar?

Stay tuned!

(article courtesy of Spaceweather.com)

PROPOSED BYLAWS CHANGES/AMENDMENTS

At a future meeting of the OH-KY-IN membership, we will be holding a vote to approve replacing both our existing Constitution and our existing Bylaws with the following proposed single document (henceforth to be known as our Bylaws).

We have learned that Ohio corporations should only have Articles of Incorporation and Bylaws, thus we are retiring our constitution to bring us in line with common practice and merging the two documents into a single document while incorporating some updates at the same time.

There are no changes being proposed to our Articles of Incorporation at this time. They remain as filed and previously amended with the state of Ohio. The current Constitution and Bylaws are available on the club website under "About OH-KY-IN" and then "Constitution and By-laws" if you wish to compare the old with the proposed.

OH-KY-IN AMATEUR RADIO SOCIETY, INC. (the "Society")
CODE OF REGULATIONS (also referred to as BYLAWS)
As amended at the _____, 2020 meeting of members.

ARTICLE I. MEMBERSHIP

A. Any person interested in Amateur Radio and who is in sympathy with the purposes of this Society may become a member upon completing an application for membership and payment of any applicable dues; however, an application for membership may be rejected, or the membership of any individual may be terminated, by the Board of Directors if in the opinion of the Board the prospective or continued membership of that individual is not in the best interests of the Society due to prior or continuing violation of F.C.C. rules, disruptive behavior, or other reasonable cause as determined by the Board, whose decisions shall be final.

B. The dues (which may vary depending on categories set by the Board) shall be determined by the Board of Directors from time to time, and shall be payable to the Treasurer during the month of January or at such other time as the Board of Directors may approve. Dues unpaid three months after the due date shall result in automatic termination of membership.

C. Any members qualifying for free membership under categories that may be established by the Board, shall have no voting rights.

ARTICLE II. BOARD OF DIRECTORS

A. Except where authority is otherwise designated under the law, the Articles of Incorporation or these Bylaws, authority over the affairs of this Society shall be exercised by or under the direction of the Board of Directors, which shall consist of three elected Directors serving staggered three-year terms, with one Director being elected each year; together with the four elected officers specified below and the immediate Past President of the Society who serve ex officio with vote. However, all members of the Board of Directors must be current members of the Society. The annual election of one Director shall be conducted along with the election of officers as provided below.

B. If any Board member dies, resigns, is removed, or becomes unable to serve, the vacancy for the unexpired term shall be filled by appointment of the remaining Board of Directors, even if the number remaining is less than otherwise required for a quorum.

C. Any Board member may be removed from office by majority vote of those members present at a regular or special meeting of the members, provided that notice of the proposed action has been given to the members as provided in Article V.D.

D. The Board shall schedule regular meetings to occur at least bi-monthly. The President, or in the absence of the President the Vice-President, may cancel a meeting if there is no business to conduct. Special meetings may be called by the President or by any three Board members with notice to the Board as provided in Article II.E. Four Board members shall form a quorum for any regular or special meeting of the Board of Directors, and the majority vote of Board members present shall be the action of the Board unless otherwise required by law or these Bylaws. Board members may not vote by proxy but may attend a meeting by telephone conference call, video call or other electronic means which allow all participating Board members to hear each other. The Board may also act by unanimous written consent, and email or other electronic communications may be accepted for that purpose.

E. Notice of regular or special Board meetings (other than regularly-scheduled meetings as established at the beginning of each year) shall be sent to each Board member not less than five days prior to such meeting either (1) by first class mail to his or her residence or place of business as listed in the Society's records or (2) by electronic mail to his or her e-mail address, if one has been furnished for that purpose to the Society. Such notice shall set forth the time and place of such meeting and shall be valid if sent as stated in the preceding sentence, whether or not actually received. Business to be transacted at any regular meeting of the Board shall not be limited to those matters set forth in the notice of meeting. Notice of any meeting of the Board may be waived by the execution of a written waiver of such notice, either before or after the holding of such meeting by any Board member. The attendance of any Board member at any meeting without protest at the commencement of the meeting shall be deemed to be a waiver of notice of the meeting.

F. Board meetings are open to members, so the date and location of Board meetings (other than confidential meetings as provided below) must be distributed to the membership in advance of each meeting. However, the Board may conduct a confidential special meeting or executive session at a regular meeting to discuss sensitive topics such as actual or potential litigation, contract negotiations, and other legal or personnel matters.

G. Board members (including current and former officers serving ex-officio) shall not receive any compensation for their service but shall be entitled to reimbursement of authorized expenditures made on behalf of the Society. The Society may purchase directors liability insurance or other reasonable and customary coverages for the benefit of the Directors.

ARTICLE III. OFFICERS AND COMMITTEES

A. The elective officers of this Society shall be a President, Vice President, Treasurer, and Secretary. These officers shall be elected annually at the December meeting by majority vote of the members present and voting. All of the elected officers must be Amateur Radio operators licensed by the Federal Communications Commission.

B. Elected officers of the Society shall serve one year terms (calendar year) and until their successors are elected and take office.

C. The President shall appoint a three-member Nominating Committee and the Nominating Committee shall submit, at the November meeting, names of proposed candidates for each of the four officers and one elected Director. Additional nominations may be made by members from the floor at this meeting.

D. Election of officers from the candidates identified at the November meeting (as the list of candidates may be supplemented by write-in vote at the December meeting) shall take place at the December meeting and shall be by majority vote of the members present.

E. The Board may appoint one or more Assistant Vice-Presidents, Assistant Secretaries or Assistant Treasurers or such other officers, having such duties and responsibilities as the Board shall deem advisable. Such non-elected officers need not be Board members and shall serve at the pleasure of the Board.

F. The President may establish or discontinue committees from time to time in his or her discretion, except as specified in this subsection. A financial review committee of three members shall be appointed by the President at the January meeting each year. The records of deposits and expenditures from the Society's bank accounts shall be reviewed, and a report submitted at the March general membership meeting. A three-person property review committee shall be appointed by the President in January of even-numbered years to review the physical property owned by the Society and present a report no later than the November general membership meeting of the same year. It is recognized that the members of these committees are not professional auditors and they shall not be personally liable for any failure to detect any irregularity that may have occurred.

G. The President shall appoint chairpersons for all committees. Terms for the chairpersons of all committees shall be one year and shall run concurrently with the elected officers, but the President may remove and replace any such chairperson at any time.

ARTICLE IV. DUTIES OF OFFICERS

A. The President shall preside at all meetings of the Society, shall be a member ex-officio of all committees, and shall have all other powers and perform all other duties usually pertaining to the office. The President shall make or cause to be made reports concerning the activities of the Society to the members and to any other relevant recipients such as the American Radio Relay League.

B. The Vice President shall preside in the absence of the President and shall act as aide to the President.

C. The Secretary shall keep an accurate record of all meetings of the Society, and keep a roster of members. The Secretary shall conduct the official correspondence of the Society and be responsible for acquiring information, and maintaining records.

D. The Treasurer shall be custodian of all the funds of the Society, and shall be responsible for the proper deposit of such funds in an FDIC-insured bank or other investment authorized by the Board. The Treasurer shall keep an accurate itemized account of all receipts and expenditures and pay bills as authorized by the Board of Directors. The Treasurer shall render a report at each meeting of the Society. The Treasurer shall be responsible for filing all necessary reports to the State of Ohio and the United States Internal Revenue Service. Such reports shall be filed at such time as stipulated by the various agencies of the above so as not to incur any penalties for late filing.

E. Officers shall not receive any compensation for their service but shall be entitled to reimbursement of authorized expenditures made on behalf of the Society. The Society may purchase officers liability insurance or other reasonable and customary coverages for the benefit of the officers.

F. Expenditures of more than $1,000 must be approved by a majority of the membership present and voting at a regular or special membership meeting prior to committing to the expenditure.

ARTICLE V. MEMBERSHIP MEETINGS

A. Regular monthly or bi-monthly meetings of the membership shall be held from January through December. The date of regular meetings for the following calendar year shall be selected by the Board of Directors at its November meeting and published in the Society's official publication, but such scheduled meeting dates may be changed subsequently by the Board upon giving further notice to the members as provided in Article V.D. The meetings of this Society shall be open to interested persons, but the privilege of making motions, debating or voting shall be limited to dues-paid members of the Society, and the presiding officer may exclude any person who is disruptive or whose presence is otherwise determined to be not in the best interests of the Society. Business to be transacted at any regular meeting of the membership shall not be limited to those matters set forth in the notice of meeting, but shall not include amendment of these Bylaws or removal of any Board member unless the proposed actions were set forth in the notice. Members may vote by proxy if a proper written proxy is provided to the Secretary at the meeting.

B. A special membership meeting may be called by the President, or by the Vice President in the President's absence, at a reasonable time and place, with notice as provided in Article V.D. The

notice must state the business to be conducted at the special meeting, and only that business may be conducted at that special meeting.

C. 20% of the Society's membership may call a special meeting of the membership at a reasonable time and place. The petition calling such a meeting shall be presented to the President, or to the Vice-President in the President's absence. The petition must state the business to be conducted at the special meeting, and only that business may be conducted at that special meeting. Upon receipt of any such proper petition, notice of the special meeting must be given by the Society to the membership as provided in Article V.D.

D. Notice of regular meetings of members is deemed given when published in the Society's official publication at least ten days prior to such meeting (and may be published up to a year in advance). Notice of a special meeting of members shall be deemed given if it is announced at a regular meeting of the members at least ten days prior to such special meeting, is published in the Society's official publication, or is sent by electronic mail to all members who have furnished such an address to the Society (through subscription to the Society's public email reflector or otherwise), in each case at least ten days prior to such special meeting. Such notice of a special meeting shall set forth the time and place of such meeting and shall be valid if given as stated in the preceding sentence, whether or not actually received. The attendance of any member at any meeting without protest at the commencement of the meeting shall be deemed to be a waiver of notice of the meeting.

E. The rules in ROBERT'S RULES OF ORDER, REVISED, shall govern the Society's meetings in all cases to which they are applicable unless inconsistent with other provisions of these Bylaws.

ARTICLE VI. OFFICIAL PUBLICATION

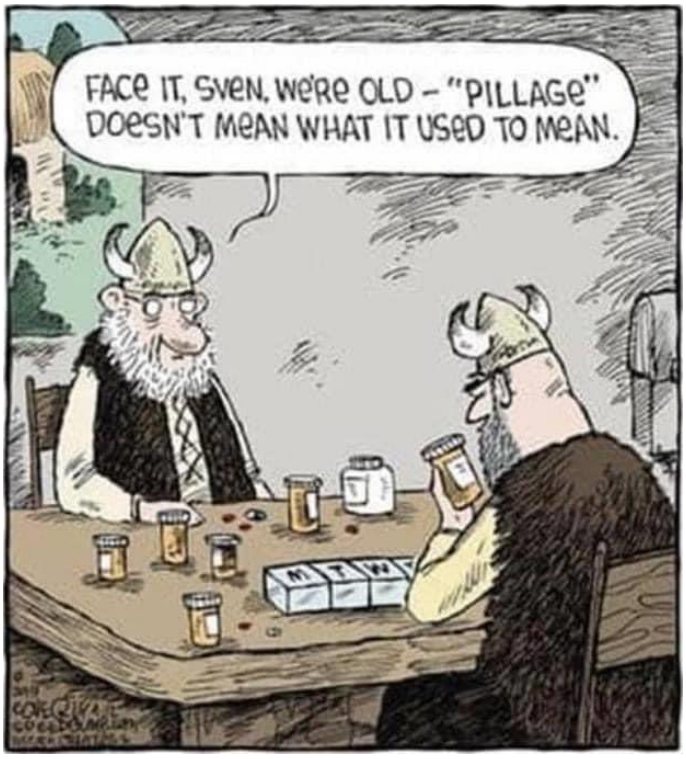
A. The official publication of the Society will be called the Q-FIVER, unless a different name is approved by the Board of Directors. It shall be published monthly (with any exceptions approved by the Board of Directors) and distributed to all members in good standing who have furnished an electronic mail address for that purpose.

The Editor shall be appointed by the President. It is the responsibility of the Editor to maintain the editorial policy of the publication consistent with the policies and practices of the Society.

ARTICLE VII. AMENDMENTS

A. These Bylaws may be amended at any regular or special meeting by a two-thirds (2/3) vote of the members present and voting.

B. No Bylaw amendment shall be put to a vote at a membership meeting unless notice of the meeting has been given as provided in Article V.D together with the text of the proposed changes in these Bylaws.



AUGUST 2020 ONLINE OFFICIAL MEETING

OH-KY-IN General Meeting Minutes

No official meeting minutes were submitted by the Club Secretary for the month of August

Things to Ponder

Apparently RSVP'ing to a wedding invitation "Maybe next time" isn't the correct response.

I miss the 90s when bread was still good for you and no one knew what kale was.

I want to be 14 again and ruin my life differently. I have new ideas.

Have you ever listened to someone for a minute and thought "Their cornbread ain't done in the middle"?

A Touch of Ham Humor!

Q-FIVER EDITOR: *ROBERT GULLEY (K4PKM) E-MAIL: AK3Q@AK3Q.COM*

For questions/comments/suggestions, or article submissions, send me an E-mail!

OH-KY-IN Amateur Radio Society is one of the leading amateur radio organizations in the Cincinnati, Ohio area and has been for most of its 50-plus year history. We are a 501(c)(3) nonprofit organization dedicated to the advancement of all things radio. No matter the amateur radio interest, OH-KY-IN members are *involved*.