



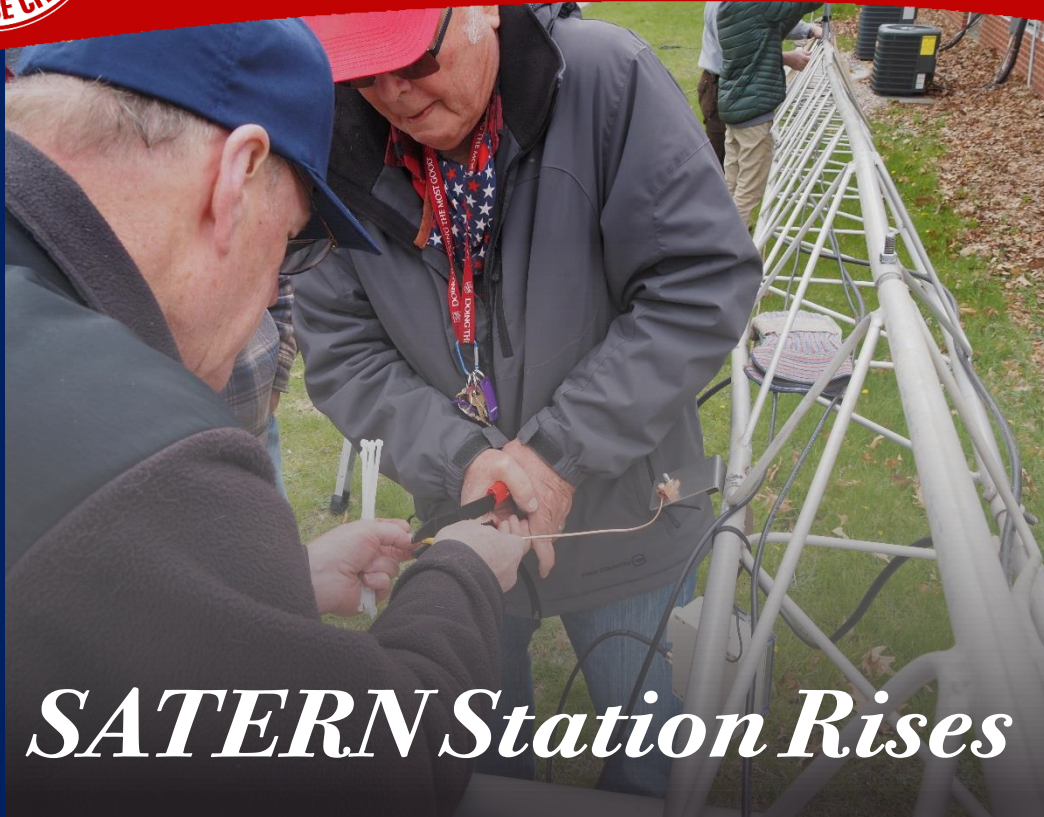
Cherry Juice

Newsletter of the Cherryland Amateur Radio Club

VOLUME ISSUE

51 5

May 2021



SATERN Station Rises

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CARC radio station comes booming back to life.

After a period of renovations, re-configuration and re-arranging the Club Radio Station set-up, including replacement of the antenna tower, volunteers from the CARC have the radio-station rapidly moving back to operational stage- Read about the projects completed and next steps here, in this month's Cherry Juice.

Front-page shout outs to thank three who have helped make this happen. First, the **Salvation Army, SATERN** group for providing a tower for the site. Second, to **Elmer's construction** for installing the tower to specification. And to **Rich DeJong, W8RDJ**, for the final lowering & raising of the antenna.

In the pages that follow, we chronicle the actions that have taken place and the number of club-members who have volunteered their time and talents to bring the CARC / SATERN station up to operational speed.

The challenges ahead- include radio and computer hook-up, then getting on the air to participate in EMCOM, Traffic Handling and Amateur Radio activities. Come along on our journey. You are always welcome.

Meantime, you are cordially invited to join the SATERN as an emergency communications volunteer. See Ernie, K8RCT for further information.

May the 4th be with us.



Affiliated Club #1082

Thanks Gang! “We Got’er Done.”

Club SATERN Station is moving rapidly to operational status

It has been a long time since we’ve had an operational club station. We are almost there. We only need to bring the feed lines into the building to be operational. We could not have done it without all the hard work that the members have put in this past week. Yes, we got it done in one week (plus a day).

On Saturday April 24, a group got together at 10 AM and started cleaning and rearranging the club room. There were several trips to the dumpster to dispose of unusable or unidentifiable objects. If no one knew what it was it was dumpster bait.

Other items were added to the 2022 Swap pile to be sold next year at the swap. These were usable but surplus or obsolete items.

The rest of the equipment and tools were cleaned up and rearranged to the proper location. Wow, does the club room look great. The job now is to keep it looking professional without a lot of stuff sitting on the counters.

**By Ernie Abel, K8RCT
President, Cherryland ARC**

Then at last weeks project night we installed the station ground system. This consisted of pounding in two 8’ ground rods, added stainless steel grounding clamps on the tower and ran heavy copper wire to bond everything together.

Special care had to be taken because we were bonding copper wire to an aluminum tower.

There are special clamps made just for this purpose.

Continued on page 3



“We Got’er Done.”

Continued from page 2

Ok on to the BIG project which kept me awake at night trying to figure out how to do it safely. On Saturday, May 1, we lowered the tower and installed an array of antennas on it.

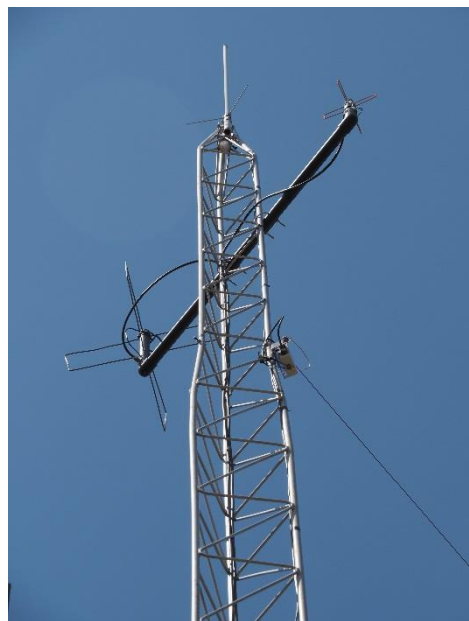
When you next look at the tower you will see a Diamond X50 VHF/UHF vertical, a J pole, two satellite antennas and an end-fed 130’ long HF antenna.



Wow, that was a busy Saturday morning. This was done safely because one of our hams, Rich DeJong, W8RDJ, came with a crane truck! Problem solved!



Randy, KE8JWB



All I can say is THANK YOU to everyone who came out to help get this project done. At one time I was keeping a list of everyone who came to help but in the confusion... well, Ummm, I can't find it. But please accept my heart felt gratitude to everyone who came out to help.

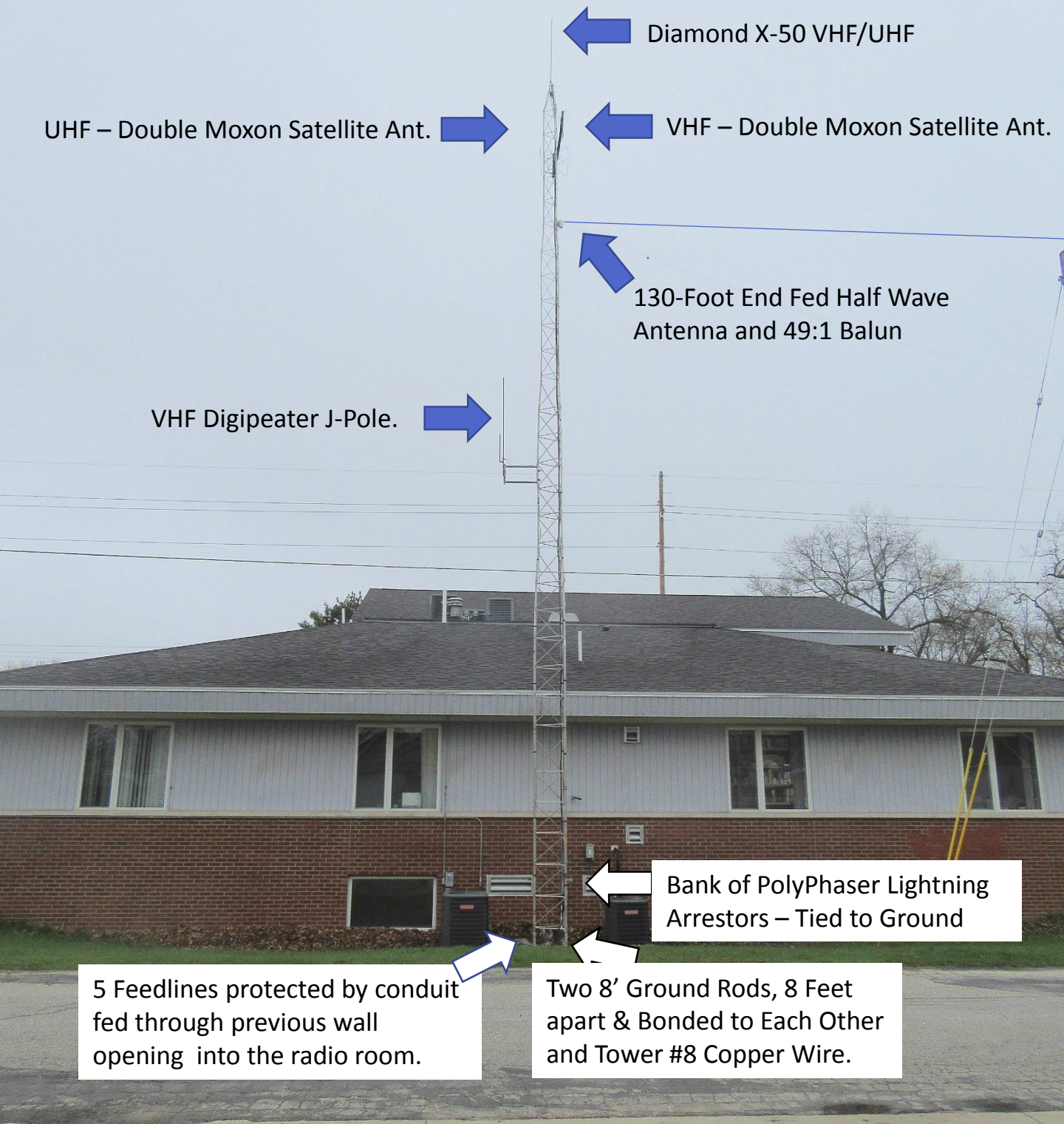
As I said at the beginning,
we got'er done!

Ernie, K8RCT



Photo by Rich, W8RDJ

“We Got’er Done,” a review





Rich DeJong, W8RDJ



Photo by Rich, W8RDJ

Rich DeJong, W8RDJ with cable boom truck to lower and raise the tower.



Pete, K8WQK grounding



Ernie, K8RCT, Directing



Ernie, K8RCT, Drake, N8DMH Ward, N8WK



Bob, KB8SVJ Drake, N8DMH



Ernie, K8RCT, Firing Spud Gun



Retrieving Antenna Support Line over the branches



Antenna Wire

Insulator

Haul Rope

Hoist Rope

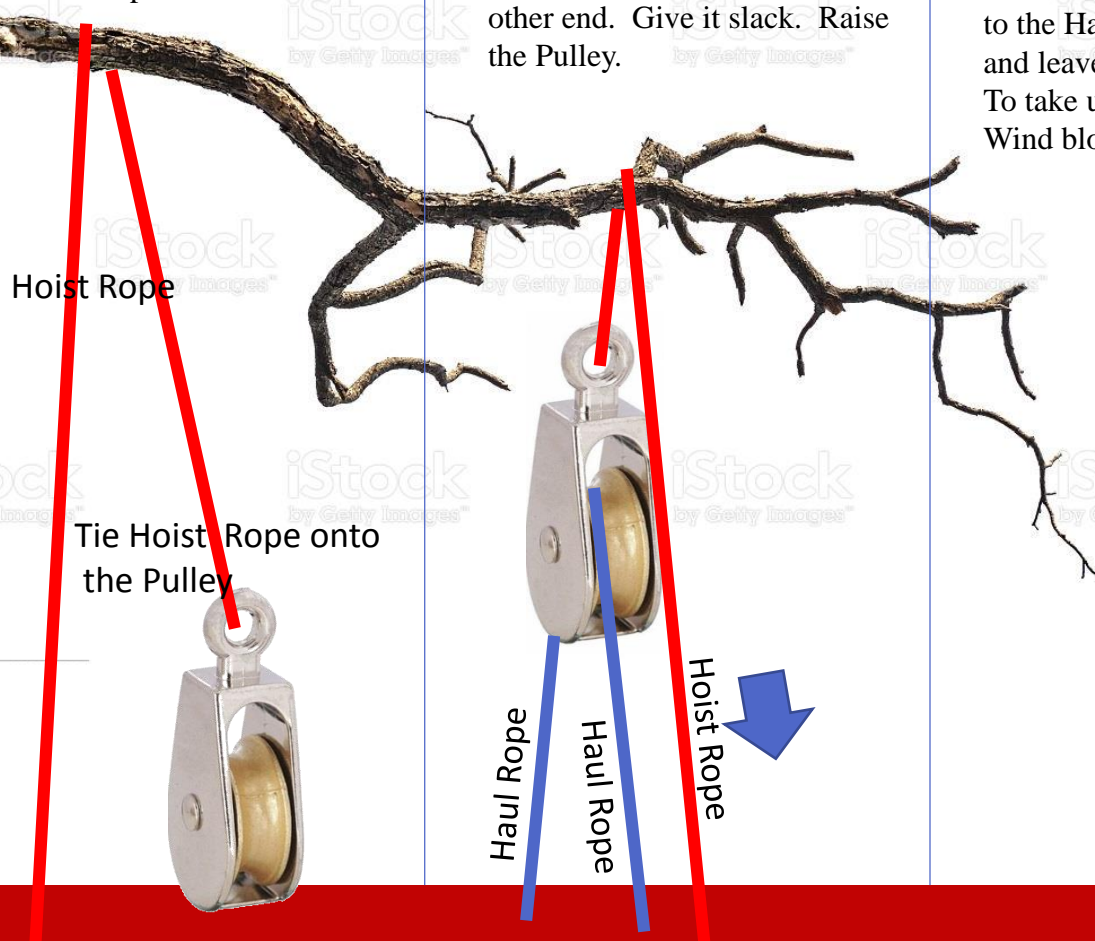
Haul Rope

Hanging One End of a Wire Antenna In Three Easy Steps

Phase 1

Get Rope Over the Branch.

Get a fishing line, or rope over a branch high enough, bring up a hoist rope over the limb.



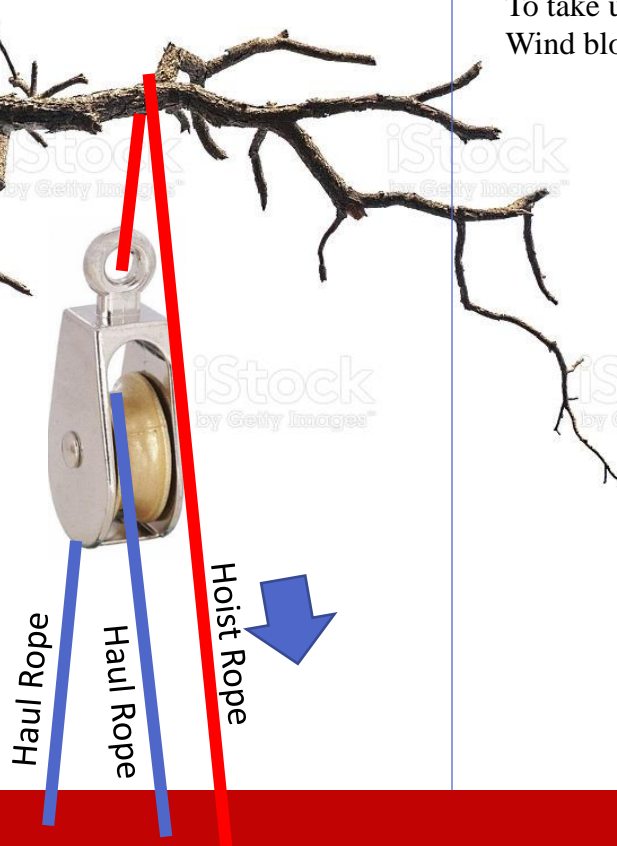
Hoist Rope

Tie Hoist Rope onto the Pulley

Phase 2

Raise the Pulley & Antenna Line

Tie on the Pulley, Run another rope through the Pulley, tie one end to the antenna, Hold the other end. Give it slack. Raise the Pulley.



Haul Rope

Haul Rope

Hoist Rope

Phase 3

Raise the Antenna Line.

Tie off the hoist rope. Pull up the Antenna. Tie a suspended ballast to the Haul Rope, and leave it suspended To take up slack when the Wind blows.





Radio Time Machine

By Scott, WX1J

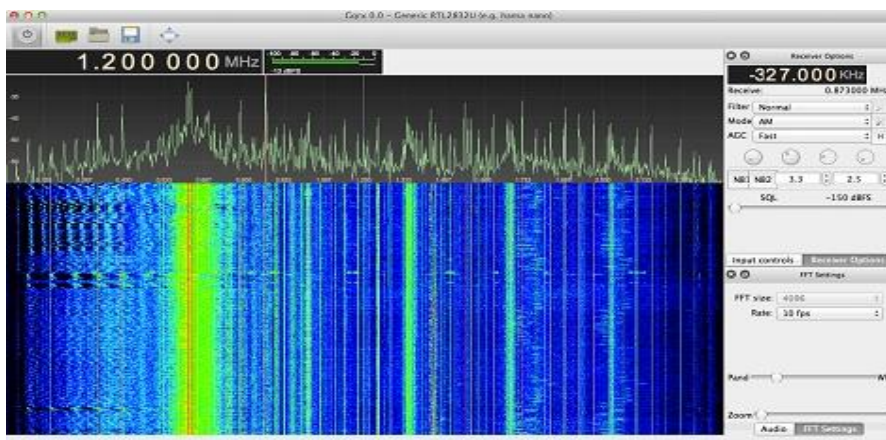
The April Club Member Meeting was held in-person at the Salvation Army, home of the CARC and SATERN Club Radio Room. It was also simulcast on ZOOM for those out of town and not able to be at the meeting. Club business preceded the special presentation. Discussions included a report on the MI QSO Party contest, Amateur Radio Workshops, TBARG report and more. (*See page >>> for the Club Meeting complete story.*)

When Club business concluded, we focused on a presentation by **Thomas Witherspoon, K4SWL**, on his project, the **Radio Spectrum Archive**. A kind of **Time-Machine**. Thomas is the founder and curator of the RSA, has been an avid proponent of shortwave radio and international broadcasting most of his life. He publishes a news site on Shortwave Radio called the SWLing Post and has written a number of articles for publications including the Spectrum Monitor, Popular Communications, World Radio and more.

As Thomas explains it; he is “building a time-machine of sorts. With it, you’ll be able to pick a date and tune through an entire broadcast band as if you had a radio that could pick up transmissions from the past.” How? You ask? Since the availability of Software Defined Radio (SDR) dongles began to appear, enthusiasts have found that they can record the entire radio spectrum that the SDR dongle sees rather than just one station at a time. In earlier days, say, 1986, some people tapped the first IF of their receivers, and recorded the received broad spectrum on high definition VCRs.

Today, those older recordings and the multitude of new SDR recordings have created a sizable storage problem. Within this problem lies the opportunity as well. Thomas and others involved in the RSA project envision a time not too far out, where a consumer such as you or me, can open our computer, boot up a browser and access these recordings, listening through the years, back to a date of interest, to a station of interest, and listen for research or pleasure to our heart’s content.

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The path to that future of easy access has several mountains to cross. First, storage. They need a lot of storage capacity. "One hour of AM broadcast band, (500 – 1700 kHz), for example, can exceed 60 GB in size," Thomas explained. So to keep years of data on-file will require enterprise scale storage capacity. The second mountain is how to keep those archived data banks viable for years, decades or longer? Technology is evolving, but at what rate? Third, is the time. To record shortwave stations before they, as is the trend, begin shutting down operations, in favor of streaming or internet operations.



The presentation was simply fascinating and very appealing to a broader audience than just our Ham Club. Thomas's story and passion has re-kindled in many of us, the first spark of our own journey in radio. Many of us, also, started at age 7 or 8 listening for hours in a dark living room, lit only by the glowing amber round dial on our grandparents upright floor standing Zenith radio, with countries names printed on the dial. Turn the dial, hear the world.

If you want to know more about this project of archiving the radio spectrum for our and future generations:

First, watch Thomas Witherspoon's presentation to Cherryland ARC on YouTube.

<https://youtu.be/AUIHyRvf6AE>

Second, There is a great article by the IEEE at: <Link> that has another YouTube video of Thomas using an SDR interface to bring up radio stations from 1986.

Third, Visit the Headquarters, <https://spectrumarchive.org> and learn current actions and updates and more background on the partners.

Finally, download HSDR interface at: <http://www.hdsdr.de/> and use sample data files located on *SpectrumArchive.org*. Be aware that they take a long time to download, depending your bandwidth.

As the project's vision of seamless interface unfolds, it will potentially be the way we will be able to re-visit our past. Going to 1986, pick a date, and listen to the NBC news coverage of Ronald Regan's reaction to the Chernobyl disaster in Russia, as if it was live. Or, Ralph, KW8G, perhaps your amazing QSO with that guy in North Korea.

Listening to radio broadcasts from around the world, past, present or future unlocks the magic, sparking our interest in radio, languages, cultures, differences, and "samenesses". That magic is still happening.

The Radio Archive project, is poised to assure that this magic will continue to plant that seed of inspiration for many generations.



Thank you
Thomas,
and your
partners around
the world.



MY OLD FRIEND, THE RADIO WAVE

By Thomas Brook Bennet, W8TBB

Thomas Brook Bennet

I didn't feel good. I was sick and I don't remember much from having a running battle with a fever. In and out of the fog of some sort of childhood flu. The days were nights and the nights were days. I was seven years old and it was 1973.

Toward the end of the fever journey I remember my father coming into my room with his 1950s little radio that sat on his dresser. It had always been there. A small radio with a collapsible antenna and wrapped in a mahogany colored leather case. The classic transistor radio.



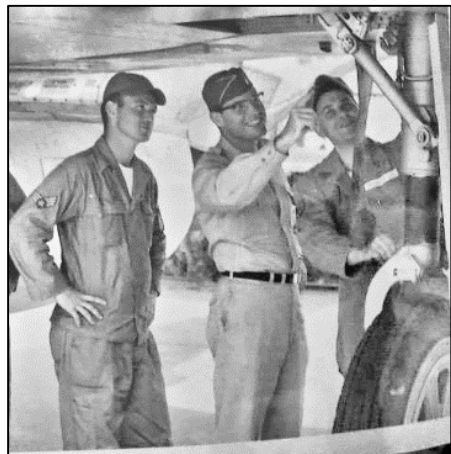
It was sometime in the evening and dark. Dad showed me how to turn on the radio. He told a story of how he was a camp counselor in the summer of 1950 while attending MSU. He heard on the little radio that the People's Korean Army was crossing into South Korea.

Dad was in the ROTC and later became a Maintenance Officer during the conflict. He was stationed at McGuire AFB in New Jersey. He worked with C-118s and C-119s of a troop carrier squadron. He worked with the last of the P-51s and the first of the F-86s.

He related a story of seeing the first Saber Jet coming in and having a brake failure and going off the end of the runway, effectively removing the landing gear. In later years we would often visit the USAF Museum. He would reminisce about the old aircraft and stand in quiet reverie in homage to the bygone era of the last of the gunslinger fighters and transports with 36 cylinder engines. It was expected that I knew the difference between an R2800 and a R4360 radial engine.

Oh, sorry, back to the fever fogged evening in 1973. Dad showed me how to turn on the little radio and showed me how to tune it. He said to scan the dial and listen to where the radio stations were broadcasting from. He said that I could hear stations hundreds of miles away on a cold winter night such as this one

To this day I know the engines and their displacement.



Brook Bennet, Thom's Father

We were living in the burbs north of Detroit. I remember being groggy and slightly delirious scanning the dial and hearing St. Louis and Nashville. Dad later gave me an old shortwave radio that expanded my long range nocturnal radio wandering to include Radio China and European stations. It planted the seed of having a fascination with radio and how the waves did strange things in the night.

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"NOT AS MANY SHORTWAVE STATIONS AS THERE WERE THIRTY YEARS AGO BUT THE SAME FEELING OF HUNTING THE FOREIGN STATIONS."

It was sometime in the same middle 70s that CB radio was all the rage. I remember listening to a 45 of "Convoy", by C.W. McCall, over and over to hear the radio voices on it. You are old if you know what a 45 is or those little plastic things that fit into the center of them. I had to look up the writer of that song. Just saying.

I was trained in proper radio procedure by the Army. But we clowned around a lot on the radio. It was a five mile walk around the base. When we were out of sight and on the far side of the airfield we would have imaginary conversations with nonexistent second parties to the consternation of the Sergeant of the guard. But for the most part we behaved. I would love to have one of those radios now.

All through the years of CB, shortwave listening and military radio, I had a desire to earn my Ham Radio license. It was many years before I actually did the foot work to get that done.

This was in the days of CW testing. I had CW training by Gordo West on cassette that I would listen to while driving to work. I would tap out license plate letters and numbers while driving as practice.

I am not good with tests. I had a tough time with the CW test for my General ticket. I think the testing people gave me a mercy passing grade. The following week the CW requirement was dropped from the testing. I was the last person in Grand Traverse County to take a CW test.

But that was my vision. I wanted to operate CW. It just seemed to be such a cool mode. It later came to fruition and my super cool, new IC7300 has no microphone. I recently made a contact in rural Russia. That brought it all together. CW and a wire antenna and a radio with good hearing, resulting in contacts on the other side of the planet.

That brings us full circle. I recently picked up a little shortwave radio. I sit in bed and run up and down the dial with the long wire antenna hanging out the window. Not as many shortwave stations as there were thirty years ago but the same feeling of hunting the foreign stations.

Radio has always been there for me. In this day and age of cell phones and

the internet, I take deep pride in being a ham radio nerd. We are an odd lot of

outliers with our unique language and customs, our strange antennas and curious license plates. We are the keepers of a long and proud tradition. I would be remiss if I didn't mention Jeff, K9JP. He has been an amazingly generous Elmer. He made that contact on the other side of the planet possible. It is a hobby about sharing. I take the most pride in teaching my daughter Morse code in the hope that one day she may be the station operator. The passing of the torch.

73

W8TBB, Thom Bennett,
Traverse City,



Antique Radio Collection

Shortwave Listeners, Listen up!



Crosley Radio Built into Table

Four classic antique radios- all have been re-furbished. These are part of an estate sale that will not be finalized until end of June. If you have interest in these beautiful works of art and nostalgia for Short Wave Listening – contact Scott WX1J, who is taking contact information for the future owner.

Additional photos of the backs are available. You will be able to see them at the end of June. They are locally based in the area.

Info, contact: wx1j@arrl.net.



Wm. O. Grunow Radio- 1933 - 43



Motorola Aero-Vane – Mid 1940s

FOR SALE BY OWNER

VHF Rigs & Ants by Joe Novak, W8TVT

Contact: Scott, WX1J- wx1j@arri.net

Package 1: \$125.00 or Best Offer



Motorola Moxy, w/ Mic & Astron RS-12A PS
Radio set 442.5 MHz W8TCM Repeater

Package 2: \$110.00 or Best Offer



Motorola Spectra, w/ Mic & Astron SL-114M PS

Package3: \$120.00 or Best Offer



Kenwood TK-762G, w/ Mic & Astron RS-12M PS

W8TVT Antenna prices are referenced 10% below QTH.com



\$250.00 or Best Offer

Mosley TA-33
Antenna, In its Box
Not assembled Assy
instructions included



\$325.00 or Best Offer

Cushcraft A3S
Antenna, In its Box
Not assembled. Assy
instructions included

HF Rig by Ken Musson, W8QKP

Contact Ken: kmusson@charter.net



Kenwood TS-430S HF All Mode XCVR



Kenwood PS-53 Power Supply



Kenwood MC-60 Desk Mic

FOR SALE BY OWNER

VHF Rigs & Ants by Joe Novak, W8TVT <SK>

Contact: Scott, WX1J- wx1j@arrl.net.



Baofeng UV-5R

Pre-Programmed for local Repeaters & Frequencies

\$45.00 New Ask about our newly licensed ham coupon.



Joe's Handheld- Yaesu VX-6R

Pre-Programmed for local Repeater
With 2 chargers, 4 spare batteries,
remote mic. Remote speaker. \$250
Firm. Ask about our newly
licensed ham coupon



Diamond VHF/UHF Antenna \$60.00



**Diawa Antenna
CS-201 Switch
New, \$20.00 obo**



**Car Window Pass through
Antenna \$15.00**

Updated Radio Frequency Exposure Rules Become Effective 05/03/2021

The FCC has announced that rule changes detailed in a lengthy 2019 Report and Order governing RF exposure standards go into effect on May 3, 2021. The new rules do not change existing RF exposure (RFE) limits but do require that stations in all services, including amateur radio, be evaluated against existing limits, unless they are exempted. For stations already in place, that evaluation must be completed by May 3, 2023. After May 3 of this year, any new station, or any existing station modified in a way that's likely to change its RFE profile - such as different antenna or placement or greater power - will need to conduct an evaluation by the date of activation or change.

The Report and Order can be found online in PDF format at,

<https://docs.fcc.gov/public/attachments/FCC-19-126A1.pdf>.

"In the RF Report and Order, the Commission anticipated that few parties would have to conduct reevaluations under the new rules and that such evaluations will be relatively straightforward," the FCC said in an April 2 Public Notice. "It nevertheless adopted a 2-year period for parties to verify and ensure compliance under the new rules."

The Amateur Service is no longer categorically excluded from certain aspects of the rules, as amended, and licensees can no longer avoid performing an exposure assessment simply because they are transmitting below a given power level. The difference is the removal of the "For most amateurs, the major categorical exclusion for amateur radio, which means that

ham station owners must determine if they either qualify for an exemption or must perform a routine environmental evaluation," said Greg Lapin, N9GL, chair of the ARRL RF Safety Committee and a member of the FCC Technological Advisory Council (TAC).

"Ham stations previously excluded from performing environmental evaluations will have until May 3, 2023, to perform these. After May 3, 2021, any new stations or those modified in a way that affects RF exposure must comply before being put into service," Lapin said.

The December 2019 RF Report and Order changes the methods that many radio services use to determine and achieve compliance with FCC limits on human exposure to RF electromagnetic fields. The FCC also modified the process for determining whether a particular device or deployment is exempt from a more thorough analysis by replacing a service-specific list of transmitters, facilities, and operations for which evaluation is required with new streamlined formula-based criteria. The R&O also addressed how to perform evaluations where the exemption does not apply, and how to mitigate exposure.

Amateur radio licensees will have to determine whether any existing facilities previously excluded under the old rules now qualify for an exemption under the new rules. Most will, but some may not.

"For amateurs, the major difference is the removal of the categorical exclusion," Lapin said, "which means that every ham will be required to perform some sort of calculation, either to determine if they qualify for an exemption or

must perform a full-fledged exposure assessment. For hams who previously performed exposure assessments on their stations, there is nothing more to do."

The ARRL Laboratory staff is available to help amateurs to make these determinations and, if needed, perform the necessary calculations to ensure their stations comply. ARRL Laboratory Manager Ed Hare, W1RFL, who helped prepare ARRL's RF Exposure and You book, explained it this way. "The FCC did not change any of the underlying rules applicable to amateur station evaluations," he said. "The sections of the book on how to perform routine station evaluations are still valid and usable, especially the many charts of common antennas at different heights." Hare said ARRL Lab staff also would be available to help amateurs understand the rules and evaluate their stations."

RF Exposure and You is available in PDF format for free download from ARRL at:

<http://www.arrl.org/files/file/Technology/RFsafetyCommittee/28RFSafety.pdf>

The ARRL also has an RF Safety page on its website at,

<http://www.arrl.org/rf-exposure>.

The ARRL RF Safety Committee is working with the FCC to update the FCC's aids for following human exposure rules - OET Bulletin 65 and OET Bulletin 65 Supplement B for Radio Amateurs.

In addition, ARRL is developing tools that all hams can use to perform exposure assessments.

Contact: ARRL.ORG

MAY 2021

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
2	3	4	5	6	7	8
SMASH Net 3.935 MHz 9:00 AM	TBARG & MESH Net 146.86 MHz 8:00 PM	Board Meeting 7:00 PM Salvation Army	 SkyWarn Net Training 146.86 MHz 8:00 PM	Round Table Net 146.86 MHz 7:00 PM		VE EXAM Salvation Army HQ Boon & Barlow, TC, 1:00PM
9	10	11	12	13	14	15
SMASH Net 3.935 MHz 9:00 AM	TBARG & MESH Net 146.86 MHz 8:00 PM	Project Night- At Salvation Army HQ		Round Table Net 146.86 MHz 7:00 PM		
16	17	18	19	20	21	22
SMASH Net 3.935 MHz 9:00 AM	TBARG & MESH Net 146.86 MHz 8:00 PM	Project Night- At Salvation Army HQ		Round Table Net 146.86 MHz 7:00 PM		
23	24	25	26	27	28	29
SMASH Net 3.935 MHz 9:00 AM	TBARG & MESH Net 146.86 MHz 8:00 PM	Club Meeting In Person at Salvation Army HQ 7:00 pm W8IRA System Presentation	HAM EXAM Workshop 7:00 - 9:00 PM on Zoom 271957716	Round Table Net 146.86 MHz 7:00 PM		
30	1	2	3	4	5	6
SMASH Net 3.935 MHz 9:00 AM	TBARG & MESH Net 146.86 MHz 8:00 PM	Board Meeting 7:00 PM Salvation Army	 SkyWarn Net Training 146.86 MHz 8:00 PM	Round Table Net 146.86 MHz 7:00 PM		



SKYWARN

With Spring, the Skywarn season returns. Skywarn Training will be on the First Wednesday of each month beginning April 7, at 8:00 pm on the W8TCM repeater at 146.86 MHz (-) and PL of 114.8.

Please monitor NWS Website for changes or announcements.

<https://www.weather.gov/SKYWARN>

For further information about Skywarn activity in this area, contact Toby Way, KC8VSU.

Editor's Note:

You know, we lost a very special member of our club last month. We held a memorial net following his passing, and we will have a tribute in the June Newsletter. It's hard to write about someone so special, who has given so much to the club over the years, to get that all in just the right way, requires a bit more thought. Stand by for the June issue for our tribute, remembering Joe, W8TVT.

Thank you
Cherry Juice Team

Coming Highlights

May

CARC Board Meeting	MAY	4
Skywarn Training Net	MAY	5
VE EXAM - 1:00 PM	MAY	8
Project Nights	MAY	11, 18
New Ham Workshop	MAY	15
Club Member Meeting	MAY	25

June

CARC Board Meeting	JUN	1
Skywarn Training Net	JUN	2
Project Nights	JUN	8,15
Club Member Meeting	JUN	22
Field Day - Contest	JUN	26-27

July

CARC Board Meeting	JUL	6
Skywarn Training Net	JUL	7
Project Nights	JUL	13,20
Club Member Meeting	JUL	27
\ Club Picnic Sayler Park		

CHERRYLAND AMATEUR RADIO CLUB

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