



Cleveland Chapter One NEWSLETTER

Established 1951

Spring Quarter 2021

W8LYD 146.850 PL 110.9

<http://qcwa-cleveland-1.org>

TOUR OF A DREAM SHACK

JOIN OUR VIRTUAL LUNCHEON ON ZOOM
SATURDAY, 10 APRIL AT 12:30 PM



WA8SAJ's Ham Radio Shack

Most of us have rather modest rigs in our ham radio shack. The shack itself, could be in a corner of the living room or bedroom. Other hams are able to set up a shack in the basement, the attic or even a separate outbuilding where there is room for a lot more equipment.

Some of our members have really impressive shacks, with a multitude of transmitters, receivers, transceivers, linear amplifiers, antenna tuners and the like. These super shacks often include vintage equipment and separate rigs for each of the ham bands from 160 m to 1.2GHz.

This Saturday, **Jeff Covelli, WA8SAJ** will treat us to a live video tour of his amazing shack, including the repair facilities where he has restored many vintage rigs.

All participants will have an opportunity to show us your ham shack immediately after Jeff's program!

Our webmaster will timely email you the Meeting ID & Passcode.

In This Issue

2. People
3. Secretary/Treasurer's Report
4. Vice-President's Switch Solution
5. President's Perspective
6. Heathkit S-Line (Part Two)
7. Sharing the Hobby
7. Heathkit S-Line (con't.)

QCWA NEWS

Our national organization reports that the Annual Members' Meeting, normally held at the Orlando Hamcation QCWA Forum, was postponed due to the Covid related cancellation this past February. It has been converted to a virtual event and will be held on 22 May 2021 at 1400 EDT via Zoom. Look for more details in a later edition of the *QCWA Journal* or via email from Headquarters.

A portion of your QCWA dues are invested in scholarships to assist young amateur radio operators attend college and other post high school educational opportunities. Recent *QCWA Journals* have been highlighting the recipients, who express their gratitude for the financial assistance. Take a moment to read these students' stories.

QCWA Secretary, **Ron Fish, KX1W**, recently sent an email reminder to all the chapters that we must drop any chapter members who have failed to renew their dues. Please check your membership status at QCWA.org. so we don't have to drop you.

Future Luncheon Dates

*July 10, 2021, October 9, 2021,
January 8, 2022, April 9, 2022*



Cleveland Chapter One Newsletter

Editor: Robert M. Winston, W2THU

Distribution: Fred Freer, K8IG

Roster changes: Notify Secretary/Treasurer Jim Arcaro, WD8PFK <jgarcaro(at)juno.com>

Meetings: Second Saturday of January, April, July, and October at: *To be determined*

Dues: \$10.00 per year if you want this Newsletter mailed to you via USPS. Dues is free if you are 80 or older or accept this Newsletter via email only.

Copyright © 2021 by Cleveland Chapter One QCWA. All rights reserved.

Chapter One Officers

President: Robert M. Winston, W2THU;
(216) 924-3314, <w2thu(at)arrl.net.>

Vice President: Fred Freer, K8IG; (440)446-8000, <k8ig(at)arrl.net>

Secretary/Treasurer: Jim Arcaro, WD8PFK;
PO Box 324, Wickliffe, OH 44092; (216) 337-2793 <jgarcaro(at)juno.com>

Operational Group

Membership reporter: Open

Net controls: N8ZT, KC8UIQ

QCWA Journal reporter: K8IG

License trustee: N8ZT

Awards chair: Open

Chief radio officer: K8QOT

Chapter musicians: WB8ADF

Sunshine reporter: Betty Scholz, KC8FF,
<gearcutter(at)aol.com>

■
Please notify Secretary/Treasurer Jim Arcaro of any changes in your address, e-mail etc. so your roster information can be kept current. Thanks.

PEOPLE

New Members:

Jeffrey A. Meyer, K4DKW of Painesville, Ohio

Bob Liddy, K8BL of Mentor, Ohio

Craig Kollai, N8ZT of Aurora, Ohio

New members and friends are welcomed on our Wednesday night net on the NORMA repeater, 147.015 (pl 110.9Hz) until our own 146.85 repeater is fixed.

Happenings:

David Kazdan, AD8Y, is a co-author of an article to be published by the IEEE entitled: *Citizen Scientists Conduct Distributed Doppler Measurement for Ionospheric Remote Sensing.*

George Misic, KE8RN, continues to write article after article about vintage ham radios for this Newsletter, the *QCWA Journal*, *QST* and other magazines.

Jeff Covelli, WA8SAJ, has closed his ham radio repair service and he is selling all parts, including radios, Collins S-line, etc. Jeff has also been giving many Zoom meetings on his battery powered generator to clubs all over the country including Indiana and New York.

Bob Winston, W2THU, attended the first ever Treasure Coast Hamfest in Vero Beach, Florida this past February. Bob says that the modestly attended ham gathering was the first in person hamfest since the onset of the pandemic and it was a pleasure to see all those tailgaters and their gear.

Jeffrey Meyer, K4DKW, who recently joined QCWA and our Chapter 1, has a very strong interest in sharing our hobby with others. He has implemented a plan to accomplish this goal. (See Jeff's article, *Sharing the Hobby as a Mission*, elsewhere in this issue).

SEC'T/TREASURER REPORT

Jim Arcaro, WD8PFK

The Treasury for QCWA Chapter 1 is in fine shape, standing at \$4,948.14 dollars. Several of our members have sent in their ten dollars for the “printed and mailed” version of the newsletter, and we appreciate that. There is no charge to Chapter 1 members to get the newsletter via Email.



Once again, I ask that you keep me informed of any changes to your physical and/or Email address. What has sometimes happened in the past is that people have changed their Call Sign, and in turn have had to change their Email address, since it used their Call Sign, or Call Letters, if you prefer. Please let me know if that has happened.

Any changes, questions, etc. - let me know at: Jgarcaro@juno.com

A few months back I heard a couple of hams talking on the repeater about mobile antennas. Let me offer a few thoughts, having some experience in this area. If you are talking about VHF or UHF antennas, the higher the antenna is mounted, the better. That usually means the roof of the vehicle. The closer to the center, the better. Sometimes you have to split them up, if you have multiple antennas. So on a public safety vehicle we would install a 700/800 antenna on one side of center, and a UHF 420 – 460 antenna, or a VHF 140 - 160 antenna, on the other side of center. If something had to be mounted on the trunk, or a fender, we often used a gain type of antenna. The idea is to get the antenna tip as high in the air as possible, and kept away from door frames, roof supports, etc. as much as possible. If you are not sure what I am talking about, look at most of the area police cars, and see how the antennas are laid out.

One newer wrinkle that crept up in recent years is the use of fiberglass for the hoods and fenders of some larger trucks and service vehicles. What we did was use what we call a “mirror mount”. This type of mount works pretty well for UHF and VHF antennas. The mount clamps on to the top of the bracket holding one of the side mirrors in place. This could also be used on a motor home, recreational vehicle, etc. I have also used these on leased vehicles, where the owner does not want any holes drilled through the hood, roof, fenders or anywhere.

I am not a fan of so called “no ground plane” mobile antennas. In my experience I have found that they have performed poorly, and coverage was lacking. In one case I replaced one of those with a quarter wave VHF antenna and a “thick mount” on the tool rack, just behind the cab, on a utility pickup truck. The thick mount is often used for mounting antennas on the roofs of fire trucks, and ambulances. These normally require only a 3/8ths drill bit, and not a 3/4 inch hole saw, like a typical NMO mount.

One organization had a small fleet of specialized service vehicles that were basically golf carts. The roof was fiberglass, and there were no external mirrors. In that case I used some small aluminum disks along with a thick mount on each cart. I carefully drilled a small



hole a foot and a half or so behind the driver's head, used a thick mount, and put an aluminum disk, also with a hole, under the fiberglass roof, making a “sandwich”. For UHF, these disks were less than a foot in diameter, about the size of a small pie tin, but flat. They worked well as a ground plane, and they had good coverage.

ARCHIVED 73 MAGAZINES

Remember *73 Magazine*, published by Wayne Green, W2NSD (Never Say Die) from 1960 to 2003? Wayne’s cutting commentary and his “racy” covers, are all available at the following URL: <https://archive.org/details/73-magazine>. There is no charge. Check it out for some enjoyable and nostalgic reading.

Vintage Amateur Radio Equipment Power Switching: A Problem and a Solution!

By Fred Freer, K8IG, Chapter 1 Vice-President

Many of us own amateur radio equipment that is as old...or older...than we are. The problem, of course, as some have tragically found, is that the power switches suffer from age, perhaps thousands of on-off cycles, arcing and mechanical failures. Many of these power switches are combination units that control not only the AC power but also tone, volume, the BFO or other applications requiring a potentiometer. The dilemma, of course, is that replacement switches for most of our vintage equipment are no longer available.

With Shakespeare in the forefront of our minds (not!), the question remains: To switch or not to switch...that was the pressing question. Of course, I could choose to simply leave the radio units all on but that would result in unnecessary power consumption, perhaps premature aging of the already old equipment, a cacophony of background noise and additional heat in the shack. So, I decided that avoiding use of the power switches on the multiple receivers/transceivers was the better choice and an alternative solution was necessary and remote power switching was the clear choice.

While I regret that I didn't take adequate progress pictures of the project, hopefully you will get the idea from the text. The finished "control panel" is shown mounted above the KWM-2. The installed (Sorry, no pre-installation picture) panel mounting the relays and 120VAC receptacles is shown below the table. Essentially, I crafted and painted a small aluminum panel designed for under-shelf mounting that would mount ten rocker switches (Amazon KCD2—102N-G) that illuminate in the "on" position. My shack has bountiful 12 volt DC power available through various Anderson Powerwerx PD-8 power distribution blocks so low voltage (12 VDC) switching made good sense. These 12 VDC illuminated rocker switches were wired to remotely power relays (Amazon Apiel Relay My2NJHH52P).



Control Panel Mounted Above KWM-2



Relay and Receptacles

The relay and receptacles are remotely mounted below the shack table on a wood panel as shown. The ten illuminated rocker switches are connected to and control the ten relays via 18 gauge wire (red). Six duplex receptacles were mounted in three metal boxes interconnected by conduit as shown. The receptacles require that you remove (cut) the tab on the ungrounded (brass) side of each of the four receptacles so that they can be powered individually. I installed six receptacles to fill the three boxes as shown with the last receptacle un-switched (powered continuously with 120VAC). The power source for the receptacles is a three conductor, 12 gauge power cord.

In operation, I can individually control power for the 75A-4, KWM-2, 75S-3, TR4CW, TR5, TR-7, FT-1000, 75S-3B and one switch powers the SX-28 and 51S-1. The bottom line is that the three or so hours of construction and about \$100 in material costs will preserve the power switches on the classic radio equipment and add value to their heritage. Plus, the control panel takes little valued shack table space and looks "cool" too!

President's Perspective

By Bob Winston, W2THU

If you are a regular net check-in, or read this column every spring, then you know that I have been, I hate to say it, snow birding. This year we took it to the max by staying three months. It was a long time to be away from home, but we were avoiding the cold, ice and snow. We were punished upon our return when the very next day the mercury went down to the 20s and it snowed! Oh well, it's northeast Ohio and what should we expect?

Resuming Our Luncheons-

I fully expect that Chapter 1 can resume its quarterly luncheons beginning this July. By then, everybody in our club who wants to be vaccinated will be vaccinated. We should have the necessary "herd immunity" for a safe meeting. That brings our focus on where to meet? We've received a few suggestions but none that are geographically in the middle, so as to be fair to both east and west siders.

LEARA has been occasionally meeting at My Friends Deli & Restaurant on Detroit and West 116th Street. This is a few minutes from the West 117th Street exit on I-90. We've eaten there and the atmosphere and food are good and the private meeting room is satisfactory.

Although this is not "in the middle" its location will be welcome to our west side members, including those who come in from counties west of Cleveland. Remember, we met in Parma for many years and then switched to only east side locations for a decade or so.

What are your suggestons?

Keeping QCWA Alive-

Every club needs new members with fresh ideas and enthusiasm to get things done. Because we enlist folks who were licensed at least 25 years ago, the next generation of members will come from people who are licensed today. How do we find these new arrivals? One source is in



Treasure Coast Hamfest, Vero Beach, FL

our local schools. Other amateur radio clubs in NE Ohio have successfully teamed up with elementary, middle and high school teachers to introduce our hobby to their students. We can do the same. Do you have a contact with any schools nearby. If so, please let **Jeff Meyer, K4DKW** know who they are. Jeff is working diligently to introduce ham radio to students, the handicapped and seniors. Jeff lives in Painesville. You can reach him on 252-717-9442 or jeffreymeyer55@gmail.com.

DX Engineering Hamfest-

Are you itching to attend a real live hamfest? So am I. I really think this one is going forward. Not only is it a hamfest but it is also the ARRL Great Lakes Division Convention! The only hitch is that because it is an outdoor event, a steady rain could be the spoiler. Let's hope that the 7th of August 2021 is a sunny day in Tallmadge, Ohio.

See you at our Zoom luncheon!

STAY SAFE—STAY HEALTHY!

THE HEATHKIT SB-LINE WENT FROM 1963-1983

(PART TWO—Continued from Winter 2021 Newsletter)

By George J. Mistic, KE8RN

. The SB-301 also changed to smaller [narrower] SSB and optional CW and AM filters as used in all other SB-Line products. The crystal lattice filters used in the SB-300 are a unique larger size than the filters used by all other SB-Line radios.

Also in 1966, Heathkit updated the SB-400 transmitter to the SB-401. The most significant change was the addition of a front panel switch to select between transceive operation with the receiver controlling the operating frequency and separate operation with the receiver and the transmitter each controlling its own frequency. The SB-400 required a change of internal cables to switch frequency control modes, a much more cumbersome method of operation that was unique to Heathkit. The SB-401 also deleted the eight crystals that were used for setting the band coverage, since they were not needed when the transmitter was used with a Heathkit SB-Line receiver. Heathkit dropped the price of the SB-401 kit by \$40.00 compared to the SB-400 because the redundant crystals were eliminated.

1966 also saw many accessories to make a more complete and convenient station. The first was the SB-600 matching speaker that would also house the HP-23 family of power supplies. The SB-600 shared the styling of the receivers, transmitters, and transceivers as well as the colors. The SB-600 is the same height as the SB-300 and the transmitters and transceivers; it is 10 inches wide and 11 inches deep. The cabinet from the SB-600 was used on three other products, the SB-610 RF monitor oscilloscope which was a repackaged HO-10 monitor scope, the SB-620 Panadapter or Scanalyzer made from the HO-13 which Heathkit called the Ham-Scan which was a spectrum Analyzer, and the SB-630 Station Console that included a mechanical digital clock, a ten minute timer, an SWR bridge, and a hybrid phone patch.



Heathkit HW-100

The HW-100 becomes the fastest selling transceiver ever in 1968

1968 saw Heathkit create a wildly popular lower cost kit version of the SB-100 with the HW-100 for only \$250.00 in kit form. The HW-100 reduced the cost of the SB-100/SB-101 by replacing the expensive cabinet with a simpler design that could be made in Heathkit's in-house metal shop and the costly LMO with a very much simpler solid state VFO that was built by the kit builder. The HW-100 also replaced two rotary switches and knobs with two three position slide switches for the LSB-USB-CW function selector and the ALC-Relative Power-Plate Current meter switch. The balance of the radio was very similar. Heathkit claimed the HW-100 was the fastest selling amateur radio transceiver and no doubt it was.

Continued on the following page

Heathkit SB Line

Continued from previous page

1970 sees things be upgraded and go solid state

1970 saw a great deal of activity in the SB-Line and amateur radio in general at Heathkit. The all solid state model SB-303 receiver was similar in concept to the SB-301 receiver in that it covered the same bands and WWV, would accommodate an optional CW and AM filter in addition to the supplied SSB filter, and could switch two optional converters for six and two meters.

The popular SB-101 became the SB-102 also in 1970; it used the same solid state LMO that was used in the SB-303 receiver. It also had the ability to operate with the SB-500 two meter SSB-CW transverter by just plugging into a jack on the rear of the radio and connecting a few other cables.

Heathkit also updated the HW-100 into the HW-101; it gained a switch to select between an SSB and CW bandwidth receive filter like was added to the SB-100 to make it into the SB-101. The HW-101 went up in price almost \$150.00 with a selling price of \$399.95. The HW-101 stayed in the Heathkit product line until 1983, making it one of the last vacuum tube radios for sale, outliving even the solid state replacement for the SB-102 by many months. The HW-101 outsold the HW-100 in spite of the nearly \$150.00 increase in the HW-101's kit purchase price.

The solid state SB-104 is a major catastrophe for Heathkit

The solid state SB-104 became available in 1974, almost a year before the SB-102 was discontinued in 1975. The SB-104 was all solid state; Heathkit internally debated using vacuum tubes in the final amplifier and calling the transceiver the SB-103. Heathkit had hired a new engineer named Mike Elliot who had worked at Collins Radio Company; he was assigned to the new transceiver now called the SB-104. Mike decided to use solid state final amplifiers so the SB-104 would be state of the art by the time it became a new Heathkit product.

Read the final instalment in the Summer 2021 Newsletter!

Sharing the Hobby as a Mission, Jeffrey A. Meyer, K4DKW

We all started being hams somehow. Regardless of how you got started, you understand the impact it's had on your life. For me, it's been a life-changing one, so I've made it my life's mission to share it with others.

To start, I created a PP "Introduction to Amateur Radio" and began reaching out to retirement communities, senior centers, handicapped service centers, libraries and even elementary schools.

TEACHERS & KIDS

When presented with the opportunity, elementary teachers would love to have a demo of a topic that provides real-time STEM education, provides live shortwave broadcasts, for their language classes, and gives a geography lesson like no other.

Equally, kids would jump at the chance to talk to someone over the air, learn Morse Code by playing Battleship, compete in "Find the Prefix and Show It To Me On the Map" game and participate in a RDF Fox Hunt.

HANDICAPPED

The handicapped are another group that is generally very open to new things and eager to participate. Amateur Radio is one of the few things in life that offers them nearly equal and unimpeded full participation.

SENIORS

Seniors, regardless of their age, have nothing but time on their hands and crave activity, engagement and relevancy. With Covid-19 here, and being nearly 65 of age myself, I have never been more keenly aware of their perspective and need for companionship.

This trio clearly offers ample opportunities for the hobby and is a perfect breeding ground for new club members.

For me, it's my sincere hope that my efforts result in many new hams getting their hamming start in NE Ohio. Either way, this project is necessary, important and easily the most rewarding work of my life.