



# Cleveland Chapter One NEWSLETTER

Established 1951

Spring Quarter 2022

W8LYD 146.850 PL 110.9

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

## - Déjà Vu - A LIVE ZOOM TOUR OF THE W1AW STATION! JOIN OUR SPRING "LUNCHEON" ON 9 APRIL 2022 AT 11:30 AM



COURTESY ARRL—W1AW

As you know, our W1AW live tour was cancelled in January due to covid concerns involving our host at ARRL headquarters.

Many hams consider a visit to ARRL Headquarters and the W1AW station in Newington, CT to be a bucket list item, or even a trip to ham radio mecca. For those of you who have never been there, a tour via Zoom is a good substitute, especially when our tour guide is none other than **Joe Carcia, NJ1Q**, the W1AW Station Manager.

Some of the items we expect you'll see include the three studios where visiting hams can operate W1AW, the MARS station, the workshop, the museum case and Old Betsy, the spark gap transmitter that belonged to Hiram Percy Maxim!

**An email containing the Zoom link will be sent to you prior to the meeting. No in-person luncheon this quarter.**

### In This Issue

2. People
3. Secretary/Treasurer's Report
3. Florida Bell/ AT&T Exhibiter
4. ALC Box for Power Control
5. President's Perspective
6. ALC Box Continued
7. ALC Box Concluded

## VOLUNTEERS NEEDED



QCWA Office Manager, Roberta Cohen, WA2FRW, working the table at Hamcation® in Orlando

*If you are coming to the Dayton Hamvention this May, please contact Bob, W2THU [w2thu(at)arrl.net] to assist at the QCWA table. Even an hour would suffice to relieve those who wish to explore the doings.*

Do stop by our table to sign in and chat with fellow members from all over the world.

### Future Luncheon Dates

*July 9, 2022, October 8, 2022,  
January 14, 2023, April 8, 2023*



## 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 are free if you are 80 or older or accept this Newsletter via email only. **Copyright © 2022** 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  
**Webmaster:** K8ZGW  
**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:*

**Robert Morgan, K8RVB**, of Willowick, Ohio  
 Welcome Bob !

### *Happenings:*

**Bob Hajdak, N8QE**, and his XYL Tina celebrated the birth of their first granddaughter, Ariana. Bob also finished 4th in the 2021 CQ Worldwide VHF contest in the single op 6 meter category. Congratulations !

**George Harizal, K8HLJ**, is still the MidCars net director. Check in on 7.258 MHz everyday between 0830-1400 ET. (Both Bob and George will also be helping out at the QCWA table at Hamvention® this year.)

**Don Howard, N8JIW**, has been a fill in net control for Midcars ,the Treasure Coast Net and other HF nets. Check in on 7.153 MHz everyday between 0800-0900 for Treasure Coast.

**Jeff Covelli, WA8SAJ**, while waiting for his K-4 to arrive (soon they say), published a two part article in Electric Radio on the evolution of the Drake TR-3/TR-4 series.

**Bob Winston, W2THU**, attended Hamcation in Orlando, helped out at the QCWA table and attended the Palm Beach QCWA meeting with Jeannie, KC8MNW.

**Don Ritchie, K8ZGW**, with the Twinsburg CERT group assembled 6 J-pole antenna kits provided by PCARS.

**David Kazdan, AD8Y** and the CWRU ham club W8EDU travelled to Huntsville, AL to give several talks at HamSCI last month. Topics included monitoring NIST beacons for ionospheric sounding.

**Craig Kollai, N8ZT**, and XYL furthered a bucket list wish of visiting all 7 continents by flying to Chile and cruising south of the Arctic Circle (2 continents) along with a polar plunge into the South Ocean!

## SEC'T/TREASURER REPORT Jim Arcaro, WD8PFK

Members and Friends,

The treasury is in good shape, with a balance of \$4,538.84, as I write this on March 28, 2022.

Several of you have kept me informed of changes, and I appreciate that. Remember, if you move, change your call sign, change your Email address, etc. - please let me know. My Email is on the masthead, and that is the best way to reach me.



I heard from several of you about the article I wrote on my ham radio/ train adventures, and I'm glad you enjoyed it. Several questions came up about communications on the train, so I will try and answer them. Most of the crew used commercial crystal controlled handheld portable units. They were properly licensed in the railroad band – basically 160 to 162 MHz.

Since we departed and entered the CSX yards in Cleveland and Akron, one of the radios was needed to talk to CSX. For that we used a Wilson VHF radio that I programmed for that purpose. In the event no one was in the yard at the time, we called the CSX dispatcher in Jacksonville, Florida, using my car phone - remember, this was the late 1980's. We installed a VHF quarter wave, and a springy 800 MHz antenna on the roof of the concession car, and brought the coax cables down next to a wall. Power was provided by a 12 Volt storage battery that was connected to a charger, and the charger powered by a 117 V AC generator used for the lights and appliances on the concession car.

### FRIDAY LUNCH BUNCH

Every Friday around 11 AM, a group of hams meet at the Manhattan Deli, located on Ridge Road, just west of SOM Center Road in Willoughby Hills. This is not a QCWA event. All hams, and even non hams, are welcome. The food is very good

On the steam locomotive, electricity for all the various lamps and lights comes from a 32V DC steam powered turbo generator. The generator did not have enough capacity to power the lights and a radio, so using a DC to DC converter to do that was ruled out. Instead we located a large 12V battery that was designed for industrial use. That battery was placed in the seat box for the engineer, and the radio was bolted to the cab wall behind the seat. The battery was charged every night before the next days run. I used a VHF quarter wave mag mount with a strong magnet and a very thin whip for that radio, which I placed on the roof of the steam locomotive's cab. The strong magnet and thin whip kept the antenna from being knocked off the roof by tree branches. Everything worked quite well.

### AT&T/ FLORIDA BELL EXHIBIT



You probably know many amateur radio operators who are retired from one of the baby Bells and/or AT&T. Chapter 1 members such as **John Papay, K8YSE** and **Dave Foran, WB8APD (SK)** come to mind.

Fred Adler, N4YQT of Plantation, FL put together an extremely interesting display of retired phone equipment that caught the eye of attendees at the Stuart Hamfest (FL) in March.

## AN "ALC" BOX FOR POWER CONTROL OF A TRANSMITTER

By Jeff Covelli, WA8SAJ  
wa8saj@gmail.com

Some of the info in this article is not all about Drake gear, but can help with most transmitters and transceivers of the past and the new gear of today. I started out in this project with a new radio purchased for repairing the older gear and it replaced four test boxes that took up room on my service bench. Having the new radio worked out so well, I purchased a second radio for operating A.M. in the ham shack and I had to write about it, so here is some enlightening info.



Fig. 1 Icom IC-7300 HF+6M Multimode Transceiver

See Figure 1. The "ALC" box started out as a power control for a new solid-state radio that we have heard about lately, the Icom IC-7300 and I wanted to use it on A.M. As I started this project, another thought came to mind; if this worked with the new gear; it should be nice to control power output on Drake, Collins, Yaesu, Kenwood, and most every transmitter with an ALC input jack on the back panel.

### Overview:

See Figure 2. First an overview on what is Automatic Level Control ALC? It is a small voltage (0 to -4 volts D.C.) which is developed from the transmitter or transceiver final power amplifier and fed back to the early I.F. stages where it can inject a small voltage change and affect the power output of the final power amplifier. On voice peaks, this voltage will vary at an audio rate for SSB, plus for A.M. the audio rate is also there and this will cause a pumping action, which will sound distorted. Now if you could manually control the ALC, then this would preset and limit the amount of power output at a steady state.

As a bonus for this set up; if you use your transmitter or transceiver to drive an external power amplifier such as the Heathkit SB-200, Collins 30L-1, etc they are required to have an ALC output (0 to -4 volts D.C.) to feed back to the driver transmitter or transceiver and automatically reduces

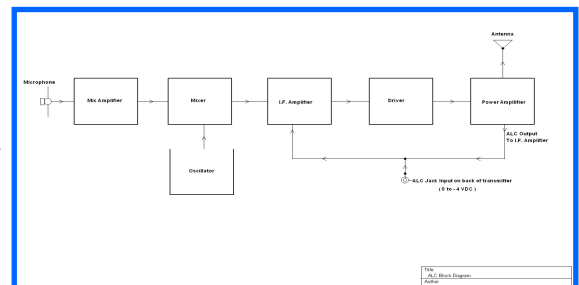


Fig. 2—Block Diagram

power on voice peaks. Now if you could manually adjust the 0 to -4 volts D.C., this could be used to control the drive power without having to put in attenuator pads, or de-tuning your transmitter. Using the external ALC box, will prevent "overshoot" as many of the new radios have issues with.

### Solution:

I'll start off with the new IC-7300 having a good reputation for all modes of operation including A.M. One problem with most of these new rigs running this type of low drive A.M. compared to the big transmitters with plate modulation, the power output will drop or pump on voice peaks as I mentioned earlier and this causes terrible distortion. There are very few rigs that can disable the ALC without going into it and modifying them internally.

# President's Perspective

By Bob Winston, W2THU

## Our Winter meeting:

Chapter 1 had planned a Zoom tour of W1AW by the station manager, Joe Carcia, NJ1Q. As bad luck would have it, both for Joe and his family, and our luncheon plans, Joe was exposed to covid about a week before, and was told to stay home by his well known employer, the ARRL.

With less than a week's notice, our talented vice-president, **Fred Freer, K8IG**, arranged a very interesting program involving ham radio, downed military planes in Greenland, the Navy Flameproof Morse Key and WWII. Our guest and



host was Chris Rutkowski, NW6V, son of the radioman on the downed B-17 who signaled their position using the Flameproof key. Many thanks to Chris for describing the successful rescue in a very challenging environment, the Greenland icecap, all on short notice. Special tnx to K8IG for saving the day!

## Helping QCWA at Hamvention:

After a two year hiatus, QCWA and Hamvention return to Xenia. As you have read on page 1, yours truly is asking you, our Chapter 1 members, to volunteer some time at the QCWA booth. Like most of you, I have never given much thought to how these vendor tables get workers. Most vendors are trying to make money, like DX Engineering, Tower Electronics and Yaesu.

But volunteer run organizations like ours, or AMSAT, or CW Ops rely on free labor. That's where you come in, I hope. There will be a small core of volunteers working the booth almost the

entire time that Hamvention is open. These folks need some down time to explore the show, check out vendors, flea market and forums. That's why even an hour of your time would be helpful.

If you can do this, please let me know now, well in advance of Hamvention weekend. There will be some training for you involving accepting dues, new members, renewals and the like.

## Visit to Another QCWA Chapter:

I don't recall ever visiting another chapter in our fine organization. So it was a great pleasure to join members of QCWA Palm Beach Chapter 111. I was invited by president, **Al Maslin, N3EA**, who invited me and Jeannie to their local Denny's. There was no program that day but the notice went out that they were having a special guest. Turns out it was only me.



N3EA, W2THU and other Chapter 111 members

Al had done some homework checking out Cleveland Chapter 1. He praised our chapter's efforts after perusing our website. By reading some of our Newsletters he learned about our activities, weekly nets and quarterly luncheons with interesting programs. Tnx to Al and Chapter 111 for hosting us!

**Please join Chapter 1 on Zoom at 1130 A.M. on Saturday, 9 April 2022, for a terrific tour of W1AW Maxim Memorial Station.** I look forward to seeing you there.

Best 73 de W2THU

## ALC BOX (continued from p. 4).

I happen to have one such radio that does this, the Elecraft K-3, including all of their radios manufactured. They have the ability to disable ALC on the front panel and it certainly works very well.

I thought if I were to find a way to develop the negative voltage and feed it into the ALC input jack on the back of the radio, this might work and it does. The solid state rigs are very touchy in trying to put this small voltage into them, so I would recommend a multi-turn potentiometer vs. a standard pot. I only had a few pots to try with most not being multi-turn type, so I used a 500K ohm pot as seen in the schematic. You could try a combination of values to come up with the 0 - 4VDC as I did.

I had a wall wart with an output of 0 to +6 VDC and installing it into a plastic box worked great. Reversing the voltage leads at the input jack the +6 VDC now became the ground side providing an output of 0 to -5 VDC to work with, after it goes through all the circuitry. I got the bright idea, this could work with most of the radios I had in the ham shack. I acquired a four position switch and now having installed this switch, selecting the four radios Collins S-line, KWM-2A, Drake TR-4CW/rit, and the IC-7300, makes this a breeze to work with. **NOTE:** on some of the Kenwood radios, they need more than -4 volts to turn down power, so a higher negative voltage is needed, so use four or five 1.5 volt D.C. batteries to feed the ALC box or a larger wall wart.



The wall wart feeding the ALC box can be replaced with three "AA" batteries (3 x 1.5 VDC = 4.5 VDC) in a plastic battery case and will work fine also. I reversed the leads so ground is positive and the negative D.C. voltage is filtered with an electrolytic cap, since many of the wall warts don't filter very well, plus I added an LED lamp so I know when it is on including a 375 MA pico fuse in case there was a problem down the line for protection. The 500 K potentiometer I used is one I had handy in my junk box, and it works, but can be touchy with the newer transmitters; with the older tube transmitters there is less of a problem and it works great .

### Operation with New Radios:

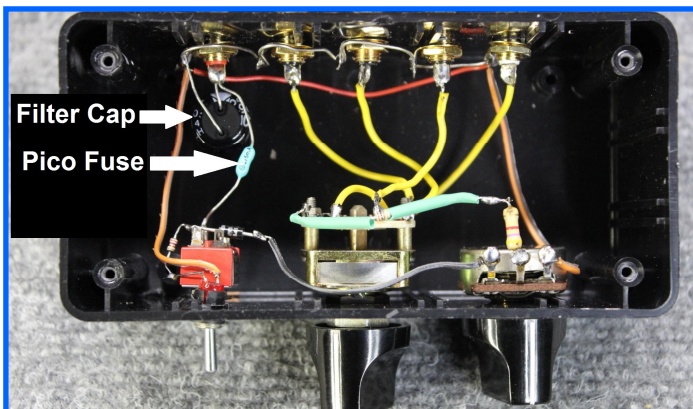
The new radios for all modes only need to set the power control on the front panel, which is nice, but for A.M. operation most new radios must **NOT** exceed 20 % (20 watts) of the full power output (100 watts). This power setting is **without** modulation applied just steady power output. Most hams drive an external amplifier for A.M. and now we are talking maybe 10 watts and this is nice for the power amplifier inside the driver and usually the ALC will engage depending on the radio. When the ALC engages the power output will fold back causing distortion with a pumping action causing havoc with the person on the other end trying to listen to you. Also you will see the wattmeter swinging downward, not the best operating method.



Please turn to page 7.

**ALC Box (continued from p. 6)**

I set up the IC-7300 for about 80 % of full output, then turn on the "ALC" box and very slowly turn up the ALC output control until the power output drops to 10 to 20 watts steady on the IC-7300. With the steady state power output set, now when I speak into the microphone and drive an external amplifier, the power output holds steady with upwards modulation showing up on the wattmeter and a good scope reading on my Heathkit SB-610 scope in series with the antenna line. Usually I run 100 watts of steady carrier with an amplifier before modulation is applied. Having a scope in the shack helps to adjust the audio output and without the "ALC" box you can see the scope shrink to almost nothing on voice peaks, so with the box engaged a good audio report is achieved. I have used this system on many tube type amplifiers along with the two solid-state amplifiers I have here in the ham shack, an Elecraft KPA-500 and Palstar LA-1K. The actual ALC voltage measured on the IC-7300 ALC jack is about -1.5 VDC, but this will depend on the band used.



**Operation for Older Gear:**

As a bonus, I found having done the first "ALC" box; I hooked up the same box to my Drake TR-4CW and found using it on SSB / CW or A.M. I could now drive my low drive amplifiers with low power and not have to use an attenuator pad or adjust the driver tuning to lower the drive power, which can be tricky. The TR-4 driver is only at around 200 MA plate current with about 30 watts drive into the amplifier, then you can see the full output over 1000 watts. The steady state of the ALC keeps

the drive power at a low level so much so, that if you still wanted to use the ALC from the amplifier you could, but not needed now. I recommend using a "peak-reading" wattmeter for setting up the "ALC" box, since older transmitters / transceivers usually only applies ALC on SSB. You will have to tune up as you normally do into a dummy load at full power with no amplifier, then switch to SSB and as you speak into the microphone, set the microphone gain as you normally would (I use a scope), then adjust the ALC control from the "ALC" box for the power needed to drive the amplifier, then check the output of your amplifier and now you have a perfect setup for your low drive amplifier without any hassle. Now if you are running A.M. with your older tube transmitter / transceiver, this also will work great, since some of these will have some ALC trying to hold back power on A.M. just like the new radios, so the "ALC" box will keep your output steady and no more folding back power on voice peaks!

**NOTE: Drake gear normally does not have "ALC" in A.M. mode, just SSB.**

The Collins S-line I have is modified for A.M. transmit and the "ALC" box does a good job of keeping the power output low and steady for good sounding A.M. and also for SSB. The Collins KWM-2A and Drake TR-4 CW works great as it does the same by controlling the drive power down for the solid-state or low drive tube amplifier.

**Conclusion:**

I have had many folks ask how to turn drive power down on the older H.F. gear and it has made it hard to explain to folks just how to do it. Just turning the microphone gain down will not do it correctly; I use the early drive stage tuning method and maybe this is not the perfect way, but for years I have done it with no problems and using a spectrum analyzer to check for spurs, very clean. Now with the "ALC" box, you are really doing it best, since the ALC voltage is applying right to the early stages as engineered by the manufacturer, but in a steady state. I know that using the new radio to start this article might have gone out of the norm, but it got me thinking about the older H.F. gear and it certainly worked out for me. The cost is minimal and the "ALC" box is a nice addition to the ham shack and it works well, so try it you will like it.

