PCARA Update

Volume 23, Issue 11 Peekskill/Cortlandt Amateur Radio Association Inc. November 2022

Fall and rise

I hope this November 2022 Edition of the *PCARA Update* finds each of you well. Autumn is here, the leaves turning different colors — falling, with a chill in the fresh air. Along with autumn each year comes the **New York QSO Party**, and this year the event was hosted by Joe WA2MCR on Saturday October 15, 2022. Participating were Joe WA2MCR, Lou KD2ITZ, Vincent KD2VAV, David KD2EVI, and Malcolm NM9J, who collectively made 410 contacts earning 42,097 points. Thanks to ALL! A full report follows in this month's edition of the *PCARA Update*.

Joe WA2MCR operates from his sun-room during PCARA's W2NYW entry in the New York QSO Party.

On Sunday October 16, 2022, PCARA along with our friends from WECA provided communications support for the 42nd **Annual Harry Chapin Memorial Run Against Hunger** at the Croton-Harmon High School and its Croton-on-Hudson, NY environs. This year we had enough volunteers to cover all the stations for the 10K Run! Thanks to WECA members Kathleen KC2VCT, Larrie W2UL, Alan N2YGK, and Robert N2TSE the event went smoothly. The Westchester County Department of Emergency Services RACES Emergency Communications Vehicle was Ground Zero for comms. PCARA members Lou KD2ITZ, Vincent KD2VAV, Jared KD2HXZ, David W2WPM, Al K2DMV, Malcolm NM9J, and David KD2EVI provided coverage for the course. BRAVO ZULU to all! Just a note, we had one of our own running in the 5K Race. Masa JR1AQN was a medal winner for his division. Congratulations Masa! A full report follows in this edition of the *PCARA Update*.

During the Run Against Hunger 5K event Al K2DMV was located at the north end of the Croton Gorge Trail .

On Wednesday October 26, 2022 at 7:00 p.m. a **PCARA VE Test Session** with LAUREL VEC was held at the Putnam | Northern Westchester BOCES Tech Center in Yorktown Heights, NY. There was one candidate who earned a CSCE for Technician. Much appreciation to Lou KD2ITZ for coordinating the session and to all our VEs who made it possible. Also, a BIG thank you to PNW BOCES and Joe KD2YVY for allowing us the use of the building.

Continued on page 2 ⇨

Contents

Another famous **PCARA Breakfast** was held on Saturday October 29, 2022 at 9:00 a.m. at the Downing Park Pavilion in Yorktown Heights, NY. Weather was cool to begin, but bright sun soon warmed up the ten people present.

Jared KD2HXZ (right) assists newly-licensed Jennifer KE2AGN to make her very first contact at PCARA Breakfast. The QSO, using Jared's Go-box, was on 2 meters with Rob AD2CT

Breakfast was followed by a **PCARA Foxhunt** next door at FDR State Park starting at 10:45 am in Parking Lot 4. The fox was played by NM9J and discovered first by Vincent KD2VAV with Ratan. [*Full report p11 -Ed.*]

Our next **PCARA Membership Meeting** is scheduled for Saturday November 5, 2022 at 10:00 am at the Putnam Valley Free Library (PVFL) in Putnam Valley, NY. On the Agenda will be nominations for two Board of Director positions, each of which run for a term of two years. Also of importance will be discussion of the PCARA Annual Holiday Dinner on Sunday December 5, 2022. The November membership meeting will be immediately followed by a PCARA VE Test Session with Laurel VEC at 11:30 a.m. If you or someone you know might be a candidate, please contact Dave Harper KF2BD at (914) 432-2639 or daveharper'at'vivaldi.net to register.

Please mark you calendars for the next **PCARA Breakfast** scheduled for Saturday November 19, 2022 at 9:00 a.m. at the NEW Uncle Giuseppe's Marketplace at 329 Downing Drive in Yorktown Heights, NY. This will be our first breakfast at this location so come along and join us!

I look forward to seeing each of you at the November membership meeting.

- 73 de Greg, KB2CQE

PCARA Board

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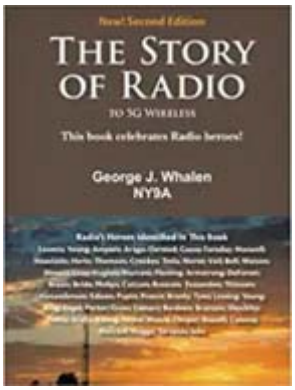
Net night

Peekskill/Cortlandt Amateur Radio Association holds a roundtable net on Tuesday evenings at 8:00 p.m. and a directed 'Old Goats' net on Thursday evenings at 8:00 p.m. Both events take place on the 146.67 MHz W2NYW repeater, offset -0.600, PL 156.7 Hz.

Join the roundtable to find out what members have been doing or join the Old Goats with net control Karl N2KZ for news and neighborly information.

The Story of Radio

In June 2021, *PCARA Update* mentioned the first edition of George NY9A's book "The Story of Radio". Dave KF2BD points out that George, of Ridgefield CT, has now published a second edition.



"My new, Kindle second edition of *The Story of Radio: to 5G Wireless* will be free to all on November 1st to 5th . Anyone in the U.S. can log on to www.amazon.com, type **The Story of Radio: to 5G Wireless** into the search box, and they will be taken to my page, where they will be offered a Kindle edition (to buy for $0.00), as well as paperback and hardcover versions at regular price. (They make great gifts!)

"The Kindle edition will be free only from November 1st to 5th; then, Amazon will return its price to $9.99.

"The book is about 240 pages and can be read on just about anything. Amazon will furnish the software free so you can read any Kindle [publication]. There is no shipping charge and delivery will be by email.

"Amazon allows me to make this free offer because I write and publish my books on Amazon. Happy reading, from George J. Whalen, NY9A."

Adventures in DXing
- N2KZ

Two fractured shoulders. Three fractured ribs. Two damaged vertebrae. My cousin fell off his roof. This was not a happy day. This is an experience I want to avoid.

When you grow to be over a certain age, your perspective changes. At all costs, you want to avoid falling, quick twists and any maneuver that may damage a limb or extremity. Fingers, toes, eyesight, hearing and body integrity must be preserved at all costs. "Please hand me those gloves!" You choose only what chores you are surely capable of... and then you consider them once more. It is always better to have someone else to do even the simplest of tasks. "Can you change that light bulb please?"

The same goes for your approach to amateur radio. I used to be pretty fearless when climbing on my roof. Yes, the roof does have a fair pitch to it and is about 20 feet above ground even at its lowest point. Yes, I always had someone to hold my ladder when climbing up or down. Now it is out of my reach due to a dire need for self-preservation. My balance is not what it used to be. I must find other means of achieving height and sturdy security!

Joe WA2MCR casting for a new antenna in 2012.

My friend Joe, WA2MCR, lent me new vision towards my future. He is a wise man with great experience and skill. Not everyone can cast a fishing line with the height and accuracy that Joe can. Attend any PCARA Field Day or New York State QSO Party and you will see Joe in action. What an amazing talent!

Joe doesn't like climbing on to roofs either! He devises secure and sturdy mounts that are anchored at ground level. I have been using my chimney as my antenna fulcrum since my introduction to ham radio 23 years ago. It is time that I follow the wisdom of Joe! So how do you start revising your world to one where operation is simple... and not death-defying? I am slowly adopting new methods. I am starting to get the hint!

Keep It Simple

How do you adjust your amateur radio operating habits when age catches up with you? It becomes immediately obvious that you need to revert to the basics. Forget about roofs and chimneys! The quickest and safest way to get on the air might be using a handheld transceiver — a HT or ***H**andi-**T**alkie*.

HTs can be intimidating! Too many buttons, switches, power supplies and antennas might create a world that is frustrating, overwhelming and disappointing especially to beginners or seniors. Old units with few controls and buttons suddenly become desirable again. Your decades-old HT might become a new and brilliant answer to keep you on the air! Consider rehabilitating an old familiar HT — maybe a new battery or a new antenna? Polish off some old dirt and try it out with a fresh charge. It could bring smiles, satisfaction and even inner peace!

New or old - here's how to start: *You have to initialize the transceiver by programming it for reliable and strong local repeaters.* Discover your chosen repeater's output frequency, required repeater offset (plus or minus) and the necessary PL tone. Insider note: This may sound very rudimentary but beginners, seasoned hams and old timers might find this a challenge. When was the last time you programmed a HT?

Find a copy of your HT's manual online — then — learn how to create presets. Hopefully, your HT will allow you to name the presets for your convenience. Example: 146.670 MHz, a minus 600 offset and a PL of 156.7 Hz could appear as "PCARA 2m" on your HT's display. See? Now it's easy to find the preset when you need it again! You can still program that thing!

Replace the 'stock' antenna with an extended whip. [N2KZ pic.]

The next step is optional but often useful if not essential: *Replace the standard stock 'rubber duck' antenna with an extended whip to maximize your signal.* Make sure you order the correct type to match the connector on your HT: **SMA Male**, **SMA Female** or **BNC**. Always ask the antenna vendor what antenna would fit your particular HT before you order one. Longer length gain antennas make a world of difference in HT performance. They are worth every penny!

*Long whip antennas with (left to right) **BNC**, **SMA-male** and **SMA-female** connectors.*

Also, consult the HT's manual and see if there is a method to lock out the touch pad controls after you have configured the HT. A single button-press could easily disable

the HT from regular push-to-talk operation bringing immediate sadness and frustration to the amateur trying to use it! See if you can 'nail down' the panel so random fingers don't ruin your day!

Very important: Discover when your local ham radio clubs hold on-air 'net' get-togethers. Avoid disappointment! Many VHF or UHF repeaters may seem inactive most of the time. If you know when to tune in, you can join other hams in groups of ten or more participants who would love to have your company. The PCARA meets on 146.670 MHz with a minus 600 kHz offset and a 156.7 PL on Tuesday and Thursday nights at 8 p.m. local time. Tune in and join us! If you can hear us but can't seem to reach us, please drop us an e-mail at: *pcaraevents'at'gmail.com.* Your questions are welcomed. We will always be glad to help!

Good Solutions Helping Others

What about the world beyond VHF and UHF? My friendship with Dr. Ted Figlock W1JMJ, has gifted me with great wisdom and purpose. We met years ago when I helped him recover from a stroke by refreshing his CW skills. It worked! Now, at 88 years old, Dr. Ted has special needs. He lives in an assisted living home and has little access to his beloved amateur radio hobby.

Ted Figlock,W1JMJ

Dr. Ted needs a way to reconnect with the world he once knew. He owns a Ten-Tec transceiver but needs a viable antenna and a helping hand to assemble a new shack for his enjoyment. Ease of operation is paramount!

What do you do if you long to reunite with the world of HF operation from a small apartment? Dr. Ted wants to achieve two goals: He would love to be able to hear his friends on a weekly 75 meter LSB net that meets on Sunday nights. He also would love to be able to hear CW from anywhere — anyhow!

HF operation is often very complicated! Glance at any modern HF transceiver. You can easily be mesmerized by dozens of little buttons, endless multi-feature knobs and intimidating complex color displays. It makes you yearn for the world 60 years ago when you could sit down to a shortwave radio or basic Novice amateur radio setup. All you would have to manipulate would be volume, tuning, a band switch and a mode switch. Why don't they make radios like that now? My modern Yaesu transceiver has a manual that is hundreds of pages long. Heaven help us all! Can it do miraculous things? Yes! *If* you can figure out how to get there! "*How do you turn this thing on*?"

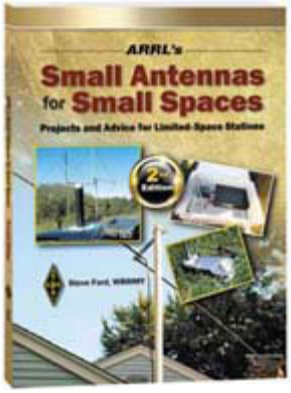
Modern transceivers have many bothersome buttons, multi-function controls and complex color displays.

You are blessed if you are only interested in CW. Life is so much simple then! Several QRP CW kit rigs were designed with complete simplicity in mind. You'll find very few knobs to adjust (volume, tuning and maybe RIT.) Look for these QRP transceivers at hamfests or online: Small Wonder Labs SW+ series, Ten-Tec 1300 series, S&S TAC 1, and the current MFJ Cub. All of these rigs can serve as simple-to-use windows to your favorite HF band. Just add an appropriate power supply 'wart' and an external speaker! Now so much less can go wrong. What ever happened to straightforward old-school beginner's shortwave receivers?

Small Wonder Labs SW+20 QRP transceiver has just two controls.

Antennas are yet another story. What would fit into the room? What would be effective? Could we possibly fly a wire outside?

A lot of ideas can be found in a concise and informative book: *'ARRL's Small Antennas for Small Places.'* With some clever thought and savvy, you might find success faster than you ever imagined!



Consider this: A cozy room might be 10 feet wide, 10 feet long with 8 foot ceilings. A 20 meter dipole antenna is about 16½ feet per leg. If you mounted your dipole along the ceiling starting at the center of a wall, you would have 5 feet to the corner of the ceiling. Bend the wire 90 degrees and continue your run for another 10 feet. Fold again at the next corner and you'll be left with only 18 inches to go! (You can then go down the wall if you like.) A 20 meter dipole *will* fit! As Kenny Rogers would sing: 'You have to know when to hold them and know when to fold them!'

I can't guarantee that this compromise antenna will bring you immediate DX records, but it is sure better than nothing! You can always simply try a random length spool of wire to begin your antenna experiments. A good antenna tuner might come in very handy! Of course, bands above 20 meters require even less wire. Modified Citizen's Band antennas have often been used for 10 meter amateur operations. How about a mobile mag mount sitting on a window radiator cover? It just might work!

The ultimate answer to antenna restrictions can be summarized in two words: *Get outside!* A whole new world of adventure begins when you can actually run some wire out a window. Dare to dream! Even better, ask for permission. Won't you be happy if they don't say 'no!'

Are you looking for new and novel ideas to help senior hams? The Courage Kenny *Handiham* Program is a wonderful source of information about meeting the challenges facing handicapped (and elderly) amateur operators. What a fascinating and inventive group! They have helped dozens and dozens of hams through their blessed and welcomed volunteer work. You can listen into their net over Echolink node 494492 weekdays at noon Eastern time or visit their website at: https://handiham.org/. Also visit: https://www.allinahealth.org/courage-kenny-rehabilitation-institute/about-us to learn all about this heartwarming organization.

Rebuilding My World

You have probably heard old Karl whine about his rapidly decaying collection of homebrew dipoles. I have very slowly been rethinking and restoring my antenna farm. Always remember my new motto: *Stay Off The Roof!* I am very pleased to announce that my progress continues. I have just hoisted and fine-tuned an interesting NVIS 40 meter dipole that tunes up on 15 meters as well!

This antenna replaces my quite successful 60 meter antenna that sat at a height of about five feet off the ground. The new and improved 40 meter variety took some planning, preparation and lots of thought. There was a time where I could build and launch as many as two dipoles in a single day. Now it takes a couple of days to figure everything out for just one dipole and make it fit my new close-to-the-ground environment. Yet, the ample time, thought and consideration spent cultivates good results!

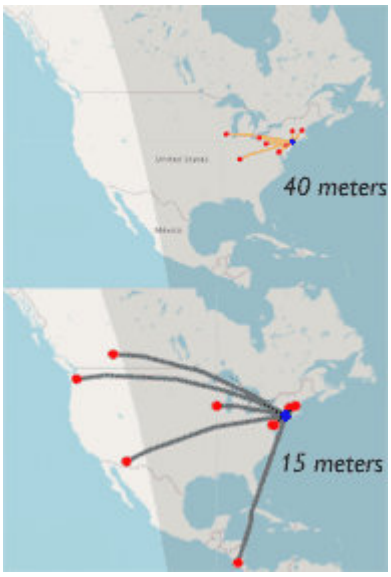
After measuring and cutting the 33 foot 5 inch element wires and sealing all the connections with clear silicone seal, I found and cleared a reasonable path for hanging my new beastie. An hour or two of careful tree pruning, weeding and vine cutbacks and eyeballing the antenna wire's path paid off.

Home-brew wire dipole for 40 meters constructed by Karl. [N2KZ pic.]

I devised a very simple little loop of rope to elevate the dipole's center ceramic insulator to a hardy tree trunk above my head. The 'hot' end of the dipole went out to an appropriate low hanging tree branch up about 25 feet away from my house. The counterpoise side flies into a small length of left-over white PVC pipe clamped to a fence post hoisting the wire to a similar 15 foot height above ground. The PVC pipe is topped with a handy L-shaped white PVC pass-through guiding the rope to gently continue to another fence post allowing the thin PVC pipe to gracefully stand nearly vertically straight without being pulled severely into a very silly looking bend. The result? Happiness without needing any ladders or death-defying climbing! I am now in good shape for 10, 15, 20, 30 and 40 meters! What next? 80 and 160 meters?

Dipole center insulator supported by rope loop. [N2KZ pics.]

PVC pipe and 90º 3-way elbow guides the support rope.



Reverse Beacon Network maps show coverage of Karl's new antenna on 7 and 21 MHz. (https://www.reversebeacon.net/index.php)

Always remember, succeed or fail, every day's experiences add to your knowledge. Keep helping everyone around you and join in their goals and dreams. The world is an amazing place. What will you discover today? Go and find out! By the way, miraculously, my cousin is actually recovering very well!

Until next month, 73 es dit dit de N2KZ 'The Old Goat.'

NY QSO Party 2022

PCARA's main entry in the New York QSO Party on Saturday October 15, 2022 was hosted once again by Joe WA2MCR, using club call **W2NYW**. There were some last-minute arrangements as NYQP's web site only came back to life in late September — with publication of 2021 results and the rules for 2022. One week before the contest, Joe had to replace a faulty antenna and one of his transceivers stopped transmitting.

Joe had set up the W2NYW station in the sunroom using his Icom IC-7410 transceiver, SM-30 desk microphone, and MFJ linear power supply. The antenna was a full-size G5RV supported in dog-leg configuration using three trees as supports. Computer logging employed the latest version of N3FJP's New York QSO Party Contest Log, v2.2.4.

Your editor joined Joe shortly after the 10:00 a.m. EDT start time to find the sun shining and Joe already operating on 40-meter SSB. Activity seemed much higher than in 2021, with plenty of stations filling the bands — a result of higher sunspot counts and better conditions. Two stations worked early on were Ray W2CH and Marylyn KC2NKU, both in New Hampshire.

After Joe had worked as many phone stations as possible, I plugged my Logikey K-3 memory keyer into Joe's transceiver and switched to CW, where activity was just starting to build.

Adding to activity was Jamboree-on-the-Air, with plenty of young scout voices exchanging information, Parks-on-the-Air activations and the Deutscher Amateur-Radio-Club's Worked All Germany (WAG) Contest.

Vincent KD2VAV operates 40 meter SSB with Lou KD2ITZ.

When I returned after lunch, Lou KD2ITZ and Vincent KD2VAV were at the controls, with Vincent working JOTA stations as well as NYQP entrants.

The next guest operator was David KD2EVI, with a move up to 20 meter SSB in mid-afternoon. The new band provided an opportunity to work more out-of-state entries looking for New York stations. Activity may have been encouraged by David arranging sponsorship by PCARA of the "Non-NY SSB Low Power" plaque as well as the award for "NY Multi-One Low Power".

When I returned on Saturday evening, darkness had prompted a move down to 80 meters. I had a chance to add more CW contacts to the log, then when David KD2EVI returned we switched to SSB, determined to break past **400** contacts.

Joe submitted the entry and provided the following results as calculated by the N3FJP contest software.

David KD2EVI and Joe WA2MCR on 40m.

New York QSO Party 2022, W2NYW WES

Band	CW	Phone	Total QSOs
80m	36	41	77
40m	22	251	273
20m	5	55	60

Total contacts = 410
Total points = 42,097

W2NYW contacted 52 out of the available 62 New York Counties, plus 37 States/Provinces for a total multiplier of 89. There were 63 CW contacts which score two points each, plus 347 phone contact points for a total of 473 points. The N3FJP software calculated a grand total of 473 × 89 = 42,097.

Here is a summary of claimed results, including previous years.

Year	QSOs	Points	Multiplier	Claimed total
2013	300	345	83	28980
2014	463	548	100	54800
2015	292	359	81	29079
2016	352	441	86	37926
2017	432	612	87	53244
2018	392	564	73	41172
2019	330	400	90	36000
2021	206	266	68	18088
2022	**410**	**473**	**89**	**42097**

One of the stations worked from W2NYW was **David K2WPM**, operating from Tallman Mountain State Park in Rockland County. David reported that as the weather improved the park had filled and "everyone was curious about the guy with headphones and a wire strung over a tree limb."

"Every year, I manage to disappoint myself… 10,797 this year for 6 hours. Portable in ROC and PUT, 167 contacts, 177 QSO points (10 whole CW QSOs!). 61 multipliers." David K2WPM's score should be combined with the PCARA-W2NYW score for the New York Club High Score plaque.

There may be some modification to these claimed scores after entries have been scrutinized by the New York QSO Party organizers. Watch for final results in early 2023 (fingers-crossed) on the NYQP web site, https://nyqp.org/wordpress/ .

- NM9J

Run Against Hunger 2022

The 42nd Annual **Harry Chapin Memorial Run/Walk against Hunger** took place on Sunday October 16th. This was the eighth time that PCARA has been asked to provide communications support.

The first Run Against Hunger was organized to commemorate singer/songwriter Harry Chapin who died in a car accident on the Long Island Expressway in July 1981. In addition to music, Harry Chapin had dedicated his life toward the cause of ending world hunger, so citizens in Croton-on-Hudson created an annual race in his name to raise funds to fight hunger and provide food to children and adults in need.

Greg KB2CQE and WECA's Kathleen KC2VCT had been contacted in July by race directors Mike Grayeb and Jud Ramaker regarding PCARA/WECA participation. There would be live races on October 16th, as well as a virtual event during the preceding week. Greg was especially keen to encourage PCARA participation in the 2022 event and made mention in the September and October *PCARA Update* newsletters, with a suggestion that participants might join up for lunch afterwards.

Sunday setup

The morning of Sunday October 16 was bright and sunny, with a temperature of 47°F. The forecast was for rising temperatures and continuing sunshine — perfect weather for admiring the fall foliage and racing around Croton-on-Hudson.

Greg KB2CQE paid an early morning visit to the Westchester County RACES Emergency Vehicle which was set up by WECA's Alan N2YGK in its usual spot on the driveway at Croton-Harmon High School. Greg supplied run maps plus a station list and was on the air for a while as net control. WECA Public Service Director Kathleen KC2VCT was also at the High School, with amateur radio information for members of the public. Later, Kathleen filled the role of organizers' shadow.

Westchester County RACES truck.

PCARA members who visited the school in the early morning included Lou KD2ITZ, Vincent KD2VAV, Masa JR1AQN and Jared KD2HXZ.

Your editor had arranged to meet Al K2DMV at the northern end of the Croton Gorge Trail in order to report on events taking place.

Jared KD2HXZ, Masa JR1AQN and Greg KB2CQE at Croton-Harmon HS. [KD2ITZ pic.]

5K Run/Walk

The first event of the day was the 5K Run/Walk, starting at 8:30 a.m. from Croton-Harmon High School, then proceeding down Old Post Road South, via Truesdale Drive to Cedar Lane. The route turns north on Nordica Drive, onto Truesdale Drive to the start of Croton Gorge Trail at the Silver Lake Parking Lot. The Water Stop at this location was manned by Robert N2TSE. The route continues due north on the Croton Gorge Trail to the Mile 2 marker at Trail's end where Al K2DMV was waiting.

We were joined at the Mile 2 marker by a group of cheer-leaders whose job was guiding runners around the curve onto Cleveland Drive. Two members of Montrose Fire Department arrived in their all-terrain vehicle. The location is a difficult radio spot — but with a little prompting from Al to Net Control the fire fighters were able to establish their own radio contact. Croton Police Department was patrolling the trail on an E-bike.

First runners to reach Silver Lake and enter the trail were reported by Rob N2TSE at 8:40 a.m. Shortly afterward they were rounding the curve at the end of the trail. Leading bib numbers were reported back to N2YGK at Net Control. A few minutes later, Al K2DMV spotted **Masa JR1AQN**, bib number 1123 making very

Masa JR1AQN (far right) passes Mile 2 on the 5K Run.

good progress — we cheered him around the turn.

After the main group of runners and walkers had passed Mile 2, there was a short pause. We heard from Rob N2TSE at 9:15 a.m. that a group of 12 runners had become lost and had only just arrived at Silver Lake. By 9:25 they were past our location and the post was secured.

Masa JR1AQN with his medal, earned in the 5K run.

Later on, I met a very happy Masa back at Croton-Harmon High School, where he had been awarded a **medal** for finishing second in his 5K age/class. Masa's time was 28m 54s.

First male and female in the 5K event were Liam Burns, #1058 at 21m 43s and Rhylee Adviento, #1223 at 23m 55s.

10K Run

The main event of the day was the 10K run, scheduled to begin from Croton-Harmon High School at 10:00 a.m. The route goes north on Cleveland Drive to Gerstein Street, crossing Route 129 at Wood Road then proceeding along Batten Road into the Town of Cortlandt and across the New Croton Dam. The route then turns south along Quaker Ridge Road, crossing the river at Quaker Bridge Road, then returns to the High School via Route 129, Jacoby Street and Cleveland Drive.

Al K2DMV drove to his appointed spot at Peter Beet Lane, close to Mile 6 on Cleveland Drive. Along the way we heard Greg KB2CQE reporting in from Water Stop 1 on Batten Road and spotted Lou KD2ITZ with Vincent KD2VAV at Water Stop 4 on Jacoby Street.

Additional stations who reported in to net control were David K2WPM at Water Stop 2 on the east end of Croton Dam; Steve KD2OFD at Mile Point 3 at the end of Croton Dam Road; David KD2EVI at 2125 Quaker Ridge Road (former Danish Home) and Jared KD2HXZ at Mile Point 5 on Quaker Bridge Road.

David K2WPM was located at Water Stop 2 on the New Croton Dam. He was using a J-Pole antenna. [K2WPM pic.]

Your editor took the opportunity to walk down from Al's location to Croton-Harmon High School where the finish line, public address and booths were all located around the front lawn. Westchester County's RACES truck was nearby, ready to pass messages to the race organizers who were busy organizing the start of the 10K race.

At 10:00 a.m. the 10K event started with a blast from an air horn and a large group of runners departed from the High School toward Veterans Corners.

10K runners depart from the start line near Croton-Harmon High School.

They were followed by a white Trail Car containing WECA's Education Director Larry W2UL complete with mobile radio and APRS transmitter. This allowed the Trail Car's progress to be monitored using web site https://aprs.fi.

Trail car manned by Larry W2UL.

Reports of the first runners began arriving from stations around the 10K course. There was repeated mention of male runner numbers 1338 and 1165 who were well in the lead, followed by 1368 the leading female runner. Some thirty minutes later reports of the Trail Car passing began to arrive, meaning all runners had reached that point and the radio station could secure.

Al K2DMV at Peter Beet Lane.

Al K2DMV's location by Mile Point 6 was near the end of the course, so we were able to advise net control when the front runners passed, in

readiness for their imminent arrival at the Finish Line. The Trail Car did not reach Veterans Corners until 11:54 a.m., right in the middle of the departing Fun Run.

L to R: Ian Stowe #1338, Bart Rust #1165 and Janine Tedesco #1316 approach Mile Post 6 on the 10K Run.

First male runner was Ian Stowe, bib number 1338 who finished the course in 35m 18s, followed by second male Bart Rust #1165 in 35m 33s. First female runner to finish was Janine Tedesco #1316 in 44m 30s.

One Mile Fun Run

The final event of the day was the one mile Fun Run which begins on Cleveland Drive south of Veterans Corners, then follows Cleveland to Gerstein Street and the turn-around at CET (Carrie E Tompkins) Elementary School. Al K2DMV relocated to the intersection of Gerstein Street and Cleveland Drive where he met up with Lou KD2ITZ. Meanwhile I stayed behind, close to Veterans Corners/Mile 6 to observe the start of the Fun Run.

The first wave of junior Fun Runners was scheduled to depart at 11:45 a.m. but this was delayed until 11:50 a.m. I reported the start to Net Control, then waited for the second wave a few minutes later. Runners, walkers, strollers and dogs were all passing me by on their way to CET School.

The first wave of Fun Runners departed from the start point on Cleveland Drive before *the 10K Trail Car had reached Veterans Corners.*

At 11:54 Al K2DMV reported the first runners reaching the turnaround, then by 11:59 they had reached my own location at mile 6 on their way to completing the course. By 12:10 all runners had reached the turnaround and Al was told to secure by net control.

Alan N2YGK operates Net Control from the County RACES truck with Kathleen KC2VCT looking on.

With all three events completed, Lou invited PCARA members to Sunday lunch at the new Uncle Giuseppe's in Yorktown Heights — where one of our seated neighbors suddenly picked up a radio microphone and began serenading the store.

Final thoughts

The 42nd Harry Chapin Run Against Hunger went quite smoothly. The only unmanned post was in the early morning at the 5K Run's Stop #3.

There might not have been quite so many runners as in pre-COVID events, but they completed the course without incident. Communication with net control using WECA's 147.060 repeater was reliable and largely uninterrupted this time.

David K2WPM offered the following memory of the event. "I was at Croton Dam East. J-pole on a tripod and HTs. Solar panel and antenna drew dozens of inquiries about ham radio. I should have thought to bring some ham radio brochures!"

On a lighter note, Masa JR1AQN wrote after the 5K Race: "Thank you for cheering me and supporting this event. I could hear clearly someone spoke my name at the end of trail. My goal is to get a medal in 5k/10k races. I am very happy to perform this goal. I really enjoyed the race and felt honorable Hams were supporting this race."

To which Al K2DMV replied: "I was standing on the tiny hill when I spotted you, both Malcolm and I were there. We were both cheering you on. Congratulations on the wonderful effort, next time turn on aprs-is, assuming you had your phone with you."

For more details of the event see the Run Against Hunger web site at https://runagainsthunger.com/. For race results see: https://www.athlinks.com/event/9518/results/Event/1031922/Results.

- NM9J

Silent Keys

Two grand amateur radio CW operators have passed in September 2022.

David Saviet — WB2KSP — was licensed as a ham since 1973 and worked at the CBS Radio Network at the CBS Broadcast Center in New York City since 1978. David lived and breathed audio excellence and was always at the very top of his field. Friends at CBS referred to him as 'Captain Radio.' He loved earning amateur radio certificates for his achievements on the air and also had an amazing historic collection of old radio airchecks. Here's a small sample of his stash of audio tapes: https://reelradio.com/davsav/index.html. David loved CW and every other mode of amateur radio life. A regular commenter on the New York Radio Message Board and participant on many an amateur radio 'net' gathering, David was well known and always a wonderful friend. It often seemed that David knew everyone in radio — and — everyone knew him. A truly amazing individual!

David Saviet, WB2KSP.

Stan Levandowski, Jr — WB2LQF — was a legendary ham in every respect. He earned his Novice license in the early 1960s and never stopped. Pre-trained in radio communications when he enlisted in the U.S. Navy at 18 years old, Stan was an over-achiever in every sense of the word. Knowing Stan, one thing was always for sure: he did things best and he did things right. Stan served as a Radioman on the *USS Boxer* during the Vietnam War era and was one of the few people I knew who actually held an FCC license for radio telegraphy. Stan also had commercial radio telephone chops with a First Class license (GROL) with Ship/Radar endorsement (of course!) Stan was the personification of the term 'ship shape.' Later in life, he continued to be a proud Navy veteran serving as an essential volunteer aboard the *USS Slater* moored in Albany, New York. Stan loved having a stellar CW fist. He loved all sorts of CW keys and amateur gear and accessories. He loved the world of Morse Code! Did I mention he was a 30 year veteran at IBM, a gifted aircraft pilot and a fine amateur astronomer? Stan mastered it all.

Stan Levandowski, WB2LQF.

- from Karl Zuk N2KZ

[Members may remember that Stan WB2LQF gave a presentation to PCARA in March 2018 on "The Three Lives of the *USS Slater*" *-Ed.*]

V.E. Test Session

PCARA's latest Volunteer Examiner Test Session took place on Wednesday October 26 at Putnam|Northern Westchester BOCES Tech Center in Yorktown Heights. The session was changed from ARRL to Laurel VEC. Candidate Jennifer Camillo is related to one of the students in Joseph DeCicco KD2YVY's class at BOCES. Jennifer successfully passed the Technician Test and was issued call sign **KE2AGN** by the FCC on October 28, 2022. .

Joseph DeCicco KD2YVY congratulates Jennifer Camillo on passing Technician.

Thanks to the volunteer examiners who assisted at this V.E. Test Session including Laurel Team Leader Dave KF2BD — who had brought along his notebook and multifunction printer — plus VEs Lou KD2ITZ, Mike W2IG and NM9J.

PCARA's next V.E. Test Session is scheduled for Saturday November 5, 11:30 a.m. at Putnam Valley Library, following the PCARA meeting at 10:00 a.m. This is a Laurel VEC session and candidates must contact Dave KF2BD beforehand on (914) 432-2639 or using daveharper'at'vivaldi.net.

USB? - N2KZ

An interesting revelation came to me recently. I had purchased the latest Roku Express decoder for a new flat screen. The package included a tiny palm-sized little black Roku box complete with a HDMI cable and a USB-A to Micro-USB cable. There was no power supply cube! I read the provided instructions and the pictorial showed the power being provided from the USB port on the back of the flat screen.

Roku Express HD streamer.

I had always wondered why flat screens included a USB port. Now I knew! OG Karl always thought that we were still back in the year 1990 and a USB connection was intended for a keyboard or pointing device mouse. Has USB become the new universal way to glom 5 volts at a few milliamps for accessory devices? Maybe so! - N2KZ

Fall Foxhunt 2022

PCARA's latest hidden transmitter hunt took place on Saturday October 29, 2022. Lou KD2ITZ had obtained permission to hold the event in Franklin D. Roosevelt State Park, with a scheduled start time of 10:30-10:45 a.m., following our Saturday morning breakfast in Downing Park.

Breakfast at Downing Park on Oct 29.

Breakfast had a chilly start — 38°F at 9:00 a.m. — but by 10:30 a.m. when hunters were leaving for FDR Park the sun had warmed temperatures to 52°F.

Hunters gathered in FDR Parking Lot 4, near to Route 202. This location had been recommended by Park Office personnel to avoid "Harry Potter – A Forbidden Forest Experience" which is taking place every night on the far side of the park.

Participants were organized into teams by Lou KD2ITZ so that each team had access to at least one directional antenna and a portable radio, capable of receiving fox transmissions on 146.565 MHz FM. The teams in alphabetical order were as follows:

David KD2EVI and Dave KA1DMA
Lou KD2ITZ
Rob AD2CT and Elliot
Verle W2VJ with Al K2DMV
Vincent KD2VAV and Ratan

Your editor was acting as fox observer and had driven past Parking Lot 4 on the way to the hidden transmitter site. I was accompanied by Jennifer KE2AGN, who had just received her new callsign following the BOCES V.E. Test Session on October 26. Jennifer's son Elliot had been at the BOCES amateur radio presentation on September 19 and was taking part in the hunt.

We left the vehicle at Parking Lot 1, walked to the softball field and placed the fox transmitter under a nearby tree. The equipment consisted of a Byonics PicCon transmitter in its orange case, fastened with Velcro to a 'KONG Floppy Knots Fox' dog toy. Antenna was a Nagoya NA-771 dual-band whip. The controller had been programmed with a tone sequence followed by the club call sign W2NYW. (*PCARA Update*, December 2021). The transmitter was switched on at 10:45 a.m. — then we waited for arrivals.

Verle W2VJ encounters the fox.

The first hunters appeared on the horizon around 11:10 a.m. As they approached the observers' location we could see Vincent KD2VAV and Ratan in the lead. They found the fox at 11:14 a.m., followed shortly afterward by Lou KD2ITZ. The boys had walked along the park road as far as the playground then continued south along the path toward the softball field, where they spotted Jennifer's bright blue hoodie. After a little more direction finding, the fox was discovered lying alongside the large tree.

Vincent KD2VAV (left) and Ratan approach the fox. *[KE2AGN pic.]*

Successful hunters Vincent and Ratan at the Observers' table with Lou KD2ITZ behind, still seeking the fox.

The other teams were not far behind and are listed below. As noon approached, we saw the two Davids, KD2EVI and KA1DMA heading past then turning in the wrong direction. A brief call on 146.565 MHz gave them a hint that helped them find the fox at 11:43 a.m.

Team	Time
Vincent KD2VAV and Ratan	11:14 a.m.
Lou KD2ITZ	11:15 a.m.
Rob AD2CT and Elliot	11:27 a.m.
Verle W2VJ	11:27½ a.m.
Al K2DMV	11:28 a.m.
David KD2EVI and Dave KA1DMA	11:43 a.m.

With everyone gathered at the Observer's picnic table near the basketball court, there was a chance to compare equipment and exchange tales of foxes found and lost.

Group shot of participants gathered at the finish near Parking Lot 1.

Lou gave a demonstration of his latest project — a close-in RF aid based on an AD8317 logarithmic RF detector coupled to an Arduino, with the Arduino programmed to generate a variable audio tone depending on incoming signal strength.

Lou KD2ITZ demonstrates his close-in RF detector near the fox.

We were joined by Ratan's father Satish who had encountered the PCARA teams at Downing Park's tennis court. PCARA business/foxhunt cards designed by Rob plus club literature were passed out to the tennis players who had been following the teams' progress.

Everyone seemed satisfied with their results in the foxhunt, with the fine, sunny weather and with the opportunity to learn more about amateur radio. Special congratulations to Vincent and Ratan for finding the fox just a little faster than the adult hunters.

Participants walked, rode or drove back to Parking Lot 4 in order to return loaned equipment to original owners and to reflect on an enjoyable morning. We look forward to the next event when Vincent should be in charge of the hidden transmitter.

- NM9J

You know you are!

You know you are a radio ham if…

- You misread a handwritten sign as "TH6 SALE" when in fact it said "TAG SALE".
- You interpret the crossword answer "OMS" as the "Old Man's" when the clue said "Yoga sounds".
- You know why the character "C.W. Moss" was so-named in the movie "Bonnie and Clyde".
- You can identify every mast and tower in a landscape photo.
- You understand the hidden messages in "Inspector Morse".
- You wonder how a breakfast cereal could be sent by C.W. Post.
- You can hear tweety birds and steam vents sending Morse Code.
- Your mobile radio is worth more than the vehicle it is mounted in.

Internet Archive

Dave KF2BD draws the following to our attention.

Internet Archive is a non-profit library of millions of free books, movies, software, music, websites, and more (https://archive.org/). You may be familiar with one of its activities, the "Wayback Machine".

Internet Archive has begun gathering content for the Digital Library of Amateur Radio and Communications (DLARC), which will be a massive online library of materials and collections related to amateur radio and early digital communications. The DLARC is funded by a significant grant from the Amateur Radio Digital Communications (ARDC), a private foundation, to create a digital library that documents, preserves, and provides open access to the history of this community.

AMATEUR RADIO DIGITAL COMMUNICATIONS

Further details are available here: https://blog.archive.org/2022/10/04/internet-archive-seeks-donations-of-materials-to-build-a-digital-library-of-amateur-radio-and-communications/

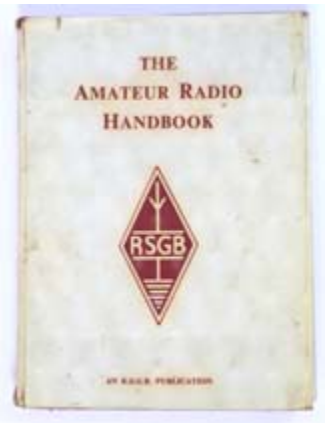
Chassis bashing

Microproject

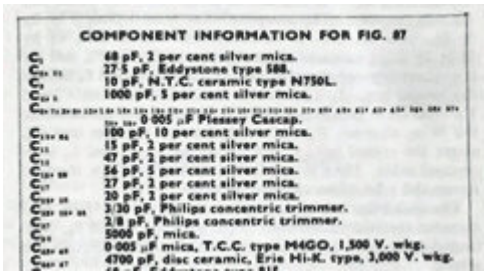
I received an inquiry from Lou KD2ITZ about a construction project using a microammeter. This set me thinking about construction projects "then" and "now".

Long ago and far away

When I was first licensed (a long time ago) impoverished students would *build* their first transmitter rather than purchasing a commercial item. Standard technique at the time was to accumulate mechanical items and electronic components according to a published design — then settle down at the workbench for a week or two until the project was finished.



This was the approach I adopted for several transmitter projects. Design sources were publications such as RSGB's *A Guide to Amateur Radio*, the RSGB *Amateur Radio Handbook*, the *ARRL Radio Amateur's Handbook* or a monthly magazine such as the *RSGB Bulletin* (later *RadCom*), *Short Wave Magazine* or *Practical Wireless*. Most articles would have a schematic diagram and — perhaps — a photo of the finished equipment. Better articles would include a list of components plus a chassis layout with positions of vacuum tubes marked and measured. This was the type of article favored by beginning constructors like myself.


COMPONENT INFORMATION FOR FIG. 87

C_1	68 pF, 2 per cent silver mica.
C_2	27 5 pF, Eddystone type 588.
C_3	10 pF, N.T.C. ceramic type N750L.
C_4	1000 pF, 5 per cent silver mica.
C_5	0·005 μF Plessey Cascap.
C_{6A}, C_{6B}	100 pF, 10 per cent silver mica.
C_7	15 pF, 2 per cent silver mica.
C_8	47 pF, 2 per cent silver mica.
C_9	56 pF, 5 per cent silver mica.
C_{10A}, C_{10B}	27 pF, 2 per cent silver mica.
C_{11}	20 pF, 2 per cent silver mica.
C_{12A}, C_{12B}	3/30 pF, Philips concentric trimmer.
C_{13}	2/8 pF, Philips concentric trimmer.
C_{14}	5000 pF, mica.
C_{15A}, C_{15B}	0·005 μF mica, T.C.C. type M4GO, 1,500 V. wkg.
C_{16A}, C_{16B}	4700 pF, disc ceramic, Erie Hi-K. type, 3,000 V. wkg.

Better articles would include a detailed list of components (RSGB Handbook).

First catch your chassis

The first item to acquire was a **metal chassis**. Commercial equipment might use plated steel for strength and low cost, or brass for conductivity but the favorite material for home constructors was always **aluminum**. Aluminum was lightweight, free from corrosion and — most importantly — easy to work with the simple tools found in a home radio workshop.

The place to go in Southport for sheet metal and metal fasteners was Mrs. Sharple's hardware store in Shakespeare Street. Screws and bolts were sold by weight and wrapped in newspaper. (No pre-packaged nuts and bolts in plastic blister packs back then.)

Shakespeare Street in Southport, NW England was home to ironmongers, locksmith and hardware stores.

Fabricating a metal chassis was beyond my capabilities. Fortunately, pre-folded, pop-riveted chassis made from aluminum were readily available. You could even find all-metal enclosures suitable for mounting your chassis inside.

Aluminum chassis from the U.K. with pop-riveted corner braces. The adhesive label said: 12" × 3" *and* 90p *(£0.90).*

Once you had found your metal chassis, the next step was to add a front panel and mark where the holes for vacuum tubes, meters, antenna sockets, switches and rotary controls would go. This was where a published diagram with measurements was useful — especially for a first project. (After a little more experience, I started designing my own layouts.) My technique was to mark the aluminum chassis with a graphite pencil, then use a center-punch and hammer to mark the center of each hole before drilling began. The indentation from the center punch would stop my hand drill from wandering.

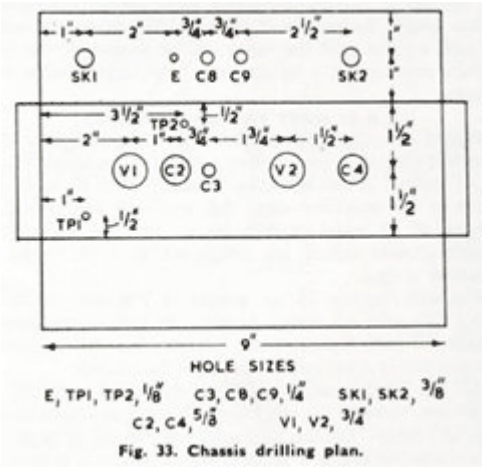


Fig. 33. Chassis drilling plan.

Chassis layout showing holes for vacuum tubes V1, V2 and other components C2, C4. (RSGB Handbook).

Holes for hardware

In the age of vacuum tubes, all sorts of holes would be required, starting with ⅛" diameter clearance for a 6BA screw or 5⁄32" for a 4BA screw.

6BA size (left) and 4BA (right) bolts and nuts as used in British electronic equipment in the 1960s. They are mostly obsolete, replaced by ISO metric sizes today.

A word of explanation for non-U.K. readers… "6BA" and "4BA" were two of the thread sizes for fasteners specified by the **British Association** for the Advancement of Science and subject of British Standard BS 93:1951. "B.A." size screws and nuts were recommended for use in scientific instruments — they were also widely used for small electrical and electronic equipment manufactured in the British Isles in the 20th century. I had a collection of 8BA (smallest) 6BA, 4BA and 2BA screws and nuts, along with a set of **nutdrivers** for tightening fasteners in confined spaces.

6BA, 4BA & 2BA Spiralux nutdrivers from the UK. Two cellulose acetate/butyrate handles have deteriorated. [PCUD June 2011 p 6.]

It was good practice to include a washer, lockwasher or solder tag (lug) under the nut so the load was spread, the nut would stay tightened and maintain good electrical contact with the metal chassis underneath.

6BA (left) and 4BA (right) lockwashers, washers and solder tags (lugs).

Another sidenote… where did I find all this valuable information? At grammar school, I was given a choice of Art Class or Mechanical Shop training — I had chosen Art Class, so not much help there with future metalwork. British publications such as the RSGB *Amateur Radio Handbook* provided tables of drill sizes, but not much more. My 1966 ARRL *Radio Amateur's Handbook* had a chapter on "Construction Practices" — this was helpful, though the American machine screw sizes and wire sizes were confusing.

Most of my experience came about through trial and error, followed by friendly *critique* by members of Ainsdale Radio Club. I would pay a visit on my bicycle with transmitter parts in the saddle bag. Almost everyone in the club built their own equipment, so there was no lack of advice.

Stanley England hand drill with ¼" bit.

Drilling small holes in the metal chassis was relatively straightforward. I had a hand drill and a selection of drill bits up to ¼" size suitable for aluminum. For larger holes such as ⅜" for a rotary control, the technique was to start with a smaller hole using the hand drill, then change to a brace and bit for more torque on the larger drill sizes. A piece of scrap wood under the metal sheet prevented burr and avoided parental wrath caused by drilling holes in the table! I preferred a hand-powered tool over an electric drill for this type of work as you could feel when the drill bit was about to break through the metal and ease off on the pressure.

Brace and bit.

After drilling one too many holes, I had yearnings for a **drill press** with an electric motor drive — in fact I saw one for sale at October's BARA Hamfest — but it never came about.

Holes for **vacuum tube sockets** and **panel meters** were a larger problem — literally. One technique was to drill a series of small holes within the pencil circumference of the larger hole, force out the center piece, then get to work with a metal file to remove all the rough spots. This was agony!

I discovered a much better technique… find a friendly club member with a set of **sheet metal punches**. This ingenious device is also known as a "knockout punch", "chassis punch" or Q-Max punch. The punch

Q-Max chassis punch (left) and its four components: punch, die, washer, screw.

and die are held together with a substantial screw and washer. A pilot hole is drilled in the chassis, just large enough to allow the screw to pass through, then the punch is assembled on each side of the metal sheet with the screw passing through the hole. The screw is tightened with an Allen key, and the punch begins cutting through the chassis as it is pulled into the die. When the chassis is completely penetrated, the punch can be disassembled, leaving a perfect round hole with no burr to clean off.

Q-Max punch can cut a hole in sheet metal up to 16 gauge mild steel. [Q-Max Electronics U.K.]

Holes for tubes

There were three important hole sizes needed for vacuum tube projects — ⅝" diameter for a B7G 7-pin valve socket, ¾" for a B9A nine-pin socket and 1 ⅛" for an International Octal (IO) base. Larger transmitting tubes such as the 4CX250B and Mullard QQV06-40A (5894) required larger holes for their special bases.

Example from the early 1970s of an aluminum chassis punched for five vacuum tubes and a panel meter. This was an AM/FM modulator with tube line-up 12AX7 – 12AX7 – 12AT7 driving a pair of 807s for 30 watts audio output.

I must have outstayed my welcome using chassis punches at nearby friends as eventually I acquired my own set of hole punches, as well as a Q-Max punch for the Japanese MR38P size panel meter. When suitably equipped, a large chassis for a transmitter project could probably be made ready in an afternoon.

Shields and screens

In addition to the aluminum chassis and front panel, there was sometimes a need for shielding between stages of amplification. I liked to add metal screening cans over low-level vacuum tubes — this required a B7G or B9A socket with a **metal skirt** so that the screening can could be clipped on, similar to a bayonet socket. Additional shielding might require a folded metal screen under the chassis or above the chassis to prevent RF energy feeding back to an earlier stage.

Metal screening cans. The black can at left has extra holes for ventilation.

Cutting and folding of aluminum is best done with professional tools such as a sheet metal shear and sheet metal brake. I had no such equipment — the best I could come up with was an Abrafile or a "nibbler" hand tool for cutting metal along a straight line or curve. For bending sheet metal, I had a pair of angle irons clamped in the jaws of a table vice. These were just about adequate for light gauge aluminum, but difficult to use for anything heavier.

Final assembly

Once the aluminum had been bent, drilled, punched and generally beaten into shape… you had to remember that this was just the **start** of the project! Large components had to be securely mounted to the chassis using nuts and bolts, connections for heaters (filaments) had to be made using insulated cable, electronic components had to be wired between tube sockets and solder tags/lugs etc. etc. Come back in a week or two and the project might be ready for testing.

View underneath the completed modulator project, based on an aluminum chassis.

Many of these techniques have been forgotten nowadays — they are not needed anymore unless you are home-constructing an antenna tuner with wide-spaced capacitors or a high-power linear amplifier using vacuum tubes. Perhaps it's a good thing… can you imagine a mobile radio that still depended on thermionic devices? Maybe you remember the sound of a high-voltage inverter whining away when you pressed-to-talk? But the ability to drill a metal case and mount components inside can still be valuable for assembly of test equipment and small RF devices.

- NM9J

Big bad balun

Déjà vu all over again

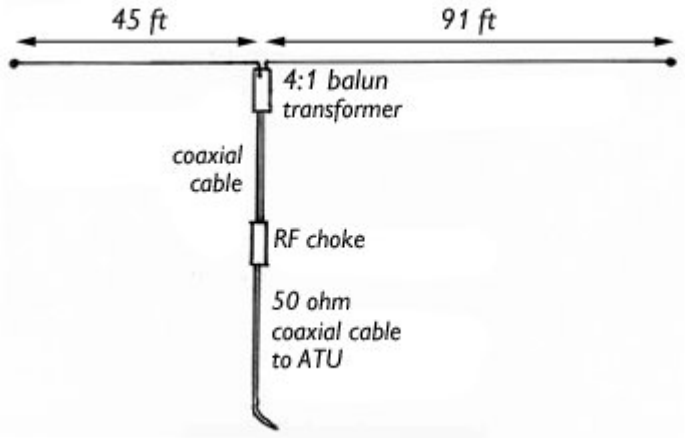
Joe WA2MCR has had great success with wire antennas, especially the "Carolina Windom". But Joe has also had problems with these antennas. A *PCARA Update* article for January 2004 describes how Joe's Carolina Windom from *Radio Works* (see http://www.radioworks.com/ccw80.html) had a "line isolator" that was dripping water, ruining the performance. Joe replaced that Windom with a G5RV antenna.

Off Center Fed Dipole (OCFD)

The Carolina Windom and other antennas of this type are based on a half wave dipole that is fed away from the center. The horizontal wire is divided into two lengths that are one third (⅓) and two thirds (⅔) of the total. Impedance at the off-center feed point is close to 200 Ω, so a 4:1 balun can be used to step this impedance down to 50 Ω, suitable for a coaxial cable.

A result of this arrangement is that antenna impedance at various harmonic frequencies is also close to 200 Ω — so the 4:1 balun transformer continues stepping down the impedance on those harmonics to 50 Ω, suitable for coaxial cable.

The Carolina Windom design adds a vertical length (22 feet) of coaxial cable between the 4:1 balun and a coaxial choke ("line isolator"). Since the antenna is unbalanced, additional RF current is induced into the outer conductor of the vertical coax, radiating a vertically-polarized signal in addition to the horizontal polarization from the dipole. The RF choke prevents this outer conductor current from continuing along the coax to the shack.

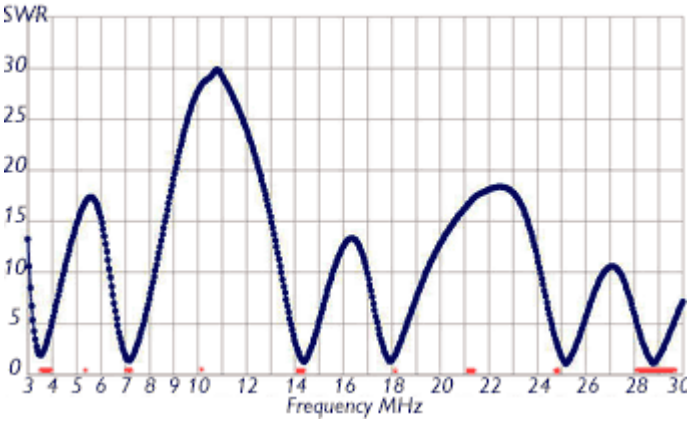


Carolina Windom with off-center fed dipole and vertical coax below the 4:1 balun.

OCF Calculation

The example below is taken from "An Introduction to Antenna Modeling" by Steve Nichols GØKYA, published by RSGB. An off-center-fed antenna with overall length 136 ft has its feed-point positioned at ⅓ of the overall length, 45 feet from one end. The antenna is modeled using MMANA-GAL software with SWR calculations based on a 200 Ω impedance at the feedpoint, 20 meters above ground.

The same MMANA-GAL software was then used to export a CSV file that included SWR and frequency values over the range 3 – 30 MHz. This CSV file was imported into Microsoft Excel then graphed. On the resulting graph, the HF amateur bands are marked with red lines along the *x*-axis.



Graph from Microsoft Excel shows SWR plotted against frequency for off-center fed dipole, overall length 136 ft.

The results show a low SWR for the 80 meter band (3.5 – 4.0 MHz) as well as the 40 meter, 20 meter, 17 meter, 12 meter and 10 meter bands. This design is *not* suitable for the 60 meter, 30 meter and 15 meter bands where SWR is high, well over 10:1. Running high power continuously through a ferrite balun transformer while SWR is this high could result in failure of the balun due to heating of the core.

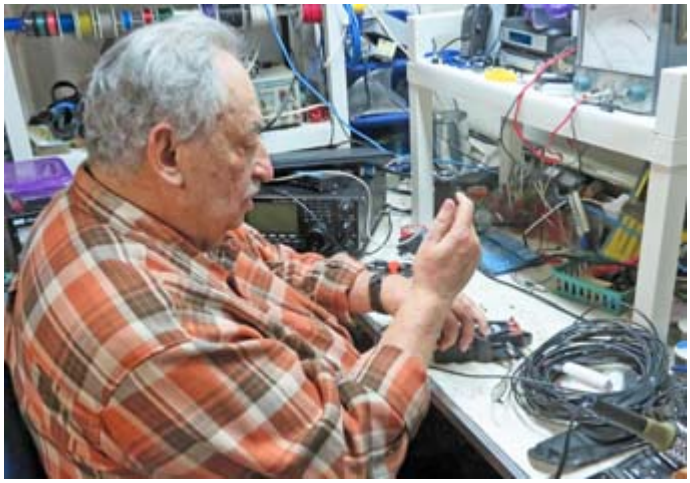
It happened again

In recent years, Joe replaced the *Radio Waves'* Carolina Windom with a similar model from another manufacturer. It was originally supported in a straight line between two trees — until Joe's neighbor had one of the trees removed. At that point, Joe had to change the straight-line OCF dipole to a dog-leg design, supported by three trees so that it would still fit inside the yard. This antenna was used for the New York QSO Party of 2021.

During preparations for NYQP 2022, I received a call from Joe complaining that SWR of his OCF antenna had become unacceptable. The antenna was showing an open circuit between coaxial cable inner and outer conductors, suggesting a problem with the 4:1 balun at the feedpoint.

We took the old antenna down, coiled up the jacketed Flex-Weave™ dipole wires then Joe took the whole assembly down to his basement for examination.

The original label on the 4:1 balun had weathered away, but it was identical to a black 4:1 balun sold by Jetstream USA (http://www.jetstream-usa.com/). Joe re-



Joe took the antenna down to his shack for examination.

moved the six nuts and bolts holding the two molded plastic parts together then separated the halves, which had been glued together with a coating of silicone sealant.

The construction then became evident. The balun was a bifilar-wound voltage type using a short length of ferrite rod as the core. The enameled wire was badly discolored and the ferrite core had slipped down through the turns of wire — evidence of significant heating. The output from the balun was connected to two brass screws for the wire dipole connection… while the other ends went to the SO-239 coaxial connector at the base. One side was soldered to the inner conductor of the SO-239 while the other end was connected to a solder lug that went — **nowhere**.

Jetstream 4:1 voltage balun.

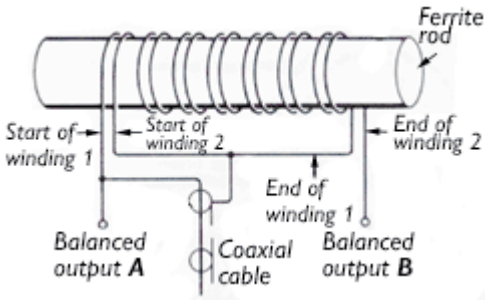
One of the balun input wires was connected to a solder lug (arrowed) no longer connected.

The solder lug should have been attached to one of four screws securing the SO-239 to the plastic enclosure. Three screws were self-tapping types, while the fourth had normal threads for securing with a nut… but there was no nut rattling around in the plastic case!

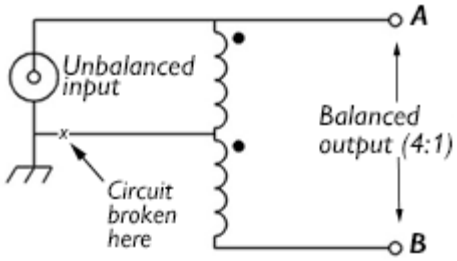
Nut-thing missing

We concluded that the nut had been left off during manufacture and the solder lug must have just been touching the screw until disaster struck and the two parted company — hence the open circuit reading on an ohmmeter. At that point, SWR would have gone sky-high as the antenna changed from an off-center-fed dipole to a pair of end-fed wires with series inductance in one wire — *and* no counterpoise.

4:1 balun removed from its plastic enclosure. Enameled wire around ferrite rod core is discolored and the core has shifted. Solder lug with missing nut arrowed.



4:1 bifilar-wound voltage balun [RSGB].



The missing nut could be easily repaired, but the cooked core and discolored enameled wire pointed to a breakdown in the enamel insulation. My suggestion was to replace *all* the internal components — balun kits are available with more substantial ferrite toroids, for example from Palomar Engineers at https://palomar-engineers.com/ .

In the event, Joe elected to replace the OCF dipole with a commercial G5RV antenna. The center insulator was suspended from the middle tree and 33 ft of 450 Ω ladderline ran straight down to the 50 ohm transition point where a multiple ferrite bead choke prevents common-mode current on the coaxial cable outer braid.

Bring down the balun

Different versions of the off-center-fed dipole (OCFD) are commercially available. The 4:1 balun usually has one or two ferrite toroids housed inside a PVC pipe fitting and sealed with pipe cement. The result is a heavy center insulator which will weigh down the feed point and may still allow entry of water. The ferrite core places a limit on high SWR, high power operation, especially for long key-down modes like RTTY or FT8.

Multiband wire dipoles using **twin feeder** are lighter and the 1:1 choke balun can be kept near the ground where it is easier to maintain. Do I hear a shout for the **G5RV** or **ZS6BKW** antenna?

- NM9J

Peekskill / Cortlandt Amateur Radio Association

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YouTube Channel: https://www.youtube.com/channel/UC_nPheRBFK2LP9XHhXSEQrA

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Newsletter contributions are always very welcome!
Archive: http://nm9j.com/pcara/newslett.htm

PCARA Information

PCARA is a **Non-Profit Community Service Organization**. PCARA meetings take place every month (apart from July/August break). See http://www.pcara.org for current details.

PCARA Repeaters

W2NYW: 146.67 MHz -0.6, PL 156.7Hz
KB2CQE: 449.925MHz -5.0, PL 179.9Hz
N2CBH: 448.725MHz -5.0, PL 107.2Hz

PCARA Calendar

Masks and Social Distancing may be required.
Sat Nov 5: PCARA Membership meeting, 10:00 a.m., Putnam Valley Library, 30 Oscawana Lake Rd., Putnam Valley, NY.
Sat Nov 5: PCARA V.E. Test Session, 11:30 a.m., Putnam Valley Library, 30 Oscawana Lake Rd., Putnam Valley, NY. See below.
Sat Nov 19: PCARA Breakfast, 9:00 a.m., Uncle Giuseppe's, 327 Downing Dr, Yorktown Heights, NY.

Hamfests

Sun Nov 13: LIMARC Indoor Hamfest, Levittown Hall, 201 Levittown Parkway, Hicksville, NY. 8:45 a.m.
Sat Nov 19: New Jersey Antique RC Fall Swap Meet, Parsippany PAL, 33 Baldwin Rd., Parsippany NJ. 8:00 a.m.
Fri Nov 25: Fair Lawn ARC Auction, Fair Lawn Senior Center, 11-05 Gardiner Rd. Fair Lawn NJ. 5:30 p.m.

VE Test Sessions

Check with the contact before leaving.
Nov 5: PCARA, Putnam Valley Library, 30 Oscawana Lake Rd., Putnam Valley, NY. 11:30 a.m. Laurel VEC. Must contact VE, daveharper'at'vivaldi.net.
Nov 5, 12, 19, 26: Westchester ARC, 19 Hunts Bridge Rd, Yonkers NY. 11:00 a.m. Must contact VE, ac2t'at'arrl.net.
Nov 5, 12, 19, 26: NYC-Westchester ARC, 43 Hart Ave, Yonkers NY. 12:00 noon. Must contact VE, k2ltm'at'aol.com.
Nov 10: WECA, Westch Cnty Fire Trg Center, 4 Dana Rd Valhalla NY. 7:00 p.m. Must contact VE, robert.casino'at'09-8verizon.net
Nov 18: Orange County ARC, Munger Cottage, 183 Main Street, Cornwall NY. 6:00 p.m. Must contact VE: w2bcc'at'arrl.net

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