PCARA Update

Volume 27, Issue 11 Peekskill/Cortlandt Amateur Radio Association Inc. November 2026

October on foot

October was a busy month for PCARA. It started with the monthly meeting on October 3 at Putnam Valley Free Library in Putnam Valley NY. We opened the meeting with a round-table of personal activities then went on to discuss the month's upcoming events.

Two weeks later on Saturday October 17 the day began with an indoor PCARA Breakfast at Uncle Giuseppe's in Yorktown. Later that same morning, Joe WA2MCR hosted PCARA's club entry in the New York QSO Party, with assistance from five other members who dropped in to operate W2NYW on SSB and CW. After the event, Joe was presented with a Challenge Coin in recognition of his support for this state-wide radio contest over the years.



David KD2EVI operates W2NYW's club entry in the New York QSO Party.

On Sunday October 18, nine members of PCARA and more volunteers from WECA took up positions around Croton-on-Hudson in support of the Harry Chapin Memorial Run Against Hunger. The "Run" is actually three events, with the Westchester RACES truck acting as coordination point between amateur radio stations, volunteers and public service organizations. Two more members of PCARA took part in the 10K run. Hats off to you all!



Westchester County RACES truck outside Croton-Harmon High School, nerve center of the Run Against Hunger.



Lou KD2ITZ (with fox transmitter) and David KD2EVI in FDR Park for the October 24 Foxhunt.

On the following Saturday morning, seven PCARA members and one friendly dog ventured into FDR State Park, looking for a hidden radio transmitter. The 2 meter TX was disguised behind a dog toy and cunningly concealed in the woods by Lou KD2ITZ. The October Foxhunt was an enjoyable adventure in the park at a time of year when fall colors are brightening the shorter days. More detailed reports on October activities are in the pages of this newsletter.

One decision taken at the October 3 meeting was to move PCARA's annual holiday dinner from Table 9 back to the Cortlandt Colonial *Continued on page 2* ⇨

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Manor Restaurant. The booking has now been arranged by Ray W2CH, Marylyn KC2NKU plus David KD2EVI and will take place on Sunday December 6.

Please mark your calendar with the following events.

- Saturday November 7: 10:15 a.m. **Monthly meeting** with election of two board members and VE Test Session at Putnam Valley Library.
- Saturday November 21: 9:00 a.m. **PCARA Breakfast** at Uncle Giuseppe's Marketplace in Yorktown Heights, NY.
- Sunday December 6: 5:00 p.m. **Holiday Dinner** at Cortlandt Colonial Manor Restaurant, Cortlandt Manor NY. Price is $50.00 per person. The menu can be found in this month's newsletter. Please contact David KD2EVI with your headcount if you and yours are planning to attend

Our next PCARA Membership Meeting is scheduled for Saturday November 7 at 10:15 a.m. at the Putnam Valley Free Library. The meeting will include election of two Board Members in the positions currently held by David KD2EVI and Bob N2CBH.

Vale! – valete!

Before ending the front-page column, we must mark a significant retirement. Since the February 2005 issue of *PCARA Update*, Karl N2KZ has contributed a monthly column entitled "Adventures in DXing". The first "Adventures" was all about XM Radio, broadcasting on 2.3 GHz S-band microwave from a pair of satellites in synchronous orbit. Karl has continued to keep us updated on the latest techniques for transmission and reception of analog and digital signals, whether for sound or vision in the broadcast or amateur services — with an emphasis on amateur CW and QRP. The last episode in *PCARA Update* for October 2026 reminded readers of the terrible events of '9/11', September 11, 2001.



Karl N2KZ. [N2KZ pic.]

This leaves a gap in the pages of the newsletter. Contributions to these pages are always welcome — so feel free to write a report of your *own* "**Adventures**". This is a fascinating hobby with many different branches. Your fellow members would love to hear about *your* location, *your* equipment, antennas, modes, DX and anything else associated with amateur radio and electronics. The editor's **Inbox** awaits.

Karl is also retiring from his traditional role of herding the goats on Thursday evening's "Old Goats Net" on the 146.67 MHz W2NYW repeater. This net began in late 2006 at 8:00 p.m. on *Wednesday* evenings. The net control task has been taken up by a quartet consisting of Jared KD2HXZ, David KD2EVI, Malcolm NM9J and Bob N2CBH. Let's hope their "Questions of the Week" are just as entertaining as those provided by Karl over the past 20 years.

PCARA Board

President:
Greg Appleyard, KB2CQE; kb2cqe 'at' arrl.net
Vice President:
Bob Tarsio, N2CBH; bob 'at' broadcast-devices.com
Secretary:
Lou Cassetta, KD2ITZ; radiocassetta 'at' gmail.com
Treasurer:
David Fredsall KD2EVI; joanndavidss88 'at' verizon.net
Director:
Robert Gill AD2CT
Vice President Emeritus: Joe Calabrese, WA2MCR.

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 for neighborly news and trivia night.

VE Test Sessions

There was *no* VE Test Session after the Saturday October 3 meeting owing to a lack of candidates.

Another VE Test Session is scheduled for Saturday November 7, following the monthly meeting at Putnam Valley Library. Official start time is 11:30 a.m.

Candidates should contact Lou KD2ITZ or register online using the link on the PCARA home page: http://pcara.org/ .

Another VE Test Session is scheduled for 11:30 a.m. on Saturday December 19 at Putnam Valley Library.

NY QSO Party 2026

Prepare to party

Preparations for the New York QSO Party began several weeks before the event. David KD2EVI made enquiries with Rus K2UA, chair of the NYQP, regarding PCARA's sponsorship of the same two plaques as in previous years. Joe WA2MCR had been busy setting up a new station ready for visiting operators.

Joe's station included a new Icom **IC-7300MK2** transceiver along with a Dell notebook computer running Windows 11. Joe had spent several weeks interfacing computer to radio so that N3FJP's contest software for the New York QSO Party would control the IC-7300MK2, sending/receiving SSB and CW via the radio's USB connection. The antenna was Joe's G5RV wire dipole with an MFJ external automatic ATU.



Joe WA2MCR on 40 meter SSB during the NY QSO Party.

On Saturday October 17th Joe had skipped the 9:00 a.m. PCARA Breakfast to begin NYQP operations promptly at 10:00 a.m. He was operating from his sunroom using club call W2NYW. I made my first visit around 11:00 a.m. and found Joe operating on 40 meter SSB, with an automatic voice loop to call CQ. I took over the operator position for an hour or so and found plenty of takers for my *own* voice CQ calls. Incoming signals were subject to significant fading and Joe thought signal strengths were not as good as for the PA QSO Party on the previous weekend.

My next visit found David KD2EVI operating on 40 meter SSB. Ray W2CH with Marylyn KC2NKU had also been working stations. As contacts were slowing down, we switched to CW and found more takers at the bottom end of the 40 meter band. Mike N2EAB arrived around 3:00 p.m. and continued operations.

By Saturday evening, conditions on 40 meters had changed — with more distant stations now mixed in with the QSO Party. This included POTA, Jamboree on the Air and Worked all Germany contest activity. Joe changed bands to 75/80 meters where we found plenty of 'new' stations to work. After I left, there was a further visit by David KD2EVI.



Mike N2EAB operating W2NYW in the NY QSO Party.

Here are results from Joe's 2026 **W2NYW** entry as calculated by the N3FJP contest log software. CW contacts count for double points. New York stations' final multiplier is calculated by adding the number of NY Counties and Canadian Provinces worked.

Total Contacts = 340
Total Points = 31,680

Total Contacts by Band and Mode:

Band	CW	Phone	Dig	Total	%
80	22	51	0	73	21
40	34	233	0	267	79
Total	56	284	0	340	100

Below is a comparison with W2NYW (multi-operator) scores from 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
2023	269	292	84	24528
2024	569	631	97	61207
2026	340	569	55	31680

Additional stations

One member submitted an individual entry for accumulation with the W2NYW result for High Club Score. Scott KE2CNS reported: "I made a modest effort on behalf of PCARA in the NY QSO party. Only 24 contacts this year. But if every PCARA member made 24 contacts, PCARA would be a NY QSO powerhouse…"

Results should be available on the New York QSO Party web site, https://nyqp.org, around March 2027.

- NM9J

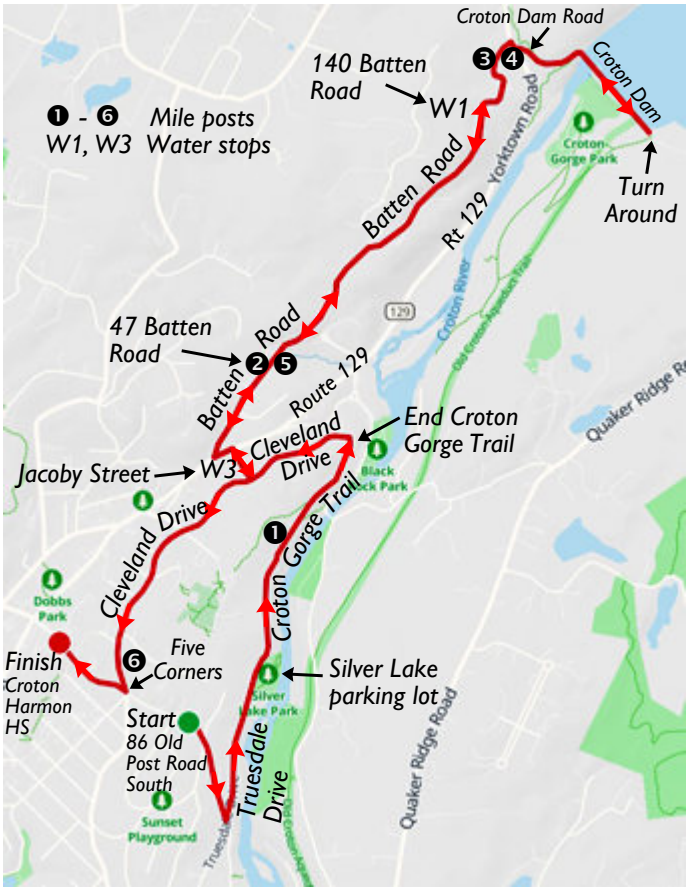
Run Against Hunger 2026

The 46th Harry Chapin Memorial Run Against Hunger took place on Sunday October 18, 2026. This was the twelfth time that Race Organizers had asked PCARA to provide communications support after our earliest participation in October 2014.

The first Run Against Hunger commemorated singer-songwriter **Harry Chapin** who was killed in a car accident on Long Island in July 1981. A few months later a group of concerned citizens in Croton-on-Hudson decided to create an annual race to mark the singer's activism in the field of hunger.

2026 planning

In 2025, the route of the 10K run had to be changed. This was a result of the 130-year old Quaker Bridge in Croton-on-Hudson being declared unsafe by Westchester County. Contractors working for the county removed the old bridge and should complete work on the new bridge in summer 2027.



10K Run followed the same route as in 2025, starting at Old Post Road South, then via Croton Gorge Trail up to the Croton Dam, returning down Batten Road and Cleveland Drive. *[Base map, Run Against Hunger.]*

David KD2EVI attended a meeting at Cortlandt Town Hall on October 7 to discuss safety planning commitments with the race organizers, local government representatives plus State, County and Croton Police. The modified 10K route with turn-around on Croton Dam was retained for 2026. The 5K run would start at 8:30 a.m. at Five Corners, the 10K would start at 10:00 a.m. in front of 86 Old Post Road South and the 1-Mile Fun Run would start at 11:45 a.m. near 152 Cleveland Drive. For the 10K event, PCARA would position a volunteer on the Croton Gorge Trail to advise UTV and sweep vehicle at the end of the trail of approaching runners. There should also be a radio station at the intersection of Route 129 and Batten Road to inform police of the location of the sweep vehicle and last runner.

David provided a list of radio station assignments to PCARA volunteers by e-mail on Friday October 16. He has also presented PCARA Challenge Coins to Race Director Mike Grayeb and former Race Director Jud Ramaker for inviting PCARA to participate.

Cold start

Dawn arrived on Sunday October 18 with a chilly start to the day. Temperature at 8:00 a.m. was only 38°F. The Westchester County RACES Emergency Communications Vehicle was driven to Croton-Harmon High School by Alan N2YGK and set up in the school driveway. Operation was on the WECA 2 meter repeater, with David KD2EVI on-air as Net Control from 8:15 a.m. and Kathleen KC2VCT monitoring other frequencies. Fortunately the weather stayed sunny during the day with temperature rising to 53°F by 12 noon.



Westchester County's RACES truck was parked in front of Croton-Harmon High School.

5K Run

For the 5K event, your editor was assigned to the Mile 2 marker where the north end of the Croton Gorge Trail meets the cul-de-sac at end of Cleveland Drive. I arrived at 7:50 a.m. and was soon joined by High School students with "Runners Ahead" signs. Next to arrive was Montrose Fire Department's MA-25 UTV with a crew from Croton EMS.

In past years, a rock sticking out of the path near the end of Croton Gorge Trail caused several runners to slip and fall. This rock had supposedly been removed for 2026, but I found it was still present among the fallen leaves and painted white. I covered the rock with a bright orange safety cone.



This rock at the end of Croton Gorge Trail caused runners to fall in previous years.

At 8:33 a.m. WECA's Elizabeth KD2QYL reported that the 5K run had started. By 8:42 a.m., lead female runner Avery Gosnell, bib number 1337, was passing my location at Mile 2, followed by lead male Asher Tworetzky bib number 2302.



5K lead female Avery Gosnell, bib number 1337, passes the orange safety cone at the end of Croton Gorge Trail.

At 8:45 a.m. lead runners were reported passing Zee KE2FRX, located at Cleveland Drive and Jacoby Street. By 8:56 a.m., David KD2EVI was reporting the first 5K runners had passed the Finish Line outside the High School. Avery Gosnell was first out of 294 runners, completing the 5K course in 18 minutes 05 seconds. Asher Tworetzky arrived second in 18 minutes 49 seconds.

10K Run

After the 5K Run, I was scheduled for a different location. Before I left Croton Gorge Trail, Peter W2PDK and Christie KE2GTA arrived, ready to take over monitoring of runners on the trail during the 10K event.

Thanks to a large rock, four-wheel vehicles cannot traverse the full length of Croton Gorge Trail. Peter was equipped to walk down to the trail's midpoint with a handi-talkie. He could then inform Christie, located at the trail end, as first and last runners passed him. This should allow time for the lead UTV from Verplanck FD to set off, keeping ahead of first runners for the remainder of the 10K course. The trail car also arrived at the end of Cleveland Drive with WECA's Larry W2UL and APRS beacon. The trail car would follow *behind* the last of the 10K entrants to indicate runners ahead and mark the tail of the event.



Rock at end of Croton Gorge Trail



Peter W2PDK and Christie KE2GTA prepare to take their positions on the 10K route.

The 10K course crosses Route 129 then continues to Water Stop #1 on Batten Road. This radio station was manned by Jared KD2HXZ and Lou KD2ITZ. Lou reported: "Jared and I were stationed at 140 Batten Road. There were no unusual events. The water station was staffed by a local Cub Scout group. The friendly homeowners were very gracious about allowing us to park on their premises."



Jared KD2HXZ and Lou KD2ITZ were located at 10K Water Stop #1. [KD2ITZ pic.]



Water Stop #1 at 140 Batten Road had Cub Scouts passing out drinks to the 10K runners. [KD2ITZ pic.]

The next station was at the west end of Croton Dam, where David K2WPM was located. David reports: "The only unusual thing was that two people came up to me and asked about becoming hams. I told them how to find the club on the Net, but wished I had something to give them, like a card or a handout. Alas, no porta potties again this year." There was no radio station located at the turn-around point on the far end of the dam.



David K2WPM located on New Croton Dam. [K2WPM pic.]

The 10K route returns down Batten Road, passing mile point 2/5 at 47 Batten Road. This location was manned by Robert KE2GOF and Bob N2DVQ.



Mile Point 2/5 at 47 Batten Road. 10K runner at right in blue shirt is Scott KE2CNS, bib # 2623. [KE2GOF pic.]

After crossing Route 129, runners continued past Water Stop 3 on Jacoby Street, with radio station staffed by Mary Ellen KE2GNZ.

The last 10K radio station was Mile Point 6, manned by Zee KE2FRX at Alexander Drive, outside Croton Free Library.

My own position was supposed to be the 10K Start Line at 86 Old Post Road South. I had driven down Cleveland Drive where Zee was relocating from his post at Jacoby Street. After parking near the Croton Free Library, I walked to the 10K start line. There was insufficient time to reach the actual line, but I was in-sight of the runners by 10:00 a.m. and was able to inform net control as the air-horn sounded for the start.



Zee KE2FRX.



Rear view of the 10K Starting Line located at 86 Old Post Road South.

Shortly afterward, lead runner Sean Gardner, bib number 2596, was reported by Elizabeth KD2QYL passing Silver Lake at 10:05 a.m. and by Peter W2PDK at the trail mid-point at 10:06 a.m.

My next stop was at Croton Harmon High School where there was plenty of activity on the lawn, including Race Director Mike Grayeb providing a running commentary.



Mike Grayeb provided a running commentary from Croton-Harmon High School.

I found David KD2EVI operating from inside the RACES truck.With nobody available to cover the planned radio station at Route 129 and Jacoby Street, David asked me to fill in if possible.



David KD2EVI operates Net Control from the Westchester County RACES truck. Large screen displays APRS locations.

I set out on foot but decided the long walk was too far and unsafe — there is no sidewalk on Grand St./ Route 129. I returned via Gerstein Street and Cleveland Drive, where I met Zee KE2FRX at Croton Free Library. We watched returning 10K contestants — first to finish out of 168 runners was Sean Gardiner, bib number 2596. First female runner to finish was Abby Reisner, bib number 2500, in 15th place overall out of 168.



Sean Gardiner, bib # 2596. *[KE2GOF pic.]*

Two PCARA members took part in the 10K event. Scott KE2CNS, bib number 2623, finished 92nd out of 168 overall and was 8th in his age group. He was pictured by Robert KE2GOF at Mile 2/5. Masa JR1AQN, bib number 1697, was pictured on Croton Dam by David K2WPM. Masa finished 139th out of 168 runners and was 4th in his age group. Well-done to both!



Masa JR1AQN, bib # 1697 crossing Croton Dam. *[K2WPM pic.]*

Scott KE2CNS commented later: "I was really impressed by the antenna on the back of the RACES truck at the Harry Chapin race. I had a chance to admire it after I finished. Does the antenna cover HF bands? Maybe PCARA needs a truck like that."

1 Mile Fun Run

I walked down Cleveland Drive to the start of the Fun Run, just south of Veterans Corners. The large group of runners was released in two waves, with youngsters first at 11:45 a.m., followed by a second, older group including parents, dogs and strollers.



The One-Mile Fun Run begins with a first wave of youngsters.

As the Fun Run began, the last of the 10K runners were still returning down Cleveland Avenue. I spotted Larry W2UL in the trail car at Veterans Corners, where Police diverted his vehicle away from the school.



Trail car reaches Veterans Corners at end of the 10K Run.

There was insufficient time for Zee KE2FRX to walk from Mile Point 6 to his allocated Fun Run post at Gerstein Street near CET Elementary School — so he stayed at Croton Free Library. With most Fun Runners now returned to the High School, Net Control closed down shortly after 12 noon.

Final thoughts

Following the 2026 Run Against Hunger, there are several points to take away.

- The weekend of October 17-18 was a busy one for PCARA and WECA members, with competing activities including the New York QSO Party and Scout Thunderbird Games. Nevertheless, we were grateful for all the volunteers from both organizations.
- The 5K event had more runners than in previous years. As a result, there was less time to move volunteers from 5K posts to their posts for the next event — especially when roads were closed by police.
- There was a lack of maps showing radio station positions for all three events. Assuming the 10K Run makes use of the new Quaker Bridge in 2027, a revised map will be needed.
- The problematic rock at the end of Croton Gorge Trail should either be removed or marked by an official safety cone.
- The trail car probably needs a sign on front as well as the back, plus flashing light.
- There was some interaction between the amateur radio and Public Service radio systems installed at Net Control — and in use nearby.

- NM9J

Fall Foxhunt 2026

PCARA's Fall Foxhunt took place on Saturday October 24. Lou KD2ITZ had scheduled the event with FDR State Park, noting that the "FDR Ghoul's Fest" Disc Golf tournament was taking place on the same day *and* "Harry Potter – A Forbidden Forest Experience" was open on the east side of the park for evening visitors.

In order to avoid Harry Potter activities, hunters had been advised to gather in Parking Lot 4, adjacent to Route 202 at the north end of FDR Park. With the temperature a chilly 39°F, there was frost on the grass and your editor waited at the park entrance before entering at 8:45 a.m. A few minutes later, I was joined in Parking Lot 4 by the PCARA members listed below. (Zee KE2FRX arrived after the official 9:00 a.m. start time).

Malcolm NM9J
David KD2EVI
John K2ACC
Robert KE2GOF and Mary Ellen KE2GNZ *(plus 'Ghost')*
Mike N2EAB
–
Zee KE2FRX



Hunters at FDR Parking Lot 4, ready for the 9:00 a.m. start. L to R: Mike N2EAB, David KD2EVI and John K2ACC.

As winner of the Spring Foxhunt, Lou KD2ITZ was in charge of hiding the Fox transmitter and recording hunter arrival times. The 9:00 a.m. start time arrived — but very little signal was reaching Parking Lot 4. The signal on 146.565 MHz FM was almost too weak for some competitors to hear. Fortunately moving a few feet brought the signal level up, with a general direction indicated by our directional antennas of due south through the nearby pavilion and across the grassy field.

For the first part of the hunt, I was accompanied by John K2ACC, relying on his handi-talkie. We both noticed an odd behavior — as we proceeded south across the grassy field, signal strength was varying significantly and the direction was swinging at times from south over to southwest. This led us through the wooded area shared with the "Ace Place" Disc Golf course. We noted fellow hunters also making their way south, on different sides of the grassy field.

My 2 meter tape-measure Yagi was still indicating a direction due south, signal strength was increasing and I had to add attenuation. By the time we reached the area of Parking Lot 1, the 146.565 MHz signal had increased significantly and the harmonic signal on 439.695 MHz was becoming audible. I changed to the 440 MHz tape-measure Yagi and with a full 32dB of attenuation, followed the indicated direction across Parking Lot 1 and the adjacent road to a point where Lou was just visible above the terrain.



Lou KD2ITZ was supervising the fox transmitter from the woods west of Parking Lot 1, opposite the bus shelter.

Lou was located on a fallen tree trunk, with John K2ACC and Mike N2EAB also in the vicinity and looking for the furry fox. We inspected a nearby low culvert, but there was no sign of the fox down there. Then, glancing up, I spotted the familiar orange coat on a sawn-off tree branch, roughly 6 feet above ground. A few minutes later, John and Mike also spotted the fox.

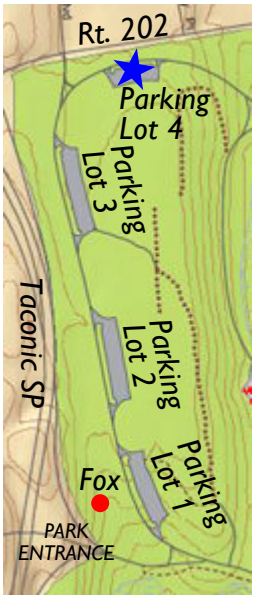
Lou KD2ITZ began transmitting clues to the remaining hunters — "It's a lot more fun at Parking Lot 1". "Look for the lemon lime umbrella", (Lou



Fox transmitter was located 6 feet above ground on a sawn-off tree branch.

had Mary Ellen's green umbrella from a previous event) and "Cross the road".

In a few minutes, everyone but late-starter Zee had found the fox. Mike N2EAB noted that the ground to the north rose up from Lou's location so there was **no** direct line-of-sight toward Parking Lot 4. Misleading reflections along the way were probably caused by the nearby embankment that carries Taconic State Parkway over Route 202.



Here are the official fox discovery times as recorded by Lou:

Malcolm NM9J	9:26 a.m.
John K2ACC	9:29 a.m.
Mike N2EAB	9:36 a.m.
David KD2EVI	9:47 a.m.
Rob KE2GOF	9:48 a.m.
Mary Ellen KE2GNZ	9:48 a.m.
Zee KE2FRX (late start)	10:02 a.m.

Hunters gathered together to discuss their different experiences. Mike N2EAB noted that he had tone squelch engaged at the start of the hunt, which prevented hearing the fox's frequency modulation. Mike also had a close encounter with a Disc Golf frisbee. Lou observed that starting from Parking Lot 4 provided a pleasant change from the more familiar ground around the Pool Parking Lot. Zee had not arrived at the Park until shortly after 9:00 a.m. when everyone else had left Parking Lot 4.



Successful hunters at end of the event. L to R: David KD2EVI, John K2ACC, Rob KE2GOF, Mary Ellen KE2GNZ with 'Ghost', Mike N2EAB and NM9J. [Pic by KD2ITZ].

Thanks to everyone who joined the Fall Foxhunt and to Lou for providing a challenging target within walking distance of the start. I'll look forward to preparing Mr. Fox for his next radio adventure in 2027.

- NM9J

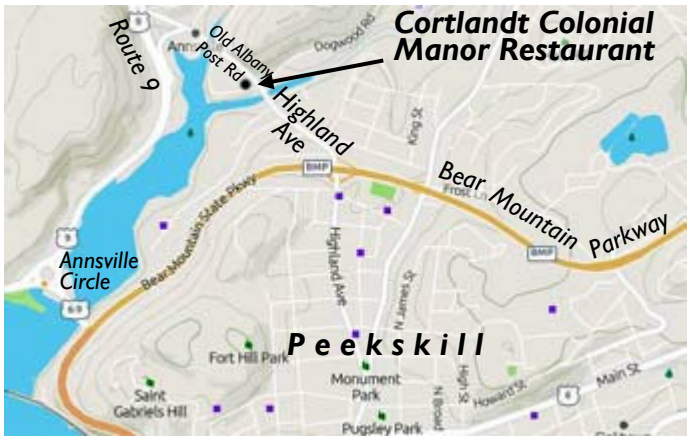
Holiday Dinner 2026

Last year's Holiday Dinner took place at Table 9, located at the redesigned Annsville Circle. For 2026, a decision was taken at the October meeting to return to the **Cortlandt Colonial Manor Restaurant** on Albany Post Road. The event begins at 5:00 p.m. on Sunday December 6th.



Cortlandt Colonial Manor Restaurant.

The Cortlandt Colonial Restaurant is located at **5714 Old Albany Post Road** in Cortlandt Manor. Take the Bear Mountain Parkway to the Highland Avenue exit, then proceed north down Highland Avenue and across the bridge. The restaurant and parking lot are immediately on the left.



The dinner menu is as follows:

Appetizer
Garden Salad

Main Course (Choose one:)
Prime Ribs of Beef
Grilled New York Strip Steak
Grilled Pork Chops
Jumbo Shrimp with crabmeat stuffing
Chicken Française
Penne ala Vodka - traditional or w/grilled chicken

Dessert
Custom cake dessert with coffee or tea

Cost will be approximately $50.00 per head including service but not including alcoholic or soft drinks. Our Treasurer suggests bringing cash to the event. All are welcome and family participation is encouraged. Please let David KD2EVI (joanndavidss88'at'verizon.net) know if you will be attending, along with your headcount.

Power supply review

Back in July, I acquired an Icom IC-2820H dual-band mobile transceiver for the radio room. (See *PCUD* September 2026). This transceiver replaced an older Icom which was connected to my elderly Astron **SS-30M** switch-mode 12V DC power supply, vintage 2008.

Unreliable switch-on

I noted some peculiar behavior with this radio and power supply combination. If the transceiver was left in its "powered-on" state when the external power supply was switched off, one of the other Icom transceivers also connected to the same supply would **not** power-up reliably when AC power was restored. I moved the problem transceiver to another power supply, then found out that the IC-2820H was not powering up reliably.

These problems were only present with the IC-2820H connected to my vintage Astron SS-30M power supply. I checked the output voltage at switch-on with an oscilloscope across the DC output terminals, looking for transients, but did not come to any definite conclusion. I also tried sequencing the radio switch-on process using a relay-delayed circuit board — without success.

New switcher

The Astron supply was 18 years old and had been in daily use to power a variety of 12V DC equipment. I decided it was time for a new switch-mode supply. At October's BARA Hamfest I purchased a new Astron **SS-30M-AP** power supply from KJI Electronics. This was a newer model than the SS-30M from 2008 and the price had increased by 60%.



Astron SS-30M-AP switch mode power supply.

A word about Astron part numbers — the "**SS**" stands for **s**witching-mode **s**upply, figure "**30**" is the peak current in ampères (Intermittent Service), the "**M**" stands for front panel metering and "**AP**" means Anderson Powerpole® connectors are installed.

Set-up

I unpacked the new power supply, connected to 120V AC power, switched on and checked the output voltage with my multimeter. The front panel digital meter indicated 14.0V at 0.0A and my Fluke digital multimeter showed 13.9 volts. I prefer to have my power supplies set to 13.8V and noted there was a "Volt Adjust" control on the side of the new unit. Despite the marking on the case, this control operated "backward", with anticlockwise rotation *increasing* the output voltage.



Voltage adjustment potentiometer on side of Astron SS-30M-AP power supply.

The next step was to connect my IC-2820H transceiver and check that power on/off was following the on/off state of the power supply. All my 12V DC transceivers now have Anderson Powerpoles, so I plugged the IC-2820H into the Powerpole connectors on the Astron's front panel. **Good news** — the IC-2820H was behaving as it was supposed to. If AC power was removed while the IC-2820H was powered on, then the transceiver came back on when AC power was restored. The same thing happened when a second VHF/UHF transceiver was also plugged in. So far so good.

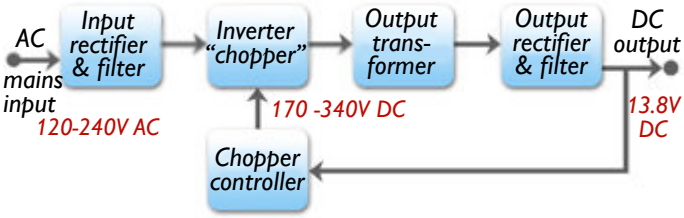
HF hash (RFI)

The next test was to make sure the new Astron supply was not causing any interference to HF equipment in the shack. I turned on my Icom IC-7410 HF transceiver connected to an external antenna, tuned to 40 meter CW, then switched the Astron SS-30M-AP on and off. Tuning around on the IC-7410 and using its built-in "SCP" band scope function, I found that on certain frequencies, the new power supply was increasing background noise from S 1-2 to S 2-4. (Note that the Icom HF transceiver was powered from a *separate* Alinco DM-330MV DC supply previously demonstrated to be noise-free.)

This level of HF RF Interference was unacceptable, so I checked online. One suggestion was to tighten internal fasteners in the Astron SS-30M-AP. I switched off the supply then (important!) unplugged the 120V AC power cord. Here is why.

Safety first

Compared with a traditional analog supply, working within switched-mode power supplies requires extra care. Part of the circuitry is connected *directly* to the incoming AC line, with no isolating transformer in-between. There is high voltage present on the diodes, smoothing capacitors and switching components — typically 170 V or 340 V DC. This high voltage could take some time to decay after AC power is removed. Don't touch any exposed parts! The switcher's output, typically on a frequency of 30 kHz – 500 kHz, is applied to a small, high frequency transformer which isolates the output circuitry.



Block diagram of regulated switch-mode power supply showing dangerous voltages present inside. [Base image Wikimedia public domain, (link).]

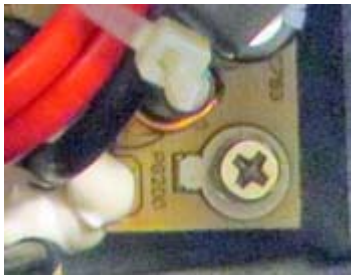
Warning signs

The label on the bottom of the metal case reveals that the SS-30M-AP is made in China and is rated for an AC input of 100-240V at 5.2A, 50-60 Hz. There is no safety warning about opening the case, but there *is* a hint. Instead of the usual Phillips sheet-metal screws, the top cover is secured with four **Torx® T10** screws, requiring a Torx screwdriver for removal.



Circuit board in SS-30M-AP.

I switched off the Astron SS-30M-AP supply, unplugged its 120V AC line cord then waited a while before removing the four Torx screws and lifting the metal cover off. This revealed a large circuit board containing most of the internal circuitry. The board was secured by Phillips-head screws at each of the four corners with a solder tag beneath — and all four screws were loose!



Loose Phillips screw at corner.

I tightened the four screws — this made an immediate improvement to the level of interference on the 40 meter band. There were several more screws holding external connectors in place, so I tightened those as well, before replacing the metal cover.

Powerpole placement

I positioned the new power supply on top of the old SS-30M and plugged in cables from two VHF/UHF transceivers. The pair of Anderson Powerpole connectors on the front panel made this very convenient.

Unfortunately, convenience came at a price. The heavy-gauge 12V DC cables leading away from the front panel could not be bent at a tight angle and dressed neatly. They also stopped my notebook lid from opening in its usual position.

I had read reports of additional RF interference from using the front panel Anderson Powerpole connectors — possibly because of additional cable length close to switching components inside the metal case. My problems might be solved by using the heavy-duty screw-wire terminals on the rear panel. I made up a short adapter cable with bare wires at one end, a 30 amp fuse holder in the middle and Anderson Powerpoles at the other end. This worked well to tidy up the external cabling and possibly reduce RFI even more.



Adapter cable connects screw-wire terminals on rear panel to Anderson Powerpoles via 30A fuse..

Astron-omical

The Astron SS-30M-AP commands a premium price among 12V DC power supplies, especially compared with lesser-known brands like "QJE" or "Sky Top-Power" selling at one third of the price. Personally, I would not trust an expensive radio to a low-price power supply with no safety certifications. And I would make sure my power supply was plugged into a surge-protected, filtered outlet.

Meanwhile, I believe the Astron SS-30M-AP series could be improved. Those Phillips screws holding the circuit board in place should be backed-up with **lock-washers** so they cannot work loose while being transported to Field Day or a Special Event. There should be Anderson Powerpole connectors on the **rear** panel, allowing short internal wiring and neatened external cables. Finally, the 'Volt Adjust' potentiometer should be wired for a clockwise voltage **increase**.

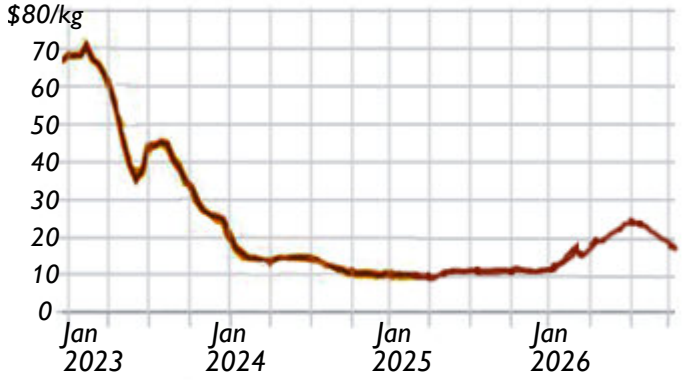
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Sodium-ion development

The world of sodium-ion batteries has been covered previously, see *PCARA Update* for January 2021, July 2021, March 2023 and July 2025, pp 11-14.

Lithium-ion batteries remain the popular choice for electric vehicles and stationary battery energy storage systems (BESS) — like the Tesla installation at Staples Plaza in Yorktown Heights. But sodium-ion has several **advantages** over lithium-ion as follows:

- Low temperature performance is superior for sodium-ion, retaining 90% of capacity down to –40°C. Lithium-ion may lose 50% of capacity at –20°C and should not be charged below 0°C. This is especially important for cold-climate countries such as northern China and Canada.
- Sodium-ion technology is much safer than lithium-ion, with less tendency to thermal runaway and bursting into flames because of volatile solvents.
- The supply chain for sodium-ion technology is more reliable. Raw materials are widely available around the world, compared with limited availability of lithium ore and lithium brines, mainly from Australia, Chile and China. China has a near-monopoly for production of lithium compounds and might someday restrict overseas availability — as recently threatened for rare earths. Conflict minerals (such as cobalt from DR Congo) are required for the highest energy density lithium-ion batteries.
- There are claims of less environmental damage from emissions and waste for sodium-ion manufacture compared to lithium-ion.
- Raw material cost for sodium-ion is predictable while the price of lithium carbonate can vary wildly, depending on the balance of supply and demand. During 2022-2023, the price of lithium carbonate was ~ $70 per kilogram, much higher than the price of sodium carbonate at $0.20/kg.



Price variation for lithium carbonate in recent years.

More recently, lithium carbonate dropped to $10 per kilogram in 2025, but has since increased to ~ $20 per kilogram. The latest sodium-ion batteries have a cost advantage of 35-40% over lithium iron phosphate — with greater savings possible as production scales up.

- Sodium-ion batteries can use inexpensive aluminum foil as current collector at both anode and cathode while lithium-ion batteries have to use expensive copper foil as current collector at the anode.
- Sodium-ion batteries can be safely discharged to 0V for safe transport. Lithium-ion batteries have a minimum safe discharge voltage around 3.0V per cell.

Meanwhile, sodium-ion does have a few disadvantages over lithium-ion:

- Sodium-ion cells have a lower operating voltage of 2.0 – 3.0 volts, compared with 3.6 – 3.7 volts for lithium-ion.
- Energy density, measured in watt-hours per kilogram is *lower* than for lithium-ion. The range today is 160-175 watt-hours per kilogram (W·h/kg) for sodium-ion versus 220-260 W·h/kg for lithium ion with NMC (nickel/manganese/cobalt oxide). As a result, a sodium-ion battery will be larger and heavier than a similar capacity lithium-ion battery.

Here is a table of energy densities for various secondary battery types:

Chemistry	**Energy density** *watt-hour/kg*
Lead acid battery	25-40 W·h/kg
Nickel metal hydride battery	95-100 W·h/kg
Sodium ion battery	160-175 W·h/kg
Lithium iron phosphate $LiFePO_4$	90-170 W·h/kg
Lithium ion $LiCoO_2$	195 W·h/kg
Lithium Ni Mn Co oxide	220-260 W·h/kg

Battery technologies

Lithium-ion batteries have been under development since the 1970s - 1980s. Nowadays they are mostly based on the cathode materials (a) lithium iron phosphate $LiFePO_4$, (b) lithium cobalt oxide $LiCoO_2$, or (c) lithium nickel manganese cobalt oxide $LiNi_xMn_yCo_{1-x-y}O_2$.

Commercial sodium-ion batteries are only in their first stage of commercial development, so there may be scope for further improvement. Currently, there are three **cathode chemistries** in use for sodium-ion:-

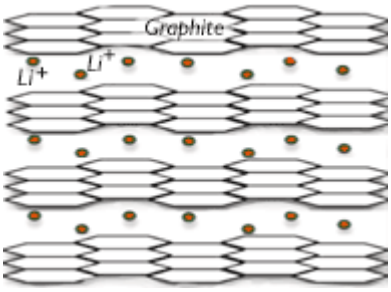
Prussian blue / Prussian white: Prussian blue is iron^{III} ferrocyanide, $Fe^{III}_4[Fe^{II}(CN)_6]_3$), long used as a pigment in paint and dyeing. Prussian white is an analogue of Prussian blue in which some of the iron is

replaced by sodium, with a formula such as: $Na_{1.92}Fe^{II}[Fe^{II}(CN)_6]$. These compounds and their analogues are capable of inserting and extracting sodium ions (Na^+) during sodium-ion battery charge and discharge. Natron Energy and Altris employ this technology.

Layered oxides: Layered transition metal oxides such as $Na_{2/3}Fe_{1/2}Mn_{1/2}O_2$ can intercalate sodium ions, allowing movement in and out of the layers. They are analogous to the lithium cobalt oxide used in lithium-ion batteries.

Polyanions: These materials are also known as oxoanions. An example is sodium vanadium fluorophosphate, $Na_3V_2(PO_4)_2F_3$. They are analogous to lithium iron phosphate used in lithium-ion cells.

Anodes: Lithium-ion batteries make use of **graphite** for their anode material because the small lithium ions can slide easily between the layers of a graphite lattice. Sodium ions (Na^+) are too large to move easily in the same way within graphite. A better anode material for sodium-ion is **hard carbon**, originally prepared by pyrolysis of biomass such as coconut shells. Supply of this material is limited and Chinese battery manufacturers are changing to non-graphitic hard carbon derived from domestic coal.



Lithium ions, Li^+, intercalated between layers of a graphite anode.

Commercial failures

A U.S. company mentioned in the July 2025 *PCUD* article was **Natron Energy** of Santa Clara CA. They had invested more than $40 million to upgrade a lithium-ion battery plant in Holland MI to manufacture sodium-ion batteries based on Prussian blue electrodes. They also announced plans to open a "Gigafactory" near Rocky Mount, NC. At the time, the price of lithium carbonate was falling, removing the cost advantage for sodium-ion. In addition UL certification was taking too long for profit on manufactured product to be booked. The company had difficulties finding funding, and in September 2025 permanently closed its facilities in Holland, Michigan, and Santa Clara, California, laying off 95 employees.

Northvolt AB was a Swedish battery company. In 2023 it announced a sodium-ion battery based on a Prussian white-based cathode and a hard carbon anode with energy density of 160 watt-hours per kilogram. There were significant production and financial problems, resulting in a filing for bankruptcy in March 2025.

China progress

As previously reported, Chinese battery manufacturer CATL (Contemporary Amperex Technology Co. Limited) has been working on sodium-ion batteries for some time using a Prussian white cathode and hard carbon anode. In April 2025 they announced a second generation "Naxtra" range of vehicle batteries with energy density of 175 Wh/kilogram, close to the performance of lithium iron phosphate, but with a wider temperature range of –40°C to +70°C.

In April 2026, CATL confirmed that its Naxtra sodium-ion batteries would be in large-scale production for passenger electric vehicles by the end of 2026. CATL claims it has addressed several bottlenecks on the way to mass production including gas generation in hard carbon and adhesion of aluminum foil.


Naxtra sodium-ion electric vehicle battery. [Credit: CATL]

The first mass-market model with a CATL sodium-ion battery should arrive during 2026-7 as a variant of the Changan Nevo A06, a 4-door sedan which is already on sale with lithium iron phosphate batteries.



Changan Nevo A06 electric vehicle with CATL sodium-ion battery operates with safety in extreme cold. [Credit: Changan/CATL]

With a 45 kWh sodium-ion battery, range of the A06 will be 400 km (250 miles). The Naxtra battery operates reliably in extreme cold, with almost triple the discharge power of an equivalent lithium iron phos-

phate battery at –30°C. This sodium-ion battery stands up to crushing, drilling and sawing without smoke or fire.

In May 2026, an investigation by the U.S. House Select Committee on the Chinese Communist Party found that U.S. Banks had helped a Chinese company with ties to forced labor and China's military. This corresponds with CATL's 2025 initial public offering (IPO) on the Hong Kong stock exchange. CATL responded by stating that it has never engaged in military-related activities or used forced labor.

Meanwhile, CATL is pursuing a parallel approach in the choice of sodium-ion or lithium batteries for different applications. This includes Naxtra sodium-ion batteries for passenger vehicles, low-temperature Tectrans II for light commercial vehicles and TENER sodium-ion for battery energy storage systems.



CATL Tectrans II battery.

Domestic storage

There is growing interest in solar energy installations that charge up a stationary battery energy storage system (BESS) inside the house during the day. The stored energy can then be used to power the house overnight **or** to maintain electricity supply for a few hours in the event of a brown-out or power outage. Using sodium-ion batteries for this type of static storage could be more economical than installing a lithium-ion battery or a fossil-fuel-powered generator.

For example, San Diego-based startup **Unigrid** is deploying sodium-ion battery research developed at UC San Diego. The launch was assisted by a grant of $150,000 from the California Energy Commission's CalSEED program. According to CalSEED, Unigrid is developing a low-cost battery for electrical grid storage to solve peak demand, renewable energy storage and power disruption problems during emergencies. Unigrid's technology is based on a cathode containing sodium chromium oxide ($NaCrO_2$ or NCO) engineered for safety, power, and long cycle life plus an "alloy anode". Manufacturing capacity in Asia is currently employed to produce the sodium-ion cells. Unigrid is hoping that sodium-ion can offer a safer, longer-lasting alternative to lithium-ion while avoiding supply chain challenges that are associated with lithium-ion raw materials.

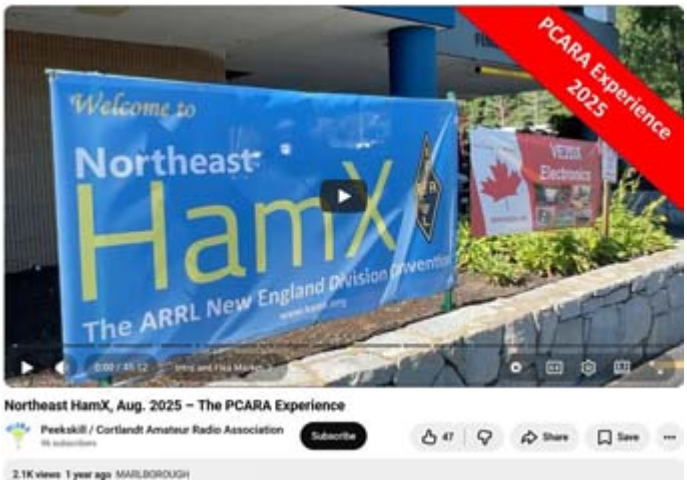


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PCARA YouTube Video of the Month – AD2CT

A booth tour of this year's HamXposition exhibit hall was recently uploaded to the PCARA YouTube channel. For those who may have missed **last year**'s HamXposition 2025 video, check it out here:

https://youtu.be/hwuKZK1dKcU?is=5GDHrKYU8mNnZo-z



HamXposition 2025 video has more views compared with the other videos on our club's YouTube channel. That's because Andy KB1OIQ, who created Andy's Ham Radio Linux and is interviewed at time code 34:46, added a link to this video on his program's download page and encouraged his audience to watch it.

As our club's YouTube channel continues to grow, each month we will feature either a new video or an interesting older one.

- 73 de Rob AD2CT

W2CH station changes

Ray W2CH reports that he installed a new FMUSER UV-100 antenna in place of his ARRL Fox Hunt dual-band beam antenna on the apartment terrace. According to specifications, the UV-100 UHF VHF antenna measures 41 inches in length, with a gain of 3.5dB at VHF and 7dB at UHF. VSWR is <1.5:1 on 144-148 MHz and 420-450 MHz. Ray's



FMUSER UV-100 antenna on W2CH terrace. [W2CH pic.]

antenna was fed with 35 feet of RG-213 coaxial cable. Ray and Marylyn's apartment on Peekskill's Fort Hill faces west toward the Hudson River, with a view of the Indian Point reactor from their terrace on the 5th floor.

After installation, SWR readings were good, but a few days later Ray reported that his Rig Expert MATCH analyzer showed an SWR of about 7 to 1 on 146.00 MHz and about 4.5 to 1 on 446.00 MHz. He was running less than 50 watts into the antenna and there was nothing visibly wrong with it. It has since been replaced by the original ARRL Dual-Band Handheld Yagi.

In mid-October Ray took his Yaesu FTX-1 Optima transceiver out of the Jeep Renegade SUV and now has it installed in the shack. Operating from the car was too difficult, with limited travel nowadays and a high noise level. He now has just the Kenwood TM-D710GA VHF/UHF FM transceiver in the vehicle with a Larsen mag-mount antenna.



Remote head for Yaesu FTX-1 Optima HF/VHF/UHF transceiver when mounted in Jeep Renegade. *[W2CH pic.]*

Because of the high SWR of the FMUSER UV-100 antenna, the Yaesu FTX-1 Optima had less than full output (50W) on VHF/UHF. This antenna has now been replaced by the ARRL Dual Band Handheld Yagi.

Ray also installed a Radioddity HF-010 portable HF antenna, covering ten bands from 80 meters to 6 meters. This vertical antenna has a tunable coil and telescopic whip, both of which can be adjusted. The antenna has performed well on 20 meters, with the built-in tuner of the Yaesu FTX-1.



Radioddity HF-010 vertical HF antenna alongside ARRL Dual-Band Handheld Yagi. *[W2CH pic.]*

Ray recently rearranged the radio equipment in his shack. See the photo below.



L to R: Diamond GZ4000 40 amp switch mode power supply, Uniden BearTracker 885 CB Radio and scanner, Yaesu FTdx-10 HF transceiver, Yaesu FTX-1 Optima HF/VHF/UHF transceiver, Tokyo Hy-Power HL725D VHF/UHF 60 Watt amplifier with GaAsFET preamplifier, Yaesu FT-818ND for driving amplifier. *[W2CH pic.]*

Challenge coins - AD2CT

The club's new Challenge Coins have arrived. They will be given to those who perform a service for the club, such as presenting a talk or being interviewed for a club video.

The first recipient of a coin was Malcolm, who received it at our last meeting on October 3 for being instrumental in the club winning an ARRL award for our newsletter.



For those of you who would like to simply purchase one or more coins at cost ($8.00), please contact David KD2EVI or myself, Rob AD2CT.

A supply of PCARA Challenge Coins will be available at each monthly club meeting.

- 73, Rob AD2CT

Peekskill / Cortlandt Amateur Radio Association

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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

Sat Nov 7: PCARA Monthly Meeting, 10:15 a.m., Putnam Valley Library, 30 Oscawana Lake Rd., Putnam Valley, NY.
Sat Nov 7: PCARA V.E. Test Session, 11:30 a.m., Putnam Valley Library, see below.
Sat Nov 21: PCARA Breakfast, 9:00 a.m., Uncle Giuseppe's, 380 Downing Dr, Yorktown Heights, NY.
Sun Dec 6: Holiday Dinner, 5:00 p.m. Cortlandt Colonial Restaurant, 5714 Albany Post Road, Cortlandt Manor.

Hamfests

Check with organizers before leaving.
Sun Nov 8: LIMARC Hamfest & Electronics Fair, Levittown Hall, 201 Levittown Parkway, Hicksville, NY. 8:45 a.m.
Sat Nov 15: NJ Antique Radio Club Hamfest, Parsippany PAL, 33 Baldwin Rd, Parsippany, NJ. 8:00 a.m.
Fri Nov 27: Fair Lawn ARC Auction, Fair Lawn Senior Center, 11-05 Gardiner Rd, Fair Lawn, NJ. 6:30 p.m.

VE Test Sessions

Check with the contact before leaving.
Nov 7: PCARA, 11:30 a.m., Putnam Valley Library, 30 Oscawana Lake Rd., Putnam Valley NY. Must contact VE Lou KD2ITZ, radiocassetta'at'gmail.com.
Nov 12: WECA, Westch Cnty Fire Trg Center, 4 Dana Rd Valhalla NY. 7:00 p.m. Contact VE, rcasino48'at'gmail.com.
Nov 20: Orange County ARC, Munger Cottage, 40 Munger Dr., Cornwall NY. 6:00 p.m. Contact VE: joed99'at'verizon.net.

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