



PCARA Update



Volume 21, Issue 12 Peekskill/Cortlandt Amateur Radio Association Inc. December 2020

Change at the top

We were fortunate to have beautiful autumn weather on Saturday November 7, 2020 for our monthly PCARA Membership Meeting on the front lawn of the John C. Hart Memorial Library in Shrub Oak, NY. We had 10 members who attended in bright sunshine.

November is the month for nominations and elections of Directors/Officers. At the beginning of the nominations, Director / Vice President / Treasurer Joe WA2MCR announced that he would be resigning from his positions. Joe has held the office of Vice President since 2004 and graciously agreed to also act as Treasurer in 2006. In appreciation and in honor of his years of service including Field Days and contests, Joe was nominated and appointed **PCARA Vice President Emeritus** by unanimous vote of the Directors and members present. On behalf of the membership of PCARA, I wish to express our sincere gratitude and appreciation for all the years of service you have given to our organization. We look forward to benefiting from your continued counsel in the future.



Joe WA2MCR.

There were three Directors nominated and elected at the November meeting. Bob N2CBH was re-elected a Director and replaced Joe WA2MCR as **Vice President**



November's V.E. Test Session took place on the front lawn at John C. Hart Library.

(a post he previously held from 2000 to 2003). David KD2EVI was elected a Director and will hold the office of **Treasurer**, and Mike W2IG was re-elected Director. Congratulations to all! Now let's get to work! 😊

Another highlight after the November 7th membership meeting was the PCARA V.E. Test Session at 11:00 a.m. There were three successful candidates, one of which was Lou KD2ITZ's first harmonic, Vincent. The two others were non-members who participated in the October 21, 2020 Zoom presentation "Magic of Amateur Radio" by Todd N2MUZ. We're bringing new Hams into the hobby! Thanks to Mike W2IG who coordinated the session and to the John C. Hart Memorial Library who continue to support us through the generous use of their facilities.

The November 21, 2020 PCARA Breakfast returned to its birthplace at Turco's / Uncle *Contd. on page 2* ⇨



PCARA's November meeting was held on the lawn at John C. Hart Memorial Library in Shrub Oak.

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Giuseppe's Marketplace in Yorktown Heights, NY. Breakfast was attended by five masked members who were responsibly socially distanced (who were those masked men?). The path forward for future meetings and activities was discussed. Due to the continuing COVID-19 pandemic and cold weather there are very limited alternatives for meetings other than those conducted by Zoom or on-air. In lieu of an in-person gathering, the next PCARA **Breakfast Net** will be on Saturday December 19, 2020 at 9:00 a.m. on the W2NYW/R repeater. The net will be hosted by Jared KD2HXZ — be sure to stop by and visit.

The next **Virtual PCARA Membership Meeting** will take place on Sunday December 6, 2020 at 3:00 p.m. via Zoom and takes the form of a seminar presented by Jay NE2Q entitled "Practical Horizontal Wire Antennas." Details can be found in this month's edition of the *PCARA Update*. Hope to "see" you there! [See page 6 -Ed.]

Until we meet again please keep your heads down, be careful, and stay safe. In a few weeks we should start to see the light at the end of the tunnel due to the highly anticipated arrival of vaccines. We will keep in touch on the radio and online.

To each of you and your families, I wish a MOST JOYOUS HOLIDAY SEASON and VERY HAPPY AND BLESSED NEW YEAR! May God Bless.

- 73 de Greg, KB2CQE

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:

Mike Dvorozniak, W2IG

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 with net control Karl N2KZ for news and neighborly information.

PCARA moving to Google Groups

PCARA will be moving to **Google Groups** by December 13, 2020. This is in anticipation of the impending shutdown of Yahoo Groups. All current subscribers to the PCARA group will be moved to the new service automatically. New subscribers are welcome to join by sending an email to:

w2nyw+managers 'at' googlegroups.com



What is the purpose of the PCARA Google Group?

The PCARA Google Group allows subscribers to send email messages to other subscribers. This is also known as an email reflector or email list.

Do I need a Google account to participate?

No, subscribers can use any preferred email account to participate.

How do I send an email to all the subscribers?

Once you have subscribed, send an email to the following address:

w2nyw@googlegroups.com

How is my privacy protected?

Messages can only be sent by subscribers to subscribers. Subscribers have been approved by the moderators to prevent access by those who are seeking to send spam messages. The additional information and message archive on the Google Groups website can only be accessed by subscribers.



Whom do I contact for technical assistance?

Please email:

w2nyw+managers 'at' googlegroups.com

How do I unsubscribe?

Simply send an email to the following address:

w2nyw+unsubscribe@googlegroups.com

- Lou, KD2ITZ

Adventures in DXing

- N2KZ

Mystery in the Woods

You never know what you might find walking through the woods. My daughter Sarah and I were exploring Mountain Lakes Park in Northern Westchester one late afternoon just before dusk. In search of a high vista with distant views, we strayed off a main path on our map onto a sub-path not knowing where it led.



Sarah and Karl [N2KZ pics].

Up and up and up we went on a steep climb not often traveled. After a few minutes of careful footwork, we found ourselves in a circular dead end. A clearing had been cut to highlight a geo-locator marker placed by NOAA. There were no signs of identity, no individual numbers or text to identify the spot, just a pile of rocks surrounding an anonymous steel post.



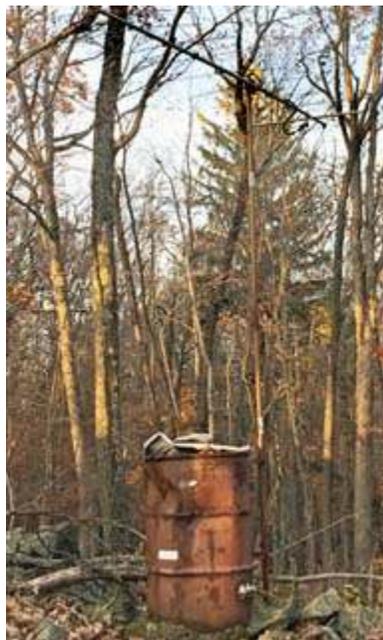
NOAA marker.

With the leaves of the trees now fallen to the ground, we could see the horizon in the distance between the silhouettes of the tree trunks and bare branches. There was no doubt we were at a high elevation. We could see the dark blurry tops of mountains far, far away.

We enjoyed this place of beauty for a few minutes and then decided to go back to our car. The walk down to the main path was steep and covered with wet and slippery leaves. Like cautious cats, we chose each step with thought and calculation.

Suddenly, something in the woods caught my eye. Intermingled with the dense trees and branches and ground debris, I could swear I saw what looked like a TV antenna. Who would be watching TV in a forest?

Sarah and I went off path and walked over to it. We had discovered a self-standing ten-element Yagi



Mystery antenna in the woods.

antenna cleverly mounted to the side of an aged and rusty oil drum. A common ten foot TV antenna mast was clamped to the side of the drum by two brackets. What could this be?

Looking over the oil drum, I noticed a message spray painted on one side. Its weathered appearance told me this barrel had been in place for a long, long time:

FOR INFO. CALL
914-359-2900
ASK FOR FRED

Underneath this message was some more text, but in the dim light of dusk, I could not decipher the rest. I took a picture of the oil drum and its antenna and we headed home.

Sarah and I walked down to our car and headed home. There was only one thing on our minds: "Who's Fred?" Upon arrival, I jotted a note of inquiry to my two friends: Malcolm NM9J and Bob N2CBH. Maybe they would have a clue!

Arriving back home, I quickly Googled the phone number and — yes! — found that it was assigned to Columbia University's Lamont-Doherty Earth Observatory in Palisades, New York. The observatory is in a beautiful location, along Route 9W, about 15 miles north of Manhattan high above the Hudson River. It is just a mile or so north of the famous Armstrong candle-labra antenna tower in Alpine, New Jersey.



Text lower down the drum was difficult to read.



Lamont-Doherty Earth Observatory (LDEO) of Columbia University is located in Palisades, NY. [Pic credit: LDEO.]

Bob provided additional crucial information. He was actually familiar with the Observatory and suggested that the woody installation may have been established to gather seismic data. The Observatory is dedicated to researching and forwarding earth science.

Was Bob on to something?

The next day, I called the telephone number painted on the oil drum hoping that someone would know of Fred and could possibly tell me more about him and the rusty installation that (seemingly) bore his name. The person answering the phone verified that it was the Lamont-Doherty Observatory but did not know Fred. Looking at the Observatory web site, I found two media representatives listed so I inquired further. I sent out my e-mails on a Friday afternoon and waited for a response.

In the meantime, curiosity got the better of me. I had to re-visit the site to look for more clues. I wanted to further inspect the antenna and measure the elements to guess what frequency it was designed for. I had to see if I could decipher the rest of the weather-worn text that was painted on the side of the barrel. I needed to see if I could peer inside. I also wanted to record the exact geo-location of the site as another clue to its identity. There were many mysteries to uncover!

Off I went, back into the woods, this time with my tape measure and my trusty yellow notebook. There was some magic in the air. Mountain Lakes Park is actually close to my home and it was only a short drive away. On my way to the park, I passed a famous local resident we had seen many times before. Jogging down Route 121, in an all-white outfit and bright orange sneakers was none other than David Letterman with his trademark great beard. “Hi, Dave!”

It was a Saturday afternoon and the park was crowded. I took the 20 minute walk up to the site and methodically began to search for further details. The ten-element Yagi antenna was mounted ten feet above ground and way above my head. I took a rough measurement and found the individual elements were about 25 inches long. The Yagi was pointed at about



Close-up of the Yagi antenna's driven element. [N2KZ pics.]

218 degrees southwest and used a common gamma match to achieve resonance between a transmitter and the antenna's driven element. Using an iPhone, I also took several readings of the position of the oil drum to guarantee accuracy. All were duly noted!

Malcolm, NM9J, carefully analyzed my measurements. After a few calculations, he estimated the antenna frequency would be around 220 MHz for a

25 inch half-wave driven element. He also found, through his research, that the station did indeed send telemetry data via analog FM. Typically, these stations used very low power transmitters — possibly 500 milliwatts — not to stress the batteries inside the oil drum.

The physical structure of the oil drum itself was equally fascinating. The two brackets that held the antenna mast were artfully and precisely installed creating a firm grip. The drum's top cover is secured with a large Master padlock.

The top of the drum has been covered with a large white plastic rain cover to protect the contents from the elements. Three hardy grey plastic weatherproof pass-through ports can be found at the bottom of the drum — one for the antenna's coaxial cable, one for a ground wire and the third one has been sealed. Maybe this was once used by something that supplied electricity to the installation? A strong ring of concrete had been poured all around the base of the drum to keep it securely in place with its antenna permanently oriented.

Part of the top of the drum has rotted away into rust. By sneaking my iPhone camera into the hole, my photographs revealed two small wet-cell batteries, one made by a company called CelWave. I could also see that the coaxial cable used was black Belden 9251 RG-8A/U. Was there anything else below?

Using a long stick, I managed to move away the



The oil drum and its 10 ft mast.



Drum lid secured with a 'Master' padlock.



View inside the drum.

Using a long stick, I managed to move away the

black plastic cover from one side of the drum to the other. I revealed what appeared to be a military surplus well-sealed and weatherproofed ammunition box with firm locking handles. I could not reach the box through

the crack in the top of the drum. What did this sturdy box contain? I may never know! Think of it as a technology time capsule to be opened many decades in the future. One



Ammunition-style box inside the drum.

question will remain unanswered: How did the oil drum get so dented and banged up?

My junior archeologist skills were put to good use. I stared and stared at the weathered text, painted on the side of the drum, below the obvious message that was easy to see. I looked at the worn paint high and low, side to side and then looked some more from every perspective I could imagine. Slowly but surely, the words were revealed:

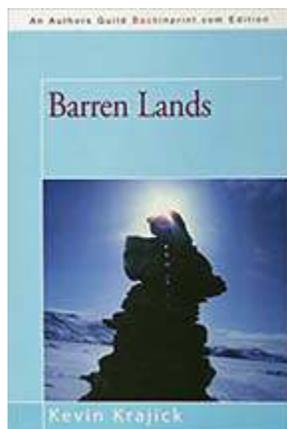
COLUMBIA UNIVERSITY
EARTHQUAKE RESEARCH
PROJECT
PLEASE DO NOT DISTURB

My friend Bob was spot on! It was a seismic data station!

The word 'RESEARCH' was most difficult of all to complete. Part of the word was lost off the side of the drum in a fallen piece of rust. The message was received. I went home thrilled with my results!

The next day, Sunday, I was gifted with more adventure. I received an unexpected phone call from **Kevin Krajick**, Senior Editor of Science News for Lamont-Doherty's Earth Institute. Kevin was one of the two media contacts I had messaged the past Friday. It was a brilliant experience. Kevin and I compared notes and knowledge and built my story even further.

Kevin is no stranger to adventure. He is best known for his acclaimed book "Barren Lands" — a classic true story of the men who sought—and found—a great diamond mine on the last frontier of the far north in the Canadian arctic. A sample of Kevin's writing topics are remarkable and vast: Ancient

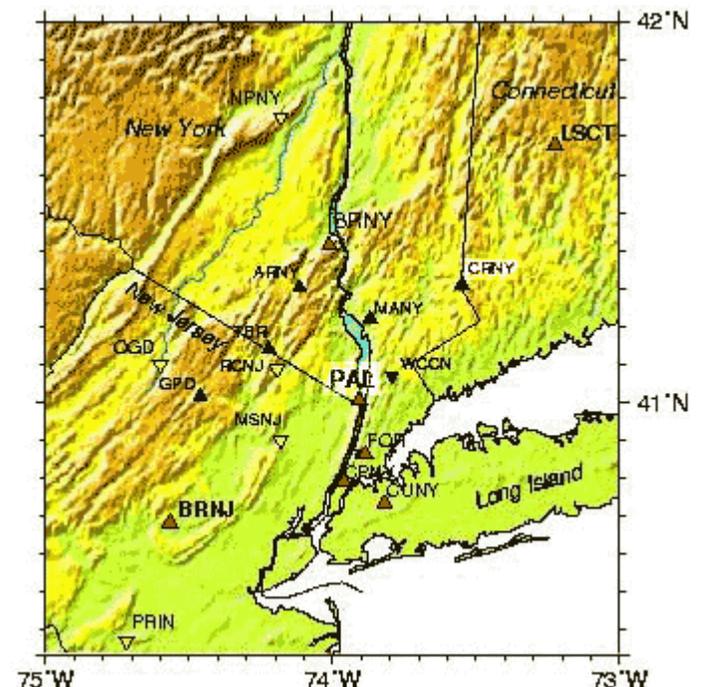


mummies, the lakes of Africa's Cameroon, the life of a glaciologist studying frozen mountains and tales of ancient Scottish tree rings. An *Indiana Jones* with pen in hand, he has traveled all over the world in search of great stories.

Kevin told me all about past projects rooted at the Observatory, especially The Lamont Co-operative Seismographic Network. This was Columbia's contribution to a worldwide consortium gathering seismic data for deep analysis and study. I learned that short-period seismographic stations like my newly discovered oil drum were usually linked to a seismometer and would report back every instance of movement recorded from below the surface. Kevin also added another critical part of the puzzle: The bearing of the Yagi antenna, at 218 degrees southwest, would have been perfectly oriented in the direction of The Lamont-Doherty Earth Observatory. Amazing!

I went back to my computer and continued to search, this time with the name of the seismographic network. The clouds opened. The sun began to shine. There was so much information! I unveiled archived white papers describing all the seismographic stations in our Palisades area managed by Lamont-Doherty. Maps and diagrams plotted their placement and purpose. Color diagrams detailed how today's seismic stations are constructed and powered. I was reveling in receiving such a fine education.

A follow-up e-mail contained another very important part of this puzzle. After several conversations with retired Lamont-Doherty seismologists, Kevin uncovered the identity of Fred! It was **Fred England**



Lamont-Doherty map shows location of the Palisades subnetwork of seismographic stations. Note "PAL" (Palisades) and "CRNY" (Cross River, NY).

who worked as a technician at Lamont back in the 1980s. I wish I could give him a tip of my hat. Fred constructed and assembled a nearly indestructible installation that lasted decades. Thank you, Kevin, for your fine detective work.

Finally, I found a complete listing of stations including their identifiers, lat-long positions and heights above sea level. The oil drum Sarah and I discovered is station **CRNY** (Cross River New York) at 293 meters (961 feet) above sea level and was established on December 1, 1981. With more research, Malcolm discovered that station CRNY was officially decommissioned on September 15, 2011 after nearly 30 years of service. The geo-position listed was very, very close to what I had personally recorded on-site. Station CRNY has been re-discovered!

I used the satellite imagery mode of Google Maps and entered the position to double-proof the location. If you look very, very carefully you can clearly see what appears to be an out-of-place white dot. It is the bright white plastic cover on top of the drum! The installation is nearly 40 years old. It survived remarkably



well... and now it is found again. Mystery solved! Maybe a Yagi antenna in the middle of the woods is not so odd after all.

Do you believe in fate? Was I meant to find the oil drum? Only someone who would recognize a



Uniroyal "Drum Pal" plastic cover.

Yagi antenna in the woods would appreciate finding the long lost station CRNY. I think of it as a monument of an ambitious project from years gone by.

Fred England did a superior job creating station CRNY. Consider how long it has lasted. I can only wonder if anyone else has ever called the telephone number painted on the oil drum. I regret that I will never have the chance to speak with Fred in person. Still, Fred England's legacy lives on. There it will remain forever — a fascinating and quizzical mystery in the woods.

Many thanks again to author Kevin Krajick, Malcolm, NM9J and Bob, N2CBH for their help and collaboration in assembling this article. Merry Christmas and happy holidays to all! 73s and dit dit from N2KZ 'The Old Goat.'



Practical Horizontal Wire Antennas

On Sunday December 6th at 3:00 p.m. Jay NE2Q will be giving a presentation on Zoom titled *Practical Horizontal Wire Antennas*. He will focus on HF antenna designs he has prepared for one of PCARA's members. The brief webinar will be of interest to all hams, as he reviews fundamental principles backed by simulations from antenna modeling software. All are welcome to participate. Follow the link to join, all are welcome.



Jay NE2Q taking part in Field Day 2019.

<http://www.zoom.us/join>
Meeting ID: 748 5725 3114
Passcode: N7gX08

- Lou KD2ITZ

Test cable tube

Is your work bench cluttered with meter leads and other cables? Here is a suggestion by W1GWU taken from the pages of *Hints & Kinks for the Radio Amateur* (ARRL, 18th Edition).

Take the cardboard tube from inside a used toilet paper or paper towel roll. Wind the excess length of test leads into a loose coil then push inside the cardboard tube. Now the leads will be kept neatly together on the work bench or stored in a drawer until needed.

If you don't like the thought of using waste cardboard tubes to tidy up excess cable lengths, some alternatives include Velcro® One-Wrap® thin ties (available from Walmart), and the twist-ties used to close plastic bags.



Use the cardboard tube from a roll of toilet paper to keep test leads coiled up together.

Field Day Results 2020

ARRL Field Day took place over the weekend of June 27-28, in the middle of the COVID-19 pandemic.



ARRL had relaxed two rules — Class D (home) stations were allowed to work all other stations for points — and all entrants were able to credit their individual scores to a club,

allowing an aggregate score to be calculated.

Instead of operating together from Walter Panas High School, PCARA members took part in Field Day 2020 from individual home stations, near and far. Thirteen members had reported their scores and experiences, with Joe WA2MCR reaching the highest score. You can read a full report with shack pictures in *PCARA Update* for July 2020, pp 5-10.

ARRL published the results of Field Day 2020 online in early November and in the pages of *QST* for December 2020 (pp 69-76). “Club Aggregate Scores” were printed in *QST* while “Line Scores” for individual stations appeared in the online version.

Here are the individual results in order of ‘Total Score’ for the fourteen members who nominated Peekskill/Cortlandt ARA as their radio club.

Call ID	QSOs	Pwr	Ops	Total	Section
1D (Home Stations, Commercial power)					
WA2MCR	478	2	1	1,688	ENY
NM9J	187	2	1	864	ENY
KD2ITZ*	109	2	2	450	ENY
N2SO	170	1	1	390	ENY
N2MUZ	77	2	1	358	ENY
W2NYW†	111	2	2	272	EPA
N2EAB	60	2	1	270	ENY
N2KZ	1	2	1	252	ENY
W2VJ	42	2	1	218	ENY
N2CKD	49	2	1	148	ENY
KD2EVI	43	2	1	136	ENY
N2HTT	11	2	1	94	WNY
1E (Home Stations, Emergency power)					
WD2L	174	2	1	598	TN
K2WPM	132	2	1	414	VA

* Not included in *PCARA Update* article, July 2020

† Operated by club call trustee N2CBH, with WA2ZOA.

The newsletter report on Field Day usually includes a comparison with neighboring clubs in the Eastern New York section. The aggregate score system makes this more difficult in 2020, so instead here is a



Charles N2SO was PCARA’s only individual entry with a power multiplier of ‘1’, meaning an output greater than 150 watts. [N2SO pic.]

comparison of aggregate scores for just our nearest neighbors in the Eastern New York section.

Club	Aggr. score	Entries
Westchester EmCom Assn	10,733	9
Orange County (NY) ARC	7,288	17
Peekskill/Cortlandt ARA	6,152	14
QSY Society	5,700	8
Putnam Emergency ARL	1,030	4

Congratulations to WECA on their high score and a big thank you to all PCARA members who contributed to our own aggregate score of **6,152**.

Here are the results for **individual** top-scoring stations in Eastern New York Section.

#	Call	Score	Cat	QSOs	Club
1	W2C	5,024	5A	1,212	Warren County NY RC
2	N2LBR	4,266	2D	1,033	Albany ARA
3	N2NI	3,816	1B1	1,040	Westchester EmCom Assn
4	K2UF	3,798	1D	937	Broughton Meml FD Gp
5	W2EG	3,402	1E	763	Albany ARA
6	N2LL	3,076	6A	626	Overlook Mountain ARC
7	W2XL	3,020	1D	811	Hudson Valley Cont & DX
8	WE2DX	2,288	2A	730	Tri-County ARA (NJ)
9	K1RQ	2,122	2E	368	Saratoga County ARA
10	K2KGJ	1,700	1B1B	145	
11	WA2MCR	1,688	1D	478	Peekskill / Cortlandt ARA
12	W2NTV	1,638	1D	430	QSY Society
13	WB2FUV	1,540	1B1B	129	
14	NX2X	1,502	1B1	345	Rip Van Winkle ARS
15	WW2G	1,426	1B2C	1,055	Schoharie County ARA
16	KC2ASA	1,424	2E	145	Orange Co ARES/RACES

Congratulations to **Joe WA2MCR** for his position of 11th out of 158 total entries in Eastern New York — and special thanks for his outstanding contribution of 478 QSOs/1,688 total score to PCARA’s 6,152 aggregate score.

- NM9J

Vehicle emergency equipment

- David, KD2EVI

Prepared to boost

On the Tuesday night round-table held on Election Day, I mentioned that while walking to the local polling station from my vehicle I came across a gentleman who was unable to start his car. I then returned to my truck and returned with a lithium jump starter and quickly got his car started so he could go on his way. NM9J asked me to elaborate on the jump starter.

There are number of **lithium jump starters** on the market and all appear to be similar. The most heavily advertised brand of lithium jump starter is NOCO, I purchased a similar

unit sold by DBPower in 2018 due to its lower price (\$60 vs \$70) and placed one in each of my two vehicles. Since 2018 I have used them four times;

three times on other motorists' cars and once to start a riding lawn mower. These units will lose battery power over time and should be checked every 1-2 months. I have found them to lose 25% of their charge over that period or less. The manual says that a 50% charge is adequate to start a car. My 18000 mAh unit is rated to supply 300 cranking amps and start gas or diesel engines up to 6 liters displacement.



NOCO Boost[®] Sport[™] GP20 is a 500A 12V portable lithium car battery jump starter, with flashlight and USB port.



David's DBPower battery booster (right) alongside the carrying case and cables.

Compared to a conventional lead acid battery, this unit is much lighter (under 2 pounds), compact to easily fit under your car seat, and has no danger of spilling acid. An LCD display shows you the level of

charge remaining and it has a USB port that can be set to provide 5 volts to charge your cell phone or 19 volts to power a laptop. Adapters are included. The unit has a polarity protection circuit to prevent current from flowing if you inadvertently hook it up improperly. Jumper cables work well, and are cheaper, but you have to have someone around willing to help you, as my fellow voter found out.

Prepared for eventualities

I keep a number of items in each of my vehicles in case of small emergencies, such as a dead battery or flat tire. All can be purchased from Amazon, Home Depot, Walmart, etc. Some other items I carry are:

Tire pressure gauge. Check tire pressure monthly, also make sure spare tire is up to required pressure. I recently checked the spare tire pressure in each of my vehicles and found the tire pressure to be 25 - 30% low after ignoring that task for a year. The tire pressure monitoring systems in cars today will tell you that a tire is low, but not always which tire nor by how much.



Work gloves. Tires are dirty, gloves will keep your hands clean when changing a tire and be more comfortable in very cold or warm weather.



Reflective safety vest. A \$5.00 vest will make you much more visible to passing traffic in the event of a flat tire or other mishap.

Four-way lug wrench, 20" - 24". A four-way lug wrench gives much more leverage than the supplied lug wrench and will be easier to use in case you have to change a tire. About \$12.00 at Harbor Freight.



Flash light / head lamp. Very useful at night. A head lamp will keep both your hands free to work. 100 lumen output is a good minimum, 200 lumens are much brighter. Lithium AA or AAA batteries will not leak and will work at very cold temperatures. Maybe \$10.00 to \$15.00.



Wheel chock A 12" - 18" piece of 4 x 4 will keep a car from rolling off a jack. This is possible on hilly terrain and is very dangerous. Chock the opposite wheel from the tire you are changing. Purpose-built wheel chocks can be purchased at Harbor Freight or Walmart.

12 volt cell-phone charger. With cord to charge your phone from vehicle power port.

18" reflective triangle. Will work day or night to warn other drivers of a breakdown. Place one-to-two car lengths behind your car. I had purchased a set of smaller (14") triangles and was disappointed in their visibility when I used them to mark an active driveway where someone had fallen and was waiting for an ambulance.

Road flares / electronic flare. A lesser priority than a reflective triangle, but very good at night, especially if your four-way flashers do not work. Road flares burn for 30 minutes, an electronic flare, such as the Wagan Tech FRED (flashing red emergency device), will flash for hours with an eye catching pattern and without danger of starting a fire. About \$11 each and many similar products are sold on Amazon. Again, lithium batteries (Energizer L91 or L92) are recommended as they will not leak as alkaline batteries are prone to do and will work at low temperatures. Flare Alert has a version in yellow that can be placed either behind your car on the ground or on the roof. (Flashing red lights on vehicle roofs are only allowed for fire or police.)



L to R: Wagan Tech FRED™ light, reflective triangle, and lithium jump starter. [KD2EVI pic.]

Shovel (winter) and **blanket** (winter). You should be able to dig your car out if you get plowed in. Keep a blanket in case of breakdown on the road.

First Aid kit. A First Aid kit provides access to necessary medical supplies in case of accidents or minor injuries.



– 73 and happy motoring – David, KD2EVI

VE Test Session

PCARA's latest Volunteer Examiner test session took place on Saturday November 7, 2020. This event followed immediately after the club's monthly meeting, held on the grass in front of the John C. Hart Memorial Library in Shrub Oak, NY.

Despite the time of year and concerns about an outdoor session, the weather was warm and sunny, reaching 72°F by mid-day. PCARA's VE Team Liaison Mike W2IG had set up tables and chairs on the lawn so that suitably-masked candidates could sit in the shade under still-leafy trees, ready for the official start at 11:00 a.m.

The Volunteer Examiner team included Mike W2IG, Joe W2BCC, Stan WA2NRV, Ken W1YJ, Larry AC2QH and NM9J. Alert readers will note that Lou KD2ITZ is missing from this list — the reason is that Lou had brought along junior-op Vincent to take the Technician exam. According to FCC Rule Section 97.509:

“(d) No VE may administer an examination to his or her spouse, children, grandchildren, stepchildren, parents, grandparents, stepparents, brothers, sisters, stepbrothers, stepsisters, aunts, uncles, nieces, nephews, and in-laws.”

The good news is that Vincent passed Element 2, the Technician test and was assigned call sign **KD2VAV** by the FCC on November 17. He joined the PCARA Roundtable net that very same evening.

Also taking part in the November Test Session were Jennifer Hayes and Matthew Duteau of Cortlandt Manor. Matthew passed Technician and General examinations and was allocated the call sign **KD2VAW**. Jennifer qualified for Technician and received call sign **KD2VAX**.

Congratulations to all three candidates and thanks to the Volunteer Examiners who took part.



Vincent proudly displays his Technician Class CSCE from the November VE Test Session.

- NM9J

Jeux Sans Frontières and BBC Outside Broadcasts

Do you recognize the 1980 pop song “Games without Frontiers” by Peter Gabriel?

(Chorus) Jeux sans frontières... Jeux sans frontières... Jeux sans frontières

*André has a red flag, Chiang Ching's is blue
They all have hills to fly them on except for Lin Tai Yu
Dressing up in costumes, playing silly games
Hiding out in treetops, shouting out rude names*

...
What was the background to these strange lyrics? On this side of the Atlantic, the words probably don't make much sense. For anyone from the other side of The Pond they will bring back memories. A BBC Television program called “It's a Knockout” began in 1966. The show — originally in monochrome — was based on a French/European program “Jeux Sans Frontières” (Games without borders). The BBC series was a weekly outside broadcast, usually from a public playing field or swimming pool in a British town. Teams of young adults from the venue and from other nearby towns would compete in physical events that became increasingly bizarre and strangely costumed as time went on.



Blackpool semi

My first encounter with the format was in September 1966 when the family was on vacation in Blackpool, on the Lancashire coast. Venue was the South Promenade Bathing Pool — I was in the audience for



Blackpool's South Prom Bathing Pool.

the semi-final between Blackpool and Lytham St Annes. The program was a production of **BBC North West**, headquartered in Manchester. I remember the outside broadcast cameras being adjusted using a gray-scale line-up card before the event began. The hour-long program was broadcast live on a Sunday afternoon on BBC 1 Television. See: http://www.jsf.hiddentigerbooks.co.uk/series_1966_iak.htm

for the semi-final between Blackpool and Lytham St Annes. The program was a production of **BBC North West**, headquartered in Manchester. I remember the

Let's look back at television technology of the time... this was an era of all-analog broadcasting, just before color television began in the UK, before satellite uplinks, integrated circuits, microprocessors, LCDs, handheld video cameras and long before the Internet and smartphones with HDTV capabilities.

Outside broadcast cameras were large objects mounted on a wheeled tripod. Unlike a modern video camera, only part of the electronic circuitry was under the metal covers — the remainder was inside a “mobile control room”, connected to each camera by a thick umbilical cable. The mobile control room housed



Pye Mk 6 monochrome TV camera as used on BBC Outside Broadcasts.

sync generators, sound and vision monitors, waveform monitor, sound and vision mixers, talkback and telephone circuitry plus seating for producer, director, sound and vision operators plus engineering staff.

Some of the mobile control room circuitry employed semiconductors, but '60s transistors had power and frequency limitations, so vacuum tubes



Pye Mobile Control Room type 844013, with four Mk 6 cameras, cutaway view.

were still in use alongside image orthicon tubes inside the cameras and cathode ray tubes for the vision monitors. The mobile control room or “scanner” required an

external mains power supply plus air conditioning.

In order to send a live video signal from an Outside Broadcast back to the BBC Television network, it was no use relying on a GPO broadband connection or satellite uplink. Instead, the BBC had a truck-mounted platform known as an “Eagle Tower”, designed and



BBC Eagle Tower lowered for transport.



Eagle Tower raised to vertical position, with microwave dish on top.

built by Eagle Engineering in Warwick. The tower supported a 4 foot diameter 4 GHz microwave dish and transmitter, capable of sending a single 405-line black & white television signal. Maximum extension of the tower was 60 feet high.

The receiving location was usually at a BBC main transmitter site, with rotatable dish and receiver mounted high on the mast, remote-controlled from below. The received signal could then be fed into the coaxial cables or (later) Post Office microwave network that linked transmitter sites to the BBC studios.

One member of the GB3LI UHF repeater group was Chris Jones, G8GFB,

employed by the BBC's Radio Links department. Chris explained how his team had to be prepared to set up microwave links for outside broadcasts from just about anywhere in the region — so they had contour maps showing paths available from popular locations.

In case the distance was too great, or no direct path was possible, the BBC would place another microwave link truck at a mid-point — usually on high ground that could be seen from both locations. The crews had 74 MHz VHF radio-telephones to co-ordinate alignment of the dishes.

See: <https://becg.org.uk/2019/11/27/radio-links-from-outside-broadcasts-in-the-1960s/#more-985>

Seaside attraction

My home town of Southport was a seaside resort with various events and attractions that might bring in an Outside Broadcast crew. In addition to "It's a Knockout" there was the Open Championship held at Royal Birkdale Golf Course* plus Political Conferences and other 'entertainment' from Southport's Floral Hall. My school was located on one of the main routes into town, so it was not unusual to see a caravan of Outside

Broadcast vehicles passing by, painted in the BBC's dark green livery of the time.

* See PCARA Update September 2018, page 8

Mobile Control Room restorations

In the "ATV" column of RSGB's *Radio Communication* for September 2020, Dave Crump G8GKQ describes how members of the British Amateur Television Club are involved in restoration of a BBC Outside Broadcast van,

number MCR21 dating from 1963 and now owned by the Broadcast Television Technology Trust. This is the type of equipment that would have been used for the live Outside Broadcast from Blackpool in 1966. See:

<http://mcr21.org.uk> and <https://bttt.org.uk/>

Starting in 1967, winning teams from the British heats of "It's a Knockout" took part in the European International Series "Jeux Sans Frontières". This was broadcast each week from a different town in a European country, including Belgium, Switzerland, Germany, France, Italy and Great Britain.

An International Heat of "Jeux Sans Frontières" is featured in the ITV/PBS "Endeavour" episode entitled **Quartet** (2018).

Detective Sergeant Endeavour Morse competes in a fictional heat set in 1968

Oxford, where an assassination attempt leads to espionage, a radio

tuned to a numbers station and a Cold War spy ring. The Outside Broadcast Unit and Marconi cameras shown in the episode are from Independent Television contractor Southern Television, rather than the BBC. (See: <https://becg.org.uk/projects/southern-television/>).

This particular OB truck, renovated by Paul Marshall G8MJW and Dicky Howett is available for hire through their company Golden Age TV[®] LLP, co-owned with Richard Harris, MØTUW. See <https://www.goldenagetv.co.uk>. The Endeavour episode "Quartet" (Season 5, Episode 5) can be viewed on PBS's "Passport" TV streaming service.



This is the type of BBC Mobile Control Room, shown in its original dark green livery, being restored by the Broadcast Television Technology Trust.



Chris G8GFB at the switch-on of UHF repeater GB3LI.



Detective Sergeants Strange and Morse walk past the Outside Broadcast Unit at a fictional heat of Jeux Sans Frontières in ITV's prequel series 'Endeavour'.

Southport heat

My next encounter with “It’s a Knockout” came in April 1974. Heat 1 of the national event was staged one Sunday afternoon at Princes Park in Southport, featuring competing teams from Southport and Wyre (Fleetwood).

Princes Park is a grassy field located between the Marine Lake rowing-boat area, Pleasureland amusement park and the Sea Bathing Lake outdoor swimming pool.

I was in the audience with a friend from Ainsdale Radio Club, watching from behind a rope barrier.

http://www.jsf.hiddentigerbooks.co.uk/series_1974_iak.htm

By 1974, BBC 1 and BBC 2 Television were both in color, and my home had recently acquired a Pye CT205



Pye CT20x series single-standard color TV.

The Southport heat of “It’s a Knockout” was produced in color, with color cameras connected to an updated mobile control room. This was **not** a live broadcast — instead of the “Eagle Tower” there was a mobile VT truck containing recording equipment to store the event on tape for subsequent editing. Transmission did not take place until 19 days later on May 3rd.

In past seasons the on-screen presenters had varied, but by now they had settled on Rugby League commentator Eddie Waring and regional news personality Stuart Hall. Stuart Hall was often heard in paroxysms of laughter at the antics of unfortunate competitors —



“It’s a Knockout” on-screen presenters Eddie Waring (left) and Stuart Hall.

though he is no longer remembered with much fondness because of subsequent revelations about his off-screen behavior.



International Heat (Arrr!)

The third “It’s a Knockout” event that I attended was the International Heat of “Jeux Sans Frontières”, held one August evening in 1975 at the Sea Bathing Lake in Southport. The Sea Bathing Lake no longer exists — it

was demolished in 1993 and replaced by the “Ocean Plaza” development, containing shops, restaurants and entertainment.



Southport’s Sea Bathing Lake.

As a youngster, I spent many a summer afternoon at the Sea Bathing Lake — the large open-air pool filled with salt water attracted large crowds on warm, sunny days.

International Heat 7 featured teams from Belgium, Switzerland, Germany, France, Italy, Great Britain and the Netherlands. Britain was represented by a team



Jeux Sans Frontières at Southport’s Sea Bathing Lake included competitors on water racing toward the pirate galleon.

from Cambridge. The theme was **PIRATES** as the BBC had constructed a life-size galleon sailing ship on one side of the pool. The games were set on water and aboard the ship.

On-screen presenters Eddie Waring and Stuart Hall were joined by Italian referee Gennaro Olivieri. Seven European countries took the broadcast live, while the remainder delayed transmission — including Great Britain, where the program did not air until eight weeks later in October 1975.

http://www.jsf.hiddentigerbooks.co.uk/series_1975_jsf.htm

High on the opposite side of the pool from the galleon, a row of wooden **commentary boxes** had been erected to house the off-camera presenters from other countries that were taking part in the contest. The occupants would provide a running commentary in their own language for the different home audiences.

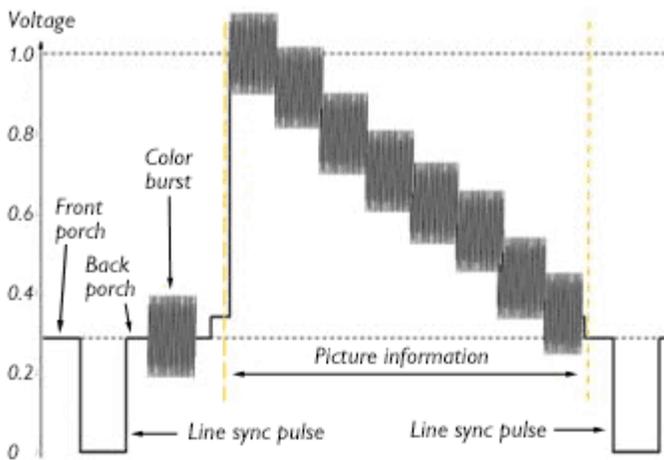


Modern commentary booths.

Sound achievement

During heats of “Jeux Sans Frontières” from abroad, Britain’s commentators, Eddie Waring and Stuart Hall would travel to each European country in turn and provide a commentary for the UK audience in English. I had been struck by the poor sound quality of these commentaries, while the rest of the audio — including on-camera hosts, music and crowd noise — was of much higher quality.

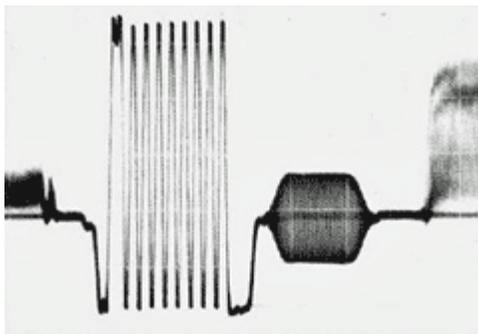
I wrote a letter to *Radio Times*, the BBC’s program periodical, asking about the reason for poor audio and was informed this was a result of a European Broadcasting Union standard on international programming. The main program audio was carried along with the video signal using “**sound-in-syncs**”. In this BBC-developed technique a digitally-encoded mono audio signal is inserted into the 625-line analog TV waveform as part of the line-synchronizing pulse.



Waveform of horizontal scan line for a 625 line composite video signal. “Sound-in-syncs” is inserted into the line-synchronizing pulse as shown below.

This technique allowed high quality TV sound to be sent along microwave links and coaxial cables as part of the video signal — without needing a separate circuit for audio.

During “Jeux Sans Frontières”, the sound-in-syncs audio included commentary from the on-camera hosts, and was available to all countries taking the broadcast. The off-camera descriptions from visiting presenters housed in the



Sound-in-syncs audio is digitized into a series of 10-bit PCM values, sampled at 31.25 kHz. Each set of bits is then inserted into the ‘flyback’ gaps, between lines of the picture. [BBC Engineering pic.]

wooden booths were carried on standard telephone landlines to their home countries — with limited bandwidth and possibly additional noise, depending on the local phone systems of 1975.

Open day

My final encounter with “Jeux Sans Frontières” and associated outside broadcast equipment came in September 1981. The BBC had organized an Open Day to celebrate recent expansion of their ‘New Broadcasting House’ in Oxford Road, Manchester. I went along with Harold G3LWK to see what went on inside the home of BBC Manchester, BBC Radio Manchester, and BBC North West Television.



Open day at BBC New Broadcasting House, Manchester, 1981. OB vehicles at left, Eagle Tower at right.

On a warm, sunny Saturday the crowds were large and the line was long. Harold and I spent a while inside the “Engineering Exhibition” where we could talk to BBC Engineers about the sound and video equipment on display, including an early Color Mobile Control Room which had been transferred from London. Moving inside the main building, we toured the production studios, with a chance to sit down at the Regional News desk and read the evening news in front of the cameras.

Along the way, we had a look into the scenery dock and an area where costumes for “It’s a Knockout” and “Jeux Sans Frontières” were being stored. The mythical figures, giants and furry animals were all there, waiting to come alive in a future program. Just search YouTube for the program titles to see what I mean.

...

*Suki plays with Leo, Sacha plays with Britt
Adolf builds a bonfire, Enrico plays with it.*

*Whistling tunes, we hide in the dunes by the seaside.
Whistling tunes, we’re kissing baboons in the jungle.*

It’s a knockout.

- NM9J

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 the first Sunday of each month (apart from holidays and July/August break and pandemics). Talk-in is available on the 146.67 repeater.

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

Sun Dec 6: 3:00 p.m. Virtual Meeting, Zoom Webinar — **Practical Horizontal Wire Antennas** by Jay NE2Q. (Details on page 6.)

Sat Dec 19: 9:00 a.m. 'Breakfast' Roundtable Net with Jared KD2HXZ, 146.67 repeater.

Hamfests

Most Hamfests scheduled for Fall / Winter 2020 have been canceled. Check with organizers before leaving.

Sat Jan 9, 2021: Ham Radio University – now a Virtual Event. There will be registration links for the forums. See: <http://hamradiouniversity.org/> .

VE Test Sessions

Many winter VE Test Sessions have been canceled. Check with the contact before leaving.

Dec 5, 12, 19, 26: Westchester ARC, 19 Hunts Bridge Rd, Yonkers NY. 12:00 noon. Must contact VE, (914) 237-5589.

Dec 5, 12, 19, 26: (Unsponsored), 43 Hart Ave, Yonkers NY. 11:00 a.m. Must contact Lester Tirado, (646) 225-8600.

Dec 13: Yonkers ARC, Yonkers OEM, 789 Saw Mill River Rd, Yonkers NY. 11:30 a.m. Pre-reg. Walt, kd2d'at'arrl.net.

Dec 21: Columbia Univ ARC, 531 Studebaker Bldg, 622 W 132nd St, New York. 6:30 p.m., Alan Crosswell (929) 888-7590.



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