PCARA Update

Volume 7, Issue 5 Peekskill / Cortlandt Amateur Radio Association Inc. May 2006

21st Century fox

Start dusting off those HTs, Yagis, attenuators, compasses, and maps because on Saturday, May 6, 2006 we're having another one of our famous PCARA Foxhunts! We'll be meeting at the Beach Shopping Center at 2:30 PM for registration, and starting the hunt at 3:00 PM sharp. Remember, **all are welcome!** Invite your family and friends. The only qualifications are that you want to have an adventure and want to have fun. Tally Ho! *[Rules: page 7 -Ed.]*

The PCARA Sixth Anniversary Special Event Station will be held on May 28, 2006 at the Muscoot Farm Spring Fest in Somers, NY. The hours of operation are 10:00 AM to 4:00 PM, with setup starting at 8:00 AM. Please consider stopping by for a couple of hours to operate and enjoy the beautiful surroundings. For more information, contact Joe, WA2MCR; e-mail wa2mcr *at* arrl.net.

Field Day 2006 is still scheduled to be held at Muscoot Farm in Somers, NY on the weekend of June 24-25, 2006. Since this is a new location for PCARA, a planning session will be scheduled. As soon as a date and location are chosen for the meeting, it will be posted on the website. Please try to attend.

Please come out to the May 7th meeting at Hudson Valley Hospital Center. As always please come and share your thoughts and ideas! I hope to see each of you there.

– 73 de Greg, KB2CQE

Antenna arranging

Bob N2CBH has been making antenna changes at the repeater site. In March, Bob switched the 449.925 MHz KB2CQE repeater from the crackly colinear on the tower to a new Diamond X500 antenna above the roof. This gave a significant improvement in performance, especially for IRLP.

Unfortunately, the X500 was not such a great performer for the two meter repeater, so in early April, Bob split the 2 meter antennas, with transmission from the folded dipoles on the roof and reception on the tower-mounted dual-bander. This arrangement worked well with just a few interruptions until April 22, when the 2 meter machine on 146.67 MHz stopped receiving for good. The problem appears to lie with the tower-mounted dual-band antenna, which is still tucked under a light bracket. So with Bob away, Greg KB2CQE and NM9J placed the two meter machine back on the roof-mounted folded dipoles for both transmit and receive.

W2NYW repeater site shows 2 meter folded dipoles with Diamond X500 mounted above.

Contents

PCARA Officers

President:
Greg Appleyard, KB2CQE kb2cqe *at* arrl.net
Vice President:
Joe Calabrese, WA2MCR; wa2mcr *at* arrl.net
Secretary/Treasurer: *open*.

Adventures in DXing

- N2KZ

Hear It Now!

What a wonderful QSO I had on April 5! With one measly watt, I worked Bill Chaikin, KA8VIT, on 80 meters. Bill heard me far away in South Euclid, Ohio west of Cleveland. We managed to complete a basic QSO, but the static salad was pretty nasty, so we ended it short. We passed a couple of e-mails back and forth continuing our conversation. Bill really surprised me by recording our QSO and posting it on his web site. I had never heard myself send code before. It was really interesting! You can hear my QSO with Bill at: http://www.ka8vit.com/qso/default.htm

Bill Chaikin, KA8VIT

Bill uses a nifty program called ScanRec to create his library of QSO recordings. Written by Dave Jacobs, ScanRec is a freeware program readily available on line at: http://www.davee.com/scanrec. It was designed to record speech using a VOX-like gate that senses verbal activity. If nothing is being heard, the program stops recording. It is great for monitoring frequencies that are rarely used or to listen to an entire day's activity without spending the whole day doing it! Just start ScanRec and come back later to hear what took place. It can also be used to test your own signal range as you venture from your QTH. Suddenly, you have ears that are always at home.

See It Now!

Another wonderful program Bill suggested was MMSSTV for sending and receiving slow scan television. "MM" are the initials of Japanese ham and program author Makoto Mori, JE3HHT. MMSSTV could be the easiest and most intuitive computer program I have ever used. With a very simple two-cable connection to a sound card, your transceiver becomes an instant long distance television set with two-way capability. One all-color image frame takes about two minutes to transmit and the quality is surprisingly good. I first tried MMSSTV at home transmitting simplex with my Icom IC-T7H HT to a trusty Radio Shack hand-held scanner. I received a perfect picture on my very first try.

Slow scan image from N2KZ.

Direct-wired connections are preferred, but not mandatory. Ray, W2CH, and I experimented with picture transmission over two of PCARA's FM repeaters. Our best results were achieved when Ray simply held his microphone up to his computer's speakers and captured the slow-scan audio acoustically. Ray and I still have some research and development to do. I was able to receive a frame from Ray, but the image arrived slightly skewed. This may be due to the repeater having difficulty handling such an oddball signal. Ray has had spectacular results capturing slow-scan pictures trans-

SSTV picture from W2CH as received via PCARA repeater by N2KZ.

mitted by other hams on 40 and 20 meters using the MMSSTV program to decode their transmissions. Look for slow-scan transmissions around 7.171, 14.230, and 14.233 MHz. Download the latest version of MMSSTV (1.11G) at http://mmhamsoft.ham-radio.ch/. Version 1.11G allows you to ID in Morse code before and after transmission. It's so much fun watching the pictures slowly come in. You'll love what you see!

High Up In The Clouds

Many amateur radio operators volunteer their time and resources aiding The National Weather Service (NWS) as field spotters through a program called Skywarn. Thousands of hams participate in this nationwide program providing valuable on-the-spot data to NWS forecasters all over the United States. I recently attended a basic Skywarn spotter's indoctrination seminar sponsored by WECA. It was a fascinating two hours. The free class drew almost 50 people filling a large room with eager participants.

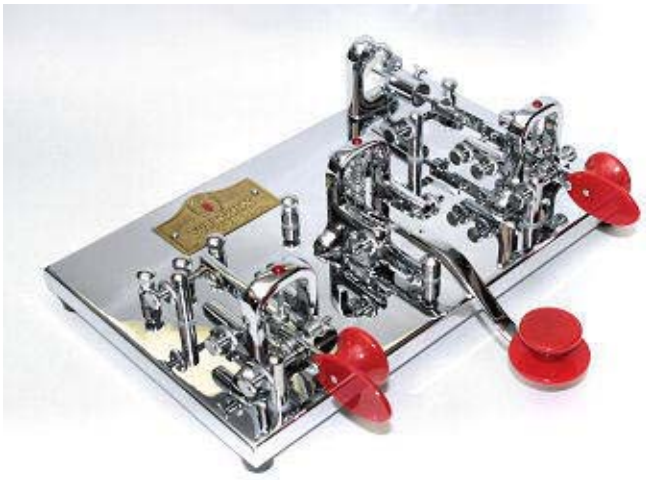
I was amazed at how much I learned about severe weather. The class covered thunderstorms, tornadoes, gustnadoes, wall clouds, shelf clouds and dozens of other phenomena. The class was also taught how to take proper rain and snow measurements and discern between "real" extreme weather and non-threatening look-alikes. Everyone who attended received an informative spotter's guide and a handful of other brochures to expand our knowledge of the skies. We also received our own Skywarn spotter ID numbers and detailed instructions on when and how to report our local weather conditions.

The success of the Skywarn program depends upon accurate data from experienced spotters. Our teacher described it well: The NWS may have the most sophisticated electronic weather data network in the world, but nothing can compare to the reporting of spotters who are eyewitnesses on the scene. Amateur radio plays a big part providing essential and immediate communications for Skywarn spotters nationwide. WECA's 2 meter repeater on 147.060 MHz (+600, PL 114.8) serves as the home for Skywarn nets in Westchester County. Join the Skywarn team! It's fun. It's free. It's fascinating!

If you'd like a look at the basic spotter's course, page through the Powerpoint presentation available at: http://www.crh.noaa.gov/dtx/spotter/training/SpotterTraining2005_files/frame.htm. Look for class locations and schedules at: http://www.erh.noaa.gov/okx/Skywarn/spottertraining.html. If you have already taken the basic course, the PEARL amateur radio club, based in Carmel, New York, is sponsoring an advanced Skywarn class on May 17th at 7 pm. Details can be found at: http://www.k2put.org/skywarn06_class.html.

Father's Day Wishes

If you love CW, and you are a ham who has everything, Vibroplex has the answer to your dreams! For the low, low price of $1200, Vibroplex now offers a triple key assembly in a stunning gold plated finish. (The highly polished chrome version is only $800!) You'll find an iambic paddle on the left, a traditional straight key in the center and a signature Vibroplex bug on the right. It's perfection in one beautiful package.



Vibroplex Triple Key is available in Deluxe finish (as shown) or Gold.

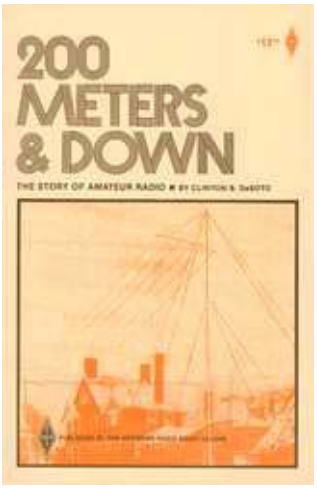
After purchasing your Vibroplex Triple, you'll need a new Icom IC-7800 to go with it! It's only $10,600!?! You only live once!

In the beginning...

Have you ever wondered how the hobby of amateur radio started? I recently discovered a classic book from the ARRL's library which describes the genesis of our art. First published in 1936 by journalist and amateur radio operator Clinton DeSoto, *200 Meters & Down* is a unique and inspiring history beginning with the very first experiments with spark transmitters and ending with prophecies for the future: Will television ever catch on? Will we be able to effectively transmit above two meters?

I never wanted to stop reading DeSoto's book. Every page held amazing facts. Did you know experimentation with electricity can be traced back to the Greek wizards Thales and Pliny in 600 B.C? DeSoto recalls the large and powerful apparatus necessary to create the first spark transmissions and how each small milestone in radio development and engineering came

to pass. The title refers to the casually adopted standard frequency (200 meters / 1500 kilocycles) used by amateurs in the first few years of the 20th century. At the time, it was considered a very high frequency! Early ship transmitters used 450 to 600 meters. Anything above 150 meters was considered impractical and useless!



Eventually, amateurs were pushed to even higher allocations and were the first to discover the amazing properties of shortwaves. I especially enjoyed reading about the adventures of the first amateur operators who dared to try the ultra-high 40 meter band. Did you know that the development of amateur radio was nearly halted when hams left the air during World War I? Learn about the time in history when a station's power was measured by the size of your coil and antenna height! Rare new amplifier tubes, called audions, were once the dream of frustrated operators. Relive the excitement of the breakthrough of the regenerative receiver. Wow! What sensitivity! It's a highly recommended read that I'm sure you will enjoy available directly from the ARRL and larger bookstores nationwide.

Until next month,
- 73 de The Old Goat, N2KZ

Finding FiOS

Verizon FiOS distribution box found in Cortlandt.

A new item appeared one April evening down your editor's street. A substantial gray box was mounted on a utilty pole, a few feet above the ground, and three black cables were coiled above. One of the cables had an orange label indicating "fiber optic cable".

Consultation with Karl, N2KZ revealed that the distribution box is the first sign of Verizon's **FiOS** being introduced to the neighborhood. FiOS stands for "Fiber Optic Service" — Verizon's plan to bring broadband fiber optic connectivity to the home. The initial offering will provide telephone and high speed Internet service — from 5 Mbps to 30 Mbps download speeds. Later, Verizon plans to add "FiOS TV", its own cable TV service with 200+ English language channels, 90 channels in Spanish and 16 high definition channels. This will definitely give Cablevision a run for *your* money!

Next day, the distribution box was remounted higher on the utility pole. The coiled cable is labeled "fiber optic cable'.

The next step will be for Verizon to string fiber optic drops to individual homes. Each fiber optic cable is terminated in an Optical Network Terminal unit (ONT) mounted on the side of the house or somewhere just inside. The fiber optic cable connects to the ONT and your Internet connection then emerges on a 100Base-T cable, along with the telephone wire(s).

In order for telephone service to remain available during power outages, the ONT has a conventional mains power supply plus rechargeable backup battery.

Worldwide atoms

Your editor is still on a quest for the perfect "atomic clock" that can display Greenwich Mean Time. By "Atomic Clock", you'll know I'm referring to clocks capable of receiving the National Institute of Science and Technology's 60 kHz time code emissions from Fort Collins, Colorado, which are synchronized to UTC through NIST's cesium-clock atomic frequency standards.

A recent visit to Radio Shack produced a close-out model: their "Worldwide Atomic Clock", part number 63-1420, was on sale for $9.97 instead of $29.97. There are a couple of interesting aspects about this particular radio clock. First it's a *travel alarm*, with the ability to receive additional low frequency time signals in different parts of the world, as well as WWVB. Here's the list of stations available:

WWVB Fort Collins, Colorado 60kHz, 50 kW
(*http://tf.nist.gov/stations/wwvb.htm*)
DCF77 Mainflingen, nr Frankfurt, Germany 77.5 kHz, 50kW
(*http://www.ptb.de/en/org/4/44/442/dcf77_1_e.htm*)
MSF nr Rugby, England 60 kHz, 15 kW
(*http://www.npl.co.uk/time/msf/*)
JJY Ohtakadoya-yama, Japan (Mainland) 40 kHz, 50 kW
JJY Hagane-yama, Japan (S. Island) 60 kHz, 50 kW
(*http://jjy.nict.go.jp/jjy/index-e.html*)

The wide frequency range of these signals suggests that this clock's receiver must be tunable. (By the way, I've seen the antennas at MSF from the British Rail train and those at DCF77 from the German Autobahn — and very impressive they all look!)

Radio Shack 'Worldwide Atomic Clock' set for 24 hour display.

The second interesting aspect of the "Worldwide Atomic Clock" is that it includes **two** time displays. The upper section shows "local time" in hours, minutes, seconds with optional daylight saving time. The lower section shows "home time" with just hours and minutes. I set my "local time" to Eastern Standard Time ("EST") and my "home time" to Greenwich Mean Time ("0" hours offset).

All went well with setting up the clock, receiving the signal from WWVB and seeing the clock synchronize. At setup time, there is a nifty three-bar signal strength display to help find the best receive position. Hint — turn off fluorescent lights and TV sets during this initial set up.

I haven't had a chance to test the receiver on any other LF transmitters yet. Would anyone like to sponsor me on a trip to Japan?

P.S. I came across another model of "atomic" travel alarm on Oregon Scientific's site: http://www2.oregonscientific.com. - NM9J

Antenna turner

Ray, W2CH has been making improvements to his VHF/UHF antenna installation. Ray reports that he recently installed an antenna rotator, with 5' mast to support his FM/TV antenna and Diamond X3200A triband vertical, covering 144/220/440 MHz. The rotator is a Zenith ZEN-RTR1 which has a digital readout and remote control. The rotator can remember up to twelve different antenna directions.


TV/FM and amateur radio VHF/UHF antennas at W2CH.

Using a Philips twin-output antenna preamp, Ray is receiving most over-the-air DTV channels apart from "Ch 4" and "Ch 11". A new virtual channel is DTV "Ch 7-3" from ABC with Accuweather reports. DTV Channels "31" and "50" are coming in well. Ray is also able to pick up WDRC-FM, 102.9, from Hartford, when aiming the TV antenna northeast.


Zenith ZEN-RTR1 rotator console displays location and relative position. Photos by W2CH.

Club table

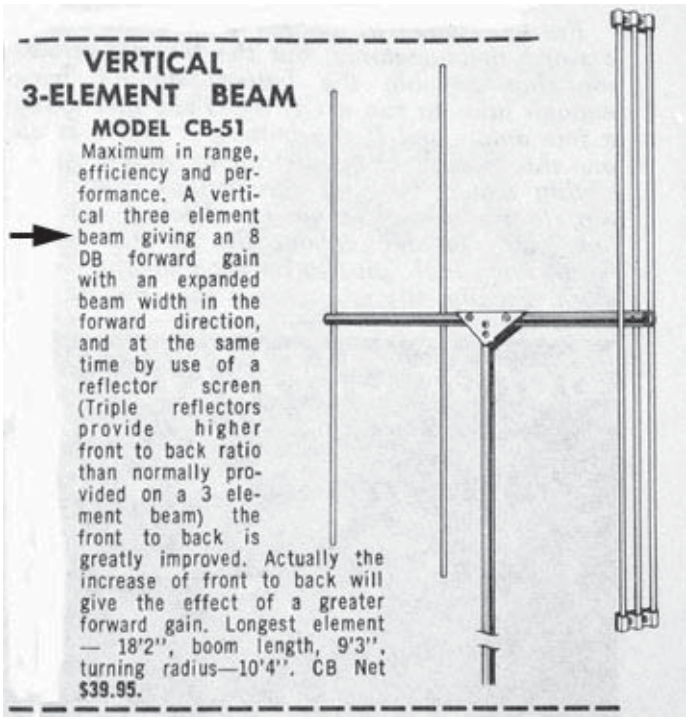
PCARA organized a club table at Mt Beacon ARC hamfest on Sunday April 23. The weather was cold and wet, so the usual collection of outdoor vendors was absent. However, there were plenty of tables inside the Tymor Park building. PCARA members were successful in selling several items of member equipment.


Ray W2CH and Joe WA2MCR prepare for visitors to PCARA's club table at the MBARC hamfest .

Lies, dB and statistics

Antenna manufacturers are proud of their radiating products' performance. Take a look at Comet's web site (http://www.cometantenna.com) or Diamond's web site (http://www.diamondantenna.net) and you'll find plenty of gain figures quoted in dB or dBi (decibels over isotropic). Pay a visit to Hy-Gain's site (http://www.hy-gain.com) and you'll see more figures in dB or dBd (decibels over a dipole). But one of the things you'll seldom see in the pages of *QST* is an *advertisement* showing the gain of an antenna. That's because in the past, manufacturers have been known to tell *porkies** about the performance figures for their antennas. 8 dB, 12dB, 15 dB, 18 dB… What do those strange numbers really mean? Decibels over a wet noodle? Dumb bels? Tinker bells?

(**Porky*: Cockney rhyming slang. *Porky pie = lie*.)



Master Mobile antenna ad from May 1966 issue of "S9" magazine. The copy describes "A vertical three element beam giving an 8 DB forward gain with an expanded beam width in the forward direction..." Anyone who can get 8dB gain from a 3-element Yagi is doing remarkably *well.*

Back in the 60s, rather than allowing misleading figures that could not be validated, ARRL amended its Advertising Acceptance Policy to forbid any advertising of specific antenna performance figures. Nowadays, antenna manufacturers may advertise actual measurements made using a certified antenna test range, or submit their antenna computer models to the ARRL Laboratory for validation. Nothing less is permitted onto the pages of *QST*… and very few manufacturers have availed themselves of this narrow opening.

Part of the fun of amateur radio is that whenever there is a disputed fact, we can "**do the experiment**" and find out for ourselves what works in practice. Those with long memories may remember an article "Dodgy ducks and wacky whips" in the June 2003 issue of *PCARA Update,* where simple measurements were presented on a group of HT antennas. The conclusion was that — compared to stock Icom antennas — the only models to improve 146 MHz transmit signal strength were the physically longer Pryme RD-98, the MFJ telescopic quarter wave, a 2 meter telescopic half-wave, and a base loaded rubber duck. None of those antennas performed well on 440 MHz. Several commercial antennas performed *worse* than the stock Icom antennas on both 146 and 440 MHz, mainly because of being off-resonance, with high SWR.

If you are interested in **HF portable operation**, a web site worth visiting is http://www.hfpack.com. There you will find details of the HFPack Portable Group's "Antenna Shootouts" on both vertical and horizontal antennas. These are real-world measurements on popular portable antennas such as the Screwdriver, Outbacker Joey and Miracle Whip. Vertical antennas were compared with a reference quarter wave vertical. Horizontally polarized antennas, including the Buddipole and Hamstick dipole were compared with a full-size half wave wire dipole.

Bonnie, KQ6XA reported the latest test results in the Reviews section of eHam.net (http://www.eham.net/reviews/detail/1606). Bonnie makes the point that – compared to a quarter wave vertical – those *"miraculous"* short whip antennas are **10 dB down** *with* counterpoise and as much as **29dB down** without a counterpoise. This means your 5 watt portable transceiver will only radiate 0.5 watt when connected to a "miraculous" whip with counterpoise. Removing the counterpoise drops the radiated power to around **6 milliwatts**. If you work anyone at all, it's a miracle!

KQ6XA also makes the point that many portable antennas work much more efficiently than a miracle and may only be a couple of dB down compared to the reference quarter wave. The shootouts report good results on the 14 MHz band for the following antennas:

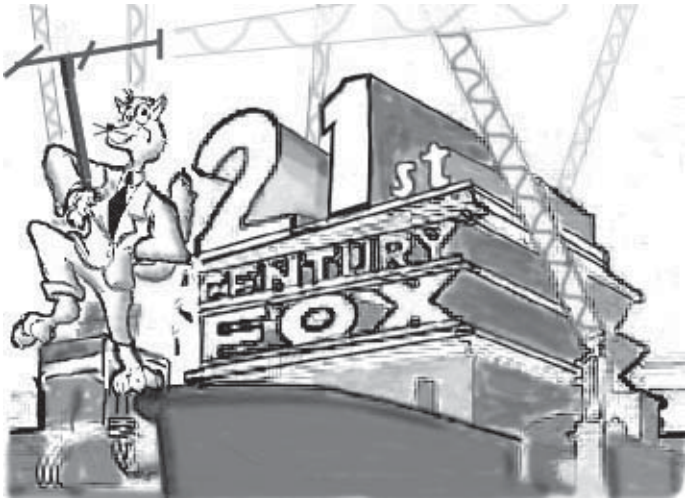
Reference quarter wave vertical:	0 dB
Homebrew "PAC-12" antenna designed by KA5DVS: (*http://www.njqrp.org/pac-12/index.html*)	-1.8dB
MP-1 portable antenna from Super Antennas: (*http://www.superantennas.com*)	-1.9dB
MP-2 portable 'screwdriver' antenna:	-1.9dB

Some horizontal antennas with good performance are listed below:

Reference half wave dipole:	0dB
W3FF Buddipole (*http://www.buddipole.com*)	-0.8dB
Pair of Hamsticks from Lakeview (*http://www.hamstick.com*).	-1.9dB

Full results are available via the eHam and HFPack links. Next time you are operating HF portable, there should be no excuse for poor signals — the measurements have been made! (Tnx to G3LDO's *Antennas* column in April 2006 *RadCom* for eHam link.)

- Malcolm, NM9J



*Join the hunt for PCARA's **21st Century Fox** on May 6.*

PCARA Foxhunt Rules

Saturday May 6, 2006

1. Transmission – FM simplex on 146.565 MHz, horizontally polarized.

2. Transmissions start at 3:00 p.m. for 5 minutes, followed by 5 minutes off. Second transmission commences at 3:10 p.m. 3 minutes on, 7 minutes off. The fox will not move during this time. This cycle repeats at 10 minute intervals until the last transmission ends at 4:30 p.m. when the fox will announce its location.

3. The opening transmission will include a time check for watch synchronization.

4. All contestants who wish to be eligible for a prize must book in at the **Beach Shopping Center car park**, in Peekskill before the start. Contestants will count as one team if more than one person occupies a car. (i.e. if three in a car, they don't get first, second and third prize.)

5. No contestant is allowed to move his/her car until the end of the first transmission, so take your time with the first bearing and make it a good one. The transmission will be audible from the start without a super-sensitive receiver.

6. Radio silence will be maintained by all contestants on all frequencies from the first to the last transmission.

7. No excess mileage penalty will be incurred but all contestants are reminded at all times to stay within the law and observe speed limits, parking restrictions etc.

8. The fox will be hidden not more than 5 miles from the start. The location of the fox will not be on property which is inaccessible by car.

9. Upon a contestant finding the fox, please do not shout or in any way give the location away to other contestants. Report your name/callsign to the fox and retire to the place of refreshment immediately. This will ensure that other contestants do not "discover" the fox because a group of people is hanging around nearby. It is requested that you maintain radio silence even though the fox has been found and the fact that you have found the fox should not be revealed to anyone until the place of refreshment has been reached.

10. The first competitor to locate the fox and positively identify him/her will be presented with a certificate. This competitor will be invited to assume the role of fox for the next foxhunt event.

11. Competitors should convene from 4:30 p.m. at the place of refreshment, which will be announced on-air by the fox.

Rules adapted from Bury Radio Society Fox Hunt, Malcolm, NM9J

Biker members

Radio hobbyists occasionally explain to their spouses... "You shouldn't object when I bring a new radio home. It's much better than if I brought a motorcycle or a blonde!" But see below...

Kevin N2KZE (left) growled to April's PCARA meeting on his Harley Davidson, while Jim W2JJG (right) rode his new Honda Shadow through the sunshine.

Peekskill / Cortlandt Amateur Radio Association

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PCARA Update Editor: Malcolm Pritchard, NM9J
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Newsletter contributions are always very welcome!
Archive: http://home.computer.net/~pcara/newslett.htm

PCARA Information

PCARA is a **Non-Profit Community Service Organization.** PCARA meetings take place the first Sunday of each month* at 3:00 p.m. in Dining Room B of the Hudson Valley Hospital Center, Route 202, Cortlandt Manor, NY 10567. Drive round behind the main hospital building and enter from the rear (look for the oxygen tanks). Talk-in is available on the 146.67 repeater. *Apart from holidays.

PCARA Repeaters

W2NYW:	146.67 MHz -0.6, PL 156.7Hz
KB2CQE:	449.925MHz -5.0, PL 179.9Hz (IRLP node: **4214)**
N2CBH:	448.725MHz -5.0, PL 107.2Hz

PCARA Calendar

Sat May 6: PCARA Foxhunt, 3:00 p.m. Beach SC.
Sun May 7: May meeting, 3:00 P.M. HVHC.
Sun May 28: Special Event Station W2F, Muscoot Farm Spring Fest.

Hamfests

Sat May 13: East Greenbush ARA Hamfest, Phillips Road Fire House, Rensselaer NY. 6:00 a.m.
Sat May 27: Bergen ARA Spring Hamfest, Westwood Regional HS, 701 Ridgewood Road, Washington Township, NJ. 8:00 a.m.
Sun June 4: Hall of Science ARC Hamfest, NY Hall of Science, 47-01 111th St., Flushing Meadows, Queens NY. 9:00 a.m.

VE Test Sessions

May 7: Yonkers ARC, Yonkers PD, 1st Precinct, E Grassy Sprain Rd, 8:30 a.m. Contact D. Calabrese, 914 667-0587.
May 8: Split Rock ARA, Hopatcong HS, Hopatcong, NJ. 7:00 p.m. Contact Sid Markowitz (973) 724-2378.
May 15: Columbia Univ ARC, Watson Labs, 612 W 115th St. New York, NY, 6:30 p.m. Contact Alan Crosswell, 212 854-3754.
May 26: Orange County ARC, Munger Cottage, Riverlight Pk, Hudson St., Cornwall, NY. 6:00 p.m. Contact Ronald Torpey (845)783-1692
May 27: Bergen ARA, Westwood Regional HS, 701 Ridgewood Rd, Washington Township, NJ. 8:00 a.m. Contact: Donald C Younger, (201) 265-6583.

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