



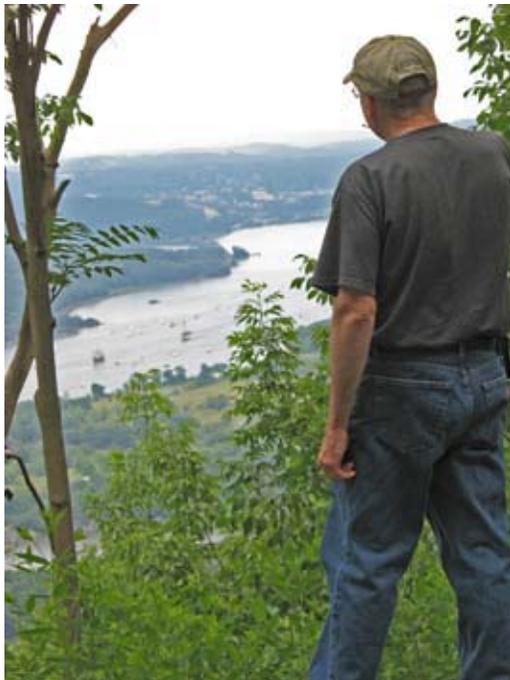
# PCARA Update



Volume 10, Issue 7      Peekskill / Cortlandt Amateur Radio Association Inc.      July 2009

## A sense of history

On June 7<sup>th</sup> PCARA held a Special Event Station commemorating the Quadricentennial of Henry Hudson's historic voyage. Station W4H operated from Perkins Memorial Drive in Bear Mountain State Park



*From Bear Mountain Greg, KB2CQE views the flotilla of ships sailing up the Hudson River in celebration of the 400th anniversary of its discovery by Henry Hudson.*

overlooking the Hudson River. The tall ships were clearly visible and it wasn't too hard to imagine, if just for a moment, that it was 400 years ago and the *Halve Maen* was making its way up the river that first time.

Thank you to all of those who stopped by to operate with us.

The beauty of the Hudson River and the Hudson Highlands can never be overstated.

Field Day 2009 was the weekend of June 27-28. PCARA held Field Day activities at Walter Panas High School in Cortlandt Manor, NY. We had a good turnout for set up, but could have used a few more operators as the event progressed. Maybe next year a midnight barbecue might help to entice a few more participants. Thank you to all those who helped to make it a success!

There aren't any monthly meetings until Septem-



*Karl N2KZ and Alan erect a Field Day antenna while SPARC members record a video of the event.*

ber. Enjoy the Summer! Be sure to bring all of your "What I did over my summer vacation" ham radio stories to the September 13, 2009 meeting at Hudson Valley Hospital Center.

I look forward to seeing each of you there.

- 73 de Greg, KB2CQE

## PCARA Officers

President:

Greg Appleyard, KB2CQE, kb2cq at arrl.net

Vice President:

Joe Calabrese, WA2MCR; wa2mcr at arrl.net

## Contents

A sense of history - KB2CQE	1
Adventures in DXing - N2KZ	2
Special Event – W4H - NM9J	4
BKW multiband antenna	6
Field Day 2009 - NM9J	7
Former Field Days	9



switch off analog, as well. The end was now complete.

Nationwide, all that remains are a handful of stations broadcasting in analog 'nightlight' mode. These stations are authorized to continue for four additional

lights go out. Your old trusty battery TV will only display snow! Hopefully, digital versions of these handy portables will become practical, affordable and commonplace in the future.

My disappointment with VHF digital reception was not unique. Viewers nationwide are having trouble receiving digital signals broadcast on VHF channels and have begged for improvement. Some broadcasters have developed severe cases of sweaty palms! What do you do if you spend hundreds of thousands of dollars on a transmission system that doesn't work? One severe case in point is WPVI-DT in Philadelphia formerly on UHF channel 64 and now broadcasting on low VHF channel 6. Only a fraction of their previous audience can now see their programming. The first



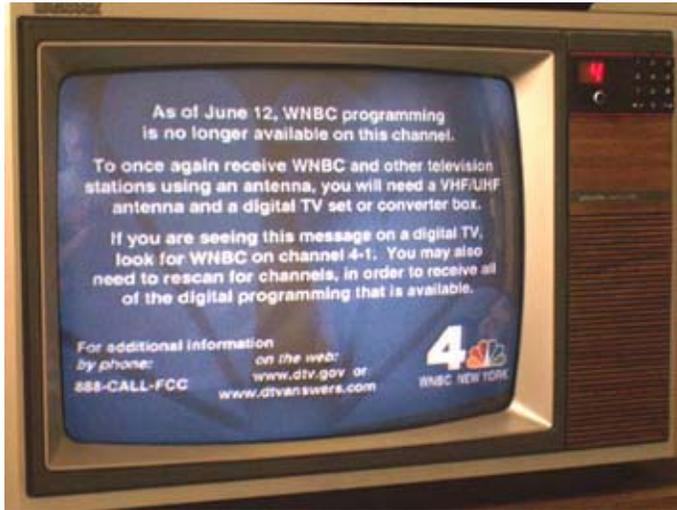
WPVI logo

knee-jerk reaction from the broadcast engineering community was a call for more transmission power. Philadelphia's Channel 6 has already dramatically increased their power. This could be expensive to install and expensive to operate. Why not revert back to the 'temporary' UHF channels, much more reliable and robust?

One station has already retreated. WHDH-DT Boston had been happily transmitting on channel 42 UHF. When they turned off their analog Channel 7 transmitter and switched to digital many viewers could not resolve their signal. Only a day or two later, they had filed for a Special Temporary Authority to move back to UHF. Currently they are broadcasting digital signals on both Channels 7 and 42!

The bottom line is simple: Digital television is not tolerant of noise, especially impulse noise. My attic-mounted log periodic antenna was quite sufficient for analog reception. It's proximity to my fiber-optic service interface, coffee machine, clothes washer and dishwasher CPUs, A/C line hash and a host of other noise makers makes it useless for VHF DTV. My 8-bay bowtie array, high up on the roof above the din of QRN, works very well even down to Channel 7.

One of my neighbors has a mid-sized old Channel Master VHF only array up about 30 feet high. After rescanning her box to acknowledge the new post-transition channel assignments, her converter box can now resolve Channels 7, 11 and 13 just fine. She was relieved and so was I! Finally, that annoying loud show, that repeats over and over again (the NAB tutorial,) was gone. I guess she didn't like 'nightlight' programming! She was quite relieved when 'her channels' returned to her set. DTV is a wonderful thing...when it works!



Sign-off slide from WNBC Channel 4 analog.

weeks: June 12 to July 12. In New York City, WCBS 2 and WNBC 4 keep the fire burning. (WNBC 4 signed off forever Friday, June 26 leaving WCBS 2 as the last NYC analog standing.) All across America stations are airing the now classic NAB tutorial video. This is a challenge for TV DXers! Stations are only rarely broadcasting identifications, so it appears as a nationwide simulcast of sorts. (I understand WGBH 2 in Boston is running a similar PBS-produced tutorial.) No matter what 'nightlight' station you log, they are all airing the same program! How can you tell one from another? Some stations air their logo at the end of the program loop. I



Maryland Public Television airs four logos together at the end of 'nightlighting'.

logged WPBT 2 Miami via e-skip this way. At the end of the 'nightlight' broadcasts from Maryland Public Television they air four logos at once!

Besides the nightlighters on the analog side, all that is left on analog TV in NYC is a public-access-like simulcast of bizarre program-

ming on low powered Channels 32 and 35 and a LPTV shopping channel, W60AI. The meek have inherited the Earth! Two immediate repercussions should be noted: Analog TV sound radios and analog portable televisions no longer work. You'll miss analog TV the next time the

Hindsight is always 20/20, but I have to ask why the FCC and the broadcasting community did not use this unique opportunity to consolidate all TV to UHF frequencies. The first UHF digital transmissions went on the air in 1997! It took 12 years to finally make UHF digital a reliable working system. Three NYC stations, WNET, WPIX and WABC, decided to move away to VHF! Why? My first impression of the new digital VHF television broadcasts is not impressive: A thin scattering of VHF transmitters nationwide are producing inferior results. It seems like such a waste of spectrum. Speaking of VHF, is there any hope for the eventual allocation of a 4 meter (70 to 70.5 MHz) amateur radio band?

A friend of mine noted one immediate outgrowth to the June 12<sup>th</sup> cutover: Verizon has just launched an over-the-air to cell phone TV service on 719 MHz (old TV channel 55) with robust signals serving Western Connecticut. Marketed as Verizon VCast Mobile TV, the system uses a technology provided by Qualcomm called MediaFLO providing 11 channels from CBS, NBC, Fox, ESPN and others. Suddenly your cell phone becomes a compact, portable digital TV! Time marches on!



*Empire State Building antennas*

This story is only in its third or fourth chapter. New and improved television master antennas are being built on the Empire State Building. Some stations will eventually be increasing their power. The feedlines, combiners and accessory 'plumbing' between the transmitters and antennas will be fine tuned and peaked. Many stations are also considering adding a new technology,

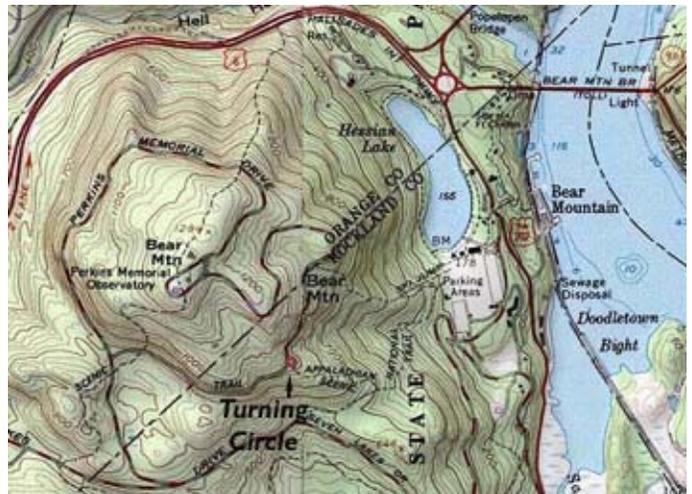
mobile ATSC digital, to allow reliable transmission to handheld and other portable receivers. The evolution of DTV that began in 1997 is hardly over! Stay tuned! Who knows what might happen next!

Until next time, 73 de N2KZ 'The Old Goat.'



## Special Event – W4H

PCARA's latest special event station went on the air on Sunday June 7, though there were some doubts at the beginning! Joe WA2MCR, Greg KB2CQE and NM9J gathered at Bear Mountain early on Sunday morning. Instead of our previous Field Day location at the picnic area, near the 1284 foot summit, we had gathered on the turning circle, at the very end of Perkins Memorial Drive. The height is only 920 feet but there is a good take-off, with only the northwest direction completely blocked.



*Map shows Perkins Memorial Drive, leading up to the Observatory near the summit of Bear Mountain, then winding down to the Turning Circle, where special event station W4H was located.*

As set up was getting underway, we had a visit from the Park Commission ranger, followed by the local police. They had been forewarned about our visit, but were under the impression that PCARA was preparing a picnic rather than raising antennas. We paused while Joe returned home for the official letter granting permission for the full special event operation.

The turning circle is an interesting location because it includes a large, open area suitable for raising antennas. We soon had the multi-band dipole raised on the north side of the circle, and a new, "ZS6BKW"



*Greg, KB2CQE sets up antennas across the Turning Circle.*

antenna strung across the circle. The ZS6BKW dipole is 90 feet long, fitting nicely into the available space.

The two stations were accommodated beneath Joe's EZ-Up shelter, which was located at the side of the turning circle road. Joe was using his IC-7000 transceiver on 20 meters, while the NM9J IC-706MKIIg was in use on 40 meters. Forty meters was very active – we worked some 87 stations, including the states of Virginia, North Carolina, Kentucky, Tennessee, Ohio, Indiana and Michigan. The ZS6BKW antenna certainly performed well.



Will KC2FYY and Joe WA2MCR operating the W4H special event station from the Turning Circle on Bear Mountain.

Members and friends paid a visit to the Special Event Station during the day and several sat down to take a turn at operating. Our thanks to Bob, N2CBH; “Wires”, KC2FYY; Ed KB2ZYU and Bill WA2WOJ who joined in the fun at W4H. Talk-in was provided by Greg on his Feidaxin 2 meter hand-talkie.

Special Event Station W4H was celebrating the 400<sup>th</sup> Anniversary of Henry Hudson’s discovery of the Hudson River. In April 1609, English explorer Henry Hudson had set sail from Amsterdam on the ship *Half Moon*, looking initially for a northeast passage to Asia for the Dutch East India company. Finding the route blocked with ice, Henry Hudson changed the plan to include an Atlantic crossing, followed by a search of the American coast for a northwest passage. It was on September 11 that the expedition discovered the mile-wide entrance to the river that now bears Hudson’s name. The *Half Moon* then sailed upriver as far as modern Albany.

To commemorate the anniversary, a flotilla of ships, including a replica of the *Half Moon*, had set sail from New York harbor toward Albany on “River Day”, June 5-13. By Sunday June 7, the flotilla had reached

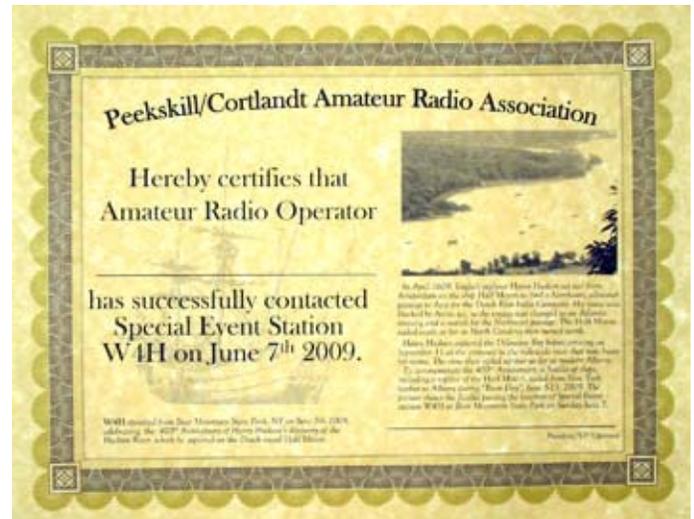
Peekskill Bay, where they stopped around midday for celebrations.

The trees near the turning circle prevented our W4H operators from having a direct view of the nearby river — but a few minutes’ walk along Perkins Drive brought the curious to a lookout point with an excellent view of the Hudson River and Peekskill Bay. There we could see the flotilla gathered just offshore from Peekskill. In early afternoon, the *Half Moon* led the other ships upstream, including the sloop *Clearwater* and a recently rebuilt replica of the 17th century Dutch yacht *Onrust*. A little further upriver at Cornwall-on-Hudson, our neighbors in Orange County Amateur Radio Club were operating their own special event station, W2HO, celebrating the Hudson-Fulton-Champlain Quadricentennial.

By the end of PCARA’s operation, W4H had made contact with approximately 90 amateur radio stations. A certificate and QSL card are available to those who were lucky enough to complete a contact. Send a self-addressed stamped envelope to: PCARA, PO Box 146, Crompond NY, 10517.

- NM9J

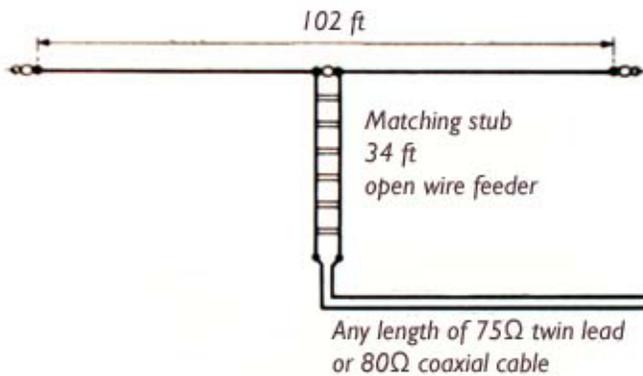
## W4H Certificate



This certificate for contacting special event station W4H includes a picture of Henry Hudson’s ship the *Half Moon* and a photo of the *Half Moon* leading the flotilla up the Hudson.

# BKW multiband antenna

While getting ready for the special event station, I thought it might be worthwhile trying something different from the G5RV wire antennas that have been used at past PCARA events. Although the G5RV works well on 20 meters, we were expecting plenty of activity on 40 meters and past experience suggests the standard G5RV can be difficult to match on that band. The original antenna as specified by Louis Varney, G5RV consists of a 102 foot horizontal dipole fed with 34 feet of open wire transmission line, followed by 75 ohm twin or 80 ohm coaxial cable to the antenna tuning

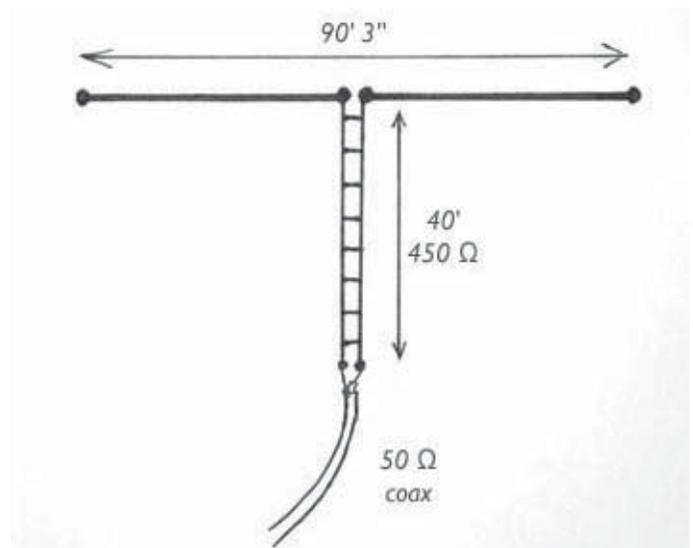


*Traditional G5RV antenna as described by Louis Varney in the July 1958 edition of the RSGB Bulletin and in the July 1984 edition of Radio Communication.*

unit. These dimensions are fine for 14 MHz – but on 7 MHz they produce a reactive impedance, and therefore a high VSWR which can be difficult to match with an automatic tuner.

An alternative to the G5RV was designed in South Africa in the 1980s by Dr. Brian Austin, **ZS6BKW** (nowadays G0GSF). He reported this work in an article in the RSGB's journal *Radio Communication* dated August 1985: "Computer-aided design of a multiband dipole – based on the G5RV principle". Brian's aim was a simple wire antenna suitable for use on multiple HF bands with the solid-state transceivers of the day and no antenna tuning unit. This required a 50 ohm feed impedance and a VSWR less than 2:1 on as many bands as possible.

ZS6BKW's design employed a shortened dipole with commercial 300 ohm twin feeder or home-brew 400 ohm line for the matching section, connected to 50 ohm coaxial cable without a balun. I found a recent update in the UK QRP magazine *Sprat* by Martyn Vincent, G3UKV. Martyn used commercial 450 ohm slotted ribbon feeder ("ladder line"), which is generally more rugged than 300 ohm twin feeder. Martyn's description shows a 90¼ foot wire doublet fed with 40 feet of 450 ohm twin feeder. The twin feeder is connected directly to the 50 ohm coaxial cable.



*ZS6BKW multi-band HF antenna dimensioned for use with 450 ohm ladder line in the matching section.*

Martyn checked performance of his ZS6BKW antenna and found a low VSWR on the following five HF bands: 7 MHz, 14 MHz, 18 MHz, 24MHz and 28 MHz. Martyn also reported a low VSWR on 6 meters, at 50.27 MHz.

I assembled my own ZS6BKW antenna using a long hank of orange insulated wire from the BARA Hamfest, a reel of 450 ohm #18 solid copper-clad ladder



*Parts assembled for the home-brew ZS6BKW antenna include a reel of 450 ohm ladder line and an Emtech "Ladder Grabber".*

line and an Emtech "Ladder Grabber" as the center insulator (<http://emtech.steadynet.com/>) .

The Ladder Grabber provides a firm support for

the 450 ohm ladder line and a pair of stainless steel screw terminals to connect the wire dipole. Plastic



*The Ladder Grabber provides a firm support for the 450 ohm ladder line.*

insulators for tying off the ends of the dipole are also included. For an initial test, I raised the antenna as an inverted-V in the backyard, with the peak at about 30 feet. I had measured the dipole legs slightly long, then trimmed them back for resonance on 40 meters as indicated by an MFJ-259 SWR analyzer. The analyzer confirmed a similar SWR pattern on the other HF bands as observed by G3UKV. Resonance and lowest SWR fall outside the amateur band limits on both 18 MHz and 24 MHz, but the SWR is still acceptable within the band.

At the special event station, the ZS6BKW antenna was pulled up between two tall trees, then used most of the time on 40 meters, where it gave a very good account of itself. This updated G5RV does seem to be an excellent design, so you can expect to see the antenna again at future PCARA events.

If you build or buy one of these antennas, be prepared to spend a little time on-air explaining what it is and how it works. The "BKW" is not as well-known as the G5RV antenna. Your contact might think you are referring to the three-letter code for Raleigh County Memorial Airport in Beckley, West Virginia or to the Berne-Knox-Westerlo School District near Schenectady, NY. Tell 'em it stands for "Better 'n a KiloWatt!"

- NM9J

## Field Day 2009

The third PCARA Field Day at Walter Panas High School had its ups and downs. The school is still an excellent location for Field Day, being on top of a hill (580 feet asl), with closely mown grass, a ball field surrounded by lighting towers and an adjacent wood with tall trees. Joe, WA2MCR had once again obtained permission to operate overnight. What more could we ask?

The early birds had gathered at Joe, WA2MCR's



location on Saturday morning in order to load up the heavy-duty equipment onto Bob, N2CBH's truck. Next stop was the High School where we were met by Karl, N2KZ and daughters. In a short time, tents were being stretched out, tables were unfolded, the generator was fired up, Bob's power cables were laid and radio equipment was being connected.

The next step was erection of the antennas, and that's where progress slowed down. PCARA relies on a RadioWavz

Hyper Hanger, which launches tennis balls from a slingshot. A fishing reel is included to rewind the nylon monofilament line. Unfortunately, all our shots at the trees and lighting supports were landing low and Joe's fiberglass mast had to be pressed into service as a temporary support. We pulled up the full-size G5RV antenna and the multiband dipole, but they did not seem quite as high as in past years. Later on, your editor had a second try with a conventional slingshot and was able to raise the support ropes a little higher.

Joe, WA2MCR concentrated on erecting his Hy-Gain TH3Jr triband beam and rotator, but available resources would only allow a limited height. The VHF antennas were placed on short masts alongside the fence, ready for manual rotation.

Just to make setup even more interesting, Joe's son Alan had brought along friends from SPARC, the **S**pecial **P**rogram and **R**esource **C**onnection, based in Yorktown. SPARC (<http://www.sparcinc.org/index.html>) is a not-for-profit agency providing social, recreation, and therapeutic services for youth and adults with developmental disabilities — and one of their activities is teaching video techniques. Julie



*Karl, N2KZ launches a Field Day antenna support with the Hyper Hanger.*

Leonard explained how her students were taking part in a field production class, learning how to set up shots and developing their one-on-one interview skills. After editing, the results of their Field Day video should appear on YouTube sometime in August.



*SPARC members produce a video recording of PCARA's 2009 Field Day setup. Joe, WA2MCR (right) is being interviewed on-camera by Alan.*

Two o'clock Saturday came around and our stations were ready to go on-air. On 20 meters, Joe's Yaesu FT920 transceiver had a choice of the tri-band beam antenna or the multiband dipole. On 40 meters, the NM9J Icom IC-706MkIIg was connected to the G5RV antenna. Over at the additional VHF station which is allowed by Class 2A, Joe's Icom IC-7000 transceiver was plugged into a 3 element Yagi for 6 meters and a 5 element Yagi for 2 meters.

Following our success in 2008 with the N3FJP Field Day logging software (<http://www.n3fjp.com>), we repeated the same setup. This gave us a separate logging computer at each radio station, connected through a local area network to a file server in the 20 meter tent. The advantage of this approach is that stations can view progress as their logs fill, can share their results and prevent duplicate contacts. When the event is over, the three logs are already merged into a single log file, making it relatively easy to generate the cover sheet and dupe sheets required for ARRL's Field Day entry.

Joe WA2MCR had been generating publicity for Field Day by posting our Cortlandt Manor site on the ARRL's Field Day Station Locator, <http://www.arrl.org/contests/announcements/fd/locator.php>, and by sending out letters to members. As a result, Saturday afternoon saw a good number of visitors coming by Walter Panas school on their way to the Field Day site. There was plenty of catching up, and several members and friends stayed on to operate through the afternoon and evening — including Nathan AB2ZU and Jerry WA2ZOA.

It was evident that the 20 meter station was having a hard time. There were stations aplenty on the band but not many were coming back to calls on SSB. Your editor had more success on CW, but it was still a bit of a struggle. General opinion was that our low antennas combined with low sunspots were contributing to the difficulty. The station was active on 15 meters later on with more success.

Operations continued overnight with Joe and Greg KB2CQE operating through the wee, small hours. On Sunday morning, your editor took over from the night crew and plodded on with mostly CW contacts on 80 meters and 40 meters. Meanwhile Karl N2KZ and Bob N2CBH had been accumulating VHF contacts, mostly on 6 meters. One highlight was a 6 meter contact with C6ANX in the Bahamas.

Although the school grounds were saturated with June's rainfall, and we had noticed a few rain spots on Saturday, the weather was mostly kind. By 2:00 p.m. on Sunday we knew the number of contacts was not up to previous years, but we had accumulated a good number of bonus points. Here is a summary of the claimed score, alongside results from previous years.

#### **Peekskill/Cortlandt ARA, W2NYW**

	2001	2002	2003	2004	2005	2007	2008	2009
QSOs:	450	718	733	968	853	1019	1109	<b>694</b>
Power	2 (<150W)							
Participants:	16	15	11	12	10	14	10	<b>10</b>
Total score:	1,540	2,096	2,328	2,996	2,798	2,906	3,460	<b>2,746</b>

A big thank you to everyone who contributed to PCARA's Field Day score!



*Bob, N2CBH operating the 20 meter station.*

What could we do better next time? One suggestion was to improve techniques for raising the antenna supports, which really need to be much higher. Bows and arrows and crossbows have been suggested, but safety precautions need to be considered. Another



*Youth participation. Karl N2KZ (right) supervises 6 meter operations while Laura (left) and Sarah (center) make Field Day contacts.*

suggestion was instead of hunt-and-pounce, get more runs going, where other stations would be calling W2NYW. One difficulty this year was that with comings and goings, our station equipment is now prepared, delivered and installed by a smaller number of people, who then do most of the operating. Field Day can be a lot of fun, but it would be even more enjoyable if we could share the setup, operating and tear-down tasks with more members. You are cordially invited to Field Day 2010!

- NM9J

## Former Field Days

Here are a couple of photographs from PCARA members' photo archives. Perhaps they will transport you back to a simpler time, or maybe you can help identify some of the people involved.



*WA2MCR first Field Day*

The first picture from WA2MCR's collection shows what Joe believes was his first Field Day, spent with the White Plains gang around 1957 or 1958. Joe was not licensed at the time... but you can see him sat in the folding chair that is nearest to the camera. Joe thinks this group predates WECA and the location was somewhere near Purchase College. Can anybody help with identifying other people in the photo, the actual date and the radio equipment?

The second photo comes from the G3VNQ/NM9J picture library and shows Malcolm's first Field Day with Ainsdale Radio Club. This picture is accurately dated June 4, 1966, a couple of months before I was licensed as G3VNQ. The Field Day site was near Kew Woods in Southport, England — a location that is now completely covered with houses and a new hospital.



*G3VNQ/NM9J first Field Day*

Amongst the club members pulling up antenna poles, I think I can recognize on the left, with cap, Wilf G3STT, while in the trio on the right are my Morse tutor Harold G3LWQ; puffing on a pipe Jerry G8QG, and – arm out – Harold G3LWK. Perhaps our UK readership can confirm some of these?

It's interesting to note that four or five decades ago, unlicensed youngsters were being inspired to go on to greater things by Field Day — a tradition we should definitely try to keep up.

- NM9J

## Net night

PCARA's weekly net takes place on Thursday evenings at 8:00 p.m. You can call into the net on the 2 meter repeater, 146.67 MHz -0.6 MHz, 156.7 Hz PL. The PCARA Old Goats net is usually under the guidance of Karl, N2KZ.

# Peekskill / Cortlandt Amateur Radio Association

**Mail:** PCARA, PO Box 146, Crompond, NY 10517

**E-Mail:** w2nyw@arrl.net

**Web site:** <http://www.pcara.org>

**PCARA Update Editor:** Malcolm Pritchard, NM9J

E-mail: NM9J @ arrl.net

*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

**Note summer break ! — Next meeting:**

**Sun Sept 13:** PCARA meeting, Hudson Valley Hospital Center, 3:00 p.m.

## Hamfests

**Sun Jul 12:** Sussex County ARC Hamfest, Sussex County Fairgrounds, Plains Rd, Augusta NJ.

**Sun Aug 9:** Tri-State ARA Hamfest, Matamoras Airport Park, Matamoras, PA off Exit 53, I-84. 8:00 a.m.

**Sat Aug 15:** Ramapo ARC Hamfest, American Legion Hall, 65 Oak Street Oakland, NJ. 8:00 a.m.

**Sun Sept 13:** Candlewood ARA Hamfest, Edmond Town Hall, 45 Main St (Rt 6), Newtown CT. 8:30 a.m.

## VE Test Sessions

**Jul 5, Aug 2:** Yonkers ARC, Yonkers PD, 1st Precinct, E Grassy Sprain Rd, 8:30 a.m. Contact D. Calabrese, (914) 667-0587.

**Jul 9, Aug 13:** WECA, Westchester Cnty Fire Trg Center, 4 Dana Rd., Valhalla, NY. 7:00 p.m. Contact Stanley Rothman (914) 831-3258.

**Jul 20, Aug 17:** Columbia Univ VE Team, 2960 Broadway, 115 Havemeyer Hall, New York NY. 6:30 p.m. Contact Alan Crosswell, (212) 854-3754.



Peekskill / Cortlandt Amateur Radio Association Inc.  
PO Box 146  
Crompond, NY 10517