



# PCARA Update



Volume 11, Issue 6      Peekskill / Cortlandt Amateur Radio Association Inc.      June 2010

## Renewing friendships

Field Day is June 26-27, and PCARA is planning on holding its 2010 Field Day activities at Walter Panas High School in Cortlandt Manor. Over the past few years, the overnight attendance has been a bit sparse. We seem to have enough members at setup, but the numbers dwindle as the event progresses. By the time Sunday afternoon rolls around, only a few familiar faces can be found. I would really like to see that trend



change this year. If you haven't taken the opportunity to participate in years past, please consider joining us this year. If you're having trouble sleeping at 2:00 AM, don't just toss and turn, get up and bring some coffee and donuts to the site and try your hand at nighttime



*Flashback to Field Day 2009 with Karl, N2KZ supervising family members at the VHF station.*

operating. Sunday morning breakfast would also be nice! If you have some free time Sunday afternoon,

please consider joining us for the tear-down. I hope to see you there.

During the past week, members should have received **membership renewal** notices. Please take a few minutes to fill out your renewal and mail it back with your membership dues. **Thanks to Joe, WA2MCR** for all the effort and legwork it took to get the notices together and mailed out! Remember that we need both you and your membership dues to keep PCARA going strong!

Our next meeting is on June 6, 2010 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

## Net night

Peekskill/Cortlandt Amateur Radio Association holds a weekly net on the 146.67 MHz W2NYW repeater on Thursdays at 8:00 p.m. Join net control Karl, N2KZ for neighborly news and technical topics.

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# Adventures in DXing

– N2KZ

## Field Day

The biggest event of the amateur radio calendar, ARRL Field Day, is only three weeks away. Don't forget to join in! Once again PCARA will be assembling tents, generators, rigs and antennas in the meadow behind Walter Panas High School at 300 Croton Avenue in Cortlandt Manor starting at 9 am on Saturday, June 26. The actual contest runs from 2 pm Saturday through 2 pm Sunday, June 27. Everyone is invited!



*Field Day will be held at the same location as 2009, in the grounds of Walter Panas High School.*

Field Day is a grand festival for hams all over the country (and the world!) The bands will be jam-packed with stations trying to contact each other. Help PCARA make a great showing by coming out and lending a hand. We will be busy in our tents with non-stop operation on multiple bands all afternoon and through the night until dawn and beyond. The marathon continues for a full 24 hours!

For details about the event, tune in to the PCARA Old Goat's Net every Thursday night at 8 pm on our two meter repeater at 146.67 MHz. You'll hear our strategy being planned! If you are a licensed ham, Field Day is nearly a holy obligation! If you are not yet licensed, it's a great chance to find out all about our hobby and see the action and equipment first-hand. Who knows? Maybe Bob N2CBH will roast another hot dog with two paper clips! You'll never know what will happen next – so be there!

## Very Happy Fun

Every big game has a practice and warm up session and Field Day is no exception. Two weekends before, on Saturday afternoon, June 12th through Sunday night, June 14<sup>th</sup>, the ARRL will be sponsoring their VHF QSO Party. It's a wild and crazy 33 hour

sprint above 50 MHz. Inspiring sunspot conditions have already brought miracles to VHF log books all over the world. We haven't seen terrific conditions like this in years. One avid DXer, Jonesy, W3DHJ, will be activating four rare Colorado grids during the contest operating on six meters from his classic Mercury Tracer. Many other hams will be roving, too! Don't miss it! This year's contest is expected to be no less than phenomenal!

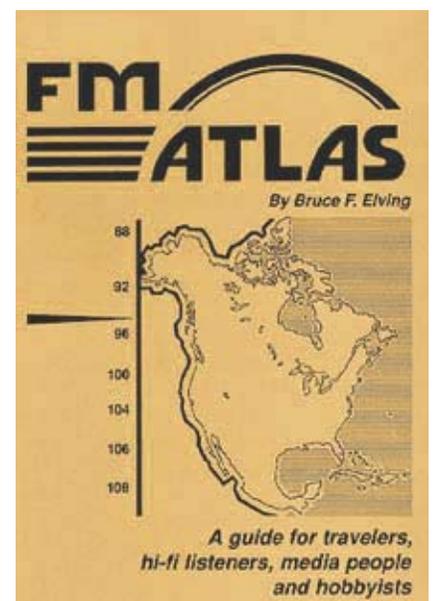


*Rover station W3DHJ/M operating 2 and 6 meters from near Pueblo, Colorado.*

The activity will be at its peak as the contest begins at 2 pm on Saturday afternoon and deep into the evening. Don't miss your wake-up call as the sun rises. Trans-Atlantic contacts often peak around the mid to late morning Eastern Time. You'll see another great burst of energy in the last few hours before the contest closes at 2 pm Sunday. This will be my first VHF test using my new 6 meter Yagi antenna. I'm looking forward to adding to my grid square total and breaking a pile-up or two. Won't you join me? Details? See: <http://www.arrl.org/june-vhf-qso-party>.

## New Atlas

Speaking of VHF, if you have ever DXed the FM broadcast band or wondered what that far-off station might be, you really need a copy of Bruce Elving's latest FM Atlas just released! Now in its' 21<sup>st</sup> edition, the 288 page FM Atlas is an incredible reference material covering nearly every station in North America in map and database form. Every FM station is



noted in incredibly detailed maps and in databases sorted by frequency and location. It's all here: antenna height, power, SCA sub-carrier info. and promotional catch-phrases. Even low powered FM translators are included. If it's on the air on FM, it's in Bruce's book. Order it directly by sending \$22 by check or money-order to: FM Atlas, P.O. Box 336, Esko, MN 55733-0336.

### Power to the People

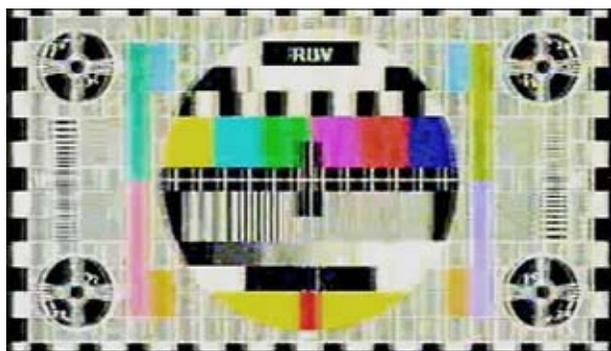
If you haven't heard it already, you may hear it soon. The FCC has begun to allow FM stations operating in compatible digital HD Radio to increase their digital output power by as much as a full 10 dB. This is the latest in a series of attempts to make digital FM broadcasting a success. Although some stations, especially non-commercial outlets, have seen some promise with FM digital and digital multi-casting more than one program stream, HD Radio has not yet been embraced by most of the general public. With considerably more power, broadcasters hope to get past previously spotty reception and interference problems.



I took a quick look at the FM band with an RF spectrum analyzer at work and studied the digital power output of local stations who have already adopted HD Radio. Although the new power levels have been permissible for several weeks, I've seen no change in the levels of digital broadcasts in the New York City area yet. At least one station, WRKS 98.7, has applied for an increase in digital power before the FCC. Time will tell if this will improve the popularity of this troubled system.

### Beyond Newfoundland

FM DXers have been enjoying breathtaking and even historical E-skip and tropospheric lifts in the past



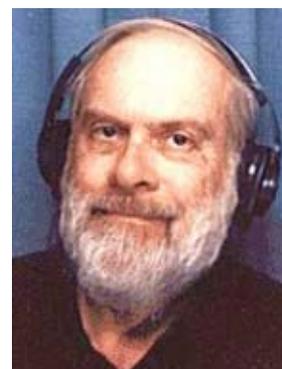
*Iceland VHF TV station received in Germany*

few weeks. Several openings have been enjoyed by local hams on frequencies as high as two meters into

Maine and all along maritime Canada. New Brunswick, Prince Edward Island, Nova Scotia, Newfoundland and Labrador have all made memorable appearances. A group of hams are now speculating about possible FM broadcast band openings into the French-owned island of St. Pierre and Miquelon, Greenland and even Iceland. All are theoretically within single or double hop E-skip range from New England. Come on! Iceland? It can be done! On May 26<sup>th</sup>, a DXer saw the test card of RUV Rikisvarpid on VHF channel E4 (62 to 68 MHz) on his TV near Cologne, Germany 1400 miles away! RUV was seen again on May 28<sup>th</sup>, this time on the southern coast of Britain.

### Look Up In The Sky!

Does the landing of the Space Shuttle lead to extraordinary DX on the AM broadcast band? Legendary DXer Glenn Hauser thinks this may be the case! During a recent daytime landing of the shuttle last April 20<sup>th</sup>, the AM band started to sound like it does in the middle of the night at Glenn's home QTH in Oklahoma. Medium wave broadcast stations from 500 to 800 miles away filled his dials from far away places like Colorado, Nebraska, Wyoming, South Dakota, North Dakota and Minnesota.

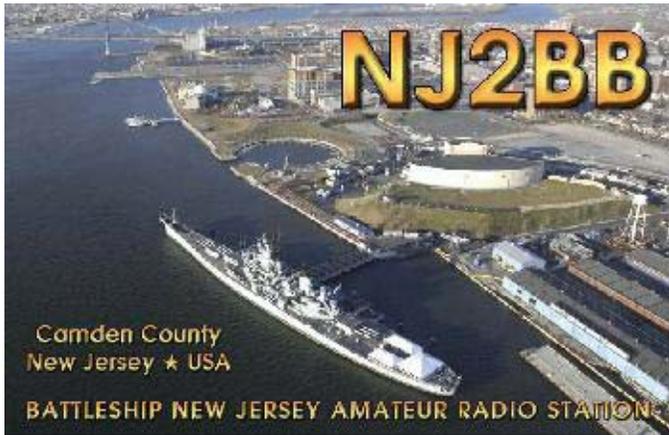


*Glenn Hauser*

According to Glenn "This coincided with the path of passage of the STS thru the ionosphere across North America from Vancouver to Cape Canaveral, so we theorized that the orbiter had caused some long-lingering ionization (or perhaps more likely, disrupted the normal daytime effect of the D layer absorbing MW signals.)" I'm not sure what was going on, but the results were spectacular! For a complete play-by-play of Glenn's remarkable adventure see: <http://www.w4uvh.net/dxld1016.txt>.

### Ship (with hams) Ahoy!

Here's an event that will surely float your boat! Come aboard next Saturday and Sunday, June 5<sup>th</sup> and 6<sup>th</sup>, for Museum Ships Weekend. Sponsored by The Battleship New Jersey Amateur Radio Club ([www.nj2bb.org/museum](http://www.nj2bb.org/museum)), dozens of battleships, submarines, aircraft carriers, tugboats and other vessels will all be manned with amateur radio operators awaiting your calls. Often the ship's original vintage equipment is activated and utilized for the event. Certificates are offered for hams contacting 15 or more vessels. You'll have a total of 72 different ships to choose from operating on CW, SSB and PSK-31 on 80 through 6 meters all over North America and



the world. Hoist your antennas aloft and see how many ships you can bring into your port (or QTH!)

### Spot On!

Looking for a new aspect of amateur radio? Why not become a volunteer Skywarn spotter for The National Weather Service? Weather radar and computer analysis will always be essential in predicting possible hazards but nothing beats live reports from spotters on the scene of the action. It's easy to become a spotter. Start with an introductory free course offered at sites around the New York metro area. A full list can be found on the local Skywarn web site: <http://www.erh.noaa.gov/okx/Skywarn/skywarn.html>

Basic Skywarn spotter training takes approximately three hours, including an interesting Powerpoint and movie presentation. You'll become an expert in monitoring clouds and tornadoes, evaluating thunderstorms and floods and measuring rain and snow. The course booklet is available for download at: <http://www.nws.noaa.gov/om/brochures/basicspot.pdf>. An advanced course will also be offered in coming months for those looking to hone their skills.



When you complete the course, you'll be issued a Skywarn spotter number and complete details regarding how to report your observations. Reports can be delivered to the NWS via the Internet or by amateur radio. The National Weather Service's New York area headquarters at Upton, Long Island holds the callsign WX2OKX. The NWS uses spotter reports to compose warnings delivered via the NWS All-Hazards Radio service on nationwide 162 MHz channels. Skywarn spotters play an important role notifying the public of impending and ongoing hazards. Why not get your head up in the clouds? Become a Skywarn spotter!

Until next month, enjoy the summer and get on the air! Remember to join us on the air every Thursday night at 8 pm on The Old Goat's Net heard on the PCARA repeater at 146.67 MHz.

73s and dit dit de N2KZ Karl.



## Essential<sub>2</sub> socks

Back in September 2006, an early "Essential<sub>2</sub>" column described the choices for synthetic rope to hold up a wire antenna. The advice was... "The best type of synthetic rope for this type of outdoor application is polyester. Polyester rope is similar in strength to nylon, but does not stretch as much. It is also more resistant to sunlight and abrasion than nylon."

And that was all we had to say about nylon! But nylon does have application in amateur radio, and this year the product celebrates a notable anniversary. Happy 75<sup>th</sup> birthday nylon!

Let's go back to the beginning. The story begins with Wallace Carothers, who received his PhD degree in Chemistry from the University of Illinois, then in



Wallace Carothers with Neoprene.

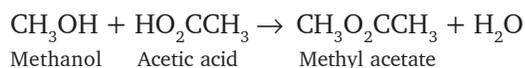
1926 moved to Harvard where he became a chemistry professor. Carothers was persuaded by DuPont to leave Harvard, moving to the DuPont Experimental Station in Wilmington, Delaware in 1928.

Carothers was aiming to make a synthetic polymer with

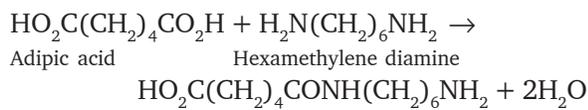
a high molecular weight. Everyday molecules such as carbon dioxide (MW 44) or sucrose (MW 342) have molecular weights in the tens or hundreds. Carothers wanted to prepare a molecule in the laboratory with repeating units and a molecular weight in the thousands or tens of thousands. Members of his group had successes in the early 1930s with the synthetic rubber

neoprene and with an early polyester. A few years later, Carothers' team was looking at polymers formed by reacting dibasic amines and diacids to produce a polymeric amide.

Time for a little chemistry! When an acid reacts with a base, a new chemical bond is formed and a molecule of water is eliminated. For example, if a molecule of methanol is reacted with a molecule of acetic acid, the ester methyl acetate is produced:



What happens if we choose molecules with *two* base groups and *two* acid groups at their ends? There is a chance that the acid/base condensation reactions will continue, linking first one base molecule to one acid molecule, then another base molecule joins on the end, leading to a long chain as the water molecules are condensed or eliminated. This is what Carothers group was hoping for, using dibasic acids and diamines. In 1935, just 75 years ago, Gerard Berchet from Carother's group reacted the dicarboxylic acid adipic acid with the base hexamethylene diamine:



The reaction does indeed continue, generating longer and longer chains. The product was originally named polyamide 6-6 (since it contains repeating units of 6 carbon atoms + 6 carbon atoms) and went on to become nylon 6,6 or just "nylon".

You may have seen a laboratory demonstration in which nylon is synthesized before your very eyes in a beaker. In the "nylon rope trick" a solution of adipoyl chloride in hexane is floated on top of a solution of adipic acid in water. A filament of nylon can then be drawn out of the liquid interface using a glass stirring rod.

Nylon 6,6 is a thermoplastic, in other words it softens when heated, then hardens again when cooled. It is manufactured from adipic acid and hexamethylene diamine – the two compounds are first reacted together with water to produce "nylon salt".



*In the 'nylon rope trick' a filament of polymeric nylon is drawn from the liquid interface between adipic acid and hexamethylene diamine solutions.*

This intermediate is then heated to 285 deg C under pressure in a stainless steel autoclave to fully polymerize the product — the molten polymer can then be extruded through a "spinneret", a metal head punctured with small holes, followed by air-cooling to produce fibers.

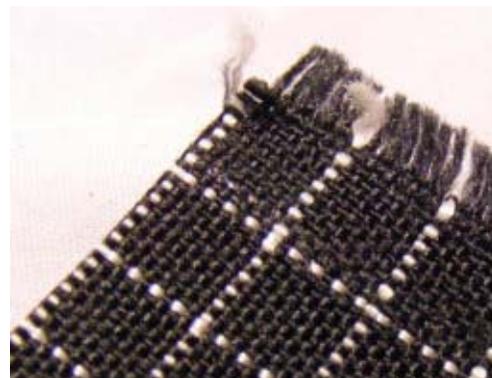
The first practical application for nylon fiber was in 1938 in toothbrush bristles, replacing boar's hair. DuPont's name of "nylon" has been inaccurately described as a contraction of "New York" and "London", the two cities where the product was supposedly launched. In fact the name was a modification of "No-Run" by Carothers. Nylon was originally intended as a synthetic replacement for natural silk, and 'no-run' women's stockings or "nylons" were featured at the 1939 New York World's Fair, where DuPont described its product "as strong as steel, as fine as a spider's web."

Silk from the far east became scarce during World War II, and the next applications for nylon were for military purposes, where it replaced silk in parachute canopies and cords. Nylon's high strength, light weight, wind resistance, elasticity and flexibility are all factors in this use. Nylon fabric for parachute canopies and other heavy-duty use is woven with a pattern of extra thick threads alternating with thinner threads in a cross-hatch



*Betty Grable removes her nylon stockings, to be auctioned at a war bond rally in World War II.*

pattern of small squares. This design prevents small tears in the fabric from spreading – you may have seen this "rip-stop" or "rip-proof" design used in nylon luggage and backpacks. Rip-stop fabric is also used in



*Example of rip-stop nylon fabric.*

yacht sails, hot-air balloons, flags, kites and tents.

Nylon fibers can be woven into rope and while it may not be the best choice for supporting antennas, nylon rope excels in elasticity and strength, finding wide use in marine applications such as anchor and mooring lines where it must be able to absorb sudden shock. Other advantages include resistance against rot and mildew, ease of splicing, flexibility and resistance to abrasion.

Nylon can be dyed, so rope can be provided in a variety of colors, from camouflage green to navy blue to bright orange.



*Nylon for twine and rope can be dyed in a variety of colors.*

Uses of nylon are not confined to fibers and fabrics. The bulk material has a number of desirable properties, including resistance to oils, bases, alcohols and other solvents. Solid nylon is a tough, impact-resistant material which is ideal for machining.



*Nylon bolts and bushings, intended for mounting power transistors to a metal chassis*

Nylon parts have a low coefficient of friction, making it a good choice for bearings, bushings, cams, pulleys and gears. Bulk nylon is relatively strong, and it can be made even stronger by reinforcing with glass fiber.

When dry, nylon is a good electrical insulator, but it can absorb water and this affects the electrical

properties. Bulk nylon finds use in cable ties, non-conductive nuts and bolts and the insulating part of electrical connectors. This is another area where



*European "choc-block" connector has molded nylon insulator.*

properties. Bulk nylon finds use in cable ties, non-conductive nuts and bolts and the insulating part of electrical connectors. This is another area where

nylon's ability to be dyed allows parts to be molded with strong colors. Nylon is used as an outer conductor jacket for insulated copper cable. It is applied over the primary insulation – usually PVC or polyethylene — when additional mechanical protection and oil resistance is required.

- NM9J



*Electrical plug has dyed nylon body.*

## Squeezebox update

The May issue of *PCARA Update* included a review of Logitech's Squeezebox Radio, a small network-connected receiver that is capable of picking up Internet radio stations from around the world.

There have been a couple of developments since that May article went to press. First of all, the Accessory Pack has become more readily available. The pack includes a NiMH battery and a remote control for the Squeezebox Radio. The nickel metal hydride battery pack provides 12 volts at 2000 mAH from what looks like 10 AA-size cells. After a full charge inside the main Logitech unit, the battery pack allows the radio to



*Squeezebox Radio Accessory Pack*

Logitech unit, the battery pack allows the radio to

operate without 120 volt AC power for up to 6 hours. Coverage of the built-in Wi-Fi antenna allows portable use anywhere in the house or yard.

The infrared remote control is a basic unit with only a minimal number of buttons. It does allow the most important functions to be selected from across the room. Most importantly it includes a “sleep” button, which for some reason was not included on the Squeezebox Radio itself.

One last item that may be of interest to Peekskill/Cortlandt readers — when I purchased my Squeezebox Radio, it was only on sale at the largest Best Buy stores, including the nearby establishment at Monroe, NY. But the Squeezebox is now in stock at the Cortlandt Town Center store, where it is on display near the Hi-Fi stereo “Receivers”.

## BARA Hamfest

The Bergen Amateur Radio Association’s Spring Hamfest took place on Saturday morning, May 29. The day started cool and cloudy, but as more visitors arrived, the sun came out and the day became warm and bright.



*Joe, WA2MCR investigates the “Radio Oasis” booth at the recent BARA Hamfest, with George, K2ZZ of South Salem, NY presiding.*

Those with long memories may recall the days in the 1990s when BARA’s Hamfest was held in the car park of Fairleigh Dickinson University in Teaneck, NJ. Those events were well attended, with a long line of vendor tables snaking around the car park. These days, the hamfest takes place twice a year at Westwood Regional High School in Washington Township, NJ. Provided the weather cooperates, this is an excellent location, with easy access from the Garden State Parkway (\$1 tolls now) and plenty of parking space.

The event provides an opportunity for PCARA members and friends from far and wide to meet up. This time your editor spotted Joe, WA2MCR; Bob, N2CBH, with Frank and Luigi N2CWV. An extra surprise came with the arrival of Ray, W2CH and Marylyn KC2NKU. Ray and Marylyn have been out of touch since they left Cortlandt Manor last year and relocated



*Seen together at the BARA Hamfest, L to R Marylyn KC2NKU, Ray W2CH, Joe WA2MCR, Luigi N2CWV, Eric (Doc) K2TO and Bob, N2CBH.*

southward to White Plains. Ray has been investing in new radios, so keep an ear open for his call sign on the bands once again.

## Floppy footnote

Sony has indicated that the end may be near for an elderly storage medium that has already been abandoned by most computer users, the 3.5 inch floppy disk. The electronics multinational said in April that it will cease selling its 30 year-old storage medium in Japan from March 2011. Sales have already been stopped in most other markets.

Computer users have been moving away from the HD floppy disk, with its limited 1.44 MB capacity, to more modern devices such as CD-R, DVD-recordable and the ubiquitous USB thumb-drive, based on flash-memory. Capacities of these removable devices have steadily increased from hundreds of megabyte CDs to tens of gigabyte USB sticks.

There are still a few uses for floppy disks in education and for instruments that save data on diskette. Even PCARA’s field day scores have been recorded on floppy! But if you still use them, better stock up now.



# Peekskill / Cortlandt Amateur Radio Association

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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

**Sun June 6, 2010:** PCARA monthly meeting, Hudson Valley Hospital Center, 3:00 p.m.

**Sat-Sun June 26-27, Field Day,** Walter Panas High School, Croton Avenue, Cortlandt Manor.

## Hamfests

**Sun June 6:** LIMARC outdoor Hamfair, Briarcliffe College, 1055 Stewart Avenue, Bethpage, NY. 7:30 a.m.

**Sun June 13:** HOSARC, New York Hall of Science 47-01 111th St., Flushing Meadows Corona Park, Queens. 9:00 am

**Sun July 11:** Sussex County ARC Hamfest, Sussex County Fairgrounds, 37 Plains Road, Augusta, NJ. 8:00 a.m.

## VE Test Sessions

**June 6:** Yonkers ARC, Yonkers PD, Grassy Sprain Rd, Yonkers, NY. 8:30 a.m. Contact Daniel Calabrese, 914 667-0587.

**June 10:** WECA, Westchester Co Fire Trg Center, 4 Dana Rd., Valhalla, NY. 7:00 p.m. Contact Stanley Rothman, 914 831-3258.

**June 18:** Bergen ARA, Westwood Regional HS, 701 Ridgewood Rd, Washington Township, NJ. 7:00 p.m. Contact Donald Younger, 201 265-6583.

**June 28:** Columbia Univ VE Team, 2960 Broadway, 115 Havemeyer Hall, New York NY. 6:30 p.m. Contact Alan Croswell, (212) 854-3754.



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